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PATENTS

NOTICES

Board of Appeals Decisions Rendered in the Month of November 1960

Examiner affirmed	185
Examiner affirmed in part	34
Examiner reversed	59
Total	278

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C. A. KALK,
Director of Administration.

Dec. 1, 1960.

Adjudicated Patents

(C.A. Calif.) Potter Patent No. 2,626,841 (308—72), for self-aligning bearing. Claims 1 and 2 *Held* invalid. *Aetna Steel Products Corp.* v. *Southwest Products Co.*, 282 F.2d 323; 127 USPQ 23.

(C.A. Kans.) Wagner and Werner Patent No. 2,722,324 (214—181), for hanger bracket pump mountings. Claims 1, 12, 18, and 21 *Held* invalid. *Wagner Iron Works* v. *Kochring Co.*, 282 F.2d 317; 127 USPQ 35.

(C.A. Calif.) Potter Patent No. 2,724,172 (29—149.5), for method of forming a self-aligning bearing. Claims 1 to 4 and 6 *Held* invalid. *Aetna Steel Products Corp.* v. *Southwest Products Co.*, 282 F.2d 323; 127 USPQ 23.

(D.C. Colo.) Jones Patent No. 2,514,130 (81—84), for locking wrench and pliers. Claims 1, 4, and 5 *Held* valid and infringed. *Jones* v. *Sears, Roebuck & Co.*, 187 F. Supp. 293; 127 USPQ 411.

(D.C. Wis.) Ward Patent No. 2,587,553 (56—130), for bean picker. Claims 1 to 4 *Held* invalid and not infringed. *Chisholm-Ryder Co.* v. *Paulson Bros. Industries, Inc.*, 187 F. Supp. 489; 127 USPQ 124.

(D.C. Wis.) Ward Patent No. 2,675,663 (56—130), for bean picker. Claim 1 *Held* invalid and not infringed. *Id.*

(D.C. Md.) Edlen and Diambra Patent No. 2,694,182 (333—6), for impedance-matching tap-off coupler for wave transmission lines. *Held* invalid and not infringed. *Entron of Md., Inc.* v. *Jerrold Electronics Corp.*, 186 F. Supp. 483; 126 USPQ 328.

(D.C. Md.) Edlen and Diambra Patent No. 2,694,183 (333—6), for tap-off coupler with fixed attenuation for coaxial lines. *Held* invalid and not infringed. *Id.*

(D.C. Mich.) Barrott and Barrott Reissue Patent No. 23,718 (214—75), for casket carrying truck. Claims 6 and 9 *Held* invalid. *Barrott* v. *Drake Casket Co.*, 187 F. Supp. 284; 127 USPQ 69.

Errata

All references to Patent No. 2,964,576 to Thomas P. Wilson and George F. Hurley, assignors to Union Carbide Corporation, for Process for the Hydrogenation of Naphthalene, appearing in the OFFICIAL GAZETTE of Dec. 13, 1960, should be deleted as the application was withdrawn from issue and the patent was not issued.

In the OFFICIAL GAZETTE, issue of Nov. 8, 1960, volume 760, p. 236, first column, line 22, Adjudicated Patents, for "Tinnerman Patent No. 2,221,498 (95—36)" read *Tinnerman Patent No. 2,221,498 (85—36)*; line 28, for "Tinnerman Patent No. 2,581,481" read *Hartman and Flora Patent No. 2,581,481.*

Patents Available for Licensing or Sale

2,856,714. Indicating Device (Attached Between Wrist Band and Watch Case Adjustable To Indicate Day of Week and of Month). Co-owner, O. K. Johnson. Administrator,

New Applications Received During November 1960

Patents	6,389
Designs	360
Plant Patents	22
Reissues	19
Total	6,790

Issue

Patents	621	No. 2,966,681	to No.	2,967,301,	incl.
Designs	51	No. 189,516	to No.	189,566,	incl.
Plant Patents	1	No. 2,009			
Reissues	3	No. 24,918	to No.	24,920,	incl.
	676				

James W. Knowles, 624 Omaha National Bank Building, Omaha, Nebr.

2,955,860. Window Lock. Stanley A. Jacques, 7009 Kittyhawk Ave., Los Angeles 45, Calif.

2,959,449. Auxiliary Emergency Brake. Radovan P. Lazich, 2735 Kroy Way, Sacramento 17, Calif.

The following 2 patents, both pertaining to fuel feeding, fuel control and injection on internal combustion engines, are offered by John L. Hittell, 9824 Berwick, Livonia, Mich.

2,914,053. Fuel Injection.

Re. 24,214 (Original 2,644,021). Internal Combustion Engine.

General Electric Company is prepared to grant non-exclusive licenses under the following 11 patents upon reasonable terms to domestic manufacturers.

Applications for license may be addressed to: General Electric Company, Housewares and Commercial Equipment Division, 1285 Boston Ave., Bridgeport 2, Conn.

2,657,300. Time Control Means for Electrically Heated Cooking Receptacles.

2,694,770. Control Means for Electrically Heated Cooking Receptacles.

2,737,371. Combined Beater Ejector and Speed Control for Food Mixer.

2,754,399. Automatic Electric Coffee Percolator.

2,816,685. Electric Cooking Vessel Support.

2,823,017. Support for Electric Mixer.

2,823,293. Electric Skillet Handle Structure.

2,886,205. Thermostat Cover Seal.

2,913,230. Food and Beverage Mixer.

2,920,550. Electric Toaster.

2,938,715. Power Unit Support for Mixer.

CONDITION OF PATENT APPLICATIONS AS OF OCTOBER 31, 1960

Total number of pending applications (excluding Designs)	196,714
Total number of pending Design applications	5,671
Total number of applications awaiting action (excluding Designs)	89,507
Total number of Design applications awaiting action	1,506
Date of oldest new application	June 4, 1959
Date of oldest amended application	June 8, 1959

M. C. ROSA, Director, Patent Examining Operation

PATENT EXAMINING GROUPS, AND SUPERVISORY EXAMINERS	DIVISIONS
(I) STONE, I. G., CHEMICAL AND RELATED ARTS	6, 31, 38, 43, 46, 50, 56, 59, 60, 63, 64.
(II) EVANS, N. H., COMMUNICATIONS, RADIANT ENERGY AND ELECTRICAL ARTS	16, 26, 37, 41, 42, 44, 48, 51, 54, 65.
(III) YUNG KWAI, B., MECHANICAL MANUFACTURING, MACHINE ELEMENTS AND DESIGNS	2, 12, 13, 14, 21, 24, 57, 58, 61, 81, 82.
(IV) SPINTMAN, S., MATERIAL HANDLING AND TREATING, OPTICS, RAILWAYS AND AMUSEMENT DEVICES.	7, 11, 17, 27, 34, 35, 39, 53, 62.
(V) HULL, J. S., STATIC STRUCTURES AND INSTRUMENTS OF PRECISION	5, 8, 20, 29, 33, 36, 40, 52, 66.
(VI) MURPHY, T. F., AGRICULTURE, CALCULATORS, PUMPS AND MOTORS, TRANSPORTATION	1, 4, 9, 10, 18, 22, 23, 28, 45, 47.
(VII) KAUFFMAN, H. E., HEATING AND COOLING, PLASTIC SHAPING AND COATING, SEPARATION AND MIXING, BODY TREATMENT AND CARE.	3, 15, 19, 25, 30, 32, 49, 55, 67.
(CLASS.) GORECKI, G. A., ARTS UNDERGOING RECLASSIFICATION AS LISTED UNDER CLASSIFICATION DIVISIONS.	91, 92, 93, 94, 95.

DIVISIONS, EXAMINERS AND SUBJECTS OF INVENTION (Roman numerals in parentheses indicate Examining Group)	Oldest Application: New	Oldest Application: Amended
1. (VI) GOLDBERG, A. J., Brakes; Planting; Plant Husbandry; Scattering Unloaders; Earth Working	4-4-60	4-1-60
2. (III) STONE, A., Fishing, Trapping and Vermin Destroying; Presses; Tobacco; Textile Wringers; Buckles, Buttons and Clasps	4-20-60	4-11-60
3. (VII) MARMELSTEIN, N., Metal Founding and Treatment; Metallurgy (Process and Apparatus); Alloys; Electrical Resistors	3-28-60	3-22-60
4. (VI) FALLER, E. A., Hoists; Power Driven Conveyors; Handling Apparatus; Elevators; Pneumatic Dispatch; Store Service; Conveyors, Chutes, Skids, Guides and Ways	2-25-60	2-16-60
5. (V) ROBINSON, C. W., Harvesters; Unearthing Objects; Threshing; Knotters; Animal Husbandry; Bee Culture; Dairy; Butchering; Vegetable and Meat Cutters and Comminutors; Fences; Gates; Music; Signals and Indicators; Acoustics	10-20-59	11-2-60
6. (I) LIDOFF, H. J. (MARCUS, I., acting), Carbon Chemistry (part), e.g., Heterocyclic, General Organic Processes, Amides	11-19-59	12-8-59
7. (IV) ANDERSON, E. G., Optics	2-15-60	1-15-60
8. (V) BREHM, G. L., Beds; Chairs and Seats; Cabinets; Tables; Miscellaneous Furniture; Fire Escapes; Ladders; Deposit and Collection Receptacles; Scaffolds	4-6-60	4-11-60
9. (VI) BRANSON, J. H., Pumps; Fans; Turbines	3-14-60	2-2-60
10. (VI) BOYD, S., Firearms; Ordnance; Ammunition; Explosive Charge Making	4-1-60	4-4-60
11. (IV) BENHAM, E. V., Boots, Shoes and Leggings; Shoe and Leather Manufacture; Button, Eyelet and Rivet Setting; Nailing, Stapling and Clip Clenching; Card, Picture and Sign Exhibiting; Cutlery; Pipes and Tubular Conduits	2-17-60	2-12-60
12. (III) DURHAM, B. G. (acting), Machine Elements; Engine Starters; Interrelated Clutch and Motor Controls	4-4-60	3-21-60
13. (III) BEALL, T. E., Gear Cutting; Electric Lamp and Tube Manufacture; Needle and Pin Making; Metal Working (part), e.g. Special Work, Forging, Plastic Working, Drawing, Sawing, Milling, Planing, Turning	2-9-60	3-11-60
14. (III) WILTZ, W. A., Metal Working (part) e.g. Sheet Metal; Metal Bending, Miscellaneous Processes, Assembly and Disassembly Apparatus; Wire Fabrics	2-1-60	11-16-59
15. (VII) BRINDISI, M. V., Plastics; Plastic Block and Earthenware Apparatus	5-2-60	5-2-60
16. (II) ANDRUS, L. M., Telephony; Recorders (part)	9-30-59	9-10-59
17. (IV) LEIGHEY, R. A., Packaging; Typewriters; Printing; Type Casting and Setting; Sheet Material Associating or Folding; Sheet Feeding or Delivering	3-24-60	3-15-60
18. (VI) BLUM, A., Power Plants; Fluid Transmissions; Servomotor Systems; Jet Motors; Combustion Turbines; Speed or Acceleration	5-4-60	5-2-60
19. (VII) PATRICK, P. L., Stoves and Furnaces; Boilers; Fluid Fuel Burners; Heating Systems; Miscellaneous Heating; Automatic Temperature and Humidity Regulation; Illuminating Burners	3-21-60	3-18-60
20. (V) SEERS, J. D., Miscellaneous Hardware; Closure Fasteners; Locks; Safes; Bank Protection; Bread, Pastry and Confection Making; Tents and Canopies; Umbrellas; Canes; Undertaking; Electrical Connectors	5-5-60	5-5-60
21. (III) MADER, R. C., Textiles	4-4-60	3-1-60
22. (VI) BUCHLER, M. B., Aeronautics; Boats; Buoys; Ships; Marine Propulsion; Propellers; Windmills; Fluid Diaphragms and Bellows	1-21-60	1-12-60
23. (VI) SMILOW, L., Data Processors; Digital and Analog Computers; Calculators; Bookkeeping Machines; Cash and Fare Registers; Voting Machines; Counters	6-4-59	6-8-59
24. (III) HICKEY, T. J., Apparel (except Corsets and Brassières); Apparel Apparatus; Sewing Machines; Textiles, Ironing or Smoothing; Clutches and Power-Stop Control; Work Holders	2-9-60	2-9-60
25. (VII) NEVIUS, R. D., Coating—Processes, Miscellaneous Products and Apparatus; Distillation; Wood Treating Apparatus; Paper Making	1-11-60	12-3-59
26. (II) RADER, O. L., Electricity—Generation, Motive Power, Transmission Systems, Voltage and Phase Control Systems, Furnaces, Battery Charging and Discharging, Arc Lamps, Prime Mover Dynamo Plants; Elevators (part), e.g. Miscellaneous Electric Control Mechanisms; Inductors; Transformers	2-1-60	12-16-59
27. (IV) JAMES, S., Brushing, Scrubbing and General Cleaning; Brush, Broom and Mop Making; Textiles, Fluid Treating Apparatus; Cleaning and Liquid Contact With Solids	5-2-60	4-27-60
28. (VI) BRAUNER, R. H., Internal Combustion Engines; Expansible Chamber Motors; Fluid Servomotors; Spring, Weight and Animal Powered Motors; Cylinders; Pistons; Drive Shafts; Flexible-Shaft Couplings; Chucks or Sockets; Fluid Current Conveyors; Pressure Modulating Relays; Wheel Substitutes	4-11-60	2-15-60
29. (V) FRITZ, M. M., Tools; Woodworking; Button, Barrel and Wheel Making; Baggage; Cloth, Leather and Rubber Receptacles; Package and Article Carriers; Valved Pipe Couplings; Rod Joints; Tool-Handling Fastenings	2-4-60	1-25-60
30. (VII) O'LEARY, R. A., Comminutors; Refrigeration; Fluid Sprinkling, Spraying and Diffusing, Separating and Assorting Solids (part)	5-9-60	5-2-60

DIVISIONS, EXAMINERS AND SUBJECTS OF INVENTION (Roman numerals in parentheses indicate Examining Group)	Oldest Application	
	New	Amended
31. (I) BOETTCHER, A. M., Carbon Chemistry (part), e.g., Urea Adducts, Silicon Containing Carbon Compounds, Hydrogenation of Carbon Oxides, Partial Oxidation of Non-Aromatic Hydrocarbon Mixtures, Hydrocarbons, Halogenated Hydrocarbons; Synthetic Resins (part) (e.g., Oil-Modified; Stabilized); Mineral Oils	4-11-60	4-11-60
32. (VII) BERMAN, H., Gas and Liquid Contact Apparatus; Heat Exchange; Agitation; Fire Extinguishers; Centrifugal Bowl Separators; Liquid Separation or Purification (part)	4-1-60	4-1-60
33. (V) MUSHAKE, W. L., Bridges; Hydraulic and Earth Engineering; Roads and Pavements; Building Structures	1-13-60	12-10-59
34. (IV) QUACKENBUSH, L., Railways—Draft Appliances, Switches and Signals, Surface Track, Rolling Stock, Track Sanders; Electricity, Transmission to Vehicles; Dumping Vehicles; Vehicle Fenders; Hand and Hoist Line Implements	11-5-59	10-9-59
35. (IV) DEMBO, L. J., Dispensing; Filling Receptacles; Toilet; Severing by Tearing or Breaking; Coin Controlled Apparatus; Dispensing Cabinets; Article Dispensing; Coin Handling	3-28-60	2-12-60
36. (V) EVANS, R. L. (CUTTING, C. A., acting), Measuring and Testing (part)	2-5-60	1-11-60
37. (II) LEVY, M. L., Electricity—Switches, Welding, Heating, Photo-Cell Circuits	1-8-60	12-18-59
38. (I) PARKER, C. B., Carbon Chemistry (part), e.g., Azo, Carbocyclic or Acyclic Compounds (part), e.g., Anthrones, Triarylmethanes, Esters, Acids, Ketones, Aldehydes, Ethers, Phenols, Alcohols, Proteins, Amines, Natural Resins	11-30-59	12-4-59
39. (IV) WEIL, I., Fluid-Pressure Regulators; Valves; Fluid Handling (except Pressure Modulating Relays, Float Valves, Diaphragms and Bellows)	3-18-60	3-15-60
40. (V) DRUMMOND, E. J., Receptacles—Metallic, Paper, Wooden, Glass; Special Receptacles and Packages	4-13-60	4-11-60
41. (II) LOVEWELL, N. N., Recorders (part); Sound Recording; Television; Telegraphy (part)	3-24-60	2-16-60
42. (II) REYNOLDS, E. R., Electric Signaling; Telegraphy (part)	1-31-60	1-31 60
43. (I) KNIGHT, W. B. (WOLK, M. O., acting), Medicines, Poisons, Cosmetics; Sugar and Starch; Skins and Leathers; Preserving, Sterilizing and Disinfecting (except Wood Treatment Apparatus); Bleaching, Dyeing, Fluid Treatment of Textiles	11-2-59	10-29-59
44. (II) JUSTUS, C. L., Directive Radio Systems; Nuclear Batteries; Nuclear Resonant Devices; Radar; Sonar; Torpedoes	10-14-59	10-8-59
45. (VI) MANIAN, J. A., Wheels, Tires and Axles; Railway Wheels and Axles; Lubrication; Bearings and Guides; Belt and Sprocket Gearing; Spring Devices; Animal Draft Appliances; Excavating	4-4-60	2-23-60
46. (I) WILES, W. G. (CAMPBELL, R. L., acting), Actinide Series (e.g., Fissionable) Compounds; Sintered Metal Stock; Explosives; Power Plants (part); Metallurgy (part); Radioactive Medicines; Nuclear Reactions; Carbon Chemistry (part)	2-17-60	2-12-60
47. (VI) KANOF, W. J., Mining, Quarrying, and Ice Harvesting; Motor Vehicles; Land Vehicles; Education	4-18-60	4-27-60
48. (II) BERNSTEIN, S., Electricity—Conversion Systems, Protective Systems; Measuring and Testing (except Meters); Switchboards, Relays, Magnets, Condensers, Transistors, Barrier Layer Rectifiers	2-1-60	1-21-60
49. (VII) BENDETT, B., Drying and Gas or Vapor Contact With Solids; Ventilation; Wells; Concentrating Evaporators; Earth Boring	1-20-60	12-3-59
50. (I) ARNOLD, D., Carbon Chemistry (part), e.g., Synthetic Resin Compositions (part), Synthetic Rubber Compositions, Natural Rubber; Synthetic Resins (part) (e.g., Butadiene Polymers and Copolymers, Polyacrylonitriles, Acrylate Polymers and Copolymers)	1-14-60	12-2-59
51. (II) WESTBY, G. N., Modulators; Piezoelectric Devices; Antennas; Oscillators; Miscellaneous Electron Space Discharge Device Systems; Radio Detectors	1-21-60	1-7-60
52. (V) LE ROY, C. A., Supports and Racks; Separating and Assorting Solids (part)	11-23-59	11-12-59
53. (IV) NINAS, G. A., Label Pasting and Paper Hanging; Books and Book Making; Manifolding; Printed Matter; Stationery; Paper Files and Binders; Flexible or Portable Closures or Partitions; Doors, Windows, Awnings, and Shutters; Harness; Whip Apparatus; Food Apparatus; Closure Operators; Illumination	3-16-60	4-15-60
54. (II) NILSON, R. G., Electric Lamps; Electronic Tubes; Miscellaneous Discharge Devices; Lamp, Cathode Ray and Gas Discharge Device Circuits; Ray Energy (e.g., X-Ray, Ultraviolet, Radioactive) Applications; Mass Spectrometers	3-3-60	3-21-60
55. (VII) WHITMORE, H. B. (acting), Surgery; Dentistry; Artificial Body Members	2-29-60	2-29-60
56. (I) SPECK, J. R., Abrading Compositions; Batteries; Coating or Plastic Compositions; Electrical and Wave Energy Chemistry	2-2-60	3-4-60
57. (III) MILLER, A. B., Bolt, Nut, Rivet, Nail, Screw, Chain, and Horseshoe Making; Driven and Screw Fastenings; Nut and Bolt Locks; Jewelry; Pipe Joints or Couplings; Cutting	2-15-60	1-12-60
58. (III) BRONAUGH, F. H., Rolls and Rollers; Making Metal Tools and Implements; Stone Working; Abrading Processes and Apparatus; Baths, Closets, Sinks, and Spittoons; Boring and Drilling; Paper Manufactures; Selective Cutting	3-7-60	3-7-60
59. (I) BRINDISI, M. A., Inorganic Chemistry; Fertilizers; Gas, Heating and Illuminating	12-11-59	11-23-59
60. (I) MANGAN, P. E., Carbon Chemistry (part), e.g., Synthetic Resins (part); Miscellaneous Polymers (e.g., Vinyl Polymers); Synthetic Resin Compositions (part), Synthetic Rubber; Photographic Processes and Products	3-3-60	3-1-60
61. (III) STRIZAK, J. P., Winding and Reeling; Pushing and Pulling; Horology; Railway Mail Delivery; Feeding of Indefinite Lengths	4-27-60	4-29-60
62. (IV) LOWE, D. B. (FULLER, E. E., acting), Games; Toys; Amusements and Exercising Devices; Mechanical Guns and Projectors; Photographic Apparatus	3-23-60	3-17-60
63. (I) WINKELSTEIN, A. H., Foods and Beverages; Fermentation; Carbon Chemistry (part), e.g., Lignins, Carbohydrate Derivatives, Fats, Sulfurized Compounds; Heavy Metal Compounds	11-23-59	1-7-60
64. (I) GREENWALD, J., Fuels; Miscellaneous Compositions	12-8-59	12-15-59
65. (II) SAX, E. J., Wave Guides; Electric Meters; Conductors; Insulators; Amplifiers	4-5-60	3-23-60
66. (V) LISANN, I., Geometric Instruments; Measuring and Testing (part)	11-5-59	10-22-59
67. (VII) KRAFFT, C. F., Liquid Separation or Purification (part); Laminated Fabrics	1-15-60	1-4-60
81. (III) MONCURE, J. A., Industrial Arts	8-8-60	8-15-60
82. (III) HUNTER, E. H., Household, Personal and Fine Arts	8-15-60	8-22-60
91. BAILEY, J. S., Ornamentation; Glass	3-21-60	4-1-60
92. GAUSS, H., Radio Transmitters, Receivers and Tuners	4-21-60	4-26-60
93. WAHL, R. A. (PURDY, W. F., acting), Wire Working	1-29-60	12-16-59
94. BERLOWITZ, W. (COLE, W. S., acting), Gas Separation	5-2-60	5-2-60
95. ANGEL, C. D., Metallic Building Structures; Packed Rod Joints; Joint Packings	3-10-60	3-7-60
M. E. DIV. A (I) GASTON, L. H., Carbon Chemistry (part), e. g., Steroids; Synthetic Resins (part), i. e., Polyethylenes	4-5-60	3-2-60

EXPIRATION OF PATENTS

The patents within the range of numbers indicated below expire during December 1960, except those which may have been extended under the provisions of the Veterans Patent Extension Act (64 Stat. 316 as amended by 66 Stat. 321) and those which may have expired earlier due to shortened terms under the provisions of Public Law 690. A list of Veterans' patents which have been extended appears in the *Annual Index of Patents—1960*.

Patents..... Numbers 2,935,944 to 2,938,090, inclusive

Plant Patents..... Number 610

DECISIONS IN PATENT AND TRADEMARK CASES

In the United States Patent Office
Before the Board of Appeals

EX PARTE FAUSER ET AL.

Appeal No. 30,767, Serial No. 769,068. Decided January 29, 1953

1. PATENTABILITY—COMPOSITION OF MATTER—CONSTRUCTION OF REFERENCE.

"The main point of appellants' argument is that their invention resides in the discovery that the specific polyamides claimed possess properties superior to both the higher and lower adjacent homologues. * * * The rejection however is not based on the homologues but on the proposition that preparation of appellants' identical polymers is directly contemplated by French Patent 892,846 especially when considered in the light of the art acknowledged by this patent. We think the Examiner's construction of the main reference on this point to be proper. We do not conceive as involving invention the determination of properties of polymers falling within the teachings of French Patent 892,846 and selecting those which are best suited for a particular purpose. This would seem the extent of appellants' contribution here."

2. SAME—PARTICULAR SUBJECT MATTER—LINEAR POLYAMIDES.

Certain claims to linear polyamides *Held* unpatentable over the cited prior art, and the rejection of another claim as not inclusive of the elected species sustained.

APPEAL from the Examiner. Serial No. 769,068.

AFFIRMED.

R. H. Waters and R. L. Müller for appellant.

Before GENIESSE and DUNCOMBE, *Examiners-in-Chief* and ASP, *Acting Examiner-in-Chief*

ASP, *Acting Examiner-in-Chief:*

This is an appeal from the action of the Primary Examiner finally rejecting claims 16, 17 and 18, all the claims in this case.

Claim 16 is representative and reads as follows:

16. As a new composition of matter, a superpolymer selected from the group consisting of hexamethylene p-phenylene bis propionamide and decamethylene p-phenylene bis propionamide.

The references relied upon are:

Carothers, 2,071,250, February 16, 1937.
Du Pont (French), 790,521, September 9, 1935.
Farben (French), 892,846, January 17, 1944.
Du Pont (Italian), 379,528, March 28, 1940.

The appealed claims are for a linear polyamide produced by reacting p-phenylene dipropionic acid with an equimolecular quantity of either hexamethylene diamine or decamethylene diamine and then heating to polymerize.

Claims 16 and 17 stand rejected as unpatentable over French Patent 892,846 alone or in view of Carothers 2,071,250, Du Pont (French) 790,521, or Du Pont (Italian) 379,528. All of the auxiliary references are referred to by French Patent 892,846, page 2 lines 65 thru 80, and are regarded by the Examiner as constituting a part of its disclosure.

French Patent 892,846 is directed to increasing the molecular weight of polyamides, polyesters, and polyesteramides by reaction with carbon oxysulfide. On page 2, lines 49 and 50 of this patent p-phenylene dipropionic acid is disclosed for use in making polyesteramides and polyesters in particular. The Examiner interprets this to extend also to making polyamides referring to Example 2 and claim 1 of this reference. This conclusion is fortified by the subsidiary references referred to by French Patent 892,846 of which Carothers 2,071,250, page 5, discloses polyamides made from dibasic acids and diamines, Du Pont (Italian) 379,528 showing appellants' diamines in polyesteramides, and Du Pont (French) 790,521 showing polyamides prepared from hexamethylene diamine or decamethylene diamine and various dibasic carboxylic acids including paraphenylene diacetic acid. The Examiner's view appears to be that it is within the scope and teachings of French Patent 892,846 to form polyamides from p-phenylene dipropionic acid and such conventional diamines as hexa- and deca-methylene diamines disclosed in the auxiliary references. We see no reversible error in this position and will therefore affirm the rejection.

[1] The main point of appellants' argument is that their invention resides in the discovery that the specific polyamides claimed possess properties superior to both the higher and lower adjacent homologues. By way of comparison it is stated that the next lower homologues decompose on melting so they can not be melt spun into fibers while the next higher homologues have melting points 80°–100° C. lower than the claimed polymers. It appears that the lower homologue is at least fairly suggested by French Patent 790,521. The rejection however is not based on the homologues but on the proposition that preparation of appellants' identical polymers is directly contemplated by French Patent 892,846 especially when considered in the light of the art acknowledged by this patent. We think the Examiner's construction of the main reference on this point to be proper. We do not conceive as involving invention the determination of properties of polymers falling within the teachings of French Patent 892,846 and selecting those which are best suited for a particular purpose. This would seem the extent of appellants' contribution here.

The rejection of claim 18 as not inclusive of the elected species, standing unchallenged, is sustained.

[2] The decision of the Primary Examiner is affirmed.

AFFIRMED.

In the United States Patent Office
Before the Board of Appeals

EX PARTE RALPH G. BEAMAN

Appeal No. 64-62. Decided November 14, 1958

1. PATENTABILITY—COMPOSITION OF MATTER—INVENTION—FOLLOWING SUGGESTION OF PRIOR ART.

Upon review of a rejection of claims in appellant's application on condensation polymers, *Held* that "The references applied to the appealed claims clearly disclose polyamides and list terephthalic acid and various amines disclosed by appellant as being suitable for the production of polyamides," and that "Polyamides being known, and the starting materials used by appellant for making polyamides being clearly taught in the references, it does not appear that more than routine experimentation was involved in the production of the polyamides recited in the appealed claims"; and *Held* that "Invention is not involved in following the suggestion of the prior art, even if all of the results obtained are not indicated in the art."

2. SAME—SAME—SAME—SAME.

In response to appellant's objection that the specific compounds of his claims were not found in any reference and that the Examiner had to resort to choosing starting materials from long lists of materials in the references in order to reject the claims, *Held* that "The lists of starting materials disclosed in the several references do not appear to us to be so long as to warrant a conclusion that it would be improbable that one skilled in the art of producing polyamides of the diamine-dibasic acid type would receive the suggestion therefrom that the starting material here in question could be effectively used in producing polyamides"; and that "Since we are of the view that it would have been obvious to one skilled in the art from a consideration of the references that polyamides could be formulated from the starting materials used by appellant, we find nothing patentable in the particular combination of properties recited in the appealed claims."

3. SAME—SAME—PRODUCT NOT DEPENDENT ON NOVEL PROCESS.

"In connection with appellant's objections that none of the references applied against the claims employs a process which will produce a high melting point product or indicates how the starting materials are to be combined, we note that appellant does not assert that the polyamides of the appealed claims depend upon a novel process for their production. At any rate, the claims we have before us are product, not process claims."

4. SAME — PARTICULAR SUBJECT MATTER — CONDENSATION POLYMERS.

Claims to condensation polymers *Held* unpatentable over the cited prior art.

APPEAL from the Examiner. Serial No. 368,804.

AFFIRMED.

Carl A. Hechmer for appellant.

Before DUNCOMBE, ASP and SUBLE, *Examiners-in-Chief*

DUNCOMBE, *Examiner-in-Chief*:

This is an appeal from the final rejection of claims 1 to 9, which are all of the claims in the case.

Claim 1 is illustrative and is as follows:

1. A linear terephthalamide condensation polymer remaining solid at temperatures up to 300° C. and having a second-order transition temperature above 120° C., said polymer consisting essentially of recurring structural units of the formula



wherein R is a divalent radical selected from the group consisting of ethylenediamino, p-xylylenediamino, 1,3-cyclohexanediamino and m-xylylenediamino.

The references relied on are:

Gilman, 2,268,586, January 6, 1942.
Christ, 2,312,879, March 2, 1943.
British Patent 614,625, December 20, 1948.
German Patent (I.G.F.) 745,029, February 23, 1944.

The Examiner has also cited the following to establish certain known properties:

Flory, 2,172,374, September 12, 1939.
Magat et al., 2,708,617, May 17, 1955.
Edgar et al., J. Polymer Science, vol. VIII, No. 1, 1952, pp. 1–8, 13–15, 19 and 20.

The description of the invention appearing on pages 3 and 4 of appellant's brief appears to be adequate and will be adopted here.

Claims 1, 3 and 7 stand rejected as unpatentable over the British Patent 614,625.

The British patent discloses the production of polyamides from mixtures of diamines and dicarboxylic acids. Terephthalic acid is mentioned as one of the dicarboxylic acids which are suitable and paraxylylene diamine as a suitable diamine. We will sustain this rejection since, in our view, the reference contains a clear suggestion that a terephthamide condensation product could be formed by reacting these two compounds. We will summarize in a later portion of this decision our views relative to appellant's arguments.

Claims 1, 2, 3, 6 and 7 stand rejected as unpatentable over German Patent 745,029. This reference discloses the production of high molecular weight polyamides by reaction of an aliphatic or aromatic dinitrile with primary or secondary amines. Terephthalic acid dinitrile is given as an example of aromatic dinitriles and ethylene diamine and p-xylylene diamine as examples of suitable diamines. We find no contention by appellant that the terephthalic acid derivative disclosed in this reference would not be equivalent, for the purposes of forming polyamides by reaction with the diamine, to terephthalic acid *per se*. We will sustain this rejection since, in our view, the reference contains a clear teaching that a polyamide may be formed by reacting together terephthalic acid dinitrile and either of the diamines mentioned above.

All claims stand rejected as unpatentable over the Gilman patent. This reference also discloses that polyamides may be formed by reacting a dibasic carboxylic acid and a diisocyanate. Terephthalic acid is recited as an example of a suitable dibasic carboxylic acid. The patentee discloses ethylene, p-xylylene and m-xylylene diisocyanates. Appellant has not shown that diisocyanates are not as suitable for the reaction in question as the corresponding diamines used by him, nor has it been shown that the use of the cyclohexane-diamino radical involves a patentable distinction over the use of the various cyclohexylene-diisocyanates disclosed by Gilman. We will sustain this rejection.

Claims 2 and 6 stand rejected as unpatentable over the Christ patent. This reference discloses the production of polymers that can be formed into pliable filaments by reacting together a mixture, for example, of amino alcohols, dibasic acids, glycols and diamines. Terephthalic acid is given as an example of a suitable dibasic acid and ethylene-diamine as a satisfactory diamine. The Examiner points out that these claims are not limited to a homopolymer and hence do not exclude the amino alcohol reactant of the reference. We will sustain this rejection.

Appellant objects that the specific compounds of the claims are not found in any reference and that the Examiner has had to resort to choosing starting materials from long lists of materials in the references in order to reject the claims. It is asserted by appellant that no reference recognizes the combination of high melting point and second-order transition temperature unexpectedly found in the claimed compounds. Appellant also objects that none of the references applied against the claims employs processes which will produce a product with a high melting point, since each of these references employs a melt polymerization process. According to appellant, the references give no indication of how the starting materials should be combined to give the highly desirable and unobvious properties which appellant has found to reside in the claimed products.

Consideration of the arguments as above summarized does not convince us that the rejection of the appealed claims is in error.

[1] It would appear from the Gilman patent, lines 39 to 41, column 2, page 1, that polyamides of the

diamine-dibasic acid type were well known at the time this application was filed. The references applied to the appealed claims clearly disclose polyamides and list terephthalic acid and various amines disclosed by appellant as being suitable for the production of polyamides. Polyamides being known, and the starting materials used by appellant for making polyamides being clearly taught in the references, it does not appear that more than routine experimentation was involved in the production of the polyamides recited in the appealed claims. Invention is not involved in following the suggestion of the prior art, even if all of the results obtained are not indicated in the art. *In re Finley*, 36 CCPA 999, 1949, C.D. 284, 624 O.G. 363, 174 F.2d 130, 81 USPQ 383. [2] The lists of starting materials disclosed in the several references do not appear to us to be so long as to warrant a conclusion that it would be improbable that one skilled in the art of producing polyamides of the diamine-dibasic acid type would receive the suggestion therefrom that the starting material here in question could be effectively used in producing polyamides. Since we are of the view that it would have been obvious to one skilled in the art from a consideration of the references that polyamides could be formulated from the starting materials used by appellant, we find nothing patentable in the particular combination of properties recited in the appealed claims. [3] In connection with appellant's objections that none of the references applied against the claims employs a process which will produce a high melting point product or indicates how the starting materials are to be combined, we note that appellant does not assert that the polyamides of the appealed claims depend upon a novel process for their production. At any rate, the claims we have before us are product, not process claims.

We have considered Dr. Ralph G. Beaman's affidavit but do not find it persuasive of patentability of the appealed claims for reasons which should be apparent from what has been stated above. We noted the arguments on page 9 of the brief relative to the desirable property of heat stability possessed by the compound represented by the elected species, but do not find this to be a basis for allowance since, as noted, we believe that the preferred poly-m-xylylene species would be obvious from the Gilman reference.

The Flory, Magat et al. and Edgar et al. references were not applied against any of the claims and we do not consider it necessary to further refer to them.

[4] The decision of the Primary Examiner finally rejecting the appealed claims is affirmed.

AFFIRMED.

PATENT SUITS

Notices under 35 U.S.C. 290: Patent Act of 1952

2,321,573, T. B. Shace, Washing machines; **2,389,134**, C. A. Brown, Flow control valve; **2,444,677**, R. A. Rosenblum, Flow control valve; **2,489,932**, Flow control device; **2,500,750**, D. H. Halenza, Fluid control unit; **2,815,041**, V. E. Rimsha, Single solenoid hydraulic control valve; **2,888,237**, R. H. Dahl, Constant rate of flow shut-off valve; **Re. 24,534**, By-pass flow washer, filed Nov. 24, 1958, D.C., N.D. Ill. (Chicago), Doc. 58c2050, *The Dole Valve Company* v. *Scovill Manufacturing Company*. On stipulation Patents Nos. 2,444,677, 2,489,932 and 2,815,041 withdrawn from complaint and counterclaim July 25, 1960. Consent decree; Patents Nos. 2,321,573, 2,389,134, 2,500,750, Re. 24,534 and 2,888,237 held valid and infringed; defendant enjoined; counterclaim and supplemental counterclaim dismissed Nov. 16, 1960.

2,351,396, E. M. Brogden et al., Art of merchandise packaging, filed June 27, 1960, D.C., N.D. Calif. (San Francisco), Doc. 39/234, *The Mead Corporation* v. *The Shasta Water Company*. Order and stipulation of dismissal without prejudice (notice Nov. 16, 1960).

2,389,134. (See 2,321,573.)

2,394,657, T. J. Beregh, Apparatus for preventing offset, filed Nov. 16, 1960, D.C., N.D. Ill. (Chicago), Doc. 60c1781, *Oxy-Dry Sprayer Corporation et al.* v. *J. G. Yahnke Co. et al.*

2,410,793, Winnek and Roblin, Jr., Sulfonamido pyrimidines, filed Nov. 21, 1960, D.C.N.J. (Trenton), Doc. 992/60, *American Cyanamid Company* v. *Caesar Bottone et al.*

2,444,677. (See 2,321,573.)

2,489,932. (See 2,321,573.)

2,496,312, J. D. Robertson, Bow correcting apparatus, filed Nov. 22, 1960, D.C., W.D.N.C. (Charlotte), Doc. 1577, *Mount Hope Machinery Company* v. *American Cloth-Strait Company, Inc.*

2,500,750. (See 2,321,573.)

2,537,452, H. W. Forrer, Bottle carrier, filed June 27, 1960, D.C., N.D. Calif. (San Francisco), Doc. 39/235, *The Mead Corporation* v. *The Shasta Water Company*. Stipulation and order holding patent valid and infringed. No injunction issued (notice Nov. 16, 1960).

2,571,927, Neumann and Gottesmann, Electrolytic cell and, in particular, alkaline cell; **2,636,058**, G. Neumann, Gastight storage battery and method of manufacturing same, filed Nov. 14, 1960, D.C., N.D. Ill. (Chicago), Doc. 60c1764, *Gould-National Batteries, Inc. et al.* v. *Sonotone Corporation et al.*

2,636,058. (See 2,571,927.)

2,648,610, J. T. Martin, Packaged popcorn kernels and popping oil, filed Nov. 10, 1960, D.C., W.D. Ky. (Owensboro), Doc. 923, *Popcorn-In-Oil Council, Inc.*, v. *Wyndall's Super Market, Inc.*

2,653,109, J. L. Switzer et al., Light-responsive fluorescent media, filed Aug. 22, 1958, D.C., N.D. Ill. (Chicago), Doc. 58c1563, *Switzer Brothers, Inc.* v. *Lawter Chemicals, Inc.* Claims 1 through 11 of patent held invalid Nov. 15, 1960.

2,653,897, E. K. Harvill, Alkali metal salts of adenylic acid, filed Mar. 16, 1959, D.C., N.D.N.Y. (Utica), Doc. 7512, *Miles Laboratories, Inc.* v. *Rand Pharmaceutical Company, Inc.* Consent judgment; all claims of patent held valid and infringed; injunction issued Nov. 17, 1960.

2,660,875, D. N. Jewett et al., Closure lock, filed Dec. 16, 1958, D.C., N.D. Ga. (Atlanta), Doc. 6732, *Trans Continental Industries, Inc.* v. *American Art Metals Company*. Dismissed by stipulation without prejudice Nov. 17, 1960.

2,665,377, J. E. Krepps, Jr., Universal tuning system for television receivers, filed Nov. 9, 1960, D.C., N.D. Ill. (Chicago), Doc. 60c1746, *Sarkes Tarzian, Inc.* v. *Standard Kollsman Industries, Inc.* Same, filed Nov. 10, 1960, D.C. Mass. (Boston), Doc. 60/838-W, *Sarkes Tarzian, Inc.* v. *General Instrument Corporation*.

2,691,720, E. L. Simmons, Wall and ceiling light transmitting means, filed May 6, 1959, D.C., N.D. Ill. (Chicago), Doc. 59c737, *Elwyn L. Simmons et al.* v. *Luminous Ceilings, Inc.* On stipulation, dismissal without prejudice Nov. 16, 1960.

2,710,335, H. K. Wong, Light diffusing and sound absorbing unit, filed Nov. 12, 1959, D.C., N.D. Ill. (Chicago), Doc. 59c1793, *University of Illinois Foundation* v. *Luminous Ceilings, Inc. et al.* Dismissed without prejudice Nov. 16, 1960.

2,799,581, P. W. Bullock, Method for matching opposing densities in photographic film, filed July 11, 1957, D.C., N.D. Ill. (Chicago), Doc. 57c1178, *Laboratory Equipment Corporation* v. *Lindberg Engineering Company*. Consent judgment; action and counterclaim dismissed Nov. 9, 1960.

2,815,041. (See 2,321,573.)

2,856,597, J. H. Kraemer, Methods and apparatus for manufacturing ornamental articles, filed Nov. 22, 1960, D.C.R.I. (Providence), Doc. 2716, *Dyer Corporation* v. *Hord Tool and Dye Corporation*.

2,888,237. (See 2,321,573.)

2,902,877, I. Kamlukin, Soil tilling device, filed Nov. 15, 1960, D.C., S.D. Ohio (Dayton), Doc. 2538, *Simplicity Manufacturing Company* v. *Quick Manufacturing Company*.

2,917,964, A. S. Cassinelli, Brass instrument mouthpiece, filed Nov. 17, 1960, D.C., E.D. Wis. (Milwaukee), Doc. 60–C–204, *Alfred S. Cassinelli* v. *Getzen Company, Inc.*

2,920,412, W. Mitchell, Washable rug, filed Nov. 15, 1960, D.C., S.D.N.Y., Doc. 60/4485, *Mitchell Accessories, Inc.* v. *Princeton Knitting Mills, Inc. et al.*

2,927,443, F. W. Knowles, Plate freezer for packaged goods, filed Nov. 14, 1960, D.C., W.D. Wash. (Seattle), Doc. 5171, *Amerio Contact Plate Freezers, Inc.* v. *Belt Ice Corporation et al.*

2,952,058, S. Geldwerth, Flexible jewelry band and snap clasp therefor, filed Oct. 13, 1960, D.C., S.D.N.Y., Doc. 60/3973, *Do-All Jewelry Manufacturing Co., Inc.* v. *Armin Feiger et al., doing business as Royalty Jewelry Manufacturing Company*. Consent judgment; defendants permanently enjoined Nov. 14, 1960.

2,963,286, L. T. Haugen, Pipe joint, filed Nov. 16, 1960, D.C., N.D. Ala. (Birmingham), Doc. 9816, *United States Pipe and Foundry Company* v. *James B. Clow & Sons, Inc.* Same, filed same, D.C. Del. (Wilmington), Doc. 2268, *United States Pipe and Foundry Company* v. *Griffin Wheel Company*. Same, filed same, D.C., N.D. Tex. (Dallas), Doc. 8655, *United States Pipe and Foundry Company* v. *Lone Star Steel Company*. Same, filed same, D.C., W.D. Va. (Roanoke), Doc. 1113, *United States Pipe and Foundry Company* v. *Lynchburg Foundry Company*.

2,964,664, B. D. Osteen, Holder for punched sheets, filed Nov. 15, 1960, D.C., S.D. Fla. (Jacksonville), Doc. 4591–J, *St. Regis Paper Company, doing business as Nifty Manufacturing Company* v. *Jacksonville Paper Company, Inc.*

Re. No. 24,818 (of 2,590,066), R. L. Pattinson, Method of storing gases or liquids, filed Nov. 21, 1958, D.C., N.D. Tex. (Fort Worth), Doc. 2708, *Sid W. Richardson* v. *Skelly Oil Company*. Order of dismissal Nov. 7, 1960.

Re. 24,534. (See 2,321,573.)

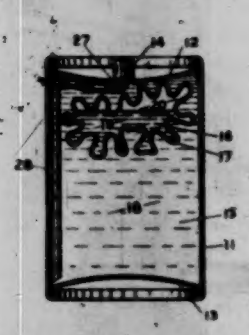
Des. 175,844, D. Levine, Luggage lock or similar article, filed May 24, 1960, D.C., S.D.N.Y., Doc. 60/2076, *Crest Lock Co., Inc.* v. *Optima Export Co., Inc. et al.* Consent judgment; defendants enjoined Nov. 15, 1960.

REISSUES

JANUARY 3, 1961

Matter enclosed in heavy brackets [ ] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates additions made by reissue.

24,918
DISPENSING PACKAGE AND METHOD
Lindley E. Mills, Kalamazoo, Mich.
Original No. 2,815,152, dated Dec. 3, 1957, Ser. No. 126,193, Oct. 7, 1949. Application for reissue Dec. 2, 1958, Ser. No. 777,883
4 Claims. (Cl. 222—386.5)

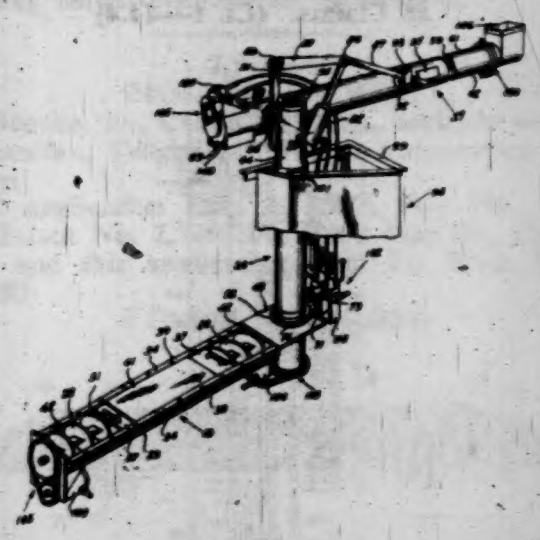


2. An article of manufacture for dispensing a fluid product, comprising: a container; a completely closed capsule within said container dividing the interior thereof into a product chamber surrounding said capsule and a propellant chamber within said capsule, said capsule being unattached to said container and being formed of flexible material of sufficient area that said capsule may inflate without stretching of said material from a collapsed condition of small volume to a condition wherein said capsule substantially fills said container; fluid-conducting means communicating with the product chamber; and a propellant within said closed capsule, said propellant having a vapor pressure higher than the external pressure on the container.

24,919
STARCH ETHERS
Hans Wolff, Decatur, Ill., assignor to A. E. Staley Manufacturing Company, Decatur, Ill., a corporation of Delaware
No Drawing. Original No. 2,923,707, dated Feb. 2, 1960, Ser. No. 744,296, June 24, 1958. Application for reissue July 20, 1960, Ser. No. 44,238
6 Claims. (Cl. 260—233.3)

1. A starch reaction product comprising the reaction product of an epoxide containing an aliphatic chain of at least twelve carbon atoms selected from the group consisting of epoxy fatty acids, *epoxy fatty acid esters*, epoxy fatty acid amides, and epoxy aliphatic alcohols and starch.

24,920
MATERIAL HANDLING SYSTEM
Harold S. Palmer, Keota, Iowa
Original No. 2,883,076, dated Apr. 21, 1959, Ser. No. 728,390, Apr. 14, 1958. Application for reissue Aug. 17, 1959, Ser. No. 834,366
4 Claims. (Cl. 214—83.32)



4. A material handling system for a truck having a truck bed comprising an upright screw conveyor unit supported on said bed for rotational movement about a vertical axis, means for feeding material from said truck bed to the lower end portion of said upright screw conveyor unit, a swingable screw conveyor unit rotatably supported adjacent one end thereof on the upper portion of said upright screw conveyor unit for up and down movement, with said swingable conveyor unit and said upright conveyor unit having adjacent side portions thereof in communication, drive motors corresponding to said conveyor units, with the drive motor for said swingable conveyor unit being of a reversible type, means for selectively controlling the operation of said drive motors, said swingable conveyor unit having an opening at said one end thereof, so that material from said truck bed is successively moved by said feed means, upright conveyor unit and swingable conveyor unit for discharge from the other end of said swingable conveyor unit, and when said one end of the swingable conveyor unit is positioned above said truck bed and said feed means and upright conveyor means are stopped, material supplied to said other end of the swingable conveyor unit is discharged from said opening onto said truck bed on a reversed operation of the drive motor for said swingable conveyor unit, relative to the operation thereof for moving material from said truck bed.

PLANT PATENTS

GRANTED JANUARY 3, 1961

Illustrations for plant patents are usually in color and therefore it is not practicable to reproduce the drawing.

2,069
MINIATURE ROSE PLANT
Ralph S. Moore, Visalia, Calif.
Filed Mar. 21, 1960, Ser. No. 16,620
1 Claim. (Cl. 47—61)

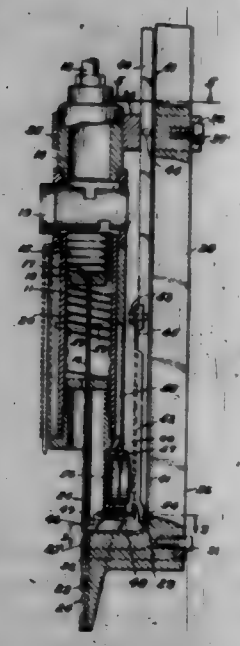
A new and distinct variety of rose plant of the hybrid miniature class and hardy, dwarf, bush type, characterized—as compared to the Dian miniature rose plant, and which it most nearly resembles—by a faster growing, taller, larger and more upright plant; by glossy green foliage which commonly holds into the winter season, and has a tendency to shade to bronze-green, with new shoots and young leaves frequently a reddish or bronze-green; by rooting very readily from both soft and hard wood cuttings; and by slightly larger rose-pink flowers which are a deeper shade when fully open and which then resemble a pompon chrysanthemum, the flowers being held erect on very stiff stems.

PATENTS

GRANTED JANUARY 3, 1961

GENERAL AND MECHANICAL

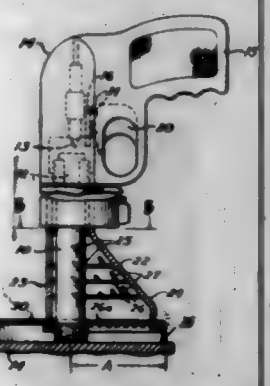
2,966,681
FEEDING MECHANISM FOR FASTENER DRIVING DEVICES
Lee R. Campbell, 1921 Kenneth Ave., Royal Oak, Mich.
Filed Oct. 9, 1957, Ser. No. 689,153
15 Claims. (Cl. 1—44.4)



1. In a device for driving fasteners having a driver operable on driving and return strokes, means for feeding a fastening device into the path of movement of the driver for engagement thereby on each driving stroke comprising a track for slidably supporting a plurality of fastening devices, said track having a discharge portion leading into the path of movement of the driver at approximately a right angle thereto and curving into a storage portion which extends at less than a right angle to said path of movement, a track guide normally extending parallel to said track, said track guide including a portion movable into engagement with at least one fastening device supported on said track, a breaker member mounted for movement toward said track with one end of said breaker member being engageable with a fastener supported on that portion of said track which includes the adjacent ends of the said discharge and storage portions thereof and the curved portion intermediate said adjacent ends, and means for moving said breaker member and said track guide into such engagement during movement of said driver on a driving stroke.

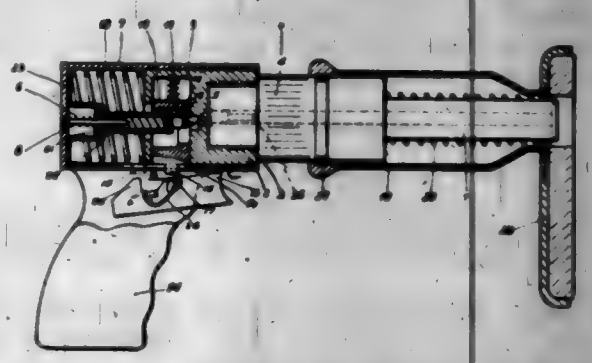
2,966,682
SHIELD AND GAUGE UNIT FOR POWDER-ACTUATED TOOLS
Robert W. Henning, Rocky River, Ohio, assignor, by mesne assignments, to Olin Mathieson Chemical Corporation, a corporation of Virginia
Filed June 3, 1954, Ser. No. 434,261
7 Claims. (Cl. 1—106)

1. In a powder-actuated tool having a barrel, wall means defining a blast or gas-expansion chamber for the reduction of recoil and noise, means operatively associating the barrel and said wall means effective to offset said chamber laterally of the barrel axis, and a protective shield and distance gauge unit rotatably mounted on said chamber wall, the lateral offset disposition of said chamber relative to the tool barrel axis resulting in a lateral offsetting in the disposition of said shield and gauge unit, the axis of rotation of said gauge unit being laterally offset



with respect to the bore axis of said tool barrel, whereby such unit by rotary adjustment thereof can function as a distance gauge for pins, studs and like fastening elements which are fired through the tool barrel in use of the tool.

2,966,683
DRIVING TOOL
Walter E. Schulz, Goethestr. 44, Wulfrath, Rhineland, Germany
Filed Feb. 21, 1955, Ser. No. 489,567
Claims priority, application Germany Feb. 23, 1954
3 Claims. (Cl. 1—106)



3. In a power operable driving tool: a barrel adapted to receive a stud to be fired, a breech block connected to said barrel, a casing having a longitudinal slot and housing said breech block, said breech block being displaceably mounted in said casing, first spring means arranged between said breech block and said casing and continuously urging said breech block to move in a forward direction, firing pin means arranged between said breech block and said housing, second spring means continuously urging said firing pin means forwardly into a certain position representing its firing position, releasing means displaceable in said breech block in a direction transverse to the longitudinal direction of said barrel and normally engaging said firing pin to prevent the same from moving to its firing position, said releasing means comprising an extension extending through said longitudinal slot of said casing, a front end wall closing the front end of said slot and being engageable with said extension to limit the forward movement of said breech block, a handle connected to said casing, and trigger means tiltably supported by said handle and comprising a nose, said nose being movable selectively by said trigger means from a first position representing its inactive position to a second posi-

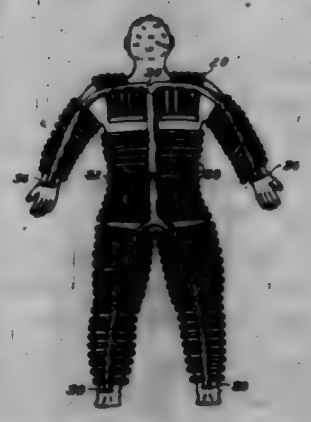
tion representing its firing position for engagement with said extension and for moving said releasing means out of its contact with said firing pin, means to thereby permit said second spring means to move said firing pin means into its firing position, said extension selectively being manually movable out of its engagement with said nose into said casing and out of said slot for dismantling said driving tool.

2,966,684

HEAT PROTECTIVE OUTFIT

John H. Bonin, Chicago, Ill., assignor to the United States of America as represented by the Secretary of the Army

Filed Nov. 5, 1957, Ser. No. 694,691
14 Claims. (Cl. 2—81)



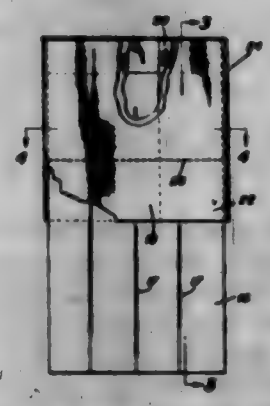
3. A body enclosing heat protective unit comprising: a cooling and conditioning unit including a first direct cooling and conditioning air flow system extending longitudinally of the trunk, arms and legs of a wearer and adapted to be connected to an air source, said first system having a plurality of vent holes positioned therein for directing air flow against the body of a wearer, and a second indirect cooling and conditioning air flow system comprising a plurality of channels, each closed at one end thereof and in fluid communication with said first system, pairs of said channels extending from each side of said first system adapted to encircle the body of a wearer, vent holes positioned in said channels adjacent the closed ends thereof for directing air flow away from the body of a wearer, whereby a portion of air from said air source in flowing through said cooling and conditioning unit is bled through said first system vent holes directly against the body of a wearer for cooling and conditioning thereof and the remainder of said air in flowing from said first direct system through said second indirect system to said second indirect system vent holes indirectly cools and conditions the body of a wearer.

2,966,685

POCKET HANDKERCHIEF

Edward T. Kaszmicka, 326 Buckhead Ave. NE., Atlanta, Ga.

Filed Apr. 3, 1957, Ser. No. 650,378
5 Claims. (Cl. 2—279)



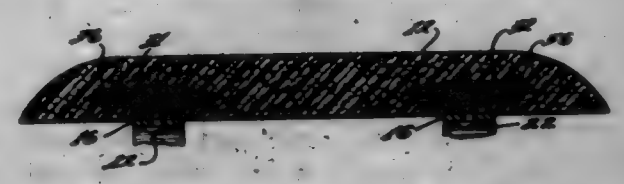
1. A handkerchief adapted for positioning in a breast pocket of a coat comprising a reinforcing plate member adapted to extend above the upper edge of a breast pocket, fabric-like material disposed on and enclosing a substantial portion of said reinforcing member and adapted to extend above the upper edge of a breast pocket thereby forming a breast pocket handkerchief, and means directly connecting the lower end of the fabric material to the reinforcing member intermediate the ends of the reinforcing member with the upper edge of the fabric material being free of the reinforcing member, said fabric-like material terminating in spaced relation to the bottom edge of the plate member, and a sheet of covering material permanently disposed against the front surface of the lower portion of the fabric-like material and the entire plate member below the fabric-like material, said sheet being adhesively secured in position.

2,966,686

MOLDED ARTICLE

Henry Beneke, Jr., Columbus, Miss., assignor to Beneke Corporation, Columbus, Miss., a corporation of Mississippi

Original application Dec. 8, 1953, Ser. No. 396,891, now Patent No. 2,709,286, dated May 31, 1955. Divided and this application Apr. 21, 1955, Ser. No. 502,889
8 Claims. (Cl. 4—334)



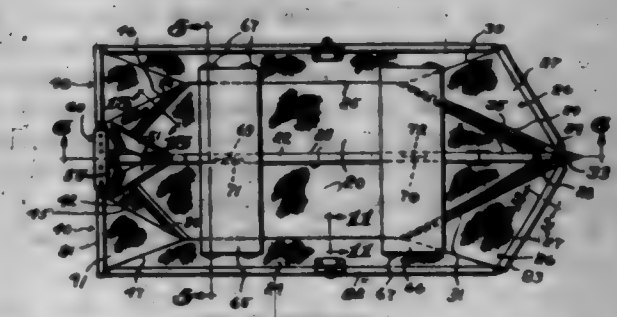
1. A molded article which is composed of a filler and a plastic component, a compact unitary portion differing in physical characteristics from the remainder of the article and being of a smaller volume with respect thereto, said unitary portion being embedded in said article and comprising a filler and a plastic component, said last named plastic component being in higher concentration than in the remainder of said article.

2,966,687

COLLAPSIBLE BOATS AND THEIR PRODUCTION

Glenn C. Henry, Otisfield, Maine; Guinevere B. Henry, executrix of said Glenn C. Henry, deceased

Filed Nov. 9, 1956, Ser. No. 621,353
8 Claims. (Cl. 9—2)



1. In a collapsible boat, keel structure, a pair of bottom sections hinged to the keel structure to swing inwardly and outwardly with respect thereto, a pair of side sections each hinged to an edge of respective one of said bottom sections to swing upwardly and downwardly with respect thereto, stem structure, a pair of bow members each including two hinged sections of which one is hinged to said stem structure to swing inwardly and outwardly with respect thereto and is also hinged to the corresponding end of the proximate bottom section, and the other is hinged to the corresponding end of the proximate side section, and brace means connecting said keel and stem structures interiorly of the boat, said brace means being pivotable with respect to one structure and slidable with respect to the other structure as the boat is collapsed.

2,966,688

TOOL FOR CLEANING SNOW SAMPLING TUBES

David K. Deubert, 1162 S. Race St., Denver 10, Colo.

Filed Jan. 22, 1959, Ser. No. 788,475
2 Claims. (Cl. 15—104.1)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A tool for cleaning the interior of an open-ended snow sampling tube of dirt, snow, and ice particles lodged therein, comprising a pipe, a rod having an end longitudinally slidable in the pipe, a compressible sleeve carried by said end of the rod, compression of the sleeve causing it to expand into engagement with the inner wall of the pipe when the rod is inserted therein to lock the rod in a desired adjusted position, screw means having a screw member and a threaded member adapted to receive said screw member, tightening of the screw means operating to compress the sleeve, one of said members being secured to the sleeve and the other member being secured to said end of the rod and rotated by rotation of the rod, and a spade attached to one end of said pipe, the rear of said spade forming an abutment along the longitudinal axis of the pipe, the sleeve and member secured thereto being prevented from rotation by said abutment when said end of the rod and parts carried thereby are brought into engagement with the abutment, whereby the rod may be slid into the pipe to bring the end of the rod and carried parts into engagement with the abutment, the rod then rotated to compress the sleeve sufficiently to prevent its rotation but not sufficiently to lock it against longitudinal movement, the rod then slid in the pipe to the desired adjusted position, and the rod then rotated to compress the sleeve into tight engagement with the inner wall of the pipe and lock the rod in the desired adjusted position.

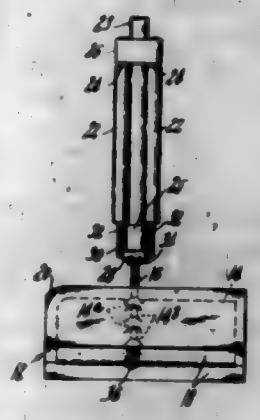
2,966,689

MOP WITH WRINGING ROLLS

Nicholas Antenucci, Jr., 88 Parkview Road, Waltham, Mass.

Filed June 16, 1958, Ser. No. 742,217
2 Claims. (Cl. 15—119)

1. A mop comprising a mop head, a bent shaft, a handle, and two parallel shafts bearing squeeze rolls rotatably mounted thereon, said mop head having a pair of spaced sides and being rotatably mounted on one end of said bent shaft, eccentrically with the axis of said one end of said bent shaft nearer a first one of said spaced sides than the second, whereby when said mop is lifted from the floor in use said mop head moves about said axis so that said first one of said spaced sides lies above said second, said handle being secured to the other end of said bent shaft, and said parallel shafts being pivotally secured at common ends thereof to said handle for



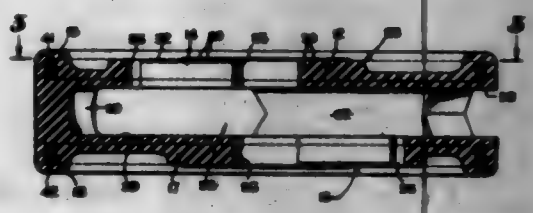
joint vertical paths of movement with said mop head therebetween when said first one of said spaced sides lies above said second.

2,966,690

PERIPHERALLY STIFFENED PIPE WIPER

Raymond G. Taylor, Jr., Santa Monica, Calif., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois

Filed Jan. 17, 1956, Ser. No. 559,662
3 Claims. (Cl. 15—210)



1. A pipe wiper comprising a body of rubber-like material having a central, relatively flexible wiping portion having a pipe opening therethrough, and an outer peripheral portion, a stiffener embedded within said peripheral portion, said stiffener consisting of a band rectangular in cross section, and wound upon itself in a plurality of wraps, said band having a greater dimension axially of the wiper than its dimension laterally of the wiper so that the stiffener has a greater resistance to axial flexing than to transverse flexing.

2,966,691

TOOTH CLEANER

Emmet H. Cameron, 1950 Yale Ave., Salt Lake City, Utah

Filed Sept. 22, 1958, Ser. No. 762,483
6 Claims. (Cl. 15—227)



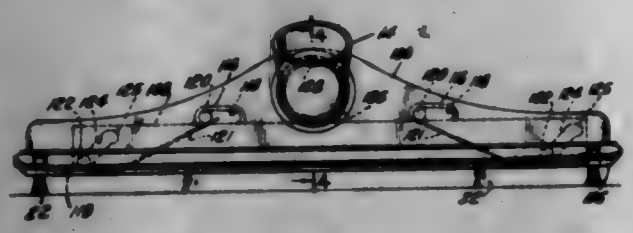
1. A finger tip cover comprising a body of material shaped to provide a pocket for receiving the finger tip of the user, and elastic means secured to said material in stretched condition, said material being stiff enough when dry to hold said stretched elastic means against contraction and being flexible enough when wet to permit contraction of said elastic means to shrink said pocket into holding engagement with the finger tip of the user.

2,966,692
FLEXIBLE BLADE FOR WINDSHIELD WIPERS
Max Zaiger, 589 Essex St., Lynn, Mass.
Filed Mar. 6, 1957, Ser. No. 644,385
2 Claims. (Cl. 15—250.36)



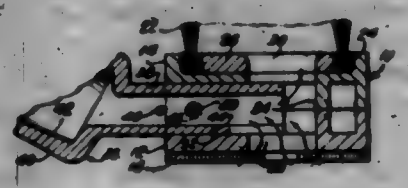
2. A windshield wiper blade comprising: a wiper strip having a body portion, a number of longitudinally spaced apart studs of generally triangular cross-section, and a corresponding number of narrow necks connecting said studs to said body portion; and a generally flat backer strip having a number of longitudinal openings, each of said necks being engaged in one of said openings, and the backer having, on each side of each of said openings, an upwardly curving lip, said lips seating under said studs.

2,966,693
MULTIPLE NOZZLE CLEANING TOOL
Emil Anderson, Ossining, N.Y., assignor to Electrolux Corporation, Old Greenwich, Conn., a corporation of Delaware
Filed May 4, 1955, Ser. No. 505,949
5 Claims. (Cl. 15—373)



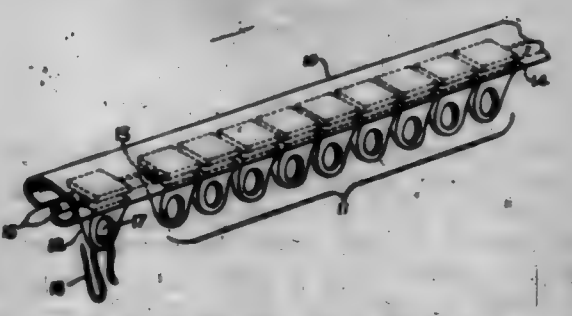
1. In a dual purpose suction cleaning tool, a suction conduit connection member, a suction conduit elbow rotatably mounted in said member about a normally horizontal axis and having a branch extending at an angle to said axis, a first nozzle secured to said member and elongated horizontally, a second nozzle disposed within said first nozzle and movable between an uppermost position in which it is retracted above said first nozzle and a lowermost position in which it extends below said first nozzle, the branch of said elbow normally extending in a generally upward direction during use of said tool, and motion transmitting means for converting rotary motion of said elbow through a limited arc with respect to said member into vertical movement of said second nozzle relative to said first nozzle, said elbow being outside the limits of said arc when said branch extends in said upward direction.

2,966,694
DOUBLE PURPOSE SUCTION CLEANING NOZZLE
Charles L. Brown, Jr., Stamford, Conn., assignor to Electrolux Corporation, Old Greenwich, Conn., a corporation of Delaware
Filed Nov. 15, 1954, Ser. No. 468,691
6 Claims. (Cl. 15—417)



5. In a vacuum cleaner tool, a nozzle body having dissimilar surface contacting structures on opposite sides thereof, said body being formed with a noncircular passageway extending thereinto between said sides and having a closed inner end, said body having openings between the respective surface contacting structures and opposite sides of said passageway, and a hollow member formed with a port in one side and insertable in either of two positions in said passageway so as to cause said port to register selectively with one or the other of said openings, said member having an open inner end which is closed by the inner end of said passageway when the member is fully inserted in the passageway, said member being partially retractable in said passageway to space said open inner end from said closed inner end to provide simultaneous communication between both of said openings and the interior of said hollow member, said passageway and said hollow member being transversely elongated corresponding to the width and being transversely constricted corresponding to the thickness of the tool to afford substantially unobstructed airflow through said tool, and detent means to secure said hollow member in either of its operative positions.

2,966,695
UNITIZED SEVERABLE DRAPERY CARRIERS
James E. Dwyer, P.O. Box 3689, San Francisco, Calif.
Filed July 15, 1957, Ser. No. 671,876
1 Claim. (Cl. 16—93)



In a device for supporting hangings such as draperies and the like comprising track means having a traverse channel with the edges thereof running substantially parallel to the centerline of said track means, the combination therewith of: curtain supporting means comprising a relatively long integral carrier unit having aligned like body members, each such member having an upper portion and a lower portion with said upper portion of each body member having a pair of aligned grooves running lengthwise of said unit on opposite sides thereof adapted to slidably engage the edges of said traverse channel; a plurality of equally spaced aligned holes in said lower portion, one in each body member and each hole adapted to receive a drapery hook attached to the edge of a curtain; and severable connecting web joints spaced along said integral carrier unit between said body members, said web joints being breakable to form separate carriers from said aligned body members; whereby upon assembly of said aligned body members in said track means, said aligned body members comprise a unitary strip and after said members have been inserted in said track means, said connecting web joints are broken and said individual body members are then free to move independently in said traverse channel.

2,966,696
DRAPERY ROD ASSEMBLY
Frederick A. Young, Cheyenne, Wyo., assignor to Young Manufacturing Company, Cheyenne, Wyo., a corporation of Wyoming
Filed Sept. 16, 1957, Ser. No. 684,215
11 Claims. (Cl. 16—94)

1. In combination with a channel-type drapery rod having a floor plate and a side plate upstanding from each edge of the floor plate with the width of the floor plate

and the height of the side plates being proportioned to form a channel of sufficient size to accommodate drapery pull cords, and with one end of each side plate extending beyond an end of the floor plate as end projections, of an end-return-arm adapted to be mounted upon the end



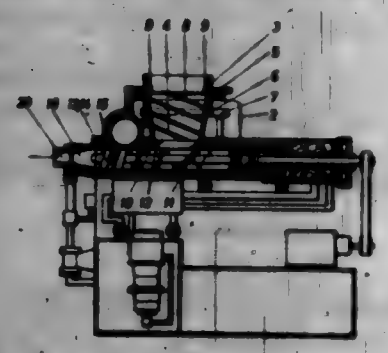
of the rod to outstand laterally therefrom and including an arm member, a pair of clip plates at one end of the arm member spaced apart to lie between and against the end projections of the side plates and a lip at the top and bottom of each clip plate adapted to slidingly embrace the top and bottom edge of a carrier rod side plate end projection.

2,966,697
SELF-LOCKING HINGE
Julius Mintz, 2345 Walton Ave., New York, N.Y.
Filed May 16, 1958, Ser. No. 735,822
9 Claims. (Cl. 16—144)



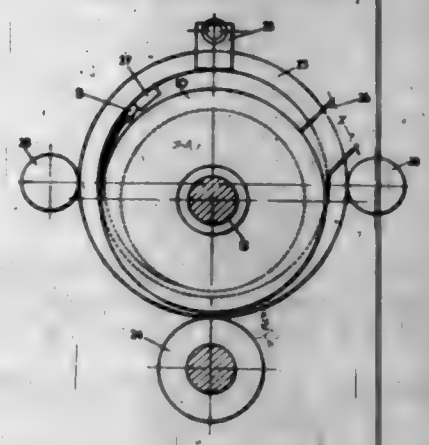
1. A hinge comprising a pair of hinge members, each having pintle loops at one end, pintle means engageable in said loops, a pair of interengaging positive locking members carried by said pintle means for locking said hinge against closure from at least one open position and means operable by a predetermined further opening movement of said hinge for disengaging said locking members to permit said hinge to be freely actuated to a closed position.

2,966,698
APPARATUS FOR TRANSFER OF VISCOUS MATERIAL, ESPECIALLY SAUSAGE MEAT, INTO RECEPTACLES, AS FOR INSTANCE, SAUSAGE SKINS
Anton Thielen, Bremen, Germany, assignor to Vemag Verdener Maschinen- und Apparatebau, Zweigniederlassung der Sudostholz G.m.b.H. Metz & Co., Verden-Aller, Germany, a corporation of Germany
Original application Dec. 4, 1956, Ser. No. 626,185, now Patent No. 2,889,574, dated June 9, 1959. Divided and this application Mar. 18, 1958, Ser. No. 722,244
Claims priority, application Germany May 2, 1956
3 Claims. (Cl. 17—40)



1. In an apparatus for filling sausage meat into sausage skins, a feeding container, a hopper opening into said container, a spirally wound conveying device engaging the inner wall of said container adapted to convey and to scrape off said sausage meat along the inner wall of said container, means disposed in the wall of said container for rotating said spirally wound conveying device along the inner face of said container upon the longitudinal axis of the latter, and said conveying device defining a free space in its center permitting free axial movement of said sausage meat in either direction in said container.

2,966,699
RING ROLL PRESSES
Harry Rex Gregory, Piffs Elm, Cheltenham, England, assignor to Coal Industry (Patents) Limited, London, England, a British company
Filed Oct. 16, 1956, Ser. No. 616,157
Claims priority, application Great Britain Oct. 17, 1955
2 Claims. (Cl. 18—9)



1. A ring-roll press of the kind referred to, comprising in combination at least one rotatable roll, means for driving said roll in rotation, at least one rotatable ring located eccentrically with respect to said roll and co-operating with said roll in compacting particulate material feed between said ring and said roll into a compacted mass, and braking means acting on said ring, the arrangement being such that said compacted mass transmits force from said roll to rotate said ring and said braking means retards said ring whereby said ring and said roll rotate together but with different peripheral speeds and create within said compacted mass an angular shear strain of not less than 15°.

2,966,700
PRODUCTION OF THERMOPLASTIC SEAMLESS TUBING
Gerald Benjamin Dyer, La Salle Park, Ontario, and Warner Paul Heinstein, Collins Bay, Ontario, Canada, assignors to Du Pont Company of Canada (1956) Limited, Montreal, Quebec, Canada, a corporation of Canada
Filed Aug. 27, 1958, Ser. No. 757,635
11 Claims. (Cl. 18—14)

1. In a method of producing a thermoplastic seamless tubing, the steps which comprise continuously dry extruding the molten thermoplastic material in the form of a seamless tubing, continuously withdrawing the tubing from the point of extrusion, flattening the tubing at a point spaced from the point of extrusion, maintaining a substantially constant continuous bubble of a gaseous medium in the section of tubing extending from the point of extrusion to the point of flattening, the gaseous medium in the bubble being under a differential pressure such that the pressure in the zone nearest the point of extrusion is sufficient to expand the tubing while in the plastic formative state to the desired diameter at a point beyond the point of extrusion while the pressure in the zone beyond the point of expansion is sufficient to keep the tubing expanded but insufficient to cause further expansion, and cooling said tubing be-

tween the point of extrusion and the point of expansion to the final desired diameter, the temperature of extrusion of the tubing, the rate of withdrawing the tubing, the degree of expansion of the tubing and the degree of cooling the tubing all being correlated in accordance with predetermined desired physical characteristics of the tubing.

8. An apparatus comprising in combination, an annular extrusion die, means for extruding a molten thermoplastic material through said die in the form of continuous seamless tubing, means for admitting a gaseous medium into said tubing in proximity to said die, and means for causing a back pressure in said tubing in the



vicinity of the point of extrusion comprising a circular plate attached to said die and spaced therefrom, said plate having an opening therein within which is positioned a fan operative to blow said gaseous medium in the direction of the die face and countercurrent to the flow of gaseous medium at the point of emission thereof into said tubing whereby the gaseous medium in a zone in said tubing between said die and said plate may be maintained at a pressure sufficient to expand the tubing while in the plastic formative state to the desired diameter at a point beyond the point of extrusion; and the gaseous medium in the tubing beyond said zone may be maintained at a pressure sufficient to keep the tubing expanded but insufficient to cause further expansion of said tubing.

2,966,701

APPARATUS FOR MAKING A PROTECTIVE COMPOSITE CAP STRUCTURE FOR A GREASE FITTING AND THE LIKE

Robert M. Heller, Birmingham, Mich., assignor to Watts Electric & Mfg. Co., Birmingham, Mich., a corporation of Michigan

Filed June 2, 1958, Ser. No. 739,201
3 Claims. (Cl. 18—34)



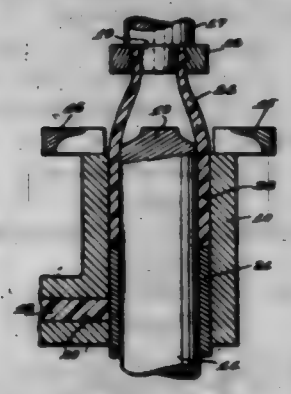
1. Apparatus for use during dipping operations in liquid plastic for making a protective composite plastic cap structure having a hollow socket open at one end, a base at the closed end of said socket, and a finger piece enveloping the outer side of said base; comprising a mandrel and a die movable relative to each other, said mandrel having a substantially spherical free end portion adapted to be dipped successively into plastic materials in liquid form respectively of relatively low and high hardness to provide superimposed coatings of said materials thereon, said mandrel being provided with an elongated axially extending pin normally projecting outwardly and downwardly from and constituting a retractable extension of said spherical end portion to gather thereon more of said plastic materials during the dipping operations, a spring in said mandrel urging said pin to its normal projected position, said die having a body portion provided with a cavity of predetermined configuration in which depending portions of the two superimposed coatings on the free end of said mandrel are adapted to be shaped during movement of the mandrel relative to said die to form the base and finger piece of said cap structure, said pin being movable upwardly by said die within said spherical end portion against the tension of said spring during movement of said mandrel relative to said die and operable when the depending portions of said superimposed coatings on said mandrel are shaped within said die to form registering apertures respectively in the closed end of said socket and in said base on the inner side of and concealed by said finger piece.

2,966,702

METHOD OF AND APPARATUS FOR MAKING PLASTIC ARTICLES

Leonard D. Soubier, Toledo, Ohio, assignor to Owens-Illinois Glass Company, a corporation of Ohio

Filed Oct. 3, 1958, Ser. No. 765,720
9 Claims. (Cl. 18—55)



9. In a method of making a plastic article from heated and plasticized thermoplastic material by the injection molding of a finished portion of the article, forming a tubular extension integral with the finished portion and blowing the tubular extension to final shape in an enclosing blow mold, the steps of injection molding a transitory portion of the article intermediate the finished portion and the tubular extension prior to formation of the tubular extension, only partly chilling said transitory portion prior to blowing of the tubular portion, and subsequently blowing the transitory portion to its final configuration in the blow mold.

2,966,703

METHOD OF MAKING A COMPOSITE TUBE STRUCTURE

Jack B. Harman, Royal Oak, Mich., assignor to Watts Electric & Mfg. Co., Birmingham, Mich., a corporation of Michigan

Filed Sept. 15, 1958, Ser. No. 761,185
2 Claims. (Cl. 18—58.7)

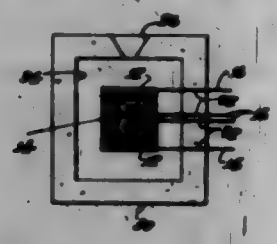
1. The method of making a completely molded composite tube construction comprising the steps of preheating an elongated mandrel having an axis and a free end elongated spout portion including successive first, intermediate and terminal conical sections each tapering less toward the axis of the mandrel and terminating in a rounded end, dipping the free end of the preheated mandrel into a first plastic material in liquid form which sets to a high hardness, to a depth sufficient to substantially cover the terminal conical section, so that said plastic

material will envelop and form a first coating directly upon said terminal conical section to form a hard supporting core, heating said mandrel to at least partially fuse said first coating on the terminal conical section, then dipping said mandrel with said first coating into a second plastic material in liquid form which sets to provide a second coating of relatively low hardness, to a depth to cover said first coating and a predetermined length of



said mandrel above said elongated spout portion to form a tube including a spout having a shoulder therein which is reinforced by one end of said supporting core, heating said mandrel to fuse said first coating to said second coating, and removing said mandrel from said fused first and second coatings to provide a composite tube structure having a hard under support for the spout portion and a reinforced shoulder on said spout portion for retaining a cap thereon.

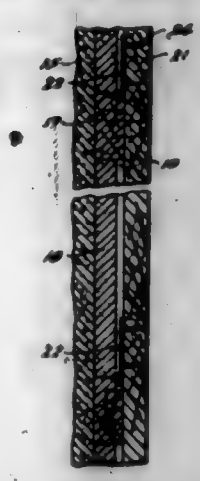
2,966,704
PROCESS OF MAKING A FERRITE MAGNETIC DEVICE
Edward D. O'Brien, 910 Iroquois Ave., Anaheim, Calif., and Robert E. O'Brien, 1754 Mar Ella Trail, Des Moines, Iowa
Filed Jan. 22, 1957, Ser. No. 635,347
5 Claims. (Cl. 18—59)



1. A method for manufacturing a magnetic device which comprises: forming electrical conductor means into a desired shape; placing said conductor means into a desired position within a porous mold; filling said mold with a suspension of a finely divided non permanent magnetic ceramic composition capable of being sintered so as to form a solid ferromagnetic mass in a liquid carrier; removing said carrier from said mold through the pores within said mold; and sintering said composition and said conductor means so as to form a solid mass of said ferromagnetic material, said mass and said conductor being located directly against one another.

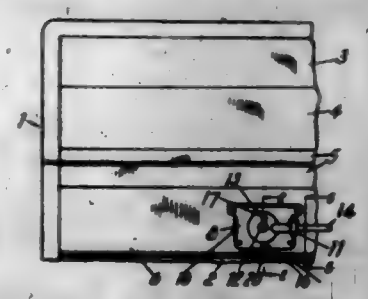
2,966,705
INVISIBLE MEANS FOR ATTACHING PANELS TO WALLS AND THE LIKE
William Massey, 702 Harding, Detroit 14, Mich.
Filed Apr. 30, 1954, Ser. No. 426,655
3 Claims. (Cl. 20—4)

1. A bracket for securing panels to furring strips on a wall, which includes in combination, a wall having furring strips thereon, a panel, and a bracket having a flat web portion with a flange extending substantially perpendicularly from one face of said web portion and a sharpened end portion extending from said flange and disposed substantially parallel to said web portion, and means for rigidly affixing the other face of said web against the rear face of said panel to prevent all movement therebetween, said means including at least one sharpened projection projecting from said other face of the web



portion and driven into the rear face of the panel, said sharpened end portion being driven into a surface of one of said furring strips which is disposed substantially perpendicular to the rear face of the panel so as to secure the panel to the furring strip, the length of said flange being equal to or less than the distance between said sharpened end portion and the exposed face of the furring strip which is disposed parallel to the panel so that the rear face of the panel is held tightly against the exposed face.

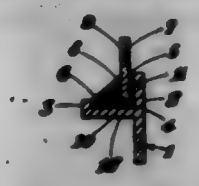
2,966,706
LOCK FOR SLIDABLY MOUNTED CLOSURES
Kenneth M. Christensen, Hartford City, Ind., assignor to Overhead Door Corporation, Hartford City, Ind.
Filed Dec. 8, 1958, Ser. No. 778,797
13 Claims. (Cl. 20—19)



1. The combination with a sill and a closure member mounted for slidable adjustment to and from said sill and having a resilient sill engaging seal on its lower edge, of a bolt means for clampingly securing the closure member to the sill and imparting initial opening movement to the closure member comprising a supporting plate mounted on the closure member and provided with a bolt support member pivot, a bolt support member rotatably mounted on said pivot and provided with a laterally projecting handle, said support member having a recess therein opening at its edge opposite said handle and extending inwardly thereof beyond the said pivot, a bolt provided with a laterally projecting keeper engaging jaw on its outer end disposed with its inner end within and laterally supported by the walls of said recess in said support member and pivotally connected thereto in radially spaced relation to its said pivot, the pivot of said support member constituting a fulcrum for the bolt as the bolt support member is swung to keeper engaging position and also acting to prevent keeper disengaging

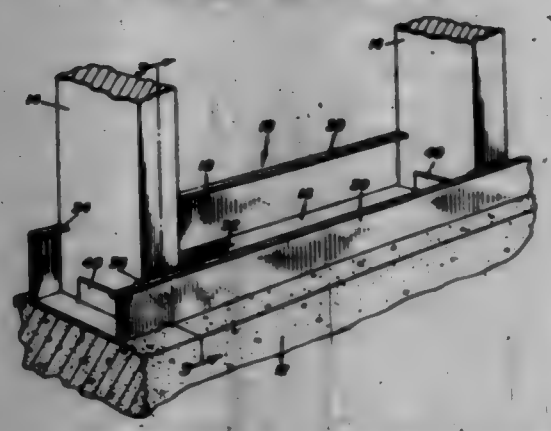
swinging movement of the bolt when it is in keeper engaging position, and a keeper seated in said sill and having an outwardly facing bolt receiving opening therein and an inwardly facing bolt jaw engaging lug at the inner end of said opening and a bolt thrust member opposed to said lug and with which the bolt is thrustingly engaged on the initial unlocking movement of the bolt and prior to substantial swinging of the bolt.

2,966,707
WINDOW AND LIKE FRAMES
Leonard Josiah Ellis, 14 Clayfarm Road, New Eltham, London SE. 9, England
Filed May 16, 1958, Ser. No. 735,734
3 Claims. (Cl. 20—56.4)



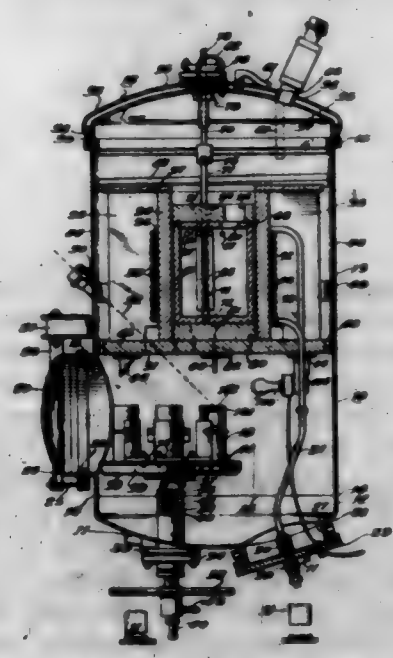
1. In combination, a frame including side frame members each formed with a channel having a base and two opposed walls, one wall of the channel being of greater height than the other wall, a facing of resiliently deformable material on each of said higher walls, a sheet of glass within the frame, its edges being received within said channels, and a substantially rigid and unyielding beading strip lying within each channel and abutting against the other wall thereof, said beading strip having a first abutment face bearing against one surface of the sheet of glass and pressing said sheet against the facing of resilient material and pressing the latter against said one wall and a second abutment face extending across an edge of the glass sheet and bearing against said edge and against said facing strip, whereby said edge is maintained spaced from the base of the channel.

2,966,708
STUD ANCHOR PLATE
Lawson J. Freeman, Jr., Houma, La., assignor of thirty-five percent to Joseph O. Theriot and sixty-five percent to Arthur J. Lambert, Houma, La.
Filed Oct. 29, 1956, Ser. No. 618,983
17 Claims. (Cl. 20—95)



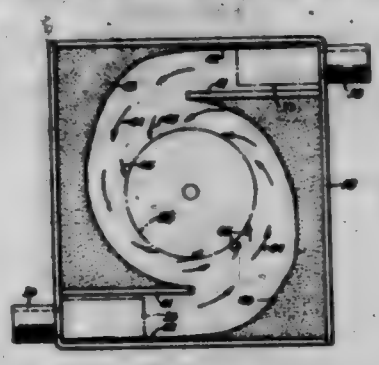
1. A stud anchor plate for wall constructions comprising an elongated metal channel member having a substantially flat web adapted to rest upon and be secured to a horizontal supporting surface and having a pair of vertical side walls along its longitudinal edges, said walls having inturned portions overlying said web and adapted for engagement in complementary notches in opposite sides of a stud whereby to prevent vertical withdrawal of said stud from said channel member, said web including a pair of upturned portions adapted to embrace opposite sides of a stud when disposed between said side walls whereby to prevent movement of said stud longitudinally of said channel member.

2,966,709
CASTING FURNACES
Robert H. Ruppel, Granite City, Ill., and Charles E. Winters, Oak Ridge, Tenn., assignors to the United States of America as represented by the United States Atomic Energy Commission
Filed July 10, 1945, Ser. No. 604,278
3 Claims. (Cl. 22—73)



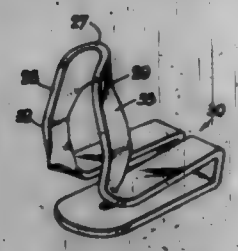
2. A furnace for casting uranium billets comprising a shell, evacuating means, a melting crucible for the uranium, said crucible having a pouring hole in the bottom near one side, means for opening and closing the pouring hole from the outside of said shell, a rotatable table inside said shell below the melting crucible, means for adjusting said table vertically to carry molds of various heights and means for cooling said table.

2,966,710
SPINNER FOR SAND CLEANING APPARATUS
Clifford E. Wenninger, River Forest, Ill.
Filed Feb. 25, 1957, Ser. No. 642,126
10 Claims. (Cl. 22—89)



1. A spinner for sand cleaning apparatus comprising a rectangular casing, an outlet opening in the central portion of the casing top, an inlet opening for sand in the top of the casing adjacent to the juncture of two of the sides, means to supply sand by gravity to the inlet opening to drop by gravity into the casing, a horizontal inlet for air in one of said two sides discharging parallel to the other of said two sides to cause sand to swirl around in the casing, there being no air inlet adjacent to the juncture of certain other of the sides whereby sand will build up in the angle of such sides to cushion and scrub the circulating sand, and a guiding wall connected at one end to said one of said two sides, and parallel to and spaced from the other of said two sides and being shorter than said other of said two sides, the air and sand inlet openings opening into the space between the guiding wall and said other of said two sides.

2,966,711
FASTENERS
Eric Birger Fernberg, Northwood, England, assignor to F.T. Products Limited, London, England, a company of Great Britain
Filed Oct. 2, 1957, Ser. No. 687,674
Claims priority, application Great Britain Oct. 4, 1956
1 Claim. (Cl. 24—73)



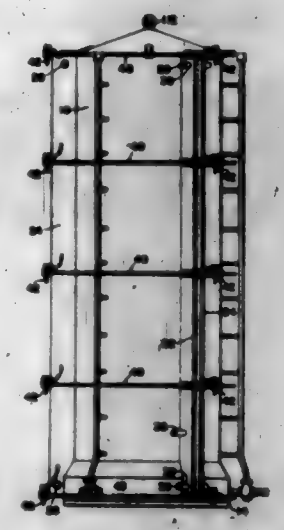
A fastener formed from a single strip of resilient sheet material being bent to produce a clip-like base portion having two substantially parallel legs formed by a reverse bend, and an upstanding stud portion disposed substantially normal with respect to the base portion, the material of the strip being of substantially continuous and regular smoothly contoured form throughout to prevent concentration of stress and formed with a totally enclosed elongate hole disposed longitudinally of the strip extending into both the base portion and the stud so as to render the stud laterally compressible, the stud being formed with two limbs with a curved nose joining said limbs and a bent portion on said nose formed so that a section taken through said nose and parallel to the base portion presents a concave surface in which the concavity is in the direction opposite the bend between the legs of the clip-like base portion, said bent portion being substantially symmetrically about the plane transverse to the plane of compression of said limbs, the curved neutral surface of said curved nose being substantially normal to the legs of the base portion, said limbs being twisted approximately ninety degrees in opposite directions between said nose and the base, and a snap-engaging outwardly extending elbow formed in at least one of said limbs and being located approximately midway between the upper leg of the base portion and said nose.

2,966,712
BRACE AND GARMENT CONNECTOR
Paul Richard Albrecht, 2825 29th St., Astoria 5, N.Y.
Filed May 8, 1958, Ser. No. 733,944
1 Claim. (Cl. 24—73)



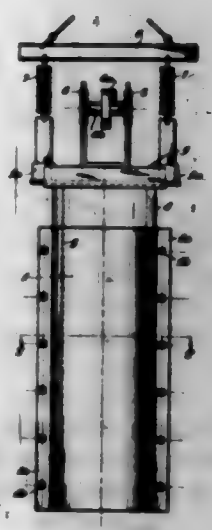
An attachable brace and garment connector comprising a substantially T-shaped member consisting of a thin sheet of relatively rigid material having an opening at one end and having a transverse slit along said end connecting with said opening, said slit being adapted to receive buttons of an outer garment therein, said connector being bent over to form a connector member of greater length than said T-shaped member and being in laterally spaced relation therefrom, said members forming a partially resilient substantially U-shaped curve at their juncture defining a space for receiving the extremity of an outer shirt and single button means on the upper end of said connector member for attaching suspender thongs.

2,966,713
MOLDING APPARATUS
Karl P. Billner, Philadelphia, Pa., assignor, by mesne assignments, to Vacuum Concrete Corporation of America, Philadelphia, Pa., a corporation of Pennsylvania
Filed Feb. 11, 1954, Ser. No. 409,712
12 Claims. (Cl. 25—30)



1. Molding apparatus comprising a composite form having a plurality of relatively movable wall sections defining a molding surface, a sealing surface provided by each of said sections at less than a straight angle relative to said molding surface, means including a deformable gasket interposed between and abutting opposed sealing surfaces of adjacent wall sections defining a substantially fluid tight chamber therewith, and a fluid conductor communicating with each said chamber for connection with a source of subatmospheric pressure.

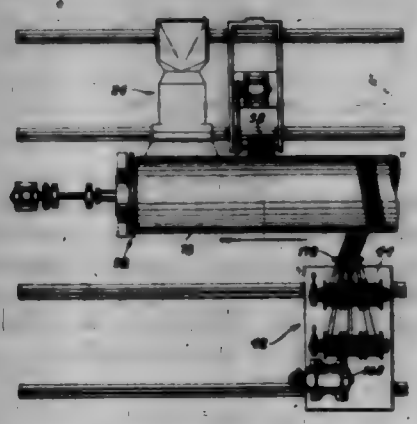
2,966,714
APPARATUS FOR CASTING CONCRETE
Musa J. Eways, Sinking Springs, and Michael K. Avedisian, Reading, Pa., assignors to Mast Engineering Company, Inc., Reading, Pa.
Filed Nov. 15, 1956, Ser. No. 622,369
1 Claim. (Cl. 25—30)



A form for casting cementitious cylinders, comprising a pair of concentric, stationary, hollow cylinders of different diameter having a vertical axis, the outermost cylinder being in longitudinal sections so as to be openable, the innermost cylinder being flexible and longitudinally split with overlapping longitudinal edge portions, means for shrinking the diameter of the innermost cylinder, by

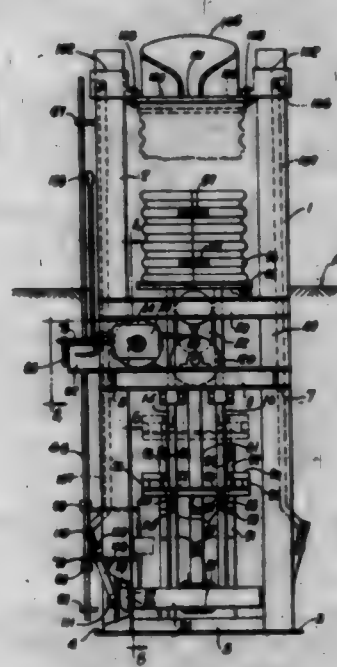
effecting a greater overlap of said longitudinal edge portions, a pair of concentric, movable hollow cylinders of different diameter, so as to provide a small clearance between them and said stationary cylinders, each telescopically slidable longitudinally with respect to one of said stationary cylinders, and defining the outer and inner surfaces of the cementitious cylinder, a support for rigidly securing the top ends of said movable cylinders, a suspension beam, spring means vertically suspending said support from said suspension beam, and vibrating means mounted on said support in a manner so as to impart vertical vibrations to said movable cylinders only, whereby said movable cylinders may be vibrated relative said outer and inner surfaces without vibrating said stationary cylinders or the entire cementitious mass and whereby said vibration may be continued while said suspension beam is raised to effect tamping and providing a uniformly dense cementitious cylinder with smooth surfaces.

2,966,715
APPARATUS FOR THE MANUFACTURE OF MULTI-LAYER TUBULAR BODIES
Luigi Vianini, 41 Via della Ferratella, Rome, Italy
Filed June 12, 1957, Ser. No. 666,266
Claims priority, application Italy Feb. 11, 1957
10 Claims. (Cl. 25—30)



1. An apparatus for the manufacture of multilayer tubular bodies of cementitious material which comprises, in combination: an elongated core having a shrinkable mantle, a first end, a second end, and a coaxially disposed hollow shaft connected with and supporting said mantle; means for imparting rotary motion to said shaft; coupling means for connecting the last mentioned means with said shaft; mixing means for forming a comparatively dry mixture of cementitious material; projecting means including means for violently directing a jet of cementitious material against the mantle of said core to form a layer thereon; means for guiding and advancing said projecting means between the ends and in parallelism with the axis of said core; first conveyor means between said mixing means and said projecting means for delivering to the latter a supply of cementitious material; levelling means for smoothing and reducing the thickness of the layer on said core; means for guiding and advancing said levelling means between the ends and in parallelism with the axis of said core; second conveyor means disposed between said levelling means and said mixing means for collecting and returning to the latter the material removed from the layer on said core; winding means comprising a supply of reinforcing wire and each wire being anchored in said core; and means for guiding and advancing the winding means in parallelism with the axis and between the ends of said core whereby a plurality of convolutions is applied to the layer on said core, the levelling means trailing said projecting means and the winding means trailing said levelling means when a layer is formed on said core.

2,966,716
PIPE AND TILE MAKING MACHINE
James Orville Pratt, R.D. 1, Coldwater, Ohio, assignor of twenty percent each, to Ora E. Pratt, Earl E. Pratt, John F. Pratt, and Robert N. Boise
Filed Oct. 10, 1955, Ser. No. 539,571
3 Claims. (Cl. 25—36)

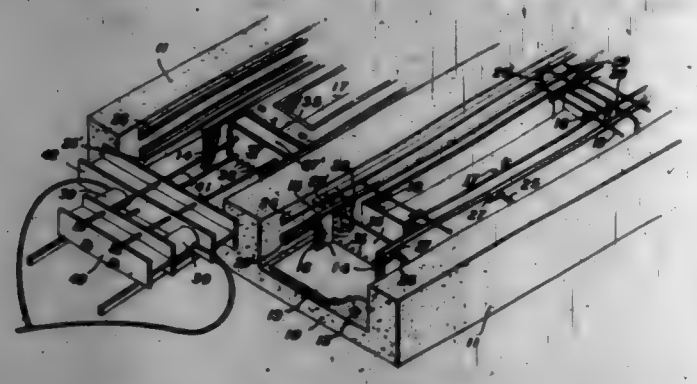


1. In a machine of the class described, in combination, a main frame including a pair of upright spaced columns, said columns extending above a working level, a platen unit mounted on said frame including a lifter frame, said lifter frame being generally below said level and adapted to move up and down with respect thereto, a platen on said lifter frame, a bolster below said lifter frame and movable up and down on the main frame, an auxiliary platen unit above the first mentioned unit, said last named unit including a platen between which and the first platen a pipe form is adapted to be positioned, compacting means carried by the bolster movable upwardly and downwardly with respect to the platens aforesaid, drive means for all of the moving parts described and automatic control means for operating said drive means, pallet supporting means fixed to the main frame, and means to connect a form to the firstmentioned platen unit for movement therewith, said columns having rack means, the lower ends being connected to the bolster, gears are mounted on the columns intermediate the ends thereof, drive connections and power means are provided for said racks whereby operation of said gears will raise and lower the racks and thus the bolster, lift arms are mounted on the bolster, and lift links are connected to the lifter frame having parts engageable by the arms aforesaid and shiftable out of engagement therewith, when the lifter frame has been raised a predetermined distance.

2,966,717
APPARATUS FOR CASTING CONCRETE ELEMENTS
Wilford C. Fuller, Silver Spring, Md., and Crawford Percy Oliver, Arlington, Va., assignors, by mesne assignments, to Northern Virginia Construction Company, Incorporated, Alexandria, Va., a corporation of Virginia
Filed Sept. 21, 1956, Ser. No. 611,119
2 Claims. (Cl. 25—121)

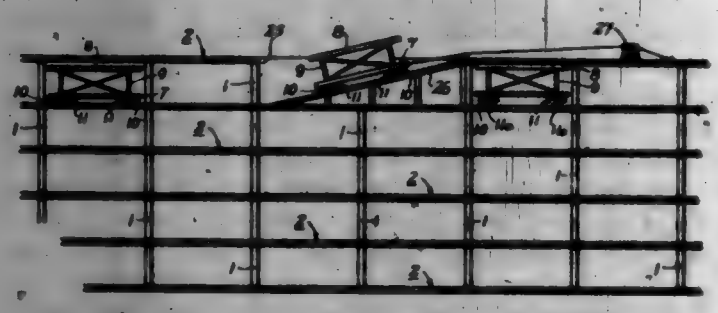
1. In a molding device for molding concrete elements, such as beams or the like, of the type in which vertical mold elements having accurately formed top and bottom edges are removably supported on a bed; a bed substantially longer than the elements to be cast, said bed being formed with a bottom portion and two parallel upstanding curbs aligned with said bottom portion extending

the length of the bed, whereby stressing means abutting the ends of said curbs may be used to prestress longitudinal reinforcements to be cast into a beam, leveling



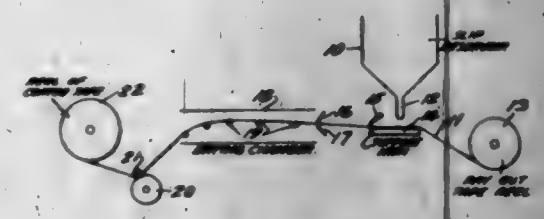
bolts mounted for vertical adjustment with respect to said bottom portion, and an accurate surface comprising at least one sheet of slate supported by said leveling bolts.

2,966,718
METHOD FOR THE INSTALLATION OF REINFORCED CONCRETE FLOORS IN MULTI-STORIED BUILDINGS
David H. Dave, 1298 E. 22nd St., Brooklyn, N.Y.
Filed Nov. 6, 1956, Ser. No. 620,632
2 Claims. (Cl. 25—155)



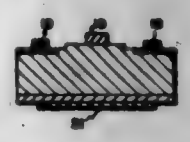
1. The method of successively constructing concrete floors of a multi-storied concrete building wherein said floors comprising slabs, beams and spandrels are supported on and vertically spaced by columns located in supporting relation to said beams and spandrels which comprises providing a plurality of unitary, prefabricated, mobile form carriers supporting horizontal concrete forms, arranging said carriers above in already poured and set concrete floor in a manner to span the slab portions thereof and to transmit the load primarily onto beam portions thereof and in positions adjacent to each other and covering substantially the entire floor area except for a space approximately the length and breadth of a carrier and with the concrete forms thereon constituting substantially the entire surface on to which concrete is to be poured, with the exception of said space which corresponds to a well area, thereafter immobilizing each of said carriers, raising the same to locate the concrete forms at substantially the level of the under surface of the floor to be poured, pouring concrete onto said forms to produce a floor which is continuous except for a well opening therein, retaining said carriers and forms in said positions until the poured concrete has set, lowering said forms to strip the same from the set concrete, mobilizing said carriers, providing a ramp leading from the floor below to said poured and set floor through said well opening, then successively transferring said carriers and forms from their initial operative positions on the lower floor to said poured floor by way of said ramp and said well opening, removing said ramp, pouring concrete to fill said well opening and repeating said steps of emplacement, pouring, stripping and transportation from poured floor to poured floor until the desired number of floors have been created.

2,966,719
MANUFACTURE OF CERAMICS
John Lawrence Park, Jr., Chattanooga, Tenn., assignor to American Lava Corporation, Chattanooga, Tenn., a corporation of Tennessee
Filed June 15, 1954, Ser. No. 436,850
15 Claims. (Cl. 25—156)



1. A process of making ceramics comprising formulating a slip of a homogeneous character and adapted for use in forming dense ceramics, said slip comprising a high content of ceramic-particulate, a volatile organic temporary vehicle, and a compatibly plasticized thermoplastic binder resin which promotes the formation of flexible films and which is soluble in said vehicle, spreading and coating said slip in a film on a smooth flexible movable supporting tape, removing the volatile temporary vehicle from the film while simultaneously retaining the remaining coated constituents of said slip in adherent relation to the flexible supporting tape and supported thereby, and firing the vehicle-free flexible film to a rigid ceramic.

2,966,720
METHOD OF FORMING SEMICONDUCTIVE DEVICES
Boyd Cornelison, Dallas, and Elmer A. Wolff, Jr., Richardson, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Mar. 10, 1959, Ser. No. 798,417
1 Claim. (Cl. 29—25.3)



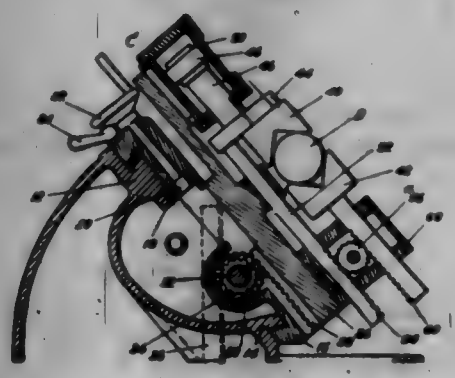
The method of forming a transistor that comprises the steps of diffusing an impurity of one type conductivity into all surfaces of a wafer having parallel opposite faces and composed of semiconductor material of opposite type conductivity to convert all surface material thereof into said one type conductivity, removing portions of the surface of one face of said wafer to define shoulder portions on which are exposed the original wafer material and to define a raised portion capped by a layer of said one type conductivity, diffusing a second time an impurity of said one type conductivity into all surfaces of said wafer to create a surface layer of said one type conductivity, removing the surface layer at the edge portions of said wafer to separate the surface layers on the opposite faces of said wafer, removing all material of said one type of conductivity from the raised portion on said one face of said wafer to expose the original wafer material, said shoulder portions now characterized by a surface layer of said one type conductivity which defines with the original wafer material an emitter-base P–N junction, said other face of said wafer characterized by a surface layer of said one type conductivity which defines with the original wafer material a collector-base P–N junction, and attaching a base contact to said raised portion, an emitter contact to said shoulder portions, and a collector contact to said opposite face of the wafer.

2,966,721

DEVICE TO MAKE CENTERING SEATS ON EITHER ENDS OF BARS OR THE LIKE, IN ORDER TO KEEP THEM FIRMLY CHUCKED DURING THE SUBSEQUENT MACHINING OPERATIONS

Lelio Bordignon and Gian Luigi Tovaglieri, Busto Arsizio, Italy, assignors, by mesne assignments, to Tovaglieri & C. Soc. Il per Azioni, Busto Arsizio, Italy, a company of Italy

Filed Oct. 15, 1956, Ser. No. 615,924
3 Claims. (Cl. 29—27)



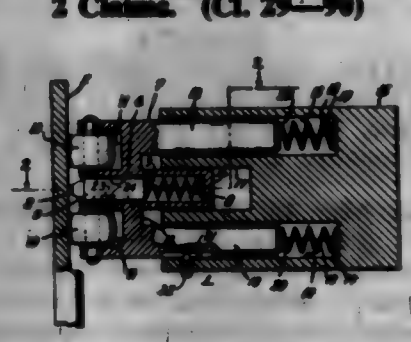
1. A device for providing centering seats on the ends of bars, forgings or the like and facing the same comprising a base, means for holding centering and facing tools for operating on each end of a workpiece slidably mounted upon said base, means for adjusting the mutual distance between said tool holding means, two pairs of clamping jaws for holding said workpiece slidably mounted on said base at right angles to the rotation axis of said tool holding means and disposed at an angle to a horizontal plane, means for locking said workpiece clamping jaws and said tool holder means at any desired position, controlling means for actuating said tool holder means against the ends of said workpiece, said tool holder means comprising a pair of coaxial spindles, a motor for driving said spindles, a centering drill mounted in one of said spindles, facing tools mounted in the other of said spindles, bearing means for said spindles and means for axially shifting said spindles in unison a given stroke in order to engage said centering and facing tools with each end face of said workpiece.

2,966,722

IRREGULAR SURFACE DIAMOND BURNISHING TOOL

Edwin H. Hull, Scotia, and Anthony J. Nerad, Alplaus, N.Y., assignors to General Electric Company, a corporation of New York

Filed Nov. 5, 1957, Ser. No. 694,633
2 Claims. (Cl. 29—90)



1. A tool adapted to burnish curved or otherwise irregular surfaces comprising in combination, a shank member having a recess therein, biasing means in said recess, a frame member having an arm projecting therefrom and slidably engaged in said shank recess for biasing the frame member outwardly therefrom, a rolling element on said frame member, a recess in said frame member, a support in said recess, a spherical surface diamond burnishing element fixedly mounted on said support, and means for biasing said spherical surface of said diamond burnishing element from said frame and against a surface to be burnished, said biasing means cooperating to provide a substantially constant force on said diamond upon a straight line motion of the tool over an irregular surface.

2,966,723

DAMPENING ROLLER

Morris C. Swope, Bryn Mawr, Pa., assignor to Perfex Corporation, Bryn Mawr, Pa., a corporation of Pennsylvania

Filed Apr. 14, 1958, Ser. No. 728,224
2 Claims. (Cl. 29—120)

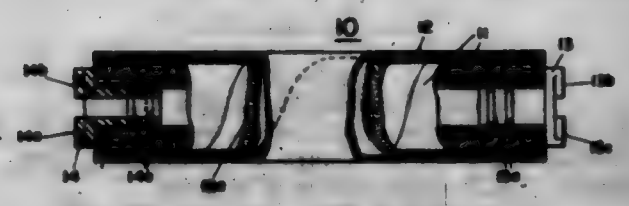
1. A dampening roller assembly characterized by a roller covering comprising a pile fabric of width corresponding with that of the roller and of length substantially equal to the circumference of the roller, a thin polyvinyl chloride sheet of width corresponding with that of the roller and of length equal to the circumference of the roller, said polyvinyl chloride sheet being adhesively secured to the back of said pile fabric from a position spaced from one edge thereof so as to overlap the other edge thereof, and the face of said polyvinyl chloride sheet opposite said pile fabric, the opposite face of said sheet in the region extending beyond said other edge, and the back of said pile fabric from its edge to the edge of said sheet, all being coated by a pressure-sensitive adhesive coating, said polyvinyl chloride sheet being secured to the roller through the action of said pressure-sensitive adhesive, the opposite end portions of said polyvinyl chloride sheet meeting each other in close proximity, the extending end portion of said pile fabric being disposed with its pressure-sensitive coating in face-to-face relationship with the pressure-sensitive coating of the extending end portion of said polyvinyl chloride sheet to establish a strong joint and in which the meeting edges of said fabric are displaced circumferentially of the roller from the meeting edges of said polyvinyl chloride sheet.

2,966,724

DAMPENING ROLLERS

Morris C. Swope, Bryn Mawr, Pa., assignor to Perfex Corporation, Bryn Mawr, Pa., a corporation of Pennsylvania

Filed Feb. 6, 1959, Ser. No. 791,703
4 Claims. (Cl. 29—120)



1. For carrying water to the printing plates of an offset printing machine, a dampening roller comprising a rigidly circular cylindrical core having a minimum thickness of at least one third its diameter to provide retention within close tolerances of a circular shape throughout incremental lengths of the roller during op-

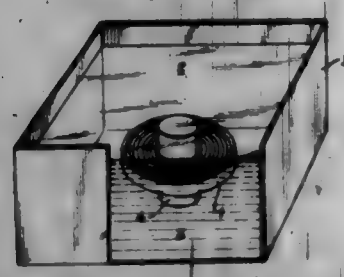
eration thereof, and having an opening extending axially thereof, a water-carrying outer covering adhesively secured to said core by a water-resistant cement, said covering being selected from the group consisting of molleton, velveteen and pile fabric, core inserts extending inwardly into said opening from opposite ends of said core, and means forming a driving engagement between said inserts and said core for driving said core, each of said core inserts having flanges engaging opposite ends of said core, said core being water-resistant, and said core inserts having driving lugs projecting axially thereof for positive drive of said core in applying water to the printing plates.

2,966,725

MAGNETOSTRICTIVE CORE PRODUCTION

David E. Parker, Westerly, R.I., and Keith E. Wetherbee, Groton, Conn., assignors to the United States of America as represented by the Secretary of the Navy

Filed Mar. 15, 1955, Ser. No. 494,588
12 Claims. (Cl. 29—155.5)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. The method of producing a magnetostrictive core which comprises heat treating a strip of magnetostrictive metal for its intended ultimate use, coating the heat treated strip with an adherent electrical insulating material, winding the coated strip into a scroll around a form with a temporary ribbon-like interlay tape acting as a spacer between adjacent turns of the scroll, submerging the scroll and form in a resin bath in a closed chamber, heating the submerged scroll and resin, to about 160° F. while lowering the atmospheric pressure in said chamber for a period of time adequate to facilitate substantial penetration of the resin into the spaces between adjacent turns of the scroll and remove any volatile products inherent in the resin, then physically removing the interlay as a unit from between the layers of the scroll, continuing heating of the scroll and resin so freed of the interlay to about 160° F. under lowered atmospheric pressure to facilitate further penetration of the resin with the space between adjacent turns previously occupied by said interlay, next tightening the scroll around the form and securing it in that condition, then curing, at about 160° F., the scroll, while it is beneath the surface of the resin to prevent the resin from oozing out of the interstices, until the resin becomes a rubber-like solid, then removing from the scroll excess resin that serves no useful purpose, then continuing the curing of the scroll with adhering resin at about 200° F. for about 12 hours, and then removing the form from the scroll.

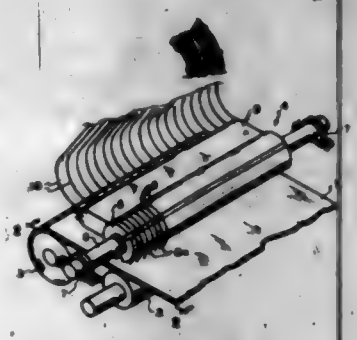
2,966,726

STYLUS ASSEMBLY METHOD

Donal O. Gallentine, Eau Gallie, and Charles E. Keith, Melbourne, Fla., assignors to Radiation, Inc., Melbourne, Fla., a corporation of Florida

Filed Sept. 6, 1955, Ser. No. 532,454
10 Claims. (Cl. 29—155.5)

1. The method of manufacturing a styli assembly comprising placing a cutter bar with cutting surface exposed in an axially extending groove in the surface of a cylindrical, non-conductive, member, winding a length of resilient wire about said member to provide a single layer of spaced turns of wire, securing each turn of wire to the member at points spaced equally from the groove therein, cutting each turn of wire by pressing it against the cutting surface of the cutter bar and removing the cutter bar.

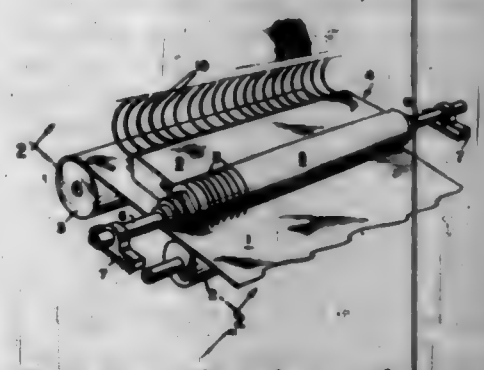


2,966,727

STYLUS ASSEMBLY

Donal O. Gallentine, Eau Gallie, Fla., assignor to Radiation, Inc., Melbourne, Fla., a corporation of Florida

Filed Nov. 1, 1956, Ser. No. 619,717
7 Claims. (Cl. 29—155.5)



1. The method of manufacturing a stylus assembly employing an elongated stylus support having a plurality of spaced transverse peripheral grooves and at least first and second transversely spaced axially-extending grooves, said method comprising winding a first section of wire in a first peripheral groove of the stylus support, passing a second section of the wire through the first axially-extending groove to a second peripheral groove having a predetermined spacing from the first peripheral groove, winding a third section of the wire in the second peripheral groove, securing at least one of the first and third sections of wire to the stylus assembly adjacent a surface provided by the second axially-extending groove and cutting at least one of the first and third sections of wire at a point spaced peripherally from the axially-extending grooves.

2,966,728

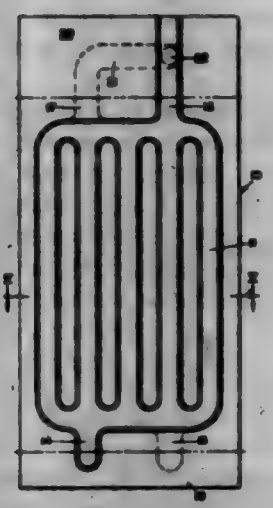
METHOD OF MAKING PRESSURE WELDED EXPANDED PASSAGEWAY PANELS

Joseph Balfour, Louisville, Ky., assignor to Reynolds Metals Company, Louisville, Ky., a corporation of Delaware

Filed Mar. 16, 1956, Ser. No. 572,029
3 Claims. (Cl. 29—157.3)

1. A method of making a pressure welded passageway panel comprising: assembling at least three foreshortened ductile metal sheets in superposed face-to-face relationship with a foreshortened weld resist passageway system pattern interposed between each face of the center sheet and the adjacent face of each adjacent outer sheet, both of said patterns being isolated from the edges of the composite panel formed of said sheets except for a single inlet portion included in one pattern and extending to an edge of the composite panel; providing the center sheet with a hole spaced from the marginal edges of said center

sheet and extending from one pattern to the other; pressure welding said sheets to form a relatively elongate unexpanded panel having a system of unbonded portions on each face of the center sheet corresponding to the passageway system to be formed on that face, a hole in the center sheet extending between both systems and covered



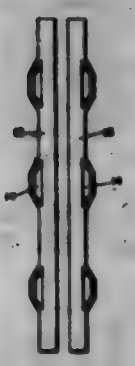
at its opposite ends by said outer sheets, and a single inlet included in one system extending to a marginal edge of said panel; and introducing a fluid under pressure through the inlet of said one system of unbonded portions to simultaneously and uniformly expand both systems of unbonded portions into corresponding passageway systems.

2,966,729

METHOD FOR ACCOMPLISHING ONE SIDE EXPANSION IN PRESSURE WELDED PASSAGEWAY PANELS

John H. Dedrick, Louisville, Ky., assignor to Reynolds Metals Company, Louisville, Ky., a corporation of Delaware

Filed May 31, 1956. Ser. No. 588,315
4 Claims. (Cl. 29—157.3)



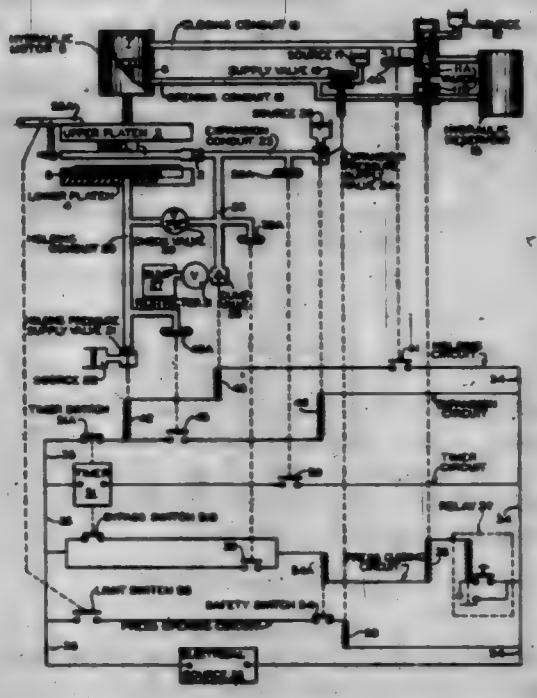
1. A method of making pressure welded expanded passageway panels comprising: providing two pairs of foreshortened panel-forming metal sheets, the sheets of each pair being in face-to-face relationship with a foreshortened passageway system pattern of stop-weld material interposed between them; assembling both pairs in superposed relationship with a foreshortened layer of pressure weldable separating material interposed therebetween and having a lower melting point than said panel-forming sheets; pressure welding said assembly into an integral elongated panel at a temperature lower than the melting point of said separating layer; expanding the unbonded internal areas between the sheets of each pair of said integral panels to form passageway systems; and separating one panel-forming pair from the other at a temperature lower than the melting point of said panel-forming sheet material.

2,966,730

METHOD OF AND APPARATUS FOR EXPANDING PASSAGEWAY PANELS ON ONE SIDE

Jesse B. Thomas, Louisville, Ky., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware

Filed Jan. 29, 1958, Ser. No. 711,882
4 Claims. (Cl. 29—157.3)



1. A method of expanding one side of an unexpanded pressure welded passageway panel, composed of at least two superposed metal sheets which are capable of being drawn and the adjacent faces of which are partially welded together, the unwelded area thereof providing said panel internally with a potential passageway system, comprising: applying a holding liquid against one outer face of said unexpanded panel under a sufficiently elevated pressure to press its other outer face tightly against a surface and to hold it there during the subsequent expansion of said potential passageway system; introducing an expansion liquid into said potential passageway system under an elevated pressure, which is sufficiently higher than the holding liquid pressure, to expand the unwelded areas, of the sheet having said one outer face, outwardly into said holding liquid; thereafter reducing the expansion liquid pressure until it reaches a holding liquid pressure neutralizing value approximating the holding liquid pressure; and then simultaneously releasing both liquid pressures.

2,966,731

ALUMINUM BASE ALLOY POWDER PRODUCT

Raymond J. Towner and John P. Lyle, Jr., New Kensington, Pa., assignors to Aluminum Company of America, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed Mar. 27, 1958, Ser. No. 724,226
3 Claims. (Cl. 29—182)

1. A hot worked aluminum base alloy powder article free from aluminum oxide except as an incidental impurity and having a maximum iron content of 1%, said hot worked alloy powder article being formed from atomized powder of an aluminum base alloy containing at least 70% by weight of aluminum and from 1.5 to 15% by weight of manganese as the essential component, the amount of said component exceeding the total quantity of any hardening elements present in the alloy, said alloy being substantially free from elements which form a solid solution with aluminum, except as they occur as impurities, said hot worked article being characterized

in the as-worked condition by a tensile strength at 600° F. after a 100 hour exposure of not less than 12,000 p.s.i. and a yield strength of not less than 10,000 p.s.i.

2,966,732

ALUMINUM BASE ALLOY POWDER PRODUCT

Raymond J. Towner and John P. Lyle, Jr., New Kensington, Pa., assignors to Aluminum Company of America, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed Mar. 27, 1958, Ser. No. 724,228
3 Claims. (Cl. 29—182)

1. A hot worked aluminum base alloy powder article free from oxide except as an incidental impurity and having a maximum iron content of 1%, said hot worked alloy powder being formed from atomized powder of aluminum base alloy containing at least 70% by weight of aluminum and from 0.5 to 15% by weight of chromium as the essential component, the amount of said component exceeding the total quantity of any hardening elements present in the alloy, said alloy being substantially free from elements which form a solid solution with aluminum, except as they occur as impurities, said hot worked article being characterized in the as-worked condition by a tensile strength of 600° F. after a 100 hour exposure of not less than 10,000 p.s.i. and a yield strength of not less than 9,000 p.s.i.

2,966,733

ALUMINUM BASE ALLOY POWDER PRODUCT

Raymond J. Towner and John P. Lyle, Jr., New Kensington, Pa., assignors to Aluminum Company of America, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed Mar. 27, 1958, Ser. No. 724,229
3 Claims. (Cl. 29—182)

1. A hot worked aluminum base alloy powder article free from aluminum oxide except as incidental impurity and having a maximum iron content of 1%, said hot worked alloy powder article being formed from atomized powder of aluminum base alloy containing at least 70% by weight of aluminum and from 2.5 to 15% by weight of molybdenum as the essential component, the amount of said component exceeding the total quantity of any hardening elements present in the alloy, said alloy being substantially free from elements which form a solid solution with aluminum, except as they occur as impurities, said hot worked article being characterized in the as-worked condition by a tensile strength at 600° F. after a 100 hour exposure of not less than 10,000 p.s.i. and a yield strength of not less than 9,000 p.s.i.

2,966,734

ALUMINUM BASE ALLOY POWDER PRODUCT

Raymond J. Towner and John P. Lyle, Jr., New Kensington, Pa., assignors to Aluminum Company of America, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed Mar. 27, 1958, Ser. No. 724,230
3 Claims. (Cl. 29—182)

1. A hot worked aluminum base powder article free from aluminum oxide except as an incidental impurity and having a maximum iron content of 1%, said hot worked powder article being formed from atomized powder from an aluminum base alloy containing at least 70% by weight of aluminum and from 1 to 15% of tungsten as the essential component, the amount of said component exceeding the total quantity of any hardening elements present in the alloy, said alloy being substantially free from elements which form a solid solution with aluminum, except as they occur as impurities, said hot worked article being characterized in the as-worked condition by a tensile strength at 600° F. after a 100 hour exposure of not less than 10,000 p.s.i. and a yield strength of not less than 9,000 p.s.i.

2,966,735

ALUMINUM BASE ALLOY POWDER PRODUCT

Raymond J. Towner and John P. Lyle, Jr., New Kensington, Pa., assignors to Aluminum Company of America, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed Mar. 27, 1958, Ser. No. 724,231
3 Claims. (Cl. 29—182)

1. A hot worked aluminum base powder article free from aluminum oxide except as an incidental impurity and having a maximum iron content of 1%, said hot worked powder article being formed from atomized powder of aluminum base alloy containing at least 70% by weight of aluminum and from 1.0 to 15% by weight of titanium as the essential component, the amount of said component exceeding the total quantity of any hardening elements present in the alloy, said alloy being substantially free from elements which form a solid solution with aluminum, except as they occur as impurities, said hot worked article being characterized in the as-worked condition by a tensile strength at 600° F. after a 100 hour exposure of not less than 10,000 p.s.i., the yield strength not less than 9,000 p.s.i.

2,966,736

ALUMINUM BASE ALLOY POWDER PRODUCT

Raymond J. Towner and John P. Lyle, Jr., New Kensington, Pa., assignors to Aluminum Company of America, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed Mar. 27, 1958, Ser. No. 724,232
3 Claims. (Cl. 29—182)

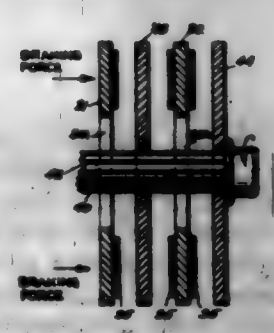
1. A hot worked aluminum base alloy powder article free from aluminum oxide except as incidental impurity and having a maximum iron content of 1%, said hot worked alloy powder article being formed from atomized powder of alminum base alloy containing at least 70% by weight of aluminum and from 3.5 to 15% by weight of zirconium as the essential component, the amount of said component exceeding the total of any hardening elements present in the alloy, said alloy being substantially free from elements which form a solid solution with aluminum, except as they occur as impurities, said hot worked article being characterized in the as-worked condition by tensile strength at 600° F. after a 100 hour exposure of not less than 10,000 p.s.i. and yield strength not less than 9,000 p.s.i.

2,966,737

FRICTION ELEMENTS

Raymond E. Spokes, Ann Arbor, Mich., and Frank W. Smith, Hackensack, N.J., assignors to American Brake Shoe Company, New York, N.Y., a corporation of Delaware

Filed Jan. 30, 1958, Ser. No. 712,234
6 Claims. (Cl. 29—182.5)



1. A friction couple member comprising a rigid metallic supporting member and a friction element for high energy applications secured thereto, said friction element consisting essentially of a thermally stable heat-conductive metallic matrix having dispersed therein bodies of aluminum silicate mineral consisting essentially only of highly angular naturally occurring substantially pure sillimanite, each such body being an agglomeration of parallel to sub-parallel interlaced substantially pure sillimanite crystals having the formula Al_2SiO_5, a hard-

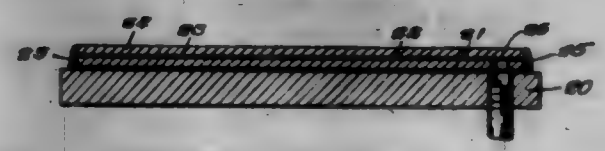
ness of 6–7, a specific gravity of about 3.10 to 3.23, crystallizing in the orthorhombic system, and heat stable up to temperatures at least as high as about 1550° C.

2,966,738

MOLYBDENUM CLAD PRODUCT HAVING AN INTERMEDIATE METAL LAYER AND METHOD OF PRODUCING THE SAME

Robert C. Bertossa, Birmingham, Ala., assignor to Chicago Bridge & Iron Company, a corporation of Illinois

Filed Jan. 3, 1955, Ser. No. 479,545
12 Claims. (Cl. 29—196)



1. The process which comprises putting in face-to-face contact, respectively, a ferrous base-metal sheet, a layer of brazing material, a sheet of tantalum, a layer of brazing material, and a sheet of molybdenum, said brazing material being capable of wetting and brazing the respective metals between which it is inserted, to produce a cladding sandwich, hermetically sealing the resulting cladding sandwich, evacuating the sandwich until a substantial vacuum is attained therein, heating the sandwich at least until the brazing material is molten, cooling the sandwich, releasing the vacuum and removing the seal, thereby producing a molybdenum clad base metal having a tantalum layer in between.

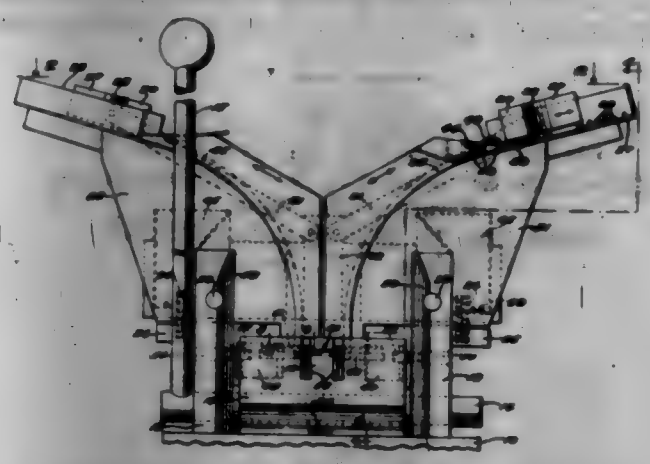
5. A ductile molybdenum clad product in the form of a plate comprising in the following order and in face-to-face contact, a sheet of a ferrous base metal, a layer of brazing material, a sheet of tantalum, a layer of brazing material, and a sheet of molybdenum, said metal sheets being integrally and continuously bonded together by the brazing material.

2,966,739

APPARATUS FOR INSERTING BUSHINGS

Theodore W. Kalbow, Chicago, Ill., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Filed Dec. 18, 1957, Ser. No. 703,701
17 Claims. (Cl. 29—211)



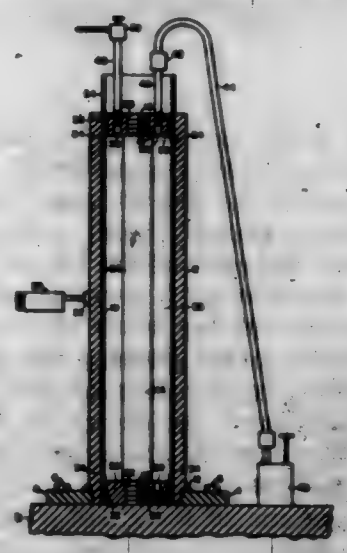
1. Apparatus for inserting bushings into apertures in a work piece comprising a base, a pair of supports movably mounted to said base, a hopper attached to each support for holding bushings and having an agitating member therein, a rotatable feeding member for positioning the work piece in a work station, said feeding member having a pair of slots formed therein for receiving a pair of bushings, a downwardly extending gravity chute associated with each hopper for guiding the bushings into said slots, said slots positioned adjacent to the apertures in the work piece, means within said feeding member for forcing the bushings into the apertures upon rotation of the feeding member, a sinuated surface on the feeding member and in engagement with said supports for oscillating said supports and hoppers attached thereto upon rotation of the feeding member, and means actuated by the rotation of the feeding member for reciprocating the agitating members.

2,966,740

METHOD FOR MAKING METAL ARTICLES

Edward A. Macha, Wilmerding, and Bernard W. Schuff, Pittsburgh, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Dec. 30, 1953, Ser. No. 401,236
4 Claims. (Cl. 29—534)



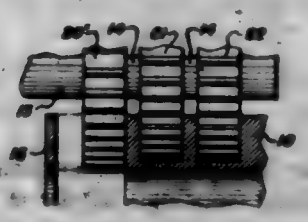
1. A method for producing metallic shapes from a hollow metallic blank comprising subjecting said metallic blank to internal pressure transversely enlarging said metallic blank to definite outer dimensions uniformly substantially along its entire length whereby stresses are induced in said enlarged blank, and applying shock force to and transversely of said enlarged blank while subject to said pressure, said forces being sufficient to relieve said stresses.

2,966,741

METHOD OF MAKING GROOVED RINGS

Anthony F. Sullivan, 704 Palomas Drive NE., Albuquerque, N. Mex.

Filed July 15, 1957, Ser. No. 672,867
2 Claims. (Cl. 29—558)



1. The method of making a grooved ring from a hollow cylindrical blank having a wall thickness equal to the desired radial thickness of the ring, which comprises rotatively supporting the blank at one end, simultaneously rotating the blank about its longitudinal axis and forming the U-shaped cross section of the ring by means of three spaced rotating cutting means operating on the outer periphery of the blank, the cutting means nearest the unsupported end of the blank being arranged to sever the waste piece of the blank from the ring when the desired depth of the center cut is attained, separating the ring from the remainder of the blank by completing the cut

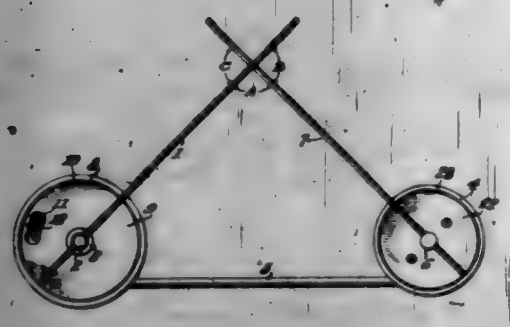
nearest the supported end of the blank, forming a slot through the bottom of the groove, shaping the sides of the ring, breaking the ring, and adding aligning means to the ring at the break.

2,966,742
CUTTING DEVICE
Kent Harlan, Paramus, N.J., assignor to La France Carpets, Inc., New York, N.Y., a corporation of New York
Filed Mar. 11, 1959, Ser. No. 798,751
5 Claims. (Cl. 30—314)



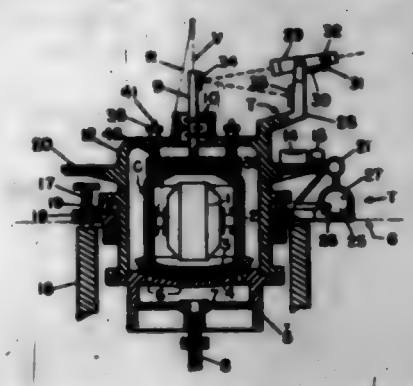
1. A cutting device comprising, a housing having an open bottom, a bolt extending across the interior of the housing and carried by the housing, means adjustable on the bolt for clampingly holding cutting blades between them, with the ends of the blades disposed below the bottom of the housing, a guard pivoted in the housing and normally projecting below the lower ends of the blades, stop means in the housing for limiting the upward swing of the guard, rollers on the housing and on the guard for supporting the device on the surface of a material to be cut, one of the rollers being located at the forward end of the housing and a second roller being located at the rear end of the guard, runners on the bottom of the guard between the rollers, and a hand rest provided at the top of the housing.

2,966,743
GONIOMETER
Anna M. Dondlah, Brooklyn, Wis.
(Wm. Beaumont Army Hospital, Box 223, El Paso, Tex.)
Filed Apr. 23, 1958, Ser. No. 730,502
3 Claims. (Cl. 33—1)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A goniometer comprising in combination a pair of spaced interconnected housings, a pair of rods capable of intersecting each other, each one of said pair of rods being slidably and rotatably carried by a housing, each rod being capable of alignment with a side of an angle being measured, a pair of spools, one of said spools being mounted in each housing, means interconnecting said spools for coaction therebetween, a first one of said rods being connected to a first one of said spools, winding and unwinding means associated with said spools, a dial connected to a second one of said pair of spools, a second one of said rods being carried by a second one of said housings, and means cooperating with said dial and said second rod for indicating the angle between said pair of rods.

2,966,744
GYROSCOPIC THEODOLITE ASSEMBLY
Fritz Kurt Mueller, 527 Lowell Drive, Huntsville, Ala.
Filed July 18, 1958, Ser. No. 749,369
8 Claims. (Cl. 33—72)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A gyrocompass assembly comprising: a hollow, metallic support having a top element, a bottom element and side elements that join said top and bottom elements; bearing means mounting said support for rotation about a vertical axis; a frame mounted inside said support between said top and bottom elements, of a shorter vertical extent than the space between said top and bottom elements in all positions it assumes during operation of said assembly; an element mounted on said frame projecting upward past said top element to a point above said top element, free to tilt and oscillate relative to said top element, said element mounted on said frame having a surface that is visible from a point adjacent to said support; bearing means for mounting said frame inside said hollow support for tilting relative to a vertical line and oscillation about said line by means of a gaseous film, said bearing means comprising convex and concave surfaces on said frame and support, said last-named surfaces having substantially the same center of curvature, and means for supplying compressed gas to form said film between said convex and concave surfaces, the center of curvature of said convex and concave surfaces being located outside of said support and remote from said convex and concave surfaces; a gyroscope mounted on said frame for rotation on a horizontal axis, means for rotating said gyroscope, thus causing said frame to have oscillatory precession about a vertical axis and on said gaseous film; and means for establishing a line of sight on said visible surface, which line of sight, extended, intersects said vertical axis and is in the vertical plane of the north-south direction, said direction being momentarily assumed by said horizontal axis at the mid point of its precession.

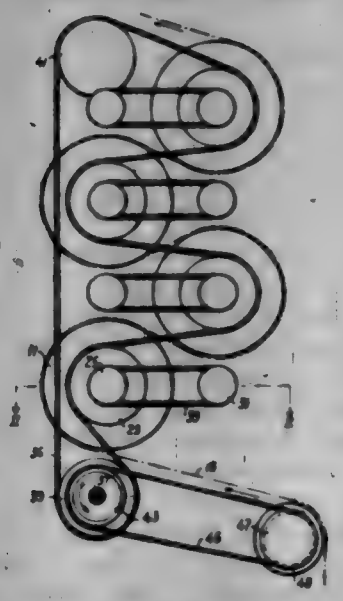
2,966,745
SHINGLE GAUGE ATTACHMENT
Edward S. Erickson, 524 N. Burlington Ave., Fergus Falls, Minn.
Filed Aug. 21, 1959, Ser. No. 835,347
3 Claims. (Cl. 33—188)



1. A lap siding board spacing gauge attachment for a hammer comprising hammer handle embracing yoke means, a gauge block mounted on and extending laterally from said yoke means, and clamping means for clamping the yoke means on a hammer handle, said yoke

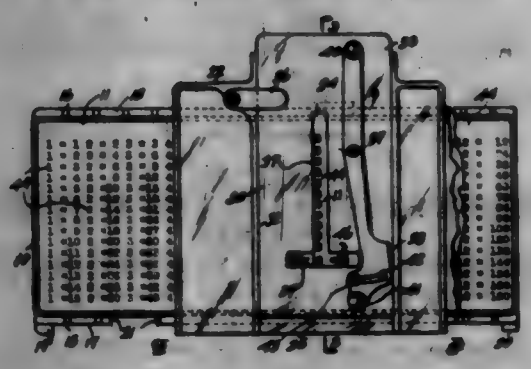
means comprising a resilient yoke having a bight portion terminating at its ends in legs having free ends, and means removably mounting the gauge block on said free ends, said block having a rear end to engage the hammer handle, and said clamping means comprising a screw threaded through said bight portion and opposed to said block rear end to engage a side of the hammer handle opposite that engaged by the rear end of the gauge block.

2,966,746
DEVICE FOR DRIVING A GROUP OF ROLLERS
Bertil Fredrik Helgesson Mellbin, Vasagatan 11, Goteborg, Sweden
Filed Apr. 15, 1958, Ser. No. 728,676
Claims priority, application Sweden Apr. 16, 1957
6 Claims. (Cl. 34—121)



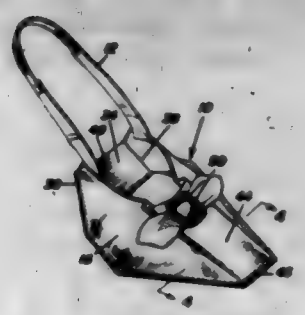
1. In a device for driving a group of rollers adapted for drying a web of textile material, a primary driving shaft, a shaft drivingly connected to each of said rollers, a first pulley freely rotatable on the shaft of each of said rollers, a flexible motion-transmitting means driven by said primary shaft and led around each of said first pulleys, a second pulley rigidly attached to each of said roller shafts, and means comprising an idler pulley means and elastically tensible belts trained around said idler pulley for coupling each of said first pulleys to the second pulley of the same roller shaft, the axis of said idler pulley means being disposed laterally offset from said roller shafts.

2,966,747
EDUCATIONAL DEVICE FOR TEACHING ARITHMETIC
Henry H. Johnson, 494 58th St., Oakland, Calif.
Filed May 4, 1959, Ser. No. 810,948
12 Claims. (Cl. 35—31)



1. An educational device comprising a chart having a multiplicity of vertical triple column series including each two columns of factors of arithmetic problems and one column of one of the arithmetic signs, an indexing member having one column of the other factors of the arithmetic problems and an adjoining column of the other arithmetic signs, said chart and said indexing member being adjustable one relative to the other, and a slide transversely adjustable in said indexing member and having a transversely formed T-slot therein including a leg portion and a head portion, and with one column of the chart visible through the leg portion of the slot and the complete problem visible through the head portion of the slot to provide the answer to the problem.

2,966,748
FOLDABLE OVERSHOE
Harriett B. Jeffries, 525 S. 2nd St., Apt. 10, Louisville, Ky.
Filed Dec. 23, 1958, Ser. No. 782,508
1 Claim. (Cl. 36—7.2)



A shoe protector formed from pliable water impervious sheet material and comprising a flat sole having a straight transverse front edge, a pair of rearwardly divergent side edge portions extending from the ends of said front edge, a pair of rearwardly convergent side edge portions extending from the rear ends of the divergent side edge portions, and a straight transverse rear edge extending between the rear ends of the convergent side edge portions, a flat shank portion contiguous with the rear edge of said sole and extending upwardly and rearwardly therefrom, and an upper having a front edge, rearwardly divergent side edge portions and rearwardly convergent side edge portions in register with and secured to the corresponding edge and edge portions of said sole, the rearwardly convergent side edge portions of said upper extending rearwardly beyond the rear edge of the sole and being secured to side edges of said shank portion, and pleats provided in said upper whereby the same may be folded to a flat form on said sole.

2,966,749
REINFORCEMENT INSERT IN PARTICULAR FOR HEELS OF OVERSHOES
Justin Leewengart, New York, Alan J. Dennison, New Rochelle, Mia Wachsbeisser, New York, and Harry Kaufmann, Jamaica, N.Y.; Benedict Ginsberg, executor of said Justin Leewengart, deceased; said Dennison, Wachsbeisser, and Kaufmann, assignors to Torch Rubber Co., Inc., New York, N.Y.
Filed May 15, 1958, Ser. No. 735,492
1 Claim. (Cl. 36—7.3)



In a rubber overshoe having a hollow heel defined by inner side walls and a bottom wall having an inner surface, the thickness of all walls being substantially uniform throughout; a cup-shaped heel insert body provided with a relatively firm rubber base layer and with upright side walls integral with said base layer, said side walls of said insert body decreasing in thickness and tapering from

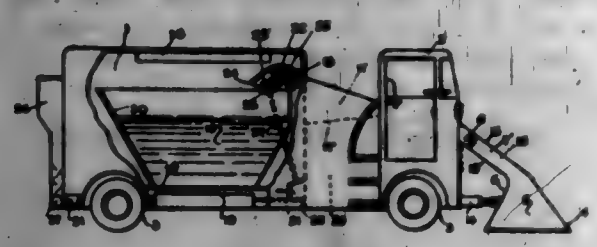
said base layer toward contiguous inner side walls of said hollow heel, said insert body including an upper layer of hardened plastic mesh supported by and connected to said base layer, means attaching said insert body to said inner side walls of said heel and to said inner surface of said bottom wall of said heel, and a lower layer of foam rubber material connected to said base layer, said base layer being approximately of a thickness corresponding to the thickness of said upper layer and of said lower layer, thereby to equalize pressure exerted within said insert body by the heel of a wearer's shoe and from the outside against the heel of said overshoe.

2,966,750
INSERT LIFT FOR LADIES' SHOE HEELS
Charles Maret, 2 Rue des Trois Carreaux, Romans, France
Filed Oct. 2, 1958, Ser. No. 764,791
Claims priority, application France Oct. 3, 1957
3 Claims. (Cl. 36—34)



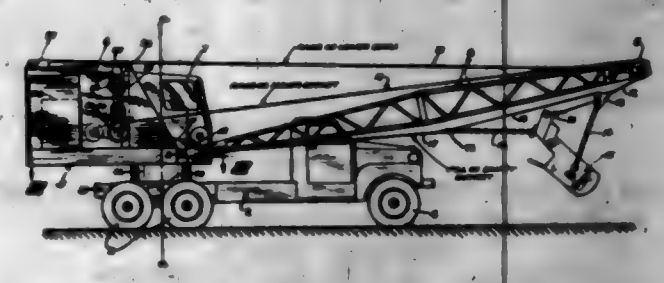
1. A heel for ladies' dress shoes comprising a solid heel body having a mortised end, an annular metal cup positioned exteriorly of said heel and having its base mounted on said heel body mortised end, said cup having an opening in said base thereof in alignment with said heel mortise, a one-piece member of a yielding abrasion-resisting material including a tread element of a configuration corresponding to the interior of said cup and a tenon of a configuration corresponding to said heel body mortise extending from said tread element through said cup opening into said heel body mortise, said tread element being entirely positioned within said cup with the free edge of said cup being flush with the ground engaging surface of said tread element and a pin extending through said member opening which pin is of a greater width than at least a portion of said member opening expanding said tenon into a tight fit with said heel body.

2,966,751
SNOW AND ICE REMOVAL VEHICLE
David C. Chaice, Chicago, Ill.
(1359 Madera Ave., Menlo Park, Calif.)
Filed May 24, 1956, Ser. No. 587,081
3 Claims. (Cl. 37—12)



1. In a snow and ice removal vehicle, a vehicle body including a liquid receiving and storage tank, an inner chamber in the tank, a common bottom for the liquid receiving and storage tank and the inner chamber in the tank, heating means below the common bottom, means for conveying snow and ice from the street to the inner chamber, overflow means from the inner chamber to the liquid receiving and storage tank, and discharge means for the melted liquid from the liquid receiving and storage tank.

2,966,752
CRANES
Walter G. Wampach, Minneapolis, Minn.
Filed Sept. 6, 1955, Ser. No. 532,473
3 Claims. (Cl. 37—116)

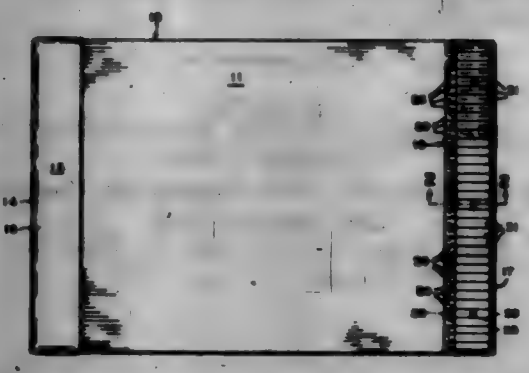


1. The combination with a crane comprising a mobile frame having a swing bed mounted thereon for rotation about a vertical axis, a boom pivoted to the swing bed for swinging movement in a vertical plane, and a drag line bucket suspended from the outer end of the boom, of a cable winding mechanism for operating the boom and bucket, said mechanism comprising a first drum having a cable wound thereon and connected to the outer end of the boom for raising and lowering the boom, a second drum having a cable thereon, the free end of which has a running connection with the outer end of the boom and pendantly supports the bucket therefrom, and whereby the bucket may be raised or lowered relative to the boom, a third drum having a cable thereon, the free end of which is connected to the front end of the bucket, said first drum being mounted upon and secured to an independent shaft, and said second and third drums being mounted for relative rotation upon a common drive shaft having means for drivingly connecting it to a source of power, a driving connection between said independent shaft and said drive shaft, clutch means in said driving connection whereby said first drum may be operated to raise or lower the boom, friction means for operatively connecting said second and third drums to said drive shaft whereby they may be operated independently of one another to maneuver the bucket into position to pick a load, said drums and their respective drives being arranged in substantially a vertical plane to economize floor space and to render the operating parts thereof readily accessible, the driving connection between said independent shaft and said drive shaft including dual power drives, one for winding the cable onto said first drum to raise the boom and the other for controlling the unwinding of the cable from said first drum to facilitate accurately placing a heavy load suspended from the boom in a predetermined location, said dual drives including a counter-shaft having a drive operatively connecting it to said drive shaft, clutch means for rendering said drive operative to rotate the counter-shaft, said dual drives also including a chain drive for operatively connecting the counter-shaft to said first drum for rotating it in one direction, and a gear drive for rotating said first drum in the opposite direction, and a single clutch member for selectively rendering said dual drives operable to drive said first drum.

2,966,753
COMBINED DESK PADS AND TELEPHONE INDEXES
David Martin, Silver Mine Ave., Norwalk, Conn.
Filed Apr. 1, 1959, Ser. No. 803,517
2 Claims. (Cl. 40—64)

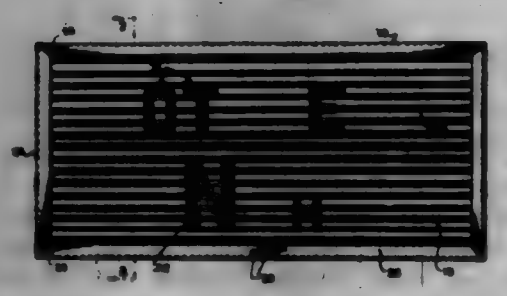
1. A changeable indicia displaying device comprising an elongated channel member having a central web portion serving as a base and a pair of resilient flange portions extending from opposite sides of the base and disposed in normally upturned spaced parallel relation, said flange portions being curved in the direction of

their widths to define longitudinally concave confronting surfaces, a plurality of oblong plates having convexly rounded end portions removably disposed transversely in and slidable longitudinally of said channel member with said convexly rounded end portions resiliently en-



gaged by said concavely curved flange portions, said plates being each provided at one end portion with a ledge portion overhanging one of said channel flange portions and serving to release the plate from the channel member upon elevation thereof, and rectangular indicia-displaying slips adhesively secured to said plates.

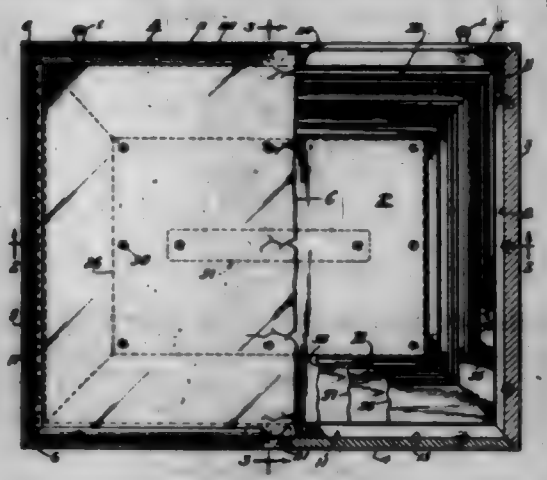
2,966,754
ILLUMINATED SIGN
Henry E. Orkin, 3616 Henry Hudson Parkway, Riverdale, N.Y.
Filed Nov. 3, 1958, Ser. No. 777,895
1 Claim. (Cl. 40—140)



A sign comprising a rectangular-shaped plate of translucent colored plastic material, said plate having uniformly spaced parallel grooves extending the length thereof for the entire area of the face thereof, a smooth surfaced transparent covering sheet of flexible plastic material over the face of the plate and loosely lining the walls of the grooves, and elongated opaque letters of a contrasting color detachably mounted on the face of the plate, the bodies of said letters having laterally extending lugs along the end edges thereof mounted in said grooves and frictionally gripped by the loose lining thereof, the smooth surface of said lining facilitating engagement and disengagement of the lugs in the grooves.

2,966,755
ENSEMBLE FOR DISPLAYING PICTURES AND THE LIKE
David M. Knox, 310 E. 55th St., New York 22, N.Y.
Filed Feb. 10, 1959, Ser. No. 792,295
6 Claims. (Cl. 40—152)

1. A picture display ensemble comprising: an annular-shaped outer molding having front and back portions and formed with a viewing aperture in said front portion; a removable front stop member disposed adjacent said front portion and at least part of which extends around the periphery of said aperture; a back member connected to the back portion of said housing and having a resilient portion movable toward and away from said front stop member; means on said stop member and on said outer molding providing for mounting the stop member on the outer molding and for removing the stop member from the outer molding through said aperture while said back member, including the resilient portion, remains connected with said outer molding; and a plurality of annular-shaped inner moldings for holding a picture, the



inner moldings being disposed in stacked relationship and mounted in the outer molding and said resilient portion exerting a pressure on said inner moldings to cause the same to be interengaged with one another and with said stop member so that the inner moldings and any picture supported thereby are all firmly held in position.

2,966,756
CARRIER FOR RECEIVING AND RELEASING A SUBSTANTIALLY FLAT ARTICLE
Hans Widmaier, Tego-Strasse 76, Berlin, Germany
Original application Aug. 26, 1954, Ser. No. 452,379, now Patent No. 2,861,369, dated Nov. 25, 1958. Divided and this application Apr. 24, 1958, Ser. No. 730,622
Claims priority, application Germany Dec. 30, 1949
5 Claims. (Cl. 40—159)



1. A carrier for receiving and releasing a substantially flat article; comprising two spring-hard weldable leaves arranged one above the other and in mutual surface contact with each other, one of said leaves forming a transparent cover leaf, the other of said leaves being a back leaf, said cover leaf being welded to said back leaf along two opposite marginal edges thereof and being unattached at the two remaining marginal edges, so that said leaves exert a clamping action on a flat article inserted therebetween, said back leaf being provided with a slot extending completely across said back leaf and substantially parallel to said opposite marginal edges, whereby upon bending both said leaves said slot is opened for the insertion into and removal of a flat article from between said leaves, while upon straightening both said leaves said inserted flat article is tightly retained therebetween and both said leaves automatically close one upon the other.

2,966,757
DECORATIVE ORNAMENT
Raymond B. Fazik, 8501 William, Taylor, Mich.
Filed May 11, 1959, Ser. No. 812,371
2 Claims. (Cl. 41—16)

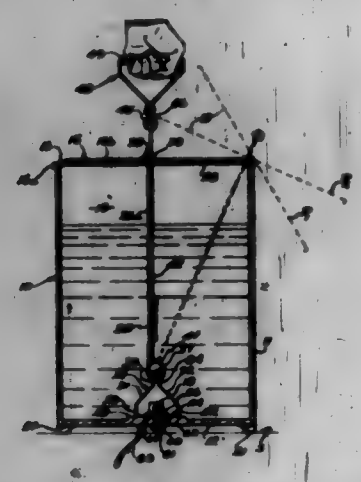
1. An article of manufacture comprising a first generally triangular sheet metal element having its apices bent up at less than a right angle to form diverging wings and provided with an opening in the central portion, a

second sheet metal element of substantially the same size and shape nested in and fixed to the first element and a sheet of translucent material interposed between the central areas of the two members and overlying said



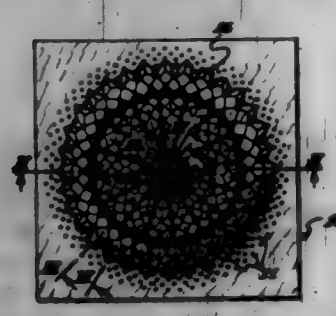
opening, the second member being provided with a decorative opening in alignment with the opening in the first member, a plurality of said articles being adapted to have their wings secured together to form a polyhedral casing.

2,966,758
FISHING BAIT CONTAINER
Elmer E. Riedel, 14537 Grapeland Ave., Cleveland 11, Ohio
Filed Sept. 19, 1958, Ser. No. 762,089
6 Claims. (Cl. 43—56)



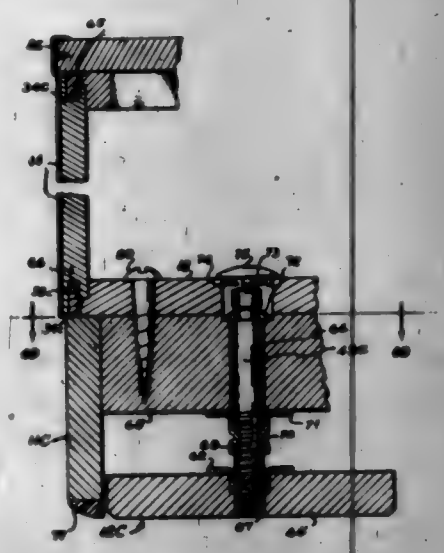
1. In a fishing bait container, a body defining a chamber having an open end and a closed end, a cover enclosing said open end and formed with an aperture communicating with said chamber, retaining means for movably attaching said cover to said body including a coil spring extending longitudinally through said chamber and having its one end projecting through said aperture and connected to said cover inwardly of its edge, and means anchoring the opposite end of said coil spring to said closed end including clip means disposed in said chamber being secured to said closed end and operatively connected to said opposite end of said coil spring.

2,966,759
DOILY SHAPING DEVICE
James A. Robertson, 221 W. Chambers, Phoenix, Ariz.
Filed Apr. 20, 1959, Ser. No. 807,486
4 Claims. (Cl. 45—24)



1. A device for use in the operation of reshaping the border of a mat of pliable material, said device including a plate member to receive the mat, said plate member having a plurality of concentric rows of spaced apart apertures and a plurality of pins for insertion into said apertures, each of said pins having a slidable collar movable along said pin, a finger extending from said collar at substantially right angular relation to the longitudinal axis of the pin.

2,966,760
CLASSROOM CABINET, PREFABRICATED CONSTRUCTION
Wilhelm W. Brockway, 1900 Mandeville Canyon Road, Los Angeles, Calif.
Filed Aug. 11, 1958, Ser. No. 754,212
2 Claims. (Cl. 45—139)

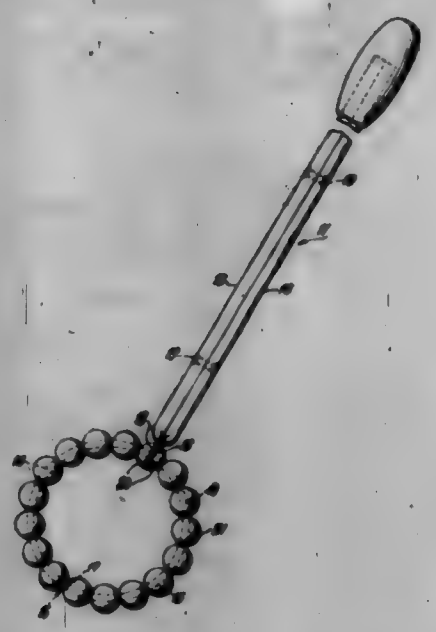


1. In a cabinet construction, in combination: a horizontal bottom; a rectangular skirt depending from said bottom, said skirt including vertical members joined to define a corner and having glide bearing means on their lower margins, with a lower bearing surface for gliding contact with a floor surface; a bearing block secured to the underside of said bottom in said corner and having a centrally disposed vertical bore; a stem having a cylindrical shank journalled in said bore, a threaded screw tip on the lower end of said stem; an end bearing collar threaded on and staked to said stem around the upper end of said threaded screw tip and bearing against the underside of said bearing member to transmit support thereto; and a rectangular supporting block having at its center a nut into which said screw part is threaded, said supporting block having a corner portion snugly engaged in said skirt corner to restrain the supporting block from rotation around the axis of said stem; said stem holding said bearing block for adjustment between a cabinet-supporting position in which its lower surface is below said lower bearing surface of said glide bearing means, and a retracted position above said lower bearing surface, to render the latter operative for said sliding contact.

2,966,761
ROLLING HOOP GUIDE
Louis E. Gunset, 2259 River Ave., Bronx 57, N.Y.
Filed Dec. 17, 1958, Ser. No. 781,063
2 Claims. (Cl. 46—220)

1. A hoop rolling device for rolling and guiding a hoop comprising a ring formed of two circumferential sections pivoted together at one end whereby the sections may be swung apart about the pivot to open the ring to engage the ring about a hoop, means for locking the other ends of the ring sections together to close the ring, said means including an elongated handle, said ring having a plurality of closely spaced spheres of equal diameter rotatably

mounted on their axes thereon, said spheres having diametrical passages therethrough through which the ring

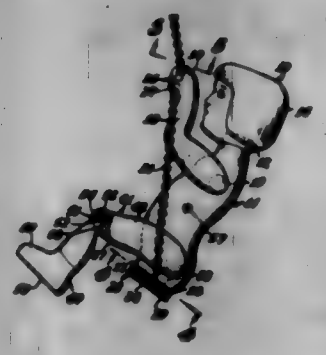


passes, the diameter of said passages being larger than the diameter of the ring to permit free rotation of the spheres on the ring.

2,966,762
DOLL

Irvy W. Hardaway and Sallie G. Hardaway, both of 1016 E. Mountain Ave., Glendale, Calif., and Katherine Shackelford, 4528 El Camino Corto, La Canada, Calif.

Filed Apr. 14, 1958, Ser. No. 728,464
2 Claims. (Cl. 46—241)

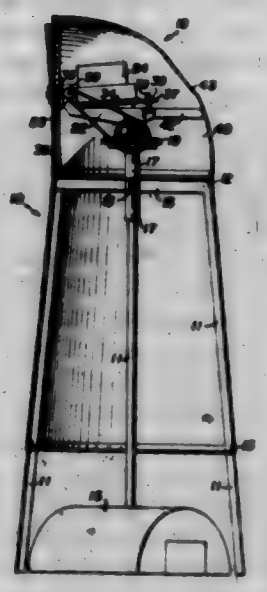


1. A doll having a body including a trunk portion and appendant articulated limbs and a movable structure having a substantially flat seat member, the combination with: a substantially flat surface on the bottom of said body; alnico magnet means immovably secured in said body and having one end thereof including poles thereof, said end being substantially flat and co-planar with said flat bottom surface of said body; wherein said flat seat member includes at least an upper surface of ferrous material, said upper surface being substantially flat and serving as an armature attractive to said magnet means for retaining said doll on said flat seat member in a simulated sitting position; wherein said seat member of said movable structure is supported at ends thereof by a pair of flexible suspension members for suspending the seat member in spaced relationship from a frame or other support in swinging relationship, and said limbs include arm means pivotally secured to opposite sides of said body, said arm means having hook means at outer ends thereof simulating hands and adapted to engage said suspension members.

2,966,763
AGRICULTURAL HEATER TO PROTECT CROPS FROM FROST

Tom F. Ferrell, Rte. 1, Box 188, Maitland, Fla.

Filed July 31, 1959, Ser. No. 830,925
6 Claims. (Cl. 47—2)

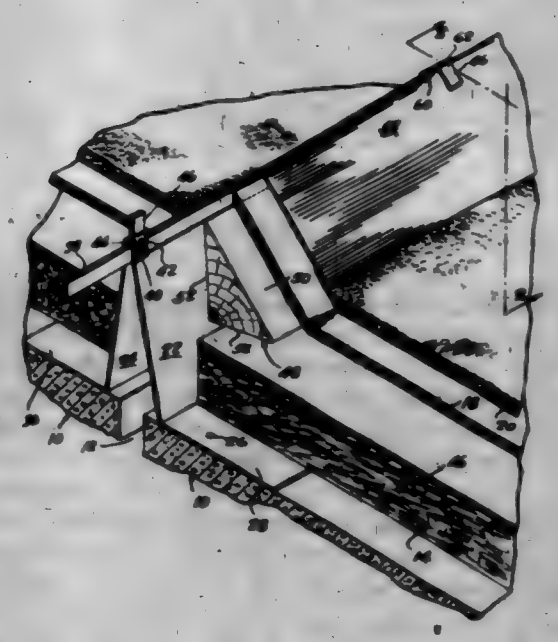


1. An agricultural heater comprising a tower including a case therearound, means admitting air to the lower portion of said tower, a heater within said tower, a blower assembly above said tower, said blower assembly including an L shaped hood communicating with the top of the tower and having an air discharge opening in a side thereof, said air discharge opening in said L shaped hood being substantially equal in area to the upper end of said tower, means rotating said hood about a vertical axis, and draft means conveying air through said case and said hood.

2,966,764
ROOF ASSEMBLY FOR A ROOF EXPANSION JOINT

Ben J. Booth, 1900 Lincoln Ave., No. 10 Highway, Little Rock, Ark.

Filed Apr. 18, 1958, Ser. No. 729,371
3 Claims. (Cl. 50—289)



1. The combination with a roof decking provided with an expansion joint, of a roof assembly comprising a pair of panels arranged in an upstanding converging relation

positioned so that the lower divergent ends contact the portions of the decking on opposite sides of said joint, anchoring means on the lower divergent end of one of said panels and fixedly secured to the adjacent decking portion, the lower divergent end of the other of said panels having an anchoring means slidably contacting the adjacent decking portion, a connector member embracing the convergent ends of said panels and securing the convergent ends of said panels together, a layer of insulation extending outwardly from each of said panels and covering each of said anchoring means and said decking, a first right angle block element positioned outwardly of said one panel so that the hypotenuse leg is remote from said one panel, the vertical leg adjacent to and extending at an angle along said one panel, and the base leg extending at an angle to said one panel and along and adjacent said layer with the juncture of said vertical leg and base leg abutting against said one panel intermediate the ends and the adjacent part of said layer, a second right angle block element positioned outwardly of said other panels so that the hypotenuse leg is remote from said other panel, the vertical leg adjacent to and extending at an angle along said other panel, and the base leg extending at an angle to said other panel and along and adjacent said layer with the juncture of said vertical leg and base leg abutting against said other panel intermediate the ends and the adjacent part of said layer, a roofing sheet having an end portion extending upwardly over the hypotenuse leg of each of said first and second block elements to the secured convergent ends of said panels, and a metal sheathing extending over the secured convergent ends of said panels and downwardly over said roofing end portions and secured to said panels.

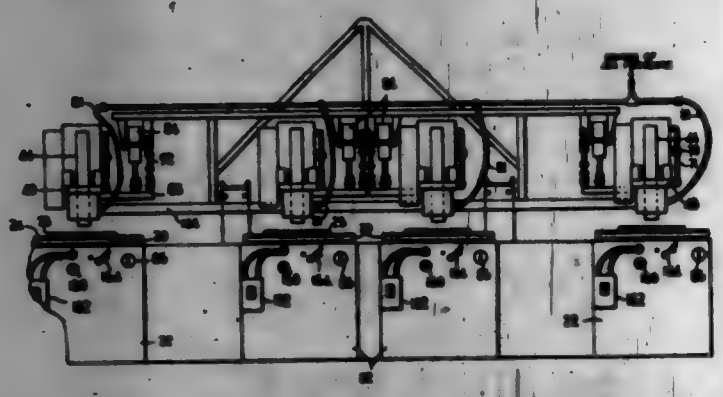
2,966,765

APPARATUS FOR REMOVING SURFACE BLEMISHES

Guy C. De Vore, Cheswick, Pa., assignor to Pittsburgh Plate Glass Company, a corporation of Pennsylvania

Original application Oct. 2, 1953, Ser. No. 383,750, now Patent No. 2,910,813, dated Nov. 3, 1959. Divided and this application Feb. 18, 1959, Ser. No. 794,143

13 Claims. (Cl. 51—45)



1. Apparatus for removing a blemish from a localized surface portion of an article comprising at least one base, a rotatable support element mounted on the base, means for rotating said support element, means for reciprocating the support element in one direction, means for securing a surface blemished article in fixed relation to the support element, supporting means mounted for alignment with each support element, buffing means mounted on the supporting means for rotation thereon, means for rotating the buffing means, means for imparting a reciprocating motion to the supporting means transversely to the direction of reciprocation of the support element and normal to the axis of rotation of said buffing means, and means for moving the supporting means to cause contact between its rotatable buffing means and the localized surface portion of the blemished article.

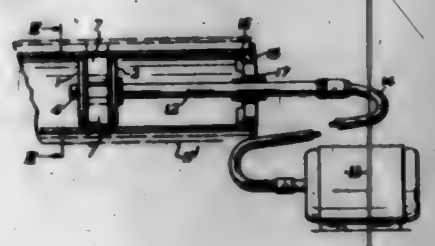
2,966,766

TOOLS FOR THE ABRASIVE TREATMENT OF THE INTERIOR OF HOLLOW BODIES

James V. Ronaldson, 35 Downsway, Sanderstead, England, and Ralph Cooper Hollingworth, 59 Ring Road, Stoneygate, England

Filed July 25, 1958, Ser. No. 751,059

4 Claims. (Cl. 51—184.1)



1. A tool adapted for abrasive treatment of a tubular body having a first inside diameter, comprising a rotatable rod, at least one first disc having a diameter smaller than said first diameter and secured at its center to said rod, a plurality of first pins secured normal to said first disc adjacent the perimeter thereof, an abrasive roller eccentrically journalled about each said first pin, said first pins being secured in a concentric ring on said disc, and a plurality of second pins secured normal to said first disc between said ring and said perimeter, each said first pin lying between a said second pin and the center of the roller journalled thereabout.

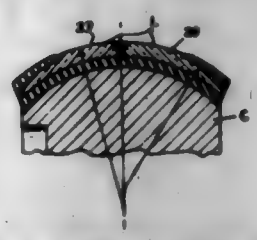
2,966,767

METHOD OF MAKING MULTIFOCAL LENSES

John H. Kreas, Quinebaug, Conn., assignor to American Optical Company, Southbridge, Mass., a voluntary association of Massachusetts

Filed Feb. 26, 1957, Ser. No. 642,458

5 Claims. (Cl. 51—284)



1. The method of simultaneously forming a plurality of onepiece multifocal lens blanks with distance and reading focal fields of different optical powers divided by a substantially straight transversely extending line of division between said fields, comprising mounting a plurality of lens blanks each having a continuous reference surface of a controlled radius of curvature thereon about the periphery of a first rotatable blocking wheel with the axes of the curvatures of said reference surfaces lying in a single plane substantially normal to the axis of rotation of said first blocking wheel and intersecting each other at a given common point on said axis of rotation, the distance of each reference surface of each of said lens blanks from said common point being substantially the same and controlled in accordance with the finished radius of curvature to be provided on the reading fields of said lens blanks, rotating said blanks in said supported relation as a unit about the axis of said first blocking wheel, engaging a substantial area of each of said blanks during the rotation thereof with a first abrading means having a shape controlled to produce on each of said blanks a first finished spherical optical surface of a radius of curvature shorter than that of said reference surfaces and simultaneously locating an edge of said first abrading means relative to sad blanks so that the direction of movement of said blanks relative to said first abrading means will cause said edge to produce a substantially straight cliflike dividing line extending transversely of

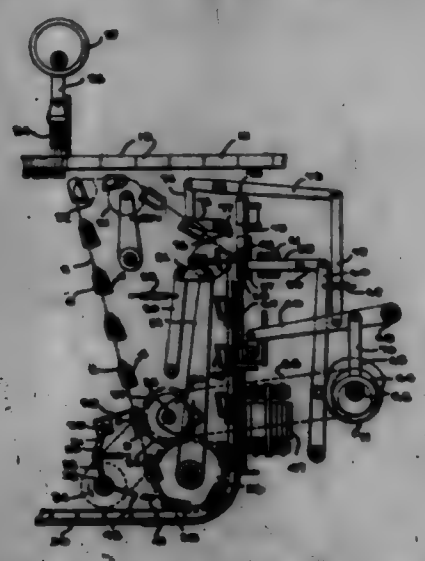
each of said lens blanks between said reading fields and the remaining portions of said reference surfaces of a height somewhat greater than that desired on the finished lens blanks, remounting two adjacent rows of said lens blanks about the periphery of a second rotatable blocking wheel with said first finished surfaces of each respective row of blanks being exposed and located toward the respective adjacent outer peripheral side areas of the second blocking wheel and with the axes of curvature of said remaining portions of said reference surfaces lying in a single plane and intersecting each other at a given common point on the axis of rotation of said second blocking wheel, said remaining portions of said reference surfaces being in adjacent relation with each other in the central area of the periphery of said second blocking wheel and each being at substantially the same distance from said common point controlled in accordance with the finished radius of curvature to be provided on the distance fields of said lens blanks, rotating said lens blanks in said supported relation as a unit about the axis of said second blocking wheel, simultaneously engaging said remaining portions of said reference surfaces of each of said rows, during the rotation thereof, with second abrading means having a shape controlled to produce on each of said lens blanks a second finished spherical optical surface of a radius of curvature equal to that desired of the distance fields of said lens blanks and abrading said remaining portions of aaaid reference surfaces with said second abrading means to a depth sufficient to reduce the height of the intermediate portion of each of said cliflike lines of division to a practical minimum.

2,966,768

METHOD AND AN APPARATUS FOR FILLING MATCH BOXES WITH MATCHES

Edwin Zilver, The Hague, Netherlands, assignor to N.V. Inland, Rotterdam, Netherlands, a corporation of the Netherlands

Filed Sept. 19, 1958, Ser. No. 762,152
Claims priority, application Netherlands Sept. 27, 1957
23 Claims. (Cl. 53—148)



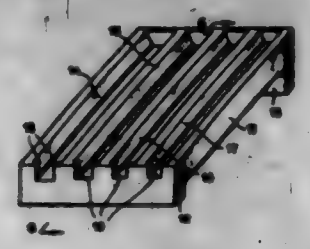
1. An apparatus for filling match boxes with matches, comprising a plurality of rows of adjacent intermediate receiver means for matches, a plurality of stations, conveying means for intermittently moving said rows of intermediate receiver means past the stations, said stations comprising at least one filling station in which each time a predetermined number of matches is introduced into each of the intermediate receiver means of a row of intermediate receiver means being in said station, a station for supplying each of the filled receiver means of a row with an empty tray, a station for removing the trays from said intermediate means when the matches contained in said intermediate means are transferred to said trays and a station for providing each of the filled trays of a row with a slide, each intermediate receiver means comprising one upright front and two upright lateral walls, said front wall being constructed to be brought into engagement with the inner side of the front wall of a tray to be filled by the movement of said intermediate receiver means past said tray supply station and said lateral walls being so spaced apart that a tray to be filled may be brought substantially against one of the sides of said lateral walls.

2,966,769

PACKAGING COINS

Luigi Isb, 9 Via Monastero, Merano, Italy, assignor of one-half to Fabio Cassina

Filed Oct. 20, 1959, Ser. No. 847,561
Claims priority, application Italy Dec. 13, 1956
8 Claims. (Cl. 53—254)



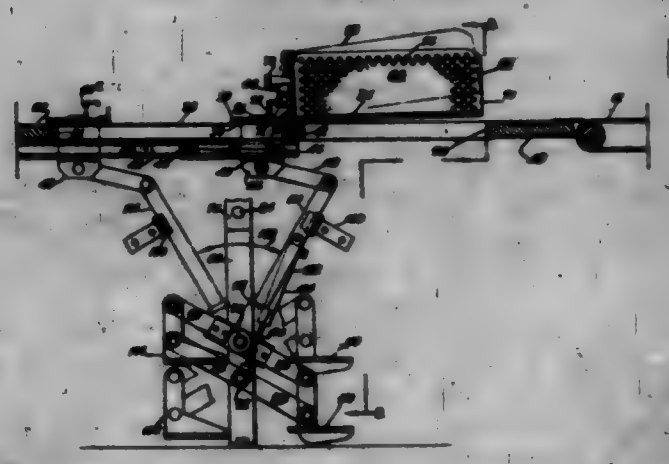
8. A coin packaging apparatus comprising, a tray having at least one elongated, channel inclined from end-to-end, said channel being curved in cross-section so as to receive the coins and having a center groove extending longitudinally along the bottom of the channel, said groove opening at one end thereof to a side of the tray adjacent the lower end of the channel for receiving a plurality of like strips of bendable material each positionable individually extending longitudinally in said groove with coins forming a stack overlying it in said channel and extending outwardly of the open end of the groove, and each strip being bendable into a U-shaped coin holder having opposite sides for holding the coins therein and a flat portion across the end of the stack of coins adjacent said open end of the groove, and each coin holder having keeper means positionable on an end of the coin holder opposite the flat end thereof to releasably hold the sides of the coin holder in position against the coins and for holding the coins against said flat portions.

2,966,770

PACKAGING DEVICE

Roleton Lewis, 104 Charles Drive, Apt. D–1, Bryn Mawr, Pa.

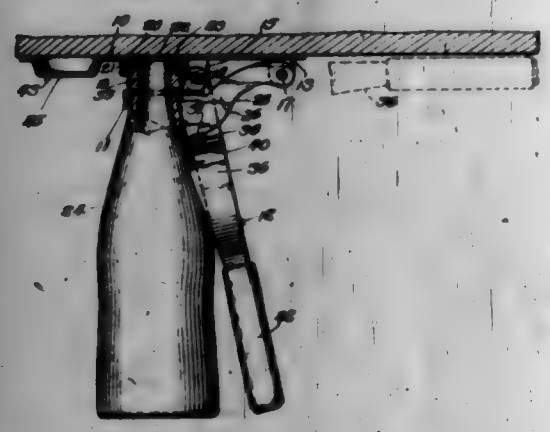
Filed Mar. 17, 1958, Ser. No. 721,868
4 Claims. (Cl. 53—255)



1. A packaging device for mounting on a check-out counter comprising a support, a packaging container including a bottom and upstanding sides, coacting means on said support and an end of said container for detach-

ably mounting said container on said support in vertically spaced relationship from said counter, said container having an open end opposite the end thereof having the mounting means, said coacting mounting means positioning said container in an inclined relationship with respect to said counter with said open end elevated a greater distance above said counter than the other said end, means movably mounting said support including a depending plate secured to the underside of said support extending below the top of said counter, and means operatively connected with said plate for positively moving said plate longitudinally of said counter together with said support and said container.

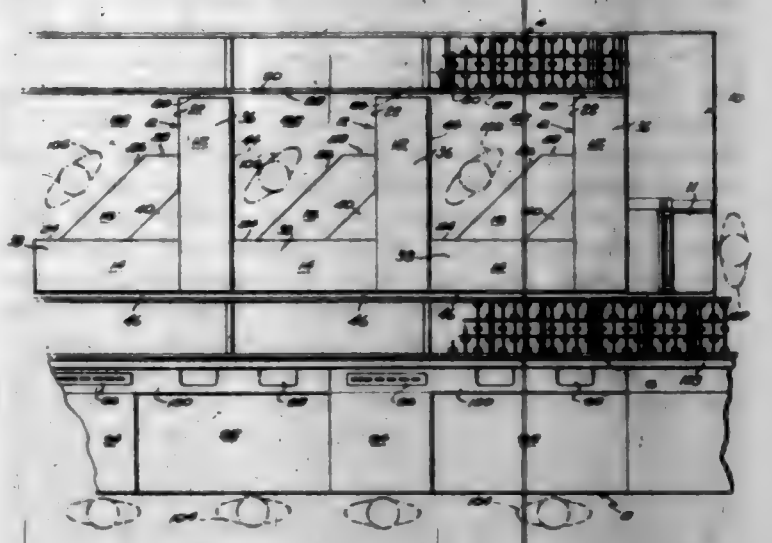
2,966,771
MECHANISM FOR RECAPPING BOTTLES
James L. Davis, 3936 Johnson, Western Springs, Ill.
Filed Mar. 26, 1959, Ser. No. 802,652
6 Claims. (Cl. 53—341)



1. Mechanism for crimping the annular wall of a crown in sealing engagement about the capping lip of a bottle, comprising: a mounting base adapted to be secured to a supporting structure, said mounting base having an annularly shaped portion of a size to snugly receive a crown when crimped into sealing engagement with the capping lip of a bottle; a bottle-carrying member formed for supporting the neck of the bottle beneath its capping lip, said member being swingably mounted on the base so as to carry a bottle from an initial position upwardly to a recapping position in which the capping lip and crown of the bottle are thrust into said annularly shaped portion so that the periphery of said annularly shaped portion will crimp the annular wall of the crown about the capping lip to effect sealing engagement; and a manually operable member movably mounted on the base and engageable with the bottle carrying member for effecting swinging movement of said bottle-carrying member to move the bottle between said initial and recapping positions.

2,966,772
FOOD PACKAGING APPARATUS
Harry R. Marinus, Brookline, Mass., assignor to Supermarket Metal Products, Inc., Boston, Mass., a corporation of Delaware
Filed Feb. 5, 1959, Ser. No. 791,473
8 Claims. (Cl. 53—391)

1. An apparatus for preparing and packaging food comprising a row of food packaging tables having generally L-shaped table surfaces and laid end to end with the longitudinal outer edge of one leg of each table surface lying adjacent the end of the other leg of the adjacent table surface and forming with the legs of said adjacent table surface a space for a person to stand, said space having an open side, the inner corner of the L of each table surface formed by the juncture of the legs and the inner edges of the legs adjacent said corner having a portion projecting into the space between the two legs, the spaces formed by said adjacent tables being separated from each other by said one leg of said tables, first conveyor means extending along and adjacent to the ends of said one legs and across the open sides of said



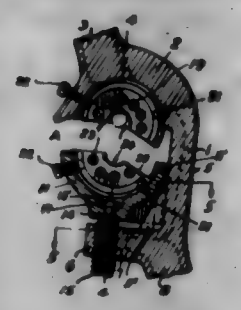
spaces, second conveyor means extending along and adjacent to the longitudinal outer edges of said other legs of said tables, a table for preparing food for packaging, said food preparing table extending along the side of said second conveyor means opposite the side facing said longitudinal edges of said other legs.

2,966,773
SIDE DELIVERY RAKING DEVICE
Cornelis van der Lely, Maasland, Netherlands, assignor to C. van der Lely N.V., Maasland, Netherlands
Filed Jan. 4, 1957, Ser. No. 632,445
Claims priority, application Netherlands Jan. 6, 1956
9 Claims. (Cl. 56—377)



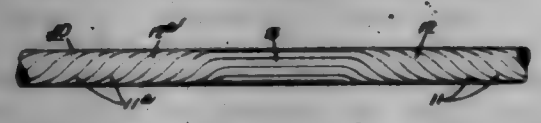
1. An agricultural device having a determinable direction of travel comprising a mobile frame, at least two groups of freely rotatable rake wheels, connecting elements supporting the rake wheels of each group in overlapping relation, bushings rotatable on said frame and having a common horizontal axis of rotation, vertical hinge pins operatively associated with said bushings and supported thereon, said connecting element being operatively associated with and pivotal on said hinge pins, and locking means on said bushings and operatively associated with said connecting elements to fix the positions of the latter on said hinge pins.

2,966,774
TOOLS FOR APPLYING ARMOR RODS TO CONDUCTORS
Thomas H. Bowen, St. Louis, Mo., assignor, by mesne assignments, to James R. Kearney Corporation, St. Louis, Mo., a corporation of Delaware
Filed Apr. 8, 1955, Ser. No. 500,241
2 Claims. (Cl. 57—10)



1. A tool for applying armor rods to conductors comprising a die holder having a fixed and a movable member, and a two-piece split die with a circular outer periphery said two-piece die when closed having means defining a central opening to receive a conductor and a series of spaced armor rod receiving openings about the central opening, one piece of said die being secured in said fixed member of the die holder, means in said movable member forming a generally arcuate shaped recess, a portion of which recess in said movable member locates said other piece of said die by embracing the outer circular periphery thereof, and, another portion of which recess also in said movable member is arranged to move into embracing relationship with the circular periphery of said one piece of said two-piece die when said movable member of said die holder is operated to clamp said two-piece die, means on said fixed and movable members directing said another portion into the embracing relationship on closing of said die whereby the two pieces of said die are aligned by action of said movable member, when clamped together by said fixed and movable members of said die holder.

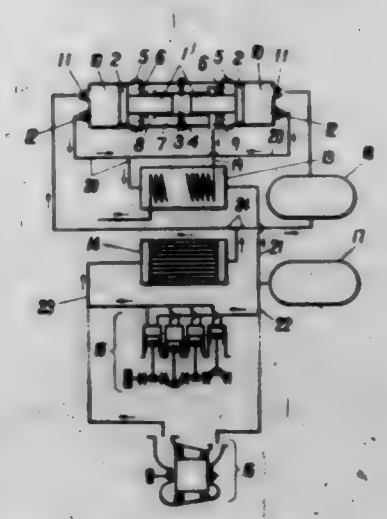
2,966,775
YARNS AND FABRICS MADE THEREFROM
Warren A. Seem, Gwynedd, and Nicholas J. Stoddard, Philadelphia, Pa., assignors to Textile Licensing Company, North Wales, Pa., a partnership
Filed Apr. 25, 1955, Ser. No. 503,364
18 Claims. (Cl. 57—140)



1. A continuous-length textile yarn of uniform cross section having in one predetermined section of its length a uniformly constant torque in one direction and in another predetermined section of its length a uniformly constant torque in the opposite direction.

2,966,776
PNEUMATIC POWER TRANSMISSION SYSTEM
Yoshikazu Taga, 29 5-chome, Higashi-dori, Sakurazuka, Toyonaka-shi, Osaka, Japan
Filed Mar. 22, 1957, Ser. No. 647,782
Claims priority, application Japan Mar. 26, 1956
1 Claim. (Cl. 60—12)

A pneumatic power transmission system using compressed air recirculating in a closed circuit; comprising a free piston type diesel engine having a main cylinder, a compressor cylinder surrounding said main cylinder, a pair of opposed free pistons in said main cylinder, air compressor pistons fixed to said free pistons and being disposed in said compressor cylinder, means dividing the space between said main cylinder and said compressor cylinder to form compressor chambers at the ends of said compressor cylinder and scavenging air chambers about said main cylinder, scavenging air ports for connecting said scavenging air chambers with the interior of said cylinder, the air compressor pistons serving as main compressors delivering the compressed air as transmission medium and the free pistons being employed for producing scavenging air necessary for said engine, an air heater to heat the compressed air delivered from said



main compressors by the exhaust gases discharged from said engine, a high pressure air reservoir, a pneumatic motor operatively connected with the member to be driven, said high pressure reservoir accumulating the air in the high pressure air circuit between said main compressors and said pneumatic motor and said motor being driven by the air in the last mentioned circuit, intercooler means arranged in the low pressure air circuit between said pneumatic motor and said main compressors, and a low pressure air reservoir arranged in the last mentioned low pressure circuit when necessary, said low pressure air reservoir accumulating the air in the low pressure air circuit.

2,966,777
DAM
Francisco Saturnino Rodrigues de Brito Filho, Rio de Janeiro, Brazil, assignor to Escritorio Saturnino de Brito, Rio de Janeiro, Brazil
Filed May 8, 1956, Ser. No. 583,559
Claims priority, application Brazil May 10, 1955
11 Claims. (Cl. 61—26)

1. An automatically adjustable dam comprising at least one generally planar panel rotatable on a horizontal axis located near the center of the panel, a stationary foundation and a conduit for conveying water to the panel, said panel having two bearings on said axis and secured to the foundation, about which said panel is adapted to rotate, one at each of the opposite ends of the dam, said panel having a substantially vertical closed position and a substantially horizontal open position, a sill in the foundation disposed adjacent the bottom edge of said panel in the closed position and adapted to cooperate with said panel to obstruct the flow of water when the dam is in the closed position, means tending to maintain said panel in the closed position, at least one baffle secured to said panel, projecting out of the plane of said panel on the upstream side of said panel formed so as to be acted upon by water flowing around the panel to produce a turning torque to turn the panel toward the open position, an interior channel for the flow of water through the panel itself and formed so as to be acted

upon by water flowing around and through the panel to compensate said turning torque with a counter torque



thereby to stabilize the panel and minimize vibration when water is flowing through the dam.

2,966,778

CAISSONS FOR WHARF CONSTRUCTION AND METHOD OF INSTALLING SAME

Edward J. Quirin, Great Neck, N.Y., assignor to Frederic R. Harris, Inc., New York, N.Y., a corporation of New York

Filed Sept. 8, 1953, Ser. No. 378,816
7 Claims. (Cl. 61—46)



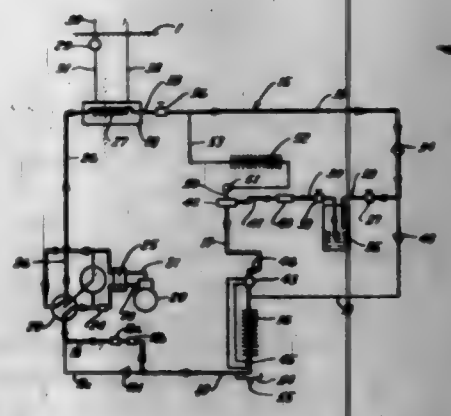
1. A caisson having closed bottom, sides and ends and an open top, a central longitudinal bulkhead extending between the ends, and transverse bulkheads extending between the sides and intersecting the longitudinal bulkhead, said transverse bulkheads and the longitudinal bulkhead dividing the interior of the caisson into compartments between said longitudinal bulkhead and said sides, some of said transverse bulkheads being imperforate and having one or more of the other transverse bulkheads and a group of said compartments between them and sealing the compartments of said group from the remaining compartments, the transverse bulkheads between said imperforate bulkheads having openings putting all the compartments of each group on one side of the central bulkhead into communication with one another, said openings being adjacent a side of the caisson for the compartments between the central bulkhead and said side, and adjacent the central bulkhead for the remaining compartments of the group between the central bulkhead and the opposite side.

2,966,779

HEATING AND COOLING SYSTEM FOR MOTOR YACHTS

William A. Lintern, Painesville, and James W. Lintern, Unionville, Ohio, assignors to Larco, Inc., Painesville, Ohio, a corporation of Ohio

Filed May 27, 1957, Ser. No. 661,838
7 Claims. (Cl. 62—160)



1. In combination, a power boat having an engine compartment, an engine therein, a plurality of passenger spaces isolated from the engine compartment, radiator units in the spaces, respectively, a reversible heating and cooling refrigerating system employing an expansible and compressible gaseous refrigerant, a compressor having an inlet and an outlet, a water-cooled condenser for the refrigerant, a refrigerant receiver having an inlet and an outlet, expansion valve means for the units, a settable sealed reversible circuit means operative, when set for a cooling cycle, for connecting the condenser between the outlet of the compressor and inlet of the receiver and for connecting the units to the outlet of the receiver through the expansion valve means and to the inlet of the compressor, and operative, when set for the heating cycle, for connecting the condenser between the inlet of the compressor and the outlet of the receiver, and the units between the outlet of the compressor and the inlet of the receiver in by-passing relation to the expansion valve means of the units, a supplemental air-to-fluid heat exchanger in the engine compartment in proximity to the engine for heating thereby, an auxiliary fluid circuit operative for connecting the supplimental heat exchanger to the receiver outlet and in fluid communication with the compressor inlet when the settable sealed circuit means is set for said heating cycle and while the water-cooled condenser is connected to the inlet of the compressor and is in fluid communication with the outlet of the receiver, and means for circulating water in heat exchange relation to the water-cooled condenser.

2,966,780

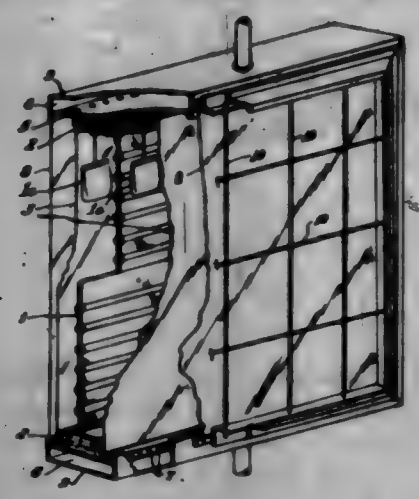
RADIANT COOLING SYSTEMS

Clarence A. Mills, Cincinnati, Ohio, assignor to Reflectotherm, Inc., Cincinnati, Ohio, a corporation of Ohio

Filed Oct. 1, 1958, Ser. No. 764,644
5 Claims. (Cl. 62—272)

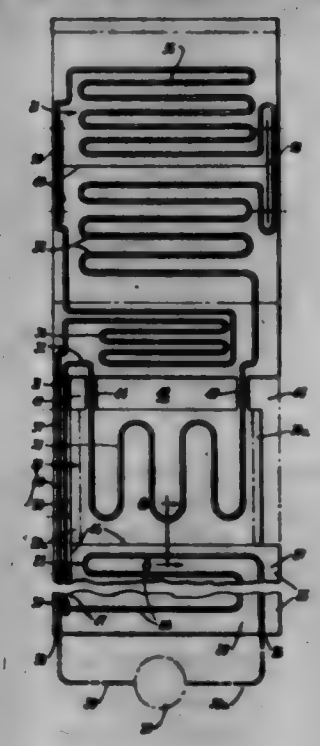
1. In a low temperature radiant cooling unit the combination in an enclosing cabinet of a vertically positioned carbon black coated plate coil provided with means for circulating a cooling medium through the coils of the plate, a pair of rigidly supported spaced sheets of polyethylene adjacent one surface of the carbon black coated

plate coil and retained in a rigid frame, headers in the frame for admitting air with a controlled dew point and



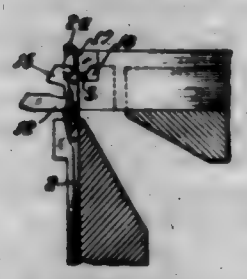
dry bulb temperature to pass between the polyethylene sheets.

2,966,781
REFRIGERATION APPARATUS AND METHODS OF MANUFACTURING THE SAME
Harold W. Schaefer, Philadelphia, and Franklin W. Edwards, Narberth, Pa., assignors to Philco Corporation, Philadelphia, Pa., a corporation of Pennsylvania
Filed Mar. 5, 1956, Ser. No. 569,635
2 Claims. (Cl. 62—523)



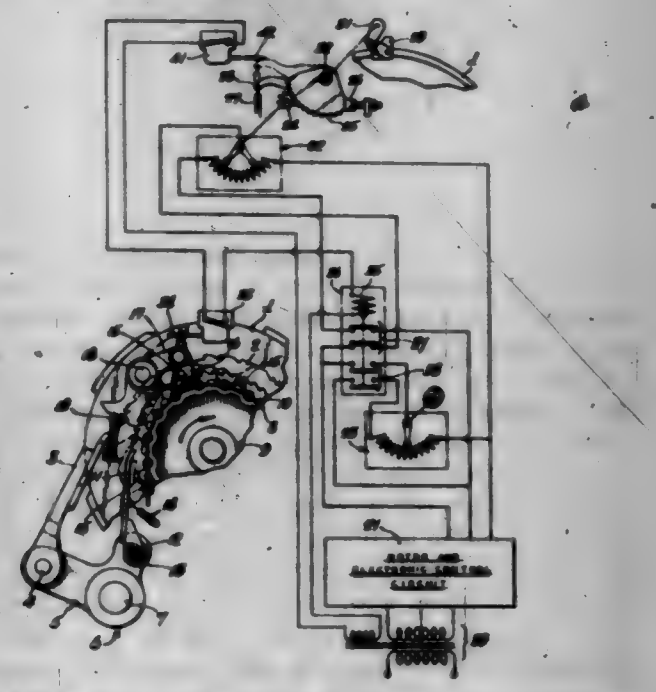
1. An integral heat exchanger sheet, with passages extending therein and bounded by solid sheet material to form a refrigerant circuit, said sheet comprising at least one pair of sheet and circuit portions, wherein the sheet portions are severed from one another by an elongate slit penetrating the sheet and longitudinally extending adjacent passages which extend in the sheet, said slit being substantially linear as seen in a plan view of the sheet; at least one of said sheet portions being an elongate strip with at least one of the passages longitudinally extending therein, the strip and passage being integrally connected, in end portions thereof, to other portions of the sheet and passages, respectively, and the strip being bent out of the plane of the adjacent sheet portion in such a way that the slit therebetween forms a gap which, in a side view of the sheet, is sufficiently wide to enable the strip and the adjacent sheet portion, with their respective passages, to function as independent heat exchanger portions of said refrigerant circuit.

2,966,782
DEVICE FOR KNITTING A BACKED FABRIC WITH BINDING THREAD
Jaroslav Deim, Tisnov, Jaroslav Dvořák, Brno-Obrany, František Bartoň and Zdeněk Kořístek, Brno, Czechoslovakia, assignors to Výzkumný Ústav Tvářecích Strojů a Technologie Tváření, Brno, Czechoslovakia, a company of Czechoslovakia
Filed Dec. 18, 1957, Ser. No. 703,619
2 Claims. (Cl. 66—9)



1. In a device for knitting a backed fabric incorporating backing, binding and facing threads; the combination of a ring of vertically movable latch needles, a needle cylinder supporting said needles for vertical movement, a series of sinker elements extending radially outward from within said ring between the successive needles of the latter and each having upper and lower ledges and a nose extending above and radially outward from said upper ledge, means for feeding backing, binding and facing threads at successive feeding locations around said ring at the level well above that of said upper ledges and at the level of said lower ledges, respectively, a locking element movable radially adjacent each of said sinker elements and having a downwardly directed nib at its radially outer end adapted to register, and thereby cooperate, with said nose of the related sinker element in defining an enclosed space behind said nose, and cam means for raising and lowering said needles and for effecting radially outward advancement and radially inward retraction of said sinker and locking elements.

2,966,783
ELECTRONIC CONTROL CIRCUITS FOR KNITTING MACHINES
John T. McKibbin, Philadelphia, and Walter Larkin, Norristown, Pa., assignors, by mesne assignments, to Singer-Fidelity, Inc., Philadelphia, Pa., a corporation of Delaware
Filed Dec. 2, 1958, Ser. No. 777,628
3 Claims. (Cl. 66—56)



1. A circular knitting machine comprising electric motor constituting the prime mover for the machine, a pat-

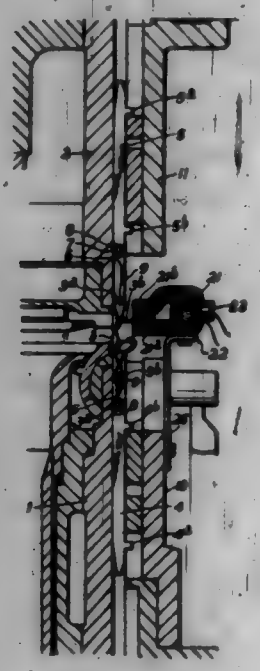
tern drum for governing predetermined operations of the machine, a pattern chain for governing the operations of said drum, an electrical speed control circuit for and including said motor, and providing a saturable core device whereby high peaks of current may be eliminated, a variable control unit for said circuit adjustable to effect variations in the speed of said motor in accordance with the variations in the operation of the machine as prescribed by said pattern drum, means for relatively adjusting said unit including a cam follower and a cam carried by the pattern drum and engageable with said cam follower, a second and independent control unit for said circuit, means for selectively and individually connecting said control units in said circuit, and means including separate switch means responsive to movements of said drum and chain for actuating said connecting means to selectively and individually connect said units of the circuit, said saturable core device having at least one winding connected in series with said variable control units to constitute a safety device to prevent peak overloads, and reduce the operating speed of the electric motor upon failure of components in the control circuit associated with said potentiometers.

2,966,784

CIRCULAR KNITTING MACHINE OF THE SUPERIMPOSED NEEDLE CYLINDER TYPE

Henry Sidney Burdett, Knighton, England, assignor to G. Stibbe & Co. Limited, Leicester, England, a British company

Filed Jan. 26, 1959, Ser. No. 789,054
Claims priority, application Great Britain Feb. 7, 1958
10 Claims. (Cl. 66—111)



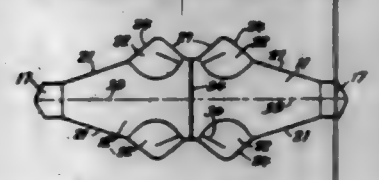
1. In a circular knitting machine, in combination, a bottom needle cylinder, a superimposed top needle cylinder, a set of double-ended latch needles operating in said cylinders, sliders in the bottom and top cylinders for actuating needles and transferring same from one cylinder to the other, according to knitting requirements, cam boxes surrounding the needle cylinders, transfer cams which are provided in these boxes at a needle transfer region for advancing the sliders and hence also needles in either cylinder to transfer level at which the said needles can be grasped by receiving sliders in the opposite cylinder, and, at a position immediately in advance of the needle transfer region a magnetic latch opener which is disposed at the fronts of the needles, and is adapted, by magnetic attraction, to at least partially open the latches of needles to be transferred from one cylinder to the other.

2,966,785

FULL-FASHIONED KNITTED BRASSIERE

Clarence David Goff, Elkins Park, and Walter S. Detwiler, West Chester, Pa., assignors to David D. Goff, Alexander N. Rubin, and C. David Goff, co-partners, trading as West Grove Hosiery Mills, West Grove, Pa.

Filed Oct. 7, 1958, Ser. No. 765,890
9 Claims. (Cl. 66—176)



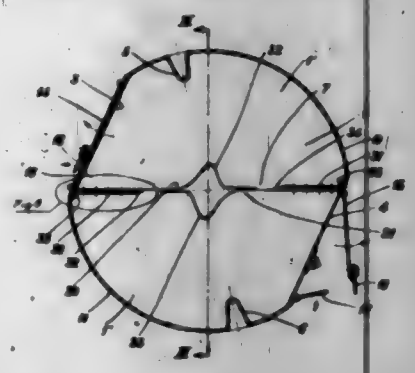
1. A full fashioned knitted fabric blank of required shape for the formation of a full fashioned knitted brassiere therefrom, said shape being symmetrical about the center wale of said blank, a pair of cup-shaped bust receiving areas in said blank symmetrically disposed about said wale, the cup-shape of said areas being formed by full fashioned narrowing of the fabric within said areas, the said blank being folded on said wale in the formation of said brassiere.

2,966,786

DRUMS FOR WASHING AND SIMILAR MACHINES

Emile D'Hooge, Ghent, Belgium, assignor to Ateliers de Construction Emile D'Hooge, Societe de Personnes a responsabilite limitee, Ghent, Belgium

Filed June 24, 1957, Ser. No. 667,397
Claims priority, application Belgium Mar. 22, 1957
1 Claim. (Cl. 68—143)



In a drum having a horizontal axis, for washing-machines and similar appliances, the improvement which comprises a cylindrical perforated wall enclosing a cylindrical chamber, which wall comprises two diametrically opposite flat open parts provided with flat perforated doors; a diametrical perforated partition dividing said chamber into two compartments which are in communication through the perforations of said partition, said perforations having the shape of short tubes; each of said flat open parts being located in a separate compartment, and, in each compartment, a separate strong re-entrant rib constituting a part of said wall, said ribs being located diametrically opposite each other, wherein said diametrical partition consists of two spaced walls having interengaging projections forming rounded bell-mouthed channels interconnecting the two compartments.

2,966,787

DOUBLE WINGED HINGED HANDCUFFS

Harry A. Tompkins, 7201 Cottage Ave., North Bergen, N.J.

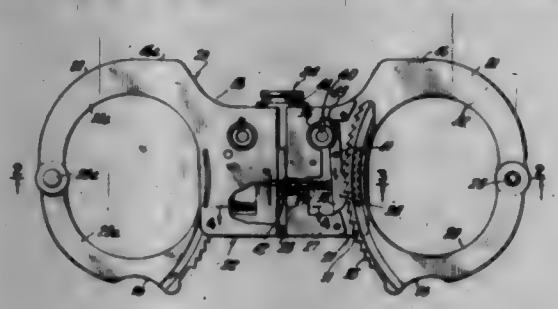
Filed Sept. 30, 1958, Ser. No. 764,314
8 Claims. (Cl. 70—16)

6. A double handcuff comprising two cuff assemblies, each having a case, a bow integral therewith, a shackle pivoted on the bow and movable into the case, a detent to engage and hold the shackle against backward motion from the case, and a hinge ring on the case;

a hinge lock assembly to fit into the hinge rings on the

two cuff cases, said hinge lock assembly including a lock-carrying cylinder axially movable between open and closed terminal positions in the hinge formed by the hinge rings;

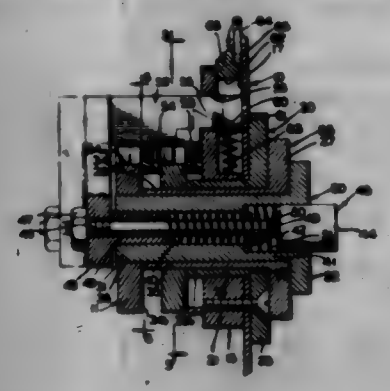
a biasing spring in the hinge to bias the hinge lock assembly axially toward open raised terminal position and above the hinge, to be accessible for manual operation;



a spring-biased locking bolt constituting a part of the hinge lock assembly and operable to lock said assembly in locked terminal position when the hinge lock assembly is manually depressed;

and said lock assembly also including means for retracting the locking bolt to release the hinge lock assembly so said lock assembly may move to raised open terminal position.

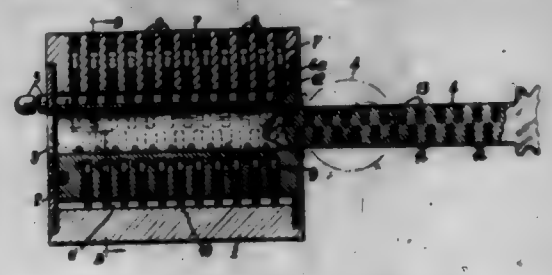
2,966,788
COMBINATION LOCK
Claude J. Amo, 326 Kiah St., Ogdensburg, N.Y.
Filed Apr. 26, 1957, Ser. No. 655,238
6 Claims. (Cl. 70—156)



1. A permutation lock comprising a plurality of coaxial and relatively rotatable tumblers, a key bar positioned exteriorly of said tumblers and displaceable in a direction parallel to the axes of said tumblers, cooperating means on said tumblers and said key bar normally preventing displacement of said key bar and accommodating said displacement when said tumblers are rotatably adjusted to predetermined positions, respectively, key bar actuating means positioned axially of said tumblers, means connecting said key bar to said actuating means to so displace said key bar in response to axial movement of said actuating means, a latch bolt movable in a direction angularly disposed with respect to the direction of the movement of said key bar, and cooperable cam means on said key bar and said latch bolt for moving said latch bolt upon displacement of said key bar in a direction parallel to the axes of said tumblers.

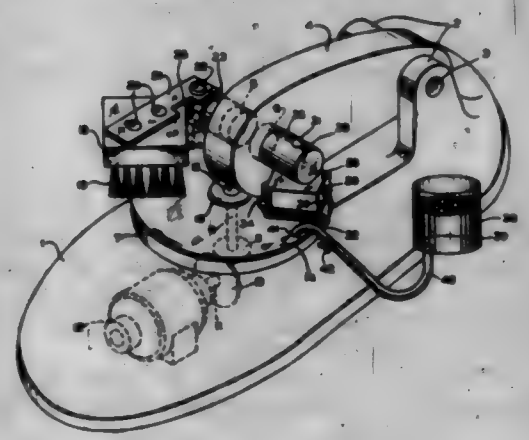
2,966,789
MAGNETIC CYLINDER LOCKS
Enrique Jorge Hall, Roque Saenz Pena 788, Buenos Aires, Argentina
Filed Dec. 19, 1958, Ser. No. 781,676
3 Claims. (Cl. 70—276)

1. A magnetically controlled cylinder lock comprising a hollow cylinder having a plurality of radial orifices in the upper portion thereof formed in axial alignment along at least two generatrices of said cylinder, the radial orifices formed along the generatrices being similarly spaced therealong, said cylinder also having an inner longitudinal recess in the lower portion thereof; a barrel fitted for rotation within said cylinder having an axial central recess therein for reception of a key, having a radial opening in the lower portion thereof registrable with the inner longitudinal recess in the lower portion of said cylinder, and having a longitudinal recess in the upper portion thereof of a width slightly greater than the angular distance between the outermost lines of radial orifices in said cylinder; a permanently magnetic tumbler pin longitudinally movable in each of the radial



orifices in said cylinder; and a permanently magnetic tumbler pin longitudinally movable in the radial opening in said barrel and engageable with the longitudinal recess in said cylinder; whereby said tumbler pins in the radial orifices of said cylinder move by gravity into engagement with the longitudinal recess in said barrel to lock the latter against turning in either direction in said cylinder and said tumbler pin in the radial opening in said barrel moves by gravity into engagement with the radial opening in the lower portion of said cylinder, and whereby magnetic action may displace said tumbler pins from such respective engagements to permit rotation of said barrel in said cylinder.

2,966,790
WASHABILITY TESTER
Charles T. Walker, Louisville, Ky., assignor to Reynolds Metals Co., Louisville, Ky., a corporation of Delaware
Filed July 27, 1956, Ser. No. 600,507
3 Claims. (Cl. 73—7)



1. A washability tester for a specimen presenting a flat surface comprising: a base; a turn-table rotationally mounted thereon, said table being adapted to support and rotationally carry said specimen; means to rotate the turn-table; an arm pivoted on the base for movement between an operative position adjacent the turn-table and an inoperative position away therefrom; and washability testing means detachably carried by the arm in position to be held against the surface of a specimen on said turntable when said arm is in its operative position, said testing means including a scrubbing brush and a wiper, each being operatively positioned at different locations such that a portion of a rotating specimen is successively engaged by the brush and wiper.

2,966,791
EXPLOSIVE ACTUATED TESTING DEVICE
Herbert L. Ivins, Brooklyn, Ohio, assignor, by mesne assignments, to Olin Mathieson Chemical Corporation, a corporation of Virginia
Filed Dec. 2, 1955, Ser. No. 550,563
15 Claims. (Cl. 73—12)

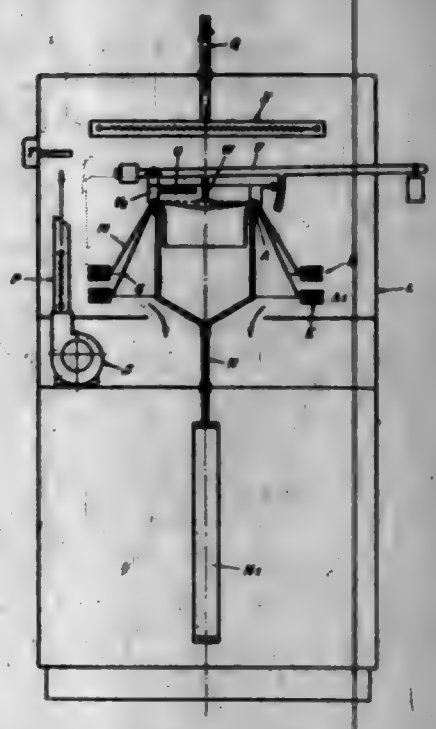


1. Apparatus for testing the resistance of a portion of a specimen to a high temperature gas blast of short duration and high impulse pressure comprising a first member having means to receive an explosive and support a test specimen and access means so disposed in said member between said explosive and specimen to release the hot blast of said explosive directly against a predetermined surface portion of said supported specimen, said first member being received by a second member having protective means to substantially confine said explosive and specimen, and cooperating means on said members to prevent release of said explosive blast when said first member is not protectively received by said second member.

2,966,792
METHODS AND APPARATUS TO DETERMINE THE CHARACTERISTICS OF SHEET MATERIAL
Ciro di Pieri, Padova, Italy, assignor of one-half to S.I.A.T.E.M. Societa Italiana Apparecchi Termo-Elettro-Meccanici Societa per Azioni, Padova, Italy, a joint-stock company of Italy
Filed Oct. 7, 1957, Ser. No. 688,755
Claims priority, application Italy Nov. 21, 1956
6 Claims. (Cl. 73—15.6)

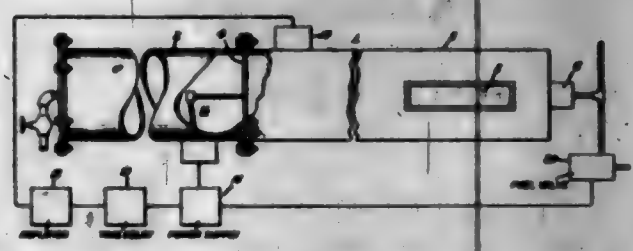
1. Apparatus for testing a sheet comprising a ring for anchoring at least a portion of the sheet along a closed line, a ring engaging a section of said portion and movable axially with respect to the first said ring, means for displacing the second said ring, a flexible member interposed between said sheet and the second said ring, and means to anchor the flexible member so that movement of the second said ring applies frictional forces continuously along the periphery of said section.

6. A method of testing a sheet of material comprising anchoring the periphery of the sheet, defining an area of the sheet and supporting the area along its periphery, continuously exerting tensile forces on the periphery of said area to stretch the same, said forces being applied by friction and being parallel to the plane of said area, the friction forces resulting from a thrust applied perpendicularly of said area, and applying a further thrust



force centrally of said area and opposite to the first said thrust which is applied at the periphery of said area.

2,966,793
SHOCK TUBE FOR THE STUDY OF COMBUSTION PROCESSES
George J. Mullaney, Ballston Lake, and Walter E. Kaskan, Schenectady, N.Y., assignors to General Electric Company, a corporation of New York
Filed Jan. 28, 1957, Ser. No. 636,829
5 Claims. (Cl. 73—35)

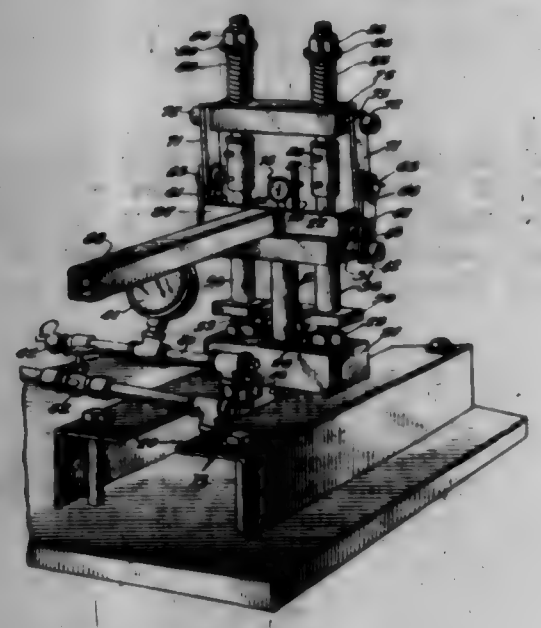


1. A shock tube for the autoignition of fuel comprising a closed tube, a combustion supporting gas in said tube, means for generating a shock wave in said tube moving towards one end thereof, means timing the velocity of said shock wave in said tube, said shock wave raising the pressure and temperature of said combustion supporting gas to a predetermined value, means for injecting fuel into one end of said tube after said shock wave has reflected therefrom, said fuel characterized by being spontaneously ignitible at said predetermined pressure and temperature, and means measuring conditions within said tube.

2,966,794
DEFLECTION PRESSURE TESTER
Charles M. Cooper, Newark, Del., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed July 20, 1945, Ser. No. 606,201
4 Claims. (Cl. 73—40)

1. A testing device adapted to test the leakproof integrity of a portion of a sealed container containing a solid substance bonded to all but one end of the container comprising, in combination, a receptacle adapted to receive the unbonded end of a sealed container to be tested and provided with a chamber positioned to be

contiguous only to the periphery of the end of a container when placed within the receptacle, a seal mounted within the orifice of the receptacle and adapted to seal a container to the receptacle, a second seal mounted in the receptacle and adapted to seal the periphery of a container when mounted within the receptacle from the center portion of that end of said container, means for



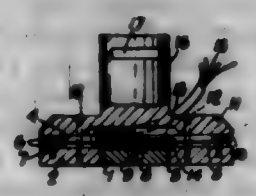
establishing a different fluid pressure in said chamber than exists on the center portion of the unbonded end of the container, and means for ascertaining the deflection of the center portion of the unbonded end of the container when said different fluid pressure is exerted on the inner surface of the portion of said container within the chamber through a flaw in that portion of the container.

2,966,795

PRESSURE MEASURING APPARATUS

Charles Norman Smyth, Hampstead, London, England, assignor to National Research Development Corporation, London, England, a British corporation

Filed Oct. 31, 1957, Ser. No. 693,588
Claims priority, application Great Britain Nov. 1, 1956
1 Claim. (Cl. 73—78)



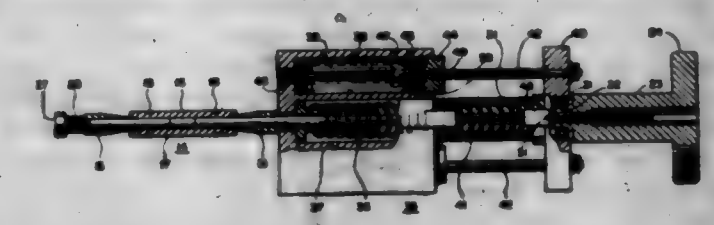
Apparatus for measuring the pressure per unit area within a container having a flexible wall, comprising an inner measuring member in the form of a disc having one flat surface, an outer annular member having one annular flat surface surrounding said disc member with a minimum working clearance between said two members, a resilient mounting in the form of a strip of resilient material fixed to the two members on the sides of the two members remote from their flat surfaces, for positioning the inner member within the outer member with the flat surfaces of the two members coplanar when said mounting is unstressed, and means, in the form of a strain gauge adapted to measure strains taking place in the said resilient strip, for measuring deflections of the inner member relative to the outer member in directions substantially normal to the said flat surfaces.

2,966,796

FRACTURE TESTING DEVICE

Martin W. Breemann, 4201 Massachusetts Ave. NW., Washington, D.C., and Robert K. Chalmers, 2507 Lake Ave., Cheverly, Md.

Filed Sept. 27, 1957, Ser. No. 686,799
4 Claims. (Cl. 73—88)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A fracture test device which comprises a two section housing adapted to permit one section to telescope into the other section, a double wedge assembly positioned opposite the outer end of one section of said housing, a load means rotatably secured to the outer end of the other section of said housing, a rod adapted to pass through said housing and said wedge assembly, said rod adapted to be screw threaded into said load means and secured at the outer end of said wedge assembly, a force spring means positioned within said housing and adapted to apply a force on said wedge assembly simultaneously with rotation of said load wheel, and means adapted to indicate the force applied to a piece of material by said wedge assembly.

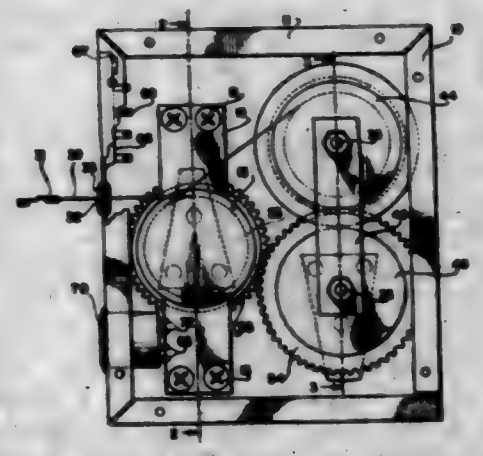
2. A fracture test device as claimed in claim 1 in which the device includes a force dampening means.

2,966,797

ELECTRICAL GAGE FOR MEASURING MECHANICAL DEFLECTIONS

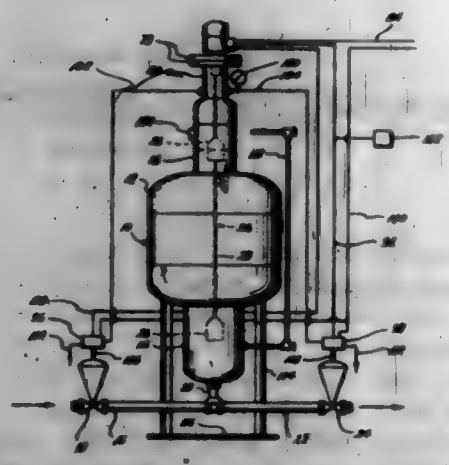
Ward B. Brewer, Burbank, Martin Bodner, Glendale, and Robert H. Smith, Northridge, Calif., assignors to Lockheed Aircraft Corporation, Burbank, Calif.

Filed June 20, 1956, Ser. No. 592,680
4 Claims. (Cl. 73—88.5)



1. In a device for detecting mechanical deflections of a test object, the combination comprising, flexible elongated sensing means movable in accordance with mechanical deflections of a test object, a storage spool connected to one end of the sensing means and rotatable by the winding and unwinding action of the sensing means in response to deflections of the test object, torque means connected with the storage spool for maintaining a constant tension load on the sensing means, an electrical current modifying means having a rotatable input shaft responsive to movement of the sensing means, the input shaft being rotatable in the same direction as the storage spool, and differential gear stopping means geared to the storage spool for restricting the movement of the sensing means beyond the connection of the sensing means with the storage spool.

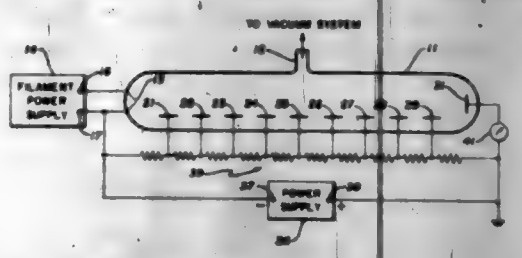
2,966,798
ELECTRICALLY CONTROLLED LIQUID METERING APPARATUS
Horace V. Smith, Houston, Tex., assignor to Oil Metering and Processing Equipment Corp., Houston, Tex., a corporation of Texas
Filed Sept. 12, 1957, Ser. No. 683,494
8 Claims. (Cl. 73—224)



1. A liquid metering apparatus comprising; a liquid container having a main liquid compartment and mutually aligned liquid compartments extending above and below said main liquid compartment, the mutually aligned compartments being of materially smaller cross sections than said main liquid compartment and being in liquid communication therewith; liquid inlet and outlet passages to said liquid container; pressure responsive inlet and outlet valve elements in said passages; a buoyancy member comprised of a pair of buoyancy masses rigidly connected together, one each of said buoyancy masses being disposed in one each of said aligned liquid compartments, said buoyancy member being movable with changing liquid level in said aligned liquid compartments; and a valve control assembly for said inlet and outlet valve elements, said valve control assembly including, an electrical system adapted to cause alternate closing and opening of the inlet and outlet valve elements simultaneously, said electrical system including an inlet and an outlet electrically operated pilot valve and switch means adapted in a first position to operate the electrical system to cause simultaneous closing and opening of the inlet and outlet pilot valves respectively and in a second position to cause simultaneous closing and opening of the outlet and inlet pilot valves respectively, a pressure line through the inlet pilot valve to the inlet pressure responsive valve element and a pressure line through the outlet pilot valve to the outlet pressure responsive valve element whereby actuation of said pressure responsive inlet and outlet valve elements is controlled by said inlet and outlet pilot valves respectively, and magnetic switch control means actuated by movement of the buoyancy member to a predetermined upper level in the liquid compartment above the main liquid compartment to move the switch means to the first position emptying the liquid container and upon movement of the buoyancy member to a predetermined low level in the liquid compartment below the main liquid compartment to move the switch means to the second position filling the liquid container.

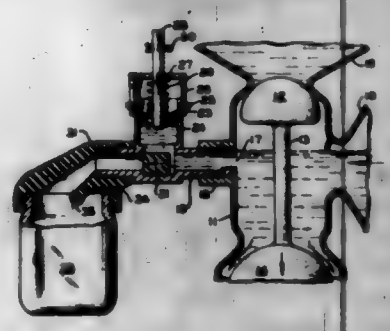
2,966,799
SENSITIVE PRESSURE GAUGE
William Paul Ball, Livermore, Calif., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed May 17, 1956, Ser. No. 585,586
6 Claims. (Cl. 73—398)

3. In a device for measuring pressure, the combination comprising an envelope, communicating means coupled between said envelope and a system to be measured for pressure, electron emissive means disposed within said envelope to develop a stream of electrons, collector means also disposed within said envelope to collect electrons, a plurality of secondary emissive electrodes disposed be-



tween said electron emissive means and said collector means for multiplying the number of electrons as an inverse function of the pressure to be measured, and means connected to said collector means for indicating electron flow as an inverse function of pressure.

2,966,800
SAMPLER DEVICE
Douglas Clegg, Kellogg, Calif.
(Rte. 1, Box 52, Calistoga, Calif.)
Filed July 26, 1957, Ser. No. 674,493
8 Claims. (Cl. 73—422)

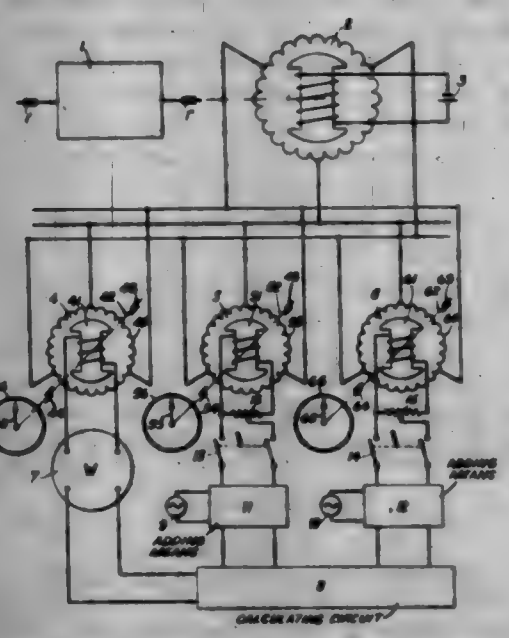


1. In a pipeline milker system embodying reciprocating pump means located adjacent a milking stanchion and adapted to act upon the milk of an individual cow and cause the same to be delivered into a transport line, and a valve-controlled chamber in communication with said pump means adapted to be filled with milk during the suction stroke of the pump means and to be substantially emptied of milk during the pressure stroke of the pump means, the combination therewith of means for sampling the milk being pumped from a chamber, said sampling means comprising conduit means, a sampler receptacle, one end of said conduit means communicating with said chamber and the other end communicating with said receptacle, means defining a container communicating with said conduit means intermediate the ends thereof, and a valve element movably disposed in said conduit means operable under the action of a pressure stroke of said pump means to provide for communication between said chamber and container and to interrupt communication between said container and said receptacle and operable under the action of a suction stroke of said pump means to interrupt communication between said chamber and container and provide for communication between said container and receptacle.

2,966,801
DEVICE FOR CENTRAL CONTROL OF A WATTMETRIC BALANCING SYSTEM
Jaroslav Němec, 10 Boleslavska, and Ludvik Kuba, 14 DeJvicka, both of Prague, Czechoslovakia
Filed Jan. 24, 1957, Ser. No. 636,079
Claims priority, application Czechoslovakia Feb. 13, 1956
2 Claims. (Cl. 73—462)

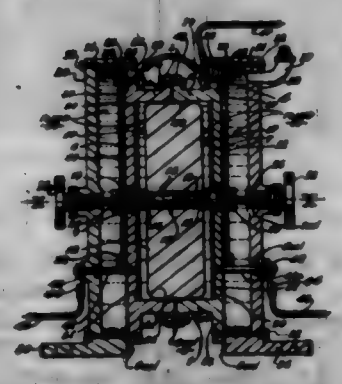
1. In combination in an apparatus for balancing a rotating member, three-phase voltage-generating means

coupled to said rotating member for providing a voltage output whose frequency is equal to the rotational speed of said member, said generating means including an output winding, first receiver means including a three-phase stator winding connected to the output winding of said voltage-generating means and also including a rotor having a winding thereon, which rotor is selectively rotatable so that the phase of the voltage induced in said rotor winding is adjustable, a wattmeter having first and second coils, said first coil being connected to the rotor winding of said first means, pick-up means responsive to vibrations of said rotating member for providing voltages



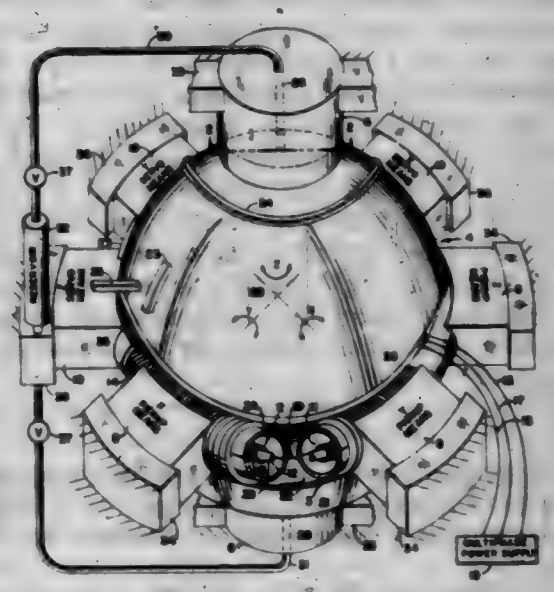
which are proportional to said vibrations, first means for applying said voltages to the second coil of said wattmeter, second and third receiver means each including a three-phase stator winding connected to the output winding of said voltage-generating means and also including a rotor having a winding thereon, which rotor is selectively rotatable so that the phase of the voltage induced in said rotor winding is adjustable, and second means including switching means and voltage amplitude adjusting means coupled to the rotor windings of said second and third receivers for applying to said first applying means voltages whose phases and amplitudes may be adjusted to exactly balance out the voltage outputs of said pick-up means, so that said rotating member may thereby be electrically balanced.

2,966,802
PISTON-TYPE CAPACITANCE ACCELEROMETER
Douglas Stoen, Los Angeles, Calif., assignor to Northrop Corporation, a corporation of California
Filed June 7, 1954, Ser. No. 434,766
13 Claims. (Cl. 73—516)



1. A capacitance accelerometer comprising a housing, a proof mass, suspension means connected to said housing and supporting said proof mass within said housing to be movable only along a longitudinal axis of said accelerometer, an inner perimeter of said housing and an outer perimeter of said proof mass extending parallel to said axis and being spaced by a minute clearance space, said housing encompassing said proof mass completely except for an axial opening through said housing for said suspension means, the end faces of said proof mass being electrically conductive to each form one plate of a capacitor, an apertured conductive plate fixed to each inner end of said housing opposite said end faces, respectively, to form with said end faces a pair of capacitors, said apertured plates being electrically insulated from each other, said suspension means being elastic to bias said proof mass to a null position where said proof mass is equidistant from said apertured plates, means preventing flow of fluid outwardly from the opening at each end of said housing, a damping fluid filling the interior of said housing around said proof mass, and means for respectively connecting external electrical leads to each of said apertured plates and to said end faces.

2,966,803
TOROIDAL GYROSCOPE
James V. Johnston, 821 Giles Drive, Huntsville, Ala.
Filed Apr. 1, 1960, Ser. No. 19,428
8 Claims. (Cl. 74—5)
(Granted under Title 35, U.S. Code (1952), sec. 266)

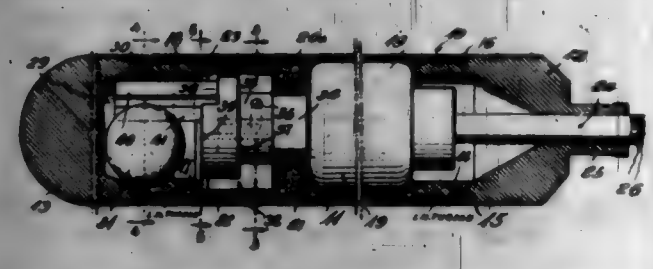


1. A gyroscope comprising: a doughnut-shaped rotor of ferrous material; an electrically shorted element enclosing and attached to said rotor; a stator, comprising electrical windings, loosely enclosing said rotor; a source of power connected to said electrical windings; a body having upper and lower spherical surfaces, said stator being fixed at substantially the center of said body; a pair of spaced stops secured to said body adjacent said stator; a ring-shaped stop secured to said body adjacent said first-named stops; upper and lower air bearing means, comprising a bearing support for universally mounting said body, each of said means supporting one of said spherical surfaces on a gaseous film; a pressurized reservoir flow-connected to said air bearing means; servo means rigid with said bearing support for placing said body in a position of zero displacement; a stop arm secured to one of said servo means and extending to a point between said spaced stops; and pickup means rigid with said bearing support for indicating when said bearing support deviates, in any direction.

2,966,804
MECHANICAL VIBRATOR FOR USE WITH FLUIDS AND SEMI-FLUIDS
Lorin L. McCarthy, Canoga Park, Calif., assignor to Pacific Mercury Electronics Inc., Joplin, Mo., a corporation of California
Filed Mar. 5, 1959, Ser. No. 797,468
1 Claim. (Cl. 74—87)

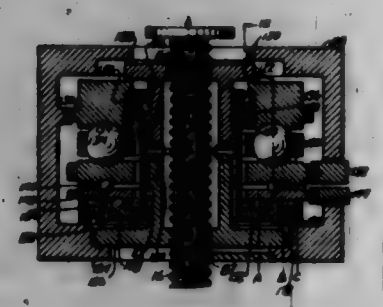
A device of the character described comprising a vertically extending tubular sleeve, an upper end cap thread-

ably connected to the upper end of said sleeve, a lower end cap threadably connected to the lower end of said sleeve and having a centrally disposed circular chamber in the upper end portion thereof and an annular trackway of shallow V-shaped cross section formed centrally in the walls thereof, an electric motor mounted in the upper end portion of said sleeve, a drive shaft extending downwardly from said motor in centrally disposed relation to said sleeve, a ball positioned in said chamber for free low friction two point contact movement in said trackway, a tang eccentrically mounted on the lower end of the shaft and extending into said



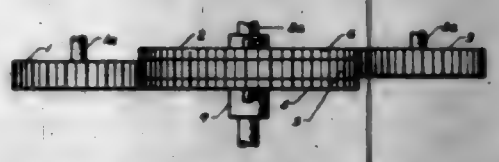
chamber, said tang having a flat surface adapted for low friction point contact with said ball, counterbalancing means for said tang carried by said shaft, a cable extending from said motor through said upper end cap, and electrical leads for said motor encompassed in said cable, said counterbalancing means comprising a cylindrical body having a reduced diameter integral hub portion coaxial therewith and axially bored to receive the end of said shaft, a portion of said cylindrical body being unbalancingly cut away along an axial plane and along a plane at right angles to said first-mentioned plane, said tang being fixed eccentrically to said body and parallel to the axis thereof so as to restore the balance thereof.

2,966,805
MECHANICAL SERVO MECHANISMS
Charles W. Chillson, Packanack Lake, N.J., assignor to Curtiss-Wright Corporation, a corporation of Delaware
Filed Aug. 20, 1956, Ser. No. 605,015
23 Claims. (Cl. 74—388)



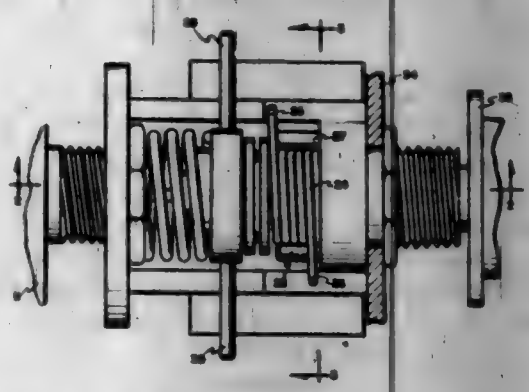
20. A mechanical servo mechanism comprising a screw shaft; a support; two nuts associated with said support engaging said screw, one of said nuts at times bearing on said support; a reciprocable pulser reacting at one end on said support; a control mechanism between the pulser and said other nut operable selectively to connect said pulser for various degrees of movement of said other nut; and resilient means urging said nuts to a uniform rotational phase relation with each other; said control mechanism comprising relatively rotationably wedge elements to vary the axial spacing therebetween, a waved cam on one of the said elements, a waved cam annulus opposite the said waved cam, rollers therebetween, resilient means urging said cam element toward said waved cam annulus, and a rotational driving connection from said waved cam annulus to one of said nuts.

2,966,806
ANTIBACKLASH GEARS
Alfred O. Luning, Riverdale, Md. (2611 S. 8th St., Arlington 4, Va.)
Filed July 28, 1958, Ser. No. 751,209
15 Claims. (Cl. 74—409)



1. A gear train comprising an antibacklash gear, two gears enmeshed with said antibacklash gear, said antibacklash gear comprising a trio of matched gears, one of said matched gears centrally positioned between the remaining two gears of said trio, said remaining two gears being thus the outermost gears of said trio; said centrally-positioned gear fixedly mounted on hub means fixed to a shaft for rotation therewith; said outermost gears rotatably mounted and secured from axial movement on said hub means, projections from the faces of said outermost gears, spring means cooperating with said projections and said hub to produce independently in clockwise and in counterclockwise directions a torque between said centrally-positioned gear and each of said outermost gears, said cooperation constituting cocking of said antibacklash gear.

2,966,887
POTENTIOMETER ADJUSTER
Clyde L. Garver, Grand Rapids, Gerald L. Kring, Grandville, and Bassett B. Nye, Grand Rapids, Mich., assignors to Lear, Incorporated
Filed Apr. 21, 1958, Ser. No. 729,960
4 Claims. (Cl. 74—500)

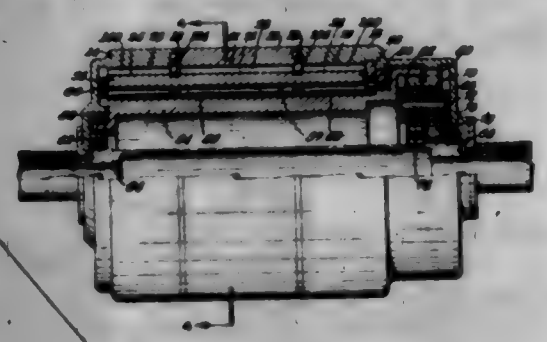


1. A control device comprising a support, a shaft mounted on said support having linear and angular freedom relative to said support, means for prohibiting rotation of said shaft in a first linear position, first resilient means for urging said shaft into said first linear position, and second resilient means for urging said shaft into a first neutral rotary position from which said shaft is capable of being temporarily urged by sufficient force to overcome both of said resilient means and disengage said prohibiting means into a position other than said first linear and rotary positions.

2,966,888
POWER ACTUATED HINGE DEVICE
Daniel Gradia, Rockaway, N.J., assignor to Curtiss-Wright Corporation, a corporation of Delaware
Filed Dec. 23, 1958, Ser. No. 782,537
8 Claims. (Cl. 74—640)

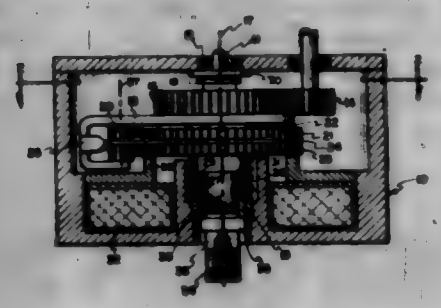
1. A rotary mechanism comprising a substantially cylindrical reaction member and a substantially cylindrical output member concentric therewith, means journalling one member on the other at their peripheries to provide a strong articulating joint therebetween and enabling relative oscillation thereof, an oscillatable input shaft sub-

stantially concentric with said members, and gearing connecting said shaft and both members whereby shaft oscillation enforces relative oscillation of said members, said



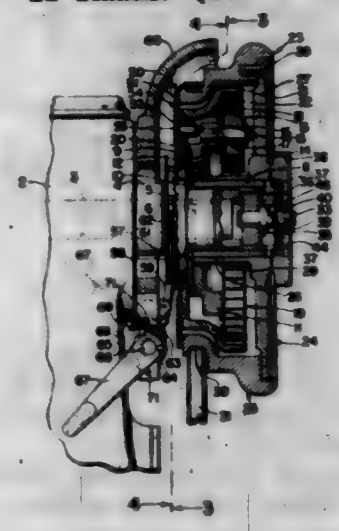
gearing including a plurality of serially arranged elements engageable with both of said members, and means to enforce driving engagement of a plurality of elements with said members at circumferentially spaced portions thereof.

2,966,809
ELECTROMAGNETIC SPEED CHANGER
Walter F. Deryle, Grand Rapids, Mich., assignor to Lear, Incorporated
Filed Mar. 21, 1958, Ser. No. 722,939
4 Claims. (Cl. 74—781)



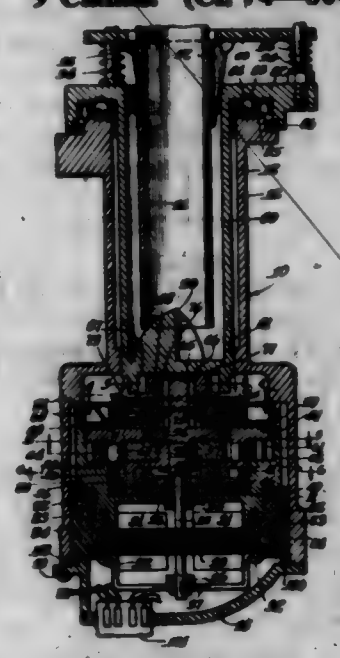
2. A two-speed power transmission comprising a housing, a shaft supported by said housing, an input gear positioned on the same axis as said shaft having rotational freedom with respect to said shaft, a first sun gear attached to said shaft, a second sun gear made of magnetic material positioned on said shaft having rotational and longitudinal freedom with respect to said shaft, said first sun gear and said second sun gear having pitch diameters of equal length and the same rotational axis but having an unequal number of teeth, a planet gear, transported by a carrier, in mesh with said sun gears, said carrier being attached to said input gear, a clutch disc made of non-magnetic material positioned on said shaft with rotational freedom about said axis with respect to said shaft, said clutch disc having arms thereon for locking to said carrier to cause said clutch disc and said carrier to rotate as one unit, resilient means for urging said clutch disc and said second sun gear against said first sun gear to cause simultaneous angular movement of said sun gears, said carrier and said clutch disc when said carrier is rotated, magnetic means for disengaging said second sun gear and said clutch disc from said first sun gear and locking said second sun gear to said housing causing said first sun gear to be rotated at a highly reduced rate of rotation in relation to the rate of rotation of said carrier and said planet gear about said second sun gear, and means for adjusting the gap between said second sun gear and said housing when said magnetic means is in the de-energized state.

2,966,810
TWO-SPEED DRIVES FOR SEWING MACHINES
Frank A. Hayes, Middletown, N.J., assignor to The Singer Manufacturing Company, Elizabeth, N.J., a corporation of New Jersey
Filed Oct. 20, 1958, Ser. No. 768,311
11 Claims. (Cl. 74—785)



1. In a sewing machine having a frame, a main drive shaft journaled for rotation in said frame, and a planetary drive unit on said shaft comprising a planet carrier, a driving element, and a reaction element journaled for independent rotation on said shaft, said driving element and said reaction element having coaxial planet engaging surfaces, a plurality of planets carried by said planet carrier and disposed between said planet engaging surfaces, said planets having peripheral surfaces in engagement at diametrically spaced points with said planet engaging surfaces, means for selectively coupling said planet carrier to said shaft for unitary rotation and for rotation independently thereof, operator controlled means for selectively coupling said reaction element to said driving element for unitary rotation or to said frame for holding the same stationary, said peripheral surfaces of said planets being smooth and formed of rubber or rubber-like resilient friction-enhancing material, and said planets being dimensioned relatively to said planet engaging surfaces for deforming said resilient material slightly at the points of contact.

2,966,811
ROTATOR MECHANISM FOR ANTENNAS OR THE LIKE
Edward V. Sundt, 118 Sterling Lane, Wilmette, Ill.
Filed June 1, 1959, Ser. No. 817,322
9 Claims. (Cl. 74—804)



1. A rotator mechanism for antennas or the like comprising, a main supporting housing having a longitudinal

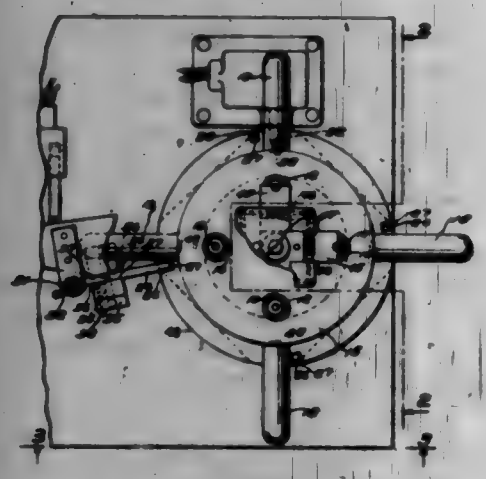
central axis, a gear housing secured within the supporting housing concentrically with the central axis of the supporting housing, an electric motor secured to the gear housing and having a motor shaft concentric with the central axis of the supporting housing, differential gear reducer means arranged within the gear housing concentrically with the central axis of the supporting housing and having an input member rotated by the motor shaft and an output member, a rotator member rotatably mounted in the supporting housing concentrically with the central axis of the supporting housing for rotating the antenna or the like, and a coupler member coupling the output member of the differential gear reducer means to the rotator member.

2,966,812

MEANS FOR LOCKING A ROTATABLE DIAL

Charles F. Triteline, Downers Grove, Ill., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Filed Dec. 1, 1955, Ser. No. 550,394
6 Claims. (Cl. 74—816)



1. In an apparatus including a press having a reciprocable head, a base having a peripheral slot, a dial rotatable in a predetermined direction on the base for moving articles into the press and having a peripheral slot therein registerable with the slot in the base, a lever, means mounting the lever adjacent to the path of movement of the slot with the dial to permit the lever to enter the slot at a predetermined position of the dial, means urging the lever into the slot in the dial in the predetermined position thereof and also urging said lever in a direction in opposition to said direction of movement of the dial, said mounting means being arranged to permit limited movement of the lever with the dial to a position in which the lever drops partly into the slot in the base to lock the dial to the base, and means secured to the reciprocable head for withdrawing the lever from the slots when the head is moved toward the dial.

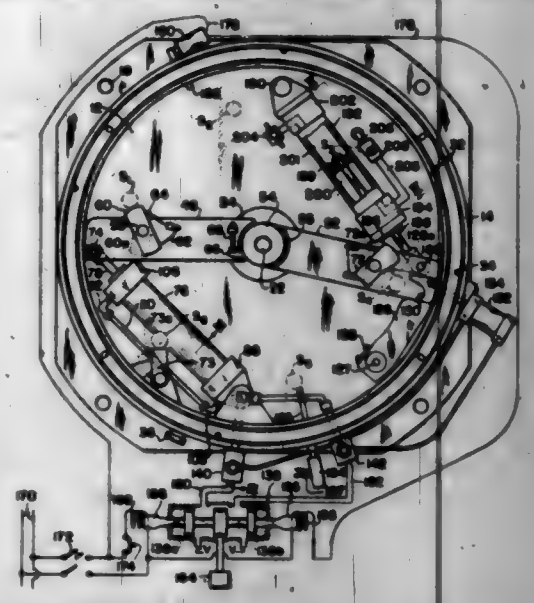
2,966,813

ROTARY INDEXING TABLE

Samuel Squiller, Mount Lebanon Township, Allegheny County, Pa. (1719 Holly Lane, Pittsburgh 16, Pa.)

Filed Feb. 12, 1957, Ser. No. 639,786
14 Claims. (Cl. 74—821)

1. In indexing table structure arranged in assembly with control means to control the rotation of the table head between successive indexed positions and comprising reciprocating drive means included in and mounted to the arrangement of said control means, said drive means having means of connection establishing intermittent engagement thereof with the table head as the drive means reciprocates and further having driving mechanism connected thereto for operating said drive to intermittently engage and rotate said table head: the improvement comprising a drag arm mounted with said assembly to swing concentrically thereto and having an operative connection to drive means so as to restore the drag arm in one stroke of movement to a reset position and connectable by means of a connection to move in an opposite stroke of advancing movement with and when the table head has been rotated slightly short of each full



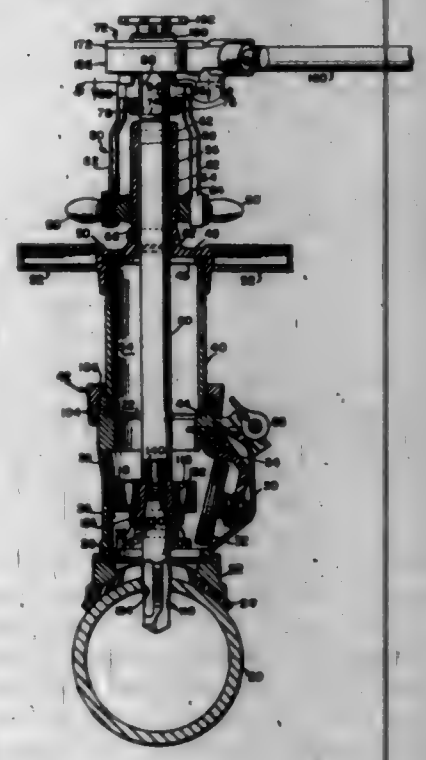
indexing movement, a hydraulic device containing opposite working chamber sections and being operatively connected to said drag arm whereby on opposite strokes thereof one working chamber is being replenished with hydraulic fluid while another is collapsing, and fluid connections at opposite ends of said device, each including a check valve and effective to seat and divert the fluid flow in a forced path from the collapsing chamber for utilizing the escaping hydraulic fluid.

2,966,814

DRILLING MACHINE

Frank H. Mueller and John J. Smith, Decatur, Ill., assignors to Mueller Co., Decatur, Ill., a corporation of Illinois

Filed Nov. 15, 1956, Ser. No. 622,470
13 Claims. (Cl. 77—48)



1. In a drilling machine the combination comprising: a tubular boring bar having a tapered socket at one end thereof to receive the tapered shank of a tool, an interior shoulder facing said one bar end, and noncircular means

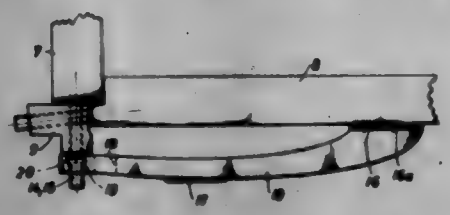
on said bar for interfitting engagement with complementary means on the tool shank to drive the tool; a draw rod extending through said bar and having a threaded end disposed adjacent the inner end of said socket for engagement with a threaded socket in the end of the tool shank to retain the tool in said bar socket; an enlargement on said rod within said bar engageable with said interior shoulder to retain said rod in said bar; and a wrench-engageable head on the other end of said rod for bearing against the other end of said bar.

2,966,815

TOOL FOR ATTACHING HINGES TO WINDOWS, DOORS, GATES AND THE LIKE

Wolfgang Ramien, Toronto, Ontario, Canada, assignor to Prameta Praezisionsmetall- und Kunststofferzeugnisse G. Baumann & Co., Koln-Hohenberg, Germany

Filed Apr. 14, 1959, Ser. No. 806,336
Claims priority, application Germany Apr. 14, 1958
8 Claims. (Cl. 77—62)



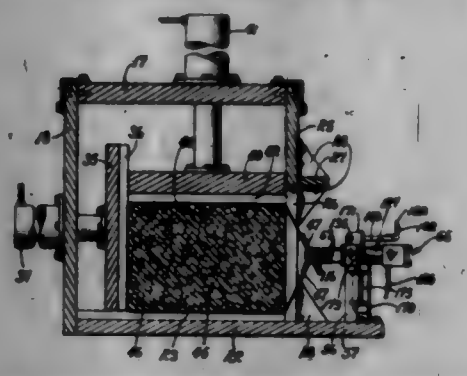
1. A jig assembly for locating the drill holes for mounting pin-fastened hinges comprising a jig having a pair of angularly related intersecting surfaces each engageable with a surface through which a hole will be drilled, at least one pair of angularly related drill holes extending through said intersecting surfaces to provide a guide for a drill bit, a pivot member on said jig extending away from one of said intersecting surfaces, and a clamp handle journaled at one end on said pivot member for angular movement thereabout, said handle including a terminal abutting surface at one end extending in a direction opposite said pivot member for engaging a point spaced from that through which a hole will be drilled, said handle including a clamp surface intermediately between said pivot member and abutment surface and extending in the same direction as said pivot member for receiving a clamp thereon to retain said jig in a fixed position relative to the surfaces to be drilled.

2,966,816

CLIP POSITIONING AND CLENCHING APPARATUS

Cecil F. White, 30 Charles Hill Road, Orinda, Calif.

Filed Aug. 17, 1959, Ser. No. 834,197
8 Claims. (Cl. 81—9.1)



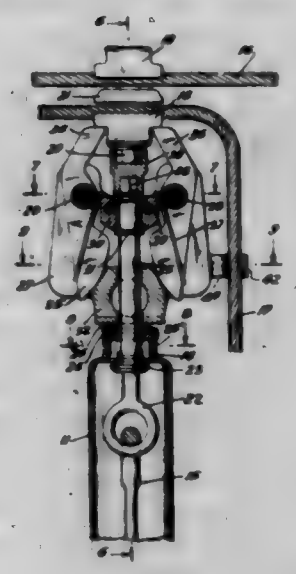
1. In an apparatus for clenching a clip having a pair of flanges interconnected by a web; a frame; a clenching mechanism including a support rigidly borne by the frame, a pair of axles mounted in fixed spaced relation in the support, a pair of teeth individually pivotally mounted on the axles for movement toward and away from each other, an anvil rigidly mounted in the support and extended transversely of the axles between the teeth, a ram connected to the teeth for moving the same from an open clip receiving position, to an intermediate partially closed clip holding position, to a fully closed clip clenching position, and to return to said open position, and means borne by the support engageable with the ram in the open position of the teeth for yieldably urging the teeth into said intermediate position; a clip feeding arm mounted in the frame for movement between a feeding position extended between the teeth for inserting a clip between the teeth, and a retracted position withdrawn from between the teeth; powered ram control means connected to the ram for actuating the same to move the teeth from said intermediate position to said closed position and to return to said open position and releasably to hold the teeth in said open position against the urging of said yieldable means against the ram; and powered arm control means connected to the arm for moving the arm into said feeding position when the teeth are in said open position and to move the arm into said retracted position when the teeth are in said intermediate position whereby the flanges of a clip inserted by the arm are held between the teeth with the web against the anvil, said flanges being clenched inwardly toward the web incident to movement of the teeth into said closed position.

2,966,817

ELECTRICAL CABLE CLAMP-APPLYING TOOL

Henry R. Wengen, Poughkeepsie, N.Y., assignor to Fargo Mfg. Company, Inc., Poughkeepsie, N.Y., a corporation of New York

Filed Mar. 27, 1959, Ser. No. 802,548
4 Claims. (Cl. 81—53)



1. A clamp-applying tool including in combination a rotatable bolt, a part at one end of said bolt to be detachably engaged by a rotatable and reciprocable manipulating element supported by a handle having a notched head lying adjacent said element, a disk rotatably supported by said bolt beyond said part, a projection extending from said disk in the direction of said part to lie within the notch as said element is caused to engage said bolt part and draw said disk toward said head, a cam member rotatably encircling said bolt forward of and adjacent said disk, both said cam member and disk being shiftable axially of said bolt, a base also rotatably encircling said bolt at a point forward of said cam member, means for preventing movement of said base axially of said bolt, a pair of clamp-gripping jaws pivotally supported by said base, followers connected to move with said jaws and engaging the cam surfaces of said cam member and a wrench mounted on said bolt at the end opposite said part and at a point between said jaws.

2,966,818
PLIER TYPE TOGGLE WRENCH WITH UNLOCKING MEANS

Otto P. Froeschl, Kansas City, Mo., assignor to P & M Supply Company, Kansas City, Mo., a partnership

Filed Mar. 6, 1959, Ser. No. 797,764
5 Claims. (Cl. 81—368)

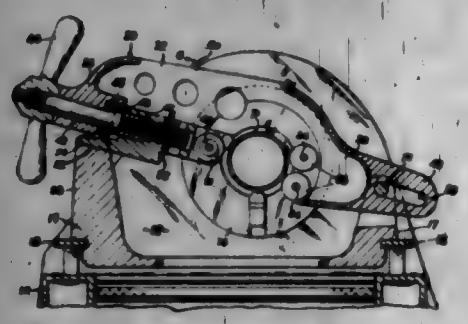


1. In a plier type toggle wrench including an elongated handle having a fixed jaw at one end, an opposing jaw pivotally mounted on said handle, resilient means for moving said pivoted jaw away from said fixed jaw, and a toggle mechanism for moving said pivoted jaw towards said fixed jaw, said mechanism including an operating lever pivotally engaged at the forward end thereof to the pivoted jaw and a toggle link pivotally engaged at one end to said operating lever intermediate its ends, the opposite end of said toggle link engaging said handle, said mechanism being so proportioned and cooperative with the handle to move the jaws into clamping engagement and lock the toggle mechanism in response to squeezing the handle and lever together, and a toggle release lever having a portion between the handle and operating lever and extending longitudinally and rearwardly of the space therebetween, said release lever being pivotally connected to said toggle link intermediate its ends for swinging movement from adjacent one of said handle and operating lever toward the other, said release lever having a portion extending from its pivotal connection and engaging said handle at an acute angle relative thereto forwardly of said opposite end of said toggle link whereby movement of said release lever moves said extending portion thereof along said handle to apply force thereagainst to urge the forward portion of said toggle link away from the handle to a position to release said toggle mechanism.

2,966,819
PIPE WORKING TOOL

Robert B. Pealer, Garrettsville, Ohio, assignor to Beaver Pipe Tools, Inc., Warren, Ohio, a corporation of Ohio

Filed Jan. 15, 1957, Ser. No. 634,367
1 Claim. (Cl. 82—93)

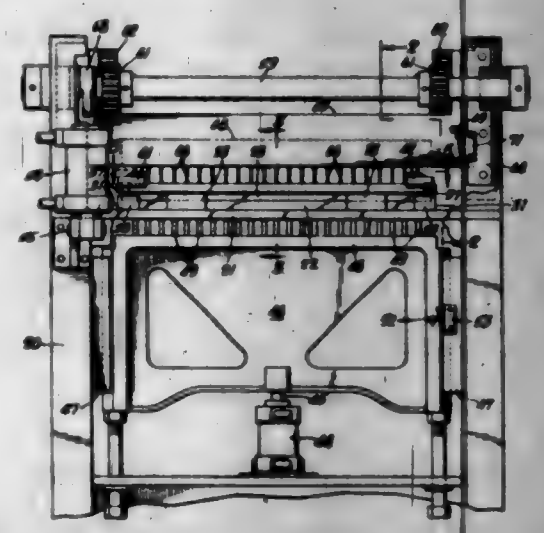


A pipe cutting machine, comprising a base having a rotatable chuck thereon for gripping and rotating a pipe about its longitudinal axis, a carriage mounted on said base and movable toward and away from said chuck, a frame having a wide face and relatively narrow width pivotally mounted edgewise of one side of said carriage and extending transversely thereof, said frame including a block supported by the opposite side of said carriage and having a rotatable cutter disc mounted thereon, a recess entering from the bottom edge portion of said frame to provide clearance for said pipe, a pair of vertically spaced rollers journaled on said frame and extending at their peripheries into said recess to provide back-up means for said pipe when engaged by said cutter disc, screw means engageable with said block for sliding the latter on said carriage and relative to said frame toward said pipe to sever a predetermined portion therefrom, and a vertically disposed recess entering from the top edge of said frame and extending through the lower edge thereof, said recess being at least as long as the length of movement of said block to expose said cutter disc to view from directly above said frame in any adjusted position of said block, whereby said cutter disc may be accurately aligned with a cut-off mark on said pipe.

2,966,820
PLUG SLITTING AND WIRE INSERTION APPARATUS

Daniel D. Huyett, Wilmington, Del., assignor to Atlas Powder Company, Wilmington, Del., a corporation of Delaware

Original application May 3, 1954, Ser. No. 427,864, now Patent No. 2,797,473, dated July 2, 1957. Divided and this application Mar. 19, 1957, Ser. No. 647,084
8 Claims. (Cl. 83—146)



1. In a machine for slitting plugs, a work table having an opening extending therethrough; a plug receiving and holding device adapted to be removably positioned on said work table above the opening therethrough and comprising a first holder having at least one opening of a greater effective diameter than a plug to readily receive a plug therein; and a second holder having at least one opening therein of an effective diameter slightly less than the diameter of a plug forced into said opening to frictionally retain said plug therein, said second holder being superimposed upon said first holder; guide means effective on said first and second holders to maintain the openings therein in axial alignment when said second holder is superimposed upon said first holder; positioning means on said work table effective on the plug receiving and holding device to maintain said opening in said work table in axial alignment with the axially aligned openings of said plug receiving and holding device; plunger means beneath said work table and operable to extend through the aligned opening in said work table and said first holder to transfer a plug from the opening in said first holder into the

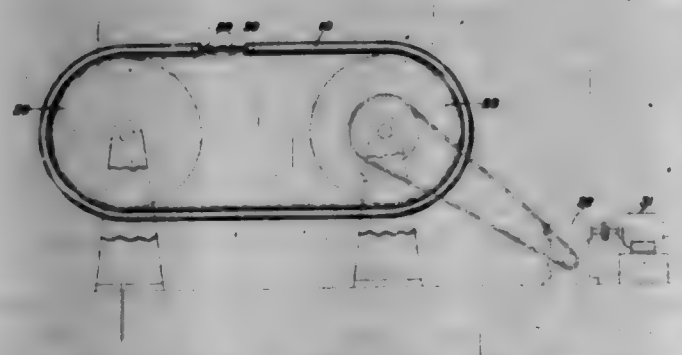
opening in said second holder and to support said plug within the opening in said second holder; cutter means operable to engage and pass through the plug in the second holder when said plug is frictionally retained in the opening in said second holder and is supported by said plunger, to thus provide in the plug a slit extending longitudinally through the plug; and means to retract the plunger and cutter means from engagement with the plug and out of the opening in the first and second holders, respectively, after the cutter means has passed through said plug to form the slit therein.

2,966,821
ELECTRONIC PIANO
Benjamin F. Miessner, Harding Township, Morris County, N.J., assignor, by mesne assignments, to The Wurlitzer Company, Chicago, Ill., a corporation of Ohio
Filed June 26, 1957, Ser. No. 668,961
11 Claims. (Cl. 84—1.14)



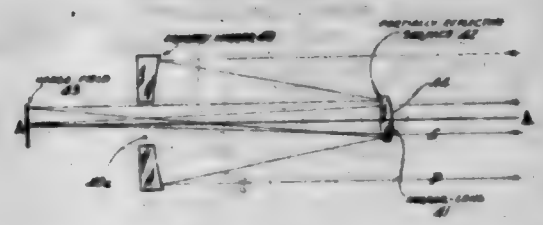
1. In combination in an electrical musical instrument, a fixed-free reed, an electric translation pick-up alongside the reed intermediate the reed extremities and vibratorily passed by the reed, and an impulse exciting means adjacent the reed for setting it into decadent free vibration at its fundamental frequency and simultaneously into decadent free vibration, at at least a lower one of its upper-partial frequencies, of sufficient magnitude so that the plane of the portion of the reed which passes the pick-up is subjected to oscillatory upper-partial-frequency angular deviation, about the plane of said portion established by pure fundamental vibration, initially at least of the order of one-eighth of a right angle, the reed-ward face of the pick-up when the reed is most fully juxtaposed thereto being at least substantially as fully exposed to the edge of the reed at the extremes of such oscillatory deviation as in the absence thereof.

2,966,822
EXPLOSIVE STREAMER
George B. Kistiakowsky, South Lincoln, Mass., Duncan P. McDougall, Los Alamos, N. Mex., James H. Lum, Oak Ridge, Tenn., John K. Bragg, Cambridge, Mass., and George H. Messerly, Staten Island, N.Y., assignors to the United States of America as represented by the Secretary of the Navy
Filed Mar. 13, 1946, Ser. No. 654,176
9 Claims. (Cl. 86—1)



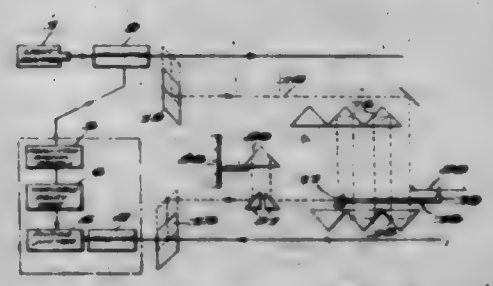
1. A process of forming a fine-grained, flexible explosive body which comprises introducing a molten, liquid explosive material into a flexible container and thereafter cooling and solidifying the liquid explosive while simultaneously subjecting said container and explosive to a flexing operation.

2,966,823
TRACKING TELESCOPE WITH DUAL FIELD OPTICAL SYSTEM
Richard H. Trimble, Culver City, Calif., assignor to Northrop Corporation, a corporation of California
Filed Aug. 21, 1948, Ser. No. 45,548
4 Claims. (Cl. 88—1)



1. An optical system of the Cassegrainian type suitable for use in tracking a distant source of light, comprising a centrally apertured concave primary mirror positioned to directly receive light rays from said source, a double convex lens coaxially positioned in front of said primary mirror in the path of light from said mirror reflected from said source, said lens being smaller in diameter than said primary mirror, an image field coaxially positioned behind said primary mirror, the rear surface of said lens being partially light-reflective and partially light-transmissive, the optical axis of said primary mirror being coincident with the optical axis of said lens, the focal plane of light from said source through said lens and through the aperture in said primary mirror being at said image field, and the focal plane of light from said source reflected from said mirror onto said lens rear surface and reflected from said rear surface through said aperture also being at said image field, whereby two real images of a point on said source lying just off the optical axis of said system are simultaneously formed on said image field over paths having different focal lengths.

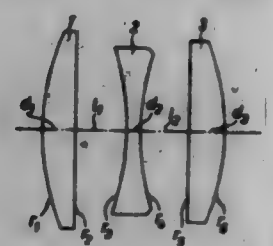
2,966,824
DISTANCE MEASURING EQUIPMENT
Carl-Erik Granqvist, Lidingo, Sweden, assignor to Svenska Aktiebolaget Gasaccumulator, Lidingo (near Stockholm), Sweden, a corporation of Sweden
Continuation of application Ser. No. 284,835, Apr. 28, 1952. This application Apr. 12, 1956, Ser. No. 577,847
9 Claims. (Cl. 88—1)



1. An optical distance measuring device comprising a light source, means for modulating said light source at a predetermined frequency, transmitter means for transmitting a beam of light from said modulated light source, receiver means for receiving the beam reflected from a light reflecting system, means for generating a reference voltage of said predetermined frequency in phase with the modulation of the light source, phase comparison means for comparing the phase of the reference voltage and that of the reflected beam, adjustable electrical delay means for delaying the phase of the reference voltage to correspond to the phase of the reflected beam, optical delay means including a light path of adjustable length, and switching means for switching said light path to an operative position to transmit the light to the receiver via said optical delay means, whereby the difference between the

phase delay over the distance and that over the adjustable light path may be obtained through adjustment of said optical delay means.

2,966,825
PHOTOGRAPHIC OBJECTIVE
Carl Beer, Baldham, near Munich, and Christian Otzen, Munich, Germany, assignors to Agfa Aktiengesellschaft, Leverkusen, Germany
Filed Feb. 27, 1957, Ser. No. 642,877
Claims priority, application Germany Mar. 24, 1956
2 Claims. (Cl. 88—57)



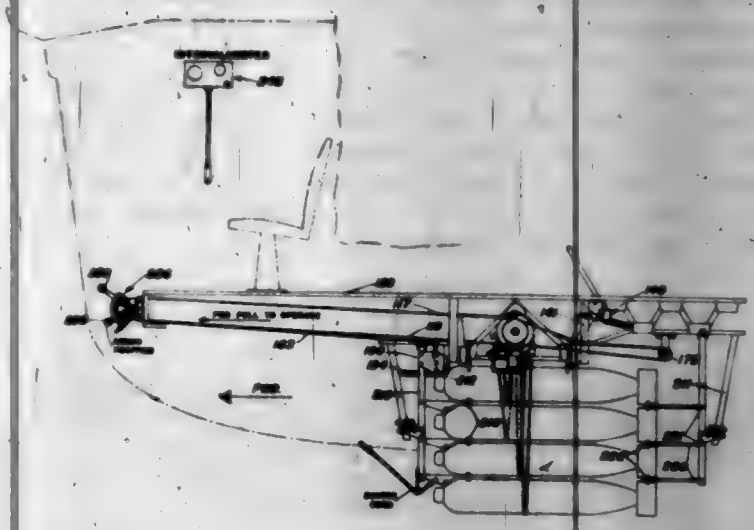
1. A photographic objective constructed substantially according to the specifications in the following table:

Lens Elements	Radii	Thicknesses	n_D	ν
1	$r_1=+0.47350\ f$ $r_2=+14.98251\ f$	$d_1=0.08372\ f$ $l_1=0.10015\ f$	$n_1=1.74400$	$\nu_1=44.9$
2	$r_3=-0.88459\ f$ $r_4=+0.81414\ f$	$d_2=0.02708\ f$ $l_2=0.09253\ f$	$n_2=1.74000$	$\nu_2=28.2$
3	$r_5=+3.81041\ f$ $r_6=-0.44989\ f$	$d_3=0.08979\ f$	$n_3=1.74400$	$\nu_3=44.9$

wherein the first column lists three lens members in numerals in order from front to rear; wherein the relative aperture is 1:2.8; wherein the angular field of the objective is 52°; wherein f is the focal length of the objective, n_D is the index of refraction for the D line of the spectrum, and ν is the dispersive index; and wherein r, d and l refer, respectively, to the radii of curvature of the refractive surfaces, the axial thicknesses of the lens members, and the axial air spaces between the lens members, the subscripts on the characters r, d and l being numbered consecutively from the front to the rear, and the plus and minus signs in the second column corresponding to refractive surfaces which are respectively convex and concave to the front.

2,966,826
PROJECTILE DISPENSER FOR BLIMPS
Joseph A. Cerny, University Heights, Ohio, assignor to the United States of America as represented by the Secretary of the Navy
Filed Aug. 1, 1947, Ser. No. 765,351
2 Claims. (Cl. 89—1.5)

2. In a projectile dispenser, a shaft having means for releasing bombs in serial order, means for imparting a step motion to said shaft to produce said order of release, said means including a ratchet wheel and a carrier having a dog to traverse the wheel, a swingable arm having a cable connection with the dog carrier, a pivoted lever having a block, a rod pivoted at one end on the arm and sliding in the block, the other end of the rod having an abutment, a stop on the rod adjacent to its pivot on the arm, said stop being engaged by the block to receive its thrust when the lever is swung in one direction whereby said swinging of the arm advances the dog to a starting position on the ratchet wheel, and a spring on the rod between the block and the abutment undergoing compression by the block upon its departure from the stop by a swing of the lever in the opposite direction, said stop



returning toward and re-engaging the block to limit the end position of the ratchet wheel under the influence of the expanding spring.

2,966,827
ROCKET LAUNCHER
Leo M. Harvey, Los Angeles, Calif., assignor to the United States of America as represented by the Secretary of the Army
Filed Jan. 27, 1959, Ser. No. 789,456
6 Claims. (Cl. 89—1.7)



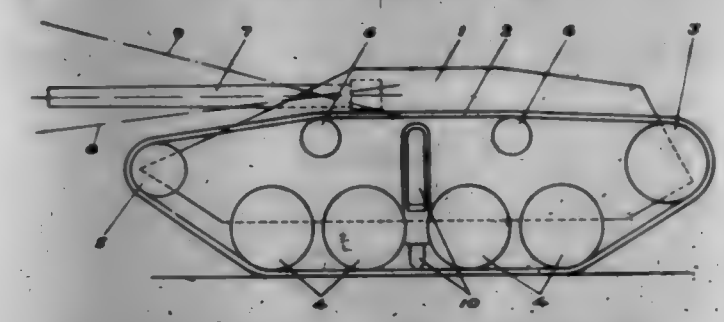
1. In a rocket launcher including an open receiving cradle, a barrel member fastened at its rearward end to said cradle, a tubular rocket container open at both end thereof and removeably positioned within said receiving cradle, a shuttle bar assembly including an elongated channel bar, a blast tube secured at the rearward end of said bar, means for guiding said shuttle bar axially in said cradle comprising a series of downwardly extending longitudinally aligned lugs attached to the under surface of said bar and adapted to slide in longitudinally aligned slots formed in the floor of said cradle, an operating lever carried by the forward under surface of said receiving cradle, said lever co-acting with one of said lugs to move said shuttle bar in a reciprocating movement within said cradle and secure said tubular container in snug engagement with said barrel and said blast tube to form a continuous launching tube therewith, and electrical contact means for firing a rocket when in said container including first and second terminals, said first terminal being carried by the under surface of said shuttle bar and said second terminal being carried by the upper surface of said cradle, said first terminal being connected to a contact finger located in said blast tube and said second terminal being connected to a contact member disposed on the floor of said housing on the under surface of said cradle, said contact member being connected in turn to a trigger mechanism located on said barrel member of said launcher, said first and said second electrical terminals being automatically engaged with each other upon full forward movement of said operating lever and establishing electrical contact between said contact member in said blast tube and said trigger mechanism upon pushing said lever in a downward movement.

2,966,828

TRAVERSING MEANS FOR WEAPON-CARRYING VEHICLES OF THE ENDLESS TRACK TYPE

Sven Erik Berge, Gyllenstiernsgatan 20, Stockholm, Sweden

Filed May 2, 1958, Ser. No. 732,611
Claims priority, application Sweden May 6, 1957
4 Claims. (Cl. 89—41)



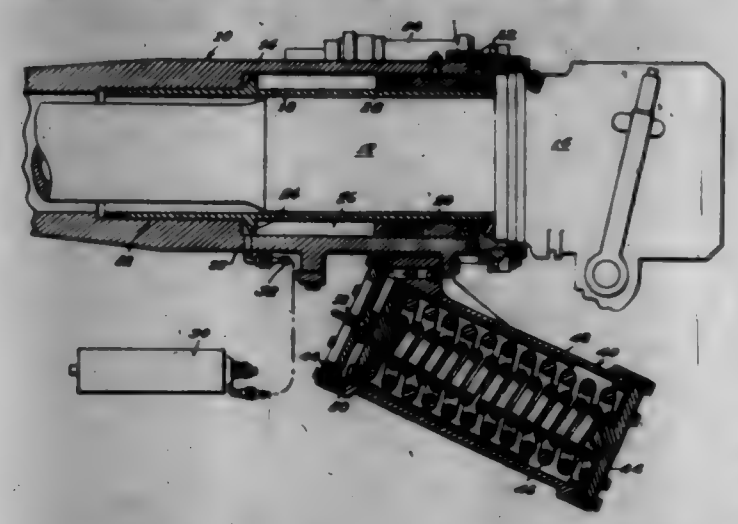
1. A weapon-carrying vehicle of the endless track type comprising a body, supporting rollers on the body and drive sprockets at each side thereof, belts of track plates mounted to pass around said drive sprockets, an extensible arm pivotally connected to each side of said body about substantially horizontal pivotal axes, means for extending each said arm downwardly whereby the lower ends thereof engage said belts, and means for causing said arms to rotate in opposite directions about said substantially horizontal pivotal axes.

2,966,829

RECOIL MECHANISM

Joseph Tannenbaum, Detroit, Mich., assignor to the United States of America as represented by the Secretary of the Army

Filed May 2, 1957, Ser. No. 656,732
7 Claims. (Cl. 89—43)
(Granted under Title 35, U.S. Code (1952), sec. 266)



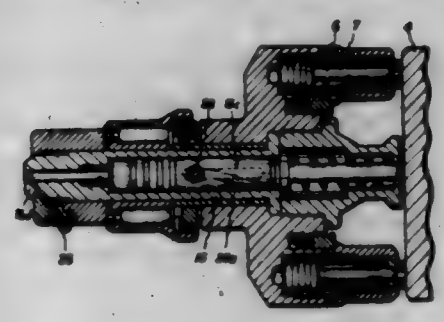
1. Gun barrel recoil movement responsive mechanism for absorbing barrel recoil and for returning said barrel to battery position on a gun with a fixed cradle and a movable barrel with breech ring slidably mounted in said cradle, said mechanism comprising, in combination, a barrel recoil movement absorbing fluid system including a recoil cylinder formed within said cradle concentric with said barrel, a movable tubular recoil piston in and concentric with said recoil cylinder, and attached to said breech ring for recoil and counter recoil actuated movement therewith, a barrel flange on said recoil piston extending into and of a diameter less than said recoil cylinder to permit restricted fluid flow therein, and a recoil force absorbing fluid within said recoil cylinder, a barrel counter recoil movement providing fluid system fluidly independent of said barrel recoil movement absorbing fluid system and including a counter recoil cylinder fixed to said cradle, a movable counter recoil piston within said counter recoil cylinder and actuatably attached to said breech ring for actuating counter recoil movement of said breech ring upon termination of barrel recoil movement, said counter recoil piston movably cooperating with said barrel recoil piston during barrel recoil to absorb barrel recoil forces, a recuperator having a recuperator cylinder fixed to said cradle and in fluid communication with said counter recoil cylinder, a recuperator piston and compression means in said recuperator cylinder compressively responsive to fluid pressure of said counter recoil cylinder for actuating counter recoil movement of said counter recoil piston, said recuperator piston movably cooperating with said recoil and counter recoil pistons during barrel recoil to absorb barrel recoil forces, and a fluid barrel counter recoil movement buffering system fluidly independent of said barrel recoil movement absorbing and counter recoil movement providing fluid systems, said buffering system including a buffer fluid cylinder attached to said cradle, buffer fluid in said cylinder, a movable buffer piston within said buffer cylinder and having a movable piston rod in contact with and movably responsive to recoil and counter recoil movement of said breech ring, said buffer piston movably cooperating during barrel counter recoil movement with said recoil piston to cushion said counter recoil movement of said barrel, said buffer piston having a restricted fluid flow-permitting diameter less than the internal diameter of said buffer fluid cylinder.

2,966,830

COCKING DEVICE FOR THE BREECH MECHANISM OF AUTOMATIC FIREARMS

Erwin Hepperle, Dietlikon, Zurich, Switzerland, assignor to Machine Tool Works Oerlikon, Administration Company, Zurich-Oerlikon, Switzerland, a company of Switzerland

Filed Dec. 18, 1958, Ser. No. 781,284
Claims priority, application Switzerland Jan. 9, 1958
1 Claim. (Cl. 89—155)



In a cocking device for automatic firearms the combination comprising a breech mechanism, a stationary cylinder body extending along a longitudinal axis, a sealing surface on said cylinder body, a pressure chamber in said cylinder body, a casing rotating around the longitudinal axis, a plurality of cartridge chambers arranged around the longitudinal axis within said casing and sealed by said sealing surface, fluid pressure transmission means for connecting said pressure chamber with one of said cartridge chambers, a reciprocating piston within said cylinder body having a normal position and an operating position which seals said pressure chamber unilaterally and is in driving connection with said breech mechanism, to operate the latter by said piston upon a movement of the latter from the normal position to the operating position effected by the pressure within said pressure chamber, resilient means for biasing said piston to said normal position, driving means connecting said piston with said casing for a stepwise rotation of said casing during the resulting displacement of the piston accomplished by said resilient means from the operating position to the normal position, said driving means comprising a sleeve rotatable on said cylinder body and which is provided

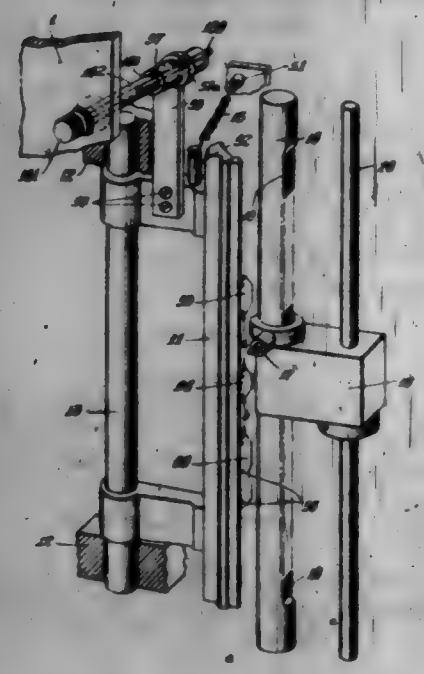
with guide ways, further guide ways on said cylinder body forming an angle with said first mentioned guide ways, dogs in driving connection with said piston engaging said first mentioned and said further guide ways to convert said reciprocation of said piston into a back and forth rotation of said sleeve, and ratchet and pawl means engaging with said casing and said sleeve for a conversion of the back and forth rotation of said sleeve to said stepwise movement of said casing.

2,966,831

PROFILE-MILLING AND ENGRAVING MACHINE

Willy Brodbeck, Calmbach (Enz), Germany, assignor to Alfred Gauthier G.m.b.H., Calmbach (Enz), Germany, a corporation of Germany

Filed Aug. 29, 1958, Ser. No. 758,148
Claims priority, application Germany Sept. 11, 1957
3 Claims. (Cl. 90—13)



1. A profile milling and/or engraving machine comprising workpiece mounting means and tool mounting means carried by a base, at least one of said means being movable on the base for enabling relative shifting movements to be had between a tool and workpiece in directions corresponding to axes of a multiple coordinate system to perform operations on the workpiece; program means for shifting of said mounting means along several axes according to a predetermined work-performing plan, said program means including an elongate control cam for effecting movement along one such axis, said cam being movable laterally and being connected with said one mounting means, said cam being separate from and independent of the other mounting means and said program means further including an unyielding cam actuator separate from and independent of said one mounting means and movable longitudinally of said cam to traverse the same in engagement therewith, thereby to effect predetermined lateral movements of the cam as determined by the contour thereof, said control cam being constituted of an elongate mounting member and a plurality of separate cam parts rigidly attached to said mounting member in adjoining relation to each other.

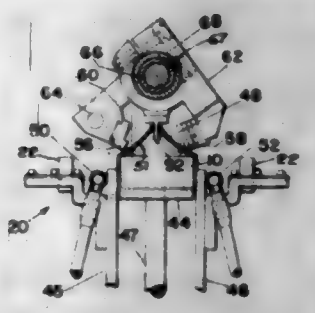
2,966,832

CONTAINER FORMING MACHINE

John G. Vergobbi, Quincy, Mass., assignor to Pneumatic Scale Corporation, Limited, Quincy, Mass., a corporation of Massachusetts

Filed Aug. 20, 1958, Ser. No. 756,173
13 Claims. (Cl. 93—12)

1. In a container forming machine of the character described, in combination, a forming block about which a blank of lining material may be wrapped to form a lining bag, means for folding the blank about three sides of the block leaving extended marginal portions, means for folding the extended marginal portions into engagement with the remaining side of the block, stationary means cooperating with said folding means for guiding said extensions during the folding operation to present the marginal edges thereof into face-to-face relation and projecting from the block, said folding means including longitudinal seam forming elements cooperating to apply



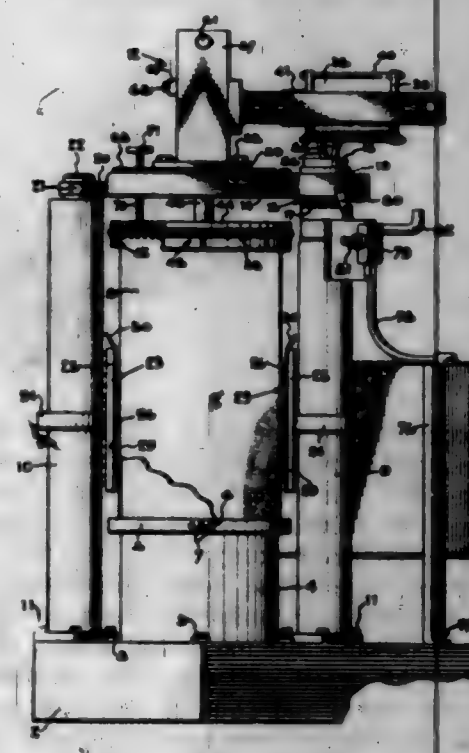
pressure to said marginal edges to provide an outwardly projecting longitudinal side seam, thus forming a tube about the block having portions extended beyond the end of the block, means for folding the projecting side seam down flat against the block, means for thereafter folding the portions of the tube extended beyond the end of the block to form an elongated face-to-face transverse end closure, and means including transverse seam forming elements cooperating to apply pressure to said end closure to form a transverse seam whereby to provide a lining bag open at one end adapted to be removed from the forming block.

2,966,833

HEADING MACHINE FOR FORMING CONTAINERS

Norman A. Leibreich, Cincinnati, Ohio, assignor, by mesne assignments, to The Mead Corporation, a corporation of Ohio

Filed Feb. 10, 1958, Ser. No. 714,263
10 Claims. (Cl. 93—55.1)



1. A machine for heading tubular drums comprising a form on which a tubular length is placed for being supported, a vertically movable presser member for bending inwardly the projecting end of the tubular length, said presser member comprising a series of radially movable segments each having an upwardly and inwardly

extending inner wall surface for bending inwardly the projecting end of the tubular length over an inserted end closure, said presser member having a flat surface for bending said inwardly bent projecting end of said tubular length flat against said end closure, a carrier for the presser member pivotally mounted for being swiveled in and out of position above said form, means for biasing said segments to retracted position but yieldably permitting them to be expanded outwardly, and means for ejecting the headed drum from the form.

2,966,834

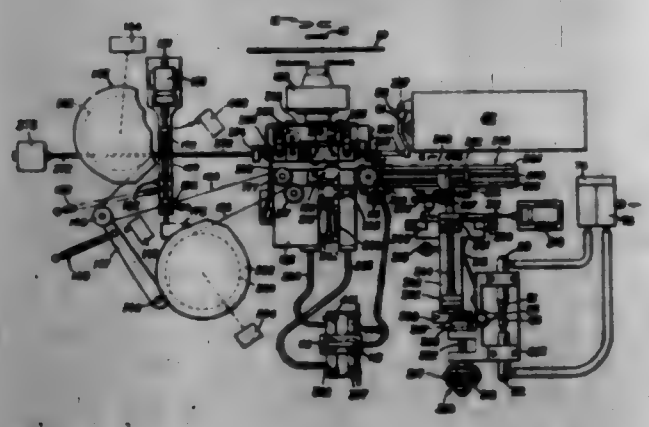
WITHDRAWN

2,966,835

PHOTOGRAPHIC TYPE COMPOSITION

Frederick J. Hooven, Dayton, and Richard C. O'Brien, Cleveland, Ohio, assignors to Harris-Intertype Corporation, Cleveland, Ohio, a corporation of Delaware

Filed May 27, 1957, Ser. No. 661,633
21 Claims. (Cl. 95—4.5)



1. A device for recording a succession of character images upon a record strip, comprising means for selectively projecting an image carrying light beam along a predetermined path, movable means intercepting said beam for displacing said beam from the original said path, means for supporting a photosensitive strip of material in position to record in succession the images carried along the displaced path, shifting means for said movable displacing means adapted to move through discrete small space units for displacing the successively projected character images relative to the record strip, movable carriage means for advancing the strip relative to said image carrying light beam through large space increments equal to an integral number of said space units, and means for correlating the operation of said carriage means and said shifting means to provide for advancing said carriage means whenever the required spacing movement totals at least one full space increment.

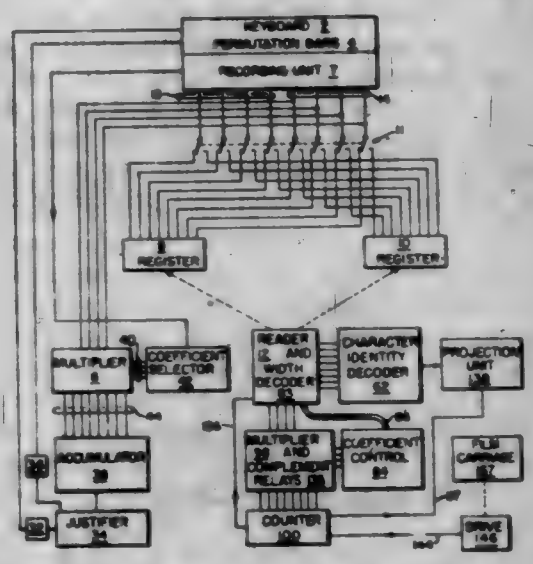
2,966,836

TYPE COMPOSING APPARATUS

Rene A. Higonnet, Cambridge, and Louis M. Moyroud, West Medford, Mass., assignors to Graphic Arts Research Foundation, Inc., Cambridge, Mass., a corporation of Delaware

Filed Feb. 24, 1959, Ser. No. 795,004
13 Claims. (Cl. 95—4.5)

1. In photographic type composing apparatus, the combination of a register for information corresponding to a line of type characters including width values for said characters in numerical form and coefficients for said width values, reading means for the register adapted to sense said information a character at a time, a stationary support bearing the characters to be photographed, a support for a sensitized sheet, mechanism to move the sheet at a uniform speed past a photographing position, and character projection means associated with the reading means and adapted to project the characters in said line on to said sheet, said projection means including impulse generating means synchronized with said mechanism, a counter having a circuit to energize said projection means and provision to count the impulses, and a multiplier associated with the reading means and adapted to multiply said width values and coefficients and to preset said counter after each projection to cause it to energize said projection means when the number of counted impulses corresponds to the product of said multiplication.

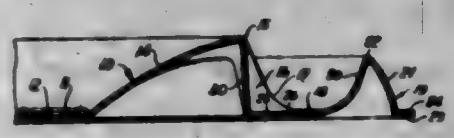


2,966,837

AIR DIFFUSER

Alan L. Radcliff, 2101 Calais Drive, Miami Beach, Fla.

Filed Jan. 8, 1959, Ser. No. 785,622
8 Claims. (Cl. 98—40)



1. An air diffuser, comprising a round body having a central member comprising a disk-like wall member, and an outwardly flaring wall extending forwardly of and enclosing said disk-like member and having an upper round edge; a plurality of elongated rib-shaped gussets engaging said upper edge and extending outwardly radially from said walls in planes extending through said central axis, an outer member enclosing said central member and having an upper round edge located rearwardly of the first-mentioned upper round edge, a concave wall portion extending inwardly from the second-mentioned upper round edge, a convex wall portion extending outwardly from the second-mentioned upper round edge and an annularly ribbed portion connected with said convex wall portion and having outer edges; and an annular member connecting the bottoms of said gussets with said concave wall portion, said gussets and said annular member defining air passages between said central member and said outer member, said round body consisting of a plastic material.

2,966,838

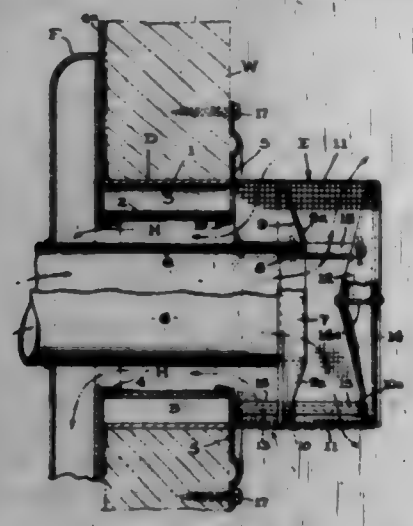
VENTING UNIT

Harry E. Thompson and Merl J. Klausel, Steubenville, Ohio, assignors to The Ohio Foundry & Manufacturing Company, Steubenville, Ohio, a corporation of Ohio

Filed July 17, 1958, Ser. No. 749,102
1 Claim. (Cl. 98—62)

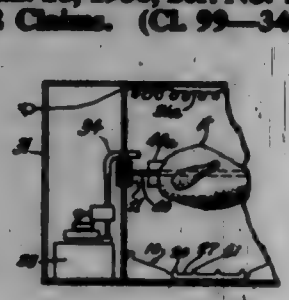
A venting unit adapted to be installed in a building opening to supply fresh air to and exhaust spent gases

from the combustion chamber of a heater, said venting unit comprising, a pair of outer and inner spaced concentric shells adapted to be disposed in the building opening, an inner panel having an inturned collar to receive one end of the inner shell, an outer supporting ring also having an inturned collar for receiving the other end of said inner shell, said collars supporting the inner shell in spaced relation to the outer shell to provide a dead air space in the zone of the building opening, an exhaust flue of less diameter than the inner shell and having its external face cooperating with the said inner shell to define an intake flue and said exhaust flue being adapted to communicate at its inner end with the said combustion chamber and having its outer end projecting beyond the



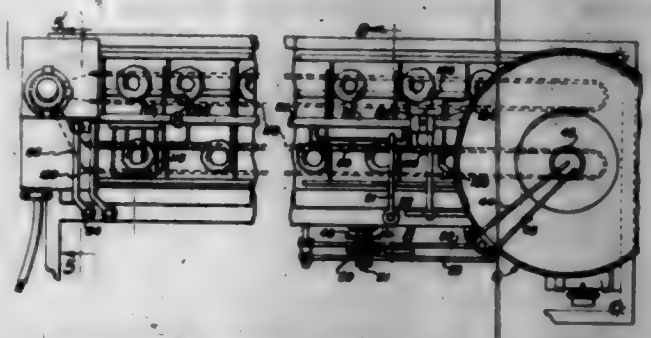
face of said supporting ring, a frusto-conical plate including a flange inclined toward said ring, the outer diameter of said flange being substantially equal to the diameter of the outer shell and the inner periphery of said flange including a collar which fits into the outer end of the exhaust flue, a conical disc member facing the inclined flange of the frusto-conical plate and having its apical portion concentric with the axis of the exhaust flue to define an exhaust outlet permitting products of combustion to escape and also diminishing the effect of back pressure in the flue, means anchored to the supporting ring and cooperating with the plate and disc to maintain them in spaced relation, and a screen surrounding and supported by the peripheral edge portions of the frusto-conical plate and the conical disc.

2,966,839
BASTING DEVICE
James A. Ferrara, 1146 49th St., and Vincent J. Ferrante, 1601 65th St., both of Brooklyn, N.Y.
Filed Jan. 28, 1958, Ser. No. 711,751
12 Claims. (Cl. 99—346)



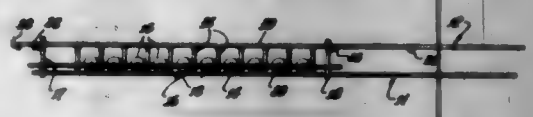
9. A roasting oven comprising an oven chamber, a basting apparatus comprising a reservoir in the bottom of said chamber, said reservoir comprising an imperforate centrally located depressed portion to catch and collect juices from food roasting in said chamber, means in the chamber to support food to be roasted, located directly above the depressed portion of said reservoir so that juices from the roasting food will drop down into said depressed portion of the reservoir, a roasting heater means in the chamber, and spaced above said reservoir, to roast the supported food in the chamber, and air nozzle means in the depressed portion of the reservoir, said air nozzle means comprising nozzles disposed below the upper end of said depressed portion to direct air under pressure supplied to said nozzle means, upwardly through juices collected in the depressed portion of the reservoir and above said nozzles, and thereby spray such juices upwardly against the underside of food roasting in the support means, and whereby upwardly sprayed basting juices may drop back downwardly into the depressed portion of the reservoir.

2,966,840
DOUGHNUT MAKING MACHINE
Galen E. Forsyth, 1914 E. 5th, Little Rock, Ark.
Filed Aug. 8, 1958, Ser. No. 754,023
6 Claims. (Cl. 99—354)



1. A doughnut making machine comprising an elongated trough, a longitudinally disposed partition extended substantially throughout the length of the trough and positioned midway between side walls thereof, a hopper for dropping rings of doughnut forming dough into one section of the trough and at a point spaced from one end thereof, lower fingers pivotally mounted in the trough and positioned to be elevated to prevent travel of the doughnut rings in the trough and lowered to permit the doughnut rings to be moved longitudinally of the trough, slidably and pivotally mounted upper fingers positioned to extend, selectively, downwardly into the sections of the trough and upwardly above the sections, means for transferring doughnut rings from one section of the trough to the other, and means for elevating and removing finished doughnuts from the trough.

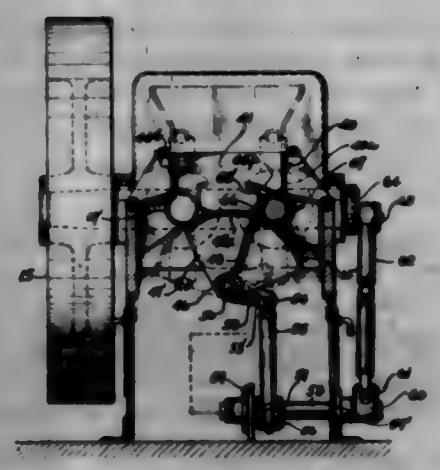
2,966,841
DEVICE FOR SUPPORTING AND ROTATING FRANKFURTERS DURING COOKING
Zareh G. Jiganian, 916 W. 77th St., Los Angeles, Calif.
Filed Nov. 1, 1957, Ser. No. 693,935
1 Claim. (Cl. 99—441)



A device for supporting and rotating substantially cylindrical food articles of a given size range during cooking: comprising a shallow wire basket having a floor composed of a plurality of parallel, laterally spaced article-supporting wires disposed in a common plane, said basket further having a pair of end walls and a pair of side walls extending above said floor, said side walls being parallel to said article-supporting wires, a wire rake member comprising spaced main wires extending beyond both end walls of said basket and slidably supported thereon in parallel spaced relation to said floor for movement relative thereto in a direction parallel to the side walls and having parallel sets of prongs secured to said main wires and spaced evenly longitudinally therealong, said prongs extending normal to said main wires

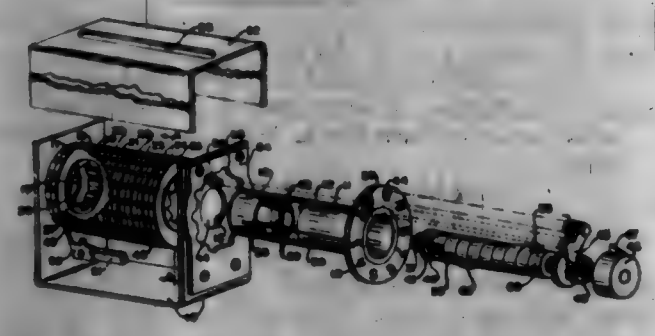
toward said floor and terminating short of said floor for reception between articles disposed on the floor of the basket, the spacing of said sets of prongs being so related to the articles as to permit reception of but one article between adjacent sets of prongs, a handle on one end of said rake member, and a handle on said basket for moving one relatively to the other.

2,966,842
BRIQUETTING MACHINES
James B. Roche, Lake Stevens, Wash., assignor to Sumner Iron Works, Inc., Everett, Wash.
Filed May 5, 1958, Ser. No. 733,208
5 Claims. (Cl. 100—209)



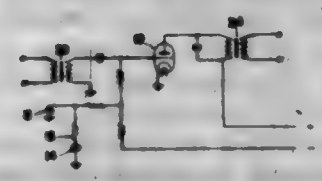
1. A briquetting machine comprising a feed hopper, a fixed pre-pressing chamber below said hopper, a pair of laterally spaced extrusion dies extending from one end of said pre-pressing chamber, a ram for each die reciprocally mounted on the opposite side of the pre-pressing chamber and adapted to move pre-pressed material from said pre-pressing chamber into and through said extrusion dies, said pre-pressing chamber including vertically disposed and laterally spaced plates mounted in fixed position and opposite sides of said pre-pressing chamber, an oscillating shaft horizontally disposed and mounted in fixed position below said plates and medially of said pre-pressing chamber, a pre-pressing head mounted in fixed position on said shaft and having a portion which extends upwardly between said plates, power means interconnected with said shaft for oscillating said shaft whereby said upwardly extending head portion moves alternately from one plate to the other and power means for reciprocally actuating said rams in timed sequence with the movement of said head to move the pre-pressed charges of material into said dies.

2,966,843
MULTIPLE ROTATABLY SETTABLE MEMBER SETTING MEANS
Thomas R. Eckley, Dayton, Ohio, assignor to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland
Filed Feb. 16, 1960, Ser. No. 8,963
6 Claims. (Cl. 101—110)



1. The setting means for multiple rotatably settable members of the type in which each settable member may be independently chosen and revolved to a selected one of a plurality of set positions by a single operating element comprising a frame member for supporting the assembly; a longitudinally slotted hollow sleeve member rotatably mounted upon said frame member; a plurality of rotatably selectable members each having a bearing surface concentric with the center thereof independently mounted upon and held in location by said sleeve member; a plurality of driving detents in the bearing surface of each of said selectable members; a driving member for each of said selectable members located within and rotatable with said sleeve member arranged to be placed in driving engagement with any one of the said driving detents of the corresponding selectable member through the said longitudinal slot of said sleeve member whereby only the engaged selectable member may be rotated with the said sleeve member; a selector member rotatably mounted within said sleeve member and having a cam lobe thereon for each of said selectable members, said cam lobes being arranged in such a manner that each places the said driving member corresponding to the same selectable member in driving engagement with a said driving detent of that member at a different angular position of said selector member as it is rotated in the select direction; and a unidirectional engaging link assembly mechanically interconnecting said sleeve member and said selector member in such a manner that said selector member rotates independently of the said sleeve member in the select direction for selecting one of said settable members and rotates said sleeve member therewith in the opposite set direction for setting the chosen settable member to a selected position.

2,966,844
AUTOMATIC PRINTING PASTE FEED CONTROLLING DEVICE
Robert Ronald Laupman, Wijchen, Netherlands, assignor to Gebr. Stork & Co's Apparatenfabriek N.V., Amsterdam, Netherlands, a corporation of the Netherlands
Filed May 28, 1956, Ser. No. 587,841
Claims priority, application Netherlands June 24, 1955
2 Claims. (Cl. 101—123)

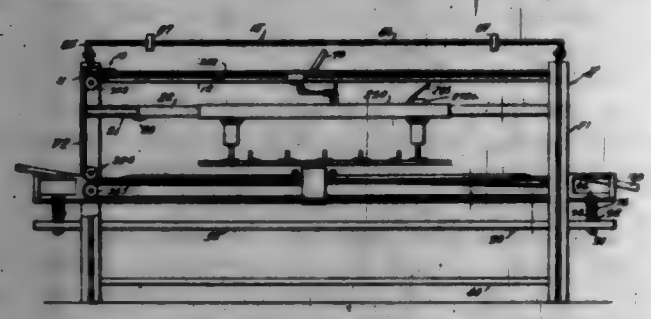


1. An automatic electrically conducting liquid feed controlling device having at least one feeler adapted to close, in conjunction with the liquid, an electric circuit so as to influence the grid voltage of an electron tube characterized in that the feeler is connected with one plate of a condenser, the other plate of which is earthed, said first plate being also connected to the grid of the electron tube, said grid being further connected to the negative terminal of a direct voltage source and to an alternating voltage source, while in the anode circuit of the electron tube a winding of a transformer is included, said transformer being directly coupled to a feeding device for the liquid.

2,966,845
DEVICE FOR MARKING CYLINDRICAL CONTAINERS AND ATTACHMENT THEREFOR FOR MARKING NON-CYLINDRICAL CONTAINERS
Edward J. Palczewski, 4929 Penn St., Philadelphia, Pa.
Filed Apr. 1, 1954, Ser. No. 420,227
19 Claims. (Cl. 101—126)

1. A structure including in combination a machine for marking the cylindrical portions of drums having such portions, an attachment removably applied to said ma-

chine for presenting containers having flat side wall portions in positions for the marking by the machine of such side wall portions, and means for operating said machine to cause such marking; said machine including a framework having oppositely disposed end frames, an upper set of parallel members, an intermediate set of parallel members and a lower set of parallel members, said sets of members extending through the space between said end frames, the uppermost of said sets comprising a pair of track members, the intermediate set comprising a plurality of supports for removably receiving the framing of silk screen or stencil structure to be carried by said set and the lower set comprising a pair of track members; said machine also including a squeegee structure, having a carriage mounted for reciprocation in the tracks of said upper set, a squeegee supported by said carriage and means for depressing said squeegees into wiping relation with the paneling of silk screen or stencil structure carried by said intermediate set or removing said squeegee from such wiping relation; said machine further includ-



ing a drum conveying carriage, mounted for reciprocation along the tracks of said lower set, for presenting drums to be marked in position to receive marking medium extruded through such paneling, and means connecting said carriages together to cause movement of either carriage to produce equal simultaneous movement of the other carriage in the direction of the moved carriage; said attachment including the combination of a frame, a platform, and telescopic means suspending said platform from said frame; said frame including members, internally contoured to embrace the members of said intermediate set, and stringers secured to said contoured members; said platform including stringers and guide means spaced therealong and providing channels for directing containers to be marked; said telescopic suspending means including a set of hollow members and a set of plungers projecting therefrom and connected one set to said frame and one set to the platform; said means for operating said machine including a hollow member, a plunger projecting therefrom and connected to one of said carriages, and means for supplying a working medium to the last mentioned hollow member.

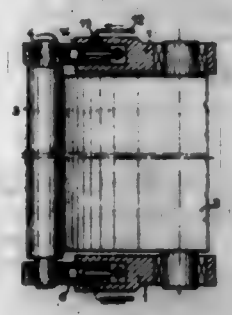
2,966,846

PRINT ROLL SUPPORT MEANS FOR ROTARY PRINT MACHINES

Jean Lisse, Mulhouse, Haut-Rhin, France, assignor to Societe Alsacienne de Constructions Mecaniques, Mulhouse, Haut-Rhin, France, a company of France

Filed Feb. 9, 1959, Ser. No. 792,104
Claims priority, application France Feb. 14, 1958
3 Claims. (Cl. 101—178)

1. In and for a rotary print machine having a frame, a backing cylinder journalled on said frame and at least one print roll to be pressed against said backing cylinder, a device for supporting each end of said print roll and yieldably urging the same towards the backing cylinder, said device comprising bearing means for journalling said print roll ends, a bore in the machine frame extending in a direction passing in the near vicinity of the backing cylinder axis, a hollow cylinder-like structure carrying said bearing means and slidably mounted in said bore, a fixed piston member to divide the inner space of said cylinder-like structure into an inner and an outer compartment, a rod rigid with said fixed piston passing through the inner



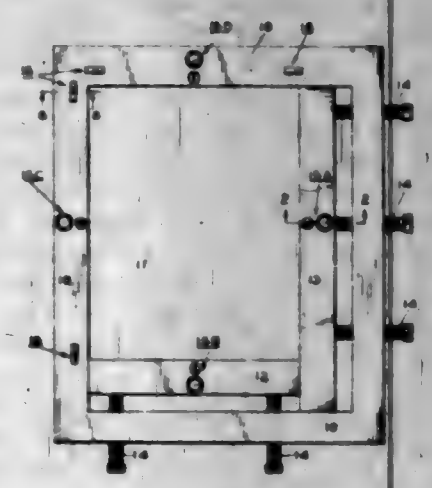
head of said hollow structure and secured to the machine frame, a pressure fluid source and means to conduct pressure fluid from said source into said inner compartment through said hollow structure wall.

2,966,847

MEANS FOR PREPARING MATRICES FOR POSITIONING FOR TRIMMING AND/OR CASTING

Craig C. Baker, Arcadia, Vernon R. Spinaleri, Newport Beach, and Samuel Odermann, Whittier, Calif., assignors to Sta-Hi Corporation, Whittier, Calif., a corporation of California

Filed Nov. 16, 1959, Ser. No. 853,410
8 Claims. (Cl. 101—391)



1. In a chase, a rectangular impression-producing area for molding matrices for stereotype plates, a composite frame enclosing said impression-producing area, a matrix border slitting device mounted in said frame, said slitting device including an upright slitting blade normally positioned below the surrounding frame surface and carried on a head slidably mounted in an upright channel in said frame, means for forcibly thrusting said head and blade upwardly against a matrix being molded on the chase, and means actuated by the molding pressure on the matrix for operating said thrusting means, whereby said blade will automatically cut a border slit in the matrix with the molding of the matrix on the chase.

2,966,848

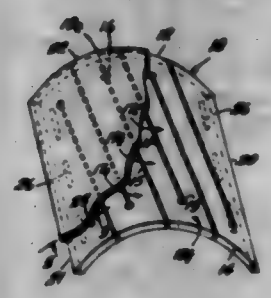
EXPANDABLE BASE PLATE

Harry W. Faeber, Larchmont, N.Y., assignor to Time, Incorporated, New York, N.Y., a corporation of New York

Filed May 7, 1958, Ser. No. 733,524
8 Claims. (Cl. 101—415.1)

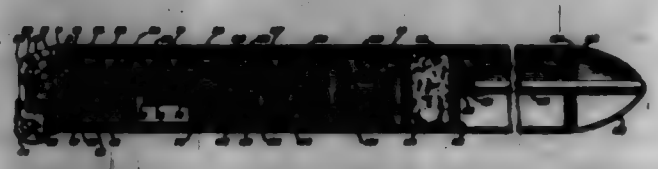
1. An expandable base plate for attaching a relatively stiff plate having downwardly turned ends to a printing press, said base plate being defined by a lower surface adapted to be received on a printing press, an upper surface for receiving the printing plate and leading and trailing and side ends, comprising leading and trailing sections

and means connecting the leading and trailing sections for relative movement to permit the base plate to be lengthened and shortened between the leading and trailing ends, the lengthening of the base plate bringing the leading and



trailing ends thereof into locking engagement with the downwardly turned ends of the printing plate and the shortening of the base plate freeing the printing plate from the base plate.

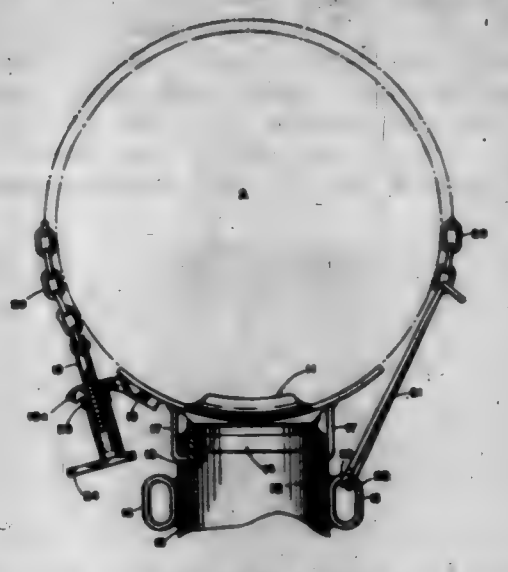
2,966,849
SUBMARINE SIGNALLING DEVICE
Harold R. Joiner, 725 Kenworth Ave., Hamilton, Ohio
Filed Dec. 30, 1948, Ser. No. 68,104
9 Claims. (Cl. 102—7)
(Granted under Title 35, U.S. Code (1952), sec. 266)



3. Mechanism for firing an expellent charge of an ejector type submarine signalling device comprising, in combination, a primer arranged in operative firing relation wtih respect to said charge, a firing pin, spring means for yieldably urging said pin into firing relation with respect to said primer, a pressure responsive element in communication with the surrounding water when the device is ejected from the submarine and adapted to gradually compress said spring means as the device rises to the surface of the water, means including a detent pivotally mounted on said element for releasably locking the firing pin to said element, and means on said device for releasing the locking means when the pressure on the element is reduced to a predetermined value and the element is moved a predetermined amount in response thereto.

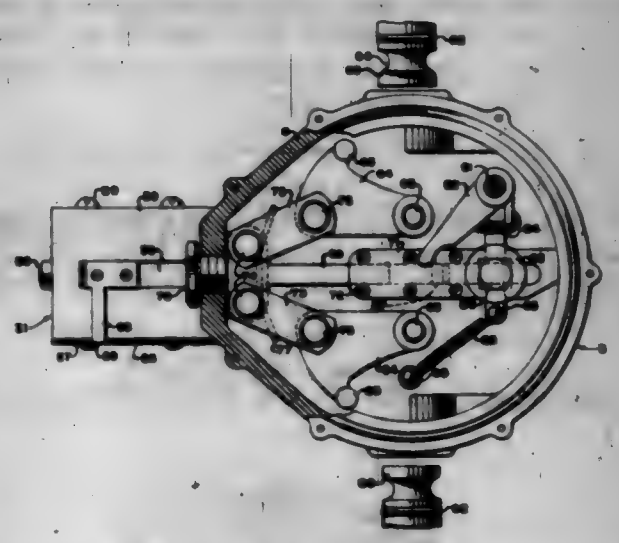
2,966,850
RELEASE MECHANISM FOR MISSILE PROJECTORS
Herbert Allen, Houston, Tex., and Solomon Burg, Washington, D.C., assignors to the United States of America as represented by the Secretary of the Navy
Filed Sept. 8, 1949, Ser. No. 114,542
4 Claims. (Cl. 102—7)

1. A single lashing for jointly securing a missile to a projector cradle and the projector cradle to a projector comprising a flexible portion adapted to partially encircle the girth of a missile resting upon the projector cradle, a tension adjusting member attached to one end of the flexible portion, a releasable member attached to the other end of said flexible portion, one of said members engageable with the projector cradle, and the other member engageable with the projector tube, said release member



being releasable upon the firing of the projector to free the missile for flight separate from the cradle.

2,966,851
HYDROSTATIC PRESSURE RELEASE MECHANISM
John C. Goff, 1007 Copley Lane, Silver Spring, Md.
Filed Sept. 29, 1950, Ser. No. 187,650
11 Claims. (Cl. 102—13)
(Granted under Title 35, U.S. Code (1952), sec. 266)

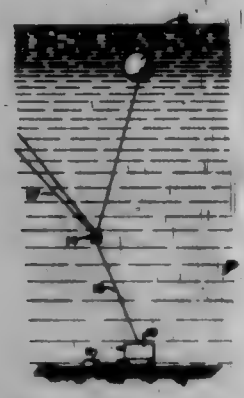


1. A device for releasing a bight in the mooring cable of a submarine mine including, in combination, a hydrostat, a bight release mechanism, a piston movable by said hydrostat, means in engagement with and movable by said piston sufficiently to operate said release mechanism to bight releasing position as the piston is moved a predetermined amount by hydrostat pressure applied to the hydrostat, a cantilever spring arranged for opposing movement of said piston by said hydrostat, and settable means movable along the surface of said spring to change the effective length of the spring thereby to selectively vary the opposition of said spring to said movement of said piston.

2,966,852
ANTI-SWEEP DEVICE
Frank D. Yarnall, Hyattsville, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed Sept. 14, 1951, Ser. No. 246,697
9 Claims. (Cl. 102—15)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. An anti-sweep device mounted on the anchor cable of a moored mine comprising, in combination, a frame mem-

ber having a hub with an axial bore therethrough for receiving said cable and having serrated knife members for engaging and cutting a sweep wire, a pair of cylinders mounted on said frame at diametrically opposed sides of said bore and each having an open and a closed end, a pair of spring biased pistons respectively mounted in said cylinders, a ring member rotatively mounted on said hub, a set screw mounted in said ring member for engaging the hub to lock the ring member thereto in a



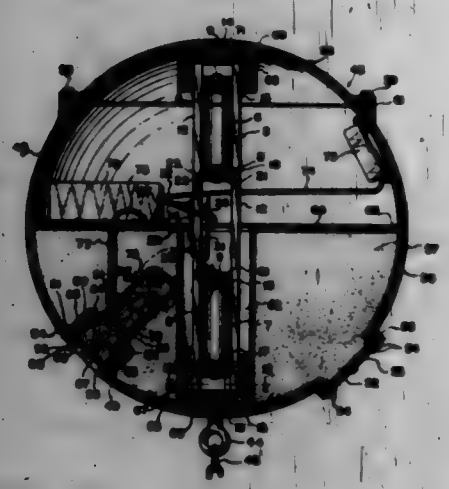
selected adjusted position, a pair of toothed gripping levers respectively pivoted to said ring member at diametrically opposed points, a pointer secured to said ring, a scale secured to said frame in registry with said pointer whereby the pivot points of said levers may be set rotatively with respect to the frame, and respective link connections between said levers and said pistons for moving the levers into gripping engagement with the anchor cable as the frame descends on the cable until a hydrostatic pressure is reached corresponding to a selected depth of submersion.

2,966,853

BUOYANT MINE WITH GRADIOMETER

Edward S. Gilfillan, Jr., Manchester, Mass. (10 S. Prospect St., Oberlin, Ohio), and Seymour J. Sindeband, 340 E. 72nd St., New York, N.Y.

Filed Oct. 27, 1941, Ser. No. 416,742
14 Claims. (Cl. 102—18)
(Granted under Title 35, U.S. Code (1952), sec. 266)



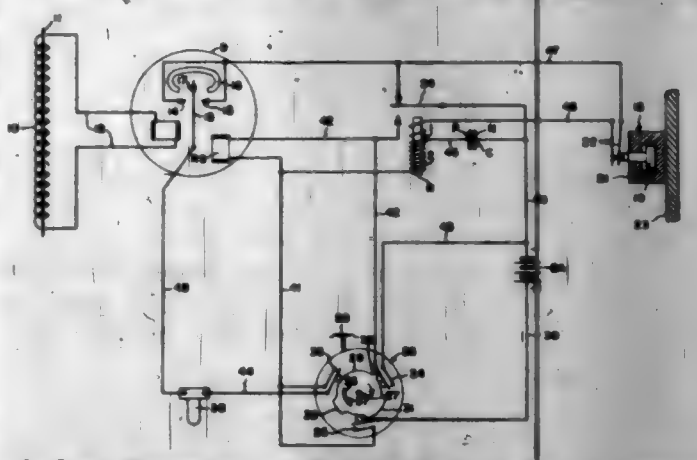
12. In a buoyant mine adapted to be moored within a body of water, in combination, means for detecting small changes in the gradient of the terrestrial magnetic field adjacent the mine, said detecting means comprising a pair of oppoesdly connected coils having a pair of magnetic rods respectively disposed within each of said coils and adapted to generate electric signals having a variable voltage characteristic controlled by the difference in the rate of change of the flux linkages of each of the coils with the magnetic flux respectively picked up by said rods from said magnetic field, means for supporting said coils and rods substantially immovably within the mine, and means for preventing the generation of an electric signal by said coils as the mine moves angularly within the water.

2,966,854

MEANS FOR DISARMING A MINE

John F. Toomey, Floral Park, N.Y.
(On Top O' The Hill, Chilmark, Mass.)

Filed Feb. 12, 1945, Ser. No. 577,400
12 Claims. (Cl. 102—18)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. In a disarming mechanism for a mine, in combination, a mine firing circuit, a relay having a pair of normally closed contacts included within the firing circuit, said relay having an operating winding and a hold winding, a normally charged condenser connected to said windings, a virbationally responsive device secured to said mine and adapted to close a pair of normally open contact elements as vibrations are received thereby, a discharge circuit for said condenser including said operating winding, said normally open contact elements and the normally closed contacts of said relay whereby the relay is operated as the contact elements are engaged, and means including said hold winding and effective after said normally closed contacts have been disengaged for charging said condenser and for maintaining the relay operated until said condenser has received a predetermined charge.

2,966,855

EXPLOSIVE-CONTAINING BAG USED IN BLASTING

John Frank Barco, Du Quoin, Ill., assignor to Aimite-Midwest Incorporated, Du Quoin, Ill., a corporation of Illinois

Filed Mar. 20, 1958, Ser. No. 722,696
1 Claim. (Cl. 102—22)



In an explosive-containing bag, a cylindrical body of laminated material comprising an outer fabric layer

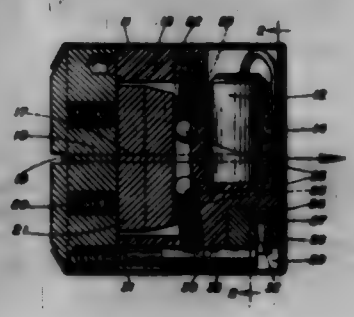
and an inner liner of Pliofilm attached to and coextensive with said outer fabric layer, said cylindrical body being formed with an inwardly disposed captive pleat presenting an outwardly opening mouth, a frangible strip secured to the exposed face of said outer layer of fabric on opposite sides of said mouth, a ripcord beneath said strip in said mouth and having a projecting end at the bottom of said bag, and ammonium nitrate filling said bag and holding said captive pleat against the inner side of said cylindrical body.

2,966,856

MAGNETIC DETONATOR

Howard E. Tatel, Washington, D.C., assignor to the United States of America as represented by the Secretary of the Navy

Filed Feb. 7, 1946, Ser. No. 646,165
1 Claim. (Cl. 102—70.2)



A magnetic detonator for an ordnance missile, and comprising a yoke of magnetic material, a winding carried by said yoke, an armature coacting with said yoke to form therewith a normally closed magnetic circuit, with its magnetic flux interlinked with said winding, means mechanically holding the armature in contact with the yoke, said means being retractable by centrifugal force to release the armature and thus arm the detonator when spin occurs, said armature thereupon being held to the yoke solely by their mutual magnetic attraction, the surface of contact between the armature and the yoke being so oriented with respect to the direction of travel of the missile that upon impact inertial forces will cause the armature and yoke to separate suddenly, thereby generating a voltage in the winding, an electrically operable primer forming a circuit with the winding, means initially shortcircuiting the primer, means for breaking said short circuit including a member mounted to shift radially with respect to the missile, and means normally preventing such shift but movable by inertia when set-back occurs, to release the member, whereupon centrifugal force will cause the radial shift to take place, thereby breaking the short circuit when spin occurs.

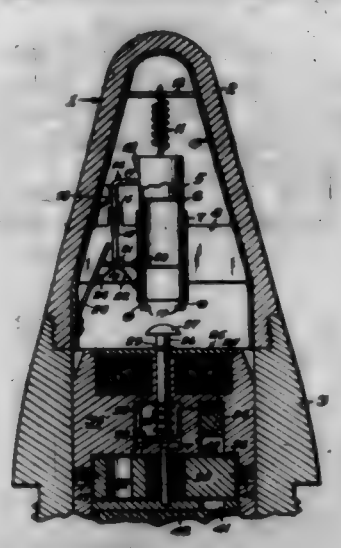
2,966,857

ELECTRIC FUZE, MAGNETIC IMPULSE GENERATOR

John F. Toomey, Chilmark, Mass., assignor to the United States of America as represented by the Secretary of the Army

Filed June 1, 1959, Ser. No. 817,423
3 Claims. (Cl. 102—70.2)

1. An electric fuze for a projectile comprising a body, a housing in said body, an arming rotor in said housing, a detonator in said housing, an electric impulse generator in said housing, said generator including an electro magnetic field winding and an impact responsive armature slidable in said winding, a self-destruction mechanism for said fuze mounted in said body forwardly of and spaced from said generator armature, said mechanism comprising an axially disposed guide fixed in said body, a spring tensioned weight slidably mounted in said guide, a tripping lever pivotally mounted on said guide, a stop lever pivoted on said guide normally restraining said tripping lever against pivotal movement, and a spring member attached at one end to said body, its free end normally restraining said stop lever against pivotal movement, said weight adapted to be moved axially rearward upon projectile acceleration force and engage said



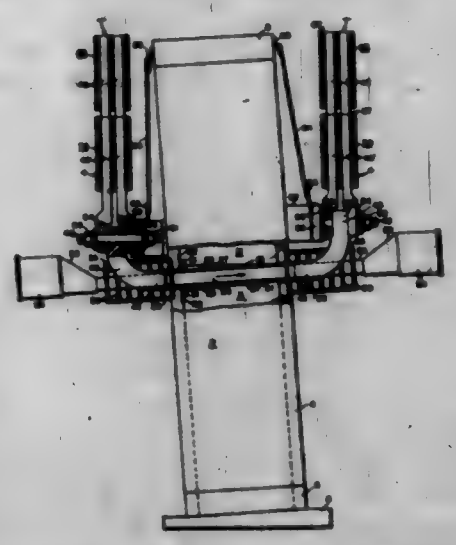
armature, said tripping lever acting to hold said weight in said rearward axial position, said spring member adapted to move outwardly upon projectile spin to release said stop member, said spring member moving inwardly upon cessation of projectile spin and rotating said tripping lever whereby said weight is released to move said armature to induce an electric current in said field winding and fire said detonator.

2,966,858

ELECTROMAGNETIC FLUID PUMP

John F. Peters, Edgewood, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

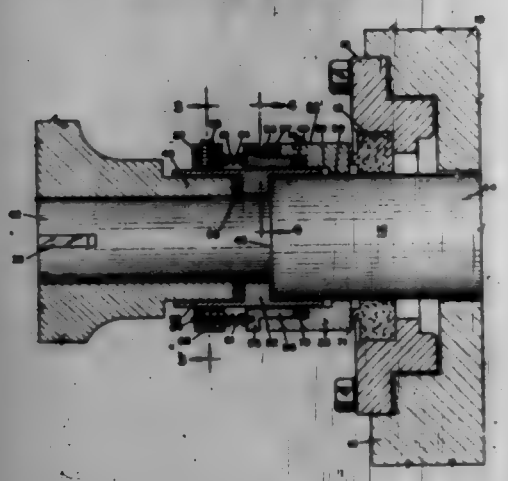
Filed Feb. 10, 1955, Ser. No. 487,354
10 Claims. (Cl. 103—1)



1. A dynamoelectric machine comprising a magnetic structure having a rectangular frame and permanent magnets mounted in said frame, said magnets having inclined pole pieces so that the magnetic flux produced by said magnets is greater at one end of said pole pieces than the other, a tubular pump chamber having diverging end sections and a straight center section of uniform wall thickness, said center section being positioned between said pole pieces, re-enforcing means for each end of said center section where it extends beyond said pole pieces, two U-shaped bus bars, one of said bus bars being attached by its bight portion to one side of the unre-enforced portion of the center section of said pump chamber, the other of said bus bars being attached by its bight

portion to the opposite side of said pump chamber directly opposite said first bus bar, power conductors attached to each leg of both said U-shaped bus bars to cause a current flow through said center section of the pump chamber.

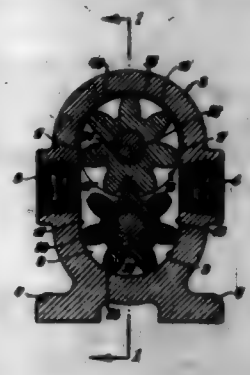
2,966,859
PUMP AND PACKING
Leslie P. Salter, Jr., and Doyle E. Thomas, Jr., Baytown, Tex., assignors, by mesne assignments, to Esso Research and Engineering Company, Elizabeth, N.J., a corporation of Delaware
Filed Mar. 10, 1958, Ser. No. 720,244
3 Claims. (Cl. 103—111)



1. In a centrifugal pump: a pump casing; an impeller drive shaft extending into the pump casing, said shaft having a smaller diameter portion, and a larger diameter portion extending from a point within the pump casing to outside the pump casing thus forming a circular shoulder within the casing; a spacer member and an impeller mounted about the smaller diameter portion of the shaft, the spacer member abutting said circular shoulder; sealing means disposed so as to prevent the passage of fluid between said spacer member and impeller; a rotatable mechanical seal member mounted about the larger diameter portion of said shaft; a stationary mechanical seal member mounted on the pump casing; a compression ring mounted about the spacer member and connected to the rotatable mechanical seal member; sealing means disposed so as to prevent the passage of fluid between the compression ring and the rotatable mechanical seal member; a collar mounted about the shaft and spaced from the compression ring and movable axially along said shaft; a plurality of compression springs mounted within the collar and acting against the compression ring causing the rotatable mechanical seal member to be pressed against the stationary mechanical seal member in fluid-tight engagement; and at least one set screw in the collar for locking the collar in a position to be driven by the impeller and in any desired position axially along the shaft, whereby the adjustment of the axial position of said collar on said shaft adjusts the compression of the rotatable mechanical seal member against said stationary mechanical seal member.

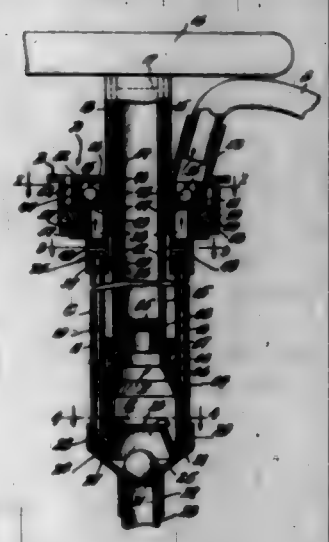
2,966,860
PUMP FOR CORROSIVE FLUIDS
Robert N. Maynard, Gasport, N.Y., assignor to Lobee Pump & Machinery Co., Gasport, N.Y., a corporation of New York
Filed Apr. 3, 1957, Ser. No. 650,519
4 Claims. (Cl. 103—126)

1. A gear pump for handling highly corrosive ladings, comprising a casing and a pair of intermeshing gears each having working surfaces moving in opposition to closely spaced working surfaces of said casing to propel said lading, one of said gears being composed of a metal resistive to the corrosive effects of said lading and the other gear being composed of a resin resistive to the corrosive effects of said lading, the said working surfaces of said



casing opposing said one of said gears being composed of said resin, and the said working surfaces of said casing opposing said other gear being composed of said metal.

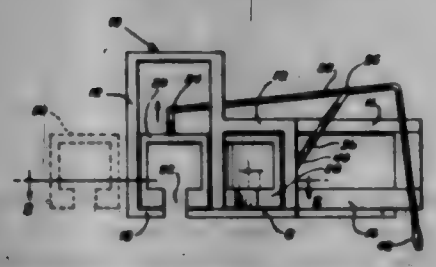
2,966,861
MEASURING PUMP
James U. Stewart, Whittier, and Rex C. Cooprider, Downey, Calif., assignors to The Drackett Company, Cincinnati, Ohio, a corporation of Ohio
Filed Oct. 8, 1956, Ser. No. 614,643
6 Claims. (Cl. 103—153)



1. A pump comprising inner and outer relatively coextensive cylindrical tubes arranged concentrically and relatively radially spaced to define a pump chamber within said inner tube and a discharge chamber encircling said pump chamber, a piston reciprocable in said pump chamber and having a piston rod of lesser diameter than the chamber projecting externally through the upper end thereof, a bottom intake element secured on and concentrically positioning the lower ends of said tubes, said element including an upwardly projecting annular sleeve receiving the lower end of the outer said tube and further including an annular series of relatively circumferentially spaced studs projecting upwardly between said tubes, the spaces between said studs providing continuous communication between said pump chamber and said discharge chamber, said element being formed with an intake port communicating with said pump chamber, a check valve carried by said intake element for preventing backflow of fluid through said intake port, an annular discharge fitting comprising concentric inner and outer sleeves telescopically associated with and concentrically positioning the upper ends of said tubes, said sleeves being radially spaced and defining between them an upward axial extension of said discharge chambers, said inner sleeve depending concentrically within the pump chamber to limit the upward stroke of the piston, and spaced radial-

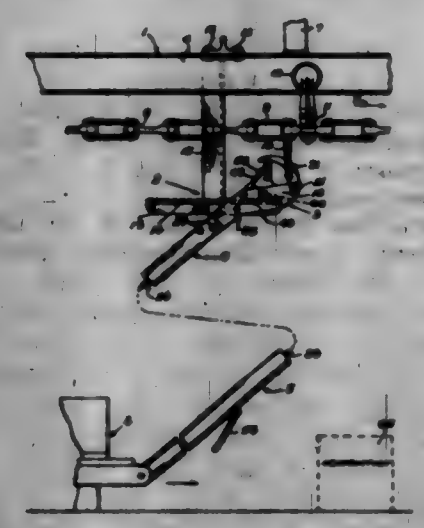
ly from the piston rod to define a fluid flow passage, relatively circumferentially spaced radial conduits rigidly interconnecting said sleeves across said discharge chamber extension above the said tubes, and defining radial vent passages opening through said sleeves and communicating with said pump chamber to permit escape of fluid trapped above the piston in said pump chamber and to prevent an air lock within said chamber, an annular outlet manifold fixed concentrically on said annular discharge fitting over the upper end of said discharge chamber extension, said manifold defining an annular chamber around the piston rod and having an inner peripheral portion in guiding wiping engagement with said piston rod above said radial vent passages, said manifold having a plurality of ports establishing communication between said chamber extension and said annular chamber, check valves within said manifold operatively associated with said ports for controlling the respective ports for preventing backflow of fluid through said ports toward the said chamber extension, said manifold further being formed with a discharge opening communicating with the atmosphere.

2,966,862
TRACK SWITCHES FOR CONVEYORS
John Meredith Leach, 17 Monfort Road, Port Washington, N.Y.
Filed June 22, 1959, Ser. No. 821,792
5 Claims. (Cl. 104—162)



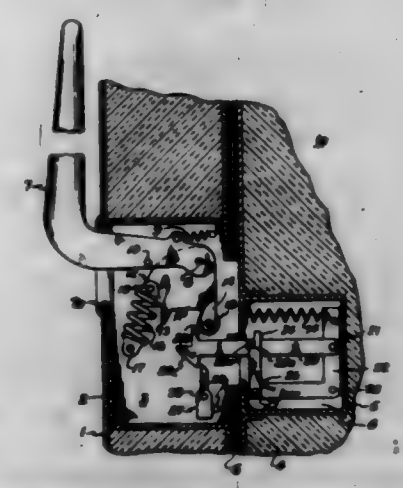
1. A track switch comprising a frame, a movable track section supported in the frame for vertical movement, a movable track section supported in the frame for horizontal movement, and means for raising the vertically movable section and moving the horizontally movable section thereunder.

2,966,863
SAFETY COUPLER
Floyd B. Heichel, 335 Highland Blvd., San Antonio, Tex.
Filed Dec. 16, 1958, Ser. No. 780,967
11 Claims. (Cl. 104—170)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. In combination, a power conveyor having load pick-up means adapted to advance in a substantially straight direction, a pickup station disposed in fixed spaced relation to said load pickup means, a pickup hook device adapted to be connected to a load, a support fixed at said pickup station for supporting said pickup hook device in position at said pickup station to be engaged and picked up by said load pickup means for connecting a load to said load pickup means.

2,966,864
REFRIGERATOR LOCK WITH INSIDE RELEASE
Elmer R. Weaver, Chevy Chase, Md., assignor to the United States of America as represented by the Secretary of Commerce
Filed Dec. 12, 1957, Ser. No. 702,491
3 Claims. (Cl. 109—63.5)

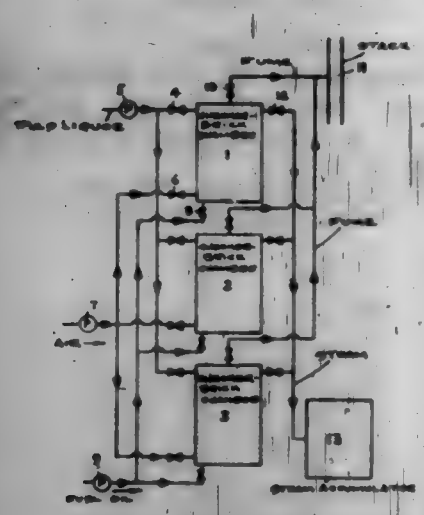


1. In combination, a closure, a cabinet, a gasket of resilient material positioned on said cabinet for sealing the space between the closure and cabinet, a rotatable member located on said cabinet, a keeper having an inactive and a cocked position pivotably mounted on said rotatable member, latching means including a positionable latch bolt movably mounted on said closure, said latch bolt positioned on said closure to engage said keeper when said closure is in contact with said gasket, means for biasing said latch bolt when in contact with said keeper to exert a thrust in a first direction along said keeper, means for biasing said rotatable member in a direction such that a thrust is exerted along said keeper in a direction opposite to said first direction, a movable sear having a first and second position, said sear in the first position being located to maintain said keeper in the cocked position, and releasing means for moving said sear to said second position, said releasing means being located on said closure and within said cabinet when the closure is in contact with said gasket.

2,966,865
DISPOSAL OF EFFLUENT
Fred Crowther Aldred and William Gerard Daroux, Coventry, England, assignors to Courtaulds Limited, London, England, a British company
Filed July 30, 1957, Ser. No. 675,137
Claims priority, application Great Britain Aug. 9, 1956
2 Claims. (Cl. 110—7)

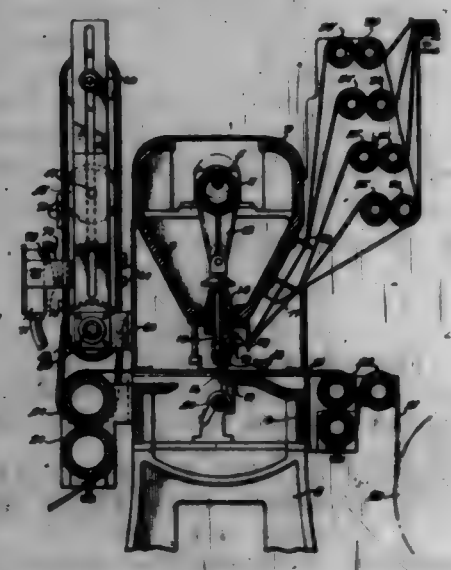
1. A continuous cyclic process for the treatment of an aqueous liquor containing non-volatile oxidisable components which comprises passing a quantity of said liquor into a first hot chamber having a high thermal capacity, said first chamber being at a temperature of at least 800° C., evaporating the liquid content of said liquor, drawing off the resulting vapor and leaving said non-volatile components within said chamber, terminating the flow of liquor to said first chamber while it is still at a temperature of at least 200° C., and causing said liquor to flow into a second chamber having a high thermal capacity, said second chamber being at a temperature of at least 800° C., evaporating the liquid content-

of said liquor in said second chamber, drawing off the resulting vapor and leaving said non-volatile components in said second chamber, passing air into said first chamber, and oxidising and burning said non-volatile oxidisable components in said first chamber thereby reheating said first chamber, terminating the flow of liquor



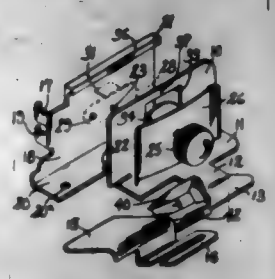
to said second chamber while it is still at a temperature of at least 200° C., passing air into said second chamber and oxidising and burning the non-volatile components deposited in said second chamber, thereby reheating said second chamber, and again passing said liquor into said first chamber at a time subsequent to the time when the flow of liquor into said second chamber has been terminated.

2,966,866
METHOD OF AND APPARATUS FOR MAKING PATTERNED TUFTED PILE FABRIC
Joseph Lewis Card, Chattanooga, Tenn., assignor, by mesne assignments, to Cobble Brothers Machinery Company, Inc.
Continuation of application Ser. No. 327,807, Dec. 24, 1952. This application Mar. 26, 1959, Ser. No. 802,262
10 Claims. (Cl. 112—79)



9. In a tufting machine comprising a frame including a top housing and a bed plate, a shaft journaled in said top housing, means for imparting rotation to said shaft, a needle bar, a plurality of needles carried by said needle bar, means for mounting said needle bar on said top housing for reciprocation to pass said needles through said bed plate upon reciprocation thereof, means operatively connecting said shaft and said needle bar for imparting reciprocation to said needle bar upon rotation of said shaft, a rock shaft mounted in said bed, a plurality of hooks on said rock shaft for cooperating individually in timed relation with each of said needles to enter and to release loops of thread on said needles, means for feeding a base fabric across said bed plate and past said needles, means for feeding upon each stitch to each needle a length of thread that in accordance with a predetermined pattern is variable between different ones of said needles and for any one needle is variable between successive stitches, stationary thread guiding means secured on said frame adjacent to the needles for guiding a thread toward each needle, and means movable with the needle bar for engaging the threads between said stationary thread guiding means and the needles in each cycle for alternately taking up and letting out constant lengths of thread as the needle bar is reciprocated, said last-mentioned means being adapted to deflect the threads transversely of the length thereof and draw thread from a loop in the work on the upstroke of the needle bar.

2,966,867
BINDING ATTACHMENT FOR SEWING MACHINES
Samuel P. Caldwell, Hamden, Conn., assignor to The Greist Manufacturing Company, New Haven, Conn., a corporation of Connecticut
Filed Sept. 9, 1957, Ser. No. 682,765
5 Claims. (Cl. 112—137)

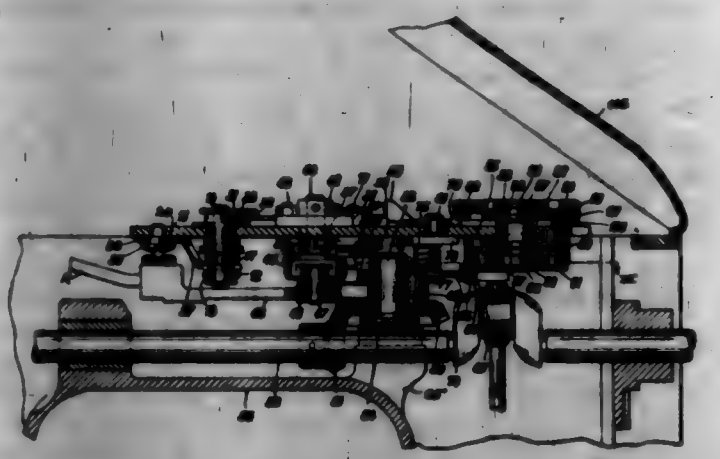


4. In a binder attachment for sewing machines, a plate having an adapted thereon to secure the plate to the presser bar of a sewing machine in a substantially vertical plane, a frame having a substantially vertically disposed plate adapted to lie flatly against said first plate, said second plate having an upwardly inclined flat portion projecting forwardly therefrom and extending laterally of the line of sewing, a cloth-supporting apron carried by said portion adjacent one end thereof, a scroll carried by said upwardly inclined portion adjacent said apron, means to secure said scroll frictionally to said portion for adjustment relatively thereto, means to secure said second plate adjustably to the first plate, and means for adjustably securing said plates together including a cam member rotatably mounted in one of said plates and engaged in an opening of the other of said plates whereby rotation of the cam member effects adjustment of one plate relatively to the other.

2,966,868
ZIGZAG SEWING MACHINE
Heinrich Thoenhessen and Otto Wenk, Bielefeld, Germany, assignors to Anker-Werke A.G., Bielefeld, Germany, a corporation of Germany
Filed June 13, 1955, Ser. No. 515,160
Claims priority, application Germany June 18, 1954
31 Claims. (Cl. 112—158)

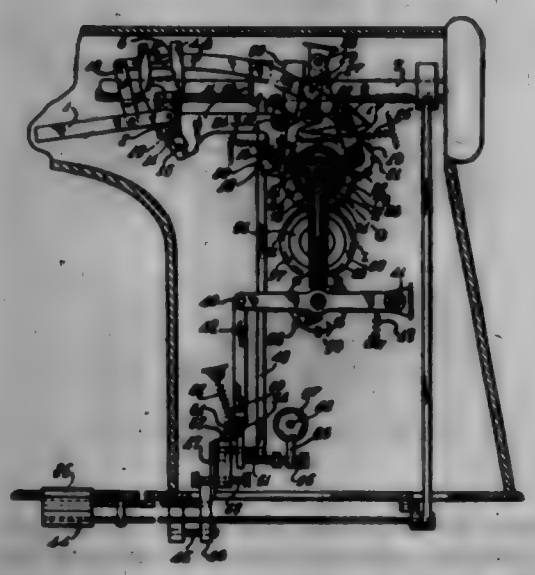
1. A zigzag sewing machine, comprising a housing having an opening at the top, a main shaft horizontally disposed in said housing, an axially reciprocable needle bar horizontally oscillatable for producing lateral stitches, variable speed ratio motion-translating transmission apparatus between said shaft and said needle bar for translating revolution of said shaft into lateral oscillation of said needle bar, automatic control means including cam means and cam follower means disengageably linked to said transmission apparatus for automatically controlling the stitching width and stitching area

according to a desired pattern, oscillating drive means for incrementally driving said cam means to issue control pulses from the latter to said transmission apparatus, an oscillation amplitude control mechanism for infinitely regulating throughout a predetermined range the oscillation amplitude of said drive means so as to steplessly vary the stitching width at standstill and during reciprocation of said needle bar, said amplitude control mech-



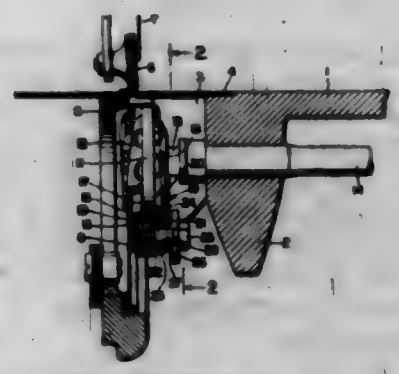
anism having movable pivot means about which said drive means is pivotable to perform its oscillations, an oscillation displacing mechanism operably connected with said pivot means for shifting same so as to infinitely vary the magnitude and frequency of said control pulses within said predetermined range so as to steplessly control the stitching area, and separate manual control means respectively connected with said transmission apparatus for steplessly varying the stitching width and stitching area at standstill and during reciprocation of said needle bar.

2,966,869
ZIG-ZAG SEWING MACHINE
Ernst Fischer, Suhl, Thuringia, Germany, assignor, by mesne assignments, to VEB Nähmaschinenwerk Wittenberge, Wittenberge, Germany
Filed June 28, 1956, Ser. No. 594,534
33 Claims. (Cl. 112—158)



1. In a zig-zag sewing machine having a longitudinally reciprocatable and laterally movable needle bar, the combination comprising a substantially cylindrical carrier member having a plurality of finite longitudinally elongated lifting members spaced around the circumference of said carrier member, each lifting member having different longitudinal edge configurations including outstanding and recessed portions of outlines specific to a particular sewing pattern, means for rotating said carrier member to present a select one of said longitudinal members in an operative position, a follower mechanism having a sweeping spiral member in contact with the selected one of said longitudinal edge configurations of said lifting members when in an operative position, means for rotating said spiral member, mounting means for said carrier member and follower member to permit relative movement therebetween in directions substantially perpendicular to the longitudinal axis of said lifting member, said needle control means connected to said needle bar and to either said carrier member or said sweeping spiral member, and responsive to the relative movement between said carrier member and said sweeping spiral member as said sweeping spiral member moves in contact with said lifting member to control the lateral movement of said needle bar during its reciprocation.

2,966,870
SHUTTLE MECHANISMS WITH CAM LOCK
Charles A. Kessler, Plainfield, N.J., assignor to The Singer Manufacturing Company, Elizabeth, N.J., a corporation of New Jersey
Filed Oct. 8, 1957, Ser. No. 688,883
2 Claims. (Cl. 112—196)

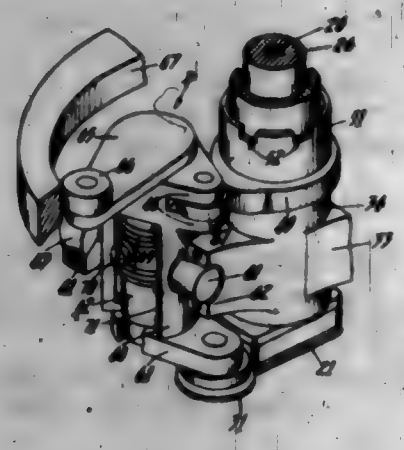


1. In a sewing machine, a shuttle mechanism comprising a stationary shuttle housing having an open-sided internal circular raceway, a shuttle having a bearing rib journaled in said raceway, a separable shuttle cap for closing the open side of said raceway, and means for resiliently urging said shuttle cap against said housing comprising a leaf spring having the one face thereof in engagement with said shuttle at one end and said shuttle cap at the other end, a stud mounted on said housing adjacent to said spring, a cam plate mounted for turning on said stud and having a portion thereof overlying an intermediate portion of said spring, a cam lobe on the face of said portion of said cam plate adjacent to said spring for moving into and out of engagement with the intermediate portion of said spring as said cam plate is turned for flexing and relaxing said spring as said cam plate is turned and thereby varying the action of said spring on said shuttle cap, and means for manually turning said cam plate.

2,966,871
CURLING HEAD
Edward De Geer, San Francisco, Calif., assignor to American Can Company, New York, N.Y., a corporation of New Jersey
Filed May 28, 1957, Ser. No. 662,881
5 Claims. (Cl. 113—24)

1. A curling head for curling flanges of non-circular can ends to facilitate uniting of the ends to can bodies, comprising a chuck for holding a can end to be curled, said chuck having a contour corresponding to the shape of the can end, a head body having rotative movement around said chuck, means for rotating said head body, a vertically disposed housing having laterally projecting trunnions intermediate its ends journaled in said head body for tiltable oscillation of said housing relative to said body, a vertically disposed tiltable and oscillatable shaft journaled in said housing, said shaft on one side

of said trunnions having an arm carrying a curling roller aligned with said chuck and on the opposite side of said trunnions having an arm carrying a cam roller, a stationary follower cam engageable with said cam roller for rotatably oscillating said shaft during rotation of said head body to guide said curling roller around said chuck in an orbit parallel to the contour of the chuck, cam means for tiltably rocking said housing on its said trun-



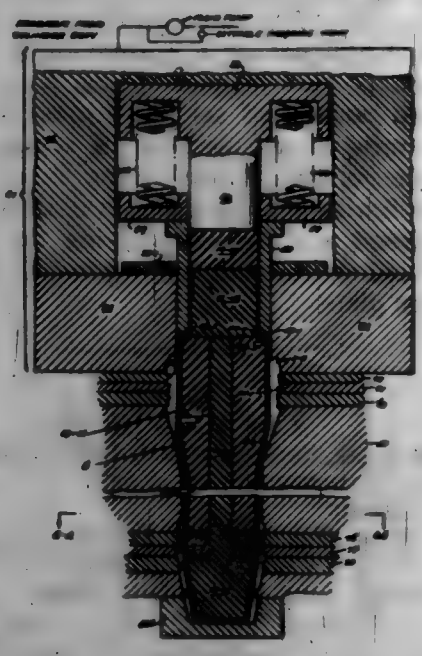
nions during rotation of said head body to modify the said orbit movement of said curling roller to shift said curling roller into and out of curling position relative to said chuck, and a torsion spring surrounding and intermediately secured to said shaft, the free ends of said spring engaging said housing so as to tend to axially rotate said shaft for holding said cam roller in engagement with said stationary follower cam and for holding said cam means in operative engagement for the respective purposes specified.

2,966,872

FORMING SHAPED HOLLOW METAL ARTICLES AND EQUIPMENT THEREFOR

Karl C. Schmoeker, White Plains, N.Y., assignor, by mesne assignments, to Ryerson & Haynes, Inc., a corporation of Michigan

Filed Nov. 2, 1953, Ser. No. 389,526
34 Claims. (Cl. 113—44)



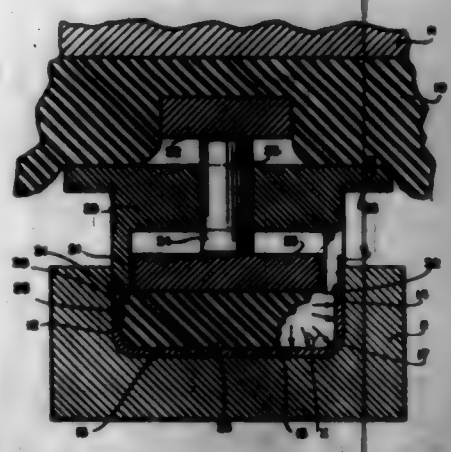
1. The method of producing a predetermined configuration in a thin walled hollow blank of metal which is flowable under pressure while maintaining substantially the same thickness in the wall portions of the finished article as that of the initial metal blank, comprising the steps of positioning the metal blank within a hollow die cavity having the predetermined configuration, positioning within said blank a portion of a composite bulging structure comprised at least in part of a plurality of elastic rubber-like members of different hardness and different degrees of compressibility whereby various portions of the said structure when subjected to the same pressure have non-uniform expansion characteristics and with the elastic rubber-like member which is disposable at least in part in a predetermined inner region of the blank and die cavity being one of said members having the least resistance to compression, applying axial pressure to a selected portion of said composite bulging structure sufficient to produce differential flow of the elastic rubber-like members and a controllable channeling of the pressure transmitted through the structure to said predetermined inner region of the die cavity by virtue of the differential flow of the rubber-like members, initiating the principal radial outward expansion and flow of the portion of the bulging structure disposed in the blank and the radial outward flow of metal in said blank in said inner region of the die cavity and at a point spaced from the starting point of said axial pressure, continuing the application of pressure in such a fashion as to produce a continued flow of metal in the blank radially outward from the said inner region of the die cavity in progressive increments back toward the starting point of said axial pressure so as to conform the blank in general to the configuration of the die cavity and during the said radial flow of the metal in the blank maintaining at least the major part of the axial length of the blank in a floating condition with respect to the wall surfaces of the die cavity until near the end of the application of pressure whereby the blank will be drawn into the die cavity and into the configuration of the wall surfaces of the die cavity without any substantial frictional resistance with the said wall surfaces of the die cavity.

2,966,873

DEVICE FOR FORMING SHEET MATERIAL

Frederick C. Hoffman, Sherman Oaks, and William Schroeder, Sunland, Calif., assignors to Lockheed Aircraft Corporation, Burbank, Calif.

Filed Jan. 11, 1955, Ser. No. 481,262
8 Claims. (Cl. 113—44)



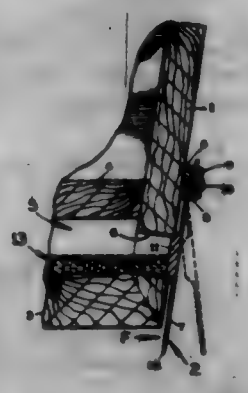
2. Means for accurately sizing and shaping an elongate channel shaped piece having a center web and flanges joining the same at corners comprising a die having a cavity in which the piece is arranged, a flowable-material element engaged in the channel shaped piece, a punch assembly including members movable relative to the element for applying edgewise compression forces to the edges of the flanges, said assembly having an extensive upper surface, pressure means movable downwardly toward the cavity to press against said element and presenting an upper surface spaced above said punch assembly when said pressure means is in contact with said element, said surface of said pressure means being of less area than said upper surface of the punch

assembly, a platen of flowable material, and a force applying means for forceably pressing the platen downwardly on said surface of the pressure means to thereby force said element against the internal surfaces of the piece to hold the web and flanges against the walls of the cavity. the platen then flowing around said surface of the pressure means onto said surface of said assembly to transmit force to said members and thus subject the material of the piece to edgewise compression while the web and flanges are restrained.

2,966,874
COATING SHEET METAL CONTAINERS
Nasmon F. Barr, Ross Township, Allegheny County, and Henry J. Bach, Mount Lebanon Township, Allegheny County, Pa., assignors, by mesne assignments, to American-Marietta Company, Stoner-Mudge Co. Division, Chicago, Ill., a corporation of Illinois
No Drawing. Filed Jan. 27, 1956, Ser. No. 561,946
19 Claims. (Cl. 113—120)

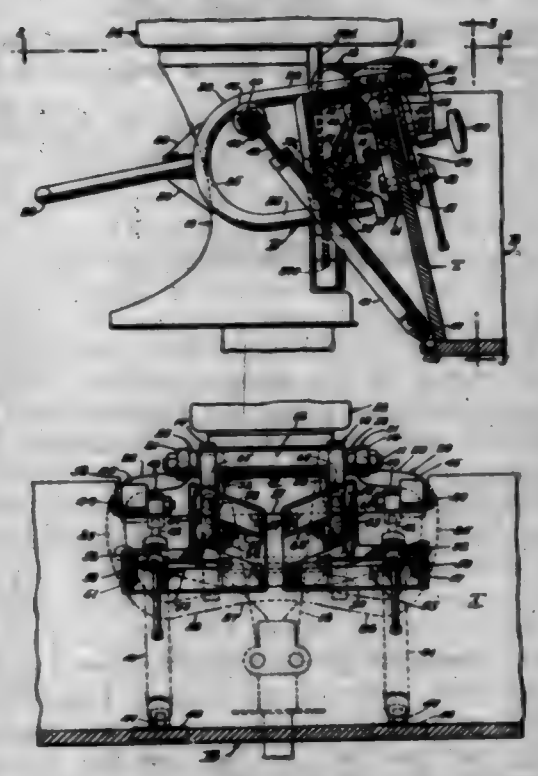
1. The process of making a container suitable for foods and beverages and the like, comprising the steps of soldering a seam in part of a metal container at a temperature of about 650 to 750° F., coating said seam with a composition consisting essentially of resins A and B dissolved in a volatile organic solvent, and containing about 45 to 65% by weight of resin A, the balance being resin B, resin A being a polyepoxide polyether resin having recurring hydroxy groups and terminal epoxide groups, an average molecular weight of about 600 to 2300, and an epoxide equivalent value of about 300 to 1500, and resin B being a polyamine resin formed by condensation reaction of a polymerized unsaturated fatty acid with an aliphatic polyamine and having an amine equivalence of about 200 to 800 as determined by titration with aqueous hydrochloric acid, and an average molecular weight of about 2000 to 6000, said resins A and B being substantially unreacted when the composition is initially coated on the seam, and utilizing the heat imparted to the seam during the soldering step to react resins A and B and thereby thermoset the composition.

2,966,875
SELF-BAILER FOR BOATS
Robert C. Irey, 11450 SW. 60th Ave., Miami, Fla.
Filed Apr. 14, 1960, Ser. No. 22,324
4 Claims. (Cl. 114—185)



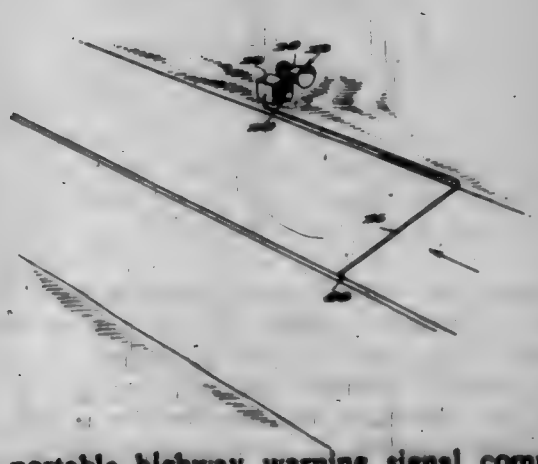
1. An automatic bailer for water in the bilge of a boat responsive to the water slip stream at the terminus portions of the bottom and transom of said boat comprising an orifice means through said transom into said bilge below the static water line of said boat, a valve means on the outside of said transom positioned for movement from a normally closed to an open position over said orifice when operated, urging means secured to said transom means and said valve means for retaining said valve to said transom and normally urging the latter in said closed position, a portion of said valve means extending a predetermined distance from said bottom into the path of said slip stream whereby said valve means will be moved against the restraining action of said urging means to said open position thereby and said water in said bilge induced outward from said bilge through said orifice by said slip stream when said boat is propelled forward in water.

2,966,876
OUTBOARD MOTOR POSITION-ADJUSTING APPARATUS
Wallace MacWilliam, 363 Crest Road, Ridgewood, N.J.
Filed Mar. 26, 1958, Ser. No. 724,014
12 Claims. (Cl. 115—41)



1. Apparatus for adjusting the position of an outboard motor on the transom of a boat, comprising in combination with the stern clamp bracket, a transverse, stern-bracket pivot pin, a motor swivel bracket swingably mounting the motor on said pin, a frame providing a cradle for supporting the motor, said frame also being swingably mounted on said bracket pivot pin, and power means for swinging the cradle on said pin whereby to alter the transom angle of the motor.

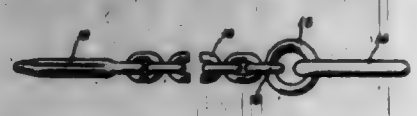
2,966,877
HIGHWAY SIGNAL DEVICE
William G. Kenold and John A. Finken, Falls Church, Va., assignors to George Mingle, Columbus, Ohio
Filed Mar. 29, 1957, Ser. No. 649,392
3 Claims. (Cl. 116—65)



1. A portable highway warning signal comprising a horn, a supply of gas under pressure connected to said horn for causing said horn to emit an audible signal, a valve controlling the supply of gas to said horn, a flexible

fluid-filled tube adapted to be located on a highway, one end of said tube being closed, the other end of said tube being connected to a closed housing having a flexible diaphragm forming one wall thereof, and means connecting said diaphragm to said valve, said connecting means comprising linkage from said diaphragm to said valve, and a dash pot time delay connected to said linkage to delay the closing of said valve for a predetermined interval.

2,966,878
OVERLOAD INDICATOR FOR SLING CHAIN AND THE LIKE
Charles F. Feiser, Jr., York, Pa., assignor to Campbell Chain Company, York, Pa., a corporation of Pennsylvania
Filed Aug. 21, 1959, Ser. No. 835,327
5 Claims. (Cl. 116—114)



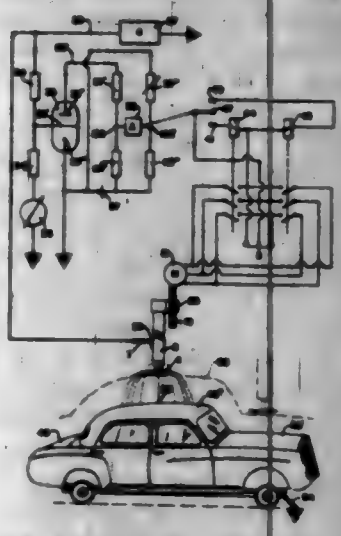
1. A sling unit proof-tested for a predetermined load limit in excess of the normal working load limit and connectable between a load and a pulling force, said sling including at least two spaced elements, and an indicating element of stainless steel-like material attached to said elements to extend therebetween, said stainless steel-like element having a distortable curved portion within said space between said elements, said distortable portion extending to one side of the line of force applied to the sling and having a higher ultimate strength than the weakest element of the sling unit but lower yield strength than said sling, whereby mere visual observation of the distortion of said indicating element will indicate if the working load limit of the sling unit has been exceeded, the strength of said indicating means being adequate to withstand the working load limit without appreciable distortion.

2,966,879
LEVEL INDICATOR FOR A TANK
John W. Farrell, 297 Ivy St., Kearny, N.J.
Filed Oct. 17, 1958, Ser. No. 767,799
1 Claim. (Cl. 116—118)



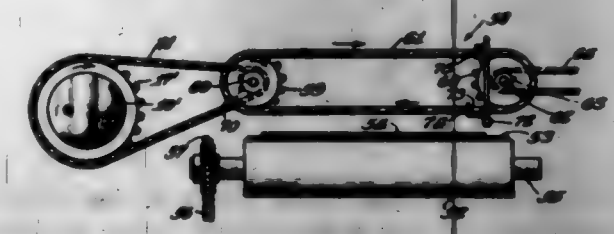
A support for a liquid level indicator for a tank comprising an inverted L-shaped bracket having vertical and horizontal legs, said vertical leg being adopted to be secured to the tank, said horizontal leg having a bottom portion and defining a disk, a first eye member secured to the bottom portion of the horizontal leg at the center of the disk, a second eye member universally pivoted to said first eye member, a rod attached to said second eye member, a collar attached to said rod adjacent to and below said second eye member and defining at the top thereof a spring engaging seat and a spring engaged with the disk on said horizontal leg and the spring engaging seat on said collar, whereby the rod is normally maintained in a perpendicular position with respect to the horizontal leg of the bracket and a vertically adjustable marker carried by the rod.

2,966,880
CONTROL ARRANGEMENT FOR ELECTROSTATIC SPRAY INSTALLATION
Otto Gengenbach and Horst Schone, Sindelfingen Kreis, Boeblingen, Germany, assignors to Daimler-Benz Aktiengesellschaft, Stuttgart-Untertuerkheim, Germany
Filed Nov. 23, 1956, Ser. No. 624,110
16 Claims. (Cl. 118—8)



1. In an electrostatic spray installation an arrangement for maintaining constant the distance of the spray-electrode with respect to the surface of an object to be covered during the electrostatic spraying of objects provided with relatively large non-uniformly shaped surfaces comprising spray-electrode means, and control means responsive to changes in an electric field between the object and said spray electrode, said changes being changes from a predetermined fixed field characteristic caused by changes in distance between the object and said spray electrode, said control means being operatively connected with said spray-electrode means for maintaining constant said distance.

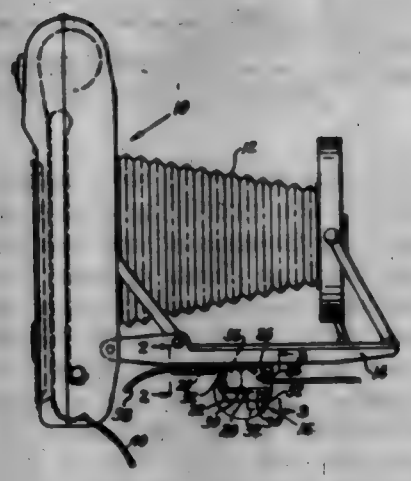
2,966,881
TIMING CONTROL DEVICE
Bruno E. Easule, Boulder, Colo., assignor to Binks Manufacturing Company, Chicago, Ill., a corporation of Delaware
Filed Apr. 23, 1959, Ser. No. 808,491
13 Claims. (Cl. 118—11)



1. A timing control device for electrically energizing and deenergizing an electrically actuated movable agent in conformity with the degree of movement of said agent which comprises, a frame, a rotatable member having a surface, said member being journaled for rotation in said frame, means for rotating said rotatable member in timed relationship with the movement of said agent, an electric circuit including means for actuating and deactuating said agent, a pair of circuit opening and closing elements included in said circuit and in contact with the surface

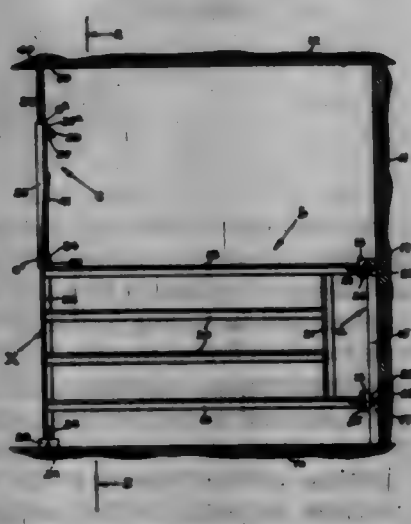
of said member for energizing and deenergizing said actuating means, a predetermined area of the surface of said member comprising means for closing said circuit opening and closing elements, the remaining area of the surface of said member comprising means for opening said circuit opening and closing elements and means carried by said frame for independently moving said pair of circuit opening and closing elements relative to the surface of said member and relative to each other.

2,966,882
QUICK PRINTING CAMERA ATTACHMENT
Michael J. Marshall, Sr., 180 Turpin St., Rochester 21, N.Y.
Filed Feb. 20, 1958, Ser. No. 716,441
4 Claims. (Cl. 118—236)



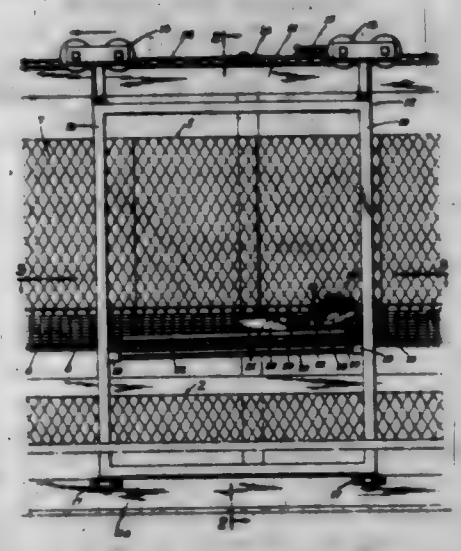
1. An attachment for quick printing cameras comprising a pair of ears, a first rotatable shaft extending transversely between said ears, a print straightening roller mounted on said first shaft, a second rotatable shaft spaced from said first shaft and extending transversely between said ears, an elongated holder mounted on said second shaft, a recess in said holder, a brush anchored in said recess and extending outwardly therefrom, and manually operable lever means connected to said second shaft for rotating said brush between inoperative position permitting a print to be inserted beneath said brush and print brushing position when the print is inserted therebeneath.

2,966,883
KNOCK-DOWN FARROWING PEN
John M. Lietzau, Cosmos, Minn.
Filed Apr. 17, 1959, Ser. No. 807,098
9 Claims. (Cl. 119—20)



2. A knockdown farrowing pen for installation in a building having a floor, wall and an overhead structure formed with a downwardly opening socket therein, said pen comprising a head frame adapted to be attached to the wall of the building, a pair of side frames, each side frame having a post at the rear end thereof, connecting means for each side frame adapted detachably to connect the same at its forward end to said head frame, connecting means for each post adapted detachably to connect the same at its lower end to the floor of the building, said last connecting means enabling said posts to be detached from said floor upon movement of the rear ends of the side frames upwardly from the floor, and hold-down means for holding down and depriving the rear ends of said side frames of movement upwardly from said floor, said hold-down means including a beam adapted to overlie the posts of the side frames, connecting means for each post adapted detachably to connect the same at its upper end to said beam and deprive the said upper end of the post of lateral movement relative to the beam, a truss member upstanding from said beam, said member being adapted to engage the overhead structure of the building, said truss member having an upstanding pin at its upper end adapted to be removably received in the downwardly opening socket in said overhead structure and to deprive said upper end of said truss member of lateral movement relative to said overhead structure.

2,966,884
EGG GATHERING APPARATUS FOR A POULTRY CAGE BATTERY
Hashem Naraghi, Rte. 2, Box 750, Escalon, Calif.
Filed July 30, 1958, Ser. No. 752,083
8 Claims. (Cl. 119—22)

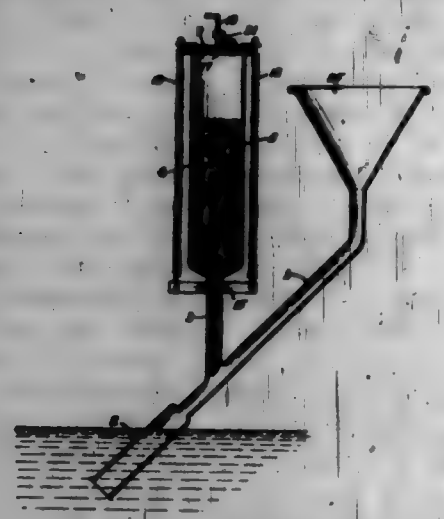


1. In a poultry-cage battery which includes a row of poultry cages having a trough in front of and common to the row of cages and into which eggs laid in the cages roll; a carriage mounted in connection with the battery and movable along the row of cages in front of the trough, a tray carried by the carriages to receive the eggs from the trough, and means functioning upon movement of the carriage lengthwise of the trough to transfer eggs from the trough to the tray; said means comprising a sweep mounted on the carriage opposite the tray in overlying relation to the trough at a level to engage eggs thereon, said sweep extending lengthwise of the trough and being disposed at an acuate angle to the longitudinal plane of the trough in facing relation to the direction of movement of the carriage.

2,966,885
FISH FEEDING DEVICE
Raymond B. Bentley, 762 Bayview Ave., Pacific Grove, Calif.
Filed June 14, 1957, Ser. No. 665,749
6 Claims. (Cl. 119—51)

1. Apparatus for the dispensing of food in a fish tank having an edge comprising a water supply tube for such

tank, means for supporting said tube at the edge of a fish tank with one end terminating below water level in such tank, a substantially sealed food container having a discharge connection to said tube at an intermediate point



thereon, said discharge connection having a cross section sufficient to permit withdrawal of ground liver and the like from said container under conditions of liquid flow through said supply tube, and leak means in said food container for admitting air to said food container under conditions of sub-atmospheric pressure therein.

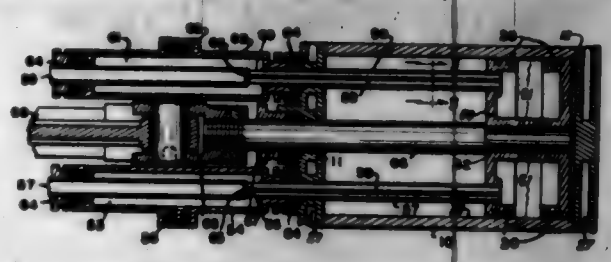
2,966,886
ANIMAL WATERER
Charles M. Perkins, Albion, Ill.
(P.O. Box 7709, Philadelphia 1, Pa.)
Filed June 12, 1959, Ser. No. 820,884
7 Claims. (Cl. 119—71)



1. An animal watering device comprising a closed chamber, a diaphragm in one wall of said chamber exposed on its outer side to the atmosphere for movement responsive to pressure changes on its inner side, an inlet connected to said chamber for passing water under pressure into said chamber, valve means in said inlet for opening and closing the latter, valve operator means connected between said diaphragm and valve means to open and close the latter upon diaphragm movement responsive to decreased and increased pressure, respectively, in said chamber, and an outlet nipple connected to said chamber and extending upward beyond the maximum water level therein to be sucked by an animal for removing water from said chamber, thereby decreasing the pressure in said chamber to effect opening of said valve means and the admission of additional water to said chamber.

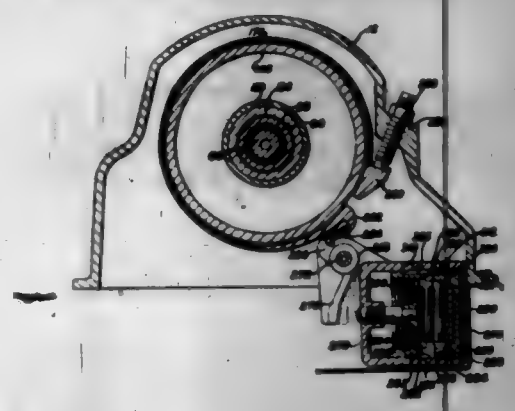
2,966,887
HIGH TEMPERATURE PISTON ENGINES
Henry M. Arnold, Denver, Colo.
(222 S. 5th St., Douglas, Wyo.)
Filed Jan. 4, 1960, Ser. No. 417
3 Claims. (Cl. 121—38)

1. In a reciprocating piston engine, a cylinder with a piston reciprocating therein, said piston having a hollow portion or passage way for holding or conducting a circulating agent, a hollow rod or tube, having a passage way or passage ways, securely mounted in said piston for admitting a circulating agent into said hollow portion or passage way and at a point part way around said piston another hollow rod or tube, with a passage way or passage ways, securely mounted in said piston and through which said circulating agent can leave said hollow portion or passage way in said piston, said hollow rods or tubes extending from said piston through a cylinder head and parallel to a center line extending longitudinally through said cylinder, said hollow rods or tubes extending on through packing glands or other means for securing a positive seal against leakage at said cylinder head, on through individual distribution chambers longer than the stroke or travel of said piston and on through the far end



of said distribution chambers so a constant volume can be maintained in the circulating system for all positions of said piston, the far ends of said distribution chambers provided with packing glands or other means for securing a positive seal against leakage along said hollow rods or tubes, said distribution chambers having a space surrounding said hollow rods or tubes longer than the stroke or travel of said piston and in constant communication with the inside of said hollow rods or tubes through holes or passage ways in the side of said hollow rods or tubes and an outlet or an inlet in the side of said distribution chambers through which said circulating agent can enter or leave, depending upon which way said circulating agent is traveling through said circulating system.

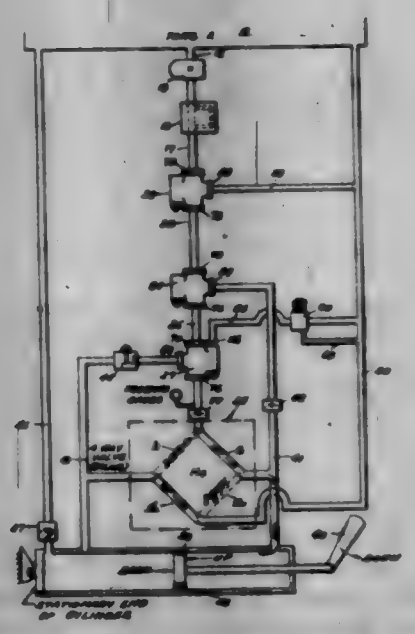
2,966,888
TRANSMISSION CONTROL SERVO
Zbigniew J. Jasia, Detroit, and Ocie K. Walthall, Dearborn, Mich., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed May 23, 1956, Ser. No. 586,831
14 Claims. (Cl. 121—38)



8. A fluid pressure servo for a gear control element of a multiple speed power transmission comprising a housing, a piston assembly slidably disposed in said housing, said piston assembly including a pair of telescopically related piston elements defining therebetween an accumulator chamber, a mechanical connection between one of said piston members and an externally situated driven portion of said servo, conduit structure interposed between a source of regulated control pressure and said housing, said conduit structure including a first passage means for directing control pressure to one side of said piston assembly and a second passage means independent of said first passage means and situated in parallel relationship therewith for directing fluid pressure to said accumula-

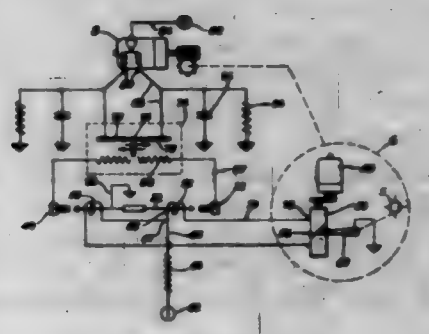
tor chamber, valve means situated in and partly defining said conduit structure for selectively distributing control pressure to said first passage means and for exhausting the same, and spring means situated between said piston members on at least one side of said one piston member for resiliently opposing relative movement between said piston members upon a build up in control pressure on said one side of said piston assembly.

2,966,889
HYDRAULIC CONTROL SYSTEM FOR CLAMP OF PAPER CUTTING MACHINE
Carl Thumim, Westbury, N.Y., assignor, by mesne assignments, to Miehle-Goss-Dexter, Inc., Chicago, Ill., a corporation of Delaware
Filed Feb. 4, 1957, Ser. No. 638,077
2 Claims. (Cl. 121—38)



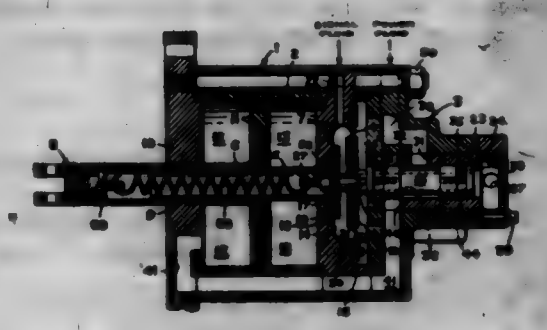
1. In a system for actuating the clamp of a paper cutting machine, a double-ended piston motor 35 having a reversibly movable piston 38, a pressure relief valve 24, 27, for each end of the motor, a multi-way valve 30, a source of pressure fluid 16, said multi-way valve being connected to feed pressure fluid to and from either end of said motor from said pressure source, said pressure relief valves having connection means to said multi-way valve, said multi-way valve being operable to render one of said pressure relief valves effective to relieve pressure at one end of said cylinder while rendering the other pressure relief valve ineffective to relieve pressure at the other end of said cylinder, depending upon which end of said cylinder is being fed with pressure fluid, wherein the pressure relief valve at that end being fed with pressure fluid is effective to relieve pressure and the other pressure relief valve is ineffective to relieve pressure, said pressure relief valves 24, 27 each having three ports 70, 76, 89, each pressure relief valve comprising a through passage 73 between two of said ports 70, 76, said pressure relief valves being connected in serial order between said pressure source 16 and said multiway valve 30, wherein fluid from said pressure source passes directly through said pressure relief valves by means of said through passages, the third port of each of said pressure relief valves being closed by a pressure relief element operable to open said port upon predetermined excess pressure in said pressure relief valve, said third port 89 of each of said pressure relief valves being connected to a respective end of said double-ended motor and said multiway valve being effective in one position to connect said third port 89 of one of said pressure relief valves with the through passageway 73 thereof, and in another position to connect said third port of said other pressure relief valve with said through passageway 73 thereof, whereby to alternately render one pressure relief valve effective while the other is rendered ineffective for pressure relief purposes, depending upon the position of said multi-way valve and the end of the double-ended motor to which pressure is being fed.

2,966,890
AUTOMATIC TRACKING
Hugo A. Paniaidi, Binghamton, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Dec. 31, 1952, Ser. No. 328,869
5 Claims. (Cl. 121—41)



1. In a hydraulic servo system having electric controls therefor, said system including a hydraulic valve periodically actuated from one extreme position to another, mechanical stops for arresting said valve in its extreme positions, electrodynamic drivers for actuating said valve to its extreme positions, means for energizing said drivers alternately for equal periods of time under no error signal conditions and for increasing the periods of energization of one driver while correspondingly decreasing the periods of energization of the other driver under error signal conditions, said system also including means for producing artificial error signals when desired in order to create tracking control of the system, said last named means including an electric tracking motor, said tracking motor having two separate circuits one for each direction of rotation, an improved tracking motor control circuit comprising means for varying the direction and speed of rotation of said tracking motor, circuit means connecting each of said mechanical stops to said means for varying the direction and speed of the tracking motor, and other circuit means connecting said valve to a common circuit for alternatively completing said tracking motor circuits upon actuation of the valve to either extreme position.

2,966,891
SIMPLIFIED POWER RELAY ASSEMBLY
John G. Williams, 11 Lyons Place, Springfield, N.J.
Filed Nov. 4, 1958, Ser. No. 771,872
4 Claims. (Cl. 121—41)



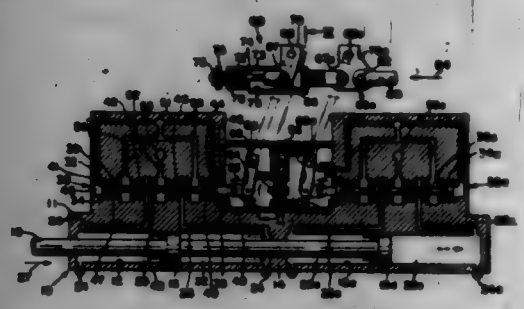
1. A power relay assembly comprising a casing in which is formed a first and a second chamber, said casing

defining a hole between said chambers, a pair of telescoped sleeves disposed within said first chamber, the inner sleeve mounted stationary about said hole, the outer sleeve freely slidable on said inner sleeve and having a power take-off extending from said first chamber, a piston connected to said outer sleeve and operatively disposed in said first chamber, a movable element disposed within said second chamber, a valve element adapted to move in unison with said movable element in a direction parallel to the axis of said telescoped sleeves from a neutral position in response to a signal force acting on said movable element, pressurized power fluid communicating with said valve element, conduit means communicating said valve element with one side of said piston, said valve element when moving from said neutral position permitting communication of power fluid to said one side of said piston forcing movement of the power take-off, a spring member disposed in said telescoped sleeves and connected at one end to said slidable outer sleeve and penetrating said hole so that the other end is attached to said movable element whereby on movement of said piston said spring member is stressed to oppose said signal force and urge said valve element to return to its neutral position upon the diminution of said signal force thereby curtailing the communication of power fluid to said side of the piston, a sealing membrane connected to the end of said second chamber adjacent said first chamber to seal said hole.

2,966,892
TEMPERATURE COMPENSATING MECHANISM FOR SERVO DEVICES

Robert S. Bunard, Dallas, Tex., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Oct. 5, 1959, Ser. No. 844,599
7 Claims. (Cl. 121—46.5)



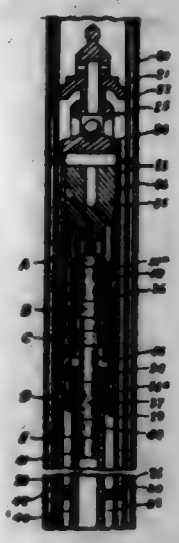
7. A temperature compensating mechanism for actuating two devices in synchronism comprising a long link member and a short concentric rod member threadedly connected at corresponding ends, said members being made of metal having a coefficient of expansion inversely proportional to their respective lengths to cancel out any relative change in linear expansion due to temperature changes, said link member having a hollow recess to freely house said rod member for expansion and contraction, means at the ends of the members opposite the threaded connection for attaching to the devices.

2,966,893
CONTROL VALVES FOR FLUID ACTUATED PUMPS

Roy H. Deitrickson, Allison Park, Pa., assignor to The National Supply Company, Pittsburgh, Pa., a corporation of Ohio

Filed Jan. 26, 1959, Ser. No. 788,981
2 Claims. (Cl. 121—123)

1. In a hydraulic engine of the type having a cylinder closed at one end, a piston slidable therein, a piston rod connected to the piston, a stuffing box at the open end of the cylinder surrounding the rod, a source of power oil pressure in constant communication with the cylinder above the stuffing box and below the piston, the opposite side of said stuffing box being in communication with a lower pressure, the improvement comprising a reversing valve including a cylindrical body carried by said engine piston and reciprocable for controlling passages in said piston which passages connect the end of the engine cylinder above said piston to said power oil pressure when said valve body stands in a first position and to said lower pressure when said valve body stands in a second position, means in said engine cylinder near the lower end thereof in communication with said high pressure source, second means in said piston communicating with said



valve body so that when said first and second means are brought into registry at the lower end of the stroke of said piston, power oil will be communicated to said valve body causing said valve body to move from said first position to said second position, said piston rod having a passage in communication with said valve body and connected to a second port at the lower end of said piston rod, said second port being normally below said stuffing box in communication with said lower pressure, whereby when said second port passes through said stuffing box during an upstroke of said piston rod into communication with said power oil above said stuffing box, the power oil pressure is transmitted through said rod passage to said valve body causing said valve body to move from said second position to said first position.

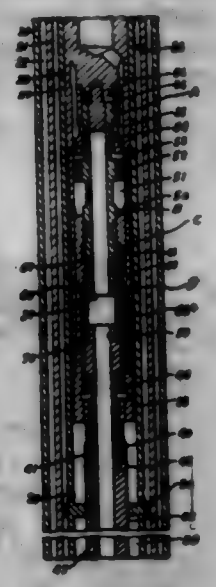
2,966,894
CONTROL VALVES FOR FLUID ACTUATED PUMPS

Roy H. Deitrickson, Allison Park, Pa., assignor to The National Supply Company, Pittsburgh, Pa., a corporation of Ohio

Filed Jan. 26, 1959, Ser. No. 788,982
4 Claims. (Cl. 121—123)

1. In a hydraulic engine having a cylinder, a source of power fluid, means forming a discharge passage, and a piston slidable in said cylinder, a reversing valve comprising in combination, a slidable cylindrical valve body, a passageway controlled by said valve body and open when said valve body is in a first position for connecting one end of said cylinder to said source, said valve body when in a second position closing said passageway, means in said passageway between said source and end of said cylinder forming a flow restriction therein, means responsive to a pressure drop across said restriction for holding said valve body in said first position with said passageway open, a second passageway controlled by said valve body and open when said valve body is in such

second position for connecting said end of said cylinder to said discharge, and means operable at each end of



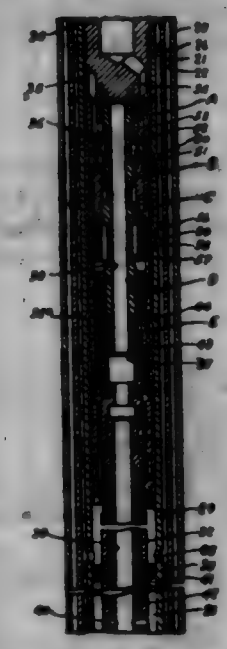
each stroke of said piston to impose a pressure from said source on said valve body to move said valve body to a reversed position.

2,966,895

CONTROL VALVES FOR FLUID ACTUATED PUMPS

Roy H. Deitrickson, Allison Park, Pa., assignor to The National Supply Company, Pittsburgh, Pa., a corporation of Ohio

Filed Jan. 26, 1959, Ser. No. 788,983
3 Claims. (Cl. 121—123)



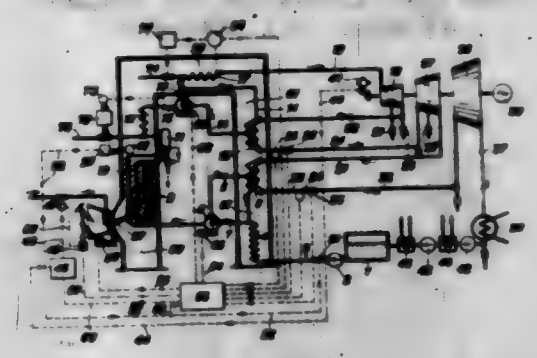
1. In a hydraulic engine having a cylinder, a source of power fluid, means forming a discharge passage, and a piston slidable in said cylinder, a reversing valve comprising, in combination, a slidable cylindrical valve body, a passageway controlled by said valve body and open when said valve body is in a first position for connecting one end of said cylinder to said source, said valve body when in a second position closing said passageway, a chamber around said valve body in constant communication with said discharge passage, said communication being through a restricted orifice, a port connecting said chamber to said source when said valve stands in its first position, said port being larger than said restricted orifice whereby a biasing pressure exists in said chamber when said port is open tending to hold said valve in its first position, and means operable at the end of the stroke of said piston to close said port, whereby said chamber bleeds to discharge pressure and said valve moves to its second, reversed position.

2,966,896

METHOD AND APPARATUS FOR CONTROLLING THE OUTLET TEMPERATURES OF SUPERHEATERS AND REHEATERS OF A STEAM GENERATING PLANT

Hans Vogler, Winterthur, Switzerland, assignor to Sulzer Freres, S.A., Winterthur, Switzerland, a corporation of Switzerland

Filed Mar. 10, 1959, Ser. No. 798,460
Claims priority, application Switzerland Mar. 12, 1958
8 Claims. (Cl. 122—1)



1. An apparatus for controlling a steam generating, superheating, and reheating plant, comprising feedwater supply means, an evaporator receiving water from said supply means, a high pressure superheater receiving steam from said evaporator, a steam main receiving live steam from said superheater, a medium pressure reheater receiving steam from said high pressure superheater after the steam has been expanded, a low pressure reheater receiving steam from said medium pressure reheater after the medium pressure steam has been expanded, a firing apparatus supplying heat to said evaporator, to said high pressure superheater, and to said reheaters and including fuel supply means, air supply means, and means for changing the position of the center of the heating effect on said evaporator, high pressure superheater, and said reheaters, load responsive means operatively connected to said steam main and connected to said firing apparatus for controlling the fire intensity according to the load, a first heat exchanger for exchanging heat between the feedwater and the low pressure steam, a second heat exchanger for exchanging heat between superheated high pressure steam and medium pressure steam, first control means operatively connected to the outlet of said low pressure reheater and adapted to sense the temperature of the reheated low pressure steam and producing a corresponding control signal, second control means operatively connected to the outlet of said medium pressure reheater and adapted to sense the temperature of the reheated medium pressure steam and producing a corresponding control signal, means operatively connected to the inlet of said evaporator and to said first heat exchanger for controlling diversion of a portion of the feedwater to said first heat exchanger and operatively connected to said first control means for increasing the feedwater flow through said first heat exchanger upon rise of the temperature of the reheated low pressure steam above a predetermined level and vice versa, means operatively connected to said superheater and to said second heat exchanger for controlling diversion of superheated steam to said second heat exchanger and operatively connected to said second control means for decreasing the flow of superheated steam through said second heat exchanger upon an increase of the temperature of the reheated medium pressure steam above a predetermined value, and actuating means individually operatively connected to said fuel supply means, said combustion air supply means, said means for changing the position of the center of the heating effect, and said feedwater supply means; said actuating means being operatively connected

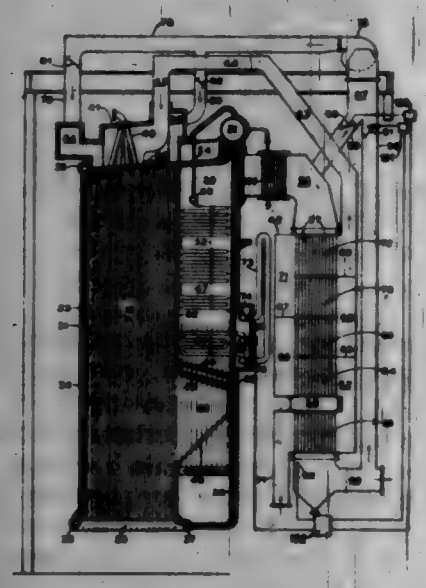
to said control means for actuating the means to which said actuating means are connected according to the control signals produced by said control means.

2,966,897

STEAM GENERATING UNIT WITH GAS RECIRCULATION MEANS FOR PREVENTING AIR HEATER CORROSION

Charles S. Smith, Westfield, N.J., assignor to The Babcock & Wilcox Company, New York, N.Y., a corporation of New Jersey

Filed Jan. 23, 1956, Ser. No. 560,489
6 Claims. (Cl. 122—479)



5. In a steam generating unit, wall means defining a furnace having a gas outlet, said means including steam generating wall tubes, fuel burning means for firing the furnace, means forming a gas pass leading from the gas outlet of the furnace, a superheater receiving the generated steam and subject to the heat of the furnace gases, means for conducting steam from the wall tubes to the superheater, an air heater disposed within the gas pass for heating combustion supporting air for delivery to the furnace, means connecting the air outlet of the air heater to the fuel burning means, a gas recirculation system including upstream and downstream inlet ducts leading from positions substantially spaced in the gas pass and in the direction of gas flow through the air heater, said gas recirculation system also including gas flow impelling means and outlet ductwork leading therefrom to the furnace, and means responsive to heating gas temperature near the gas outlet of the air heater for controllably varying the proportions of total recirculated gas flow through the different inlet ducts, the last named means increasing the gas flow through the downstream inlet duct when the heating gas temperature nears a value at which air heater corrosion would take place.

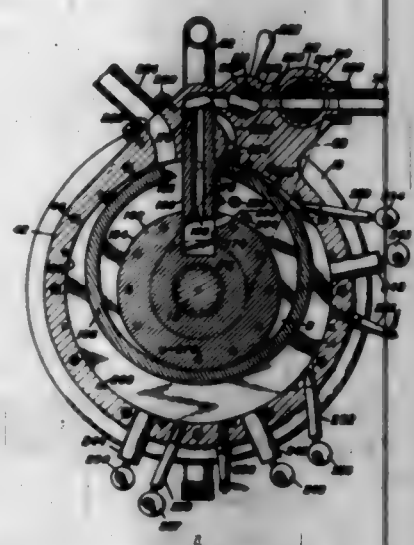
2,966,898

ROTARY PISTON INTERNAL COMBUSTION ENGINE

George Emil Rydberg and Albert Joseph Jacobs, both of 602 7th Ave. W., Calgary, Alberta, Canada, and Peter Charles Jacobs, 11615 73rd Ave., Edmonton, Alberta, Canada; Mary Caroline Denise Cote, Calgary, Alberta, Canada, executrix of the estate of said George Emil Rydberg, deceased

Filed Aug. 26, 1957, Ser. No. 680,260
24 Claims. (Cl. 123—16)

1. An internal combustion engine comprising a stator having a central opening therein with a stationary core disposed centrally of said opening and defining with said stator an annular chamber, a blade extending across said annular chamber from said core to said stator and providing a partition therebetween, a rotor in said annular chamber including a ring surrounding said core and providing a rotary piston therein between concentric inner and outer working chambers in said annular chamber, said ring having an opening receiving said blade therethrough, means supporting said rotor for epicyclic move-



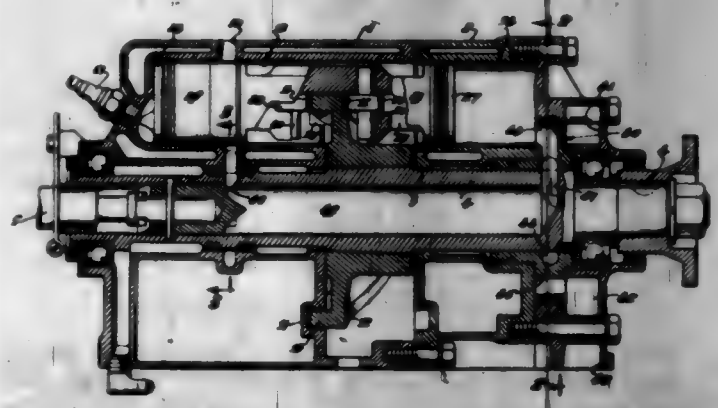
ment in said annular chamber in tangency with the stator and core, said support means including a pair of plates fixedly secured to and supporting said ring at opposite sides thereof, journals for said plates, intake means for supplying and means for igniting combustible charges into and exhaust means for exhausting combustion products from said inner and outer working chambers.

2,966,899

INTERNAL COMBUSTION ENGINE

Karl L. Herrmann, 1405 Air Way, Glendale 1, Calif.

Filed Nov. 30, 1955, Ser. No. 549,965
5 Claims. (Cl. 123—58)



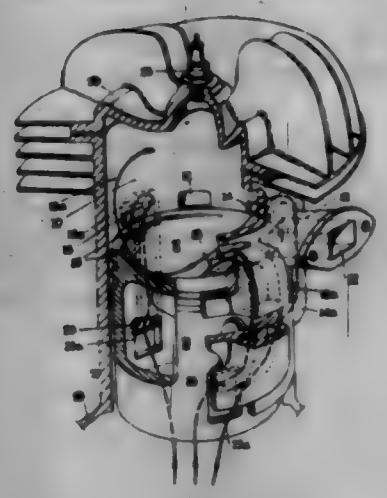
1. An internal combustion engine comprising, a housing, a shaft rotatable in the housing, the shaft having a cylindrical compression chamber therein and inlet and outlet ports at the ends of said compression chamber, a series of compression cylinders at one end of the housing, a series of combustion cylinders at the other end of the housing in alinement with the compression cylinders and parallel with the shaft, double headed pistons in the axially alined cylinders of the two series, a circular cam mounted on the shaft for rotation by the pistons, and a fuel flow control member on the shaft, said member having passages therein for fuel to the compression cylinders and passages for the fuel from the compression cylinders through the shaft compression chamber to the combustion cylinders.

2,966,900

PORT-CONTROLLED TWO-STROKE INTERNAL COMBUSTION ENGINES

Josef Ehrlich, London, England, assignor to The De Havilland Engine Company Limited, Hertfordshire, England, a British company

Filed July 25, 1957, Ser. No. 674,129
Claims priority, application Great Britain July 25, 1956
11 Claims. (Cl. 123—73)



1. A port-controlled two-stroke internal combustion engine comprising a cylinder, a cylinder head, a piston reciprocable in the cylinder and, within the cylinder, a combustion space defined between the cylinder head and a face of the piston, there being provided in the wall of the cylinder at least one exhaust port and at least one main entry port for scavenging gas, these ports being so located that they are first uncovered by the piston and opened to the combustion space during the latter part of the combustion stroke of the piston, and there being provided in communication with the main entry port a container which is adapted to contain, and to supply to the main entry port, scavenging gas under pressure, wherein there is further provided in the wall of the cylinder at least one additional entry port which is more remote from the cylinder head than is the said main entry port and is thereby first uncovered by the piston and opened to the combustion space at a correspondingly later time during the combustion stroke, there being also provided in communication with the additional entry port reservoir means which is in communication with the said container during one part of the combustion stroke of the piston, and which is isolated from the said container during the whole of a later part of the combustion stroke during which later part the piston moves between those two positions of the piston in which, respectively, the main entry port and the additional entry port are first uncovered by the piston and opened to the combustion space.

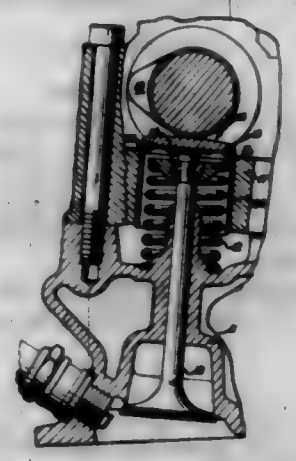
2,966,901

INTERNAL COMBUSTION ENGINE

Andreas Stwierok, Koln-Merheimich, Germany, assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Filed Aug. 7, 1959, Ser. No. 832,357
4 Claims. (Cl. 123—90)

1. An overhead camshaft internal combustion engine comprising a cylinder head, a push rod having a bottom portion adapted to engage an overhead camshaft and depending side portions adapted to engage the cylinder head, a poppet valve disposed below said push rod and having a foot portion extending substantially axially into said push rod, a passageway on the underside of said bottom portion, a groove in the periphery of said push rod communicating with said passageway, a removable adjustment member of a length less than the diameter of said groove disposed in said passageway, and a snap ring



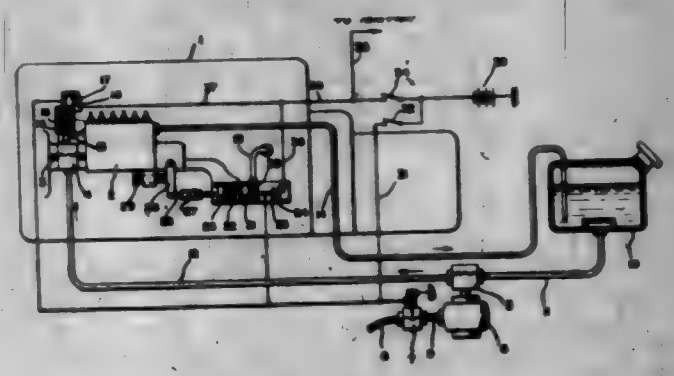
mounted within said groove and confining said adjustment member within said passageway.

2,966,902

FUEL SUPPLY SYSTEM FOR INTERNAL COMBUSTION ENGINES

Friedrich K. H. Nallinger, Stuttgart, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Untertürkheim, Germany

Filed Jan. 28, 1958, Ser. No. 711,655
Claims priority, application Germany Feb. 5, 1957
25 Claims. (Cl. 123—139)



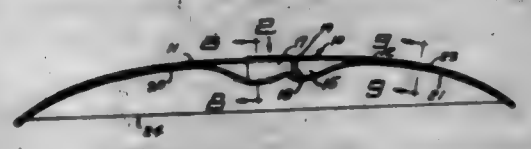
1. A fuel supply system for internal combustion engines comprising a main fuel booster pump operatively connected in said fuel supply system and driven by the engine, an auxiliary fuel booster pump also interconnected in said system, drive means independent of said engine for driving said auxiliary booster pump, and control means for controlling said auxiliary pump in response to the rotational speed of said engine to automatically shut off said auxiliary pump when the rotative speed of said engine reaches a certain predetermined value above the starting speed thereof.

2,966,903

METHOD OF MAKING A GLASS FIBER BOW

Lee J. Veneko, Detroit, Mich., assignor to The Veneko Corporation, Dunkirk, N.Y., a corporation of New York

Filed July 20, 1959, Ser. No. 828,326
1 Claim. (Cl. 124—23)



The method of making an archery bow, comprising the steps of, molding a bow blank from a plastic, glass fiber reinforced material; molding a limb face strip for each of the bow limbs from a plastic, glass fiber reinforced mate-

rial; forming a handle riser; tillering the inner surfaces of the blank and face strip; and, bonding the blank, face strip and handle riser together to form a unitary bow structure.

2,966,904
SYRINGE PROPELLING GUN
Jack A. Crockford, Chamblee, Frank A. Hayes, Selden D. Feurt, and James H. Jenkins, Atlanta, and Harold C. Palmer, Atlanta, Ga., assignors to Palmer Chemical and Equipment Co., Inc., Atlanta, Ga., a corporation of Georgia
Filed June 19, 1959, Ser. No. 821,495
5 Claims. (Cl. 124—30)



1. In a gas operated syringe propelling gun having a frame and a barrel upon said frame open at both ends thereof the improvement which comprises a bolt support pivotally secured adjacent the rear of said barrel and normally in horizontally aligned relationship therewith, a bolt slidably movable within said bolt support and insertable for a distance into said barrel and withdrawable from said barrel when said bolt support is in normal aligned relationship, said bolt and bolt support being pivotally and upwardly movable about said barrel when said bolt is withdrawn from said barrel so as to expose the rear of said barrel and permit insertion of a syringe therein.

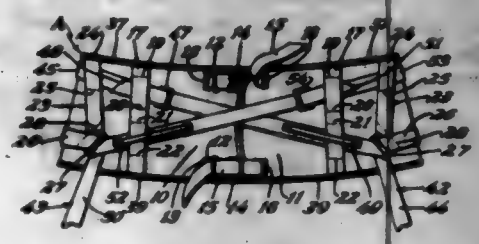
2,966,905
AMBULATION TRAINING APPARATUS
Alan Kamenshine, Staten Island, N.Y., assignor to Rehabilitation Research Products, New York, N.Y.
Filed Apr. 8, 1957, Ser. No. 651,435
5 Claims. (Cl. 128—25)



2. An ambulation training apparatus comprising means adapted to be strapped to a leg of a patient at or above the knee, a member pivoted to said means and extending forwardly therefrom and having a handle at its forward end, and means connected to said member forwardly of and in spaced relation to the strapped means and adapted to engage the toe of a foot of said leg.

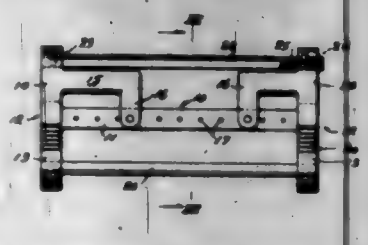
2,966,906
TRACTION BELTS
Creed A. Wiltrout, 2707 N. 54th St., Milwaukee, Wis.
Filed Oct. 30, 1956, Ser. No. 619,220
11 Claims. (Cl. 128—75)

1. A traction belt including a waist encircling belt member, traction straps extending from opposite sides of said belt member, guide means on said belt member near opposite sides thereof, said straps encircling said belt



member and having portions guided by said guide means to depend from opposite sides of said belt member.

2,966,907
BONE CLAMPS
Peter A. Fasoline, Buffalo, N.Y.
(159 Sky-Hi Drive, Ebenezer, N.Y.)
Filed Aug. 16, 1956, Ser. No. 604,363
10 Claims. (Cl. 128—92)



1. A surgical appliance comprising a longitudinal body, an individual bone-embracing clamp carried at each end of said body, each clamp consisting of a number of adjustably arranged bone-embracing members, and resiliently engageable ratchet fastening means carried by said clamps for locking said clamp members together upon movement thereof to closed bone-engaging positions.

2,966,908
UNIVERSAL MOUTH PROTECTOR
Jack F. Catheart, 130 York Ave., and Fred P. Moffett, 60 Quail Ave., both of Berkeley, Calif.
Filed Jan. 27, 1958, Ser. No. 711,327
8 Claims. (Cl. 128—136)



1. A mouth protector for application to the upper teeth of one engaged in contact sports, comprising a U-shape open ended trough of resilient water-insoluble material and involving a floor, a wall along the outer edge of said floor and terminating along its upper free edge in an inwardly directed bead, a wall along the inner edge of said floor and terminating in a free upper edge, the distance between the ends of the median line of said trough being approximately 39 mm., and said material having sufficient resiliency to permit the protector to change its shape readily to conform to differently shaped dentures when pressed into engagement therewith, by pressure of the teeth against either wall of the trough, to hold the protector thereon.

2,966,909
POCKET INHALATOR
Abraham E. Halperin, Boston, Mass., assignor to A. E. Halperin Co. Inc., Boston, Mass., a corporation of Massachusetts
Filed Dec. 14, 1956, Ser. No. 628,323
1 Claim. (Cl. 128—206)

In combination: an inhalator and a cloth covered breakable ampule filled with inhalant, said inhalator com-

prising a tubular body in which said ampule is disposed, said body having ends and sides, one end being open for insertion of the ampule, and a nasal tube being disposed



on the opposite end and said body having in its sides finger access apertures elongated in the axial direction of the body.

2,966,910
LOCKING DEVICES
Bernard Camber, London, England, assignor to S. & R. J. Everett & Co. Limited, Surrey, England, a British company
Filed July 2, 1956, Ser. No. 595,389
Claims priority, application Great Britain July 6, 1955
5 Claims. (Cl. 128—218)



1. A hypodermic syringe or the like comprising a tubular casing having a lateral aperture through which a cartridge may be loaded into the syringe, a closure member at one end of said casing, a plunger rod axially movable within said casing and passing through said closure member, a sleeve in said casing surrounding said plunger rod and axially slidable between a first position where it locks over one end of said cartridge and a second position where it is withdrawn to the rear of said casing to permit insertion and removal of cartridges, said sleeve having apertures in the side wall thereof, a radially movable member which passes through said sleeve apertures and projects into a recess defined in the inner wall of said casing when said sleeve is in the first position and at other times projects into a recess defined in said plunger rod, said radially movable member being moved from one of said recesses to the other when the recesses come into register during the movement of the plunger rod, and a stop within said casing which prevents movement of said sleeve beyond the position at which the radially movable members are in register with the recess in the casing.

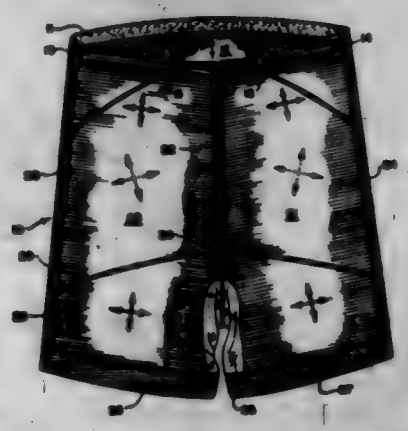
2,966,911
CASTRATOR AND DOCKING DEVICE
Calvin H. Rufer, 414 Benson Bldg., Sioux Falls, S. Dak.
Filed Oct. 30, 1957, Ser. No. 693,403
2 Claims. (Cl. 128—306)

2. A castrator and docking device comprising a handle member having a fixed jaw portion, a movable jaw portion pivotally attached to said handle member, an operating handle pivotally connected to said movable jaw portion, a bar pivotally secured to said operating handle and to said handle member, further jaw portions being positioned generally at right angles to said fixed jaw portion and said movable jaw portion and extending integrally



therefrom, said further jaw portions including arcuate edges adapted to bear against a spermatic cord.

2,966,912
GIRDLE
Benjamin Murdock, New York, N.Y., assignor to Fortuna Foundations, Inc., New York, N.Y., a corporation of New York
Filed Mar. 25, 1958, Ser. No. 723,844
1 Claim. (Cl. 128—540)

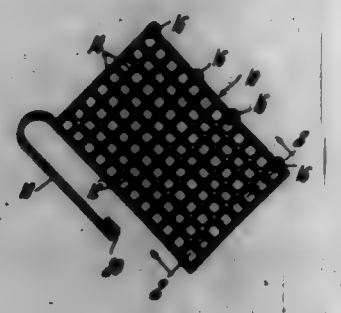


In a girdle having a rear panel and side panels joined thereto, a pair of front laminate panels each comprising a single bias cut blank of stretchable fabric folded upon itself along a substantially vertical line; the vertical folds of said laminate panels being joined to form the central seam of said garment; said laminate panels at the free vertical edges thereof being seamed to said side panels and substantially overlying the abdominal region of a wearer; said laminate panels thereby each comprising an inner portion of two way stretch fabric having a primary direction of stretch inclining downwardly from said central seam and said side seam and a second primary direction of stretch at right angles to said first primary direction of stretch, and an outer portion of two way stretch fabric superposed upon said inner portion, said outer portion being disposed upon a bias with the primary direction of stretch thereof being downwardly inclined from said side seam to said front seam, and a second primary direction of stretch at right angles to said first direction of stretch, said outer portion substantially extending from said central seam to said side panels.

2,966,913
HAIR CURLER
Louis L. Lerner, Chicago, Stillman R. Goff, Park Ridge, and Albert Safanoff, Chicago, Ill., assignors to The Gillette Company, Boston, Mass., a corporation of Delaware
Filed Aug. 18, 1958, Ser. No. 755,661
13 Claims. (Cl. 132—41)

1. A hair curler having a winding member of adjustable diameter comprising a flexible grid formed of inter-

secting ribs and adapted to be rolled spirally upon itself, and means for adjustably securing said grid in rolled form in any one of a plurality of selected diameters, com-



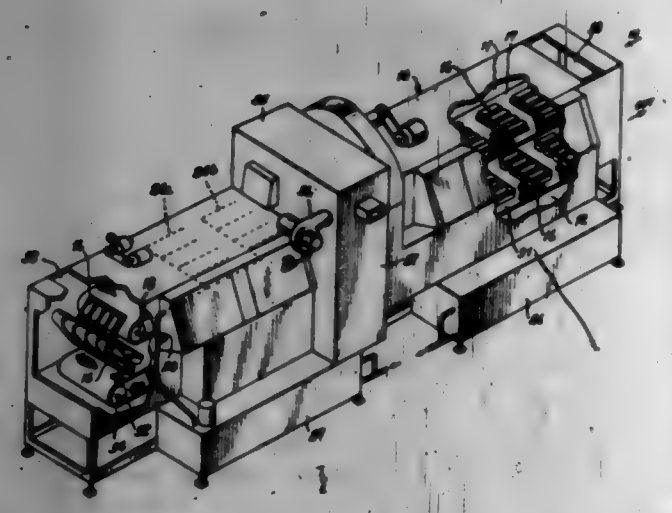
prising a plurality of engaging members secured adjacent to one longitudinal margin of said grid, said engaging members being of such a size that they are releasably engageable with any of said ribs through the openings of said grid.

2,966,914

AUTOMATIC CLEANING AND DRYING MACHINE

Howard M. Sadwith, Plainfield, N.J., assignor to Industrial Washing Machine Corporation, Matawan, N.J., a corporation of New Jersey

Filed Nov. 19, 1958, Ser. No. 774,949
2 Claims. (Cl. 134—68)



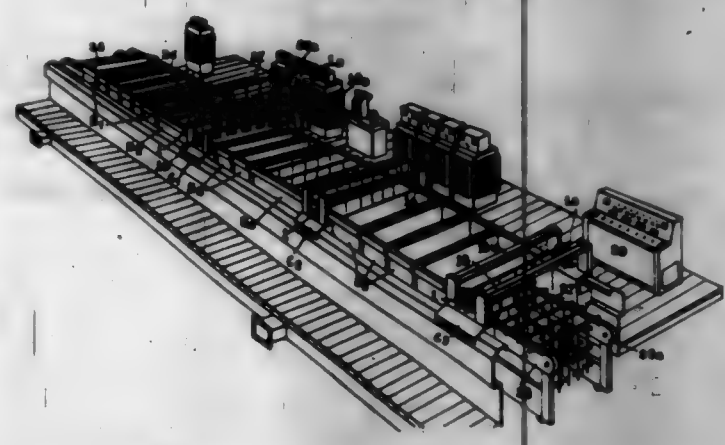
1. A pan cleaning and drying machine including two oppositely moving, substantially horizontal and mutually parallel, pan conveyors each having a loading end and a discharge end, said conveyors being positioned one above the other with said upper conveyor's loading end and said lower conveyor's discharge end adjacent to each other and said upper conveyor's discharge end and said lower conveyor's loading end adjacent to each other, a third pan conveyor having a loading portion and a discharge end and positioned with its latter end located to discharge to said lower conveyor's loading end at an obtuse angle therewith and with its loading portion located at an acute angle with respect to said upper conveyor's discharge end and at a level therebelow and substantially in vertical alignment therewith and spaced therefrom to permit pans to span therebetween, means for powering said upper and lower conveyors to cause them to travel towards their respective discharge ends at corresponding pan conveying speeds and for powering said third conveyor to move downwardly towards its discharge end at a speed faster than said conveying speeds, a pan discharging from said upper conveyor's discharge end being free to tip downwardly and span between said upper conveyor's discharge end and said third conveyor's loading portion so that said third conveyor rotates the pan end for end and discharges it to said lower conveyor, means for cleaning inverted pans carried by a portion of said upper conveyor spaced from its discharge end with liquid wetting the pans, and means for drying pans carried by said lower conveyor, whereby the pans may drain themselves empty from said liquid while inverted and be delivered upright and dry by said lower conveyor.

2,966,915

AUTOMATIC OR SEMI-AUTOMATIC INSTALLATION FOR SURFACE-TREATING MECHANICAL PARTS

Lionel Rochefort, 7 Ave. Ledru-Rollin, Suresnes, France

Filed Mar. 11, 1958, Ser. No. 720,739
Claims priority, application France Mar. 15, 1957
8 Claims. (Cl. 134—76)



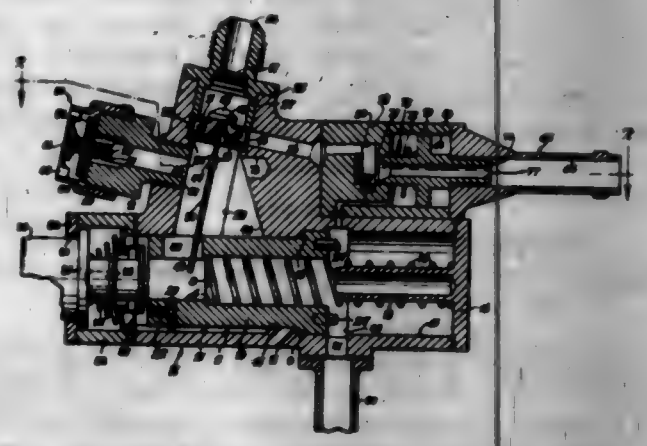
5. An installation for applying a surface treatment to parts carried by a holder which comprises, in combination, a stationary line of treatment vessels aligned side by side; two runways, each disposed at one side of said line of treatment vessels; and at least one conveyor having the general form of an inverted U and adapted to straddle the vessels, said conveyor comprising roller means provided at each side of said conveyor and disposed on the respective runway; driving means for the roller means, an elevating device comprising vertically reciprocable means at each side of said conveyor, each said vertically reciprocable means having an upper end and supporting means at said upper end adapted to releasably support said holder, and an electromotor at each side of said conveyor, one of said electromotors operatively connected with said driving means and the other electromptor operatively connected with and adapted to reciprocate said vertically reciprocable means whereby to move said holder toward and away from said vessels.

2,966,916

VALVE RESPONSIVE TO CHANGES IN SPEED

Richard D. Cummins, Tonawanda, N.Y., assignor to Firewel Development Company, Buffalo, N.Y., a copartnership

Filed July 1, 1957, Ser. No. 669,333
14 Claims. (Cl. 137—39)



1. In a valve responsive to abrupt changes in speed, a valve body having a bore closed at its opposite ends, a

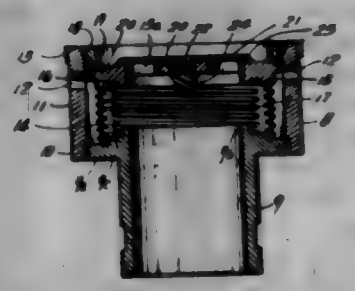
weight slidable in said bore and having unequal areas at its opposite ends, an inlet for supplying gas under high pressure to one end of a passage through said body, an outlet in said body at the opposite end of said passage, valve means actuated by movement of said weight in one direction and supplying gas under high pressure from said inlet to said passage, means providing communication between said passage and opposite ends of said bore to impress said gas under high pressure simultaneously against opposite end faces of said weight, said weight having intermediate its ends a transverse face of smaller area than either of said weight end faces and facing in the opposite direction from said one direction, and means to impress a reference fluid pressure less than said high pressure against said transverse face.

2,966,917

COMBINATION VALVE FOR BREATHING EQUIPMENT

Aaron Bloom, Philadelphia, Pa., assignor to Sierra Engineering Company, Sierra Madre, Calif., a corporation of California

Filed Feb. 8, 1955, Ser. No. 487,983
2 Claims. (Cl. 137—64)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. In respiratory apparatus a valve which respectively vents exhaust tidal gases of a pulmonar subject to the atmosphere and admits a fresh supply of gas from a suitable source during alternate exhalation and inhalation portions of the respiratory cycle said valve comprising a valve housing, said housing having a port which connects the interior of the housing with the atmosphere; means forming a valve seat within the housing; a valve member within the housing which normally engages the valve seat and subdivides the interior of the housing into a pair of chambers and which has an aperture therethrough that interconnects the chambers, one of the said chambers being an inlet chamber adapted to receive a fresh supply of gas and the other said chamber being an outlet chamber communicating with the port in the valve housing during the exhalation portion of the respiratory cycle; flexible means connected between the valve member and the internal peripheral surface of the housing and arranged to seal off the inlet chamber from the port in the housing; spring means for normally biasing the valve member towards its valve seat engaging position; and a diaphragm-type check valve which is adapted to move toward and away from a sealing engagement with the apertured valve member.

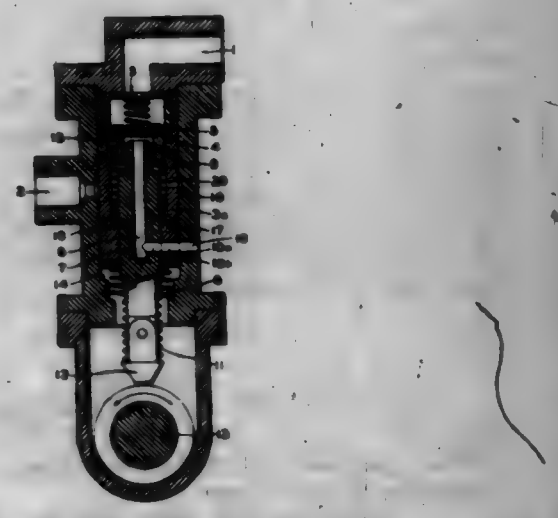
2,966,918

FLUID PRESSURE OPERATED ROTATION RESPONSIVE CONTROL DEVICE

Hermann Kemnaleki, Hannover, Germany, assignor to Westinghouse-Bremsen-Gesellschaft m.b.H., Hannover, Germany

Filed Jan. 30, 1957, Ser. No. 637,250
Claims priority, application Germany July 16, 1956
5 Claims. (Cl. 137—102)

2. A fluid pressure operable control device for use with a rotatable member and comprising, in combination, a casing having a fluid pressure inlet, a fluid pressure outlet and an atmospheric vent port, piston valve means operable within said casing, a valve stem member telescopically operable within a coaxial bore in said piston valve means, yieldable means interposed between said piston valve means and said valve stem member for imparting operative movement to said valve stem member from said piston valve means and permitting axial relative movement therebetween, said piston valve means having a selected position, in which said valve stem member occupies a first position relative thereto and in which a supply communication between said inlet and outlet is disestablished and a venting communication between said outlet and said vent port is established, and being operable, responsively to pressure of fluid supplied via said inlet, to a different position for effecting movement, through said yieldable means, of said valve stem member to an intermediate position, in which said valve stem member occupies a second position relative to said piston valve means and in which said supply communication is established and said venting communication is disestablished, and for effecting movement of said valve stem



member to a non-operative position, in which said valve stem member resumes its said first position relative to said piston valve means and in which said supply and venting communications are both disestablished, a rotation sensing member carried by said valve stem member and engageable with the rotatable member upon movement of said valve stem member by movement of said piston valve means toward its different position, said rotation sensing member being effective, when engaging the rotatable member in a non-rotative state, for limiting operative movement of said valve stem member a certain amount to determine its said intermediate position and being pivotable, relative to the direction of movement of said valve stem member, by rotation of the rotatable member when in engagement therewith in a rotating state, to permit an additional amount of movement of said valve stem member to determine its said non-operative position, and spring means for restoring said piston valve means to its said selected position and said valve stem member to its said first position relative to said piston valve means upon termination of supply of pressurized fluid via said inlet.

2,966,919

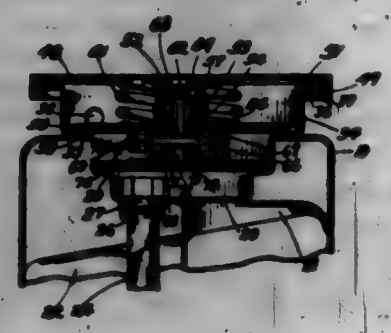
RADIATOR DEVICE

Everett N. Wood, 1689 Wildwood Drive NE., Cedar Rapids, Iowa

Filed May 16, 1957, Ser. No. 659,642
5 Claims. (Cl. 137—102)

3. An apparatus comprising a radiator top tank divided by a generally horizontal partition so as to form a reservoir and a surge tank, a filler neck attached to the top tank and formed with three cylindrical portions of varying diameter, a filler cap connected to the larger of said cylindrical portions, said larger of said cylindrical portions having an overflow outlet formed therein, the middle cylindrical portion attached to the first of the three cylin-

drical portions by a ledge and formed with a plurality of openings communicating with the surge tank, the third cylindrical portion attached to the second cylindrical portion by a second ledge, an end portion attached across the bottom of the third cylindrical portion and formed with an opening in communication with the reservoir, a tube mounted to the end portion and in communication with



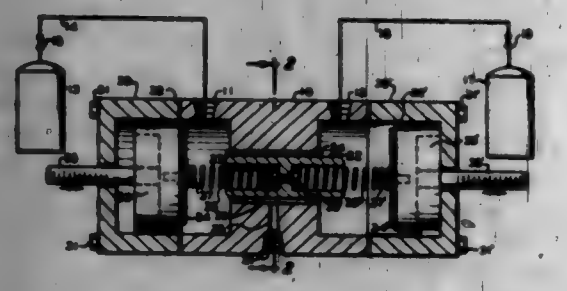
the surge tank, a valve structure mounted between the bottom of the surge tank and the reservoir and providing communication therebetween, said filler cap comprising a first disc with a downwardly extending lip about its outer edge which is detachably connectable to the larger of said cylindrical portions, a second disc flexibly connectable to the first disc and seated against the first ledge, and a third disc flexibly connected to the second disc and seated against the second ledge.

2,966,920

AUTOMATIC CHANGE-OVER VALVE

Minor W. Oglesby and Mark E. Larkin, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

Filed Feb. 13, 1959, Ser. No. 793,099
3 Claims. (Cl. 137—113)



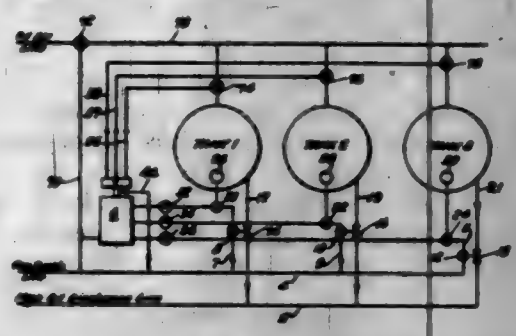
1. An automatic change-over device comprising a valve body having first and second spaced chambers therein connected by a first passage, said valve body having first and second inlet ports therein communicating with said first and second chambers, respectively, said valve body having an outlet port therein communicating with a central region in said passage; first and second pistons positioned in said first and second chambers, respectively, for movement toward and away from said passage, said first and second pistons tending to move away from said passage responsive to pressure being applied to said chambers through said first and second ports, respectively; a valve positioned to slide in said passage so that said outlet port is in communication with said first chamber when said valve is in a first position and said outlet port is in communication with said second chamber when said valve is in a second position; first and second resilient means connecting said valve to said first and second pistons, respectively, so that movement of said first piston away from said passage tends to move said valve to said first position and movement of said second piston away from said passage tends to move said valve to said second position; and means tending to retain said valve in said first and second positions.

2,966,921

AUTOMATIC TANK FILLING CONTROL

John R. Whiteman, Marrero, La., assignor to Texaco Inc., a corporation of Delaware

Filed Jan. 31, 1956, Ser. No. 562,428
3 Claims. (Cl. 137—122)



1. In a tank battery having a plurality of tanks, each having an inlet line with a fluid pressure actuated shut-off valve and an outlet line with shut-off valve, a common supply line connected to each of said inlet lines, and a common discharge line connected to each of said outlet lines, an automatic filling system for said tank battery comprising a rotary master controller, means for applying force to rotate said master controller, a supply of fluid under pressure connected to said master controller, means for operatively associating said master controller with each of said shut-off valves in the said inlet lines for selectively connecting said fluid pressure supply to actuate said valves as regulated by said controller, separate means to control said pressure supply and responsive to liquid level in each of said tanks, means for operatively associating said liquid level responsive means with said master controller, said master controller having means for causing said common supply line to be connected sequentially with each of said inlet lines on rotation of the master controller, and also having means for holding said master controller in a given position to maintain said common supply line connected to only one of said inlet lines at a time until the liquid level responsive means in the respective tank that is connected to said one inlet line operates because that tank has reached a predetermined level, said last named means acting to then release said master controller for rotation to a new position, and means associated with said fluid pressure supply and with said master controller holding means for preventing said master controller as it rotates to said new position from causing said common supply line to be connected with any one of said inlet lines if either the shut-off valve in the discharge line of the respective tank is open or the liquid level responsive means of that tank has operated because such tank has reached said predetermined level.

2,966,922

APPARATUS FOR STORING AND FEEDING TREATING LIQUIDS FOR A DRY-CLEANING MACHINE

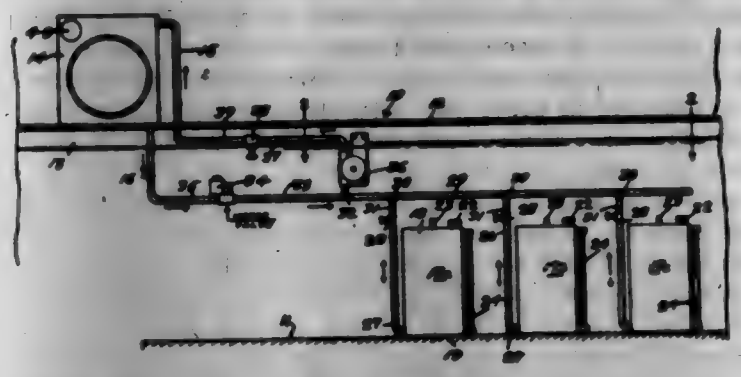
Ben B. Wallis, 2628 E. 5th St., Tucson, Ariz.

Original application July 30, 1957, Ser. No. 675,048. Divided and this application Mar. 11, 1958, Ser. No. 720,747

1 Claim. (Cl. 137—363)

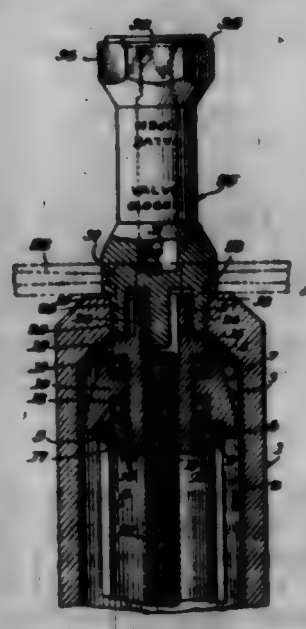
A dry-cleaning apparatus comprising a dry-cleaning machine, a plurality of reservoir tanks arranged adjacent to and below said dry-cleaning machine, a manifold pipe connecting each of said reservoir tanks, an inlet pipe connecting said manifold to said washing machine, an outlet pipe connecting said manifold to said washing machine, a pump connected in said inlet pipe for pumping fluid from said reservoir tanks to said washing machine, a motor actuated valve connected in said outlet pipe controlling the flow of fluid from said washing machine to said manifold pipe, means selectively controlling the actuation of

said pump and said motor actuated valve, a hand controlled valve positioned between said manifold pipe and each of said reservoir tanks for controlling the flow of



fluid between said reservoir tanks and said manifold pipe, and a meter valve in the inlet pipe between said pump and said washing machine.

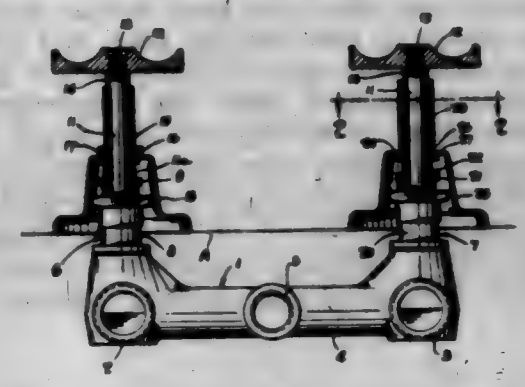
2,966,923
POSITION INDICATING STEM CAP
Richard Fennema, Chicago, Ill., assignor to Crane Co., Chicago, Ill., a corporation of Illinois
Filed Aug. 21, 1958, Ser. No. 756,469
10 Claims. (Cl. 137—270)



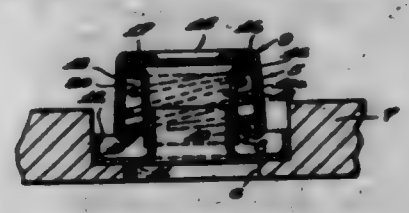
1. In a valve actuating mechanism comprising a position indicating stem cap assembly, the combination of a valve bonnet, a cover for the bonnet, a yoke sleeve in the bonnet, a threaded stem in the yoke sleeve movable reciprocally relative to the bonnet between first and second positions, a stem cap fitted on the cover over the said stem, the said cap having oppositely disposed recessed ends, one of the ends being externally formed for attachment to the cover, the recess in said one end cooperating with an end portion of the yoke sleeve so that in one position the said latter end only of said cap can be applied to the valve bonnet cover, the opposite end of said cap being internally formed to engage the threaded end of the said stem when the latter is in its other position.

2,966,924
VALVE AND ADJUSTABLE ESCUTCHEON MEANS THEREFOR
Stephen A. Young, R.D. 4, Monticello, Ind.
Filed Nov. 17, 1958, Ser. No. 774,429
2 Claims. (Cl. 137—359)

1. In valve stem construction of the class described, in combination, a valve body, bonnet means therefor, a stem extending from said bonnet means, said stem being desirably concealed at its outer portion, and means to conceal said stem and bonnet means when said valve body is installed, said concealing means accommodating such installation over a wide range and comprising a nipple unit connected to the bonnet means and surrounding the stem, said nipple unit consisting of a long threaded member having external threads thereon, and a tubular part having internal threads therein to engage the threads of the long threaded member aforesaid, an escutcheon enclosing said bonnet means and adjustable along said threaded member, said escutcheon having a threaded portion in engagement with the threads of said long threaded member, said tubular part being arranged for movement along the member to engage the escutcheon whereby locking of the escutcheon with respect to the member is effected, and a handle on said stem, said handle having a stem receiving extension within which the stem is concealed for a substantial distance, and constructed whereby said extension is movable inwardly and outwardly with respect to the tubular part aforesaid, said nipple unit likewise constituting further concealing means for said handle extension.



2,966,925
CHECK VALVES
William G. Spence, 5080 Pie IX Blvd., Montreal, Quebec, Canada
Filed Apr. 21, 1958, Ser. No. 729,589
5 Claims. (Cl. 137—540)

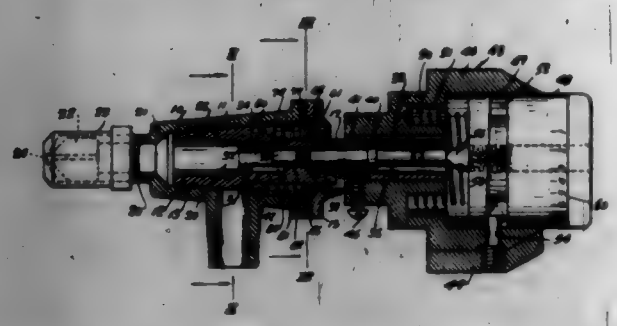


4. A check valve assembly comprising a tubular member provided, at one end, with an outwardly directed continuous annular flange constituting a valve seat, a valve member normally disposed against said seat and provided with integral arms extending along the outer surface of the tubular member in spaced relation thereto and having their free ends curved inwardly to provide hook-shaped portions opposed to said valve seat and a coil spring encircling the tubular member with one end of the spring bearing against the surface of the valve seat remote from the valve-engaging surface thereof and the other end bearing against the hook-shaped ends of said arms, said spring being confined in compression between the valve seat and the hook-shaped ends of said arms and serving to normally hold the valve member in contact with said valve seat.

2,966,926
METER FLOW VALVES
Edward J. Zarybnicky, Cleveland, Ohio, assignor to The W. J. Schoenberger Company, Cleveland, Ohio
Filed May 14, 1957, Ser. No. 659,849
1 Claim. (Cl. 137—599.2)

A gas valve comprising a body having a tapered bore, said body being formed with an inlet port and with an

axial outlet bore opening into said tapered bore, a flow control member comprising a tapered plug mounted within the tapered bore and rotatable to on and off positions of said valve, said plug being provided with an outwardly extending integral stem, said plug and said stem being formed with an axial passage extending the full length thereof, said plug being formed with a radial supply port and with an auxiliary port each separately registerable with said inlet port, a valve insert mounted within the axial passage of said plug and stem and formed with a longitudinal bore, said insert being formed with a slot extending through its wall into said bore, said slot being in communication with said auxiliary port, a metering plunger slidably mounted within the longitudinal bore of said valve insert to regulate the open length of said slot, said metering plunger being spring-loaded and biased toward slot maximum open position and movable in said insert to control the amount of gas flow through the slot of said insert, manual valve control means carried by said plug stem, comprising a hollow control handle



keyed to said stem for rotating the latter between on and off positions, said control handle having a main and an auxiliary recess formed therein, an operably separate adjusting device carried by said control handle, the inner end of said adjusting device being rotatably mounted in said main recess, metering plunger engaging means secured to said inner end of said adjusting device and in abutting relationship with the outer end of said spring loaded metering plunger, a circumferential groove formed in said adjusting device, said groove having an inner and an outer wall face, the inner face of said groove being inclined so as to form a cam surface and cam surface engaging means threadably secured to the inner face of said control handle and extending into said main recess and engaging said cam groove in said adjusting device to maintain said adjusting device in operative position within said control handle, spring means mounted within said auxiliary recess in said handle and engaging said inner end of said operating device whereby the main and auxiliary port adjustments are simultaneously available and readily accessible for manual operation without disassembly.

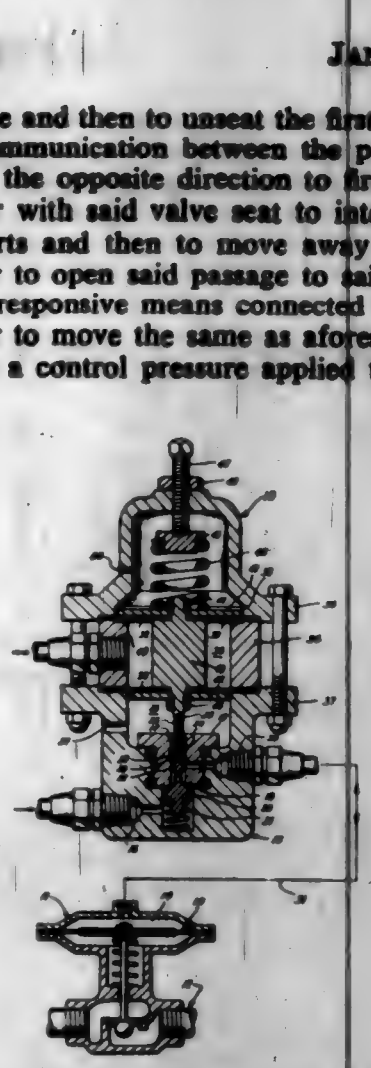
2,966,927

PRESSURE RESPONSIVE PILOT VALVE FOR VALVE MOTOR OPERATION

Clifford M. Peters, Longview, Tex., assignor to U.S. Industries, Inc., New York, N.Y.

Filed June 21, 1957, Ser. No. 667,109
5 Claims. (Cl. 137—625)

1. A pilot valve which comprises, in combination, a body, a flow port in the body and a bore connected to the port, a valve seat surrounding the bore, a pair of valve members one of which is movable toward and away from said seat to control flow from said port into said bore, a second valve member having a sliding seal with said bore and a passage by-passing the seal and providing fluid communication between the exterior of the body and the bore intermediate said seal and seat, a second port communicating with the bore intermediate the seal and seat, the second valve member being movable in one direction toward the first valve member to seat therewith and seal off the passage and then to unseat the first valve member to provide communication between the ports, and upon movement in the opposite direction to first seat the first valve member with said valve seat to interrupt flow between the ports and then to move away from the first valve member to open said passage to said second port, and pressure responsive means connected to said second valve member to move the same as aforesaid responsive to changes in a control pressure applied to the pressure



responsive means, said pressure responsive means comprising a pair of spaced interconnected diaphragms of different effective areas forming a pressure chamber therebetween, a port for admitting control pressure to said chamber, and resilient means opposing movement of the diaphragms under the influence of increased pressure in said chamber, the body having vent openings providing continuous fluid communication between the sides of the diaphragms exteriorly of the chamber and the exterior of the body.

2,966,928

FLUID MIXING DEVICES

Wayne K. Fairchild, Whittier, Calif.
(4620 Carson St., Terrance, Calif.)

Filed Sept. 16, 1958, Ser. No. 761,354
3 Claims. (Cl. 137—636.3)



1. In a mixing valve: a base having a top wall with three separated ports, one port being located axially of the base with the other ports located at respective sides of said one port; a flexible diaphragm on said top wall; a plate secured to said base and securing said diaphragm to said top wall, said plate having a recess therein over said ports, one side of said diaphragm and said top wall defining a mixing chamber, the other side of said diaphragm and the walls of said recess defining a valve chamber, said plate having bores aligned with the respective ports, said one port located axially of the base being the outlet port for the mixing chamber, one of the other ports being for admission of hot water to said mixing chamber and the remaining port being for admission of cold water to said mixing chamber; a valve member for each of said bores and adapted to bear upon a

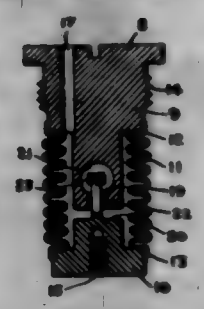
related part of the diaphragm, said valve members being slidable in said bores from and into a position depressing the respective related parts of the diaphragm into sealing engagement with a portion of the top wall of the base about said ports to thereby control fluid flow through said ports, said valve members having respective stems extending upwardly above the top of said plate; a cam member rotatably secured to said plate and coaxial with said base, said cam member having oppositely extending arcuate cam faces engageable with the respective stems of the valves controlling the hot and cold water ports, rotation of said cam member in one direction from a neutral position being adapted to actuate the valve member controlling the hot water port in the closing direction, and actuation of said cam member in the opposite direction from said neutral position being adapted to actuate the valve member controlling the cold water port in the closing direction; a cover secured to said cam member and adapted to rotate same when said cover is rotated; a handle rotatably mounted in said cover; a cam on said handle, said cam being engageable with the upper end of the stem of the valve member for the outlet port for actuation of said valve upon rotation of said handle on its longitudinal axis, said handle also being adapted for use for rotation of said cover; and wings on the valve member for the outlet port, said wings extending outwardly of said valve member and bearing upon related portions of the diaphragm and cooperating with said diaphragm for pressing said related portions thereof against said top wall of the base to seal off cross flow of water between the hot and cold sides of the mixing chamber when the outlet valve is seated.

2,966,929

STOP MEANS FOR LIMITING THE COMPRESSION AND EXPANSION OF A BELLOWS MEMBER

Daniel S. Brown, Norwood, Mass., assignor to Worthington Corporation, Harrison, N.J., a corporation of Delaware

Filed Sept. 10, 1958, Ser. No. 760,115
3 Claims. (Cl. 137—781)



1. A sealed bellows means comprising plural body members, flexible means movably joining said body members in superposed axial relationship, a first bore in one of said body members, a second bore in the last mentioned body member and communicating with said first bore, threaded means for the second bore, an extension on the other body member and having threaded means thereon whereby said extension is passed through said second bore and movably received by the first bore to limit the expansion of the bellows means, and oppositely disposed faces on each of the adjacent ends of said body members and adapted to limit the compression of said bellows member.

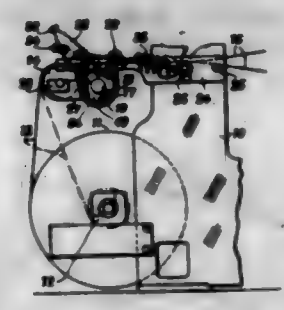
2,966,930

TENSIONING DEVICE FOR THE WARP IN WEAVING MACHINES

Erwin Pfarrwaller, Winterthur, Switzerland, assignor to Sulzer Freres, S.A., Winterthur, Switzerland, a corporation of Switzerland

Filed May 29, 1956, Ser. No. 588,095
Claims priority, application Switzerland June 18, 1955
9 Claims. (Cl. 139—114)

1. A tensioning device for the warp in a loom for weaving, comprising, in combination, a warp tensioning beam, a plurality of carrier arms rotatably supporting said tensioning beam, connecting means interconnecting said carrier arms and forming a unit therewith, means coaxially swingably supporting said carrier arms, rocking arms in-



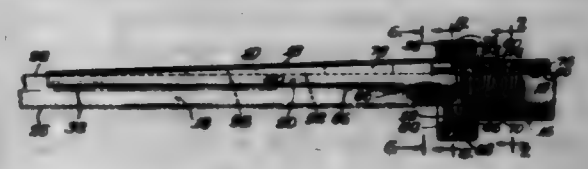
dividually angularly adjustably connected to said carrier arms for adjusting the relative angular position of said carrier arms and of said rocking arms, and means connected to said rocking arms for counteracting the rocking action of the warp on said rocking arms.

2,966,931

HAND SAW STRUCTURE

Raymond C. Dreier, 6930 South Shore Drive, Chicago, Ill.

Filed Jan. 10, 1958, Ser. No. 708,172
5 Claims. (Cl. 145—31)



1. A hand saw including a frame and an elongated saw blade having cutting teeth on one longitudinally extending edge thereof, said frame comprising an elongated wedge member having elongated longitudinally extending wedging surfaces, a pair of elongated clamping jaws mounted adjacent to said wedge member for relative movement longitudinally thereof, said jaws having elongated bearing surfaces engaging said wedging surfaces and spaced apart elongated clamping surfaces to engage and to grip therebetween a substantial longitudinally extending portion of the saw blade along the longitudinally extending edge thereof opposite the cutting teeth, both wedging surfaces and said bearing surfaces being tapered toward the corresponding free ends thereof, and mechanism mounted on said wedge member to move said jaws longitudinally of said wedge member and toward said free end to force said bearing surfaces against said wedging surfaces to move said clamping surfaces toward each other and to clamp the saw blade therebetween along the longitudinally extending edge of the saw blade opposite the cutting teeth, whereby the portion of the length of the saw blade clamped by said jaws is held rigid and the associated cutting teeth are exposed for cutting purposes and are held in the proper alignment during use.

2,966,932

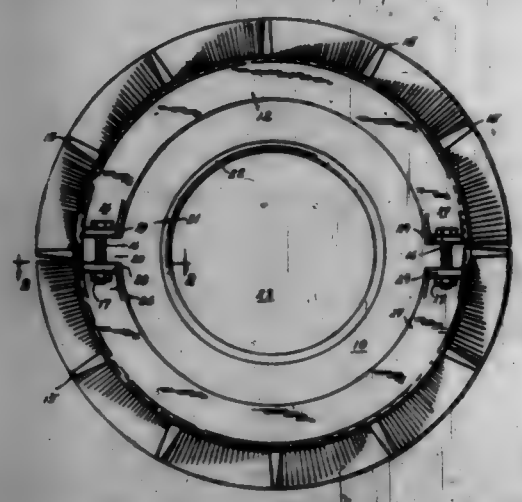
TRACTION DEVICES

Jacob J. Weier, 10611 S. Sawyer Ave., Chicago, Ill.

Filed Dec. 14, 1959, Ser. No. 859,435
4 Claims. (Cl. 152—182)

1. A device for improving traction of a motor vehicle driving wheel having a pneumatic tire thereon, said pneumatic tire having a circumferential tread, said traction device comprising a pair of substantially identical detachable semi-circular, transversely U-shaped sheet, imperforated, rigid metal stampings, said sections having a smooth interior surface and correspondingly shaped lugs secured to the side wall portions thereof and adjacent the ends thereof, each of said lugs provided with a central bore for receiving bolt means, bolt means arranged within

said central bores of each adjacent pair of lugs, said sections being adapted to be drawn firmly in contact with the tread of said pneumatic tire by said bolt means whereby the sections are prevented from slipping upon said tread, each of said sections having a plurality of substantially straight, parallel, diagonally spaced solid metal cleats of trapezoidal vertical cross-section integrally welded to its concavo-convex curvature circumferentially,



the longitudinal length of each of said cleats being greater than the transverse width of said U-shaped channel sections, and said cleats extending outwardly beyond each side wall of said semi-circular, transversely U-shaped channel sections thereby giving sufficient traction with the ground adjacent the path travelled by said channel sections.

2,966,933

BEADS FOR PNEUMATIC TIRES

Gabriel Xavier Roger Bonnin, Manoir de Beaulieu, Chamalières, and Louis Pierre Francois André Neuville and Louis Henri Noel Saint-Frison, Clermont-Ferrand, France, assignors to Compagnie Generale des Etablissements Michelin (Robert Puiseux & Cie), Clermont-Ferrand, France

Filed Mar. 7, 1958, Ser. No. 719,826

Claims priority, application France Mar. 14, 1957

9 Claims. (Cl. 152—362)



1. A tire comprising an apex portion, sidewalls on opposite sides of said apex portion and beads at the free edges of said sidewalls, and at least one narrow ply in each bead containing inextensible cables adherent to rubber, said inextensible cables being substantially parallel and inclined at an acute angle to the inner edge of the bead to restrain the bead against extension circumferentially thereof, said beads being devoid of endless bead rings.

2,966,934

UNIVERSAL PUNCH FOR TUBE BENDING

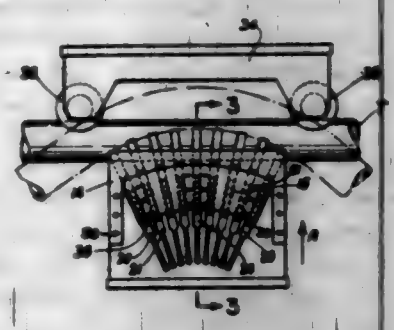
André Huet, Paris, France, assignor to Combustion Engineering, Inc., New York, N.Y., a corporation of Delaware

Filed Jan. 6, 1958, Ser. No. 707,281

Claims priority, application France Jan. 8, 1957

3 Claims. (Cl. 153—48)

1. A universal punch for tube bending consisting of a frame comprising similar side plates each provided with grooves which radiate in fan shape from a common center; means maintaining said plates in spaced relation; a set of movable former plates inserted in said grooves formed with cut-outs on one edge whose bases bear against



the tube to be bent; and keys in the lower parts of said grooves to restrict the insertion of former plates into the grooves to variable levels determined by the length of the keys according to the desired bending radius to be given to the tube.

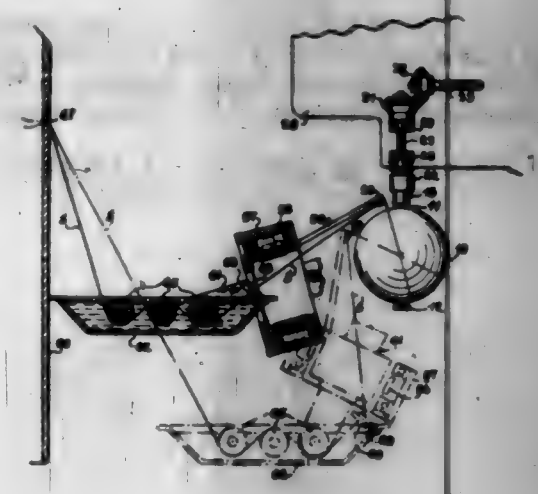
2,966,935

WINDING MACHINE FOR PRESSURE VESSELS

Arthur J. Wiltshire, Richmond Heights, Ohio, assignor to White Sewing Machine Corporation, Lakewood, Ohio, a corporation of Delaware

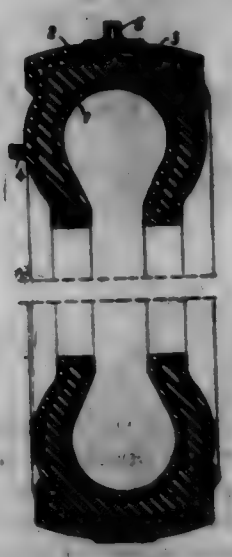
Filed Oct. 9, 1957, Ser. No. 689,170

6 Claims. (Cl. 154—1.3)



1. Apparatus for making filament wound pressure vessels comprising a form-supporting shaft, means to rotate said form-supporting shaft, a spherical cast metal form secured to one end of said form-supporting shaft, a trunnnion fixture having a trunnion axis extending through the center of said spherical form normal to the axis of said form-supporting shaft, a bearing cage supported in said trunnion fixture, said bearing cage having its axis in a plane through said form-supporting shaft, a winding needle arm journalled in said bearing cage and extending therefrom toward said spherical form, the outer free end of said winding arm terminating in a plane through said trunnion axis, means to rotate said winding arm in said bearing cage to swing the outer end of said arm and a filament winding carried thereby in great circle paths around said spherical form adjacent the poles thereof, said means to rotate said form-supporting shaft progressing said spherical form about its axis in timed relation to the rotation of said winding arm, and means moving in timed relation to said arm to swing said trunnion about its trunnion axis to form successive layers of windings of lesser polar extent than said first-named great circle windings.

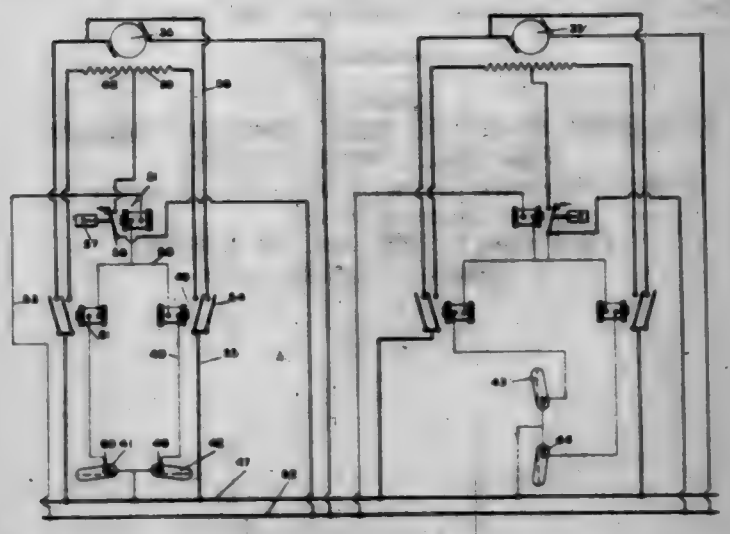
2,966,936
WORKING METHOD FOR RECAPPING AND REPAIRING TIRES
Wilhelm Schelkmann, Crengeldanzstrasse 85, Witten (Ruhr), Germany
Filed July 31, 1956, Ser. No. 601,154
Claims priority, application Netherlands Aug. 4, 1955
6 Claims. (Cl. 154—14)



1. A method of repairing tires comprising the steps of forming an assembly consisting essentially of a tire having a U-shaped cross-section, a sheet portion of resilient material superimposed upon a surface portion of said tire, and a layer of binding material sandwiched between the tire surface and said sheet portion; enclosing said assembly into an air-tight closed cover being flexible at least in the region of said sheet portion of resilient material, having also a substantially U-shaped cross-section and extending along the entire outer surface of said assembly; evacuating air from the space between said assembly and said air-tight closed cover whereby the vacuum created within the air-tightly closed cover will remove all air enclosures between said tire surface portion, said layer of binding material and said sheet portion of resilient material while the atmospheric pressure acting on the resilient portion of said cover will press the sheet portion of resilient material against said layer of binding material and said surface portion of said tire; and treating the assembly enclosed in said cover to cause said layer of binding material to permanently bond said sheet portion of resilient material to said tire surface portion, and said cover, said sheet of resilient material and said tire being made respectively from materials so that said cover will not adhere to said sheet of resilient material and said tire during this treatment.

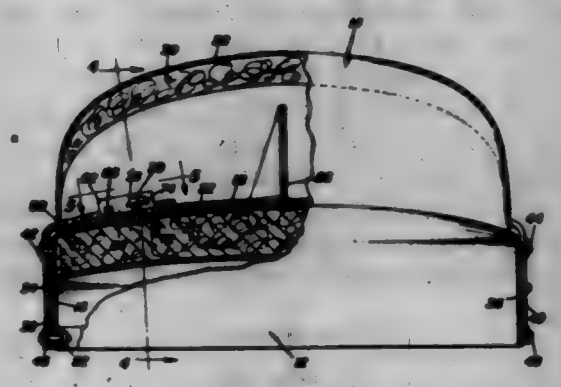
2,966,937
SELF-LEVELLING SEAT SUPPORT
Rudolph C. Rydberg, P.O. Box 398, Westfir, Oreg.
Filed July 15, 1958, Ser. No. 748,620
1 Claim. (Cl. 155—5)

A self levelling seat support for tractors comprising a generally horizontal base adapted to be secured to a vehicle, a platform arranged in spaced relation above said base, a universal assembly centrally positioned on said platform extending between and connecting said platform and said base, a pair of upright threaded shafts, a universal assembly securing the upper end of each shaft to the underside of said platform, said threaded shafts being positioned respectively adjacent one of a pair of perpendicularly extending edges of said platform, a pair of housings comprising a part of said base, each housing having a central vertical opening through which one of said threaded shafts extends, upper and lower spaced bosses in said housing, a worm wheel having a central threaded opening threadedly engaging an associated shaft positioned between said bosses, a worm gear in each housing engaging said worm wheel, a drive shaft for each worm gear, an individual reversible electric motor for each shaft, means for energizing each motor in two directions to actuate a shaft to level said platform upon lateral or longitudinal tilting, said last-mentioned means comprising an electric circuit for each motor, each circuit including a pair of solenoids and a



solenoid actuated switch for each solenoid, a tiltable mercury switch for each solenoid, each switch adapted upon closure to actuate its associated motor in one direction, a third solenoid interposed in the circuit between said mercury switch and said first-mentioned solenoids, a third switch actuated by said last-mentioned solenoid and a time delay mechanism connected to said last-mentioned switch, whereby to prevent actuation of a motor upon momentary tilting of said base.

2,966,938
SEAT DIVIDER AND REST
Paige Oeton, 7th and Virginia, Hopkinsville, Ky.
Filed May 1, 1959, Ser. No. 810,314
4 Claims. (Cl. 155—5.16)



1. A motorcycle seat attachment comprising a frame having a rear portion and a lower plate with padding on said frame, said lower plate being substantially horizontally disposed and having a contour adapted to conform to the top surfaces of a motorcycle seat, a pair of generally inverted L-shaped mounting brackets, means securing the upper horizontal legs of said brackets to opposite end portions of said lower plate with the free end portions of said legs projecting toward each other and overlapping the opposite end portions of said lower plate, the vertical legs of said mounting brackets depending from the remote ends of said horizontal legs and having means adapted to embrace and for securement to opposite sides of a motorcycle seat, said first mentioned securing means including a pair of longitudinally extending slots formed in one pair of said end portions and laterally extending pins carried by the other pair of end portions slidably disposed in said slots whose opposite ends

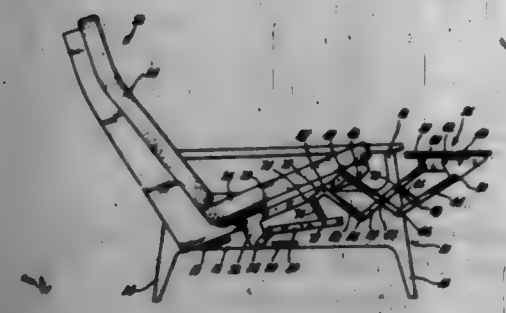
limit movement of said mounting brackets relative to said lower plate and movement of said brackets toward and away from each other, apertures formed through said other pair of end portions spaced longitudinally from said pins and aligned with said slots, a pair of threaded and headed fasteners having their shank portions passed through said aligned apertures and slots, and threaded retaining elements engaged with said bolts for securing corresponding end portions of said horizontal legs and said lower plate in adjusted overlapped positions.

2,966,939

LEG-REST AND LEG-REST CONTROL MEANS FOR RECLINING CHAIR

Peter S. Fletcher, Delray Beach, Fla., assignor to Anton Lorenz

Filed Sept. 9, 1959, Ser. No. 838,899
6 Claims. (Cl. 155—186)



1. An improved leg-rest and control arrangement for use in a reclining chair having a support member and a body-supporting member including a seat and back-rest mounted on the support member for movement between an upright sitting position and a rearwardly-tilted position, said leg-rest and control arrangement comprising a leg-rest formed of a separate main section and auxiliary section hinged together for relative turning movement, and a control linkage for guiding the leg-rest from a retracted position beneath the seat to an extended position forwardly of the seat, said linkage including a pair of spaced links carrying said leg-rest and operatively mounted on one of said members, one of the links of said pair being pivotally connected to the main leg-rest section and the other link of said pair being pivotally connected to the auxiliary leg-rest section, means pivotally joining an intermediate portion of said pair of links and adapted to spread apart the ends of the links connected to the leg-rest, whereby to cause a wider turning movement of the auxiliary leg-rest section relative to the main section.

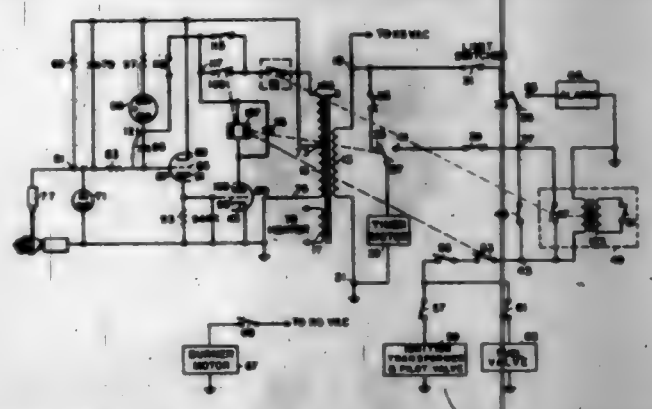
2,966,940

FUEL BURNER PROGRAMMING APPARATUS

Donald L. Graves, Woburn, and Philip Giuffrida, North Andover, Mass., assignors to Electronics Corporation of America, Cambridge, Mass., a corporation of Massachusetts

Filed Jan. 10, 1958, Ser. No. 708,244
1 Claim. (Cl. 158—28)

A programming apparatus for a fuel burner having electrically actuated ignition means comprising: a timer having a motor and a plurality of switches controlled thereby, control means for initiating the operation of said programming apparatus, flame sensing means, a flame relay having an actuating element connected to and actuated in response to the output of said flame sensing means, means to generate a checking signal capable of operating said flame relay, means including a timer switch to apply said checking signal to said flame relay in response to the operation of said control means, means responsive to the actuation of said flame relay by said checking signal to start said timer motor, means responsive to the operation of said timer motor to actuate said timer switch so as to remove said checking signal, means responsive to the further operation of said timer motor to stop said timer motor, means responsive to the de-actuation of said flame relay in response to the removal



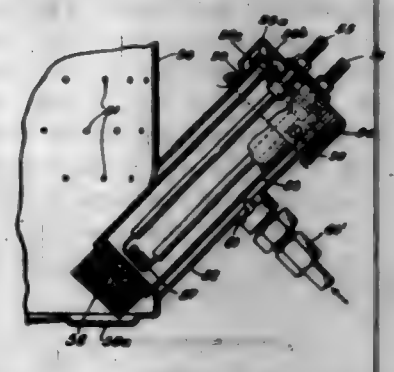
of said checking signal to start again said timer motor, means responsive to the operation of said timer motor to actuate said timer switch to apply again said checking signal to said flame relay, and means responsive to the actuation of said flame relay by this last application of said checking signal and to the further operation of said timer motor to actuate said ignition means.

2,966,941

ELECTRICAL IGNITION ASSEMBLY FOR LIQUID FUEL BURNERS

James L. Breese, deceased, late of Santa Fe, N. Mex., by Richard F. Van Tubergen and James L. Breese III, executors, Santa Fe, N. Mex., and Milton D. Huston, Santa Fe, N. Mex., assignors to Controls Company of America, Schiller Park, Ill., a corporation of Delaware

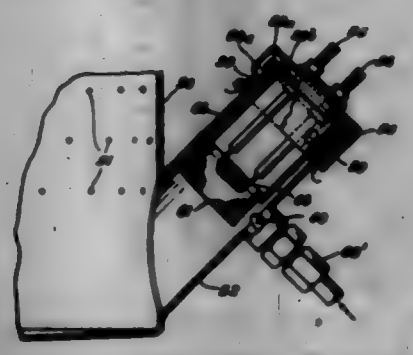
Original application Nov. 4, 1955, Ser. No. 544,918. Divided and this application Feb. 25, 1960, Ser. No. 11,985
3 Claims. (Cl. 158—91)



1. In a vaporizing type oil burner, the combination comprising a burner body having a floor and upstanding walls extending therefrom and wherein oil is adapted to be supplied to at least a portion of the floor of the burner body, an electric ignition element positioned within said body and vertically spaced from the floor, a hood surrounding a portion of said element and defining a chamber around said portion, said hood having a wall portion between said element and said floor, said wall portion being spaced from said portion of said floor, said hood having an opening in a lower portion thereof, and a wick extending from at least immediately adjacent the portion of the floor of said burner body through said opening, said wick being out of contact with said element and terminating within said chamber, said opening in said lower portion of said hood being located in a position such that the portion of said wick adjacent said opening is subjected to radiant heat from said element, whereby oil is metered from said portion of said floor

to said chamber by said wick and radiant heat from said element vaporizes a portion of the oil in said wick, the amount of oil which is vaporized depending on the degree of energization of said element and the size of said opening of said hood.

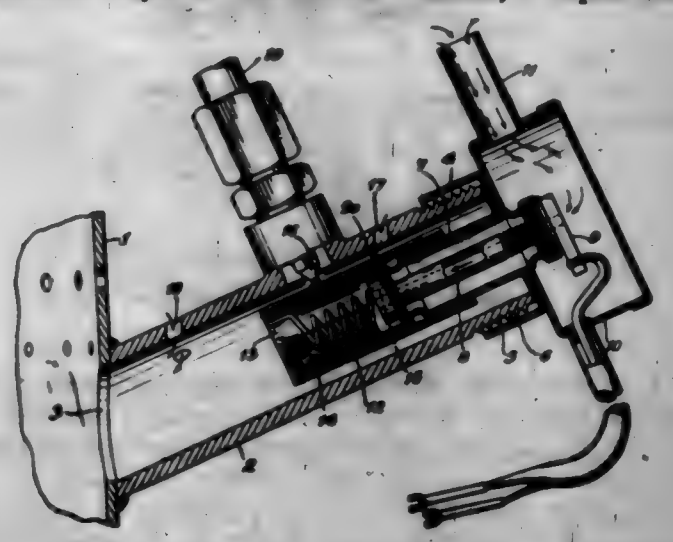
2,966,942
ELECTRICAL IGNITION ASSEMBLY FOR LIQUID FUEL BURNERS
James L. Breese and Milton D. Huston, Santa Fe, N. Mex., assignors, by mesne assignments, to Controls Company of America, Schiller Park, Ill., a corporation of Delaware
Filed Nov. 4, 1955, Ser. No. 544,918
5 Claims. (Cl. 158—91)



4. A vaporizing liquid fuel burner pot constructed and arranged to provide a heat storage reservoir whereby ignition of the fuel may occur substantially directly upon energization of a resistance heating element, said pot including, in combination, a generally circumferential side wall and bottom, said side wall having a plurality of air admission apertures located therein intermediate the top and bottom of the pot, and an opening for an ignition assembly adjacent the pot bottom, a sleeve in communication with the opening and having its axis inclined to the side wall of the pot and the bottom of the pot, and an electrical ignition assembly forming a heat storage reservoir insertable and removable in the sleeve in a direction generally parallel to the longitudinal axis of the sleeve, said ignition assembly including a generally cylindrical support, the upper end of said support terminating exteriorly of the said wall, and a generally cylindrical wick carried by the lower end of the support, said wick and at least that portion of the support adjacent the wick being of a metallic material capable of storing heat to thereby provide a stand by heat storage reservoir, said sleeve surrounding and being spaced from the heat storage reservoir so as to protect said heat storage reservoir against loss of heat, a resistance heating element generally axially aligned with said wick and generally adjacent thereto, means for directing a flow of air downwardly toward the heating element, said wick being positioned in the direct path of airflow downwardly within said support so that a flame produced upon ignition of heated vapor in the vicinity of the wick will be projected downwardly into the pot, and means for delivering fuel to the wick and adjacent supporting portion of the cylindrical support to thereby provide a source of fuel vapor to the heat storage reservoir.

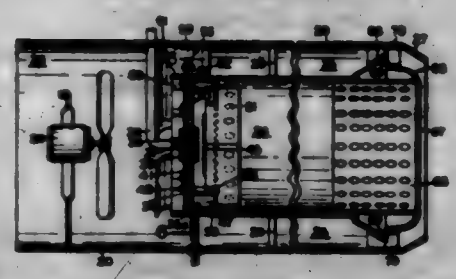
2,966,943
ELECTRIC IGNITION ASSEMBLY FOR LIQUID FUEL BURNERS
James L. Breese, Santa Fe, N. Mex., assignor, by mesne assignments, to Controls Company of America, Schiller Park, Ill., a corporation of Delaware
Filed Feb. 11, 1957, Ser. No. 639,268
3 Claims. (Cl. 158—91)

1. In a combined liquid fuel delivery and electric ignition assembly adapted for use with hydroxylating pot type liquid fuel burners, a downwardly inclined tube having an open lower end, a cylindrical pervious vaporizing screen element spaced in said tube above said open lower end, supporting means for the screen element including a tubular structure extending along the axis of the tube from the outer end of the tube, an electric heating means spaced within said screen element and means for energizing it for and thereby increasing the temperature adjacent said screen element, a liquid fuel



nozzle positioned on the side of said tube and formed and adapted to direct a jet of liquid fuel into the interior of said tube and against the exterior of said vaporizing screen element, a shield means interposed between the electric heating means and the liquid fuel nozzle, an axial air inlet duct positioned to deliver air to the space surrounded by the vaporizing screen at a zone adjacent the electric heating means, and a partial closure for the upper end of the tube formed and adapted to permit air leakage into the interior of the tube.

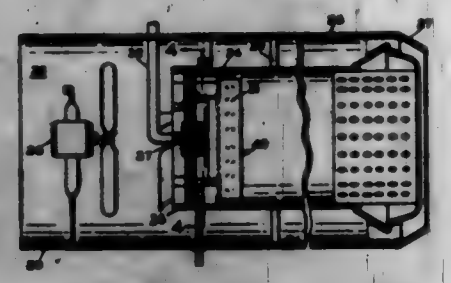
2,966,944
LIQUID FUEL BURNING HEATER
Edgar S. Downs, P.O. Box 242, Worthington, Ohio
Filed Jan. 2, 1959, Ser. No. 784,723
6 Claims. (Cl. 158—96)



1. A burner for burning liquid fuel comprising a combustion chamber, a ceramic pad having an exposed face at the inner surface of a wall of said combustion chamber, means for supplying the liquid fuel to said pad so that it will be absorbed thereby and distributed throughout the pad by the capillary attraction of the material of the pad, said wall of said combustion chamber including a rigid plate backing up said pad, said rigid plate and said pad having aligning primary air openings extending through both the rigid plate and the pad to the exposed face of the pad, said plate also having other primary air openings extending therethrough only, to the back surface of the pad, means for positively forcing primary air through said openings into said combustion chamber to vaporize the oil so it will be burned adjacent to the exposed face of said pad, the heat for vaporizing the oil in the pad being received from the flame which forms in front of the exposed face of the pad, the wall of the combustion chamber just beyond the face of the pad in the direction of flow of the primary air therethrough

being provided with air inlet openings for supplying secondary air to said combustion chamber to aid in complete and clean burning of the fuel in the combustion chamber.

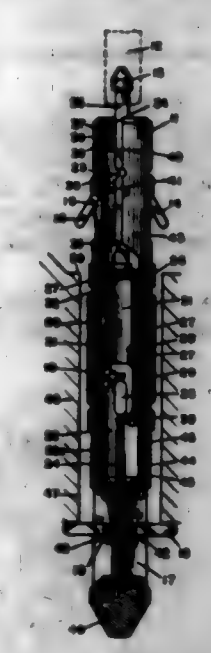
2,966,945
LIQUID FUEL BURNING HEATER
Edgar S. Downs, P.O. Box 242, Worthington, Ohio
Filed Mar. 26, 1959, Ser. No. 802,059
3 Claims. (Cl. 158—96)



1. A burner for burning liquid fuel comprising a combustion chamber, a ceramic cloth member composed of woven ceramic fibers with interstices therebetween having an exposed face at the inner surface of a wall of said combustion chamber, means for supplying the liquid fuel to said cloth member so that it will be absorbed thereby and distributed throughout the member by the capillary attraction of the material of the member, said wall of said combustion chamber including a rigid air-metering plate directly backwardly of said ceramic member, said rigid plate and said cloth member having aligning primary air openings extending through both the rigid plate and the cloth member to the exposed face of the member, said openings being in addition to the interstices of the cloth member, said plate also having other primary air openings extending therethrough only, to the back surface of the cloth member, means for positively forcing primary air through said openings into said combustion chamber to vaporize the oil so it will be burned adjacent to the exposed face of said cloth member, the heat for vaporizing the oil in the cloth member being received from the flame which forms in front of the exposed face of the member, the wall of the combustion chamber just beyond the face of the cloth member in the direction of flow of the primary air therethrough being provided with air inlet openings for supplying secondary air to said combustion chamber to aid in complete and clean burning of the fuel in the combustion chamber.

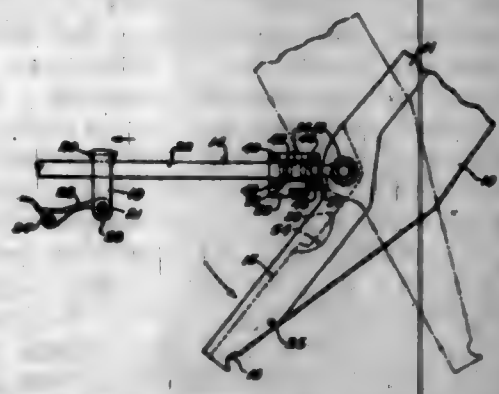
2,966,946
APPARATUS FOR USE IN A WELL BORE
Thomas B. McCulloch and William E. Kannady, Houston, Tex., assignors, by mesne assignments, to Jersey Production Research Company, Tulsa, Okla., a corporation of Delaware
Filed Oct. 24, 1958, Ser. No. 769,343
13 Claims. (Cl. 166—187)

1. A device for plugging a bore in a well which comprises an elongated body member formed to provide an internal cavity and provided with vertically spaced-apart first and second ports fluidly communicating the exterior of said body member with said cavity, an expansible and deflatable sleeve on said body member enclosing the first port, a container in said cavity adapted to confine under pressure a normally gaseous medium, a hollow valve means in said cavity provided with a port in its wall, actuating means operatively connected to said valve means for moving said valve means in sequence from a first to a second position and to a third position, separate means positioned in said device for releasably retaining said valve means in its first and second positions, said valve means in its first position covering the first port and in its second position uncovering said first port, and means connected to said valve means for releasing said normally gaseous medium from said container into said cavity when said actuating means moves said valve means from its first to its second position to expand said expansible



sleeve and thereby plug said bore, said expansible sleeve being deflated on said actuating means moving said valve means to its third position whereby the port in the wall of said valve means is placed in fluid communication with said second port to release said gaseous medium from said cavity.

2,966,947
FOLDING HELICOPTER BLADE
William R. Batesole, Ridgefield, Conn., assignor to Dorman Helicopters, Inc., Danbury, Conn., a corporation of Delaware
Filed July 21, 1958, Ser. No. 749,858
17 Claims. (Cl. 170—160.12)

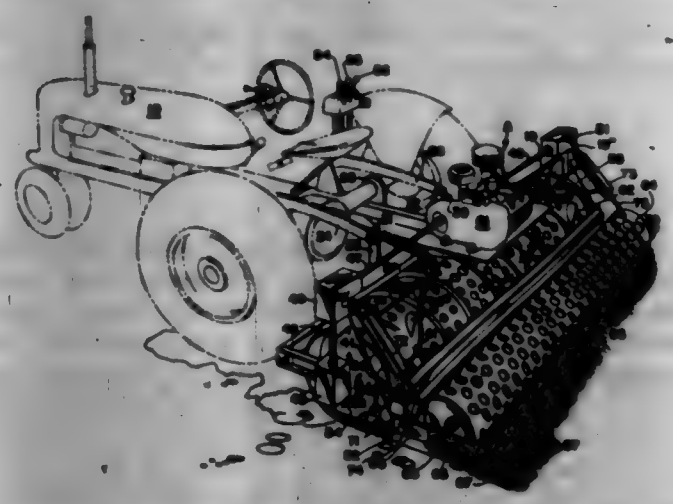


1. A folding helicopter blade comprising an aerodynamic portion including an aerodynamic portion spar having an inboard end, a blade spar having an outboard end and a longitudinal axis, pivot means extending laterally with respect to the axis of the blade spar and pivotally connecting the outboard end of the blade spar with the aerodynamic portion spar at a point spaced outwardly from the inboard end of the latter, and securing means to anchor the inboard end of the aerodynamic portion spar to the blade spar spaced inwardly a substantial distance from the outboard end of the latter.

2,966,948
EARTH SURFACING MACHINE
George Ulah, 7343 Windsor Mill Road, Baltimore, Md.
Filed Sept. 8, 1959, Ser. No. 838,909
3 Claims. (Cl. 172—72)

1. An earth leveling and conditioning machine adapted to be attached to a motor vehicle comprising an elongated hollow perforated rotatable drum having an

attached spiral cutting blade encircling the drum and rotatably therewith, said blade projecting outwardly from the outer surface of the drum for cutting a predetermined depth into the earth's surfaces, a frame for supporting the drum in a substantially horizontal position, means for rotating said drum, an elongated stationary blade fixed to the frame supporting the drum and spaced a short distance from the drum surface and in rear thereof, the lower edge of the blade extending downwardly below a



horizontal plane passing through the lowest line of the drum surface and above a horizontal plane passing through the lowest line of the rotatable spiral cutter blade, an elongated horizontal packing roll rotatably mounted rearwardly of the stationary blade, means for hingedly supporting the ends of the packing roll to the frame supporting the drum, means for separately adjusting each end of the packing roll relatively to the elongated axes of the drum, for gauging the depth of said spiral cutting blade carried on the drum, and means for supporting the machine on the motor vehicle.

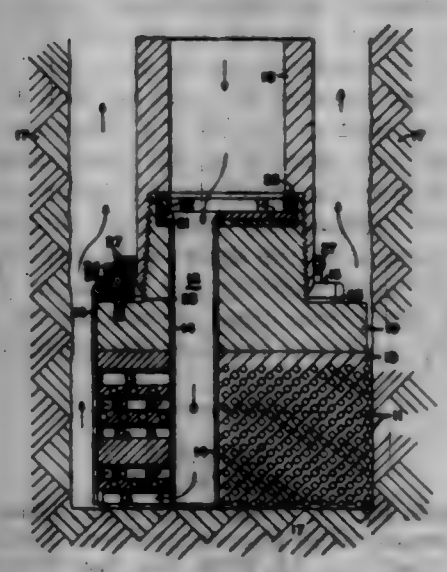
2,966,949

FULL HOLE PERMANENT DRILL BIT

George B. Wepsala, Jr., Caracas, Venezuela, assignor, by mesne assignments, to Jersey Production Research Company

Filed July 16, 1958, Ser. No. 748,868

10 Claims. (Cl. 175—329)



1. An improved rotary drill bit comprising an upper body section provided with means for connecting said bit to the lower end of a rotary drill string and a lower body section attached to and depending from said upper body section, said lower body section comprising a matrix and a plurality of abrasion-resistant cutting elements dispersed within said matrix to form a lower bottom hole contacting surface which extends radially from points near the axis of said bit to the periphery of said bit, said bit containing a vertical passageway which extends through said bit near the axis thereof, and said lower body section containing a plurality of vertically-spaced passageways extending laterally from said vertical passageway to openings in the side of said lower body section.

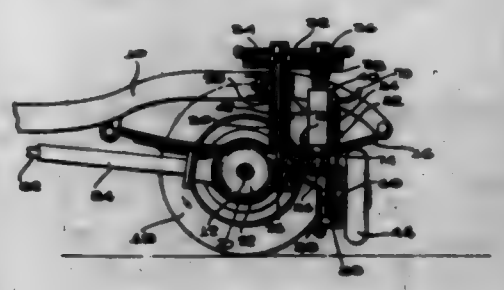
2,966,950

VEHICLE PARKING DEVICE

Charles Fraser, Montreal, Quebec, Canada (920 ACW Sq., APO 863, New York, N.Y.), and Hayward A. Swyer, Montreal, Quebec, Canada (15 Campbell Crescent, Kingussie, Inverness Shire, Scotland

Filed Apr. 22, 1958, Ser. No. 730,087

2 Claims. (Cl. 180—1)



1. The combination with a vehicle having a rear axle rotatable in clockwise and counterclockwise directions, and a drive wheel adapted to engage a ground surface connected to each end of said axle for rotation with the latter, of a vertically disposed driven shaft positioned inwardly of and adjacent each of said drive wheels, means drivingly connecting each of the driven shafts to said axle for rotation therewith in clockwise and counterclockwise directions, said means including a gear on said axle, a gear on said driven shaft, a drive shaft, a pinion on said drive shaft and in mesh with said axle gear, and a gear on said drive shaft and in mesh with said driven shaft gear, a parking wheel rotatable in clockwise and counterclockwise directions positioned adjacent each of said driven shafts and perpendicular to each of said drive wheels, each of said parking wheels being normally spaced above said ground surface, and means connecting each of said parking wheels to the adjacent driven shaft for rotation with the adjacent driven shaft responsive to movement of said parking wheel from the normal position to a position in engagement with said ground surface said last-named means including a vertically disposed hydraulic cylinder, a piston working upwardly and downwardly within said cylinder, said piston being provided with a bore extending from one end to an intermediate portion of said piston, the driven shaft having an end portion extending through said cylinder and into the bore, and cooperating clutch means in the upper end portion of the bore and said driven shaft end portion.

2,966,951

POWER-OPERATED GOLFER'S VEHICLE

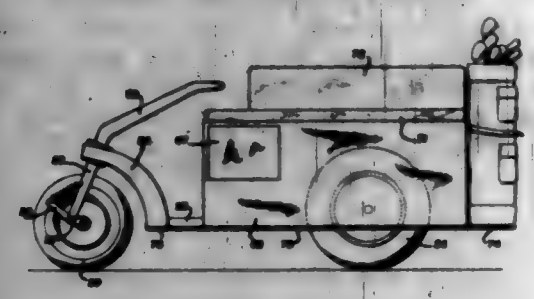
Ivan R. Lang, 255 Glendora, Long Beach, Calif.

Filed Mar. 25, 1959, Ser. No. 801,750

2 Claims. (Cl. 180—25)

1. A vehicle for golfers comprising, an upstanding frame which is elongated in the direction longitudinally of its direction of travel, said frame having a generally horizontal top which is generally seat-high from its bottom, a front steering wheel mounted upon the forward end of the frame, a handle connected with the steering wheel to steer it and arranged adjacent to the front end of the top, a pair of rear wheels mounted upon said frame

and extending downwardly below said bottom, one rear wheel being arranged inwardly of and near one longitudinal side of the frame and the other rear wheel being arranged inwardly of and near the other longitudinal side of the frame, one rear wheel having a tread which is wider than the tread of the other rear wheel, said rear wheels being transversely spaced, means to drive the rear wheel with the wider tread independently of the other rear wheel, a seat carried by said top and extending substantially through the length of said top and extending transversely over the rear wheel with the wide tread and spaced from the other rear wheel, a back mounted upon said top and arranged adjacent to the inner edge of said seat, and a horizontal step secured to the bottom of said frame along the side of the frame adjacent to the outer side of the rear wheel having the wide tread, said step extending longitudinally throughout the length of said frame and also extending transversely of the rear end of said frame.

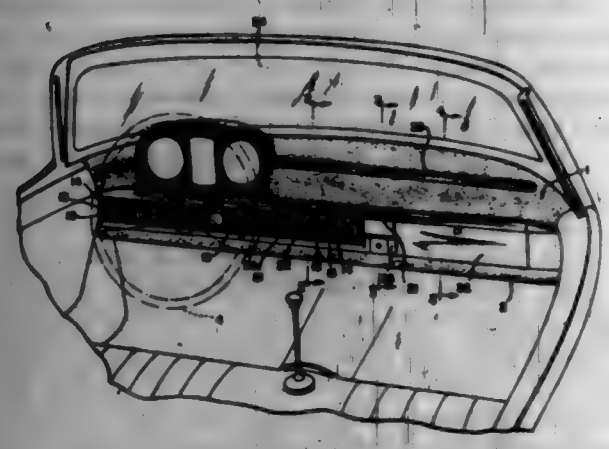


2,966,952

INSTRUMENT PANEL, ESPECIALLY FOR MOTOR VEHICLES

Karl Wilfert, Stuttgart-Degerloch, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Untertuerkheim, Germany

Filed Dec. 10, 1956, Ser. No. 627,287
Claims priority, application Germany Dec. 8, 1955
8 Claims. (Cl. 180—90)



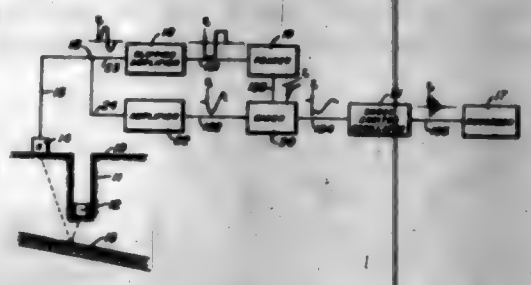
1. In a vehicle body having a windshield and instrument panel, a transverse padded bulge member disposed rearwardly of said windshield, said bulge member being formed as a hand gripping ledge, an essentially upwardly and rearwardly projecting support member supporting said bulge member, a forwardly curved padded wall disposed immediately to the rear of said windshield, said curved wall and said hand gripping ledge defining therebetween a groove also padded on the inside thereof, said support member being formed by a hollow sectioned sheet-metal member connected to said instrument panel, and light means disposed beneath said hand gripping ledge for illuminating said instrument panel, including a light-transmitting strip extending within said sheet metal member.

2,966,953

APPARATUS FOR PRESENTING SEISMIC DATA

Karl O. Holatz, Houston, Tex., assignor, by mesne assignments, to Jersey Production Research Company, Tulsa, Okla., a corporation of Delaware

Filed Nov. 14, 1955, Ser. No. 546,697
3 Claims. (Cl. 181—5)



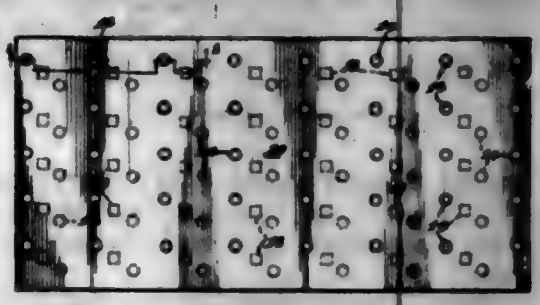
1. Apparatus for obtaining geophysical information, comprising: generating means for generating primary electrical signals responsive to elastic waves received thereby; circuit means coupled to said generating means responsive to changes of said primary electrical signals from a given polarity to the opposite polarity to generate secondary electrical signals variable in duration proportional to the amplitude of said primary electrical signals; and recording means for recording said secondary electrical signals.

2,966,954

ACOUSTICAL CORRECTION ELEMENT

Hale J. Sabine, Glen Ellyn, Ill., assignor to The Celotex Corporation, Chicago, Ill., a corporation of Delaware

Filed July 11, 1957, Ser. No. 671,304
6 Claims. (Cl. 181—33)



1. An acoustical correction element comprising spaced sheets, each sheet thereof perforated with a generally like pattern of perforations in substantially regular arrangement and spacing, the area of such perforations of the order of that of 3/32 to 5/16" diameter circles, the arrangement and spacing of the perforations providing passages through the sheet of the order of 11% of the area thereof substantially uniformly dispersed over the sheet, means spacing the sheets a distance not more than about 0.005" and securing the sheets in assembled relation with the perforations of one of the sheets offset substantially medially relative the perforations of another sheet.

2,966,955

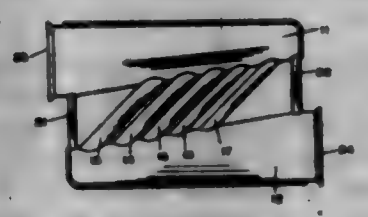
MUFFLER

Roy B. Smith, Rte. 5, Washington C.H., Ohio, and Vernon N. Holderman, 6180 Olentangy Blvd., Columbus, Ohio

Filed Aug. 13, 1958, Ser. No. 754,893
2 Claims. (Cl. 181—53)

1. A muffler for internal combustion engines comprising a substantially horizontal inlet conduit open at one end and closed at the opposite end into which exhaust gases enter at the open end of said inlet conduit and pass into said conduit toward the closed end thereof, said conduit tapering from a relatively large open end to a relatively small closed end; and a substantially horizontal outlet conduit arranged below and parallel to the inlet conduit and

also open at the outlet end and closed at the opposite end, said open end being at the opposite end of the device from the open end of the inlet conduit and tapering from a relatively large open end to a relatively small closed end; and a plurality of sloping connecting conduits interconnecting said inlet and outlet conduits, through which exhaust gases flow from said inlet conduit to said outlet conduit and then toward and out of the open end of said outlet conduit wherein a plurality of the interconnecting conduits slope downwardly and rearwardly from the closed end of the inlet conduit toward the closed end of the outlet conduit whereby the greater portion of said exhaust gases follow an S path through said muffler wherein



a plurality of the interconnecting conduits extend substantially perpendicularly between said inlet conduit and said outlet conduit and wherein the sloping tubes near the inlet end of said muffler are larger in diameter than the sloping tubes nearer to the outlet end; wherein the average cross-sectional area of each one of said interconnecting conduits is individually less than the average cross-sectional area of said inlet conduit; wherein the total cross-sectional area of all of the interconnecting conduits is at least as great as the greatest cross-sectional area of said inlet conduit and at least as great as the greatest cross-sectional area of the outlet conduit; and said device being formed of two complementary stamped plates secured to each other.

2,966,956

EXTENSION TOWER FOR USE WITH A FORK LIFT TRUCK

Erwin A. Campbell and Ian G. Mackenzie, Pittsburgh, Pa., assignors to Lee C. Moore Corporation, a corporation of Pennsylvania

Filed Feb. 26, 1960, Ser. No. 11,345
8 Claims. (Cl. 182—63)



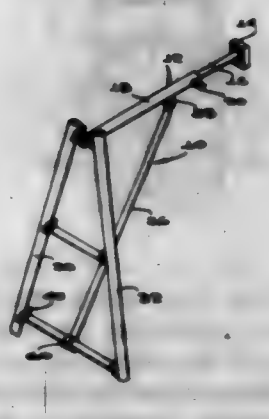
1. An extension tower comprising a base, a vertically extensible member supported by the base and secured thereto, said base extending away from one side of said member and formed to receive and support the front wheels of a fork lift truck while the truck fork is adjacent said member, and means operatively connected with said member for extending it when said means is raised, said means being adapted to be raised by said fork while the truck is on the base.

2,966,957

SCAFFOLD SUPPORTING STRUCTURE

Herbert A. Ireland, 3 Daniel St., Somersworth, N.H.

Filed Jan. 10, 1958, Ser. No. 708,968
3 Claims. (Cl. 182—224)



1. In a scaffold supporting structure, a horizontally disposed timber supporting member having one end adapted to bear against an upright wall, a pair of standards arranged in an upwardly converging direction positioned below said supporting member with the portion adjacent the other end of said supporting member received between the converging ends of said standards, means pivotally connecting said other end portion of said supporting member to the converging ends of said standards, cooperating opposed pairs of attaching elements arranged in spaced relation along said standards between the converging ends and the diverging ends of said standards, a rung detachably secured to each of said opposed pairs of attaching elements, and a brace bar arranged in an upwardly sloping direction positioned below said supporting member and having the upper end pivotally connected to a bifurcated lug carried by the midportion of said supporting member and having on the lower end a U-shaped saddle member adapted to loosely embrace and rest upon one of said rungs, said standards being movable from the upwardly converging direction position, upon removal of said rungs, to a position in which they are in a spaced upright direction, and said supporting member being shiftable from the horizontal position, when said standards are in the spaced upright direction position, to a position in which it is between said standards with said one end spaced below the upper ends of said standards, the pivotally connected end portion projecting upwardly between the upper ends of said standards, and the brace bar having the portion adjacent the other end projecting upwardly and above the upper end of said standards.

2,966,958

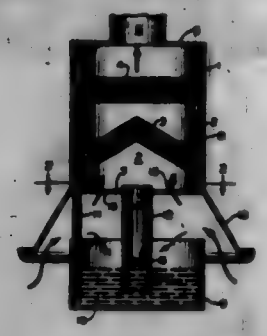
GAS TREATING DEVICE

Robert W. Sexton, Louisville, Ky., assignor to American Air Filter Company, Inc., Louisville, Ky., a corporation of Delaware

Filed Dec. 16, 1957, Ser. No. 703,136
15 Claims. (Cl. 183—14)

1. In a liquid bath gas treating device: a chamber defining a path for the total flow of gas to be treated; a liquid sump containing a supply of liquid to be conveyed to said chamber; inlet means to said chamber having a relatively large gas admitting area for admitting a first and major portion of said total gas flow directly to said chamber; and conduit means of substantially smaller cross sectional area relative to the cross sectional area of said chamber extending from said chamber to said sump to define a separate, confined path for the flow of a second

and minor portion of said total gas flow with liquid in particulate form entrained therein, said conduit means including means for admitting liquid from said sump into its lower portion, first gas inlet means for admitting a minor part of said second portion of gas flow into said conduit means adjacent the level of liquid in said conduit



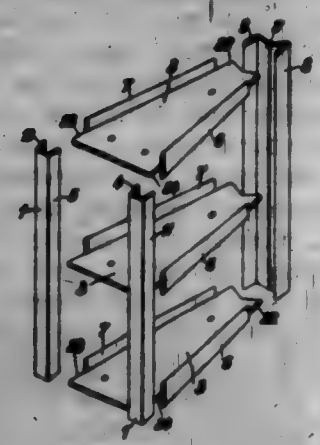
means, and second gas inlet means spaced from said first gas inlet means for admitting the major part of said second portion of gas flow into said conduit means, the gas admitting area of said conduit means being sufficiently small relative to said gas admitting area of said chamber to constrain said total gas flow to divide into said major and minor portions.

2,966,959

V-SHAPED FILTER CELL HOUSING, AND MEANS OF SEALING FILTER FRAMES THEREIN

Gerhard Max Neumann, Berlin-Friedenau, Germany, assignor to Delbag-Luftfilter G.m.b.H., Berlin-Halensee, Germany

Filed May 28, 1957, Ser. No. 662,100
Claims priority, application Germany May 31, 1956
8 Claims. (Cl. 183—44)



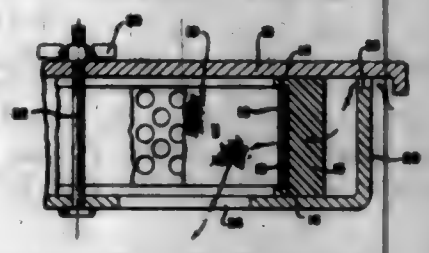
1. A V-shaped filter housing having an air inlet side and an air outlet side, comprising vertical limiting U-shaped channels arranged at said air inlet side and an M-shaped channel arranged at said air outlet side, substantially V-shaped horizontal trays having front edge portions and rear edge portions and permanently secured to and between said channels at predetermined spaced distances, thereby forming cells of predetermined measurement, said trays being disposed to form open dividing walls and adapted to receive on each side thereof at least a pair of filter units, each said pair comprising a coarse filter and a fine filter arranged in series, said dividing walls having spaced opposed longitudinal edges formed with upwardly and downwardly directed flanges welded at the trays' front edge portions and rear edge portions to the edges of said U- and M-shaped channels, and tension means centrally adjustably secured to the upper and lower faces of said trays, said tension means permitting a coarse filter to be arranged in series with a fine filter and to be pressed into position independently of each other.

2,966,960

AIR FILTER

Morris Rochlin, Oak Park, Mich., assignor to Fenmade Industries, Oak Park, Mich.

Filed Dec. 1, 1958, Ser. No. 777,465
2 Claims. (Cl. 183—73)



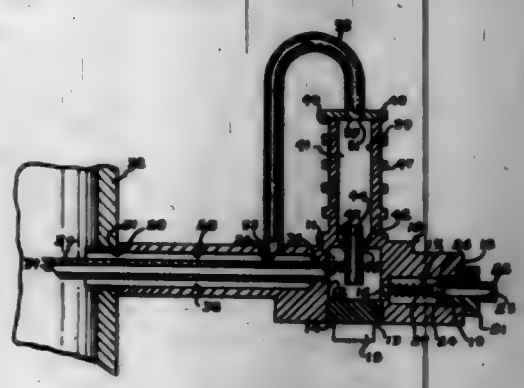
2. A disposable filter element for surrounding a cylindrically shaped, perforated, metal element formed of thin metal, and comprising a strip of flexible, resilient, foamed plastic material having the cells thereof opening into one another to provide numerous, closely spaced, free but tortuous passageways for the passage of fluid from one face of the strip to the opposite face thereof throughout the entire strip; the ends of the strip being permanently joined together and the strip being permanently formed into a flexible, single thickness, endless band of a size to fit around the outside of the metal element, and the band being resiliently stretchable axially and radially whereby it may be placed in face to face contact with and around the outside of the metal element and it will compensate for differences in size and shape therebetween, the inside wall of the band being provided with a pair of integral, inwardly extending, continuous, annular flanges, one at each end of the band, and the band in cross-section being U-shaped, with the flanges forming the legs of the U and intersecting the strip at substantially right angles thereto to form a relatively sharp corner therebetween, and the band being resiliently stretchable and compressible in its axial direction, whereby the flanges may be fitted over and arranged in complete contact with the respective ends of the metal element to form sealing gaskets.

2,966,961

LUBRICANT DISTRIBUTOR

William A. Green, 426 S. 15th St., Columbus, Miss.

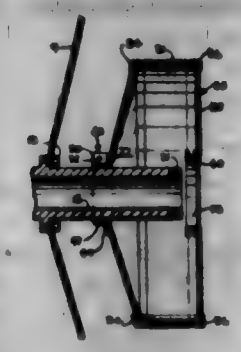
Filed Jan. 2, 1959, Ser. No. 784,630
5 Claims. (Cl. 184—50)



1. Apparatus for injecting lubricant in finely divided condition into a steam conduit comprising an expansion chamber, a condenser chamber mounted at an elevation above said expansion chmber, an ejector tube communicating at one end with one side of said expansion chamber and having the other end thereof adapted to project inwardly of the steam conduit, a housing spaced from and incasing said ejector tube with one end of said housing adapted for connection to the steam conduit to define a first passageway located between said ejector tube and said housing for the ingress of steam when said one end of the housing is connected to the steam conduit, means

defining a second fluid passageway communicating said first fluid passageway with the upper portion of the condenser chamber whereby steam is supplied to said condenser chamber, a third fluid passageway communicating the side of said expansion chamber opposite said ejector tube with a forced feed lubricator and in position for the lubricant to flow directly across the expansion chamber to the ejector tube, and an overflow tube communicating said condenser chamber with said expansion chamber with the inlet of said overflow tube located above the bottom of said condenser chamber to define a reservoir for condensate adjacent the bottom of said condenser chamber and the outlet of said overflow tube located within said expansion chamber between said third fluid passageway and said ejector tube whereby the condensate is introduced into direct contact with the lubricant as it passes in substantially straight line flow from said third fluid passageway to said ejector tube and the lubricant is delivered to the steam conduit at its maximum ebullition and atomization.

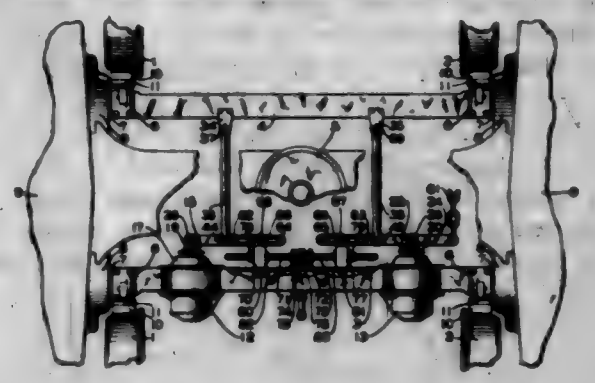
2,966,962
VEHICLE WORKING MEANS
Walter T. Bieler, 1256 N. Hillside, Wichita, Kans., assignor of one-half to William C. Wilson, Wichita, Kans.
Filed Feb. 4, 1957, Ser. No. 637,994
3 Claims. (Cl. 184—106)



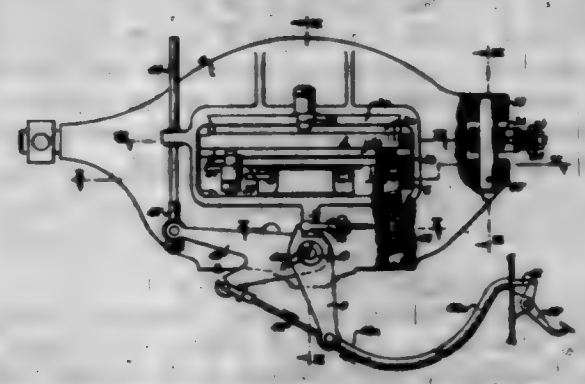
1. A lubricant catcher and retainer for working truck wheels having a wheel flange with an aperture therethrough and mountable on the wheel hub closed by an axle shaft flange comprising, in combination, a circular drum-like housing having a convex inner end and a substantially flat outer end, a co-axial circular hole in said outer end of size larger than the outer end portion of said hub of said wheel, said outer end of said housing having an inwardly turned lip around the periphery of said hole therein, a co-axial circular hole in said inner end of said housing of size to receive said outer end portion of said hub, clamp means attached to said inner end of said housing on the outside thereof of size to fit over said outer end portion of said hub when expanded and constructed and operative to hold said housing on said outer end portion of said hub when contracted thereabout, and means to expand and contract said clamp means, and said drum-like housing being a container constructed and mountable on said outer end portion of said hub of said wheel to receive and retain lubricant running out of said hub when said axle shaft flange is removed from said hub.

2,966,963
BRAKE RIGGING FOR RAILWAY CAR TRUCKS
Samuel L. Williams, Pittsburgh, Pa., assignor to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania
Filed Feb. 25, 1959, Ser. No. 795,490
12 Claims. (Cl. 188—52)

1. A brake rigging for a multi-wheel type of railway vehicle truck having a frame with a longitudinal axis and a transverse axis, said rigging comprising two brake beams extending transversely of and movably supported on the frame of the truck in substantially parallel relation to each other, two brake cylinders carried by one of said brake beams, each cylinder containing slidably disposed therein a piston having a piston rod, a pair of levers each pivotally connected at one end to a corresponding one of said piston rods and at the other end to said one brake beam, and a pair of rods each pivotally connected respectively at one end to a corresponding one of said levers intermediate the ends thereof and at the opposite end to the other of said brake beams.



2,966,964
BRAKES FOR AUTOMOBILE VEHICLES
Antoine Breeder, Paris, France, assignor to Societe Anonyme Andre Citroen, Paris, France, a French corporation
Filed May 28, 1956, Ser. No. 587,900
Claims priority, application France May 26, 1955
4 Claims. (Cl. 188—73)



1. A disc brake for a wheel of a vehicle provided with a chassis, comprising: a first friction member, a movable element supporting said friction member, a movable support supporting the movable element; a brake disc having opposite faces and rigidly fixed to the wheel; hydraulic means for applying said first friction member against one face of said disc; a second friction member mounted on said movable support, the said second friction member being applied against the other face of said disc by the reaction of the said support; and means for mounting the said movable support on the chassis to permit a limited lateral movement and a pivotal movement of said support, whereby the support is able to follow displacements in any direction of the said brake disc, said means comprising a knuckle-joint and an articulated crank-arm at opposite extremities of said support and coupling the latter to said chassis.

2,966,965
TRAILER BRAKE ACTUATOR
Carlyle B. Stair, 3109 Buckingham Road, Glendale 6, Calif.
Filed Feb. 26, 1957, Ser. No. 642,499
11 Claims. (Cl. 188—112)

1. An emergency actuator for hydraulic brakes on trailers normally actuated by conduit means extending from the braking system of the towing vehicle; said actuator comprising a body member mounted on the trailer

and having a cylinder enclosed therein, a piston reciprocable in said cylinder, spring means constantly urging said piston to a normal position at one end of said cylinder, fluid conducting means affording communication between the conduit means and the end of said cylinder adjacent to said piston, other fluid conducting means affording communication between the opposite end of said cylinder and the brake actuating cylinders of the trailer whereby a continuous fluid path is provided through which, under normal conditions the trailer brakes may be actuated simultaneously with and by the service braking system of the towing vehicle; said piston, upon being moved in opposition to said spring means, being effective to cut off fluid flow through said first named



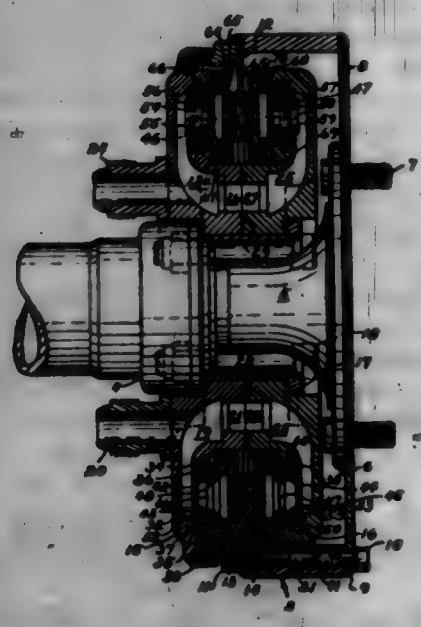
fluid conducting means and impose braking pressure on the trailer brakes, means operable to cause said piston to actuate the trailer brakes connected to the emergency brake system of the towing vehicle, and other means separately actuated by breakaway separation of the trailer from the towing vehicle effective to move said piston in opposition to said spring means including a normally sealed cartridge of compressed gas, means enclosing said cartridge and having communication with said cylinder at the side of said piston opposite the side contacting fluid in said cylinder, and devices actuated by breakaway separation of the trailer operating to release the gas from said cartridge with resultant imposition of the pressure of the released gas on said piston and consequent application of braking effort to the trailer brakes.

2,966,966

BRAKE MECHANISM

James O. Eames, Washington, Conn., assignor to Roy S. Sanford, Woodbury, Roger H. Casler and James O. Eames, Washington, and Wilfred A. Eaton and Erling D. Sedergren, Woodbury, Conn.

Filed May 9, 1956, Ser. No. 583,728
10 Claims. (Cl. 188—264)



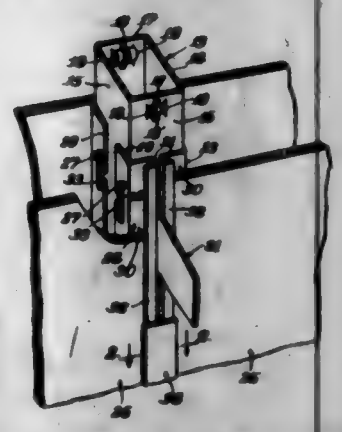
1. Liquid cooled and liquid pressure operated brake mechanism including a hub rotatably mounted on a support, an annular brake disc secured to the hub for rotation therewith, an annular friction ring on the disc, a cylinder member secured to the support having an annular cylinder formed therein, an annular piston slidably mounted in the cylinder forming a pressure chamber therebetween and having an annular liquid channel therein with the open end adjacent said friction ring, said channel having a back wall separating said channel from the pressure chamber, an annular metal friction element secured along its inner and outer peripheries to the outer end of said piston and forming an outer end wall for said piston channel, said friction element being adapted to engage said friction ring on movement of the piston outwardly in said cylinder, inlet and outlet ports in said cylinder member for respectively supplying cooling liquid under pressure to said brake mechanism and for discharging said cooling liquid therefrom, a direct connection between one of said ports and the channel in said piston, and means for connecting the other of said ports to the chamber formed between said piston and cylinder member, and to the channel in said piston at a point spaced from said direct connection to said channel.

2,966,967

WALL CONSTRUCTION

Edward M. Levy, Evanston, and Dale R. Lepatka, Chicago, Ill., assignors to Reflector-Hardware Corporation, Chicago, Ill., a corporation of Illinois

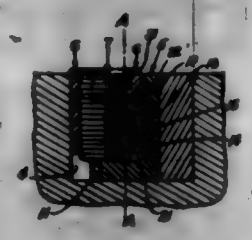
Filed Aug. 14, 1956, Ser. No. 603,987
12 Claims. (Cl. 189—34)



1. In a wall construction including an upstanding substantially rigid stud member having opposite rearwardly extending side faces and having a forward face substantially normal to said side faces and provided with a vertically extending row of vertically spaced apart and vertically aligned slots therein, the combination comprising, a plurality of vertically spaced apart hanger elements fixed upon said side faces of said stud member and projecting laterally therefrom, a vertically extending molding member removably hooked over and supported upon those of said hanger elements projecting from one side of said stud member, a second vertically extending molding member removably hooked over and supported upon those of said hanger elements projecting from the other side of said stud member, vertically extending web portions on said molding members engaging said forward face of said stud member and respectively overlying the same on opposite sides of said slots with a space between the adjacent edges of said molding members, a merchandise support removably mounted upon the lower edges of certain of said slots in said stud member independently of said molding members, said merchandise support extending forwardly of said stud member and freely through said space between said molding members, means on the forward side of each of said web portions of said molding members defining a vertically elongated recess, and a pair of wall panels having corresponding adjacent vertical edges respectively freely residing in said recesses, said molding members serving to secure said wall panels to said upstanding stud member, said panels and said molding members being readily re-

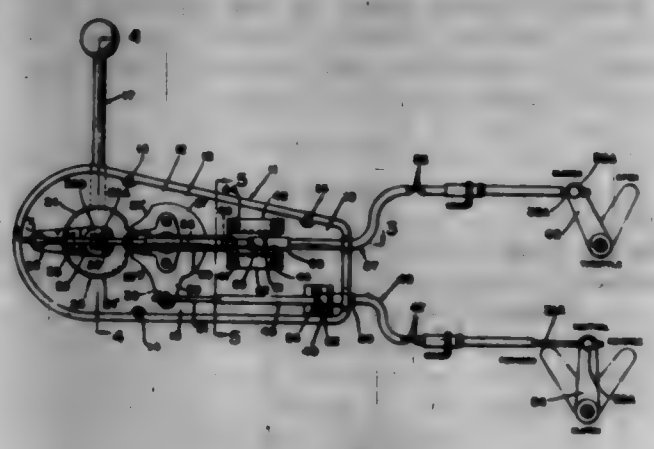
movable from said stud member upon lifting said molding members to unhook the same from said hanger elements, whereupon said molding members may be slipped off of said panels.

2,966,968
LOCKING DEVICES
Lewis Skeel, Mendville, Pa., assignor to McCreshy Tool Corporation, a corporation of Pennsylvania
Filed June 13, 1956, Ser. No. 591,181
10 Claims. (Cl. 189—36)



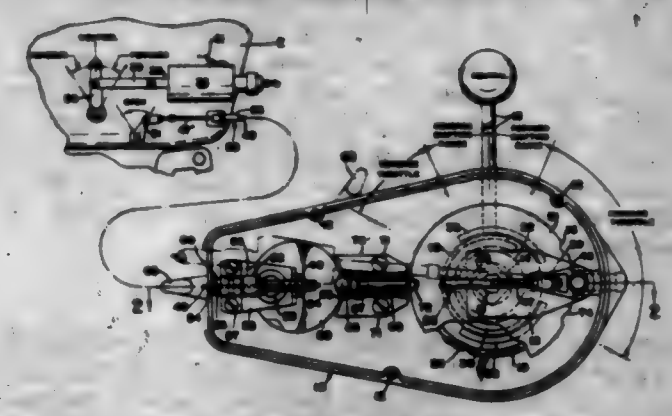
4. A locking device adapted for insertion between a pair of members which are to be locked against relative movement comprising laterally movable male and female members having complementary segmental portions provided with interfitting inclined arcuate wedging faces, the curvature of said wedging faces conforming to the surface of a portion of an oblique cylinder and means for effecting relative axial movement between said male and female members to bring said wedging faces into operative engagement whereby said male and female members are forced bodily laterally into locking engagement with the members to be locked in place.

2,966,969
THROTTLE OPERATING MECHANISM FOR SINGLE LEVER CONTROL
John F. Morse, 21 Clinton St., Hudson, Ohio
Filed Aug. 5, 1958, Ser. No. 753,327
7 Claims. (Cl. 192—.098)



1. In a single lever control unit for the clutch and throttle of an engine, said unit having a housing, a first rotatable member in said housing for throttle control, a second rotatable member for clutch control operatively connected to said first member for cooperative rotation only during the first portion of movement of the control lever in forward or reverse direction from neutral, and a push-pull cable having a casing and a core, the core being operatively connected to the engine throttle, the improvement comprising linkage means operatively connecting said first member to one end of the core of said cable, a slide mounting the casing of said cable on said housing for movement toward and away from said first member, and linkage means operatively connecting said slide to said second rotatable member for moving said cable casing with the core and in the same direction only during rotative movement of said second member.

2,966,970
SINGLE LEVER CONTROL FOR ELECTRICAL GEAR SHIFT
John F. Morse, 21 Clinton St., Hudson, Ohio
Filed Oct. 6, 1959, Ser. No. 844,798
5 Claims. (Cl. 192—.098)



1. A single lever remote control unit for an engine throttle and an engine clutch having an electrical actuator, said unit comprising a housing, a throttle control shaft rotatable in said housing from a neutral position in either direction and adapted for operative connection with the engine throttle, a contact plate journaled on said shaft, conductor rings on said plate adapted for electrical connection with the actuator, a switching plate secured on the shaft to selectively complete electrical circuits between the actuator and said conductor rings to shift the clutch into forward and reverse, a detent plate secured on said shaft, an auxiliary throttle control lever operatively mounted on said housing, and interlocking means between said auxiliary lever and said detent plate to prevent movement of said auxiliary lever in certain positions of said shaft.

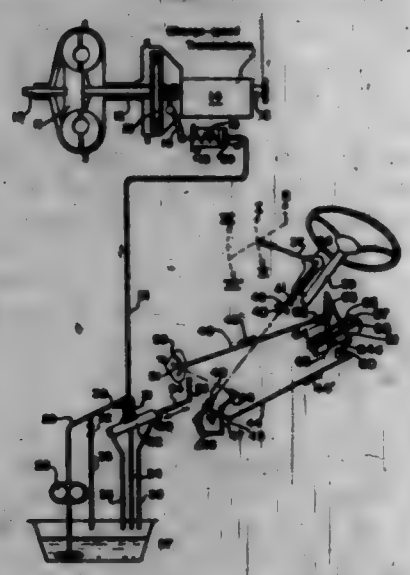
2,966,971
ELECTRIC REGISTER
Charles J. Mansel, Durham, and Lloyd F. Plummer, Dover, N.H., assignors to Moore Business Forms, Inc., Niagara Falls, N.Y., a corporation of Delaware
Filed June 6, 1957, Ser. No. 663,957
3 Claims. (Cl. 192—2)



1. A one-revolution and stop drive mechanism, comprising a supporting chassis, a peripheral cam mounted for rotation on said chassis and having an indexing recess in its periphery, an electric motor in driving relation with said cam, a resiliently opening switch in circuit with said motor, a toggle linkage extending between said cam and said switch, including a first link pivotally connected at one end to said chassis with its free end extending and swingable between said cam and said switch, resilient means urging said link into operative engagement with the periphery of said cam, a detent carried by said link for locking reception in said indexing recess, said link being associated with said switch in controlling relation thereto to open the switch when said link is swung to a locking position for reception of its detent in said recess and to close the switch when swung to an unlocking position to retract said detent from said recess, a trigger mounted on said chassis for rectilinear movement toward the pivotal connection of said first link, a second toggle link having one end pivotally connected to said trigger, the free ends of said first and second links being releasably pivotally interconnected to define the knee of

the toggle linkage, said knee being displaced from alignment with said end pivotal connections of the links toward said switch, to release said cam for rotation and to energize said motor incident to such movement of the trigger, a disconnecting member movably carried by said trigger for movement therewith into and from cooperating relation with said cam to disconnect the releasable knee of said linkage, and means positioned on the cam for actuating engagement with said member incident to rotation of the cam, whereby said detent may automatically re-engage in said recess to arrest the rotation of said cam and to de-energize said motor upon the completion of one revolution of the cam regardless of the position of said trigger.

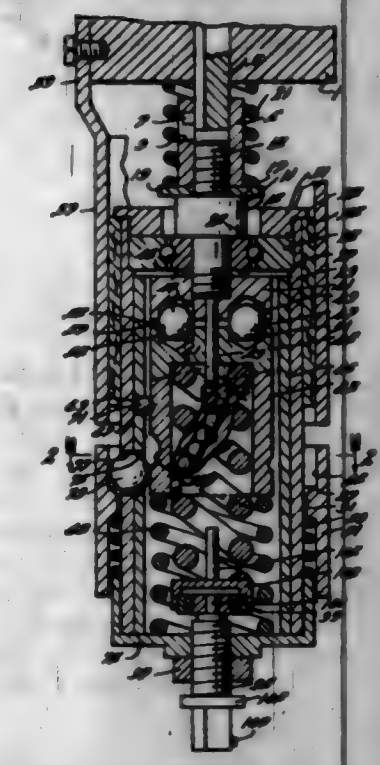
2,966,972
SHIFTING ARRANGEMENT FOR CHANGE-SPEED TRANSMISSION WITH ASSOCIATED CLUTCH
Jörg D. Nallinger, Toronto, Ontario, Canada, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Untertürkheim, Germany
Filed Oct. 31, 1955, Ser. No. 544,000
11 Claims. (Cl. 192—3.5)



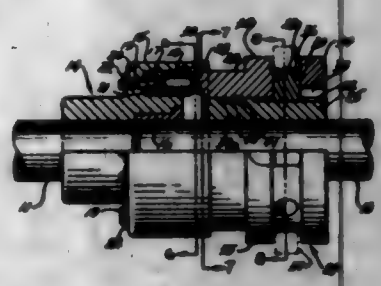
1. In a motor vehicle a change-speed transmission having at least three speeds with an input shaft and an output shaft and a clutch comprising driving and driven elements, one of said elements being operatively connected with one of said shafts, the combination comprising mechanical linkage means having a first mode of operation for preselecting from said speeds particular groups of speeds to be engaged, each group including at least one speed, and a second mode of operation for selectively engaging the individual speeds of the preselected speed group of said transmission, control means for controlling said clutch to effect engagement or disengagement thereof, a common mechanical actuating means for actuating both modes of operation of said linkage means and said control means, said common actuating means including a pair of lost motion producing elements mechanically coupled to said linkage means and providing lost motion for each selected speed for initially delaying disengagement of each previously engaged speed during the initial period of movement of said actuating means while said clutch is first disengaged and for delaying re-engagement of said clutch until any desired next speed is engaged during gear shifting operation of said actuating means.

2,966,973
TORQUE CLUTCH
Henry L. Hayes, Royal Oak, Mich.
(496 E. Baker, Clawson, Mich.)
Filed Apr. 1, 1954, Ser. No. 420,383
12 Claims. (Cl. 192—56)

4. In a torque clutch, a driving clutch member, a driven clutch member, rolling means between the members for keying them together to transmit torque, one of the members being axially movable, first spring means acting against said one of the members to press them together, said spring means being overcome at a predetermined transmitted torque to permit axial movement of said one member away from the other and to release said rolling means and prevent substantial torque transmittal between the members, a clutch element free of said spring means and abutting said one member in a driven torque transmitting connection and movable with it away from the other member to a position wherein said rolling means is released, releasable lock means for holding the element in said position, said spring means acting to separate said one member from said element and break said connection when said element is locked in said position, and a second spring means of less resistance than the first acting upon said element to force it against said one member and reestablish said connection when said element is released from locked position.



2,966,974
CLUTCH
Walter B. Paskowski, 69 Willow St., New Britain, and Leocadia P. Pratson, 96 Sergeant St., Hartford, Conn.
Filed July 28, 1958, Ser. No. 751,333
1 Claim. (Cl. 192—67)



A clutch comprising a driving member and a driven member mounted upon a coaxial driving shaft and a driven shaft respectively, said driving member including an internal cylindrical guide member, an external cylindrical sleeve member slidable on said guide member and having a plurality of integral rearwardly extending clutch lugs spaced equidistantly about the circumference thereof, said driving member having an annular groove adapted to receive a forked yoke for sliding said drive member rearwardly, said driven member having an enlarged forward section provided with a plurality of

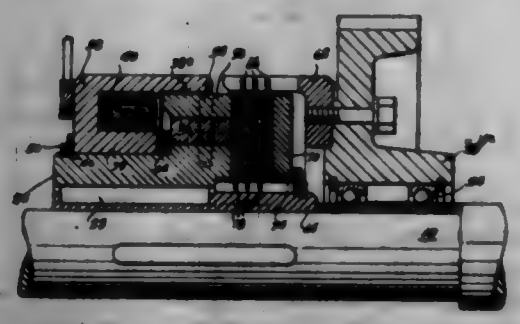
equidistantly spaced bores, open at their front ends and closed at their rear ends, said bores being arranged in a circle around the axis of said driven member, the inner rear end of each of the bores having a circular hole of reduced diameter within which is fitted the reduced end of a cylindrical clutch pin having the same radius as said clutch lugs, coiled compression springs within said bores, surrounding the reduced sections of said pins, said clutch lugs being smaller in number than said clutch pins, whereby when said driving member is moved rearwardly, some of said clutch pins will be moved rearwardly to allow the side faces of said clutch lugs to engage the sides of some of said clutch pins to cause said driven member to be rotated by said driving member.

2,966,975

ELECTRO-MAGNETIC CLUTCH

Ludwig Wiedmann and Hermann K. Fischer, Friedrichshafen, Germany, assignors to I-T-E Circuit Breaker Company, Philadelphia, Pa., a corporation of Pennsylvania

Filed Oct. 26, 1956, Ser. No. 543,172
Claims priority, application Germany June 22, 1955
12 Claims. (Cl. 192—84)



1. In a device of the class described, a first sleeve connectable to one of a driving or driven member, a magnetic clutching system carried on said first sleeve and comprising a second sleeve of magnetic material, a stationary solenoid magnet mounted on said second sleeve with bearing engagement therebetween, a slidably mounted armature rotatably carried by said first sleeve and rotatable therewith, and clutch elements engageable on attraction of said armature and said solenoid magnet is energized at least a first clutch element of said clutch elements being connected to one of said first or second sleeves, a power transferring means, at least a second clutch element of said clutch elements being connected to said power transferring means, said power transferring means being rotative upon engagement of said clutch elements, and a non-magnetic ring disposed on said second sleeve intermediate said armature and said solenoid magnet for directing the magnetic flux through said armature when said solenoid magnet is energized.

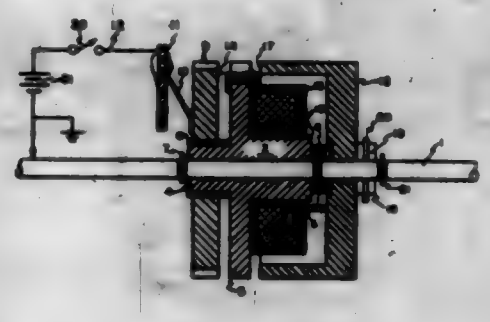
2,966,976

MAGNETIC CLUTCH

George H. Brewer, Lutherville, and Basil P. Hooten, Towson, Md., and Gordon Cooper, Winter Park, Fla., assignors to The Bendix Corporation, a corporation of Delaware

Filed Aug. 8, 1957, Ser. No. 677,162
1 Claim. (Cl. 192—84)

A power transmitting assembly comprising: a non-magnetic shaft, a cylindrical member of magnetic material mounted on said shaft and freely rotatable with respect thereto, said cylindrical member comprising a central disk and a hub of smaller diameter than said disk on each side thereof, a gear wheel fixedly mounted on one of said hubs and electrically insulated therefrom, a coil wound about the other of said hubs and electrically insulated therefrom, a cup-shaped element of magnetic material mounted on said shaft for slidable movement therealong, said element being restrained from rotation relative to said shaft, said element being juxtaposed to and enclosing said other hub and said coil with the end surface of the cup thereof in adjacent relationship to the lateral peripheral surface of said disk and separated therefrom by a distance which is less than the distance separating said element from the end surface of said other hub, stop means limiting the sliding movement of said element away from said member, means forming an annular electrically conductive surface on a lateral



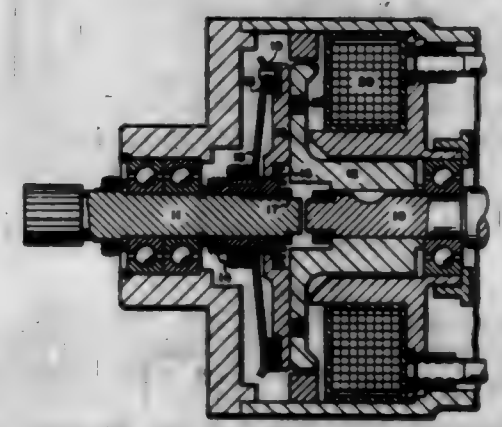
face of said gear, said annular surface being concentric with said shaft and electrically insulated therefrom, means electrically connecting one terminal of said coil to said annular surface and means electrically connecting the remaining terminal of said coil to said shaft, whereby when an electrical current is passed from said annular surface to said shaft through said coil, said cup-shaped element will be drawn toward said member until said end surface of said cup rests against said lateral peripheral surface of said disk, with an air gap existing between said end surface of said other hub and said element, and said shaft will be rotationally locked to said gear wheel.

2,966,977

OVERLOAD LIMITING CLUTCH

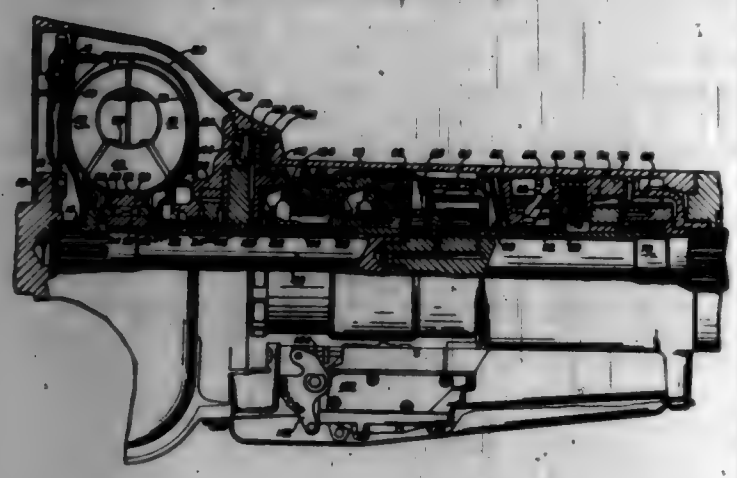
Weldon H. Johnson, Rockford, Mich., assignor to Lear, Incorporated

Filed Oct. 17, 1957, Ser. No. 690,678
1 Claim. (Cl. 192—84)



In combination, a driving shaft and a driven shaft coaxially aligned, a first plate secured to said driving shaft and a second plate secured to said driven shaft, a third plate positioned between said first and second plates and mounted on said driven shaft for rotational and axial freedom relative to said driven shaft and said first and second plates, first resilient means to maintain said second plate in frictional contact with said third plate, second resilient means for urging said third plate away from frictional contact with said first plate, means for producing magnetic attraction between said first and third plates, such that said second resilient means is overcome and said first and third plates come into frictional contact, and non magnetic means disposed in said first plate for directing the flux path through said first and third plates several times.

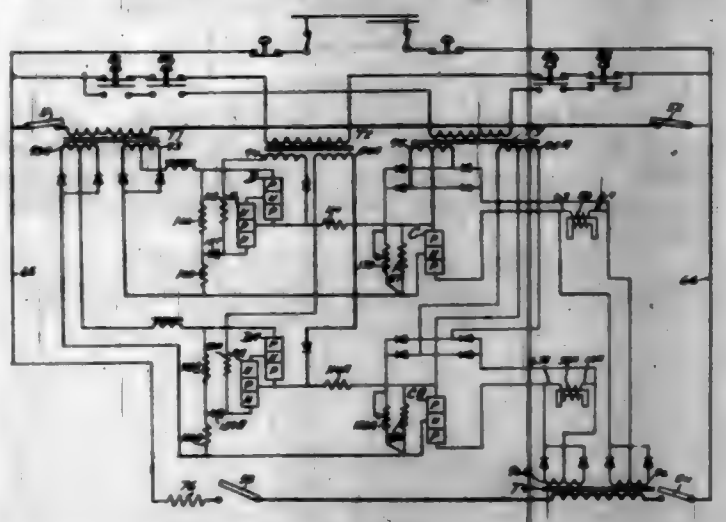
2,966,978
FLUID PRESSURE OPERATED CLUTCH
Robert E. Kaptur, Birmingham, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed May 27, 1957, Ser. No. 661,753
4 Claims. (Cl. 192—106)



1. A fluid pressure operated clutch for delivering torque from a driving shaft to a driven shaft, a first clutch member carried by said driving shaft, a second clutch member carried by said driven shaft, an annular cylinder formed in one of said clutch members, an annular piston positioned in said cylinder and defining therewith an annular working chamber with the axis co-incident with the axis of said shafts, a circular groove formed in said one clutch member, a multiple disc clutch assembly with cooperating portions thereof carried by each of said first and second clutch members, and a lever interposed between said piston and said clutch assembly with one end thereof fulcrumed in said groove, said groove restraining translatory axial movement of said one lever end, the portion of said lever intermediate its ends being enlarged and having a substantial mass, said enlarged portions being located between said piston and a line drawn between said lever ends, said piston being adapted to engage said lever at a point radially inward from said one end, the center of gravity of said lever being displaced axially a substantial distance with respect to said one end toward said piston thereby establishing a force couple which opposes the centrifugal force acting on said piston during operation, said lever engaging one portion of said disc clutch assembly at a location axially displaced from the fulcrum point of said lever.

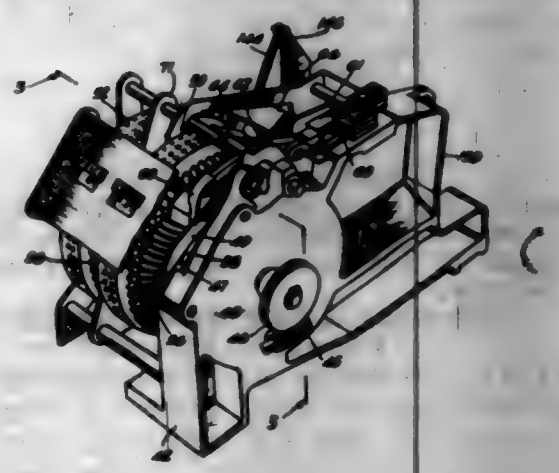
2,966,979
TRANSISTOR CONTROL SYSTEMS
Steve A. Zarling, Akron, Ohio, assignor to The Clark Controller Company, Cleveland, Ohio, a corporation of Ohio
Filed May 11, 1955, Ser. No. 507,643
9 Claims. (Cl. 192—131)

1. In a control for a cyclically operating machine; an operator's contactor normally restored and having normally closed first control contacts and normally open second control contacts and operable to open the first contacts and close the second contacts; a first mechanical contactor normally closed at the beginning of the machine cycle and operated by the machine to open and close again near the end of the cycle; a work transistor; work transistor control means to render it conducting and non-conducting, comprising a first and a second control transistor; the first control transistor having a biasing circuit connected to be effective, when the first control contacts are closed, to render its main circuit conducting; the main circuit of the first control transistor connected to be effective, when the first mechanical contactor is closed, to energize the biasing circuit of the second control transistor; the main circuit of the second control transistor connected to be made effective by the closed first mechanical contactor before it opens, to energize the biasing circuit of the first control transistor and the biasing circuit of the work transistor to maintain the first control transistor conducting and to render the work transistor conducting; an electromagnetic winding responsive to the energization and de-energization of which the machine starts and stops its cycle; a work circuit connected to be effective, upon closing the second control contacts, to energize the winding through the main circuit of the work transistor; a second mechanical contactor normally open at the beginning



and end of the cycle and operated by the machine to close at an intermediate point of the cycle, and connected to be effective upon closing to energize the winding concurrently with its energization by the work circuit; opening of the first mechanical switch terminating energization of the biasing circuits of the second control transistor and of the work transistor and rendering the latter non-conducting, whereby the winding is maintained energized by the second mechanical switch; and reclosing of the first mechanical switch being ineffective to restore said terminated energization until and unless the first control contacts are closed at least momentarily to effect energization of the biasing circuit of the first control transistor.

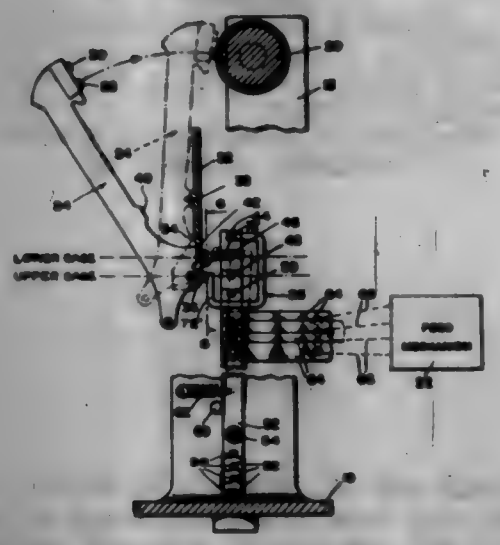
2,966,980
COINBOX FOR SUBSCRIPTION TELEVISION
John C. Nyberg, North Hollywood, Calif., assignor, by mesne assignments, to Paramount Pictures Corporation, New York, N.Y., a corporation of New York
Filed Dec. 30, 1957, Ser. No. 706,119
5 Claims. (Cl. 194—1)



1. A coinbox for use at a receiver in a subscription television system of the type wherein signals from the transmitter are employed to establish a price required to be deposited in the coinbox before the receiver is enabled

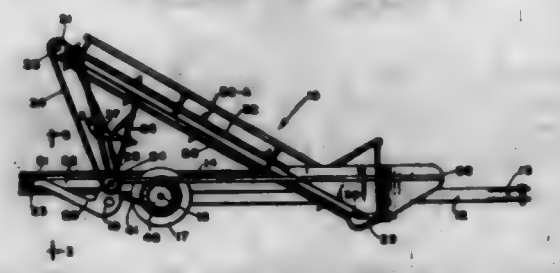
to intelligibly present a program, said coinbox comprising a first and a second wheel, means for rotatably supporting said first and second wheels, means for establishing a first position for said first wheel representative of no-price demand, means for establishing a second position for said first wheel representative of full payment of a price, first spring means for biasing said first wheel against rotation from said first position, means for establishing a no-credit position for said second wheel, second spring means for biasing said second wheel against rotation from said no-credit position, said second spring means providing a stronger bias than said first spring means, means for rotating said first wheel through an arc against the bias of said first spring means responsive to said signals from said transmitter to establish said first wheel at a position between said first and second positions representative of a price required to be paid, means for preventing said first wheel from being returned to said first position by the bias of said first spring means, coin-sizing means including means responsive to the insertion of a coin for rotating said second wheel from said no-credit position against the bias of said second spring means through an arc representative of the value of said coin, means for holding said second wheel against the bias of said second spring means, means for releasing said means for holding said second wheel to enable said second spring means to return said second wheel toward said no-credit position, means for coupling said second wheel for driving said first wheel in the direction of said second position when said second wheel is being returned toward said no-credit position in a direction to establish said first wheel at a position representative of a reduction from said price required to be paid by the amount of said drive, means for applying said holding means to said second wheel, means for removing said means for coupling, and means actuated responsive to said first wheel reaching said second position to indicate the full payment of said price.

2,966,981
SELECTING MECHANISM FOR KEY OPERATED MACHINES
Sayed Khalil, Hotel Monterey, Broadway at 94th St., New York, N.Y.
Filed Feb. 7, 1958, Ser. No. 713,987
35 Claims. (Cl. 197—84)



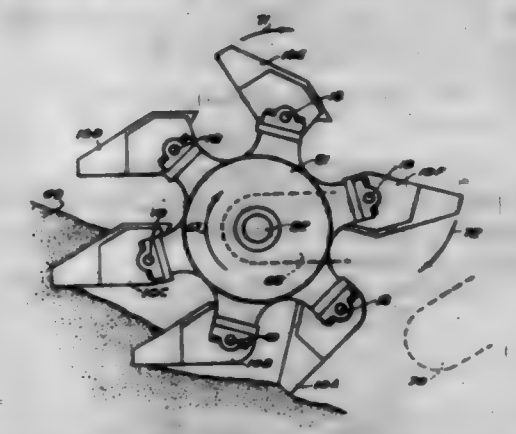
18. A variable spacing typewriter comprising a frame, a carriage, a typing mechanism including type bars bearing characters, means for actuating and shifting said type bars, a feed mechanism including a plurality of independently movable selective bars each imparting a constant degree of motion differing from the others to said carriage and carrying force transmitting followers equal in number to the number of said characters, and means connected with said typing mechanism actuating one of said followers during each typing action.

2,966,982
BALE LOADER AND TRAILER
Edmund Chelewski, Ansley, Nebr.
Filed July 29, 1958, Ser. No. 751,695
8 Claims. (Cl. 198—7)



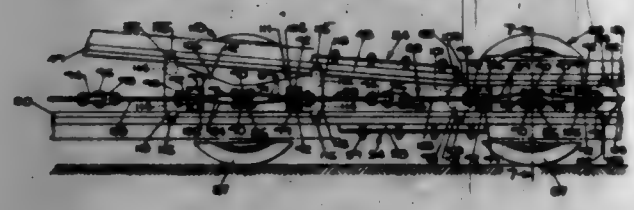
1. A combined trailer and bale loader comprising, in combination, a wheel and axle assembly upon the loader, an underframe supported upon said wheel and axle assembly, a platform pivotally supported upon said underframe, manually controlled means for selectively locking said platform against rotation upon said underframe, an upwardly and rearwardly inclined chute secured to one side of said platform, conveyor means carried by said chute, drive means acting between said underframe and said chute operated by movement of the wheel of the wheel and axle assembly due to movement of the bale loader over the ground for operating said conveyor means, and gearing means to inactivate said conveyor means and allowing continued movement of said wheel of the wheel and axle assembly during movement of said bale loader over the ground.

2,966,983
APPARATUS FOR PICKING UP, ELEVATING, AND DISCHARGING MATERIAL
Fredrick Chresten Hoberg, 321 Pacific Highway, Crows Nest, New South Wales, Australia
Filed Apr. 9, 1959, Ser. No. 805,184
2 Claims. (Cl. 198—9)



1. Apparatus for picking up, elevating and discharging material including a carrier; a plurality of buckets each mounted pivotally about a transverse axis on the carrier; means for limiting the pivotal movement of each bucket about its axis; each bucket being adapted, when advanced in a loading position, to dig and hold material; the carrier being adapted to advance the buckets sequentially along a substantially arcuate loading path and thence to and along a substantially arcuate discharging path above the level of the loading path; a damper adapted to control the pivotal movement of each bucket moved along the loading path to restrain its pivotal movement in one direction substantially away from loading position under the influence of a received load of material; and spring-loading means adapted to move each bucket pivotally in the opposite direction partly to counterbalance the bucket in its passage along the loading path and so to move the bucket pivotally during its passage along the discharging path as to cause it to discharge its load.

2,966,984
PORTABLE CONVEYOR APPARATUS
Sterling C. Moon, Dublin, Ohio, assignor to The Jeffrey Manufacturing Company, a corporation of Ohio
Filed Sept. 15, 1955, Ser. No. 534,589
2 Claims. (Cl. 198—189)



1. Material conveying apparatus for moving material in a winding path having a loading station at one end and a discharge station at the other end comprising, an endless belt adapted to follow the path and extending between said loading and discharge stations, means for driving the belt in a closed run, said belt carrying a series of pans for the reception of material, means for guiding the belt in said closed run, said guiding means engaging the belt and supporting it with the material carried in the pans, a plurality of individual trucks each having a belt guiding and supporting means secured thereto, each truck including transversely extending pivot means pivotally supporting the truck and the belt guiding and supporting means carried thereby on a single axis for adjustment of the positions of the trucks and the belt guiding and supporting means on said axis in the longitudinal direction of the path, said trucks each including a longitudinally extending drawbar, pivot means connecting the ends of the drawbars to permit the trucks to assume positions in a winding path with the guiding means carried by the trucks conforming the belt to the winding path, said trucks being thereby connected one to the other in a train, each drawbar being rigid in a longitudinal direction to maintain said trucks spaced from each other, and a portion of each drawbar being flexible in a vertical direction whereby the individual trucks may assume positions vertically spaced with respect to each other with the belt guiding and supporting means assuming angular positions on said single axis.

2,966,985
SPECTACLE CASES
Robert S. Morris, Southbridge, Mass., assignor to American Optical Company, Southbridge, Mass., a voluntary association of Massachusetts
Filed Jan. 21, 1959, Ser. No. 788,103
3 Claims. (Cl. 206—5)



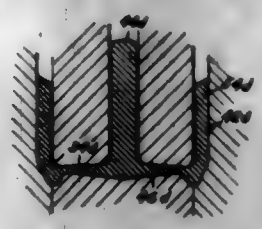
1. A spectacle case of the character described comprising a body part formed of an initially flat relatively thin member of resilient shape-retaining material interposed between a pair of sheet-like members of relatively limp material having overlapping edge portions, said overlapping portions of said covering members being secured together, said body part being formed as by bending to provide an open-ended structure embodying a continuous relatively flat back section, a relatively narrow top section extending forwardly from said back section and having a forwardly directed free edge, a front section spaced from said back section and extending upwardly from the lower edge of said back section towards said top section and having a free edge terminating in spaced substantially parallel relation with said free edge of said top section to provide a longitudinal opening between said top and front sections across said case between its open opposite ends and elongated rigid strip-like reinforcing members secured to the overlapped portions of said relatively limp materials along each of said free edges of said respective top and front sections.

2,966,986
PACKAGED STERILE HYPODERMIC NEEDLES
David D. Jones, Weston, Conn., assignor to Extruded Plastics, Incorporated, Norwalk, Conn., a corporation of Connecticut
Filed Jan. 14, 1959, Ser. No. 786,800
8 Claims. (Cl. 206—63.2)



1. An article of the character described comprising a tubular container of flexible thin-wall construction sealed at one end and having an open end, a section of the tubular body turned in to provide a seat for the shank of a hypodermic needle at said open end, a hypodermic needle and its supporting shank disposed in said seat, lugs on said shank extending outward from the opening in the end of said tubular body and being adapted to engage screw threads in the body of a syringe, and a tightly fitting cap covering the said assembly, the walls of the open end of the container body being sufficiently thin so as to be deformed by light pressure to thereby hold the shank of said needle assembly firmly in position and prevent rotation as the lugs thereof are being turned into the syringe.

2,966,987
PUNCH AND DIE FOR COLD SHAPING OF STEEL
Ben Kaul, Warren, Ohio, assignor to American Radiator & Standard Sanitary Corporation, New York, N.Y., a corporation of Delaware
Filed Mar. 29, 1956, Ser. No. 574,883
3 Claims. (Cl. 207—6)



1. A punch and die apparatus for use in cold forming a solid steel blank into a cup-shaped article having a relatively thin side wall as compared with the diameter of the cup-shaped article and a central stem of relatively small diameter as compared with the diameter of the cup-shaped article extending upwardly from the bottom wall of the cup-shaped article a distance equal to at least the height of the side wall thereof which comprises a die having a cavity dimensioned and shaped to receive the solid steel blank and a punch provided with a leading end face, said punch throughout its active extruding axial length having an outside diameter that provides clearance between said outside diameter and

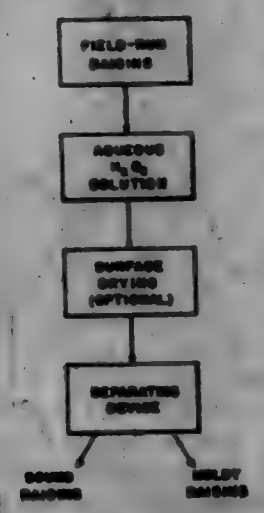
the die cavity when said punch is in said die cavity for receiving the extruded side walls of said cup, means for guiding said punch for concentric relation with said die cavity during the extrusion operation, said punch having a central axial bore extending to and through said leading end face, said central bore having a diameter relatively small as compared with the diameter of the leading end face and said leading end face having a diameter only slightly smaller than the transverse dimension of the die cavity, the die cavity being open at its upper end to receive the punch and having means forming a closed bottom wall at the lower end thereof, the leading end face of the punch having the major portion of its area upwardly concave and conically shaped, the outer periphery of the conically shaped portion of the leading end face being spaced radially inwardly a relatively short distance of the side wall of the punch and being connected with the side wall of the punch by a rounded corner portion, said rounded corner portion being concentric with and located closely adjacent the side wall of the cavity when the punch is inserted in the die cavity so that the vast majority of the top face of the solid blank is engaged by the conically shaped portion of said leading end face when the punch is driven downwardly into the die cavity, the bottom wall of the die cavity being downwardly concave and generally conically shaped, the outer peripheries of the concavities at the leading end face of the punch and the lower end of the die cavity being generally axially aligned whereby to form therebetween and adjacent the rounded corner on the punch a zone of restriction relative to the metal in the blank disposed radially inwardly of said peripheries of the concavities; whereby, when said punch is driven into said die cavity against a blank previously loaded in said die cavity, said blank is extruded up around the outside of said punch and up within said central axial bore, and the opposing concave portions of said punch and said die cavity act to retard work metal and urge the same inwardly to said central axial bore thus making the central stem of the finished product longer than could be effected without said concave portions.

2,966,988

APPARATUS AND PROCESS FOR SORTING RAISINS

Frederic S. Nury, Oakland, and John E. Brekke, Berkeley, Calif., assignors to the United States of America as represented by the Secretary of Agriculture

Filed Mar. 24, 1959, Ser. No. 801,680
10 Claims. (Cl. 209—2)



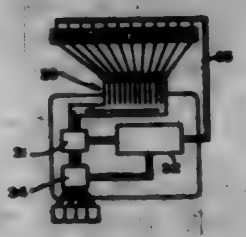
1. A process of separating moldy raisins from a lot of raisins containing moldy raisins and sound raisins which comprises immersing the lot of raisins in an aqueous solution of hydrogen peroxide until the moldy raisins develop sponginess, removing the raisins from the solution, and segregating the moldy and sound raisins by means selectively responsive to the difference in adherence properties of the moldy and sound raisins.

2,966,989

GAGING APPARATUS

Robert L. Eaton, Dayton, Ohio, assignor, by mesne assignments, to The Sheffield Corporation, a corporation of Delaware

Filed Sept. 12, 1955, Ser. No. 533,637
15 Claims. (Cl. 209—82)



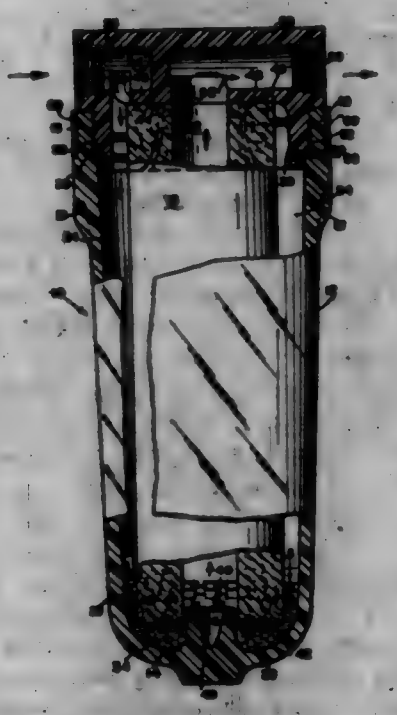
12. An apparatus for receiving and gaging parts from a plurality of separate sources, comprising a single gaging station at a fixed location through which parts from all said sources are fed, supply means for simultaneous association with the plurality of separate sources for automatically feeding available parts from each source to said gaging station, gaging means in said station for measuring a dimensional characteristic of each part as it is automatically fed therethrough, signal means operatively connected to said gaging station responsive both to the gaged characteristic and the identity of the source of the gaged part to provide a signal indicative of the source and gaged characteristic of the gaged part, and segregating means controlled by said gaging means and receiving parts therefrom for segregating parts into at least acceptable and rejected classifications in accordance with the gaged dimensional characteristic.

2,966,990

FILTERING DEVICE

Marcel Clarence Sicard, Cheshire, Conn., assignor, by mesne assignments, to American Machine & Foundry Company, New York, N.Y., a corporation of New Jersey

Filed Mar. 28, 1958, Ser. No. 724,718
4 Claims. (Cl. 210—443)



1. A filtering device including a casing closed at one end and open at the other, a tubular filter cartridge ar-

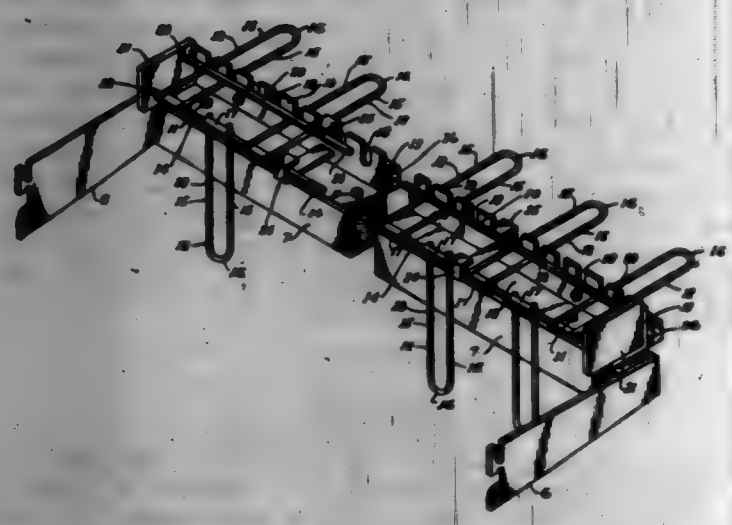
ranged longitudinally in said casing and defining an annular chamber therewith, a bearing member rotatably mounted on the closed end of said casing and engaging one end of said filter cartridge, a cap threadably engaging and closing the open end of said casing, said cap engaging the other end of said filter cartridge and including fluid ports communicating respectively with said annular chamber and with the interior of said filter cartridge, said cap and said bearing plate being provided with annular projections adapted to engage the ends of said filter cartridge and effect fluid seals therewith, said projections being effective also to cause said filter cartridge and said bearing plate to rotate as a unit with said cap as the cap is assembled onto the casing, whereby abrasion detrimental to said seals is avoided.

2,966,991

RACK FOR HOLDING MANUFACTURED PARTS SEPARATED DURING TRANSFER

Robert J. Duffner, Cleveland Heights, Ohio, assignor to The Lift-All Leasing Corporation, Cleveland, Ohio, a corporation of Ohio

Filed Jan. 29, 1958, Ser. No. 711,948
9 Claims. (Cl. 211—60)



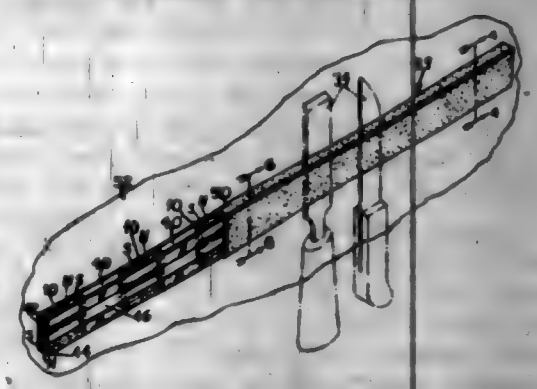
1. A separator rack for holding manufactured parts separated from each other during the transfer thereof between worksites, comprising an elongated support having a side wall with a row of notches therein opening upwardly and spaced from each other endwise of the wall, a plurality of fingers, connecting means on the support, cooperable connecting means on the fingers, respectively, and connected to the connecting means on the support and thereby connecting the fingers to the support in a row extending endwise of the side wall and connecting each finger to the support for movement independently of the others transversely of the row from idle to active positions in which the fingers are received in selected ones of the notches with the outer end portions of the fingers extending outwardly beyond said side wall of the support so that they can engage a workpiece and constrain it from falling, and to idle positions in which said fingers are withdrawn from said notches and the outer end portions of the fingers are withdrawn from said active positions, said fingers being disposed transversely of the row and being spaced from each other longitudinally of the row, each of said cooperable connecting means on the fingers being connected to the connecting means on the support for limited movement endwise of the row relative to the support independently of the others, so that each finger can be received in different preselected notches, respectively.

2,966,992

MAGNETIC HOLDER

Jack E. Dunkelberger and Byron C. Dunkelberger, Dayton, Ohio, assignors to The American Display Company, Dayton, Ohio, a corporation of Ohio

Filed Dec. 23, 1957, Ser. No. 704,438
11 Claims. (Cl. 211—87)



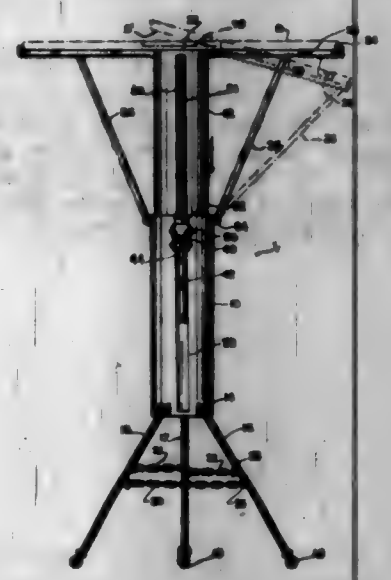
1. An attachment device for magnetizable members comprising a plurality of magnetic bodies, each of the bodies having all portions thereof integral, each of the bodies having a front surface and a rear surface, the rear surface of each of the bodies having a north pole section and a south pole section, the front surface of each of the bodies having a north pole section and a south pole section, a plurality of strips of magnetizable material, there being at least two of the strips engaging one surface of all of the bodies so that one strip engages a north pole section and the other strip engages a south pole section of one surface of each body, each of the strips having an engagement surface which is smaller in area than the pole sections which it engages so that there is a concentration of magnetic flux at the engagement surface of the strips when a magnetizable member bridges the strips.

2,966,993

PORTABLE LIFTING DEVICE

Jacob Cooper, 24 Talbot St., New Hyde Park, N.Y.

Filed Mar. 31, 1959, Ser. No. 803,218
4 Claims. (Cl. 214—1)



1. A lifting device for boards, panels, and the like, comprising a pair of tubular members having longitudinal slots, one member disposed telescopically within the other, a rack gear carried longitudinally by said one member and extending radially through a longitudinal slot in the other member, a lever and spring means carried by said other member for coacting with said rack gear and elevating said one member, a pair of arms carried pivotally by said one member and normally disposed in longitudinal slots thereof, means for supporting said arms in a horizontal position, and means for mov-

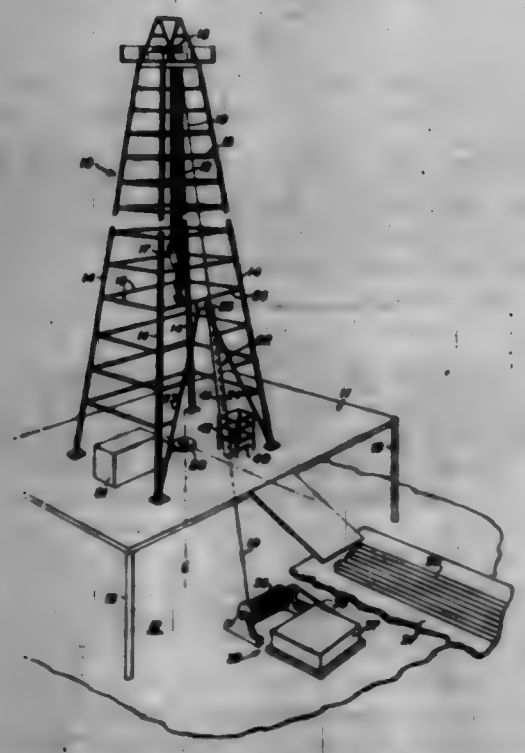
ably supporting said other member in an upright elevated position, said support means for the arms comprising braces pivotally carried by said other tubular member, said arms having toothed sides adapted to be engaged by ends of said braces.

2,966,994

DRILLING APPARATUS

Paul A. Wolff, Morgan City, La., assignor to Kerr-McGee Oil Industries, Inc., a corporation of Delaware

Filed Mar. 14, 1956, Ser. No. 571,492
6 Claims. (Cl. 214—2.5)



1. In a subterranean drilling apparatus including a drilling rig having a crown block cooperating with a fast line and having a window in its side located adjacent a pipe rack so that strings of pipe from the rack may be pulled through the window into the drilling rig, the drilling rig being mounted on a structure having a main floor and a drilling floor spaced above the main floor, the combination comprising draw works mounted on the main floor beneath the drilling floor on the window side of the drilling rig, means providing an opening in the drilling floor for passage through the drilling floor of the fast line from the crown block to the draw works, the opening being located in a region beneath the window, and elongated guard means for the fast line secured to the drilling rig adjacent to the opening in the drilling floor and extending upwardly from the drilling floor in the region of the window to prevent contact between the fast line and strings of pipe which may be pulled through the window.

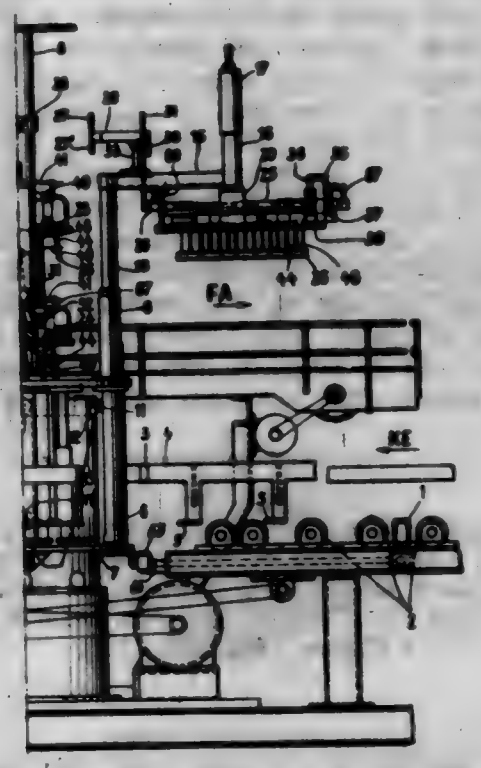
2,966,995

MACHINE FOR INTRODUCING OR EXTRACTING BOTTLES INTO OR FROM BOTTLE CASES

Josef Stolzle, Westheim, Germany, assignor to Certus Maschinenbau G.m.b.H., Augsberg, Germany, a corporation of Germany

Filed Oct. 25, 1957, Ser. No. 692,324
Claims priority, application Germany Oct. 30, 1956
8 Claims. (Cl. 214—309)

1. A machine for handling bottles and cases comprising the combination of at least one bottle gripper means having a continuous vertically cyclic movement about a vertical axis and having simultaneous movement along a continuous closed horizontal path of travel, horizontally rotatable bottle case entrainment means simultaneously operated in timed relation with said bottle gripper means and having a horizontal path of travel for carrying a bottle case therealong from a case-receiving station to a case discharge station, the path of travel of said entrainment means periodically coinciding with the path of travel of said bottle gripper means intermediately of the path of travel of said entrainment means from a bottle-loading station of said bottle gripper means, said bottle gripper means and the case discharge station having a bottle-unloading station in its path of travel subsequent to the case-discharge station, and control means operatively connected to said bottle gripper means for timing and synchronizing movement of said bottle gripper means and bottle entrainment means.

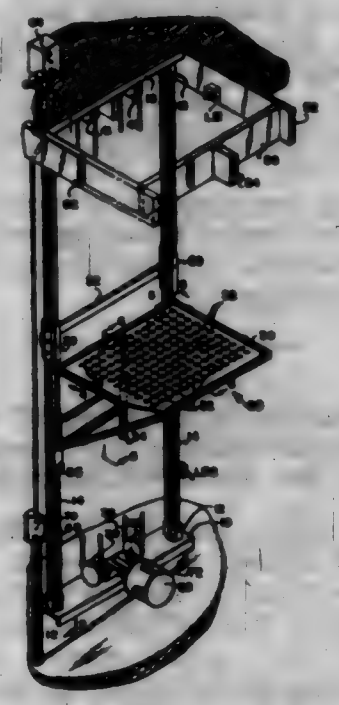


2,966,996

ELEVATOR AND LOADING MECHANISMS

John J. Friend, Jr., 404 Warren St., Dayton, Ohio, assignor of one-third to George W. Friend and one-third to Mary A. Friend

Filed May 2, 1957, Ser. No. 656,675
3 Claims. (Cl. 214—711)



1. In an elevator type mechanism especially adapted for being fitted between one floor and the next floor in a building, a bottom member adapted for being fixed to the lower floor, a top member adapted for being

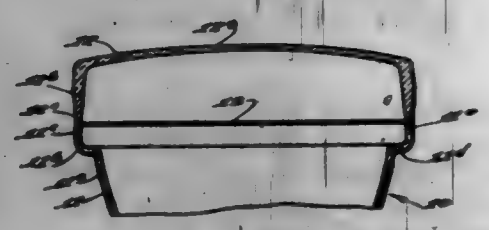
fixed to the underneath side of the upper floor, tracks attached to and extending between said members, an elevator carriage guide in said tracks, the upper floor being apertured, a roller platform on the carriage adapted to extend upwardly through said aperture, a cable connected with the carriage, a reversible motor connected with the cable for driving the cable in its opposite directions, means for energizing said motor, means for de-energizing said motor when the carriage is in a predetermined lower position and also when the carriage reaches an upper position where the roller platform is at substantially the same level as the upper floor, there being a hinged door normally closing said aperture and being adapted for being raised upwardly by upward movement of said carriage and roller platform, said roller platform being tiltable on said elevator carriage, there being means adjustable for causing tilting of said platform on said carriage as the carriage approaches its lower limit of travel, and conveyor means positioned adjacent the said lower position of the elevator carriage to receive articles that roll from the tilting roller platform.

2,966,997

CATHODE-RAY TUBE ENVELOPE

William A. Stuttke, Toledo, Ohio, assignor to Kimble Glass Company, a corporation of Ohio

Filed Feb. 21, 1957, Ser. No. 641,624
4 Claims. (Cl. 220—2.1)



1. An all-glass television picture tube envelope comprising a substantially funnel-shaped hollow glass body consisting essentially of funnel and flanged face plate members, the large end of said funnel member being approximately rectangular in shape and having said flanged face plate sealed thereto, said face plate and funnel members having complemental planar sealing surfaces normal to the envelope axis joined in hermetically sealed relation, said funnel member having frusto-conical smoothly curved flared sidewalls extending between its ends, said sidewalls being bowed outwardly between said ends, said funnel member having an annular strengthening rim portion adjacent its large rectangular end and providing its sealing surface, said rim portion being formed of radially and longitudinally extending sidewall panels of greater cross-sectional dimensions than and having a wall thickness substantially equal to the main body portion of said funnel.

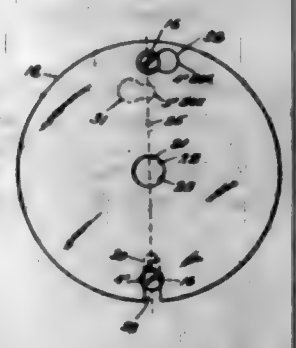
2,966,998

LIGHTING FIXTURE SUPPORT PLATE

Nathan R. Schwartz, Yonkers, N.Y., assignor to Naras Research Inc., New York, N.Y., a corporation of New York

Filed Apr. 11, 1958, Ser. No. 727,869
2 Claims. (Cl. 220—3.8)

1. A device adapted for securing electrical fixtures to electrical connection boxes of varying size, comprising a plate member having a central opening for the passage of electrical wiring therethrough, and having, along a single diameter thereof, a plurality of knock-out sections which, when open, provide for the passage fastening means therethrough; one of said knock-out sections extending radially along one radius of said diameter and terminating in a slotted opening which extends to the circumferential edge of the plate; the other of said knock-out section extending in a direction normal to the other radius of the said diameter and having a keyhole shape including a narrow section extending transversely across



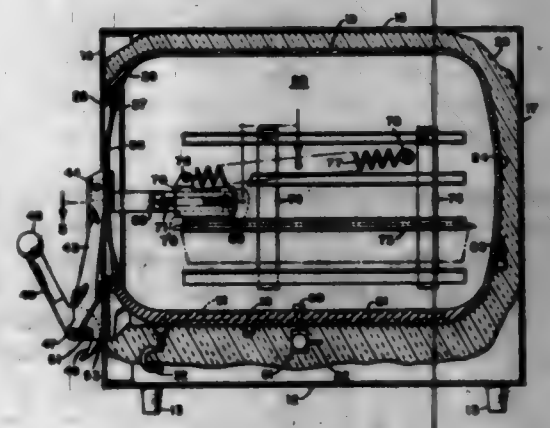
the said radius and a larger section displaced from the said radius, said narrow section of the knock-out being adapted to receive the fastening means upon securing of the plate to the electrical connection box.

2,966,999

PRESSURE COOKER CLOSURE

Herbert F. Swanson, Chicago, Ill., assignor to General Electric Company, a corporation of New York

Filed Jan. 5, 1959, Ser. No. 785,077
10 Claims. (Cl. 220—25)



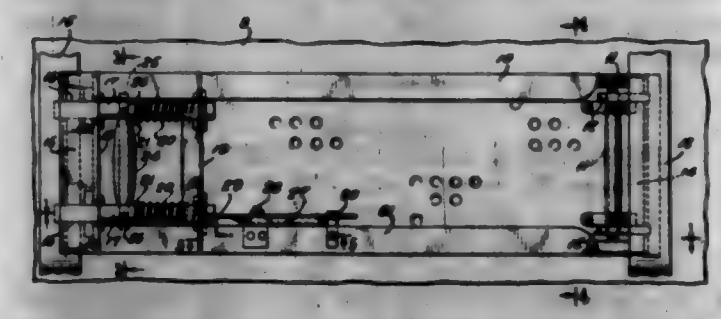
1. In a pressure cooker, a walled vessel defining a cooking chamber, an opening for said vessel including a seat in said opening, a closure for said vessel adapted to engage said seat, latching means maintaining said closure in engagement with said seat, means for carrying said closure including spaced arms extending from said closure, pivot means extending from the walls of said vessel for pivotally supporting said arms relative thereto, a lost motion connection between each of said arms and its pivot means for moving said closure inward of the opening in said chamber and from said seat an initial distance against the residual pressure in said chamber upon initial movement of said latching means in an unlatching direction comprising spring means connected between said spaced arms and the supports therefor and operable to take up the lost motion connection of said arms, said spring means having a bias which is greater than the total force against said closure resulting from the residual pressure in said chamber following a cooking operation, guide means slidably receiving the respective arms, said guide means being rotatably mounted on the said pivot means, and means for moving said closure away from said opening by pivotal movement thereof about said pivot means upon completion of the unlatching movement of said latching means, including spring means connected between said guide means and said walled vessel.

2,967,000
CONTAINER AND COMBINED OPENER
George W. Burns, 27224 Ursuline Drive, St. Clair Shores, Mich.
Filed Nov. 3, 1958, Ser. No. 771,510
2 Claims. (Cl. 220—54)



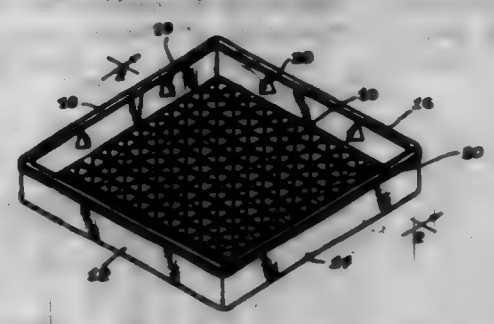
1. A can opener device formed integral with the can particularly suitable for cans having cap like ends such as used for evaporated milk comprising a can having side walls having opposite ends, a bottom member sealably attached to said side walls over one said end, a top member having a disc abutting said can other end and a peripheral collar, telescoping over said can side walls on the outside thereof, means sealably connecting said top disc and collar to said side walls, a tear-out key formed integral with said top member composed of a projecting gripping-levering tab portion extending beyond said collar and a tear out portion constituting a common part of said collar and disc dilineated by a scored tear line; said key projecting tab portion being embossed for strength characteristics to prevent bending so as to assist lever wise in tearing the common part out of the top and collar to form an opening in the can top communicating with the can interior; said key tab being manually gripable and twistable to tear out the common part along the scored line to form an opening in the can top without a can opening tool; said key tab having side edges angularly diverging toward said collar and then converging toward said collar and joining with said collar on an acute angle with said collar; said scored tear line leading from said converging tab sides and collar juncture as a continuation of said convergence; said diverging-converging tab sides forming a strong point in the key tab projecting outwardly of said tear line on either side so that twisting of said key draws said points inwardly directing tearing forces to said tear line and therealong to provide outwardly-originated, inwardly directed tearing forces on the tear line exerted by twisting said key tab.

2,967,001
DOOR STRUCTURE FOR A ROTARY CONTAINER
Steven Landon, Bayside, N.Y., assignor to Washex Machinery Corporation, Brooklyn, N.Y., a corporation of New York
Filed Dec. 30, 1958, Ser. No. 783,863
5 Claims. (Cl. 220—55)



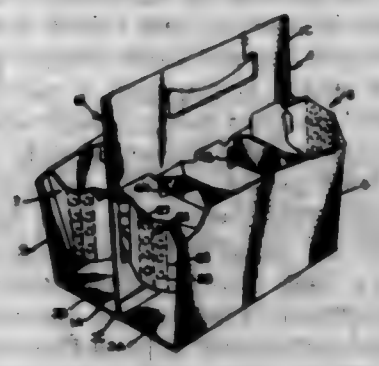
1. A door structure for a rotary container, comprising a door frame in the container, a hinged door in the frame, two parallel bolts spaced from each other and carried by the door and having projecting ends normally extending beyond the edge of the door, openings spaced from each other in the door frame and arranged to receive the projecting ends of said bolts, springs normally pressing said bolts into said openings, inclined surfaces formed on the projecting ends of said bolts, rollers arranged in the said openings for engagement with said inclined surfaces to hold the opposite surfaces of the projecting ends in close contact with the walls of said openings, an operating handle connected with both of said bolts for the withdrawal of said bolts from said openings against the action of said springs to permit the opening of the door, and pin-and-slot connecting means between both of said bolts and the said handle to permit slight movement of the two bolts with respect to each other to insure equal pressure of both of said rollers upon said inclined surfaces.

2,967,002
PROTECTIVE TRAY FOR CARTONS
Delmar R. Lemmers, 5130 Sherbrook Lane, Peoria, Ill.
Filed July 2, 1956, Ser. No. 595,393
6 Claims. (Cl. 220—85)



3. A tray of plastic such as polyethylene or the like for retaining a cardboard milk carton or the like comprising a bottom wall and side walls, the upper marginal edges of said side walls being flared slightly outwardly and provided with a continuous bead thereby forming a channel for receiving condensate from the side walls of a container which may be received in said tray; said side walls being provided along their inner surfaces with relatively stiff inwardly projecting pointed lugs each of which has a downwardly and inwardly sloping upper surface starting at the bead and terminating in a sharp horizontally disposed edge spaced from said bottom wall a substantially spaced distance for locking a carton in position within said tray.

2,967,003
PAPERBOARD CARRIER
Homer W. Forrer, East Point, and Prentice J. Wood, College Park, Ga., assignors, by mesne assignments, to The Mead Corporation, Dayton, Ohio, a corporation of Ohio
Filed Oct. 9, 1959, Ser. No. 845,488
4 Claims. (Cl. 220—114)



1. A paperboard carrier for containers comprising a normally vertical handle panel, a bottom panel having one edge thereof foldably joined to said handle panel adjacent the bottom edge of said handle panel and normally disposed in a substantially horizontal plane, a side panel foldably joined to said bottom panel along the edge

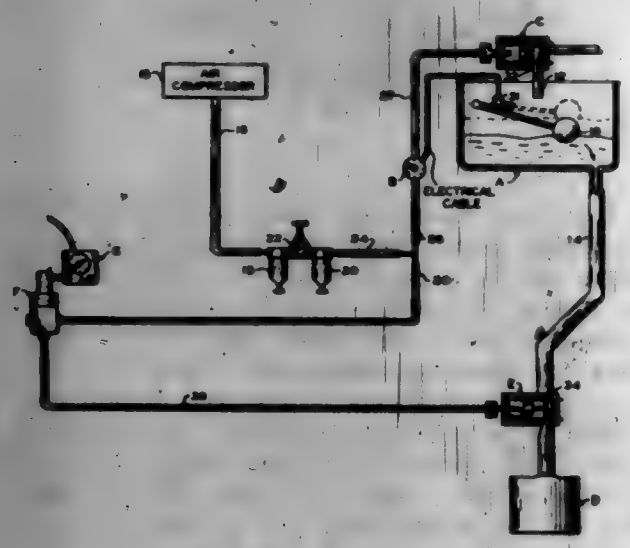
thereof opposite from said one edge, and a plurality of transversely spaced container engaging webs each foldably joined at one end thereof to the upper edge of said side panel and at the other end thereof to said handle panel, a portion of the width of each web on one side thereof being detached from said handle panel and from said side wall and each web having an angularly disposed score line at each end thereof to facilitate downward folding of the webs to form yieldable container engaging elements, a locking tab formed on the detached end portion of each web adjacent said handle panel, and a locking aperture formed in said handle panel below each web for receiving the locking tab of the adjacent web thereby to aid in holding the carrier in set-up condition.

2,967,004

DISPENSING APPARATUS FOR CORROSIVE LIQUIDS

Sidney Lipshutz, Roslyn, and Edward H. Barnett, Merion, Pa., assignors to Standard Products Co., Inc., Philadelphia, Pa., a corporation of Pennsylvania

Filed Mar. 19, 1959, Ser. No. 800,473
3 Claims. (Cl. 222—76)



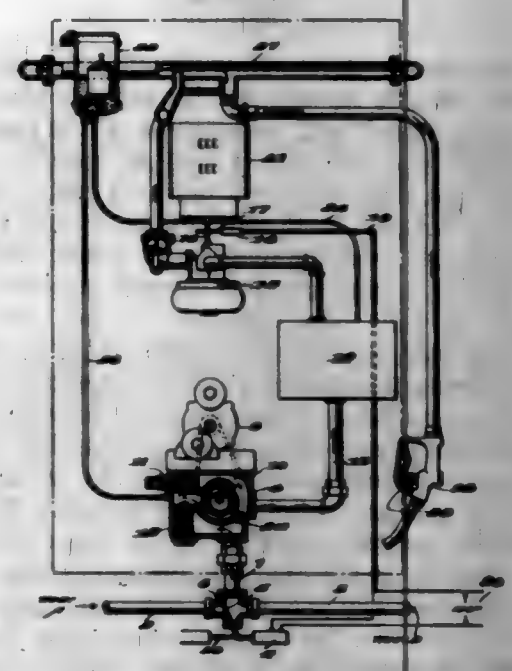
1. A dispensing system for corrosive fluids comprising a dispensing tank having an inlet means and an outlet means, said inlet means being in fluid connection with a source of corrosive fluid and said outlet means being in fluid connection with a dispensing nozzle positioned to supply corrosive fluid from said tank to individual removable containers, said inlet means being operatively controlled by a first supply valve means interposed in the fluid connection between said inlet means and said source of corrosive fluid, and said outlet means being operatively controlled by a second supply valve means interposed in the fluid connection between said outlet means and said nozzle, each of said supply valve means comprising a valve housing in which is provided a movable plunger, each of said valve housings being in individual fluid connection with a source of compressed fluid for utilizing the compressed fluid to actuate their respective plungers, dehydrating means interposed in the fluid connection between said source of compressed fluid and each of said valve housings, a first control valve means interposed in the fluid connection between said first valve housing and said source of compressed fluid, a float means in said tank, said float means being operatively associated with an electrical switch to open and close said switch in accordance with the position of said float in said tank, said switch being in operative electrical circuit with said first control valve, a second control valve means interposed in the fluid connection between said second valve housing and said source of compressed fluid, and timing means operatively connected to said second control valve means to open and close said second control valve means in predetermined timed sequence.

2,967,005

DISPENSING SYSTEM

William E. Kramer, Shaler Township, Allegheny County, Pa., assignor to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

Filed Feb. 3, 1958, Ser. No. 712,822
8 Claims. (Cl. 222—136)



1. A fluid proportioning system comprising a main supply conduit, a plurality of branch supply conduits connected to said main supply conduit and to separate sources of supply, a proportioning valve means connected with each of said branch supply conduits and adapted to control flow in the direction of the main supply conduit, a positive displacement dispensing pump connected on its suction side to the main supply conduit and connected to a dispensing conduit on its discharge side, bypass means for recirculating pumped fluid in excess of the volume dispensed from the system from the discharge side of the dispensing pump to the suction side of the pump, a substantially constant speed motor for driving said dispensing pump, a hydraulic motor operatively connected to said dispensing conduit, a cam engaged with and driven by said hydraulic motor, a switch adapted to engage with said cam, an electrical means connected to said proportioning valve means and in communication with said switch, whereby said proportioning valve means is actuated by said switch, and a delivery valve in said dispensing conduit adapted to control flow through said conduit.

2,967,006

PORTABLE, TORSO SUPPORT STAND

Hope W. Sykes, 1341 14th St., Apt. A, Santa Monica, Calif.

Filed Sept. 24, 1956, Ser. No. 611,548
9 Claims. (Cl. 223—68)

1. A portable, collapsible and extendible torso support stand cooperable for supporting a torso-simulating dress form, comprising: a horizontal base provided with and centrally vertically mounting an upwardly directed upwardly open hollow female shaft member; a plurality of upright, telescoping shaft members collapsible into said female shaft member; clasp means cooperable for securing said shaft members in an extended torso supporting position; an overhead prop member which is cooperable

to receive and retain at least a portion of a torso-simulating dress form; an underlying prop member which is cooperable to receive and retain at least a portion of a torso-simulating dress form, means for attaching said underlying prop member to said shaft members; a removable housing having a closed top, closed side wall means, and a downwardly directed open bottom defined by a substantially horizontal continuous bottom edge, said closed top having a central vertical aperture, said removable housing removably enclosing said plurality of telescoping shaft members, said overhead prop member, and said under-



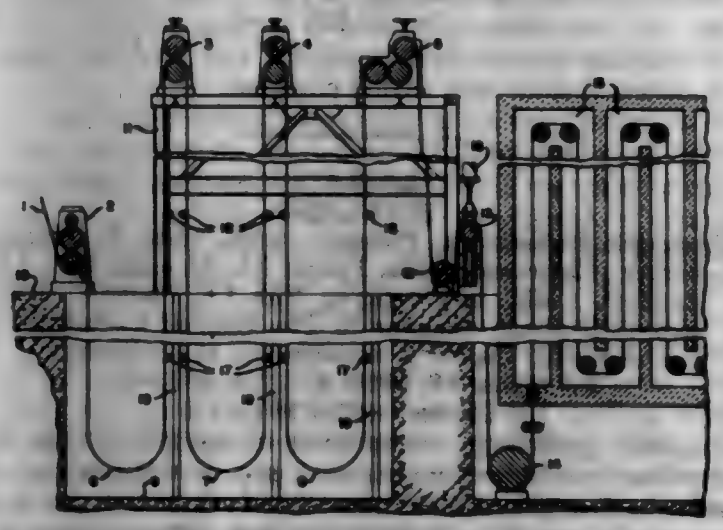
lying prop member therein when in the collapsed position with said bottom edge of said removable housing in retaining and positioning abutment with the upper surface of said horizontal base, and with the upper end of said plurality of telescoping shaft members being positioned adjacent to and in vertical alignment with said central vertical aperture; and handle means controllably removably fastened to the upper end of said plurality of telescoping shaft members and fixedly fastening said overhead prop member thereto and removably abutting said closed top and forcing said bottom edge downwardly into retaining and positioning abutment with the upper surface of said horizontal base.

2,967,007

MEANS FOR STABILIZING HANGING LOOPS

Milton Day Beughman, Jr., Warren, Ohio, assignor to The Wean Engineering Company, Inc., Warren, Ohio, a corporation of Ohio

Filed Apr. 5, 1957, Ser. No. 651,897
7 Claims. (Cl. 226—93)



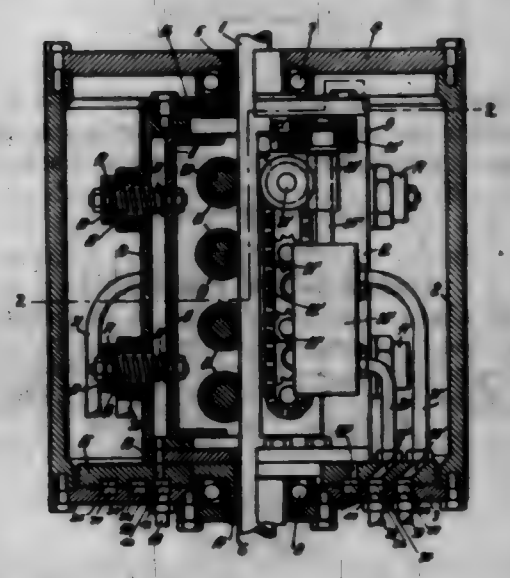
1. A processing line for magnetic strip material subject to damage at the edges and from bending, said line having a processing section through which strip is passed and at least one section where passage of the strip is retarded, and slack accumulating means therebetween in which at least one loop of strip material may be formed, strip being substantially continuously passed between the processing section and the slack accumulating means, the improvement comprising means for stabilizing an extended free-hanging loop of magnetic material subject to oscillating motions comprising material support means supporting said material and between which it hangs free by its own weight and at least one rotatable magnetic roller disposed with its circumference adjacent a vertically disposed section of said free-hanging loop an appreciable distance below said material support means.

2,967,008

FEED UNIT FOR ROCK DRILLING MACHINES

Gustav Ragnar Johansson, Ortrask, Bjurtraket, Sweden

Filed Jan. 27, 1958, Ser. No. 711,596
Claims priority, application Sweden Feb. 2, 1957
3 Claims. (Cl. 226—108)



1. A feed unit for a drill tube for rock drilling machines, comprising at least two rows of driven feed rollers, carriers for mounting said rollers, a support supporting said carriers displaceably toward and away from each other so as to force said feed rollers into frictional engagement with the drill tube, a frame rotatably supporting said support, hydraulic driving means transforming fluid pressure into rotational movement for driving said rollers, an outer pressure fluid supply conduit, and hose means for conducting pressure fluid to said driving means, said support having a surface sliding in tight engagement along a corresponding surface of said frame during rotation so as to confine between said surfaces at least one fluid chamber, said chamber being in connection on one hand with said hose means and on the other hand with said outer pressure fluid supply conduit.

2,967,009

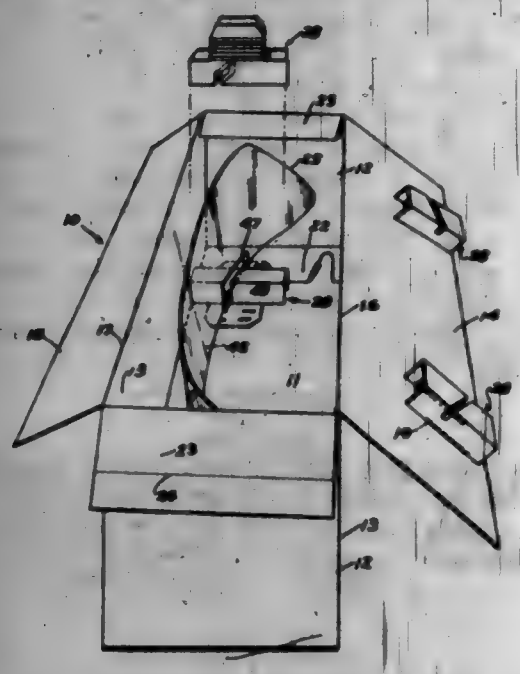
CONTAINER FOR SHEETLIKE MATERIAL

Edward J. Lidgard, Detroit, Mich., assignor to Flotepak Corporation, Detroit, Mich., a corporation of Michigan

Filed Dec. 19, 1957, Ser. No. 703,887
12 Claims. (Cl. 229—14)

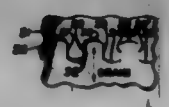
1. A container for a relatively thin article such as a sheet of glass comprising, means forming a plurality of container walls and shock absorber means within said walls adapted to support the article in spaced relation from said walls, said shock absorber means including a shock absorbing element and a hanger element wrapped in supporting relation around a portion thereof, said hanger element having tab portions extending to and being secured to the exterior of a wall portion of the container so as to

secure said shock absorbing element to the container interior, said elements having aligned openings forming a



notch in said shock absorber means presented to the container interior to receive an edge portion of an article with which said container is adapted to be used.

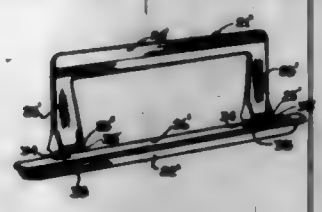
2,967,010
CELLULOSIC PRODUCT
William H. Caffey, Jr., and Cephas B. Sitterson, Jr., Appleton, Wis., assignors to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware
Filed Mar. 21, 1958, Ser. No. 722,905
3 Claims. (Cl. 229—51)



1. An article dispensing carton having a wall formed of fibrous sheet stock, the fibers of which are disposed in a manner to define a grain direction, the tear resistance of the stock being at a minimum in said direction, said wall being provided with a path of weakening marginally to define a panel the severance of which provides a dispensing opening, said path of weakening comprising a sequence of at least three spaced non-linear perforations so positioned in respect to the grain direction that all of the shortest linear paths through the uncut stock between the ends of successive perforations in said sequence are in substantial alignment with the grain direction and in spaced parallel relation to each other, the shortest line between the successive midpoints of said shortest linear paths in said sequence being transverse to the grain direction, each end of each perforation in said sequence being closer to said shortest line than the immediately adjacent portion of said perforation, whereby the panel is severable from said wall with minimum applied force.

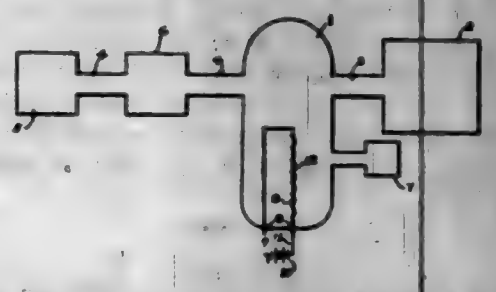
2,967,011
FOLDING BOXES AND HANDLES THEREFOR
William Tregunna, 6232 N. Broadway, Chicago, Ill.
Filed June 10, 1959, Ser. No. 819,337
4 Claims. (Cl. 229—52)

4. A box of the class described including two sections telescopically arranged with respect to each other when in closed position, each of said box sections having top walls and each top wall being provided with an elongated slot with the slot of one wall in registration with the slot of the other wall, each of said slots at their opposite end portions having a pair of latching tabs with the latching tabs of each pair extending inwardly toward each other from the long edges of the slot, a handle bar threaded through said slots, said handle bar having a spaced parallelly extending suspension bar disposed beneath said slots and of a length to extend beyond the ends thereof, extension bars connecting said handle bar to said suspension bar so as to provide a rectangular shaped handle having an unobstructed hand receiving opening exposed beyond said top walls of said box sections, said extension bars adjacent their connection to



said suspension bar provided with laterally extending latching ribs beneath which said latching tabs are positioned when said handle is threaded through said slots, said extension bars adjacent their connection to said suspension bar and beneath said latching ribs having slots formed therein extending in the same general direction so as to receive adjacent portions of the top wall of each of the box sections and to cooperate with said latching ribs and latching tabs so as to removably connect the handle to said box.

2,967,012
GETTER-ION PUMP
Richard J. Connor, Medway, Mass., assignor to High Voltage Engineering Corporation, Burlington, Mass., a corporation of Massachusetts
Filed Apr. 15, 1957, Ser. No. 652,952
3 Claims. (Cl. 230—69)



1. A getter-ion pump for producing a very high vacuum below 10^{-6} mm. Hg, comprising a pump casing having a first chamber and a second chamber, an ion source supported within said first chamber, and a directly heated vaporizer source for getter metals supported within said second chamber, a gas conduit interconnecting said chambers, said conduit having sufficient length so that the electric field associated with said ion source is excluded from said second chamber.

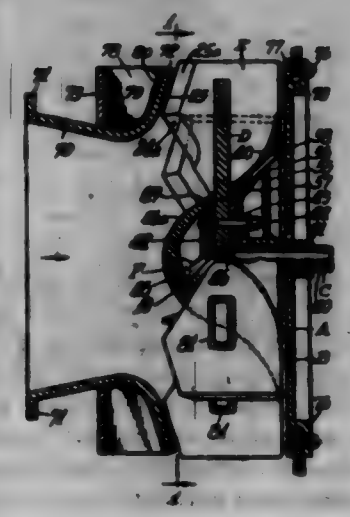
2,967,013
DIFFUSER
Frederick Dallenbach, Phoenix, Ariz., Hans P. Eichenberger, Cleveland, Ohio, Eugen M. Kaporschild, Los Angeles, Calif., and Nguyen Van Le, Phoenix, Ariz.; said Dallenbach assignor to The Garrett Corporation, Los Angeles, Calif., a corporation of California
Filed Oct. 18, 1954, Ser. No. 462,840
4 Claims. (Cl. 230—127)

1. In a centrifugal compressor of the type having an impeller: a diffuser comprising a pair of walls spaced to define a flow passage for receiving fluid discharged at a supersonic rate by said impeller; and diffuser vanes disposed between said walls, said vanes having leading edge portions all points on which are disposed in spaced rela-

tion from the impeller at least the distance required by the fluid discharge to decrease to a subsonic rate of flow, said leading edges being shaped to correspond substantially to a pattern extending transversely of said flow passage established by points at which the rate of fluid flow from the impeller decreases from supersonic to subsonic.

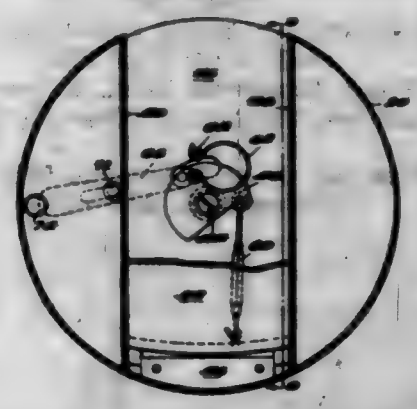


2,967,014
FAN CONSTRUCTION OF ACID RESISTANT PLASTIC MATERIAL
Walter W. Pabst, Pabst Engineering Equipment Co. Inc., 676 Pennsylvania Ave., Elizabeth, N.J.
Filed Nov. 24, 1953, Ser. No. 394,039
6 Claims. (Cl. 230—134)



1. In a fan for corrosive fluids having corrosive resistant plastic parts contacting the fluid and metal parts completely covered by and protected by said plastic parts, a rotary fan construction comprising a central plastic spider, said spider including outwardly extending narrow triangular arms with forward flat edges, the planes of which are parallel to the axis of rotation, a plurality of transverse plastic vanes mounted upon said spider and tongue and slot connections between said spider and said vanes, said vanes having trailing edges at one side thereof, each with a projecting triangular point, and having edges transverse to the rotation of the axis at the other side thereof and said slot connection being recessed around the tongue to receive a cement to fix the vanes in position against forward flat edges of the outwardly extending narrow triangular arms.

2,967,015
ROTARY DEPOSITORY LOCK
Roland G. Blauvelt, Hamilton, Ohio, assignor to Diebold, Incorporated, Canton, Ohio, a corporation of Ohio
Filed Nov. 17, 1959, Ser. No. 853,530
2 Claims. (Cl. 232—44)



1. In a rotary depository of the type including a casing having receiving and deposit openings; a depository door pivoted in said receiving opening; a depository cylinder journalled in said casing for rotatable reciprocation upon movement of said depository door; and means operatively connecting said depository door and said cylinder; lock means selectively preventing rotation of said cylinder and, thus, movement of said door; a depository receptacle within said cylinder defined by the ends of said cylinder, top and bottom horizontal plates intersecting a mid-portion of said cylinder and a safety door hingedly mounted so as to intersect said top and bottom plates at the cylinder circumference; and obstructing means attached to said safety door of said cylinder and pivoted on said journal of said cylinder, said obstructing means being movable upon opening of said safety door to obstruct said lock means and thus prevent locking of said depository cylinder.

2,967,016
COURSE COMPUTER FOR NAVIGATORS
Robert John Gray, 48 Stuyvesant St., New York, N.Y.
Filed Mar. 4, 1957, Ser. No. 643,585
2 Claims. (Cl. 235—61)



1. A course computer comprising a main disc, an intermediate disc, and an elongated rectangular arm, all in juxtaposed relation and connected for relative rotary adjustment, the main disc being of a diameter greater than that of the intermediate disc and marked with a compass rose, the rose of the main disc being exposed beyond the periphery of the intermediate disc, the main disc including a single rose, the intermediate disc including a pair of outer and inner concentric roses and a quarter point card, the arm being formed with an upper disc concentric with the main and intermediate discs, the arm member extending outwardly from the upper disc, a pivot for said main and intermediate discs in the center of the upper disc of the arm, said upper disc having a circumferential recess extending through ninety degrees

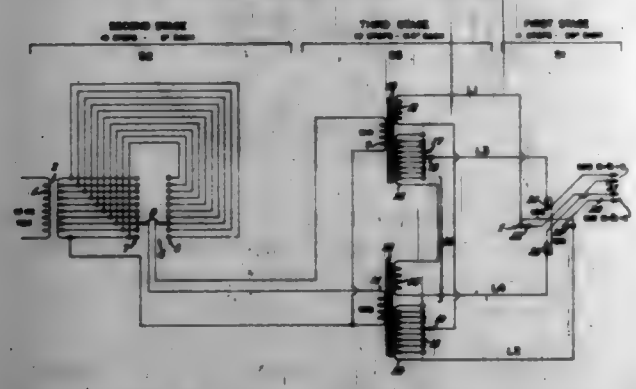
of its circumference, the arm having one longitudinal edge extending radially and the other tangentially of the upper disc, the upper disc having a circumferential recess extending through ninety degrees of its circumference exposing the inner rose of the intermediate disc.

2,967,017

DIGITAL TO ANALOG CONVERTER OF ANGULAR VALUES

Robert W. Tripp, Bronxville, N.Y., assignor to Inductosyn Corporation, Carson City, Nev., a corporation of Nevada

Filed July 3, 1956, Ser. No. 595,788
5 Claims. (Cl. 235—154)



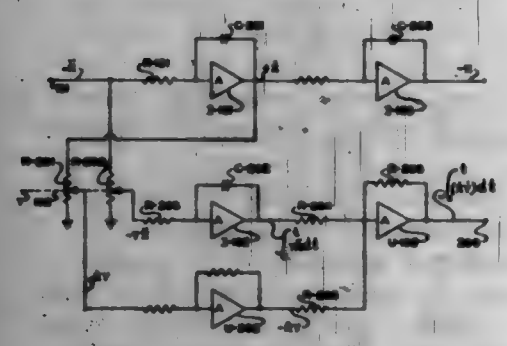
1. An array of electrical transformers adapted to provide analog voltages representing the sine and cosine of the sum of two angles referred to as first and second angles, comprising a first transformer having an input of a voltage proportional to the sine of the first angle and having output windings with ratios corresponding to unity and to the tangent of the second angle, a second transformer having an input of a voltage proportional to the cosine of the first angle and having output windings with ratios corresponding to unity and to the tangent of the second angle, a circuit additively connecting the unity winding of the first transformer to the tangent winding of the second transformer, a circuit subtractively connecting the tangent winding of the first transformer to the unity winding of the second transformer, a set of output leads for each of said circuits and switching means for interchanging and reversing the connections of said circuits to said output leads in steps to change the voltage values by steps in said output leads respectively to amounts corresponding to the sum of the angles represented by the electrical values of said circuits and a multiple of 90° corresponding to the selected step.

2,967,018

ANALOG COMPUTATION

Lawrence E. Fogarty, Binghamton, N.Y., assignor to General Precision Inc., a corporation of Delaware

Filed Jan. 4, 1957, Ser. No. 632,481
2 Claims. (Cl. 235—183)



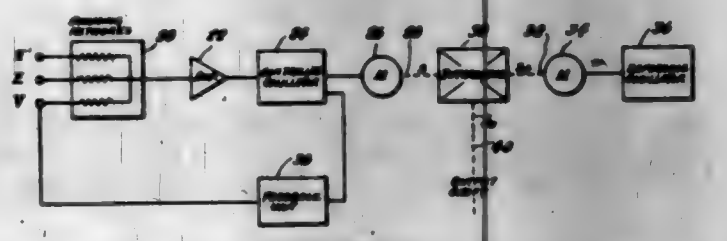
1. Analog computing apparatus for providing an output potential commensurate with the time integral of the product of two independent quantities which vary with time comprising in combination, means for deriving an input potential commensurate with the time rate of change of one of said quantities, integrator means responsive to said input potential for deriving a second potential commensurate with said one of said quantities, a mechanical shaft position input device having a position commensurate with the time integral of the second of said two quantities, first potentiometer means operated by said mechanical input device for modifying said input potential to provide a third potential, second potentiometer means operated by said mechanical input device for modifying said second potential to provide a fourth potential, means for integrating said third potential with respect to time to provide a fifth potential commensurate with the time integral of said third potential, and means for combining said fourth and fifth potentials to provide said output potential.

2,967,019

FREQUENCY CONTROLLED INTEGRATOR

John Turtora, Fairfax, Va., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Apr. 16, 1958, Ser. No. 729,044
10 Claims. (Cl. 235—183)



1. A device for integrating a signal comprising, in combination: connections for a signal to be integrated; connected to receive as an input signal the combination of said signal to be integrated and said zero-set signal, said first oscillating means producing an output signal having a frequency controlled in accordance with a characteristic of its input signal; first motor means connected to receive the output of said first oscillating means as an input signal, the speed of rotation of said motor means being proportional to the frequency of the output signal of said first oscillating means; differential means having two input gears and an output gear shaft, said output gear shaft rotating at a speed which is the difference between the speeds of rotation of said two input gears, one said input gear being coupled for rotation by said first motor means; second motor means coupled to rotate the other said input gear of said differential means, said second motor means rotating at a speed proportional to the frequency of its input signal; and second oscillating means providing an input signal for said second motor means, said input signal being of fixed frequency and serving as a stable reference frequency against which the frequency of said first oscillating means is compared through the agency of the rotational speeds of said first two motor means, said zero-set signal being employed to initially set the frequency of said first oscillating means so that, when said signal to be integrated is absent, the two input gears of said differential rotate at identical speeds and the rate of rotation of the output gear is zero and, when said signal to be integrated is present, said output gear rotates at a speed proportional to said characteristic of said signal to be integrated, the total angle thru which said output gear travels being the integral with respect to time of said characteristic of said signal to be integrated.

2,967,020

ELECTRICAL COMPUTERS

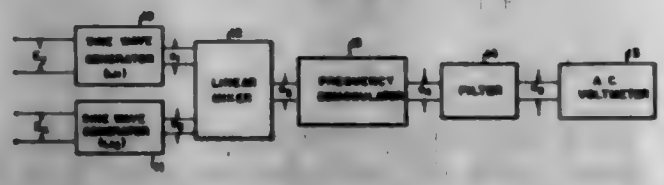
Cary T. Isley, Jr., Los Angeles County, Calif., assignor to The Martin Company, a corporation of Maryland

Filed May 21, 1956, Ser. No. 586,112
6 Claims. (Cl. 235—193)

1. An electrical computer for solving the equation $E_3 \propto (E_2/E_1)^b$, where E_1, E_2 and E_3 are voltage quantities,

E_1 and E_2 having preselected values such that E_1 is larger than E_2, and b is a numerical integer quantity, comprising electrical circuit sinusoidal voltage sources for producing a pair of different frequency voltages e_1 and e_2, which said voltages are characterized by the equations, $e_1=E_1 \sin \omega_1 t$ and $e_2=E_2 \sin \omega_2 t$, electrical circuit means for algebraically adding the said voltages e_1 and e_2 to produce a voltage e_3 the frequency of which varies with time, frequency demodulating electrical circuit means for converting frequency variations of its input voltage into linearly proportional amplitude variations of voltage at its output, electrical circuit means for applying said voltage e_3 to the input of said frequency demodulating circuit means, electrical circuit means including said frequency demodulating circuit means for developing at its output a voltage e_4 which is composed of an infinite series of component sinusoidal voltages having a fundamental voltage and harmonic voltages, which latter voltages progress in frequency in successive numerical integer multiples of the frequency of the said fundamental voltage as expressed by the equation,

$$e_4 \propto (E_2/E_1) \cos (\omega_2 t - \omega_1 t)(E_2/E_1)^2 \cos 2(\omega_2 t - \omega_1 t) + E_2/E_1)^3 \cos 3(\omega_2 t - \omega_1 t) \ldots (E_2/E_1)^\infty \cos \infty (\omega_2 t - \omega_1 t)$$



an output circuit, electrical circuit filter means tuned to pass to said output circuit a sinusoidal voltage of a predetermined frequency characterized by the product of the numerical value of the integer b multiplied by the frequency of the said fundamental voltage, electrical circuit means for applying the voltage e_4 to the input of said filter circuit means, electrical circuit means including said filter circuit means for selecting from said voltage e_4 a component sinusoidal voltage e_5 characterized by the equation, $e_5 \propto (E_2/E_1)^b \cos b(\omega_2 t - \omega_1 t)$, and electrical circuit means for developing said voltage e_5 at the said output circuit.

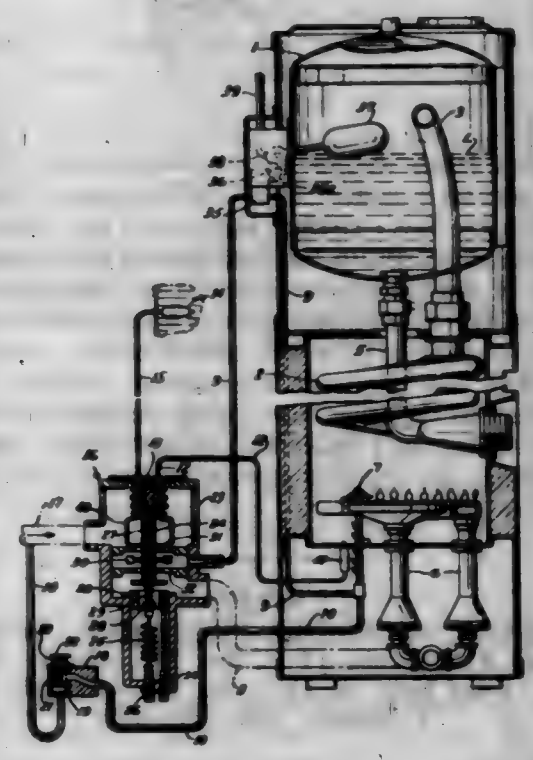
2,967,021

LIQUID HEATING APPARATUS AND CONTROL SYSTEM THEREFOR

Paul F. Swenson, Cleveland Heights, and Myron T. Cooperrider, Cleveland, Ohio, assignors to Iron Fireman Manufacturing Co., Cleveland, Ohio, a corporation of Oregon

Filed May 9, 1958, Ser. No. 734,336
5 Claims. (Cl. 236—1)

1. A fluid fuel control valve for controlling the flow of fuel to a heating apparatus containing a liquid to be heated and having a main and a pilot burner, said valve comprising a housing with a fluid fuel inlet port adapted to be connected to an associated fuel source and a fluid fuel outlet port connected to the main burner, said housing containing an annular inlet seat and an annular outlet seat coaxial with said inlet seat and spaced therefrom in a direction nearer the valve outlet port in the direction of flow of fluid through the valve from its inlet port to its outlet port, a fluid motor means disposed above said inlet seat and having a movable wall displaceable toward and away from the inlet seat in response to pressure changes interiorly of the motor means, thermo-responsive bulb elements adapted to be disposed in heat association with the pilot burner and with the liquid to be heated, means forming a confined fluid column respectively connecting said bulb elements, said bulb elements and confined columns being initially charged and sealed with a thermo-responsive fluid at sub-atmospheric pressure whereby subsequent vapor pressure developed in both of the bulb elements by heating the elements is transmitted by the confined columns to the interior of the motor means, a pilot duct adapted to connect the interior of the valve at a location between the seats with the pilot burner, a pilot by-pass duct adapted to connect the pilot burner with the associated fuel source, a normally closed valve in the by-pass duct and operable to be opened for admitting fluid fuel to the pilot burner, a rod secured to said movable wall for movement therewith and extending through and beyond said seats, a sleeve member slidably telescoped onto said rod with the upper end of the sleeve disposed immediately adjacent said wall and movable axially relative thereto, a valve plug secured on said sleeve at a point intermediate the seats, said valve plug being movable with the sleeve in opposite directions for fluid



sealing cooperation with the seats, respectively, resilient means compression connected to the lower end of the sleeve for urging said sleeve toward said wall in a manner to normally seat the valve plug on the inlet seat when pressure is not being supplied to the motor means by the bulb elements, supplemental valve closing means disposed at a preselected distance below the lower end of the sleeve and operable upon a predetermined approach of the valve plug toward the outlet seat to move the sleeve relative to, and away from, the motor means, and thereby to move the valve plug into seating relation with the outlet seat against the force of said resilient means, whereby the upper end of the sleeve is spaced from said wall and the motor means may expand further, and a safety valve plug secured to the lower side of said wall and movable with the wall toward and into seating relation with the inlet seat upon said further expansion of the motor means after the first-named valve plug is seated on the outlet seat.

2,967,022

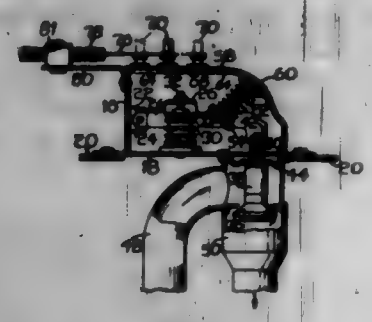
VALVE MECHANISM

Charles W. Wood, Lebanon, and Carlton W. Bondurant, Dayton, Ohio, assignors to Standard-Thomson Corporation, Vandalia, Ohio, a corporation of Delaware

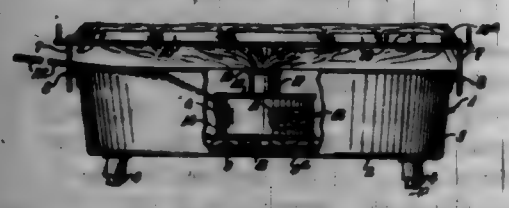
Filed Apr. 20, 1956, Ser. No. 579,651
2 Claims. (Cl. 236—99)

1. In an automatic temperature control assembly, a pivotal lever, thermal responsive actuator means operably attached to the lever for pivotal movement thereof, a stationary cam member disposed in spaced relation from

the lever, the cam member having an elongate continuous cam surface provided with an arcuate portion, the cam member having a channel therein extending along the length thereof, an elongate flexible arm slidably movable in the direction of its length in the channel, operator means attached to the flexible arm for movement thereof, a coil spring member, the coil spring member having one end thereof pivotally engaging the lever, the other end of the spring member being attached to the flexible arm, the spring member urging movement of the lever with respect to the cam member, the arcuate portion of the cam surface having parts thereof at various distances from the point of pivotal engagement of said one end of the spring member to the lever so that the end of the spring member which is attached to the flexible arm defines an arc as said end of the spring member moves along the arcuate portion of the cam member, movement of the flexible arm thus causing pivotal movement of the spring member so that the angle of the spring member changes with respect to the lever, the spring member also varying in length as the said other end of the spring member is moved along the arcuate portion of the cam surface by the flexible arm.



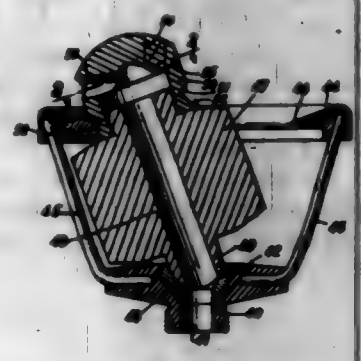
2,967,823
MEANS FOR SMOKE-FLAVORING FOOD
Thad T. Huckabee, P.O. Box 749, Albany, Ga.
Filed Nov. 19, 1957, Ser. No. 697,419
9 Claims. (Cl. 239—60)



1. A package to be placed in a barbecue grill device or the like to smoke food, comprising: a metallic container including a wall having an opening; a chimney extending outwardly from said wall and communicating with the interior of said container through said opening; a mass of hickory wood chips partially filling said container; and a removable closure member mounted on said chimney having openings therein, each opening being equal in transverse cross-sectional area to a circular opening of about one-sixteenth of an inch to about one-quarter of an inch in diameter, and the axes of said openings forming an acute angle with the wall of said closure member in which said openings are formed.

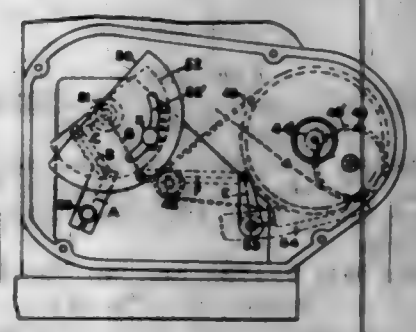
2,967,824
DISH WASHING MACHINE
Michel Claude Aubert, Geneva, Switzerland, assignor to Frama S.A., Fribourg, Switzerland, a corporation of Switzerland
Filed Mar. 23, 1959, Ser. No. 801,362
Claims priority, application Switzerland Apr. 1, 1958
8 Claims. (Cl. 239—261)

1. A washing machine spray producing apparatus, comprising a base having a water supply conduit therethrough, an oscillating body having a conduit therethrough, a tip member having an axial conduit therethrough and a receiving member having a conical recess therein with an axial bore therethrough opening into the apex of the conical recess, said conical recess receiving said tip member therein, one of said members being on said base and the other member being on said oscillating



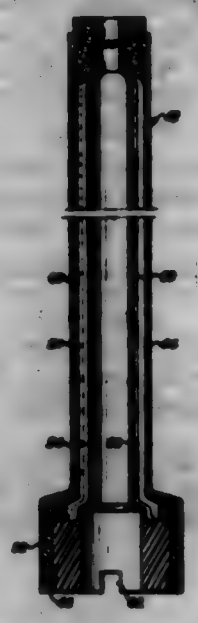
body, and a ring on said base around said oscillating body against which said oscillating body rests in an inclined position, and means on said oscillating body over the end of the conduit therethrough at the end of said oscillating body remote from said base for directing liquid therethrough for causing said oscillating body to roll on said ring, whereby the axis of said oscillating body describes a cone.

2,967,825
SPEED REGULATING MEANS FOR ROLL MATERIAL
Theodore F. Aronson, Glen Cove, and Floyd A. Lyon, Brookville, N.Y., assignors to Viewlex, Inc., Long Island City, N.Y., a corporation of New York
Original application Jan. 6, 1958, Ser. No. 707,276. Divided and this application Oct. 1, 1958, Ser. No. 764,720
2 Claims. (Cl. 242—75.5)



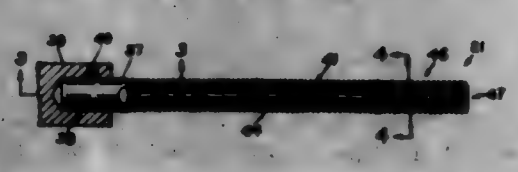
1. Material handling means comprising a roll of sheet material of varying radius, means for regulating the surface linear speed of said roll of varying radius comprising a constant speed motor, a variable speed drive connected to the output of said motor and connected to rotatably drive said roll, said variable speed drive having an input control shaft, a first dial rotatably mounted and having a logarithmic scale thereon, a second dial rotatably mounted parallel to said first dial and having an indicating mark thereon adapted to register on said scale, means connected to clamp said dials together, a member rotatably mounted adapted to ride on the outside surface of said roll, logarithmic linkage means connecting said member and said first dial, and anti-logarithmic linkage means connecting said second dial and said control input shaft of said variable speed drive.

2,967,026
QUILLS OR BOBBINS
Christopher Van Deventer III, Knoxville, Tenn., assignor to National Plastics, Inc., Knoxville, Tenn., a corporation of Delaware
Filed Mar. 9, 1956, Ser. No. 570,632
7 Claims. (Cl. 242—118.31)



1. A quill or bobbin comprising a first elongated hollow member having an outer surface shaped to provide a body portion upon which a mass of thread may be wound and an enlargement at one end of said body portion, and a second elongated hollow member disposed within said first member and having an inner surface shaped to receive and to cooperate with a spindle and an outer surface having portions to engage and support said first member, the inner surface of said first member and the outer surface of said second member being radially spaced along a portion of their lengths and being provided along the last-mentioned portion of their lengths with radial projections and recesses for receiving such projections so as to lock said members against rotation relative to each other, the positional relationship of said projections and recesses being such as to leave air spaces between the ends of the projections and the bases of the recesses.

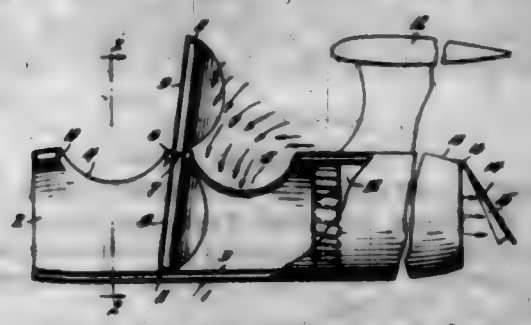
2,967,027
FILAMENT GUIDE
Norman E. McFadden, Defiance, Ohio, assignor, by mesne assignments, to Johns-Manville Fiber Glass Inc., Cleveland, Ohio, a corporation of Delaware
Filed Oct. 1, 1957, Ser. No. 687,413
2 Claims. (Cl. 242—157)



1. A filament guide comprising a helically threaded rod, a slot formed in said rod and extending the threaded length thereof, an insert positioned in said slot and extending outwardly beyond the thread line of said rod, said insert having thread portions on the peripheral surfaces thereof corresponding to the thread of said rod.

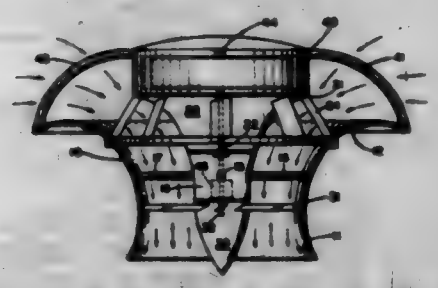
2,967,028
JET-PROPELLED AIRPLANE
Harry Gauger, 168 S. Maryland Ave., Atlantic City, N.J.
Filed May 14, 1959, Ser. No. 813,186
4 Claims. (Cl. 244—12)

4. A jet-propelled airplane including in part a nacelle for the engine having a conventional air intake in its nose and a secondary air intake opening upwardly and spaced behind the nose; means spaced between the two air intakes for closing the conventional air intake and simultaneously opening the secondary air intake to add additional lift to the nose of the plane; a baffle plate secured



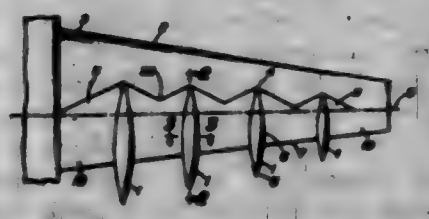
to the nacelle and extending into the path of the jet exhaust; means for operating the first-mentioned means; and means for regulating the angularity of the baffle to provide additional lift to the tail of the plane to balance the force of the lift of the tail of the plane with respect to the force of the additional lift of the nose of the plane.

2,967,029
AIRCRAFT VERTICAL LIFT DEVICE
Charles L. Hill, 111 Foster St., Olney, Ill.
Filed July 21, 1958, Ser. No. 749,811
16 Claims. (Cl. 244—23)



1. An aircraft vertical lift device comprising, an annular duct having a lower outwardly flaring jet exhaust section and an upper outwardly flaring annular airfoil section, an inner core centrally located within said duct and having a complemental airfoil surface with respect to the airfoil shape of said duct, a centripetal fan positioned at the top of said core partially within said duct adjacent the upper flaring section thereof and with its axis of rotation in alignment with the axis of said annular duct, a booster fan positioned within said duct beneath said core and with its axis of rotation in alignment with the axis of said annular duct, and means to rotate both said centripetal fan and said booster fan to draw air in over the upper outwardly flaring airfoil of said duct and eject said air with jet force from the lower section of said duct.

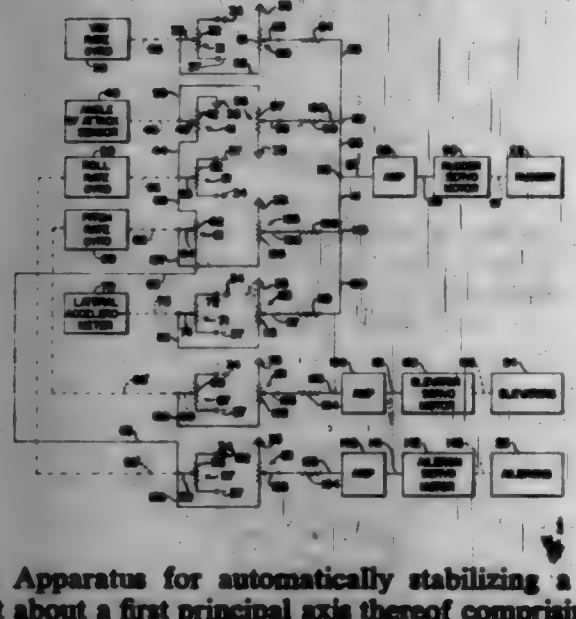
2,967,030
BOUNDARY-LAYER CONTROL MEANS FOR LIFTING WINGS
Richard T. Whitcomb, 63C Elizabeth Road, Hampton, Va.
Filed Nov. 13, 1957, Ser. No. 696,297
13 Claims. (Cl. 244—41)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. In an airplane, a fuselage, a wing panel extending from said fuselage, and an elongate body on the upper

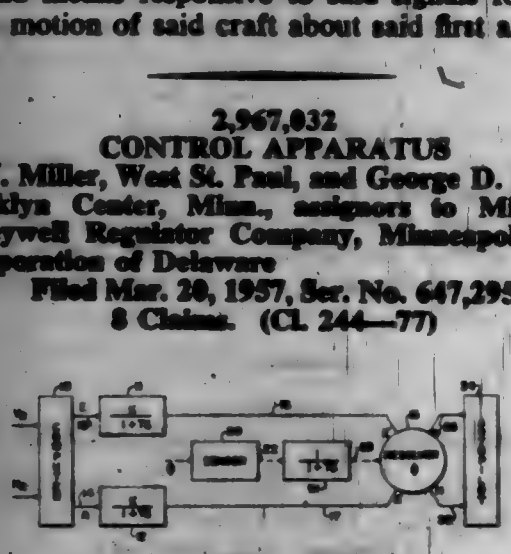
surface of said wing panel and extending generally chordwise thereof, said elongate body having a forward region of a progressively increasing cross-sectional area approximately the same as that of a cone and extending just forward of the wing panel region of maximum thickness, said elongate body further having a region of maximum cross section near the wing panel trailing edge, and a rear tapered portion extending aft of the wing panel trailing edge.

2,967,031
CONTROL APPARATUS FOR DIRIGIBLE CRAFT
Thomas W. Chase, St. Louis Park, and John C. Larson, Minneapolis, Minn., assignors to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed Oct. 29, 1956, Ser. No. 618,732
9 Claims. (Cl. 244—77)



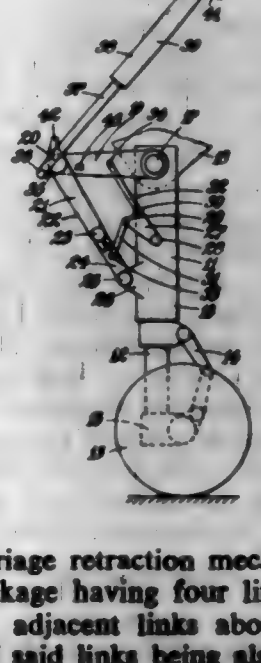
9. Apparatus for automatically stabilizing a dirigible craft about a first principal axis thereof comprising means on said craft for deriving a signal in accordance with the product of the angular velocities of the craft about second and third principal axes thereof respectively, means on said craft for deriving a signal in accordance with the product of the angular velocity of the craft about said second principal axis and the angle of attack of said craft, and means responsive to said signals for controlling the motion of said craft about said first axis.

2,967,032
CONTROL APPARATUS
John W. Miller, West St. Paul, and George D. Swanlund, Brooklyn Center, Minn., assignors to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed Mar. 28, 1957, Ser. No. 647,295
8 Claims. (Cl. 244—77)



4. Computing apparatus for transforming both a first signal representative of a first component of a distance vector where said component and said vector both lie in a plane perpendicular to the longitudinal axis of a dirigible craft, and a second signal representative of a second component of said distance vector which is perpendicular to said first component, into signals representative of components of said distance in an earth stabilized reference system, said apparatus comprising: first filter means for receiving the first signal and for producing a first output signal which lags said first signal by a predetermined amount; second filter means for receiving the second signal and for producing a second output signal which lags said second signal by a predetermined amount; a vertical gyroscope sensing rotation of the distance components about the longitudinal axis and including means for producing a third signal representative of said rotation; resolving means for producing output signals which are transformed into coordinates associated with said vertical gyroscope and are in apparent synchronization with said third signal; third filter means; first connecting means connecting said third filter means between said signal producing means of said vertical gyroscope and said resolving means; and second connecting means connecting said first and second filter means to said resolving means.

2,967,033
AIRCRAFT UNDERCARRIAGE
Kenneth Thomas Peers Langdon, St. Albans, England, assignor to Rotol Limited, Gloucester, England, a British company
Filed Nov. 20, 1958, Ser. No. 775,166
Claims priority, application Great Britain Dec. 13, 1957
8 Claims. (Cl. 244—102)

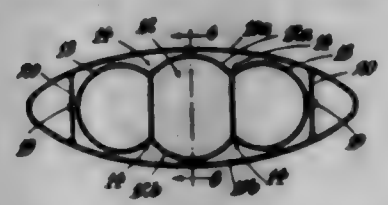


1. An undercarriage retraction mechanism comprising a quadrilateral linkage having four links each of which is pivoted to two adjacent links about spaced parallel pivot axes, one of said links being also pivoted about a fixed pivot axis to a fixed structure, retraction means connected to the quadrilateral linkage and operable to move a point on the linkage on a locus fixed with respect to said fixed structure, which locus is other than a circular arc centered on the fixed pivot axis, and a link-guiding subsidiary linkage pivotally connected to three links of the quadrilateral linkage, the arrangement being such that said quadrilateral linkage forms a triangle in the extended position of the retraction mechanism, one side of which triangle is constituted by two links aligned with one another.

2,967,034
DELTA-WING AIRCRAFT CONSTRUCTION
Donald Eyre, Derby, England, assignor to Rolls-Royce Limited, Derby, England, a British company
Filed June 16, 1958, Ser. No. 742,138
Claims priority, application Great Britain June 25, 1957
5 Claims. (Cl. 244—119)

1. An aircraft of the delta type comprising a main structure including the aircraft external skin, the main structure being of lenticular transverse cross-section over a major part of its length, and a closed cabin structure housed within the main structure and having an outer wall which has, over a major part of the length of the

cabin structure, upper and lower wall portions adjacent the longitudinal center line of the aircraft and lateral wall portions disposed on each side of the longitudinal center line interconnecting said upper and lower wall portions,



each of said wall portions having a transverse cross-section which is an arc of a circle and the radii of curvature of the cross-sections of the upper and lower wall portions being greater than the radii of curvature of the cross-sections of the lateral wall portions.

2,967,035

HINGE MOUNTING FOR MIRRORS AND THE LIKE

Elizabeth W. Simcox, 3306 Rowan Road, Sedgefield, Greensboro, N.C.

Filed Sept. 23, 1957, Ser. No. 685,557
1 Claim. (Cl. 248—28)



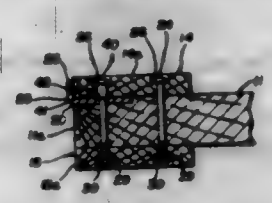
A hinge mounting for a body such as a mirror and the like designed to be suspended upon upright supporting bodies, said mounting comprising a first flat bar lying throughout its length in one plane, a second flat bar in crossed relation with and lying against one face of the first bar, a pivot coupling between the bars, the second bar lying in one plane from one end through the major part of its length and extending beyond said pivot coupling and then merging into an oblique portion to offset the remaining part of its length into a plane paralleling the said one plane of the second bar and located on the opposite side of the first bar from the said one face of the first bar, a short flat and straight link lying at one end flat against the face of the first bar at the end thereof nearest to the said one end of the second bar and on the said opposite side of the first bar, a second short link having a flat end portion at and pivotally attached to the other end of the first bar and lying against the said opposite side of the first bar, said second short link having a flat opposite end portion connected to the first mentioned end portion thereof by an intermediate portion extending across the edge of the first bar and thereby positioning the said opposite end portion adjacent to and parallel with the said one face of the first bar, the second bar having an aperture therethrough at each end and the other end of the first mentioned link and the said opposite end portion of the second mentioned link having an aperture therethrough, and the hinge mounting when in use between a support body and a supported body having the said one end of the second bar and the said opposite end portion of the second mentioned link pivotally attached to the supported body and having the other end of the second bar and the said other end of the first mentioned link pivotally attached to the support body.

2,967,036

REINFORCED PALLET

David B. Phillips, Berea, Ohio, assignor to Hinchcliff Hardwood Lumber Company, Strongsville, Ohio, a corporation of Ohio

Filed May 25, 1959, Ser. No. 815,564
3 Claims. (Cl. 248—120)



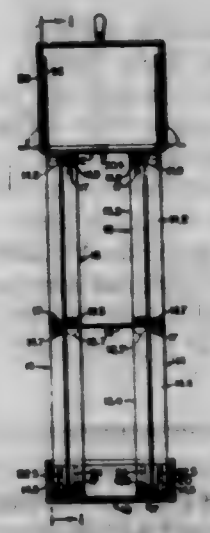
1. A pallet of the character described, comprising; a plurality of elongate stringers arranged in substantial parallelism with each other and having transversely aligned longitudinal ends and parallel deckboard-receiving surfaces; a plurality of elongate deckboards received on said deckboard-receiving surfaces and extending transversely of said stringers and including an end deckboard that has a longitudinal edge disposed adjacent the aligned longitudinal ends of said stringers; an elongate rigid reinforcing member extending transversely of said aligned longitudinal ends and being removably sandwiched between the longitudinal ends of said stringers and said end deckboard; and bolt means engaging said deckboard and said stringers and drawing said stringers and said end deckboard towards each other and against the sandwiched surfaces of said reinforcing member whereby said removably positioned sandwiched portion of said reinforcing member is releasably secured against transverse shifting relatively of said stringers and said end deckboard upon drawing up of said bolt means.

2,967,037

COLLAPSIBLE STAND

Arnold B. Christie, Glezen Lane, Wayland, Mass.

Filed Feb. 6, 1958, Ser. No. 713,756
6 Claims. (Cl. 248—166)



1. An erectable stand comprising in combination a base member, an upper support member, an outer nesting pair of erectly rigid spaced foldable legs joining said base member and said support member, an inner nesting erectly rigid foldable leg opposite said pair of legs joining said base member and support member, means pivotally joining each of said legs at its top to said support member, means pivotally joining each of said legs at its bottom to said base member and means pivotally joining each of

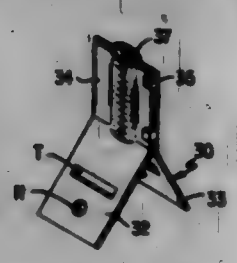
said legs together at a midpoint, said means being adapted to permit each of said legs to be folded upon itself to lie in a collapsed position between said base member and said support member, said outer pair of nesting legs being foldable in the same general direction and said inner nesting leg being foldable in the opposite direction so as to nest between said outer nesting pair of legs, and spring means at each of the three pivoted junctures of each of said legs, each spring means urging the leg to erect position.

2,967,038
SUPPORT
Leona M. Lonnemann, 2115 Pennsylvania Ave. NW., Washington, D.C.
Filed Nov. 6, 1959, Ser. No. 851,351
3 Claims. (Cl. 248—205)



2. A supporting device comprising a magnetizable member, a magnet secured and permanently retained on the front of the magnetizable member and covering only a portion of the magnetizable member, and means for securing the magnetizable member to a surface.

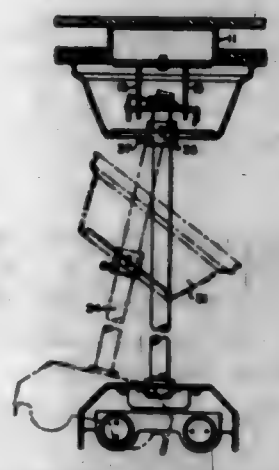
2,967,039
STAND-OFF GUIDE FOR ANTENNA CABLES
Donald F. Garman, Toledo, Ohio, assignor to Prestole Corporation, Toledo, Ohio, a corporation of Michigan
Filed June 10, 1958, Ser. No. 741,036
3 Claims. (Cl. 248—231)



1. A stand-off guide for antenna cables comprising an elongate sheet metal body having a pair of plates in parallel face to face contact, an integral bight portion joining said plates, outwardly dished elongate channels in said plates cooperating to form a screw-receiving way, half threads on each channel for threadedly engaging a screw, integral tabs on one plate extending over the outside of the other plate for retaining the plates against spreading apart, and terminal arm portions integral with said plates respectively and inclining convergently for embracing one side of a mast, said arm portions having strap-guiding slots.

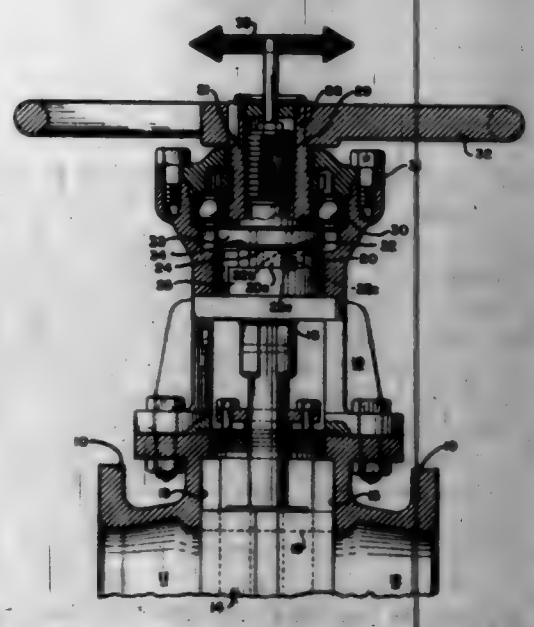
2,967,040
SINGLE STEM HANGER FOR LIGHTING FIXTURES
George J. Picha, Cleveland, Ohio, assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 11, 1957, Ser. No. 689,674
14 Claims. (Cl. 248—324)

1. In a hanger for suspending luminaires from a support, in combination, a bridge comprising a substantially flat base having slots therein extending in different directions to facilitate attaching the bridge to the support and adjusting it to substantially any predetermined position, and depending wings extending at substantially right angles to the base, each depending wing having a slot therein extending substantially parallel to the base, an elongated swivel bracket suspended from the wings of



the bridge, depending members provided on the ends of the swivel bracket, the depending members on the swivel bracket being shorter than the depth of the slot to provide for the fitting of them through the slots, and a stem suspended from the central portion of the swivel bracket, the stem being rotatably mounted in the swivel bracket.

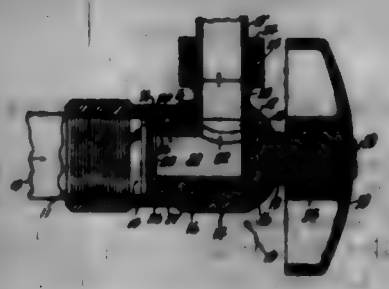
2,967,041
VALVES
William G. Young, McCandless Township, Allegheny County, Pa., assignor, by mesne assignments, to Miller Printing Machinery Co., Pittsburgh, Pa., a corporation of Pennsylvania
Filed Aug. 2, 1954, Ser. No. 447,364
9 Claims. (Cl. 251—166)



1. In a valve having a valve body, opposed ports in said body intersected by a hollow cylindrical bore, a plug mounted in the bore for rotation and limited vertical movement, a pair of wedges on the plug, said plug and wedges having tapered engaging surfaces slidable relative to one another, a stem on the plug, a control shaft coaxial with and surrounding the stem over a part of its length, screw means on the control shaft engaging mating screw means on the stem whereby rotation of the control shaft moves the stem and thereby slides the plug relatively to the wedges, a collar fixed to said stem and rotatable therewith, an annular disc formed on the control shaft in a plane parallel to the plane of the collar, the improvement comprising slotted guide means having guide slots fixed about the stem, guide elements on the collar engageable in said guide slots, engaging means on at least one of said

disc and collar spacing and engaging the other of said disc and collar in spaced-apart relation causing the disc and collar to rotate in unison in spaced-apart relation after the guide elements are moved axially in the guide slots, normally retracted vertically movable drive means on the collar engageable with the disc by means of the guide means to rotate the disc and collar in the direction to return the guide elements to the guide slots and permit the drive means to retract and disengage the disc from the collar whereby further rotation will cause said guide elements to move axially in said guide slots.

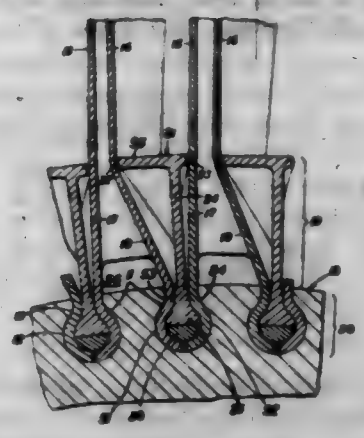
2,967,042
STOP VALVE
Herbert M. Richter, 60 Colorado Road, Paramus, N.J.
Filed Apr. 24, 1958, Ser. No. 730,612
4 Claims. (Cl. 251—181)



1. In a valve comprising a body having an inlet and an angularly disposed outlet, the body having a longitudinal opening therethrough extending from said inlet and being partially tapered so as to provide a valve seat, a passage in said body extending from said outlet and intersecting said tapered seat, a tapered resilient, self-sealing valve member mounted to rotate in said tapered seat, said valve member having a handle receiving portion on one end and having at its other end a lock receiving tapered shoulder axially converging toward said inlet in a direction opposite to the taper on the remainder of the valve member, said valve member having a passage means in continuous communication with said inlet and including a lateral discharge port selectively movable adapted to be brought into and out of registry with said outlet upon rotation of said member; and spring locking means lodged within said opening fitted in abutting relation upon said shoulder to urge said member into snugly rotatable and frictionally sealed engagement with said tapered seat, said spring locking means including a tapered sealing ring to provide a seat for rotatably receiving said tapered shoulder at the inlet end of said member, and a spring locking ring in abutting relation with said sealing ring to hold said member in self-sealing compressed engagement in said body against said seat.

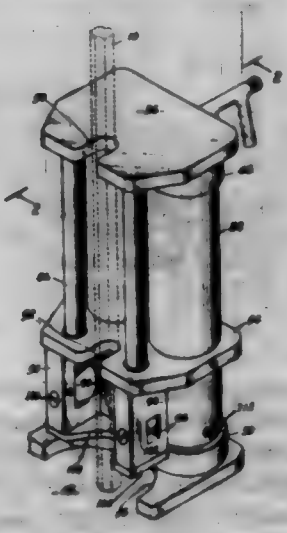
2,967,043
BLADES AND BLADE MOUNTING ASSEMBLIES FOR TURBINES AND AXIAL FLOW COMPRESSORS
Leonard J. Dennis, Carpenders Park, England, assignor to D. Napier & Sons Limited, London, England, a British company
Filed Nov. 12, 1957, Ser. No. 695,841
Claims priority, application Great Britain Nov. 30, 1956
4 Claims. (Cl. 253—77)

1. A blade and blade mounting assembly comprising a plurality of blades each made of thin metal and having an aerofoil portion with a convex flank and a concave flank, a first root tongue extending from said convex flank and a second root tongue extending from said concave flank, said blade mounting having grooves therein including side walls defining a plurality of substantially axial blade root supports, said side walls having undercut lower portions and overhanging upper extremities defining a mouth to each of said grooves, platform members disposed between adjacent blades, each platform member having a projection received in one of said grooves which groove also receives said first root tongue of a blade adjacent one side of said platform member and said second root tongue of a blade adjacent the opposite side of said platform member, said first and second root tongues extending through said mouth into said undercut lower portions and fitting against said



groove side walls with a gap between said root tongues at said mouth, said projection of said platform member extending through said gap and having an enlarged inner end the width of which is wider than said gap and which fits between said first and second root tongues, and a retaining key in each groove engaging said projection beneath said enlarged inner end and urging said projection toward said mouth to wedge said first and second root tongues between said enlarged inner end thereof and said overhanging upper extremities of said groove side walls.

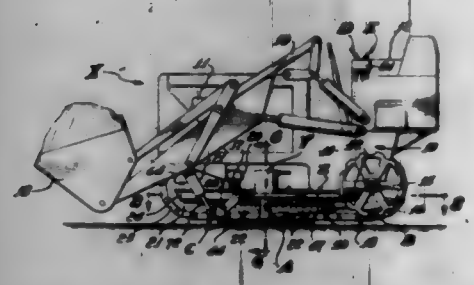
2,967,044
MINING DRILL EXTRACTOR
Richard Corcreham and Steven Corcreham, both of 1375 W. Burnett, Long Beach, Calif.
Filed June 17, 1957, Ser. No. 665,899
3 Claims. (Cl. 254—30)



3. A portable drill rod extractor, comprising: a base plate having a drill hole surrounding portion; dual inner adjacently disposed telescoping cylinders attached to said base plate; dual upper cylinders telescopically engaging said inner cylinders defining a fluid-sealed expandable chamber; drill rod gripping means hung laterally from said cylinders over said drill hole surrounding portion; said gripping means including, braced drill notched top and intermediate plates connected to and extending laterally from said upper cylinders, spaced brackets depending from said lower plate, and drill rod engaging dogs pivotally mounted in said brackets; pneumatic means attached to said upper cylinders for expanding said cham-

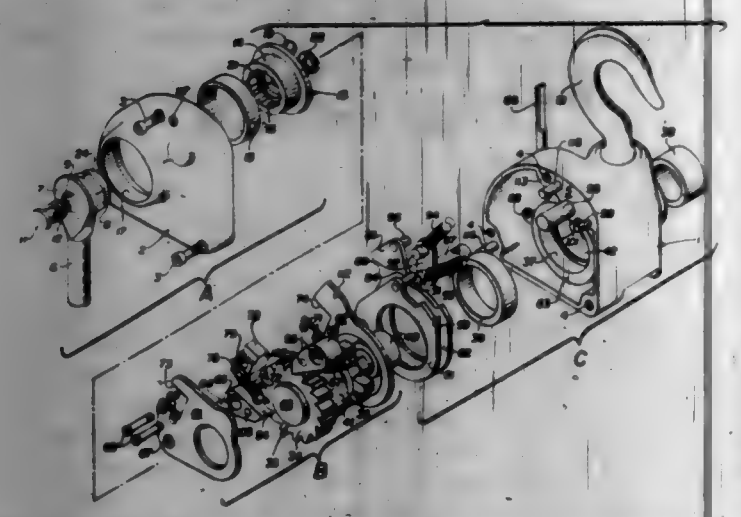
ber and withdrawing a lodged drill end grasped by said dogs; and a gun type valve actuating means connected to and controlling said pneumatic means.

2,967,045
TURNING ATTACHMENT FOR VEHICLES
Melvin G. Axman, 11356 Agua Vista, North Hollywood, Calif.; Dorothy V. D. Axman, administratrix of said Melvin G. Axman, deceased
Filed Sept. 3, 1957, Ser. No. 681,744
12 Claims. (Cl. 254—87)



1. A vehicle turning mechanism of the character described, including, elevating means for lifting and supporting the vehicle off the ground and comprising an extendable and rotatable platform underlying the vehicle, means for selectively supporting a portion of the weight of the vehicle at a point removed from the center of rotation of the platform, and rotating means for turning the vehicle relative to said elevating means when said platform is extended and said vehicle is lifted.

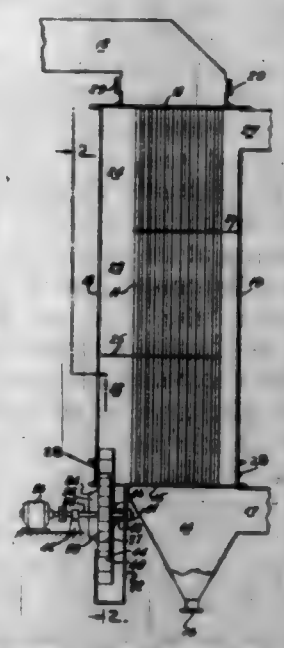
2,967,046
LOAD BEARING DEVICE
Ralph A. Ratcliff, 1300 Sunnyslope Ave., Belmont, Calif.
Filed May 4, 1959, Ser. No. 810,695
22 Claims. (Cl. 254—167)



4. In a load bearing hoist which includes mechanism for raising and lowering a load supported on a chain type element extending from said hoist in a predetermined controlled manner in response to movement of an operating handle which is operatively connected with said mechanism, control structure for regulating operation of said mechanism, said control structure including a single control member operatively connected with said mechanism the position of which determines the direction and manner in which said chain type element moves in response to movement of said operating handle whereby up, down or free chain is obtainable by positioning said control member in a predetermined up, down or free chain position, said control member in regulating said mechanism being effective independently of and irrespective of the position of said operating handle.

19. In combination with a load bearing device having a casing and mechanism in said casing operative to regulate raising or lowering of a load in a predetermined controlled manner, a movable multi-position adjustable operating handle located outside said casing, and means operatively connecting said handle with said mechanism whereby the position of a load supported by said device may be modified upon movement of said handle, said means comprising selectively interengageable and disengageable projection and socket structure, said handle being positively operatively engageable with said mechanism in one of many predetermined positions greater than two so that said handle may be conveniently located relative to said casing for grasping and movement by an operator of said device irrespective of the orientation of said device, modification of the operative location of said handle relative to said casing being effectable by disengaging the projection and socket of said structure from each other and thereafter re-engaging said projection and socket in reoriented fashion, and means for maintaining said projection and socket of said structure normally positively engaged in a predetermined one of said many positions.

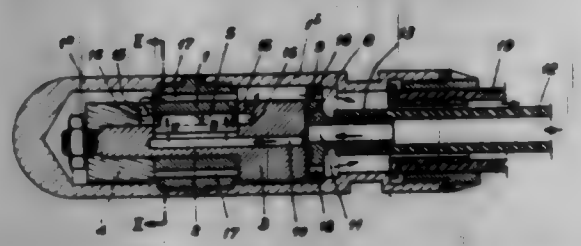
2,967,047
HEAT EXCHANGE APPARATUS HAVING CENTRIFUGAL FAN
Donald C. Schlunderberg, Montclair, N.J., assignor to The Babcock & Wilcox Company, New York, N.Y., a corporation of New Jersey
Filed Oct. 28, 1953, Ser. No. 388,821
4 Claims. (Cl. 257—214)



1. In combination, a heat exchange apparatus having a casing forming an air plenum chamber constructed to equalize the velocity effects of received air, an air outlet from said chamber for supplying air to said heat exchange apparatus for further use therein, said chamber having a pair of laterally spaced opposite walls, one of said walls having a circular air inlet therein open to the atmosphere, and means for maintaining the air in said chamber at a superatmosperic static pressure comprising a centrifugal air impeller rotatably mounted in said chamber coaxially with said air inlet and adjacent said one wall, said impeller having radially arranged blades extending beyond the periphery of said air inlet, and a substantially circular stationary diffuser plate in said chamber of substantially larger diameter than the diameter of said impeller blades and arranged in a plane parallel to and intermediate said walls and adjacent to the inner side of said air impeller, said diffuser plate forming in conjunction with said laterally spaced walls, an annular air diffuser passageway of relatively narrow width and substantial radial extent between said diffuser plate and said one wall open throughout its periphery to said plenum chamber and a substantially unobstructed air passageway between said diffuser plate and the remaining wall for

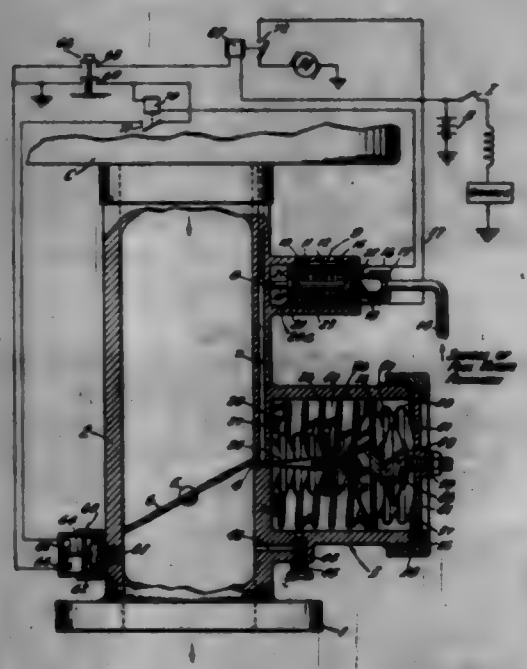
the passage of air from said diffuser passageway periphery to said air outlet, whereby the velocity head of the air discharged by said impeller blades is converted by the controlled expansion flow through said diffuser passageway to static pressure head in the plenum chamber.

2,967,848
VIBRATOR
Michel Alphonse Irénée Fontaine, 9 Rue des Petits-Hotels, Paris, France
Filed Feb. 2, 1959, Ser. No. 790,633
Claims priority, application France Nov. 7, 1958
8 Claims. (Cl. 259—1)



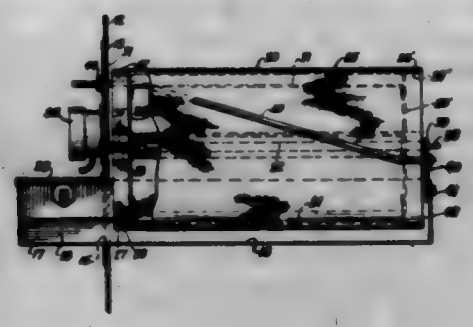
1. A vibrator using the static pressure of a fluid under pressure, of the type constituted by a hollow cylinder, an inner cylinder having a smaller diameter arranged within said hollow cylinder, one of the cylinders being fixed and the other movable, the movable cylinder being adapted to roll freely in relation to the fixed cylinder without any mechanical connection with any outer member, each cylinder being provided at its ends with guiding side faces perpendicular to its axis, the guiding faces of the movable cylinder sliding at the contact of the guiding faces of the fixed cylinder, and a movable paddle dividing the room included between both cylinders into two chambers one in communication with a port for the admission of fluid under pressure and the other with an exhaust port, said paddle being adapted to recede into a recess provided longitudinally in one of the cylinders, the improvement residing in that the movable cylinder is prolonged axially by a mass extending beyond the room included between both cylinders and divided into two chambers by the movable paddle.

2,967,849
CARBURETOR FOR INTERNAL COMBUSTION ENGINES
Harry C. Stearns, 708 Prairie Ave., Glen Ellyn, Ill.
Filed July 8, 1958, Ser. No. 747,231
8 Claims. (Cl. 261—53)



1. In a carburetor for internal combustion engines, the combination of a mixing passage having a throttle valve mounted therein and provided with a fuel jet disposed adjacent an edge of said throttle valve in the closed position of said valve, a fuel metering orifice for said jet, a source of liquid fuel under pressure sufficient to provide a solid stream of fuel to said orifice, means for supplying said pressurized fuel to said orifice, a flow restricting member in said orifice for movement therein to and from positions increasing and diminishing the effective area of said orifice, a chamber in which said flow restricting member works and having a passage connecting with said mixing passage, means including a metal bellows within said chamber for isolating said metering orifice and the portion of said flow restricting member cooperating therewith from said chamber, spring means operatively connected to said restricting member to bias said member to increase the effective area of said orifice under decreased manifold vacuum, a metal bellows in said chamber having a cross sectional area several times larger than that of the first named bellows and operatively connected to said spring and said restricting member, said last named bellows being open at one end to atmosphere and acted on thereby to move said restricting member against the action of said spring to decrease the area of said orifice under increased manifold vacuum of the engine.

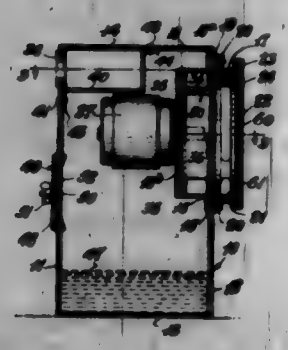
2,967,850
HUMIDIFIER
Arthur J. Geen, Elmhurst, Ill., assignor to Drain Enterprises, Inc., Addison, Ill., a corporation of Illinois
Filed May 1, 1957, Ser. No. 656,439
3 Claims. (Cl. 261—92)



3. In a humidifying apparatus adapted to be positioned in the current of hot air delivered by a hot air furnace, a water pan, a vertical support for holding said pan in a horizontal position, means to supply water to the pan and maintain the same at a constant level therein, a drum rotatably mounted on a shaft supported above the pan for movement about a horizontal axis, said drum comprising a cylindrical screen providing a perforated evaporating surface of relatively large area, said screen being mounted on open end frames, said end frames being secured adjacent the ends of said drum supporting shaft, a bearing bracket having an upwardly opening bearing member supported in upstanding relation on the water pan for rotatably receiving one of the ends of said drum supporting shaft, said drum being arranged with the lower portion extending within the water pan and below the water level therein, a relatively slow speed electric drive motor, means to secure said motor on said vertical support with the drive shaft thereof extending adjacent the other end of said drum supporting shaft and in axial alignment with said bearing member, means providing a readily separable driving connection between the adjacent ends of said drive shaft and said drum supporting shaft whereby said drive motor will rotate said drum at a relatively slow speed about its horizontal axis, and a pair of generally rectangular elongate baffle plates mounted along the sides of said cylindrical drum, said baffle plates each being secured to a horizontal shaft positioned above a side wall of the water

pan and being parallel with the axis of rotation of the cylindrical drum, and each said baffle plate supporting shaft being journaled in said vertical support and having a position indicating member on the free end which is located on the side of said vertical support opposite said cylindrical drum whereby the baffle plates may be readily adjusted to vary the current of air passing over the drum surface.

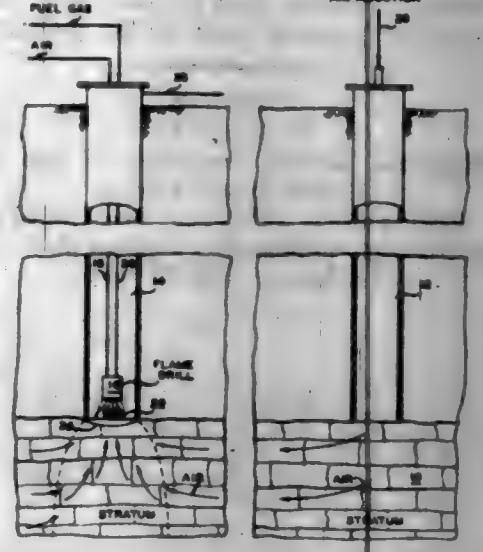
2,967,851
MEANS FOR TREATING AIR TO PROVIDE COMFORT IN HOT AND COLD WEATHER
William R. Mobley, P.O. Box 2311, Miami, Fla.
Filed Aug. 2, 1956, Ser. No. 601,765
2 Claims. (Cl. 261—142)



1. Means for creating a localized zone of expanding air in a ventilated room or area, comprising a substantially closed cabinet having an air intake aperture in the upper portion of a wall thereof and an air discharge aperture in the upper portion of an opposite wall of said cabinet for discharging treated air under pressure therefrom, a body of cooling liquid contained within the lower portion of said cabinet, a centrifugal fan rotor of substantially the same diameter as said air intake aperture mounted within said cabinet adjacent said intake aperture for drawing air therethrough into said cabinet, said rotor having circumferentially spaced air impelling blades having their air impelling surfaces disposed normal to a plane perpendicular to the axis of said rotor adapted for centrifugally projecting air radially of the rotor, the periphery of said rotor being substantially unconfined within said cabinet to provide a peripheral zone of substantial thickness surrounding said rotor wherein a revolving air stream is maintained, an electric motor in said cabinet for driving said rotor to centrifugally project the incoming air in a generally circular path through said zone at a pressure greater than atmospheric and also downwardly to impinge against the surface of said body of liquid, whereby the inducted air is repeatedly revolved about said rotor within said cabinet to thereby bring said air into repeated contact with said liquid before being expelled from said discharge aperture.

2,967,852
IN SITU COMBUSTION PROCESS
Francis W. Crawford, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Mar. 31, 1958, Ser. No. 724,861
9 Claims. (Cl. 262—3)

1. A process for completing an ignition borehole in a stratum containing carbonaceous material which comprises drilling a borehole to said stratum from the surface; drilling from said borehole thru said stratum with a flame drill by continuously directing a flame into said stratum whereby said stratum is heated to ignition temperature; and simultaneously contacting the wall of said borehole within said stratum with O_2-containing gas so to



initiate combustion of said stratum radially around said borehole.

2,967,853
CUT-OFF GUIDE AND MITRE JIG FOR STORM WINDOW AND SCREEN STOCK
Eugene J. Nowak, 12315 Elmdale Ave., Detroit, Mich.
Filed July 15, 1958, Ser. No. 748,621
2 Claims. (Cl. 269—128)

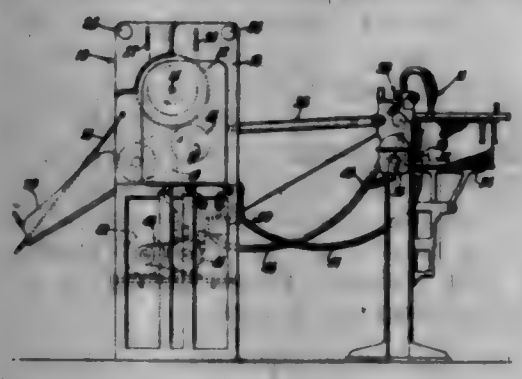


1. A cut-off guide and miter jig comprising an elongated rod, a pair of similar but reversed heads mounted at selected spaced locations along said rod, said heads comprising split sleeves shaped to accept stock of a selected cross-section, said sleeves having sides having splits therein, parallel spaced ears on said sides at opposite sides of the splits, first clamping bolts traversing said ears for clamping the sleeves on stocks, split rod clamps having substantially circular intermediate portions conformably embracing said rod, said clamps having long legs, and short legs in spaced parallel relationship, second clamping bolts traversing said long and short legs for clamping the clamps on the rod, said long legs having end portions bearing against ears of the sleeves and clampably traversed by the first clamping bolts, and means for precluding rotation of the sides of the sleeves relative to each other, said sleeves having angled longitudinally outward stock cutting miter edges.

2,967,854
VACUUM AND PRESSURE CONTROL VALVE FOR PRINTING PRESSES
John I. Glucksman, New York, N.Y., assignor to Mergenthaler Linotype Company, a corporation of New York
Filed May 22, 1958, Ser. No. 737,072
3 Claims. (Cl. 271—5)

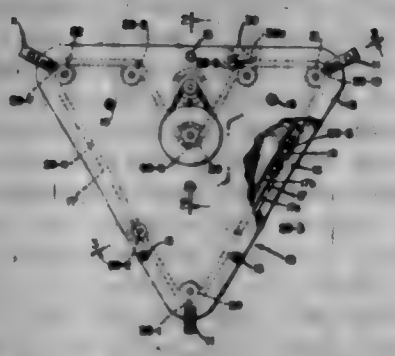
1. A sheet feeding mechanism for a printing press including a suction foot for transferring individual sheets of paper from a stack to a conveyer table, a vacuum pump for supplying said foot with a partial vacuum, an air line connecting said suction foot to said pump, a periodically actuated valve disposed in said air line for permitting release of the sheets carried by said suction

foot as they are brought to the conveyer table, and a second valve independent of said periodically actuated valve disposed in said air line for providing an auxiliary air intake whereby the vacuum at said suction foot may be interrupted at any point in the suction foot cycle, said second valve comprising a main fitting, an adjustable bleed member having an air channel therein and a shell portion integral therewith accommodated by said fitting,



said bleed member being capable of permitting various quantities of air to be bled by said second valve, and a magnetized plug disposed in said shell portion, said plug serving, when placed in one position, to close one end of said air channel, said plug remaining in said position under magnetic force until manually moved, and said plug serving, when placed in a second position, to open the same end of said air channel, said plug remaining in said second position under magnetic force until manually moved.

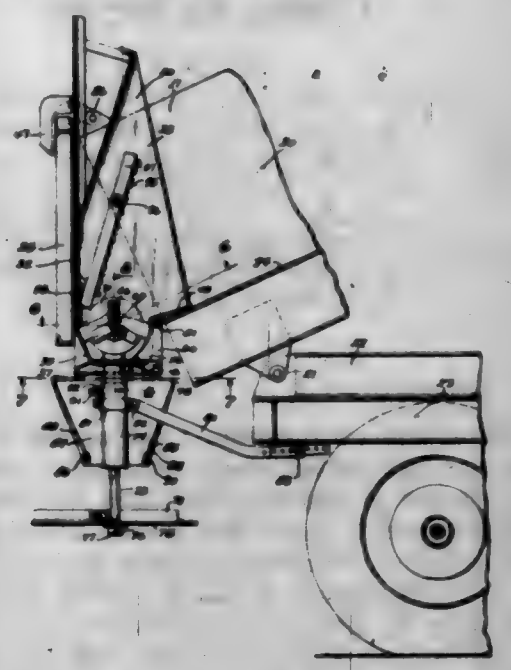
2,967,055
INDIVIDUAL PIN SPOTTER FOR BOWLING ALLEYS
Carl Sardella, 3932 Eve Drive, Seaford, N.Y.
Filed Dec. 19, 1958, Ser. No. 781,547
10 Claims. (Cl. 273—44)



1. Apparatus for facilitating bowling practice comprising a supporting frame, means to mount the frame adjacent the pin area of the bowling alley, a pin assembly including a practice bowling pin supported by the frame for translational movement about the pin locations of the alley, drive means for the pin assembly, and control means to actuate the drive means to move the pin assembly to desired pin spots.

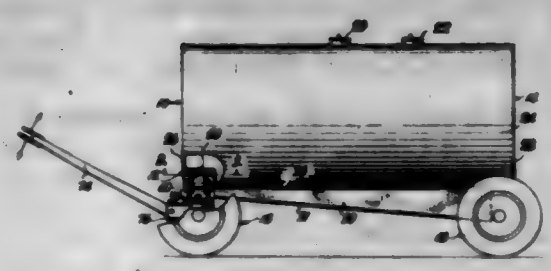
2,967,056
MATERIAL SPREADERS FOR DUMP TRUCKS
Michael A. D'Amato, Waukesha, Wis., assignor to Seaman-Andwall Corporation, Milwaukee, Wis., a corporation of Wisconsin
Filed Oct. 28, 1955, Ser. No. 543,501
18 Claims. (Cl. 275—8)

6. A material spreader having an open faced box frame receivable in the delivery end of a tiltable truck body in position to offer the open face toward body contents moved thereagainst by the inclination of the tiltable truck body, a trough shaped lower portion of said box frame at the lower margin thereof, said trough having a gate equipped opening for delivery of said contents, the gate therefor being normally biased to closed position, a gate arm attached to said gate, said arm being provided with a gate arm operating shaft including a lever, a hy-



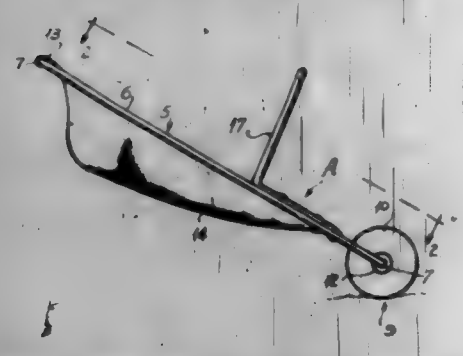
draulic cylinder having a ram connected to said lever for opening the gate, control means remote from said hydraulic cylinder to control its operation, and means in communication with said gate equipped opening for spreading said contents.

2,967,057
FIFTH WHEEL MOUNTING STRUCTURE FOR MOBILE TANK UNITS
Lawrence F. Meyer, Kansas City, Kans., assignor to Homer G. Abbott, Bonner Springs, Kans.
Filed Oct. 21, 1958, Ser. No. 768,766
5 Claims. (Cl. 280—5)



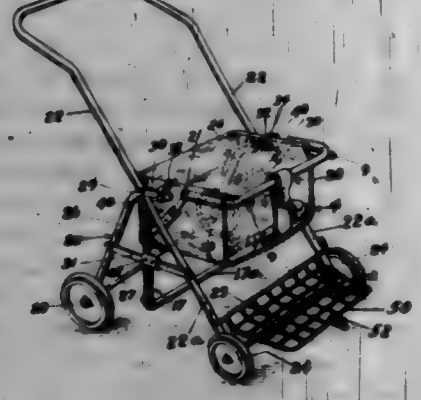
1. In an elongated tank of cylindrical configuration, having a substantially uniform diameter throughout the longitudinal length thereof, and supported by wheel and axle assemblies at each end thereof with the axis thereof in a horizontal position, said tank being provided with components between one of the axles and the end portion of the tank thereabove, said components including a fifth wheel unit mounted on said one axle and permitting the latter to rotate about a substantially vertical axis and a pair of upright, pivotally interconnected parts carried by the unit thereabove permitting said one axle to rock about a substantially horizontal axis intersecting said vertical axis, the combination with said tank and components of an arcuate plate joined to and recessed within said end portion of the tank above said components and having the upper of said parts secured thereto at an area remote from the lowermost portion of the tank, said plate having an axis of revolution substantially parallel with the horizontal axis of rocking movement of said one axle, said area being sufficiently spaced inwardly from said portion of the tank a sufficient distance only to cause the latter to lie in close proximity to a plane through the upper surfaces of said axles.

2,967,858
COMBINATION BEACH BARROW AND CHAIR
William H. Hoffmann, Jr., 18 Edgewood Road, Rumson, N.J.
Filed May 7, 1959, Ser. No. 811,643
4 Claims. (Cl. 280—30)



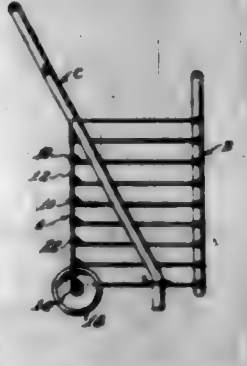
1. An article of furniture transposable for use as a barrow or chair, comprising a rectangular frame adapted to be disposed in one position when said article is used as a barrow, said frame having side and end rails with said end rails constituting a handle and an axle, respectively, for said barrow, a pair of spaced rollers mounted on said axle, an elongated roll mounted on said axle between said rollers and cooperating with the latter for effecting travel of said barrow over a surface, said roll being of a predetermined pliability sufficient to preclude sinking of said rollers and said roll within a relatively soft surface, a flexible body secured to said frame between said side and end rails and constituting an article receptacle and a seat for said barrow and chair, respectively, said frame being transposable to another position to permit use of said article as a chair and with said roll as a headrest therefor, and a surface engaging yoke attached to said frame and depending downwardly therefrom for supporting said frame at an angle relative to the surface when said article is used as a chair.

2,967,859
CONVERTIBLE STROLLER AND BABY CARRIAGE
Morris I. Goldberg, Wakan, Mass. (% International Manufacturing Co., 2512 Washington St., Roxbury 19, Mass.)
Filed Jan. 2, 1959, Ser. No. 784,647
4 Claims. (Cl. 280—31)



1. A vehicle for transporting a small child having a vehicle frame comprising a U-shaped main frame element provided at its lower end with two front wheels, a rear frame element having two side members, each of which is pivotally connected at its upper end to the corresponding side of the main frame element at a point near the mid-section thereof, said rear frame element being provided with rear wheels and each side member thereof having at its upper end a substantially horizontal supporting portion extending forwardly from its pivotal connection with the main frame element and having a free end, a pair of spaced ears rigid with the horizontal supporting portion of each of said side members, the ears of each pair extending inwardly from the corresponding side member and also being in vertical alignment, each ear of each pair having an aperture in vertical alignment with that of the other ear of said pair, a child receiving element having a U-shaped supporting frame and a child supporting member carried thereby, means removably mounting the child receiving element on said pairs of ears, said means including an inverted U-shaped hanger for each side section of said U-shaped supporting frame, means rigidly securing one leg of each hanger to the corresponding side section of said supporting frame with the other leg of said hanger located outside of the supporting frame and in a position in which the other leg extends downwardly through the aligned apertures of the pair of ears on the corresponding portion of the U-shaped frame with the bridge of each U-shaped hanger resting on the top ear of the corresponding pair of ears.

2,967,860
SQUARE SHOPPING CART
Daniel Berlin, 4424 Paul St., Philadelphia, Pa.
Filed Oct. 15, 1956, Ser. No. 616,082
3 Claims. (Cl. 280—35)

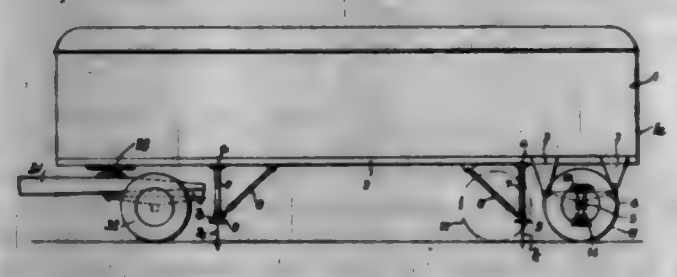


1. A collapsible shopping cart comprising a plurality of vertically spaced struts, a pair of posts affixed to said struts, a plurality of U-shaped wire ribs respectively pivotally mounted to said struts adjacent the ends thereof, the bight portion of said ribs being pivotally secured in vertically spaced relationship with each other and passing within a tubular U-shaped bracket member, a U-shaped frame having support members pivotally secured to the uppermost strut, a locking bracket affixed to the lowermost rib and slidable on said frame whereby a minimum of welded components are required and said cart may be pivotally collapsed vertically into a substantially plane configuration, and said U-shaped bracket member comprising two inverted L-shaped members and interfitting central portions.

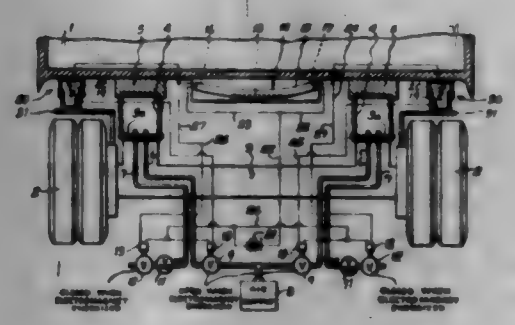
2,967,861
LOADING SYSTEM FOR TRAILERS AND LIKE VEHICLES ON PLATFORMS
Hans Schwab, Pfaffenhofen/Roth, near Neu-Ulm, Germany, assignor to Karl Kaessbohrer Fahrzeugwerke G.m.b.H., Ulm (Danube), Germany
Filed Oct. 7, 1957, Ser. No. 688,594
Claims priority, application Germany Oct. 10, 1956
5 Claims. (Cl. 280—43.15)

1. A vehicle comprising a frame having wheels provided at least at the rear thereof, jack means provided at the front and rear of said frame for raising the wheels thereof above a supporting surface, means releasably securing said wheels to said frame, said securing means including a pivot for each wheel about which the wheel can be swung to a retracted position from a normal operative disposition relative to said frame, flat base means provided on said frame for supporting said vehicle with the wheels thereof retracted and with the

vehicle lowered onto said surface by said jacks, said vehicle being provided with axle means for the wheels thereof and said base means being mounted on said axle means, said axle means comprising a central non-rotary part and an axle stub in articulated relation with each end of said axle part, each stub mounting an associated wheel, and spring means mounted by said chassis, said spring means supporting said axle part.

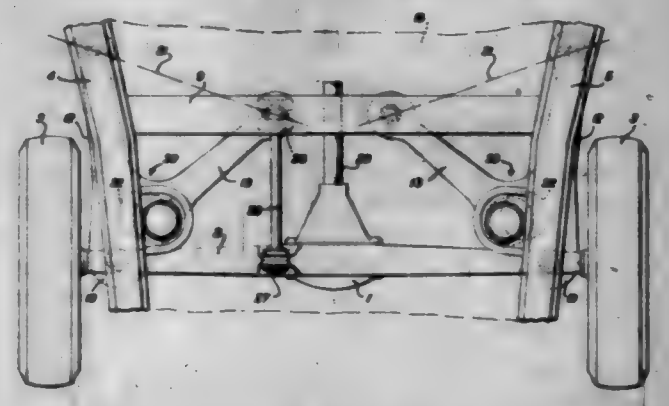


2,967,062
SWAY AND PITCH CONTROL APPARATUS FOR VEHICLES
Leslie R. D'Avigdor, 63 Wall St., New York, N.Y.
Filed Aug. 30, 1956, Ser. No. 607,021
7 Claims. (Cl. 280—112)



1. Tilting control apparatus for a vehicle having a body and two rolling supports spaced longitudinally, each support comprising two laterally spaced wheels, axles for the wheels, and unsprung frame means mounted on the axles, sway control apparatus comprising means at each lateral side of the vehicle for applying a correcting force tending to move the body upwardly with respect to the frame means, pitch control apparatus comprising means at least at one end of the vehicle for applying a correcting force tending to move the body upwardly with respect to the unsprung frame means, each correcting force applying means comprising means defining an expansible chamber having relatively movable walls respectively connected to the axle and the body, a source of compressible fluid under pressure, and means for controlling the fluid pressure in said chambers including inlet valve means for the respective chambers, outlet valve means for the respective chambers, sway control means comprising inertia operated means for actuating the valve means connected to the chambers of said sway control apparatus in response to lateral acceleration or tilting of the vehicle body, pitch control means comprising inertia operated means for actuating the valve means connected to the chamber of said pitch control apparatus in response to longitudinal acceleration or tilting of the vehicle body, and correction inhibiting means for each of said correcting force applying means and effective to stabilize the force thereof when a portion of the body adjacent the force applying means is within a predetermined normal range of spacing from the unsprung frame means.

2,967,063
RIGID AXLE FOR MOTOR VEHICLES
Josef Mueller, Stuttgart-Riedenberg, and Friedrich H. van Winsen, Kirchheim-Teck, Germany, assignors to Daimler-Benz Aktiengesellschaft, Stuttgart-Untertürkheim, Germany
Filed July 22, 1957, Ser. No. 673,300
Claims priority, application Germany Aug. 20, 1956
11 Claims. (Cl. 280—124)

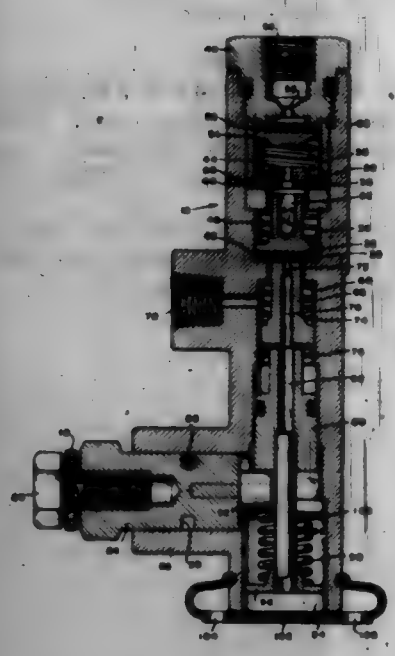


1. A suspension system for suspending a rigid axle at the vehicle frame including a longitudinal side frame member on each side of the vehicle, comprising one longitudinal fork-shaped guide member on each side of the vehicle central longitudinal plane and having a first and a second fork arm portion and an apex portion, means connecting each of said guide members at the apex portion thereof to said axle, means connecting each of said fork arm portions of each guide member to said frame, said frame including a frame cross member, said last-mentioned connecting means connecting said second fork arm portion to said cross frame member while each of said first fork arm portions is connected to a respective one of said longitudinal frame members, said rigid axle including an axle housing, thrust means interconnecting said rigid axle with said vehicle frame disposed in close proximity to said axle housing, the points of connection formed by said connecting means between a respective first fork arm portion and a corresponding longitudinal frame member and the second fork arm portion of the same guide member with said cross frame members being so disposed in relation to each other that a line connecting the two forms an angle with a longitudinal plane of the vehicle and effectively constitutes a pivot axis for said fork-shaped guide member.

2,967,064
LOAD CONTROL VALVE FOR VEHICLE AIR SPRINGS
Harry M. Valentine, Elyria, Ohio, assignor to Bendix-Westinghouse Automotive Air Brake Company, Elyria, Ohio, a corporation of Delaware
Filed Sept. 13, 1957, Ser. No. 683,813
9 Claims. (Cl. 280—124

1. Control valve mechanism for regulating the air pressure within a vehicle air spring for maintaining the vehicle frame a predetermined distance above the vehicle axle, comprising a leveling valve having a casing adapted to be mounted on the frame, valve means within the casing for controlling the flow of compressed air to and from the air spring at a predetermined low rate in accordance with slight relative movements between the frame and axle, other valve means within the casing for controlling the flow of compressed air to the air spring at a

predetermined higher rate in accordance with greater relative movement between the frame and axle in one



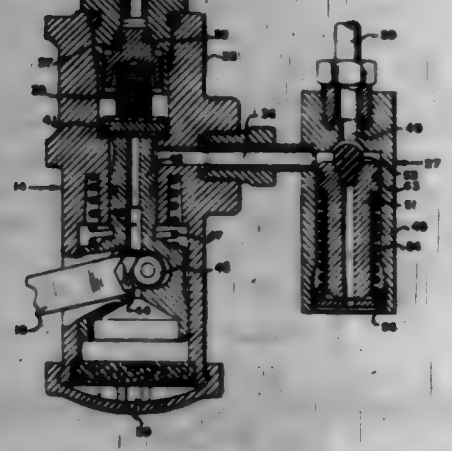
direction, and means actuated by relative frame and axle movement for actuating said valve means.

2,967,065

VEHICLE AIR SUSPENSION SYSTEM CONTROL VALVE MEANS

Donald J. Schwendner, Livonia, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Filed Dec. 9, 1957, Ser. No. 701,574
1 Claim. (Cl. 280—124)



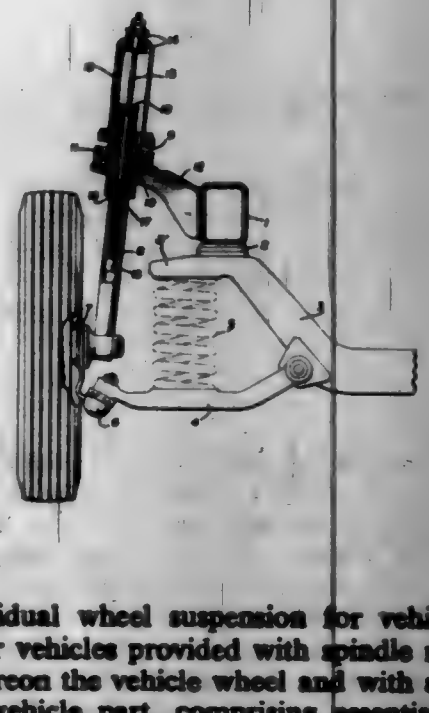
An air pressure control arrangement for a motor vehicle air suspension system comprising a positive air supply, an air spring, a leveling valve, conduit means including a first conduit connecting the positive air supply to the leveling valve for the unidirectional movement of air from the air supply to the leveling valve, a second conduit connecting the leveling valve to the air spring for a bi-directional movement of air, one direction being in the intake condition of the leveling valve with the air moving from the leveling valve to the air spring, and the second direction being in the exhaust condition of the leveling valve with the air moving from the air spring to the leveling valve, a third conduit connecting the leveling valve to the exhaust for the unidirectional movement of air from the leveling valve to exhaust, a control valve connected to the second conduit, means responsive to height variations in the vehicle suspension system for selectively actuating said leveling valve to admit air into the air spring and to exhaust air from the air spring, a pressure responsive member connected to said second conduit and having a housing with a passage open to the second conduit for the bi-directional movement of air from the leveling valve to the air spring and from the air spring to the leveling valve, a plunger movable in said housing to open and close said passage, a spring disposed between a portion of the inside of the housing and the plunger having a predetermined value and urging the plunger to move to block said passage, the air pressure in the second conduit normally maintaining the piston in an unblocked position of the passage against the action of said spring until the air pressure in the second conduit has fallen to the value of the spring whereupon said spring will urge the plunger to block the passage and seal the air spring from the leveling valve.

2,967,066

INDIVIDUAL VEHICLE WHEEL SUSPENSION

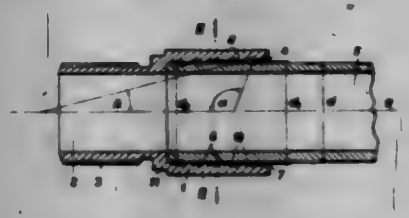
Josef Mueller, Stuttgart-Riedenberg, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Untertürkheim, Germany

Filed Feb. 9, 1959, Ser. No. 792,069
Claims priority, application Germany Feb. 15, 1958
5 Claims. (Cl. 280—124)



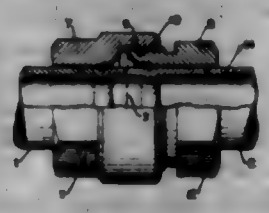
1. An individual wheel suspension for vehicles, particularly motor vehicles provided with spindle means for supporting thereon the vehicle wheel and with a relatively stationary vehicle part, comprising essentially transversely extending guide means for guidingly securing said axle spindle means at said relatively stationary part, tubular means secured to said axle spindle means, shock-absorber piston means slidingly arranged within said tubular means and including a shock-absorber piston rod, and means providing a sliding surface for slidingly guiding the shock absorber formed by said tubular means and said piston means with respect to said relatively stationary vehicle part including sleeve means surrounding said tubular means, means securing said sleeve means at said relatively stationary vehicle part to provide a universal movement thereof within the region of said sliding surface, and means supporting said shock-absorber piston rod at said sleeve means, said sleeve means including a sleeve member surrounding said tubular means and a bell-shaped member detachably secured to said sleeve member, said shock-absorber piston rod being supported at the upper end of said bell-shaped member.

2,967,867
JOINT FOR PIPES AND TUBES
Heinrich Singer, Aigen-Glas, near Salzburg, Austria, assignor to Interowen Fürer-Heimendorf Kommanditgesellschaft für Kunststoffhandel, Vienna, Austria
Filed July 9, 1956, Ser. No. 596,475
Claims priority, application Austria Mar. 9, 1956
1 Claim. (Cl. 285—238)



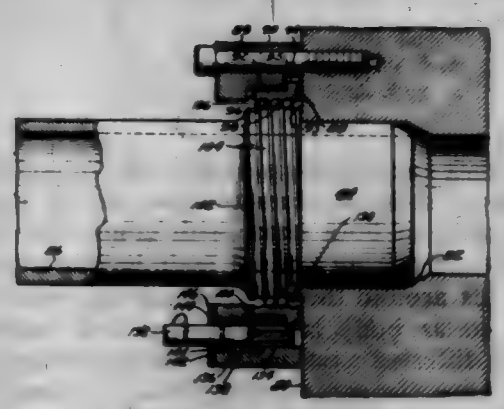
A connection fitting for plastic pipes and the like, comprising a one-piece body of non-deformable material having opposite ends and a cylindrical bore extending longitudinally of the body between said ends, means at one end of the body for connecting the body to conduit means for registry with said bore, the wall of the bore being provided with a plurality of axially spaced inwardly directed ribs, each of said ribs forming a complete annulus of tri-angular cross-section, the apex of each rib providing a sharp pipe engaging annular edge, the side walls of the ribs facing the end of the body opposite the connecting means being at a relatively small angle to the axis of the body, and the side walls opposing the opposite end of the body being at an angle of at least 90° to the axis of the body whereby said annular edges are directed inwardly from the opposite end of the body, the diameters of said annular edges gradually decreasing from the opposite end of the body inwardly thereof, the diameter of the annular edge of at least the outermost rib being greater than the normal outer diameter of the pipe, the diameter of at least the innermost annular edge being less than the normal outer diameter of the pipe, each two adjacent ribs providing an annular groove defined by the side wall of one rib facing the opposite end of the body and the side wall of the adjacent rib opposing the opposite end and each of said grooves having a diameter greater than the outer diameter of the pipe so that when a pipe end portion is inserted into the cylindrical bore through the opposite end, at least some of the annular edges are pressed into the outer surface of the pipe end portion thereby providing a seal between such annular edges and the outer surface of the pipe end portion with the pressure of the medium in the pipe also serving to force the outer surface of the pipe end portion between such edges at least partially into the groove to increase the sealing effect between such annular edges.

2,967,868
SELF ADJUSTING FULL FLOW PIPE JOINT
Edmund Grossel, Andorf, Switzerland, assignor to Maschinenfabrik Edm. Grossel A.G., Andorf, Switzerland, a Swiss corporation
Filed June 25, 1957, Ser. No. 667,942
3 Claims. (Cl. 285—328)



1. A pipe joint for thin wall pipe comprising two pipe sections, each having an end portion of the same diameter as the pipe section and having a square end face, said pipe sections being abutted end-to-end with the end face of one section directly engaging the end face of the other, two coupling members surrounding adjacent end portions of said pipe sections, respectively, one of said members having a male thread of V cross section and the other of said members having a mating female thread engageable with said male thread to screw said members together, means affixing said members to the respective pipe sections to transmit axial force from said members to said sections to press the abutting end faces of said sections tightly together when said members are screwed together, at least one of said members being rotatable on its respective pipe section and having an axial bore receiving said pipe section and an annular recess coaxial with said bore and extending axially from the inner face of the inner end face of said member, said recess terminating in a radially extending shoulder and the corresponding pipe section having formed in its outer surface a circumferential groove of arcuate cross section uniformly spaced from the end face of the pipe section a distance less than the diameter of the pipe section, the affixing means for said rotatable member comprising a split ring of circular cross section seated in said groove and recess and engaging said shoulder, each of said end faces having a surface that is substantially smooth but has minute spaced ridges separated by intervening valleys, said ridges and valleys being substantially concentric with the axis of said sections and said ridges being sufficiently small to be at least partially flattened by the pressure between said end faces applied by said members when screwed together to assure a fluid tight joint without requiring excessive pressure between said faces.

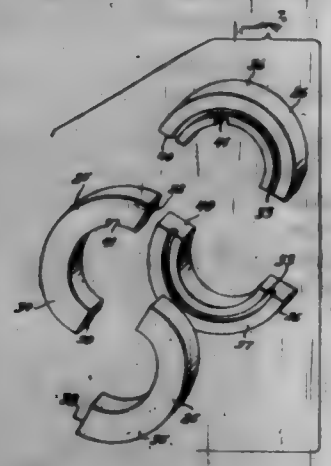
2,967,869
QUICK DISCONNECT JOINT
Trent H. Holmes, Rocky Hill, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Oct. 2, 1956, Ser. No. 613,411
3 Claims. (Cl. 285—399)



2. In a quick-disconnect joint adapted for operation from a remote point, base and accessory members, said base member comprising a vessel having a casing provided with an axial bore therethrough communicating with the interior of the vessel and said accessory member including a hollow shaft having an end portion adapted to be received in said bore, said hollow shaft having an enlarged annular portion adjacent the end portion thereof which is adapted to be moved axially relative to and seat against said base member about the axial bore therein, said enlarged portion having spiral ball receiving grooves formed in the external annular surface thereof, a collar secured to the face of said base member about said bore having an internal diameter which is larger than the enlarged annular portion on said accessory member, said collar also having an internal recess adjacent the bore in said base member, an annular nut member located in said internal recess having external teeth forming a ring gear and having spiral ball receiving

grooves formed on its internal surface in position to confront the spiral grooves on said accessory member when the latter is inserted in said bore, an actuating shaft journalled in said collar having a pinion gear meshing with the external gear teeth on said nut member for rotating the latter to connect and disconnect said base and accessory members, and anti-friction driving means for said accessory member between said ball receiving grooves on the external enlarged surface portion of said accessory member and on the internal surface of said nut and free to travel axially along the latter as it is rotated including a spiral ball retaining cage of more than one turn comprising two spiral side plates having opposed ball receiving sockets therein, and means for spacing said side plates to position said balls at the correct pitch for said grooves, said ball retaining cage having an axial length not more than half the axial length of the spiral ball receiving grooves in said shaft and said nut member, whereby upon rotation of said actuating shaft to rotate said nut said accessory member will be drawn into said bore by said antifriction means as the latter travels in the opposite axial direction along said nut into seating engagement against said base member.

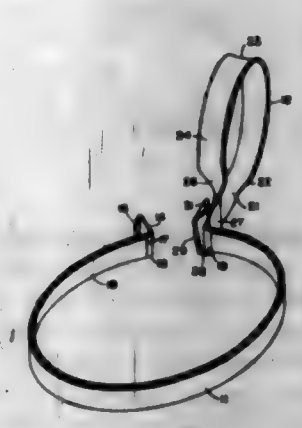
2,967,070
COLLAR AND SHAFT
C Walton Musser, 66 McKay St., Beverly, Mass.
Filed Mar. 28, 1958, Ser. No. 724,650
12 Claims. (Cl. 287—52.03)



1. In a shaft and collar assembly, a shaft having a circular portion of reduced diameter and having portions of larger diameter at both ends, with connecting shoulders and a collar comprising a collar body having a shaft opening which fits around the reduced circular portion of the shaft, the collar body including first and second collar elements at different axial positions which engage one another and have the same inner diameter, there being in each of the collar elements a plurality of separable segments, each of the collar elements having circular interlock means which extend axially and engage circular interlock means on the other collar element, each of the collar elements at one axial position engaging one of the connecting shoulders, the collar elements being rotatable with respect to one another and having at least two different positions of rotation, in one of which positions of rotation the radial separation of the segments of each of the collar elements being in alignment and in another of the rotational positions the radial separation of the segments of the two collar elements being out of alignment.

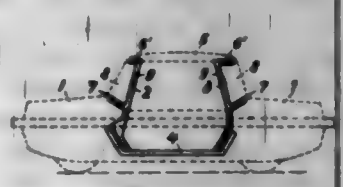
2,967,071
HANDLE CLAMP
Victor J. Deschene, San Diego, Calif.
(799 Vista Grande, Los Altos, Calif.)
Filed June 9, 1958, Ser. No. 740,786
4 Claims. (Cl. 294—31.2)

1. A handle clamp for attachment to an object comprising a unitary strip having a band portion of general configuration similar to the cross sectional periphery of said object and laying in a horizontal plane, an inner end of said band portion having an extension extending outwardly therefrom to form a handle portion, said handle portion commencing with a half twist and forming an upwardly extending loop from said inner end of said band portion, said handle portion terminating in a half



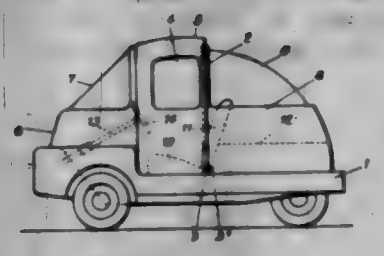
twist and thereafter extending downwardly adjacent to and abutting said inner end and thence under the lower edge of said inner end, said band portion having an outer end extending outwardly therefrom parallel to and in abutting engagement with said inner end and lying in said plane, said handle portion continuing under said outer end and thence upwardly to secure both said ends together.

2,967,072
CAR STRUCTURE
Karl Wilfert, Stuttgart-Degerloch, and Béla Barényi, Stuttgart-Hohenheim, Germany, assignors to Daimler-Benz Aktiengesellschaft, Stuttgart-Untertürkheim, Germany
Filed Apr. 10, 1956, Ser. No. 577,376
6 Claims. (Cl. 296—28)



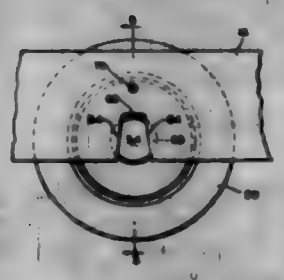
1. A motor vehicle comprising a chassis, a passenger compartment roof support consisting of two yokelike bars extending transversely to the longitudinal axis of said vehicle, each of said yoke-like bars having an upper crossbar, an intermediate crossbar, and upwardly directed side bars connecting said crossbars and secured to said chassis at the lower portions thereof, said two crossbars of each yoke being curved outwardly toward the front and rear of said vehicle away from each other and forming a frame with the upper parts of said side bars, the said outwardly curved upper crossbars of the said two yoke-like bars being disposed in a common horizontal plane, a window within each said frame, a substantially closed roof-like upper body having a front portion and a rear portion, each of the said outwardly curved upper crossbars comprising a similarly curved fastening surface, fastening means carried by said front portion and said rear portion for contacting each said fastening surface, and detachable means engaging said fastening means and said outwardly curved upper crossbars and securing said fastening means on said fastening surface of each of said upper crossbars.

2,967,873
MOTOR VEHICLE BODY WITH A PIVOTAL CLOSURE
Paul Gaglierdi, 19 Ave. Auguste Blanqui, Aulnay-sous-Bois, France
Filed June 23, 1958, Ser. No. 743,595
Claims priority, application France June 29, 1957
8 Claims. (Cl. 296—28)



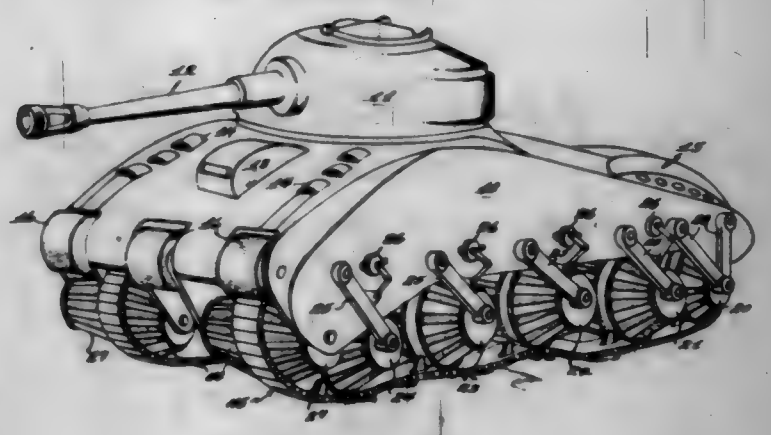
1. A motor vehicle comprising a platform, a front body superstructure integral with said platform, a windshield of arch-shaped cross section on said superstructure and terminating rearwardly at a substantially vertical plane, a rear body superstructure of arch-shaped cross section terminating forwardly at a substantially vertical plane spaced from the first said plane to provide an entry and exit passage between said superstructures, an intermediate movable body portion comprising a transverse strip of a width corresponding to that of the passage and having the form of an arch, said strip terminating downwardly at the platform, and means pivotally supporting said strip on said platform for movement about a transverse horizontal axis located substantially in the plane associated with the rear superstructure, and at the level of the platform, said strip pivoting between a vertical position in which it closes the passage and a horizontal position in which it surrounds the rear superstructure and rests on the platform, said strip having bottom edges which coincide with the plane associated with the rear superstructure with the strip resting on said platform.

2,967,874
AXLE AND WHEEL MOUNTING
William A. Williamson, Battle Creek, Mich., assignor to Clark Equipment Company, a corporation of Michigan
Filed May 22, 1959, Ser. No. 815,029
10 Claims. (Cl. 301—125)



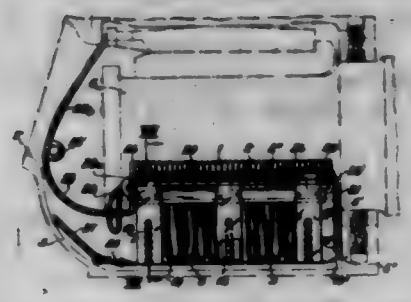
1. An axle and wheel mounting for vehicles comprising a pair of parallel frame members, an open trapezoidal portion formed by each frame member opening in a downward direction, an axle, and a wheel mounted upon the axle, opposite ends of said axle being formed to mate with the upwardly converging sides of said open trapezoidal portion, said mating sides forming an included locking angle between the axle and frame members of less than 17° and greater than 0° for retaining the axle and wheel assembly in operative relation to the frame members.

2,967,875
LAND VEHICLE WHEEL
John Edward Christie, 826 84th St., Miami Beach, Fla., assignor of one-half to E. Burke Wilford, Merion Station, Pa.
Filed July 31, 1957, Ser. No. 675,317
5 Claims. (Cl. 305—56)



1. In a track-carrying wheel structure, axle means, a pair of spaced centrally disposed wheel discs carried by said axle means, a pair of relatively smaller side wheel discs also carried by said axle means in spaced apart relation to each side of said centrally disposed wheel discs, said central wheel discs each being peripherally joined to the adjacent side disc by laterally extending openwork members forming added traction means, and an endless track mounted over said central wheel discs and having means extending into the space therebetween for retention thereon.

2,967,876
LUBRICATING PAD UNIT
Ernst Henniges, Bonleweg 5, Hannover-Waldheim, Germany, assignor to Marga Henniges, née Lesser, Hannover, Germany
Filed Feb. 8, 1955, Ser. No. 486,959
Claims priority, application Germany Feb. 13, 1954
13 Claims. (Cl. 308—88)

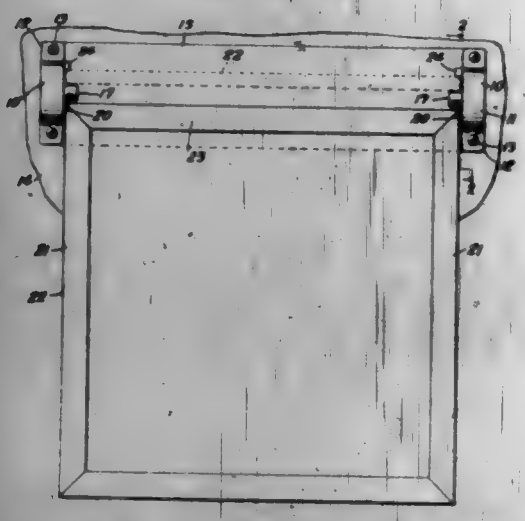


1. Lubricating pad unit comprising, in combination, flexible lubricating pad means including a flexible base plate having longitudinal ridges formed with transverse bores; a resilient flexible frame means including a pair of resilient flexible longitudinal frame members, and a plurality of transversely extending spring means having ends connected to said longitudinal frame members, said transverse spring means passing through said bores in said longitudinal ridges of said base plate and supporting said pad means and being bendable in a transverse direction together with said pad means into a bent position in which said pad means is transversely curved for engaging the surface of an axle journal, said frame means being resiliently bendable in longitudinal direction for insertion into a journal casing; and rigid spacing means connected to said longitudinal frame members for spacing the same in transverse direction and including members adapted to be supported on the journal casing.

2,967,877
BRACKET MOUNTING FOR COLLAPSIBLE TABLES OR SHELVES

Morton Suben, 465 E. Lincoln Ave., Mount Vernon, N.Y., assignor of one-half to Max Caplan, East Hills, N.Y.

Filed Dec. 15, 1958, Ser. No. 780,348
7 Claims. (Cl. 311—19)



1. A bracket structure for collapsible support of a table on a supporting wall, comprising a pair of similar spaced brackets, each bracket having an enlarged channelled portion, the channel of each bracket opening through one surface of the bracket and being U-shaped in form, the channelled portions being opposed to each other in mounting of the brackets on a supporting wall, the brackets having means for receiving fastening devices for attachment to a wall, a bearing member on each bracket within the environment of the channels and projecting beyond said surface, the table having, at opposed sides, pivot pins operating in the channels of the spaced brackets, and said pins engaging a wall of the channel of each bracket and the table engaging the bearing member of each bracket in support of the table in horizontal position.

2,967,878
STORAGE DRAWER

Harold Stillman, Des Plaines, Ill.
(P.O. Box 321, Palatine, Ill.)

Filed Jan. 24, 1958, Ser. No. 710,953
4 Claims. (Cl. 312—111)

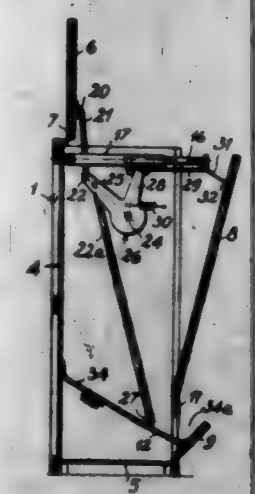


3. A storage facility comprising a unit capable of being assembled with like units in stacks or rows, said unit including a sliding drawer with front, rear and bottom walls and two side walls, each side wall having near its upper edge an outwardly projecting, downwardly facing, horizontal flange extending along the side wall, a stationary metal frame element at the rear of the drawer, a stationary metal frame element at the front of the drawer and having top, bottom and side members defining an opening for permitting sliding movement of the drawer within the frame, a pair of side bars connecting adjacent upper portions of the sides of said frames, intermediate parts of said bars being spaced apart a distance such as to guide the sides of the drawer and positioned at such a height as to permit said drawer flanges to slide thereon, and a pair of tie bars each connecting and spacing apart the adjacent lower portions of the sides of said frame.

2,967,879
FILE-CUPBOARD FOR DRAWINGS, MAPS OR THE LIKE

Pietro Parvis, Via A. Gentile 5, Milan, Italy

Filed Mar. 11, 1958, Ser. No. 720,658
21 Claims. (Cl. 312—184)



1. A file-cupboard for drawings, maps, photos or similar articles in sheet form comprising, in combination, a box like body, an inclined wall within said body, a lid turnably mounted on said body, a first door frontally and turnably mounted on said body, a second door frontally and turnably mounted on said body below said first door and having an inclined plate-like projection thereon, at least one lever and rod system interconnecting said lid, said first and second doors so that opening turning movement imparted to said lid will cause said first and second doors to swing outwardly from said body and said plate like projection to align with said inclined wall in order to provide a substantially continuous surface acting as a chute, a pair of spaced supporting means mounted within said body each at two opposite lateral walls of the latter, a plurality of comb-like members supported at their ends on said supporting means within said body, a plurality of hanging means removably connected with said comb-like members, a plurality of said sheets vertically hanging from said comb-like members through said hanging means within said body, whereby disengagement of said hanging means from said comb-like members will cause one sheet to fall on said chute to be drawn out from said body through the aperture provided by said swung open second door.

2,967,880
FILE CABINET LOCKING DEVICE

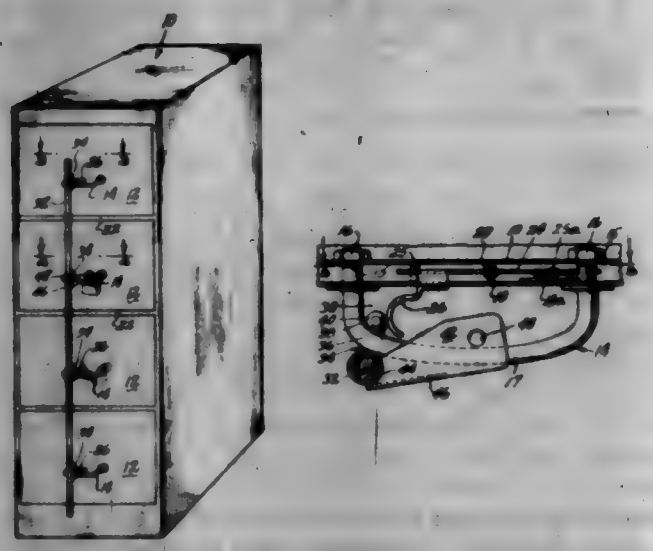
Wallace C. Nelson, Glastonbury, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed July 8, 1958, Ser. No. 747,188
12 Claims. (Cl. 312—215)

1. In combination, a file cabinet having a plurality of vertically arranged drawers, each drawer having a U-shaped handle, both ends of which are connected to the front of the drawer, latch mechanism for releasably holding said drawers closed, a latch actuating member carried by each drawer adjacent the handle and movable relative to the handle to release the drawer, and locking means for said drawers including a bar of sufficient length to extend vertically in front of all of said drawers, an abutment carried by said bar adapted to abut the latch actuating member on one of said drawers and prevent

said movement thereof relative to said handle, and a locking plate carried by said bar in position to lie adjacent one of said handles when said abutment is in engagement with said latch actuating member, said plate having an aperture adapted to receive the hasp of a padlock which also encircles said adjacent handle to prevent displacement of said bar and said abutment thereon from latch securing position.

10. A locking device for a file cabinet of the type having a plurality of vertically arranged drawers each having a handle on the front thereof, comprising a bar having a plurality of locking pins fixed thereto in spaced relation along its length, one pin being provided for each file drawer, each of said pins being fixed to said bar at one end and having a portion at its other end extending generally parallel with said bar, and means for locking said bar to a handle on the front of one of the lower drawers of said file cabinet including a plate member fixed to said bar and having a portion projecting therefrom in position to overlie a handle of one of said drawers, said projection having an aperture adapted to receive the hasp of a padlock.

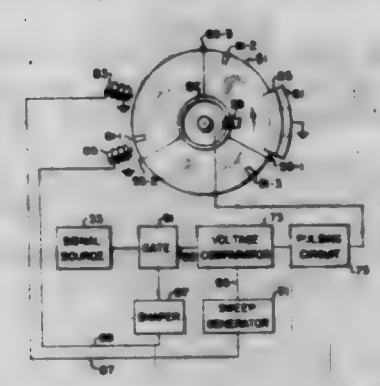


2,967,081
ARTICLE-STORING CLOSET
Johannes Leonardus Kleinpenning, Eindhoven, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Sept. 19, 1957, Ser. No. 684,943
Claims priority, application Netherlands Sept. 24, 1956
4 Claims. (Cl. 312—268)



1. A clothes-storing closet comprising a front wall with an opening therein through which the clothes to be stored are deposited, an endless conveyor device in said closet having a plurality of supports in spaced positions along said conveyor, a contact bank having a plurality of electrical contacts, an electrical circuit, each of said contacts adapted to co-act with associated supports, a plurality of selector elements, each corresponding to a particular support whereby when said selector element is placed in engagement with said contact bank an electric circuit is made and the endless conveyor device is rotated until the support corresponding to the selector element thereon arrives at a predetermined location in said closet adjacent to the opening therein, and means causing each support to return to its initial position when the corresponding selector element is removed from engagement with said contact bank.

2,967,082
ELECTROGRAPHIC PLOTTER
Herman Epstein, West Chester, Pa., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed May 20, 1955, Ser. No. 509,883
6 Claims. (Cl. 346—33)

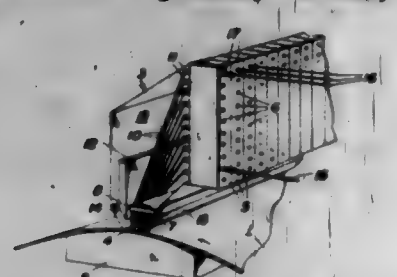


1. In apparatus for making an electrostatic point-by-point record of an electrical waveform the combination of: a source supplying a signal voltage characterized by said waveform; a recording medium adapted to retain an electrostatic charge; means defining a recording station; means for transporting said medium past said station, said station having an axis extending transversely of the displacement of the medium; scannable electrode means at the station operative when suitably energized to produce a discharge at said station at a position along said axis causing the surface of the medium nearest said position to acquire an electrostatic charge over a limited area thereof, scanning means for causing said electrode means to scan along said axis; and means for selectively energizing said electrode means to cause an electrical discharge of the aforesaid character to occur in a position along said axis corresponding to the then existing instantaneous value of the signal voltage, said last means including: means, operable in synchronism with said scanning means, for generating a timing wave having an amplitude including a portion thereof varying substantially linearly with time; means for detecting substantial equality between the instantaneous magnitude of the said timing wave and the magnitude of the signal supplied by said source; means operable in synchronism with said timing wave generating means to connect said source of signal voltage to said detecting means only during said substantially linear portion of said timing wave; and means connected to said detecting means and responsive to the detection of such said substantial equality for energizing said electrode means.

2,967,083
FIXED STYLI RECORDING HEAD
Donal O. Gallentine, Eau Gallie, Fla., assignor to Radiation, Inc., Melbourne, Fla., a corporation of Florida
Filed Nov. 26, 1956, Ser. No. 624,315
5 Claims. (Cl. 346—139)

1. A stylus assembly comprising terminal means having a plurality of electrical terminals secured therein, a spacer bar displaced from all of said terminals in at least a first coordinate direction, said spacer bar having

a surface displaced from said terminal means in a second coordinate direction, a plurality of thin, flexible stylus



wires each having a terminal end and a recording end, a plurality of receiving means aligned along said surface of said spacer bar each for individually receiving a different one of said stylus wires, means for securing said terminal end of each of said stylus wires to a different one of said terminals, each of said stylus wires extending from its associated terminal through said receiving means to a predetermined location remote from said spacer bar and said terminal means, and a solid body of insulating material abutting said terminal means and substantially completely enclosing said stylus wires and said spacer bar, said body having a surface adapted to engage a recording medium, said recording ends of said stylus wires terminating flush with said surface of said body and being aligned along a third coordinate direction.

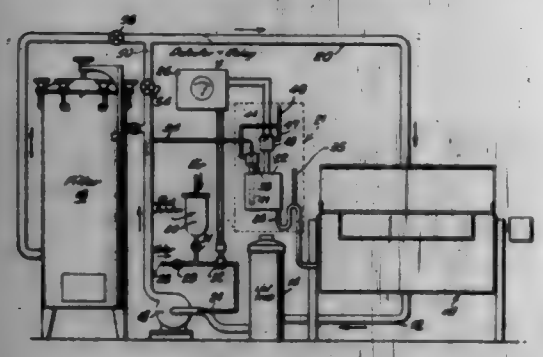
CHEMICAL

2,967,084

PROCESS AND APPARATUS FOR CONTROLLING WATER IN A DRY CLEANING SOLVENT COMPOSITION WITH A HUMIDITY RESPONSIVE DEVICE

Robert J. Reitz, Pittsburgh, Pa., assignor, by mesne assignments, to Associates Discount Corporation, South Bend, Ind., a corporation of Indiana

Filed July 1, 1952, Ser. No. 296,705
5 Claims. (Cl. 8—142)



1. In a dry cleaning process of the type wherein goods are washed in the rotatable drum of a washer by a dry cleaning solvent composition, said solvent composition is withdrawn from the washer, pumped through a filter and recirculated to the washer in a continuous circulating path, and said solvent composition initially contains a predetermined amount of water which is less than the water saturation value for said composition and less than the amount which would cause undesirable shrinkage of said goods, the steps of maintaining the water content of said solvent at a desired value sufficient to remove water-soluble stains from said goods without producing undesirable shrinkage thereof which comprise, withdrawing a continuous sample of said circulating solvent composition, mixing said solvent composition with a stream of air to equilibrate the water content of the solvent composition and the air mixed therewith, separating the equilibrated air from the solvent composition, measuring the relative humidity of the separated air, supplying water to the circulating solvent composition and regulating the supply of water to the solvent in response to variations in the measured relative humidity of said separated air so that the water content of said solvent composition is maintained at said desired value.

4. In a dry cleaning apparatus of the type wherein the goods to be cleaned are washed in a rotatable washing drum and a dry cleaning solvent composition is circulated by a pump through said drum and a filter in a closed circulating path, apparatus for supplying a controlled amount of water to said system comprising, in combination, water supply means connected to said path and including flow-regulating means for regulating the flow of water to said path; a humidity measuring device, flow diverting means interconnecting said circulating path and said measuring device to divert a small stream of the circulating solvent composition to said device, said humidity responsive device comprising mixing means for mixing the diverted stream of solvent with a stream of atmospheric air to equilibrate the water contents of the solvent and air, a separating chamber for separating the equilibrated solvent and air, and a humidity responsive device positioned in contact with the separated equilibrated air; and transducer means actuated by the output of said humidity responsive device and connected to said regulating means to regulate the flow of water to said circulating solvent.

2,967,085

PROCESS OF WET-SPINNING FIBERS CONTAINING POLYACRYLONITRILE

Olof Sunden, Ljungaverk, Sven Hugo Sönnerskog, Braunhult, Nils Barthold Sunden, Enskede, and Hans Erik Larsson, Ljungaverk, Sweden, assignors to Stockholms Superfosfat Fabriks Aktiebolag, Stockholm, Sweden, a company of Sweden

No Drawing. Filed May 29, 1957, Ser. No. 662,316
7 Claims. (Cl. 18—54)

1. Process of producing synthetic fiber which comprises spinning a solution of from about 10% to about 30% of a polymer selected from the group consisting of polyacrylonitrile and copolymers thereof with from 0 to 15% of comonomers, said polymers having a molecular weight within the range from 40,000 to 200,000 as calculated from viscosity measurements by the Staudinger equation, in a solvent selected from the group consisting of dimethylformamide and dimethylacetamide into a coagulating bath consisting of kerosene at a temperature within the range from 60° C. to 180° C., said kerosene containing not more than about 35% of aromatic hydrocarbons.

2,967,086

PROCESS OF WET-SPINNING FIBERS CONTAINING POLYACRYLONITRILE

Olof Sunden, Ljungaverk, Sven Hugo Sönnerskog, Braunhult, Nils Barthold Sunden, Enskede, and Hans Erik Larsson, Ljungaverk, Sweden, assignors to Stockholms Superfosfat Fabriks Aktiebolag, Stockholm, Sweden, a company of Sweden

No Drawing. Filed May 29, 1957, Ser. No. 662,352
4 Claims. (Cl. 18—54)

1. In wet spinning a polymer selected from the group consisting of polyacrylonitrile and copolymers thereof with from 0 to 15% of comonomers, the cycle comprising the steps, dissolving said polymer in a solvent selected from the group consisting of dimethylsulfoxide, ethylene carbonate and propylene carbonate, extruding the resulting solution into a coagulating bath consisting essentially of kerosene containing 50–75% by weight of aromatic hydrocarbons based upon the weight of the kerosene at a temperature within the range from 60° C. to 160° C.

thereby extracting said solvent out of the extruded solution into said coagulating bath, cooling said coagulating bath containing the extracted solvent at least 40° C., separating the resulting two liquid phases, distilling the lower of said two phases to separate its solvent content from kerosene and gummy and colored impurities and dissolving more polyacrylonitrile in said recovered solvent in a repetition of the cycle.

2,967,087

SYNTHESIS OF METAL CARBONYLS

Thomas H. Coffield, Birmingham, Mich., assignor to Ethyl Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Mar. 13, 1957, Ser. No. 645,674

7 Claims. (Cl. 23—14)

1. Process for the preparation of an alkali metal manganese pentacarbonyl which comprises reacting dimanganese decacarbonyl with an alkali metal reactant at temperatures of from 10 to about 100° C. in the presence of a saturated organic ether having at least about 4 carbon atoms.

2,967,088

EXTRACTION TECHNIQUES FOR THE SEPARATION AND PURIFICATION OF METALS

Kurt Peters, Getreidemarkt 9, Vienna VI, Austria

No Drawing. Filed Apr. 23, 1957, Ser. No. 654,444

Claims priority, application Austria Apr. 26, 1956

9 Claims. (Cl. 23—14.5)

1. A process for separating mixtures of metals selected from the group consisting of nickel, cobalt, zirconium, hafnium, molybdenum, tungsten and the rare earth and platinum metals which comprises converting the metal values to insoluble salts of a polybasic organic acid selected from the group consisting of oxalic acid, citric acid and tartaric acid and fractionally extracting said insoluble salts with an aqueous solution of a water-soluble aluminum salt, whereby the metal values appear in the fractions in the order of their atomic number in the periodic table.

ERRATUM

For Class 23—87 see:
Patent No. 2,967,209

2,967,089

PROCESS FOR MAKING HEAVY WATER

George Alexander Mills, Swarthmore, and Sol W. Weller, Drexel Hill, Pa., and Leon W. Wright, Wilmington, Del., assignors to Houdry Process Corporation, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Nov. 25, 1955, Ser. No. 549,162

8 Claims. (Cl. 23—204)

1. A process for enriching the deuterium oxide concentration of an aqueous alkaline system which consists of: contacting a deuterium containing gas with an alkaline aqueous liquid system maintained at a pH of at least 10 and at a temperature within the range of 0° C. to 50° C., said system containing a concentration within the range from 0.04 to 0.4 molar of an ion selected from the class consisting of $(Co^{I}(CN)_5)^{-4}$ and $(Co^{II}(CN)_5)^{-3}$ and mixtures thereof, whereby some of the deuterium gas participates in an isotope exchange reaction to enrich the deuterium oxide concentration of the aqueous system, and withdrawing from said aqueous system a gas containing a lowered concentration of deuterium.

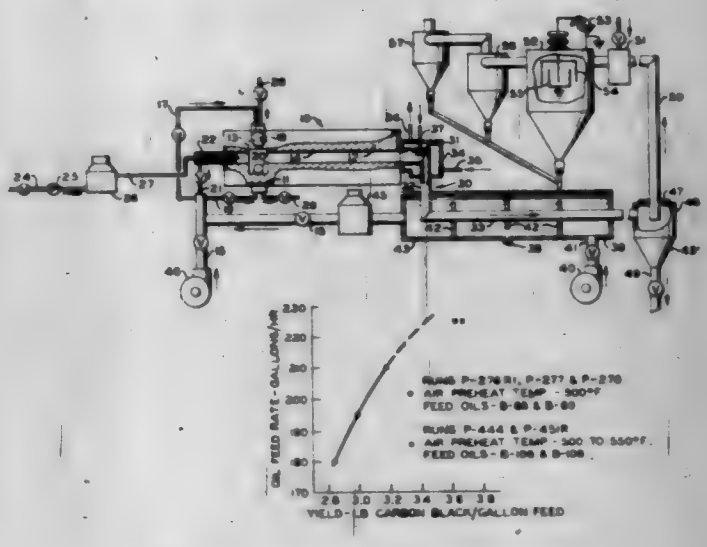
2,967,090

PRODUCTION OF CARBON BLACK

Carl J. Helmers, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Aug. 15, 1958, Ser. No. 755,154

11 Claims. (Cl. 23—209.6)



1. In a process for producing carbon black in which a hydrocarbon feed stock and a preheated stream of air are introduced to a reaction zone maintained under conditions of temperature whereby combustion takes place, in which carbon black is formed in admixture with combustion gases and in which combustion gases containing carbon black and an amount of grit particles less than the maximum allowable for the ultimate use of the carbon black are withdrawn from the reaction zone, the improvement which comprises increasing the hydrocarbon feed rate so that the quantity of grit particles in the reaction zone effluent is greater than said allowable maximum, introducing effluent from the reaction zone into an enlarged separation zone of such size that heavy particles preferentially settle to the bottom of said zone in an amount sufficient to reduce the grit particles in the reaction zone effluent below said allowable maximum and withdrawing an increased yield per unit of feed of carbon black particles of unimpaired quality overhead from the separation zone.

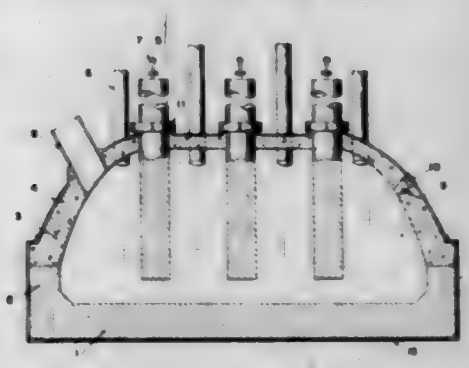
2,967,091

CARBON COATING OF PHOSPHATE NODULES

James Allen Robertson, Levittown, Pa., assignor to Food Machinery and Chemical Corporation, New York, N.Y., a corporation of Delaware

Filed July 18, 1957, Ser. No. 672,803

5 Claims. (Cl. 23—223)



2. A process for the production of a free flowing, nonsintering phosphate burden in an electric phosphorus furnace, the steps comprising coating substantially all of the phosphate particles of the burden with about 0.1 to about 2.0% finely divided carbon based on the weight of the particles, mixing the coated particles with silica and coke and passing the burden into the furnace.

2,967,092

COLORIMETRIC DETERMINATION OF DISSOLVED OXYGEN IN LOW CONCENTRATIONS

Leonard S. Bachoff, Pittsburgh, Pa. (6 Elmbrook Place, Bloomfield, N.J.), and Nathan M. Ingber, Park Forest, Ill. (1467 Benner St., Philadelphia 49, Pa.)

No Drawing. Continuation of application Ser. No. 429,417, May 12, 1954. This application May 13, 1957, Ser. No. 658,899

13 Claims. (Cl. 23—230)

(Granted under Title 35, U.S. Code (1952), sec. 266)

8. A method for determining minute amounts of oxygen dissolved in test water, the oxygen being dissolved in quantities less than .02 part per million, said method comprising mixing the equivalent of: .018 gram of indigo carmine and 0.2 gram of glucose with water to make 5 cubic centimeters of solution, subsequently adding to this solution the equivalent of 75 cubic centimeters of glycerine and 20 cubic centimeters of a 35–40 percent solution of potassium hydroxide, and letting the resultant solution stand for at least a few minutes, then mixing in a closed container the equivalent of one cubic centimeter of said resultant solution with a predetermined amount of the test water to obtain a color indicative of the amount of oxygen dissolved in the water.

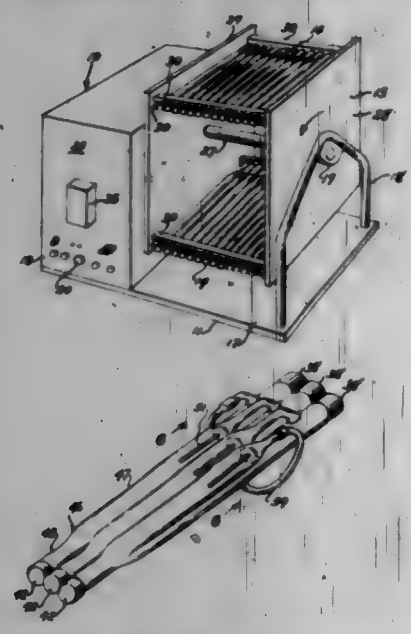
2,967,093

APPARATUS FOR EFFECTING EXTRACTION

Samuel Raymond, New York, N.Y.
(341 S. 26th St., Philadelphia 3, Pa.)

Filed Dec. 13, 1955, Ser. No. 552,906

9 Claims. (Cl. 23—270.5)



1. A mixing and separating element comprising: means for mixing effluent and residual phase of immiscible liquids in predetermined quantities, a phase separating tube separate from said mixing means, the phase separating tube having at least one closed end and a phase entrance opening positioned away from the closed end, means for introducing the mixed fluids from the mixing means into the phase entrance opening of the phase separating tube, a draining downspout extending through the closed end of the phase separating tube and extending longitudinally into the phase separating tube an effective distance substantially less than one half the distance from the closed end of the tube to the phase entrance opening therein, the downspout inlet having a small opening positioned coaxially within the phase mixing tube, the cubic volume defined between the phase separating tube and downspout between the closed end of the phase separating tube and the inlet end of the downspout being substantially equal to the cubic volume of the residual phase of the liquid, whereby when the mixed liquids are passed into the phase separating tube they may be allowed to separate while the phase separating tube is substantially horizontal and upon moving the phase separating tube until the downspout is substantially vertical the effluent phase is allowed to drain out through the downspout.

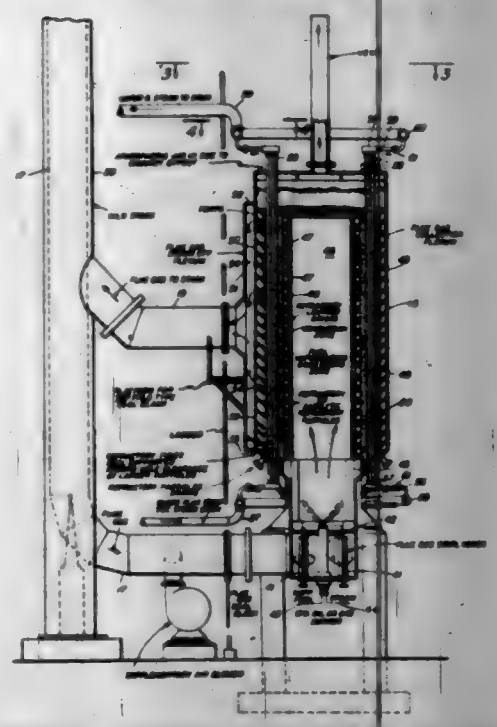
2,967,094

FIRED SURFACE COMBUSTION OR CATALYTIC GAS BOILER

John G. Mitchell, Larchmont, N.Y., assignor to Socony Mobil Oil Company, Inc., a corporation of New York

Filed July 31, 1959, Ser. No. 830,747

6 Claims. (Cl. 23—284)



1. A waste gas combustor comprising in combination: an elongated upright vessel, a cylindrical gas mixing chamber centrally located within said vessel, an elongated compact bed of particles of annular cross-section and limited radial thickness surrounding said gas mixing chamber and within said vessel, a plurality of gas inlets located uniformly along the vertical wall of said gas mixing chamber, adapted for lateral gas introduction into said annular particle bed, means defining gas outlets for collecting said gas at the outer surface of said annular particle bed, coordinated with said gas inlets to effect substantially lateral gas flow through said annular bed, means for discharging said collected gas from said vessel, means for introducing gas into said gas mixing chamber, a plurality of vertical heat transfer pipes passed through said vessel and said annular particle bed, arranged in a staggered pattern of concentric rows, the distance between center lines of adjacent pipes in each row being at least not substantially greater than twice the diameter of each pipe, whereby gas passing laterally through the annular particle bed is forced to travel tortuous paths by means of the spatial arrangement of said pipes, means for introducing heat transfer fluid to one end of said heat transfer pipes and means for withdrawing heat transfer fluid from the other end of said pipes, whereby waste gases are completely burned in a minimum combustion space with minimum pressure drop and maximum heat extraction.

2,967,095

METHOD AND APPARATUS FOR FORMING SINGLE CRYSTAL IN CYLINDRICAL FORM

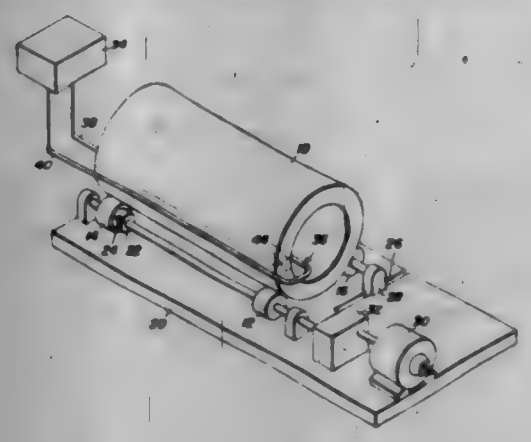
Carlyle S. Herrick, Alplaus, N.Y., assignor to General Electric Company, a corporation of New York

Filed July 25, 1958, Ser. No. 751,090

7 Claims. (Cl. 23—301)

1. The method of growing a single crystal cylinder from a polycrystalline cylinder which comprises, main-

taining the cylinder in a substantially horizontal plane, providing a controlled atmosphere about the cylinder, providing non-contaminating support for said cylinder, supporting the cylinder for rotation, reducing a single longitudinal horizontal section of the cylinder to the



molten condition where the molten section does not support its own weight and the remainder of the cylinder is self-supporting, slowly rotating the cylinder while maintaining the molten section stationary and in the horizontal plane and repeating the process until a single cylindrical crystal is formed.

2,967,096

GLASS POLISHING COMPOSITIONS

Gerhard Kroner, Krefeld-Uerdingen, Germany, assignor to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Mar. 11, 1958, Ser. No. 720,535
Claims priority, application Germany Mar. 13, 1957
2 Claims. (Cl. 51—307)

2. A finely divided glass polishing composition for use in an aqueous suspension and consisting essentially of a member selected from the group consisting of iron oxide, cerium oxide, zirconium oxide, silicium oxide and zirconium silicate, and a member selected from the group consisting of sodium bisulphate, potassium bisulphate, and ammonium bisulphate, said latter member being present in the composition in an amount from 0.05 to 0.5% by weight of the composition.

2,967,097

SOLID PROPELLANT COMPOSITIONS

Horace M. Higgins and Calvin A. Gongwer, Glendora, Calif., assignors to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio

No Drawing. Filed Feb. 18, 1955, Ser. No. 489,732
14 Claims. (Cl. 52—.5)

1. In a solid propellant composition consisting essentially of an intimate mixture of a metal having an electrode potential above 1.6 volts at 25° C. and an inorganic oxidizing salt of a metal in substantially stoichiometric proportions; the improvement which comprises incorporating a burning rate acceleration additive selected from the group of metals consisting of cobalt, copper, ferrovanadium, lead and tin.

2,967,098

NITROCELLULOSE COMPOSITIONS AND METHOD FOR MAKING SAME

Lester L. Weil, Alexandria, Va., assignor to Atlantic Research Corporation, Alexandria, Va., a corporation of Virginia

No Drawing. Filed Oct. 26, 1954, Ser. No. 464,899
20 Claims. (Cl. 52—5)

1. A fluid, pourable, substantially homogeneous suspension of nitrocellulose in non-volatile plasticizer solvent which dissolves the nitrocellulose readily only at temperatures of at least about 50° C., the nitrocellulose being in the form of substantially spherical particles, not larger than about 10 mils in diameter, the plasticizer being present in amount sufficient to form a fluid, pourable slurry.

2,967,099

FOAMED LIQUID EXPLOSIVE COMPOSITION

John E. Pool, 312 W. Hunting Towers Apt., Alexandria, Va.

No Drawing. Filed June 25, 1957, Ser. No. 667,996
7 Claims. (Cl. 52—5)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A foamable liquid explosive composition consisting essentially of a liquid nitroparaffin hydrocarbon, of from about 7.6 to 10 percent by weight of a metal stearate selected from the group consisting of magnesium, lithium, zinc and sodium stearates, and of from about 5 to 15 percent by weight of a sensitizing agent selected from the group consisting of ethylene diamine and morpholine.

2,967,100

SOIL STERILIZATION BY USE OF BETA-PROPIOLACTONE

Charles R. Phillips, 608 N. Market St.; Louis P. Greenberg, 15 Frederick Ave.; and Robert K. Hoffman, 507 Culler Ave., all of Frederick, Md.

No Drawing. Filed Sept. 25, 1958, Ser. No. 763,421
3 Claims. (Cl. 71—2.5)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A method of sterilizing soil which comprises applying to the soil beta-propiolactone in an amount sufficient to effect sterilization to the required depth.

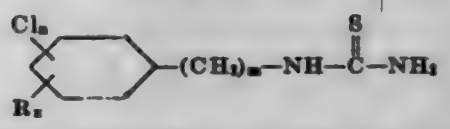
2,967,101

DEFOLIANT COMPOSITIONS

Philip C. Hamm, Webster Groves, and Norman J. Lewis, Kirkwood, Mo., assignors to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Jan. 20, 1954, Ser. No. 405,238
6 Claims. (Cl. 71—2.6)

1. A plant defoliant composition comprising from 0.01 to 10 percent by weight of a compound having the formula:



wherein *m* is an integer from one (1) to two (2), *n* is an integer from zero (0) to three (3), *x* is an integer from zero (0) to two (2) and R is an alkyl radical having up to three (3) carbon atoms; from 0.1 to 5 percent of a wetting agent; and the balance being a fluid carrier.

2,967,102

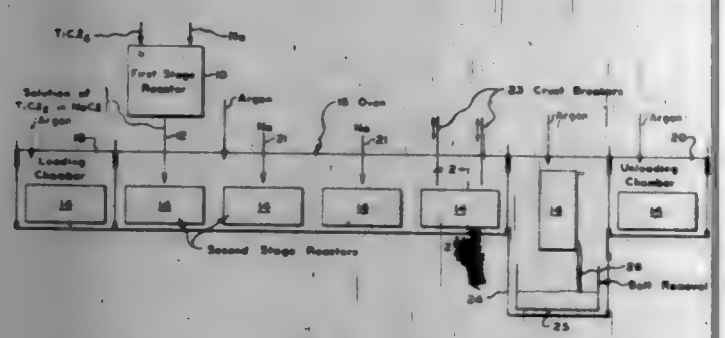
METHOD OF PRODUCING REFRACTORY METALS

James L. Vaughan, Needham, Mass., assignor to National Research Corporation, Cambridge, Mass., a corporation of Massachusetts

Filed Dec. 30, 1954, Ser. No. 478,652
2 Claims. (Cl. 75—84.1)

1. In a process for manufacturing a refractory metal from the class consisting of titanium, zirconium, thorium, vanadium, columbium, tungsten, tantalum and molybdenum wherein a halide of the refractory metal is dissolved in a molten salt and is reduced to refractory metal by means of a liquid metal reducing agent selected from the class consisting of lithium, sodium, potassium, magnesium and calcium and mixtures thereof, the molten salt comprising at least one halide selected from the class consisting of the alkali metal halides and the alkaline earth metal halides, the improvement which comprises providing a crust of sintered refractory metal particles in the upper portion of the bath and adjacent the surface of the

molten salt bath, said crust being substantially coextensive in area with the bath surface, and serving as a support for crystals of said refractory metal growing from the bottom of the crust, supporting the crust at spaced points so that it is held under the bath surface and immediately adjacent to the bath surface, feeding reducing



agent to the upper surface of the molten salt bath above the crust, continuing the support of the crust adjacent the surface of the salt bath during reduction of refractory metal halide within the salt bath, and periodically rupturing limited portions of the crust during latter stages of the reduction to assure substantially complete reduction of the dissolved refractory metal halide.

2,967,103
ALLOYS FOR HIGH-TEMPERATURE SERVICE
James F. Baldwin, New York, N.Y.
(Chicken Valley Road, Locust Valley, N.Y.)
No Drawing. Filed Dec. 11, 1958, Ser. No. 779,537
8 Claims. (Cl. 75—126)

1. An alloy composed essentially of from 0.9% to 1.75% by weight carbon, from 13% to 20% by weight chromium, from 3% to 12% by weight tungsten, from 3% to 12% by weight cobalt, the amount of tungsten being at least about equal to the amount of cobalt, and the balance iron, said alloy being hardenable by rapid cooling from 1800° F.

2,967,104
MAGNESIUM-BASE ALLOY
John F. Pashak, Linwood, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed June 5, 1957, Ser. No. 663,601
4 Claims. (Cl. 75—168)

1. A magnesium-base alloy containing from 0.5 to 8 percent of thorium, 0.2 to 2.0 percent of manganese, and from 0.001 to 0.15 percent of zirconium, the balance being magnesium.

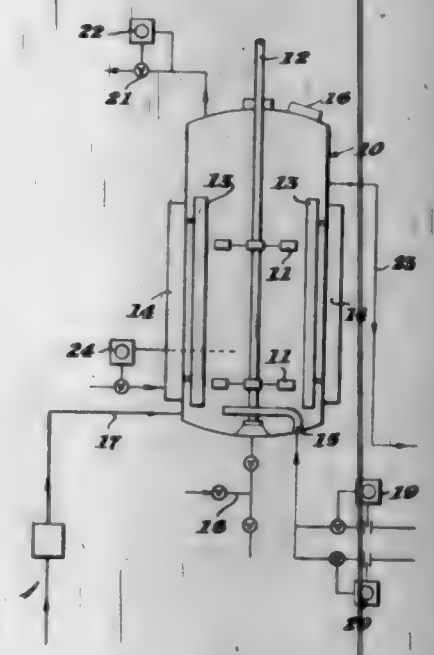
2,967,105
PHOTOSENSITIVE SHEET
Robert A. Peters, New York, N.Y., assignor to Stupa Corporation, New York, N.Y., a corporation of New York
No Drawing. Filed Oct. 5, 1955, Ser. No. 538,766
1 Claim. (Cl. 96—88)

A photosensitive sheet consisting essentially of a strong backing and a photosensitive composition uniformly coated on the backing, said photosensitive composition consisting essentially of: bis(tricyclohexyllead) in a concentration from 8 ounces to 20 pounds per 1000 square yards of photosensitive sheet; an activator in a concentration within the range from 1% to 100% of the concentration of the bis(tricyclohexyllead), said activator being selected from the group consisting of sulfur, organic thiols, organic sulfides, and salts of organic dithiocarboxylic acids; and a peroxide in a concentration within the range from 1% to 100% of the activator.

2,967,106
ANIMAL FEED SUPPLEMENT AND METHOD OF MAKING SAME
Boris Kviesitis, Des Moines, Iowa, assignor to Vy Lactos Laboratories, Inc., Des Moines, Iowa
No Drawing. Filed Mar. 4, 1959, Ser. No. 797,018
5 Claims. (Cl. 99—6)

1. As a new product of manufacture for mixing with an edible food, dehydrated molasses, and lecithin.

2,967,107
CONTINUOUS FERMENTATION PROCESS
Kenneth H. Geiger and John Compton, both of London, Ontario, Canada, assignors to John Labott Limited, London, Ontario, Canada
Filed Mar. 4, 1957, Ser. No. 643,846
8 Claims. (Cl. 99—43)



1. A method for the production of a potable beverage by the continuous fermentation of a yeast fermentable substrate to produce a potable fermented beverage, said method comprising; maintaining, in separate vessels, separate yeast propagation and product formation process stages; maintaining aerobic conditions, favourable to yeast propagation in the yeast propagating stage; maintaining substantially anaerobic conditions favourable for alcohol production in the product formation stage; continuously introducing fermentable substrate to the yeast propagating stage, continuously passing effluent consisting of propagated yeast suspended in substrate from the yeast propagation stage to the product formation stage; separating yeast from effluent of the product formation stage and re-introducing a portion of the separated yeast to the product formation stage to maintain the yeast concentration therein at an artificially high level.

2,967,108
PREPARATION OF MISO
Allan K. Smith, Clifford W. Hesseltine, and Kazuo Shibasaki, Peoria, Ill., assignors to the United States of America as represented by the Secretary of Agriculture
No Drawing. Filed July 24, 1959, Ser. No. 829,467
1 Claim. (Cl. 99—98)
(Granted under Title 35, U.S. Code (1952), sec. 266)

A method of preparing miso comprising dehulling Hawkeye variety soybeans, cracking the dehulled soybeans into coarse grits, soaking the coarse grits for about 1 to 5 hours, cooking the soaked grits for 40 to 60 minutes at 5 to 7 pounds' pressure, mixing one part of inoculum containing organisms selected from the group consisting of *Saccharomyces rouxii* NRRL Y–25547 and *Saccharomyces rouxii* NRRL Y–2548 with about 26.7 to 41.6

parts of the cooked soybean grits, about 12.3 to 16.7 parts of *Aspergillus oryzae* mold rice, about 4.3 to 8 parts of sodium chloride, and about 1.7 to 3 parts of water, fermenting the mixture first for 1 week at 28° C. and then for from 3 weeks to 2 months at 35° C., and aging the resulting miso for 1 to 2 weeks at room temperature.

2,967,109

PROCESS OF DEHYDRATING FRUIT AND VEGETABLE JUICES

Arthur I. Morgan, Jr., and John M. Randall, Berkeley, and Robert P. Graham, El Cerrito, Calif., assignors to the United States of America as represented by the Secretary of Agriculture

No Drawing. Filed Oct. 30, 1958, Ser. No. 770,894
4 Claims. (Cl. 99—206)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A process for preparing a dehydrated product from a liquid concentrate selected from the group consisting of fruit juice concentrates and vegetable juice concentrates which comprises incorporating into the concentrate a non-toxic gas and a minor proportion of a surface active agent to form a stable foam, spreading the foam into a relatively thin layer, contacting the layer of foam at atmospheric pressure with hot air having a temperature, within the range from about 120 to 220° F., insufficiently high to cause the foam to decrease in volume and continuing said contact of the hot air with the foam until the foam is dehydrated to a solid, porous, readily rehydratable product.

2,967,110

METHOD OF MANUFACTURING STARCH PRODUCTS

Pieter Johannes Adrianus Beersma and Geert Moes, Hoogezand, Netherlands, assignors to Naamloze Vennootschap W. A. Scholten's Chemische Fabrieken, Groningen, Netherlands, a corporation of the Netherlands

No Drawing. Filed Nov. 14, 1955, Ser. No. 546,768
Claims priority, application Netherlands Nov. 16, 1954
16 Claims. (Cl. 106—206)

4. A process of manufacturing a dry starch product which partially swells when mixed with cold water comprising heating and simultaneously drying a mixture of 100 parts by weight of a gelatinizable starch material in ungelatinized condition with not more than 50 parts by weight of water and between 5 and 100 parts by weight of a binding agent from the group consisting of gelatinized starches, water soluble starch ethers, water soluble starch esters, amylopectin, glucose syrup, water soluble cellulose ethers, water soluble cellulose esters, water soluble vegetable gums, sodium alginate and sodium polyacrylate to a temperature above the gelatinizing point but not exceeding 180° C. in the form of a layer which after drying has a thickness of approximately 0.1–0.5 mm., said heating and drying treatment being sufficient to distend substantially all starch granules until their polarization crosses have disappeared and to cement the starch granules together to a film, said film being then comminuted to small flakes, so that when stirred with cold water, said flakes will immediately disintegrate into separate swollen starch granules.

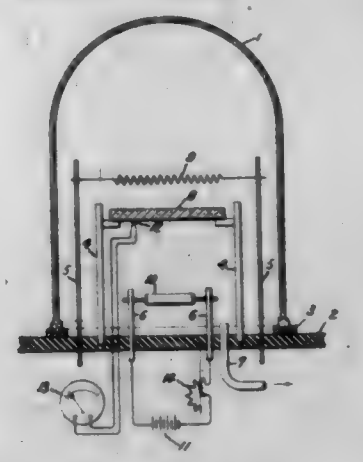
2,967,111

METHOD OF PREPARING LUMINESCENT SCREENS

Henry D. Coghill, Burnt Hills, and Lewis R. Koller, Schenectady, N.Y., assignors to General Electric Company, a corporation of New York

Filed Feb. 25, 1957, Ser. No. 641,986
10 Claims. (Cl. 117—33.5)

1. The method of preparing luminescent screens which method comprises vacuum evaporating a transparent layer of manganese activated phosphor comprising a metal selected from the group consisting of zinc, cadmium, and mixtures thereof, and a non-metal selected



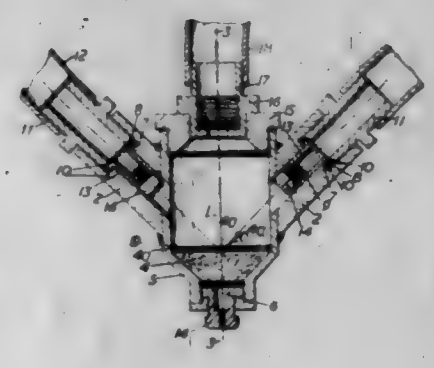
from the group consisting of sulphur, selenium, and mixtures thereof upon a transparent substrate while the substrate is maintained at a temperature of 225° C. to 360° C.

2,967,112

METHOD AND APPARATUS FOR APPLYING METAL-DEPOSITING SOLUTIONS

Solomon E. Kay, Windle, St. Helens, and Robert J. Ball, Haresfinch, St. Helens, England, assignors to Pilkington Brothers Limited, Lancashire, England, a company of Great Britain

Filed Mar. 10, 1959, Ser. No. 798,528
Claims priority, application Great Britain Mar. 11, 1958
10 Claims. (Cl. 117—35)



1. A process of depositing a metal upon a surface by means of chemical interaction between a metal-depositing solution and a reducing solution, comprising injecting at controlled rates into a mixing chamber separate streams of the metal-depositing solution and the reducing solution to form a pool of liquid, and supplying compressed air to the chamber to mix the solutions intimately by forcing said pool of liquid through tortuous paths within the chamber and to expel the mixed solution from the chamber as fine droplets towards the surface to be coated before its components have interacted to form appreciable quantities of the metal.

2,967,113

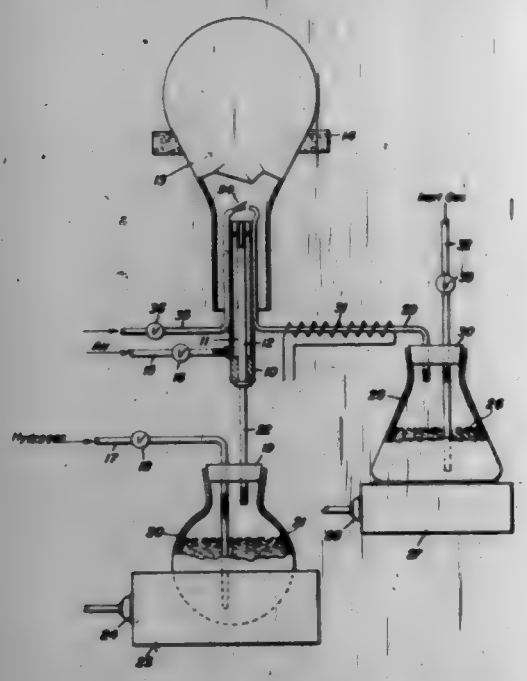
COATING METHOD

Herman A. Liebhafsky and Arthur M. Bueche, Schenectady, N.Y., assignors to General Electric Company, a corporation of New York

Filed Nov. 18, 1957, Ser. No. 697,161
9 Claims. (Cl. 117—46)

1. The method of coating the interior surface of a glass electric lamp bulb having an opening therein with a light-diffusing coating, which method comprises bubbling a stream of hydrogen at a preselected flow rate through liquid silicon tetrachloride maintained at a preselected temperature, whereby a mixture of hydrogen and

silicon tetrachloride vapor is formed, said preselected hydrogen flow rate and said preselected silicon tetrachloride temperature being selected so as to provide a predetermined ratio of hydrogen to silicon tetrachloride in



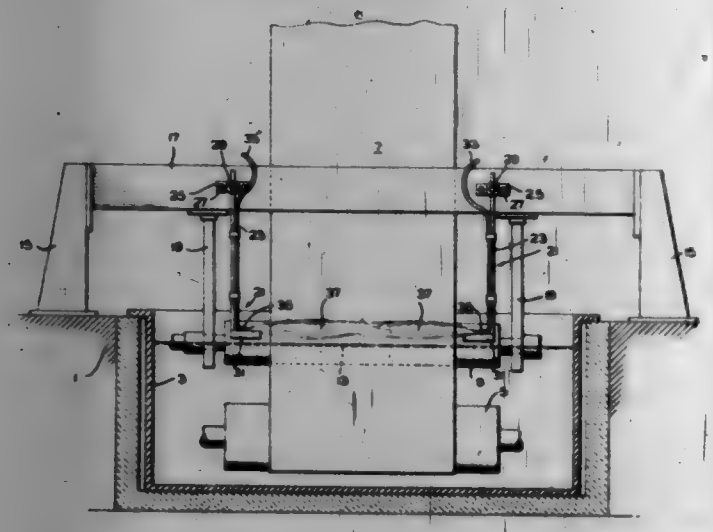
said mixture, passing said mixture through said opening into the interior of said bulb, simultaneously passing oxygen through said opening into the interior of said bulb, and igniting the gases in said bulb, whereby fumes of silica are formed which deposit on the interior surface of said bulb to form a light-diffusing coating thereon.

2,967,114

COATING APPARATUS AND METHOD

John T. Mayhew, Toronto, Ohio, assignor to National Steel Corporation, a corporation of Delaware

Filed July 22, 1958, Ser. No. 750,218
21 Claims. (Cl. 117—46)



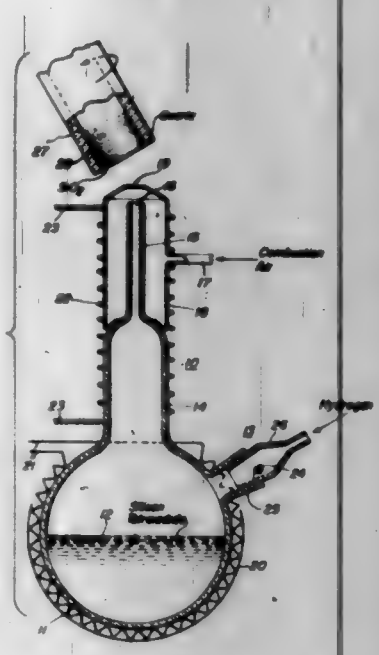
7. In a method for applying a metal coating to metal strip material in which metal strip material is passed through a liquid metal coating bath in a receptacle and between a pair of closely spaced rolls upon emerging from the bath and in which liquid metal coating material collects in a pool above the nip of the rolls at each side edge of the strip material, the improvement comprising the steps of positioning a heat conductive member adjacent each side of the strip material contiguous to the nip of the rolls with part of the member immersed in the pool and part exposed above the pool, and contacting the exposed part of the heat conductive member with flame.

2,967,115

METHOD OF DEPOSITING SILICON ON A SILICA COATED SUBSTRATE

Carlyle S. Herrick, Alplaus, N.Y., assignor to General Electric Company, a corporation of New York

Filed July 25, 1958, Ser. No. 751,089
6 Claims. (Cl. 117—46)



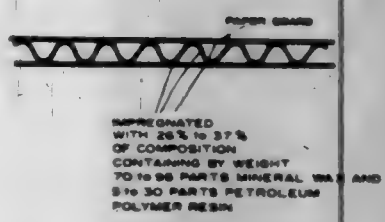
1. In the decomposition of silicon from silicon compounds upon a surface element, the improvement which comprises coating the surface element with an impurity diffusion barrier-release agent film, said coating including vaporizing a silicon halide, heating said halide vapor for decomposition thereof to form a finely divided amorphous layer of silica on a surface element, and thereafter depositing elemental silicon on said layer.

2,967,116

PAPERBOARD AND METHOD OF MANUFACTURE

William K. Hollinger and Robert H. Hollinger, Langley, and Alvis R. Patterson, Fairfax, Va., assignors to Control Pak Corporation, Arlington, Va., a corporation of Virginia

Filed Aug. 20, 1957, Ser. No. 679,135
6 Claims. (Cl. 117—102)



5. A method of increasing the strength of a corrugated paper blank comprising immersing said blank in a composition containing from 70 to 95 parts by weight of mineral wax and from 5 to 30 parts by weight of a petroleum polymer resin having an A.S.T.M. ring and ball softening point above 158° F. for a period sufficient to incorporate at least 26% of said composition in said blank at a temperature of from 180° to 250° F., removing said blank from said composition and subjecting said blank to an elevated temperature of from 250° to 350° F. to facilitate removal of excessive amounts of said composition until said composition represents between 26% and 37% of the total weight of the impregnated blank.

2,967,117

PROCESS FOR COATING A SUBSTRATE WITH A MIXTURE OF A POLYHYDROXY POLYESTER AND A POLYISOCYANATE

Hanns F. Ariedter, Stockbridge, Mass., and Hans-Frank Piepenbrink, deceased, late of Leverkusen, Germany, by Ursula B. Piepenbrink, administratrix, Leverkusen, Germany, assignors, by direct and mesne assignments, of one-half to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany, and one-half to Mobay Chemical Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Filed May 20, 1955, Ser. No. 510,012
In Germany Jan. 25, 1949
Public Law 619, Aug. 23, 1954
Patent expires Jan. 25, 1969
7 Claims. (Cl. 117—106)

1. A process for coating a substrate which comprises continuously applying to said substrate a mixture of a polyhydroxyl polyester and a polyisocyanate and polymerizing said mixture by continuously applying thereto a gaseous reaction accelerator selected from the group consisting of tertiary amines and phosphines.

2,967,118

TOBACCO COMPOSITION AND SMOKABLE UNIT CONTAINING MATERIAL FOR REMOVING DELETERIOUS MATTER

Wright W. Gary and Albert J. Mueller, Princeton, N.J., assignors to Minerals & Chemicals Philipp Corporation, a corporation of Maryland

No Drawing. Filed Sept. 16, 1957, Ser. No. 683,946
4 Claims. (Cl. 131—17)

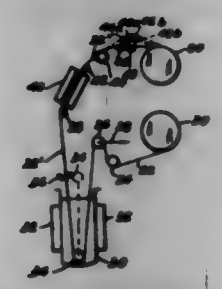
1. A smoking mixture comprising shreds of tobacco commingled with a small amount of kaolin clay which has been reacted with sulfuric acid and then thermally desulfated without leaching of water-soluble reaction products therefrom.

2,967,119

ULTRASONIC PROCESS AND APPARATUS

Robert P. Gutterman, Bethesda, Md., assignor, by mesne assignments, to Lipsner Smith Corporation, Chicago, Ill., a corporation of Virginia

Filed Sept. 8, 1958, Ser. No. 759,591
28 Claims. (Cl. 134—1)



1. A process for the ultrasonic cleaning of photographic film which comprises ultrasonically activating a film-cleaning solvent, passing said film through said solvent, removing clean film from the solvent and thereafter completely stripping the solvent as a liquid from the surface of said film completely covered with a continuous solvent layer, thereby non-evaporatively drying said film surface.

9. Apparatus for the ultrasonic cleaning of photographic film which comprises a tank for a suitable cleaning solvent, means for applying ultrasonic energy to said solvent, means for delivering said film to said tank, means for removing said film from said tank, and means for maintaining said film offset to the propagation vector of said ultrasonic energy.

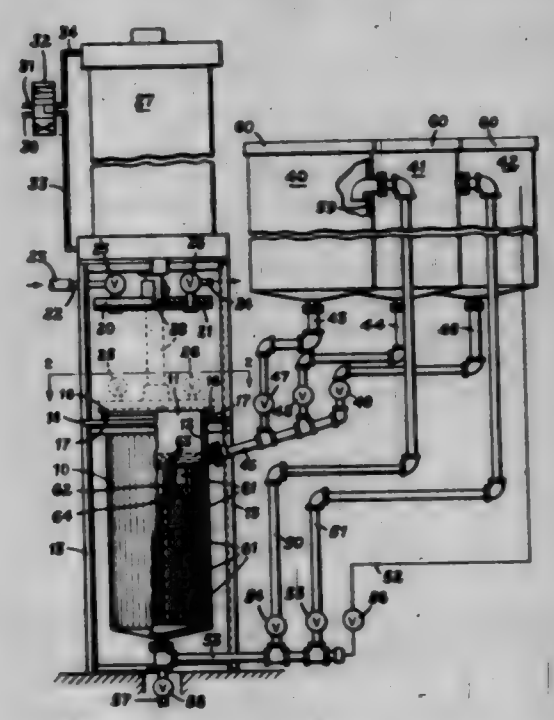
14. Apparatus for the non-evaporating drying of photographic film surface coated with liquid, which comprises walls defining a drying chamber, wetted film inlet means at one end of said chamber and dry film outlet means at the other end of said chamber, means disposed substantially adjacent said outlet means and adapted for angularly directing an air stream onto the surface of said film, means for shielding wet portions of the film within said chamber from the ambient atmosphere and the resulting solvent-containing air stream, downstream from said air stream, and means for exhausting said air stream from said chamber.

2,967,120

METHOD AND APPARATUS FOR CLEANING THERMOMETERS

John L. Chaney, Lake Geneva, Wis.

Filed Nov. 7, 1956, Ser. No. 620,827
10 Claims. (Cl. 134—22)



1. An apparatus for cleaning unfilled thermometer tubes comprising, a receptacle having a large vertical opening at its upper end, means for supporting said receptacle in an upright position, a cover for said opening movable in and out of sealing engagement therewith, said receptacle having a valved inlet for gas under pressure and a valved gas outlet, an acid liquid tank and an acid neutralizing liquid tank each being in position to discharge liquid into said receptacle by gravity, individually valved conduits discharging by gravity from each of said tanks into said receptacle, a valved conduit connecting the bottom of said receptacle to each of said tanks for returning liquid from said receptacle to its respective tank under the influence of gaseous pressure within said receptacle, and a pervious container insertable and removable through said large vertical opening adapted to support unfilled thermometer tubes in inverted positions with their bulbs at the top and their open ends at the bottom and submerged in the liquid in said receptacle.

2. The method of cleaning unfilled thermometer tubes which comprises, drainably supporting a plurality of said tubes in inverted position with their bulb ends at the top and with their open ends downward in a pool forming zone, flowing an acid liquid from an acid liquid supply zone into said pool forming zone and covering the open ends of said tubes with said acid liquid subjecting the surface of said acid liquid to a gaseous pressure sufficient to drive said acid liquid through said open ends into said bulb ends with resultant compression of the gas entrapped in said bulb ends, withdrawing said acid liquid from said pool forming zone and relieving the pressure thereon to effect removal of said liquid from said tubes by expansion of said entrapped gas, introducing an acid neutralizing liquid into said pool forming

zone and subjecting the surface of said acid neutralizing liquid to a gaseous pressure sufficient to drive said acid neutralizing liquid into said bulb ends, and relieving said pressure and withdrawing said acid neutralizing liquid from said tubes and pool forming zone.

2,967,121

METHOD OF WAX REMOVAL

Joseph C. Allen and Charles C. Nathan, Bellaire, Tex., assignors to Texaco Inc., a corporation of Delaware

No Drawing. Filed Apr. 17, 1957, Ser. No. 653,278
4 Claims. (Cl. 134—31)

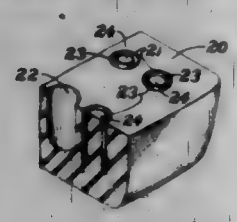
1. A method which comprises subjecting solid waxy hydrocarbons to contact with a normally gaseous hydrocarbon at a temperature above the critical temperature of said normally gaseous hydrocarbon so that said normally gaseous hydrocarbon remains in the gaseous state, and at an elevated pressure of at least about 1000 p.s.i.g., maintaining said waxy hydrocarbons in contact with the thus-pressurized normally gaseous hydrocarbon for a period of time sufficient to permit said normally gaseous hydrocarbon to permeate said waxy hydrocarbons a substantial extent and to permit at least a portion of said waxy materials to undergo retrograde vaporization into the thus-pressurized normally gaseous hydrocarbon and subsequently rapidly reducing the pressure exerted by said normally gaseous hydrocarbon upon said waxy hydrocarbons.

2,967,122

MOLDED ARTICLE

Anselm Talalay, New Haven, Conn., assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York

Original application May 8, 1956, Ser. No. 583,516, now Patent No. 2,901,773, dated Sept. 1, 1959. Divided and this application Dec. 8, 1958, Ser. No. 778,747
3 Claims. (Cl. 154—54)



3. A foam rubber article having a plurality of cavities therein extending inwardly from a surface of said article and partially through the thickness of said article terminating short of the opposing surface of said article, at least some of said cavities having a generally tubular shape with from one to six webs of foam rubber connecting the foam rubber of said article externally adjacent said cavity with the core of foam rubber bounded by said cavity, said web extending from the innermost reach of said cavity parallel to the longitudinal axis of said cavity at least partially the length of said cavity.

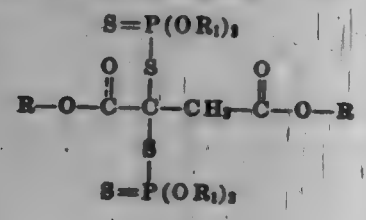
2,967,123

DIALKYL 2,2-DI(O,O-LOWERALKYLPHOSPHORODITHIOSUCCINATE)

Sidney B. Richter, Chicago, Ill., assignor to Velsicol Chemical Corporation, Chicago, Ill., a corporation of Illinois

No Drawing. Filed Mar. 6, 1959, Ser. No. 797,581
8 Claims. (Cl. 167—22)

1. A compound of the formula



wherein R is selected from the group consisting of methyl and ethyl radicals, and R_1 is an alkyl radical containing from 1 to 3 carbon atoms.

8. A method of destroying undesirable insects and mites which comprises contacting these pests with an insecticidal and miticidal composition comprising an inert carrier and a compound of claim 1 as the essential active ingredient in a quantity which is toxic to said pests.

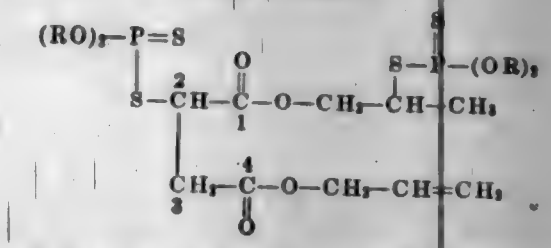
2,967,124

O,O-DI LOWER ALKYL PHOSPHORODITHIOATE DERIVATIVES OF DIALLYL MALEATE

Sidney B. Richter, Chicago, Ill., assignor to Velsicol Chemical Corporation, Chicago, Ill., a corporation of Illinois

No Drawing. Filed Mar. 16, 1959, Ser. No. 799,463
5 Claims. (Cl. 167—22)

1. A compound of the formula



wherein R is selected from the group consisting of the radicals —CH_3 and —CH_2CH_3.

5. A method of destroying undesirable insects and mites which comprises contacting these pests with an insecticidal and miticidal composition comprising an inert carrier and as the essential active ingredient, in a quantity which is injurious to these pests, a compound of claim 1.

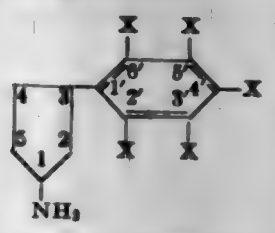
2,967,125

PHENYLCYCLOPENTYLAMINE FUNGICIDES

Arthur W. Carlson, Chicago, Ill., assignor to Velsicol Chemical Corporation, Chicago, Ill., a corporation of Illinois

No Drawing. Filed Oct. 13, 1958, Ser. No. 766,665
2 Claims. (Cl. 167—30)

1. A method of destroying undesirable fungi which comprises contacting said fungi with a fungicidal composition comprising an inert carrier and as an essential active ingredient, in a quantity which is injurious to said fungi, a compound of the formula



wherein each X is an atom selected from the group consisting of hydrogen, chlorine and bromine.

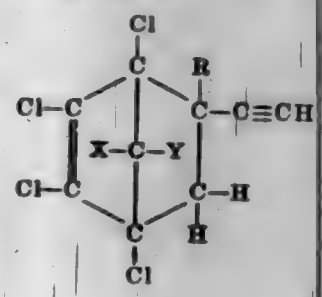
2,967,126

PRODUCTION OF PESTICIDAL COMPOUNDS

Alfred A. Levin and Hyman M. Molotsky, Chicago, Ill., assignors to Velsicol Chemical Corporation, Chicago, Ill., a corporation of Illinois

No Drawing. Filed Feb. 11, 1959, Ser. No. 792,471
8 Claims. (Cl. 167—30)

1. A compound of the formula



wherein X and Y are selected from the group consisting of chlorine and hydrogen atoms and R is selected from the group consisting of a hydrogen atom and the radical $-CH_2-$.

8. A method of destroying undesirable fungi which comprises contacting said fungi with a fungicidal composition comprising an inert carrier and as the essential active ingredient, in a quantity which is injurious to said fungi, a compound of claim 1.

2,967,127

TOXICANT CARRIER AND PESTICIDAL COMPOSITION CONTAINING SAME

Edgar W. Sawyer, Jr., Metuchen, and James A. Polon, Milltown, N.J., assignors to Minerals & Chemicals Philipp Corporation, a corporation of Maryland

No Drawing. Filed May 29, 1957, Ser. No. 662,339
6 Claims. (Cl. 167—42)

1. A deactivated carrier for a thiophosphate-type toxicant comprising a sorptive clay having sorbed thereon triethylene glycol, ethyl silicate and an alkylated phenol.

2,967,128

BIRD REPELLENT

Morley R. Kare, Ithaca, N.Y., assignor to S. B. Penick and Company, Incorporated, New York, N.Y., a corporation of Delaware

No Drawing. Filed June 6, 1957, Ser. No. 663,887
10 Claims. (Cl. 167—46)

1. The process of repelling birds which comprises applying a compound selected from the group consisting of methyl ortho-N-methylaminobenzoate, methyl anthranilate, ethyl anthranilate, phenyl ethyl anthranilate, methyl anthranilate and dimethyl benzyl carbinyl acetate to the material from which said birds are to be repelled.

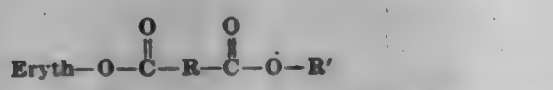
2,967,129

NEW ERYTHROMYCIN ESTERS

Robert K. Clark, Jr., Lake Bluff, Ill., assignor to Abbott Laboratories, North Chicago, Ill., a corporation of Illinois

No Drawing. Filed Oct. 29, 1956, Ser. No. 618,675
10 Claims. (Cl. 167—65)

1. An ester of erythromycin having the following general formula:



wherein Eryth is a therapeutically active erythromycin radical, R is a radical of dicarboxylic acid, and R′ is an alkyl group having from 1 to about 10 carbon atoms.

2,967,130

p-SULFAMYL β-HYDROXYETHYL CARBANILATE DIURETIC COMPOSITIONS

Robert G. Sanders, Pompton Lakes, and Roland R. Read, Morristown, N.J., and Richard J. Palazzolo, Northbrook, Ill.

No Drawing. Filed Sept. 5, 1957, Ser. No. 682,076
3 Claims. (Cl. 167—65)

1. A therapeutic composition useful as a diuretic comprising a dosage form of p-sulfamyl β-hydroxy ethyl carbanilate in combination with a pharmaceutical carrier.

2,967,131

THERAPEUTIC COMPOSITION

Charles H. Elbreder and Edward J. Ross, St. Louis, Mo., assignors to Charles J. Nemanick, St. Louis, Mo.

No Drawing. Filed Feb. 8, 1954, Ser. No. 408,984
3 Claims. (Cl. 167—93)

1. A composition in dosage tablet unit form consisting essentially of a compound selected from the group consisting of potassium fluoride, potassium acid fluoride, sodium fluoride, sodium bifluoride, sodium silicofluoride and calcium fluoride, which is soluble in water to form between approximately 0.1 and approximately 4.5 mg. of fluoride ions, a dispersant which is adapted when exposed to water to swell and increase its bulk by a large percent and cause disintegration and dispersion of said tablet, and a major portion of sodium chloride, said tablets having the property of inducing emesis upon the ingestion of a substantial overdosage of tablets, thereby preventing the assimilation of a toxic dose of fluoride ions.

2,967,132

PROCESS OF USING BACTERIAL SPORES AS INDICATOR SYSTEM FOR DETERMINATION OF ANTIBACTERIAL ACTIVITY

Lawrence E. Sacks, Berkeley, Calif., assignor to the United States of America as represented by the Secretary of Agriculture

No Drawing. Filed Sept. 3, 1959, Ser. No. 837,999
6 Claims. (Cl. 195—103.5)
(Granted under Title 35, U.S. Code (1952), sec. 266)

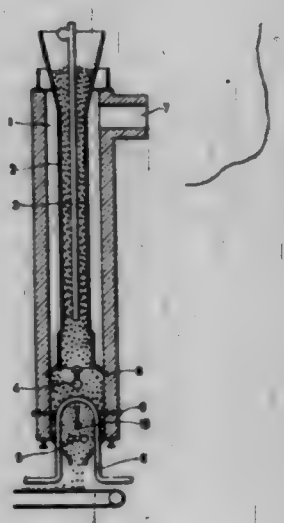
1. A process for determining the antibacterial activity of a substance by measuring the activity of the substance in inhibiting spore germination which comprises dispersing dry bacterial spores in water, adding to the resulting dispersion the said substance, a germination accelerator, a hydrogen-donor and a hydrogen-acceptor capable of changing color when reduced, allowing the system to stand, and ascertaining the activity of the substance by the time required for development of a color change of the hydrogen-acceptor being an index of germination of the spores.

2,967,133

METHOD IN PYROLYZING AND BURNING AND A SHAFT FURNACE FOR THE EXECUTION THEREOF

Åke Rudolf Lennart Brandberg, Orebro, Sweden, assignor to Svenska Skifferoljeaktiebolaget, Vastra gatan, Orebro, Sweden, a Swedish company

Filed June 21, 1954, Ser. No. 438,195
Claims priority, application Sweden June 22, 1953
6 Claims. (Cl. 202—6)



1. In a method of pyrolyzing and subsequently burning materials containing organic matter such as shale coke involving the steps of (*a*) burning a pyrolysis residue fuel bed in a combustion chamber with the aid of combustion air introduced thereinto and (*b*) heating a charge of said material containing organic matter in an associated pyrolysis chamber by means of heat derived from

said combustion of such pyrolysis residue, the improvement which consists in regulating the temperature of the combustion by the combined steps of introducing an added fluid fuel into the pyrolysis residue fuel bed while at the same time passing a cooling medium in indirect heat-exchanging relation through said bed.

6. A pyrolysis furnace comprising a generally upright combustion shaft, an elongated generally upright retort within the shaft the lower end of said retort terminating above the lower end of the shaft, a combustion chamber in the lower part of the shaft, said retort having an outlet adjacent its lower end for passage of pyrolysis residues from said retort into said combustion chamber forming a solid fuel portion of said combustion chamber, a passageway for combustion air into the lower part of said combustion chamber, a controllable fluid fuel supply means extending into said solid fuel portion of the combustion chamber, and a cooling medium conduit arranged within said combustion chamber and beneath said retort opening.

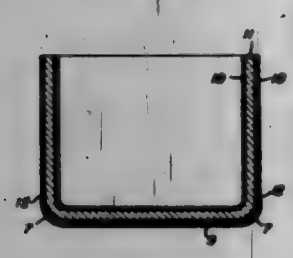
2,967,134

PROCESS OF PRODUCING COOKING UTENSILS

Angelo C. Scavullo, Jamaica, N.Y., assignor to Legion Utensils Co., Inc., a corporation of New York

Original application June 15, 1954, Ser. No. 436,915. Divided and this application Sept. 10, 1958, Ser. No. 760,250

1 Claim. (Cl. 204—25)



The process of forming a culinary vessel compressing deep-drawing the vessel out of a tri-ply composite sheet of a thick layer of mild low carbon steel sandwiched between two thin layers of 18–8 chromium-nickel stainless steel to the shape of the desired vessel to give side walls and a bottom with 18–8 chromium-nickel stainless steel interior and exterior layers, cutting a shallow peripheral groove into said exterior 18–8 chromium-nickel stainless steel layer at about the junction of bottom and side walls, mechanically abrading and chemically passivating the surface beneath the groove, masking the side walls above said groove against plating, and rotating the shaped vessel at a linear velocity of about 6 feet per minute in a copper electroplating bath wherein the vessel is made the cathode and a plurality of copper bars serve as anodes, whereby a layer of copper is deposited on the portion of the outside surface in and below said groove while said vessel is continuously rotated to give a thickened bottom and thicker edge.

2,967,135

ELECTROPLATING BATHS FOR HARD BRIGHT GOLD DEPOSITS

Barnet D. Ostrow, 2121 Jeffrey Drive, North Bellmore, N.Y., and Fred I. Nobel, 1587 Southern Drive, North Valley Stream, N.Y.

No Drawing. Filed June 8, 1960, Ser. No. 34,621

13 Claims. (Cl. 204—43)

1. An electroplating bath for producing hard and bright deposits of a metal selected from the group consisting of gold and gold-base alloys comprising an aqueous solution of a soluble gold-alkali metal cyanide, a sufficient amount of a substance taken from the class consisting of alkylol-, alkylene- and alkanol-amines having 1 to 12 carbon atoms and polymers thereof to produce a brighter deposit than is obtained in the absence thereof, said bath having a pH of about 2.5 to 6.5.

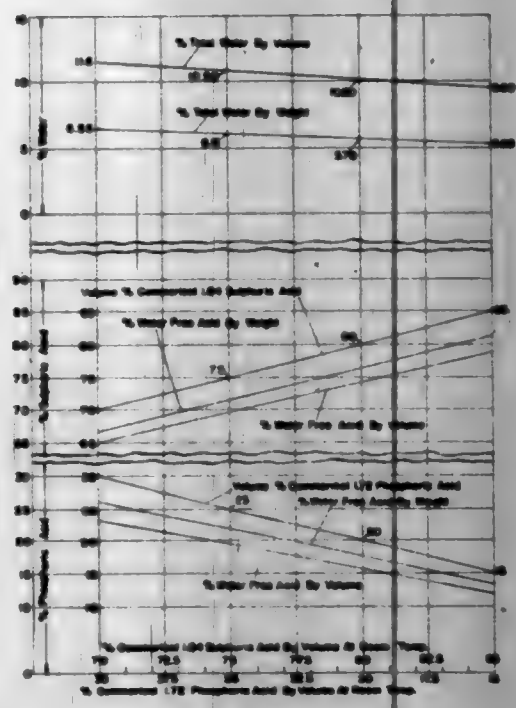
2,967,136

CHEMICAL BRIGHTENING AND ELECTROLYTIC POLISHING OF ALUMINUM

Alexander Cybriwsky and Nicholas Mostovych, Louisville, Ky., assignors to Reynolds Metals Company, Louisville, Ky., a corporation of Delaware

Filed Mar. 1, 1954, Ser. No. 413,062

12 Claims. (Cl. 204—140.5)



1. A method for surface brightening and polishing an article composed of a metal selected from a group consisting of aluminum and its alloys comprising; providing a bath consisting essentially of sulfuric acid, phosphoric acid and water, corresponding, in nature and amount, at room temperature to a mixture of commercial sulfuric and phosphoric acids in room temperature volume ratios ranging from 70% commercial sulfuric over 30% commercial phosphoric to 85% commercial sulfuric over 15% commercial phosphoric so that the total water-free acid content of the bath ranges from about 88½% to about 90½% of the total volume of the bath; heating the bath to a temperature ranging from about 200° F. to about 300° F.; and dipping the article int the heated bath for surface brightening purposes.

3. The method of claim 1 wherein: the bath is heated to a temperature not substantially higher than 250° F.; and the dipping step includes dipping the article into the bath, with an electric current flowing from the article through the bath, for electrolytic polishing purposes.

2,967,137

IRRADIATION OF NYLON

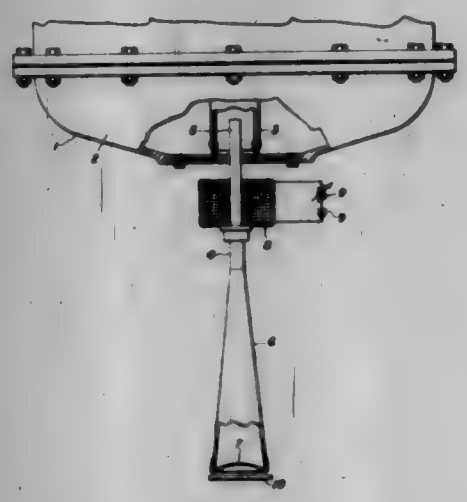
Elliott J. Lawton, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

Filed Nov. 21, 1956, Ser. No. 623,702

17 Claims. (Cl. 204—154)

2. A process of preparing nylon possessing reduced susceptibility toward oxidation and reduced elongation which comprises irradiating nylon with ionizing radiation

having energy equivalent to at least 5×10^4 electron volts to a radiation dose of 1×10^6 to 1×10^8 rep. in the range

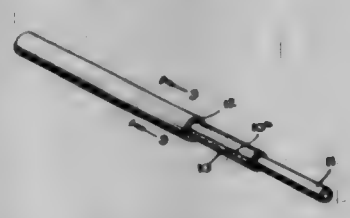


of 100°–225° C. so as to substantially release all of the radiation-induced free radicals.

2,967,138
BUTYL RUBBER COMPOUNDED WITH RADIO-POLYMERIZED ALKANES
George E. Serniuk, Roselle, and John Rehner, Jr., Westfield, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Apr. 15, 1957, Ser. No. 652,704
5 Claims. (Cl. 204—154)

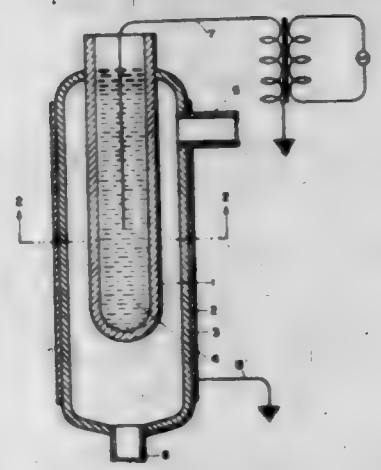
1. A process comprising irradiating a C_{12} to C_{20} paraffin with high energy ionizing radiation at a dose rate of at least 10^{-3} kwh. per hour per pound until a total dose in the range of 10^{-1} to 10 kwh. per pound has been received, separating from the material so irradiated an insoluble gel having an indefinitely large molecular weight, the yield of said gel being at least 75 wt. percent based on paraffin feed, compounding in the range of 1–12 wt. percent of said insoluble gel with a major portion of a copolymer of a major proportion of isobutylene and a minor proportion of a conjugated diene, said copolymer having a molecular weight in the range of 5×10^4 to 5×10^6 and curing the resulting admixture.

2,967,139
METHOD OF FORMING A SHEET INTO AN INTEGRAL TUBE
Anthony W. Bartoszak, New York, N.Y., assignor to The Martin Company, a corporation of Maryland
Filed Oct. 9, 1957, Ser. No. 689,182
3 Claims. (Cl. 204—154.2)



1. The method of fabricating an integral tubular fuel element comprising the steps of assembling a hollow cermet core containing particles of an oxide of a fissionable metal dispersed in a metal matrix with inner and outer cladding tubes, said core being formed of a rectangular sheet having bevelled longitudinal edges with complementary angles of inclination, said sheet being rolled into tubular form with the complementary edges mated, and subjecting said assembly to heat and pressure to cause interfacial bonding.

2,967,140
METHOD OF PREPARING TETRABORANE
Thomas M. Cromwell, Covina, Calif., assignor to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio
Filed Nov. 22, 1954, Ser. No. 470,239
4 Claims. (Cl. 204—164)

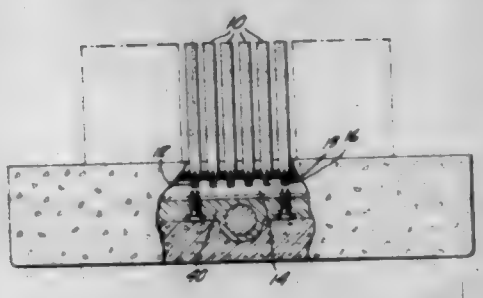


1. The method of preparing tetraborane which comprises subjecting diborane, at a gas pressure greater than about 100 mm. of mercury, to the discharge produced by a silent discharge tube having electrodes separated from the gas space by insulating layers and energized by an alternating potential of from about 10 volts/mm. gap/mm. of mercury gas pressure to about 90 volts/mm. gap/mm. of mercury gas pressure.

2,967,141
NEUTRONIC REACTOR FUEL ELEMENT
Marion L. Picklesimer, Knoxville, and William C. Thurber, Oak Ridge, Tenn., assignors to the United States of America as represented by the United States Atomic Energy Commission
No Drawing. Filed Nov. 18, 1957, Ser. No. 697,292
3 Claims. (Cl. 204—193.2)

1. A neutronic-reactor fuel consisting essentially of a mixture of aluminum particles and uranium carbide particles, said uranium carbide particles consisting essentially of a homogeneous mixture of UC and UC_2, the concentration of UC_2 in said uranium carbide mixture being at least 80 wt. percent.

2,967,142
BLADE ELECTRODE ASSEMBLY
John P. Oliver, Berea, Ohio, assignor to Union Carbide Corporation, a corporation of New York
Filed Sept. 22, 1958, Ser. No. 762,338
1 Claim. (Cl. 204—288)



In an electrolytic cell, a take-apart electrode assembly comprising a header plate of carbon composition, said header plate having parallel uniformly spaced slots therein, an anode plate of carbon composition engaged in each slot of said header plate, the end of each anode plate toward its corresponding slot being slightly wider than said slot in the disassembled condition and having a kerf

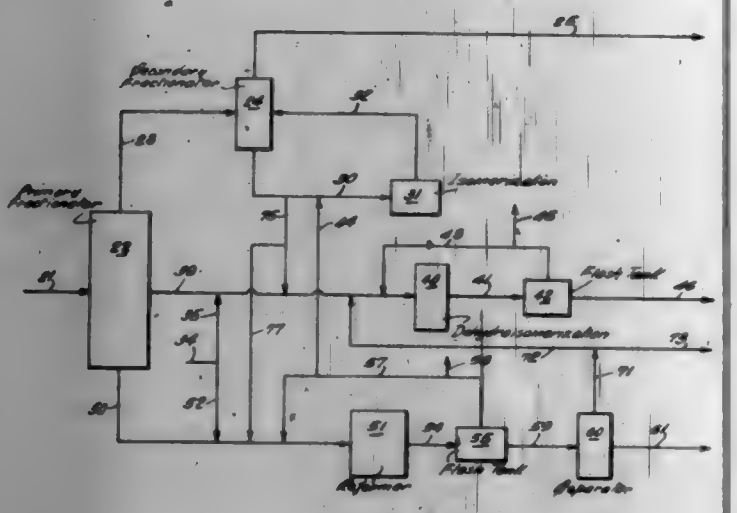
extending along the length thereof for at least the depth of said slot which permits the resulting portions of the end of the carbon anode plate to be sprung inwardly toward each other and enter said slot in said carbon header plate so as to be readily manually inserted therein with a spring fit forming a low electrical resistance current-carrying carbon-to-carbon joint, and to be readily manually detached therefrom.

2,967,143

TREATMENT OF REFORMED HYDROCARBONS WITH A ZINC OXIDE-ZINC CHROMITE CATALYST

Marc F. Fontaine, Fishkill, and Michael D. Riordan, Beacon, N.Y., and Jack Ryer, New Brunswick, N.J., assignors to Texaco Inc., a corporation of Delaware

Filed Aug. 14, 1958, Ser. No. 755,027
12 Claims. (Cl. 208—79)



1. A process for the production of a high octane motor fuel which comprises separating a straight run naphtha into a first fraction boiling from about 100 to 250° F. and a second fraction boiling above about 250° F., contacting said first fraction with a catalyst comprising zinc oxide and zinc chromite and containing between about 10 and 90% zinc oxide based on the combined weights of zinc oxide and zinc chromite at a temperature between about 800 and 1200° F. and a pressure between about 250 and 1000 p.s.i.g. in the presence of added hydrogen in a first reaction zone, passing said second fraction into contact with a reforming catalyst in the presence of hydrogen in a second reaction zone at a temperature between about 800 and 1100° F. and a pressure between about 50 and 750 p.s.i.g., recovering normally liquid straight chain hydrocarbons from the reaction product of the second reaction zone and introducing at least a portion of said straight chain hydrocarbons together with said first fraction into said first reaction zone.

2,967,144

METHOD OF PROCESSING LUBRICATING OIL

Edward L. Cole, Glenham, N.Y., assignor to Texaco Inc., a corporation of Delaware

No Drawing. Filed Jan. 24, 1958, Ser. No. 710,875
10 Claims. (Cl. 208—87)

1. A process for the treatment of a lubricating oil stock to enhance the quality thereof which consists essentially of subjecting a paraffin base residual lubricating oil fraction to refining treatment including solvent deasphalting, solvent refining and solvent dewaxing and thereafter contacting the resulting treated oil with added hydrogen in the presence of a mild hydrogenation catalyst under conditions from about 400° F. to about 650° F. a pressure within the range of from about 500 to about 1000 p.s.i.g., and a space velocity of from about 0.23 to 2.0 to effect reactions converting said treated oil into a product oil having improved stability to thin-film oxidation at high temperatures.

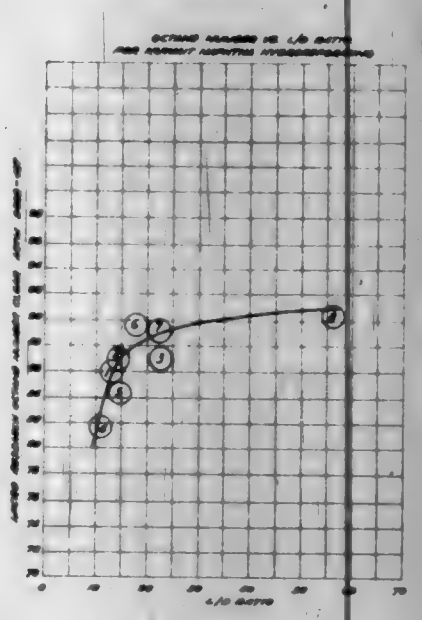
10. An aircraft engine lubricating oil having improved stability to thin film oxidation at high temperatures, said oil having an API gravity within the range of from about 27° to about 29°, a viscosity index within the range of from about 95 to about 98.5, a viscosity within the range of from about 109 to about 126 Saybolt Universal seconds at 210°, a color (Tag Robinson scale) within the range of from about 3.5 to about 6, a pour point within the range of from about 5° F. to about 10° F., a carbon residue within the range of from about 0.33 to about 0.54% by weight, a sulfur (bomb) content within the range of from about 0.08% to about 0.23% by weight, and a neutralization number within the range of from about 0.03 to about 0.09, said oil being the product obtained by in sequence subjecting a paraffin base residual lubricating oil fraction to solvent deasphalting, solvent refining, and solvent dewaxing and thereafter hydrogenating the resulting treated oil fraction with added hydrogen and in the presence of a hydrogenation catalyst selected from the group consisting of molybdenum sulfide and cobalt oxide-molybdenum oxide at a temperature within the range of from about 417° to about 606° F., a pressure within the range of from about 500 to about 1000 p.s.i.g., a space velocity within the range of from about 0.23 to about 1.7 and a hydrogen recycle rate of from about 3100 to about 10,000 standard cubic feet of hydrogen per barrel of oil.

2,967,145

CATALYTIC REFORMING IN A REACTOR HAVING A HIGH LENGTH-TO-DIAMETER RATIO

John E. Garihan, Tarentum, Pa., Wallace E. Morrow, Kent, Ohio, and Robert C. Zabor, Shaler Township, Allegheny County, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

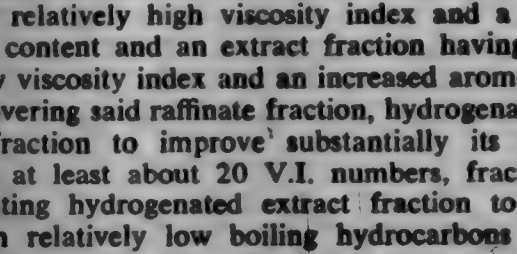
Filed Oct. 9, 1957, Ser. No. 689,134
5 Claims. (Cl. 208—134)



1. A hydroreforming process which comprises continuously charging a naphtha range hydrocarbon fraction, hydrogen and a reforming catalyst to the bottom of a reactor having a length to diameter ratio between approximately 25 and 60, maintaining said catalyst as an expanded fluid bed in said reactor in contact with said hydrocarbon and hydrogen under reforming conditions and continuously removing catalyst and other effluent

from the top of said reactor, the rate of removing of catalyst from the reactor being substantially the same as the rate of charging of catalyst to the reactor.

2,967,146
PETROLEUM REFINING PROCESS
Robert E. Manley, Yonkers, N.Y., assignor to Texaco Inc., a corporation of Delaware
Filed Dec. 30, 1957, Ser. No. 706,215
8 Claims. (Cl. 208—144)

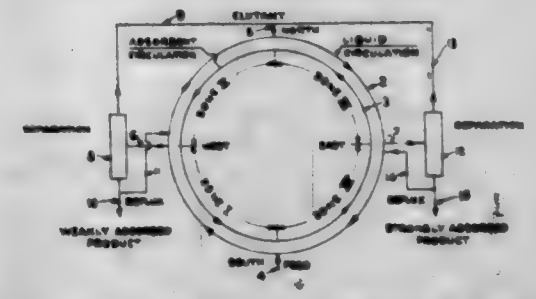


1. A method of treating an asphalt-free waxy hydrocarbon fraction which comprises solvent dewaxing said fraction to yield a dewaxed oil, solvent refining said dewaxed oil by contact with a liquid selective solvent for aromatic hydrocarbons which is at least partially immiscible with said oil to produce a raffinate fraction having a relatively high viscosity index and a reduced aromatic content and an extract fraction having a relatively low viscosity index and an increased aromatic content, recovering said raffinate fraction, hydrogenating said extract fraction to improve substantially its viscosity index by at least about 20 V.I. numbers, fractionating the resulting hydrogenated extract fraction to remove therefrom relatively low boiling hydrocarbons and recovering the resulting fractionated hydrogenated extract fraction as a lubricating oil product.

2,967,147
METHOD OF PROCESSING LUBRICATING OIL
Edward L. Cole, Glenham, N.Y., assignor to Texaco Inc., a corporation of Delaware
No Drawing. Filed Jan. 24, 1958, Ser. No. 710,876
10 Claims. (Cl. 208—144)

1. A process for the treatment of a lubricating oil stock to enhance the quality thereof which consists essentially of subjecting a paraffin base residual lubricating oil fraction to refining treatment consisting of in sequence solvent deasphalting, solvent refining, solvent dewaxing, clay contacting and clay filtering, and thereafter contacting the resulting treated oil with added hydrogen in the presence of a mild hydrogenation catalyst under conditions of about 400° F. to 700° F., about 1000 to about 3000 p.s.i.g. and a space velocity of about 0.2 to 1.0 to effect reactions causing the hydrogenated product to have increased stability to thin-film oxidation at high temperatures.

2,967,148
SELECTIVE ADSORPTION PROCESS AND APPARATUS
George B. Karnofsky, Fox Chapel Borough, Pa., assignor to Blaw-Knox Company, Pittsburgh, Pa., a corporation of Delaware
Filed Dec. 2, 1955, Ser. No. 550,640
13 Claims. (Cl. 208—310)



1. The method of separating a liquid feed mix into two fractions by selective adsorption which comprises moving a mass of adsorbent continuously through a closed cycle, maintaining a counter-current flow of liquid through the adsorbent, said liquid flow being established in part by circulating the feed mix counter to the travel of the adsorptive material through a portion of the travel of such adsorbent, and adsorbing from the feed mix its more readily adsorbed fraction, withdrawing the unadsorbed part of the feed mix comprising the less readily adsorbed fraction, the liquid flow being further established in part by flowing an elutant through a succeeding portion of travel of the adsorbent to desorb the more readily adsorbed fraction of the feed mix and removing such desorbed fraction at a point in the travel of the adsorbent past the introduction of the feed mix and before the point of introduction of the elutant, the liquid flow being also established in part by refluxing some of the less readily adsorbed fraction of the feed mix from adjacent its point of withdrawal toward the point of introducing the elutant, whereby the counter-current flow of liquid is first comprised of feed mix from which the more readily adsorbed fraction is being adsorbed and carried away by the adsorbent and then constituted in part of the less readily adsorbed fraction and elutant with the less readily adsorbed fraction being adsorbed from the liquid stream and the elutant desorbed, the elutant flowing back toward the point of its introduction, and thereafter the stream is constituted of elutant and the more readily adsorbed fraction with the elutant being adsorbed and said fraction being desorbed and carried in said stream toward its point of removal.

2,967,149
FILTER AID
Louis S. McCollum, North Hollywood, and Sol Gindoff, Los Angeles, Calif., assignors to International Minerals & Chemical Corporation, a corporation of New York
No Drawing. Filed Mar. 28, 1958, Ser. No. 724,504
11 Claims. (Cl. 210—502)

1. An aggregate consisting essentially of firmly adhering particles of expanded perlite and a non-swelling montmorillonite clay, wherein said clay particles are embedded in the outer surface of said expanded perlite particles, said aggregate having a particle size below about 200 microns.

2,967,150
LOW SURFACE AREA MUD
Charles L. Prokop, Houston, John W. Graham, Bellaire, and Richard A. Salathiel, Houston, Tex., assignors, by mesne assignments, to Jersey Production Research Company, Tulsa, Okla., a corporation of Delaware
No Drawing. Filed Mar. 21, 1957, Ser. No. 647,449
6 Claims. (Cl. 252—8.5)

1. A drilling fluid consisting essentially of: water having from 0 to 10% by weight of salt dissolved therein to

which has been added a surface-active agent consisting of a cationic salt to preferentially wet earth formations by hydrocarbons present in the earth's formations contacted thereby; between ½ and 2 pounds of guar seed gum and up to 10 pounds of starch per 42 gallon barrel of drilling fluid; and a weighting agent selected from the group consisting of calcium carbonate, barium sulphate, and mixtures of calcium carbonate and barium sulphate sufficient in amount to substantially aid said starch and guar seed gum in lowering the filtration rate of said drilling fluid.

2,967,151

UTILIZATION OF PHOSPHORIC ACID IN THE PREPARATION OF GREASES

Arnold J. Morway, Clark, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Nov. 30, 1955, Ser. No. 550,173
7 Claims. (Cl. 252—40.7)

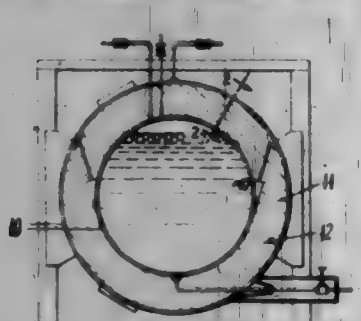
1. A lubricating grease composition comprising a major proportion of lubricating oil thickened with a grease thickening amount of an alkaline earth metal base neutralized mixture of high molecular weight monocarboxylic acids having about 12–30 carbon atoms per molecule, low molecular weight monocarboxylic acids having from about 1–3 carbon atoms per molecule, and phosphoric acid, the amount of said phosphoric acid being 2.5 to 10.0 wt. percent, wherein the mole ratio of low molecular weight acids to high molecular weight carboxylic acid is about 20:1 to 35:1 and wherein the mole ratio of said low molecular weight carboxylic acid to said high molecular weight carboxylic acid is about 10:1 to 30:1.

2,967,152

THERMAL INSULATION

Ladislas C. Matsch, Kenmore, and Arthur W. Francis, Dobbs Ferry, N.Y., assignors to Union Carbide Corporation, a corporation of New York

Filed Apr. 26, 1956, Ser. No. 580,897
12 Claims. Cl. 252—62)



2. An insulating material characterized by a low rate of heat transfer by conduction and radiation, consisting essentially of finely divided low heat conductive particles of agglomerate sizes less than about 420 microns being selected from the group consisting of silica, perlite, alumina, magnesia and carbon black; and finely divided radiant heat reflecting bodies of sizes less than about 500 microns and constituting between about 1% and 80% by weight of said insulating material, said heat reflecting bodies consisting of at least one member selected from the group consisting of aluminum, copper, aluminum paint pigments, copper paint pigments and copper coated mica.

2,967,153

SOLID DESICCANT

Harry H. Houston, Elmhurst, Ill., assignor to International Minerals & Chemical Corporation, a corporation of New York

No Drawing. Filed Dec. 27, 1956, Ser. No. 630,753
16 Claims. (Cl. 252—194)

1. A substantially anhydrous light-weight solid desiccant suitable for the drying of moisture-containing gases comprised of comminuted particles of expanded perlite and a hygroscopic material deposited on the surface and absorbed in the pores thereof.

2,967,154

CARRIER SUPPORTED DESICCANT

Henry P. Beerman, Evanston, Ill., assignor to International Minerals & Chemical Corporation, a corporation of New York

No Drawing. Filed July 1, 1957, Ser. No. 668,900
13 Claims. (Cl. 252—194)

1. A desiccant comprising a porous carrier and a hygroscopic material on the surface of said carrier, there being present in said desiccant from about one to about nineteen parts by weight of said carrier per part by weight of said hygroscopic material, said porous carrier consisting essentially of a fired body formed from a mixture of clay and particulate expanded perlite, there being present in said body from about two to about nineteen parts by weight of said particulate perlite per part by weight of said clay.

2,967,155

STABILIZED KARL FISCHER REAGENT

Erik Blomgren and Hans Jenner, Uppsala, Sweden, assignors to Aktiebolaget Pharmacia, Uppsala, Sweden, a company of Sweden

Filed Nov. 1, 1957, Ser. No. 694,016
Claims priority, application Sweden Nov. 9, 1956
16 Claims. (Cl. 252—408)

2. A stabilized Karl Fischer reagent comprising free iodine and sulfur dioxide in conventional concentrations, iodide ions an organic hydroxylated solvent, a conventional accelerating base with weak base character selected from the group consisting of pyridine, quinoline, aniline and dimethyl aniline, and a stabilizing base selected from the group consisting of secondary and tertiary aliphatic amines with greater base strength than said accelerating base, the free iodine, sulfur dioxide and accelerating base being present in conventional concentrations, the ratio of the concentration of iodide ions to the molecular concentration of free iodine being between about 1.5 and 6, and the concentration of the stabilizing base being at least 0.1 mole per liter and no more than 0.6 mols per liter, said reagent having a stable titre both in the absence and presence of air.

3. A stabilized Karl Fischer reagent according to claim 2, wherein the stabilizing base is piperidine.

2,967,156

PHOSPHATED KAOLIN CRACKING CATALYST

Gerhardt Talvenheimo, Chester, Pa., assignor to Houdry Process Corporation, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Feb. 27, 1956, Ser. No. 567,715
2 Claims. (Cl. 252—437)

1. The method of preparing attrition resistant particles of active cracking catalyst which consists essentially of the steps of: thoroughly admixing kaolin clay with an acidic solution in an amount in the range of 30 to 80% weight of liquid to weight of dry clay, said acidic solution containing 10 to 85% by volume of 100% H_2SO_4, 1 to 50% by volume of 100% H_3PO_4 and any remaining volume percent of water, whereby metal sulfates are formed in the kaolin clay; maintaining the admixture at a temperature within the range from about 250° F. to about 400° F. to obtain a more complete reaction between the acid and clay; treating the thus heated reaction product to bring about a complete decomposition of said metal sulfates with evolution of sulfur-oxide gases, said decomposition being effected in the presence of a gas mixture consisting essentially of a reducing gas and steam at a temperature in the range of 750° to 1600° F.; and recovering from said sulfate decomposition step, phos-

phate-containing clay particles having enhanced hardness and lower coke-forming tendency as an active cracking catalyst.

2,967,157

ACTIVATION OF CLAY BY ACID TREATMENT AND CALCINATION

Alfred J. Robinson, Philadelphia, Pa., and James V. Weir, Merchantville, N.J., assignors to Minerals & Chemicals Philipp Corporation, a corporation of Maryland

No Drawing. Filed Feb. 23, 1955, Ser. No. 490,128
9 Claims. (Cl. 252—450)

1. A method for the preparation of adsorptive contact masses from kaolin clay comprising reacting kaolin clay with sulfuric acid in an amount of from 60% to 125% based on the volatile free weight of said kaolin clay, and then, without washing out water soluble reaction products, calcining the reacted mixture at a temperature and for a time sufficient to substantially eliminate sulfate therefrom.

2,967,158

METHOD FOR PREPARATION OF ROUNDED CLAY-ACID MASSES

Thomas S. Malone, Bainbridge, Ga., assignor to Minerals & Chemicals Philipp Corporation, a corporation of Maryland

No Drawing. Filed June 10, 1958, Ser. No. 740,994
5 Claims. (Cl. 252—450)

1. In the method for the preparation of contact masses from kaolin clay comprising the steps of mixing the clay with from about 60 to 125 percent dosage of concentrated sulfuric acid, extruding the mixture to form pellets of plastic consistency, aging the pellets to complete the reaction between the acid and the alumina of said clay, thus converting the pellets to a nonplastic state, and desulfating said aged pellets by calcining them at an elevated temperature, the improvement comprising deforming said pellets while still in the plastic state to an extent sufficient to impart substantial roundness to said pellets.

2,967,159

HYDRODESULFURIZATION CATALYST AND METHOD OF PREPARING SAME

Elroy Merle Gladrow and Paul Thomas Parker, Baton Rouge, La., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed May 22, 1957, Ser. No. 660,761
8 Claims. (Cl. 252—455)

1. A process for the preparation of improved hydrodesulfurization catalysts which comprises mixing an aqueous solution of an alkali metal silicate having a ratio of alkali metal oxide to SiO_2 of at least 0.8 to 1 with a solution of sodium aluminate having a ratio of Na_2O to Al_2O_3 of 1/1 to 3/1 at a temperature of about 160° to about 250° F. in proportions giving a ratio of SiO_2 to Al_2O_3 in the mixture of 2.2/1 to 10/1, maintaining said elevated temperature for at least one hour until crystalline sodium alumino-silicate is formed, recovering the crystalline sodium alumino-silicate having a pore diameter of up to about 13 A., and of size necessary for adsorption of aromatic molecules, base exchanging the sodium alumino-silicate with a cobalt solution to replace at least 50% of the sodium ions with cobalt ions and incorporating from about 5 to 20 wt. percent of MoO_3 with the resultant cobalt alumino-silicate.

2,967,160

SILYL COMPOUNDS

John F. Brown, Jr., Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

No Drawing. Filed Mar. 27, 1956, Ser. No. 574,075
8 Claims. (Cl. 260—2)

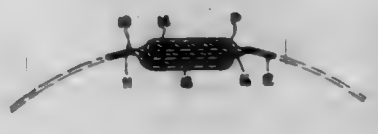
1. A (disubstituted sil)-dihydronaphthalene compound wherein (1) the two substituents on the silicon atom of the disubstituted sil radical are selected from the group consisting of alkyl, cycloalkyl, aryl, aralkyl, and haloaryl radicals, (2) each disubstituted sil radical is attached directly through the silicon atom to a saturated carbon atom of the dihydronaphthylene radical and the remaining valence of the silicon atom is attached to a member selected from the group consisting of halogen, and the dihydronaphthylene radical with the proviso that (*a*) when the selected member is halogen there are two such halogen substituted sil radicals each attached to a separate saturated carbon atom of the aforesaid dihydronaphthylene radical, and (*b*) when the selected member is a dihydronaphthylene radical the said dihydronaphthalene compound is a sildihydronaphthylene polymer whose structural unit consists of one said dihydronaphthylene radical and one said disubstituted sil radical which are joined together by the free valence of the said disubstituted sil radical of one structural unit being connected to the saturated carbon atom of the dihydronaphthylene radical of the adjoining unit, and (3) all of the aforesaid dihydronaphthylene radicals are selected from the group consisting of 1,2-dihydronaphthylene and 1,4-dihydronaphthylene radicals.

2,967,161

INTERPOLYMER OF ALLYLEPOXY RESIN AND POLYAMIDE RESIN

Donald P. Hart, Allison Park, Pa., assignor to Pittsburgh Plate Glass Company, Allegheny County, Pa., a corporation of Pennsylvania

Filed Mar. 27, 1956, Ser. No. 574,279
4 Claims. (Cl. 260—18)



1. In a method of forming a novel, resinifiable mixture, the steps of mixing (A) a liquid epoxy resin of an epoxy equivalent weight of about 300 and resulting from the reaction of 2,2-bis(4-hydroxy-3-allylphenyl)propane with epichlorohydrin in the presence of sodium hydroxide, and (B) a liquid polyamide containing groups selected from the class consisting of —NH— and —NH_2, and being adapted to react with epoxy resins and being provided by reaction of an excess of an amine selected from the class consisting of aliphatic diamines and aliphatic triamines containing available —NH_2 groups, and a polymeric fat acid obtained by addition reaction of a glyceride drying oil acid, resin (B) being present in an amount of about 1 to about 10 parts by weight per 5 parts by weight of resin (A).

2,967,162

COATING COMPOSITIONS

Joseph A. Vasta, Darby, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Aug. 25, 1958, Ser. No. 757,108
11 Claims. (Cl. 260—21)

1. An interpolymer of 30–80 mol percent of styrene, 15–65 mol percent of ethyl acrylate and 5–25 mol percent of a half ester of maleic acid and at least one alcohol of the class consisting of primary and secondary monohydric alcohols free of non-benzenoid unsaturation, containing only carbon, hydrogen and oxygen, containing up to 18 carbon atoms and containing hydroxyl as the only functional substituent, prepared by (1) heating a mixture of styrene, ethyl acrylate and maleic anhydride within said molar proportions in solution in about 25%–400%, based on the weight of said mixture, of aromatic hydrocarbon solvent for said mixture at a temperature of

125°–200° C. until substantially all of said styrene, ethyl acrylate and maleic anhydride is polymerized, and (2) converting the maleic anhydride in the resulting polymer to said half ester by esterification with said alcohol.

2,967,163

RAIN REPELLENT COMPOSITION COMPRISING A STYRENATED OIL MODIFIED ALKYD RESIN WITH PARAFFIN WAX

Jacob M. Fain and Abraham Goldman, Brooklyn, N.Y., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

No Drawing. Filed Mar. 25, 1959, Ser. No. 801,976
1 Claim. (Cl. 260—22)

An optically transparent water-repellant composition which dries hard in about four hours consisting of about 7.5 to about 25.0 parts by weight of a phthalic anhydride-glycerol alkyd modified with styrenated castor oil acids, about 0.1 to about 0.3 part by weight of paraffin wax, about 2.0 to about 5.0 parts by weight of a film hardener and about 90.4 to about 69.7 parts by weight of a solvent wherein the ratio of paraffin to solid resin content is between 1 to 83 and 1 to 150, the film hardener is from 15–25 percent of the solids content, and the ratio of alkyd to styrene is between 91 to 9 and 41 to 59.

2,967,164

PLASTICIZED POLYMERIZED HYDROCARBON-SUBSTITUTED ETHYLENES

Robert S. Aries, 270 Park Ave., New York, N.Y.

No Drawing. Filed Feb. 3, 1956, Ser. No. 563,197
7 Claims. (Cl. 260—23)

1. Composition of matter comprising a crystalline polymer of ethylene substituted by a member selected from the group consisting of alkyl, aryl, alkaryl and aralkyl radicals, said polymer being characterized by very high molecular weight, highly crystalline character, and high softening point, and from about 1% to about 200% by weight of a nonvolatile plasticizer having a boiling point in excess of about 200° C. which is selected from the group consisting of diamyl-biphenyl, mono-amyl-chloronaphthalene, hexachlorobiphenyl, polyamylnaphthalene, trioctyl phosphate, dilauryl sebacate, and decyl stearate.

2,967,165

LEATHER IMPREGNITE

Milton Bailey, 36 Kenilworth Place, Brooklyn, N.Y.

No Drawing. Filed Oct. 14, 1958, Ser. No. 767,240
10 Claims. (Cl. 260—23)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A composition of matter for treatment of leather to render it resistant to penetration by mustard gas, lewisite and like vesicants which comprises about 21 to 26 parts by weight of a polyisobutylene having a molecular weight of about 80,000, about 21 to 44 parts by weight of paraffin wax, about 36.8 to 15 parts by weight of paraffin oil, and about 10.6 to 15 parts by weight of neat's-foot oil.

2,967,166

COPOLYMERIZATION METHOD

Gus C. Mustakas and Edward L. Griffin, Jr., Peoria, Ill., assignors to the United States of America as represented by the Secretary of Agriculture

No Drawing. Filed May 13, 1959, Ser. No. 813,040
5 Claims. (Cl. 260—23)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. The method for producing a copolymer of an aliphatic conjugated soybean oil vinyl ether and a lower alkyl vinyl ether which comprises reacting an aliphatic conjugated soybean oil vinyl ether and a lower alkyl vinyl ether under anhydrous conditions in the presence of an organic solvent and stannic chloride catalyst, quenching the copolymerization reaction by adding an absolute lower alkanol to the reaction mixture, precipitating the stannic ions from the copolymer liquor with a hydrated alkaline earth metal hydroxide, and recovering the pure stable copolymer from the reaction mixture.

2,967,167

VULCANIZATION OF HALOGENATED COPOLYMERS WITH A PHENOL ALCOHOL AND ALKYL TIN SULFIDES AND VULCANIZABLE COMPOSITION

Leon S. Minckler, Jr., Metuchen, Delmer L. Cottle, Highland Park, and Theodore Lemiszka, Rahway, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Mar. 10, 1958, Ser. No. 720,089
18 Claims. (Cl. 260—41.5)

1. A composition comprising 100 parts by weight of a rubbery halogenated copolymer of about 85 to 99.5 weight percent of a C_4 to C_7 isoolefin and about 15 to 0.5 weight percent of a C_4 to C_{14} multiolefin, about 0.5 to 20.0 parts by weight of a phenol dialcohol resin and about 0.5 to 20 parts by weight of an organic tin sulfide selected from the group consisting of di-C_1 to C_{18} alkyltin sulfides, di-C_6 to C_{18} aryltin sulfides and mixtures thereof.

2,967,168

VINYL-SUBSTITUTED SILICA AEROGELS

Dallas T. Hurd, Burnt Hills, N.Y., assignor to General Electric Company, a corporation of New York

No Drawing. Filed Nov. 12, 1954, Ser. No. 468,567
7 Claims. (Cl. 260—42)

1. The process for making a silica aerogel containing silicon-bonded vinyl groups uniformly interspersed throughout the entire solid structure of said aerogel which comprises (1) cohydrolyzing a mixture of a vinylchlorosilane and a silicon tetrahalide, wherein the vinylchlorosilane represents from 5 to 50 percent of the combined weight of vinylchlorosilanes and silicon tetrahalide, to obtain a gelled cohydrolyzate, (2) dissolving the cohydrolyzate in an aqueous solution of an alkali-metal hydroxide, (3) acidifying the alkaline solution of the cohydrolyzate to a pH of from about 2 to 3, (4) precipitating the salt formed from the acidification step with an alcohol solution in which the alcohol is selected from the class consisting of methanol and ethanol, (5) autoclaving the alcohol solution thus obtained at a temperature and pressure at least equal to the critical constants of the mixture, and (6) thereafter releasing the vapors formed in the pressure reactor while continuing to maintain a temperature between 275° to 375° C.

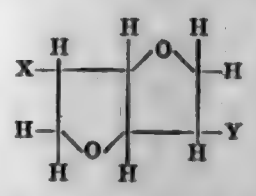
2,967,169

STABILIZED POLYPROPYLENE

Paul E. Oberdorfer, Jr., Claymont, Del., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

No Drawing. Filed July 2, 1958, Ser. No. 746,071
11 Claims. (Cl. 260—45.8)

1. A composition of matter comprising a solid polymer of propylene and from about 0.02% to about 3% by weight of a compound having the general structural formula:



wherein X and Y are each selected from the group consisting of radicals having the formula: —OR_1 and —$OC(O)R_2$ wherein each of R_1 and R_2 is selected from

the group consisting of hydrogen and hydrocarbon radicals having from 1 to 20 carbon atoms.

2,967,170

REACTION OF SILICOLS WITH SILICON-BONDED HYDROGEN

Robert L. Merker, Pittsburgh, Pa., assignor to Dow Corning Corporation, Midland, Mich., a corporation of Michigan

No Drawing. Filed June 14, 1957, Ser. No. 665,644
6 Claims. (Cl. 260—46.5)

1. The method which comprises reacting (1) an hydroxylated organosilicon compound having the average general formula

$$R_x(HO)_ySiO_{\frac{4-x-y}{2}}$$

where R is a monovalent organic radical free of aliphatic unsaturation and free of alcoholic hydroxy groups, and is attached to the silicon by C—Si linkage, x has an average value of from 0.8 to 3 inclusive, y has an average value of from 0.01 to 2 inclusive, and the sum of $x+y$ is not greater than 4, with (2) an organohydrogenosilicon compound having the average general formula

$$R'_mH_nSiO_{\frac{4-m-n}{2}}$$

where R' is a monovalent hydrocarbon radical free of aliphatic unsaturation, m has a value of from 0.8 to 3 inclusive, n has a value of from 0.05 to 3 inclusive, the sum of $m+n$ being not greater than 4, by contacting (1) and (2) as the sole reactants in the liquid phase in the presence of chloroplatinic acid.

2,967,171

REACTION OF ORGANOHYDROGENOSILICON COMPOUNDS WITH HYDROXY COMPOUNDS

Garrett H. Barnes, Jr., Pittsburgh, Pa., and Gerald W. Schweitzer, Miles City, Mont., assignors to Dow Corning Corporation, Midland, Mich., a corporation of Michigan

No Drawing. Filed June 14, 1957, Ser. No. 665,645
7 Claims. (Cl. 260—46.5)

1. The method which comprises reacting (1) a silicon compound containing at least one hydrogen atom attached to at least one silicon atom per molecule, with (2) an hydroxy compound selected from the group consisting of (A) compounds of the formula ROH where R is selected from the group consisting of carboxylic acyl radicals free of aliphatic unsaturation, and alkyl, aryl, alkaryl, aralkyl, haloalkyl, and haloaryl radicals, (B) compounds of the formula

$$R'_y[HO(CH_2)_x]SiO_{\frac{3-y}{2}}$$

where x and y are integers of from 1 to 3 inclusive and R' represents monovalent hydrocarbon radicals free of aliphatic unsaturation, (C) polyhydroxy alcohols free of aliphatic unsaturation and selected from the group consisting of dihydroxy, trihydroxy, and tetrahydroxy alcohols, (D) dicarboxylic acids free of aliphatc unsaturation, and (E) an alkyd resin containing free residual alcoholic hydroxyl groups, said resin being free of aliphatic unsaturation, by contacting (1) and (2) as the sole reactants in liquid phase in the presence of chloroplatinic acid and in a proportion such that there is a ratio of at least 0.5 hydroxy group in (2) per silicon-bonded hydrogen atom in (1).

2,967,172

CATALYZED EPOXY COATINGS AND ARTICLES COATED THEREWITH

Everett D. Hood, St. Louis, Mo., assignor to The Glidden Company, Cleveland, Ohio, a corporation of Ohio

No Drawing. Filed Nov. 2, 1955, Ser. No. 544,838
10 Claims. (Cl. 260—47)

1. A liquid catalyst adapted for use in promoting the air-drying, through-hardening, abrasion-resistance, hydrocarbon-solvent resistance and resistance to yellowing of solvent-thinned amine-curable epoxy resin coating compositions when added to the latter to supply between about 3% and 15% of polyfunctional amine and concurrently from about 6% to 30% of styrene oxide, both being by weight on the total epoxy resin in said catalyzed compositions, said catalyst being a homogeneous organic solvent solution of (1) at least one reaction product of: (A) polyfunctional organic amine containing two —NH_2 groups separated from each other by at least two carbon atoms, and (B) resinous polymeric glycidyl ethers of polyhydric phenols having alternating aromatic and aliphatic nuclei united through ether oxygen, having terminal 1,2 epoxy groups, and being free of functional groups other than epoxy and hydroxyl groups; said reaction product having been prepared by mixing said A and said B components together in compatible solvents without extraneous heating and in proportions such that the weight ratio of the A component to the B component is about 2:1 and 1:10; and (2) styrene oxide in an amount such that the weight ratio of styrene oxide to polyfunctional amine is between about 0.4 and 10 to 1.

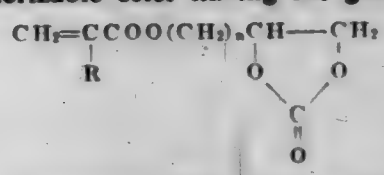
2,967,173

POLYMERIZABLE ESTERS OF ACRYLIC AND METHACRYLIC ACID AND POLYMERS THEREOF

James C. Fang, Sharon Hill, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Mar. 22, 1956, Ser. No. 573,094
19 Claims. (Cl. 260—77.5)

1. A polymerizable ester having the general formula:



in which R is a member of the class consisting of H and CH_3 and in which n is an integer having a value of 1 to 4, inclusive.

2,967,174

PROCESS FOR THE PRODUCTION OF POLYMERIZATION PRODUCTS

Herbert Bartl, Koln-Stammheim, Germany, assignor to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Mar. 15, 1956, Ser. No. 571,607
Claims priority, application Germany Mar. 24, 1955
7 Claims. (Cl. 260—78.5)

1. A process for producing an interpolymer soluble in organic solvents which comprises heating in the presence of a free radical-forming polymerization catalyst, a mixture of (*a*) one mol of a monoester of maleic acid and a hydrocarbon monohydric alcohol which has 1–18 carbon atoms and is devoid of aliphatic carbon-to-carbon unsaturation and (*b*) 0–1 mol of a further polymerizable monoethylenically unsaturated compound selected from the group consisting of styrene, styrene bearing inert substituents, vinyl acetate, vinyl chloride, vinylidene chloride and isobutylene, the heating of said mixture being sufficient to attain a temperature at which the mixture is copolymerizable with a conjugated diene selected from the group consisting of a conjugated aliphatic diolefin of 4–6 carbon atoms and chloroprene, and then adding 0.5–2

mols of said conjugated diene to said reaction mixture while maintaining the latter under said copolymerizing conditions, the diene being slowly added at the rate at which it is consumed by polymerization, thereby forming the high molecular weight interpolymer.

2,967,175

METHOD FOR PREPARING A POLYAMPHOLYTE

Robert M. Summers, Scotia, N.Y., assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York

No Drawing. Filed Oct. 13, 1958, Ser. No. 766,648
9 Claims. (Cl. 260—80)

1. The method for preparing polymers containing a plurality of primary amine and carboxyl groups comprising converting from 1 to 50% of the acyl groups present in a homopolymeric anhydride of an alpha,beta-olefinically unsaturated monocarboxylic acid to partial amide groups with ammonia at a temperature of from about 25° C. to about 100° C. and converting a plurality of said amide groups to primary amine groups with a hypohalite in water at a temperature of from about 0° C. to about 50° C.

2,967,176

PROCESS FOR POLYMERIZATION OF ETHYLENE

Frank L. Pilar, Durham, N.H., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana

No Drawing. Filed Oct. 31, 1957, Ser. No. 693,532
3 Claims. (Cl. 260—94.9)

1. A process for the polymerization of ethylene to a normally solid polyethylene which comprises reacting ethylene under polymerization conditions including a temperature between about 25° C. and about 100° C. and superatmospheric pressure in an inert hydrocarbon solvent with a catalyst prepared by:

(1) reacting a metal chloride selected from the group consisting of $TiCl_4$ and VCl_4 with a 1-aryl ethylene hydrocarbon selected from the group consisting of styrene and indene at ambient temperature in a molar ratio of said hydrocarbon to said metal chloride between about 1 and about 10 to form a reaction product,

(2) reacting said reaction product with an alkali metal, the molar ratio of said alkali metal to said metal chloride being between about 0.1 and 10

and separating a normally solid polyethylene so produced.

2,967,177

PROCESS OF ANTIBIOTIC PURIFICATION

David A. Johnson and Glenn A. Hardcastle, Jr., Syracuse, N.Y., assignors, by mesne assignments, to Bristol-Myers Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Mar. 31, 1958, Ser. No. 724,822
10 Claims. (Cl. 260—210)

1. In the process of recovering a purified kanamycin from an aqueous solution containing both kanamycin A and kanamycin B, the step of adding to such a solution maintained below pH 8.1 an alkylarylsulfonate wherein the alkyl group contains at least nine carbon atoms whereby kanamycin B-alkylarylsulfonate is formed and precipitated and then separating the precipitated kanamycin B-alkylarylsulfonate from the aqueous solution containing substantially pure kanamycin A.

2,967,178

METHOD OF PRODUCING GELLING STARCH OF HIGH CLARITY

Ralph W. Kerr, Riverside, Eugene F. Paschall, Orland Park, and William H. Minkema, La Grange, Ill., assignors to Corn Products Company, a corporation of Delaware

No Drawing. Filed Dec. 6, 1957, Ser. No. 700,949
7 Claims. (Cl. 260—233.5)

1. A process for preparing a starch product which will form a clear, moldable gel having a gel strength of at least 100 grams per π sq. cm. at a concentration of 40 grams of starch product per 280 ml. of water which comprises acid treating and sulfating cereal starch in any order and recovering the starch product; the extent of the acid treatment being sufficient to increase the clarity of a 3 percent paste to 80–85 percent of light transmission, the product maintaining a fluidity range not above about 10; the degree of sulfation being within the range of 0.02 to 0.10 D.S.; the sulfation being carried out by reacting in an aqueous system the starch and a tertiary amine sulfur trioxide compound at a pH between 7 and about 11; the amount of tertiary amine sulfur trioxide compound being about 0.02 to 0.10 mole per anhydroglucose unit, dry basis; said acid treatment being carried out by treating the starch in an aqueous medium having a pH of about 1.0 to 2.5 at a temperature of about 40° C. to about 55° C. for about 2 to about 10 hours; and recovering the resultant acid treated starch sulfate.

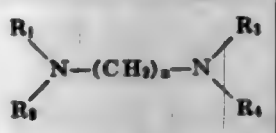
2,967,179

DIAMINE SALTS OF 21-PHOSPHATE ESTERS OF STEROID COMPOUNDS OF THE PREGNANE AND ALLOPREGNANE SERIES

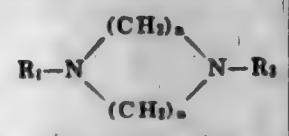
Vincent Arkley, Stoneycroft, Liverpool, and Gordon Hanley Phillipps, Greenford, England, assignors to Glaxo Laboratories Limited, Greenford, England, a British company

No Drawing. Filed Apr. 14, 1959, Ser. No. 806,226
Claims priority, application Great Britain Apr. 18, 1958
28 Claims. (Cl. 260—239.5)

1. In a process for the recovery of 21-phosphate esters of a compound selected from the group consisting of a steroid compound of the pregnane series and a steroid compound of the allopregnane series from a solution of the ester in an aqueous medium, the steps of reacting said solution with an organic base selected from the group consisting of a base having the formula

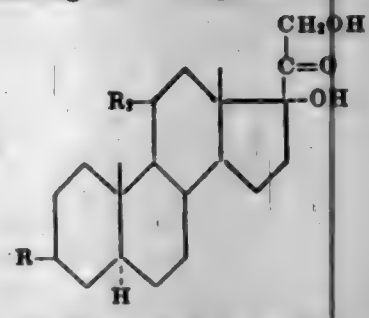


where R_1 and R_3 are each a member selected from the group consisting of hydrogen, an alkyl group containing 1–6 carbon atoms, an aryl group containing 6–12 carbon atoms and an aralkyl group containing 7–12 carbon atoms, R_2 and R_4 are each a member selected from the group consisting of hydrogen, an alkyl group containing 1–6 carbon atoms and a benzyl group and n is an integer from 2 to 5 and a base having the formula



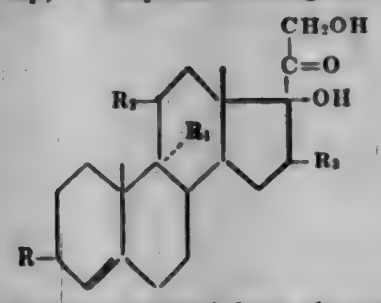
where R_1, R_3 and n have the above meaning; and separating the resulting insoluble crystalline salt from the aqueous medium.

13. As new compounds, the salts of an organic base selected from the group consisting of N:N¹-dibenzylethylenediamine, piperazine and ethylenediamine and a 21-phosphate ester of a steroid compound selected from the group consisting of a compound having the formula



where R is a member selected from the group consisting of a hydroxy group and a keto group and R_2 is a member

selected from the group consisting of a hydroxy group and a keto group, a compound having the formula



where R is a member selected from the group consisting of a hydroxy group and a keto group, R_1 is a member selected from the group consisting of hydrogen and fluorine atoms, R_2 is a member selected from the group consisting of a hydroxy group and a keto group, R_3 is a member selected from the group consisting of hydrogen and a methyl group and the $\Delta^{1,4}$ compounds corresponding to said last-mentioned compound.

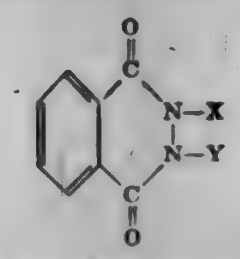
2,967,180

HETEROCYCLIC PHOSPHONOTHIOATES

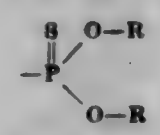
Henry Tolkmith, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Oct. 28, 1959, Ser. No. 849,134
5 Claims. (Cl. 260—250)

1. The phosphorothioates corresponding to the formula



wherein X represents a radical having the formula



in which each R is lower alkyl, and Y represents a member of the group consisting of lower alkanoyl and X.

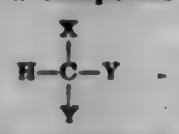
2,967,181

PROCESS FOR MAKING CYCLOPROPYL DERIVATIVES

Elbert C. Herrick, Media, Pa., and Milton Orchin, Cincinnati, Ohio, assignors to Houdry Process Corporation, Wilmington, Del., a corporation of Delaware

Filed Aug. 30, 1957, Ser. No. 681,391
11 Claims. (Cl. 260—290)

2. In the process of synthesizing cyclopropyl halide derivatives by condensing an olefinic hydrocarbon having 3 to 8 carbon atoms and containing at least two double bonds with a haloalkylating agent in the presence of an alkali metal alkoxide condensing agent, wherein said haloalkylating agent is a compound of the formula:



in which Y is halogen and X is selected from the group consisting of H and halogen, the improvement which comprises mixing said condensing agent and said olefinic hydrocarbon in a reaction zone maintained at —10 to +10° C. thereby providing a liquid pool in said reaction zone, vaporizing a portion of said olefinic hydrocarbon from said pool and passing the vaporized portion to a cooler condensing zone, charging the thus cooled condensate to a premixing zone communicating with but spaced from said reaction zone, adding aliquot portions of the haloalkylating agent to said premixing zone for solution in and dilution by said cooled condensate and passing the obtained cool solution to the reaction zone for admixture in said liquid pool thereby causing condensation of said olefinic hydrocarbon with said haloalkylating agent in the presence of the condensing agent and forming thereby halogenated cyclopropyl compounds; the rate of addition of the haloalkylating agent to said premixing zone being controlled to provide at least 6 mols of olefinic hydrocarbon per mol of said haloalkylating agent in said zone.

8. A process in accordance with claim 2 wherein the olefinic compound is vinyl pyridine.

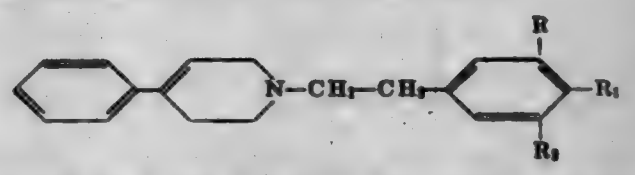
2,967,182

NOVEL SUBSTITUTED TETRAHYDROPYRIDINES

Albert Pohland, Indianapolis, Ind., assignor to Eli Lilly and Company, Indianapolis, Ind., a corporation of Indiana

No Drawing. Filed Aug. 16, 1957, Ser. No. 678,542
6 Claims. (Cl. 260—295)

1. A compound of the class consisting of a substituted tetrahydropyridine and pharmaceutically acceptable acid addition salts thereof, said substituted tetrahydropyridine being represented by the following formula:



wherein R, R_1 and R_2 are chosen from the group consisting of hydrogen, hydroxy, and lower alkoxy and alkylcarbacyloxy radicals in which the alkyl groups have from 1 to 3 carbon atoms, and from zero to two of R, R_1 and R_2 are hydrogen.

2,967,183

FLUORINATED POLYCYCLIC DIETHERS

Robert P. Ruh, Midland, and Robert A. Stowe, Ludington, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Mar. 13, 1958, Ser. No. 721,103
2 Claims. (Cl. 260—340.9)

1. A polycyclic fluorine-containing organic compound (1) having the molecular formula $C_6F_4H_4O_2$, (2) boiling at 121 to 123 degrees centigrade and (3) prepared by (*a*) the reaction in the presence of a metallic basic material and at a temperature between about 0 and 150 degrees centigrade of hexafluorocyclobutene with ethylene glycol, and (*b*) separating $C_6F_4H_4O_2$ from the reaction mixture.

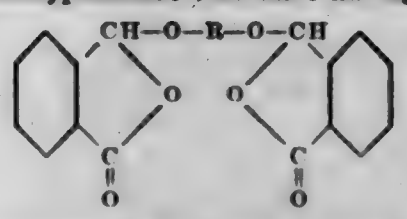
2,967,184

DIPHTHALIDES

Donald D. Wheeler and David C. Young, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Feb. 6, 1959, Ser. No. 791,545
4 Claims. (Cl. 260—343.3)

1. A 3-hydroxyphthalide derivative having the formula



wherein R represents a substituted ethylene radical wherein the substituent is selected from the group consisting of lower alkoxymethyl, phenoxymethyl, lower alkenyloxymethyl and halomethyl.

2,967,185

PREPARATION OF MALEIC ANHYDRIDE AND CATALYST THEREOF

Mitchell Becker, Plainview, and Robert S. Barker, Port Washington, N.Y., assignors, by mesne assignments, to Scientific Design Company, Inc., a corporation of Delaware

No Drawing. Filed May 29, 1957, Ser. No. 662,324
12 Claims. (Cl. 260—346.8)

5. In a process for preparation of catalyst support particles for subsequent addition of catalytic materials to produce catalyst for the manufacture of maleic anhydride by the catalytic partial oxidation of benzene, the step which comprises: contacting refractory catalyst support particles with inorganic acid having a dissociation constant greater than about 10^{-5} having a concentration of 10 to 45 weight percent for at least about 2 hours at a temperature of about 20 to 200 degrees centigrade, prior to catalyst manufacture.

7. A process for the preparation of maleic anhydride which comprises the partial oxidation of benzene with molecular oxygen in the presence of a catalyst consisting essentially of a refractory support in particulate form of about 0.2 to about 0.5 inch average diameter, and having a surface area in the range of about 0.002 to 10 square meters per gram, said support being prepared for subsequent addition thereto of catalytic materials by contacting the support with an acid having a dissociation constant greater than about 10^{-5} for at least about 2 hours at a temperature of about 20 to 200 degrees centigrade; and a mixture of about 1 part MoO_3, 1.5 to 8 parts V_2O_5, 0.1 to 0.01 part P_2O_5, 0.1 to 0.01 part Na, and 0.1 to 0.0001 part Ni, containing about 3 to 15 parts per weight of support per part of said mixture, said catalyst being obtained by providing the catalyst support with a mixture of the precursor of the above materials, drying at a temperature up to about 175° C., heating at a temperature in the range of about 175 to 320° C. with a linear air flow through the catalyst in the range of 0 to 7.7 cm./min. and then heating at a temperature in the range of 320 to 400° C. with a linear air flow in the range of 0.58 to 21.1 cm./min. at a temperature in the range of about 350 to 550° C., and recovering maleic anhydride from the reaction mixture.

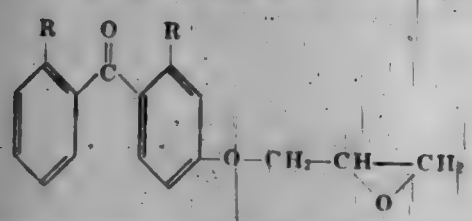
2,967,186

SUBSTITUTED BENZOPHENONES

David A. Gordon and Billy E. Burgert, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Nov. 5, 1958, Ser. No. 771,971
4 Claims. (Cl. 260—348)

1. A compound corresponding to the formula



wherein one R is hydrogen and the other R is a hydroxyl group.

2,967,187

PRODUCTION OF ANTHRAQUINONE

Carl Serres, Jr., Whiting, Ind., and Ellis K. Fields, Chicago, Ill., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana

No Drawing. Filed Dec. 31, 1958, Ser. No. 784,036
9 Claims. (Cl. 260—369)

1. A process for the production of a compound selected from the group consisting of anthraquinone, carboxy-anthraquinones and chloro-anthraquinones which comprises reacting benzoic acid with a compound selected from the group consisting of alkyl benzenes and nuclear chlorinated alkylbenzenes having at least one methyl substituent in the presence of a catalyst selected from the group consisting of phosphoric acid and polyphosphoric acid at a temperature between about 150° C. and about 250° C. to produce a substituted benzophenone having a methyl substituent on the carbon adjacent to the ring carbon attached to the ketone group, oxidizing said substituted benzophenone with molecular oxygen in the liquid phase in a lower aliphatic monocarboxylic acid solvent and in the presence of a catalyst comprising in conjoint presence bromine and a heavy metal oxidation catalyst to convert said methyl substituent to a carboxylic acid group, effecting intramolecular ring closure of said oxidized benzophenone by contacting with an acidic reagent and separating said compound as a reaction product.

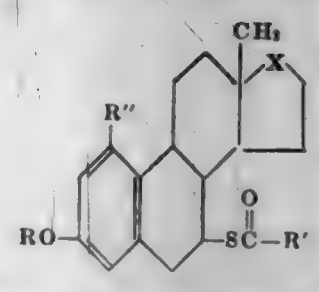
2,967,188

3,17-BISOXYGENATED 7-ACYLTHIOESTRA-1,3,5(10)-TRIENES

Raymond M. Dodson, Park Ridge, and Robert C. Tweit, Wilmette, Ill., assignors to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware

No Drawing. Filed July 27, 1959, Ser. No. 829,541
4 Claims. (Cl. 260—397.4)

1. A compound of the structural formula



wherein X is selected from the group consisting of carbonyl, β-hydroxymethylene, and β-(lower alkanoyl)oxymethylene radicals; R is selected from the group consisting of lower alkyl and lower alkanoyl radicals; R′ is a lower alkyl radical; and R″ is selected from the group consisting of hydrogen and methyl radicals.

2,967,189

NEUTRALIZATION PROCESS

Samuel C. Farrington, Hoboken, N.J., assignor to Lever Brothers Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Oct. 12, 1959, Ser. No. 845,652
8 Claims. (Cl. 260—400)

1. A process for the neutralization of acidic impurities in a fatty acid ester of sodium isethionate, said process comprising treating the impure fatty acid ester of sodium isethionate with a soap.

2,967,190

PROCESS FOR THE PREPARATION AND PURIFICATION OF ALKYL MERCURIC SALTS

Heinrich Klös, Wuppertal-Elberfeld, Germany, assignor to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Oct. 12, 1956, Ser. No. 615,472
Claims priority, application Germany Oct. 14, 1955
4 Claims. (Cl. 260—431)

1. A process for obtaining a purified alkyl mercuric salt from a solution containing a compound selected from the group consisting of an alkali salt, an alkaline earth salt and an ammonium salt which comprises (*a*) making the solution alkaline, (*b*) introducing acetylene into a crude alkaline solution of an alkyl mercuric salt to form an insoluble alkyl mercuric acetylide, (*c*) separating precipitated alkyl mercuric acetylide and (*d*) contacting said alkyl mercuric-acetylide with a member selected from the

group consisting of an organic acid and an inorganic acid in an inert solvent at a temperature of about 30° C. to about 150° C.

2,967,191

ALKENYL MERCURY MERCAPTIDES

Albert L. Flenner, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Apr. 20, 1959, Ser. No. 807,297
5 Claims. (Cl. 260—431)

1. A compound of the formula

where

R'HgSR

R' is an alkenyl radical containing from 2 through 6 carbon atoms and

R is a monovalent hydrocarbon radical containing at least one hydroxyl group and bearing from 2 through 18 carbon atoms and selected from the group consisting of alkyl, alkenyl, and cycloalkyl radicals, with the proviso that each carbon atom of the radical can have at most but one hydroxyl group and the carbon atom attached to sulfur has no hydroxyl groups.

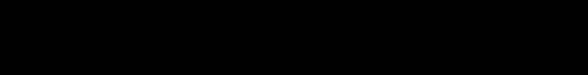
2,967,192

LUBRICANT COMPOSITION

Simon W. Kantor, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

No Drawing. Filed May 13, 1958, Ser. No. 734,814
2 Claims. (Cl. 260—448.2)

1. An organopolysiloxane lubricating fluid having the average formula



where R' is a member selected from the class consisting of monovalent hydrocarbon radicals free of aliphatic unsaturation and halogenated monovalent hydrocarbons free of aliphatic unsaturation, and a has a value of from 0.1 to 2.0, inclusive, the sum of $a+b$ is equal to from 2.0 to 2.4.

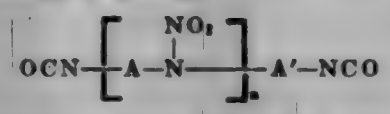
2,967,193

NITRAZA DIISOCYANATES

Karl Klager, Monrovia, and Clinton R. Vanneman, Claremont, Calif., assignors to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio

No Drawing. Filed July 8, 1955, Ser. No. 520,914
16 Claims. (Cl. 260—453)

1. As compositions of matter, the nitraza diisocyanates having the general formula:



wherein A and A' are lower alkylene radicals and n is a small whole number from 1 to 6 inclusive.

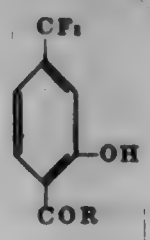
2,967,194

4-TRIFLUOROMETHYLSALICYLAMIDES

Murray Hauptschein, Glenside, Pa., assignor to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed May 15, 1958, Ser. No. 735,643
6 Claims. (Cl. 260—473)

1. Amino 4-trifluoromethylsalicylates represented by the formula



wherein R is a member selected from the class consisting of amino, phenylamino, hydrazino, and hydroxylamino.

6. The compound methyl 4-trifluoromethylsalicylate.

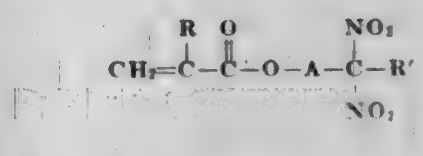
2,967,195

POLYNITROALKYL ESTERS OF ALKENOIC ACIDS

Marvin H. Gold, Pasadena, Calif., assignor to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio

No Drawing. Filed Dec. 8, 1953, Ser. No. 397,006
20 Claims. (Cl. 260—486)

1. As new compositions of matter the nitro substituted alkyl alkenoates having the general formula:



wherein R is a radical selected from the group consisting of hydrogen and lower alkyl radicals, R' is a lower alkyl radical and A is an alkylene radical having from 1 to 2 carbon atoms inclusive.

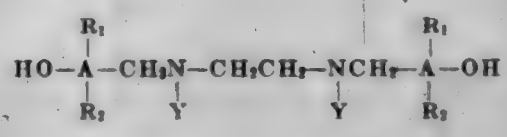
2,967,196

ETHYLENEDIAMINEDIACETIC ACIDS CONTAINING PHENOLIC GROUPS

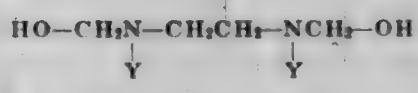
Harry Kroll, Warwick, John V. Simonian, Greenwood, and Martin Knell, Warwick, R.I., assignors to Geigy Chemical Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 6, 1955, Ser. No. 551,208
7 Claims. (Cl. 260—507)

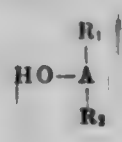
1. A method for the preparation of a compound of the formula



wherein A is a benzene ring containing R_1 and R_2 as sole further substituents in addition to the —OH group, R_1 is a member selected from the group consisting of H and lower alkyl, R_2 is a member selected from the group consisting of lower alkyl, SO_3M and COOM and is in para position to the aromatic hydroxy group, which in turn is ortho to the carbon atom in the benzene ring bonded to the methylene group attached to the ethylenediamine structure, and Y represents a —CH_2COOM group, M being a member selected from the group consisting of hydrogen, an alkali metal ion and an ammonium ion, which comprises refluxing the corresponding dimethylolethylenediaminediacetate of the formula



wherein Y is as precedingly defined, in aqueous medium with a phenol of the formula



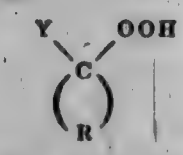
wherein A, R_1 and R_2 are as precedingly defined.

2,967,197
DIFUNCTIONAL ALIPHATIC COMPOUNDS PREPARED FROM PEROXIDES AND HALOGENS

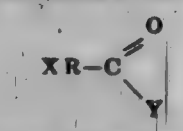
Gifford W. Crosby, River Forest, and John B. Braunwarth, Crystal Lake, Ill., assignors to The Pure Oil Company, Chicago, Ill., a corporation of Ohio

No Drawing. Filed Dec. 13, 1956, Ser. No. 628,008
16 Claims. (Cl. 260—539)

1. The process which comprises converting a compound of the general formula

(I) 

into a compound of the general formula

(II) 

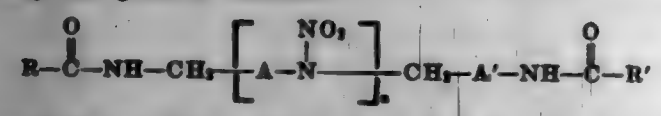
wherein in said formulas, X is a halogen selected from the group of chlorine and bromine, Y is a substituent selected from the group of hydroxyl, and alkyl groups of 1 to 6 carbon atoms, and R is a divalent hydrocarbon radical free of olefinic double bonds and containing from 3 to 9 carbon atoms, by reaction of compounds of formula I with said halogen in the presence of a redox reducing agent at a temperature not greater than about 30° C. sufficient to effect the reaction and separating a compound of Formula II from the resulting reaction mixture.

2,967,198
POLYNITROAMIDES

Milton B. Frankel, Pasadena, and Karl Klager, Monrovia, Calif., assignors to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio

No Drawing. Filed Oct. 25, 1954, Ser. No. 464,611
16 Claims. (Cl. 260—561)

1. As new compositions of matter, the nitraza diamides having the general formula:



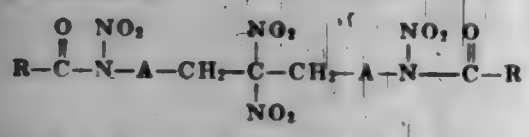
wherein R and R′ are lower alkyl radicals, A and A′ are lower alkylene radicals, and *n* is a small whole number of from 1 to 4 inclusive.

2,967,199
NITRAMIDES

Milton B. Frankel, Pasadena, and Karl Klager, Monrovia, Calif., assignors to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio

No Drawing. Filed Oct. 25, 1954, Ser. No. 464,612
8 Claims. (Cl. 260—561)

1. As new compositions of matter, nitramides having the general formula:



wherein R is a lower alkyl radical and A is a lower alkylene radical.

2,967,200
PREPARATION OF KETOXIMES

Robert Everett Foster, Hockessin, Del., and Arthur Francis Kirby, Woodbury, N.J., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Jan. 28, 1959, Ser. No. 789,477
11 Claims. (Cl. 260—566)

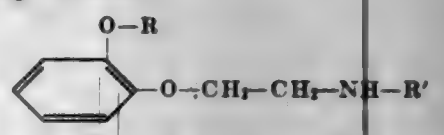
1. A process for the preparation of a ketoxime which comprises hydrogenating a nitro compound selected from the group consisting of nitro cycloalkanes and secondary nitro alkanes, the reaction mass being in contact with lead in an amount of at least 100 parts of lead per million parts of said nitro compound, and a hydrogenation catalyst selected from the group consisting of palladium, platinum, reduced nickel, reduced cobalt, and copper chromite catalysts, at a temperature within the range of 60° C. and the decomposition temperature of said nitro compound.

2,967,201
ALKYLAMINOALKYL ETHERS OF PHENOLS

Quentin F. Soper, Indianapolis, Ind., assignor to Eli Lilly and Company, Indianapolis, Ind., a corporation of Indiana

No Drawing. Filed June 2, 1958, Ser. No. 738,968
4 Claims. (Cl. 260—570.7)

1. A compound selected from the class consisting of an amine base and its nontoxic, pharmaceutically-acceptable acid addition salts, said amine base being represented by the following formula:



wherein R is a radical selected from the group consisting of ethyl and methyl and R′ is a straight chain alkyl radical having from 4 to 5 carbon atoms.

2,967,202
PREPARATION OF VINYL AROMATIC COMPOUNDS

Sterling E. Voltz, Chester, and Sol W. Weller, Drexel Hill, Pa., assignors to Houdry Process Corporation, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Aug. 24, 1956, Ser. No. 605,955
2 Claims. (Cl. 260—578)

1. In the method in which ortho vinyl aniline is prepared by the catalytic vapor phase dehydrogenation of ortho ethyl aniline, the improvement whereby formation of indole is inhibited which comprises the steps of: passing a gas stream consisting essentially of a mixture of ortho ethyl aniline and a volume of elemental inert gas larger than the volume of ortho ethyl aniline over a catalyst consisting essentially of activated alumina containing a concentration of platinum within the range from 0.1 to 5% by weight and containing not more than 0.1% by weight chloride, said catalyst being prepared by dechloriding the reduced product from impregnating activated alumina with chloroplatinic acid, said gas stream being passed over said catalyst at about atmospheric pressure at an hourly liquid space rate within the range from about 1 to about 2 volumes of liquid ortho ethyl aniline per volume of catalyst per hour at a temperature within the range from about 450° C. to about 600° C. to dehydrogenate ortho ethyl aniline to form hydrogen and ortho vinyl aniline; withdrawing an effluent gas stream from the catalyst; separating a normally liquid fraction from such effluent gas stream; and distilling such liquid product in the presence of a polymerization inhibitor under vacuum at an absolute pressure of only a few mm. of mercury to separate a technical grade of ortho vinyl aniline.

2,967,203
VINYL ETHER POLYMER SYNTHETIC LUBRICANTS

Joseph F. Nelson and Fred W. Banes, Westfield, and William P. FitzGerald, Florham Park, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed May 28, 1954, Ser. No. 433,302
7 Claims. (Cl. 260—615)

7. A process for the preparation of low molecular weight homopolymers of vinyl alkyl ether having utility

as synthetic lubricating oils which comprises the steps of admixing a vinyl alkyl ether having about 4 to 12 carbon atoms in the molecule with cyclohexane as a diluent in a diluent to monomer ratio by volume of about .8:1 to 5:1, adding to the mixture from about 2 to about 6 weight percent of di-tertiary butyl peroxide as a catalyst, heating the mixture in a pressure vessel to a temperature of about 100 to about 200° C. such that the catalyst decomposes for about 2 to about 6 hours and stripping the resulting material to a top temperature of about 300 to about 350° C. at atmospheric pressure to obtain a vinyl alkyl ether homopolymer material as a residue having a flash point in excess of 350° F. and a viscosity in the range of about 30 to about 280 SUS at 210° F.

2,967,204

HYDROGENATION OF AROMATICS WITH A TUNGSTEN AND NICKEL SULFIDE, SUPPORTED ON ALUMINA, CATALYST COMPOSITE

Harold Beuther and Richard A. Flinn, Penn Hills Township, Allegheny County, and Joseph B. McKinley, New Kensington, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Filed Aug. 4, 1958, Ser. No. 753,109
2 Claims. (Cl. 260—667)

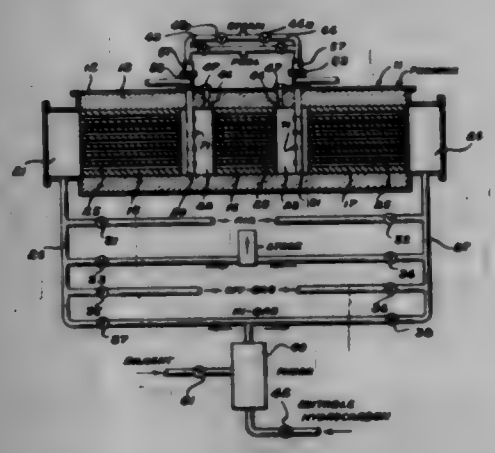
1. A process comprising passing an aromatic containing material and hydrogen at a temperature of 550° to 850° F. and a pressure of 500 to 4000 pounds per square inch gauge over a sulfided catalyst comprising between about 15 and 26 percent by weight of tungsten and nickel supported upon alumina, said catalyst prepared by impregnating the alumina with tungsten before impregnating with nickel and sulfiding the metals by passing a mixture containing hydrogen and hydrogen sulfide in a hydrogen-hydrogen sulfide volume ratio between 2:1 and 12:1 over the impregnated metals at a temperature between about 600° and 700° F. for a time duration of about 4 to 12 hours.

2,967,205

PROCESS OF AND APPARATUS FOR PRODUCING ACETYLENE AND ETHYLENE

Clarence J. Coberly, San Marino, Calif., assignor to Wulff Process Company, Huntington Park, Calif., a corporation of California

Filed Sept. 24, 1956, Ser. No. 611,541
13 Claims. (Cl. 260—679)



1. In a regenerative furnace for the pyrolysis of hydrocarbons, the combination of: a first regenerative mass; a second regenerative mass axially aligned with and longitudinally spaced from said first mass to provide a first combustion space therebetween; a third regenerative mass axially aligned with said first and second masses and longitudinally spaced from said second mass to provide a second combustion space therebetween; a first fuel injection means extending into said first combustion space and having a plurality of nozzles in said space all directed axially of the furnace and only towards said second mass; and a second fuel injection means extending into said second combustion space and having a plurality of nozzles in said space and all directed axially of the furnace and only towards said second mass.

7. A method of operating a regenerative furnace having two spaced regenerative masses and a space therebetween, including the steps of: heating one of said masses to a temperature adapted to crack a suitable hydrocarbon in an in-gas; conveying such an in-gas through said one of said masses, through said space, and through the other of said masses so as to crack a substantial portion of said in-gas in said one of said masses; conveying a cooling fluid in a predetermined confined and tortuous path through said space during the passage of the cracked gas through said space; and maintaining the temperature of said cooling fluid substantially below the maximum temperature of the cracked gas during the passage of said cracked gas through said space so as to cool said cracked gas substantially.

2,967,206

METHOD OF PREPARING POLYPROPYLENE WITH A SUB CHLORIDE OF ZIRCONIUM OR TITANIUM ACTIVATED BY MONO ALKYL ALUMINUM DIHALIDE

Archibald P. Stuart, Media, and Habet M. Kheighatian, Springfield, Pa., assignors to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

No Drawing. Filed Oct. 28, 1957, Ser. No. 692,554
6 Claims. (Cl. 260—683.15)

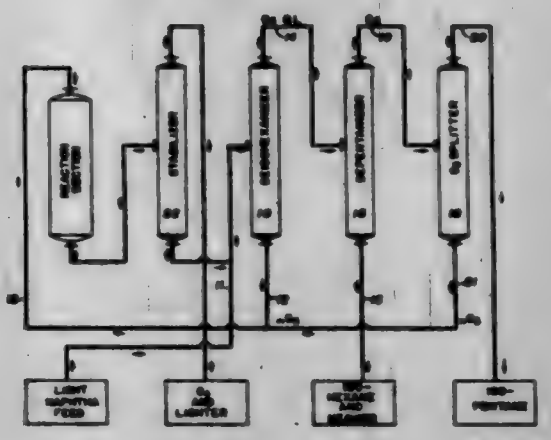
1. A process for preparing normally liquid polymers of propylene which comprises contacting propylene, under polymerizing conditions, with a catalyst consisting of a subchloride of a metal selected from the group consisting of titanium and zirconium in combination with an activator therefor, which is a monoalkyl aluminum dichloride, wherein the alkyl group has from 1 to 4 carbon atoms.

2,967,207

SILICA-ALUMINA CATALYST COPROMOTED WITH PALLADIUM AND IRON-GROUP METAL, AND ISOMERIZATION PROCESS CATALYZED THEREBY

Elmer L. Miller, Cary, and Hillis O. Folkins, Crystal Lake, Ill., assignors to The Pure Oil Company, Chicago, Ill., a corporation of Ohio

Filed Nov. 27, 1957, Ser. No. 699,272
10 Claims. (Cl. 260—683.65)



1. An isomerization catalyst consisting essentially of a silica-alumina catalyst, composited to evince acidic properties and hydrocarbon cracking activity, and copromoted with 0.01–1.0% by weight, based on total catalyst composition, of metallic palladium and a small amount of a group VIII metal of the iron series, wherein

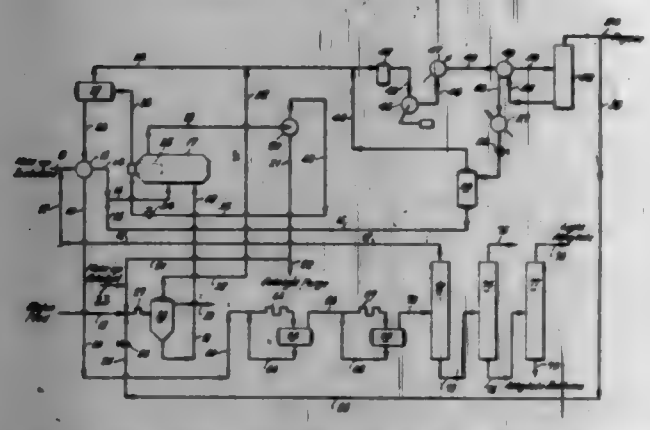
the amount by weight of the latter constituent is not greater than about 0.6 of the weight of the former constituent.

2,967,208

TWO-STAGE ALKYLATION PROCESS

Frank A. Clauson, Roslyn Heights, N.Y., and David K. Beavon, Darien, Conn., assignors to Texaco Inc., a corporation of Delaware

Filed July 11, 1958, Ser. No. 748,003
3 Claims. (Cl. 260—683.61)



1. In a two stage isobutane-olefin alkylation process wherein, in a first stage reaction zone, a hydrocarbon feed containing a low molecular weight olefin reactant for alkylation is contacted with alkylation strength catalyst for absorption of the olefin in the catalyst, thereby forming a rich catalyst phase, and, in a second stage reaction zone, said rich catalyst phase is contacted with isobutane and said second stage reaction zone is refrigerated by the evaporation of hydrocarbons including propane and isobutane forming a second stage reaction zone vapor, said second stage reaction zone vapor is condensed and fractionally distilled separating a propane rich fraction and an isobutane rich fraction, and said isobutane rich fraction is passed to said second stage reaction zone, the improvement which comprises: injecting at least a part of said propane rich fraction into said first stage reaction zone conjointly with said olefin reactant and said catalyst, maintaining the pressure on said first stage reaction zone at least atmospheric and sufficiently low for vaporizing propane from the resulting mixture at a temperature between minus 30° and plus 20° F., thereby evolving vapors comprising propane from, and concomitantly chilling associated liquid phase materials in said first stage reaction zone to a temperature between minus 30° and plus 20° F., and combining said vapor from said first stage reaction zone with said vapor from said second stage reaction zone prior to condensing and fractionally distilling vapor from said second stage reaction zone whereby said vapors are condensed and fractionally distilled in admixture.

2,967,209

RECOVERY OF RUTHENIUM VALUES

William E. Grummitt and William H. Hardwick, Deep River, Canada, assignors, by mesne assignments, to the United States of America as represented by the United States Atomic Energy Commission

No Drawing. Filed June 18, 1948, Ser. No. 33,924
6 Claims. (Cl. 23—87)

1. A method for the recovery of ruthenium from its aqueous solutions comprising oxidizing the ruthenium to the octavalent state and subsequently extracting the ruthenium into a halogen substituted liquid paraffin being one of a group consisting of tetrachlorethane, tetrabromomethane, carbon tetrachloride and mixtures thereof.

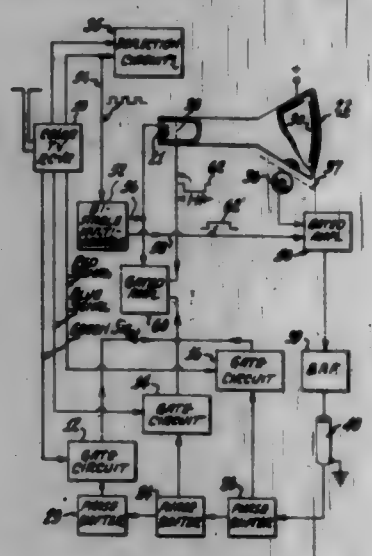
ELECTRICAL

2,967,210

DELAY-COMPENSATED INDEXING SYSTEM

Ray D. Kell, Princeton, N.J., assignor to Radio Corporation of America, a corporation of Delaware

Filed June 30, 1955, Ser. No. 519,156
10 Claims. (Cl. 178—5.4)



9. A television system which comprises: image-reproducing apparatus having a screen made up of a plurality of repeating groups of color light-emitting elemental areas and means for scanning said areas in a succession of fields each including a plurality of vertically spaced lines to energize said areas sequentially, said scanning means comprising line and field scanning control circuits; a source of color-representative signals corresponding to said color light-emitting areas; means associated with said image-reproducing apparatus for deriving index signals from the scansion of said screen in a line scanning direction; modulating means coupled operatively between said color signal source and said index signal deriving means and controlled by such index signals for applying color-representative signals to said image-reproducing apparatus sequentially in such manner as to modulate the intensity of such screen area energization; delay means for delaying the application of index signals to said modulating means for substantially the period of one scanning line interval; means operating in synchronism with said line scanning control circuit for causing alternate lines of a field to be devoted; at least in part, solely to the production of index signals, said means comprising a gate controlled by pulses occurring at the repetition rate of said scanning line intervals for periodically interrupting the application color-representative video signals to said image-reproducing apparatus, such that said selected lines constitute screen search lines while the remaining lines of said field constitute display lines active in the production of image light.

2,967,211

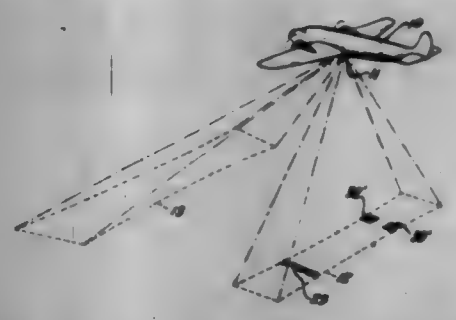
OPTICAL SCANNING MECHANISM

Henry Blackstone and Frank G. Willey, Roslyn, N.Y., assignors to Servo Corporation of America, New Hyde Park, N.Y., a corporation of New York

Filed Nov. 13, 1952, Ser. No. 320,272
31 Claims. (Cl. 178—6.7)

19. Optical scanning means, comprising focusing-mirror means, relatively fixed energy-responsive means at the focus of said mirror means, said mirror means imaging said energy-responsive means in a field of view remote from said scanning means, a support for said mirror means and rotatable about an axis inclined to

the optical axis of said mirror means and passing through said energy-responsive means, means for continuously rotating said support, whereby said energy-responsive



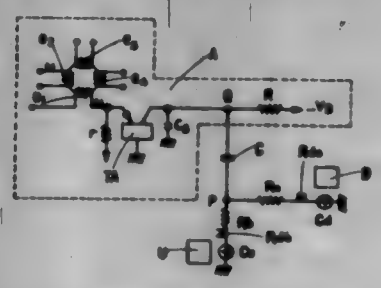
means may scan a line in the field of view, display means including a sweep synchronized with rotation of said support, and an intensity modulation on said sweep and responsive to the output of said energy-responsive means

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2,967,212
IDENTIFYING TESTING OR DISCRIMINATING DEVICE

Pierre Burstow, Paris, and Claude Monin, Villennes-sur-Seine, France, assignors to Compagnie Industrielle des Telephones, Paris, France, a corporation of France

Filed Aug. 12, 1958, Ser. No. 754,608
Claims priority, application France Aug. 28, 1957
5 Claims. (Cl. 179—18)



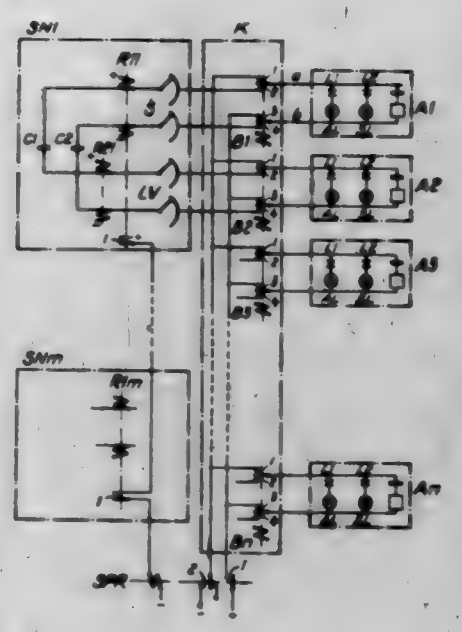
1. An electrical switching device for the determination of the electrical state of telecommunication lines, each line comprising as a line relay a magnetostatic relay comprising a transistor, said relay having a terminal the potential of which may assume two different values depending upon the operated condition of said relay, each line relay having a condenser with one electrode connected to said terminal, with the other condenser electrode connected through at least one decoupling resistance to at least one multipling point, each multipling point being connected to an operating circuit common to all the lines, each operating circuit comprising in series one rectifier and at least one control winding of an indicator relay controlled by the pulses through a respective condenser caused by variations of the potential of the terminal of a respective line relay.

2,967,213
TELECOMMUNICATION SYSTEM

Martin H. Dubois, Hagersten, Sweden, assignor to Svenska Relafabriken ABN AB, Tyreso, Sweden, a Swedish joint-stock company

Filed Oct. 18, 1957, Ser. No. 691,013
Claims priority, application Sweden Oct. 22, 1956
4 Claims. (Cl. 179—81)

1. In a telecommunication system, a plurality of subscriber stations, a central exchange, lines including at least two conductors connecting the subscriber stations with the central exchange, connecting circuits in the central exchange, switching means in the exchange for establishing connections between calling and called subscriber stations over said connecting circuits, switching means in the central exchange responsive to the engagement of a subscriber station in a call to apply a direct voltage of a first polarity to said two line conductors connecting the subscriber station with the exchange, switching means in the exchange responsive to the seizure of all connecting circuits to apply a direct voltage of a second polarity to said two line conductors of all subscriber stations not

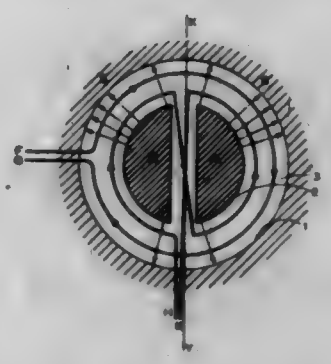


engaged in a call, first and second lamp indicating means connected to said two line conductors at each subscriber station, said first indicating means being responsive to the voltage of said first polarity, and said second indicating means being responsive to the voltage of said second polarity.

2,967,214
MOVING COIL ELECTRO-MECHANICAL TRANSDUCERS

Philip Barnet Vanderlyn, Ickenham, England, assignor to Electric & Musical Industries Limited, Hayes, England, a company of Great Britain

Filed Sept. 18, 1956, Ser. No. 610,533
Claims priority, application Great Britain Sept. 23, 1955
11 Claims. (Cl. 179—100.41)

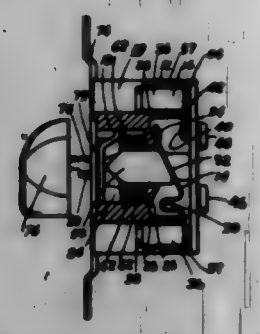


6. A moving coil electro-mechanical transducer comprising a magnetic circuit having an air gap across which a steady magnetic flux is established, and first and second coils one of which is wound in a non-reversing manner and the other of which is wound in a reversing manner, said coils having active portions effectively disposed about a common axis, and means mounting said coils so as to be capable of movements together both translationally and angularly in said air-gap, said translational movements being substantially in the direction of said common axis, and said angular movements being about an axis substantially at right angles to and substantially intersecting said said common axis.

2,967,215
CONTROL DEVICE

Harold E. Whiting, Milwaukee, Wis., assignor to Square D Company, Detroit, Mich., a corporation of Michigan

Filed Nov. 25, 1957, Ser. No. 698,426
4 Claims. (Cl. 200—6)

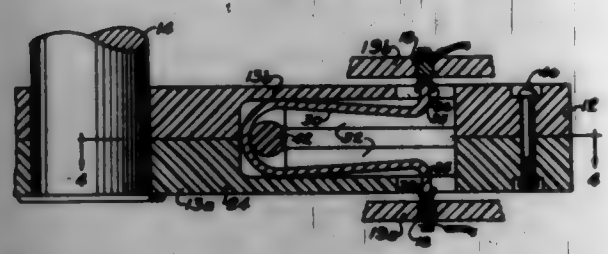


3. In a multiposition electric switch, the combination comprising; a switch housing, a rod having a rectangular cross-sectional shape rotatable in either direction from a neutral position in the housing, an indexing means arranged for resiliently maintaining the rod in any one of three positions, means on said housing engageable with a portion of the rod for limiting the movement of said rod between the three positions, a pair of spaced movable contacts engageable with a pair of stationary contacts, a pair of contact actuators for moving the movable contacts and a means comprising a disc-like cam having an eight pointed central opening for receiving the rectangular cross section rod and moving the actuators in response to the rotation of the rod in the housing, said disc-like cam having a pair of cam surfaces extending from the opposite disc faces and wherein one of the cam surfaces on each side of the disc is of different chordal length than the remaining cam surfaces and wherein the cam may be positioned on the actuating rod so either of said pair of cam surfaces is engageable with the actuators.

2,967,216
CONTACT MAKING ASSEMBLY

Henry S. Zablocki, 181 Hillside Ave., Nutley, N.J., and Morris A. Shriro, 88 Sheridan Ave., Mount Vernon, N.Y.

Filed Mar. 8, 1960, Ser. No. 13,623
5 Claims. (Cl. 200—24)

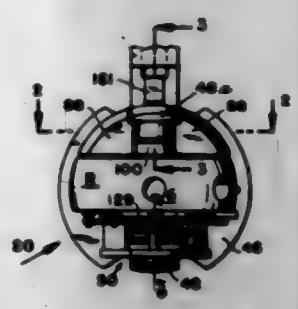


5. A rotatable contact making assembly, for making contact to a pair of spaced electrically conductive surfaces, comprising a wheel, including an insulator hub portion and a cavity portion; a plurality of hairpin shaped resilient members located in the cavity, each of said resilient members including a pair of leg portions terminating in angularly bent end portions outwardly extending with respect to each other, said leg portions being joined by an integral loop portion, said resilient members being formed of flat stock oriented to provide a long dimension along the plane of rotation and a thin dimension transverse thereto, said plurality of members being secured to said hub portion by a resilient O-ring member; and contact members affixed to said angularly bent end portions, whereby said leg portions are inwardly bent when said surfaces are contacted by said contact members, so as to place the said resilient members in stress.

2,967,217
ESCAPEMENT ARMING SWITCH

Louis Alpert, China Lake, Calif., assignor to the United States of America as represented by the Secretary of the Navy

Filed Aug. 4, 1953, Ser. No. 372,489
2 Claims. (Cl. 200—61.45)
(Granted under Title 35, U.S. Code (1952), sec. 266)

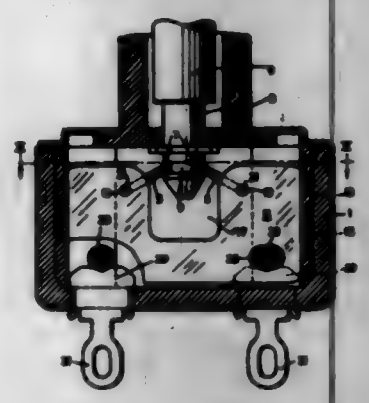


1. In acceleration actuated mechanism of the type comprising an unbalanced rotor mounted for rotation in response to bodily acceleration of the mechanism adapted to rotate between an initial and final position, an escapement device operatively connected to the rotor adapted to be actuated thereby in response to rotation of the rotor and govern the speed thereof, a weight movable in response to bodily acceleration of the mechanism operatively associated with the rotor constructed and arranged to lock same against rotation in said initial position when the acceleration is below a predetermined magnitude and to unlock the rotor for rotation when the acceleration is above said predetermined magnitude and permit the rotor to rotate toward said final position, the improvements in combination comprising; a shaft operatively connected to the rotor and arranged for rotation by the latter, a switch actuator engageable with an end of said shaft adapted to disengage said end upon predetermined rotation of said rotor, and an electric switch adapted to be actuated by the switch actuator.

2,967,218
SWITCH

Hendrik Dorjee, Eindhoven, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

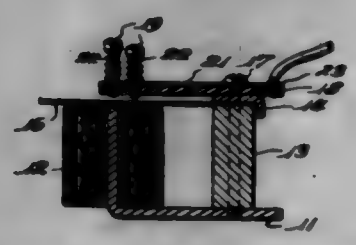
Filed Mar. 2, 1959, Ser. No. 796,428
2 Claims. (Cl. 200—76)



1. A switch comprising a switch housing, an axially movable operating spindle therein, having at least one wire spring acting as a snap-over spring, a movable contact member movable in the axial direction by said spring, said snap-over spring comprising two opposed, U-shaped parts which are connected together by a continuous wire part and are formed by bending over the end parts of a straight wire, the movable contact member comprising two apertured plate-shaped insulating parts which are arranged parallel and symmetrically with respect to the operating spindle and are guided in axially directed grooves provided in the inner surface of the switch housing and which are each provided with a cen-

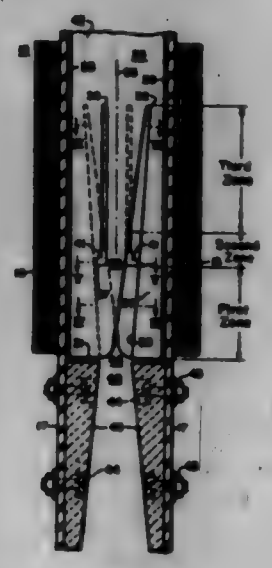
tral recess through which the continuous wire part of the snap-over spring passes, said continuous wire part resting in a circumferential groove of the operating spindle while the free ends of the spring are passed with some clearance through the apertures adjacent the recesses, the movable contact comprising at least one metal rod which is passed with some clearance through another aperture in each of the two insulating parts at right angles thereto, while the springs and said metal rod are locked against displacement with respect to the contact member by the switch housing.

2,967,219
VIBRATING REED CONTROL DEVICE
Leo L. Galin, 5712 N. Leonard Ave., Chicago, Ill.
Filed May 15, 1959, Ser. No. 813,404
4 Claims. (Cl. 200—90)



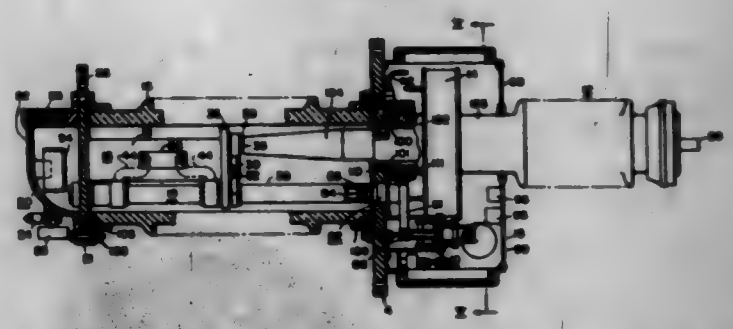
1. In a vibrating reed device, a mounting means of electrically insulating material; a plurality of vibratile members having different resonant frequencies, said members being mounted in spaced opposed relationship to said mounting means; means for causing selective vibration of said vibratile members; a plurality of contacts secured in said mounting means, each of said contacts being movable generally perpendicularly of said mounting means and being adapted to make intermittent contact with one of said vibratile members when said member is vibrating; a printed circuit on said mounting means comprising a plurality of conductive strips each of which terminates adjacent one of said movable contacts, and resilient electrically conductive means disposed between said contacts and said conductive strips for making electrical contact therebetween.

2,967,220
CIRCUIT INTERRUPTERS
James D. Finley, Monroeville, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Nov. 18, 1958, Ser. No. 774,674
7 Claims. (Cl. 200—144)



1. A circuit interrupter including contact means for establishing initially a single arc, an arc chute for receiving said single arc and for causing its subsequent subdivision into two, generally parallel disposed arcs, each of said two arcs extending substantially the entire length of said arc chute, said arc chute including a multiplicity of spaced, parallel-disposed, elongated insulating plate portions extending generally transversely of said initially established single arc, a plurality of said elongated insulating plate portions each having only two slots, namely a first slot and a second slot, the first slot being tapered and open at the end of the elongated plate portion facing the contact means and closed at the other end thereof, said first slot extending generally longitudinally of the elongated plate portion, said second slot being closed at both ends and also extending generally longitudinally of the elongated plate portion, the first and second slots being laterially spaced apart with the closed end of the second slot nearest the contact means positioned an appreciable distance inwardly from said one end of the elongated plate portion, said spaced insulating plate portions being alternated so that the first slot of one plate overlies the second slot of the next plate, the alternated plate structure thus having, in effect, three zones, namely a first single-arc, zig-zag, restrictive introductory primary zone created by the divergence of successive first slots toward the exhaust end of the arc chute in causing the single initially established arc to become elongated in a zig-zag manner, a second parallel, double-arc, alignment secondary zone created by alignment of said closed ends of the second slots with intermediate portions of the first slots, whereby a pair of substantially straight, non-obstructed arc passages extend the entire length of the arc chute for effecting subdivision of the initially established single arc into two, substantially-parallel, secondary arcs through the two alignment passages, and a third parallel double-arc, zig-zag, restrictive tertiary zone caused by divergence of the first and second slots toward the exhaust end of the arc chute, whereby each of the two secondary arcs is lengthened in a zig-zag manner toward the exhaust end of the arc chute until extinction occurs.

2,967,221
CIRCUIT INTERRUPTER
Robert E. Friedrich, Baldwin Borough, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Sept. 14, 1956, Ser. No. 609,915
11 Claims. (Cl. 200—145)



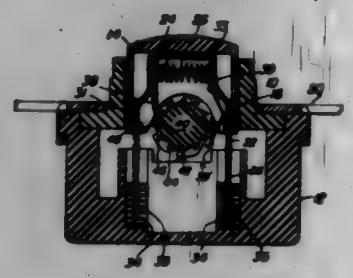
1. The combination in a single-bushing type of circuit interrupter of a hollow insulating casing, line terminal means disposed adjacent one end of said hollow insulating casing, a single terminal bushing extending into the other end of said hollow casing including a conductor stud, an interrupting assembly disposed interiorly within said casing including an arc-extinguishing unit and a rotatable contact shaft, means electrically connecting said interrupting assembly to said line terminal means and to said conductor stud, the axis of rotation of said rotatable contact shaft being substantially parallel to the axis of said casing, said arc-extinguishing unit including relatively stationary contact structure, said rotatable contact shaft carrying one or more movable contacts cooperable with said relatively

stationary contact structure, and the center-line of said rotatable contact shaft and the center-line of said arc-extinguishing unit being off-center from each other and both off-center from the center-line of said terminal bushing to minimize the space within said hollow casing.

2,967,222
SWITCH MECHANISM FOR ALTERNATELY ENERGIZING BRANCH CIRCUITS

Robert H. Bentley, Hartford, Conn., assignor to The Arrow-Hart & Hegeman Electric Company, Hartford, Conn., a corporation of Connecticut

Filed Mar. 25, 1959, Ser. No. 801,817
4 Claims. (Cl. 200—156)



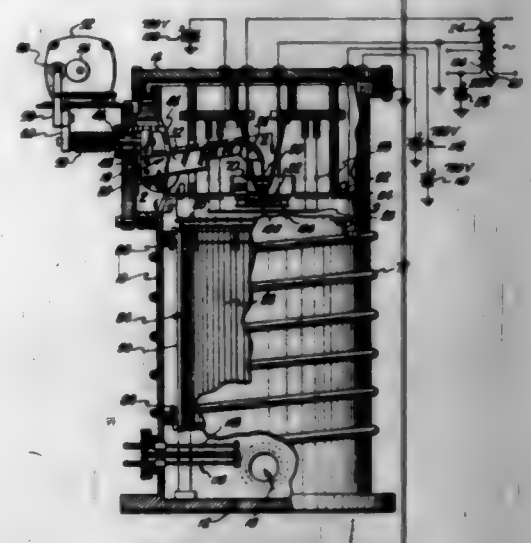
1. In an electric switch, movable contact members, fixed contact members engageable and disengageable by said movable contact members, an operating push button, means biasing said button into retracted position, double pawl means movable with said button, ratchet means engageable by one of said double pawl means on depression of said button and by the other of said double pawl means on retraction of said button, cam means movable with said ratchet means and having lobes and recesses to cause engagement of one movable with one fixed contact member on a first depression of said button and separation of said movable and said fixed contact both on retraction and on a second depression and second retraction of said button, a second cam means movable with said ratchet means and having lobes and recesses to maintain a second movable contact member separated from a fixed contact member during said first depression and first retraction of the button and on said second retraction of the button and to cause engagement of the second movable and fixed contact members on said second depression of the button.

2,967,223
FEEDER MECHANISM

Raymond G. Herb, Madison, Wis., assignor to Wisconsin Alumni Research Foundation, Madison, Wis., a non-profit corporation of Wisconsin

Filed Nov. 26, 1958, Ser. No. 777,542
12 Claims. (Cl. 219—19)

1. In apparatus for evaporating a wire in a housing which defines a vacuum chamber, a feeder for feeding the wire to a heated surface in the chamber at which the wire is to be evaporated, comprising storage means located inside the vacuum chamber for holding a supply of the wire, a guide member located adjacent the storage means inside the chamber for receiving wire from the storage means and guiding it to the heated surface, means disposed between the storage means and the guide member for feeding wire from the storage means to the guide member, a shaft extending through the housing of the vacuum chamber and coupled to the guide member, a flexible vacuum-tight seal located between the shaft and the housing of the vacuum chamber to permit movement of the shaft, and a motor coupled to the end of the shaft which is located outside the housing for moving the shaft to cause the guide member and the wire guided by it to move back and forth with respect to the heated surface at which the wire is to be evaporated, so that the back and forth movement of the guide member causes a portion of the wire to be evaporated during each cycle of the movement and so that the evaporated material

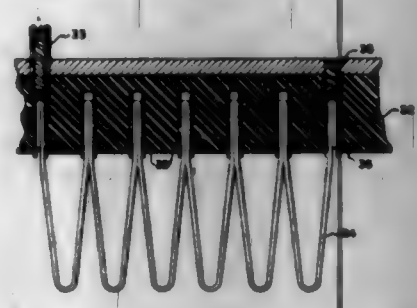


does not tend to plug the guide member and thereby interfere with movement of the wire through the guide member.

2,967,224
HOT WIRE IGNITER

John A. Irwin, Wayne, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Filed Oct. 8, 1956, Ser. No. 614,701
10 Claims. (Cl. 219—32)



1. A hot wire igniter comprising, a resistance wire formed into a plurality of W-shaped projections, a conducting sleeve segment terminating the top of each projection, said segments carried in spaced relationship in a dielectric.

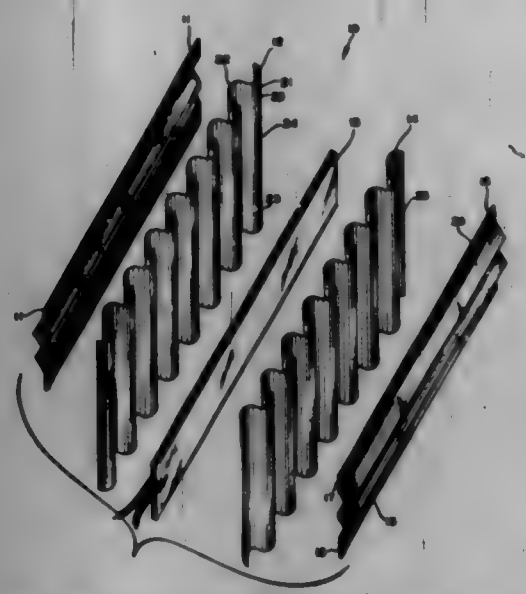
2,967,225
ELECTRIC HEATER

Ralph A. Carrier, Jr., Gerton, and Franklin C. Farnam, Asheville, N.C., assignors to The Farnam Manufacturing Company, Incorporated, Asheville, N.C., a corporation of North Carolina

Filed May 19, 1959, Ser. No. 814,274
2 Claims. (Cl. 219—34)

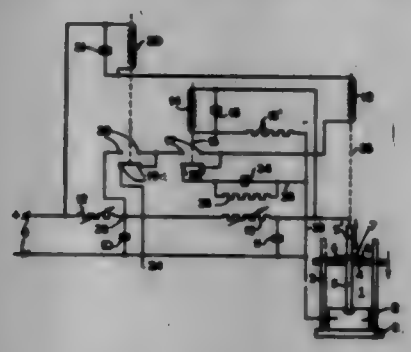
1. A baseboard type heating assembly formed from high heat conducting material having low mass, said assembly comprising a pair of elongated, corrugated radiators each having inner and outer risers, means for securing said radiators together with said inner risers lying in mutually facing relationship, means defining aligned recesses in each of said inner rises to form an opening extending longitudinally of said radiators, an electrical heater element removably positioned within said elongated reflector plate secured to the outer risers on respective radiators, means defining at least one rib on each reflector plate for strengthening the same longitudinally and for localizing heat emitted by said heater element, a grill having at least a top wall and a front wall, means for resiliently suspending said radiators on edge within said grill with the corrugations thereof ex-

tending vertically in spaced relationship with respect to said grill walls to induce circulation of air, means on said grill walls for introducing fresh air to the supported



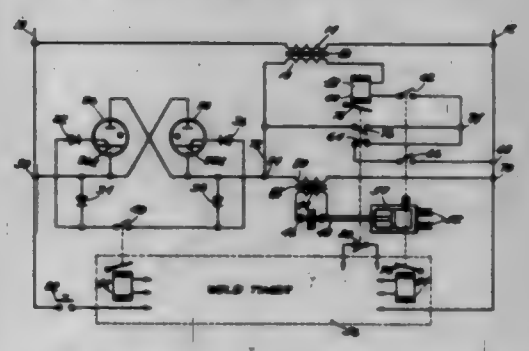
edge of said radiators, and means on said grill walls permitting rise of heated air across said heater element and said radiators for creating a draft.

2,967,226
DEVICE FOR PROCESSING METALS
Hendrik Elias de Bruijn, Eindhoven, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Jan. 12, 1959, Ser. No. 786,300
Claims priority, application Netherlands Feb. 27, 1958
10 Claims. (Cl. 219—69)



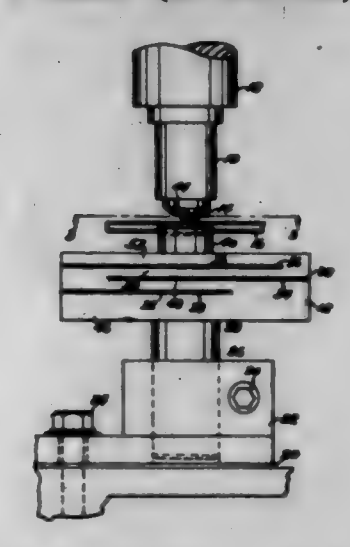
1. A device for processing a metal workpiece comprising a support, a guide member movably mounted on said support, a holder suspended on said guide member, an electrode mounted in said holder, means mounted on said holder for moving said guide member toward said workpiece when said electrode is moved toward the said workpiece, first supply means for supplying electrical energy to said electrode and said workpiece in a manner whereby an electrical discharge occurs between the said electrode and the said workpiece when the said electrode and the said workpiece are in operative proximity to each other, said discharge causing erosion of the said workpiece at the area of proximity of the said electrode, means for deriving a control voltage proportional to the mean current flowing through said electrode, the mean electrode current having a magnitude which is a maximum upon electrical discharge between said electrode and said workpiece and which decreases as the distance between the said electrode and the said workpiece increases, electromagnetic actuating means for periodically moving said electrode toward said workpiece, second supply means for supplying electrical energy to said actuating means to energize the said actuating means thereby to cause said electrode to move toward said workpiece, said second supply means having a recurrence frequency which is low relative to that of said first supply means, and means dependent upon said control voltage for energizing said actuating means periodically in a manner whereby said electrode is moved toward said workpiece upon a decrease in magnitude of the said mean electrode current resulting from an increase in distance between the said electrode and the said workpiece caused by erosion of the said workpiece in the area of the said electrode.

2,967,227
CONTROL CIRCUIT
Robert C. Mierendorf and Clarence W. Porter, Wauwatosa, Wis., assignors to Square D Company, Detroit, Mich., a corporation of Michigan
Filed July 8, 1958, Ser. No. 747,179
5 Claims. (Cl. 219—108)



1. In a control system, the combination comprising a weld sequence timer; a transformer having a primary and secondary winding, a pair of movable electrodes connected in circuit with the secondary winding, means controlled by the timer and energizable for moving the electrodes into engagement with a work piece, a second transformer having a secondary winding connected in circuit with the primary winding of the first transformer, a relay having an actuating coil and a pair of normally closed contacts in the circuit connecting the secondary winding and primary winding, whereby the energization of the relay is dependent on the energization of windings in circuit therewith, means responsive to the energization of the means for moving the electrodes for controlling the energization of the secondary winding of the second transformer and means responsive to the energization of the relay for controlling the weld timer.

2,967,228
WELDING DIE
Joseph H. Tindall, Pontiac, Mich., assignor to Progressive Welder Sales Company, Pontiac, Mich., a corporation of Michigan
Filed Oct. 20, 1958, Ser. No. 768,482
7 Claims. (Cl. 219—119)



1. A welding die comprising a block formed of an electrically conductive material, said block being divided

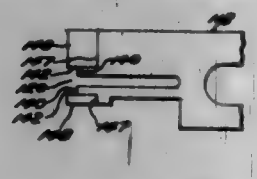
into a plurality of superposed laminations, the laminations being serially connected at opposite ends with the adjacent laminations and with the adjacent laminations being spaced from each other along the portions thereof extending from the serially connected ends thereof, whereby when current is caused to pass through said die, the current travels a zig-zag path through the series of laminations and the electrical fields induced thereby in each of said laminations oppose the electrical fields in the adjacent laminations whereby to urge said laminations apart.

2,967,229

PERCUSSION-WELDING ELECTRODES

Steve F. Chuma, Downey, Calif., and Richard C. Steen, La Grange, Ill., assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Filed Oct. 24, 1958, Ser. No. 769,385
3 Claims. (Cl. 219—119)



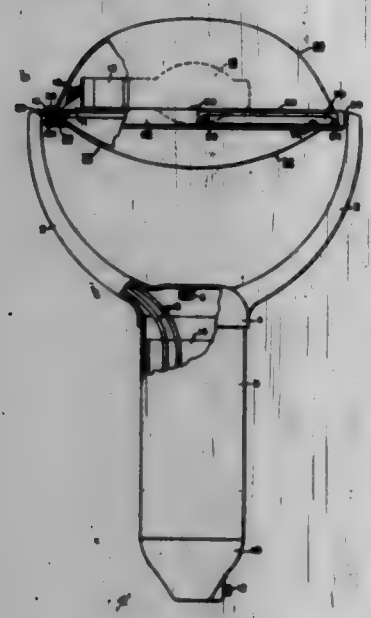
1. In a percussion-welding apparatus, a metal electrode for carrying a part to be welded along a predetermined path and having a thrust surface at one end thereof disposed transversely of the path of travel for engaging one face of the part, and a pair of elements of dielectric material cemented to said end of said electrode in spaced relation to each other for releasably holding the part therebetween in engagement with said thrust surface.

2,967,230

LUMINAIRE

Alfred K. Goetz, Cleveland, and Edward L. Beach, Fairview Park, Ohio, assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Sept. 28, 1955, Ser. No. 537,128
9 Claims. (Cl. 240—3)



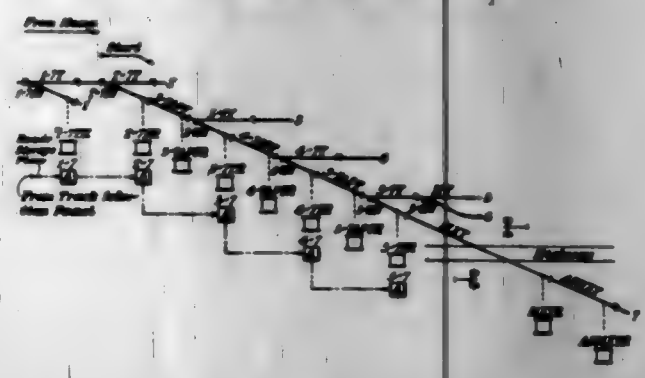
6. A luminaire comprising, a support ring, a transparent closure secured to said ring over one side thereof, a reflector cover secured to said ring over the opposite side thereof, lampholding means supported on said ring for supporting a lamp in the space between said reflector cover and said transparent closure, supporting means engaging said ring from the exterior for supporting the luminaire comprising a supporting pivot arm, and means on the outer edge of said ring for rotatably receiving said pivot arm including releasable clamping means engaging said arm for preventing pivotal movement of the luminaire thereon at any selected angular position.

2,967,231

HIGHWAY CROSSING WARNING SYSTEM

John C. Elder, Penn Township, Allegheny County, Pa., assignor to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania

Filed Aug. 28, 1957, Ser. No. 679,167
10 Claims. (Cl. 246—2)



2. In a railway car classification yard comprising a lead track connected through a plurality of track switches to a plurality of classification tracks and provided with an automatic switch control system comprising switch control storages for cuts of cars moving to the classification tracks, said said system including a route storage unit for each track switch in said yard and transfer means operating when a cut of cars traverses each switch for transferring the switch control storages for aligning the route for said cut to the storage unit for the switch next in advance along said route; in combination, a highway crossing at least one classification track in said yard, a warning system for said highway, a crossing warning relay for said warning system, an approach warning track stretch for said highway comprising a series of track sections each provided with a track circuit including a track relay, at least one destination identity relay included in each route storage unit for each track switch located within the approach to said highway, means controlled by said transfer means for energizing at least one of said destination identity relays when a storage for a route other than over said highway is stored in one of said storage units, and means controlled by said destination identity relays and said track relays for controlling said crossing warning relay.

2,967,232

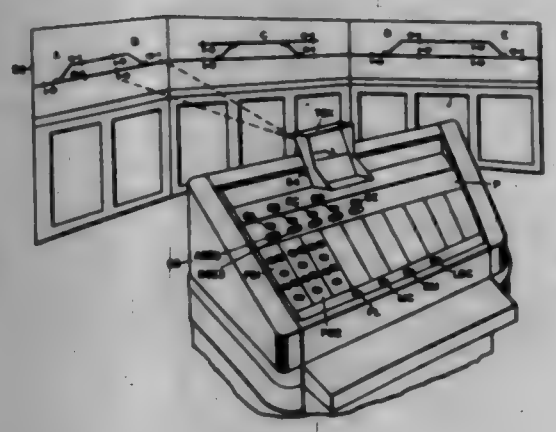
SWITCH AND SIGNAL CONTROL SYSTEM FOR RAILROADS

Glenn O. Ferm, Willis R. Smith, and Reginald F. Albrighton, Rochester, N.Y., assignors to General Railway Signal Company, Rochester, N.Y.

Filed Mar. 20, 1957, Ser. No. 647,253
19 Claims. (Cl. 246—5)

1. A switch and signal control system for governing from a control office several spaced groups of track switches and signals disposed along a stretch of railway track comprising, a sectional master control panel at the control office for use selectively with the several groups having several identical panel sections, self-restoring electrical switches similarly disposed on each panel section for the designation respectively of the normal and reverse positions of a track switch and the opposite directions for which signals may be cleared in a selected group, manually operable designating means on the master control panel for the selection of the respective groups of track switches and signals that are to be subject to control by the actuation of said self-restoring switches on

said master panel, track switch and signal control storage means at the control office for storage of control code selections for transmission to the respective track switches and signals in each of the respective groups, and code



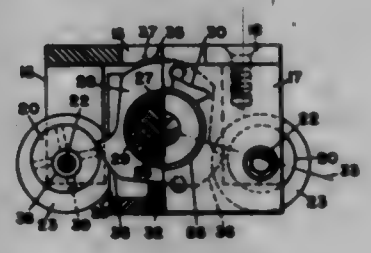
communication apparatus located at said office and at the spaced groups effective when initiated and when a particular group has been designated for then transmitting the respective stored control code selections for that group.

2,967,233

SWITCH POINT INDICATOR FOR RAILWAY TRAFFIC CONTROLLING SYSTEM CONTROL PANELS

Carlton T. Jackson, Conesus, N.Y., assignor to General Railway Signal Company, Rochester, N.Y.

Filed Mar. 21, 1957, Ser. No. 647,678
3 Claims. (Cl. 246—162)



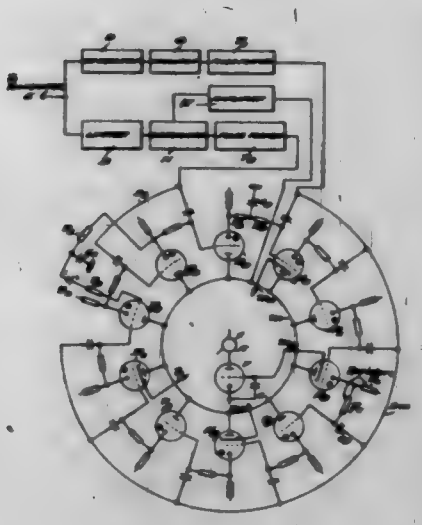
1. A movable switch point indicator for a track diagram on a panel comprising, two laterally spaced U-shaped electromagnetic structures, each of said structures having a pole piece at the same end of one leg thereof, a yoke of magnetic material connecting the other legs of said U-shaped magnetic structures, said yoke having an arcuate surface in a portion between the two magnetic structures, an armature pivotally disposed adjoining said arcuate surface of said yoke and said pole pieces having a plurality of arcuate surfaces in its periphery, one of said surfaces being adjoining the arcuate portion of said yoke and other of said arcuate surfaces of said armature being adjoining the pole pieces of the two laterally disposed U-shaped electromagnetic structures, and a pointer indicative of a switch point in the track diagram secured to said armature so as to be rotated thereby, whereby energization of one of said electromagnetic structures rotates said pointer in one direction by passage of flux through said armature from said yoke to one of said pole pieces and the energization of the other of said electromagnetic structures rotates said pointer in the other direction by the passage of flux through said armature from said yoke to the other of said pole pieces.

2,967,234

METHOD OF AND APPARATUS FOR CYCLIC TRANSMISSION OF DATA

Gian Franco Piazza, Wettingen, Switzerland, assignor to Aktiengesellschaft Brown, Boveri & Cie, Baden, Switzerland, a company of Switzerland

Filed Mar. 20, 1958, Ser. No. 722,781
Claims priority, application Switzerland Mar. 22, 1957
1 Claim. (Cl. 250—6)



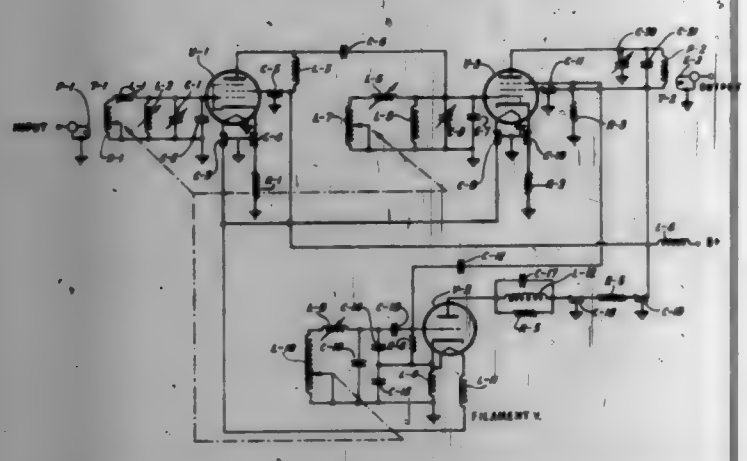
Apparatus for the cyclic transmission of data comprising a transmitter producing a gapless string of amplitude modulated data pulse groups and synchronizing pulse groups interposed between said data pulse groups, said data pulse groups including pulses of variable frequencies corresponding respectively to the different data to be transmitted, and said pulses in said synchronizing groups being of different but constant frequency and of the same period of amplitude modulation as said data pulses; and a receiver connected to said transmitter, said receiver including a counting ring comprising a first group of tube pairs arranged for step-like conduction, there being a tube pair for each pulse in said data pulse group and a second group of another pair of tubes arranged for synchronization of the conduction of the tubes of the first group, a demodulator connected to said transmitter, an oscillator connected to and controlled by the output of said demodulator, a first pulse former connected to said oscillator for converting the oscillator output into a sequence of periodically occurring impulses corresponding to the frequency of modulation of said pulses, means applying the output from said first pulse former to the tube pairs of said first group of tubes in said counting ring for controlling their step-by-step conduction, a limiter connected to said transmitter for eliminating the amplitude modulation of said pulses, a discriminator connected to the output of said limiter for producing a unidirectional voltage which varies with the variation in the respective frequencies of said pulses, a second pulse former connected to the output from said discriminator for producing a pulse each time said unidirectional voltage changes abruptly from one value to another corresponding to the abrupt change in the frequency of the pulses in said synchronizing group, means applying the output from said second pulse former to the tube pair of said second group of tubes in said counting ring for synchronizing the periodic operation of the tubes in said first group, means applying the direct current output from said discriminator to all of the tube pairs of said first group, and pulse data measuring means connected to each of said tube pairs of said first group.

2,967,235

RADIO TUNER WITH COMPENSATED FREQUENCY VERSUS GAIN CHARACTERISTIC

Edward C. Braun, Cincinnati, Ohio, and John W. Herlinger, Fort Thomas, Ky., assignors to Avco Corporation, Cincinnati, Ohio, a corporation of Delaware

Filed Jan. 5, 1960, Ser. No. 642
5 Claims. (Cl. 250—20)



1. A radio frequency tuner for a radio frequency signal receiver having frequency-gain characteristic compensation comprising an inductance tunable radio frequency vacuum tube amplifier stage, an inductance tunable mixer stage comprising a pentode vacuum tube arranged for suppressor grid local oscillator signal injection and having an oscillator drive-conversion gain characteristic with a relatively steeply sloped portion, said mixer stage being connected to receive the radio frequency output of said radio frequency amplifier stage, a variable-frequency vacuum tube local oscillator circuit connected to provide a local oscillator signal to the suppressor grid of said pentode tube, said local oscillator signal supplied to said pentode tube being of an amplitude to cause said mixer to operate at a point on the steeply sloped portion of its oscillator drive-conversion gain characteristic, means for simultaneously varying the tuning of said radio frequency amplifier, said mixer and said local oscillator circuit, and means for causing variation of the amplitude of output of said local oscillator circuit supplied to said pentode tube and displacement of said point with changes in output frequency of said local oscillator circuit, whereby a predetermined desired relation of mixer gain with frequency is produced in said radio frequency tuner to effect a desired frequency-gain characteristic compensation for said radio frequency tuner.

2,967,236

SIGNAL RECEIVING SYSTEMS

Larry A. Freedman, New Brunswick, N.J., assignor to Radio Corporation of America, a corporation of Delaware

Filed Oct. 10, 1957, Ser. No. 689,443
1 Claim. (Cl. 250—20)



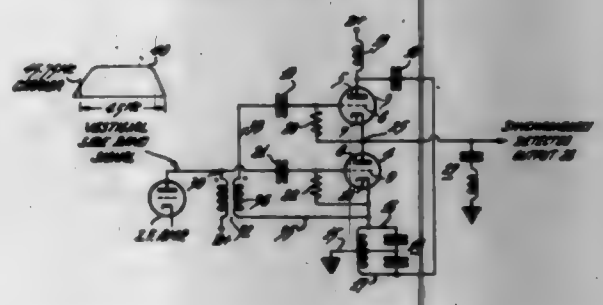
In a signal receiving system the combination comprising, an antenna for said system for receiving a signal, a transistor, means serially coupling said antenna with said transistor including a diode, means forward biasing said diode for the reception of signals below a predetermined amplitude to provide a low impedance path for signal translation between said antenna and said transistor, automatic gain control means for reducing said forward bias and to provide a reverse bias for said diode in response to signals of increasing amplitude to attenuate signals applied to said transistor and prevent signal overload of said receiving system, and a resistor connected in parallel with said diode to limit the signal attenuation thereof and permit the interchanging of transistors in said system.

2,967,237

SYNCHRONOUS DETECTOR

Louis F. Schaefer, Kew Gardens, and Albert Macovski, Massapequa, N.Y., assignors to Radio Corporation of America, a corporation of Delaware

Filed Mar. 26, 1958, Ser. No. 724,196
3 Claims. (Cl. 250—20)



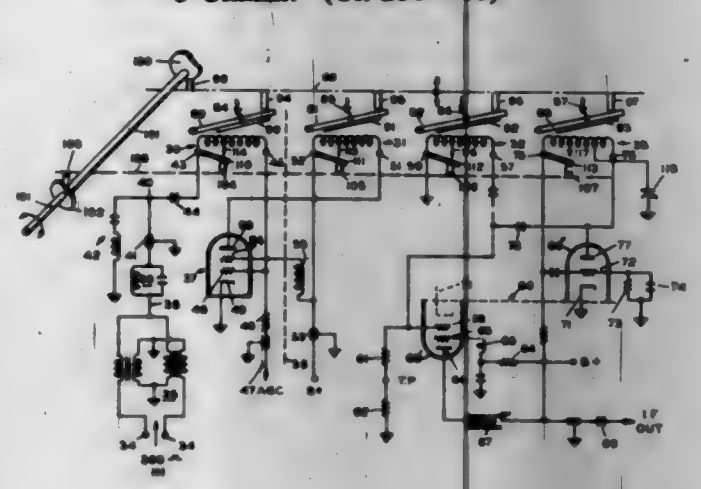
1. A synchronous detector comprising, a source of bias potential relative to a point of reference potential, first and second amplifier devices connected in series between said source of bias potential and said point of reference potential, said amplifier devices each including input and output electrodes, a source of amplitude modulated carrier wave signals to be demodulated, means coupling said source of signals to input electrodes of both of said devices in the same polarity, a narrow band circuit tuned to a frequency bearing an integral relation to that of said carrier wave and coupled to output electrodes of both of said devices, means coupling the output of said narrow band circuit to input electrodes of both of said devices in opposite polarities, and means to derive a synchronously detected signal from a junction between said two series-connected amplifier devices.

2,967,238

TUNER FOR TELEVISION RECEIVERS

Cleon F. Frey, Pasadena, Calif., assignor to Standard Coil Products Co., Inc., Melrose Park, Ill., a corporation of Illinois

Filed Apr. 10, 1957, Ser. No. 651,881
5 Claims. (Cl. 250—40)



1. A tuner for the reception of VHF broadcast signals having lower band and higher band frequencies compris-

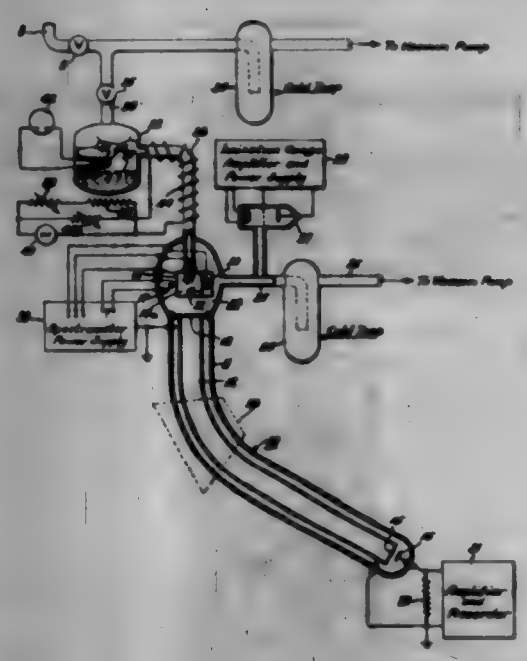
ing a plurality of multiple turn coils of pancake shape in circuit within the tuner, circuit means for short-circuiting a section of each of said coils to change the tuning mode of the tuner from the lower band to the higher band, means for controllably varying the inductance of each of said coils to effect the tuning-in of the VHF broadcast signals in each of the bands, said varying means including a metallic plate mounted adjacent each of said coils and mechanism for displacing said coils and plates in unison towards and away relative to each other to provide the tuning for the tuner in each of the frequency bands, and a common control shaft for operating said mechanism and said circuit means to establish progressive tuning-in of said VHF broadcast signals throughout said bands, said mechanism including a non-metallic member with a flat surface securing each of said plates for coaction with its associated coil, and cam means secured to said control shaft coactable with said non-metallic member.

2,967,239

METHOD AND APPARATUS FOR ANALYZING CONSTITUENTS OF A SUBSTANCE

Paul D. Zemany, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

Filed Feb. 19, 1954, Ser. No. 411,417
5 Claims. (Cl. 250—41.9)



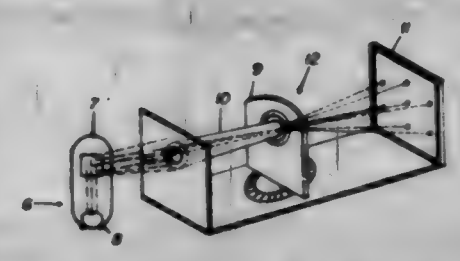
1. Mass spectrometer apparatus comprising an ionization chamber, a sample chamber for containing a specimen relatively non-productive of gases at one temperature but productive of gases at higher temperature, said sample chamber being separate from said ionization chamber and connected for unrestricted gas flow thereto, evacuating means for reducing the pressure of gases within said ionization chamber to less than 10^{-6} millimeters of mercury, by-pass means for adjustably controlling the percentage of gases generated within said sample chamber transmitted to said ionization chamber, means for adjustably controlling the temperature of a specimen within said sample chamber to control the rate of production of gases therefrom, and means including said temperature control means and said by-pass means for limiting the pressure of gases admitted into said ionization chamber from said sample chamber to a value no greater than 10^{-6} millimeters of mercury.

2,967,240

METHOD OF DETECTING AND ELIMINATING FLAWS IN SOLID MATERIAL OF HIGH MOLECULAR ORDER

Hans Otto Koch, Moserstr. 29, Bonn, Germany

Filed Mar. 7, 1958, Ser. No. 719,718
Claims priority, application Germany Mar. 9, 1957
15 Claims. (Cl. 250—53)



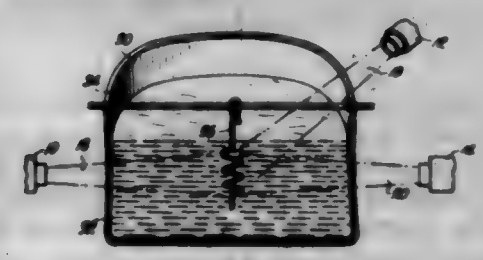
10. Method of detecting and eliminating flaws in a quartz crystal plate which comprises the steps of exposing the surface of the crystal plate simultaneously to the influence of a unidirectional electric field of high intensity and to the effect of a caustic electrolyte, and subjecting said plate also to irradiation by X-rays, and photographing the X-ray interference pattern by means of a Laue camera adapted for minimising divergence of the beam.

2,967,241

METHOD FOR MEASURING AND REPRESENTING THE CONFIGURATION OF FIELDS OF HIGH-ENERGY RADIATION

Frank E. Hoecker, 1503 Haskell, Lawrence, Kans.

Filed Aug. 16, 1954, Ser. No. 450,062
9 Claims. (Cl. 250—83)



1. The method of ascertaining the three-dimensional zone subjected to a predetermined radiation dosage when radiations are directed through a space including said zone along a plurality of intersecting paths for a period of time comprising the steps of disposing within said space a body of liquid material characterized by the property of undergoing transformation to the solid physical state at those portions thereof which are subjected to said predetermined dosage of radiations; passing radiations through at least portions of said space along said paths for said period of time until a solidified, three-dimensional model of said zone of lesser dimensions than said space is produced within said body of liquid; and supporting that portion of said material which solidifies against shifting as the solidification thereof progresses during said period.

2,967,242

TRAVERSING GAUGE MOUNT

Bernard C. Holben, Worthington, Ohio, assignor to Industrial Nucleonics Corporation, a corporation of Ohio

Filed Apr. 30, 1956, Ser. No. 581,453
12 Claims. (Cl. 250—83.3)

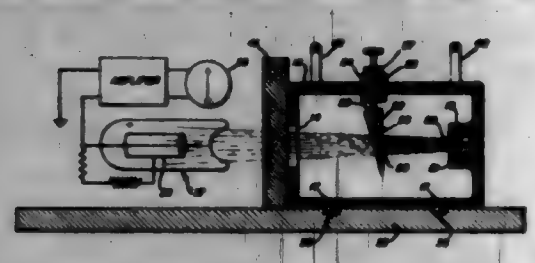
1. An inspecting head adapted for mounting a radiation source and a radiation detector, said head including a pair of spaced arms which are adapted to embrace a traveling sheet for inspecting the same, means for mounting said head for reciprocating movement from on-sheet to off-sheet position and from off-sheet to on-sheet position, said means comprising a pair of rigidly intercon-

nected guide tubes, and a pair of traversing rods respectively slidably mounted in said tubes for telescopic movement relative thereto, said inspecting head being



rigidly secured to mutually adjacent end portions of said rods, and a fluid operated piston and cylinder driving device interconnecting said guide tubes and said inspecting head for effecting reciprocation of the latter.

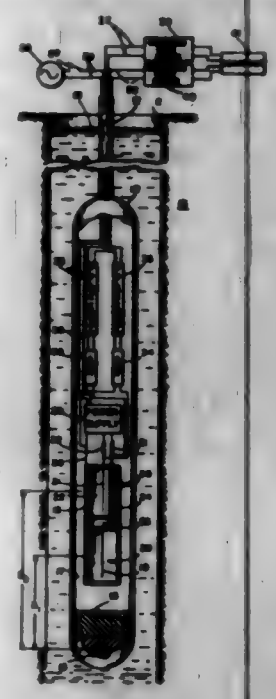
2,967,243
RADIOACTIVE TIMING METHOD AND APPARATUS
Royal Weller, Silver Spring, Md.
(620 Deodar Ave., Oxnard, Calif.)
Filed June 3, 1949, Ser. No. 97,962
6 Claims. (Cl. 250—83.6)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. The method of measuring a predetermined period of time by the decay of radiation of a mass of radioactive material having a known rate of decay which comprises the steps of subjecting a device operable in response to a predetermined amount of radiated energy to the energy emitted from the mass, adjusting the amount of radiated energy received from the mass to said predetermined amount required for operation of the device at the end of the period of time to be measured, measuring the intensity of said adjusted amount of energy, and thereafter readjusting the energy received from the mass to an amount having an intensity which by the known rate of decay of radiation of the mass will have decreased to said measured intensity at the end of said period of time.

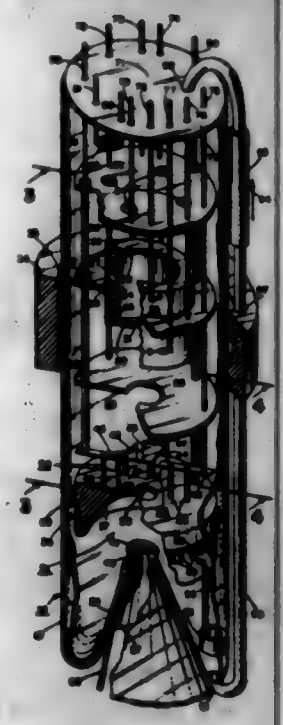
2,967,244
WELL LOGGING APPARATUS
John T. Dewan, Houston, and William D. Lunn, Bellaire, Tex., assignors, by mesne assignments, to Schlumberger Well Surveying Corporation, Houston, Tex., a corporation of Texas
Filed Jan. 16, 1956, Ser. No. 559,488
9 Claims. (Cl. 250—83.6)

1. Apparatus for investigating earth formations traversed by a borehole comprising: a support adapted to be passed through the borehole and having a longitudinal axis; a source of radiant energy carried by said support for irradiating the formations; a radiation responsive device carried by said support for converting resulting radiant energy to electrical signals, said radiation responsive device including fluid tight envelope means defining two counting volumes of an ionizable medium spaced from said source along said axis at different distances, a first electrode extending through one of said counting volumes, a second electrode extending through the other of said counting volumes, an electrical conductor connected to said first electrode and extending through said other counting volume in electrically shielded relation with respect to said second electrode, said electrical conductor being exposed to said ionizable medium, but incapable



of sustaining an electric discharge; and means coupled to each of said first and said second electrodes for deriving respective electrical signals representing radiant energy incident on each of said portions of said envelope.

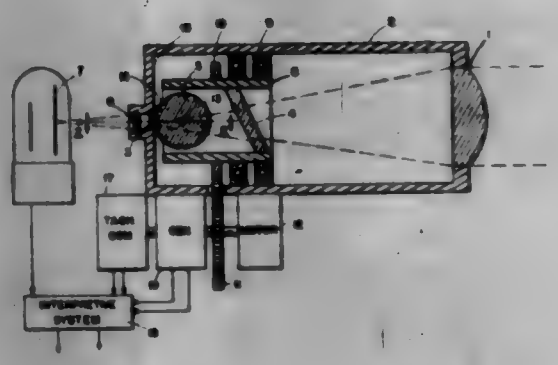
2,967,245
NEUTRON SOURCE FOR WELL LOGGING APPARATUS
Sidney Soloway, Norwalk, Conn., assignor, by mesne assignments, to Schlumberger Well Surveying Corporation, Houston, Tex., a corporation of Texas
Filed Mar. 8, 1954, Ser. No. 414,837
22 Claims. (Cl. 250—84.5)



1. A neutron generating system comprising: a sealed envelope containing an ionizable gas; a target positioned within said envelope and adapted to react with ions of said gas to produce neutrons; an electrode system supported within said envelope and including first electrode means for deriving ions of said gas and second electrode means for accelerating such derived ions in a beam toward said target to a velocity sufficient to effect neutron-producing reaction; deflection electrodes supported within

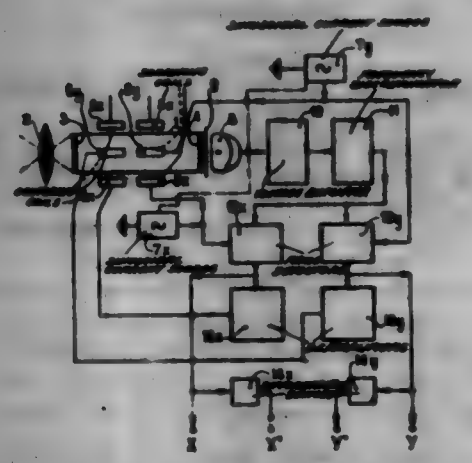
said envelope between said first electrode means and said second electrode means and positioned relative to said beam so as to control the position at which said beam intercepts said target; and means for applying a control potential between said deflection electrodes and one of said first electrode means and said second electrode means to adjust a characteristic of said beam in a preselected manner.

2,967,246
MOVING FIELD SCANNER
Ralph H. Ostergren, Fullerton, Calif., assignor to North American Aviation, Inc.
Filed Feb. 18, 1952, Ser. No. 272,073
8 Claims. (Cl. 250—203)



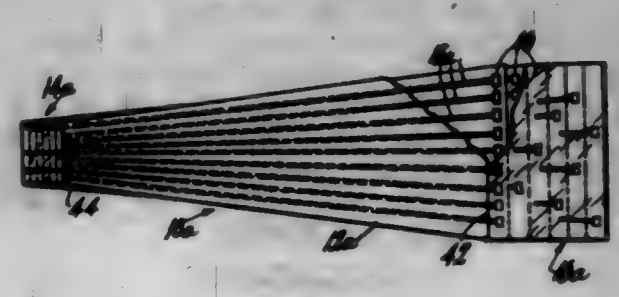
1. Means for measuring the direction of deviation of the line of sight to a celestial body from an optical axis in space comprising photoelectric means for producing signals in response to light transmitted to it, an optical system for gathering light from said body and casting it upon said photoelectric means, and means predeterminately interposed in said optical system for causing the field of said optical system to scan a point on said photoelectric means in repetitive paths which are on radii of said field whereby the phase of output of said photoelectric means is a measure of the direction of deviation of the line of sight to said body from the optical axis of said system.

2,967,247
GONIOMETER WITH IMAGE ANALYSIS BY FREQUENCY MODULATION
Jean Turck, Cochan, France
(139 Rue de la Tour, Paris 16, Seine, France)
Filed June 14, 1954, Ser. No. 436,575
Claims priority, application France June 17, 1953
6 Claims. (Cl. 250—203)



1. An image analysing goniometer, for detecting the movements of an observed objective comprising: a photoelectric detector; passive modulating means located in front of said detector and having the structure of a grid comprising radially directed opaque sectors alternating with non opaque sectors for controlling the light received by said detector; a photographic lens in front of said modulating means for projecting onto the latter an image of the observed objective; control means for producing a periodic relative movement, along a closed path, between the projected image and the modulating means, so that the luminous energy received by the said detector is modulated; a two phase current generator connected with said control means so as to work in synchronism therewith; a frequency discriminator the input of which is connected with the output of the photoelectric detector for detecting the frequency of the electric energy furnished by the said photoelectric detector; and two phase detectors the inputs of which are connected with the output of the frequency discriminator and with the two phase current generator, in order to be controlled by the said frequency discriminator and in synchronism with said control means, so that, on account of the periodic relative movement between the projected image and the modulating means, each deviation of the position of the center of said movement with respect to a reference position given by the modulating means, said phase detectors produce voltages which are functions of the position of the observed objective.

2,967,248
ELECTROLUMINESCENT DEVICE
Frederick H. Nicoll, Princeton, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Sept. 6, 1956, Ser. No. 608,353
14 Claims. (Cl. 250—213)

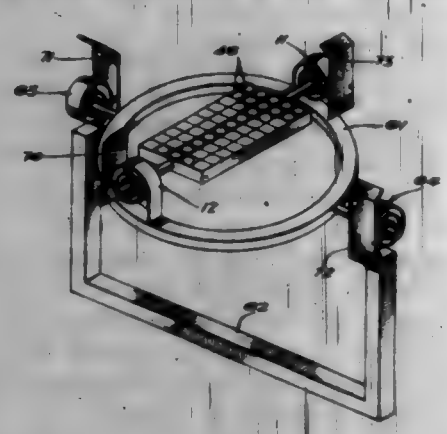


1. An electroluminescent device comprising a photoconductive layer, an electroluminescent layer spaced therefrom, a multiplicity of spaced elongated conductors electrically connecting spaced areas of one surface of said photoconductive layer with corresponding spaced areas of one surface of said electroluminescent layer, the center-to-center spacing between said elongated conductors on one of said surfaces being greater than the center-to-center spacing of said elongated conductors on the other of said surfaces and electrically conductive means on the other surfaces of said layers respectively and adapted to be connected to a voltage source.

2,967,249
SERVOMECHANISM FOR TRACKING A HEAT SOURCE
Robert W. Quirk, Los Angeles, Calif., assignor to Hoffman Electronics Corporation, a corporation of California
Filed Jan. 27, 1959, Ser. No. 789,330
10 Claims. (Cl. 250—215)

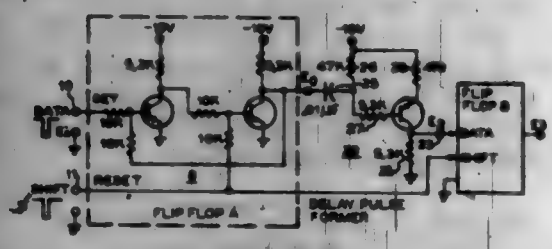
1. A servomechanism for tracking a heat source, comprising: a shaft; first and second bimetallic springs, each having two ends, each being fastened at one of its ends to said shaft, and each being spiraled about said shaft in opposite directions; a base mount, the ends of said springs that are not fastened to said shaft being fastened to said base mount, said springs being the sole support of said

shaft; first and second shields coupled to said first and second springs, respectively, neither of said shields casting a shadow upon either of said springs when the sun is, with respect to said springs, in a front null position in which said springs are equally exposed to said sun, said first shield casting a shadow upon said first spring when said sun is in a position on one side of said front null position, said second shield casting a shadow upon said second spring when the sun is in a position on the other side of said front null position, the extent of said shadows being proportional to the angular displacement of said sun with respect to said front null position, and said springs, when equally exposed to said sun, exerting equal



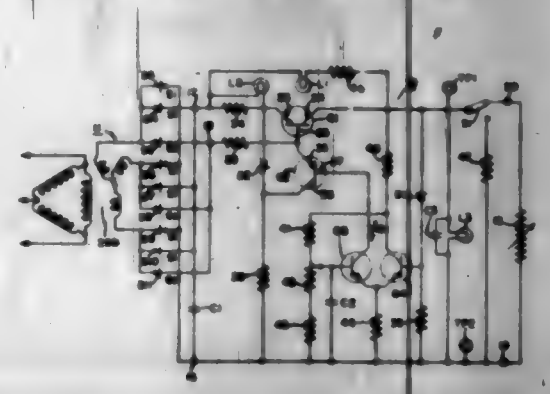
forces in opposite directions upon said shaft, and, when unequally exposed to said sun, exerting unequal forces in opposite directions upon said shaft, thereby moving said shaft until said springs are equally exposed to said sun; a panel of solar cells mounted upon said shaft and oriented so that said solar cells face said sun when said springs are equally exposed to said sun; a third bimetallic spring having two ends, one end thereof being fastened to said shaft, the other end thereof making forceful contact with said base mount whereby expansion of said third spring moves said shaft when said third spring is heated; and a container enclosing said third bimetallic spring and allowing it to be exposed to said sun only when said sun is positioned in a rear null position 180° out of space phase with said front null position.

2,967,250
ELECTRONIC SHIFT REGISTER
Harvey A. Druker, Lansdale, and Laurence R. Brown, Berwyn, Pa., assignors to Briggs Associates, Inc., Norristown, Pa., a corporation of Pennsylvania
Filed Aug. 28, 1959, Ser. No. 836,658
1 Claim. (Cl. 307—88.5)



A shift register circuit comprising in combination, a transistorized flip-flop circuit having only resistive elements coupled to power and pulse sources and adapted for set and reset operation at two separate input points, in response to input voltage level changes, data signal means providing timed aperiodic input voltage level changes to one of said input points to drive said flip-flop circuit into its set condition, shift signal means for providing timed periodic input voltage level changes to the other of said input points to drive said flip-flop circuit periodically into its reset condition at time intervals alternately spaced with the times at which data signals may arrive, switching means including a differentiating circuit responsive to transition of the flip-flop circuit from said set condition into said reset condition to produce an output pulse delayed in time to extend after the flip-flop transition is complete, said switching means comprising a normally inactive transistor of complementary polarity to those in said flip-flop circuit wherein the input circuit of the switching means is coupled to receive output pulses from the differentiating circuit in such polarity to drive said inactive transistor into conduction, and a further flip-flop circuit similar in construction to the first flip-flop circuit coupled to receive the delayed output pulse for driving it into set condition and also coupled to said shift means for driving it into its reset condition responsive to shift signals, whereby data signal conditions are transferred from the first said flip-flop to the last said flip-flop responsive to said shift signals.

2,967,251
ELECTRONIC POWER SUPPLY REGULATOR
Paul A. Dodge, Baldwinsville, N.Y., assignor to General Electric Company, a corporation of New York
Filed June 5, 1957, Ser. No. 663,707
5 Claims. (Cl. 307—151)

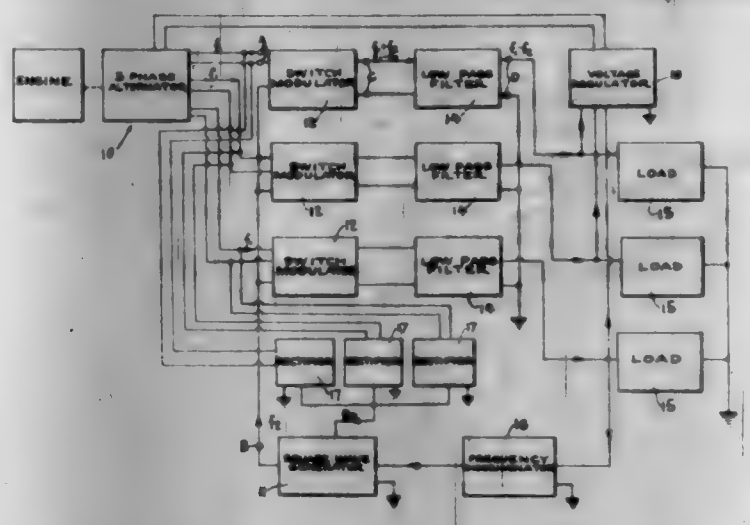


1. Apparatus for producing multiple electrical waveforms of the same shape but differing in instantaneous absolute voltage level comprising, a single source of electrical waveforms; a plurality of solid-state rectifier circuits connected in parallel to the output of said source; one output terminal common to all of said circuits, each of said circuits also having at least one separate output voltage terminal; all of the rectifiers in any one of said plurality of circuits being constructed of the same material, at least two of said circuits containing rectifiers constructed of different materials which have different forward bias voltage requirements; the output voltage appearing between said common terminal and said separate terminal of each of said circuits differing from that of any other of said circuits by an amount which is determined by the difference between the forward bias voltage requirements of the rectifiers in each of the two circuits respectively.

2,967,252
SYSTEM FOR SUPPLYING CONTROLLED FREQUENCY POWER
Richard F. Blake, Mountain Lakes, N.J., assignor to Specialties Development Corporation, Belleville, N.J., a corporation of New Jersey
Filed Aug. 4, 1958, Ser. No. 752,767
16 Claims. (Cl. 307—151)

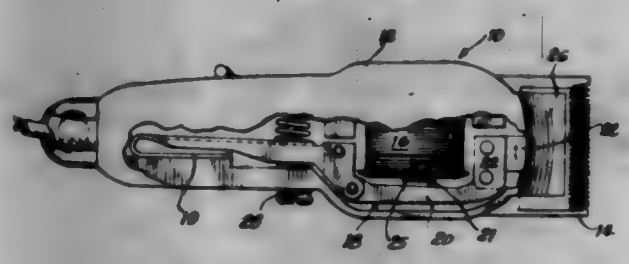
1. A system for supplying controlled frequency power comprising means for converting mechanical power into electrical power having a first frequency, a controlled frequency signal source having a second frequency and powered by electrical energy produced by said power converting means, means connected to said power converting means and said controlled frequency source and powered by the controlled frequency signal for producing substantially single frequency system output power at a

side band frequency of the first frequency, and controlled means connected to said controlled frequency source to



vary the frequency of said controlled source to control the frequency of the output power of said second mentioned means.

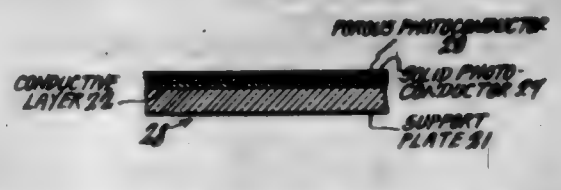
2,967,253
ELECTROMAGNETIC VIBRATORY UNIT
John F. Wahl, Sterling, Ill., assignor to Wahl Clipper Corporation, Sterling, Ill., a corporation of Illinois
Filed May 12, 1958, Ser. No. 734,605
4 Claims. (Cl. 310—29)



1. A vibratory motor comprising a support, a coil energized by a current of fixed frequency mounted on said support, a magnetic circuit associated with said coil, a resilient armature assembly connected to said support and movable back and forth in said magnetic circuit in response to the frequency of the driving force caused by the varying magnetic field, said armature assembly including a magnetic armature and a vibratory resilient work arm including a work contacting portion, said resilient work arm having a natural frequency higher than the frequency of the driving force connected to said magnetic armature, the resilience of said armature assembly selected so the natural frequency of the armature assembly is below the frequency of the driving force under no-load conditions while at stalling loads on said work contacting portion the natural frequency of the armature assembly is less than 50% above the frequency of the driving force whereby the resilience of the work arm will allow the length of the stroke of the magnetic armature at any load to be at least one-third the length of its stroke at no load.

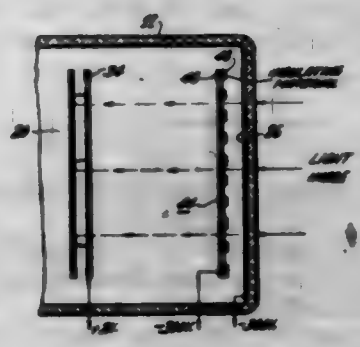
2,967,254
COMPOSITE PHOTOCONDUCTIVE LAYER
Stanley Vincent Forgue, Cranbury, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Feb. 18, 1955, Ser. No. 489,203
11 Claims. (Cl. 313—65)

1. A photosensitive device comprising, a porous photoconductive material, a solid photoconductive material extending over said porous photoconductive material, and



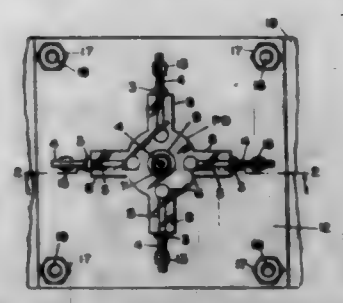
a conductive electrode extending over one of said photoconductive materials.

2,967,255
IMAGE PICKUP DEVICE
Sidney Gray, Somerville, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Aug. 5, 1958, Ser. No. 753,288
8 Claims. (Cl. 313—66)



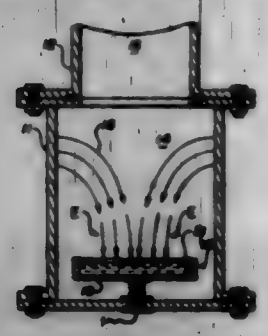
1. An image orthicon comprising a photocathode and a target spaced from said photocathode, wherein photoelectrons are emitted from said photocathode according to light energy received from a scene and said photoelectrons are directed onto said target, and means including a control grid element adjacent to said photocathode for controlling the current density of said photoelectrons arriving at said target in proportion to the number of photoelectrons from said photocathode.

2,967,256
PROTECTIVE DEVICE
Frank X. Rost, Chili, N.Y., assignor to General Railway Signal Company, Rochester, N.Y.
Filed Jan. 9, 1959, Ser. No. 785,818
7 Claims. (Cl. 313—188)



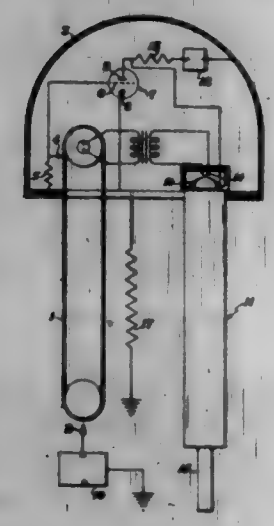
1. A protective device comprising, in combination, a central body, a plurality of longitudinal electrodes intersecting said body and supported thereat, each of said electrodes within said body having a carbon tip electrically connected thereto, one of said electrodes being connected to ground, the other of said electrodes being radially disposed and substantially equally spaced about said one electrode and normal to said one electrode, the carbon tips of said other electrodes being substantially equally spaced about the carbon tip of said one electrode and in the same plane as the carbon tip of said one electrode.

2,967,257
ION PUMP
Norman Milleron, Berkeley, Calif., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed Apr. 24, 1959, Ser. No. 808,257
20 Claims. (Cl. 313—231)



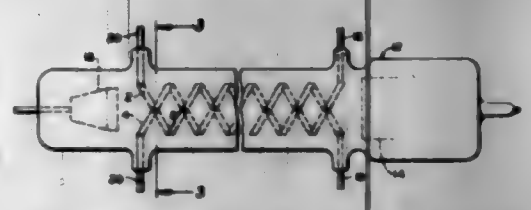
1. In a vacuum ion pump the combination comprising containment means, a quantity of liquid gettering material disposed therein, and magnetic and electric field means disposed to direct and accelerate gaseous ions within said containment means toward said liquid.

2,967,258
PULSING SYSTEM FOR ELECTROSTATIC ACCELERATOR
Alfred J. Gale, Lexington, Mass., assignor to High Voltage Engineering Corporation, Burlington, Mass., a corporation of Massachusetts
Filed Aug. 19, 1957, Ser. No. 678,856
3 Claims. (Cl. 315—3)



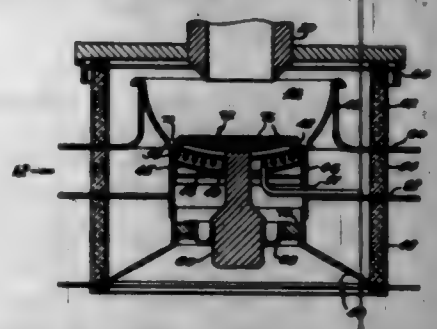
1. Apparatus for producing a pulsed beam of charged particles comprising, in combination with an electrostatic accelerator including a hollow electrode, a charge conveyor for carrying electric charge to said hollow electrode, means for delivering a charging current to said charge conveyor, a charge collector for collecting electric current from said charge conveyor at said hollow electrode, and an acceleration tube having a source of charged particles, means for accelerating charged particles from said source as a beam, and a grid member adapted, by virtue of its potential, to control the beam current issuing from said source through said acceleration tube: means for causing said charging current to alternate between a higher and a lower value; a resistive path electrically connected between said charge collector and said hollow electrode, whereby the potential of said charge collector is a function of the collected current; and means for causing changes in potential of said charge collector to produce corresponding changes in the potential of said grid member such that said grid member alternately transmits and cuts off the beam current in said acceleration tube as the current collected by said charge collector alternates between a higher and a lower value, respectively, in response to the alternation in said charging current.

2,967,259
RESISTANCE-STRAPPED HELIX FOR A TRAVELING WAVE TUBE
Richard P. Legerstrom, Palo Alto, and Daniel G. Dow, Altadena, Calif., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed July 23, 1959, Ser. No. 829,169
5 Claims. (Cl. 315—3.6)



1. A slow-wave structure for use in traveling-wave tubes comprising a multifilar helix including a plurality of separate helices, each separate helix having the same constant pitch, the same constant pitch angle, and the same mean radius, said helices being spaced equally from each other along a common axis; and a plurality of straps spaced periodically from each other along the direction of the axis of the helix, each strap electrically connecting the separate helices together along a diameter of the helix, and each strap comprising lossy material.

2,967,260
ELECTRON TUBE
William W. Eitel, Woodside, Calif., assignor to Eitel-McCullough, Inc., San Bruno, Calif., a corporation of California
Filed May 31, 1957, Ser. No. 662,798
6 Claims. (Cl. 315—5.37)

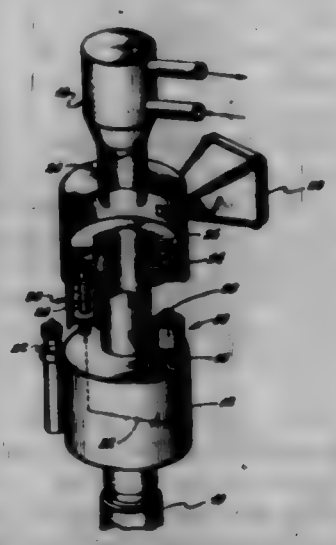


1. An electron tube comprising an envelope containing an electron gun, said electron gun comprising a drift tube section a cathode disk having an emissive surface facing said drift tube section and an aperture through the center thereof, a control grid support rod extending through said aperture and terminating adjacent the emissive surface of said cathode, a control grid mounted on the end of said support rod adjacent said emissive surface of said cathode, said control grid comprising an apertured disk co-extensive with said emissive surface of said cathode, and a focusing electrode adjacent said cathode and grid, a portion of said focusing electrode being positioned intermediate said control grid and said drift tube section.

2,967,261
TUNER FOR HIGH FREQUENCY ELECTRON DISCHARGE DEVICES
Paul W. Crapuchettes, Atherton, Calif., assignor to Litton Industries of California, Beverly Hills, Calif.
Filed Mar. 29, 1957, Ser. No. 649,442
3 Claims. (Cl. 315—5.53)

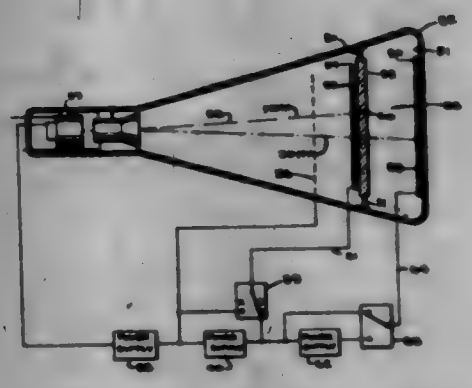
1. In a velocity modulated vacuum tube, the combination comprising: a cavity resonator having first and

second apertured ends; a first electron beam channeling tube extending into said cavity resonator through the aperture in said first end, said first tube being concentrically positioned with respect to said resonator and being connected thereto at said first end; a second electron beam channeling tube extending into said cavity resonator through the aperture in said second end, said



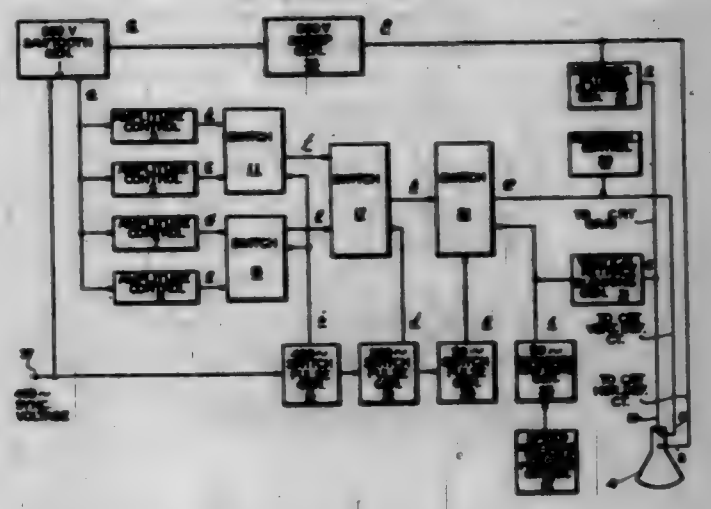
second tube being concentrically positioned with respect to said resonator and said first tube and being connected to said resonator at said second end; an annular tuning element having a gap completely therethrough at a predetermined point in its circumference; first means for mounting said tuning element in said cavity concentric with said first and second beam channeling tubes; and second means for selectively moving said tuning element axially within said cavity.

2,967,262
MULTI-COLOR DISPLAY TUBE
Richard Madey, Wigtel Lane, Bellport, N.Y.
Filed July 30, 1956, Ser. No. 600,958
6 Claims. (Cl. 315—12)



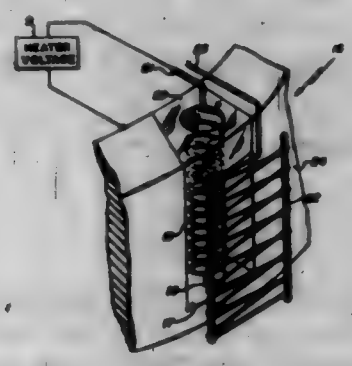
1. In an electron-beam operated cathode ray tube for polychrome rendition, at least one electron beam source, first planar screen means excitable to luminescence in one color at one value of beam power density, second optically transparent planar screen means in proximity thereto and excitable at another value of beam power density to produce both a lumineacent image in a second color and a secondary emission of electrons in an image configuration corresponding to said lumineacent image of second color, means to attract said secondary emission electrons, and third optically transparent planar screen means excitable to luminescence in a third color by said secondary emission electrons, said first, second and third screens being spaced forwardly of said electron beam source in the order named.

2,967,263
SIMULATED GROUND DISPLAY
Hayes B. Steinhauser, Lincoln Park, N.J., assignor to The Bendix Corporation, a corporation of Delaware
Filed Jan. 6, 1958, Ser. No. 707,363
18 Claims. (Cl. 315—26)



1. A circuit for providing a sweep voltage to a deflection circuit of a cathode ray tube comprising a sawtooth generator, a plurality of amplitude control circuits connected thereto for providing voltages of several amplitudes, first electronic switching means connected to the amplitude control circuits for selectively passing portions of the output of each amplitude control circuit in a predetermined sequence, an exponential sawtooth generator, and second electronic switching means connected to the first electronic switching means and the exponential sawtooth generator for passing predetermined portions of the output from the first switching means and predetermined portions of the output from the exponential sawtooth generator in a predetermined sequence, and a source of reference voltage for synchronizing the sawtooth generator and the first and second switching means.

2,967,264
GRID CONTROLLED MAGNETRONS
Edward C. Dench, Needham, Mass., assignor to Raytheon Company, a corporation of Delaware
Filed Jan. 29, 1959, Ser. No. 789,915
8 Claims. (Cl. 315—39.63)



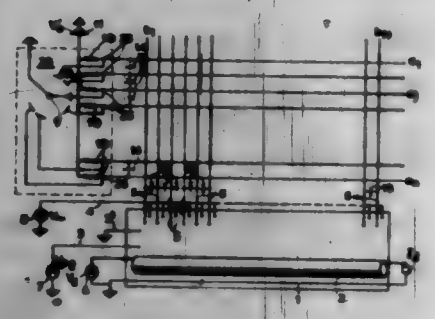
1. In an electron discharge device of the magnetron type the combination comprising: an anode block defining a central cavity; a substantially cylindrical secondary emission surface coaxial with the central cavity; a thermionic emitter located adjacent said surface for providing primary electrons to bombard said surface; and means located between said anode and said emitter adjacent and covering said thermionic emitter for regulating the escape of said primary electrons to excite secondary emission from said surface.

2,967,265

DEVICE FOR SCANNING A PANEL

Gesinus Diemer, Johannes Gerrit van Santen, Simon Duinker, and Wijnand Johannes Schoenmakers, all of Eindhoven, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed July 15, 1958, Ser. No. 748,752
Claims priority, application Netherlands July 15, 1957
17 Claims. (Cl. 315—169)



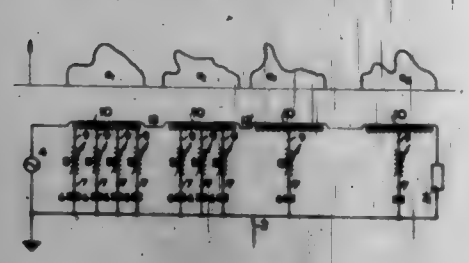
1. A display panel of the type comprising plural voltage-responsive means for displaying the information present in a time-varying video signal containing image information recurring in consecutive scanning intervals, and including means for receiving said time-varying video signal and converting the image information in a scanning interval into plural space-displaced voltages, and means coupling the signal-receiving means to the voltage-responsive means for simultaneously transferring said plural voltages corresponding to the video information for a scanning interval to plural voltage-responsive means once during each scanning interval.

2,967,266

REPRODUCING PANELS AND DEVICES FOR SCANNING REPRODUCING PANELS

Gesinus Diemer, Johannes Gerrit van Santen, Simon Duinker, and Wijnand Johannes Schoenmakers, all of Eindhoven, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed July 15, 1958, Ser. No. 748,753
Claims priority, application Netherlands July 15, 1957
11 Claims. (Cl. 315—169)



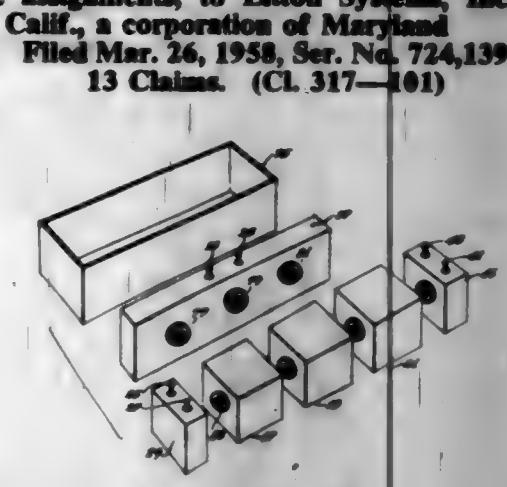
1. A display device of the type comprising plural voltage-responsive means for displaying the information present in a time-varying video signal containing image information recurring in consecutive scanning intervals, and including means for receiving said time-varying video signal and converting the image information in a scanning interval into space-displaced voltages available at plural terminals, and means including plural radiation-responsive mean each coupling one of the plural voltage-responsive means to one of the plural terminals and a periodically-pulsing radiation source for transferring said plural voltages corresponding to the video information for a scanning interval simultaneously to plural voltage-responsive means once during each scanning interval.

2,967,267

REACTIVE INTERCOUPLING OF MODULAR UNITS

Leon Harold Steinman, Los Angeles, and Merritt L. MacKnight, Manhattan Beach, Calif., assignors, by mesne assignments, to Litton Systems, Inc., Beverly Hills, Calif., a corporation of Maryland

Filed Mar. 26, 1958, Ser. No. 724,139
13 Claims. (Cl. 317—101)



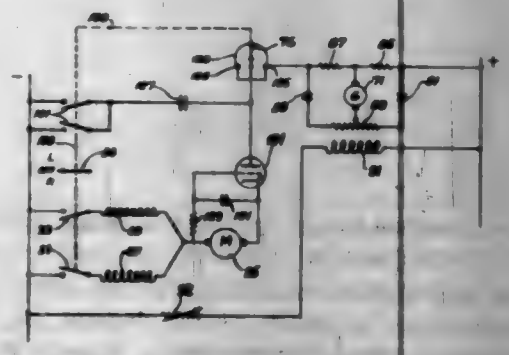
1. An electrical apparatus responsive to an applied power signal for operating on an applied input signal in a predetermined manner to generate a corresponding output signal, said apparatus comprising: an envelope; an electrical unit positioned in said envelope and operable in response to application of the power signal and the input signal for operating on the input signal in the predetermined manner to generate the output signal; first reactive coupling means including a first and a second separable component, said first separable component being coupled to the source of the power signal and positioned outside said envelope and said second separable component being positioned in said envelope and connected to said electrical unit, said first reactive coupling means being operable when said first and second separable components are in proximity to each other for applying the power signal to said electrical unit; and mechanical means for mechanically positioning said first separable component and said envelope so that said first and second separable components are in proximity to each other.

2,967,268

SERVOSYSTEM WITH ERROR SIGNAL PRODUCING MOTOR SPEED CONTROL

Joseph J. Rock, Vestal, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

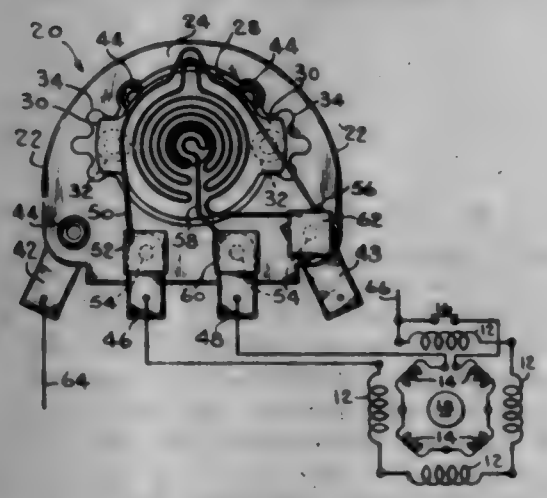
Filed Feb. 2, 1953, Ser. No. 334,391
18 Claims. (Cl. 318—32)



17. A servo control system including a movable load device, a servomotor drivingly connected to said load device, a first control element, means connecting said first control element to said load device for concurrent movement therewith, a second control element having a normal position relative to said first control element and movable from said normal position, control means including said control elements and effective upon movement thereof from their normal relative positions to drive said servomotor in a sense to restore said first con-

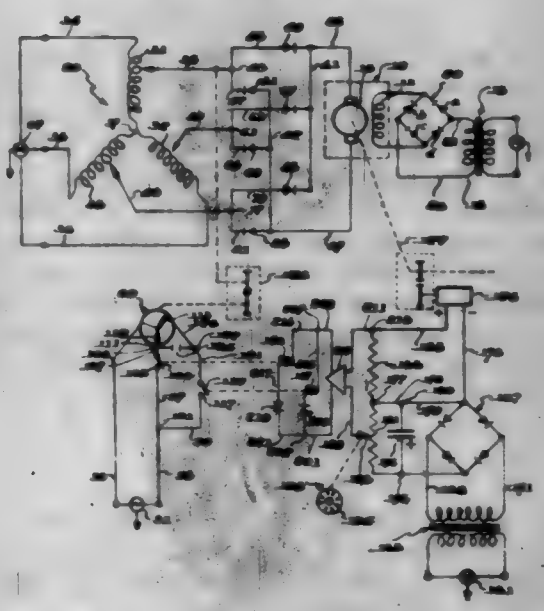
trol element to its normal position, so that said load device follows the changes in position of said second control element, means for moving said second control element to control the position of said load device, manually controlled means for moving said load device relative to said second control element, including means in said connecting means for changing the position of said first control element with reference to said load device, a motor for driving said position changing means, an energizing circuit for said motor, including reversing switch means for selecting the direction of rotation thereof, said motor and a thyratron in series with said motor, means responsive to the potential drop across said motor and controlling the potential on the grid of said thyratron, a capacitor connected across said motor and said thyratron in series, power supply means, and means for connecting said power supply means across said capacitor in parallel with said motor and thyratron in series, said capacitor, said thyratron and said motor comprising a relaxation oscillator circuit effective to energize said motor intermittently at a frequency determined by the speed of operation of the motor.

2,967,269
THERMAL PROTECTORS FOR ELECTRICAL TRANSLATING DEVICES
Victor G. Vaughan, 5702 Ocean Drive, Corpus Christi, Tex.
Filed Apr. 28, 1958, Ser. No. 731,470
7 Claims. (Cl. 318—221)



1. A motor protector having a body of insulating material provided with a closed face and an open face, said closed face having terminal receiving recesses in the outer surface thereof extending to an edge of such face, said body having a thermal element recess extending inwardly from said open face to a bottom, said closed face having openings extending from said terminal receiving recesses to the bottom of said thermal element recess, terminals seated in said terminal receiving recesses and extending laterally of said closed face substantially in the plane of the outer surface thereof, stationary contacts connected with said terminals contactable from within said thermal recess by reason of said openings, a snap acting current carrying thermal element mounted within said thermal element recess and having a contact carrying side facing the bottom of said thermal element recess, and contacts on said contact carrying side engageable with said stationary contacts to make a circuit between said terminals, said thermal element having an outer face facing toward said open face, said outer face in the closed position of said thermal element being accurately spaced from said open face whereby said open face provides a reference plane for the accurate positioning of heaters with respect to said thermal element, said open face having a substantial area extending beyond the periphery of said thermal element receiving recess to provide an area for heaters greater than in equally rated prior protectors, said protector having a minimum thickness from closed face to open face to adapt said protector for insertion between windings or between winding and the frame of modern electric motors with the protector in direct contact with the winding.

2,967,270
DIRECT CURRENT MOTOR CONTROL
John W. Drenning, Baltimore, Md., assignor to Koppers Company, Inc., a corporation of Delaware
Filed Jan. 27, 1958, Ser. No. 711,301
4 Claims. (Cl. 318—317)

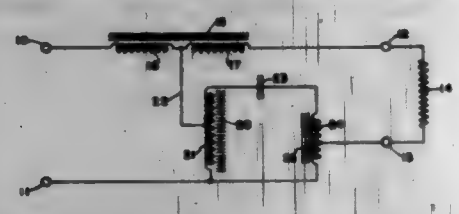


1. Apparatus for controlling the speed of a direct current motor by changing the excitation to its armature, comprising a three phase alternating current power source, a direct current motor whose speed is regulated by the voltage on its armature, an autotransformer having a winding connected to each phase of said power source and an adjustable setting on each winding, rectifying means transmitting the output from each winding to said armature, and adjustment means for adjusting the setting of said autotransformer to decrease and increase the voltage to said armature thereby to decrease and increase the speed of said direct current motor, said adjustment means including first means for developing a first signal corresponding to the speed of said direct current motor, second means for developing a second signal corresponding to a predetermined speed of said direct current motor, remote means for manually proportioning the magnitude of said second signal to said first signal to change the predetermined speed of said direct current motor to which said second signal corresponds, and means responsive to said first and second signals including a constant speed motor for varying the setting of said autotransformer when said first and second signals are not equal so as to change the speed of said direct current motor to equalize said first and second signals whereby the setting of said autotransformer is varied at a constant rate regardless of the inequality of said signals.

2,967,271
VOLTAGE REGULATOR
Samuel T. Kohn, South Norwalk, Conn., assignor, by mesne assignments, to Sorensen & Company, Incorporated, South Norwalk, Conn., a corporation of Delaware
Filed Nov. 10, 1958, Ser. No. 772,987
3 Claims. (Cl. 323—60)

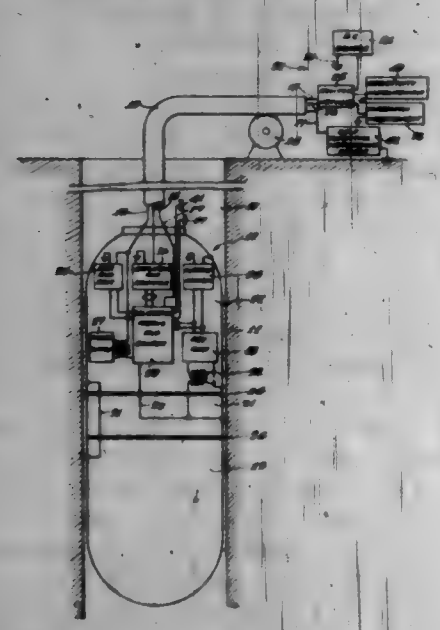
1. An alternating current voltage regulator for providing an output voltage low in harmonic content comprising; a first magnetic core having a primary and secondary

winding thereon; a second magnetic core having a single winding thereon with a current tap; a third magnetic core having a single winding thereon with a current tap; an input circuit including input terminals for connection to a source of alternating current power which may vary in applied voltage, said input circuit also including the primary winding on said first core and that portion of the winding on said second core between the current tap and one end of the winding; an output circuit in-



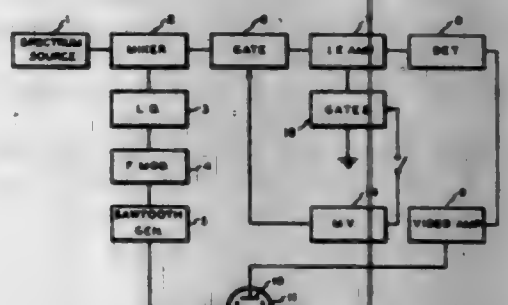
cluding output terminals for connection to a load, the secondary winding on said first core, that portion of the winding on the second core included in the input circuit, and a portion of the winding on the third core; a first resonant circuit adjusted to near resonance at the applied frequency which includes the winding on the second core, the winding on the third core, and a capacitor; and a second resonant circuit adjusted to resonance at three times the applied frequency which includes said capacitor and said winding on the third core.

2,967,272
ELECTRICAL WELL LOGGING
Hermann Janssen, Kiel, Germany, assignor, by mesne assignments, to PGAC Development Company, Houston, Tex., a corporation of Texas
Filed Mar. 27, 1957, Ser. No. 648,892
12 Claims. (Cl. 324—1)



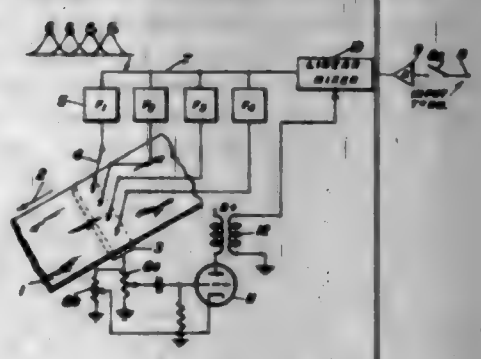
1. Apparatus for logging formations adjacent a borehole or the like comprising surface equipment; downhole apparatus; and a cable adapted to lower said downhole apparatus into the borehole and having a plurality of conductors connecting said surface equipment to said downhole apparatus; means including a source of alternating current in the surface equipment for supplying current through a first of said conductors for flow from at least one emitting point to said formations; a reference electrode disposed at a point electrically remote from the emitting point; a first amplifying means in the downhole apparatus for amplifying the potential difference existing between the reference electrode and a point in the vicinity of the emitting point; means for rectifying the output of the first amplifying means to produce direct current signals for transmission through said cable to the surface equipment; a measuring device in the surface equipment responsive to said direct current signals for providing a resistivity measurement; first and second current electrodes disposed symmetrically above and below the emitting point; means for delivering current to said first and second electrodes in order to establish first and second electric fields which force current from the emitting point to flow in a direction extending substantially perpendicular to the borehole; means including a transformer having a low primary impedance for sampling the electric field existing in the vicinity of the emitting point; second amplifying means in the downhole apparatus for amplifying the signals appearing across the secondary of said transformer, and means responsive to signals from said second amplifying means for controlling the current flowing to said first and second electrodes in order to maintain the potential difference between said emitting point and each of said first and second electrodes substantially at zero.

2,967,273
SPECTRUM ANALYZER
Hyman Hurvitz, 1313 Juniper St., Washington, D.C.
Filed June 27, 1956, Ser. No. 594,216
8 Claims. (Cl. 324—77)



1. In a superheterodyne scanning spectrum analyzer comprising a mixer, a local oscillator coupled to said mixer, means for frequency scanning the frequency of said local oscillator over a frequency band equal in width to the width of a spectrum under analysis, means for applying said spectrum under analysis to said mixer, and an I.F. amplifier connected to said mixer for deriving frequency converted signals therefrom, the combination in which said I.F. amplifier has a selectivity smaller than required for substantially optimum response in view of the scanning rate of said local oscillator, and in which is provided means for periodically gating said I.F. amplifier on for periods substantially less than required for said I.F. amplifier to attain maximum response to a signal.

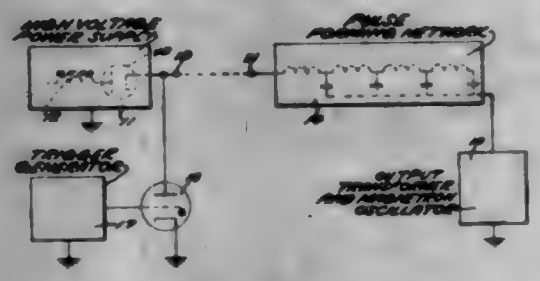
2,967,274
RECORDING SPECTRUM ANALYZER
Hyman Hurvitz, 1313 Juniper St., Washington, D.C.
Filed July 31, 1956, Ser. No. 601,199
16 Claims. (Cl. 324—77)



1. In a system for visually indicating the frequency content of a frequency band, an electro-sensitive strip adapted to provide a visible mark in response to passage

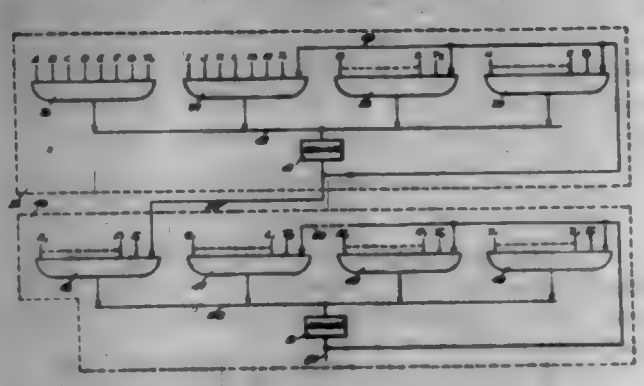
of electric current therethrough, a first electrode, a second electrode, said electrodes displaced transversely of said strip, means for relatively moving said strip and electrodes longitudinally of said strip, a first filter in series with said first electrode, a second filter in series with said second electrode, and a feed-back loop for feeding back all signals passed through said strip via said electrodes to said filters, said feed-back loop including an amplifier and having a gain of less than unity.

2,967,275
CLIPPER CIRCUIT FOR PULSE MODULATORS
Martin J. Brown, Princeton, N.J., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 11, 1958, Ser. No. 779,710
5 Claims. (Cl. 328—67)



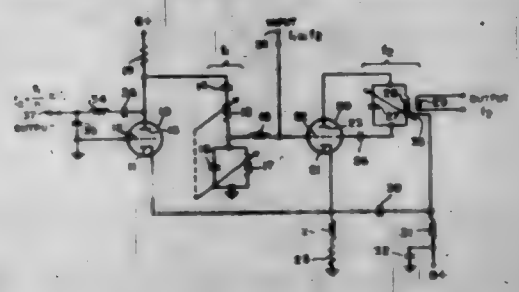
1. A clipper circuit for shorting to ground potential pulses transmitted through a high voltage line and which are of a short duration and predetermined polarity comprising, a reactive element connected in said high voltage line, an electron tube having a cathode, a control grid and a plate, said tube having characteristics requiring a substantial potential difference between the control grid and cathode for conduction, said control grid and cathode being connected on opposite sides of the reactive element whereby pulses of the predetermined polarity and high rates of change of current develop a sufficient potential drop across the reactive element to render the tube conductive, a first resistive element connected between the control grid and reactive element for limiting the grid current, said plate connected to ground potential, and a second resistive element connected between the plate and ground for partially absorbing pulses conducted therethrough.

2,967,276
ELECTRICAL PULSE MANIPULATING APPARATUS
Bernard Colten, Waltham, and Roy W. Reach, Jr., Sudbury, Mass., assignors, by mesne assignments, to Minneapolis-Honeywell Regulator Company, a corporation of Delaware
Filed Aug. 1, 1956, Ser. No. 601,477
3 Claims. (Cl. 328—92)



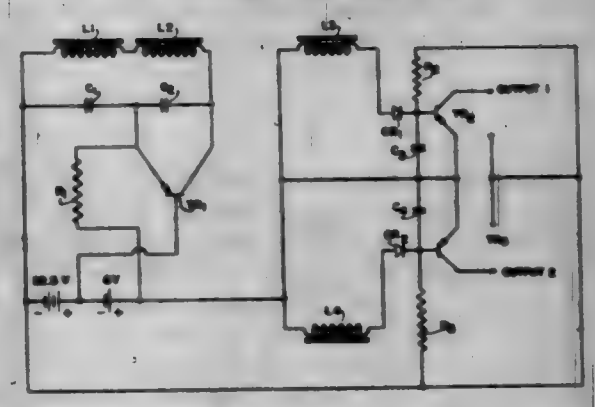
1. Apparatus for gating a plurality of separate information signals in a single time-shared logical package comprising a single pulse amplifier having an input and an output, a plurality of input data signal gating sections, each of said gating sections having a plurality of separate information signal inputs, a single timing signal input and a single output connected to the input of said amplifier, a timing signal source having a plurality of separate outputs with sequentially occurring discrete time-spaced and non-overlapping pulses thereon, circuit means connecting separate ones of said timing signal source outputs to separate ones of said timing signal inputs of said gating sections so that each of said gating sections will be activated in a predetermined and distinctly separate time sequence, and means connecting the output of said amplifier to an input on selected ones of said input gating sections.

2,967,277
FREQUENCY DIVIDER
Alwin Halsael, Rochester, N.Y., assignor to the United States of America as represented by the Secretary of the Army
Filed July 29, 1958, Ser. No. 751,809
13 Claims. (Cl. 331—37)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. An oscillator and harmonic generator circuit comprising first and second amplifier stages, each said stage having an output circuit and an input circuit coupled to the output circuit of the other said stage, to form a two-stage regenerative oscillating loop, one of said interstage couplings comprising a frequency selective filter tuned to a desired fundamental frequency, whereby said two stages oscillate at said fundamental frequency, and frequency selective means tunable to a harmonic of said fundamental frequency coupling the output circuit of one of said stages regeneratively to its input circuit thereby completing a second oscillation circuit oscillating at said harmonic frequency.

2,967,278
INDUCTIVE TYPE SENSING AND CONTROL SYSTEM
James F. Sullivan and Vincent J. Lique, Danbury, Conn., assignors to International Instruments, Incorporated, New Haven, Conn., a corporation of Connecticut
Filed Sept. 30, 1957, Ser. No. 687,151
3 Claims. (Cl. 331—65)



1. An inductive sensing apparatus, including an oscillator circuit and an amplifier circuit, said two circuits being electrically independent, an output circuit connected to said amplifier circuit, and an exciter coil connected to and supplied current by said oscillator circuit, a pick up coil connected to said amplifier circuit, said coils being

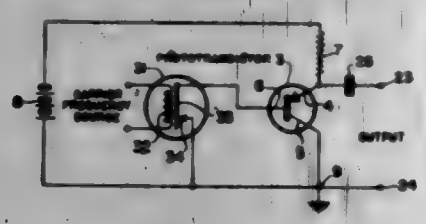
magnetically coupled together, means positionable between said coils for varying said magnetic field coupling the coils decreasing the induced electrical energy between the coils, and further means in said amplifier circuit operable when the induced electrical energy between the coils is decreased to cause maximum flow of current in said output circuit, and the frequency of said oscillator circuit remaining constant when a change occurs in the induced electrical energy between said coils.

2,967,279

PHOTOTRANSISTOR MODULATING APPARATUS

Kenneth H. Beck, Newtown, Pa., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware

Filed May 21, 1956, Ser. No. 585,997
26 Claims. (Cl. 332—3)



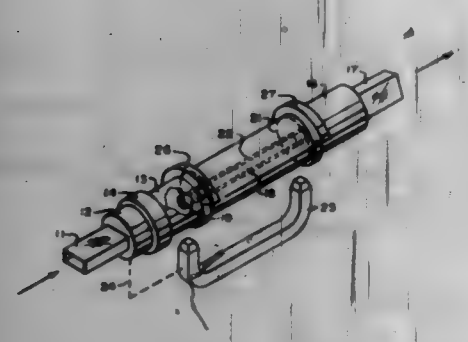
1. In combination, a phototransistor having an emitter electrode, a collector electrode, and a base electrode, a load and a source of energizing current connected in series between said emitter electrode and said collector electrode, and switching means actuated at a carrier frequency and connected between said base electrode and one of the other phototransistor electrodes to effectively alternately open circuit and short circuit the last named two electrodes at said carrier frequency.

2,967,280

ROTATABLE WAVEGUIDE JOINT

Julius T. Fraser, Pleasantville, N.Y., assignor to General Precision, Inc., a corporation of Delaware

Filed June 13, 1958, Ser. No. 741,875
3 Claims. (Cl. 333—98)



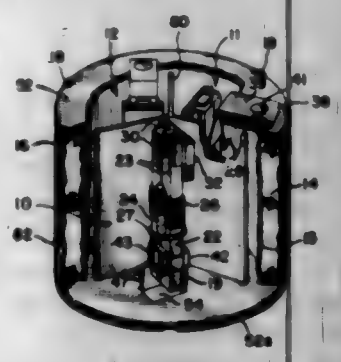
1. A microwave rotatable waveguide joint comprising, a first circular waveguide section, a second circular waveguide section, a rotatable joint connecting said first and second circular waveguide sections in axial alignment, means for passing microwave energy in the dominant TE_{11} mode through said circular waveguide sections, a ferrite rod capable when magnetized of rotating microwave energy, said ferrite rod being positioned axially within said first circular waveguide section, a permanent magnet emitting a magnetic field positioned to produce a magnetic field in said ferrite rod longitudinally thereof, said permanent magnet being positioned outside said first circular waveguide section, the poles of said permanent magnet being respectively juxtaposed to the ends of said ferrite rod, a pair of highly permeable pole pieces secured to the outside of said first circular waveguide section respectively between the poles of said permanent magnet and the ends of said ferrite rod, said pole pieces having internal surfaces concentric with said circular waveguide section and being provided with an external periphery eccentric with respect thereto, and means securing said permanent magnet to said second circular waveguide section whereby relative motion between said first and second circular waveguide sections varies the reluctance of the magnetic circuit between said permanent magnet and said ferrite rod in such sense and amount and at such rate that at any rotational angle between said first and second circular waveguides the microwave energy polarization is rotated by the same angle.

2,967,281

ADJUSTABLE CONTROLLABLE INDUCTOR APPARATUS

Paul H. Lee, Norwalk, Conn., assignor to C.G.S. Laboratories, Inc., Stamford, Conn., a corporation of Connecticut

Filed May 2, 1957, Ser. No. 656,559
11 Claims. (Cl. 336—134)



1. A controllable inductor including multiple signal windings and means for adjusting the control action thereof comprising a control core structure of magnetically permeable material including two spaced pole portions, control winding means mounted on said core structure, a plurality of signal winding cores each including saturable magnetic material extending between said pole portions, a signal winding wound on each of said cores, a pair of magnetically permeable members adjacent to each of said cores defining a pair of flux paths extending in parallel relationship from a pole portion of the control core structure into each of said cores, said control winding means being electromagnetically coupled by said pole portion to said pairs of parallel flux paths, one of the members of each pair being movable with respect to the pole portion and a mechanically adjustable element for moving one of the members of each pair for defining an adjustable non-magnetic gap in one of each of said pairs of parallel flux paths for adjusting the reluctances thereof, whereby to adjust the control action of each of said signal windings with respect to said control winding means.

2,967,282

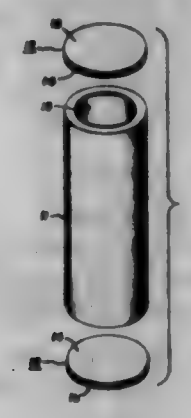
HIGH TEMPERATURE RESISTOR

Nathan Schwartz and Frederick G. Keihn, North Syracuse, N.Y., assignors to General Electric Company, a corporation of New York

Filed Sept. 30, 1957, Ser. No. 687,119
5 Claims. (Cl. 338—258)

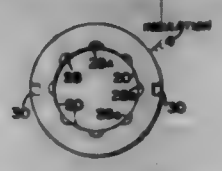
4. A resistor comprising an evacuated tubular ceramic body, metal contacts composed of laminated fused discs providing a hermetic ceramic-to-metal seal with said ceramic body, and a resistive film formed on the interior surface of the ceramic body and electrically connected

to said contacts, said resistive film comprising a layer of reduced alkaline earth titanate selected from the group



consisting of strontium titanate, magnesium titanate, barium titanate and calcium titanate.

2,967,283
SLIP RING ASSEMBLY AND METHOD OF MAKING THE SAME
Jonas Medney, Oceanside, N.Y., assignor to Lamtex Industries, Inc., Westbury, N.Y.
Filed July 17, 1957, Ser. No. 672,448
5 Claims. (Cl. 339—8)

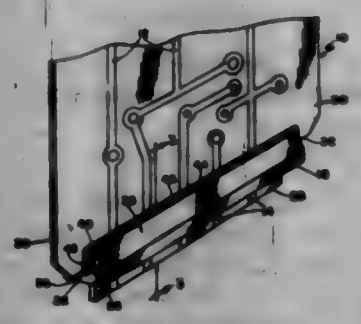


5. An element of mechanism for conducting electricity between two relatively movable structures, each of which has a conducting part in sliding friction contact with the conducting part of the other structure, said element comprising:

a cylindrical body of electrically insulating material having a plurality of parallel annular grooves in an outer surface thereof, a plurality of isolated channels extending radially from a longitudinal bore formed in the interior of said cylindrical body and opening in said body communicating with said grooves and said channels;

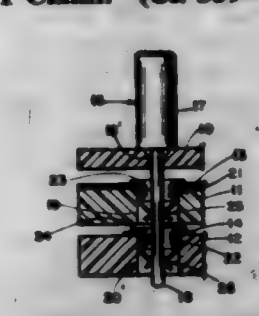
and one-piece substantially homogeneous electroformed monolithic metal conductors positioned in said channels, said openings, said grooves, and extending outwardly from said bore at one end of said body to form a plurality of isolated contact making members.

2,967,284
GASKET FOR PRINTED CIRCUIT BOARD
Benjamin E. Bailey and Sam L. Dell'Acqua, San Diego, Calif., assignors to Ryan Aeronautical Co., San Diego, Calif.
Filed Feb. 3, 1958, Ser. No. 713,008
4 Claims. (Cl. 339—17)



1. A printed circuit board having opposed faces of considerable area and a flat terminal carrying edge portion securable in a socket member, and a moisture proof gasket secured to said printed circuit board; said gasket comprising an elongated block of substantially resilient, non-conductive material having a longitudinal slot through which the terminal carrying edge portion of the circuit board is fitted; said terminal carrying edge portion having a socket engaging portion extending beyond said gasket; said block being shaped for close contact with said opposed faces adjacent the terminal carrying edge portion of the circuit board; and a non-conductive cement material bonding said block to said opposed faces adjacent to said terminal carrying edge portion.

2,967,285
ELECTRICAL PIN-BOARD DATA SYSTEM
Manuel P. Freitas, Stoughton, Mass., assignor to The Foxboro Company, Foxboro, Mass., a corporation of Massachusetts
Filed May 21, 1958, Ser. No. 736,830
1 Claim. (Cl. 339—18)



An electrical circuit connection pin-board sandwich comprising a compact combination of a thin, insulation, cover plate and a pair of thin, insulation, connection plates, each of said plates having a series of openings therethrough, with each series of openings aligned with the series of openings in the other plates, thin, flat, electrical connector strips each bonded against one side only of one of said connection plates with each strip along one of said series of openings, each of said strips having openings therethrough equal in diameter and flush aligned with each of the respective openings in the respective connector plate, a connector sleeve in each of said connection plate openings, each of said sleeves having an essentially full circle outflaring flange at one end thereof, said sleeves each being wholly contained in its respective connector plate opening except for said flanged end, said flanged end extending outward only sufficiently to engage and hold the respective connector strip with the under side of said flange as a mechanical and electrical connection therewith, each of said sleeves comprising a top, cylindrical, lengthwise split body of resilient material having an inner diameter, as assembled, of the order of twice the diameter of said connector pin, and an outer diameter, in free state, greater than the diameter of said openings whereby in assembly said sleeves are resiliently mounted in said openings in mechanical assembly and said connector strips are resiliently held by said sleeves in a combination of mechanical assembly and electrical connection, each of said sleeves comprising, further, a bottom portion comprising a circumferentially spaced series of resilient electrical contact fingers, laterally unsupported except for the inherent resiliency of said fingers, wholly within the thickness of its respective sandwiched plate, with one of said spacings in continuance of the split of said top body, said fingers together determining a downward tapering truncated cone with multiple and opposing resilient electrical connection contact with said pin in the transverse plane defined by the truncation face of said cone as the only side engagements of said pin with respect to any circuit part of said pin-board sandwich, as the only operationally separable and movable electrical contacts in the entire sleeve and hole assembly, and as a resilient self cleaning arrangement for said pin in said sandwich as said pin is inserted and removed

therefrom said fingers extending from said plane of truncation, downward, and radially outward from said pin, said cover plate and said sandwiched plates being in stacked relation to each other with the bottom of one insulation plate resting on part of the electrical circuitry of said sandwich by resting on the flanges of the said split connector sleeves in the other insulation plate whereby said plates are separated only by the thickness combination of one of said connector stripe and one flange of one of said split sleeves, and an electrically conductive cylindrical connector pin removably mounted through said sleeves and said cover plate, said pin having an insulation body head to rest on said cover plate and to limit the insertion of said pin into said sandwich, and said cover plate openings each formed as a top, conical wholly insulated countersink and a bottom, cylindrical, wholly insulated guide opening, with said guide opening of slightly greater diameter than that of the said connector pins, and said countersink and guide openings of less diameter than said head of said connector pin, whereby said pins are maintained in concentricity, and with substantial side clearance, with respect to said sandwiched plate openings solely by the combination of said guide openings and said resilient electrical contacts.

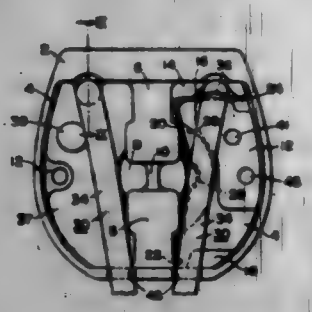
2,967,286

WIRING DEVICE

Clarence M. Smith, Trumbull, Conn., assignor to The Bryant Electric Company, Bridgeport, Conn., a corporation of Connecticut

Filed Sept. 18, 1956, Ser. No. 610,520
5 Claims. (Cl. 339—103)

5. A wiring device comprising, a support of insulating material, at least one recess in one side of said support shaped to receive an electrical contact, an electrical conductor having a covering of insulating material and a bare end portion, an electrical contact member having a terminal portion in said recess, the bare end portion of said conductor being of sufficient length to be substantially coextensive with at least one side of said terminal portion and with the conductor being reversely bent around the inner edge of the terminal portion with the covered portion extending along the opposite side of the terminal portion, the width of the portion of the recess in which said terminal portion is received being greater than the thickness of the terminal portion but less than the combined thickness of the terminal portion and conductor wrapped therearound, so that insertion of the wrapped terminal portion into said recess results in pressure being applied to the bare end of the conductor to deform the same into intimate engagement with said one



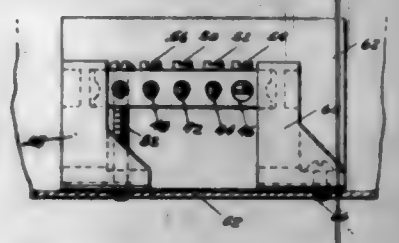
side of the terminal portion to provide good electrical contact between the conductor and the terminal portion, projecting means on said terminal portion for relieving the bare end portion of said conductor from external forces on the conductor and rigid means for preventing removal of the electrical contact from the recess in said support, said conductor with said covered portion extending out of said recess and then being bent substantially laterally across the outer edge of said terminal portion, the last mentioned bend in said conductor with its covering being spaced from the terminal projecting means to an extent which enables said terminal portion to be moved pivotally in response to external forces on said conductor such that the outer edge of said terminal portion pivotally moves about the inner edge of said terminal portion to cause said one side of said terminal portion to engage more firmly said bare conductor portion.

2,967,287

NEUTRAL BAR ASSEMBLY

Salvatore Sori, Woodbury, N.J., assignor to I-T-E Circuit Breaker Company, Philadelphia, Pa., a corporation of Pennsylvania

Filed Dec. 31, 1956, Ser. No. 631,552
1 Claim. (Cl. 339—198)



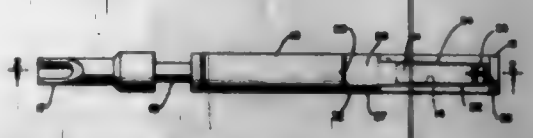
A neutral bar assembly for electrically connecting a plurality of conductors; said neutral bar assembly comprising a first and a second base of insulating material, a common member, a neutral bar, and a neutral liner interposed between said bases and said common member, a first and a second member fastening said first and said second bases, respectively, to said common member; each of said first and second bases having a first and a second opening therein; said neutral bar having a first end supported in the first of said openings of said first base and another end supported in the second of said openings of said second base; said neutral bar comprising a length of conductive material having apertures therein for respectively receiving electrical conductors and means for applying pressure between said electrical conductors and said neutral bar when said conductors are inserted in said apertures; said first and second bases having identical constructions and being interchangeable with one another; said first member comprising a rotatable screw for electrically connecting said bar to a point of predetermined electric potential; said screw being passed through cooperating apertures in said neutral bar and said first base and being terminated in said common member supporting said first and second bases.

2,967,288

ELECTRICAL CONNECTOR

Hermann Keller, Sidney, N.Y., assignor to The Bendix Corporation, a corporation of Delaware

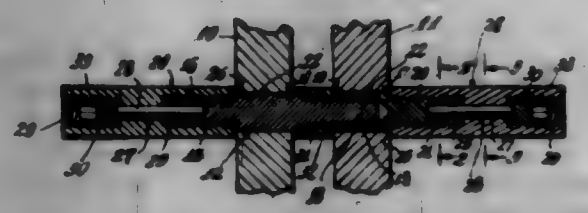
Filed Feb. 6, 1958, Ser. No. 713,636
5 Claims. (Cl. 339—258)



1. An electrical socket contact comprising an elongated metallic body having a longitudinally extending cylindrical bore in a first, forward end thereof, an elongated longitudinally extending slot in the wall of the body around the bore, said slot communicating with the bore at a zone adjacent the forward end of the bore, a spring contact strip disposed along the body and having a portion adapted to make contact at said zone with a pin inserted

in the bore, a split band on the rear end of the contact strip, an outwardly extending shoulder on the rear of the body in axial alignment with the contact strip, the band being bent to embrace the body forwardly of the shoulder, abutment means on the body confronting the forward edge of the band, and means for constantly thrusting the contact strip in a forward direction so that such forward edge of the band contacts the abutment means, said contact strip thrusting means comprising a short, stiff and resilient tab on the rear edge of the contact strip, the rear end of the tab overlying and strongly resiliently engaging the forward edge of the shoulder, the tab being bent to incline radially inwardly in a forward direction from its rear end in that portion thereof overlying the shoulder.

2,967,289
CONNECTOR MEANS
Chauncey Castle Dey, 69 Greenacre Ave., Longmeadow 6, Mass.
Filed June 29, 1959, Ser. No. 823,428
8 Claims. (Cl. 339—268)



7. Means for connecting together two members and forming an electrical connection thereto comprising a male unit having a projecting pin at one end, a shoulder intermediate the ends of the unit and a threaded stud projecting from the other end of said unit and having an axial recess of polygonal cross section therein; a female unit having a socket at one end to receive said pin, a shoulder intermediate the ends of said unit and a threaded stud projecting from the other end of the unit and having an axial recess of polygonal cross section therein, said pin and socket having cooperating threaded portions, said units each having cylindrical portions disposed between said shoulder and threaded stud, said cylindrical portions being adapted to be rotatably positioned in apertures formed in said members with the shoulders on each engaging opposing faces on said members; a connector lug having an eye to be disposed over the stud and having a portion adapted to be connected to an electrical conductor; and nuts threaded on the projecting studs of said units and forming shoulders to engage the members and hold the units in said apertures and to clamp the connector lug to the unit, said nuts each having key means thereon extending into the respective recess of polygonal cross section to lock said nuts and units in assembled relation and against relative rotation, said units being relatively rotated on the members to cause the threaded portions on the pin and socket to connect and properly locate the members in spaced relation.

2,967,290
TERMINAL CONNECTOR
Josef J. Zeller, Wauwatosa, Wis., assignor to Square D Company, Detroit, Mich., a corporation of Michigan
Filed Jan. 27, 1958, Ser. No. 711,198
5 Claims. (Cl. 339—272)

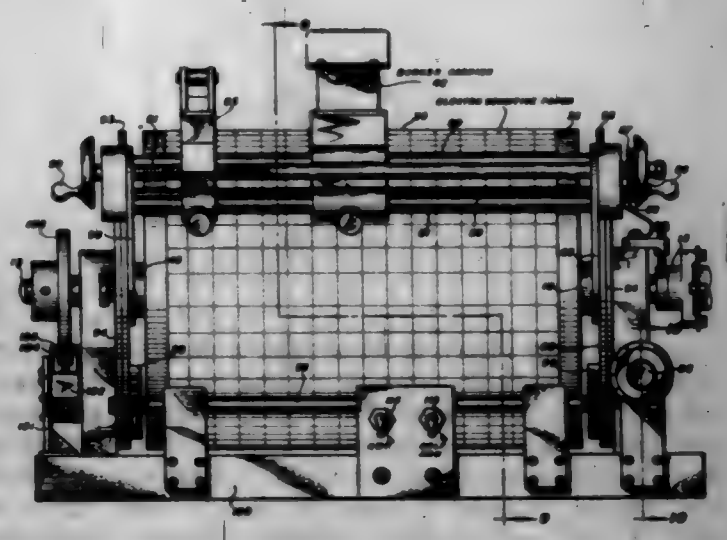
1. In a connector of the character described, the combination comprising; a terminal member, a metal piece bent and centrally slotted to provide a pair of spaced V-shaped portions each having an apex spaced beneath the terminal member, said V-shaped portions being connected at each end by bight portions which overlay the top of the terminal member, a clamping member having; a portion overlaying the bight portions and an extending portion curved and disposed in the space between the V-shaped portions, and a screw threaded into the terminal member and arranged to engage and force the ex-



tending portion of the clamping member into tight engagement with a top surface of a wire while simultaneously forcing the bottom surface of the wire into the apexes of the V-shaped portions and to bend a portion of the wire into the space between the apexes when a wire is inserted into the connector and the screw is tightened.

2,967,291
AUTOMATIC PLOTTER
Charles H. Carlisle, Houston, and Frank L. Chalmers, Bellaire, Tex., and James A. Smith, Los Angeles, Calif., assignors, by mesne assignments, to Jersey Production Research Company, Tulsa, Okla., a corporation of Delaware
Filed June 7, 1955, Ser. No. 513,854
2 Claims. (Cl. 340—15)

1. Geophysical apparatus for recording a plurality of seismograms to obtain a subsurface cross-section comprising a support, a rotatable shaft mounted on said support, first and second rotatable drums mounted on said shaft, electrosensitive record means arranged on said first drum, a carrier member movable longitudinally relative to said first drum mounted on said support adjacent said first drum, a plurality of electrically conductive styli carried by said carrier member, said styli contacting said electrosensitive record means along only a portion of the length of said first drum, adjustment means connected to said carrier member adapted to move said carrier member longitudinally along the length of said drum, means connected to said adjustment means adapted to permit circumferential movement of said carrier member and said first drum relative to each other, said second drum being provided with a magnetic medium having recorded thereon a plurality of signals resulting from elas-



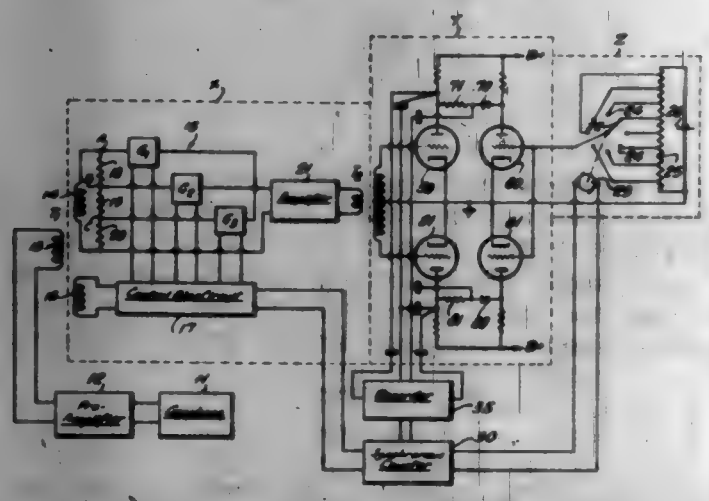
tic waves reflected from reflecting subsurfaces, a plurality of magnetic heads mounted on said support adjacent said second drum for converting said magnetically recorded signals into electrical signals, means for conducting said electrical signals to said styli and switch means operatively connected to at least one of said drums adapted to control transmission of said electrical signals to said styli upon rotation of said one drum.

2,967,292

DATA PROCESSING METHOD AND APPARATUS

Elmer Eisner, Houston, Tex., assignor to Texaco Inc., a corporation of Delaware

Filed Sept. 6, 1955, Ser. No. 532,715
4 Claims. (Cl. 340—15)



1. A seismic signal recording system comprising a geophone, circuit means connected to said geophone for amplifying and translating the output signals from said geophone, said circuit means including means for attenuating said signals a plurality of constant percentage amounts, gating means connected to said attenuating means for selecting a predetermined one of said percentage amounts, means responsive to the amplitude of said output signals for actuating said gating means to maintain the attenuated signals within a predetermined relatively small range of amplitude levels, means for converting said attenuated signals to corresponding digital values, and means for recording said digital values including means for indicating the percentage amount of attenuation existing at any time so that the digital values may be converted to the original amplitudes.

2,967,293

PEDESTRIAN SAFETY CROSSING SIGN

Richard Paulson, 332 Prospect, La Jolla, Calif.

Filed Mar. 16, 1959, Ser. No. 799,594
1 Claim. (Cl. 340—107)



A pedestrian safety crossing sign comprising, in combination, an upright support, a rigid arm provided with horizontal pivot pin means pivotally mounting said rigid arm upon said upright support for selective pivotal movement in a vertical plane between a normally vertically downwardly directed position in juxtaposition with respect to said upright support and an adjusted horizontal position extending outwardly perpendicular to said upright support, a lamp mounted within said rigid arm adjacent to an outer end thereof, a pair of oppositely directed horizontally spaced lens elements carried by said rigid arm on opposite sides of said lamp, a battery carried within said rigid arm, a gravity-responsive switch carried within said rigid arm and connected in series with said battery and said lamp and normally being open when said rigid arm is in the normally vertical downwardly directed position and being closed when said rigid arm is in the adjusted horizontal position extending outwardly perpendicular to said upright support for automatically electrically energizing said lamp in response to movement of said arm into said horizontal position, opposite surfaces of said rigid arm adjacent to said oppositely directed lens elements and positioned between said lens elements and the horizontal pivot pin being provided with visibly observable indicia positioned for illumination by light emitted from said lamp and radiating outwardly through said lens means, said indicia providing instructions to the drivers of oncoming vehicles and providing warning that a pedestrian is crossing a thoroughfare adjacent to said pedestrian safety crossing sign, a stop member fixed upon said upright support member outwardly and upwardly of said horizontal pivot pin in the path of outward and upward pivotal movement of said rigid arm for limiting same and causing said rigid arm to stop in said horizontal position, and manually operated means for effecting pivotal movement of said rigid arm between said vertical and horizontal positions and comprising an elongated pull member secured to the opposite end of said rigid arm from the end thereof mounting said lamp.

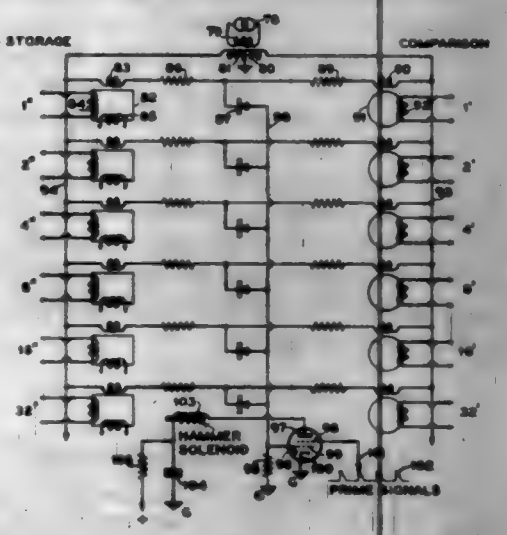
2,967,294

SATURABLE REACTOR SYSTEM FOR INFORMATION STORAGE, COMPARISON AND READ-OUT

Nathan A. Moerman, Roslyn, N.Y., assignor to Potter Instrument Co., Inc., Plainview, N.Y., a corporation of New York

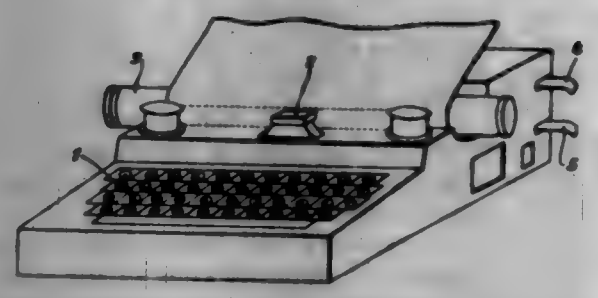
Filed Dec. 24, 1956, Ser. No. 630,232
1 Claim. (Cl. 340—149)

In a saturable reactor system, the combination of, a plurality of saturable reactors containing permanent magnet material and each including at least a signal winding for impeding a signal from an interrogation current source, a control winding for saturating said material and a resetting winding for demagnetizing said material, a second plurality of saturable reactions of soft magnetic material equal in number to said first said reactors and each including at least a signal winding for impeding a signal from said interrogation source, and a control winding for saturating the last said material, a plurality of circuits joining one each of said signal windings of said permanent magnet material reactors with a corresponding signal winding of said soft magnetic material



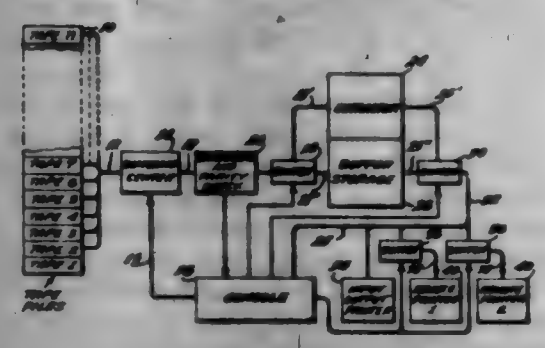
reactors, a plurality of rectifiers branched from a common point to each of said circuits for providing an output current to said common point for control of a utilization means as long as saturated and unsaturated conditions of said permanent magnet reactors are mis-matched with saturated and unsaturated conditions of said soft magnet material reactors in accordance with the impedance of the respective signal windings of each.

2,967,295
STORING OF SIGNALS
Gerhard Dirks, 44 Morfelder Landstrasse, Frankfurt am Main, Germany
Filed Mar. 30, 1955, Ser. No. 498,043
Claims priority, application Germany Oct. 1, 1948
5 Claims. (Cl. 340—172.5)



1. A signal storage arrangement, comprising, in combination, a magnetic recording head; a plurality of switch elements arranged in rows and columns, each element being alternatively settable to an on and an off condition; a magnetizable signal storage tape; drive means for driving said tape past said magnetic recording head; a first signal generating device operative to apply signals to said columns of elements in succession in synchronism with the movement of said tape past said recording head; means for deriving an output signal from a row of elements which includes an element in the on condition to which a signal is applied by said signal generating device; and means operative to energize said recording head to record a signal on said tape under control of said output signals.

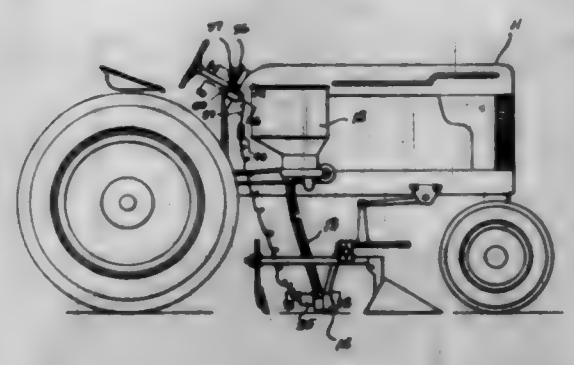
2,967,296
INFORMATION EXTRACTING SYSTEM
Kun Li Chien, Fullerton, Calif., and Charles H. Propster, Jr., Haddonfield, N.J., assignors to Radio Corporation of America, a corporation of Delaware
Filed Dec. 14, 1956, Ser. No. 628,455
10 Claims. (Cl. 340—172.5)



1. A device for locating a message in a message store containing a plurality of messages each having an order determining criterion, said device comprising information selection means connected to receive said messages seriatim from said store and to provide a control signal during the reception of each said message criterion from said message store, a memory for storing a criterion for comparison with each said order determining criterion, means enabled by said control signal for controlling the readout of said memory, and a comparator connected to receive said messages from said store and the output of said memory and enabled by said control signal.

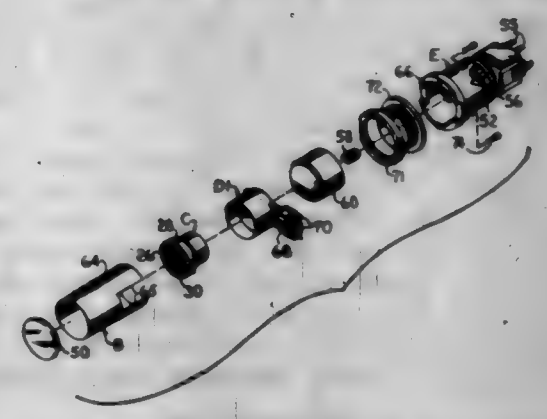
2,967,297
PLANTER LIGHT
Kenneth W. Ferguson, Rte. 1, Amherst, Tex.
Filed Apr. 24, 1959, Ser. No. 808,802
3 Claims. (Cl. 340—239)

1. In a seed planter, a hopper, a flexible seed discharge tube secured to and depending from the bottom of the hopper, an arm pivoted externally to said tube and having a free end portion projecting into the lower end portion of the seed discharge tube, a biasing weight on the external end portion of the arm, an electrical signal device, switch means operated by said pivoted arm, said biasing weight normally holding the switch means closed, said pivoted arm being intermittently engaged by the



seed and intermittently opening said switch means responsive to the passage of seed through the seed discharge tube, and an energizing circuit connected to said signal device and including said switch means, whereby to intermittently energize said signal device when seed is passing through the tube and to steadily energize said signal device when seed no longer passes through the tube.

2,967,298
MULTI-SELECTOR CODED ILLUMINATOR MODULE
Frank O. Riggins, Westmont, Edward R. Sanders, Palmyra, and Donald G. Wright, Moorestown, N.J., assignors to O & S Research, Inc., Riverton, N.J., a corporation of New Jersey
Filed Feb. 7, 1958, Ser. No. 713,875
6 Claims. (Cl. 340—381)

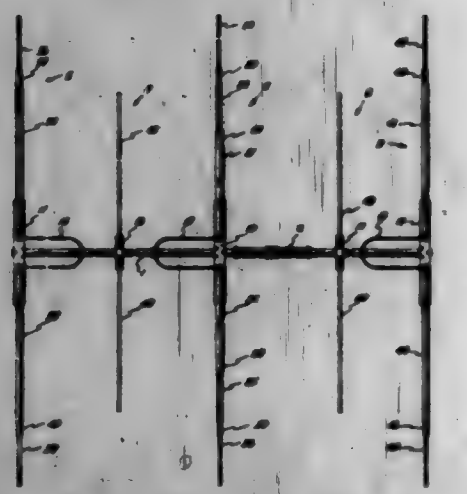


1. A modular, color-coded projecting illuminator comprising a cylindrical insulating base; a plurality of cored openings extending therethrough from front to rear, radially spaced about the longitudinal axis thereof, each of said openings adapted to retain therein a lamp element having both a circumferential terminal contact and an axial terminal contact; a cylindrical shell mounted on and peripherally secured about said insulating base, said shell including an integral flange flared outwardly therefrom; partition webs mounted within said shell dividing the front face of said base into a plurality of segments, said web extending radially intermediate adjacent lamp receiving openings; a color-coded filter element mounted across adjacent spaced partition webs; and a reflector within said flange adapted to project a beam of light from a given lamp element through a given filter element.

2,967,299

WITHDRAWN

2,967,300
MULTIPLE BAND ANTENNA
Lee C. Hanghawout, Los Angeles, Calif., assignor to L. A. Young Spring and Wire Corporation, Gonset Division, a corporation of Michigan
Filed Nov. 22, 1957, Ser. No. 698,976
13 Claims. (Cl. 343—750)



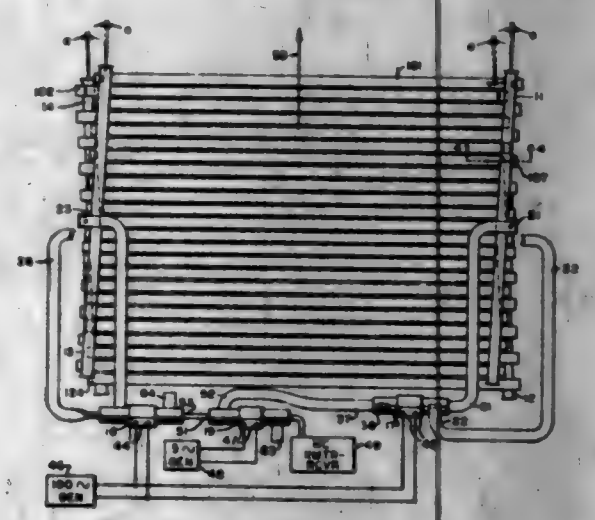
12. A multiple band antenna including the combination of a first dipole radiating element having an electrical length equal to one half the wave length of a first signal frequency, a second dipole radiating element in the form of a coaxial tube surrounding the first radiating element having an electrical length equal to one half the wave length of a second signal frequency higher than said first signal frequency, a third dipole radiating element in the form of a coaxial tube surrounding the second radiating element having an electrical length equal to one half the wave length of a third signal frequency higher than said second signal frequency, a first pair of tuning sleeves arranged to telescope between the ends of the first radiating element and the second radiating element, each of said first pair of tuning sleeves being electrically connected at one end only to the first radiating element, a second pair of tuning sleeves arranged to telescope between the ends of the second radiating element and the third radiating element, each of said second pair of tuning sleeves being electrically connected to the second radiating element at one end only, and means electrically connecting the first, second and third radiating elements to a pair of common center connections whereby signals applied to the center connections of any of the three signal frequencies are radiated by the antenna functioning as a substantially half wave antenna tuned to the signal frequency being radiated.

2,967,301
SELECTIVE DIRECTIONAL SLOTTED WAVEGUIDE ANTENNA
Richard H. Rearwin, White Plains, N.Y., assignor to General Precision, Inc., a corporation of Delaware
Filed Oct. 15, 1957, Ser. No. 690,883
12 Claims. (Cl. 343—771)

12. A microwave antenna assembly comprising, at least twelve parallel inphase linear arrays positioned in a plane, each of said linear arrays including a rectangular waveguide having a plurality of radiating elements spaced at feed phase intervals of

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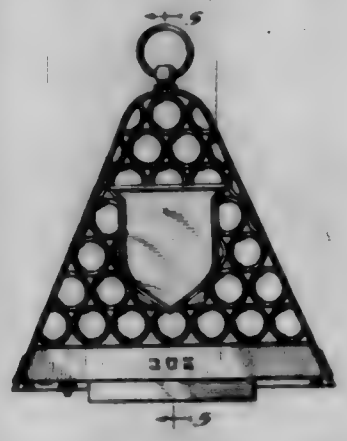
radians along its length and arranged symmetrically as respects the longitudinal center of the waveguide with which they are associated, the waveguides which are more remote from the center of the assembly having lesser numbers of radiating elements whereby the radiating elements of the entire antenna assembly occupy an area substantially circular in form, first and second feed waveguides respectively connected to opposite ends of alternate linear arrays, third and fourth feed waveguides respectively connected to opposite ends of the remaining linear arrays, the average of the directions of said four feed waveguides being at right angles to said linear arrays, said first and second feed waveguides being parallel and departing from said average direction by a selected angle, whereby the phase differences of the energies fed to the radiators of the linear arrays are π radians plus a selected increment, said third and fourth feed waveguides being parallel and departing from said average direction by said selected angle but opposite in sense to said departure of the first and second feed waveguides, whereby the phase differences of the energies fed to the radiators of the linear arrays by the third and fourth feed waveguides are π radians minus said selected increment, whereby the four beams emitted by energization of said first and second feed waveguides consist of four lobes, and the same four beams emitted by energization of said third and fourth feed waveguides consist of four other lobes respectively intersecting said four lobes, said eight lobes each individually being frequency compensated with regard to the looking angle in the average direction of said four feed waveguides, and three two-position microwave switch means having four positions in combination, in each position said microwave switch means connecting a respective one of said feed waveguides to a transmitter-receiver and also connecting the three remaining feed waveguides to three absorptive matching impedances respectively.



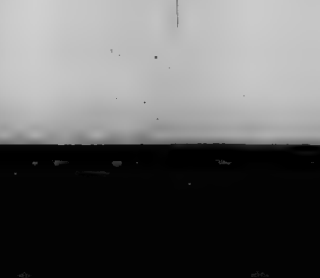
DESIGNS

JANUARY 3, 1961

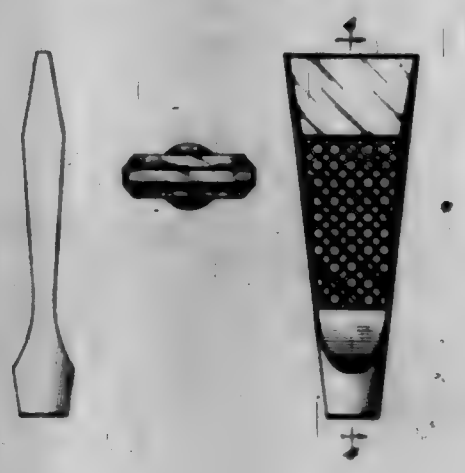
189,516
ILLUMINABLE ADVERTISING SIGN
Richard H. Van Den Berg, Milwaukee, Wis., assignor to Dimentional Products, Inc., Milwaukee, Wis., a corporation of Wisconsin
Filed Feb. 5, 1960, Ser. No. 59,282
Term of patent 14 years
(Cl. D1—12)



189,517
ILLUMINABLE ADVERTISING SIGN
Richard H. Van Den Berg, Milwaukee, Wis., assignor to Dimentional Products, Inc., Milwaukee, Wis., a corporation of Wisconsin
Filed Feb. 5, 1960, Ser. No. 59,283
Term of patent 14 years
(Cl. D1—12)



189,518
BEER TAP HANDLE
Richard H. Van Den Berg, Milwaukee, Wis., assignor to Dimentional Products, Inc., Milwaukee, Wis., a corporation of Wisconsin
Filed Feb. 5, 1960, Ser. No. 59,284
Term of patent 14 years
(Cl. D2—3)



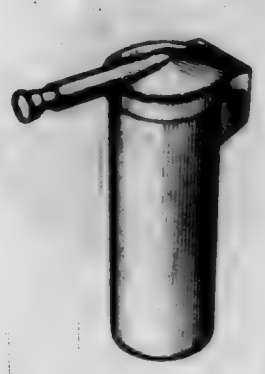
189,519
SWEATER
Hans Boepple, 1410 Broadway, New York, N.Y.
Filed May 23, 1960, Ser. No. 60,695
Term of patent 14 years
(Cl. D3—4)



189,520
ROBE
Dorothy Jeanne Oakley, Chicago, Ill., assignor to E. R. Moore Co., Chicago, Ill., a corporation of Illinois
Filed Oct. 20, 1959, Ser. No. 57,995
Term of patent 14 years
(Cl. D3—26)



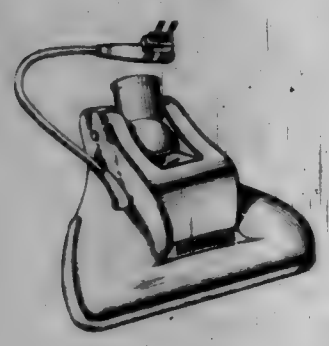
189,521
SOAP DISPENSER
Howard L. Philippe, Chicago, Ill., assignor to The Imperial Brass Mfg. Co., Chicago, Ill., a corporation of Illinois
Filed Oct. 12, 1959, Ser. No. 57,901
Term of patent 14 years
(Cl. D4—3)



189,522
SLIPPER OR SIMILAR ARTICLE
Kiyoichi Miyachi, 1 of 408 Mikado-Machi, Fukuyama-shi, Japan
Filed June 2, 1958, Ser. No. 51,134
Claims priority, application Japan Apr. 14, 1958
Term of patent 14 years
(Cl. D7—7)



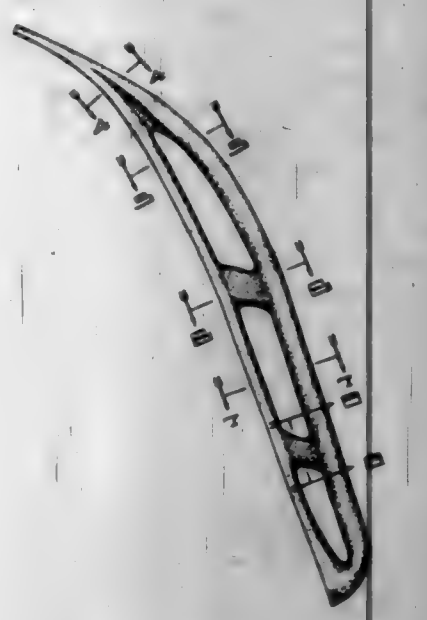
189,523
CARPET SWEEPER OR THE LIKE
Erich Mittelsten Scheid, Hohenstaufenstrasse 22, Wuppertal-Barmen, Germany
Filed Dec. 7, 1959, Ser. No. 58,584
Claims priority, application Germany July 10, 1959
Term of patent 14 years
(Cl. D9—2)



189,524
HANDLE AND LOCK UNIT
Leonard H. Savage, Grand Rapids, Mich., assignor to American Metal Hardware Company, Grand Rapids, Mich., a corporation of Michigan
Filed May 29, 1958, Ser. No. 51,121
Term of patent 14 years
(Cl. D10—8)



189,525
HAND GRIP FOR AN AUTOMOBILE
James A. Huggins, Birmingham, Mich., assignor to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware
Filed May 23, 1960, Ser. No. 60,680
Term of patent 7 years
(Cl. D10—8)



189,526
PULL
La Verne E. Clayton, Rockford, Ill., assignor to Amerock Corporation, Rockford, Ill., a corporation of Illinois
Filed Aug. 30, 1960, Ser. No. 61,948
Term of patent 14 years
(Cl. D10—8)



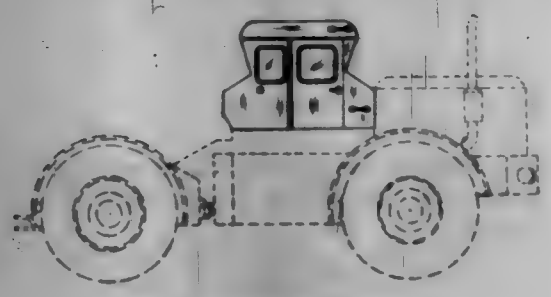
189,527
RAILING POST
Louis Blum, Pittsburgh, Pa., assignor to Blumcraft of Pittsburgh, Pittsburgh, Pa., a firm
Filed Dec. 29, 1958, Ser. No. 53,938
Term of patent 14 years
(Cl. D13—7)



189,528
COMBINED RAILING POST AND BRACKET
Lee J. Meyers, Murraysville, Pa.
Filed Aug. 12, 1959, Ser. No. 57,150
Term of patent 14 years
(Cl. D13—7)



189,529
TRACTOR
Elmer A. Wagner, Portland, Oreg., assignor to Wagner Tractor Inc., Portland, Oreg., a corporation of Oregon
Filed Nov. 9, 1959, Ser. No. 58,279
Term of patent 14 years
(Cl. D14—3)



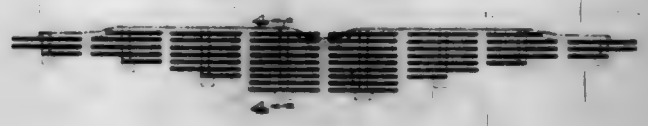
189,530
AUTOMOBILE
Friedrich K. H. Nallinger, Stuttgart, and Karl Wilfert, Stuttgart-Degerloch, Germany, assignors to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany
Filed Jan. 4, 1960, Ser. No. 58,902
Claims priority, application Germany July 4, 1959
Term of patent 7 years
(Cl. D14—3)



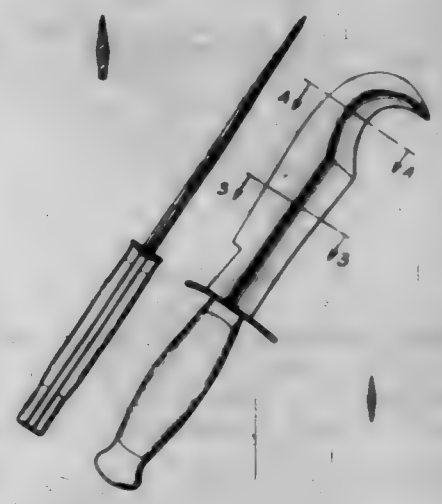
189,531
FENDER FOR AN AUTOMOBILE
Robert C. Siebert, Roseville, Mich., assignor to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware
Filed May 2, 1960, Ser. No. 60,417
Term of patent 7 years
(Cl. D14—6)



189,532
AUTOMOBILE GRILLE
John E. Schwarz, Oak Park, Mich., assignor to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware
Filed May 23, 1960, Ser. No. 60,683
Term of patent 7 years
(Cl. D14—18)



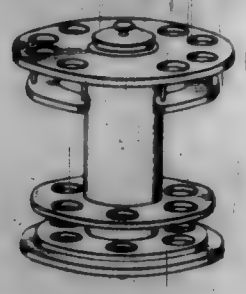
189,533
HUNTER'S KNIFE
Heino F. Bohlmann, 3000 S. Bellaire St., Denver, Colo.
Filed Dec. 26, 1958, Ser. No. 53,908
Term of patent 14 years
(Cl. D22—3)



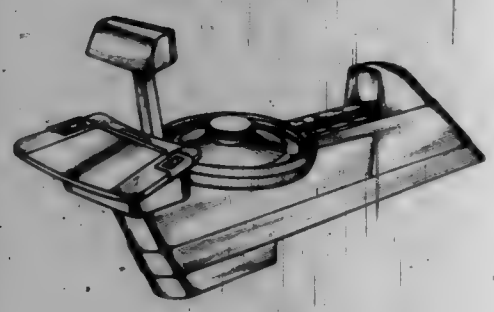
189,534
TELEVISION CONTROL KNOB
Melvin H. Boldt, Glenview, Ill., assignor to Zenith Radio Corporation, a corporation of Delaware
Filed July 28, 1960, Ser. No. 61,561
Term of patent 14 years
(Cl. D26—13)



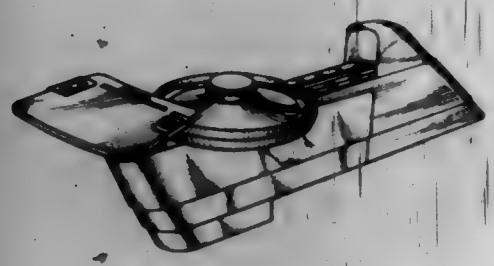
189,535
BAR TABLE
Theodore E. Rath, Jr., Box 192, Encino, Calif.
Filed Jan. 25, 1960, Ser. No. 59,160
Term of patent 14 years
(Cl. D33—14)



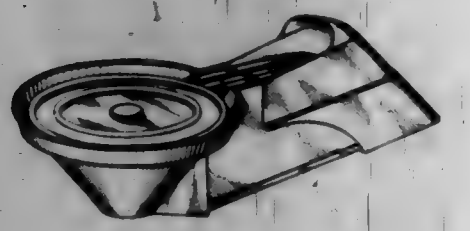
189,536
COMBINATION BOWLING BALL RACK AND SCORE TABLE
Henry Dreyfuss, New York, N.Y., assignor to American Machine & Foundry Company, a corporation of New Jersey
Filed June 25, 1959, Ser. No. 56,538
Term of patent 14 years
(Cl. D34—5)



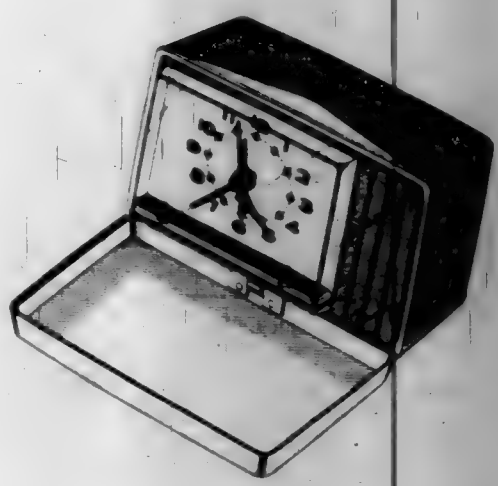
189,537
COMBINATION BOWLING BALL RACK AND SCORE TABLE
Henry Dreyfuss, New York, N.Y., assignor to American Machine & Foundry Company, a corporation of New Jersey
Filed June 25, 1959, Ser. No. 56,539
Term of patent 14 years
(Cl. D34—5)



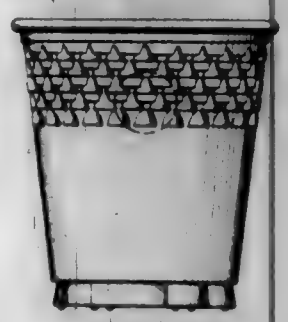
189,538
BOWLING BALL STORAGE RACK
Henry Dreyfuss, New York, N.Y., assignor to American Machine & Foundry Company, a corporation of New Jersey
Filed June 25, 1959, Ser. No. 56,540
Term of patent 14 years
(Cl. D34—5)



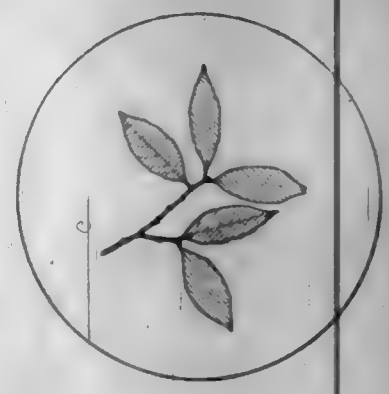
189,539
CLOCK OR SIMILAR ARTICLE
George H. Fitzsimonds, Trumbull, Conn., assignor to General Electric Company, a corporation of New York
Filed Aug. 30, 1960, Ser. No. 61,954
Term of patent 7 years
(Cl. D42—7)



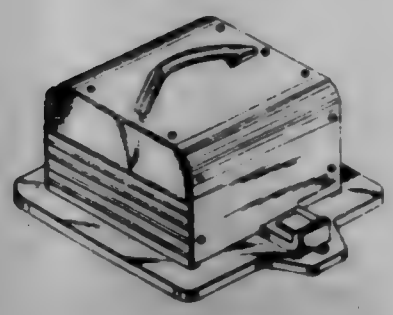
189,540
CUP
William L. Miller, Skokie, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Aug. 9, 1960, Ser. No. 61,673
Term of patent 14 years
(Cl. D44—9)



189,541
PLATE OR SIMILAR ARTICLE
Fridolin Blumer, Cold Spring, N.Y., assignor to Oneida Ltd., Oneida, N.Y., a corporation of New York
Filed Dec. 11, 1959, Ser. No. 58,637
Term of patent 14 years
(Cl. D44—15)



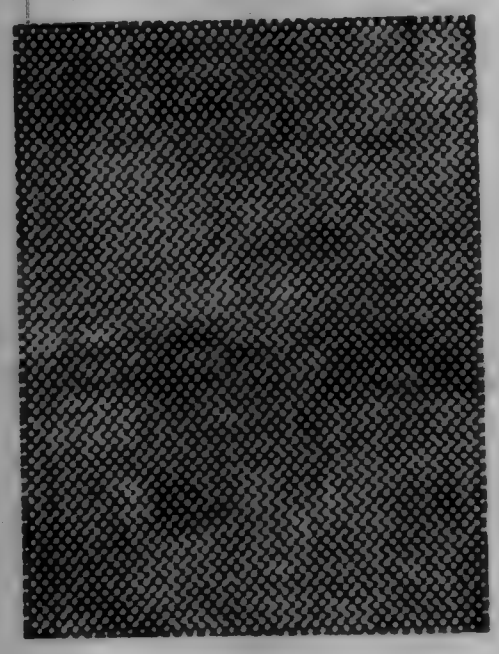
189,542
CAKE SERVER
Abel E. Garner, 480 Park Ave., New York, N.Y.
Filed July 13, 1960, Ser. No. 61,349
Term of patent 14 years
(Cl. D44—19)



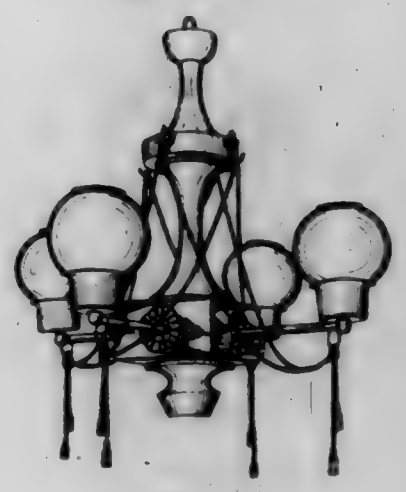
189,543
FINGER RING OR SIMILAR ARTICLE
Ruth W. Shuchra, 34 Tuttle St., Saugus, Mass.
Filed Aug. 31, 1960, Ser. No. 61,963
Term of patent 14 years
(Cl. D45—10)



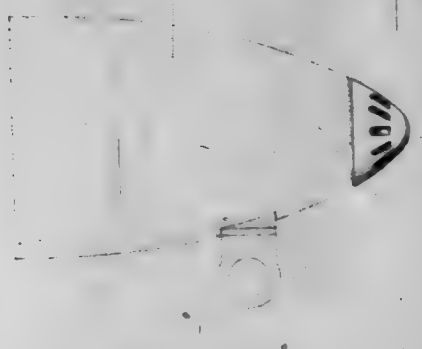
189,544
NET FABRIC
Robert W. Harris, Plainview, N.Y., assignor to A & W Manufacturing Corporation, Brooklyn, N.Y., a corporation of New York
Filed Dec. 11, 1959, Ser. No. 58,633
Term of patent 14 years
(Cl. D47—6)



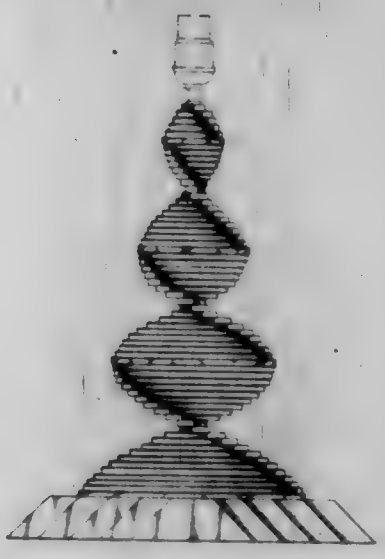
189,545
CHANDELIER
Betty Grace Page, 409 W. 59th St. Terrace, Kansas City, Mo.
Filed July 6, 1960, Ser. No. 61,260
Term of patent 14 years
(Cl. D48—3)



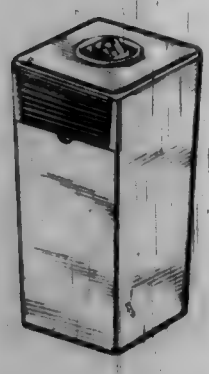
189,546
COMBINED LIGHT SHADE AND SWITCH
Albert N. Cook, Bernardsville, N.J., assignor to The Singer Manufacturing Company, Elizabeth, N.J., a corporation of New Jersey
Filed May 1, 1959, Ser. No. 55,735
Term of patent 14 years
(Cl. D48—16)



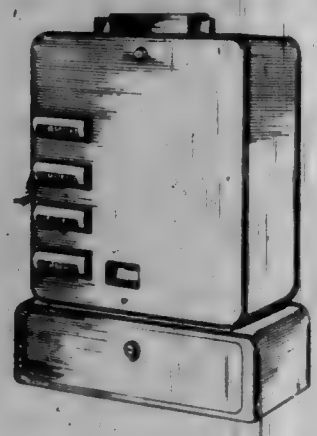
189,547
TABLE LAMP BASE OR THE LIKE
Charles M. Wallace, 2407 Staples Ave., Key West, Fla.
Filed Aug. 7, 1958, Ser. No. 52,113
Term of patent 14 years
(Cl. D48—20)



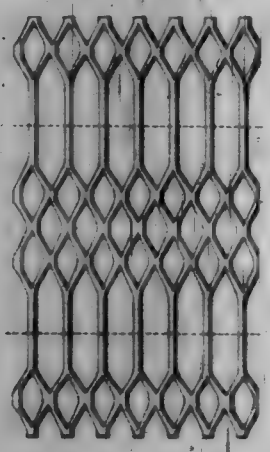
189,548
DENTAL FLOSS DISPENSER
Irvin J. Gershen, Springfield, N.J., assignor to Johnson & Johnson, a corporation of New Jersey
Filed July 27, 1960, Ser. No. 61,537
Term of patent 14 years
(Cl. D52—2)



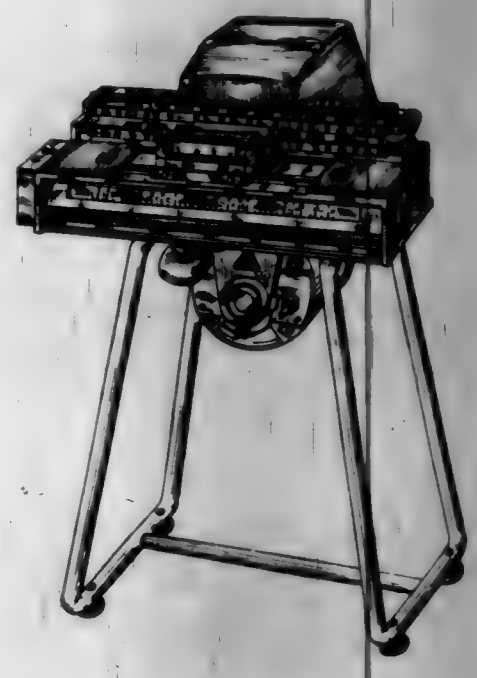
189,549
COIN COUNTER
Jerry C. Koci, Barrington, Ill., assignor, by mesne assignments, to Bert J. Payne Universal Control System, Inc., Joplin, Mo., a corporation
Filed May 16, 1958, Ser. No. 50,925
Term of patent 7 years
(Cl. D52—4)



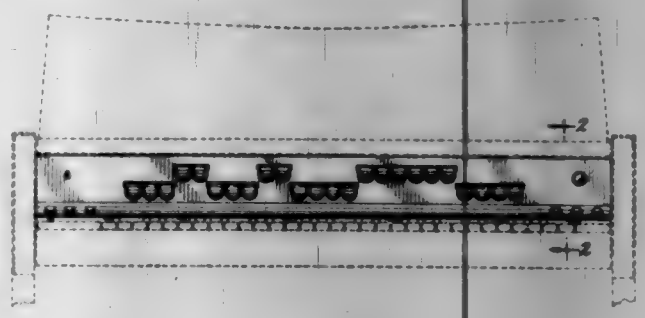
189,550
EXPANDED METAL SHEET OR THE LIKE
Charles B. Alvord, Fort Lauderdale, Fla.
(611 Park Drive, Kenilworth, Ill.)
Filed Oct. 24, 1958, Ser. No. 53,140
Term of patent 3½ years
(Cl. D54—2)



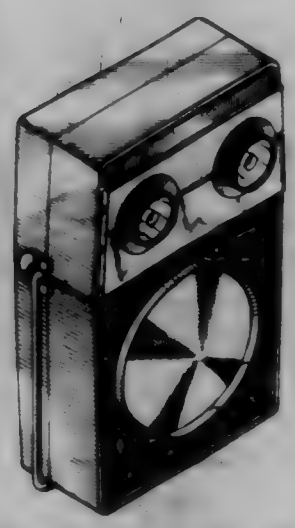
189,551
EMBOSSING MACHINE FOR PRINTING PLATES
Stanley A. Dashew, Culver City, and Kunio A. Sumida, Los Angeles, Calif., assignors to Dashew Business Machines, Inc., a corporation of Delaware
Filed Nov. 6, 1959, Ser. No. 58,241
Term of patent 14 years
(Cl. D54—14)



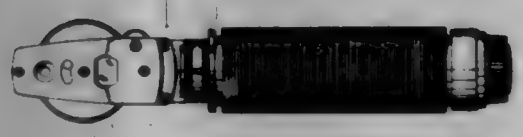
189,552
CONTROL PANEL FOR AN ELECTRIC ORGAN
John M. Hanert, Des Plaines, Ill., assignor to Hammond Organ Company, Chicago, Ill., a corporation of Delaware
Filed Sept. 25, 1959, Ser. No. 57,685
Term of patent 14 years
(Cl. D56—2)



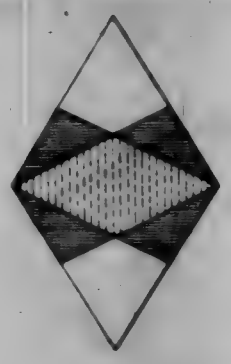
189,553
PORTABLE RADIO CABINET
Melvin H. Boldt, Glenview, Ill., assignor to Zenith Radio Corporation, a corporation of Delaware
Filed June 1, 1959, Ser. No. 56,162
Term of patent 14 years
(Cl. D56—4)



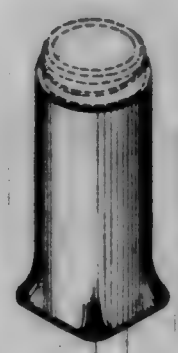
189,554
OPHTHALMOSCOPE
John T. Armbruster, Niagara Falls, N.Y., assignor to American Optical Company, Southbridge, Mass.
Filed July 22, 1960, Ser. No. 61,487
Term of patent 14 years
(Cl. D57—1)



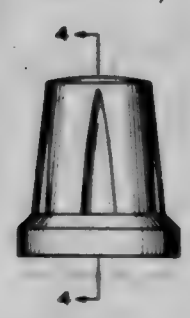
189,555
BOX FOR FLOWER POT COVERS
Harry W. Roth, Los Angeles, and Howard Blonder, Downey, Calif. (both % Reynolds Metals Co., Reynolds Metals Bldg., Richmond, Va.)
Filed Jan. 20, 1959, Ser. No. 54,252
Term of patent 14 years
(Cl. D58—12)



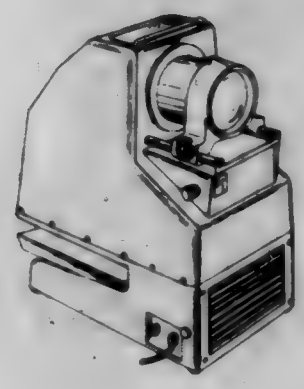
189,556
JAR
Howard C. Wolf, Baltimore, Md., assignor to McCormick & Company, Incorporated, Baltimore, Md., a corporation of Maryland
Filed Nov. 20, 1957, Ser. No. 48,567
Term of patent 14 years
(Cl. D58—25)



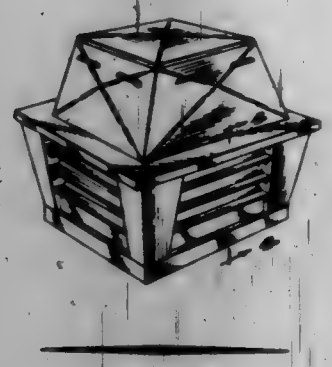
189,557
CLOSURE CAP
Jack W. Soffer, St. Louis, Mo., assignor to Development Research, Inc., St. Louis, Mo., a corporation of Missouri
Filed May 12, 1958, Ser. No. 50,847
Term of patent 14 years
(Cl. D58—26)



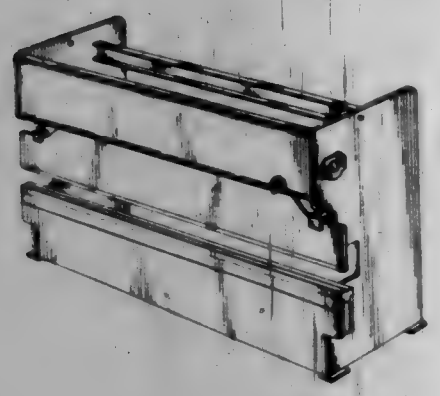
189,558
PROJECTION MACHINE
John T. Armbruster, Niagara Falls, and Henry T. Wilton, Buffalo, N.Y., assignors to American Optical Company, Southbridge, Mass.
Filed July 26, 1960, Ser. No. 61,529
Term of patent 14 years
(Cl. D61—1)



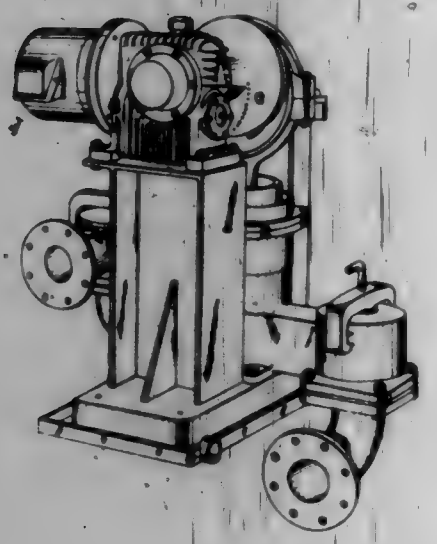
189,559
ROOF VENTILATOR
George M. Breidert, Granada Hills, Calif., assignor to The G. C. Breidert Co., San Fernando, Calif., a corporation of California
Filed Feb. 23, 1960, Ser. No. 59,487
Term of patent 14 years
(Cl. D62—4)



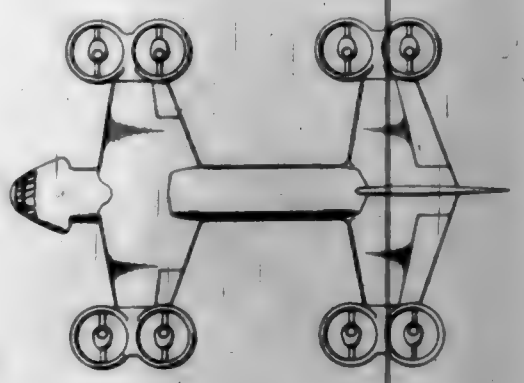
189,560
PRESS BRAKE
Frederick E. Munschauer, Jr., Eggertsville, N.Y., assignor to Niagara Machine & Tool Works, Buffalo, N.Y.
Filed Feb. 18, 1957, Ser. No. 44,889
Term of patent 14 years
(Cl. D63—1)



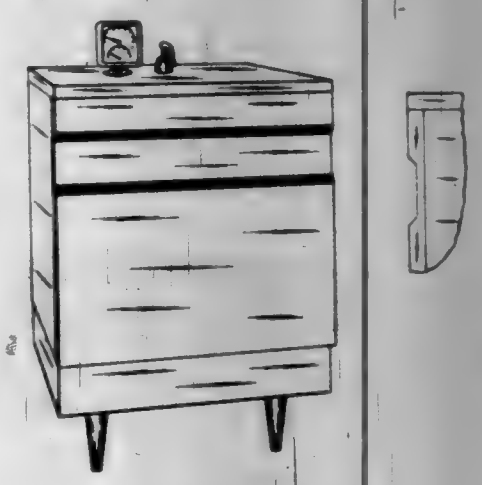
189,561
PLUNGER PUMP
Eric C. Hammarstrom, Peapack, and Charles Russell Ballantyne, Basking Ridge, N.J., assignors to Komline-Sanderson Engineering Corporation, Peapack, N.J., a corporation of New Jersey
Filed Jan. 2, 1959, Ser. No. 54,029
Term of patent 7 years
(Cl. D65—1)



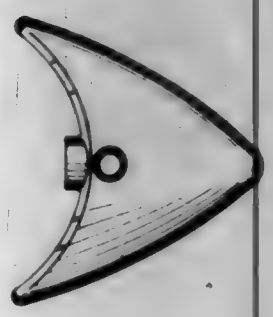
189,562
VERTICAL LIFT CARGO PLANE
Norman E. Nelson, Palos Verdes Estates, Calif., assignor to Doak Aircraft Co., Inc., Torrance, Calif., a corporation of California
Filed Aug. 18, 1959, Ser. No. 57,220
Term of patent 14 years
(Cl. D71—1)



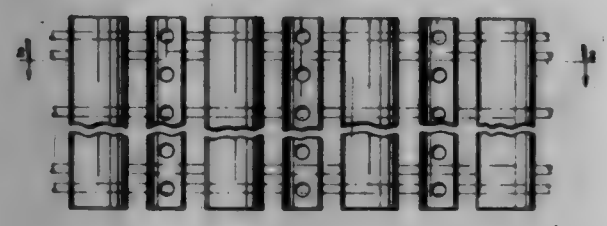
189,563
HOT WATER HEATER
Gordon Hatch, Milwaukee, Wis., assignor to Hatco Corporation, Milwaukee, Wis., a corporation of Wisconsin
Filed Oct. 23, 1959, Ser. No. 58,043
Term of patent 14 years
(Cl. D81—2)



189,564
SPRINKLER BASE
John D. Beinert, Babylon, N.Y., assignor to Melnor Industries, Inc., Moonachie, N.J., a corporation of New York
Continuation of design applications Ser. No. 56,606, June 30, 1959, and Ser. No. 57,217, Aug. 18, 1959. This application Apr. 22, 1960, Ser. No. 60,332
Term of patent 7 years
(Cl. D91—1)



189,565
WOVEN SLAT FABRIC
Helene E. Skowronski, 9923 SE. Bellevue Place, Bellevue, Wash.
Filed Oct. 27, 1958, Ser. No. 53,155
Term of patent 14 years
(Cl. D92—1)



189,566
FLOCKED TEXTILE FABRIC
Natalie Leavy, Clifton, N.J., assignor to Decorative Fabrics Company Incorporated, Pawtucket, R.I., a corporation of Rhode Island
Filed Feb. 24, 1960, Ser. No. 59,491
Term of patent 14 years
(Cl. D92—1)



LIST OF REISSUE PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 3RD DAY OF JANUARY, 1961

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

Mills, Lindley E. Dispensing package and method. Re. 24,918, 1–3–61, Cl. 222—386.5.

Palmer, Harold S. Material handling system. Re. 24,920, 1–3–61, Cl. 214—83.32.

Staley, A. E., Mfg. Co.: *See*—
Wolff, Hans. Re. 24,919.

Wolff, Hans, to A. E. Staley Mfg. Co. Starch ethers. Re. 24,919, 1–3–61, Cl. 260—233.3.

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Moore, Ralph S. Miniature rose plant. 2,009, 1–3–61, Cl. 47—61.

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Dreyfuss, Henry. 189,537.
Dreyfuss, Henry. 189,538.

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American Optical Co.: *See*—
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Armbruster, John T., and Wilton. 189,558.

Amerock Corp.: *See*—
Clayton, La Verne E. 189,526.

Armbruster, John T., to American Optical Co. Ophthalmoscope. 189,554, 1–3–61, Cl. D57—1.

Armbruster, John T., and H. T. Wilton, to American Optical Co. Projection machine. 189,558, 1–3–61, Cl. D61—1.

Ballantyne, Charles R.: *See*—
Hammarstrom, Eric C., and Ballantyne. 189,561.

Beinert, John D., to Melnor Industries, Inc. Sprinkler base. 189,564, 1–3–61, Cl. D91—1.

Blonder, Howard: *See*—
Roth, Harry W., and Blonder. 189,555.

Blum, Louis, to Blumcraft of Pittsburgh. Railing post. 189,527, 1–3–61, Cl. D13—7.

Blumcraft of Pittsburgh: *See*—
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Blumer, Fridolin, to Oneida Ltd. Plate or similar article. 189,541, 1–3–61, Cl. D44—15.

Boepple, Hans. Sweater. 189,519, 1–3–61, Cl. D3—4.

Bohlmann, Heino F. Hunter's knife. 189,533, 1–3–61, Cl. D22—3.

Boldt, Melvin H., to Zenith Radio Corp. Television control knob. 189,534, 1–3–61, Cl. D26—13.

Boldt, Melvin H., to Zenith Radio Corp. Portable radio cabinet. 189,553, 1–3–61, Cl. D56—4.

Breidert, George M., to The G. C. Breidert Co. Roof ventilator. 189,559, 1–3–61, Cl. D62—4.

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Siebert, Robert C. 189,531.

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Cook, Albert N., to The Singer Mfg. Co. Combined light shade and switch. 189,546, 1–3–61, Cl. D48—16.

Daimler-Benz Aktiengesellschaft: *See*—
Nallinger, Friedrich K. H., and Wilfert. 189,530.

Dashew Business Machines, Inc.: *See*—
Dashew, Stanley A., and Sumida. 189,551.

Dashew, Stanley A., and K. A. Sumida, to Dashew Business Machines, Inc. Embossing machine for printing plates. 189,551, 1–3–61, Cl. D54—14.

Decorative Fabrics Co. Inc.: *See*—
Leavy, Natalie. 189,566.

Development Research, Inc.: *See*—
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Dimentional Products, Inc.: *See*—
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Van Den Berg, Richard H. 189,517.
Van Den Berg, Richard H. 189,518.

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Nelson, Norman E. 189,562.

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Dreyfuss, Henry to American Machine & Foundry Co. Combination bowling ball rack and score table. 189,537, 1–3–61, Cl. D34—5.

Dreyfuss, Henry, to American Machine & Foundry Co. Bowling ball storage rack. 189,538, 1–3–61, Cl. D34—5.

Fitzsimonds, George H., to General Electric Co. Clock or similar article. 189,539, 1–3–61, Cl. D42—7.

Garner, Abel E. Cake server. 189,542, 1–3–61, Cl. D44—19.

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Fitzsimonds, George H. 189,539.

Gershen, Irvin J., to Johnson & Johnson. Dental floss dispenser. 189,548, 1–3–61, Cl. D52—2.

Hammarstrom, Eric C., and C. R. Ballantyne, to Komline-Sanderson Engineering Corp. Plunger pump. 189,561, 1–3–61, Cl. D65—1.

Hammond Organ Co.: *See*—
Hanert, John M. 189,552.

Hanert, John M., to Hammond Organ Co. Control panel for an electric organ. 189,552, 1–3–61, Cl. D56—2.

Harris, Robert W., to A & W Mfg. Corp. Net fabric. 189,544, 1–3–61, Cl. D47—6.

Hatch, Gordon, to Hatco Corp. Hot water heater. 189,563, 1–3–61, Cl. D81—2.

Hatco Corp.: *See*—
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Huggins, James A., to Chrysler Corp. Hand grip for an automobile. 189,525, 1–3–61, Cl. D10—8.

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Johnson & Johnson: *See*—
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Melnor Industries, Inc.: *See*—
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Meyers, Leo J. Combined railing post and bracket. 189,528, 1–3–61, Cl. D13—7.

Miller, William L., to Continental Can Co., Inc. Cup. 189,540, 1–3–61, Cl. D44—9.

Miyachi, Kiyoichi. Slipper or similar article. 189,522, 1–3–61, Cl. D7—7.

Moore, E. R., Co.: *See*—
Oakley, Dorothy J. 189,520.

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Nallinger, Friedrich K. H., and K. Wilfert, to Daimler-Benz Aktiengesellschaft. Automobile. 189,530, 1–3–61, Cl. D14—3.

Nelson, Norman E., to Doak Aircraft Co., Inc. Vertical lift cargo plane. 189,562, 1–3–61, Cl. D71—1.

Niagara Machine & Tool Works: *See*—
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Oakley, Dorothy J., to E. R. Moore Co. Robe. 189,520, 1–3–61, Cl. D3—26.

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Blumec Fridolin. 189,541.

Page, Betty G. Chandelier. 189,545, 1–3–61, Cl. D48—3.

Payne, Bert J., Universal Control System, Inc.: *See*—
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Philippe, Howard L., to The Imperial Brass Mfg. Co. Soap dispenser. 189,521, 1–3–61, Cl. D4—3.

Rath, Theodore E., Jr. Bar table. 189,535, 1–3–61, Cl. D33—14.

Roth, Harry W., and H. Blonder. Box for flower pot covers. 189,555, 1–3–61, Cl. D59—12.

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Savage, Leonard H., to American Metal Hardware Co. Handle and lock unit. 189,524, 1–3–61, Cl. D10—8.

Scheid, Erich M. Carpet sweeper or the like. 189,523, 1–3–61, Cl. D9—2.

Schwarz, John E., to Chrysler Corp. Automobile grille. 189,532, 1–3–61, Cl. D14—18.

Shuckra, Ruth W. Finger ring or similar article. 189,543, 1–3–61, Cl. D45—10.

Siebert, Robert C., to Chrysler Corp. Fender for an automobile. 189,531, 1–3–61, Cl. D14—6.

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Skowronski, Helene E. Woven slat fabric. 189,565, 1–3–61, Cl. D92—1.

Soffer, Jack W., to Development Research, Inc. Closure cap. 189,557, 1–3–61, Cl. D58—26.

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Dashew, Stanley A., and Sumida. 189,551.

Van Den Berg, Richard H., to Dimentional Products, Inc. Illuminable advertising sign. 189,516, 1–3–61, Cl. D1—12.

Van Den Berg, Richard H., to Dimentional Products, Inc. Illuminable advertising sign. 189,517, 1–3–61, Cl. D1—12.

Van Den Berg, Richard H., to Dimentional Products, Inc. Beer tap handle. 189,518, 1–3–61, Cl. D2—3.

Wagner, Elmer A., to Wagner Tractor Inc. Tractor. 189,529, 1–3–61, Cl. D14—3.

Wagner Tractor Inc.: *See*—
Wagner, Elmer A. 189,529.

Wallace, Charles M. Table lamp base or the like. 189,547, 1–3–61, Cl. D48—20.

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Boldt, Melvin H. 189,553.

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TO WHOM

PATENTS WERE ISSUED ON THE 3RD DAY OF JANUARY, 1961

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

Abbott, Homer G. : *See*—
Meyer, Lawrence F. 2,967,057.
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Clark, Robert K., Jr. 2,967,129.
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Frankel, Milton B., and Klager. 2,967,199.
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Higgins, Horace M., and Gongwer. 2,967,097.
Klager, Karl, and Vanneman. 2,967,193.
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Baur, Carl, and Otzen. 2,966,825.
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Barco, John F. 2,966,855.
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Blomgren, Erik, and Jenner. 2,967,155.
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Albrecht, Paul R. Brace and garment connector. 2,966,712, 1–3–61, Cl. 24—73.
Albrighton, Reginald F. : *See*—
Ferm, Glenn O., Smith, and Albrighton. 2,967,232.
Aldred, Fred C., and W. G. Daroux, to Courtaulds Ltd. Disposal of effluent. 2,966,865, 1–3–61, Cl. 110—7.
Allen, Herbert, and S. Burg, to United States of America, Navy. Release mechanism for missile projectors. 2,966,850, 1–3–61, Cl. 102—7.
Allen, Joseph C., and C. C. Nathan, to Texaco Inc. Method of wax removal. 2,967,121, 1–3–61, Cl. 134—31.
Alpert, Louis, to United States of America, Navy. Escapement arming switch. 2,967,217, 1–3–61, Cl. 200—61.45.
Aluminum Co. of America : *See*—
Towner, Raymond J., and Lyle. 2,966,781–6.
American Air Filter Co., Inc. : *See*—
Sexton, Robert W. 2,966,958.
American Brake Shoe Co. : *See*—
Spokes, Raymond E., and Smith. 2,966,737.
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Park, John L., Jr. 2,966,719.
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Morris, Robert S. 2,966,985.
American Radiator & Standard Sanitary Corp. : *See*—
Kaul, Ben. 2,966,987.
Amo, Claude J. Combination lock. 2,966,788, 1–3–61, Cl. 70—156.
Anderson, Emil, to Electrolux Corp. Multiple nozzle cleaning tool. 2,966,693, 1–3–61, Cl. 15—373.
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Theenhausen, Heinrich, and Wank. 2,966,868.
Antonucci, Nicholas, Jr. Mop with wringing rolls. 2,966,689, 1–3–61, Cl. 15—119.
Aries, Robert S. Plasticized polymerized hydrocarbon-substituted ethylenes. 2,967,164, 1–3–61, Cl. 260—23.
Arkley, Vincent, and G. H. Phillipps, to Glaxo Laboratories Ltd. Diamine salts of 21-phosphate esters of steroid compounds of the pregnane and allopregnane series. 2,967,179, 1–3–61, Cl. 260—239.5.
Arledter, Hanns F., and H. Piepenbrink, deceased (by U. B. Piepenbrink, administratrix), ½ to Farbenfabriken Bayer Aktiengesellschaft and ½ to Mobay Chemical Co. Process for coating a substrate with a mixture of a polyhydroxy polyester and a polyisocyanate. 2,967,117, 1–3–61, Cl. 117—106.
Arnold, Henry M. High temperature piston engines. 2,966,887, 1–3–61, Cl. 121—38.
Aronson, Theodore F., and F. A. Lyon, to Viewlex, Inc. Speed regulating means for roll material. 2,967,025, 1–3–61, Cl. 242—75.5.
Arrow-Hart & Hegeman Electric Co., The : *See*—
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Axman, Melvin G., deceased ; D. V. D. Axman, administratrix. Turning attachment for vehicles. 2,967,045, 1–3–61, Cl. 254—87.
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Smith, Charles S. 2,966,897.
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Bailey, Milton. Leather impregnite. 2,967,165, 1–3–61, Cl. 260—23.
Baker, Craig C., V. R. Spitaleri, and S. Oderman, to Sta-Hi Corp. Means for preparing matrices for positioning for trimming and/or casting. 2,966,847, 1–3–61, Cl. 101—391.
Baldwin, James F. Alloys for high-temperature service. 2,967,103, 1–3–61, Cl. 75—126.
Balfour, Joseph, to Reynolds Metals Co. Method of making pressure welded expanded passageway panels. 2,966,728, 1–3–61, Cl. 29—157.3.
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Bartl, Herbert, to Farbenfabriken Bayer Aktiengesellschaft. Process for the production of polymerization products. 2,967,174, 1–3–61, Cl. 260—78.5.
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Bartoszak, Anthony W., to The Martin Co. Method of forming a sheet into an integral tube. 2,967,139, 1–3–61, Cl. 204—154.2.
Batesole, William R., to Doman Helicopters, Inc. Folding helicopter blade. 2,966,947, 1–3–61, Cl. 170—160.12.
Baughman, Milton D., Jr., to The Wean Engineering Co., Inc. Means for stabilizing hanging loops. 2,967,007, 1–3–61, Cl. 226—93.
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Beck, Kenneth H., to Minneapolis-Honeywell Regulator Co. Phototransistor modulating apparatus. 2,967,279, 1–3–61, Cl. 332—3.
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Beerman, Henry P., to International Minerals & Chemical Corp. Carrier supported desiccant. 2,967,154, 1–3–61, Cl. 252—194.
Beersma, Pieter J. A., and G. Moes, to Naamloose Vennootschap W. A. Scholten's Chemische Fabrieken. Method of manufacturing starch products. 2,967,110, 1–3–61, Cl. 106—206.
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Bentley, Raymond B. Fish feeding device. 2,966,885, 1–3–61, Cl. 119—51.
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Berge, Sven E. Traversing means for weapon-carrying vehicles of the endless track type. 2,966,828, 1–3–61, Cl. 89—41.

Berlin, Daniel. Square shopping cart. 2,967,060, 1–3–61, Cl. 280—36.

Bertossa, Robert C., to Chicago Bridge & Iron Co. Molybdenum clad product having an intermediate metal layer and method of producing the same. 2,966,738, 1–3–61, Cl. 29—196.

Beuther, Harold, R. A. Flinn, and J. B. McKinley, to Gulf Research & Development Co. Hydrogenation of aromatics with a tungsten and nickel sulfide, supported on alumina, catalyst composite. 2,967,204, 1–3–61, Cl. 260—667.

Bieler, Walter T., ½ to W. C. Wilson. Vehicle working means. 2,966,962, 1–3–61, Cl. 184—106.

Billner, Karl P., to Vacuum Concrete Corp. of America. Molding apparatus. 2,966,718, 1–3–61, Cl. 25—30.

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Blackstone, Henry, and F. G. Willey, to Servo Corp. of America. Optical scanning mechanism. 2,967,211, 1–3–61, Cl. 178—6.7.

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Blauvelt, Roland G., to Diebold, Inc. Rotary depository lock. 2,967,015, 1–3–61, Cl. 232—44.

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Blomgren, Erik, and H. Jenner, to Aktiebolaget Pharmacia. Stabilized Karl Fischer reagent. 2,967,155, 1–3–61, Cl. 252—408.

Bloom, Aaron, to Sierra Engineering Co. Combination valve for breathing equipment. 2,966,917, 1–3–61, Cl. 137—64.

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Bondurant, Carlton W.: *See*—
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Bonin, John H., to United States of America, Army. Heat protective outfit. 2,966,684, 1–3–61, Cl. 2—81.

Booth, Ben J. Roof assembly for a roof expansion joint. 2,966,764, 1–3–61, Cl. 50—209.

Bordignon, Lelio, and G. L. Tovaglieri, to Tovaglieri & C. Soc. II per Azioni. Device to make centering seats on either ends of bars or the like, in order to keep them firmly chucked during the subsequent machining operations. 2,966,721, 1–3–61, Cl. 29—27.

Borg-Warner Corp.: *See*—
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Boussu, Gabriel X. R., L. P. F. A. Neuville, and L. H. N. Saint Frison, to Compagnie Generale des Etablissements Michelin (Robert Puiseux & Cie). Beads for pneumatic tires. 2,966,933, 1–3–61, Cl. 152—362.

Bowen, Thomas H., to James R. Kearney Corp. Tools for applying armor rods to conductors. 2,966,774, 1–3–61, Cl. 57—10.

Bragg, John R.: *See*—
Kistiakowsky, George B., McDougall, Lum, Bragg, and Messerly. 2,966,822.

Brandberg, Åke R. L., to Svenska Skifferoljeaktiebolaget. Method in pyrolising and burning and a shaft furnace for the execution thereof. 2,967,132, 1–3–61, Cl. 202—6.

Braun, Edward C., and J. W. Herlinger, to Avco Corp. Radio tuner with compensated frequency versus gain characteristic. 2,967,235, 1–3–61, Cl. 250—20.

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Breese, James, L., deceased (by R. F. Van Tubergen and J. L. Breese III, executors), and M. D. Huston to Controls Co. of America. Electrical ignition assembly for liquid fuel burners. 2,966,941, 1–3–61, Cl. 158—91.

Breese, James L., and M. D. Huston, to Controls Co. of America. Electrical ignition assembly for liquid fuel burners. 2,966,942, 1–3–61, Cl. 158—91.

Breese, James L., to Controls Co. of America. Electric ignition assembly for liquid fuel burners. 2,966,943, 1–3–61, Cl. 158—91.

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Breese, James L., and Huston. 2,966,941.

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Brewer, Ward B., M. Bodner, and R. H. Smith, to Lockheed Aircraft Corp. Electrical gage for measuring mechanical deflections. 2,966,797, 1–3–61, Cl. 73—88.5.

Briggs Associates, Inc.: *See*—
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Johnson, David A., and Hardcastle. 2,967,177.

Brockway, Wilhelm W. Classroom cabinet, prefabricated construction. 2,966,760, 1–3–61, Cl. 45—139.

Brodbeck, Willy, to A. Gauthier, G.m.b.H. Profile-milling and engraving machine. 2,966,831, 1–3–61, Cl. 90—13.

Brossman, Martin W., and R. K. Chaimson. Fracture testing device. 2,966,796, 1–3–61, Cl. 73—88.

Brower, George H., B. P. Hooten, and G. Cooper, to The Bendix Corp. Magnetic clutch. 2,966,976, 1–3–61, Cl. 192—84.

Brown, Charles L., Jr., to Electrolux Corp. Double purpose suction cleaning nozzle. 2,966,694, 1–3–61, Cl. 15—417.

Brown, Daniel S., to Worthington Corp. Stop means for limiting the compression and expansion of a bellows member. 2,966,929, 1–3–61, Cl. 137—781.

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Brown, Martin J., to Western Electric Co., Inc. Clipper circuit for pulse modulators. 2,967,275, 1–3–61, Cl. 328—67.

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Bryant Electric Co., The: *See*—
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Buchoff, Leonard S., and N. M. Ingber. Colorimetric determination of dissolved oxygen in low concentrations. 2,967,092, 1–3–61, Cl. 23—230.

Bueche, Arthur M.: *See*—
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Campbell, Erwin A., and I. G. MacKenzie, to Lee C. Moore Corp. Extension tower for use with a fork lift truck. 2,966,956, 1–3–61, Cl. 182—63.

Campbell, Lee R. Feeding mechanism for fastener driving devices. 2,966,681, 1–3–61, Cl. 1—44.4.

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Card, Joseph L., to Cobble Brothers Machinery Co., Inc. Method of and apparatus for making patterned tufted pile fabric. 2,966,866, 1–3–61, Cl. 112—79.

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Carlson, Arthur W., to Velsicol Chemical Corp. Phenylcyclopentylamine fungicides. 2,967,125, 1–3–61, Cl. 167—30.

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Chelewski, Edmund. Bale loader and trailer. 2,966,982, 1–3–61, Cl. 198—7.

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Chien, Kun L., and C. H. Propster, Jr., to Radio Corp. of America. Information extracting system. 2,967,296, 1–3–61, Cl. 340—172.5.

Chillson, Charles W., to Curtiss-Wright Corp. Mechanical servo mechanisms. 2,966,805, 1–3–61, Cl. 74—388.

Choice, David C. Snow and ice removal vehicle. 2,966,751, 1–3–61, Cl. 37—12.

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Christie, John E., ½ to E. B. Willford. Land vehicle wheel. 2,967,075, 1–3–61, Cl. 305—56.

Christie, Arnold B. Collapsible stand. 2,967,037, 1–3–61, Cl. 248—166.

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Clauson, Frank A., and D. K. Beavon, to Texaco Inc. Two-stage alkylation process. 2,967,208, 1–3–61, Cl. 260—683.61.

Clegg, Douglas. Sampler device. 2,966,800, 1–3–61, Cl. 73—422.

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Gregory, Harry R. 2,966,699.

Cobble Brothers Machinery Co., Inc.: *See*—
Card, Joseph L. 2,966,866.
Coberly, Clarence J., to Wulff Process Co. Process of and apparatus for producing acetylene and ethylene. 2,967,205, 1–3–61, Cl. 260—679.
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Cole, Edward L., to Texaco Inc. Method of processing lubricating oil. 2,967,147, 1–3–61, Cl. 208—144.
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Downs, Edgar S. Liquid fuel burning heater. 2,966,945, 1–3–61, Cl. 158—96.
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Diemer, Gesinus, Van Santen, Duinker, and Schoenmakers. 2,967,266.

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Eways, Musa J., and M. K. Avedissian, to Mast Engineering Co., Inc. Apparatus for casting concrete. 2,966,714, 1–3–61, Cl. 25—30.

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Eyre, Donald, to Rolls-Royce Ltd. Delta-wing aircraft construction. 2,967,034, 1–3–61, Cl. 244—119.

F.T. Products Ltd.: *See*—
Fernberg, Eric B. 2,966,711.

Faeber, Harry W., to Time, Inc. Expandable base plate. 2,966,848, 1–3–61, Cl. 101—415.1.

Fain, Jacob M., and A. Goldman, to United States of America, Navy. Rain repellent composition comprising a styrenated oil modified alkyd resin with paraffin wax. 2,967,163, 1–3–61, Cl. 260—22.

Fairchild, Wayne K. Fluid mixing devices. 2,966,928, 1–3–61, Cl. 137—636.3.

Fang, James C., to E. I. du Pont de Nemours and Co. Polymerizable esters of acrylic and methacrylic acid and polymers thereof. 2,967,173, 1–3–61, Cl. 260—77.5.

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Arledter, Hanns F., and Piepenbrink. 2,967,117.
Bartl, Herbert. 2,967,174.
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Carrier, Ralph A., Jr., and Farnam. 2,967,225.

Farnam Mfg. Co., Inc., The: *See*—
Carrier, Ralph A., Jr., and Farnam. 2,967,225.

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Farrington, Samuel C., to Lever Bros. Co. Neutralization process. 2,967,189, 1–3–61, Cl. 260—400.

Fasolino, Peter A. Bone clamps. 2,966,907, 1–3–61, Cl. 128—92.

Faulk, Raymond B. Decorative ornament. 2,966,757, 1–3–61, Cl. 41—10.

Feiser, Charles F., Jr., to Campbell Chain Co. Overload indicator for sling chain and the like. 2,966,878, 1–3–61, Cl. 116—114.

Fennema, Richard, to Crane Co. Position indicating stem cap. 2,966,923, 1–3–61, Cl. 137—270.

Ferguson, Kenneth W. Planter light. 2,967,297, 1–3–61, Cl. 340—239.

Ferm, Glenn O., W. R. Smith, and B. F. Albrighton, to General Railway Signal Co. Switch and signal control system for railroads. 2,967,232, 1–3–61, Cl. 246—5.

Fernberg, Eric B., to F.T. Products Ltd. Fasteners. 2,966,711, 1–3–61, Cl. 24—73.

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Ferrara, James A., and Ferrante. 2,966,839.

Ferrara, James A., and V. J. Ferrante. Basting device. 2,966,839, 1–3–61, Cl. 99—346.

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Jania, Zbigniew J., and Walthall. 2,966,888.
Kaptur, Robert E. 2,966,978.
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Stwiorok, Andreas. 2,966,901.

Forgue, Stanley V., to Radio Corp. of America. Composite photoconductive layer. 2,967,254, 1–3–61, Cl. 313—65.

Forrer, Homer W., and P. J. Wood, to The Mead Corp. Paperboard carrier. 2,967,003, 1–3–61, Cl. 220—114.

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Frankel, Milton B., and K. Klager, to Aerojet-General Corp. Nitramides. 2,967,199, 1–3–61, Cl. 260—561.

Fraser, Charles, and H. A. Swyer. Vehicle parking device. 2,966,950, 1–3–61, Cl. 180—1.

Fraser, Julius T., to General Precision, Inc. Rotatable waveguide joint. 2,967,280, 1–3–61, Cl. 333—98.

Freedman, Larry A., to Radio Corp. of America. Signal receiving systems. 2,967,236, 1–3–61, Cl. 250—20.

Freeman, Lawson J., Jr., 35% to J. O. Theriot, and 65% to A. J. Lambert. Stud anchor plate. 2,966,708, 1–3–61, Cl. 20—96.

Freitas, Manuel P., to The Foxboro Co. Electrical pin-board data system. 2,967,285, 1–3–61, Cl. 339—18.

Frey, Cleon F., to Standard Coil Products Co., Inc. Tuner for television receivers. 2,967,238, 1–3–61, Cl. 250—40.

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Friend, John J., Jr., ⅛ to G. W. Friend, and ⅛ to M. A. Friend. Elevator and loading mechanisms. 2,966,996, 1–3–61, Cl. 214—711.

Friend, Mary A.: *See*—
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Gallentine, Donal O., and C. E. Keith, to Radiation, Inc. Stylus assembly method. 2,966,726, 1–3–61, Cl. 29—155.5.

Gallentine, Donal O., to Radiation, Inc. Stylus assembly. 2,966,727, 1–3–61, Cl. 29—155.5.

Gallentine, Donal O., to Radiation, Inc. Fixed styli recording head. 2,967,083, 1–3–61, Cl. 346—139.

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Garrett Corp., The: *See*—
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Garver, Clyde L., G. L. Kring, and B. B. Nye, to Lear, Inc. Potentiometer adjuster. 2,966,807, 1–3–61, Cl. 74—504.

Gary, Wright W., and A. J. Mueller, to Minerals & Chemicals Philipp Corp. Tobacco composition and smokable unit containing material for removing deleterious matter. 2,967,118, 1–3–61, Cl. 131—17.

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Hull, Edwin H., and A. J. Nerad, to General Electric Co. Irregular surface diamond burnishing tool. 2,966,722, 1–3–61, Cl. 29—90.

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Industrial Washing Machine Corp.: *See*—
Sadwith, Howard M. 2,966,914.

Ingber, Nathan M.: *See*—
Buchoff, Leonard S., and Ingber. 2,967,092.

International Business Machines Corp.: *See*—
Panissidi, Hugo A. 2,966,890.
Rock, Joseph J. 2,967,268.

International Instruments, Inc.: *See*—
Sullivan, James F., and Lilque. 2,967,278.

International Minerals & Chemical Corp.: *See*—
Beerman, Henry P. 2,967,154.
Houston, Harry H. 2,967,153.
McCollum, Louis S., and Gindoff. 2,967,149.

Interowa Führer-Haimendorf Kommanditgesellschaft fur Kunststoffhandel: *See*—
Singer, Heinrich. 2,967,067.

Iob, Luigi, ½ to F. Ossanna. Packaging coins. 2,966,769, 1–3–61, Cl. 53—254.

Ireland, Herbert A. Scaffold supporting structure. 2,966,957, 1–3–61, Cl. 182—224.

Irey, Robert C. Self-bailer for boats. 2,966,875, 1–3–61, Cl. 114—185.

Iron Fireman Mfg. Co.: *See*—
Swenson, Paul F., and Cooperrider. 2,967,021.

Irwin, John A., to Ford Motor Co. Hot wire igniter. 2,967,224, 1–3–61, Cl. 219—32.

Isley, Cary T., Jr., to The Martin Co. Electrical computers. 2,967,020, 1–3–61, Cl. 235—193.

Ivins, Herbert L., to Olin Mathieson Chemical Corp. Explosive actuated testing device. 2,966,791, 1–3–61, Cl. 73—12.

Jackson, Carlton T., to General Railway Signal Co. Switch point indicator for railway traffic controlling system control panels. 2,967,233, 1–3–61, Cl. 246—162.

Jacobs, Albert J.: *See*—
Rydberg, George E., and A. J. and P. C. Jacobs. 2,966,898.

Jacobs, Peter C.: *See*—
Rydberg, George E., and A. J. and P. C. Jacobs. 2,966,898.

Janis, Zbigniew J., and O. K. Walthall, to Ford Motor Co. Transmission control servo. 2,966,888, 1–3–61, Cl. 121—38.

Janssen, Hermann, to PGAC Development Co. Electrical well logging. 2,967,272, 1–3–61, Cl. 324—1

Jeffrey Mfg. Co., The: *See*—
Moon, Sterling C. 2,966,984.

Jeffries, Harriett B. Foldable overshoe. 2,966,748, 1–3–61, Cl. 36—7.2.

Jenkins, James H.: *See*—
Crockford, Jack A., Hayes, Feurt, Jenkins, and Palmer. 2,966,904.

Jenner, Hans: *See*—
Blomgren, Erik, and Jenner. 2,967,155.

Jersey Production Research Co.: *See*—
Carlisle, Charles H., Chalmers, and Smith. 2,967,291.
Heintz, Karl O. 2,966,953.
McCulloch, Thomas B., and Kanady. 2,966,946.
Prokop, Charles L., Graham, and Salathiel. 2,967,150.
Wepsala, George B., Jr. 2,966,949.

Jigamian, Zareh G. Device for supporting and rotating frankfurters during cooking. 2,966,641, 1–3–61, Cl. 99—441.

Johansson, Gustav R. Feed unit for rock drilling machines. 2,967,008, 1–3–61, Cl. 226—108.

Johns-Manville Fiber Glass Inc.: *See*—
McFadden, Norman E. 2,967,027.

Johnson, David A., and G. A. Hardcastle, Jr., to Bristol-Myers Co. Process of antibiotic purification. 2,967,177, 1–3–61, Cl. 260—210.

Johnson, Henry H. Educational device for teaching arithmetic. 2,966,747, 1–3–61, Cl. 35—31.

Johnson, Weldon H., to Lear, Inc. Overload limiting clutch. 2,966,977, 1–3–61, Cl. 192—84.

Johnston, James V. Toroidal gyroscope. 2,966,808, 1–3–61, Cl. 74—5.

Joiner, Harold R. Submarine signalling device. 2,966,849, 1–3–61, Cl. 102—7.

Jones, David D., to Extruded Plastics, Inc. Packaged sterile hypodermic needles. 2,966,986, 1–3–61, Cl. 206—63.2.

Kalbow, Theodore W., to Western Electric Co., Inc. Apparatus for inserting bushings. 2,966,739, 1–3–61, Cl. 29—211.

Kamenshine, Alan, to Rehabilitation Research Products. Ambulation training apparatus. 2,966,905, 1–3–61, Cl. 128—25.

Kanady, William E.: *See*—
McCulloch, Thomas B., and Kanady. 2,966,946.

Kantor, Simon W., to General Electric Co. Lubricant composition. 2,967,192, 1–3–61, Cl. 260—448.2.

Kaptur, Robert E., to Ford Motor Co. Fluid pressure operated clutch. 2,966,978, 1–3–61, Cl. 192—106.

Kare, Morley R., to S. B. Penick and Co., Inc. Bird repellent. 2,967,128, 1–3–61, Cl. 167—46.
Karnofsky, George B., to Blaw-Knox Co. Selective adsorption process and apparatus. 2,967,148, 1–3–61, Cl. 208—310.
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Mullaney, George J., and Kaskan. 2,966,793.
Kassbohrer, Karl, Fahrzeugwerke GmbH.: *See*—
Schwab, Hans. 2,967,061.
Kaufman, Harry: *See*—
Loewengart, Justin, Dennison, Wachenheimer, and Kaufman. 2,966,749.
Kaul, Ben, to American Radiator & Standard Sanitary Corp. Punch and die for cold shaping of steel. 2,966,987, 1–3–61, Cl. 207—6.
Kausnicka, Edward T. Pocket handkerchief. 2,966,685, 1–3–61, Cl. 2—279.
Kay, Solomon E., and R. J. Ball, to Pilkington Bros. Ltd. Method and apparatus for applying metal-depositing solutions. 2,967,112, 1–3–61, Cl. 117—35.
Kearney, James R., Corp.: *See*—
Bowen, Thomas H. 2,966,774.
Keihn, Frederick G.: *See*—
Schwartz, Nathan, and Keihn. 2,967,282.
Keith, Charles E.: *See*—
Gallentine, Donal O., and Keith. 2,966,726.
Kell, Ray D., to Radio Corp. of America. Delay-compensated indexing system. 2,967,210, 1–3–61, Cl. 178—5.4.
Keller, Herman, to The Bendix Corp. Electrical connector. 2,967,288, 1–3–61, Cl. 339—258.
Kerr-McGee Oil Industries, Inc.: *See*—
Wolff, Paul A. 2,966,994.
Kerr, Ralph W., E. F. Paschall, and W. H. Minkema, to Corn Products Co. Method of producing gelling starch of high clarity. 2,967,178, 1–3–61, Cl. 260—233.5.
Kessler, Charles A., to The Singer Mfg. Co. Shuttle mechanisms with cam lock. 2,966,870, 1–3–61, Cl. 112—196.
Khalil, Seyed. Selecting mechanism for key operated machines. 2,966,981, 1–3–61, Cl. 197—84.
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Stuart, Archibald P., and Kheighatian. 2,967,206.
Kimberly-Clark Corp.: *See*—
Cuffey, William H., Jr., and Sitterson. 2,967,010.
Kimble Glass Co.: *See*—
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Thompson, Harry E., and Kimmel. 2,966,838.
Kirby, Arthur F.: *See*—
Foster, Robert E., and Kirby. 2,967,200.
Kistiakowsky, George B., D. P. McDougall, J. H. Lum, J. K. Bragg, and G. H. Messerly, to United States of America, Navy. Explosive streamer. 2,966,822, 1–3–61, Cl. 86—1.
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Frankel, Milton B., and Klager. 2,967,199.
Klager, Karl, and C. R. Vanneman, to Aerojet-General Corp. Nitraza diisocyanates. 2,967,193, 1–3–61, Cl. 260—453.
Kleinpenning, Johannus L., to North American Philips Co., Inc. Article-storing closet. 2,967,081, 1–3–61, Cl. 312—268.
Klöa, Heinrich, to Farbenfabriken Bayer Aktiengesellschaft. Process for the preparation and purification of alkyl mercuric salts. 2,967,190, 1–3–61, Cl. 260—431.
Knell, Martin: *See*—
Kroll, Harry, Simonian, and Knell. 2,967,196.
Knoernschild, Eugen M.: *See*—
Dallenbach, Frederick, Eichenberger, Knoernschild, and Van Le. 2,967,013.
Knox, David M. Ensemble for displaying pictures and the like. 2,966,755, 1–3–61, Cl. 40—152.
Koch, Hans O. Method of detecting and eliminating flaws in solid material of high molecular order. 2,967,240, 1–3–61, Cl. 250—53.
Kohn, Samuel T., to Sorensen & Co., Inc. Voltage regulator. 2,967,271, 1–3–61, Cl. 323—60.
Koller, Lewis R.: *See*—
Coghill, Henry D., and Koller. 2,967,111.
Konold, William G., and J. A. Finken, to G. Mingle. Highway signal device. 2,966,877, 1–3–61, Cl. 116—65.
Koppers Co., Inc.: *See*—
Drenning, John W. 2,967,270.
Koristek, Zdenek: *See*—
Deiss, Jaroslav, Dvorak, Barton, and Koristek. 2,966,782.
Kosmalski, Hermann, to Westinghouse-Bremsen-Gesellschaft, m. b. H. Fluid pressure operated rotation responsive control device. 2,966,918, 1–3–61, Cl. 137—102.
Kramer, William E., to Gulf Research & Development Co. Dispensing system. 2,967,005, 1–3–61, Cl. 222—136.
Kress, John H., to American Optical Co. Method of making multifocal lenses. 2,966,767, 1–3–61, Cl. 51—284.
Kring, Gerald L.: *See*—
Garver, Clyde L., Kring, and Nye. 2,966,807.
Kroll, Harry, J. V. Simonian, and M. Knell, to Geigy Chemical Corp. Ethylenediaminediacetic acids containing phenolic groups. 2,967,196, 1–3–61, Cl. 260—507.
Kroner, Gerhard, to Farbenfabriken Bayer Aktiengesellschaft. Glass polishing compositions. 2,967,096, 1–3–61, Cl. 51—307.
Kuhn, Ludvik: *See*—
Nemec, Jaroslav, and Kuhn. 2,966,801.
Kviesitis, Boris, to Vy Lactos Laboratories, Inc. Animal feed supplement and method of making same. 2,967,106, 1–3–61, Cl. 99—6.
Labott, John, Ltd.: *See*—
Geiger, Kenneth H., and Compton. 2,967,107.
La France Carpets, Inc.: *See*—
Harian, Kent. 2,966,742.
Lagerstrom, Richard P., and D. G. Dow, to United States of America, Navy. Resistance-strapped helix for a traveling wave tube. 2,967,259, 1–3–61, Cl. 315—3.6.
Lambert, Arthur J.: *See*—
Freeman, Lawson J., Jr. 2,966,708.
Lammers, Delmar R. Protective tray for cartons. 2,967,002, 1–3–61, Cl. 220—85.
Lamtex Industries, Inc.: *See*—
Medney, Jonas. 2,967,283.
Landon, Steven, to Washex Machinery Corp. Door structure for a rotary container. 2,967,001, 1–3–61, Cl. 220—55.
Lang, Ivan R. Power-operated golfer's vehicle. 2,966,951, 1–3–61, Cl. 180—25.
Langdon, Kenneth T. P., to Rotol Ltd. Aircraft undercarriage. 2,967,033, 1–3–61, Cl. 244—102.
Larco, Inc.: *See*—
Lintern, William A. and J. W. 2,966,779.
Larkin, Mark E.: *See*—
Oglesby, Minor W., and Larkin. 2,966,920.
Larkin, Walter: *See*—
McKibbin, John T., and Larkin. 2,966,783.
Larson, John C.: *See*—
Chase, Thomas W., and Larson. 2,967,031.
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Sunden, Olof, Sönnerskog, Sunden, and Larsson. 2,967,086.
Laupman, Robert R., to Gebr. Stork & Co's Apparatenfabriek N.V. Automatic printing paste feed controlling device. 2,966,844, 1–3–61, Cl. 101—123.
Lawton, Elliott J., to General Electric Co. Irradiation of nylon. 2,967,137, 1–3–61, Cl. 204—154.
Leach, John M. Track switches for conveyors. 2,966,862, 1–3–61, Cl. 104—102.
Lear, Inc.: *See*—
Derylo, Walter F. 2,966,809.
Garver, Clyde L., Kring, and Nye. 2,966,807.
Johnson, Weldon H. 2,966,977.
Lee, Paul H., to C.G.S. Laboratories, Inc. Adjustable controllable inductor apparatus. 2,967,281, 1–3–61, Cl. 336—134.
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Scavullo, Angelo C. 2,967,134.
Leibreich, Norman A., to The Mead Corp. Heading machine for forming containers. 2,966,833, 1–3–61, Cl. 93—55.1.
Lemiszka, Theodore: *See*—
Minckler, Leon S., Jr., Cottle, and Lemiszka. 2,967,167.
Lennemann, Leona M. Support. 2,967,038, 1–3–61, Cl. 248—205.
Lerner, Louis L., S. R. Goff, and A. Safianoff, to The Gillette Co. Hair curler. 2,966,913, 1–3–61, Cl. 132—41.
Lever Bros. Co.: *See*—
Farrington, Samuel C. 2,967,189.
Levin, Alfred A., and H. M. Molotsky, to Velsicol Chemical Corp. Production of pesticidal compounds. 2,967,126, 1–3–61, Cl. 167—30.
Levy, Edward M., and D. R. Lopatka, to Reflector-Hardware Corp. Wall construction. 2,966,967, 1–3–61, Cl. 189—34.
Lewis, Norman J.: *See*—
Hamm, Philip C., and Lewis. 2,967,101.
Lewis, Ralsten. Packaging device. 2,966,770, 1–3–61, Cl. 53—255.
Lidgard, Edward J., to Flotepak Corp. Container for sheet-like material. 2,967,009, 1–3–61, Cl. 229—14.
Liebhafsky, Herman A., and A. M. Bueche, to General Electric Co. Coating method. 2,967,113, 1–3–61, Cl. 117—46.
Lietzau, John M. Knock-down farrowing pen. 2,966,883, 1–3–61, Cl. 119—20.
Lift-All Leasing Corp., The: *See*—
Duffner, Robert J. 2,966,991.
Lilly, Eli, and Co.: *See*—
Pohland, Albert. 2,967,182.
Soper, Quentin F. 2,967,201.
Lime, Jean, to Societe Alsacienne de Constructions Mecaniques. Print roll support means for rotary print machines. 2,966,846, 1–3–61, Cl. 101—178.
Lintern, James W.: *See*—
Lintern, William A. and J. W. 2,966,779.
Lintern, William A. and J. W., to Larco, Inc. Heating and cooling system for motor yachts. 2,966,779, 1–3–61, Cl. 62—160.
Lipshutz, Sidney, and E. H. Barnett, to Standard Products Co., Inc. Dispensing apparatus for corrosive liquids. 2,967,004, 1–3–61, Cl. 222—70.
Lipsner Smith Corp.: *See*—
Gutterman, Robert P. 2,967,119.
Lique, Vincent J.: *See*—
Sullivan, James F., and Lique. 2,967,278.
Litton Industries of California: *See*—
Crapuchettes, Paul W. 2,967,261.
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Lockheed Aircraft Corp.: *See*—
Brewer, Ward B., Bodner, and Smith. 2,966,797.
Hoffman, Frederick C., and Schroeder. 2,966,873.
Losser, Marga: *See*—
Henniges, Ernst. 2,967,076.
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Levy, Edward M., and Lopatka. 2,966,967.
Loewengart, Justin, deceased (B. Ginsberg, executor of said J. Loewengart), A. J. Dennison, M. Wachenheimer, and H. Kaufman; said Dennison, Wachenheimer, and Kaufman assors. to Torch Rubber Co., Inc. Reinforcement insert in particular for heels of overshoes. 2,966,749, 1–3–61, Cl. 36—7.3.
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Fletcher, Peter S. 2,966,939.
Lum, James H.: *See*—
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Luning, Alfred O. Antibacklash gears. 2,966,806, 1–3–61, Cl. 74—409.

Lunn, William D.: *See*—
Dewan, John T., and Lunn. 2,967,244.

Lyle, John P., Jr.: *See*—
Towner, Raymond J., and Lyle. 2,966,731–2,966,736.

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MacKenzie, Ian G.: *See*—
Campbell, Erwin A., and MacKenzie. 2,966,956.

MacKnight, Merritt L.: *See*—
Steinman, Leon H., and MacKnight. 2,967,267.

Macovski, Albert: *See*—
Schaefer, Louis F., and Macovski. 2,967,237.

MacWilliam, Wallace. Outboard motor position-adjusting apparatus. 2,966,876, 1–3–61, Cl. 115—41.

Madey, Richard, to Litton Systems, Inc. Multi-color display tube. 2,967,262, 1–3–61, Cl. 315—12.

Malone, Thomas S., to Minerals & Chemicals Philipp Corp. Method for preparation of rounded clay-acid masses. 2,967,158, 1–3–61, Cl. 252—450.

Manley, Robert E., to Texaco Inc. Petroleum refining process. 2,967,146, 1–3–61, Cl. 208—144.

Manuel, Charles J., and L. F. Plummer, to Moore Business Forms, Inc. Electric register. 2,966,971, 1–3–61, Cl. 192—2.

Maret, Charles. Insert lift for ladies' shoe heels. 2,966,750, 1–3–61, Cl. 36—34.

Markau, Harry R., to Supermarket Metal Products, Inc. Food packaging aparatus. 2,966,772, 1–3–61, Cl. 53—391.

Marshall, Michael J., Sr. Quick printing camera attachment. 2,966,882, 1–3–61, Cl. 118—236.

Martin Co., The: *See*—
Bartoszak, Anthony W. 2,967,139.
Isley, Cary T., Jr. 2,967,020.

Martin, David. Combined desk pads and telephone indexes. 2,966,753, 1–3–61, Cl. 40—64.

Maschinenfabrik Edm. Gressel A.G.: *See*—
Gressel, Edmund. 2,967,068.

Massey, William. Invisible means for attaching panels to walls and the like. 2,966,705, 1–3–61, Cl. 20—4.

Mast Engineering Co., Inc.: *See*—
Eways, Musa J., and Avedissian. 2,966,714.

Matsch, Ladislas C., and A. W. Francis, to Union Carbide Corp. Thermal insulation. 2,967,152, 1–3–61, Cl. 252—62.

Mayhew, John T., to National Steel Corp. Coating apparatus and method. 2,967,114, 1–3–61, Cl. 117—46.

Maynard, Robert N., to Lobee Pump & Machinery Co. Pump for corrosive fluids. 2,966,860, 1–3–61, Cl. 103—126.

McCarthy, Lorin L., to Pacific Mercury Electronics Inc. Mechanical vibrator for use with fluids and semi-fluids. 2,966,804, 1–3–61, Cl. 74—87.

McCollum, Louis S., and S. Gindoff, to International Minerals & Chemical Corp. Filter aid. 2,967,149, 1–3–61, Cl. 210—502.

McCrosky Tool Corp.: *See*—
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McCulloch, Thomas B., and W. E. Kanady, to Jersey Production Research Co. Apparatus for use in a well bore. 2,966,946, 1–3–61, Cl. 166—187.

McDougall, Duncan P.: *See*—
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McFadden, Norman E., to Johns-Manville Fiber Glass Inc. Filament guide. 2,967,027, 1–3–61, Cl. 242—157.

McKibbin, John T., and W. Larkin, to Singer-Fidelity, Inc. Electronic control circuits for knitting machines. 2,966,783, 1–3–61, Cl. 66—56.

McKinley, Joseph B.: *See*—
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Mead Corp., The: *See*—
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Leibreich, Norman A. 2,966,833.

Medney, Jonas, to Lamtex Industries, Inc. Slip ring assembly and method of making the same. 2,967,283, 1–3–61, Cl. 339—8.

Mellbin, Bertil F. H. Device for driving a group of rollers. 2,966,746, 1–3–61, Cl. 34—121.

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Merker, Robert L., to Dow Corning Corp. Reaction of silicols with silicon-bonded hydrogen. 2,967,170, 1–3–61, Cl. 260—46.5.

Messerly, George H.: *See*—
Kistiakowsky, George B., McDougall, Lum, Bragg, and Messerly. 2,966,822.

Meyer, Lawrence F., to H. G. Abbott. Fifth wheel mounting structure for mobile tank units. 2,967,057, 1–3–61, Cl. 280—5.

Miehle-Goss-Dexter, Inc.: *See*—
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Mierendorf, Robert C., and C. W. Porter, to Square D Co. Control circuit. 2,967,227, 1–3–61, Cl. 219—108.

Miessner, Benjamin F., to The Wurlitzer Co. Electronic piano. 2,966,821, 1–3–61, Cl. 84—1.14.

Miller, Elmer L., and H. O. Folkins, to The Pure Oil Co. Silica-alumina catalyst copromoted with palladium and iron-group metal, and isomerization process catalyzed thereby. 2,967,207, 1–3–61, Cl. 260—683.65.

Miller, John W., and G. D. Swanlund, to Minneapolis-Honeywell Regulator Co. Control apparatus. 2,967,032, 1–3–61, Cl. 244—77.

Miller Printing Machinery Co.: *See*—
Young, William G. 2,967,041.

Millikron, Norman, to United States of America, Atomic Energy Commission. Ion pump. 2,967,257, 1–3–61, Cl. 313—231.

Mills, Clarence A., to Reflectotherm, Inc. Radiant cooling systems. 2,966,780, 1–3–61, Cl. 62—272.

Mills, George A., S. W. Weller, and L. W. Wright, to Houdry Process Corp. Process for making heavy water. 2,967,089, 1–3–61, Cl. 23—204.

Minckler, Leon S., Jr., D. L. Cottle, and T. Lemiszka, to Esso Research and Engineering Co. Vulcanization of halogenated copolymers with a phenol alcohol and alkyl tin sulfides and vulcanizable composition. 2,967,167, 1–3–61, Cl. 260—41.5.

Minerals & Chemicals Philipp Corp.: *See*—
Gary, Wright W., and Mueller. 2,967,118.
Malone, Thomas S. 2,967,158.
Robinson, Alfred J., and Weir. 2,967,157.
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Minneapolis-Honeywell Regulator Co.: *See*—
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Chase, Thomas W., and Larson. 2,967,031.
Colten, Bernard, and Reach. 2,967,276.
Miller, John W., and Swanlund. 2,967,032.

Mintz, Julius. Self-locking hinge. 2,966,697, 1–3–61, Cl. 16—144.

Mitchell, John G., to Socony Mobil Oil Co., Inc. Fired surface combustion or catalytic gas boiler. 2,967,094, 1–3–61, Cl. 23—284.

Mobay Chemical Co.: *See*—
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Mobley, William R. Means for treating air to provide comfort in hot and cold weather. 2,967,051, 1–3–61, Cl. 261—142.

Moerman, Nathan A., to Potter Instrument Co., Inc. Saturable reactor system for information storage, comparison and read-out. 2,967,294, 1–3–61, Cl. 340—149.

Moes, Geert: *See*—
Beersma, Pieter J. A., and Moes. 2,967,110.

Moffett, Fred P.: *See*—
Cathcart, Jack F., and Moffett. 2,966,908.

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Monin, Claude: *See*—
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Moon, Sterling C., to The Jeffrey Mfg. Co. Portable conveyor apparatus. 2,966,984, 1–3–61, Cl. 198—109.

Moore Business Forms, Inc.: *See*—
Manuel, Charles J., and Plummer. 2,966,971.

Moore, Lee C., Corp.: *See*—
Campbell, Erwin A., and MacKenzie. 2,966,956.

Morgan, Arthur I., Jr., J. M. Randall, and B. P. Graham, to United States of America, Agriculture. Process of dehydrating fruit and vegetable juices. 2,967,109, 1–3–61, Cl. 99—206.

Morris, Robert S., to American Optical Co. Spectacle cases. 2,966,985, 1–3–61, Cl. 206—5.

Morrow, Wallace E.: *See*—
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Morse, John F. Throttle operating mechanism for single lever control. 2,966,969, 1–3–61, Cl. 192—.98.

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	124:	2,967,063	307— 88.5:	2,967,250		231:	2,967,257		317:	2,967,270	329—	8:	2,967,283			2,967,296
		2,967,064	151:	2,967,251	315—	3:	2,967,258	323—	60:	2,967,271		17:	2,967,284		239:	2,967,297
		2,967,065		2,967,252		3.6:	2,967,259	324—	1:	2,967,272		18:	2,967,285		381:	2,967,298
		2,967,066	308— 88:	2,967,076		5.37:	2,967,260		77:	2,967,273		103:	2,967,286	343—	750:	2,967,300
285—	238:	2,967,067	310— 29:	2,967,253		5.53:	2,967,261			2,967,274		198:	2,967,287		771:	2,967,301
	328:	2,967,068	311— 19:	2,967,077		12:	2,967,262	328—	67:	2,967,275		258:	2,967,288	346—	33:	2,967,082
	399:	2,967,069	312— 111:	2,967,078		26:	2,967,263		92:	2,967,276		269:	2,967,289		139:	2,967,083

Classification of Designs

D 1—	12:	189,516	D10—	8:	189,525	D26—	13:	189,534	D45—	10:	189,543	D54—	14:	189,551	D62—	4:	189,559
		189,517			189,526	D33—	14:	189,535	D47—	6:	189,544	D56—	2:	189,552	D63—	1:	189,560
D 2—	3:	189,518	D13—	7:	189,527	D34—	5:	189,536	D48—	3:	189,545		4:	189,553	D65—	1:	189,561
D 3—	4:	189,519			189,528			189,537		16:	189,546	D57—	1:	189,554	D71—	1:	189,562
	26:	189,520	D14—	3:	189,529			189,538		20:	189,547	D58—	12:	189,555	D81—	2:	189,563
D 4—	3:	189,521			189,530	D42—	7:	189,539	D52—	2:	189,548		25:	189,556	D91—	1:	189,564
D 7—	7:	189,522		6:	189,531	D44—	9:	189,540		4:	189,549		26:	189,557	D92—	1:	189,565
D 9—	2:	189,523		18:	189,532		15:	189,541	D54—	2:	189,550	D61—	1:	189,558			189,566
D10—	8:	189,524	D22—	3:	189,533		19:	189,542									

OFFICIAL GAZETTE • UNITED STATES PATENT OFFICE

January 3, 1961 | Volume 762 | Number 1

TRADEMARKS

NOTICES

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C. A. KALK,
Director of Administration.

Dec. 1, 1960.

Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 22,406 (COCA COLA), The Coca Cola Co., Beverage; Reg. No. 47,189, same, Nonalcoholic maltless beverages and the syrups for making such beverages; Reg. No. 226,145, same, Beverages and syrups for the manufacture of such beverages; Reg. No. 226,146, same; Reg. No. 415,755 (COKE), same, Nonalcoholic maltless beverages and the syrups for making such beverages, filed Nov. 4, 1960, D.C., M.D. Pa. (Scranton), Doc. 7094, *The Coca Cola Company* v. *Reed Milk & Ice Cream Co., Inc.*

Reg. No. 47,189. (See Reg. No. 22,406.)

Reg. No. 226,145. (See Reg. No. 22,406.)

Reg. No. 226,146. (See Reg. No. 22,406.)

Reg. No. 283,974 (POUDRE D'ILLUSION AND DESIGN), Elizabeth Arden, Inc., Toilet powder; Reg. No. 510,983 (POUDRE D'ILLUSION AND DESIGN), Elizabeth Arden Sales Corporation, Face powder, filed Nov. 15, 1960, D.C., S.D.N.Y., Doc. 60/4486, *Elizabeth Arden Sales Corporation* v. *Revlon, Inc.*

Reg. No. 415,755. (See Reg. No. 22,406.)

Reg. No. 510,983. (See Reg. No. 283,974.)

Reg. No. 510,221 (LYRIC), Sears, Roebuck and Co., doing business as Lyric Distributors, Face powder, face cream, lipstick, face rouge, skin lotion and makeup base; Reg. No. 572,882, same, Manicure implements—namely, nail files, nail clippers, nail scissors, nail nippers, cuticle scissors, cuticle pushers, cuticle nippers, tweezers, filed Nov. 9, 1960, D.C.,

CONDITION OF TRADEMARK APPLICATIONS AS OF OCTOBER 31, 1960

Total number of applications awaiting action [excluding renewals and Sec. 12 (c)]		11,844
Date of oldest new application	May	5, 1960
Date of oldest amended application	May	2, 1960

J. H. MERCHANT, Director, Trademark Examining Operation

TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application: New	Oldest Application: Amended
(I) C. M. WENDT, Classes 2, 3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 39, 40, 41, 42, 43, 44, 50	5-31-60	6-6-60
(II) H. E. KASCHUB (Acting), Classes 1, 6, 18, 22, 37, 38, 45, 46, 47, 48, 49, 51, 52; Service Mark Classes 100, 101, 102, 103, 104, 105, 106, 107; Collective Membership Marks, Class 200; Certification Marks, Classes A and B	5-5-60	5-9-60
Renewals (All Classes)	10-3-60	10-25-60)
Sec. 13 (c) Publications (All Classes)	10-5-60	----------

Applications filed during the month of October 1960—1952

Registrations Issued	329—No. 709,163 to No. 709,491
Renewals Issued	67

The TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington 25, D. C., to whom all subscriptions should be made payable and all communications addressed; subscription price, $10.00 per annum, foreign mailing $3.75 additional; single copies, 20 cents each.

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 10 cents each. Address orders to the Commissioner of Patents, Washington 25, D.C.

S.D.N.Y., Doc. 60/4377, *Sears, Roebuck & Co. (Lyric Distributors Division)* v. *Lyric Industries, Inc.*

Reg. No. 527,902 (HONOR YOUR PARTNER AND DESIGN), Phonograph grooved records, filed June 21, 1960, D.C., S.D.N.Y., Doc. 60/2433, *Square Dance Associates, Inc.* v. *Folkways Records & Service Corporation*. Affidavit and consent judgment, defendant enjoined Nov. 17, 1960.

Reg. No. 538,297 (HAVILAND), Haviland & Co., Incorporated (formerly Theodore Haviland & Co., Inc.), Porcelain, china and vitrified dinnerware; **Reg. No. 540,451** (THEODORE HAVILAND NEW YORK WITH SCROLL DESIGN), same; **Reg. No. 541,771** (HAVILAND FRANCE), same, filed Nov. 9, 1960, D.C., S.D.N.Y., Doc. 4336, *Haviland & Co., Incorporated* v. *John Haviland China Corporation et al.*

Reg. No. 540,451. (See Reg. No. 538,297.)

Reg. No. 541,771. (See Reg. No. 538,297.)

Reg. No. 572,883. (See Reg. No. 519,221.)

MARKS PUBLISHED FOR OPPOSITION

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Notice of opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.

As provided by section 31 of said act, a fee of twenty-five dollars must accompany each notice of opposition.

Class 1—Raw or Partly Prepared Materials

SN 58,697. W. Atlee Burpee Company, Philadelphia, Pa. Filed Sept. 10, 1958.

SUPER TETRA

For Tetraploid Snapdragon Seeds.
First use May 12, 1958.

SN 61,633. Charles G. Keferstein, d.b.a. Hi-Goal Products Corporation, New York, N.Y. Filed Oct. 30, 1958.

HI-GOAL

For Innersoling Material Sold in Roll or Sheet Form.
First use Oct. 14, 1944.

SN 91,481. Gordon Palmer, d.b.a. Palmer Nurseries, Osprey, Fla. Filed Feb. 23, 1960.



The word "Nurseries" is disclaimed apart from the mark as shown.
For Nursery Stock Such as Plants, Shrubs and Trees.
First use Apr. 18, 1956.

SN 92,107. National Lead Company, New York, N.Y. Filed Mar. 3, 1960.

CELLULETH

For Polyolefin Coated Cellulosic Materials and Products Made Therefrom Such as Sheets, Rods, Tubes, and Similar Items for General Use in the Industrial Arts.
First use Mar. 5, 1959.

SN 93,201. Charles Newell, New York, N.Y. Filed Mar. 18, 1960.

NORTHWOOD NURSERIES

Applicant disclaims the word "Nurseries" apart from the mark as shown.
For Shrubbery and Plants.
First use in January 1957.

SN 93,504. The Dayton Rubber Company, Dayton, Ohio. Filed Mar. 23, 1960.

TRU-FLO

Owner of Reg. No. 656,100.
For Sheets or Rolls of Uncured Rubber Material for Use in the Manufacture of Printing Plates.
First use Aug. 27, 1959.

SN 94,771. George O. Jenkins Company, Bridgewater, Mass. Filed Apr. 11, 1960.

JENTAN

For Fibreboard in Sheet Form for Use in Making Shoe Components Such as Heels, Midsoles, and Counters.
First use Dec. 29, 1959.

SN 94,998. Mud Control Laboratories, Inc., Oklahoma City, Okla. Filed Apr. 13, 1960.

MUDFLOC

Owner of Reg. Nos. 637,880, 640,859, and others.
For Oil Well Drilling Fluid Additives—Namely, a Highly Active Flocculating Agent.
First use on or about Jan. 9, 1956.

SN 95,842. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed Apr. 26, 1960.

SCOTCHTITE

Owner of Reg. Nos. 389,202, 594,336, and others.
For Heat Reactive Plastic Tubing.
First use Nov. 16, 1959.

SN 96,842. Elio Malizia, Milan, Italy. Filed May 3, 1960.

ELIOLENE

Owner of Italian Reg. No. 147,467, dated Feb. 18, 1960.
For Thermoplastic Resins.

SN 96,817. Southern Latex Corporation, Austell, Ga. Filed May 10, 1960.

FIBAK

For Random Fiber Reenforcing Backing or Facing Layers for Carpeting and the Like.
First use Feb. 2, 1960.

SN 97,774. Missouri Farmers Association, Inc., Columbia, Mo. Filed May 24, 1960.

LAWN HOUSE

For Lawn-Grass Seed.
First use Feb. 22, 1960.

SN 97,962. Stern's Nurseries, Inc., Geneva, N.Y. Filed May 26, 1960.

MIRA-LAWN

Owner of Reg. Nos. 668,868 and 669,483.
For Turf Grass Seed.
First use Mar. 16, 1960.

SN 98,365. Lasco Industries, Los Angeles, Calif. Filed June 3, 1960.

LASCO LITE

For Continuous Plastic Sheeting of Various Configurations, Such as Flat or Corrugated.
First use on or about Sept. 15, 1954.

SN 98,368. Lasco Industries, Los Angeles, Calif. Filed June 3, 1960.

LASCOLITE

For Continuous Plastic Sheeting of Various Configurations, Such as Flat or Corrugated.
First use on or about Sept. 15, 1952.

SN 98,680. Southern Latex Corporation, Austell, Ga. Filed June 8, 1960.

CEL BAK

For Latex Foam Suitable as a Backing Material for General Use in the Industrial Arts.
First use Jan. 4, 1960.

SN 99,318. Eastern States Farmers' Exchange, Incorporated, West Springfield, Mass. Filed June 20, 1960.

WEAR GREEN

For Grass Seed Mixture.
First use Feb. 19, 1960.

SN 99,381. Vermont Talc Company, Chester, Vt. Filed June 20, 1960.

VERTAL

For Talc and Mica, and Micaceous Talc.
First use June 8, 1959.

SN 100,157. Rayonier Incorporated, New York, N.Y. Filed July 1, 1960.

FIBRENIER

For Wood Pulp.
First use June 8, 1960.

SN 100,305. Shamokin Filler Co., Inc., Shamokin, Pa. Filed July 5, 1960.



No claim of exclusive use is made covering the word "Shamokin" or the outline of the State of Pennsylvania.
For Pulverized Coal Used as a Filler in Manufacturing Battery Cases, Telephones, Plastics and Foundry Facings, and Like Industrial Uses.
First use Apr. 21, 1960.

SN 100,373. Larus & Brother Company, Richmond, Va. Filed July 6, 1960.

Terrace King

For Charcoal Briquets.
First use June 1, 1960.

SN 101,008. Keno Plastic Processing Corporation, Milwaukee, Wis. Filed July 18, 1960.

KENOLITE

For Plastic Molding Compound.
First use Apr. 15, 1960.

SN 101,051. Terafilm Corporation, Stamford, Conn. Filed July 18, 1960.

TERAFILM

For Synthetic Plastic Film in Sheet Form.
First use July 1, 1960.

SN 101,079. Cliffs Dow Chemical Company, Marquette, Mich. Filed July 19, 1960.

CLIFFCHAR

Owner of Reg. No. 377,457.
For Charcoal in the Form of Lumps, and Briquettes.
First use June 30, 1938, on lump charcoal.

SN 101,253. A. F. Gallun & Sons Corporation, Milwaukee, Wis. Filed July 21, 1960.

FROSTY CALF

The word "Calf" is disclaimed except in association with the other features of the mark.
For Leather.
First use June 29, 1960.

SN 101,298. American Cyanamid Company, New York, N.Y. Filed July 22, 1960.

BEETLE

Owner of Reg. No. 382,420.
For Condensation Products of Aldehydes and Amines, Specifically Synthetic Resins or Compositions Thereof, in Solid or Liquid Form.
First use January 1926.

SN 101,542. The Chemstrand Corporation, Decatur, Ala. Filed July 27, 1960.

CADON

For Synthetic Fiber and Filaments.
First use May 24, 1960.

SN 101,748. Cliffs Dow Chemical Company, Marquette, Mich. Filed Aug. 1, 1960.

SUPERIOR

For Charcoal Briquettes.
First use Apr. 4, 1959.

SN 101,930. Ciba Limited, Basel, Switzerland. Filed Aug. 8, 1960.

HYDRAC

Priority claimed under Sec. 44(d) on Swiss Reg. No. 179,335, dated Feb. 4, 1960.
For Synthetic Resins Sold in Solid, Liquid, or Powdered Form for Industrial Purposes.

SN 101,945. Henry Leather Company, Peabody, Mass. Filed Aug. 8, 1960.

TUFFY TOP

For Leather, Surface-Treater To Resist Moisture, Abrasion, and Stains.
First use Apr. 26, 1960.

Class 2—Receptacles

SN 84,225. House of Westmore, Inc., New York, N.Y. Filed Oct. 29, 1959.

GENIE

For Lipstick Cases.
First use Oct. 9, 1959.

SN 102,471. The Goodyear Tire & Rubber Company, Akron, Ohio. Filed Aug. 11, 1960.

PILLOW

For Inflatable Rubber Tanks.
First use Nov. 24, 1959.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

SN 77,948. The National Exchange Club, Toledo, Ohio. Filed July 17, 1959.



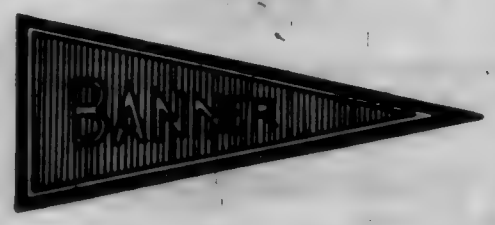
Owner of Reg. Nos. 159,045, 572,697, and others.
For Wallets, Key Cases and Pocket Secretaries, and Fitted Travel Toilet Kits.
First use Apr. 20, 1953.

SN 84,969. American Luggage Works, Inc., Warren, R.I. Filed Nov. 10, 1959.

TRI-TAPER

Owner of Reg. Nos. 562,740 and 610,941.
For Luggage—Namely, Train Cases, Round Hat Boxes, Overnight Cases, Fitted Cases, Large Hat and Shoe Cases, Weekend Cases, Wardrobe Cases, Pullman Cases, Overseas Cases, Attaché Cases, Courier Cases, One-Suiters, Two-Suiters, Three-Suiters, Pullman Cases and Overseas Cases.
First use Aug. 18, 1952, on weekend cases.

SN 95,806. Banner Leather Goods Co., Inc., New York, N.Y. Filed Apr. 26, 1960.



The drawing is lined for red.
For Ladies' Handbags and Wallets.
First use on or about June 8, 1922.

Class 5—Adhesives

SN 97,790. United States Rubber Company, New York, N.Y. Filed May 24, 1960.



Owner of Reg. Nos. 17,641, 45,674, and 693,859.
For Adhesives.
First use in 1955 or earlier.

SN 102,360. The Woodhill Chemical Co., Cleveland, Ohio. Filed Aug. 9, 1960.

Lock-it

For Adhesive Cement for Nuts, Bolts, and Screws, Containing Polyvinyl Chloride and Ketone Resins.
First use July 11, 1960.

SN 102,870. James Fraser Rae, d.b.a. Industrial Plastics & Chemicals, Oakland, Calif. Filed Aug. 17, 1960.

ASTROLITE

For Adhesives Compatible With Reinforced Plastic Bodies.
First use June 1, 1948.

Class 6—Chemicals and Chemical Compositions

SN 74,991. Comet Rice Mills, Houston, Tex. Filed June 3, 1959.

RISOL

For Corrosion Inhibitor.
First use Feb. 7, 1958.

SN 78,770. Becton Dickinson and Company, Rutherford, N.J. Filed July 31, 1959.

B-D

Owner of Reg. Nos. 120,240, 442,281, and 507,883.
For Preparations for Laboratory Testing and Diagnostic Reagents.
First use on or about June 1955.

SN 79,091. C.R.C. Corporation, Baltimore, Md. Filed Aug. 6, 1959.

REP

For Insecticide for Home Use.
First use Aug. 1, 1959.

SN 81,863. American Cyanamid Company, New York, N.Y. Filed Sept. 23, 1959.

CHEMICLAVE

For Microbicide.
First use Sept. 9, 1959.

SN 82,154. Scripto, Inc., Atlanta, Ga. Filed Sept. 25, 1959.

VU-LIGHTER

Owner of Reg. No. 646,707.
For Cigarette Lighter Fluid.
First use Oct. 26, 1955.

SN 83,133. Schering Aktiengesellschaft, Berlin, Germany. Filed Oct. 12, 1959.

TRAPEX

Owner of German Reg. No. 643,187, dated Aug. 26, 1953.
For Extirpating Preparations for Harmful Plants and Animals.

SN 86,437. The Matheson Company, Inc., Cincinnati, Ohio. Filed Dec. 1, 1959.

DARROW RED

The word "Red" is disclaimed apart from the mark as shown.
For Biological Stain Used in Histology for Laboratory Use.
First use May 1958.

SN 86,522. Eric O. Sonneman, d.b.a. Merix Chemical Co. Chicago, Ill. Filed Dec. 2, 1959.

MERIX

For Anti-Static Composition for Plastic Records; Anti-Static for Plastics, Fabrics, Textiles, and Yarns; Anti-Static for Plastics and Molded Products, Preparation for Keeping Plastic and Glass Surfaces Free of Static Charges and Free of Dust Deposition, a Light Stabilizer and Destaticiser for Plastics; an Anti-Fogging Composition for Glass and Plastic; Desiccants; a Preparation for Preventing Rust, Mold and Mildew on Sporting Goods and Household Items; an Anti-Freeze Compound; and Compositions for Photograph Use—Namely, Wetting Agent, Anti-Static for Films and Slides, Color Stabilizer for Color Prints and Print Brightener for Black and White Prints, Print Flattener, and a Developer Stop and Film and Paper Hardener.
First use September 1940.

SN 87,227. Hayes-Sammons Chemical Co., Mission, Tex. Filed Dec. 14, 1959.

WHITEFROST

For Cotton Defoliant Dust.
First use Sept. 7, 1959.

SN 90,012. Cook Chemical Company, Kansas City, Mo. Filed Feb. 1, 1960.

PRIME

For Insecticide.
First use Dec. 1, 1959.

SN 90,282. Tropical Paint Company, Cleveland, Ohio. Filed Feb. 3, 1960.

PRE-PRIMER BONDERITE

For Rust Inhibiting One Package Wash Primer for Exterior or Interior Use on Steel, Galvanized Iron and Aluminum.
First use Jan. 22, 1959.

SN 90,456. Sta-Pine Products, Inc., Shreveport, La. Filed Feb. 5, 1960.

STA-PINE

For Disinfectant-Deodorant.
First use on or about Nov. 1, 1958.

SN 93,229. Utah Cooperative Association, d.b.a. Pax Company, Salt Lake City, Utah. Filed Mar. 18, 1960.

PAX ACTION

Owner of Reg. Nos. 232,417, 417,814, and others.
For Crab Grass Killer.
First use Dec. 7, 1959.

SN 93,230. Utah Cooperative Association, d.b.a. Pax Company, Salt Lake City, Utah. Filed Mar. 18, 1960.

PAX PUNCH

Owner of Reg. Nos. 232,417, 417,814, and others.
For Insecticide.
First use Dec. 7, 1959.

SN 98,575. De Paul Chemical Co., Inc., Long Island City, N.Y. Filed June 7, 1960.

PALO

For Textile Treating Agents—Namely, Condensation Products of Organic Amines and High Molecular Weight Fatty Acids; Anionic Softeners—Namely, Water Soluble Metal Salts of High Molecular Weight Fatty Acids; Dullers—Namely, Titanium Oxide Dispersions Containing Protective Colloids and Softening Agents; Wetting Agents—Namely, Water Soluble and Organic Amine Salts of High Molecular Weight Aromatic and Aliphatic Compounds; Water Repellent Agents—Namely, Aqueous Emulsions of Waxes Including Heavy Metal Aluminum and Zirconium Salts, Water Soluble Dispersions of Urea Formaldehyde, Emulsions of Vegetable and Animal Waxes Useful as Slip-Proofing or Finishing Agents; Pigment Compositions—Namely, Titanium Oxide in Finely Divided Form; Fluorescent Stilbene Dyes Useful as Lightening and Whitening Agents.
First use May 17, 1960.

SN 98,669. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed June 8, 1960.

ROLTITE

Owner of Reg. No. 582,413.
For Solvent for Adhesives and Cements.
First use at least as early as Jan. 1, 1953.

SN 99,842. Crown Zellerbach Corporation, San Francisco, Calif. Filed June 28, 1960.

TANZ

For Extender for Vegetable Tanning Extract.
First use Feb. 17, 1956.

SN 99,946. Mueller Brass Co., Port Huron, Mich. Filed June 29, 1960.



For Soldering Flux and Soldering Paste.
First use Jan. 8, 1960.

Class 7 — Cordage

SN 99,797. L. J. Kingsley Co., Inc., Binghamton, N.Y. Filed June 10, 1960.

TUF-BOY

For Baler and Binder Twine.
First use Nov. 10, 1959.

Class 9 — Explosives, Firearms, Equipments, and Projectiles

SN 98,474. Charles R. Heckman, d.b.a. C.H. Die Company, El Monte, Calif. Filed June 6, 1960.



For Shell Reloading Equipment—Namely, Shell Reloading Presses, Bullet Swaging Tools, Primer Catchers, Crimp Starters, Deburring Tools, Case Forming Dies, Decapping and Expanding Devices, Die Lubricant, Shell Reloading Dies, Shell Sizing Dies, Shell Holders, and Case Trimmers.
First use November 1949.

SN 100,600. Healthways, Los Angeles, Calif. Filed July 11, 1960.

PLAINSMAN

For Pistols.
First use 1950.

Class 10 — Fertilizers

SN 98,231. Utah Cooperative Association, d.b.a. Pax Company, Salt Lake City, Utah. Filed Mar. 18, 1960.

PAX SNAP BAK

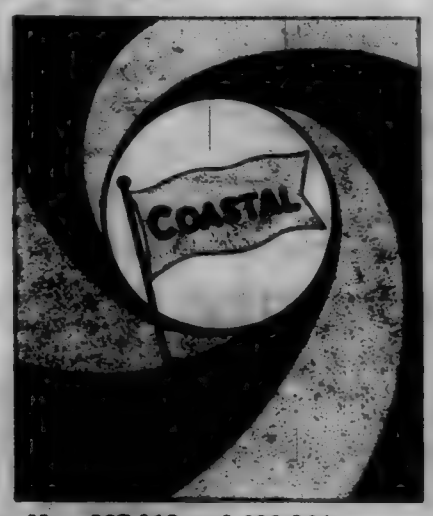
Owner of Reg. Nos. 232,417, 417,314, and others.
For Combination Weed Killer and Soil Conditioner.
First use Dec. 7, 1959.

SN 97,776. Missouri Farmers Association, Inc., Columbia, Mo. Filed May 24, 1960.

LAWN HOUSE

For Fertilizers.
First use Feb. 25, 1960.

SN 100,691. Coastal Chemical Corporation, Yazoo City, Miss. Filed July 12, 1960.



Owner of Reg. Nos. 667,013 and 690,064.
For Commercial Fertilizers.
First use June 27, 1960; Nov. 14, 1957, as to "Coastal."

Class 12 — Construction Materials

SN 56,539. Davidson Granite Co., Inc., Lithonia, Ga. Filed Aug. 4, 1958.

PINE MOUNTAIN TIDAL GREY

For Quarried Granite Slabs, Blocks, and Irregular Pieces.
First use January 1956.

SN 61,729. Morris De Leval Limited, London, England. Filed Oct. 31, 1958.

SYNTHANITE

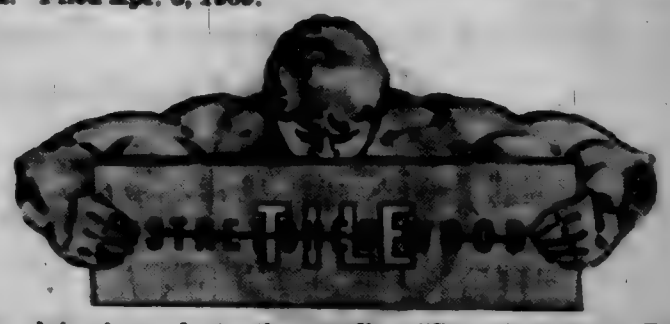
Owner of British Reg. No. 753,780, dated May 14, 1956.
For Flooring Materials Consisting Wholly or Principally of Synthetic Anhydrite.

SN 70,167. Theodore Rusley, d.b.a. Specialty Supply Co., San Leandro, Calif. Filed Mar. 24, 1959.

LITHE

For Base Coves.
First use Jan. 2, 1959.

SN 70,798. General Flooring Company, Inc., New Orleans, La., assignee of Higgins Industries, Inc., New Orleans, La. Filed Apr. 3, 1959.



No claim is made to the wording "Stretched Wood Tile" or to the representation of the goods apart from the mark as shown.
For Wood Floor Tile.
First use Jan. 15, 1959.

SN 75,480. Emil W. Hansen, Tucson, Ariz., assignee of Hansen Door Frame Mfg. Co., Tucson, Ariz. Filed June 10, 1959.

HANCO

For Weather-Stripping Seal for Doors, Windows, and the Like.
First use Feb. 11, 1959.

SN 79,269. National Starch and Chemical Corporation, Gofstown, N.H. Filed Aug. 10, 1959.

GRANITE BOARD

The applicant disclaims the use of the word "Board."
For Particle Board, a Pressed Board Form of Construction Material.
First use Nov. 15, 1954.

SN 83,090. Harris Manufacturing Company, Johnson City, Tenn. Filed Oct. 12, 1959.

EAGLE

For Wooden Flooring.
First use Jan. 2, 1955.

SN 83,180. Pionart Plastics Corporation, Hialeah, Fla. Filed Oct. 13, 1959.

GLAMOURAMA

For Plastic in Slab Form for General Construction and Fabricating Purposes.
First use June 14, 1959.

SN 83,190. Trip-L-Seal, Inc., Washington, D.C. Filed Oct. 13, 1959.

TRIP-L-SEAL

Owner of Reg. No. 377,951.
For Composition or Admixture for Incorporation With a Concrete Mix and the Like.
First use January 1948.

SN 83,551. Gregory Industries, Inc., Lorain, Ohio. Filed Oct. 19, 1959.



For Expansion Shell Fastening Devices and Tools for Setting Same.
First use June 1958.

SN 87,871. Great Lakes Carbon Corporation, New York, N.Y. Filed Dec. 28, 1959.

PERMA-KORE

For Insulation Board.
First use Dec. 17, 1959.

SN 89,001. Masonite Corporation, Chicago, Ill. Filed Jan. 14, 1960.

FROSTED CHERRY

Owner of Reg. No. 684,986.
For Construction Board, and More Specifically, Fiber Board, Insulating Board, Composite Board, Hardboard, and Synthetic Lumber or Artificial Lumber With Coatings on the Surface Thereof for Decorative and Other Purposes.
First use Dec. 17, 1959.

SN 89,002. Masonite Corporation, Chicago, Ill. Filed Jan. 14, 1960.

COLONIAL CHERRY

Owner of Reg. No. 684,986.
For Construction Board, and More Specifically Fiber Board, Insulating Board, Composite Board, Hardboard, and Synthetic Lumber or Artificial Lumber With Coatings on the Surface Thereof for Decorative and Other Purposes.
First use Dec. 17, 1959.

SN 89,003. Masonite Corporation, Chicago, Ill. Filed Jan. 14, 1960.

NATURA CHERRY

Owner of Reg. No. 684,986.
For Construction Board, and More Specifically Fiber Board, Insulating Board, Composite Board, Hardboard, and Synthetic Lumber or Artificial Lumber With Coatings on the Surface Thereof for Decorative and Other Purposes.
First use Dec. 17, 1959.

SN 90,237. The Dexon Company, Massillon, Ohio. Filed Feb. 3, 1960.

Dexon

For Decorative Panels of Natural or Simulated Wood Used To Make Walls, Cabinet Doors, and Furniture.
First use Jan. 12, 1959.

SN 91,043. Wasco Products, Inc., Cambridge, Mass. Filed Feb. 16, 1960.

SKYDOME

Owner of Reg. Nos. 550,045, 690,245, and others.
For Skylight Constructions.
First use June 4, 1951.

SN 93,949. The Ruberoid Co., New York, N.Y. Filed Mar. 29, 1960.

PRIMEROC

For Finish With Which Applicant Has Treated its Asbestos-Cement Siding.
First use July 10, 1959.

SN 94,783. Lomastone Sales Co., Inc., Sun Valley, Calif. Filed Apr. 11, 1960.

LOMA STONE

For Artificial Stone Building Veneer.
First use Mar. 1, 1960.

SN 96,762. Tectum Corporation, Columbus, Ohio. Filed May 9, 1960.

PAN-L-ART

For Decorative Building Panels Formed From Compacted Wood Wool and a Cementitious Binder.
First use Dec. 21, 1959.

SN 97,455. Cast-O-Brick Corporation, d.b.a. Vise Wall Glaze Division, Des Moines, Iowa. Filed May 19, 1960.

Vise

For Glazing Composition Comprising Sand, Cement, and Plastic Liquid Materials Used To Cover Walls and Other Surfaces.
First use June 1, 1959.

SN 97,805. American Block Company, Inc., Rich Creek, Va. Filed May 25, 1960.

ORELITE

For Burnt Mine Refuse in the Form of Slag Used in the Manufacture of Concrete Blocks.
First use June 23, 1959.

SN 98,086. Hardboard Fabricators Corp., Newark, N.J. Filed May 31, 1960.

BESTWOOD

For Hardboard and Fiberboard.
First use May 17, 1960.

SN 98,087. Hardboard Fabricators Corp., Newark, N.J. Filed May 31, 1960.

RITE-WOOD

For Hardboard and Fiberboard.
First use May 17, 1960.

SN 99,222. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed June 17, 1960.

SCOTCHRAP

Owner of Reg. Nos. 559,538, 587,579, and 587,996.
For Dry Thread Sealer.
First use Nov. 27, 1959.

SN 99,804. Ten Point Trim Corporation, Indianapolis, Ind. Filed June 27, 1960.

Ten Point Trim

The word "Trim" is hereby disclaimed apart from the mark as shown.
For Snap On Metal Trim Around Door and Window Openings in a Building.
First use on or about Aug. 4, 1950.

SN 99,826. Charles C. Whitmer, Cleveland, Ohio. Filed June 27, 1960.

General

For Swimming Pools and Swimming Pool Products, Accessories, and Equipment Sold Together as a Complete Unit.
First use Feb. 15, 1959.

SN 99,948. Mueller Brass Co., Port Huron, Mich. Filed June 29, 1960.

For Aluminum Windows, Curtain Walls, and Doors.
First use Apr. 29, 1960.

SN 100,145. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed July 1, 1960.

3M

Owner of Reg. Nos. 405,413, 561,629, and 692,993.
For Insulation Adhesives and Duct Sealers for Use in Construction.
First use Oct. 13, 1931.

SN 102,064. Surfastal Limited, Birmingham, England. Filed Aug. 4, 1960.

SURFASTAL

Owner of British Reg. No. 479,100, dated Mar. 24, 1927.
For Steel Fabric in Mesh Form for Reinforcing Asphalt, Concrete, and the Like.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

SN 68,922. MacLean-Fogg Lock Nut Co., Chicago, Ill., assignee of MacLean-Fogg Lock Nut Company, Chicago, Ill. Filed Mar. 4, 1959.

M-F LOCK-TIGHT

Owner of Reg. Nos. 504,579 and 694,127.
For Clip-Type Fastening Devices of Formed Flat Rolled Steel or Flat Rolled Special Shapes of Steel Used To Attach Railway Car Flooring to the Car Underframe.
First use January 1936.

SN 78,916. The Bowman Products Company, Cleveland, Ohio. Filed July 2, 1959.

BOMARINE

For Marine Hardware and Accessories, Fasteners, Studs, Bolts, Screws and Nuts, Washers, Clips and Cotter Pins, Hardware Cabinets, Fuel Lines, Fuel Line Fittings and Valves, and Shear Pins, and Canvas Fastening Equipment—Namely, Eyelets, Studs, Buttons, and Sockets.
First use June 15, 1959; Sept. 15, 1958, as to "Bomarine."

SN. 89,298. Ra-Rich Mfg. Corp., Holtsville, N.Y. Filed Jan. 19, 1960.

AQUA-CUSHION

Owner of Reg. No. 378,868.
For Water Hammer Eliminators.
First use Jan. 2, 1939.

SN 89,299. Ra-Rich Mfg. Corp., Holtsville, N.Y. Filed Jan. 19, 1960.

ALIGN E-Z

For Flexible Threaded Nipples for Use by Plumbers in Connecting Air Steam and Water Lines.
First use January 1946.

SN 89,385. Spraying Systems Co., Bellwood, Ill. Filed Jan. 20, 1960.

FLOODJET

For Nozzles for Spraying Liquids.
First use on or about Dec. 22, 1959.

SN 91,805. Kennatrack Corporation, Elkhart, Ind. Filed Feb. 29, 1960.

KENNALOY

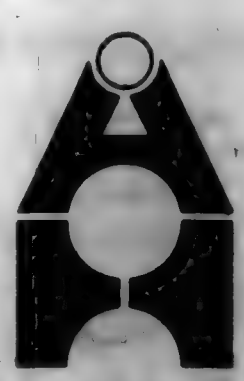
Owner of Reg. Nos. 552,835, 677,882, and others.
For Track for Roller Supported Equipment, Such as Sliding Door Installations.
First use July 1, 1959.

SN 94,040. The Artistic Wire Products Co. of Conn. Incorporated, East Hampton, Conn. Filed Mar. 31, 1960.

VINYL-maid

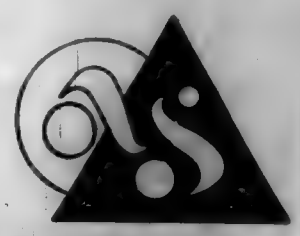
The word "Vinyl" is disclaimed. Owner of Reg. No. 507,477.
For Vinyl-Coated Wire Draining and Storage Racks.
First use Dec. 7, 1951.

SN 99,698. Ajax Hardware Corporation, City of Industry, Calif. Filed June 27, 1960.



For Cabinet Catches, Door Stops, Coat and Hat Hooks, Screen Hangers, Sash Locks, Sash Lifts, Door Pulls, Drawer Knobs, Drawer Pulls, Hinges, Door Grilles, and Mail Drop Plates.
First use Oct. 30, 1959.

SN 100,003. "Automatic" Sprinkler Corporation of America, Youngstown, Ohio. Filed June 30, 1960.



For Automatic Sprinkler Systems and Parts Thereof for Fire Protection.
First use Apr. 15, 1960.

Class 14—Metals and Metal Castings and Forgings

SN 39,589. Colonial Alloys Company, Philadelphia, Pa. Filed Oct. 28, 1957.

MIRODIZED

Owner of Reg. No. 691,061.
For Polished Anodized Finish Applied to Various Aluminum Parts Such as Ornamental Chains and Bands, Tableware, Trimmings, Grillwork, Etc.
First use Aug. 13, 1954.

SN 77,944. The National Exchange Club, Toledo, Ohio. Filed July 17, 1959.



Owner of Reg. Nos. 159,045, 572,697, and others.
For Bells With Ornamental Tops.
First use Apr. 1, 1937.

SN 86,513. National Steel Corporation, Pittsburgh, Pa. Filed Dec. 2, 1959.

MIRACOIL

For Plastic Coated Steel Sheets and Strip.
First use Nov. 27, 1959.

SN 88,822. Texas Instruments Incorporated, Dallas, Tex. Filed Jan. 11, 1960.

CONFLEX

For Laminated Composite Sheet Material Having Bonded Layers of Copper or Copper-Base Alloy and Hardenable Steel.
First use on or before Mar. 10, 1958.

SN 96,507. Koninklijke Nederlandsche Hoogovens en Staalfabrieken N.V., Ijmuiden, Velsen, Netherlands. Filed May 5, 1960.

HYDROSTAL

Owner of Dutch Reg. No. 134,431, dated July 4, 1959.
For Steel Plates and Sheets.

SN 98,258. American Smelting and Refining Company, New York, N.Y. Filed June 2, 1960.

ADAPTALOY

For Aluminum Casting Alloys.
First use Nov. 2, 1959.

SN 98,323. Aktiebolaget Kanthal, Hallstahammar, Sweden. Filed June 3, 1960.

ALKROTHAL

Owner of Swedish Reg. No. 82,823, dated Apr. 5, 1957.
For Heat Resistant Alloys in the Form of Wire, Strips, Rods, Tubes, Sheet-Metal and Cast-Metal To Be Used as Electrical Conducting and Resistance Material.

SN 98,382. Misco P.C., Inc., New York, N.Y. Filed June 3, 1960.

WAI MET

For Metals and Alloys of Metals of Particular Composition in the Form of Ingots and Pellets for Remelting.
First use in October 1953.

SN 98,383. Misco P.C., Inc., New York, N.Y. Filed June 3, 1960.

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For Metals and Alloys of Metals of Particular Composition in the Form of Ingots and Pellets for Remelting.
First use in March 1954.

Class 15—Oils and Greases

SN 87,873. Gulf Oil Corporation, Pittsburgh, Pa. Filed Dec. 23, 1959.

SIGMA

For Marine Engine Oil for Cylinder Lubrication.
First use at least December 1941.

SN 94,322. Macmillan Petroleum Corporation, Los Angeles, Calif. Filed Apr. 4, 1960.

MACMILLAN

Owner of Reg. Nos. 580,563 and 609,001.
For Power Transmission Fluid.
First use 1949.

SN 104,513. Dadant & Sons, Inc., Hamilton, Ill. Filed Sept. 15, 1960.

TWINKILITE

For Candles.
First use Aug. 26, 1960.

Class 18—Medicines and Pharmaceutical Preparations

SN 68,280. General Nutrition Corporation, d.b.a. Vitamin Sales Company, Pittsburgh, Pa., by change of name from Lackzoom Company, d.b.a. Vitamin Sales Company, Pittsburgh, Pa. Filed Feb. 24, 1959.

gaf
gerex geriatric formula

Applicant disclaims the expression "Geriatric Formula" apart from its use in association with "Gerex" as shown.
For Dietary Food Supplement Containing Vitamins and Minerals.
First use Jan. 19, 1959; Jan. 1, 1949, as to "Gerex Geriatric Formula."

SN 85,186. Vitamin Council Inc., St. Paul, Minn. Filed Nov. 12, 1959.

BREETH AGAIN

For Nasal Spray.
First use June 29, 1959.

SN 92,291. Parke, Davis & Company, Detroit, Mich. Filed Mar. 7, 1960.

KAPSEALS

Owner of Reg. Nos. 291,134, 391,170, and 396,700.
For Line of Pharmaceutical Preparations in Capsule Form.
First use July 25, 1931.

SN 92,539. Kresge-Newark, Inc., Newark, N.J. Filed Mar. 10, 1960.

KREST

Owner of Reg. Nos. 262,867 and 263,302.
For Vitamin Preparations in Tablet, Capsule, Liquid and Powder Form, Medicated Ointments, Milk of Magnesia Tablets, Cough Syrups, Iodine Tablets, and Cascara Sagrada.
First use June 20, 1929.

SN 92,572. Vit-A-Way, Inc., Fort Worth, Tex. Filed Mar. 10, 1960.

VITA-BLOK

The drawing is lined for the color red but no claim is made to color.
For Mineral and Vitamin Feed Supplement for Livestock.
First use Sept. 1, 1959.

SN 94,935. Aktiebolaget Bofors, Bofors, Sweden. Filed Apr. 13, 1960.

RESARGYL

Owner of Swedish Reg. No. 80,796, dated July 20, 1956.
For Analgesics.

SN 99,304. Dawe's Laboratories, Inc., Chicago, Ill. Filed June 20, 1960.

MICROFAC

For Feed Supplement Consisting of Vitamins, Minerals and Other Ingredients To Be Mixed With Poultry Feed.
First use June 7, 1960.

SN 99,518. Katadyn Produkte A.G., Wallisellen, Zurich, Switzerland. Filed June 22, 1960.

MICROPUR

Priority claimed under Sec. 44(d) on Swiss Reg. No. 179,538, dated Jan. 11, 1960.
For Pharmaceutical Products, Drugs and Preparations for Medicinal and Hygienic Uses.

SN 101,156. Carter Products, Inc., New York, N.Y. Filed July 20, 1960.

PROTEEN-9

For Medicinal Protein Preparation Used as a Dietary Supplement for Humans.
First use May 13, 1960.

SN 101,997. Air-Shields, Inc., Hatboro, Pa. Filed Aug. 4, 1960.

PREGULAR

For Pregnancy Test and Menstrual Regulator in Tablet Form.
First use Mar. 28, 1960.

102,013. Farbenfabriken Bayer Aktiengesellschaft, Leverkusen-Bayerwerk, Germany. Filed Aug. 4, 1960.

FABAHISTIN

Owner of German Reg. No. 733,693, dated Feb. 11, 1960.
For Chemotherapeutic Agents, Chemical Products for Healing Purposes and Pharmaceutical Drugs.

SN 102,329. Merck & Co., Inc., Rahway, N.J. Filed Aug. 9, 1960.

alphaREDISOL

Owner of Reg. No. 565,948.
For Vitamin Preparation.
First use July 24, 1960.

SN 102,448. Baxter Laboratories, Inc., Morton Grove, Ill. Filed Aug. 11, 1960.

DETIRONA

For Sodium D-Thyroxine for the Lowering of Serum Cholesterol Levels.
First use Aug. 8, 1960.

SN 102,712. The Warren-Teed Products Company, Columbus, Ohio. Filed Aug. 15, 1960.

KLOT

Owner of Reg. No. 631,971.
For Hemostatic Agent for Use by Veterinarians.
First use June 3, 1954.

SN 103,549. Dawe's Laboratories, Inc., Chicago, Ill. Filed Aug. 29, 1960.

MICROVITE

For Feed Supplement Consisting of Vitamins, Minerals and Other Ingredients To Be Mixed With Poultry Feed.
First use July 25, 1960.

SN 103,764. Delaware Poultry Laboratories, Inc., Millsboro, Del. Filed Sept. 1, 1960.

OPL

For Vaccines for Immunization of Poultry Against Bronchitis and Other Diseases, and Antibiotic Preparations for Treatment of Infections in Poultry.
First use Sept. 10, 1953.

SN 104,097. Norex Laboratories, Inc., New York, N.Y. Filed Sept. 8, 1960.

KOREXIN

For Analgesic.
First use Aug. 18, 1960.

SN 104,160. Irwin, Neisler & Co., Decatur, Ill. Filed Sept. 9, 1960.

DECALEXIN

For Analgesic, Cortico-Steroid Combination.
First use Aug. 15, 1960.

SN 104,277. Jensen-Salsbery Laboratories, Inc., Kansas City, Mo. Filed Sept. 12, 1960.

CYTOGEN

For Canine Distemper Vaccine.
First use Aug. 20, 1960.

Class 19—Vehicles

SN 76,917. The Bowman Products Company, Cleveland, Ohio. Filed July 2, 1959.

BOMARINE

For Marine Steering Apparatus and Parts Thereof, Rope and Cable Clamping, Tightening, Guiding and Clipping Equipment, Dock Hooks and Sockets, Step Plates, Transom Pads, Oar Locks, Cleats, Chocks and Handles.
First use June 15, 1959; Sept. 15, 1958, as to "Bomarine."

SN 98,738. Pacific Car and Foundry Company, Renton, Wash. Filed June 9, 1960.

UNITGLAS

For Hood and Fender Combination for Conventional Motor Trucks.
First use on or about Jan. 1, 1959.

SN 101,980. Harold F. Ryder, Wheaton, Ill. Filed Aug. 3, 1960.

NEEZ-EEZ

For Adjustable Automotive Leg Rest.
First use June 29, 1960.

SN 102,024. Heckethorn Manufacturing & Supply Co., Dyersburg, Tenn. Filed Aug. 4, 1960.

LUXURY RIDE

For Shock Absorbers for Vehicles.
First use on or about July 14, 1949.

SN 102,396. The Kaman Aircraft Corporation, Bloomfield, Conn. Filed Aug. 10, 1960.

KAMAN

For Aircraft, Particularly Helicopters.
First use on or about July 5, 1960.

SN 102,404. Maremont Automotive Products, Inc., Chicago, Ill. Filed Aug. 10, 1960.

ROBIN HOOD

Owner of Reg. No. 688,715.
For Automobile Shock Absorbers.
First use July 19, 1960.

Class 20—Linoleum and Oiled Cloth

SN 88,843. Congoleum-Nairn Inc., Kearny, N.J. Filed Jan. 12, 1960.

WONDERTOP

For Flexible Plastic Composition Sheets for Use as Surface Coverings for Countertops, Tables, Desks and the Like.
First use Jan. 5, 1960.

SN 96,482. Congoleum-Nairn Inc., Kearny, N.J. Filed Apr. 21, 1960.

GOLD VEIN

For Plastic Coverings of the Smooth Surface, Resilient Type for Surfaces Such as Floors, Walls, Countertops, and the Like in the Form of Rolls, Rugs and Tiles.
First use Apr. 11, 1960.

Class 21—Electrical Apparatus, Machines, and Supplies

SN 68,783. Robolite Company, Chicago, Ill. Filed Mar. 2, 1959.

ROBOLITE

For Electrical Night Lights for Insertion in Wall Sockets.
First use in July 1948.

SN 76,756. Swiss Harmony, Inc., Chicago, Ill. Filed June 29, 1959.

SWISS GOLDEN BEACON

For Electrical Motor Driven Rotary Lighting Fixtures of a Decorative Nature.
First use on or about July 1, 1958.

SN 76,919. The Bowman Products Company, Cleveland, Ohio. Filed July 2, 1959.

BOMARINE

For Marine Electrical Switches, Lights, Pilot Lamps, Deck Lamps, Wire and Wire Terminals, Fuses, Points and Condensers, Electric Horns, Switch Plates, Fuse Blocks, Electrical Contacts and Connectors.
First use June 15, 1959; Sept. 15, 1958, as to word "Bomarine."

SN 78,012. Eaton Manufacturing Company, Cleveland, Ohio. Filed July 20, 1959.

MICRO-TROL

For Electric Control Systems for Equalizing the Load on Load Transferring Drive Units.
First use May 26, 1959.

SN 83,186. Syntron Company, Homer City, Pa. Filed Oct. 13, 1959.

SYNTRON

Owner of Reg. Nos. 171,055, 514,810, and others.
For Infra-Red Heating Elements.
First use on or about July 1952.

SN 83,589. Cities Service Oil Company, New York, N.Y. Filed Oct. 19, 1959.

TRI-FILL

Owner of Reg. No. 590,605.
For Storage Batteries.
First use as early as January 1950.

SN 87,007. Robert Bosch Gesellschaft mit Beschrankter Haftung, Stuttgart, Germany. Filed Nov. 4, 1959.

BOSCH
GERMANY

Applicant disclaims the word "Germany" apart from the mark as shown. Priority claimed under Sec. 44(d) on German application filed June 13, 1959; Reg. No. 740,426, dated Sept. 22, 1960. Owner of U.S. Reg. Nos. 627,382, 634,326, and others.

For Electric Machines and Accessories for Preparing Food, Such as Food Mixers, Blenders, and Attachments Comprising Kneaders, Slicers, Shredders, Pommes-Frite (Potato Chip) Discs, Potato Peelers, Citrus Presses, Meat Mincers, Juice Extracting Attachments, Grating Attachments, Noddle-Making Attachments, Fritter-Making Attachments, Sausage Stuffers.

SN 88,090. Radio Corporation of America, New York, N.Y. Filed Dec. 28, 1959.

MURAL TV

No claim is made to the letters "TV" apart from the mark as shown.

For Television Receivers.

First use at least as early as June 22, 1959.

SN 88,143. Cyclo-Magic, Inc., Milwaukee, Wis. Filed Dec. 29, 1959.

CYCL-O-MAGIC

For Electric Welding Apparatus.

First use Nov. 27, 1959.

SN 89,976. Ungar Electric Tools, Inc., Los Angeles, Calif. Filed Dec. 31, 1959.

IMPERIAL

For Electric Soldering Irons and Parts Thereof.

First use Dec. 1, 1959.

SN 96,842. Ebsco Industries, Inc., Birmingham, Ala. Filed May 11, 1960.

VULCAN

For Electrically Operated Floor Waxing Machines.

First use on or about July 1, 1954.

SN 97,277. Associated Electrical Industries Limited, London, England. Filed May 17, 1960.

AEI

Owner of British Reg. Nos. 785,585, 785,587, and 785,589, all dated Dec. 30, 1958.

For Machinery and Apparatus for Use in the Generation of Electricity—Namely, Steam and Gas Turbo Generators, Water Wheel Alternators, Motor Driven Generators, and Engine Type Generators; Machinery Operated by Electricity—Namely, Electric Motors and Electric Converters; Electric Locomotives; Electric Motor Driven Gears and Pinions for Propelling Electric Locomotives; Controllers for the Starting, Stopping, and Reversing of Electric Motors of Traction Vehicles; Magnetic Brakes; Visual Electric Signals for Indicating Disengagement of Current Collectors From Conductors in Electric Traction Systems; Electric Circuit Breakers; Contactors; Resistances; Radio Interference Suppression Coils; Electric Traffic Signals for Railways—Namely, Route Indicators, and Junction Direction Indicators; Illuminated Diagrams and Control Panels for Controlling Railway Signals and Switches in the Areas of Railway Stations or Yards, and Parts Thereof Including Locking Frames and Switch Contactor Units; Impedance Bonds for Electric Track Circuiting; Automatic Electric Motor Operated Train Stops; Electric Starters for Motor Engines; Electric Regulators; Electric Winches; Electric Welding Machines; Electric Ovens; High Voltage Transformers; Electric Controllers and Switches for Starting, Stopping, and Reversing Electric Motors and Generators, and Relays, Resistances, Contacts, and Rheostats Used in Conjunction Therewith; Electrical Switch Gear; Electrical Switchboards; Electric Relays; Portable Electricity Generating Sets; Electric Lamps; Electric Contacts and Cut-Outs; Electric Lighting Fixtures, Fluorescent Lamps and Chokes, Reflectors, and Lamp Holders Used for Domestic, Industrial, Marine, and Traction Lighting Purposes; Instruments and Apparatus for Use in Connection With the Transmission and Reception of Radio Signals—Namely, Audio Amplifiers, and Radio and Television Transmitting and Receiving Tubes; Cathode Ray Tubes; Radar Apparatus and Parts Thereof—Namely, Transmitting and Receiving Aerials and Reflectors Used in Conjunction Therewith; Electric Heaters and Furnaces; Radio Frequency Heating Furnaces for Treating Bakelized Mixtures; Infra Red Lamps, Including Reflectors and Holders, Incorporated With Ovens for the Quick Drying of Painted Articles; and Electronic Apparatus Used To Control the Speed of Electric Motors—Namely, Photoelectric Relays, Thyratrons, and Rectifiers.

SN 97,327. Jerry M. Pearring, d.b.a. Side A Lite, Alhambra, Calif. Filed May 17, 1960.

SIDE A LITE

For Swivels for Electrical Fixtures.

First use Aug. 28, 1959.

SN 97,428. Thompson Tool and Manufacturing Co., Franklin Park, Ill. Filed May 18, 1960.

HOBBY PAL

For Battery-Operated Portable Power Tools.

First use May 2, 1960.

SN 97,887. Sunbeam Corporation, Chicago, Ill. Filed May 25, 1960.

LITE-FRY

For Electric Cooking Vessels.

First use Feb. 23, 1960.

SN 100,081. Wintriss, Inc., New York, N.Y. Filed June 24, 1960.

TRANSENSOR

For Electric Switches and Switch Elements.

First use June 17, 1960.

SN 100,628. Northern Electric Company, Chicago, Ill. Filed July 11, 1960.

NORTHERN

For Electric Bed Coverings and Electric Heating Pads; Electric Vaporizer Humidifiers, Baby Bottle Warmers and Baby Bottle Sterilizers.
First use 1922.

SN 100,635. Peer Incorporated, Benton Harbor, Mich. Filed July 11, 1960.

PEER

For Electrical Welding Equipment—Namely, Resistance Welders, Spot Welders and Arc Welders; and Automotive Electrical Equipment—Namely, Battery Chargers and Rectifiers; Welding Timers, Welding Controls and Other Electrical Equipment, Including Communications and Electronic Equipment.
First use Aug. 1, 1939.

SN 100,695. Functional Products, Inc., Warsaw, Ind. Filed July 12, 1960.

SLEEP-DRI

Owner of Reg. No. 607,447.
For Bed Wetting Alarm Apparatus.
First use Feb. 25, 1954.

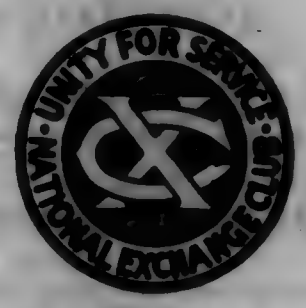
SN 103,889. Allen-Bradley Company, Milwaukee, Wis. Filed Sept. 6, 1960.

ALLEN-BRADLEY

Owner of Reg. No. 185,662.
For Motor Controls and Components for Electrical Circuits and Motor Controls Comprising: Switches, Starters, Contactors, Solenoids, Relays, Rotary Switches, Speed Regulators, Rheostats, Push Buttons, Control Station Units, Control Centers and Panels, and Parts Therefor; and Electronic Circuit Components Comprising: Fixed and Variable Resistors, Capacitors, and Inductors.
First use February 1909.

Class 22—Games, Toys, and Sporting Goods

SN 77,941. The National Exchange Club, Toledo, Ohio. Filed July 17, 1959.



Owner of Reg. Nos. 159,045, 572,697, and others.
For Playing Cards.
First use Apr. 27, 1953.

SN 84,008. Papa-Guy-Yo, Inc., Baltimore, Md. Filed Oct. 26, 1959.

Falcon

For Kites Made From Woven Material.
First use Aug. 25, 1959.

SN 97,811. Brandex Co., Winchester, Mass. Filed May 26, 1960.



For Unassembled Carrying Case for Model Railroad Accessories.
First use Mar. 15, 1960.

SN 98,465. Geodesic Structures, Inc., d.b.a. Geodestix, Yardley, Wash. Filed June 6, 1960.

D-STIX

The drawing is lined for red, but color is not claimed as a feature of the mark.
For Toy Construction Kit Comprising Structural Members and Flexible Connectors.
First use Feb. 13, 1959.

SN 99,855. The Hubley Manufacturing Company, Lancaster, Pa. Filed June 28, 1960.

ELECTRA-MATIC 50

For Toy Pistols.
First use May 10, 1960.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

SN 67,592. The Deming Company, Salem, Ohio. Filed Feb. 12, 1959.

DEMERSIBLE

For Submersible Water Pumps and Sumps.
First use on or about Dec. 1, 1958.

SN 76,918. The Bowman Products Company, Cleveland, Ohio. Filed July 2, 1959.

BoMARINE

For Marine Resinous Pulley Blocks and Screw Drivers.
First use June 15, 1959; Sept. 15, 1958, as to "Bomarine."

SN 78,622. Eaton Manufacturing Company, Cleveland, Ohio. Filed July 29, 1959.

CHRONICOTE

For High Temperature, Corrosion Resistant Internal Combustion Engine Parts, Such as Valves, Valve Seat Inserts, Piston Heads and Combustion Chamber Surfaces, Coated With a Chrome-Nickel Alloy for Protection Against Deposit-Induced Pre-Ignition.
First use June 30, 1959.

SN 89,494. Auto-Blow Corporation, Bridgeport, Conn. Filed Jan. 22, 1960.

AUTO-BLOW

For Apparatus for the Production of Plastic Articles.
First use June 3, 1959.

SN 89,558. Curtiss-Wright Corporation, Caldwell, N.J. Filed Jan. 25, 1960.

CURTISS-WRIGHT
POWER HINGE

For Rotary Mechanical Actuators for Converting High Speed, Low Torque Mechanical Motion to Low Speed, High Torque Mechanical Motion.
First use Jan. 7, 1960.

SN 89,850. Hamac A.G., Zug, Switzerland. Filed Jan. 28, 1960.

CONTIMAC

Priority claimed under Sec. 44(d) on Swiss application filed Nov. 27, 1959; Reg. No. 178,883 dated Feb. 16, 1960.
For Packaging Machinery, and Processing Machinery for Use in the Confectionery, Food, Chemical, and Pharmaceutical Industries.

SN 90,250. Great Neck Saw Manufacturers, Inc., Mineola, N.Y. Filed Feb. 3, 1960.



For Axes, Hammers, Hatchets, Saws, Saw Blades, Saw Frames, Chisels, Screw Drivers, Planes, Scratch Awls, Putty Knives, Wall Scrapers, Tool Kits, Mitre Boxes, Squares, Pliers, Utility Knives and Garden Tools.
First use during the early part of 1937 in connection with saws.

SN 93,194. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed Mar. 18, 1960.

ECONOMIST

For Machine for Applying Heat-Sensitive Adhesive Coated Sheet Material to a Rigid Surface.
First use May 25, 1959.

SN 94,345. Pyles Industries, Inc., Detroit, Mich. Filed Apr. 4, 1960.



For Viscous and Liquid Material Flow Guns and Parts Thereof; Metering, Mixing and Blending Devices for Chemical Materials and Parts Thereof; Hose Coupling Machines and Parts Thereof; and Conveyor Lubricator Mechanism.
First use Feb. 4, 1960.

SN 97,063. Italian Imports, Company, Cleveland, Ohio. Filed May 13, 1960.

RAVIOLI—CHEF

For Combination Food Preparing Kit Comprising a Cutter, Mold, Sealer, and Rolling Pin for Use in Making Items Such as Ravioli, Dereje, Canapés, Krepiach, Filled Cookies, and the Like.
First use Nov. 1, 1957.

SN 97,278. Associated Electrical Industries Limited, London, England. Filed May 17, 1960.

AEI

Owner of British Reg. Nos. 785,585, 785,587, and 785,589, all dated Dec. 30, 1958.
For Steam Turbines and Parts Thereof; Internal Combustion Turbines and Parts Thereof; Compressors; Impellers; Rotary Pumps for Pumping Water and Other Liquids; Condensation-Type Vacuum Pumps and Rotary Vacuum Pumps for Industrial and Research Processes; Fuel Ejectors and Injectors; Machine Elements—Namely, Gears and Pinions; Winding Machines, and Dynamic and Mechanical Automatic Braking Apparatus Designed for Use With Industrial Machinery, Brake Governing Apparatus Designed for Use With Industrial Machinery, Haulage and Conveyor Motors and Control Gear, and Overwind, Speed Control and Other Protective and Control Mechanisms for Mine Hoist or Winding Engines; Mechanical Gearing for Use in Connection With Power Plants and Dynamo Electric Machines; and Vacuum Distillation Apparatus.

SN 98,287. Italian Imports Company, Cleveland, Ohio, assignee of Industria Prodotti Stampati, Turin, Italy. Filed June 2, 1960.

URANIA

For Hand-Operated Machine for Rolling and Cutting Dough Into Noodles, Spaghetti, Ravioli and the Like.
First use Aug. 1, 1957.

SN 104,868. The Torrington Company, Torrington, Conn. Filed Sept. 20, 1960.

KOOLTORR

Owner of Reg. No. 683,642.
For Sewing Machine Needles.
First use Nov. 30, 1959.

Class 24—Laundry Appliances and Machines

SN 87,008. Robert Bosch Gesellschaft mit beschränkter Haftung, Stuttgart, Germany. Filed Nov. 4, 1959.

BOSCH
GERMANY



Priority claimed under Sec. 44(d) on German application filed June 13, 1959; Reg. No. 740,426, dated Sept. 22, 1960. Applicant disclaims the word "Germany" apart from the mark as shown. Owner of U.S. Reg. Nos. 627,382, 634,326, and others.
For Washing Machines, Spin Dryers, Parts of the Said Goods.

SN 91,806. Jessie Pearl Kinyon, New York, N.Y. Filed Feb. 29, 1960.

LAUNDRA-MITT

For Portable Washboard.
First use Feb. 15, 1960.

Class 26—Measuring and Scientific Appliances

SN 53,006. Art-Craft Optical Company, Inc., Rochester, N.Y. Filed June 6, 1958.

CLUBMAN

For Ophthalmic Mountings and Parts Thereof.
First use Mar. 3, 1958.

SN 58,858. Mandrel Industries, Inc., Houston, Tex. Filed Sept. 4, 1958.



Owner of Reg. No. 607,685.
For Hydrophones, Seismometers, Galvanometers, Oscillographs, Photographic Developing Units Comprising a Compact Case With Solution Cans and Light-Proof Hoods, Electronic Testing Instruments To Evaluate the Transient Characteristics of Electronic Equipment, Calibrated Instruments To Simulate Laboratory Conditions for Laboratory Measurements, and Metal Housings, Casings and Racks Adapted for Use With the Aforesaid Instruments.
First use Jan. 31, 1957.

SN 72,645. Model Engineering & Manufacturing, Inc., Huntington, Ind. Filed Apr. 30, 1959.

MEMCOR

For Radar Wave Guides, Oscilloscopes, Radar Horns, Electrical Bridges and Meters and Signal Generators.
First use Jan. 2, 1959.

SN 82,827. Dr. Ing. Rudolf Hell, Kiel-Dietrichsdorf, Germany. Filed Oct. 7, 1959.

HELLFAX

Owner of German Reg. Nos. 643,374 and 665,047, dated Aug. 31, 1953 and Oct. 22, 1954, respectively.
For Picture and Facsimile Transmission Apparatus, Ordinary and Photosensitive Recording Papers, Recording Foils and Recording Films Therefor.

SN 90,612. Agfa Aktiengesellschaft, Leverkusen-Bayerwerk, Germany. Filed Feb. 9, 1960.

FLEXILETTE

Owner of German Reg. No. 726,242, dated June 19, 1959.
For Photographic and Cinematographic Cameras and Parts Thereof.

SN 91,849. Sawyer's Inc., Portland, Oreg. Filed Feb. 29, 1960.

EASY-EDIT

For Holders for Photographic Transparencies.
First use June 10, 1959.

SN 97,279. Associated Electrical Industries Limited, London, England. Filed May 17, 1960.

AEI

Owner of British Reg. Nos. 785,585, 785,587, 785,589, all dated Dec. 30, 1958.
For Detecting, Measuring, Indicating and Recording Apparatus—Namely, Ammeters, Voltmeters, Wattmeters, Watt-Hour Meters, Frequency Meters, Power Factor Meters, Synchroscopes, Polarity Indicators, Static Ground Detectors, Static Potential Indicators, House Service Meters, Electric Pyrometers, Spectrometers, Electron Microscopes, Speedometers for Vehicles, Flaw Detectors, and Insulation Testing and Measuring Equipment—Namely, Test Electrodes, Spherys Gaps, Resistance Equating Bridges, Galvanometers, Volt Meters, and Parts Thereof; Oscilloscopes; Signal Generators, Oscilloscope and Test Meters Having Voltage and Current Measuring Means for Radar Apparatus; Electronic Process Timers, and Parts Thereof, Used in Connection Therewith To Control the Length of Time During Which a Stage of Treatment Is Applied to a Manufacturing Process; High Vacuum Pumps for Research; and Apparatus for Use in the Production of Nuclear Physical Energy—Namely, Betatrons, Cyclatrons, Synchrotrons, and Linear Accelerators.

SN 96,987. Fox River Paper Corporation, Appleton, Wis. Filed June 14, 1960.

TEMPLA-GUIDE

For Templates Used in the Printing Trades.
First use Apr. 4, 1960.

SN 100,718. Neptune Meter Company, New York, N.Y. Filed July 12, 1960.

neptune

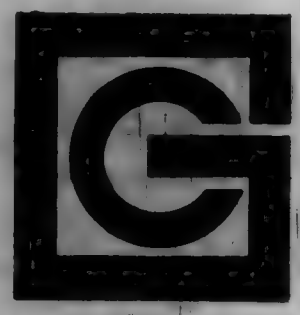
Owner of Reg. No. 88,512.
For Fluid Meters and Parts Thereof, Including Water Meters, Petroleum Meters, Liquid Chemical Meters; Recording and Control Systems and Parts Thereof; Wire, Wiring Assemblies, Flow Switches and Float Switches; Temperature Detection Systems and Parts Thereof; Weighing Devices and Parts Thereof and Toll Collection Systems and Parts Thereof.
First use Mar. 14, 1960, on fluid meter parts, specifically change gears.

SN 101,255. General Aniline & Film Corporation, New York, N.Y. Filed July 21, 1960.

ANSCOSET

Owner of Reg. Nos. 378,951 and 701,349.
For Photographic Apparatus, Particularly Cameras.
First use Mar. 16, 1960.

SN 101,261. Graphic Controls Corporation, Buffalo, N.Y. Filed July 21, 1960.



For Control Panel Wiring Accessories for Electronic Data Processing Machines.
First use Nov. 10, 1959.

SN 102,089. B & W Associates, Michigan City, Ind. Filed Aug. 5 1960.

B & W

For Lie Detectors.
First use on or about June 15, 1944.

SN 102,846. The Hobart Manufacturing Company, Troy, Ohio. Filed Aug. 17, 1960.

PROJECT-O-WEIGHT

Owner of Reg. No. 594,223.
For Weighing Scales.
First use May 27, 1960.

SN 103,032. Saburo Matsumoto, d.b.a. Asahi Optical Co., Ltd., Chuo-ku, Tokyo, Japan. Filed Aug. 19, 1960.

PENTAX

For Cameras and Camera Lenses and Finders.
First use November 1951; in commerce November 1951.

SN 103,338. Houston Oil Field Material Company, Inc., Houston, Tex. Filed Aug. 24, 1960.

STRESSTECTOR

For Electro-Mechanical Instrument for Detecting Differences in Magnetic Permeability in a Well Bore.
First use Aug. 10, 1960.

SN 103,704. Clay-Adams, Inc., New York, N.Y. Filed Aug. 31, 1960.

THROMBITRON

For Prothrombin Test Unit.
First use on or about Aug. 19, 1960.

SN 103,785. Doctors Bernard S. Abrams and Neal J. Bailey, Columbus, Ohio. Filed Sept. 1, 1960.

SWIMCON

For Ophthalmic Contact Lenses.
First use Aug. 2, 1960.

SN 103,836. Chicago Eye Shield Company, Chicago, Ill. Filed Sept. 2, 1960.

PLASTI-WELD

For Filter Plates for Welding Helmets.
First use October 1959.

SN 103,890. Allen-Bradley Company, Milwaukee, Wis. Filed Sept. 6, 1960.

ALLEN-BRADLEY

Owner of Reg. No. 185,662.
For Pressure, Temperature, and/or Time Responsive Switches.
First use 1919.

Class 27 — Horological Instruments

SN 76,449. Wyler Watch Factory, Ltd., Bienne, Switzerland. Filed June 24, 1959.

WYCOFLEX

Owner of U.S. Reg. No. 395,587.
For Watches, Watch Parts, Watch Straps and Bracelets, and Clocks.
First use Apr. 30, 1959; in commerce Apr. 30, 1959.

SN 100,277. Mayer Bros., Seattle, Wash. Filed July 5, 1960.

CHALET

For Watches.
First use June 1960.

SN 101,321. Glass Laboratories, Inc., Brooklyn, N.Y. Filed July 22, 1960.

MAGNACLOCK

For Clock.
First use May 19, 1960.

Class 28 — Jewelry and Precious-Metal Ware

SN 101,303. Arke Inc., New York, N.Y. Filed July 22, 1960.

COLTURA

For Costume Jewelry Consisting of Necklaces, Bracelets, Earrings, Clips, Pins, Cuff Links, Hair Ornaments, and Cultured Pearls.
First use June 1960.

Class 29 — Brooms, Brushes, and Dusters

SN 93,498. Brooklyn Fibre Broom Co., Inc., Brooklyn, N.Y. Filed Mar. 23, 1960.

LITE-N-TITE

For Broom Handle Connectors or Adapters for Joining a Handle to a Broom Head.
First use Jan. 22, 1960.

SN 96,871. Osrow Products Company, Inc., Glen Cove, N.Y. Filed May 11, 1960.

HI-LO

For Combination Sponge and Squeegee.
First use Mar. 10, 1960.

Class 30—Crockery, Earthenware, and Porcelain

SN 76,899. Steelmasters, Inc., New York, N.Y. Filed July 1, 1959.



For Chinaware and Porcelain Items—Namely, Plates, Platters, Cups, Saucers, Dishes, Coffee Pots, Tea Pots, Creamers, Sugar Basins, Water Pitchers, Milk Jugs, Sauce Boats, Mustard Pots, Marmalade and Jelly Jars, Egg Cups, Salad Bowls, Cookie Jars, Soup Bowls, Tureens, Casseroles, Chafing Dishes, Relish Dishes and Vegetable Dishes.
First use May 25, 1959.

Class 31—Filters and Refrigerators

SN 87,009. Robert Bosch Gesellschaft mit beschränkter Haftung, Stuttgart, Germany. Filed Nov. 4, 1959.

BOSCH
GERMANY

Priority claimed under Sec. 44(d) on German application filed June 13, 1959; Reg. No. 740,426, dated Sept. 22, 1960. Applicant disclaims the word "Germany" apart from the mark as shown. Owner of U.S. Reg. Nos. 627,382, 634,826, and others.
For Refrigerators, Freezers, Refrigerating Units, Condensing Units, Parts of the Said Goods.

Class 32—Furniture and Upholstery

SN 83,244. Sealy, Incorporated, Chicago, Ill. Filed Oct. 14, 1959.

EDGE GARD

For Spring Assemblies for Mattresses.
First use June 15, 1959.

SN 97,055. Hooker Furniture Corporation, Martinsville, Va. Filed May 13, 1960.

TOPIC

For Bedroom Furniture, Dining Room Furniture and Occasional Furniture.
First use Oct. 25, 1957.

SN 97,056. Hooker Furniture Corporation, Martinsville, Va. Filed May 13, 1960.

ADVENT

For Bedroom Furniture, Dining Room Furniture and Occasional Furniture.
First use Jan. 4, 1960.

SN 97,585. Helen Stevens, New York, N.Y. Filed May 20, 1960.

FOOT LOOSE AND FANCY FREE

For Blanket Support for Beds.
First use May 9, 1960.

SN 98,070. Ebsco Industries, Inc., d.b.a. Vulcan Industries, Birmingham, Ala. Filed May 31, 1960.



Owner of Reg. No. 552,753.
For Point of Purchase Display Racks for Merchandise.
First use May 6, 1960.

SN 98,444. Anthony J. Cornetta, Baltimore, Md. Filed June 6, 1960.



For Cases, Platforms and Bases of Various Shapes for Displaying Merchandise and Wares.
First use May 16, 1960.

SN 101,339. A. D. Radinsky & Sons, Denver, Colo. Filed July 22, 1960.

Leisurest

For Mattresses and Box Springs.
First use June 15, 1960.

SN 101,536. Arrow Metal Products Corp., Haskell, N.J. Filed July 27, 1960.

Spacesetter

For Adjustable Metal Shelving.
First use July 8, 1960.

SN 101,856. The Englander Company, Inc., Chicago, Ill. Filed Aug. 2, 1960.

Air-Support

For Mattresses and Box Springs.
First use May 6, 1960.

SN 101,857. The Englander Company, Inc., Chicago, Ill. Filed Aug. 2, 1960.

AIR-SMOOTH

For Mattresses and Box Springs.
First use Mar. 24, 1960.

Class 33 — Glassware

SN 80,053. Carbone, Incorporated, Boston, Mass. Filed Aug. 24, 1959.

CRINKLE GLASS

For Glassware Including Cups, Pitchers, Mugs, Bowls, Plates, Tumblers, Saucers, Cocktail Shakers, Decanters, Dishes, Bottles, Trays, Platters, Flasks, Vases, and Candle Chimneys.
First use on or about Oct. 31, 1946.

Class 34 — Heating, Lighting, and Ventilating Apparatus

SN 99,255. The Roberts Co., City of Industry, Calif. Filed June 17, 1960.

ZEPHYR

For Kitchen Range Hoods.
First use March 1960.

SN 101,093. General Electric Company, Schenectady, N.Y. Filed July 19, 1960.

PARTIO CART

For Portable Outdoor Cooking Unit.
First use Apr. 20, 1960.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 88,408. Mercantile Stores Company, Inc., Wilmington, Del. Filed Jan. 4, 1960.

Cromwell

For Garden Hose.
First use on or about Feb. 24, 1959.

SN 102,527. The Abel Corporation, Columbus, Ohio. Filed Aug. 12, 1960.

GOLDEN FALCON

Owner of Reg. Nos. 693,860 and 693,862.
For Automobile Tires and Tubes.
First use Feb. 23, 1959.

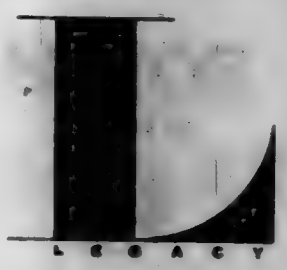
Class 36 — Musical Instruments and Supplies

SN 92,129. Lee L. Von Gunten, New York, N.Y. Filed Mar. 3, 1960.

ELECTRACHORD

For Electrically Operated Pianos and Components for Electrically Operated Pianos.
First use on or about Jan. 1, 1955.

SN 96,674. Columbia Broadcasting System, Inc., Bridgeport, Conn. Filed May 9, 1960.



For Grooved Phonograph Records.
First use Mar. 24, 1960.

SN 100,832. Buckeye Recording Company, Canton, Ohio. Filed July 14, 1960.

Buckeye

For Phonograph Records.
First use Apr. 1, 1960.

SN 100,860. Parkway Records, Inc., Philadelphia, Pa. Filed July 14, 1960.

PARKWAY

For Grooved Phonograph Records.
First use Dec. 11, 1958.

SN 101,070. Rico Products, Hollywood, Calif. Filed June 27, 1960.

RICO

For Reeds, Mutes, Mouthpieces, and Other Accessories and Supplies for Musical Instruments.
First use prior to July 1940.

Class 37—Paper and Stationery

SN 60,250. Plastic Textiles Accessories Limited, Blackburn, England. Filed Oct. 7, 1958.

NETLON

Owner of British Reg. Nos. 776,537 and 776,538, dated Apr. 17, 1958.

For Wrapping and Packaging Material Made Wholly or Principally of Plastics; Wrapping and Packaging Material, Including Reinforcing Interlayers, Made Wholly or Principally of Plastics; and Paper Laminates Including Reinforcing Interlayers Made Wholly or Principally of Plastics.

SN 62,633. Tel-O-Gift Service Co., Inc., d.b.a. Tel-O-Gift Service Co., San Francisco, Calif. Filed Nov. 17, 1958.

TEL-O-GIFT

For Gift Certificates for Telephone Calls.
First use Nov. 4, 1958.

SN 71,895. Sondon Systems Corporation, Rutherford, N.J. Filed Apr. 20, 1959.

AMBI-DEX

For Metal Index Tabs.
First use Feb. 12, 1959.

SN 77,940. The National Exchange Club, Toledo, Ohio. Filed July 17, 1959.



Owner of Reg. Nos. 159,045, 572,697, and others.

For Guest Registers, Book Binders, Certificate Forms, Letterheads and Envelopes, Mailing Labels, and Business Forms.

First use Nov. 7, 1930, on letterheads and envelopes.

SN 85,403. St. Regis Paper Company, New York, N.Y. Filed Nov. 16, 1959.



Applicant disclaims exclusive rights in the terms "Liner-board" and "Thrives on Dampness" apart from the mark as shown, without prejudice to any rights of applicant thereto at common law or under other statutes, United States or foreign. Owner of Reg. Nos. 377,917, 525,869, and others.

For Paperboard.

First use on or about Oct. 23, 1959; in or about the first of the year 1899 as to "St. Regis"; on or about May 22, 1959, as to "Seminole Cypress."

SN 86,316. Orchard Paper Co., St. Louis, Mo. Filed Nov. 30, 1959.

RAPIT-SEAL

For Cohesive, Latex Coated Wrapping Paper Adapted for Cold-Sealing.

First use Oct. 29, 1959.

SN 88,086. Premoid Corporation, West Springfield, Mass. Filed Dec. 28, 1959.

PREMOID ENGINEERED PAPERS

The term "Papers" is disclaimed. Owner of Reg. No. 255,362.

For Resin or Latex Saturated and/or Impregnated Paper.

First use Nov. 20, 1959.

SN 89,849. Hamac A.G., Zug, Switzerland. Filed Jan. 28, 1960.

CONTIMAC

Priority claimed under Sec. 44(d) on Swiss application filed Nov. 27, 1959; Reg. No. 178,883, dated Feb. 16, 1960.

For Wrapping and Packaging Materials Composed of Paper, Cardboard, Plastics, and Laminations Thereof, Sold in the Form of Sheets and Tubes.

SN 95,172. Ink-Away, Woodbridge, N.J. Filed Apr. 15, 1960.

INK-AWAY

For Kit Consisting of Ball Point Pens and Refills Therefor, and Ink Eradicator.

First use Mar. 18, 1960.

SN 99,169. The Paterson Parchment Paper Company, Bristol, Pa. Filed June 16, 1960.



The drawing is lined for shading only.

For Custom Made Paper Used in Industry—Namely, Saturating Paper, Overlay Paper, Absorbent Paper, Protective Paper and the Like; Also Popcorn Bags.

First use Sept. 28, 1959.

SN 99,619. The Joseph Dixon Crucible Company, d.b.a. The American Crayon Company, Jersey City, N.J. Filed June 24, 1960.

QUIKS

For Layout Sticks.
First use Oct. 7, 1959.

SN 103,107. Crocker, Burbank Papers Inc., Fitchburg, Mass. Filed Aug. 22, 1960.

WEBFLEX

For Book Papers.
First use Aug. 8, 1960.

SN 103,235. Weber Lithographing Company, Chicago, Ill. Filed Aug. 22, 1960.

THE CROSSROADS

For Place Mats.
First use Mar. 18, 1960.

Class 38 — Prints and Publications

SN 77,945. The National Exchange Club, Toledo, Ohio. Filed July 17, 1959.

UNITY FOR SERVICE · NATIONAL EXCHANGE CLUB

Owner of Reg. Nos. 159,045, 572,697, and others.
For Song Books, Plaques, Foil Seals, Decalcomania Emblems, Catalog Sheets, and Price Lists.
First use June 10, 1949, on decalcomania emblems.

SN 87,514. The Southard Company, Columbus, Ohio. Filed Dec. 17, 1959.

SOUTHCO

For Calendars.
First use January 1952.

SN 93,487. Beginner Books, Inc., New York, N.Y. Filed Mar. 23, 1960.

I CAN READ IT ALL BY MYSELF
Beginner Books

No claim of exclusive right is made to "Beginner Books" as used on books.
For Books Published From Time to Time in Series.
First use Mar. 1, 1960.

SN 97,240. Norcross, Inc., New York, N.Y. Filed May 16, 1960.

Owner of Reg. No. 659,843.
For Greeting Cards and Greeting Card Folders.
First use July 15, 1956.

SN 97,803. Allied Decals, Inc., Cleveland, Ohio. Filed May 25, 1960.

DRI-APPLI

For Decals.
First use Mar. 15, 1960.

SN 97,994. Engineers Joint Council, Inc., New York, N.Y. Filed May 27, 1960.

Engineer

For Newspaper Published Quarterly and Distributed to Member Engineers.
First use Mar. 1, 1960.

SN 98,811. Norcross, Inc., New York, N.Y. Filed June 10, 1960.

NUFRUM

For Greeting Cards.
First use Aug. 5, 1959.

SN 98,949. Transpatent G.m.b.H., Duesseldorf, Germany. Filed June 13, 1960.

TRANSPATENT

For Periodical.
First use November 1949; in commerce November 1949.

SN 98,988. Fox River Paper Corporation, Appleton, Wis. Filed June 14, 1960.

TEMPLA-KIT

For Printed Planning Forms and Guides Organized as a Kit for Use in the Printing Trades.
First use Nov. 14, 1949.

SN 99,040. The Bragley Publishing Corporation, New York, N.Y. Filed June 15, 1960.

THE M REPORT

For Weekly Digest of Marketing News.
First use Apr. 22, 1960.

Class 39 — Clothing

SN 48,792. Rose Marie Reid, Los Angeles, Calif. Filed Mar. 31, 1958.

YOUR
– Rose
– Marie
– Reid
PUTS EVERY
INCH YOU
–
OVER IN
–
JUST THE
– RIGHT PLACES

The mark consists in part of the name of a particular living individual whose consent is of record. Owner of Reg. No. 551,238.
For Women's Swim Suits.
First use on or about Feb. 12, 1958.

SN 73,456. Carol B. Sullivan, d.b.a. Lynn Carol Creations, New York, N.Y. Filed May 11, 1959.

SCAPOVER

For Combined Scarf, Cap and Pullover.
First use Apr. 14, 1959.

SN 77,939. The National Exchange Club, Toledo, Ohio. Filed July 17, 1959.

UNITY FOR SERVICE · NATIONAL EXCHANGE CLUB ·

Owner of Reg. Nos. 159,045, 572,697, and others.
For Polo Shirts, Sport Jackets, T-Shirts, Ties, and Embroidered Emblems.
First use Nov. 11, 1953, on T-shirts.

SN 82,330. Craddock-Terry Shoe Corporation, Lynchburg, Va. Filed Sept. 29, 1959.

WHITE WINGS

For Women's Shoes.
First use Aug. 27, 1959.

SN 88,246. Mine Safety Appliances Company, Pittsburgh, Pa. Filed Dec. 30, 1959.

FIXED-CROWN

For Suspensions for Protective Helmets, Hats, and Caps of All Kinds.
First use Nov. 18, 1958.

SN 88,900. Diva—Fabbrica Cravatte e Tessuti per Cravatte S.p.A., Milan, Italy. Filed Jan. 13, 1960.

Diva

Owner of Italian Reg. No. 50,299, dated Feb. 7, 1935.
For Neckties.
First use March 1922; in commerce January 1948.

SN 89,304. Some's Uniforms, Inc., Paramus, N.J. Filed Jan. 19, 1960.

Line-O-Jac

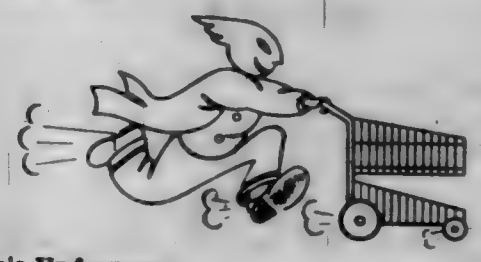
For Uniform Jackets for Men.
First use Nov. 9, 1959.

SN 89,909. Emkay Sons & Company Limited, London, England. Filed Jan. 29, 1960.

MEKAY

Owner of British Reg. No. 643,835, dated Jan. 17, 1946.
For Shirts, Collars, Pyjamas, Ties, Underwear, Suits, Boots, and Shoes, Slacks, Socks, Jeans, Jerseys, Cardigans, Blouses and Hats.

SN 90,115. Speedy-Shopper Sales Corp., Greensboro, N.C. Filed Feb. 1, 1960.



For Men's Underwear.
First use Sept. 22, 1959.

SN 90,805. Adastra (Glenny & Hartley) Ltd., London, England. Filed Feb. 12, 1960.

Adastra

Owner of British Reg. No. 636,018, dated Mar. 23, 1945.
For Jackets, Waistcoats, and Coats Made of Gabardine, Wool, and Suede Leather.

SN 90,806. Adastra (Glenny & Hartley) Ltd., London, England. Filed Feb. 12, 1960.

ADASTRA

Owner of British Reg. Nos. 381,408 and 618,346, dated Jan. 10, 1918 and Mar. 30, 1942, respectively.
For Jackets, Waistcoats, and Coats Made of Gabardine, Wool, and Suede Leather.

SN 92,931. Singing Needles, Inc., Leola, Pa. Filed Mar. 15, 1960.

ADJUST O MAGIC

For Slips for Ladies, Misses and Young Girls.
First use June 1953.

SN 93,531. J. M. McDonald Co., Hastings, Nebr. Filed Mar. 23, 1960.

TWINKLE-DON

For Infants' Wear—Namely, Gowns, Kimonos, Underwear, and Sleepwear Sets.
First use March 1957.

SN 94,461. Burkey Underwear Company, Inc., Hamburg, Pa. Filed Apr. 6, 1960.

Bürgi

The English equivalent of "Bürgi" is "Burkey." Owner of Reg. No. 623,118.
For Undergarments—Namely, Undershorts, Undershirts, T-Shirts.
First use in September 1959.

SN 94,682. Niptal, Inc., Mill Valley, Calif. Filed Apr. 8, 1960.

NIPTAL

Owner of Reg. No. 695,482.
For Ladies' Stoles and Scarfs.
First use Mar. 7, 1960.

SN 94,867. Ullian & Karofsky, Inc., Boston, Mass. Filed Apr. 18, 1960.



ZUIDER ZEE

Exclusive

The word "Exclusive" is disclaimed.
For Women's Coats.
First use on or about Feb. 17, 1959.

SN 95,199. Rich's, Inc., Atlanta, Ga. Filed Apr. 15, 1960.

RICH LASE

Owner of Reg. No. 383,689.
For Women's Hosiery.
First use Oct. 19, 1939.

SN 96,774. The Warner Brothers Company, Bridgeport, Conn. Filed May 9, 1960.

NEW DIMENSION

For Girdles.
First use Mar. 30, 1960.

SN 96,783. S. J. Brouwer Shoe Company, Milwaukee, Wis. Filed May 10, 1960.

GROW-RIGHT

For Shoes of Leather and Cloth and Leather for Boys and Girls.
First use Oct. 1, 1917.

SN 96,959. M. Hoffman & Co., Inc., Boston, Mass. Filed May 12, 1960.

Dubble-Ware

Owner of Reg. No. 547,696.
For Overalls, Dungarees, Jumpers, Pants, Shirts, Long Coats, Jackets, and Aprons for Men, Women and Children.
First use in 1950.

SN 97,407. Murphy, Brill and Sahner, Incorporated, New York, N.Y. Filed May 18, 1960.

FLITE TOP

Owner of Reg. No. 371,941.
For Hosiery, Particularly Men's, Women's and Children's Socks.
First use June 15, 1938.

SN 97,517. Portis Style Industries Co., Chicago, Ill. Filed May 19, 1960.

BON VIVANT

For Men's Hats.
First use May 12, 1960.

SN 97,718. Stuglow, Inc., Hamden, Conn. Filed May 23, 1960.

aqua seal

For Women's and Girls' Bathing Caps.
First use Dec. 12, 1958.

SN 97,791. C. C. Valentine & Company, Inc., New York, N.Y. Filed May 24, 1960.

Helmsman

For Sport Shirts and Other Woven and Knitted Outerwear—Namely, Sweaters, Pullovers, Shirts, Jackets, Coats, Vests and Sport Suits for Men, Youths and Boys.
First use May 11, 1960, on sport shirts.

SN 98,482. Hospitality Uniforms, Inc., New York, N.Y. Filed June 6, 1960.

HOSPITALITY

For School Uniforms, Uniforms for Nurses, Doctors, Beauticians, Waitresses, Maids, Technicians, Bowling.
First use Nov. 4, 1957.

SN 98,567. Barlin Knitting Mills, Inc., Brooklyn, N.Y. Filed June 7, 1960.

PAMELA YOUNG

For Sweaters for Women and Girls.
First use Oct. 15, 1959.

SN 98,600. Style Trends, Inc., New York, N.Y. Filed June 7, 1960.

Chamonix

For Ladies' Coats, With or Without Fur Lining or Collar.
First use May 27, 1960.

SN 98,601. Style Trends, Inc., New York, N.Y. Filed June 7, 1960.

Customite

For Ladies' Coats, With or Without Fur Lining or Collar.
First use May 27, 1960.

SN 98,638. Childers Hosiery Mill, Inc., Hildebran, N.C. Filed June 8, 1960.

MOBIL-SOX

For Hosiery for Men, Boys, Girls, Women, and Misses.
First use Apr. 9, 1960.

SN 98,712. Kops Bros., Inc., New York, N.Y. Filed June 9, 1960.

WAVE-LENGTH

For Foundation Garments.
First use June 2, 1960.

SN 98,737. Pachter Garment Co., Inc., Kansas City, Mo. Filed June 9, 1960.

MARCÉ-ETTE

Owner of Reg. Nos. 509,977, 625,057, and others.
For Ladies' Coats and Suits.
First use Aug. 9, 1957.

SN 98,938. Sero of New Haven, Inc., New Haven, Conn. Filed June 13, 1960.

Hops/Ford

For Dress Shirts.
First use May 1, 1960.

SN 99,066. Maidenform, Inc., New York, N.Y., by change of name from Maiden Form Brassiere Company, Inc., New York, N.Y. Filed June 15, 1960.

FUGUE

For Foundation Garments—Namely, Brassieres.
First use June 6, 1960.

SN 99,133. The Goodyear Tire & Rubber Company, Akron, Ohio. Filed June 16, 1960.

CHROME-FLEX

For Shoe Soling.
First use May 24, 1960.

SN 99,707. Banks Bros. Corp., New York, N.Y. Filed June 27, 1960.

BANKS DUALS

For Shoe Soles.
First use March 1959.

SN 99,776. Pendleton Woolen Mills, Portland, Oreg. Filed June 27, 1960.

TRIPSTER

For Garments for Women Which May Be Worn as Dress-Robes or Coats.
First use May 11, 1960.

SN 99,837. Blue Gem Manufacturing Company, Greensboro, N.C. Filed June 28, 1960.

BIG RED

For Men's and Children's Overalls, Work Shirts, Work Pants, Dungarees; Kiddies' Boxer Longies and Boxer Shorts.
First use June 1939.

SN 99,865. The Mayer Company, Inc., New York, N.Y. Filed June 28, 1960.

La Boheme

Owner of Reg. No. 580,012.
For Women's Hosiery.
First use October 1952.

SN 100,215. A. S. Beck Shoe Corporation, New York, N.Y. Filed July 5, 1960.

TIME TESTED

For Men's and Women's Shoes.
First use May 11, 1939.

SN 100,216. A. S. Beck Shoe Corporation, New York, N.Y. Filed July 5, 1960.

ARCH & DUKE

Owner of Reg. No. 334,149.
For Men's Shoes and Slippers.
First use July 12, 1935.

SN 102,230. Danny Gilbert, New York, N.Y. Filed Aug. 8, 1960.

SOX-GALORE

For Men's, Boys' and Girls' Socks.
First use Apr. 29, 1960.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 67,950. Martin Fabrics Corporation, New York, N.Y. Filed Feb. 18, 1959.

NYLOSUEDE

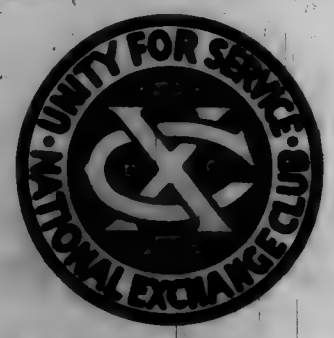
For Velvet in the Piece.
First use Jan. 21, 1959.

SN 71,825. Eastern Foam Fabric Company, Oceanside, N.Y. Filed Apr. 20, 1959.

BRAcushon

For Textile Fabric Which Has a Foam Rubber Backing or Is a Foam Padded Fabric, Used in the Manufacture of Brassieres.
First use Mar. 13, 1959.

SN 77,938. The National Exchange Club, Toledo, Ohio. Filed July 17, 1959.



Owner of Reg. Nos. 159,045, 572,697, and others.
For Cloth Banners, Drapes, and Table Covers.
First use August 1950 on cloth banners.

SN 82,119. Imperial Chemical Industries Limited, London, England. Filed Sept. 25, 1959.

CRIMPLAN

Owner of British Reg. No. 798,257, dated July 14, 1959.
For Full Fashioned, Circular and Flat Warp Knitted Fabrics, Woven and Knitted Dress and Suiting Fabrics, Household Furnishing Fabrics, Upholstery, Carpeting, Curtaining, Bedding and Soft Furnishing Fabrics, and Woven and Knitted Fabrics for Industrial Application.

SN 87,442. M. Lowenstein & Sons, Inc., New York, N.Y. Filed Dec. 16, 1959.

VERSAFAB

For Textile Piece Goods for Making Blouses, Skirts, Dresses, Shirts, Trousers, Household Furnishings and the Like.
First use Mar. 15, 1958.

SN 91,866. Thomas Somerset and Company Limited, Belfast, Northern Ireland. Filed Feb. 29, 1960.

FRAGONARD

Owner of British Reg. No. B754,609, dated June 11, 1956.
For Textile Piece Goods in the Nature of Furnishing Fabrics and Dress Fabrics; Napery Including Tea Towels, Table Cloths, Place Mats, Napkins, Tray Cloths, Trolley Cloths and Pillow Cases, All Being Made of Linen, Cotton, Synthetic Fibers and Mixtures Thereof.

SN 94,101. Slumberest Company, Georgetown, Ky. Filed Mar. 31, 1960.

SLUMBERWARM

Owner of Reg. Nos. 609,879 and 626,285.
For Non-Electric Blankets.
First use Dec. 22, 1959.

SN 97,166. Lanificio Bevilacqua S.p.A., Verano Brianza, Italy. Filed May 16, 1960.



Priority claimed under Sec. 44(d) on Italian application filed Dec. 16, 1959; Reg. No. 148,053, dated Mar. 22, 1960. Applicant disclaims the word "Lanificio" apart from the mark. The drawing is lined for red and black.
For Fabrics of Pure Wool or Mixed With Wool, Which Fabrics Are Used To Manufacture Overcoats, Suits, Jackets, Great Coats, and Other Garments.

SN 98,236. Plymouth Rubber Company, Inc., Canton, Mass. Filed June 1, 1960.

PLYHYDE

Owner of Reg. No. 692,479.
For Vinyl Sheeting and Fabric-Backed Plastic Sheeting for Upholstery Purposes, for Lining Closet Shelves, for Lining Walls, for Facings for Luggage and for Hand Bags, and Like Uses.
First use May 5, 1960.

SN 96,972. Courtaulds, Inc., New York, N.Y. Filed June 14, 1960.

PRESTINIZED

For Textile Fabrics Containing Cotton, Rayon and Other Cellulosic Fibers, Which Have Been Treated To Impart Dimensional Stability and Other Properties, for Use in Wearing Apparel, Household Goods and Industrial Products.
First use May 27, 1960.

SN 100,479. United Merchants and Manufacturers, Inc., New York, N.Y. Filed July 7, 1960.

KITTEN FINISH

Applicant disclaims exclusive right to use of the word "Finish" except as part of the mark as shown.
For Finish With Which the Applicant Has Treated Its Curtain Fabrics Made From Cotton Fibers To Improve the Handle of Said Fabrics.
First use on or about May 12, 1960.

SN 102,127. J. B. Martin Company, Norwich, Conn. Filed Aug. 5, 1960.

INVEL

For Velvet and Pile Fabrics in the Piece, Made of Silk, Wool, Cotton and Synthetic Fibers.
First use October 1949.

Class 43 — Thread and Yarn

SN 56,360. Spinnerin Yarn Co., Inc., South Hackensack, N.J. Filed July 30, 1958.

KNICKER

For Woolen Yarn.
First use Apr. 30, 1958.

SN 101,848. Beaunit Mills, Inc., New York, N.Y. Filed Aug. 2, 1960.

MULTI-EUPIONI

Owner of Reg. Nos. 628,358 and 630,415.
For Rayon Yarn.
First use on or about May 3, 1960.

SN 102,186. Prescott Textile Company, Inc., Worcester, Mass. Filed Aug. 5, 1960.

SPACE-SPUN

For Yarns Made From Synthetic Fibres.
First use on or about Dec. 4, 1958.

Class 46 — Foods and Ingredients of Foods

SN 68,262. Iceland Products, Inc., New York, N.Y. Filed Feb. 24, 1959.



The drawing is lined for red. Owner of Reg. No. 646,582.
For Frozen Fish and Frozen Prepared Fish.
First use Jan. 10, 1959; January 1952 as to "Samband."

SN 74,535. Naamloze Vennootschap Cacaofabriek "de Zaan," Zaandijk, Koog aan de Zaan, Netherlands. Filed May 26, 1959.

DE ZAAN

For Cocoa Powder.
First use Apr. 11, 1911; in commerce 1930.

SN 77,680. Lucky Stores, Inc., San Leandro, Calif. Filed July 14, 1959.

Lucky

For Canned Milk, Canned Coffee, and Peanut Butter.
First use in October 1935.

SN 80,946. George Ash, d.b.a. George Ash Packing Co., Chicago, Ill. Filed Sept. 8, 1959.

REGGIE BRAND

Applicant disclaims the word "Brand" apart from the mark as shown.
For Dressed Beef, Veal, Pork, Lamb, and Poultry.
First use May 6, 1959.

SN 83,125. Red Star Yeast and Products Company, Milwaukee, Wis. Filed Oct. 12, 1959.

NBC 600

For Primary Dried Nutritional Yeast Having a Particular Combination of Certain Vitamin Potencies.
First use Jan. 21, 1946.

SN 84,444. Orchard Park Foods, Inc., Buffalo, N.Y. Filed Nov. 2, 1959.

CHICK-N-LIKE

For Canned Tuna Fish.
First use Oct. 14, 1938.

SN 86,085. Wine & Schuls Distributing Company, Louisville, Ky. Filed Nov. 25, 1959.

JUDY ANN

For Refrigerated Food Specialties—Namely, Gelatin Salads, Vegetable Salads, Cheese and Flavored Cheese Dips, and Corn Meal Mush.
First use June 15, 1953.

SN 89,805. Rudy-Patrick Seed Company, d.b.a. The Albert Dickinson Company, Kansas City, Mo. Filed Jan. 27, 1960.

BUSTER

Owner of Reg. Nos. 291,204, 99,708, and others.
For Unpopped Popcorn.
First use at least as early as August 1951; at least as early as Apr. 1, 1914, as to "Little Buster."

SN 93,796. Fant Milling Company, Sherman, Tex., assignee of Gladiola Biscuit Co., Dallas, Tex. Filed Mar. 28, 1960.

FIRST CHOICE

For Packaged, Ready To Bake Biscuits.
First use Aug. 8, 1959.

SN 93,847. Osaka Kombu Kaiso Kabushiki Kaisha, Nishi-ku, Osaka City, Japan. Filed Mar. 28, 1960.

Owner of Japanese Reg. No. 408,473, dated Feb. 16, 1952.
For Dried Edible Seaweed.

SN 93,961. Abbotts Dairies, Incorporated, Philadelphia, Pa. Filed Mar. 30, 1960.

Jane Logan

For Candy and Ice Cream.
First use about May 1941.

SN 95,280. Hayden Flour Mills, Tempe, Ariz. Filed Apr. 18, 1960.

ROSE

The word "Arizona" is disclaimed apart from the mark.
Owner of Reg. Nos. 555,626 and 686,404.
For Idaho Pinto Beans; Blackeye Peas; Pink Beans, Baby Lima Beans, Large Lima Beans, Calico Lima Beans, Navy (Small White) Beans, Large White Beans, Mexican Red Beans, Red Kidney Beans; Lentils; Green Split Peas, Whole Green Peas; Popcorn; Brown Rice, Long Grain Rice, Short Grain Rice (Blue Rose); Garbanzo Beans; and Yellow Split Peas.
First use Aug. 22, 1954.

SN 95,392. Rosarita Mexican Foods, Inc., Mesa, Ariz. Filed Apr. 19, 1960.

Rosarita

Owner of Reg. Nos. 613,264 and 629,257.
For Canned and Frozen Mexican Type Foods—Namely, Refried Beans; Red Chili Sauce; Enchilada Sauce; Tortillas; Chili Noodles; Taco Filling; Chili Con Carne With Beans; Pinto Beans With Cheese; Beef Tamales; Beef Tacos; Cocktail Tacos; Cheese and Onion Enchiladas; Beef Enchiladas; Enchiladas With Onions and Cheese; Enchiladas and Refried Beans; Enchilada Dinner, Composed of Enchiladas and Refried Beans; Mexican Style Dinner, Composed of Cheese Enchiladas, Refried Beans, Spanish Rice and Tamale; Combination Plate Composed of Cheese Enchiladas, Refried Beans and Beef Tacos; Beef Enchilada Dinner, Composed of Beef Enchilada, Refried Beans, Spanish Rice and Chili Relleno; Mexican Dinner, Composed of Canned Tortillas, Enchilada Sauce, Refried Beans and Taco Filling; Taco Sauce and Hot Sauce.
First use May 15, 1949, on enchilada sauce.

SN 101,410. Levin Bros. Poultry Co., Inc., Wellston, Mo. Filed July 25, 1960.

QUEEN ESTHER

For Dressed Poultry.
First use Sept. 20, 1954.

SN 101,462. Anderson & Ricketts, Harrisonville, Mo. Filed July 26, 1960.

ELK FORK

For Barbecue Sauce.
First use February 1960.

SN 101,665. Peter Condakes Company, d.b.a. Harvest Queen Packing Co., Boston, Mass. Filed July 29, 1960.

HARVEST QUEEN

For Nuts in the Shell.
First use Oct. 1, 1951.

SN 101,867. Hardy Salt Company, St. Louis, Mo. Filed Aug. 2, 1960.

FLO-MATIC

For Salt Particularly Suitable for Use in Automatic Food Manufacturing Equipment.
First use June 13, 1960.

SN 101,898. J. R. Short Milling Company, Chicago, Ill. Filed Aug. 2, 1960.

PROTASE

For Preparation Used as an Ingredient of Bread or Other Dough Products and as an Improver and for the Purpose of Providing a Stable Proteinase and Amylase Supplement to the Dough.
First use July 15, 1960.

Class 48 — Malt Beverages and Liquors

SN 88,199. Amstel Brouwerij N.V., Amsterdam, Netherlands. Filed Dec. 30, 1959.

AMSTEL

Owner of Dutch Reg. No. 15,197, dated Jan. 12, 1901; and U.S. Reg. No. 660,462.
For Beer.

Class 49 — Distilled Alcoholic Liquors

SN 78,590. Klosterbrennerei A.G., Erste Badische Wein- und Edelbranntweinbrennerei, Emmendingen, Germany. Filed June 15, 1959.

KLOSTERHÄGER

Owner of German Reg. No. 276,031, dated Nov. 26, 1921.
For Brandies.

SN 78,594. Klosterbrennerei A.G., Erste Badische Wein- und Edelbranntweinbrennerei, Emmendingen, Germany. Filed June 15, 1959.

KLOSTERJÄGER

Owner of German Reg. No. 489,866, dated Dec. 15, 1936.
For Brandies.

SN 97,290. Continental Distilling Corporation, Philadelphia, Pa. Filed May 17, 1960.

KING ALBERT XII

For Whiskey.
First use Feb. 3, 1960.

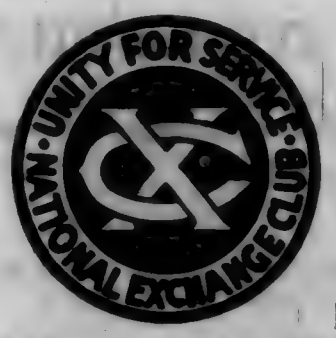
Class 50 — Merchandise Not Otherwise Classified

SN 76,008. Morgan Adhesives Company, Stow, Ohio. Filed June 18, 1959.

maglo

The drawing is lined for red.
For Radiant Colored Film With Pressure-Sensitive Adhesive on One Side Protected by One or Two Protective Papers and Used for the Protection, Identification and Decoration of a Variety of Manufactured Goods.
First use June 2, 1959.

SN 77,937. The National Exchange Club, Toledo, Ohio. Filed July 17, 1959.



Owner of Reg. Nos. 159,045, 572,697, and others.
For Road Signs and Panels, Statuettes, Printing Plates, Automobile License Emblems, and Identification Badges.
First use July 24, 1953, on automobile license emblems.

SN 83,763. Alter Rubber Corporation, New York, N.Y. Filed Oct. 22, 1959.

Bartolini

For Statues and Statuettes.
First use on or about Sept. 24, 1959.

SN 88,384. Parti-King, Inc., West Warwick, R.I. Filed Dec. 31, 1959.

PARTI-KING

For Party Goods and Novelties—Namely, Party Hats, Place Mats, Trays, Masks, Costumes, Disguises, Horns, Noisemakers, Napkins, Candle Holders, Nut Cups, Gift Packages, Grab Bags, Centerpieces, Snappers, Games, Game Books, Badges, Place Cards, Wall Plaques, Gift Box Tops and Play Food.
First use Oct. 25, 1959.

SN 89,631. M. Greenebaum & Sons, Inc., Baltimore, Md. Filed Jan. 26, 1960.

ALL-AMERICAN

For Trophies and Desk Sets of Bowling Figures Mounted on a Base; Wall Plaque Sport Trophies; Medallions Mounted on a Base and Having a Golfing Figure Thereon; Metal With Ribbon and Track Figure Thereon; and Miniature Football Charms.
First use Jan. 2, 1960.

SN 95,822. Frank M. Schwab, d.b.a. Schwab Advertising System, Iowa City, Iowa. Filed Apr. 18, 1960.

sho-brite ... signs

No claim is made to the word "Signs" as the name of the goods.
For Advertising Signs, Bearing Wording Such as "For Sale," Etc., Made of Metal, Wood or Plastic, or Combinations Thereof.
First use Jan. 26, 1960.

SN 96,768. Union Asbestos & Rubber Company, Chicago, Ill. Filed May 9, 1960.

STURDI-BILT

Owner of Reg. Nos. 557,070 and 627,838.
For Stacker Units for Attachment to Pallets for Stacking the Pallets.
First use Apr. 26, 1960.

SN 100,154. Dale B. Prescott, d.b.a. Prescott Sales Co., Ferndale, Mich. Filed July 1, 1960.

CHICKEN LADDER

For Non-Slip Matting, Particularly To Prevent Workmen From Slipping on Inclined Surfaces and the Like.
First use May 25, 1960.

SN 100,325. H. Wenzel Tent & Duck Co., St. Louis, Mo. Filed July 5, 1960.

ARMOR TOUGH

For Tarpaulins.
First use May 19, 1960.

SN 100,411. American Mat Corporation, Toledo, Ohio. Filed July 7, 1960.

ROYAL GUARDSMAN

For Protective and Cushioning Mats and Rugs Fabricated From Rubber, Rubber Substitutes, and Similar Materials.
First use January 1958.

Class 51 — Cosmetics and Toilet Preparations

SN 95,011. Picaso-Anstalt, Vaduz, Liechtenstein. Filed Apr. 13, 1960.

GESTE FOR MEN

"Geste" is a French word meaning "gesture." Priority claimed under Sec. 44(d) on Liechtenstein Reg. No. 911, dated Dec. 10, 1959. Owner of U.S. Reg. No. 697,184.
For Scented Preparation—Namely, Toilet Water.

SN 95,201. Lois A. Sandahl, executrix of the estate of L. R. Sandahl, deceased, Des Moines, Iowa. Filed Apr. 15, 1960.

Sandahl's

SUR-GROOM

For Hair Dressing.
First use Feb. 23, 1960.

SN 95,244. Harold C. Blankenbiller, d.b.a. House of Hampton, East Hampton, Conn. Filed Apr. 18, 1960.

GOP-TIMISM

For Perfumes, Toilet Water, Colognes, Sachets, Bath Powder, Face Powder, Lipstick, Rouge, Bath Oil, Shampoo and After-Shave Lotion.
First use Mar. 1, 1960.

SN 96,019. Midland Pharmacal Corp., New York, N.Y. Filed Apr. 28, 1960.

SNUG

Owner of Reg. No. 579,541.
For Denture Cleaner.
First use on or about Mar. 1, 1960.

SN 96,162. Mary E. Lynne Wesnink, d.b.a. Mary Lynne, Cleveland, Ohio. Filed Apr. 14, 1960.

TOUCH OF SPRING

For Perfume.
First use about Jan. 1, 1940.

SN 96,163. Mary E. Lynne Wesnink, d.b.a. Mary Lynne, Cleveland, Ohio. Filed Apr. 14, 1960.

"GYPSY VIOLIN"

For Perfume.
First use Dec. 1, 1959.

Class 52 — Detergents and Soaps

SN 78,811. The Paxton Wholesale Grocery Co., Danville, Ill. Filed July 31, 1959.

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For Household Detergents.
First use on or about July 15, 1959.

SN 96,682. The Diversey Corporation, Chicago, Ill. Filed May 9, 1960.

DITON

Owner of Reg. No. 576,696.
For General Cleaner in the Form of a Granular Chlorinated Cleaner With Incidental Water-Softening Properties, Particularly Used for Cleaning Utensils and Equipment Used for Food Processing and Dairy Farm Producing Purposes.
First use Jan. 4, 1960.

SN 96,683. The Diversey Corporation, Chicago, Ill. Filed May 9, 1960.

TIK-ET

For General Cleaner in the Character of a Granular Chemical Product Particularly for Use in Cleaning Machinery and Utensils in the Dairy, Food and Beverage Industries.
First use Jan. 4, 1960.

SN 96,684. The Diversey Corporation, Chicago, Ill. Filed May 9, 1960.

TRIPEL

For Cleaning Compound in Granular Form Having Incidental Water-Softening Properties.
First use Jan. 5, 1960.

SN 100,058. The Savogran Company, Norwood, Mass. Filed June 30, 1960.

JETSOL

For Cleaner for Use as a Step in a Paint Removing Process.
First use June 2, 1960.

SERVICE MARKS

Class 100 — Miscellaneous

SN 66,753. National Bureau for Lathing and Plastering, Inc., Washington, D.C. Filed Mar. 17, 1959.



Applicant disclaims the wording on the drawing, apart from the mark as shown.

For Association Services—Namely, the Promotion of the Interests of Lathers and Plasterers.

First use November 1958.

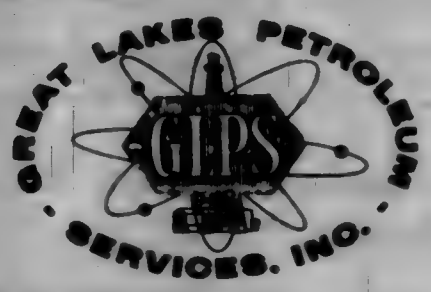
SN 77,084. The Diversey Corporation, Chicago, Ill. Filed July 6, 1959.

D-PLAN

For Sanitation Control Program Service in Connection With Poultry, Egg Breaking, Milk, Canning, Mayonnaise, and Dog Food Industries, in Hospitals and Food Processing Industries.

First use in June 1939.

SN 88,661. Great Lakes Petroleum Services, Inc., Houston, Tex. Filed Oct. 1, 1959.



The drawing is lined for red.

For Various Well Completion Services, Including the Perforating and Radiation Logging of Oil and Gas Wells.

First use May 4, 1956.

SN 94,189. Research Triangle Institute, Durham, N.C. Filed Apr. 1, 1960.

RTI

For Providing Research Services to Foundations, Industries, and Agencies of the Government in Diversified Areas of Physical Sciences, Engineering, Statistics and Economics.

First use Oct. 13, 1959.

Class 101 — Advertising and Business

SN 72,827. Tibor J. Thein, d.b.a. Lib-Re-Search Service, New York, N.Y. Filed Apr. 27, 1959.

LIB-RE-SEARCH

For Educational Services Such as Preparation of Scientific, Literary, Historical Reports and Bibliographies for Others; Abstracting, Reviewing and Translating Articles and Literary Work for Others.

First use Apr. 4, 1958.

Class 106 — Material Treatment

SN 89,691. May Research, Inc., Minneapolis, Minn. Filed Jan. 26, 1960.

MAY-O-LITE

For Application of Low Reflective Coating to Glass, Such as Ophthalmic Glass and the Lenses of Cameras and Other Instruments and the Like.

First use Aug. 1, 1946.

COLLECTIVE MEMBERSHIP MARKS

Class 200

SN 77,121. Marine Rescue Squadron of America, Inc., Savannah Beach, Tybee Island, Ga. Filed July 6, 1959.



For Indicating Membership in Applicant Organization of Marine Rescue Workers.

First use June 1, 1959.

TRADEMARK REGISTRATIONS ISSUED

PRINCIPAL REGISTER

Class 1—Raw or Partly Prepared Materials

709,163. FOSTACRYL. Foster Grant Co., Inc. SN 56,115. Pub. 8–25–59. Filed 7–28–58.

709,164. RESIN-RELEASE N. Specialty Products Company. SN 77,157. Pub. 10–18–60. Filed 7–6–59.

709,165. DURAZONE. Synthron, Inc. SN 83,014. Pub. 10–18–60. Filed 10–9–59.

709,166. REPRESENTATION OF ARABIC SYMBOLS FOR STONE AND WATER. Lake Ontario Portland Cement Company, Limited. SN 84,779. Pub. 10–18–60. Filed 11–6–59.

709,167. TWIN-TINT. Anchor Plastics Company, Inc. SN 90,732. Pub. 10–18–60. Filed 2–11–60.

709,168. 536A. Waukesha Foundry Company. SN 92,834. Pub. 10–18–60. Filed 3–14–60.

709,169. 49'ER. Northrup, King & Co. SN 95,754. Pub. 10–18–60. Filed 4–25–60.

709,170. SUNFORM. Sun Chemical Corporation. SN 97,888. Pub. 10–18–60. Filed 5–25–60.

Class 2—Receptacles

709,171. RED CAP ON METAL BIN. Columbian Steel Tank Company. SN 82,396. Pub. 10–18–60. Filed 9–30–59.

709,172. CRINKALUME. Oldmill Paper Products Corp. SN 83,178. Pub. 10–18–60. Filed 10–13–59.

709,173. TRUBRYTE. Jacob A. Saffir. SN 85,782. Pub. 10–18–60. Filed 11–20–59.

709,174. MR. DUDLEY. Dudley Kebow, Inc. SN 93,508. Pub. 10–18–60. Filed 3–28–60.

709,175. THRU-LINER AND DESIGN. Foster Freight Lines, Inc. SN 94,371. Pub. 10–18–60. Filed 4–4–60.

709,176. CLEAN-PAK AND DESIGN. Poly-Pak Corporation of America. SN 94,444. Pub. 10–18–60. Filed 3–22–60.

709,177. PAR-FAY. Plastic Specialties, Inc. SN 94,610. Pub. 10–18–60. Filed 4–7–60.

709,178. BOND-WELD ETC. AND DESIGN. Chicago Transparent, Inc. SN 94,651. Pub. 10–18–60. Filed 4–8–60.

709,179. GARNER WARE AND DESIGN. Garner & Co., Inc., d.b.a. Garner & Co. SN 95,072. Pub. 10–18–60. Filed 4–14–60.

709,180. MADISON MOSAIC AND DESIGN. Madison Glass Specialty Co. Inc. CONSOLIDATED CERTIFICATE. SN 90,263, pub. 10–11–60, filed 2–26–60, Cl. 2; SN 49,001, pub. 10–11–60, filed 4–3–58, Cl. 8.

Class 5—Adhesives

709,181. CHEMBOND. H. B. Egan Manufacturing Company. SN 97,186. Pub. 10–18–60. Filed 5–16–60.

709,182. BLUE CHIP. General Gummed Products, Inc. SN 97,197. Pub. 10–18–60. Filed 5–16–60.

709,183. LOCKIT. General Gummed Products, Inc. SN 97,198. Pub. 10–18–60. Filed 5–16–60.

709,184. CYCLONE. General Gummed Products, Inc. SN 97,199. Pub. 10–18–60. Filed 5–16–60.

Class 6—Chemicals and Chemical Compositions

709,185. HEMANTIGEN. Knickerbocker Biologicals, Inc. SN 46,554. Pub. 10–14–58. Filed 2–25–58.

709,186. CHOLES-TROL. Dade Reagents, Inc. SN 64,620. Pub. 10–18–60. Filed 12–19–58.

709,187. LUCKY. Lucky Stores, Inc. SN 77,679. Pub. 10–18–60. Filed 7–14–59.

709,188. ALPHALLOY. Alloy Surfaces Company, Inc. SN 83,932. Pub. 10–18–60. Filed 10–26–59.

709,189. CS-137. National Lead Company. SN 84,332. Pub. 10–18–60. Filed 10–30–59.

709,190. JAPANESE CHARACTERS. Kabushiki Kaisha Tokyo Kokando. SN 87,235. Pub. 10–18–60. Filed 12–14–59.

709,191. SEQLENE. Pfanstiehl Laboratories, Inc. SN 89,020. Pub. 10–18–60. Filed 1–14–60.

709,192. NOCRAB. Amchem Products, Inc. SN 91,316. Pub. 10–18–60. Filed 2–23–60.

709,193. KODE. The O. M. Scott & Sons Company. SN 94,427. Pub. 10–18–60. Filed 4–5–60.

709,194. G.H.I. Ernest W. Ekstrand, d.b.a. Good Health Institute. SN 94,472. Pub. 10–18–60. Filed 4–6–60.

709,195. DUROGNOST. Gebrüder Heyl Chemische Fabrik Kommanditgesellschaft. SN 95,075. Pub. 10–18–60. Filed 4–14–60.

709,196. EYES RIGHT. International Latex Corporation. SN 95,441. Pub. 10–18–60. Filed 4–20–60.

709,197. HOLLOW HEART. Osmose Wood Preserving Co. of America, Inc. SN 97,243. Pub. 10–18–60. Filed 5–16–60.

709,198. WARCOSET. Sun Chemical Corporation. SN 97,889. Pub. 10–18–60. Filed 5–25–60.

Class 8—Smokers' Articles, Not Including Tobacco Products

709,180. CONSOLIDATED CERTIFICATE. See Class 2.

Class 10—Fertilizers

709,199. TERRAGRO. Zonolite Company. SN 46,265. Pub. 10–18–60. Filed 2–20–58.

709,200. BI-O-KEM. First, Inc. SN 53,603. Pub. 1–20–59. Filed 6–16–58.

709,201. ALKI-MEM. International Minerals & Chemical Corporation. SN 85,746. Pub. 10–18–60. Filed 11–20–59.

Class 11—Inks and Inking Materials

709,202. MAXAM. Maxam, Inc. SN 85,361. Pub. 10–18–60. Filed 11–16–59.

Class 12—Construction Materials

709,203. MODIFIED ERECTICON. The Charles E. Schuler Engineering Company. SN 61,932. Pub. 10–6–59. Filed 11–4–58.

709,204. VITRO CHIP. Vitron Manufacturing Co., Inc. d.b.a. Vitron Manufacturing Company, Inc. SN 71,918. Pub. 10–18–60. Filed 4–20–59.

709,205. VITRO TILE. Vitron Manufacturing Co., Inc. d.b.a. Vitron Manufacturing Company, Inc. SN 71,919. Pub. 10–18–60. Filed 4–20–59.

709,206. VITRO SPAN. Vitron Manufacturing Co., Inc. d.b.a. Vitron Manufacturing Company, Inc. SN 71,920. Pub. 10–18–60. Filed 4–20–59.

709,207. REFCON. United States Steel Corporation. SN 85,262. Pub. 10–18–60. Filed 11–13–59.

709,208. BAR-FIRE. Allied Chemical Corporation. SN 87,614. Pub. 10–18–60. Filed 12–21–59.

709,209. AC GLAZE AND DESIGN. The Burns & Russell Company of Baltimore City. SN 91,755. Pub. 10–18–60. Filed 2–29–60.

709,210. B. Bethlehem Steel Company. SN 92,434. Pub. 10–18–60. Filed 3–9–60.

709,211. SOLANA BRAND CEDAR AND DESIGN. Solana Cedar & Milling Co. SN 93,464. Pub. 10–18–60. Filed 3–22–60.

709,212. COOL RAISE AND DESIGN. The Rosenblum Brothers Company. SN 94,613. Pub. 10–18–60. Filed 4–7–60.

709,213. AERO VAN. Aeronca Manufacturing Corporation. SN 95,671. Pub. 10–18–60. Filed 4–25–60.

709,214. POLEX. Southwestern Plastics, Inc. SN 96,274. Pub. 10–18–60. Filed 5–2–60.

709,215. GLC AND DESIGN. The Greenheart Lumber Company, Inc. SN 97,551. Pub. 10–18–60. Filed 5–20–60.

709,216. THERMO-SHEATH. Globe Roofing Products Co., Inc. SN 97,647. Pub. 10–18–60. Filed 5–23–60.

709,217. SI-DURA. Aluma Kraft Manufacturing Co. SN 97,804. Pub. 10–18–60. Filed 5–25–60.

709,218. FLORENTINE. National Gypsum Company. SN 98,018. Pub. 10–18–60. Filed 5–27–60.

709,219. WESTVACO. West Virginia Pulp and Paper Company. SN 98,251. Pub. 10–18–60. Filed 6–1–60.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

709,220. FRANKLIN ETC. AND DESIGN. Franklin Brass Manufacturing Co. SN 86,275. Pub. 10–18–60. Filed 11–30–59.

709,221. DESIGN OF GROTESQUE HUMAN. Maurice Stein, d.b.a. Master Supply. SN 87,289. Pub. 10–18–60. Filed 12–14–59.

709,222. WEHAG AND DESIGN. Fa. Wilh. Engstfeld. SN 94,443. Pub. 10–18–60. Filed 3–22–60.

709,223. RELOK. Lehigh Metal Products Corporation. SN 94,779. Pub. 10–18–60. Filed 4–11–60.

709,224. PARABAL. Woodward-Wanger Company. SN 94,864. Pub. 10–18–60. Filed 4–11–60.

Class 14—Metals and Metal Castings and Forgings

709,225. BBCC AND DESIGN. Bridgeport Brass Company, assignee of The Bearing Bronze Casting Company. SN 80,058. Pub. 11–26–57. Filed 5–15–57.

709,226. BEAUTILITY. Rigidized Metals Corporation. SN 50,833. Pub. 12–23–58. Filed 5–1–58.

709,227. MONO-SHELL. Misco P. C., Inc., assignee of Consolidated Foundries and Mfg. Corp. SN 70,279. Pub. 9–22–59. Filed 3–26–59.

709,228. ROLL TOP. Allied Research Products, Incorporated. SN 81,223. Pub. 10–18–60. Filed 9–14–59.

709,229. GRPC AND DESIGN OF A TREE. Grand Rapids Plating Co. Inc. SN 84,138. Pub. 10–18–60. Filed 10–28–59.

Class 15—Oils and Greases

709,230. AIR BP AND DESIGN. The British Petroleum Company Limited. SN 68,109. Pub. 10–18–60. Filed 2–20–59.

Class 16—Protective and Decorative Coatings

709,231. PAINT MASTERS. Lasting Products Company. SN 51,727. Pub. 9–23–58. Filed 5–15–58.

709,232. SEAL LUXE. Seal Rite Caulking Company, Inc. SN 86,837. Pub. 10–18–60. Filed 12–7–59.

709,233. FILOPLATED. Filon Plastics Corporation. SN 87,047. Pub. 10–18–60. Filed 12–10–59.

709,234. KOLD-LUBE. The H. A. Montgomery Company. SN 89,012. Pub. 10–18–60. Filed 1–14–60.

709,235. VAL-BRITE. The Valspar Corporation. SN 92,335. Pub. 10–18–60. Filed 3–7–60.

709,236. WHITE 4 EVR. The Valspar Corporation. SN 92,336. Pub. 10–18–60. Filed 3–7–60.

709,237. STA-GLASS ETC. AND DESIGN. Porce-Alume Co. SN 93,346. Pub. 10–18–60. Filed 3–21–60.

Class 17—Tobacco Products

709,238. ASCOT. Continental Tobacco Company. SN 78,182. Pub. 10–18–60. Filed 7–22–59.

709,239. UNION STANDARD. Liggett & Myers Tobacco Company. SN 95,835. Pub. 10–18–60. Filed 4–26–60.

709,240. STAR. Liggett & Myers Tobacco Company. SN 95,836. Pub. 10–18–60. Filed 4–26–60.

Class 18—Medicines and Pharmaceutical Preparations

709,241. MADECASSOL. Laboratoires Laroche Navarron. SN 70,374. Pub. 10–18–60. Filed 3–27–59.

709,242. ETHNINE. The Purdue Frederick Company, assignee of The G. F. Harvey Company, Inc. SN 78,449 Pub. 10–18–60. Filed 7–27–59.

709,243. NEO-DILODERM. Schering Corporation. SN 82,149. Pub. 10–18–60. Filed 9–25–59.

709,244. PROXOL. The Upjohn Company. SN 85,437. Pub. 10–18–60. Filed 11–16–59.

709,245. HEXEF. The Upjohn Company. SN 85,632. Pub. 10–18–60. Filed 11–18–59.

709,246. ORANABOL. Società Farmaceutici Italia. SN 88,434. Pub. 10–18–60. Filed 1–4–60.

709,247. ROCKET-N-EMA. Helps To Health, Inc. SN 88,914. Pub. 10–18–60. Filed 1–13–60.

709,248. PRO-LONG. B & G Pharmaceutical Co., Inc. SN 89,994. Pub. 6–21–60. Filed 2–1–60.

709,249. SAY-AH. Chesebrough-Pond's Inc. SN 94,144. Pub. 10–18–60. Filed 4–1–60.

709,250. TRISULDONE. The G. F. Harvey Company, Inc. SN 95,167. Pub. 10–18–60. Filed 4–15–60.

709,251. ACNE-DRI. McKesson & Robbins, Incorporated. SN 96,866. Pub. 10–18–60. Filed 5–11–60.

709,252. PAINQUELLIZER. American Home Products Corporation., d.b.a. Whitehall Laboratories. SN 96,912. Pub. 10–18–60. Filed 5–12–60.

709,253. CORPASTIN. American Scientific Laboratories, Inc. SN 96,915. Pub. 10–18–60. Filed 5–12–60.

709,254. AVAZYME. The Denver Chemical Manufacturing Company, d.b.a. Wampole Laboratories. SN 97,383. Pub. 10–18–60. Filed 5–18–60.

709,255. MOLIDEX. Don Baxter, Inc. SN 97,539. Pub. 10–18–60. Filed 5–20–60.

709,256. MEDI-QUIK. Lehn & Fink Products Corporation. SN 97,560. Pub. 10–18–60. Filed 5–25–60.

709,257. OPTIVIMS. Franklin L. Morris, d.b.a. Frank Morris. SN 97,682. Pub. 10–18–60. Filed 5–23–60.

709,258. MAGNIMILK. The Purdue Frederick Company. SN 97,697. Pub. 10–18–60. Filed 5–23–60.

709,259. ISOGESIC. Arnar-Stone Laboratories, Inc. SN 97,806. Pub. 10–18–60. Filed 5–25–60.

709,260. ROCOAT. Hoffmann-La Roche Inc. SN 97,937. Pub. 10–18–60. Filed 5–26–60.

709,261. NORLUTATE. Parke, Davis & Company. SN 98,129. Pub. 10–18–60. Filed 5–31–60.

709,262. ULOZENS. Schenlabs Pharmaceuticals, Inc. SN 98,153. Pub. 10–18–60. Filed 5–31–60.

709,263. BENARIS. Giacomo Bernardi, d.b.a. Benaris. SN 98,187. Pub. 10–18–60. Filed 5–18–60.

709,264. APERENS. Brayten Pharmaceutical Company. SN 98,335. Pub. 10–18–60. Filed 6–3–60.

709,265. 'BENVENUTIN'. Burroughs Wellcome & Co. (U.S.A.) Inc. SN 98,338. Pub. 10–18–60. Filed 6–3–60.

709,266. LINODIL. Sterling Drug Inc. SN 98,682. Pub. 10–18–60. Filed 6–8–60.

709,267. ATHA-SPRAY. Youngs Rubber Corporation. SN 98,829. Pub. 10–18–60. Filed 6–10–60.

709,268. AS ATHA-SPRAY AND DESIGN. Youngs Rubber Corporation. SN 98,830. Pub. 10–18–60. Filed 6–10–60.

Class 19—Vehicles

709,269. CLARK. Clark Equipment Company. SN 72,416. Pub. 10–18–60. Filed 4–28–59.

709,270. FWD AND DESIGN. FWD Corporation. SN 79,230. Pub. 10–18–60. Filed 8–10–59.

709,271. MOTORCRAFT. Ford Motor Company. SN 84,406. Pub. 10–18–60. Filed 11–2–59.

709,272. TOTEALL AND DESIGN. Warren H. Humphrey, d.b.a. W. H. Humphrey Mfg. Co. and as W. H. Humphrey Co. SN 87,231. Pub. 10–18–60. Filed 12–14–59.

709,273. COR-MAT. Globe Rubber Products Corp. SN 88,316. Pub. 10–18–60. Filed 12–31–59.

709,274. FLYING DUTCHMAN. Borneo Sumatra Trading Company, Inc. SN 97,168. Pub. 10–18–60. Filed 5–16–60.

709,275. V DESIGN. Wagner Electric Corporation. SN 97,271. Pub. 10–18–60. Filed 5–16–60.

709,276. SAIL KING AND DESIGN. Viking Reinforced Plastic, Inc. SN 97,351. Pub. 10–18–60. Filed 5–17–60.

Class 21—Electrical Apparatus, Machines, and Supplies

709,277. IPC AND DESIGN. Amphenol Electronics Corporation. SN 44,794. Pub. 7–21–59. Filed 1–28–58.

709,278. VECTOR. Vector Manufacturing Company. SN 45,502. Pub. 8–9–60. Filed 2–7–58.

709,279. CONDECO. Control Design and Fabricate Inc. SN 59,887. Pub. 10–18–60. Filed 10–1–58.

709,280. POWERMASTER. Communication Products Company, Inc. SN 65,824. Pub. 10–18–60. Filed 1–14–59.

709,281. ECON-O-MATIC. Sel-Set Machinery Corporation. SN 68,175. Pub. 10–18–60. Filed 2–20–59.

709,282. DYNACLAD. The Electric Storage Battery Company, assignee of McGraw-Edison Company. SN 77,882. Pub. 12–15–59. Filed 7–13–59.

709,283. ALJEK. Allen West & Company Limited. SN 80,033. Pub. 10–18–60. Filed 8–24–59.

709,284. ZISTA FLASH. Julian A. McDermott Corporation. SN 82,587. Pub. 10–18–60. Filed 10–2–59.

709,285. PINETREE. Matsushita Denki Sangyo Kabushiki Kaisha. SN 84,921. Pub. 3–29–60. Filed 11–9–59.

709,286. BEYER. Gotham Audio Development Corp. SN 88,124. Pub. 10–18–60. Filed 12–10–59.

709,287. SOUND SPOT. Electro-Voice, Incorporated. SN 88,741. Pub. 10–18–60. Filed 1–11–60.

709,288. T-BIRD. Technical Appliance Corporation. SN 91,037. Pub. 10–18–60. Filed 2–16–60.

709,289. T DESIGN. Tungsten Contact Manufacturing Company, Inc. SN 92,128. Pub. 10–18–60. Filed 3–3–60.

709,290. DOKORDER. Denki Onkyo Kabushiki Kaisha, d.b.a. Denki Onkyo Co., Ltd. SN 93,990. Pub. 10–18–60. Filed 3–30–60.

709,291. MERCOID CONTROL AND DESIGN. The Mercoid Corporation. SN 94,330. Pub. 10–18–60. Filed 4–4–60.

709,292. ELECTROPACK. Santa Anita Engineering Co. of California. SN 94,353. Pub. 10–18–60. Filed 4–4–60.

Class 22—Games, Toys, and Sporting Goods

709,293. RITH-ME-TIC AND DESIGN. William H. Cox. SN 66,419. Pub. 10–18–60. Filed 1–26–59.

709,294. DUAL-PAK. Brunswick Corporation, by change of name from The Brunswick-Balke-Collender Company. SN 83,454. Pub. 10–18–60. Filed 10–19–59.

709,295. FETHERWATE. Brunswick Corporation, by change of name from The Brunswick-Balke-Collender Company. SN 83,455. Pub. 10–18–60. Filed 10–19–59.

709,296. CROWN. Brunswick Corporation, by change of name from The Brunswick-Balke-Collender Company. SN 83,457. Pub. 10–18–60. Filed 10–19–59.

709,297. DUCK-PAK. Brunswick Corporation, by change of name from The Brunswick-Balke-Collender Company. SN 83,458. Pub. 10–18–60. Filed 10–19–59.

709,298. AUBURN SAFE PLAY TOYS AND DESIGN. Auburn Rubber Company, Inc. SN 86,582. Pub. 10–18–60. Filed 12–3–59.

709,299. NYL-TUF. Vulcan Corporation. SN 88,440. Pub. 10–18–60. Filed 1–4–60.

709,300. CHESSERS. Phillips Publishers, Inc., assignee of John G. Hunter, d.b.a. The Chessers Co. SN 94,002. Pub. 10–18–60. Filed 3–30–60.

709,301. COMICO CLOWN. Ralph D. Kearin, d.b.a. Pat Kearin Productions. SN 94,494. Pub. 10–18–60. Filed 4–6–60.

709,302. ACE-HI. Silver Horde Fishing Supplies Inc. SN 96,755. Pub. 10–18–60. Filed 5–9–60.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

709,303. CONCRA. The Concra Company, Inc. SN 85,305. Pub. 10–25–60. Filed 11–16–59.

709,304. TRANSLOADER. Sanford-Day Iron Works, Inc. SN 61,332. Pub. 8–25–59. Filed 10–24–58.

709,305. DRIAM. Driam S.A. SN 76,063. Pub. 10–18–60. Filed 6–19–59.

709,306. DYNAMIC. Fenton Company. SN 78,016. Pub. 10–18–60. Filed 7–20–59.

709,307. DRIFTWOOD. Oneida Ltd. SN 80,345. Pub. 10–18–60. Filed 8–27–59.

709,308. WALLRAMANT. Wallram Hartmetallwerk und Hartmetallwerkzeugfabrik Meutsch, Voigtlander & Co. SN 80,938. Pub. 10–18–60. Filed 9–4–59.

709,309. HY-POL. Donald J. Bobo, d.b.a. Don Bobo's Lapidary Products. SN 83,859. Pub. 10–18–60. Filed 10–23–59.

709,310. SCOTT-MURRAY. Donald J. Bobo, d.b.a. Don Bobo's Lapidary Products. SN 83,860. Pub. 10–18–60. Filed 10–23–59.

709,311. MOTORCRAFT. Ford Motor Company. SN 84,407. Pub. 10–18–60. Filed 11–2–59.

709,312. PINETREE. Matsushita Denki Sangyo Kabushiki Kaisha. SN 84,925. Pub. 3–29–60. Filed 11–9–59.

709,313. MAXAM. Maxam, Inc. SN 85,362. Pub. 10–18–60. Filed 11–16–59.

709,314. SPEEDIAL. Kem Button Corporation. SN 89,175. Pub. 10–18–60. Filed 1–18–60.

709,315. "LUBE-ALIGN." Bronze Bearings, Inc. SN 89,547. Pub. 10–18–60. Filed 1–25–60.

709,316. SPACE CORP. COMET AND GLOBE DESIGN. Space Corp. SN 89,956. Pub. 10–18–60. Filed 1–29–60.

709,317. LF AND DESIGN. Francesco Lonati, d.b.a. Ditta "Lonati" di Lonati Francesco. SN 92,897. Pub. 10–18–60. Filed 3–15–60.

709,318. LIFETEX AND DESIGN. Texas Muffler Corp. SN 93,220. Pub. 10–18–60. Filed 3–18–60.

709,319. TONGANOXIE. Babson Bros. Co. SN 95,805. Pub. 10–18–60. Filed 4–26–60.

709,320. STURTEVANT PULVER-MILL. Sturtevant Mill Co. SN 95,947. Pub. 10–18–60. Filed 4–8–60.

709,321. BELVEDERE. The Belvedere-Adler Company. SN 96,467. Pub. 10–18–60. Filed 5–5–60.

709,322. PERMAWEB. Curtiss-Wright Corporation. SN 96,485. Pub. 10–18–60. Filed 5–5–60.

709,323. GEOMETRIC FIGURE. Stanray Corporation. SN 96,759. Pub. 10–18–60. Filed 5–9–60.

Class 24 — Laundry Appliances and Machines

709,324. PINETREE. Matsushita Denki Sangyo Kabushiki Kaisha. SN 84,923. Pub. 3–29–60. Filed 11–9–59.

709,325. IDC ETC. AND DESIGN. International Dryer Corp. SN 95,173. Pub. 10–18–60. Filed 4–15–60.

Class 26 — Measuring and Scientific Appliances

709,326. DESIGN OF CROSS. United States Safety Service Co. SN 2,208. Pub. 8–7–56. Filed 2–6–56.

709,327. TELEPHONICS. Telephonics Corporation. SN 2,458. Pub. 9–6–60. Filed 2–10–56.

709,328. TELEPHONICS AND DESIGN. Telephonics Corporation. SN 2,459. Pub. 10–11–60. Filed 2–10–56.

709,329. CHROMAX. LKB-Produkter Fabriksaktiebolag. SN 42,291. Pub. 3–3–59. Filed 12–12–57.

709,330. K WITH ORBITING ELECTRONS. Kingston Industries, Inc. SN 68,705. Pub. 4–5–60. Filed 3–2–59.

709,331. K DESIGN. Smith-Corona Marchant, Inc. SN 73,747. Pub. 6–21–60. Filed 5–14–59.

709,332. NUMERIPOINT. Giddings & Lewis Machine Tool Company. SN 80,087. Pub. 10–18–60. Filed 8–24–59.

709,333. MERCOID CONTROL AND DESIGN. The Mercoid Corporation. SN 94,329. Pub. 10–18–60. Filed 4–4–60.

Class 27 — Horological Instruments

709,334. WINK-AWAKE. Sunbeam Corporation. SN 76,277. Pub. 10–18–60. Filed 6–22–59.

709,335. TORCH. General Time Corporation. SN 83,511. Pub. 10–18–60. Filed 10–19–59.

709,336. P AND DESIGN. National Presto Industries, Inc. SN 90,178. Pub. 10–18–60. Filed 2–2–60.

709,337. LOOKOUT. General Time Corporation. SN 90,836. Pub. 10–18–60. Filed 2–12–60.

709,338. BONUS. General Time Corporation. SN 90,837. Pub. 10–18–60. Filed 2–12–60.

709,339. RAVEN. General Time Corporation. SN 90,838. Pub. 10–18–60. Filed 2–12–60.

709,340. EVERMINE DIAMOND DREAMS. Evermine Incorporated. SN 93,171. Pub. 10–18–60. Filed 3–18–60.

Class 28 — Jewelry and Precious-Metal Ware

704,341. KASHMIR. Pearls by Deltah Inc. SN 94,179. Pub. 10–18–60. Filed 4–1–60.

Class 29 — Brooms, Brushes, and Dusters

709,342. KLERE-VUE. Industrial Wiping Cloth Co. Inc. SN 27,314. Pub. 7–29–58. Filed 4–1–57.

709,343. SEA-SWIRL. Osrow Products Company, Inc. SN 95,111. Pub. 10–18–60. Filed 4–14–60.

Class 31 — Filters and Refrigerators

709,344. PINETREE. Matsushita Denki Sangyo Kabushiki Kaisha. SN 84,922. Pub. 3–29–60. Filed 11–9–59.

709,345. GOLD SHIELD AND DESIGN. Ben-Hur Manufacturing Co. SN 85,287. Pub. 10–18–60. Filed 11–16–59.

709,346. POLYFILTER. Utility Appliance Corp. SN 87,924. Pub. 10–18–60. Filed 12–28–59.

709,347. CARBOSTAT. The Coca-Cola Company. SN 95,978. Pub. 10–18–60. Filed 4–28–60.

Class 33 — Glassware

709,348. OPTISEAL. Owens-Illinois Glass Company. SN 98,673. Pub. 10–18–60. Filed 6–8–60.

709,349. SPIEGELAU. Spiegelau-Kristall Vertriebsgesellschaft m.b.H. SN 98,822. Pub. 10–18–60. Filed 6–10–60.

Class 34 — Heating, Lighting, and Ventilating Apparatus

709,350. PINETREE. Matsushita Denki Sangyo Kabushiki Kaisha. SN 84,924. Pub. 3–29–60. Filed 11–9–59.

709,351. WALTON. Walton Laboratories, Incorporated. SN 89,531. Pub. 10–18–60. Filed 1–22–60.

709,352. SPACE CORP AND DESIGN. Space Corp. SN 89,954. Pub. 10–18–60. Filed 1–29–60.

709,353. PEERLESS. Dover Corporation. SN 93,087. Pub. 10–18–60. Filed 3–17–60.

709,354. ECON-O-FAB. Duro-Dyne Corporation. SN 95,985. Pub. 10–18–60. Filed 4–28–60.

709,355. METAL-FAB. Duro-Dyne Corporation. SN 95,986. Pub. 10–18–60. Filed 4–28–60.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

709,356. "NO SQUEAL" AND DESIGN. Atlas Supply Company. SN 71,176. Pub. 10–18–60. Filed 4–9–59.

709,357. ABEL LABEL TANDEM FALCON AND DESIGN. The Abel Corporation. SN 97,158. Pub. 10–18–60. Filed 5–16–60.

709,358. CHEMBOND. H. B. Egan Manufacturing Company. SN 97,187. Pub. 10–18–60. Filed 5–16–60.

Class 37 — Paper and Stationery

709,359. CONDADO. Sharp Export, Ltd. SN 91,858. Pub. 10–18–60. Filed 2–29–60.

709,360. SWISS CHALET. The Rytex Company. SN 93,365. Pub. 10–18–60. Filed 3–21–60.

709,361. LOOK PAK. American Can Company. SN 93,404. Pub. 10–18–60. Filed 3–22–60.

709,362. BIFLEX. Acme Backing Corporation. SN 94,034. Pub. 10–18–60. Filed 3–31–60.

709,363. LINDY JR. Lindy Pen Co., Inc. SN 94,397. Pub. 10–18–60. Filed 4–7–60.

709,364. LOCKA-POST. National Blank Book Company. SN 94,907. Pub. 10–18–60. Filed 4–12–60.

709,365. YALE. Leonard Tissue Corp., d.b.a. Leonard Tissue Co. SN 94,994. Pub. 10–18–60. Filed 4–13–60.

Class 38 — Prints and Publications

709,366. JOBBER EXECUTIVE NEWS. Hunter Publishing Company. SN 66,889. Pub. 9–29–59. Filed 2–2–59.

709,367. AIR BP AND DESIGN. The British Petroleum Company Limited. SN 68,108. Pub. 10–18–60. Filed 2–20–59.

709,368. HARPERCREST AND DESIGN. Harper & Brothers. SN 83,372. Pub. 10–18–60. Filed 10–16–59.

709,369. PARA PROCESS. Paramount Paper Products Co. SN 93,001. Pub. 10–18–60. Filed 3–16–60.

709,370. SERVICE CORNER. Champion Spark Plug Company. SN 93,762. Pub. 10–18–60. Filed 3–28–60.

709,371. STEREO VISION AND DESIGN. Alco Pictures Corporation. SN 94,450. Pub. 10–18–60. Filed 4–6–60.

Class 39 — Clothing

709,372. IDEAL AND DESIGN. Ideal Products, Inc. SN 26,747. Pub. 8–13–57. Filed 3–5–57.

709,373. SINGER AND DESIGN. Singer Glove Manufacturing Company. SN 28,807. Pub. 10–18–60. Filed 4–24–57.

709,374. LURON. Millers, Incorporated. SN 54,540. Pub. 10–7–58. Filed 6–30–58.

709,375. TRIOS. International Shoe Company. SN 57,212. Pub. 7–21–59. Filed 8–14–58.

709,376. THE SHOE THAT WALKS FOR YOU. Ripple Sole Corporation. SN 65,013. Pub. 10–18–60. Filed 12–29–58.

709,377. THERMO-STATED. H. Daroff & Sons, Inc. SN 80,313. Pub. 10–18–60. Filed 8–27–59.

709,378. FINALE. Gutman-Lann Glove Company, Inc. SN 85,854. Pub. 10–18–60. Filed 11–23–59.

709,379. PELUSA-CALF. Carl Freudenberg Kommanditgesellschaft auf Aktien. SN 86,137. Pub. 10–18–60. Filed 11–27–59.

709,380. CAROLCREST. Warren Sewell Clothing Company, Inc. SN 86,905. Pub. 10–18–60. Filed 12–8–59.

709,381. RUVAL'S. Genesco Inc. SN 90,033. Pub. 10–18–60. Filed 2–9–60.

709,382. BAY TRAIL. Bay Trail Shoe Co., Inc. SN 92,073. Pub. 10–18–60. Filed 3–3–60.

709,383. GEM-DANDY. Gem-Dandy, Inc. SN 93,175. Pub. 10–18–60. Filed 3–18–60.

709,384. INNER-MAGIC. Gallenkamp Stores Co. SN 94,888. Pub. 10–18–60. Filed 4–12–60.

709,385. KIKI. Kiki Undies Corporation. SN 95,096. Pub. 10–18–60. Filed 4–14–60.

709,386. BOBCATS. McAllester Hosiery Mills, Inc. SN 95,183. Pub. 10–18–60. Filed 4–15–60.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

709,387. PERMA-TEE ETC. The James Textile Corp. SN 25,431. Pub. 11–18–58. Filed 3–4–57.

709,388. BLOTTER. Wellington Sears Company. SN 50,332. Pub. 9–13–60. Filed 4–24–58.

709,389. POWER ETC. AND DESIGN. Pepperell Manufacturing Company. SN 66,640. Pub. 10–18–60. Filed 1–28–59.

709,390. MIST-MASTER. McCampbell & Company, Inc. SN 75,572. Pub. 12–22–59. Filed 6–11–59.

709,391. GEMS BY UXBRIDGE. Amerace Corporation. SN 85,199. Pub. 10–18–60. Filed 11–13–59.

709,392. POCKET EDITIONS. Fabrex Corporation. SN 87,552. Pub. 10–18–60. Filed 12–18–59.

709,393. LAMOLITE. Asher & Borets, Inc. SN 91,737. Pub. 10–18–60. Filed 2–29–60.

709,394. SPORVEL AND DESIGN. Motte-Bossut. SN 92,632. Pub. 10–18–60. Filed 3–11–60.

709,395. AMYETTE. Deering Milliken, Inc., by merger and change of name from Deering, Milliken & Co. Inc. SN 97,829. Pub. 10–18–60. Filed 5–25–60.

Class 44 — Dental, Medical, and Surgical Appliances

709,396. ORTHOLOY. T-P Laboratories, Inc. SN 84,955. Pub. 10–18–60. Filed 11–9–59.

709,397. TRUE-BLEND. Myerson Tooth Corporation. SN 96,024. Pub. 10–18–60. Filed 4–28–60.

709,398. MENTHOLAIRE. Hankscraft Company. SN 99,141. Pub. 10–18–60. Filed 6–16–60.

709,399. INHAL 'A' JET. Asthmanefrin Company, Inc. SN 99,554. Pub. 10–18–60. Filed 6–28–60.

709,400. MODERN-BLEND. Myerson Tooth Corporation. SN 99,647. Pub. 10–18–60. Filed 6–24–60.

709,401. SAFETRODE. The Birtcher Corporation. SN 99,805. Pub. 10–18–60. Filed 6–27–60.

709,402. STIM-U-DENTS. Stim-U-Dents, Inc. SN 100,314. Pub. 10–18–60. Filed 7–5–60.

709,403. FOLATEX. Eschmann Bros. & Walsh Limited. SN 100,335. Pub. 10–18–60. Filed 7–5–60.

Class 45 — Soft Drinks and Carbonated Waters

709,404. DIXI COLA AND DESIGN. The Dixi Cola Company, d.b.a. Dixi Cola Company. SN 85,217. Pub. 10–18–60. Filed 11–13–59.

Class 46 — Foods and Ingredients of Foods

709,405. BREAKFAST CUP. ABC Sales Co., by change of name from Thomson & Taylor Spice Co. SN 682,767. Pub. 10–18–60. Filed 3–3–55.

709,406. QUEEN OF TARTS. Hubert H. Hartman, d.b.a. Dairy Queen. SN 16,696. Pub. 10–18–60. Filed 10–1–56.

709,407. SUPER VALU AND DESIGN. Super Valu Stores, Inc. SN 51,752. Pub. 10–18–60. Filed 5–15–58.

709,408. SNOW-WHITE. Basic Vegetable Products, Inc. SN 55,834. Pub. 10–18–60. Filed 7–23–58.

709,408. BROCCOLAISE. Butternut Farm, Inc. SN 57,880. Pub. 10–18–60. Filed 8–26–58.

709,410. MELLO-DO. General Mills, Inc. SN 75,987. Pub. 10–18–60. Filed 6–18–59.

709,411. NIFDA AND DESIGN. National Institutional Food Distributors Association, Inc., d.b.a. National Institutional Food Distributor Associates, Inc. SN 80,907. Pub. 10–18–60. Filed 9–4–59.

709,412. CONSORT. Seymour Foods, Inc. SN 83,319. Pub. 10–18–60. Filed 10–15–59.

709,413. BULK 'N BAG. Geerlings Feed Mills, Inc., d.b.a. Geerlings. SN 83,363. Pub. 10–18–60. Filed 10–16–59.

709,414. FARMER JOHN BRAND. Clougherty Packing Company. SN 84,389. Pub. 10–18–60. Filed 11–2–59.

709,415. CRYSTANT. John Herbert Raymond Thornhill, Denawaka Estates Limited. SN 87,459. Pub. 10–18–60. Filed 12–16–59.

709,416. TOSTONES ETC. AND DESIGN. Bonnie Kay Corporation. SN 91,234. Pub. 10–18–60. Filed 2–19–60.

709,417. FIGLETTES. S. M. Wolff Company, Inc. SN 91,486. Pub. 10–18–60. Filed 2–22–60.

709,418. M-B BAR BRAND AND DESIGN. M & B Foods, Inc. SN 91,955. Pub. 10–18–60. Filed 3–1–60.

709,419. TA AND DESIGN. Loblaw Inc. SN 93,445. Pub. 10–18–60. Filed 3–22–60.

709,420. OLD SALT'S AND DESIGN. William C. Bentz, d.b.a. Bill's Tasty Foods. SN 93,491. Pub. 10–18–60. Filed 3–23–60.

709,421. COUNTRY'S DELIGHT. Certified Grocers of Illinois, Inc. SN 93,761. Pub. 10–18–60. Filed 3–28–60.

709,422. LITTLE KING AND DESIGN. King Kullen Grocery Co., Inc. SN 93,811. Pub. 10–18–60. Filed 3–28–60.

709,423. GEM OF THE MOUNTAINS. Idaho Potato Growers, Inc. SN 94,165. Pub. 10–18–60. Filed 4–1–60.

709,424. CUSHMAN'S. Cushman's Sons, Inc. SN 94,654. Pub. 10–18–60. Filed 4–8–60.

709,425. JULLICUM. Asheur Jacobson, d.b.a. "Sam'l B. Kirk." SN 95,500. Pub. 10–18–60. Filed 4–21–60.

709,426. 4 BROS. ETC. AND DESIGN. Perez Bros. SN 96,257. Pub. 10–18–60. Filed 5–2–60.

709,427. CROWFLITE AND DESIGN. Perez Bros. SN 96,258. Pub. 10–18–60. Filed 5–2–60.

709,428. PRIDE OF RIDGEWAY. The Pride of Ridgeway Growers Association, Inc. SN 96,424. Pub. 10–18–60. Filed 5–4–60.

709,429. YOUR HIGHNESS. American Tuna Canning Co. SN 96,556. Pub. 10–18–60. Filed 5–6–60.

709,430. SEA WORTHY. American Tuna Canning Co. SN 96,557. Pub. 10–18–60. Filed 5–6–60.

709,431. HUDSON RIVER AND DESIGN. Corn Products Company. SN 96,834. Pub. 10–18–60. Filed 5–11–60.

Class 47 — Wines

709,432. CK MONDAVI ROSA AND DESIGN. C. Mondavi & Sons. SN 92,786. Pub. 10–18–60. Filed 3–14–60.

Class 49 — Distilled Alcoholic Liquors

709,433. SMOOTH AMERICAN GIN BY SCHENLEY. Schenley Industries, Inc. SN 78,072. Pub. 10–18–60. Filed 7–20–59.

709,434. BARDWELL. Barton Distilling Company. SN 82,071. Pub. 10–18–60. Filed 9–25–59.

Class 50 — Merchandise Not Otherwise Classified

709,435. ROLLEASY. Ver Keljik, d.b.a. Photo Tech. SN 55,148. Pub. 10–18–60. Filed 7–11–58.

709,436. POLYLITE. Economy Cover Corp. SN 58,173. Pub. 9–22–59. Filed 9–2–58.

709,437. NAUGAFLEX. United States Rubber Company. SN 64,508. Pub. 10–18–60. Filed 12–17–58.

709,438. SHELFLEX. The Ullman Company, Inc. SN 74,966. Pub. 12–8–59. Filed 6–2–59.

709,439. FLEX-TEMPERED. C. H. Dana Co., Inc. SN 92,969. Pub. 10–18–60. Filed 3–16–60.

Class 51 — Cosmetics and Toilet Preparations

709,440. PARFUMS DE BRIGITTE BARDOT. Anne Marie Bardot. SN 69,715. Pub. 10–18–60. Filed 3–17–59.

709,441. DESERT SUN. Germaine Monteil Cosmetiques Corp. SN 92,175. Pub. 8–30–60. Filed 3–4–60.

Class 52 — Detergents and Soaps

709,442. AIR BP AND DESIGN. The British Petroleum Company Limited. SN 68,107. Pub. 10–18–60. Filed 2–20–59.

709,443. FANTASTIK. Jay D. Silberman, d.b.a. White Frost Chemicals. SN 84,197. Pub. 10–18–60. Filed 10–28–59.

709,444. PANTALOON DAILY MAINTAINER. The Cellowax Company. SN 86,874. Pub. 10–18–60. Filed 12–8–59.

709,445. SAFE-SEE. George H. Fullerton, d.b.a. Fulco. SN 87,391. Pub. 10–18–60. Filed 12–10–59.

709,446. BACTRO "10." Creco Company, Inc. SN 92,966. Pub. 10–18–60. Filed 3–16–60.

709,447. DRESSER DRI. Magnet Cove Barium Corporation. SN 93,193. Pub. 10–18–60. Filed 3–18–60.

709,448. AMYLAZE. Henry T. Hall, d.b.a. National Laboratory Company. SN 94,891. Pub. 10–18–60. Filed 4–12–60.

709,449. SEA-SWIRL. Osrow Products Company, Inc. SN 95,110. Pub. 10–18–60. Filed 4–14–60.

Service Marks

Class 100 — Miscellaneous

709,450. AMY JOY AND DESIGN. Amy Joy Donuts, Inc. SN 81,070. Pub. 10–18–60. Filed 9–9–59.

Class 101 — Advertising and Business

709,451. ESD AND DESIGN. Electric Supplies Distributing Co. of San Diego. SN 77,274. Pub. 10–18–60. Filed 7–8–59.

709,452. LUCKY. Lucky Stores, Inc. SN 90,078. Pub. 10–18–60. Filed 2–1–60.

709,453. LE FEBURE. Le Febure Corporation. SN 92,270. Pub. 10–18–60. Filed 3–7–60.

Class 102 — Insurance and Financial

709,454. OPENS THE DOOR TO PEACE OF MIND. Ideal National Insurance Company. SN 68,404. Pub. 10–18–60. Filed 2–25–59.

709,455. AM-SU-MATIC. American Surety Company of New York. SN 90,883. Pub. 10–18–60. Filed 2–15–60.

709,456. BLUE BOOK. The First National Bank of Chicago. SN 91,149. Pub. 10–18–60. Filed 2–18–60.

709,457. PAL ETC. AND DESIGN. Peoples Bank of Lawrence County. SN 92,490. Pub. 10–18–60. Filed 3–9–60.

Class 103 — Construction and Repair

709,458. DESCO. Ray Janis, d.b.a. Desco and Diesel Engine Supply Co. SN 89,357. Pub. 10–18–60. Filed 1–20–60.

Class 105 — Transportation and Storage

709,459. SELLARAMA HOLIDAYS. Northeast Airlines, Inc. SN 65,511. Pub. 10–18–60. Filed 1–8–59.

709,460. FOUR WINDS. Four Winds Travel, Inc. SN 91,780. Pub. 10–18–60. Filed 2–29–60.

Class 107 — Education and Entertainment

709,461. WHAT'S NEW. National Educational Television and Radio Center. SN 88,446. Pub. 10–18–60. Filed 12–22–59.

Certification Mark

Class A — Goods

709,462. QUALITY TESTED AND CERTIFIED ETC. AND TRIANGLE DESIGN. Institute of Fine Fibres, Ltd. SN 91,724. Pub. 10–18–60. Filed 2–25–60.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

Class 1 — Raw or Partly Prepared Materials

709,463. Chas. Vantress Farms, Inc., Duluth, Ga. SN 71,916. Filed P.R. 4–20–59; Am. S.R. 11–8–60.



The drawing is lined for red and yellow.
For Live Chickens.
First use Nov. 1, 1956.

Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

709,464. Box-Crafters, Inc., Amityville, N.Y. SN 90,215. Filed P.R. 2–3–60; Am. S.R. 11–3–60.

MONEY-TOTE

For Pocket Cases for Holding Money.
First use Sept. 21, 1959.

709,465. Box-Crafters, Inc., Amityville, N.Y. SN 90,216. Filed P.R. 2–3–60; Am. S.R. 11–3–60.

PHOTO-TOTE

For Pocket Cases for Holding Photographs.
First use Oct. 5, 1959.

Class 6 — Chemicals and Chemical Compositions

709,466. Knott Chemical Company, Des Moines, Iowa, assignee of Robert O. Knott, d.b.a. Knott Chemical Company, Des Moines, Iowa. SN 79,784. Filed P.R. 8–18–59; Am. S.R. 6–21–60.

dri-flor

For Storage Bin Floor Seal and Curing Agent.
First use June 10, 1959.

709,467. John Lincoln, d.b.a. The John Lincoln Company, San Francisco, Calif. SN 32,096. Filed P.R. 6–17–57; Am. S.R. 4–12–60.

MARINE

For Shoe and Leather Dyes and Stains, the Stains Having Incidental Polishing Properties.
First use Dec. 31, 1941.

Class 12 — Construction Materials

709,468. General Refractories Company, Philadelphia, Pa. SN 89,670. Filed P.R. 1–26–60; Am. S.R. 11–2–60.

TAB

For Refractory Bricks With Steel Plates Attached and With a Steel or Other Metallic Extension by Means of Which the Brick May Be Suspended.
First use on or about Sept. 7, 1954.

Class 21—Electrical Apparatus, Machines, and Supplies

709,469. Max Braun, Frankfurt am Main, Germany. SN 88,210. Filed 12–30–59.

BRAUN

Owner of German Reg. No. 652,728, dated Feb. 2, 1954; and U.S. Reg. No. 613,913.

For Electrical Apparatus—Namely, Radio and Television Receivers, Electrical Kitchen Mixers, Electrical Coffee Grinders, and Electric Juicing Machines.

709,470. Essex Wire Corporation, Fort Wayne, Ind. SN 90,317. Filed 2–4–60.



The mark consists of the configuration of the package in which the goods are packaged and sold, comprising a triangular prism.

For Coiled Electrical Appliance Cord.
First use Oct. 6, 1958.

709,471. Keystone Carbon Co., St. Marys, Pa. SN 90,149. Filed 6–16–60.

EQUALOAD

For Contact Brushes for Electrical Machinery.
First use Mar. 25, 1939.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

709,472. Eastern Engraving and Machine Company, Inc., New Providence, N.J. SN 85,218. Filed P.R. 11–13–59; Am. S.R. 11–8–60.

STANDARD

For Embossing Apparatus for Embossing Sheet Material.
First use Oct. 19, 1959.

709,473. Max Braun, Frankfurt am Main, Germany. SN 88,211. Filed 12–30–59.

BRAUN

Owner of German Reg. No. 652,728, dated Feb. 2, 1954; and U.S. Reg. No. 613,913.

For Electric Dry Shavers.

Class 26—Measuring and Scientific Appliances

709,474. The Plastic Contact Lens Company, Chicago, Ill. SN 79,423. Filed P.R. 8–12–59; Am. S.R. 10–26–60.

DUCTUS DEDICATIONE

"Ductus Dedicatione" means "leadership through dedication."

For Contact Lenses and Related Apparatus and Accessories for the Manufacture, Fitting and Wearing of Contact Lenses.
First use July 13, 1959.

709,475. Aquadyne Corporation, Clark, N.J. SN 91,502. Filed P.R. 2–24–60; Am. S.R. 11–4–60.

HYDROBLENDER

For Liquid Concentration Control Apparatus for Maintaining a Predetermined Concentration of Chemical Substance in a Water Supply Line for Industrial Dust Control, Wetting, Blending, Cleaning, Washing, and Firefighting.
First use Nov. 16, 1949.

Class 29—Brooms, Brushes, and Dusters

709,476. William A. Dolan, d.b.a. Dolan Sponge Company, New York, N.Y. SN 74,903. Filed P.R. 6–3–59; Am. S.R. 11–2–60.

SOFSPONGE

For Cellulosic Sponges for Washing and Cleaning Purposes.
First use Mar. 30, 1959.

Class 32—Furniture and Upholstery

709,477. The Kerr Wire Products Co., Chicago, Ill. SN 86,160. Filed P.R. 11–27–59; Am. S.R. 11–9–60.

KWIKFOLD

For Kiddie Chairs.
First use Aug. 3, 1959.

Class 37—Paper and Stationery

709,478. Tension Envelope Corporation of Kansas City, Kansas City, Mo. SN 67,405. Filed P.R. 2–9–59; Am. S.R. 7–5–60.

KARD-KARRIER

For Envelopes.
First use Jan. 28, 1959.

Class 39—Clothing

709,479. Weisman Brothers Lingerie Corp., New York, N.Y. SN 87,832. Filed P.R. 12–22–59; Am. S.R. 10–27–60.

PAK-A-ROBE

For Robes and Dressing Gowns for Men, Women, and Children.
First use May 9, 1951.

Class 46 — Foods and Ingredients of Foods

709,480. Norrig Hermetikkfabrikker Aktieselskap, Stavanger, Norway. SN 36,735. Filed P.R. 9-5-57; Am. S.R. 10-28-60.



The drawing is lined for yellow, red, and blue.
For Canned Fish.
First use May 30, 1946; in commerce May 30, 1946.

709,481. O. H. Tracy, Portland, Oreg. SN 73,287. Filed P.R. 5-8-59; Am. S.R. 9-19-60.

REDI-EGG

For Frozen Homogenized Eggs.
First use Dec. 15, 1958.

709,482. Crowley's Milk Company, Inc., Binghamton, N.Y. SN 80,063. Filed P.R. 8-24-59; Am. S.R. 11-14-60.

Dari-Loaf

For Bread.
First use May 6, 1959.

Class 47 — Wines

709,483. Williams & Humbert Limited, London, England. SN 3,565. Filed P.R. 2-28-56; Am. S.R. 4-28-59.



The mark consists of a sack, together with a tag, used to encase applicant's bottled sherry wine. Owner of Reg. Nos. 208,051 and 600,468.
For Sherry Wine.
First use April 1949; in commerce April 1949.

Class 49 — Distilled Alcoholic Liquors

709,484. McKesson & Robbins, Incorporated, New York, N.Y. SN 69,540. Filed P.R. 3-13-59; Am. S.R. 11-7-60.

VACCARI

For Alcoholic Liqueurs.
First use Dec. 12, 1958.

709,485. H. C. Macpherson, d.b.a. Macpherson & Company, San Francisco, Calif. SN 81,077. Filed 9-9-59.



The mark consists of the conformation of a bottle used as the container for applicant's Scotch whisky.
For Scotch Whisky.
First use 1934.

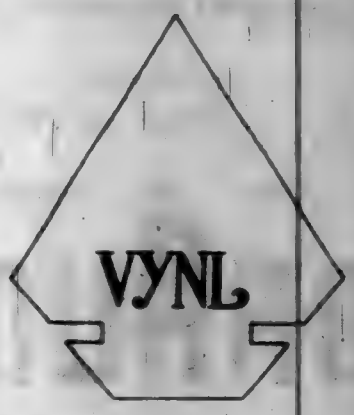
709,486. Carrington and Company, Ltd., New York, N.Y. SN 94,046. Filed P.R. 3-31-60; Am. S.R. 10-27-60.

Banff Springs

For Canadian Whisky.
First use Nov. 25, 1955.

Class 50 — Merchandise Not Otherwise Classified

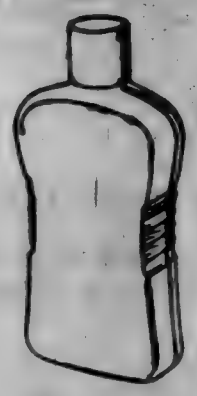
709,487. Standard Cellulose & Novelty Co., Inc., Ozone Park, N.Y. SN 82,296. Filed P.R. 9-28-59; Am. S.R. 9-16-60.



For Artificial Christmas Trees.
First use May 1959.

Class 51 — Cosmetics and Toilet Preparations

709,488. Johnson & Johnson, New Brunswick, N.J. SN 67,010. Filed P.R. 2-3-59; Am. S.R. 11-6-59.



The mark consists in the configuration of the bottle used as a container for the goods.

For Oil and Lotion for Protecting, Soothing, or Lubricating the Surface of the Body; and Shampoo.

First use Jan. 10, 1949.

709,489. Revlon, Inc., New York, N.Y. SN 79,292. Filed P.R. 8-10-59; Am. S.R. 7-28-60.

'FLAMA GRANDÉ'

"Flama Grandé" is defined, in the Italian language, as "Great Flame."

For Lipstick and Nail Enamel.

First use July 21, 1959.

Class 52 — Detergents and Soaps

709,490. Racine Industrial Plant, Inc., Racine, Wis. SN 54,098. Filed P.R. 6-23-58; Am. S.R. 11-9-60.

Brightener by HOST

For Liquid Cleaning Compound for Rugs, Carpets, and the Like.

First use Apr. 1, 1958; Mar. 21, 1955, as to "Host."

Service Mark

Class 105 — Transportation and Storage

709,491. Brownell Travel Bureau, Inc., Birmingham, Ala. SN 86,258. Filed P.R. 11-30-59; Am. S.R. 11-2-60.

SELECT-A-TRIP

For Travel Agency Services.

First use Jan. 30, 1959.

TRADEMARK REGISTRATIONS RENEWED

130,740. GRISWOLD AND DESIGN. Cl. 13. 5-4-20.
132,217. JEAN CASTLE MIDDIES. Cl. 39. 6-15-20.
134,628. ANTISEP. Cl. 51. 9-14-20.
135,196. DOUBLE HEADER AND DESIGN. Cl. 39. 9-28-20.
135,947. TEABERRY AND DESIGN. Cl. 46. 10-26-20.
136,313. BARCO. Cl. 13. 11-2-20.
136,833. HURON AND DESIGN. Cl. 12. 11-9-20.
137,549. BARCO. Cl. 35. 11-30-20.
138,816. RAY-O-LITE. Cl. 21. 1-11-21.
139,597. KLEX. Cl. 52. 3-8-21.
140,227. TEXACO AND STAR DESIGN. Cl. 12. 3-8-21.
140,593. FAIRBANKS-MORSE. Cl. 21. 3-22-21.
141,420. CUTEX. Cl. 51. 4-19-21.
141,456. VANITY FAIR AND DESIGN. Cl. 39. 4-19-21.
141,538. 140-EAGLE. Cl. 37. 4-26-21.
141,539. 140. Cl. 37. 4-26-21.
141,548. FISKE'S FERROL ECONOMIZER AND DESIGN. Cl. 15. 4-26-21.
141,553. BULL-DOG. Cl. 6. 4-26-21.
378,269. GLOVEEN. Cl. 43. 6-4-40.
379,979. HAMILTON. Cl. 23. 8-6-40.
380,015. LUXECRAFT. Cl. 16. 8-6-40.
380,951. B & G OLIVE OIL. Cl. 46. 9-10-40.
381,582. GRACIOUS LADY. Cl. 39. 10-1-40.
381,737. POWER. Cl. 49. 10-1-40.
381,738. P AND DESIGN. Cl. 49. 10-1-40.
381,978. CIRCULAR DESIGN. Cl. 14. 10-15-40.
382,232. PLAST-IRON. Cl. 14. 10-22-40.
382,520. WE, THE WOMEN. Cl. 38. 10-29-40.
382,706. LIFE. Cl. 39. 11-5-40.
382,758. WESTERN ELECTRIC. Cl. 44. 11-12-40.
382,799. LASTIGLAS. Cl. 1. 11-12-40.
382,820. NORD-OST. Cl. 46. 11-12-40.
382,885. BOLLER'S. Cl. 45. 11-12-40.
383,386. LAKESHIRE PROCESS AMERICAN AND DESIGN. Cl. 46. 12-3-40.
383,399. STRATOSHAVER. Cl. 23. 12-3-40.
383,668. SPARE-TIME. Cl. 22. 12-17-40.
383,822. MOTORTONE. Cl. 52. 12-24-40.
383,892. RESIPON. Cl. 6. 12-24-40.
383,960. FORD. Cl. 23. 12-31-40.
384,053. RAY SONDE AND DESIGN. Cl. 21. 1-7-41.
384,057. TRAFFIC-MASTER. Cl. 16. 1-7-41.
384,426. TITE-LITE. Cl. 16. 1-21-41.
384,512. CLE-O-CAP. Cl. 13. 1-21-41.
384,521. FORMASET. Cl. 6. 1-21-41.
384,776. SUN-STAINED. Cl. 39. 2-4-41.
384,879. SATISOL. Cl. 15. 2-4-41.
384,891. INDALONE. Cl. 6. 2-4-41.
384,965. MIST FINISH. Cl. 16. 2-11-41.
385,216. S-J. Cl. 49. 2-18-41.
385,282. GRAINO AND DESIGN. Cl. 46. 2-25-41.
385,287. ADDIATOR. Cl. 26. 2-25-41.
385,402. JULEP CLOTH. Cl. 42. 2-25-41.
385,558. R. C. ALLEN. Cl. 26. 3-11-41.
385,611. FASHION DEBS. Cl. 39. 3-11-41.
385,635. MADAM-ETTES. Cl. 39. 3-11-41.
385,785. PATCH. Cl. 46. 3-18-41.
385,965. COL-I-DEED. Cl. 18. 3-25-41.
386,004. DECOR. Cl. 37. 3-25-41.
386,107. ADHESEX. Cl. 6. 3-25-41.
386,241. MELOJEL. Cl. 46. 4-1-41.
386,263. (Q.A.). Cl. 46. 4-1-41.
386,265. BLUSTONE AND DESIGN. Cl. 15. 4-1-41.
386,494. SPIRAL DESIGN. Cl. 23. 4-15-41.
386,731. P.T.M. Cl. 37. 4-22-41.
386,746. BRANDIGNAC. Cl. 49. 4-22-41.
386,789. LUMIFECT. Cl. 37. 4-22-41.
386,916. WOMAN AND TORCH DESIGN. Cl. 11. 4-29-41.

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435,452. GEROTOR. Cl. 23. 12–30–47.

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598,058. GAMBY. Cl. 3.
598,059. CHEMO-MAT. Cl. 3.
598,060. THE JOLLY ROGER AND SHIP DESIGN. Cl. 3.
598,063. IODO. Cl. 6.
598,066. DRY-SOX. Cl. 6.
598,069. CINNIA. Cl. 6.
598,072. VAC PAC AND STAR DESIGN. Cl. 8.
598,076. X-TRUDE PB PIPE AND DESIGN. Cl. 13.
598,077. BRUCE LEE. Cl. 13.
598,084. HUMPTY DUMPTY AND DESIGN. Cl. 13.
598,086. DECOR. Cl. 13.
598,089. PARAMOUNT PRECISION. Cl. 14.
598,092. HANDI-STEEL. Cl. 14.
598,094. PICCADILLY. Cl. 17.
598,097. STOCK SENSE. Cl. 18.
598,100. TROXANESIN. Cl. 18.
598,105. VU-MATIC. Cl. 21.
598,113. NIRON. Cl. 21.
598,115. STEREOTONE. Cl. 21.
598,117. SWIMSTER. Cl. 22.
598,129. ROYAL MASTER AND DESIGN. Cl. 23.
598,130. MOLCO. Cl. 23.
598,131. EDMAR. Cl. 23.
598,133. DURO ETC. AND DESIGN. Cl. 23.
598,134. CLIPVAC. Cl. 23.
598,139. TYCO. Cl. 23.
598,150. SAVAGE ONEIDA. Cl. 23.
598,154. REPRESENTATION OF A SEA GULL. Cl. 23.
598,166. LADY BUG. Cl. 23.
598,172. CHARM-CREST. Cl. 25.
598,179. TY-NE-POON. Cl. 28.
598,181. ELCO PICTURE IDENT. Cl. 28.
598,182. HOJA. Cl. 28.
598,186. GOURDWARE COCO AND DESIGN. Cl. 30.
598,187. DUNBAR FOR MODERN. Cl. 32.
598,191. BAMBOOZLER. Cl. 32.
598,193. TOWN SQUARE. Cl. 32.
598,196. LITTLE MIRACLE. Cl. 32.
598,200. HANDI-STEEL MILL. Cl. 32.
598,219. FRANCES LEE'S COLORSCOPE AND DESIGN. Cl. 38.
598,224. BARKER BILL'S COMICS AND DESIGN. Cl. 38.
598,228. SOLAR BLAST. Cl. 38.
598,230. INNER ELVES AND DESIGN. Cl. 38.
598,232. BRITISH SACK. Cl. 39.
598,235. FOOT-GEMS. Cl. 39.
598,237. VID-EZE. Cl. 39.
598,243. TWIN-FIT. Cl. 39.
598,249. THE MAGI-CARPET. Cl. 40.
598,255. NUWORLD. Cl. 46.
598,256. NUWORLD CHEESE ETC. AND DESIGN. Cl. 46.
598,258. SPORT OF KINGS & GOURIELLI AND DESIGN. Cl. 51.
598,261. WHISH. Cl. 52.
598,263. PLURAC. Cl. 52.
598,265. SHO OFF. Cl. 52.
598,271. PRO-FESH. Cl. 52.
598,273. TERRIFIC. Cl. 52.
598,275. RUSTIC. Cl. 52.
598,276. RID-RING AND DESIGN. Cl. 52.
598,279. HOMEMAKER'S JAMBOREE. Cl. 101.
598,284. PLASTI-KOTED. Cl. 2.
598,285. E-Z-UP AND DESIGN. Cl. 12.
598,290. CAR-BAR. Cl. 19.
598,293. LITE-TRIM. Cl. 19.
598,300. MUNSON CAROUSEL. Cl. 32.
598,303. KINDER KRAFT FOR CHILDREN BY CHILDREN AND DESIGN. Cl. 37.
598,307. THE BEARING SPECIALIST. Cl. 38.
598,309. NORTH ATLANTIC EXCHANGE. Cl. 38.
598,311. THE AMERICAN DAILY AIR FORCE DAILY. Cl. 38.
598,312. POULTRY SUPPLY WORLD. Cl. 38.
598,317. SEDLEY. Cl. 39.
598,319. "CHALLI-KNIT." Cl. 39.
598,320. FANCY-PANTS. Cl. 39.
598,322. SLIP-ONS. Cl. 40.
598,326. SYDNEY. Cl. 42.
598,327. NEWSPUN. Cl. 43.

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396,067. A PROM QUEEN. Cl. 39. 6–30–42.
400,254. CHILLER DILLER. Cl. 46. 2–23–43.
403,993. GERAMINS. Cl. 6. 10–26–43.

TRADEMARK REGISTRATIONS AMENDED, DISCLAIMED, CORRECTED, ETC.

384,224. METRO GOLDWYN MAYER. Cl. 26. 1–7–41. Loew's Incorporated. Metro-Goldwyn-Mayer Inc., New York, N.Y. Amended: In the heading, signature and in the statement, column 1, line 1, after "Incorporated", *now by change of name Metro-Goldwyn-Mayer Inc.* is inserted.

384,225. REPRESENTATION OF A LION. Cl. 26. 1–7–41. Loew's Incorporated. Metro-Goldwyn-Mayer Inc., New York, N.Y. Amended: In the heading, signature and in the statement, column 1, line 1, after "Incorporated", *now by change of name Metro-Goldwyn-Mayer Inc.* is inserted.

516,143. M-G-M AND DESIGN. Cl. 36. 10–11–48. Loew's Incorporated. Metro-Goldwyn-Mayer Inc., New York, N.Y. Amended: In the certificate, lines 3 and 14, in the heading, signature and in the statement, column 1, line 1, after "Incorporated", *now by change of name Metro-Goldwyn-Mayer Inc.* is inserted.

523,093. METROLITE. Cl. 36. 3–23–50. Loew's Incorporated. Metro-Goldwyn-Mayer Inc., New York, N.Y. Amended: In the certificate, lines 3 and 15, in the heading, signature and in the statement, column 1, line 1, after "Incorporated", *now by change of name Metro-Goldwyn-Mayer Inc.* is inserted.

588,606. LION. Cl. 36. 4–20–54. Loew's Incorporated. Metro-Goldwyn-Mayer Inc., New York, N.Y. Amended: In the certificate, lines 3 and 14, in the heading, signature and in the statement, column 1, line 1, after "Incorporated", *now by change of name Metro-Goldwyn-Mayer Inc.* is inserted.

588,752. M-G-M. Cl. 21. 4–20–54. Loew's Incorporated. Metro-Goldwyn-Mayer Inc., New York, N.Y. Amended: In the certificate, lines 3 and 14, in the heading, signature and in the statement, column 1, line 1, after "Incorporated", *now by change of name Metro-Goldwyn-Mayer Inc.* is inserted.

595,149. ARS GRATIA ARTIS AND DESIGN. Cl. 26. 9–14–54. Loew's Incorporated. Metro-Goldwyn-Mayer Inc., New York, N.Y. Amended: In the certificate, lines 3 and 14, and in the statement, column 1, line 1, after "Incorporated", *now by change of name Metro-Goldwyn-Mayer Inc.* is inserted.

597,407. REPRESENTATION OF LION. Cl. 36. 10–26–54. Loew's Incorporated. Metro-Goldwyn-Mayer Inc., New York, N.Y. Amended: In the certificate, lines 3 and 14, and in the statement, column 1, line 1, after "Incorporated", *now by change of name Metro-Goldwyn-Mayer Inc.* is inserted.

681,168. METRO. Cl. 36. 6–30–59. Loew's Incorporated. Metro-Goldwyn-Mayer Inc., New York, N.Y. Amended: In the statement, column 1, line 1, after "Incorporated", *now by change of name Metro-Goldwyn-Mayer Inc.* is inserted.

TRADEMARK REGISTRATIONS—NEW CERTIFICATES

New Certificates issued under sections 7(c), 7(f), 7(g) of the Trademark Act of 1946 for the unexpired term of the original registrations.

47,230. IMPERIAL. Cl. 28. Adolph Kastor & Bros. 10–31–05. New Cert. Sec. 7(c) to Schick Incorporated, Lancaster, Pa.

444,460. GEMS OF TRAVEL AND DESIGN. Cl. 3. Earl E. Brenner. 4–3–51. New Cert. Sec. 7(c) to Barberton Plastics Products, Inc., Barberton, Ohio.

549,153. AIRCRAT. Cl. 14. Marshall Steel Company. 10–9–51. New Cert. Sec. 7(c) to The Marshall Steel Company, McCook, Ill.

549,154. OILCRAT. Cl. 14. Marshall Steel Company. 10–9–51. New Cert. Sec. 7(c) to The Marshall Steel Company, McCook, Ill.

618,258. FIGURE FLATTERY AND DESIGN. Cl. 39. Miss Swank, Inc. 12–27–55. New Cert. Sec. 7(c) to A. J. Schneierson & Son, Inc., New York, N.Y.

622,983. BARBECUE KING AND DESIGN. Cl. 21. D. & W. Manufacturing Company. 3–13–56. New Cert. Sec. 7(c) to Metal Stamping Co. of Greenville, Inc., Greenville, S.C.

633,455. MARSHALLCRAT. Cl. 14. Marshall Steel Company. 8–28–56. New Cert. Sec. 7(c) to The Marshall Steel Company, McCook, Ill.

REGISTRATIONS PUBLISHED UNDER SEC. 12(c)

The following marks registered under the act of 1905, or the act of 1881, are published under the provisions of section 12(c) of the Trademark Act of 1946. These registrations are not subject to opposition but are subject to cancellation under section 14 of the act of 1946.

Class 1—Raw or Partly Prepared Materials

384,343. Jan. 14, 1941. Mineral Mining Corporation, Mineola, N.Y. Pub. by registrant.

ALSILITE

For Sericitic Ore Which Is a Rock of Sedimentary Origin of a Micaceous Texture.

Class 6—Chemicals and Chemical Compositions

136,643. Nov. 2, 1920. John C. Stalfort & Sons, Baltimore, Md. Pub. by John C. Stalfort & Sons, Incorporated, Baltimore, Md.

FLASH

For Boot and Shoe Dye—Namely, Black Dye and Cordovan-Dye for Dyeing and Staining Fabric and Leather Boots and Shoes, and Boot and Shoe Powder Used for Lessening Friction and Cooling the Feet.

Class 12—Construction Materials

381,221. Sept. 17, 1940. The Fibre Conduit Company, Orangeburg, N.Y. Pub. by The Flintkote Company, New York, N.Y.

NO'CRETE

For Conduit, Ducts, and Pipes Made of Nonmetallic Composition Material, and Fittings for the Same.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

405,421. Feb. 1, 1944. Peter Schlumbohm, New York, N.Y. Pub. by Chemex Corporation, New York, N.Y.

MIXARIUM

For Cocktail Shakers.

Class 14—Metals and Metal Castings and Forgings

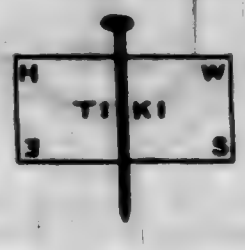
385,229. Feb. 18, 1941. Hawkridge Brothers Company, Boston, Mass. Pub. by registrant.

PLYNIK

For Steel in the Form of Bars, Blocks, Rods, and Pieces of Various Sizes.

Class 16—Protective and Decorative Coatings

19,158. Mar. 10, 1891. William H. Scheel, New York, N.Y. Pub. by William H. Scheel, Inc., Brooklyn, N.Y.



For Varnish Gums.

137,370. Nov. 23,1920. Pittsburgh Oil Refining Corporation, Baltimore, Md. Pub. by The Autoline Oil Company, Baltimore, Md.

PAINTSEED

For Manufactured Oil Which Is the Equivalent of Linseed Oil, Used as a Vehicle for Paints, Leads and Other Pigments and in Mixing Ready-Mixed Paints.

Class 18—Medicines and Pharmaceutical Preparations

104,755. June 15, 1915. Michael L. Stefanski, Baltimore, Md. Pub. by Frank J. Macek, Baltimore, Md.

Żywokostnik

For Liniment for the Treatment of Rheumatism, Croup, Stiff-Neck, Pains in the Sides, Chest and Back, Catarrh, Sore Throat, Coughs, Colds and Insect Stings.

140,512. Mar. 15, 1921. Parke, Davis & Company, Detroit, Mich. Pub. by registrant.

ADRENALIN ORIGINAL P.D.&CO.

For Preparation Containing the Active Principle of Suprarenal Gland.

406,721. Apr. 18, 1944. Parke, Davis & Company, Detroit, Mich. Pub. by registrant.

IMMUNOVAC

For Preparation Used for the Prevention of the Common Cold.

432,476. Sept. 2, 1947. Parke, Davis & Company, Detroit, Mich. Pub. by registrant.

ETAMON

For Preparation for the Treatment of Hypertension.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

381,549. Oct. 1, 1940. Leslie A. Layne, Houston, Tex. Pub. by registrant.



For Well Equipment in the Nature of a Special Well Bottom Assembly Comprising Screen, Packer, Circulating Shoe and the Like.

Class 32—Furniture and Upholstery

393,296. Feb. 8, 1942. Sears, Roebuck and Co., Chicago, Ill. Pub. by registrant.

Luxury Sleep

For Mattresses.

Class 38—Prints and Publications

140,395. Mar. 15, 1921. Harley-Davidson Motor Co., Milwaukee, Wis. Pub. by registrant.

THE HARLEY-DAVIDSON ENTHUSIAST

For Monthly Magazines.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

179,542. Feb. 12, 1924. Whitworth & Mitchell, Limited, Manchester, England. Pub. by Whitworth & Mitchell Limited (new company), Manchester, England.

"TRICOLINE"

For Cotton Piece Goods.

379,368. July 9, 1940. Southern Bedding Accessories, Inc., New York, N.Y. Pub. by Southern Bedding Accessories, Inc. (new company), New York, N.Y.

SANI-SEPTICK

For Piece Goods Made of Cotton, Wool, Rayon and Mixtures of same.

Class 45—Soft Drinks and Carbonated Waters

383,165. Nov. 26, 1940. Bireley's Inc., Hollywood, Calif. Pub. by Bireley's Inc., Chicago, Ill.



For Maltless, Nonalcoholic, Noncereal Beverages, Sold as Soft Drinks, and Syrups and Concentrates for Making the Same.

Class 46—Foods and Ingredients of Foods

221,457. Nov. 30, 1926. Alex Getz, Chicago, Ill. Pub. by Donald E. Wentzel, d.b.a. Maple Leaf Duck Farm, Milford, Ind.



For Dressed Poultry.

229,231. June 21, 1927. Alex Getz, Chicago, Ill. Pub. by Donald E. Wentzel, d.b.a. Maple Leaf Duck Farm, Milford, Ind.



For Butter and Eggs.

381,823. Oct. 8, 1940. Pacific American Fisheries, Inc., Bellingham, Wash. Pub. by registrant.



For Canned Salmon.

382,044. Oct. 15, 1940. Polak's Frutal Works, Inc., Middletown, N.Y. Pub. by registrant.



For Fruit Extracts for Food Flavoring Purposes.

382,792. Nov. 12, 1940. Pacific American Fisheries, Inc., Bellingham, Wash. Pub. by registrant.



For Canned Salmon.

Class 51 — Cosmetics and Toilet Preparations

139,247. Feb. 1, 1921. John Francis Barvoets, Everton, Liverpool, England. Pub. by Arthol Limited, Walton-on-Thames, Surrey, England.

ARTHOL

For Chemicals, Pharmaceutical Preparations, Perfumery, Face Creams, Tooth Paste and Rouge.

380,294. Aug. 20, 1940. Polak's Frutal Works, Inc., Middletown, N.Y. Pub. by registrant.



For Compositions of Essential Oils With Addition of Aromatic Chemicals for Perfumes and Cosmetic Preparations; Flavorings for Tobacco; Perfume Oils Used in the Perfuming of Soap.

Class 52 — Detergents and Soaps

436,283. Jan. 27, 1948. Krayer Manufacturing Co. Inc., Elizabeth, N.J. Pub. by registrant.

HECTACREAM

For Cleansing Cream for Removing Hectograph and Other Duplicating Ink Stains From the Hands.

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(Registered; Renewed; Canceled; Amended, Disclaimed, Corrected, etc.; New Certificates; 12c Publications.)

ABC Sales Co., by change of name from Thomson & Taylor Spice Co., Chicago, Ill. 709,405, pub. 10–18–60. Cl. 46.
Abbott Laboratories, North Chicago, Ill. 598,100, canc. Cl. 18.
Abel Corp., The, Columbus, Ohio. 709,357, pub. 10–18–60. Cl. 35.
Acme Backing Corp., New York, N.Y. 709,362, pub. 10–18–60. Cl. 37.
Addiator Rechenmaschinen-Fabrik C. Kubler, Berlin-Charlottenburg, Germany. 385,287, ren. 1–3–61. Cl. 26.
Aeronca Mfg. Corp., Middletown, Ohio. 709,213, pub. 10–18–60. Cl. 12.
Alco Pictures Corp., Los Angeles, Calif. 709,371, pub. 10–18–60. Cl. 38.
Allen Calculators, Inc., New York, N.Y., to R. C. Allen Business Machines, Inc., Grand Rapids, Mich. 385,558, ren. 1–3–61. Cl. 26.
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Allen West & Co. Ltd., Brighton, England. 709,283, pub. 10–18–60. Cl. 21.
Allied Chemical Corp., New York, N.Y. 709,208, pub. 10–19–60. Cl. 12.
Allied Research Products, Inc., Baltimore, Md. 709,228, pub. 10–18–60. Cl. 14.
Alloy Surfaces Co., Inc., Wilmington, Del. 709,188, pub. 10–18–60. Cl. 6.
Aluma Kraft Mfg. Co., St. Louis, Mo. 709,217, pub. 10–18–60. Cl. 12.
Amchem Products, Inc., Ambler, Pa. 709,192, pub. 10–18–60. Cl. 6.
Amerace Corp., New York, N.Y. 709,391, pub. 10–18–60. Cl. 42.
American Can Co., New York, N.Y. 709,361, pub. 10–18–60. Cl. 37.
American Home Products Corp. d.b.a. Whitehall Laboratories, New York, N.Y. 709,252, pub. 10–18–60. Cl. 18.
American Industrial Products Co., Cleveland, Ohio. 598,200, canc. Cl. 32.
American Scientific Laboratories, Inc., Madison, Wis. 709,253, pub. 10–18–60. Cl. 18.
American Surety Co. of New York, New York, N.Y. 709,455, pub. 10–18–60. Cl. 102.
American Tuna Canning Co., Terminal Island, Calif. 709,429–30, pub. 10–18–60. Cl. 46.
Amphenol Electronics Corp., Chicago, Ill. 709,277, pub. 7–21–59. Cl. 21.
Amy Joy Donuts, Inc., Boston, Mass. 709,450, pub. 10–18–60. Cl. 100.
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Aquadyne Corp., Clark, N.J. 709,475. Cl. 26.
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Army Times Publishing Co., Washington, D.C. 598,311, canc. Cl. 38.
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Atlas Supply Co., Newark, N.J. 709,356, pub. 10–18–60. Cl. 35.
Auburn Rubber Co., Inc., Deming, N. Mex. 709,298, pub. 10–18–60. Cl. 22.
Austin Hosiery Mills, Inc., Albemarle, N.C. 598,243, canc. Cl. 39.
Autoline Oil Co., The: *See*—
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B & G Pharmaceutical Co., Inc., Indianapolis, Ind. 709,248, pub. 6–21–60. Cl. 18.
Babson Bros. Co., Chicago, Ill. 709,319, pub. 10–18–60. Cl. 23.
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Barton & Guestier, S.A., Bordeaux, France. 380,951, ren. 1–3–61. Cl. 46.
Barvoets, John F., Everton, Liverpool, England, by Arthol Ltd., Walton-on-Thames, Surrey, England. 139,247, 12(c) pub. 1–3–61. Cl. 51.
Basic Vegetable Products, Inc., San Francisco, Calif. 709,408, pub. 10–18–60. Cl. 46.
Baxter, Don, Inc., Glendale, Calif. 709,255, pub. 10–18–60. Cl. 18.
Bay Trail Shoe Co., Inc., South Weymouth, Mass. 709,382, pub. 10–18–60. Cl. 39.
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Bentz, William C., d.b.a. Bill's Tasty Foods, York, Pa. 709,420, pub. 10–18–60. Cl. 46.
Bernardi, Giacomo B., d.b.a. Benaris, Cleveland, Ohio. 709,263, pub. 10–18–60. Cl. 18.
Bethlehem Steel Co., Bethlehem, Pa. 709,210, pub. 10–18–60. Cl. 12.
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Bentz, William C.
Bireley's Inc., Hollywood, Calif., by Bireley's Inc., Chicago, Ill. 383,165, 12(c) pub. 1–3–61. Cl. 45.
Birtcher Corp., The, Los Angeles, Calif. 709,401, pub. 10–18–60. Cl. 44.
Bishop-Conklin Co., The, Los Angeles, Calif., to Devoe & Raynolds Co,. Inc., New York, N.Y. 384,935, ren. 1–3–61. Cl. 16.
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Bobo's, Don, Lapidary: *See*—
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Bobo, Donald J., d.b.a. Don Bobo's Lapidary, Seattle, Wash. 709,309–10, pub. 10–18–60. Cl. 23.
Boller's Beverages, Inc., Elizabeth, N.J. 382,835, ren. 1–3–61. Cl. 45.
Bonnie Kay Corp., Palmetto, Fla. 709,416, pub. 10–18–60. Cl. 46.
Borden Co., The, New York, N.Y. 383,386, ren. 1–3–61. Cl. 46.
Bories Organization Inc., The, New York, N.Y. 598,279, canc. Cl. 101.
Borneo Sumatra Trading Co., Inc., New York, N.Y. 709,274, pub. 10–18–60. Cl. 19.
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Box-Crafters, Inc., Amityville, N.Y. 709,464–5. Cl. 3.
Braun, Max, Frankfurt am Main, West Germany. 709,469. Cl. 21.
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Brayten Pharmaceutical Co., Chattanooga, Tenn. 709,264, pub. 10–18–60. Cl. 18.
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Bridgeport Brass Co., Bridgeport, Conn., from The Bearing Bronze Casting Co., Cleveland, Ohio. 709,225, pub. 11–26–57. Cl. 14.
British Petroleum Co. Ltd., The, London, England. 709,230, pub. 10–18–60. Cl. 15.
British Petroleum Co. Ltd., The, London, England. 709,367, pub. 10–18–60. Cl. 38.
British Petroleum Co. Ltd., The, London, England. 709,442, pub. 10–18–60. Cl. 52.
Bronze Bearings, Inc., Chicago, Ill. 709,315, pub. 10–18–60. Cl. 23.
Brosius, Robert M., d.b.a. Charm-Crest Industries, Chicago, Ill. 598,172, canc. Cl. 25.
Brownell Travel Bureau, Inc., Birmingham, Ala. 709,491. Cl. 105.
Brunswick-Balke-Collender Co., The: *See*—
Brunswick Corp.
Brunswick Corp., by change of name from The Brunswick-Balke-Collender Co., Chicago, Ill. 709,294–7, pub. 10–18–60. Cl. 22.
Burns & Russell Co. of Baltimore City, The, Baltimore, Md. 709,209, pub. 10–18–60. Cl. 12.
Burroughs Wellcome & Co. (U.S.A.) Inc., Tuckahoe, N.Y. 709,265, pub. 10–18–60. Cl. 18.
Butternut Farm, Inc., Chatham, N.Y. 709,409, pub. 10–18–60. Cl. 46.
Callahan, O. L., Co.: *See*—
Callahan, Oscar L.
Callahan, Oscar L., d.b.a. O. L. Callahan Co., West Frankfort, Ill. 598,130, canc. Cl. 23.
Carrington and Co., Ltd., New York, N.Y. 709,486. Cl. 49.
Carter Products, Inc.: *See*—
De Palma, Frank.
Cellowax Co., The, Baltimore, Md. 709,444, pub. 10–18–60. Cl. 52.
Certified Grocers of Illinois, Inc., Chicago, Ill. 709,421, pub. 10–18–60. Cl. 46.
Champion Spark Plug Co., Toledo, Ohio. 709,370, pub. 10–18–60. Cl. 38.
Chapin, R. E., Mfg. Works, Inc., Batavia, N.Y. 598,166, canc. Cl. 23.

Charlotte Mercantile Co., to Belk Stores Services, Inc., Charlotte, N.C. 381,582, ren. 1–3–61. Cl. 39.
Charm-Crest Industries: *See*—
Brosius, Robert M.
Chemex Corp.: *See*—
Schlumbohm, Peter.
Chemo-Mat Co., The: *See*—
Garrett, V. F.
Chesebrough-Pond's Inc., New York, N.Y. 709,249, pub. 10–18–60. Cl. 18.
Chicago Transparent, Inc., Chicago, Ill. 709,178, pub. 10–18–60. Cl. 2.
Cisco, Inc., New York, N.Y. 598,237, canc. Cl. 39.
Clare, Paul P., Los Angeles, Calif. 598,186, canc. Cl. 30.
Clark Brothers Chewing Gum Co.: *See*—
Clark, D. L., Co., The.
Clark, D. L., Co., The, to Clark Brothers Chewing Gum Co., Pittsburgh, Pa. 135,947, ren. 1–3–61. Cl. 46.
Clark Equipment Co., Buchanan, Mich. 709,269, pub. 10–18–60. Cl. 19.
Cleveland Cap Screw Co., The, Cleveland, Ohio. 384,512, ren. 1–3–61. Cl. 13.
Clougherty Packing Co., Los Angeles, Calif. 709,414, pub. 10–18–60. Cl. 46.
Coca-Cola Co., The, Atlanta, Ga. 709,347, pub. 10–18–60. Cl. 31.
Colgate-Palmolive Co.: *See*—
Palmolive Co., The.
Collegiate Mfg. Co. Inc., New York, N.Y. 598,319, canc. Cl. 39.
Columbian Carbon Co., New York, N.Y. 386,916, ren. 1–3–61. Cl. 11.
Columbian Steel Tank Co., Kansas City, Mo. 709,171, pub. 10–18–60. Cl. 2.
Communication Products Co., Inc., Mariboro, N.J. 709,280, pub. 10–18–60. Cl. 21.
Compex Pharmaceutical Co., New York, N.Y. 598,063, canc. Cl. 6.
Consolidated Foundries and Mfg. Corp.: *See*—
Misco P. C., Inc.
Continental Tobacco Co., Huntington, W. Va. 709,238, pub. 10–18–60. Cl. 17.
Control Design and Fabricate Inc., Farmington, Mich. 709,279, pub. 10–18–60. Cl. 21.
Corn Products Co., New York, N.Y. 709,431, pub. 10–18–60. Cl. 46.
Cox, William H., Lincoln, Nebr. 709,293, pub. 10–18–60. Cl. 22.
Crane Co.: *See*—
Plastic Metals, Inc.
Creco Co., Inc., Long Island City, N.Y. 709,446, pub. 10–18–60. Cl. 52.
Crowley's Milk Co., Inc., Binghamton, N.Y. 709,482. Cl. 46.
Curtiss-Wright Corp., Princeton, N.J. 709,322, pub. 10–18–60. Cl. 23.
Cushman's Sons, Inc., Long Island City, N.Y. 709,424, pub. 10–18–60. Cl. 46.
D. & W. Mfg. Co., to Metal Stamping Co. of Greenville, Inc., Greenville, S.C. 622,983, new cert. Cl. 21.
Dade Reagents, Inc., Miami, Fla. 709,186, pub. 10–18–60. Cl. 6.
Dairy Queen: *See*—
Hartman, Hubert H.
Dana, C. H., Co., Inc., Hyde Park, Vt. 709,439, pub. 10–18–60. Cl. 50.
Daroff, H., & Sons, Inc., Philadelphia, Pa. 709,377, pub. 10–18–60. Cl. 39.
Deering, Milliken & Co. Inc.: *See*—
Deering Milliken, Inc.
Deering Milliken, Inc., Wilmington, Del., merger and by change of name from Deering, Milliken & Co. Inc., New York, N.Y. 709,395, pub. 10–18–60. Cl. 42.
Del-Krome Corp., Walton, N.Y. 598,290, canc. Cl. 19.
Denki Onkyo Co., Ltd.: *See*—
Denki Onkyo Kabushiki Kaisha.
Denki Onkyo Kabushiki Kaisha, d.b.a. Denki Onkyo Co., Ltd., Ota-ku, Tokyo-to, Japan. 709,290, pub. 10–18–60. Cl. 21.
Denver Chemical Mfg. Co., The, d.b.a. Wampole Laboratories, Stamford, Conn. 709,254, pub. 10–18–60. Cl. 18.
De Palma, Frank, Brooklyn, to Carter Products, Inc., New York, N.Y. 134,628, ren. 1–3–61. Cl. 51.
Desco and Diesel Engine Supply Co.: *See*—
Janis, Ray.
Devoe & Raynolds Co., Inc.: *See*—
Bishop-Coklin Co., The.
Truscon Laboratories, Inc.
Diamond Hosiery Corp., New York, N.Y. 598,235, canc. Cl. 39.
Di Gregorio, Casa: *See*—
Di Gregorio, Lorenzo.
Di Gregorio, Lorenzo, d.b.a. Casa di Gregorio, Southbridge, Mass. 598,117, canc. Cl. 22.
Ditta "Lonati" di Lonati Francesco: *See*—
Lonati, Francesco.
Division of Albin Enterprises: See—
Promotion Products, Inc.
Dixi Cola Co.: *See*—
Dixi Cola Co., The.
Dixi Cola Co., The, d.b.a. Dixi Cola Co., Baltimore, Md. 709,404, pub. 10–18–60. Cl. 45.
Dolan Sponge Co.: *See*—
Dolan, William A.
Dolan, William A., d.b.a. Dolan Sponge Co., New York, N.Y. 709,476. Cl. 29.
Dover Corp., Louisville, Ky. 709,353, pub. 10–18–60. Cl. 34.
Driam S.A., Vaduz, Liechtenstein. 709,305, pub. 10–18–60. Cl. 23.
Dunbar Furniture Corp. of Indiana, Berne, Ind. 598,187, canc. Cl. 32.
Duro Co., The, Dayton, Ohio. 598,133, canc. Cl. 23.
Duro-Dyne Corp., Farmingdale, N.Y. 709,354–5, pub. 10–18–60. Cl. 34.
Eagle Clothes, Inc., Brooklyn, N.Y. 598,317, canc. Cl. 39.
Eagle Pencil Co., New York, N.Y., to Eagle Pencil Co., Danbury, Conn. 141,538–9, ren. 1–3–61. Cl. 37.
Eastern Engraving and Machine Co., Inc., New Providence, N.J. 709,472. Cl. 23.
Economy Cover Corp., Brooklyn, N.Y. 709,436, pub. 9–22–59. Cl. 50.
Edmar, Inc., Eau Claire, Wis. 598,131, canc. Cl. 23.
Egan, H. B. Mfg. Co., Muskogee, Okla. 709,181, pub. 10–18–60. Cl. 5.
Egan, H. B., Mfg. Co., Muskogee, Okla. 709,358, pub. 10–18–60. Cl. 35.
Ekstrand, Ernest W., d.b.a. Good Health Institute, Arlington, Va. 709,194, pub. 10–18–60. Cl. 6.
Elastic Yarns Ltd.: *See*—
Glovers (Thread Coverers) Ltd.
Electric Storage Battery Co.: *See*—
French Battery & Carbon Co.
Electric Storage Battery, The, Philadelphia, Pa., to McGraw-Edison Co., West Orange, N.J. 709,282, pub. 12–15–59. Cl. 21.
Electric Supplies Distributing Co. of San Diego, San Diego, Calif. 709,451, pub. 10–18–60. Cl. 101.
Electro-Voice, Inc., Buchanan, Mich. 709,287, pub. 10–18–60. Cl. 21.
Empire Hobby Industries Corp., Brooklyn, N.Y. 598,196, canc. Cl. 32.
Eschmann Bros. & Walsh Ltd., London, England. 709,403, pub. 10–18–60. Cl. 44.
Essex Wire Corp., Fort Wayne, Ind. 709,470. Cl. 21.
Evermine Inc., New York, N.Y. 709,340, pub. 10–18–60. Cl. 27.
FWD Corp., Clintonville, Wis. 709,270, pub. 10–18–60. Cl. 19.
Fa. Wilh. Engstfeld, Heiligenhaus, Rhineland, Germany. 709,222, pub. 10–18–60. Cl. 13.
Fabrex Corp., New York, N.Y. 709,392, pub. 10–18–60. Cl. 42.
Fairbanks, Morse & Co., Chicago, Ill. 140,593, ren. 1–3–61. Cl. 21.
Farbenfabriken Bayer Aktiengesellschaft, Leverkusen-Bayerwerk, Germany. 598,069, canc. Cl. 6.
Fashion Bootery, The, Beverly Hills, Calif. 385,611, ren. 1–3–61. Cl. 39.
Fenety, John G., Edgewater, N.Y. 598,179, canc. Cl. 28.
Fenton Co., Los Angeles, Calif. 709,306, pub. 10–18–60. Cl. 23.
Fibercast Corp., The: *See*—
Perrault Brothers.
Fibre Conduit Co., The, Orangeburg, N.Y., by The Flintkote Co., New York, N.Y. 381,221, 12(c) pub. 1–3–61. Cl. 12.
Fieldcrest Mills, Inc., Spray, N.C. 598,326, canc. Cl. 42.
Filon Plastics Corp., El Segundo, Calif. 709,233, pub. 10–18–60. Cl. 16.
First, Inc., Phoenix, Ariz. 709,200, pub. 1–20–59. Cl. 10.
First National Bank of Chicago, The, Chicago, Ill. 709,456, pub. 10–18–60. Cl. 102.
Fiske Brothers Refining Co., Newark, N.J. 141,548, ren. 1–3–61. Cl. 15.
Flintkote Co., The: *See*—
Fibre Conduit Co., The.
Florsheim Shoe Co., The, to International Shoe Co., Chicago, Ill. 384,776, ren. 1–3–61. Cl. 39.
Food Machinery and Chemical Corp.: *See*—
U.S. Industrial Chemicals, Inc.
Ford Motor Co., Dearborn, Mich. 383,960, ren. 1–3–61. Cl. 23.
Ford Motor Co., Dearborn, Mich. 709,271, pub. 10–18–60. Cl. 19.
Ford Motor Co., Dearborn, Mich. 709,311, pub. 10–18–60. Cl. 23.
Formfit Co., The, Chicago, Ill. 382,708, ren. 1–3–61. Cl. 39.
Foster Freight Lines, Inc., Long Beach, Calif. 709,175, pub. 10–18–60. Cl. 2.
Four Winds Travel, Inc., New York, N.Y. 709,460, pub. 10–18–60. Cl. 105.
Frances Lee's Colorscope, Inc., New York, N.Y. 598,219, canc. Cl. 38.
Frank Tea & Spice Co., The, Cincinnati, Ohio. 141,553, ren. 1–3–61. Cl. 6.
Franklin Brass Mfg. Co., Los Angeles, Calif. 709,220, pub. 10–18–60. Cl. 13.
Frederick Post Co., The, Chicago Ill. 386,731, ren. 1–3–61. Cl. 37.
French Battery & Carbon Co., Madison, Wis., to The Electric Storage Battery Co., Philadelphia, Pa. 138,816, ren. 1–3–61. Cl. 21.
Freudenberg, Carl, Kommanditgesellschaft, Weinheim an der Bergstrasse, Germany. 709,379, pub. 10–18–60. Cl. 39.
Fry, Walter L., Jr. Inc., Detroit, Mich. 598,060, canc. Cl. 3.
Fulco: *See*—
Fullerton, George H.
Fullerton, George H., d.b.a. Fulco, Smyrna, Ga. 709,445, pub. 10–18–60. Cl. 52.
Gallenkamp Stores Co., Los Angeles, Calif. 709,384, pub. 10–18–60. Cl. 39.
Gamby Co., The: *See*—
Hague, Morton.
Garner & Co.: *See*—
Garner & Co., Inc.
Garner & Co., Inc., d.b.a. Garner & Co., New York, N.Y. 709,179, pub. 10–18–60. Cl. 2.
Garrett, V. F., d.b.a. The Chemo-Mat Co., Dallas, Tex. 598,059, canc. Cl. 3.
Gebruder Heyl Chemische Fabrik Kommanditgesellschaft, Hildesheim, Germany. 709,195, pub. 10–18–60. Cl. 6.
Geerlings: *See*—
Geerlings Feed Mills, Inc.

Geerlings Feed Mills, Inc., d.b.a. Geerlings, Waterloo, Iowa. 709,413, pub. 10–18–60. Cl. 46.
Gem-Dandy, Inc., Madison, N.C. 709,383, pub. 10–18–60. Cl. 39.
General Gummed Products, Inc., Linden, N.J. 709,182–4, pub. 10–18–60. Cl. 5.
General Mills, Inc., Minneapolis, Minn. 709,410, pub. 10–18–60. Cl. 46.
General Refractories Co., Philadelphia, Pa. 709,468. Cl. 12.
General Time Corp., New York, N.Y. 709,335, pub. 10–18–60. Cl. 27.
General Time Corp., New York, N.Y. 709,337–0, pub. 10–18–60. Cl. 27.
Genesco Inc., Nashville, Tenn. 709,381, pub. 10–18–60. Cl. 39.
Germaine Monteil Cosmetiques Corp., New York, N.Y. 709,441, pub. 8–30–60. Cl. 51.
Gerotor May Corp., Baltimore, Md. 435,452, canc. Cl. 23.
Getz, Alex, Chicago, Ill., by Donald E. Wentzel d.b.a. Maple Leaf Duck Farm, Milford, Ind. 221,457, 12(c) pub. 1–3–61. Cl. 46.
Getz, Alex, Chicago, Ill., by Donald E. Wentzel d.b.a. Maple Leaf Duck Farm, Milford, Ind. 229,231, 12(c) pub. 1–3–61. Cl. 46.
Giddings & Lewis Machine Tool Co., Fond du Lac, Wis. 709,332, pub. 10–18–60. Cl. 26.
Gilbert Shoe Co., The, Thiensville, Wis. 385,635, ren. 1–3–61. Cl. 39.
Globe Products of Florida, Inc., Clearwater, Fla. 598,273, canc. Cl. 52.
Globe Roofing Products Co., Inc., Whiting, Ind. 709,216, pub. 10–18–60. Cl. 12.
Globe Rubber Products Corp., Philadelphia, Pa. 709,273, pub. 10–18–60. Cl. 19.
Glovers (Thread Coverers) Ltd., to Elastic Yarns Ltd., Nottingham, England. 378,269, ren. 1–3–61. Cl. 48.
Goldsmith, Harry S., Chesterfield, S.C. 598,322, canc. Cl. 40.
Good Health Institute: *See*—
Ekstrand, Ernest W.
Goodrich, Helen M., Berkeley, Calif. 598,303, canc. Cl. 37.
Gotham Audio Development Corp., New York, N.Y. 709,286, pub. 10–18–60. Cl. 21.
Gourielli, Inc., now by merger H.R. Laboratories, Inc., New York, N.Y. 598,258, canc. Cl. 51.
Graino Feed Mills: *See*—
Stewart, A. E. and M. H.
Grand Rapids Plating Co. Inc., Grand Rapids, Mich. 709,229, pub. 10–18–60. Cl. 14.
Granddaddy Mooney: *See*—
Mooney, C. R.
Grant, Foster, Co., Inc., Leominster, Mass. 709,163, pub. 8–25–59. Cl. 1.
Greenheart Lumber Co., Inc., The, New York, N.Y. 709,215, pub. 10–18–60. Cl. 12
Griswold Mfg. Co., The, Erie, Pa., to Textron, Inc., Providence, R.I. 180,740, ren. 1–3–61. Cl. 13.
Groboski Industries, Chicago, Ill. 598,293, canc. Cl. 19.
Gutman-Lann Glove Co., Inc., Brooklyn, N.Y. 709,378, pub. 10–18–60. Cl. 39.
H. R. Laboratories, Inc.: *See*—
Gourielli, Inc.
Hague, Morton, d.b.a. The Gamby Co., Chicago, Ill. 598,058, canc. Cl. 3.
Hall, Henry T., d.b.a. National Laboratory Co., Montgomery, Ala. 709,448, pub. 10–18–60. Cl. 52.
Hamilton Watch Co., Lancaster, Pa. 379,979, ren. 1–3–61. Cl. 23.
Hankscraft Co., Reedsburg, Wis. 709,398, pub. 10–18–60. Cl. 44.
Harley-Davidson Motor Co., Milwaukee, Wis. 140,395, 12(c) pub. 1–3–61. Cl. 38.
Harper & Brothers, New York, N.Y. 709,368, pub. 10–18–60. Cl. 38.
Hartman, Hubert H., d.b.a. Dairy Queen, Fairport, N.Y. 709,406, pub. 10–18–60. Cl. 46.
Harvey, G. F., Co., Inc., The: *See*—
Purdue Frederick Co., The.
Harvey, G. F., Co., Inc., The, New York, N.Y. 709,250, pub. 10–18–60. Cl. 18.
Hawkridge Brothers Co., Boston, Mass. 385,229, 12(c) pub. 1–3–61. Cl. 14.
Heller, B., & Co., Chicago, Ill. 386,263, ren. 1–3–61. Cl. 46.
Helps To Health, Inc., New York, N.Y. 709,247, pub. 10–18–60. Cl. 18.
Hoffmann-La Roche Inc., Nutley, N.J. 709,260, pub. 10–18–60. Cl. 18.
Hood, H. P., & Sons, Inc., Boston, Mass. 400,254, canc. Cl. 46.
Humphrey, W. H., Mfg. Co.: *See*—
Humphrey, Warren H.
Humphrey, Warren H., d.b.a. W. H. Humphrey Mfg. Co., and as W. H. Humphrey Co., Warsaw, N.Y. 709,272, pub. 10–18–60. Cl. 19.
Hunter, John G.: *See*—
Phillips Publishers, Inc.
Hunter Publishing Co., Chicago, Ill. 709,366, pub. 9–29–60. Cl. 38.
Hur-Dol Sales Co.: *See*—
Hurley, William J.
Hurley, William J., d.b.a. Hur-Dol Sales Co., Schuylkill Haven, Pa. 383 822, ren. 1–3–61. Cl. 52.
Huron Portland Cement Co., Detroit, Mich. 136,833, ren. 1–3–61. Cl. 12.
Idaho Potato Growers, Inc., Idaho Falls, Idaho. 709,423, pub. 10–18–60. Cl. 46.
Ideal National Insurance Co., Salt Lake City, Utah. 709,454, pub. 10–18–60. Cl. 102.
Ideal Products, Inc., Sykesville, Pa. 709,272, pub. 8–13–57. Cl. 39.
Industrial Wiping Cloth Co. Inc., Long Island City, N.Y. 709,342, pub. 7–29–58. Cl. 29.
Institute of Fine Fibres, Ltd., New York, N.Y. 709,462, pub. 10–18–60. Cl. A.
International Dryer Corp., Yonkers, N.Y. 709,325, pub. 10–18–60. Cl. 24.
International Latex Corp., Dover, Del. 709,196, pub. 10–18–60. Cl. 6.
International Minerals & Chemical Corp., Skokie, Ill. 709,201, pub. 10–18–60. Cl. 10.
International Shoe Co.: *See*—
Florsheim Shoe Co., The.
International Shoe Co., St. Louis, Mo. 709,375, pub. 7–21–59. Cl. 39.
Italian Swiss Colony, to United Vintners, Inc., San Francisco, Calif. 386,746, ren. 1–3–61. Cl. 49.
Jacobson, Asheur, d.b.a. "Sam'L B. Kirk," Philadelphia, Pa. 709,425, pub. 10–18–60. Cl. 46.
James Textile Corp., The, New York, N.Y. 709,387, pub. 11–18–58. Cl. 42.
Janis, Ray, d.b.a. Desco and Diesel Engine Supply Co., Chicago, Ill. 709,458, pub. 10–18–60. Cl. 103.
Jaton Products Corp., Brooklyn, N.Y. 598,265, canc. Cl. 52.
Jiffy Products, Plainfield, N.J. 598,084, canc. Cl. 18.
Johnson & Johnson, New Brunswick, N.J. 709 488. Cl. 51.
Kabushiki Kaisha Tokyo Kokando, Chuo-ku, Tokyo, Japan. 709,190, pub. 10–18–60. Cl. 6.
Kastor, Adolph, & Bros., to Schick Inc., Lancaster, Pa. 47,230, new cert. Cl. 23.
Kearin Pat, Productions: *See*—
Kearin, Ralph D.
Kearin, Ralph D., d.b.a. Pat Kearin Productions, Los Angeles, Calif. 709,301, pub. 10–18–60, Cl. 22.
Kebow, Dudley, Inc., Los Angeles, Calif. 709,174, pub. 10–18–60. Cl. 2.
Keiser Mfg. Co., West Reading, Pa. 709,303, pub. 10–14–58. Cl. 23.
Kem Button Corp., Brooklyn, N.Y. 709,314, pub. 10–18–60. Cl. 23.
Kerr Wire Products Co., The, Chicago, Ill. 709,477. Cl. 32.
Keystone Carbon Co., St. Marys, Pa. 709,471. Cl. 21.
Kiki Undies Corp., New York, N.Y. 709,385, pub. 10–18–60. Cl. 39.
Kimberly-Clark Corp., Neenah, Wis. 386,789, ren. 1–3–61. Cl. 37.
King Kullen Grocery Co., Inc., Jamaica, N.Y. 709,422, pub. 10–18–60. Cl. 46.
Kingston Industries, Inc., Medfield, Mass. 709,330, pub. 4–5–60. Cl. 26.
"Kirk, Sam'l B.": *See*—
Jacobson, Asheur.
Knickerbocker Biologicals, Inc., New York, N.Y. 709,185, pub. 10–14–58. Cl. 6.
Knott Chemical Co., from R. O. Knott, d.b.a. Knott Chemical Co., Des Moines, Iowa. 709,466. Cl. 6.
Knott, Robert O.: *See*—
Knott Chemical Co.
Krayer Mfg. Co. Inc., Elizabeth, N.J. 436,283, 12(c) pub. 1–3–61. Cl. 52.
LKB-Produkter Fabriksaktiebolag, Stockholm, Sweden. 709,329, pub. 3–3–59. Cl. 26.
Laboratoires Laroche Navarron, Levallois-Perret, Seine, France. 709 241, pub. 10–18–60. Cl. 18.
Lake Ontario Portland Cement Co., Ltd., Toronto, Ontario, Canada. 709,166, pub. 10–18–60. Cl. 1.
Lasting Products Co., Baltimore, Md. 709,231, pub. 9–23–58. Cl. 16.
Layne, Leslie A., Houston, Tex. 381,549, 12(c) pub. 1–3–61. Cl. 23.
Lee Paper Co., to Simpson-Lee Paper Co., Vicksburg, Mich. 386,004, ren. 1–3–61. Cl. 37.
LeFebure Corp., Cedar Rapid, Iowa. 709,453, pub. 10–18–60. Cl. 101.
Lehigh Metal Products Corp., Cambridge, Mass. 709,223, pub. 10–18–60. Cl. 13.
Lehn & Fink Products Corp., Bloomfield, N.J. 709,256, pub. 10–18–60. Cl. 18.
Leonard Tissue Co.: *See*—
Leonard Tissue Corp.
Leonard Tissue Corp., d.b.a. Leonard Tissue Co., Medford, Mass. 709,365, pub. 10–18–60. Cl. 37.
Liggett & Myers Tobacco Co., New York, N.Y. 709,239–40, pub. 10–18–60. Cl. 17.
Lincoln, John, Co., The: *See*—
John, Lincoln.
Lincoln, John, d.b.a. The John Lincoln Co., San Francisco, Calif. 709,467. Cl. 6.
Lindy Pen Co., Inc., Culver City, Calif. 709,363, pub. 10–18–60. Cl. 37.
Loblaw Inc., Buffalo, N.Y. 709,419, pub. 10–18–60. Cl. 46.
Loew's Inc. Metro-Goldwyn-Mayer Inc., New York, N.Y. 384,224–5. Am. 7(d). Cl. 26.
Loew's Inc. Metro-Goldwyn-Mayer Inc., New York, N.Y. 516,143. Am. 7(d). Cl. 36.
Loew's Inc. Metro-Goldwyn-Mayer Inc., New York, N.Y. 523,093. Am. 7(d). Cl. 36.
Loew's Inc. Metro-Goldwyn-Mayer Inc., New York, N.Y. 588,606. Am. 7(d). Cl. 36.
Loew's Inc. Metro-Goldwyn-Mayer Inc., New York, N.Y. 588,752. Am. 7(d). Cl. 21.
Loew's Inc. Metro-Goldwyn-Mayer Inc., New York, N.Y. 595,149. Am. 7(d). Cl. 26.
Loew's Inc. Metro-Goldwyn-Mayer Inc., New York, N.Y. 597,407. Am. 7(d). Cl. 36.
Loew's Inc. Metro-Goldwyn-Mayer Inc., New York, N.Y. 681,168 Am. 7(d). Cl. 36.
Lonati, Francesco, d.b.a. Ditta "Lonati" di Lonati Francesco, Brescia, Italy. 709,317, pub. 10–18–60. Cl. 23.
Loomette Studios: *See*—
Promotion Products, Inc.

Lucky Stores, Inc., San Leandro, Calif. 709,187, pub. 10–18–60. Cl. 6.
Lucky Stores, Inc., San Leandro, Calif. 709,452, pub. 10–18–60. Cl. 101.
Lynnes Publishing Co., Chicago, Ill. 598,312, canc. Cl. 38.
M & B Foods, Inc., Dallas, Tex. 709,418, pub. 10–18–60. Cl. 46.
Macek, Frank J.: *See*—
Stefanski, Michael L.
MacPherson & Co.: *See*—
MacPherson, H. C.
MacPherson, H. C., d.b.a. MacPherson & Co., San Francisco, Calif. 709,485. Cl. 49.
Madison Glass Specialty Co. Inc., Jamaica, N.Y. 709,180, pub. 10–11–60. (Consolidated certificate, Classes 2 and 8.)
Magnet Cove Barium Corp., Houston, Tex. 709,447, pub. 10–18–60. Cl. 52.
Maple Leaf Duck Farm; *See*—
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NOTICES

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C. A. KALK,
Director of Administration.

Dec. 1, 1960.

Adjudicated Patents

(D.C. Mich.) Sciaky Patent No. 2,415,708 (219—4), for welding method and apparatus. Claims 3, 4 and 6 *Held* valid and infringed. *General Electric Co.* v. *Sciaky Bros., Inc.*, 187 F. Supp. 667; 127 USPQ 154.

(D.C. Mich.) Sciaky Patent No. 2,431,083 (172—281), for electric valve converting system. Claims 1 to 6 *Held* valid and infringed. *Id.*

(D.C.N.C.) Canfield Patent No. 2,707,422 (94—46), for curb-laying machine. *Held* valid and infringed. *Power Curbers, Inc.* v. *D. D. Etnyre & Co.*, 187 F. Supp. 819; — USPQ —.

Dedication

2,961,871.—*James B. Ricks*, Highland Park, Ill. SURFACE TESTING APPARATUS. Patent dated Nov. 29, 1960. Dedication filed Nov. 30, 1960, by the assignee, *Earl F. Simmons.*

Hereby dedicates to the public the entire term of said patent.

Patents Available for Licensing or Sale

2,947,802. Insulator With Cap in Socket. Adolf Wortmann, Wuppertal-Nachstebreck, Germany. Correspondence to: Michael S. Striker, 360 Lexington Ave., New York 17, N.Y.

2,952,907. Shavers. Hermann Miller, Koln-Lindenthal, Germany. Correspondence to: Michael S. Striker, 360 Lexington Ave., New York 17, N.Y.

2,964,050. Automatically Actuated Fluid Pressure Discharge Valve. Joseph F. Novak, 442 Greenbay Ave., Calumet City, Ill.

Design Pat. 189,204. Pitcher. Margaret F. C. Carty, P.O. Box 178, Plainfield, Vt.

The following 2 patents are offered by: Harold D. Goldberg, King St., Port Chester, N.Y., Co-owner.

2,747,130. Electronic System (Indicating Counter).

2,944,185. Electronic System (Indicating Counter).

Patents Withdrawn From Register

The following patent is hereby withdrawn from the Register of Patents Available for Licensing or Sale. It was owned by Vance C. Sterrett and was listed in the OFFICIAL GAZETTE of May 20, 1952.

2,493,602. Pressure Fluid Motor.

General Electric Company hereby withdraws the following 5 patents from the Register of Patents Available for Licensing or Sale. They were listed in the OFFICIAL GAZETTE as indicated below:

2,519,948. Bearing Construction. Jan. 2, 1951.

2,543,647. Bearing Structure. Nov. 27, 1951.

2,795,021. Horizontal Die Casting Machine. Sept. 17, 1957.

2,796,543. Polyphase Induction Type Motors. Dec. 17, 1957.

2,810,536. Cradle Type Base for Rotatable Machinery. Feb. 11, 1958.

New Applications Received During November 1960

Patents	6,389
Designs	360
Plant Patents	22
Reissues	19
Total	6,790

Issue

Patents	737	No. 2,967,302 to No. 2,968,038, incl.
Designs	41	No. 189,567 to No. 189,607, incl.
Plant Pats	1	No. 2,010
Reissues	2	No. 24,921 to No. 24,922, incl.
	781	

CONDITION OF PATENT APPLICATIONS AS OF OCTOBER 31, 1960

Total number of pending applications (excluding Designs)	196, 714
Total number of pending Design applications	5, 671
Total number of applications awaiting action (excluding Designs)	89, 507
Total number of Design applications awaiting action	1, 506
Date of oldest new application	June 4, 1959
Date of oldest amended application	June 8, 1959

M. C. ROSA, Director, Patent Examining Operation

PATENT EXAMINING GROUPS, AND SUPERVISORY EXAMINERS	DIVISIONS
(I) STONE, I. G., CHEMICAL AND RELATED ARTS	8, 31, 36, 42, 46, 50, 58, 59, 60, 62, 64.
(II) EVANS, N. H., COMMUNICATIONS, RADIANT ENERGY AND ELECTRICAL ARTS	16, 26, 37, 41, 43, 44, 49, 51, 54, 55.
(III) YUNG KWAI, B., MECHANICAL MANUFACTURING, MACHINE ELEMENTS AND DESIGNS	2, 12, 13, 14, 21, 24, 27, 28, 61, 81, 82.
(IV) SPINTMAN, S., MATERIAL HANDLING AND TREATING, OPTICS, RAILWAYS AND AMUSEMENT DEVICES.	7, 11, 17, 27, 34, 35, 39, 53, 62.
(V) HULL, J. S., STATIC STRUCTURES AND INSTRUMENTS OF PRECISION	5, 9, 20, 29, 32, 33, 40, 52, 66.
(VI) MURPHY, T. F., AGRICULTURE, CALCULATORS, PUMPS AND MOTORS, TRANSPORTATION	1, 4, 9, 10, 18, 22, 23, 32, 45, 47.
(VII) KAUFFMAN, H. E., HEATING AND COOLING, PLASTIC SHAPING AND COATING, SEPARATION AND MIXING, BODY TREATMENT AND CARE.	3, 15, 19, 25, 30, 33, 48, 56, 67.
(CLASS.) GORECKI, G. A., ARTS UNDERGOING RECLASSIFICATION AS LISTED UNDER CLASSIFICATION DIVISIONS.	91, 92, 93, 94, 95.

DIVISIONS, EXAMINERS AND SUBJECTS OF INVENTION (Roman numerals in parentheses indicate Examining Group)	Oldest Application: New	Oldest Application: Amended
1. (VI) GOLDBERG, A. J., Brakes; Planting; Plant Husbandry; Scattering Unloaders; Earth Working	4-4-60	4-1-60
2. (III) STONE, A., Fishing, Trapping and Vermin Destroying; Presses; Tobacco; Textile Wringers; Buckles, Buttons and Clasps	4-20-60	4-11-60
3. (VII) MARMELSTEIN, N., Metal Founding and Treatment; Metallurgy (Process and Apparatus); Alloys; Electrical Resistors	3-28-60	3-23-60
4. (VI) FALLER, E. A., Hoists; Power Driven Conveyors; Handling Apparatus; Elevators; Pneumatic Dispatch; Store Service; Conveyors, Chutes, Skids, Guides and Ways	3-28-60	3-18-60
5. (V) ROBINSON, C. W., Harvesters; Unearthing Objects; Threshing; Knotters; Animal Husbandry; Bee Culture; Dairy; Butchering; Vegetable and Meat Cutters and Comminutors; Fences; Gates; Music; Signals and Indicators; Acoustics	10-20-60	11-3-60
6. (I) LIDOFF, H. J. (MARCUS, L., acting), Carbon Chemistry (part), e.g., Heterocyclic, General Organic Processes, Amides	11-19-60	12-6-60
7. (IV) ANDERSON, E. G., Optics	3-15-60	1-15-60
8. (V) BREHM, G. L., Beds; Chairs and Seats; Cabinets; Tables; Miscellaneous Furniture; Fire Escapes; Ladders; Deposit and Collection Receptacles; Scaffolds	4-6-60	4-11-60
9. (VI) BRANSON, J. H., Pumps; Fans; Turbines	3-14-60	2-3-60
10. (VI) BOYD, S., Firearms; Ordnance; Ammunition; Explosive Charge Making	4-1-60	4-4-60
11. (IV) BENHAM, E. V., Boots, Shoes and Leggings; Shoe and Leather Manufacture; Button, Eyelet and Rivet Setting; Nailing, Stapling and Clip Clinching; Card, Picture and Sign Exhibiting; Cutlery; Pipes and Tubular Conduits	2-17-60	2-12-60
12. (III) DURHAM, B. G. (acting), Machine Elements; Engine Starters; Interrelated Clutch and Motor Controls	4-4-60	3-21-60
13. (III) BEALL, T. E., Gear Cutting; Electric Lamp and Tube Manufacture; Needle and Pin Making; Metal Working (part), e.g. Special Work, Forging, Plastic Working, Drawing, Sawing, Milling, Planing, Turning	3-9-60	3-11-60
14. (III) WILTZ, W. A., Metal Working (part) e.g. Sheet Metal; Metal Bending, Miscellaneous Processes, Assembly and Disassembly Apparatus; Wire Fabrics	3-1-60	11-16-59
15. (VII) BRINDISI, M. V., Plastics; Plastic Block and Earthenware Apparatus	5-3-60	5-3-60
16. (II) ANDRUS, L. M., Telephony; Recorders (part)	9-30-59	9-10-59
17. (IV) LEIGHEY, R. A., Packaging; Typewriters; Printing; Type Casting and Setting; Sheet Material Associating or Folding; Sheet Feeding or Delivering	3-24-60	3-15-60
18. (VI) BLUM, A., Power Plants; Fluid Transmissions; Servomotor Systems; Jet Motors; Combustion Turbines; Speed or Acceleration	5-4-60	5-3-60
19. (VII) PATRICK, P. L., Stoves and Furnaces; Boilers; Fluid Fuel Burners; Heating Systems; Miscellaneous Heating; Automatic Temperature and Humidity Regulation; Illuminating Burners	3-21-60	3-18-60
20. (V) SEERS, J. D., Miscellaneous Hardware; Closure Fasteners; Locks; Safes; Bank Protection; Bread, Pastry and Confection Making; Tents and Canopies; Umbrellas; Canes; Undertaking; Electrical Connectors	5-5-60	5-5-60
21. (III) MADER, R. C., Textiles	4-4-60	3-1-60
22. (VI) BUCHLER, M. B., Aeronautics; Boats; Buoys; Ships; Marine Propulsion; Propellers; Windmills; Fluid Diaphragms and Bellows	1-21-60	1-12-60
23. (VI) SMILOW, L., Data Processors; Digital and Analog Computers; Calculators; Bookkeeping Machines; Cash and Fare Registers; Voting Machines; Counters	6-4-59	6-8-59
24. (III) HICKEY, T. J., Apparel (except Corsets and Brassieres); Apparel Apparatus; Sewing Machines; Textiles, Ironing or Smoothing; Clutches and Power-Stop Control; Work Holders	2-8-60	2-9-60
25. (VII) NEVIUS, R. D., Coating—Processes, Miscellaneous Products and Apparatus; Distillation; Wood Treating Apparatus; Paper Making	1-11-60	12-3-59
26. (II) RADER, O. L., Electricity—Generation, Motive Power, Transmission Systems, Voltage and Phase Control Systems, Furnaces, Battery Charging and Discharging, Arc Lamps, Prime Mover Dynamo Plants; Elevators (part), e.g. Miscellaneous Electric Control Mechanisms; Inductors; Transformers	2-1-60	12-16-59
27. (IV) JAMES, S., Brushing, Scrubbing and General Cleaning; Brush, Broom and Mop Making; Textiles, Fluid Treating Apparatus; Cleaning and Liquid Contact With Solids	3-2-60	4-27-60
28. (VI) BRAUNER, R. H., Internal Combustion Engines; Expansible Chamber Motors; Fluid Servomotors; Spring, Weight and Animal Powered Motors; Cylinders; Pistons; Drive Shafts; Flexible-Shaft Couplings; Chucks or Sockets; Fluid Current Conveyors; Pressure Modulating Relays; Wheel Substitutes	4-11-60	3-15-60
29. (V) FRITZ, M. M., Tools; Woodworking; Button, Barrel and Wheel Making; Baggage; Cloth, Leather and Rubber Receptacles; Package and Article Carriers; Valved Pipe Couplings; Rod Joints; Tool-Handling Fastenings	2-4-60	1-25-60
30. (VII) O'LEARY, R. A., Comminutors; Refrigeration; Fluid Sprinkling, Spraying and Diffusing, Separating and Asserting Solids (part)	5-6-60	5-3-60

DIVISIONS, EXAMINERS AND SUBJECTS OF INVENTION (Roman numerals in parentheses indicate Examining Group)	Oldest Application	
	New	Amended
31. (I) BOETTCHER, A. M., Carbon Chemistry (part), e.g., Urea Adducts, Silicon Containing Carbon Compounds, Hydrogenation of Carbon Oxides, Partial Oxidation of Non-Aromatic Hydrocarbon Mixtures, Hydrocarbons, Halogenated Hydrocarbons; Synthetic Resins (part) (e.g., Oil-Modified; Stabilized); Mineral Oils	4-11-60	4-11-60
32. (VII) BERMAN, H., Gas and Liquid Contact Apparatus; Heat Exchange; Agitation; Fire Extinguishers; Centrifugal Bowl Separators; Liquid Separation or Purification (part)	4-1-60	4-1-60
33. (V) MUSHAKE, W. L., Bridges; Hydraulic and Earth Engineering; Roads and Pavements; Building Structures	1-13-60	12-10-59
34. (IV) QUACKENBUSH, L., Railways—Draft Appliances, Switches and Signals, Surface Track, Rolling Stock, Track Sanders; Electricity, Transmission to Vehicles; Dumping Vehicles; Vehicle Fenders; Hand and Hoist Line Implements	11-5-59	10-9-59
35. (IV) DEMBO, L. J., Dispensing; Filling Receptacles; Toilet; Severing by Tearing or Breaking; Coin Controlled Apparatus; Dispensing Cabinets; Article Dispensing; Coin Handling	3-28-60	2-12-60
36. (V) EVANS, R. L. (CUTTING, C. A., acting), Measuring and Testing (part)	2-5-60	1-11-60
37. (II) LEVY, M. L., Electricity—Switches, Welding, Heating, Photo-Cell Circuits	1-8-60	12-15-59
38. (I) PARKER, C. B., Carbon Chemistry (part), e.g., Azo, Carbocyclic or Acyclic Compounds (part), e.g., Anthrones, Triarylmethanes, Esters, Acids, Ketones, Aldehydes, Ethers, Phenols, Alcohols, Proteins, Amines, Natural Resins	11-30-59	12-4-59
39. (IV) WEIL, L., Fluid-Pressure Regulators; Valves; Fluid Handling (except Pressure Modulating Relays, Float Valves, Diaphragms and Bellows)	3-18-60	3-15-60
40. (V) DRUMMOND, E. J., Receptacles—Metallic, Paper, Wooden, Glass; Special Receptacles and Packages	4-13-60	4-11-60
41. (II) LOVEWELL, N. N., Recorders (part); Sound Recording; Television; Telegraphy (part)	3-24-60	3-16-60
42. (II) REYNOLDS, E. R., Electric Signaling; Telegraphy (part)	1-31-60	1-31-60
43. (I) KNIGHT, W. B. (WOLK, M. O., acting), Medicines, Poisons, Cosmetics; Sugar and Starch; Skins and Leathers; Preserving, Sterilizing and Disinfecting (except Wood Treatment Apparatus); Bleaching, Dyeing, Fluid Treatment of Textiles	11-2-59	10-29-59
44. (II) JUSTUS, C. L., Directive Radio Systems; Nuclear Batteries; Nuclear Resonant Devices; Radar; Sonar; Torpedoes	10-14-59	10-8-59
45. (VI) MANIAN, J. A., Wheels, Tires and Axles; Railway Wheels and Axles; Lubrication; Bearings and Guides; Belt and Sprocket Gearing; Spring Devices; Animal Draft Appliances; Excavating	4-4-60	3-22-60
46. (I) WILES, W. G. (CAMPBELL, R. L., acting), Actinide Series (e.g., Fissionable) Compounds; Sintered Metal Stock; Explosives; Power Plants (part); Metallurgy (part); Radioactive Medicines; Nuclear Reactions; Carbon Chemistry (part)	2-17-60	2-12-60
47. (VI) KANOF, W. J., Mining, Quarrying, and Ice Harvesting; Motor Vehicles; Land Vehicles; Education	4-18-60	4-27-60
48. (II) BERNSTEIN, S., Electricity—Conversion Systems, Protective Systems; Measuring and Testing (except Meters); Switchboards, Relays, Magnets, Condensers, Transistors, Barrier Layer Rectifiers	3-1-60	1-21-60
49. (VII) BENDETT, B., Drying and Gas or Vapor Contact With Solids; Ventilation; Wells; Concentrating Evaporators; Earth Boring	1-20-60	12-3-59
50. (I) ARNOLD, D., Carbon Chemistry (part), e.g., Synthetic Resin Compositions (part), Synthetic Rubber Compositions, Natural Rubber; Synthetic Resins (part) (e.g., Butadiene Polymers and Copolymers, Polyacrylonitriles, Acrylate Polymers and Copolymers)	1-14-60	12-2-59
51. (II) WESTBY, G. N., Modulators; Piezoelectric Devices; Antennas; Oscillators; Miscellaneous Electron Space Discharge Device Systems; Radio Detectors	1-21-60	1-7-60
52. (V) LE ROY, C. A., Supports and Racks; Separating and Assorting Solids (part)	11-23-59	11-12-59
53. (IV) NINAS, G. A., Label Pasting and Paper Hanging; Books and Book Making; Manifolding; Printed Matter; Stationery; Paper Files and Binders; Flexible or Portable Closures or Partitions; Doors, Windows, Awnings, and Shutters; Harness; Whip Apparatus; Food Apparatus; Closure Operators; Illumination	3-16-60	4-15-60
54. (II) NILSON, R. G., Electric Lamps; Electronic Tubes; Miscellaneous Discharge Devices; Lamp, Cathode Ray and Gas Discharge Device Circuits; Ray Energy (e.g., X-Ray, Ultraviolet, Radioactive) Applications; Mass Spectrometers	3-3-60	3-21-60
55. (VII) WHITMORE, H. B. (acting), Surgery; Dentistry; Artificial Body Members	2-29-60	2-29-60
56. (I) SPECK, J. R., Abrading Compositions; Batteries; Coating or Plastic Compositions; Electrical and Wave Energy Chemistry	2-2-60	3-4-60
57. (III) MILLER, A. B., Bolt, Nut, Rivet, Nail, Screw, Chain, and Horseshoe Making; Driven and Screw Fastenings; Nut and Bolt Locks; Jewelry; Pipe Joints or Couplings; Cutting	3-15-60	1-12-60
58. (III) BRONAUGH, F. H., Rolls and Rollers; Making Metal Tools and Implements; Stone Working; Abrading Processes and Apparatus; Baths, Closets, Sinks, and Spittoons; Boring and Drilling; Paper Manufactures; Selective Cutting	3-7-60	3-7-60
59. (I) BRINDISI, M. A., Inorganic Chemistry; Fertilizers; Gas, Heating and Illuminating	12-11-59	11-23-59
60. (I) MANGAN, P. E., Carbon Chemistry (part), e.g., Synthetic Resins (part); Miscellaneous Polymers (e.g., Vinyl Polymers); Synthetic Resin Compositions (part), Synthetic Rubber; Photographic Processes and Products	3-3-60	3-1-60
61. (III) STRIZAK, J. P., Winding and Reeling; Pushing and Pulling; Horology; Railway Mail Delivery; Feeding of Indefinite Lengths	4-27-60	4-20-60
62. (IV) LOWE, D. B. (FULLER, E. E., acting), Games; Toys; Amusements and Exercising Devices; Mechanical Guns and Projectors; Photographic Apparatus	3-23-60	3-17-60
63. (I) WINKELSTEIN, A. H., Foods and Beverages; Fermentation; Carbon Chemistry (part), e.g., Lignins, Carbohydrate Derivatives, Fats, Sulfurized Compounds; Heavy Metal Compounds	11-23-59	1-7-60
64. (I) GREENWALD, J., Fuels; Miscellaneous Compositions	12-8-59	12-15-59
65. (II) SAX, E. J., Wave Guides; Electric Meters; Conductors; Insulators; Amplifiers	4-6-60	3-23-60
66. (V) LISANN, L., Geometric Instruments; Measuring and Testing (part)	11-5-59	10-22-59
67. (VII) KRAFFT, C. F., Liquid Separation or Purification (part); Laminated Fabrics	1-15-60	1-4-60
81. (III) MONCURE, J. A., Industrial Arts	3-8-60	3-15-60
82. (III) HUNTER, E. H., Household, Personal and Fine Arts	3-15-60	3-22-60
91. BAILEY, J. S., Ornamentation; Glass	3-21-60	4-1-60
92. GAUSS, H., Radio Transmitters, Receivers and Tuners	4-21-60	4-26-60
93. WAHL, R. A. (PURDY, W. F., acting), Wire Working	1-29-60	12-16-59
94. BERLOWITZ, W. (COLE, W. S., acting), Gas Separation	3-2-60	3-2-60
95. ANGEL, C. D., Metallic Building Structures; Packed Rod Joints; Joint Packings	3-10-60	3-7-60
M. E. DIV. A (I) GASTON, L. H., Carbon Chemistry (part), e. g., Steroids; Synthetic Resins (part), i. e., Polyethylenes	4-5-60	3-2-60

EXPIRATION OF PATENTS

The patents within the range of numbers indicated below expire during December 1960, except those which may have been extended under the provisions of the Veterans Patent Extension Act (54 Stat. 216 as amended by 66 Stat. 321) and those which may have expired earlier due to shortened terms under the provisions of Public Law 600. A list of Veterans' patents which have been extended appears in the *Annual Index of Patents—1960*.

Patents	Numbers 2,935,944 to 2,938,080, inclusive
Plant Patents	Number 610

DECISIONS IN PATENT AND TRADEMARK CASES

U.S. Court of Customs and Patent Appeals

IN RE JOHN R. WILLINGHAM

No. 6560. Decided July 20, 1960. Petition for Rehearing Denied October 10, 1960

[47 CCPA —; 282 F.2d 353; 127 USPQ 211]

1. REISSUE—PATENT ACT OF 1952.

"The reissue provisions of the Patent Act of 1952, like the reissue provisions of the earlier patent statutes are remedial in nature. They are based on fundamental principles of equity and fairness and should be so applied to the facts in any given case that justice will be done both to the patentee and to the public."

2. SAME—DIFFERENCE BETWEEN 35 U.S.C. 251, 252 AND PRIOR REISSUE STATUTE.

Held that "35 U.S.C. 251, 252 was enacted to provide the present statutory basis for the granting of reissues" and that "These provisions differ in significant respects from the prior reissue statute (R.S. 4916, 35 U.S.C. 64); and *Held* that the difference pertinent to the issue arising from the deletion of an unrejected claim numbered 12 from appellant's original application and the substitution of narrower claim 15, "are found in section 251 which authorizes a reissue to correct a wholly or partially invalid or inoperative patent when due to 'error without deceptive intention,' and if as a result of such error, the patentee has claimed less than he had a right to claim."

3. SAME—*In re Byers* DISTINGUISHED.

With respect to *In re Byers*, 43 CCPA 803, 230 F.2d 451, 109 USPQ 53, in which the Court of Customs and Patent Appeals affirmed the refusal of the Patent Office to allow the reissue claims because the court found that the changes made to the original claim were deliberately and intentionally made in order to secure a patent, and in which the court ruled that this was not the type of "error" contemplated in section 251 as justifying a reissue, *Held* that "the present case is distinguishable on its facts from the Byers case and is a case of the type contemplated by Congress as justifying a reissue under section 251." in that "Applicant, due to an error in prosecuting his original patent, did not secure as broad patent protection as he appears to have been entitled to secure since claim 15 which was submitted as a substitute for claim 12 is narrower than required to properly claim applicant's invention."

4. SAME—CLAIM CANCELLED IN ORIGINAL APPLICATION—COMPARISON WITH REISSUE CLAIMS.

"From our examination of reissue claims 3 and 6 and a comparison of these claims with deleted claim 12 of the original application and the allowed claim 15 of the original application, which became the single claim of the patent, we find that the reissue claims, while broader in scope than allowed claim 15, are somewhat narrower in scope than deleted claim 12. Reissue claims 3 and 6 are narrower than claim 12 with respect to the eccentric opening but are broader than this claim in the limitations relating to the flutes. Thus, the issue before us is not the issue presented in many reissue cases in which an applicant cancels a claim to secure the issuance of the patent and then seeks to recapture it by a claim of the same scope in a reissue application."

5. SAME—SAME—DECEPTIVE INTENTION—EXAMINER'S SUBSTITUTION OF CLAIM.

Upon consideration of whether an error in prosecuting appellant's original application occurred "without any deceptive intention," where at the request of the appellant, the Examiner had, at his discretion, substituted claim 15 for claim 12, *Held* that "We are unwilling to impute a deceptive intention to the Examiner in using his 'discretion' to effect the deletion of claim 12 and the substitution of claim 15 therefor," that "This act, and not the act of appellant, is the final act which brought about the cancellation of claim 12," and that "While we question the propriety of placing such a responsibility on an Examiner, where, as here, he accepted it and acted upon it, we are bound to pass on the nature of the resulting 'error' rather than upon the question of the propriety of placing this responsibility on the Examiner."

6. SAME—SAME—SAME—SAME.

"Was there a deceptive intention on the part of appellant in requesting the Examiner 'in his discretion' to make the changes? We think not. Unfortunately the record does not reveal what occurred at the interview between appellant's attorney and the Examiner. We think it proper to take judicial notice of the fact that such interviews are common and usually are conducted in the spirit of a free and open discussion as to the merits of the invention, the pertinency of the prior art and the allowability of claims. We feel certain that the interview referred to in the amendment of February 10, 1954, in the original application must have been of this type and that appellant's attorneys must as a result of the interview have been very confident of the competency of the Examiner to have permitted him to use his 'discretion' in deleting claim 12 and substituting claim 15 therefor. We think this reliance on the Examiner's discretion was in good faith and without any deceptive intention. We are, therefore, unable to find in this entire proceeding anything which constitutes any evidence of a 'deceptive intention' in the error which resulted in the cancellation of claim 12."

7. SAME—SAME—DELIBERATE CANCELLATION NOT AN "ERROR."

Held that the substitution of a claim proper in form for a claim which is formally defective but not rejected by the Examiner for this or any other reason is clearly distinguishable from the typical fact situation of prior cases in which it had been found that the cancellation or amendment of a claim in the original patent was done deliberately and under such conditions that no "error" was present; and *Held* that "The deliberate cancellation of a claim of an original application in order to secure a patent cannot ordinarily be said to be an 'error' and will in most cases prevent the applicant from obtaining the cancelled claim by reissue," and that "The extent to which it may also prevent him from obtaining other claims differing in form or substance from that cancelled necessarily depends upon the facts in each case and particularly on the reasons for the cancellation."

8. SAME—SAME.

Upon finding that reissue claims 3 and 6 differ materially from cancelled claim 12 in appellant's application and that there was nothing of record on which to base a holding that the cancellation of claim 12 was in any sense an admission that the reissue claims were not in fact patentable to appellant at the time claim 12 was deleted, *Held* that "The circumstances shown by the record are not sufficient to establish that the deletion of claim 12 was such an action as would forfeit applicant's right, by reissue, to obtain the appealed claims"; and *Held*, in reversing the decision below, that "the substitution of claim 15 for claim 12 in the original application was, under the circumstances of this case, an 'error without deceptive intention.'"

APPEAL from the Patent Office. Serial No. 577,426.

REVERSED.

Harness, Dickey & Pierce (*John A. Blair* of counsel) for appellant.

Clarence W. Moore (*George C. Roeming* of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH, MARTIN, and SMITH, *Associate Judges*

SMITH, *J.*, delivered the opinion of the court.

This is an appeal from the decision of the Board of Appeals of the United States Patent Office affirming the rejection by the Primary Examiner of claims 3 and 6 of appellant's application No. 577,426, filed April 10, 1956 for reissue of his patent No. 2,674,908. The sole basis of the rejection is that appellant is precluded from obtaining the appealed claims in a reissue of his patent by reason of the substitution of claim 15 for unrejected claim 12 during the prosecution of his

original application. In the opinion of the Board, claim 12 included "the heart of the invention recited in claims 8 and 6."

For purposes of comparison, claim 8, which is typical of the appealed claims, and original claim 12 are reproduced below.

8. A deep hole drill comprising a shank, a drill tip on the end of said shank, at least one flute in the peripheral surface of said shank and tip, said shank having an opening extending longitudinally therethrough, said tip having a hole extending from its end surface and communicating with the opening through said shank and being eccentric with respect to the longitudinal axis of said tip, said hole including the axis of said tip, and cutting edges formed at the end of said tip.

12. A deep hole drill comprising a drill tip secured to a hollow shank, the diameter of which is less than that of the drill tip, said shank and drill tip having a plurality of equally spaced longitudinally positioned straight flutes providing longitudinally disposed lands with chip channels between the lands, the leading sides of the lands providing chip scraping edges, and said drill tip and shank having an eccentrically positioned longitudinally disposed opening extended therethrough, said opening being adapted to receive a centrally positioned pin cut by the drill tip and being eccentrically positioned provides a fluid channel at one side of the pin, said eccentrically positioned opening providing a cutting edge on one side of the tip of a greater length than a corresponding edge on the opposite side, and said cutting edge of the drill tip being positioned between the chip channels.

Appellant's device is a deep hole drill and comprises a shank having a longitudinal opening and a drill tip mounted on the shank and having a longitudinal opening communicating with the opening in the shank. The opening in the drill bit is eccentric with respect to the axis of the bit, and is large enough to include that axis. With this arrangement the rotation of the drill tip, which is provided with one or more cutting flutes, produces a hole having a solid core which is axial with respect to the bit but which is smaller than and lies within the bit opening, thus providing a longitudinal passage through which a drilling fluid may be supplied to the tip.

The issue here is whether the deletion of claim 12 from the original application and the substitution of the narrower claim 15 was due to an "error without deceptive intention" which will permit a reissue of the patent under 35 U.S.C. 251.

The record presented here as to the history of claim 12 in appellant's original application is extremely meager. It shows, however, that claim 12 was entered by a supplemental amendment on January 13, 1954, and was deleted and replaced by another claim by a supplemental amendment on February 10, 1954. No action by the Examiner intervened between those amendments. Thus claim 12 was never rejected or otherwise acted on. The remarks which accompanied the claim when presented are not included in the record, nor are those which accompanied its deletion, except for the following paragraph:

This amendment is submitted in view of an interview with the Examiner, in which it was thought that a claim, such as following, may place the application in condition for final action and allowance, and *the Examiner is most respectfully requested, at his discretion*, to substitute this claim for the claims of the application, and, if found allowable, pass the case to issue. [Emphasis added.]

The record does not show what prior art, if any, was cited against appellant's original application or discussed at the interview which led to the substitution at the "discretion" of the Examiner of claim 15 for claim 12.[1] Thus, as stated in the brief for the Commissioner, "there is nothing in the record to indicate that cancelled claim 12 was definitely held unpatentable over prior art by the Examiner."

[1] The reissue provisions of the Patent Act of 1952, like the reissue provisions of the earlier patent statutes are remedial in nature. They are based on fundamental principles of equity and fairness and should be so applied to the facts in any given case that justice will be done both to the patentee and to the public. This governing principle as long ago as 1832, before there was statutory provision for granting reissues, was stated by Chief Justice Marshall in *Joseph Grant, et al.* v. *E. & H. Raymond*, 6 Peters 217, as follows:

* * * The great object and intention of the [patent] act is, to secure to the public the advantages to be derived from the discoveries of individuals, and the means it employs are the compensation made to those individuals, for the time and labor devoted to these discoveries, by the exclusive right to make, use and sell the things discovered, for a limited time. That which gives complete effect to this object and intention, by employing the same means for the correction of inadvertent error, which are directed in the first instance, cannot, we think, be a departure from the spirit and character of the act.

* * * * * * *

It has been urged, that the public was put into possession of the machine, by the open sale and use of it under the defective specification, and cannot be deprived of it, by the grant of a new patent. The machine is no longer the subject of a patent. This would be perfectly true, if the second patent could be considered as independent of the first. But it is in no respect so considered. The communication of the discovery to the public has been made in pursuance of law, with the intent to exercise a privilege which is the consideration paid by the public for the future use of the machine. If, by an innocent mistake, the instrument introduced to secure this previlege fails in its object, the public ought not to avail itself of this mistake, and to appropriate the discovery, without paying the stipulated consideration. The attempt would be disreputable in an individual, and a court of equity might interpose to restrain him. (P. 240–241)

[2] 35 U.S.C. 251, 252 was enacted to provide the present statutory basis for the granting of reissues. These provisions differ in significant respects from the prior reissue statute (R.S. 4916, 35 U.S.C. 64). The differences pertinent to the present issue are found in section 251 which authorizes a reissue to correct a wholly or partially invalid or inoperative patent when due to "error without deceptive intention," and if as a result of such error, the patentee has claimed less than he had a right to claim.

The present reissue provisions (35 U.S.C. 251, 252), thus give statutory effect to the view expressed by Mr. Justice Brown in *Topliff* v. *Topliff*, 145 U.S. 156 (1891), as follows:

To hold that a patent can never be reissued for an enlarged claim would be not only to override the obvious intent of the statute, but would operate in many cases with great hardship upon the patentee. The specification and claims of a patent, particularly if the invention be at all complicated, constitute one of the most difficult legal instruments to draw with accuracy, and in view of the fact that valuable inventions are often placed in the hands of inexperienced persons to prepare such specifications and claims, it is no matter of surprise that the latter frequently fail to describe with requisite certainty the exact invention of the patentee, and err either in claiming that which the patentee had not in fact invented, or in omitting some element which was a valuable or essential part of his actual invention. Under such circumstances, it would be manifestly unjust to deny him the benefit of a reissue to secure to him his actual invention, provided it is evident that there has been a mistake and he has been guilty of no want of reasonable diligence in discovering it, and no third persons have in the meantime acquired the right to manufacture or sell what he had failed to claim. The object of the patent law is to secure to inventors a monopoly of what they have actually invented or discovered, and it ought not to be defeated by a too strict and technical adherence to the letter of the statute, or by the application of artificial rules of interpretation. * * * (P. 171)

[3] In *In re Byers*, 43 CCPA 803, 230 F.2d 451, 109 USPQ 53, we affirmed the refusal of the Patent Office to allow the reissue claims because the court found that the changes made to the original claim were deliberately and intentionally made in order to secure a patent, and held that this was not the type

[1] Much speculation might have been eliminated from this case had the record shown a strict compliance by applicant's attorney with rule 133(b) which requires "a complete written statement of the reasons presented at the interview as warranting favorable action."

of "error" contemplated in section 251 as justifying a reissue.

We think the present case is distinguishable on its facts from the Byers case and is a case of the type contemplated by Congress as justifying a reissue under section 251. Applicant, due to an error in prosecuting his original patent, did not secure as broad patent protection as he appears to have been entitled to secure since claim 15 which was submitted as a substitute for claim 12 is narrower than required to properly claim applicant's invention.

The result of this error was the issuance of a patent which appellant asserts in his reissue oath is defective in "unnecessarily limiting the device to a drill having 'straight' flutes, 'equally' spaced flutes, and lands with 'radially' positioned leading sides." There is also the assertion under oath that such error arose without fraudulent or deceptive intention on his part.

[4] From our examination of reissue claims 3 and 6 and a comparison of these claims with deleted claim 12 of the original application and the allowed claim 15 of the original application, which became the single claim of the patent, we find that the reissue claims, while broader in scope than allowed claim 15, are somewhat narrower in scope than deleted claim 12. Reissue claims 3 and 6 are narrower than claim 12 with respect to the eccentric opening but are broader than this claim in the limitations relating to the flutes. Thus, the issue before us is not the issue presented in many reissue cases in which an applicant cancels a claim to secure the issuance of the patent and then seeks to recapture it by a claim of the same scope in a reissue application.

[5] It remains to be considered whether such error occurred "without any deceptive intention." We are unwilling to impute a deceptive intention to the Examiner in using his "discretion" to effect the deletion of claim 12 and the substitution of claim 15 therefor. This act, and not the act of appellant, is the final act which brought about the cancellation of claim 12. While we question the propriety of placing such a responsibility on an Examiner, where, as here, he accepted it and acted upon it, we are bound to pass on the nature of the resulting "error" rather than upon the question of the propriety of placing this responsibility on the Examiner.

[6] Was there a deceptive intention on the part of appellant in requesting the Examiner "in his discretion" to make the changes? We think not. Unfortunately the record does not reveal what occurred at the interview between appellant's attorney and the Examiner. We think it proper to take judicial notice of the fact that such interviews are common and usually are conducted in the spirit of a free and open discussion as to the merits of the invention, the pertinency of the prior art and the allowability of claims. We feel certain that the interview referred to in the amendment of February 10, 1954, in the original application must have been of this type and that appellant's attorneys must as a result of the interview have been very confident of the competency of the Examiner to have permitted him to use his "discretion" in deleting claim 12 and substituting claim 15 therefor. We think this reliance on the Examiner's discretion was in good faith and without any deceptive intention. We are, therefore, unable to find in this entire proceeding anything which constitutes any evidence of a "deceptive intention" in the error which resulted in the cancellation of claim 12.

The numerous cases on reissues, cited in the brief for the Commissioner in support of the position of the Board, are cases either decided under prior reissue statutes or they are cases in which it was found that the cancellation or amendment of a claim in the original patent was done deliberately and under such conditions that no "error" was present.

[7] The substitution, as here, of a claim proper in form for a claim which is formally defective but not rejected by the Examiner for this or any other reason is, in our opinion, clearly distinguishable from the typical fact situation of these prior cases. The deliberate cancellation of a claim of an original application in order to secure a patent cannot ordinarily be said to be an "error" and will in most cases prevent the applicant from obtaining the cancelled claim by reissue. The extent to which it may also prevent him from obtaining other claims differing in form or substance from that cancelled necessarily depends upon the facts in each case and particularly on the reasons for the cancellation.

In the instant case, the reasons for the deletion of claim 12 of the original application do not appear of record, and we may not properly speculate as to what they may have been and base our decision on the results of such speculation. [8] The appealed claims differ materially from cancelled claim 12 and there is nothing of record on which to base a holding that the cancellation of claim 12 was in any sense an admission that the reissue claims on appeal were not in fact patentable to appellant at the time claim 12 was deleted.

The circumstances shown by the record are not sufficient to establish that the deletion of claim 12 was such an action as would forfeit appellant's right, by reissue, to obtain the appealed claims.

We hold specifically that the substitution of claim 15 for claim 12 in the original application was, under the circumstances of this case, an "error without deceptive intention." We therefore reverse the appealed decision.

REVERSED.

PATENT SUITS

Notices under 35 U.S.C. 290; Patent Act of 1952

2,351,596, E. M. Brogden et al., Art of merchandise packaging; 2,751,730, H. G. Gentry, Packaging method and means; 2,786,572, same, Paperboard carrier for cans, filed Jan. 30, 1958, D.C., N.D. Calif. (San Francisco), Doc. 37/014, *Noble Andre et al.* v. *Mead-Atlanta Paper Company et al.* Stipulated order of dismissal without prejudice Nov. 16, 1960.

2,586,795, Drisch and Brepson, Pneumatic tires; 2,586,796, same, Production of viscose rayon; 2,591,243, same, Process for the manufacture of rayon from viscose with high elongation and spooling in centrifugal cups; 2,597,577, same, Rayon yarn; 2,600,983, same, Production of viscose rayon, filed Nov. 18, 1958, D.C., S.D.N.Y., Doc. 140/53, *Societe Chimiotes* v. *Beaunit Mills, Inc. et al.*

2,586,796. (See 2,586,795.)

2,667,666, McElroy and McNutt, Process for detecting faults in the welds while being made, filed July 15, 1958, D.C., S.D.N.Y., Doc. 135/317, *Archie K. McElroy et al.* v. *Consolidated Edison Company et al.* Order of dismissal for lack of prosecution Nov. 21, 1960.

2,591,243. (See 2,586,795.)

2,592,134. (See 2,280,226.)

2,597,577. (See 2,586,795.)

2,600,983. (See 2,586,795.)

2,700,042, R. S. Aries, Production of pyridine and beta picoline, filed Nov. 22, 1960, D.C., S.D. Ind. (Indianapolis), Doc. 60–C–325, *Ansul Chemical Company* v. *Reilly Tar & Chemical Corporation et al.*

2,710,461, N. Hack, Resilient shoe soles, filed July 20, 1960, D.C., S.D.N.Y., Doc. 60/2859, *Ripple Sole Corporation* v. *Albert Hansen et al.* Consent judgment; defendants enjoined Nov. 19, 1960.

2,751,730. (See 2,351,596.)

2,765,674, G. S. Diamond, Process for separating ores, filed Sept. 3, 1957, D.C., W.D.N.Y. (Buffalo), Doc. 7560, *International Minerals & Chemicals Corporation* v. *Golding-Keene Company et al.* Order dismissing complaint Nov. 21, 1960.

2,786,572. (See 2,351,596.)

2,965,730, F. P. Brennan, Garment supporting structure, filed Nov. 21, 1960, D.C., N.D. Ill. (Chicago), Doc. 60c1815, *Brennan Engineering Corporation et al.* v. *James R. Zeman et al.*

2,966,230, H. K. Foster, Detachable temperature regulating connector for electrically heated devices, filed Nov. 22, 1960, D.C. Del. (Wilmington), Doc. 2271 (originally filed Aug. 29, 1960, D.C., N.D. Tex. (Dallas), Doc. 8575), *S. W. Farber, Inc.* v. *Texas Instruments, Incorporated.*

Des. 181,946, E. Saarinen, Chair or the like, filed Nov. 22, 1960, D.C., E.D. Tex. (Tyler), Doc. 2841, *Knoll Associates, Inc. et al.* v. *Southern Aluminum Foundry Company.*

Des. 187,677, H. H. Hollington, Paddleboard, filed Nov. 21, 1960, D.C., S.D. Fla. (Miami), Doc. 380–M, *Aeroplastics Corporation* v. *Miami Swim Products.*

Errata

In the OFFICIAL GAZETTE, issue of Nov. 29, 1960, vol. 760, p. 1045, under the heading "Errata," second column, lines 8 to 11, strike out: In the OFFICIAL GAZETTE, issue of Oct. 11, 1960, vol. 759, p. 231, under the heading "Patent Suits," first column, lines 22, 23, and 24, strike out "2,771,824, H. K. Patch et al., Composite floor and deck covering construction."

In the OFFICIAL GAZETTE, issue of Oct. 11, 1960, vol. 759, p. 231, under the heading "Patent Suits," first column, line 22, strike out "2,711,824, J. W. Ehrler, Tumbler-screener;". The notice should read:

"2,771,824, H. K. Patch et al., Composite floor and deck covering construction, filed Mar. 24, 1959, D.C., N.D. Calif. (San Francisco), Doc. 38130, *Cressfield Products Corporation* v. *Roofing Constructors, Inc. et al.* Consent decree; injunction granted Aug. 11, 1960. Same, filed Sept. 23, 1959, same, Doc. 38538, *Cressfield Products Corporation* v. *Frank J. Miller et al., doing business as Cal-Tex Manufacturing Company et al.* Decree as above."

REISSUES

JANUARY 10, 1961

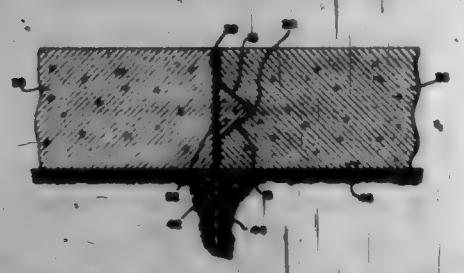
Matter enclosed in heavy brackets [ ] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates additions made by reissue.

24,921
CONCRETE SLAB KEY-JOINT FORMING MEMBER

Warren D. Wilbur, 13379 Pastel Lane, Mountain View, Calif., assignor of one-half to Richard N. Tone, Belmont, Calif.

Original No. 2,848,929, dated Aug. 26, 1958, Ser. No. 633,723, Jan. 11, 1957. Application for reissue Sept. 3, 1959, Ser. No. 838,011

7 Claims. (Cl. 94—17)



1. A combination form and contraction joint for adjacent slab sections of a monolithically poured concrete slab comprising a plurality of expendable flattened stakes set to grade at spaced apart aligned intervals, in combination with an expendable relatively rigid sheet material member comprising a vertically extending plane portion having an inverted J-hook at the top edge thereof, said inverted J-hook consisting of a horizontal portion extending at a right angle from the top edge of said vertical plane portion and terminating in a downwardly extending vertical portion of considerably less height than that of said vertical plane portion, said inverted J-hook snugly embracing and being [solely] supported at grade level on the upper ends of said flattened stakes with the vertically extending plane portions of said sheet member held in contact with the adjacent vertical portions of said stakes, whereby, when concrete is poured against said sheet material on the side away from said stakes, it will press said sheet material member against said supporting stakes, and concrete may then be poured immediately against the stake supporting side of said sheet material member.

24,922
HOSIERY AND METHOD OF FORMING SAME

John C. Buckreus, Hartford, Wis., assignor, by mesne assignments, to United States Trust Company of New York, New York, N.Y.

Original No. 2,825,215, dated Mar. 4, 1958, Ser. No. 481,737, Jan. 14, 1955. Application for reissue Feb. 26, 1959, Ser. No. 795,880

11 Claims. (Cl. 66—185)



1. A *knitted* stocking having only one seam which is located entirely on the under side of its foot portion and extends longitudinally thereof, *the forwardmost end of said seam terminating rearwardly of the tip of the toe of said stocking.*

PLANT PATENTS

GRANTED JANUARY 10, 1961

Illustrations for plant patents are usually in color and therefore it is not practicable to reproduce the drawing.

2,010
NECTARINE TREE

Grant Merrill, Red Bluff, Calif.

Filed Feb. 29, 1960, Ser. No. 11,941

1 Claim. (Cl. 47—62)

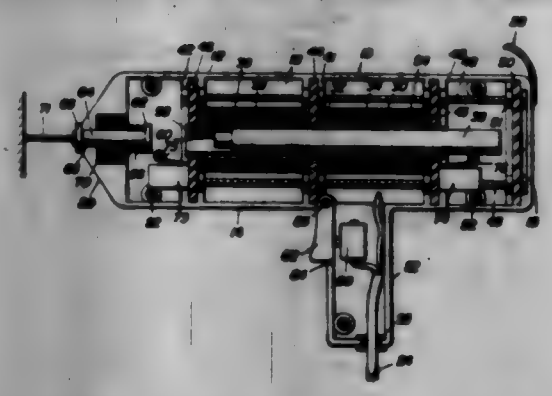
A new and distinct variety of nectarine tree, substantially as illustrated and described, characterized by its large size and heavy production; its bearing of firm, yellow fleshed, intensely red, thick skinned, large, nectarines which are semi-freestone when ripened off the tree, and which ripen at the same time to five days earlier than fruit of the Merrill Princess nectarine tree (Plant Patent No. 1,410); and which is further distinguished from the Merrill Princess nectarine tree and an improvement thereover in its greater vigor and productivity and by the production of larger and more nearly spherical fruit having thicker skin.

PATENTS

GRANTED JANUARY 10, 1961

GENERAL AND MECHANICAL

2,967,302
ELECTRIC HAMMER
Robert B. Loveless, 328 2nd St. W., Milan, Ill.
Filed July 1, 1958, Ser. No. 745,926
3 Claims. (Cl. 1—47)



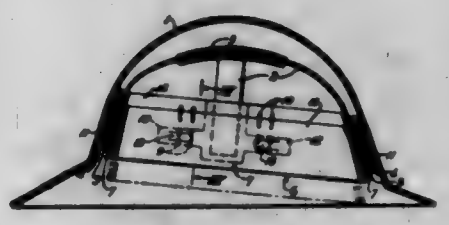
1. An electric hammer construction including a first solenoid coil and a second solenoid coil, said first and second coils being oppositely wound and spaced along a common axis, an armature reciprocably movable through said coils, a first switch serially connected to said first coil, a second switch serially connected to said second coil, each of said first and second switches having a switch operator positioned in the path of travel of said armature for alternately positively drawing said armature in reverse directions, an anvil, said anvil being aligned with said armature, a holding coil, said anvil being reciprocably movable through said holding coil whereby said anvil will become magnetized, and a three position control switch for selectively connecting said coils to a source of electrical energy.

2,967,303
STAPLE HOLDING TOOL
Coy J. Wise, R.R. 2, Box 159C, Vale, Oreg.
Filed Oct. 13, 1958, Ser. No. 766,964
1 Claim. (Cl. 1—49.8)



In a device of the character described, a pair of cross members including head portions and handle portions, said members being pivoted together intermediate the head portions and handle portions, one of said head portions terminating in a transversely extending end which overlies an adjacent outer curved face of the other head portion and both head portions having inner flat faces adapted for abutting association, the faces of one head portion being formed with spaced arcuate grooves, oppositely facing upstanding hooks fixed to the side faces of each of the head portions and transversely defining an aligned passage when the faces abut, the passage being located generally medially of the recesses whereby a length of wire may be placed between the hooks and a staple held by the jaws and seated in the recesses in a straddling position with respect to the wire positioned by the hooks.

2,967,304
HELMET SHELL LINING
Harry W. Austin, Monroeville, Pa., assignor to Mine Safety Appliances Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed July 10, 1956, Ser. No. 596,875
9 Claims. (Cl. 2—3)

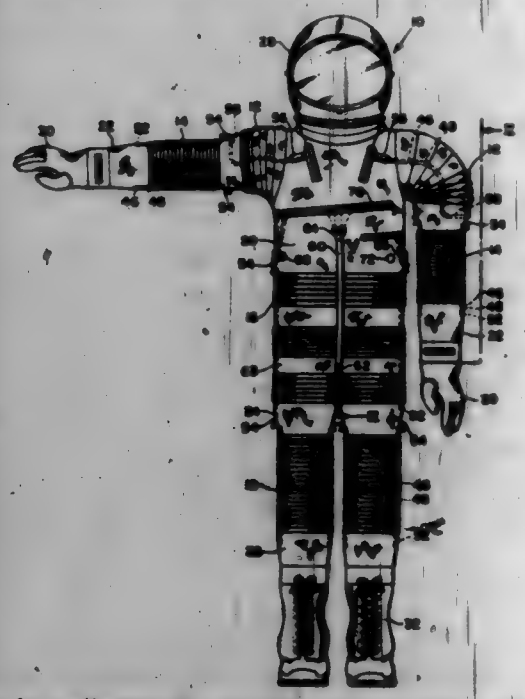


1. A helmet shell lining, comprising a cradle formed from straps having substantially vertical lower portions, means for connecting the lower ends of the straps to the lower part of a helmet shell for supporting it, separate supporting members carried by the lower ends of the straps in engagement therewith, and a headband inside the cradle, and vertically spaced separable fastening means for detachably locking the headband and said supporting members together at different distinct elevations with respect to one another, whereby to fit heads having different crown heights.

2,967,305
FULL PRESSURE FLIGHT SUIT
Randall F. White, Downey, and George J. Scott, Compton, Calif., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Mar. 25, 1959, Ser. No. 801,978
5 Claims. (Cl. 2—2.1)

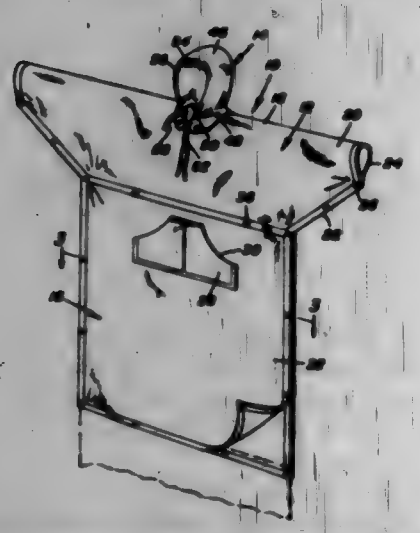
1. A pressure flight suit comprising a plurality of convoluted cylindrical sections at each of the principal flexure joints of an occupying human body, said convoluted sections each made of a piece of flexible material, flexible longitudinal tubes attached to the flexible material on diametrically opposite sides of the convoluted section and lying in a plane passing through the center thereof, an adjustable flexible elongate restraining member slidably and freely passing through each of said

tubes, and means for adjusting the length of the elongate member whereby the corresponding convoluted sec-



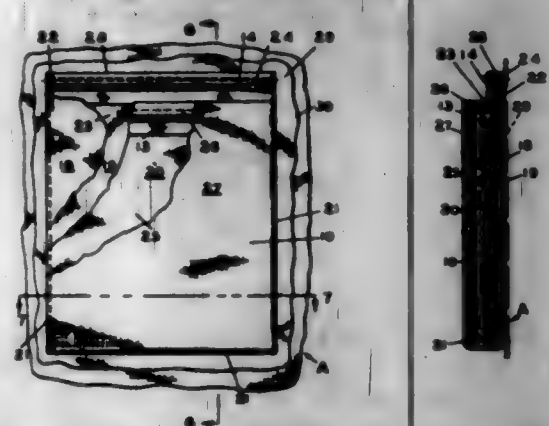
tion may be adjusted in size to accommodate the length of the respective body member of the occupant.

2,967,306
WEATHERPROOF GARMENT FOR HUNTERS
John P. Fabenich, 800 8th St., Lorain, Ohio, assignor of twenty percent to Bettie L. Snyder, Beaver, Pa.
Filed Sept. 11, 1956, Ser. No. 609,200
1 Claim. (Cl. 2—94)



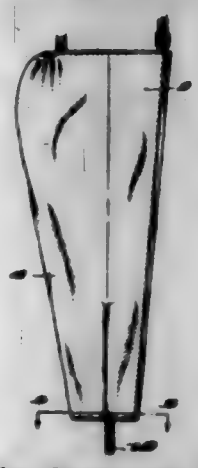
A protective outer garment comprising a main body having a shoulder area, continuous front and rear panels and outwardly extending sleeves, each of the sleeves having downwardly and inwardly extending lower detachably connected edges, said main body including a depending front extension portion and a depending rear extension portion with the side edges of the extension portions being detachably connected, with the detachable side edges of the extension portions forming continuations of the detachable edges of the sleeves, inflatable seat means detachably mounted on the inner surface of the rear extension portion, an elongated inflating tube connected with the seat means and extending along the inner surface of the garment, said main body having a neck opening therein, a hood mounted on the main body with the hood being detachably connected to the edge of the neck opening, said hood having a face opening and provided with a drawstring for snugly embracing the face of the wearer, said inflating tube projecting through the neck opening and adapted to terminate exteriorly of the garment adjacent the mouth of the person wearing the garment, an extension connecting portion of the same width as the extension portions and normally disposed between the extension portions and detachably connected to the rear extension portion, said extension portions having detachable fastening means on the lower edges thereof, said extension connecting portion having detachable fastening means about the periphery thereof whereby the end edges of the extension connecting portion may be attached to and connecting the lower edges of the extension portions and the overlapping side edges of the extension connecting portion may be connected thereby forming a sleeping bag.

2,967,307
MULTIPLE SAFETY POCKET CONSTRUCTION
William J. O'Donnell, 3347 N. Willamette Blvd., Portland, Oreg.
Filed Apr. 28, 1958, Ser. No. 731,526
1 Claim. (Cl. 2—253)



A multiple pocket assembly comprising a generally rectangular blank having opposed cut away portions on opposite side edges extending substantially one half the length of the edge of the blank, a zipper fastener unit along the edge of the cut away portion on one side edge, a second zipper fastener positioned along the uncut portion of said one side edge on the opposite side of the blank, said blank being folded linearly along its center line parallel to said opposite side edges, and then folded along a median line perpendicular to the first fold line, to form an assembly of four thicknesses forming inner and outer pockets, each having a zipper fastener, with the first mentioned zipper fastener being positioned interiorly of the pocket assembly and accessible only by opening said second zipper fastener; and stitching securing all free edges other than the zipper fastener closed access openings of the assembly.

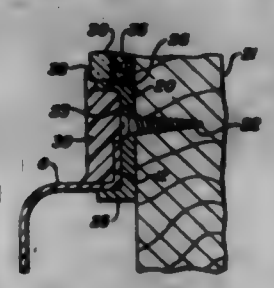
2,967,308
SKI PANTS
George E. Freese, Jr., Pittsfield, N.H., assignor to Globe Manufacturing Company, Pittsfield, N.H.
Filed Mar. 21, 1958, Ser. No. 722,942
2 Claims. (Cl. 2—270)



1. In ski pants, a leg formed of a multilayer, insulated fabric having an upwardly opening slit in its lower end,

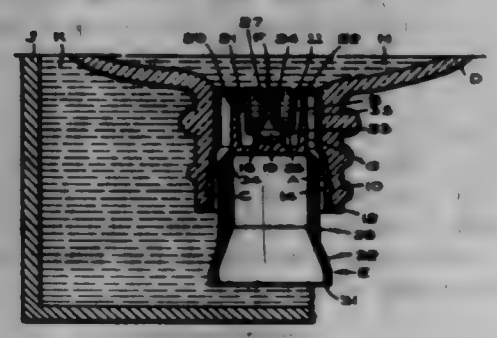
a triangular piece of single-layer material secured in said slit with its base across the lower end of the leg, and snap fasteners carried by said piece at the opposed lower corners thereof for securing said corners together to hold said leg snugly around the ankle of the wearer, said piece being of a water-repellant, wind-resistant material.

2,967,309
BATHTUB INSTALLATION, ETC.
Paul M. Corp, Alliance, Ohio, assignor to Allianceware, Inc., Alliance, Ohio, a corporation of Delaware
Filed Apr. 22, 1959, Ser. No. 808,203
4 Claims. (Cl. 4—173)



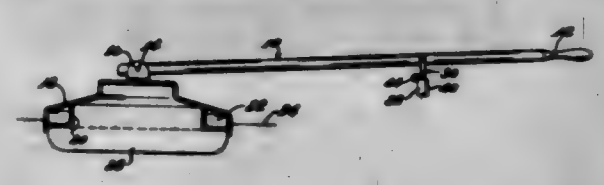
1. The combination of a bathtub and a bathroom floor and wall, which wall is composed of a basic wall structure with a finish thereover, the tub having an apron along one edge for support of that edge, the tub having a rim along another edge by which it is supported with the edge of said rim turned up as a flange, a bathtub adapter along the latter edge of the tub which adapter is supported by the basic wall structure, a lower portion of the outer face of said adapter comprising a forwardly extending portion generally complementary to at least a part of the bottom of said rim with said part of the rim resting thereon, a resilient waterproof covering against the exposed face of the adapter from near the top of the adapter to the rim of the tub, with an upper portion of the rear surface of said covering complementary to the outer face of the upper portion of the adapter, with said wall finish in sealing contact with the top of the adapter with the top of said resilient waterproof covering overlying the wall finish which is immediately above the adapter and in water-tight contact therewith, said wall being unfinished below the adapter, the bottom of the tub being supported above the floor at least in part by said apron and by said support of the rim by the adapter.

2,967,310
LIQUID DISPENSING APPARATUS
Harry M. O'Hare, San Jose, Calif., assignor to Tidy Chemical Company, Sunnyvale, Calif., a corporation of California
Filed Jan. 7, 1957, Ser. No. 632,910
9 Claims. (Cl. 4—227)



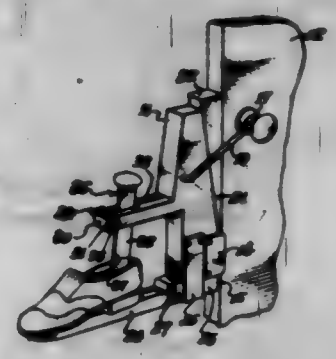
1. In a liquid dispensing apparatus, a container having a neck defining an outlet opening, a stationary member secured in the neck of the container and having means defining a discharge opening communicating with the outlet opening in the container, said stationary member including a skirt-like portion disposed within the neck of the container and which extends a substantial distance below the discharge opening, a movable member, said movable member being formed to provide a reservoir with an open top, said means defining a discharge opening extending into said reservoir, and cooperating means on said stationary and movable members serving to limit the lowermost position of said movable member so that the top of the reservoir is never below said discharge opening.

2,967,311
OAR FOR ROWING IN WEEDED WATERS
Fred A. Williams 476 S. Firestone Blvd., Akron, Ohio
Filed Dec. 19, 1958, Ser. No. 781,719
5 Claims. (Cl. 9—24)



5. An oar for rowing in weeded waters including a float, a blade extending downwardly from the float and positioned directly beneath the float in the normal rowing position of the oar so that the blade is supported in rowing position in the water by the float, and a handle having its shank secured to the float in a position lying in the same plane as the blade.

2,967,312
SHOE HOLDING APPARATUS
John J. Drew, 1151 Fairfield Ave., Long Beach, Calif.
Filed Jan. 5, 1959, Ser. No. 784,950
3 Claims. (Cl. 12—125)

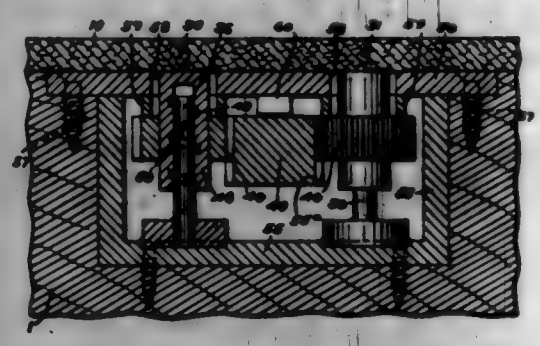


1. A holding device removably attachable to a door having knobs on each side thereof which comprises: a vertical member adapted to abut the edge of a door, said member being approximately equal in thickness to the thickness of said door, and the edge surface of said vertical member being closest to the edge of said door being tapered upwardly and outwardly; means proximate the lower portion of said vertical member for maintaining said member in alignment with the edge of said door; fastening means pivotally affixed to said member proximate the upper portion thereof and extending along opposite sides of said member, said fastening means terminating in hooks to engage the knobs of said door at opposite sides thereof; and a wedge-shaped member insertable between said vertical member and said door edge to affix said vertical member firmly against the edge of said door.

2,967,313
SHOE LAST AND MEANS FOR HOLDING AN INSOLE THEREON
Robert E. MacLaughlin, 4 Central Ave., Rochester, N.H.
Filed Sept. 21, 1959, Ser. No. 841,417
5 Claims. (Cl. 12—141)

1. In a shoe last of the type having a fore part, a heel part, and a uniting hinge, said fore part having a recess

in the bottom thereof, an outwardly disposed stem in said recess, a stud threaded to said stem for movement vertically relative to the last bottom and including an insole gripping element and a pinion, a rack in mesh with said pinion extending longitudinally of said recess, and a link

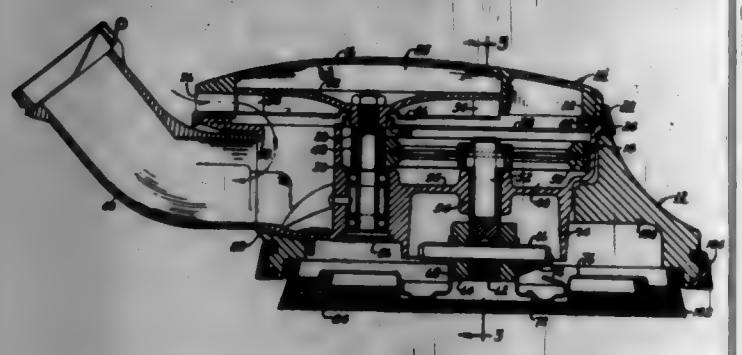


pivotally connected to the rear end of said rack and to said heel part whereby said rack is moved rearwardly when the last is broken and forwardly when it is straightened, said threaded connection effecting the advance of said element into insole gripping position when said last is straightened.

2,967,314
COMBINATION HAND POWER TOOL AND FLOOR POLISHER

John J. Kowalewski, Riverside, Conn., assignor to Electrolux Corporation, Old Greenwich, Conn., a corporation of Delaware

Filed Jan. 31, 1957, Ser. No. 637,396
8 Claims. (Cl. 15—28)



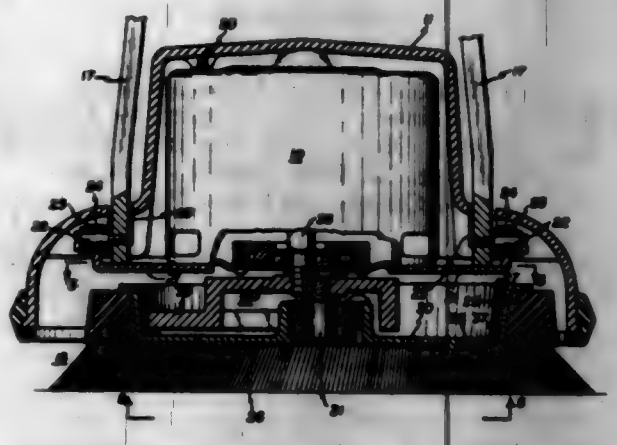
1. In a polishing device, a housing containing a motor, a drive shaft coupled to said motor and extending from said housing, a rotary polishing member mounted on and driven by said shaft and disposed so as to contact a surface on which said device is supported, a ring of substantial weight, hand manipulated means for removably securing said ring to said housing around said shaft, and ring-shaped stationary polishing means secured to and removable with said ring and disposed so as to contact said surface.

2,967,315
HAND-PROPELLED POLISHING MACHINE

Jim D. Helbig, Wheatridge, and Marvin P. Warner, Denver, Colo., assignors, by mesne assignments, to Jerome D. Rosenberg, Newark, N.J.

Filed Jan. 28, 1957, Ser. No. 636,684
6 Claims. (Cl. 15—49)

1. A hand-propelled floor polisher or the like comprising a polishing head, a motor for said polisher having a shaft projecting therefrom, means including a bearing and a detachable pin for pivotally mounting said head eccentrically of said shaft and affording free rotation of said head about its pivotal axis, said head having a hollow portion therein opening upwardly and extending about its pivotal axis, the center of gravity of the head lying in a plane normal to the pivotal axis of the head and extending through the hollow portion of the head, said mounting means including a plate secured to the motor shaft, which plate includes an offset portion lying within said hollow portion of said head laterally of said bearing, and a counterweight secured to said offset portion on the side of said mounting means opposite said pivotal axis and with its center of gravity substantially in said plane within the hollow portion of said head whereby

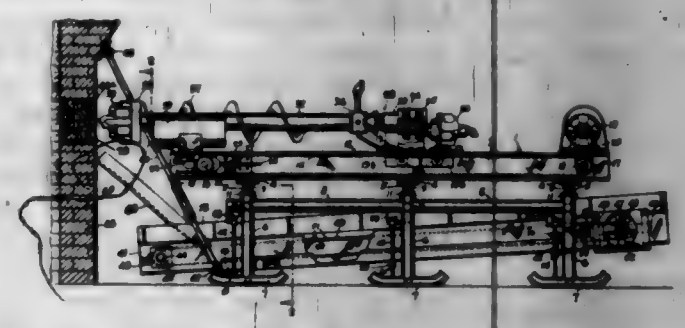


said counterweight and said head rotate with their centers of gravity substantially in the same plane for balancing the rotating portions of said head with minimum force couples about axes transverse to the axis of rotation of said shaft.

2,967,316
APPARATUS FOR REMOVING BURDEN FROM A BLAST FURNACE

Charles W. Kandle, 1420 Robinhood Lane, La Grange Park, Ill.

Filed June 7, 1957, Ser. No. 664,248
1 Claim. (Cl. 15—104.1)



In apparatus of the class described for loosening and removing burden from blast furnaces and the like, a frame adapted to be operationally disposed in front of a furnace tuyere, a carriage mounted on said frame for reciprocation toward and away from the furnace, a rotary drill unit on said carriage and adpted to enter through the tuyere into the burden in the furnace as said carriage moves toward the furnace, said drill unit including conveying means for removing loosened burden out through the tuyere, and a tie secured to the end of the frame near the furnace by a pivot having a horizontal transverse axis disposed substantially below the level of said drill, said tie operationally extending upwardly at an angle toward the furnace and being adapted to be secured to the furnace by a pivot having a horizontal transverse axis disposed substantially above the level of said drill, whereby varying and intermittent back thrust of the drill tends to vibrate the frame vertically and cause whipping of the drill.

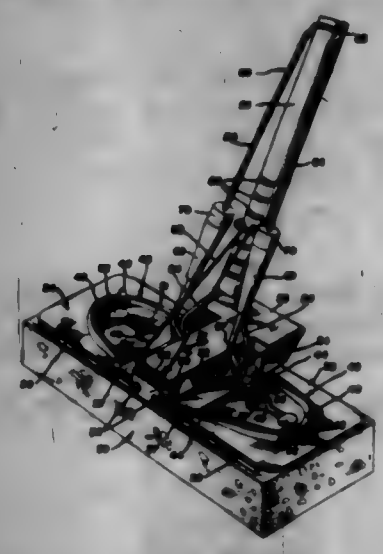
2,967,317
SCRUBBING MOP

William H. Richards, 1610 W. 14th St., Rehoboth Beach, Del.

Filed Nov. 20, 1959, Ser. No. 854,415
5 Claims. (Cl. 15—119)

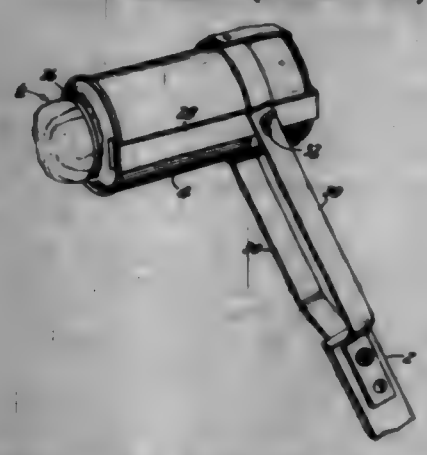
3. A mop comprising a supporting member, a pair of spaced parallel hinge pins fixedly secured to said support-

ing member, a pair of head plate sections having inner end portions bent backwardly upon the head plate sections to form tubular hinge knuckles at the inner ends of the head plate sections and relatively short plate extensions which overlie the inner end portions of the head plate sections in contacting relation therewith, said knuckles receiving said hinge pins pivotally, downturned flanges on said support member engageable with said plate extensions to positively limit swinging movement of the head plate sections in one direction, a transverse pivot pin carried by said support member above the head plate sections and overlying said plate extensions, a mop handle pivotally secured to said transverse pivot pin, an extractor handle including spaced stretches pivotally secured to said transverse pivot pin above said plate extensions, said



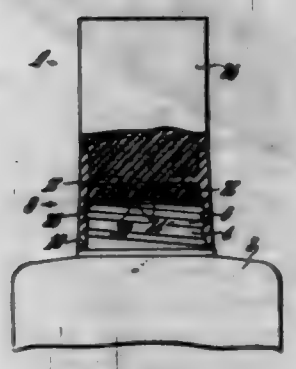
stretches of the extractor handle bent near their lower ends and near the transverse pivot pin to form on said stretches curved elbow booster portions rockable upon said plate extensions when the extractor handle is swung in one direction upon the transverse pivot pin, tapered extractor rollers mounted upon said stretches near and above said elbow booster portions, generally U-shaped gradually inclined cam tracks upon the head plate sections and projecting thereabove and having their inner ends disposed close to said plate extensions and substantially flush therewith and engaged by said tapered extractor rollers subsequent to the engagement of said booster portions with said plate extensions when said extractor handle is swung in said one direction, and a compressible sponge scrubbing element secured to the bottom faces of said head plate sections.

2,967,318
IMPACT-TYPE MARKING DEVICE
Evan S. Nelson and Charles J. Nelson, Iron Mountain, Mich., assignors to The Nelson Company, Iron Mountain, Mich., a firm
Filed Dec. 2, 1955, Ser. No. 550,664
7 Claims. (Cl. 15—131)



1. An impact type marking device comprising a container for marking liquid, a screw-type perforated lid on the container, a plurality of layers of pervious fabric positioned one on top of the other over said perforations, successive ones of said layers being of gradually increasing diameter, and means holding said successively larger layers of fabric on said perforated lid forming a rounded cushion, said successively larger layers of fabric providing a cushion for absorbing impact while transmitting controlled amounts of marking liquid therethrough.

2,967,319
DISPENSER-APPLICATOR DEVICE
Paul A. Bumpus, Springfield, Mass., and Joseph J. Hublard, Vernon, Conn., assignors to John H. Breck, Inc., Springfield, Mass., a corporation
Filed June 30, 1958, Ser. No. 745,527
1 Claim. (Cl. 15—133)



A unitary liquid dispenser-applicator device for securement to the threaded outlet neck of a liquid container comprising in combination, a cap having an elongated annular vertical side wall and a horizontal transverse wall intermediate upper and lower ends thereof providing an elongated substantially straight upper portion of said side wall disposed above said transverse wall and having an inner elongated straight side, said side wall being provided with an internal annular groove spaced below said transverse wall, the lower portion of said side wall below said groove being internally screw threaded for screwing said cap onto the externally threaded neck of a container, a separate sealing washer having a periphery held in said groove for bearing on the upper end of a container outlet neck to which said cap is to be secured, said transverse wall and washer being provided with aligned central openings therethrough, an elongated straight sided cylindrical dispenser-applicator member having an intermediate portion surrounded and embraced by the upper portion of said side wall of said cap and an upper outer elongated liquid applying portion extending outwardly therefrom and an inner end portion extending through the central opening of said transverse wall and disposed in and filling the space between said transverse wall and washer, the lower end of said dispenser-applicator member disposed on and supported by the upper side of said washer, said dispenser-applicator member being formed from a relatively resilient sponge material adapted to absorb liquid and to release and apply same when pressed upon, first holding means to hold said dispenser-applicator member against outward displacement from the upper end of said cap including circumferentially spaced inwardly extending projections provided on said transverse wall around the opening therein impinging said dispenser-applicator member, and second holding means including elongated sharp prongs provided on said transverse wall in spaced relation around the opening therein and depending from the lower face of the said transverse wall in relatively converging relation and impinging the lower portion of said dispenser-applicator member.

2,967,320

COLLAPSIBLE HOLDER FOR MOPS

Joe T. Short, West Point, Ga., assignor to Callaway Mills Company, La Grange, Ga., a corporation of Georgia

Filed Nov. 25, 1958, Ser. No. 776,226
4 Claims. (Cl. 15—147)



1. A collapsible holder for a pocketed mop comprising a central shaft, a hinge member on the mid portion of said shaft, a handle pivotally connected to said hinge member about a pivotal axis lying in a plane normal to said shaft, a first wing member in the form of a generally rectangular, open, rigid framework, said first wing member having aligned first bearings fixed to its sides near the inner end thereof and rotatably positioned on said shaft, the sides of said first wing member curving upwardly at their inner ends to position the inner end member thereof above the general plane of said first wing member, the sides of said first wing member being offset upwardly from the general plane of said first wing member for a portion of their length spaced outwardly from said shaft, a resilient, generally U-shaped, second wing member having aligned second bearings fixed to its legs near the open inner end thereof, said second bearings being rotatably and slidably positioned on said shaft laterally inwardly of said first bearings, the inner ends of said legs of said second wing member extending beneath said inner end of said first wing member and beneath said shaft and then curving laterally outwardly beneath said upwardly offset portions of the sides of said first wing member to latch said wing members in substantially a common plane, the inner ends of said legs then extending laterally inwardly to terminate in upstanding release pins which can be squeezed toward each other to release said latching action to permit both said wing members to pivot downwardly about said shaft.

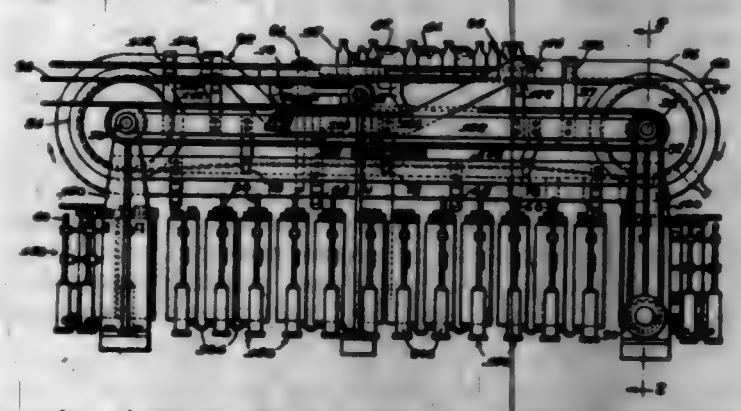
2,967,321

CONTAINER CLEANING MACHINE

James P. Whelan, Quincy, Mass., assignor to Pneumatic Scale Corporation, Limited, Quincy, Mass., a corporation of Massachusetts

Filed May 17, 1956, Ser. No. 585,479
9 Claims. (Cl. 15—304)

1. Container cleaning apparatus comprising, in combination, means for resiliently gripping and continuously conveying at a relatively high speed open mouthed containers in an inverted position and in spaced relation over a straight line portion of an endless path, air cleaning means including a supply of air under pressure and a plurality of spaced air nozzles connected therewith, means for moving the nozzles in alignment with the spaced containers along said straight line portion, means operating independently of said air supply for reciprocating the nozzles into and out of the containers during the continuous movement thereof to perform the cleaning operation, and means comprising opposed gripper members movable with the nozzles and engageable with the necks only of the containers for positively registering the



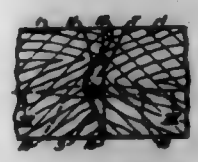
mouths of the resiliently gripped containers with said reciprocable nozzles, said opposed gripper members effecting movement of a slightly misaligned resiliently gripped container to an aligned position.

2,967,322

FOLDING DOOR ALIGNER

McFerrell Hollansworth, Pittsburgh, Pa., assignor to McKinney Manufacturing Company, a corporation of Pennsylvania

Filed Mar. 21, 1958, Ser. No. 723,021
4 Claims. (Cl. 16—1)



1. An aligner for holding the free vertical edge of a folding sliding door in alignment with an object substantially engaged by that edge while the door is closed, said aligner comprising tongue and socket members adapted to be secured to said door edge and adjoining object and to removably fit together between them, the socket member having a recess with a vertical wall curving inwardly about 90° from one edge of the recess and then slanting out to its opposite edge, and the tongue member having substantially the same shape as said recess to fit therein, the two members being designed to be mounted so that their curved surfaces will separate faster than their slanting surfaces as the door is folded to open it.

2,967,323

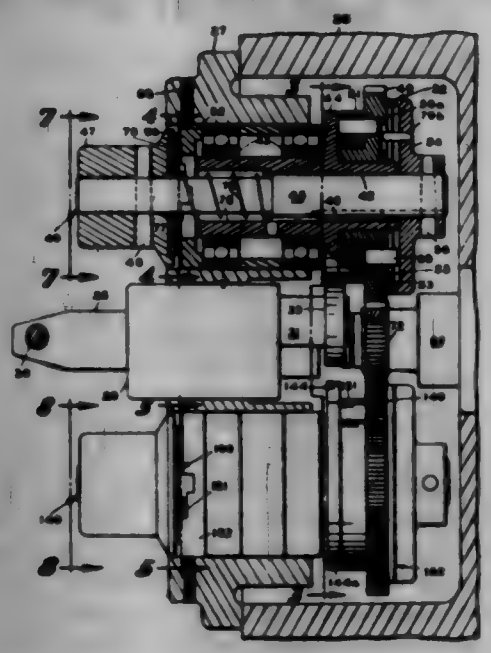
LOCKING MECHANISM FOR MACHINE TOOL CONTROL DEVICE

Ashley C. Glenn, Cincinnati, Ohio, assignor to The Cincinnati Milling Machine Co., Cincinnati, Ohio, a corporation of Ohio

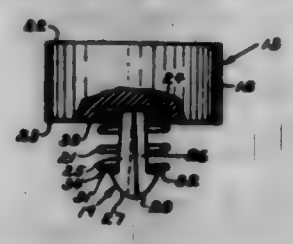
Filed Jan. 26, 1959, Ser. No. 789,158
4 Claims. (Cl. 51—233)

1. In a machine tool having a movable table member and control means including a valve operable when actuated to reverse the direction of movement of said table member, the combination comprising a support, a pair of elements rotatably mounted in said support, each of said elements including a cam operable in a predetermined position to actuate said control means, a normally engaged clutch connected to each element, motion transmitting means connecting the movable table member and the elements through the clutches to rotate said elements in a clockwise direction in response to movement of the movable table member in one direction and to rotate said elements in a counterclockwise direction in response to movement of the movable table member in the opposite direction, a pair of locking elements each

having a first locking element member fixed in the support and a second locking element member engaged with the control means actuating elements, respectively, for rotation thereby relative to said first locking element member, the second locking element member engaged with one of said control means actuating elements rotating to a locking position when said elements rotate in a clockwise direction and the second locking element member engaging with the other of said elements rotating to a locking position when said elements rotate in a counterclockwise direction, and means manually to disengage the clutches whereby each of the control means actuating elements may be rotated to change the position of the cam carried thereby relative to said control means when the locking member engaged therewith is rotated out of its locking position.



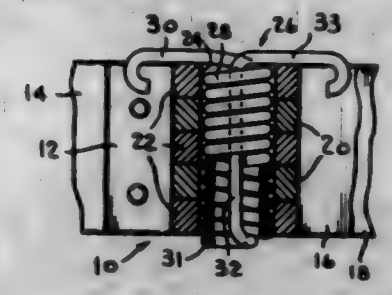
2,967,324
BUMPER ASSEMBLY
George E. Gagnier, Detroit, Mich., assignor to Gagnier Fibre Products Company, Oak Park, Mich., a corporation of Michigan
Filed May 31, 1957, Ser. No. 662,642
11 Claims. (Cl. 16—86)



1. A bumper assembly comprising a compressible body of relatively tough resilient material, a snap fastener having a head imbedded in said body and a contractible and expansible shank projecting away from a face of said body, and a compression spring anchored to said body at said face and extending along at least part of the length of said shank outside the body.

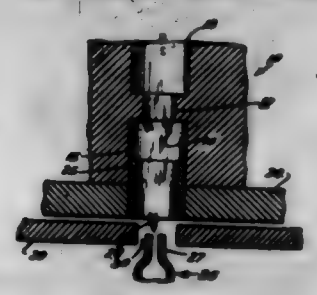
2,967,325
SPRING LOADED HINGE
Richard P. Herzfeld, 3541 N. Lake Drive, Milwaukee, Wis.
Filed May 9, 1960, Ser. No. 27,959
3 Claims. (Cl. 16—189)

1. A spring loaded hinge comprising, a hinge having a pair of hinge plates, each hinge plate having ears that cooperate to form a hinge pin opening, a helical spring in the hinge pin opening being torsionally stressed about the hinge pin opening axis, the spring body having a diameter substantially equal to that of the hinge pin opening, a portion of the spring being bent to overlie a hinge ear at one end of the hinge pin opening, the ends



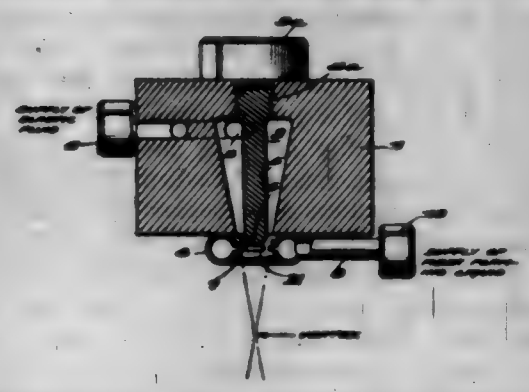
of the spring projecting from the other end of the hinge pin opening and each bearing against one of the hinge plates whereby the torsional forces are transmitted to the plates.

2,967,326
SINGEING MACHINE AND METHOD
Cameron C. Collins, Bainbridge, and Warren E. Kishbaugh, Unadilla, N.Y., assignors to The Bendix Corporation, a corporation of Delaware
Filed Jan. 31, 1957, Ser. No. 637,533
15 Claims. (Cl. 18—1)



11. Apparatus for removing flash from an article made of oxidizable and heat decomposable material, said article having a passage therethrough with an inwardly projecting flange therein, the flash projecting from the inner edge of the flange, which comprises a tube-like member insertable within the passage to extend from one end of the article while exposing the flash in the path of the passage through the member, means for directing a stream of oxidizing gas heated above the decomposition temperature of the article into the passage in said member from the said one end of the article.

2,967,327
METHOD AND APPARATUS FOR PRODUCING FIBERS
Rolf K. Ladisch, 255 Windermere Ave., Lansdowne, Pa.
Filed Aug. 1, 1957, Ser. No. 675,709
7 Claims. (Cl. 18—2.5)



3. Fiber-forming nozzle for producing fibers from fiber-forming liquids comprising an annular feed tube having apertures which face toward the central axis of said annular tube, means for coupling said tube to a supply of fiber-forming liquid, a nozzle body having a

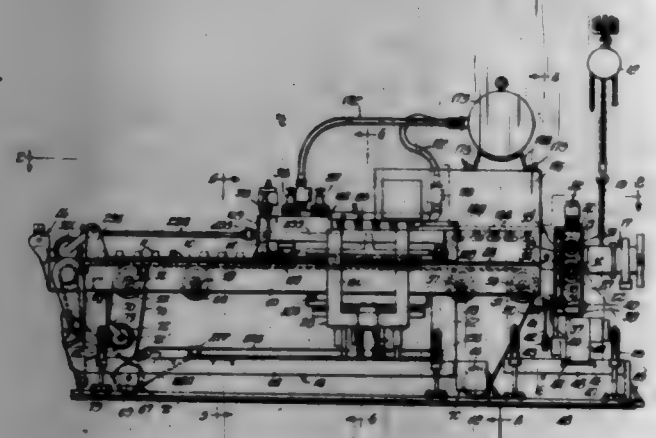
chamber, open at its lower end, for discharging a stream of spiraling elastic fluid into and through the space bounded by the inner walls of said annular feed tube, the discharge opening of said chamber being positioned near the feed tube, and means for coupling the upper end of the chamber tangentially to a supply of compressed elastic fluid.

2,967,328

MOLDING MACHINE

Richard K. Shelby, Hinsdale, and George A. Creevy, Villa Park, Ill., assignors to Continental Can Company, Inc., New York, N.Y., a corporation of New York

Filed Nov. 3, 1958, Ser. No. 771,535
19 Claims. (Cl. 18—19)



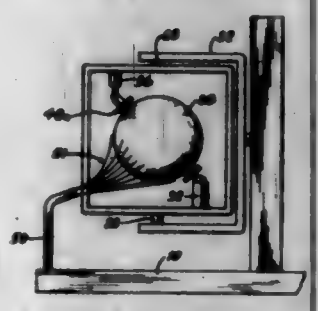
1. A molding machine comprising a main supporting frame structure and a secondary frame structure at one end thereof, means adjacent said secondary frame structure for extruding a web of plastic material, web sizing means on said secondary frame structure for receiving said extruded web, a traveling conveyor on said main frame structure having an upper horizontal run with laterally spaced gripper devices for clamping opposite side edges of the web and with traveling means for supporting intermediate portions of the web, means for operating the conveyor to advance the web continuously along a horizontal path, a molding carriage mounted on the main frame structure adjacent the upper run of said conveyor for reciprocating movement in a horizontal path, means for intermittently moving the carriage a predetermined distance in the direction of advance of the web at the same speed as the movement of the web and means for returning the carriage to its initial position, a molding die supporting frame mounted on said carriage for movement toward and from the top face of the web, a plurality of molding dies on said molding die frame having downwardly opening molding cavities, and means for applying suction to the die faces defining said cavities, an assist plug supporting frame mounted on said carriage in opposed relation to the molding die supporting frame and on the opposite side of the path of the web, a plurality of plug members mounted on said plug supporting frame in vertical alignment with the molding die cavities, a web clamping frame located on the same side of the path of the web as the plug supporting frame and reciprocably movable toward said web, a plurality of web clamping elements on said web clamping frame which clamping elements are constructed so as to engage portions of the web upon movement of said web clamping frame into clamping engagement with said molding dies and means for automatically reciprocating said molding die frame, said plug supporting frame and said web clamping frame in timed relation to the movement of the molding carriage and the web carrying conveyor.

2,967,329

MANUFACTURE OF HOLLOW INFLATED PLASTIC OBJECTS

Siegmund Friedland, Highfield, Upton, Macclesfield, John William Sutton, Macclesfield, John Doggart, High Trees, Titterington, Macclesfield, and Dennis F. Barton, Congleton, England, assignors to V. & E. Plastics Limited, a company of Great Britain

Filed Apr. 5, 1957, Ser. No. 651,033
Claims priority, application Great Britain Apr. 6, 1956
9 Claims. (Cl. 18—26)



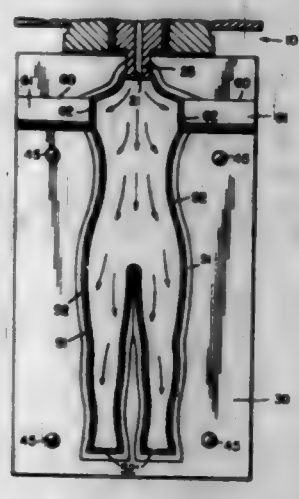
4. Apparatus for making hollow inflatable objects comprising a base, a rectangular-shaped fork mounted on said base with means for rotating the same about an axis at right angles to the central portion thereof, a gimbal rotatably mounted in said fork on an axis at right angles to said fork axis, a mold rotatably mounted in said gimbal on an axis at an angle to aforesaid axes, and means for directing a flame against a localized area of said mold.

2,967,330

METHOD OF MAKING A HOLLOW BODY

Paul Tommarchi, Douglaston, N.Y., assignor to Plastic Molded Arts Corp., Long Island City, N.Y., a corporation of New York

Filed May 12, 1958, Ser. No. 734,476
1 Claim. (Cl. 18—55)



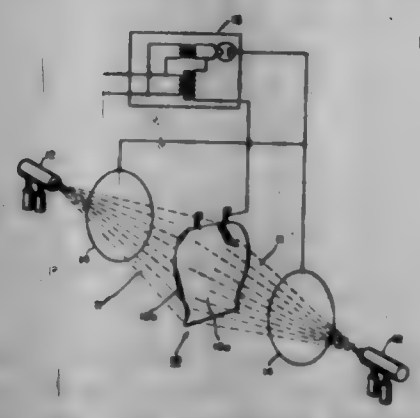
The method of making a hollow doll body including a torso and legs integral therewith, the legs being separated from one another, comprising heating a thermoplastic material to cause the material to assume a plasticized condition, extruding the plasticized material in the form of a downwardly extending open ended cylindrical tube having a wall of uniform thickness, encasing the tube within a forming means, cutting and pinching the lower end portion of the tube to close the lower open end of the tube and to remove excess material, cutting off the top of the tube and leaving an opening at the top end of the tube, severing the tube to bisect the tube from the lower end thereof to a point approximately midway between the lower closed end of the tube and the open upper end of the tube, pinching the severed portion of the lower end of the tube to provide two tubular portions separated from one another throughout the length thereof, but joined together at the upper por-

tion thereof, expanding the tube into the configuration of such hollow doll body, and permitting the plasticized material of the tube to harden.

2,967,331
METHOD OF FORMING DEPOSITED LATEX ARTICLES

Peter D. Kaspar, Dover, Del., assignor to International Latex Corporation, Dover, Del., a corporation of Delaware

Filed Nov. 26, 1956, Ser. No. 624,330
1 Claim. (Cl. 18—58.6)

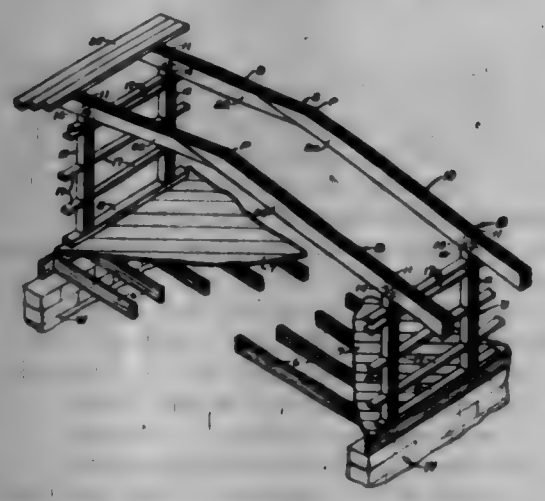


In the production of a deposited latex article on a dipping form having relatively thin curved edge portions and vertically positioned extensive flat areas adjacent said edge portions, the improvement which comprises spraying said form with a coagulant for liquid latex under conditions such that the coagulant adheres to and becomes non-fluid substantially on contact with the form, forming a deposit of non-fluid coagulant on the thin curved edge portions of the form that is at least as thick as the deposit on the flat areas thereof by maintaining an electrical potential between the spray of coagulant and the form during said spraying such that some of the particles of the spray are preferentially attracted to the thin curved edge portions of the form and the remainder of the particles of the spray are deposited on the flat areas thereof, and dipping the coagulant coated dipping form in liquid latex to deposit latex on the form and form a latex film which is at least as thick over relatively thin edge portions of the dipping form as over the flat areas thereof.

2,967,332
BUILDING FRAME CONSTRUCTION

John E. Donlin, Excelsior, Minn., assignor to Contemporary Structures, Inc., Excelsior, Minn., a corporation of Minnesota

Filed May 31, 1956, Ser. No. 588,499
6 Claims. (Cl. 20—.5)

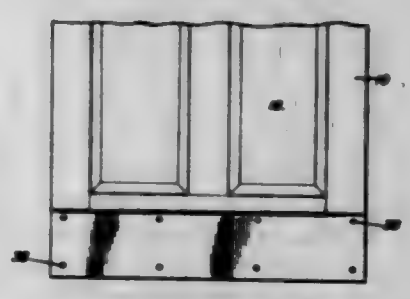


4. A wooden frame unit for home building which includes a truss rafter having elongated straight component members in vertical side-to-side adhered lamination and formed intermediate its ends in a pitched peak and having a scarf joint formed as a component laminated member defining said peak, said scarf joint comprising an elongate straight major laminate having longitudinally extending edges and having an end cut at an angle to its length, an elongated filler laminate having longitudinally extending edges and having one of its ends cut at an angle to its length and abutting flush along the length of its end cut against one of the longitudinal edges of said major laminate and having one of its longitudinal edges extending parallel to the cut end of said major laminate and as substantially a continuation thereof a second straight major laminate, a second straight major laminate of substantially the same construction as said first mentioned major laminate and extending along and being adhesively secured along its length to one side of said filler laminate and to the angular cut end of said first mentioned major laminate, said second major laminate having its angular cut end extending parallel to and along the opposite longitudinal edge of said first mentioned major laminate, and a second filler laminate of substantially the same construction as said first mentioned filler laminate and extending along and being adhesively secured to its side and along its length to the side of said first mentioned major laminate and having its angular cut end abutting along its length against the longitudinal side edge of said second major laminate, and a pair of spaced upright studs supporting the opposite ends of said truss rafter, said studs each being connected to its respective end of said truss rafter for pivotal movement therebetween.

2,967,333
DOOR PROTECTOR

Julian Metzinger, 2855 SW. 1st Ave., Miami, Fla.

Filed Mar. 9, 1959, Ser. No. 798,073
3 Claims. (Cl. 20—16)



1. In combination with a door defining a pair of faces and top and bottom surfaces, means for protecting the bottom portion thereof to prevent injury or rotting comprising a first member, a second member, said first and second members being substantially L-shaped defining perpendicular longer and shorter legs, said first member including an offset portion in said shorter leg whereby the shorter leg of said second member may be received adjacent said offset portion overlapped with said shorter leg of said first member, and fastening means received through said longer legs for securing said first and second members adjacent to said door faces whereby said shorter legs underlie said bottom surface, said members being formed of metal, seal means received between the door and said members, said seal means including a slotted coating receiving said short leg of said first member.

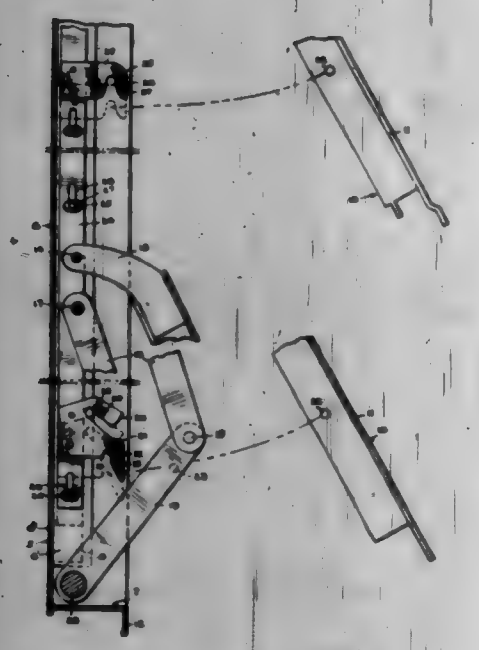
2,967,334
AUTOMATIC VENT LOCKING MEANS

Maurice Abelson, Miami, Fla., assignor to Crossly Window Corp., Miami, Fla., a corporation of Florida

Filed Sept. 22, 1959, Ser. No. 841,503
1 Claim. (Cl. 20—42)

A window construction comprising a frame including parallel sides and a connecting bottom, the frame being

of channel formation and with the channels being outwardly opening, upper and lower sashes that are horizontally pivoted and that are movable into and out of the frame, vertically movable bars mounted upon one side wall of the channels of the parallel sides, hinge elements secured to the ends of the sashes adjacent their tops and pivotally connected to the bars, a rock-shaft in the bottom member of the frame, vertically swinging cranks fixed upon the rock-shaft, links pivotally connecting the upper ends of the cranks with the vertically movable bars, means to swing the cranks, a second vertically shiftable slide bar in each of the side members of the frame, upper and lower latch devices rigidly connected to the last named bars and movable therewith, the upper latches being near the lower ends of the upper sash and adjacent the sides of the same, the lower latches being near the lower end of the lower sash and adjacent the sides of the same, guide means for the vertical shifting of the second named bar, the upper and lower latches being moved in unison by the second named bars, the upper latches being provided with vertically arranged slots that open downwardly through a lower edge of the latches and that form sockets, each of the lower latches being provided with an upwardly directed diagonal slot having



cam surfaces, the slot opening upon the forward edge of the latches, the lower latches also having a depending tongue and a socket adjacent to the tongue and that is downwardly opening, pins carried by the sides of the upper sash near its lower end and that are adapted to be engaged by the upper latches, pin secured to the sides of the lower sash near their lower ends for seating and locking engagement with the sockets of the lower latches, and pins secured to the cranks and adapted to enter the diagonal slots of the lower latches to cam the latches and the second named bars in a vertical path both upwardly and downwardly for receiving and disengaging the latches from the pins carried by the sash, the second named bars being slotted at spaced apart points in their height, pins extending through the slots of the bars and that are fixed into the first named frame, nylon bushings disposed over the pins and with the bushings having head portions that overlie the bars, the said nylon bushings constituting a non-frictional bearing for the sliding movement of the bars while the head portions overlying the bars prevent disengagement of the bars with respect to the bushings, the said slots of the second named bars being of a length that limit the upper and downward shifting movement of the bars.

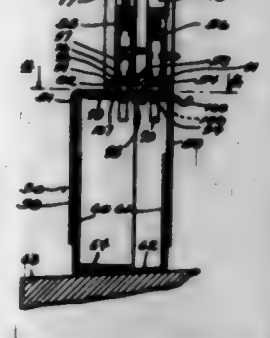
2,967,335

WINDOW STRUCTURES

Abe Zitomer, Milwaukee, Wis., assignor to Alumatic Corporation of America, Milwaukee, Wis., a corporation of Wisconsin

Original application Feb. 26, 1954, Ser. No. 412,897, now Patent No. 2,812,386, dated Nov. 12, 1957. Divided and this application Aug. 22, 1957, Ser. No. 684,386

5 Claims. (Cl. 20—52)



4. In a window structure comprising a movable sash having a lower rail and a frame having a hollow sill with an aperture formed therein, a slide having means for mounting it on the sill for movement across said aperture, said sash rail being provided with a plunger and guide means on which said plunger is movable in a direction laterally of sash movement, said plunger being provided with a handle projecting beyond said rail and in alignment with said aperture, said handle comprising a latch member disposed for projection through said sill aperture when the sash is closed, said latch member and slide having parts which interlock when the slide is in one position and which are released in another position of the slide.

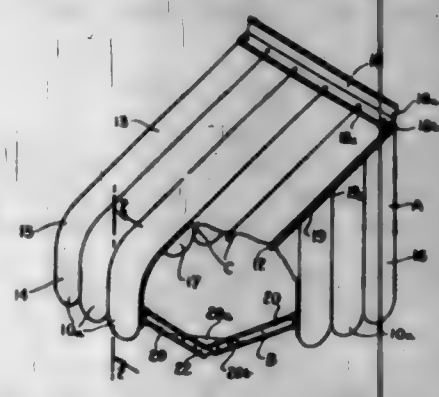
2,967,336

AWNING STRUCTURE

Charles O. Stockton, Jr., 1517 SE. Main St., College Park, Ga.

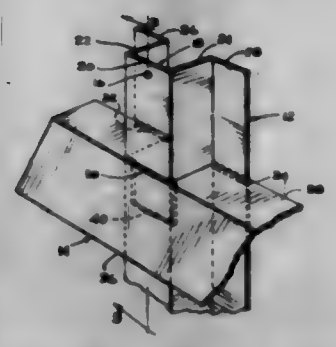
Filed Jan. 16, 1959, Ser. No. 787,307

4 Claims. (Cl. 20—57.5)



1. In combination with a plurality of metal awning cover sections having abutting edges thereof forming flanges, an elongated relatively narrow understructure including, a first pair of spaced legs joined at adjacent corresponding edges thereof and constructed of resilient material, an improved fastening means securing the cover sections to the understructure said fastening means including, a second pair of spaced legs joined adjacent corresponding edges thereof, and gripping means carried adjacent each of the free ends of the second legs, said second legs of each fastening means having a transverse vertical slot therein, and means confining said flanges within said slots, whereby the flanges of the cover sections may be received respectively within said slots, and whereby the understructure is resiliently engaged by said gripping means.

2,967,337
LOUVER CONSTRUCTION
Warren R. Hedrick, Columbus, Ohio, assignor to Midland-Ross Corporation, Toledo, Ohio, a corporation of Ohio
Filed Nov. 25, 1959, Ser. No. 855,368
7 Claims. (Cl. 20—63)



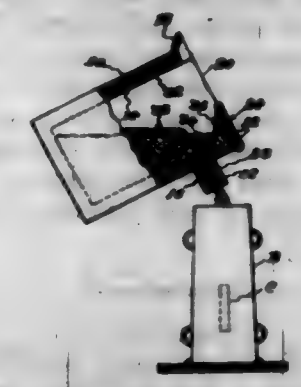
1. A louver comprising a support including a channel member, and a flange extending outwardly from an edge of said member, said channel member having first openings spaced therealong, said flange having second openings spaced therealong, each of said second openings being in a common plane with one of said first openings, a plurality of louver blades each having a flange portion, an edge of which is inserted in one of said second openings, and a tab inserted through one of said first openings, said blades being held by said support through the coaction of said second openings and said flange portions and through the coaction of said first openings and said tabs.

2,967,338
FOUNDRY CORE SAND COMPOSITIONS
Ronald H Cooper, Clare, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Jan. 16, 1958, Ser. No. 709,311
13 Claims. (Cl. 22—194)

1. Composition for the fabrication of foundry cores and molds which comprises (1) a preponderant proportion of sand; (2) a binding minor quantity of from about 1 to 4 percent by weight, based on the weight of the composition, of a core oil; and (3) a small quantity of from 1 to 15 percent by weight, based on the weight of the core oil in the composition, of the partial hydrolyzate of the alkoxylated mixture of by-produced chlorosilicon compounds obtained from the reaction of methyl chloride and silicon as an additive in said composition, the organosilicon material in said alkoxylated mixture having at least about 3 weight percent of silicon-bonded alkoxy groups and an average of from about 0.9 to 1.2 monovalent hydrocarbon atoms per silicon atom therein.

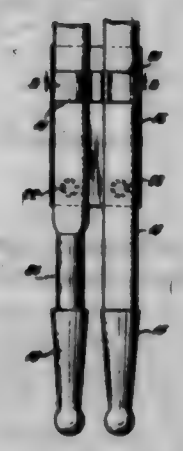
2,967,339
LADLE
James L. Ma, Coatesville, and Charles R. Beamesderfer, Downingtown, Pa., assignors to Lukens Steel Company, Coatesville, Pa., a corporation of Pennsylvania
Filed Sept. 26, 1958, Ser. No. 763,572
1 Claim. (Cl. 22—209)

A method of pouring molten metal in the making of cast clad ingots without slag contamination which consists in filling a refractory lined ladle having a pouring spout located below the top thereof and extending substantially horizontally therefrom, and an inner backwardly inclined wall located above said spout, with molten metal to a point below the position of said pouring spout when supported on its base, inserting a plug of heat destructible material in the open end of said spout, tilting the ladle to pouring position until the slag surface is located above the pouring spout and until there exists a layer of molten metal of considerable thickness above said opening, maintaining the slag layer away from said opening by said inclined wall and continuing to hold the said layer of slag away from said opening by said tilting operation



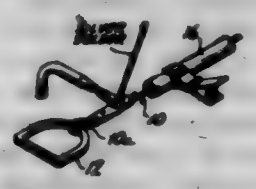
until said plug has been consumed, and continuing the tilting operation whereby to form by pouring action an uncontaminated clad ingot.

2,967,340
GLOVE AND LIKE ARTICLE HOLDER
Paul Pernecky, Jr., 5733 16th St. NW., Washington 11, D.C.
Filed Feb. 3, 1958, Ser. No. 712,704
1 Claim. (Cl. 24—18)



A holding device for articles comprising a single length of flexible cord doubled upon itself, a clasp having clip means receiving the ends of said cord and comprising at least one clip through which one cord end slidably and frictionally extends, said clip being an open-ended spring clip, a closed article embracing loop being formed by the intermediate section of said cord and the clasp, and means distinct from said clip means providing detachable snap fastener connection between said clasp and said one cord end extending therethrough for maintaining the desired loop size, said connection comprising a projection on said clasp longitudinally aligned with said clip and means providing a longitudinally spaced plurality of pockets on said one cord end for selective snap fastener engagement with said projection.

2,967,341
FLEXIBLE LINE ASSEMBLY
Dean R. Vosburg, 11915 Nyanza Road SW., Tacoma, Wash.
Filed Apr. 21, 1958, Ser. No. 729,999
4 Claims. (Cl. 24—123)



1. A flexible reinforced line assembly comprising a connector having an eye-like element, a flexible cable

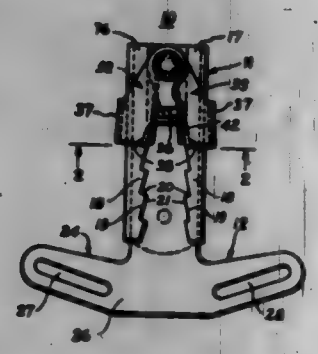
having one end fastened to said eye-like element, an elastic sheath closely encircling said cable along the length thereof substantially to the eye-like element, said elastic sheath being in freely slidable contact with the cable over substantially the full length thereof substantially to the location of the fastened end, and a flexible cover comprising strands of relatively non-elastic material interwoven on said elastic sheath over the length thereof to the eye-like element, with strands of said cover extending through said eye-like element and arranged substantially to cover the end portion of the cable passing therethrough.

2,967,342

ADJUSTABLE STRAP FASTENER

Earle G. Henry, Solana Beach, Calif., assignor to General Dynamics Corporation, San Diego, Calif., a corporation of Delaware

Filed May 26, 1958, Ser. No. 737,658
4 Claims. (Cl. 24—206)



1. An adjustable fastener comprising a first coupling element having a longitudinally directed channel and a pair of opposed longitudinal guide flanges adjacent said channel, at least one of said guide flanges including a plurality of serially arranged serrations, a second coupling element including a slide member adapted for insertion into the end of said channel of said first coupling element for longitudinal sliding movement relative to said guide flanges, said guide flanges being arranged to overlap the lateral edges of said slide member, a pair of manually operable catches pivotally mounted on said slide member and in overlapping relationship to one another, spring means normally biasing said catches for separation, at least one of said catches having stop means cooperating with said serrations when said catches are separated to permit longitudinal sliding of said slide member in only one direction while said catches are under spring bias, and a pin and slot connection for said catches for limiting the amount of separation of said catches by said spring means when said second coupling element is free of first coupling element.

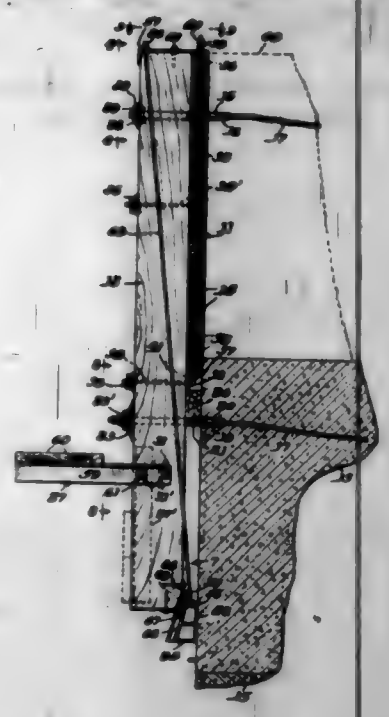
2,967,343

CANTILEVER FORM

Chester I. Williams, 1501 Madison Ave. SE., Grand Rapids, Mich.

Filed Dec. 2, 1952, Ser. No. 323,528
13 Claims. (Cl. 25—131)

1. The combination with studding for a concrete form, of sheathing adapted to be affixed to the studding; said sheathing comprising a series of vertically tiered and horizontally extending abutting boards, the horizontal opposite edges of each of the contiguously abutting boards being longitudinally grooved, whereby the normal expansion and contraction of the boards, from being wet to dry, will prevent the sheathing from buckling and the edges of the boards from opening up, and securing means extending transversely through the boards forming the sheathing and intermediate the opposite faces of the sheathing and transverse to the grooved edges for affixing the boards together preventing the opening of the



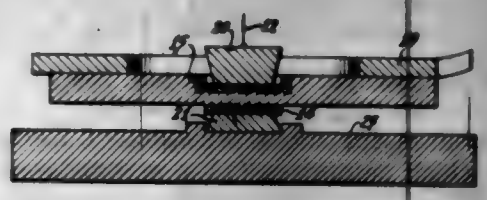
joint between contiguous boards formed by the contiguous edges.

2,967,344

SEMICONDUCTOR DEVICES

Charles W. Mueller, Princeton, N.J., assignor to Radio Corporation of America, a corporation of Delaware

Filed Feb. 14, 1958, Ser. No. 715,393
8 Claims. (Cl. 29—25.3)



1. Method of making a transistor comprising the steps of preparing a wafer of monocrystalline semiconductor material of one conductivity type having a recess in one major wafer face, diffusing an opposite conductivity type impurity into the entire surface of said wafer so as to form a layer at the wafer surface having said opposite conductivity type, removing said surface layer except for the portion in said recess and a resultant raised portion of the other major face coaxially opposite said recess, ohmically connecting a base tab to said one major face, making an ohmic emitter connection to the bottom of said recess, and making an ohmic collector connection to the said opposite conductivity type portion coaxially opposite said recess.

2,967,345

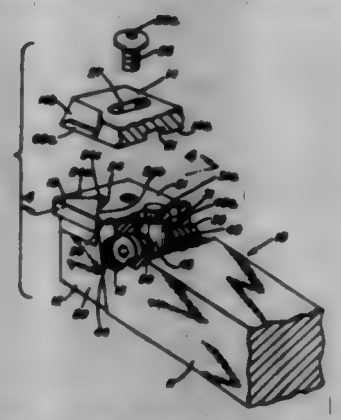
ADJUSTABLE CHIP BREAKER

Raymond E. Novkov, Akron, Ohio, assignor to Manchester Machine & Tool Company, Akron, Ohio, a corporation of Ohio

Filed Oct. 8, 1958, Ser. No. 766,120
5 Claims. (Cl. 29—96)

1. A cutting tool of the character described, comprising; a tool holder having front and top planar surfaces that are undercut in localized regions to define a tool pocket opening into said surfaces; a tool bit received in said tool pocket and having a cutting edge projecting beyond the front surface of said body; a clamping member secured to said body and having a bottom surface overlying said top surface of said body in substantial parallelism therewith, said clamping member also having a front edge surface that overlies said bit adjacent the

projecting portion thereof; a chip breaker having a plurality of chip engaging surfaces and being detachably connected with respect to said bottom surface of said clamping member in indexable relationship therewith; said chip breaker having one of said chip engaging surfaces frictionally contacting said bit adjacent said cutting edge, whereby said bit is retained in said pocket;

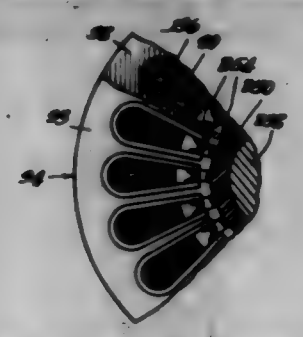


said chip breaker being supported adjacent its point of connection with said clamping member against chip breaking forces received during cutting; and shifting means rotatably carried by said body at a spaced distance from said top surface and moving said clamping member and said chip breaker as a unit towards and from said cutting edge of said bit upon rotation of said means.

2,967,346
PROCESS FOR MANUFACTURING SMALL MOTORS

Archie J. McMaster, Deerfield, Walter G. Lieberman, Prospect Heights, and Edwin O. Stastny, Lombard, Ill., assignors to G-M Laboratories Inc., Chicago, Ill., a corporation of Illinois

Filed Feb. 18, 1954, Ser. No. 411,126
7 Claims. (Cl. 29—155.5)



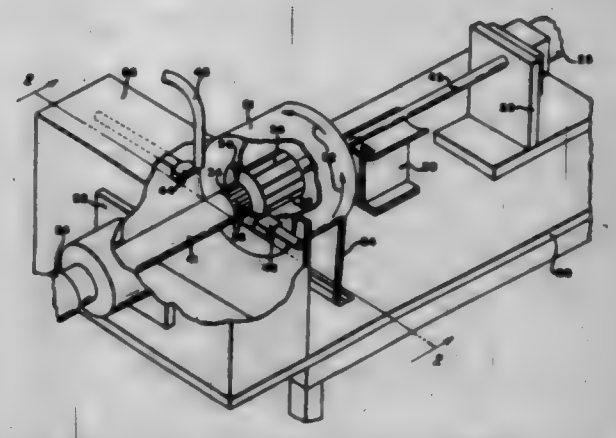
1. The process of manufacturing electric motors which comprises stacking a plurality of stator laminations in face-to-face engagement, inserting resilient insulating members of rectangular shape in the winding slots of the stator so formed and opening outwardly radially of said slots, said insulating members being provided with outwardly directed end flanges, holding the stator laminations together with said insulating members with the end flanges thereof embracing said laminations while inserting coil windings in the winding slots of said stator, assembling said stator and coil windings with an enclosure, introducing a flowable insulating material into said enclosure about said stator and coil windings, and treating said flowable insulating material to convert the same into a non-flowable solid.

2,967,347
METHOD OF UNDERCUTTING A COMMUTATOR

Oscar H. Rhea, Anderson, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Nov. 7, 1956, Ser. No. 620,891
3 Claims. (Cl. 29—155.54)

1. In a method for undercutting commutator insulation in a finished commutator having an operating surface consisting of alternating metallic bars separated from each other by insulating bars which are more easily abradable than the metal, the steps comprising; machining the commutator so an outer uniform cylindrical surface is formed providing a nozzle for emitting a jet of pressurized fluid carrying abrasive particles therein, positioning the machined cylindrical surface commutator in

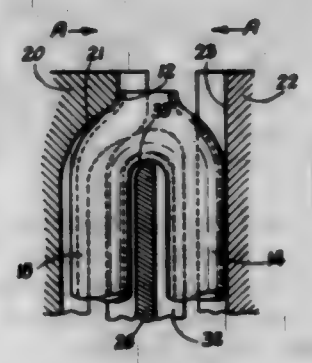


the path of said emitted fluid, causing continuous relative rotation between the jet and the commutator whereby the commutator surface is subjected uniformly and continuously to the action of said abrasive, and simultaneously differentially abrading the commutator for a time sufficient to undercut the insulation portions below the metallic bars.

2,967,348
FORMATION OF TUBE BENDS

André Huet, Paris, France, assignor to Combustion Engineering, Inc., New York, N.Y., a corporation of Delaware

Filed Nov. 28, 1956, Ser. No. 623,413
Claims priority, application France Nov. 23, 1955
2 Claims. (Cl. 29—157)



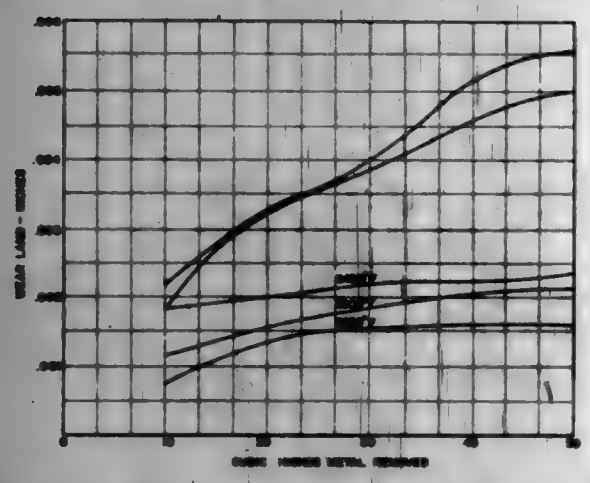
1. The process of fabrication of a bend with offset neck by compression of a bend with centered tube between two half-matrices; comprising the steps of; effecting an asymmetrical heating of the elbow region of the initial bend to red heat while heating the side of the bend towards which the neck is to be offset to white heat; compressing the said bend between two asymmetrical matrices, one of which has a throat with base shaped to a half of the final bend desired, while the other has a straight base pressing on the tube leg of the bend towards which the neck is to be offset with said throat leading to a cavity or sink conforming substantially to the straight leg portion of the bend with a projection or land offset toward said throat for engaging said neck prior to engagement of said sink with said leg portion; and disposing a separation bar forming an end-of-movement stop between the tube legs of the bend and which bar has a shape conforming to the crotch and contiguous straight leg portion of the desired bend and, preferably, floats between these tube legs during the operation of compression.

2,967,349

METALLIC COMPOSITIONS

Michael Hunsicker, Jr., Inkster, and David Moskowitz, Detroit, Mich., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Filed June 22, 1959, Ser. No. 822,848
6 Claims. (Cl. 29—182.7)



1. A hard sintered metallic compact particularly suitable for cutting tools, said compact being free of detrimental quantities of nitrides and oxides consisting essentially of titanium carbide and a molybdenum containing binding alloy, said binding alloy consisting essentially of twenty-five percent to seventy percent of a material selected from the class consisting of molybdenum, molybdenum carbide and mixtures of molybdenum and molybdenum carbide and an alloying metal selected from the group consisting of iron, cobalt, nickel and alloys thereof, said binding alloy in turn comprising ten to fifty percent of the mass of the compact.

2,967,350

BATTERY LEAD SALVAGING MACHINE

Jewell K. Morehart, R.F.D. 4, Alva, Okla.

Filed July 25, 1955, Ser. No. 523,992
7 Claims. (Cl. 29—204)



1. A battery lead salvage machine comprising a base, guide members extending upwardly from said base, a carriage carried by said guide members, said carriage having ledges for supporting batteries in inverted positions, said ledges being disposed in spaced relation to form a battery lead passageway therebetween, means carried by said base for selectively elevating and dropping said carriage to jar battery lead out of batteries mounted in said carriage, a battery lead chute underlying said carriage, a battery case chute at one end of said carriage for receiving battery cases having their battery lead removed therefrom.

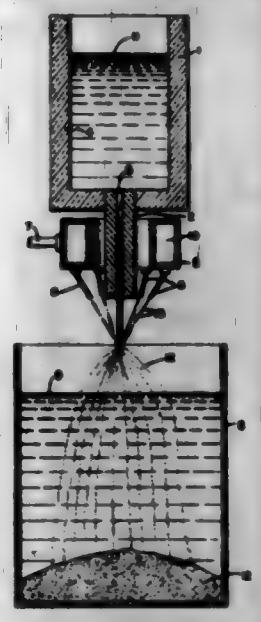
2,967,351

METHOD OF MAKING AN ALUMINUM BASE ALLOY ARTICLE

Sidney G. Roberts, Opportunity, and Maurice C. Fetzer and James B. Hess, Spokane, Wash., assignors to Kaiser Aluminum and Chemical Corporation, Oakland, Calif., a corporation of Delaware

Filed Dec. 14, 1956, Ser. No. 628,297
16 Claims. (Cl. 29—420.5)

1. A method of producing metal articles comprising the steps of preparing a melt of an aluminum base alloy containing alloying additions of metals in amounts which under conditions of production heretofore known would form coarse primary crystals of intermediate phases with aluminum or other alloying additions and cause severe chemical segregation during solidification, heating said melt to a temperature at which it is a homogeneous liquid solution, comminuting said homogeneous liquid



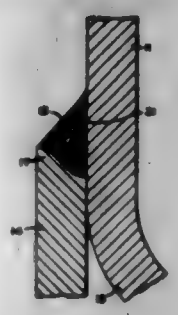
solution, solidifying and cooling the resulting metal particles at a rate sufficiently rapid to eliminate or substantially eliminate the formation of coarse crystals of intermediate phases and consolidating the solidified particles by working.

2,967,352

METHOD OF WELDING A SKIRT TO A CYLINDRICAL VESSEL

Nicholas A. Weil, Middle Village, N.Y., assignor to The M. W. Kellogg Company, Jersey City, N.J., a corporation of Delaware

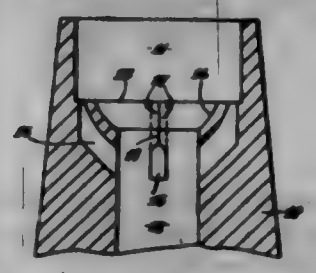
Filed June 22, 1955, Ser. No. 517,232
7 Claims. (Cl. 29—479)



1. A method of attaching a cylindrical supporting skirt exposed in use to ambient temperature conditions to a cylindrical body portion of a vessel adapted to be cyclically heated to elevated temperatures and cooled to temperatures approaching ambient, which comprises shaping one end of a supporting skirt to provide a generally frusto conical surface thereat with its larger diameter at the edge of said skirt at said end, disposing said skirt substantially in line with said vessel, positioning said skirt about the cylindrical body portion of a vessel with internal surface of said skirt at said end abutting external surface of said body portion and with said frusto conical surface disposed relative to external surface of said body portion to define a welding groove therebetween, said external surface of said body portion extending beyond said end, depositing fusing weld metal in said welding groove to fill said welding groove and to unite said skirt to said body portion by a fusion welded bond, depositing further weld metal on the top layers of the weld metal in said welding groove to form a fillet weld metal deposit extending along said external surface and uniting said top layers of weld metal to said body portion, and controlling the deposition of said weld metal to

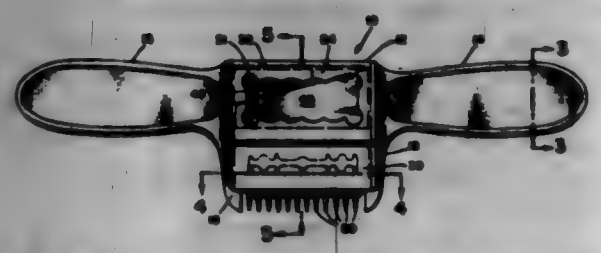
provide a weld metal deposit connecting said skirt and said vessel and extending along said vessel for a distance greater than the thickness of said skirt to provide a heat flow path of a capacity sufficient to prevent development of streses in said weld metal which approach the yield point thereof.

2,967,353
BALL-POINTED WRITING INSTRUMENTS
Christopher Guy Arengo, Clifton, England, assignor to Tallon Limited, London, England, a British company
Filed Dec. 17, 1957, Ser. No. 703,427
Claims priority, application Great Britain Oct. 1, 1957
6 Claims. (Cl. 29—538)



1. A method of making a nib for a ball-pointed writing instrument of the kind provided with a base seating in a housing for the ball and an inturned lip for retaining the ball on the base seating, both the said base seating and the inturned lip providing bearing surfaces for the ball, the said base seating, inturned lip and housing being integral with the said nib, comprising forming a cavity in the writing end of the said nib, forming a conduit which extends axially along the nib from said cavity to the opposite end of the nib, forming at least one channel in the floor of said cavity extending outwardly from said conduit, and displacing the said floor of the cavity to form the base seating for the ball and close the faces of the channels at said seating, thereby providing tubular passages below the base seat bearing surface for the ball, the base seat bearing surface thus formed being continuous.

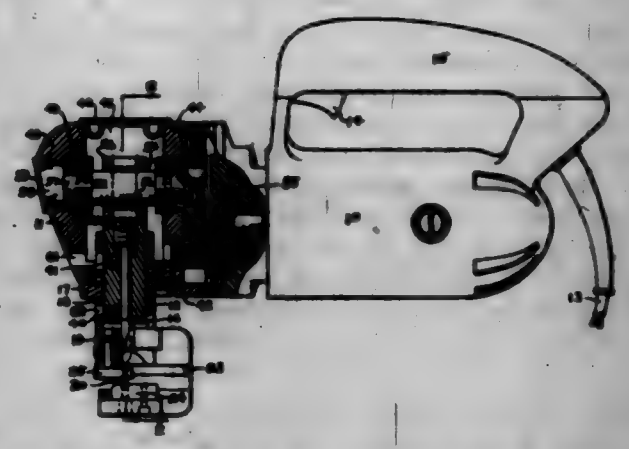
2,967,354
MAGNETICALLY ADJUSTABLE HAIR TRIMMER
Edward L. Ahlborn, 511 Robindale, Dearborn, Mich.
Filed May 22, 1959, Ser. No. 815,015
8 Claims. (Cl. 30—30)



1. In a hair trimming device, a body portion having a plurality of comb teeth formed thereon and adapted to receive a cutting blade therein, a magnet mounted on said body portion for movement with respect thereto, and magnetically attracting said blade for movement therewith, and means magnetically engaging said magnet for shifting said magnet toward and away from the outer edges of said comb teeth, thereby adjusting the cutting edge of said blade with respect to said comb teeth.

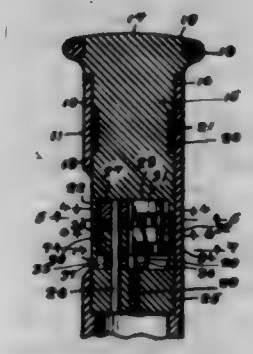
2,967,355
SHEET METAL NIBBLER CONSTRUCTION
Israel J. Yermish, Philadelphia, Pa., assignor to Fenway Machine Company, Inc., Philadelphia, Pa., a corporation of Pennsylvania
Filed Dec. 30, 1959, Ser. No. 862,916
7 Claims. (Cl. 30—228)

1. In a motor driven sheet metal cutting tool including a vertically reciprocable punch holding ram having a vertical central bore extending therethrough which bore includes a lower portion adapted to receive a punch shank and an internally threaded upper portion of enlarged cross section relative to the lower portion, the combination comprising, an exteriorly threaded hollow cylindrical bushing open at top and bottom threaded vertically downward into the internally threaded upper portion of the ram central bore, the bushing bottom being formed by an inturned annular flange having a central opening therethrough, a punch having an elongated shank portion ter-



minating at its bottom end in a cutting blade and terminating at its top in a head of enlarged cross-section relative to said shank, said punch shank being projected freely downward through the central opening in the bottom annular flange of said hollow bushing and said ram central bore lower portion until the punch head undersurface is seated upon the upper surface of said flange, and means coacting with said bushing to clamp said punch securely thereto, whereby said punch and bushing are constrained to reciprocate with said ram as a unit.

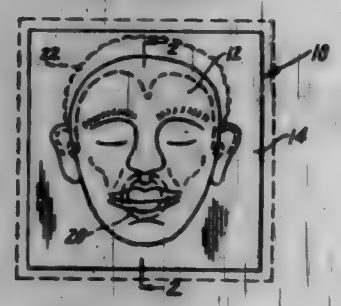
2,967,356
ROLLER REGISTER
John H. Morehead, 1420 Rose Ave., Long Beach, Calif.
Filed Oct. 4, 1957, Ser. No. 688,230
1 Claim. (Cl. 33—141)



In a measuring instrument for a writing implement of the type that includes a hollow housing having a writing tip on one end thereof, the improvement consisting in providing a cutout in a wall portion of said housing which defines a window, a wheel embodying a portion of reduced diameter seated in said housing, said wheel having a portion which extends out beyond the end of the housing and said extending end of the wheel being provided with an annular groove, a resilient annular surface engaging element positioned in said groove, said surface engaging element having a diameter which is greater than said wheel, there being an annular recess in that portion of the wheel which is positioned in the housing, a spring member arranged in said recess and engaging said housing, said wheel being provided with a hollow chamber which provides a flange on the inner end thereof, a pair of diametrically opposed cam members projecting in-

wardly from said flange, a non-rotary support member fixedly mounted in said housing, a shaft projecting through said support member and abutting the inner end of said wheel, the longitudinal axis of said shaft being parallel to the longitudinal axis of the writing tip, a first pinion gear mounted on said shaft, said first pinion gear adapted to engage the cams on said flange, said support member having an opening therein, a first spring member provided with a portion which projects through said opening and a portion of said spring member engaging said pinion gear, a sleeve arranged in said housing and abutting the flange on said wheel, teeth extending inwardly from said sleeve and engaging said pinion gear, a cam piece projecting from said sleeve, a collar arranged in said housing and positioned between said support member and sleeve, teeth projecting inwardly from said collar, a second pinion gear mounted on said shaft and said second pinion gear adapted to engage the teeth on the collar and said second pinion gear adapted to engage the cam piece on the sleeve, said first and second pinion gears being free to revolve on said shaft, a second spring member engaging said second pinion gear and said second spring member having a portion thereof extending through the opening in said support member, and a spacer member interposed between said second pinion and said support member and said spacer member being arranged on said shaft; the outer periphery of the wheel, sleeve and collar having indicia thereon which are adapted to be observed through said window.

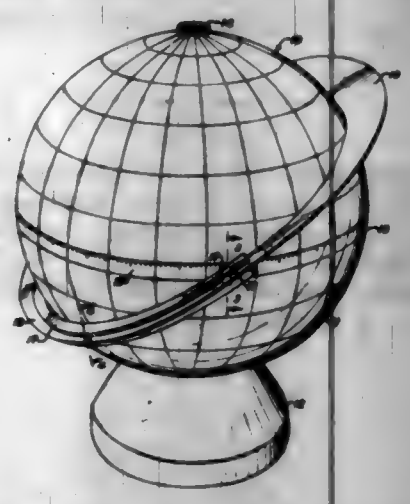
2,967,357
COPPER SCULPTURE
Donald G. Watson, Ventura, Calif., assignor to Gustave Miller, Washington, D.C.
Filed May 5, 1958, Ser. No. 733,030
1 Claim. (Cl. 35—26)



A sculpture assembly comprising a partially pre-formed concavo-convex blank form of ductile material, the convex side providing a positive form and the concave side providing a negative form, and a bag of granules for supporting said blank form of ductile material, said bag of granules filling the negative concave side of said blank form and supporting said form with its positive convex side uppermost in viewable position while incisive pressure is sequentially applied in selected areas on the positive side to add desired details and characteristics to said form, the progress of the work being continuously viewable.

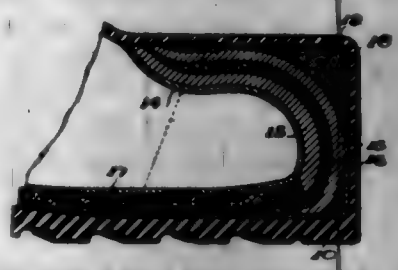
2,967,358
SATELLITE DEMONSTRATION MODEL
Philip S. Fay, Lyndhurst, and Gilbert W. Nichols, Eastlake, Ohio, assignors to The Standard Oil Company, Cleveland, Ohio, a corporation of Ohio
Filed Dec. 24, 1958, Ser. No. 782,865
3 Claims. (Cl. 35—46)

1. A satellite demonstration device comprising a globe having upper and lower hemispheres rotatably positioned with respect to each other, means supporting the lower hemisphere at the pole, an equatorial band carried by said globe rotatable in the equatorial plane with respect to both hemispheres, an elliptically shaped plane surface depicting a satellite orbit having a circular opening therein adapted to surround a diameter of said globe, means for pivotally supporting said surface on said equatorial



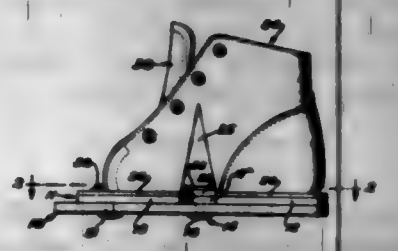
band along a diameter thereof, and means for rotatably supporting said surface in the plane thereof with respect to the pivotal support means.

2,967,359
INSULATED SKI BOOT STRUCTURE
Edward R. Barron, Framingham, Mass., assignor to the United States of America as represented by the Secretary of the Army
Filed Sept. 3, 1959, Ser. No. 838,005
2 Claims. (Cl. 36—2.5)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A ski boot including an inner sock lining which is rounded in its upper toe portion and flat in its lower portion to conform to the shape of the toe portion of the wearer's foot, a rigid cap portion spaced from the sock lining and having its sides shaped to conform to the shape of the toe clamps of a selected ski harness, heat insulation material disposed between the cap portion and the sock lining and curved to conform to the curvature of the latter, and means for binding said elements into a unitary structure.

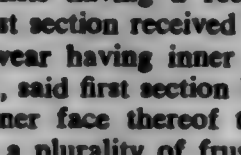
2,967,360
ORTHOPEDIC SHOE
Paul E. Rice, Rte. 1, Box 302, Augusta, Mich.
Filed Feb. 23, 1960, Ser. No. 10,454
9 Claims. (Cl. 36—8.5)



1. An orthopedic shoe comprising a top sole and a flexible upper secured thereto, said top sole comprising a rear section and a front section relatively movable into different angular relations with each other, a relatively stiff bottom sole underlying said top sole and

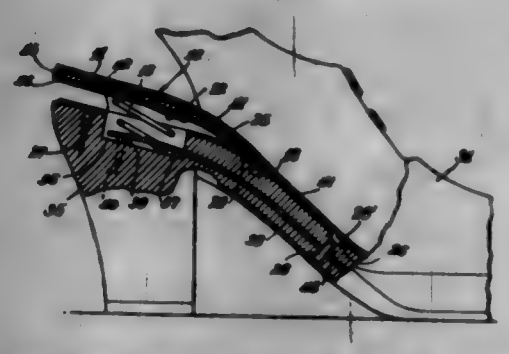
rigidly secured to said rear section of said top sole, said front section of said top sole being disposed slidably upon said relatively stiff bottom sole, means pivotally connecting the rear end of said front section of said top sole to said relatively stiff bottom sole to allow lateral pivotal adjustment of said front section of said top sole to different positions, and means for releasably securing in fixed position said front section of said top sole to said relatively stiff bottom sole after adjustment of the former to selected position.

2,967,361
FOOTWEAR HEEL
Walter Oxe, 21 Annestrasse, Witten-Ruhr, Germany
Filed Nov. 17, 1958, Ser. No. 774,316
Claims priority, application Germany Nov. 22, 1957
1 Claim. (Cl. 36—35)



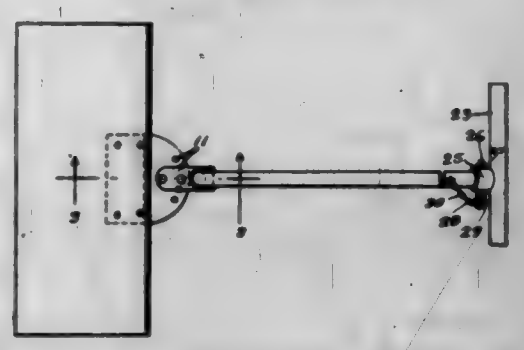
A heel for a shoe comprising a base portion formed at a plurality of lifts having a recess at its point of greatest wear, a first section received in said recess at its point of greatest wear having inner and outer substantially parallel faces, said first section being adapted to be attached at the inner face thereof to the base portion and provided with a plurality of frusto-conical openings extending between the faces of said first section with the smallest diameter of said conical openings being in the outer face of said first section, a second resilient section received on top of said first section and having substantially parallel faces, a plurality of resilient cylindrical projections extending from one face of said second section and having a diameter slightly greater than said smallest diameter of said conical openings, said projections being pressure inserted into said openings whereby said projections conform to the frusto-conical shape of said openings and secure said second section to said first section and to the base section of the heel.

2,967,362
INSOLE CONSTRUCTION FOR A SHOE
Joseph Montoscuro, 724 N. Sawyer Ave., Chicago, Ill.
Original application Oct. 29, 1953, Ser. No. 389,003, now Patent No. 2,814,132, dated Nov. 26, 1957. Divided and this application Aug. 15, 1957, Ser. No. 678,342
10 Claims. (Cl. 36—37)



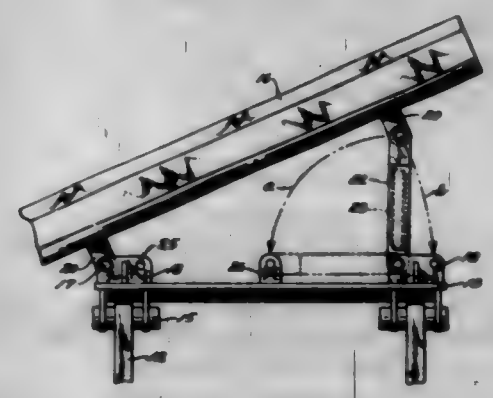
1. The combination in a high-heeled shoe construction of an insole construction comprising a heelplate affixed to the heel and shank portion of the shoe, the upper end of the heel formed with a bore and the contiguous portion of the heelplate formed with a hole in alignment with the bore, a conically coiled spring operatively mounted in the bore and affixed to the shoe, said heelplate formed with laterally spaced holes, a heel pad including laterally spaced tabs operatively mounted in said laterally spaced holes for hingedly connecting the heel pad to the heel plate, and the heel pad operatively supported upon the conical coiled spring, whereby upon the shoe being worn, the heel pad is adapted to abut the heel plate and the conically coiled spring being partially compressed.

2,967,363
MANUALLY OPERATED SNOW PLOW
John M. Meier, 691 Martin Ave., Oradell, N.J.
Filed Jan. 14, 1959, Ser. No. 786,794
1 Claim. (Cl. 37—53)



A snow plow of the manually operable type, comprising a handle bar, one portion of the handle bar being curved in the arc of a circle providing a frame, a narrow runner secured to the curved portion of the handle bar providing a support for the snow plow, a pair of horizontal plates secured to said handle bar extending forwardly therefrom, a curved plow blade, a bracket secured to the rear surface of said blade, and a pair of upper and lower plates forming a part of said bracket and positioned between said upper and lower plates of the handle bar, said plates having openings disposed in the arcs of circles, the openings of the plates aligning for the reception of a bolt securing the plates in various positions of lateral adjustment, said plates having additional aligning bolts for the reception of a pivot bolt by means of which the handle bar is connected to said blade and a handle removably connected to said handle bar.

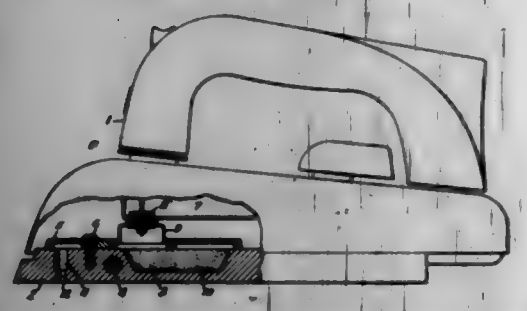
2,967,364
BULLDOZER BLADE SUPPORT AND ANGLING ADJUSTMENT
Stanley W. Warner, Aurora, and Roy R. Buck, Naperville, Ill., assignors to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed Oct. 23, 1959, Ser. No. 848,264
5 Claims. (Cl. 37—143)



3. Supporting means for an angling bulldozer blade which comprises a blade supporting frame adapted to be carried by a vehicle, a blade pivotally connected adjacent opposite ends to the supporting frame with removable pivot means whereby the blade may be swung to right and left angling positions relative to the frame, a brace with pivot connections between the frame and the blade for either angling position, and a central pivot connec-

tion on the frame spaced from the right and left brace pivot connections thereon a distance equal to the distance between the pivot connections on the brace.

2,967,365
BOILER COATING AND METHOD FOR APPLYING
Gilbert J. Extale and Frederick W. Riddington, Ontario, Calif., assignors to General Electric Company, a corporation of New York
Filed July 15, 1954, Ser. No. 443,644
11 Claims. (Cl. 38—77)



1. In a steam iron, a soleplate having a boiler cavity therein for receiving water for flash conversion into steam, and an adherent coating of finely divided silica particles on the surface of said boiler cavity.

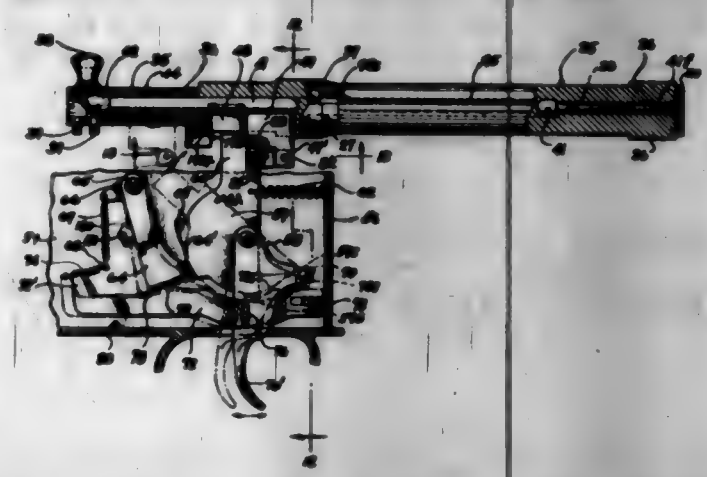
2,967,366
NAME PLATE ASSEMBLY
Otto F. Colbert, 339 N. Pickering Ave., Whittier, Calif.
Filed Apr. 13, 1959, Ser. No. 805,829
4 Claims. (Cl. 40—140)



1. A name plate assembly comprising a rectangular frame, a complement of letters disposed in the frame opening with the front faces of the frame and letters substantially flush, the frame being thicker than the letters to form a space between the rear face of the frame and the rear faces of the letters, means integral with the frame and letters to adjustably hold the latter in the frame against longitudinal shifting in the frame, said latter means on the letters having rear faces that are rearward of the rear faces of the letters and flush with the rear face of the frame, a non-metallic backing sheet coextensive dimensionally with the frame and in flatwise position against the rear face of the frame and engaged with the rear faces of letter-holding means of the letters, and friction means connecting said backing sheet and the frame.

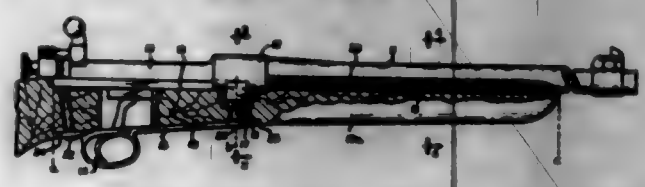
2,967,367
FIRING MECHANISM FOR BOLT ACTION REPEATING RIFLE
Jessie T. Ivy, 523 Henderson St., Seattle, Wash.
Filed Nov. 15, 1957, Ser. No. 696,738
5 Claims. (Cl. 42—69)

1. In a rifle of the character described, a receiver, a bolt mounted therein for reciprocal movements between breech closing and open positions, a firing pin mounted in the bolt and movable therewith to the full extent of its reciprocal movement, an anvil fixed to the firing pin and projecting downwardly from the bolt, a spring loaded hammer pivotally mounted in the receiver for oscillation and having a shoulder thereon, a spring loaded sear pivoted in the receiver for releasable holding engagement with said shoulder to normally restrain the hammer in anvil striking position, and a trigger mechanism for releasing said sear from the hammer shoulder; said hammer having a radially extending arm for striking the anvil for firing the rifle; said anvil having a block pivoted thereto at its lower end for limited upward and downward movements, said block being engageable with



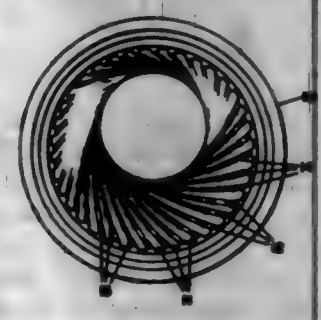
said hammer head with the opening reciprocal movement of said bolt after firing to return the hammer slightly beyond its latching position and cause said block to pass rearwardly beyond the hammer head to clear it for return of said hammer to latched position, and to yield upwardly and slide across the hammer arm with return of the bolt to closed position.

2,967,368
MOUNTING OF GUN BARREL IN ITS STOCK
Selden T. Williams, Bellerose, N.Y.
(Central Road, Middlebury, Conn.)
Filed July 31, 1958, Ser. No. 752,260
5 Claims. (Cl. 42—75)



1. A rifle comprising a barrel, a receiver having a recoil lug, a stock supporting the receiver and the barrel at least in part, and a mass of resilient bedding material between, conforming to and bonded adhesively throughout the length of the contiguous opposed portions of the barrel and the stock to said respective parts, and to the contiguous opposed portions of the receiver and its recoil lug and the stock.

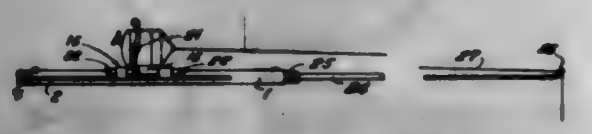
2,967,369
RIFLE BARREL WITH TWO SETS OF GROOVES OF DIFFERENT DEPTH AND TWIST
C Walton Musser, Beverly, Mass., assignor to the United States of America as represented by the Secretary of the Army
Filed Jan. 13, 1960, Ser. No. 2,312
2 Claims. (Cl. 42—78)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. In a rifle barrel for firing different types of projectiles, the combination of means forming a first set of

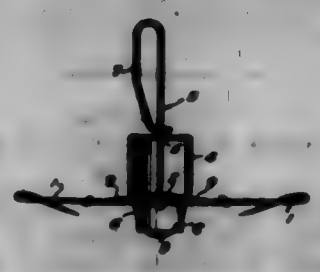
grooves having a predetermined depth and twist, and means forming a second set of grooves having a depth and twist substantially less than the depth and twist of said first set of grooves, said second set of grooves being inscribed on the lands between said first set of grooves.

2,967,370
FISHING REEL SECURING MEANS
Paine L. Bush, 822 Stewart Drive, Dallas, Tex.
Filed Feb. 26, 1959, Ser. No. 795,656
13 Claims. (Cl. 43—22)



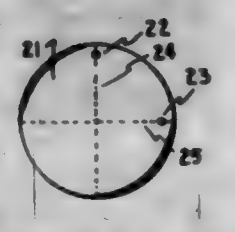
1. In a device of the class described, a tubular housing having diametrically opposed longitudinal slots through the wall thereof; a shaft rotatably mounted in the housing and having a portion eccentric to the longitudinal axis of the housing; a pair of hollow clamps, each having a substantially semi-circular side and a straight side, the straight side being slidable along said slots and extending adjacent said shaft, and the semi-circular side extending about the wall of the housing; a rib on the flat side of each clamp; and a series of notches on the eccentric portion of the shaft engageable with the ribs in one position of rotation of the shaft.

2,967,371
FISH HOOK
Paul B. Strong, 6005 Preston Road, Dallas, Tex.
Filed Nov. 21, 1958, Ser. No. 775,475
1 Claim. (Cl. 43—42.74)



The combination of a pair of fish hooks each having an eye, a link consisting of a piece of wire having loops in opposite ends thereof, one of the loops being adapted to be connected to a fishing line, whereby the link is suspended from the line, and the other loop being passed through the eyes of the hooks whereby the hooks are pivotally connected thereto, a tubular body, open at its lower end, surrounding the link and positioned below the first mentioned loop, the body having an opening in its upper end for receiving the link and having a pair of diametrically opposed notches in its lower edge, the first mentioned loop forming an abutment for engagement by the body to limit upward movement thereof relative to the link and the last mentioned loop forming an abutment for engagement by the body to limit downward movement thereof relative to the link, the last mentioned loop having a generally rectangular outline conforming in configuration to the inner wall of the body, whereby the body is aligned axially with an intermediate portion of the link, and having a transversely extending portion positioned immediately below and between the bottoms of the notches, the eyes of the hooks being pivotally connected to the transversely extending portion of the last mentioned loop, and a coil spring looped about the transversely extending portion and having its ends connected to the hooks intermediate their ends whereby the hooks are yieldably urged outwardly and upwardly, in engagement with the notches, and normally extend outwardly in opposite directions from their connected ends and lie substantially in a common plane which is perpendicular to the link.

2,967,372
FISH LINE UNTWISTER
Melvin K. Pass, 1119 W. Montana Ave., St. Paul, Minn., and Michael H. Schouveller, Wyoming, Minn. (238 N. Lexington Parkway, St. Paul, Minn.)
Filed Feb. 7, 1958, Ser. No. 713,934
5 Claims. (Cl. 43—43.13)



1. A device for untwisting a fishing line comprising a piece of sheet material symmetrically disposed about two axes substantially at right angles to each other and lying within said sheet material, said sheet material being helically disposed about each of said axes and having a hole for attaching a line near the periphery of said material substantially coincident with each axis.

2,967,373
FISH HOOK DISLODGER
Clarence L. Garrison, Rte. 1, Naches, Wash.
Filed May 20, 1957, Ser. No. 660,353
3 Claims. (Cl. 43—53.5)

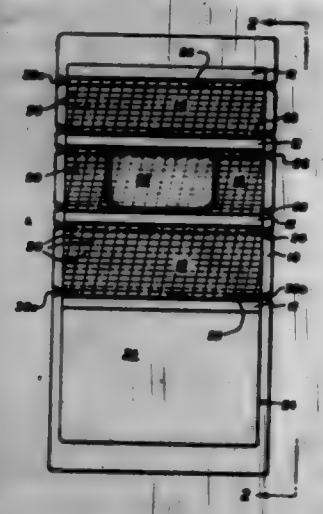


1. A fish hook dislodger comprising an elongated tube having a slot extending throughout a major portion of its length, said tube being provided near and rearwardly of its forward end with a locking notch, tooth means on the forward end of the tube for engaging the fish hook to dislodge it, a trigger element slidably mounted upon the tube and having an extension engaging through said slot of the tube and projecting into the bore of the tube, a retractile spring disposed within the bore of the tube and connected with the tube and with said extension of the trigger element, said trigger element having a part for locking engagement with said notch when the trigger element is shifted longitudinally of the tube in a direction to stretch the spring, the arrangement being such that the user with one hand may disengage the trigger element from said notch and control the feeding of the tube into the mouth of the fish and along the fishing line to the hook.

2,967,374
AID FOR LETTERING LABELS
Thomas L. Belcher, Veterans' Home, Napa County, Calif.
Filed Aug. 17, 1959, Ser. No. 834,186
1 Claim. (Cl. 45—131)

An aid for lettering labels comprising a tablet having a flat front surface, a rear surface, a top edge, a bottom edge and two side edges, a plurality of horizontally disposed parallel ledges extending across the front surface of said tablet and spaced different vertical distances apart from a level adjacent the top edge of said tablet to a level a distance above the bottom edge thereof to define between themselves a plurality of compartments of different depth adapted to receive and support labels of different sizes while leaving a blank area between the lowest ledge and the bottom edge of said tablet adapted to serve as a rest for a hand when in the process of lettering a

label held in one of said compartments, said tablet having aligned notches in its side edges at points opposite said compartments and adjacent the bordering ledges thereof and connecting grooves provided in the rear surface



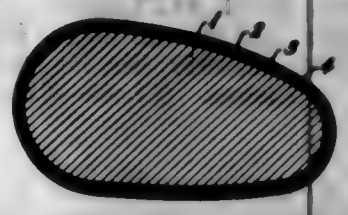
thereof between the aligned notches in its side edges, and endless elastic bands trained in tensioned condition around said tablet in engagement with aligned notches of its side edges and the connecting grooves in its rear surface.

2,967,375
TOY
Werner F. Hellman, 4417 N. Malden Ave., Chicago, Ill.
Filed Oct. 1, 1958, Ser. No. 764,677
1 Claim. (Cl. 46—44)



A toy comprising a single elongated upright tubular body having fins at the lower end whereby said body may be supported in an upright position, a cap member frictionally secured to the top of the tubular body, said cap having a restricted opening at the upper end thereof, a mouthpiece communicating with said tubular body for blowing air thereinto and extending at right angles to said tubular body, a cage-like ball supporting member of inverted cone shape adjacent the top of said cap member and directly above said restricted opening, said cage-like ball supporting member being in communication with the interior of said body, a ball adapted to be supported in said cage-like ball supporting member directly above said restricted opening, a sound member operatively connected with said tubular body, said ball and said sound member adapted to be actuated simultaneously upon the blowing of air into said tubular member so that said ball member will float free around said cage-like ball supporting member.

2,967,376
METHOD FOR TREATING SEEDS, AND PRODUCT OF SAID METHOD
David B. Scott, Jr., Salinas, Calif., assignor to Solleey, Incorporated, Salinas, Calif., a corporation of California
Filed Feb. 27, 1958, Ser. No. 717,838
17 Claims. (Cl. 47—1)

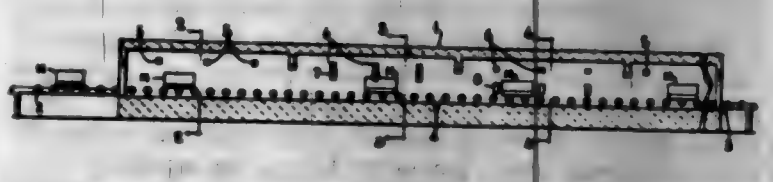


1. The method of treating seeds to provide a free-flowing coated seed which comprises mixing dry seed with a pesticide, adding from about 0.25% to about 6% on the weight of the dry seed of a humectant and from about 1% to about 5% by weight based on the weight of the dry seed of a coating conditioning material.

2,967,377
COMPOSITION AND PROCESS FOR TREATMENT OF DUTCH ELM DISEASE
Glenn A. Brown, Rte. 4, Huntington, Ind.
No Drawing. Filed Feb. 23, 1960, Ser. No. 10,036
7 Claims. (Cl. 47—57.5)

1. A method of treating elm trees infected with Dutch Elm Disease which comprises first injecting into the xylem tubes of said tree an aqueous suspension containing elemental sulfur, tartaric acid and iodine and then later after this suspension has been absorbed, injecting into the xylem tubes of said tree a second aqueous suspension containing elemental sulfur, a member of the group consisting of tartaric acid and cream of tartar, a source of magnesium ions and a water-soluble boron compound.

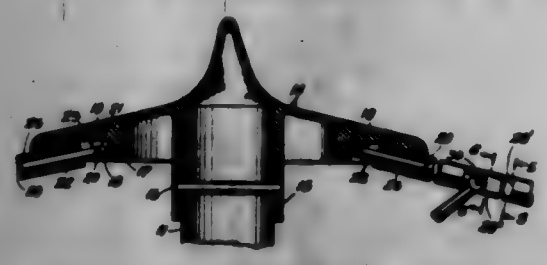
2,967,378
METHOD AND APPARATUS FOR BENDING GLASS
Richard W. Jones, O'Hara Township, Pa., and Lloyd V. Black, Murphy, N.C., assignors to Pittsburgh Plate Glass Company, Allegheny County, Pa., a corporation of Pennsylvania
Filed Dec. 9, 1958, Ser. No. 779,218
15 Claims. (Cl. 49—7)



1. Apparatus for bending flat glass sheets comprising a curved mold adapted for supporting a flat glass sheet thereon for bending, a heating furnace divided successively into a preheat zone, bending zones and an annealing zone and comprising a conveyor for transporting the curved molds through the heating furnace, heating means in the preheat zone for heating the mold and glass thereon and comprising heating elements constructed and arranged to radiate heat normally to the flat sheet mounted on the mold, heating means in the first bending zone intermediate the longitudinal center line and the walls of the furnace and angularly disposed with respect to the heating means in the preheat zone to radiate heat substantially normally to portions of the mold flanking its central portion, heating means in successive bending zones located on either side of the longitudinal center line and angularly disposed at successively greater angles with respect to the orientation of the heating means in the preheat zone to radiate heat substantially normally to suc-

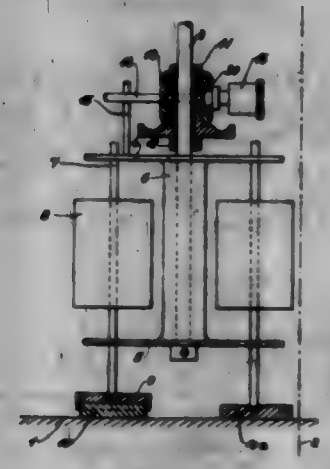
cessively outboard portions of the mold, and means in the annealing zone for cooling and annealing the glass on the mold.

2,967,379
FOLDING MULTIPLE RIGID SECTION UMBRELLAS
Samuel N. Small, Valley Stream, N.Y., assignor to Alfred G. Cohen and Paul Weiss, both of Flushing, N.Y.
Filed Apr. 28, 1958, Ser. No. 731,469
11 Claims. (Cl. 50—49)



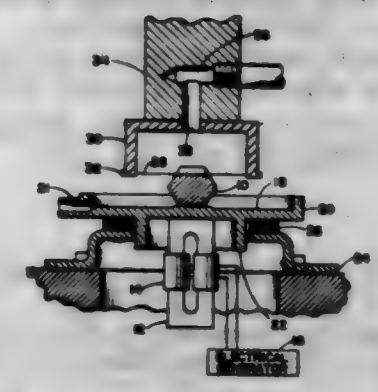
1. An umbrella of the character described, comprising a post, a top member at the upper portion of the post, a runner slidably engaging the post, an umbrella top, means between the runner and umbrella top for movement of the umbrella top into extended and collapsed positions with respect to the post, said top comprising a plurality of joined pairs of rigid sections, the section in each pair being different to adapt the pairs of sections to be united in a circumferentially continuous umbrella top comprising only said pairs of joined sections, each section having materially spaced and tapered longitudinal edges, said edges including integral bearing means for coupling the edges of adjacent sections to form a top having a continuous surface, said bearing means hingedly journaling the sections in each pair and said pairs of adjacent sections, and means pivotally coupling predetermined sections of the umbrella top with said member so that the umbrella top can be moved into extended and collapsed positions.

2,967,380
GRINDING OR POLISHING APPARATUSES
Laurits Gudmund Damgaard, Virum, Denmark, assignor to H. Struers Chemiske Laboratorium, Copenhagen, Denmark
Filed Apr. 16, 1959, Ser. No. 806,873
Claims priority, application Denmark, Apr. 22, 1958
4 Claims. (Cl. 51—133)



1. A grinding or polishing apparatus comprising a frame, a disc mounted in said frame for rotation relative thereto about a first axis, a sample holder rotatably mounted in said frame for free rotation relative thereto about a second axis parallel to said first axis, and liquid brake means including two co-axially mounted brake members, which form a gap between them, which gap is filled with a braking liquid, one of said braking members being drivably connected to the said sample holder while the other brake member is secured to said frame.

2,967,381
MEANS FOR CUTTING
Gilbert G. Brown, Davenport, Iowa, assignor to The Bendix Corporation, a corporation of Delaware
Filed Apr. 7, 1958, Ser. No. 726,961
1 Claim. (Cl. 51—157)

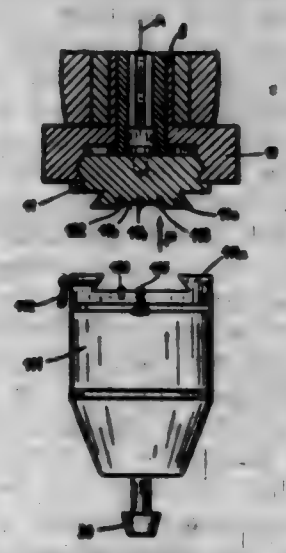


In combination, a sonic wave transmitting holder for a ceramic element to be sliced, means for imparting sonic energy to said holder for transmission of vibratory motion to said ceramic element in a direction substantially perpendicular to said holder, a tool holder positioned above said wave transmitting holder and including a plurality of wires circular in cross-section and held taut in parallel spaced relation in a plane perpendicular to the line of vibratory motion imparted by said wave transmitting holder, said tool holder being movable to carry said plurality of wires in the direction of said line of action, and means for flowing a slurry downwardly over said wires in the direction of said wave transmitting holder.

ERRATUM

For Class 51—233 see:
Patent No. 2,967,323

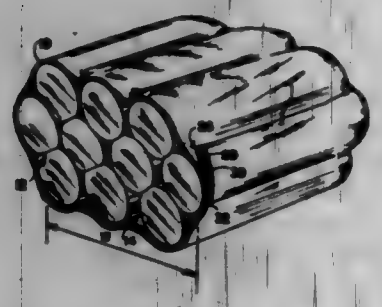
2,967,382
ROTARY TOOL HOLDER
Kurt Zwick, Munich, Germany, assignor to Hans Deckel, Munich, Germany, and Friedrich Wilhelm Deckel, Zug, Switzerland
Filed Sept. 5, 1958, Ser. No. 759,305
Claims priority, application Germany Sept. 13, 1957
8 Claims. (Cl. 51—245)



2. A machine tool comprising a spindle rotatable on an axis of rotation, a guide member mounted on and rotating with said spindle, said guide member having a

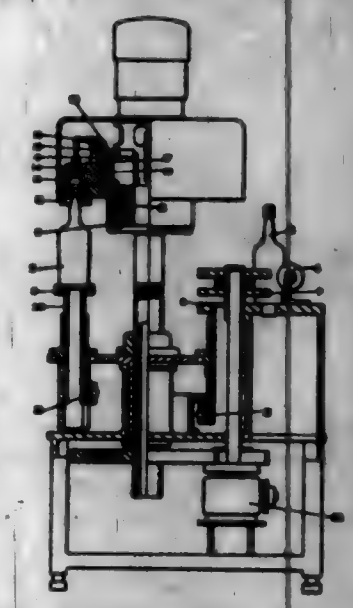
guideway extending substantially radially with respect to said axis, a tool holder member mounted on said guide member for movement along said guideway to various positions offset various radial distances from said axis, and a clamp for clamping said tool holder member against movement along said guideway, characterized by safety stops for limiting movement of said tool holder member along said guideway by centrifugal force in case said spindle is rotated without first clamping said tool holder member, said safety stops comprising a plurality of spaced abutments in fixed position on one of said members, and a retractable abutment on the other of said members in position to engage a next adjacent one of said fixed abutments when said tool holder member starts to move radially with respect to said axis under the influence of centrifugal force.

2,967,383
PACKAGED PRODUCT AND METHOD OF MAKING THE SAME
Herbert Ramsey, Jr., Rochester, N.Y., assignor to W. R. Grace & Co., Cambridge, Mass., a corporation of Connecticut
Filed Nov. 7, 1957, Ser. No. 695,140
1 Claim. (Cl. 53—14)



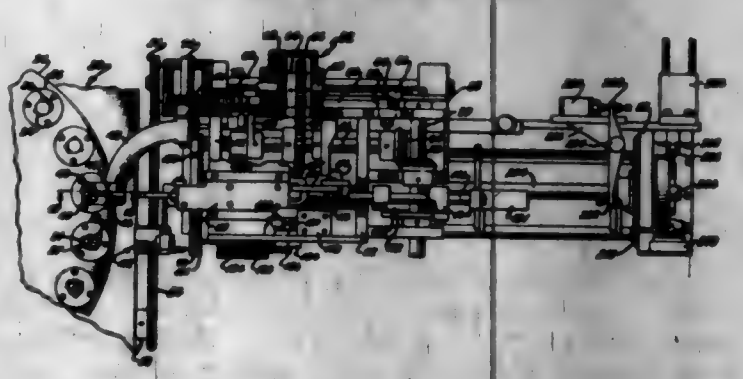
A method of making a hermetically sealed packaged product substantially impervious to the ambient atmosphere comprising the steps of: providing a relatively thin, flexible and transparent sheet of wrapping material made of plastic material which seals when two surfaces thereof in contact with each other are subjected to heat and shrinks when subjected to heat; wrapping said sheet around a product to be so wrapped so that edge portions of said sheet are in overlapping relationship so as to provide longitudinally extending underlying and overlying layers and with two portions of said sheet projecting beyond said product; heat sealing the overlapping edge portions together along a longitudinally extending zone defining an enlarged area spaced from the outer exposed edge of the overlying layer; said exposed overlying edge portion of the overlying layer from the sealed zone to the outer exposed edge being provided with a fold along a zone intermediate the exposed edge of the overlying layer and the heat-sealed zone thereby providing a pair of superimposed overlying layers defining a juncture with said underlying layer and thereby providing a longitudinally extending finger-grip flap portion for rupturing the seal at said sealed zone; substantially evacuating the air from the package through one of said projecting portions and closing and sealing said two projecting portions in tightly twisted relationship; and subjecting the sheet to sufficient heat to cause it to shrink substantially uniformly and tightly around the package to substantially eliminate any wrinkles in said sheet and cause said sheet to conform to the contours of said product with said juncture being free from the effects of heat shrinking and with the superimposed layers being independent of the underlying layer cooperating therewith to define said juncture whereby the finger-grip flap portion remains graspable.

2,967,384
CAPSULING MACHINE
Alexander Wilson, Wishaw, Scotland, assignor to The Distillers Company Limited, Edinburgh, Scotland, a British company
Filed Apr. 27, 1959, Ser. No. 809,265
Claims priority, application Great Britain May 2, 1958
3 Claims. (Cl. 53—76)



1. A machine for the continuous capsuling of bottles which comprises in combination; a plurality of capsuling heads each containing a flexible diaphragm compressible around the neck of the bottle mounted rotatably around a central axis; means for introducing a bottle bearing a loosely fitting capsule into and withdrawing the capsuled bottle from a head; means for synchronising the movement of the bottle with that of the capsuling head; a rotary valve which directs a flow of oil from a pressure pump to a head when it is in position to receive a bottle and allows relief of oil pressure in a head before the capsuled bottle is withdrawn therefrom, the rotary valve having outlet ports shaped to cut the supply of oil off from each head just after connection with the next head has been made, and each head containing valve operating means movable with respect to the head by the introduction of the bottle which operates a valve which directs oil to the outside of the diaphragm in the head when a bottle is in position within the diaphragm and prevents oil flowing to the diaphragm and directs it to the low pressure side of the pump in the absence of a bottle within the diaphragm.

2,967,385
AUTOMATIC SOCKET PACKAGING MACHINE
Guy M. Grimaldi, North Warren, Pa., assignor, by mesne assignments, to Sylvania Electric Products Inc., Wilmington, Del., a corporation of Delaware
Filed May 9, 1958, Ser. No. 734,175
11 Claims. (Cl. 53—78)



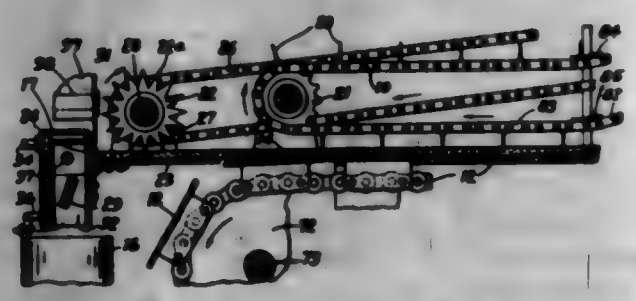
1. An article holding member having a multiplicity of article receiving recesses, an arm for transferring an article to said member and movable from an arm loading

position to an arm unloading position adjacent said member, a stripper for unloading the article from said arm and moving the same into one of the recesses in the member, drive means for oscillating the arm, and means for operating the stripper coupled to the drive means for synchronous movement therewith comprising a drive shaft, a cam on said drive shaft, a reciprocatable bar, a linkage between said bar and said cam including a cam follower, whereby the bar will be moved in one direction by said cam, a spring urging the bar to move in the opposite direction, said stripper being mounted on said reciprocatable bar, a second spring urging the stripper to a non stripping position, a fixed cam engaging the stripper, said cam being effective to move the stripper to operative position upon movement of the reciprocatable bar by said shaft driven cam.

2,967,386
MACHINE FOR LOADING INTO CONTAINERS SUBSTANTIALLY UNIFORM PIECES OF A SOLID SUBSTANCE HAVING A TENDENCY TO ADHERE TO THE MACHINE

Robert L. Hill, Austin, Ind., assignor to Morgan Packing Company, Inc., Austin, Ind., a corporation of Indiana

Filed Sept. 3, 1958, Ser. No. 758,856
4 Claims. (Cl. 53—123)

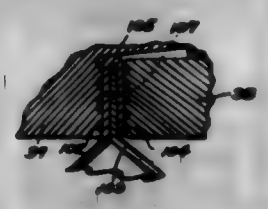


4. In a machine for loading pieces of fat meat into containers, the combination of a head member which comprises a hollow body, there being an opening in a side wall of the body for receiving an end portion of an elongated strip of fat meat with the end portion extending into the head member and free of support therein, means for injecting fluid under pressure against the end portion of the strip transversely of the direction of advance of the strip, and a knife assembly, said knife assembly comprising a circular knife, means for mounting said knife for rotation and for orbital movement, means for rotating said knife, and means for causing the knife to orbit in timed relationship with the fluid injecting means for severing the end portion of the strip from the remainder of the strip, the head portion having a downwardly facing opening, the fluid propelling the severed end portion through the head member to be ejected downwardly from the head member through the last mentioned opening.

2,967,387
CARTON SEALING MACHINE

Bernard C. Barnes, 1340 Kentucky St., Racine, Wis.

Filed Sept. 22, 1958, Ser. No. 762,437
11 Claims. (Cl. 53—373)

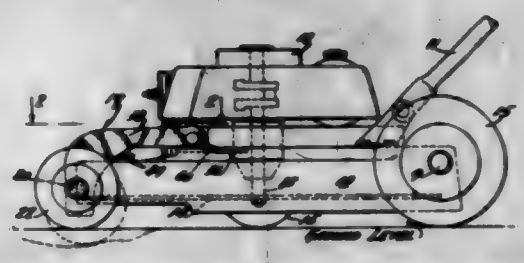


10. In a sealing machine for sealing together a first sheet of material and a second sheet of material folded over one edge of said first sheet, a pair of sealing jaws having opposed face surfaces, means mounting said jaws for relative movement with respect to each other to compress said sheets between said face surfaces, and a cam member, affixed to one of said jaws and extending toward the other of said jaws at an upwardly inclined angle of approximately 7° with respect to the normal thereto, for engaging the fold edge of said second sheet to fold said second sheet tightly over said first sheet.

2,967,388
LAWN MOWER HAVING A SPRING LOADED WHEEL

Lacius D. Watkins, Hartland, Wis., assignor to Outboard Marine Corporation, Waukegan, Ill., a corporation of Delaware

Filed July 24, 1957, Ser. No. 673,910
4 Claims. (Cl. 56—25.4)

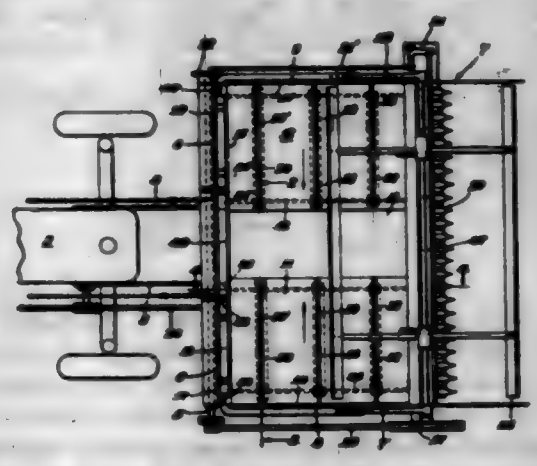


1. In a rotary mower, the combination with a housing for a rotary blade, said housing having generally horizontal extent, of supporting forward and rearward wheels therefor, relatively fixed means mounting the housing member from certain of said wheels, and a floating mounting for a forward wheel including a lever extending across an upper portion of said housing and having a pivotal connection with the housing at a point spaced inwardly from the periphery of said housing, the lever having a free end portion projecting from the housing and bearing means carried by the free end portion of the lever and upon which said forward wheel is rotatable, and a spring seated against the housing and against a portion of the lever which is immediately above the housing, said spring biasing downwardly the free end portion of said lever for the yieldable support of said housing from said spring.

2,967,389
CUTTING AND WINDROWING APPARATUS

William D. Drummond and Grant M. Johnston, Burlington, Ontario, Canada, assignors to International Harvester Company, Chicago, Ill., a corporation of New Jersey

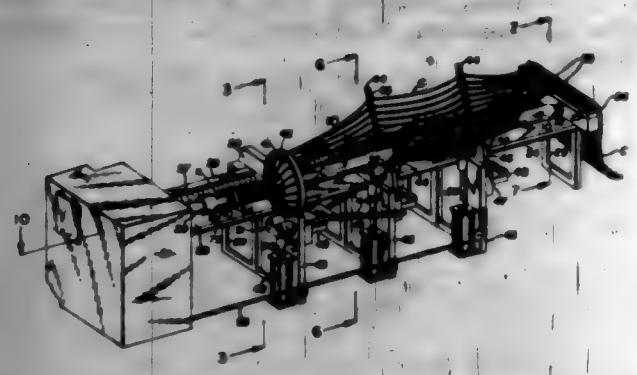
Filed July 14, 1958, Ser. No. 748,522
4 Claims. (Cl. 56—192)



1. A windrower having a platform structure with a front transverse cutter bar thereon, at least three conveyors on the platform structure spaced from each other rearwardly of the cutter bar and having top conveying means, differential speed driving means connected to said

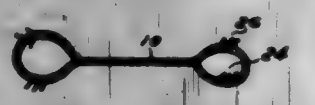
conveyors for moving the same in the same direction at different speeds, the speeds increasing rearwardly from the cutter bar.

2,967,390
APPARATUS FOR MAKING FLEXIBLE SPIRAL WOUND WIRE HOSE
Clarence E. McCormick, Poland, Ohio, assignor to Lee Rubber & Tire Corporation, Youngstown, Ohio, a corporation of New York
Filed Apr. 8, 1960, Ser. No. 20,861
13 Claims. (Cl. 57—11)



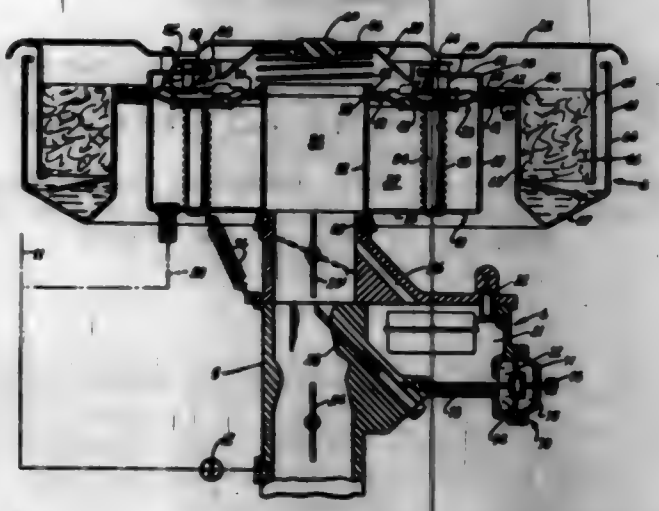
1. Apparatus for making flexible spiral wound wire hose comprising an elongated bench having rails extending therealong and a carriage movable along said rails, mechanical means for imparting movement to said carriage, a cable spacing member positioned on said carriage and having a central opening therein, a tubular mandrel positioned in parallel relation to said rails and through said central opening in said cable spacing member, detachable couplings on the ends of said tubular mandrel and mechanical means adjacent one of said couplings for imparting rotary motion thereto, a plurality of longitudinally spaced mandrel supporting roller devices, each of said roller devices including a vertically extendable device journalling said rollers, means for actuating said vertically extendable devices responsive in operation to said carriage, and a plurality of cable support members positioned in longitudinally spaced arrangement in said apparatus, each of said cable supporting members comprising a pair of V shaped arms having a plurality of notches formed diagonally therein, and tensioning members on said cable spacing member on said carriage for engaging and guiding cables trained thereover and wrapped around said mandrel.

2,967,391
WIRE CABLE SLING AND METHOD OF FABRICATING SAME
Alton A. Hinrick, Allen Park, Robert J. Billingherst, Livonia, and Albert A. Haddock, Detroit, Mich., assignors to Industrial Cable & Sling Company, Detroit, Mich., a corporation of Michigan
Filed June 13, 1958, Ser. No. 741,793
5 Claims. (Cl. 57—142)



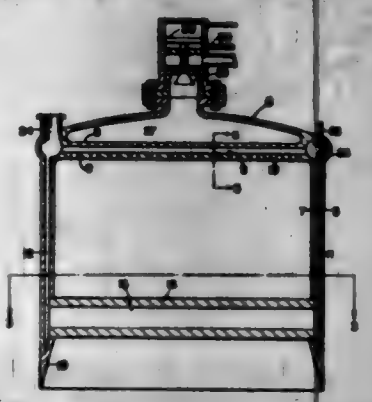
1. A wire cable sling formed of a plurality of wire strands twisted together and comprising an intermediate body portion provided at each of its two opposite ends with an eye loop, each eye loop formed of two groups of strand continuations from the body portion wherein each group consists of a plurality of continuations of strands of the body portion, said two groups of strands diverging at the crotch of the loop adjacent to the body portion and extending away from the body portion forming opposite sides of the loop and converging together at the bight of the loop remote from the body portion and twisted about each other as they extend away from the bight toward the crotch along opposite sides of the loop, the separate strands of each of said two groups of strands extending across the crotch of the loop and individually spliced as separate strands into and between the strands of the opposite sides of the loop and extending toward the bight of the loop.

2,967,392
CONTROL DEVICE FOR UTILIZING AN INTERNAL COMBUSTION ENGINE TO CREATE SUBATMOSPHERIC PRESSURE
William Stelzer, Summit, N.J., assignor to Kelsey-Hayes Company, a corporation of Delaware
Filed Apr. 30, 1956, Ser. No. 581,671
4 Claims. (Cl. 60—14)



1. A control device for utilizing an internal combustion engine serving as a prime mover for a motor vehicle to create subatmospheric pressure in a braking system associated with the vehicle comprising means providing a passage for regular air used in the fuel mixture for the engine, means providing a chamber in communication with the braking system, valve means responsive to an increase in the pressure in said chamber to a predetermined upper level for momentarily closing said passage, and check valve means connected between said chamber and the downstream side of the said first valve means for placing said chamber in communication with the engine to facilitate withdrawal of air from said chamber by the engine while said passage is momentarily closed and thereby reduce the pressure in the braking system.

2,967,393
ROCKET-PROPELLED MISSILE
Wernher von Braun, Huntsville, Ala., assignor to the United States of America as represented by the Secretary of the Army
Filed Dec. 3, 1959, Ser. No. 857,237
10 Claims. (Cl. 60—35.6)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A missile having a high mass ratio, comprising an elongated shell that is substantially cylindrical over most

of its length, has a fuel-storage portion, and terminates in a rocket-motor portion whose after end has a diameter approximating in size the maximum diameter of the shell, and a rocket-motor assembly housed within said rocket-motor shell portion, said motor assembly comprising: a generally cylindrical combustion chamber, having outer and inner walls, a space therebetween and a pair of diametrically-located partitions joining said walls and dividing said space into two coolant chambers; a nozzle assembly attached to and opening to the after end of said combustion chamber, having an outer wall that is of substantially the same diameter as and is fixed to said combustion-chamber outer wall, having an inner wall that is of substantially the same diameter as and is fixed to said combustion-chamber inner wall, and further comprising substantially parallel, hollow, bar-like vanes that extend transversely across the mouth of said chamber and are of a configuration to provide a nozzle for rocket-motor gases between each pair of parallel vanes, each of said channels having a narrow, nozzle-throat portion between its inlet at said chamber and its nozzle-mouth portion at the after end of the rocket motor, said nozzle vanes and channels occupying and producing thrust in substantially all of the space within said nozzle-assembly inner wall; means for supplying a coolant to one of said two coolant chambers, and thru said hollow vanes into the other one of said coolant chambers; and means to provide an outlet for said coolant from said other one of said coolant chambers.

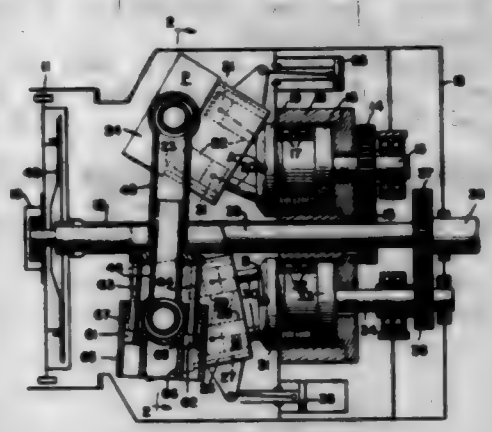
2,967,394
COMBUSTION APPARATUS
Robert Elmer Jensen, North Reading, Mass., assignor to General Electric Company, a corporation of New York
Filed Dec. 14, 1959, Ser. No. 859,238
5 Claims. (Cl. 60—39.74)



1. Combustion apparatus for use in a duct entraining a hot combustible gas stream, said apparatus comprising: fuel supplying means extending transversely of the duct and into the combustible gas stream; a fuel orifice at the inner end of said fuel supplying means; shield means positioned concentrically with respect to said fuel supplying means and spaced therefrom; and fuel flow-splitting means attached to said shield means, said flow-splitting means comprising an open-ended tubular member arranged parallel to said gas stream and having an indentation in a wall thereof, said indentation being in direct opposed relationship with said orifice and so arranged with respect to the gas stream that fuel emitted from said orifice will strike said identation and at the same time impinge on said gas stream entering said open-ended member in such a manner as to cause intimate co-mingling of the fuel and gas stream to facilitate burning.

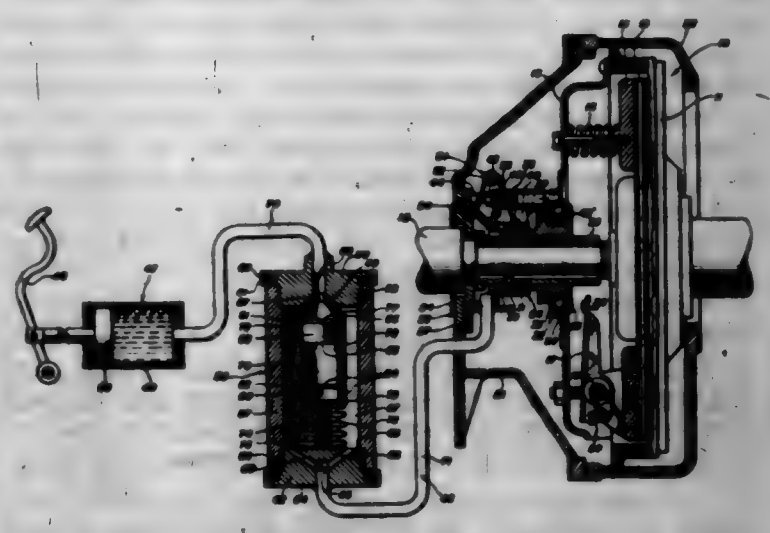
2,967,395
HYDROSTATIC TRANSMISSION
Hans-Joachim M. Foerster, Stuttgart-Bad Cannstatt, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Untertürkheim, Germany
Filed Aug. 13, 1956, Ser. No. 603,543
Claims priority, application Germany Aug. 16, 1955
17 Claims. (Cl. 60—53)

1. A hydrostatic transmission having a relatively stationary part comprising a hydraulic pump unit and a hydraulic motor unit placed laterally alongside each other, each of said units including rotatable cylinder means having an axis of rotation and piston means reciprocatingly arranged within said cylinder means, casing means for each of said cylinder means, shaft means in each of said units operatively connected with the respective cylinder means, at least one of said casing means being pivotally supported about a pivot axis extending essentially transversely with respect to the axis of rotation of the corresponding cylinder means, adjusting



means pivoting at least said one casing means with respect to said relatively stationary part about said pivot axis for varying the capacity of the corresponding unit, and rod means pivotally connected with said casing means about an axis disposed essentially parallel to and non-coincidental with the respective pivot axis thereof constituting fluid conduit means between said units and including means effectively equalizing the forces produced by the pressure of the hydraulic medium in said transmission flowing through said fluid conduit means.

2,967,396
HYDRAULIC FLUID PRESSURE OPERATED DEVICE FOR CLUTCHES
Richard L. Staadt, Fort Wayne, Ind., assignor to International Harvester Company, Chicago, Ill., a corporation of New Jersey
Filed Oct. 20, 1958, Ser. No. 768,445
7 Claims. (Cl. 60—54.5)



4. A fluid flow controlling device comprising a casing having a fluid containing chamber, a reversible flow inlet passage communicating with said chamber, a reversible outlet passage communicating with said chamber, the inlet passage having a valve seat facing inwardly of the chamber, a valve member retractably seated upon the valve seat having a fluid expansion bore communicating at one end with said chamber and communicating at its other end with said inlet passage, a plunger freely reciprocable within said bore in a sealed relation, spaced stop means carried by said valve member within said

bore and engageable by said plunger for limiting the reciprocal movement of said plunger within said bore, and a compression spring reacting between the casing and the valve member to urge the latter seated.

2,967,397

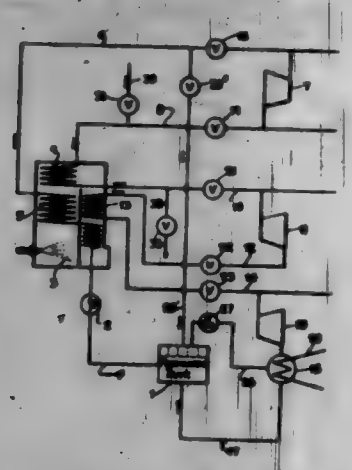
SYSTEM FOR STARTING FORCED FLOW STEAM GENERATORS INCLUDING A PLURALITY OF RESUPERHEATERS

Hans Vogler, Winterthur, Switzerland, assignor to Sulzer Freres, Societe Anonyme, Winterthur, Switzerland, a corporation of Switzerland

Original application June 1, 1954, Ser. No. 433,746, now Patent No. 2,844,004, dated July 22, 1958. Divided and this application May 2, 1958, Ser. No. 732,587

Claims priority, application Switzerland Aug. 31, 1953

2 Claims. (Cl. 60—73)



2. In a steam power plant having a plurality of turbines operating at different steam pressures and arranged in series relation with respect to the flow of the steam, a forced flow high pressure steam generator including a combustion gas passage having consecutive zones of consecutively reduced temperatures, steam generating tubes and steam superheating tubes located in said gas passage, said superheating tubes being connected with said generating tubes for receiving steam therefrom and having an outlet, a steam main connecting said outlet with that one of said turbines which operates at the highest pressure, a plurality of resuperheaters individually interposed for steam flow between said turbines and being individually entirely placed in different temperature zones of said combustion gas passage, the resuperheater which is located in the relatively hottest zone being at least in part exposed to combustion radiant heat, the other resuperheaters, which are located in subsequent temperature zones, being heated by convection only, a coolant supply conduit connected with the inlet of the resuperheater which is located in the relatively hottest zone of said gas passage, a coolant discharge conduit connected with the outlet of said resuperheater which is located in the relatively hottest zone of said gas passage, and control valves in said conduits for closing said conduits during normal operation of the steam generator and for opening said conduits during starting and low load operation of the steam generator for cooling the resuperheater which is located in the relatively hottest zone of said gas passage and leaving the other resuperheaters uncooled during starting and low load operation of the steam generator.

2,967,398

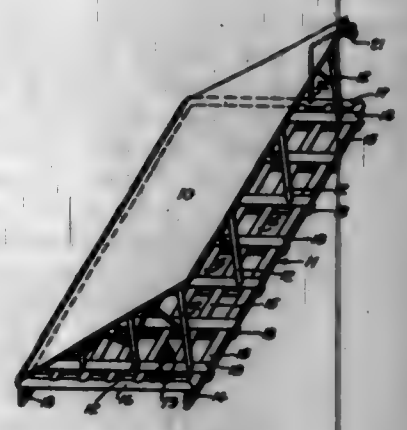
BREAKWATER

Alonzo L. Smith, P.O. Box 6252, Houston, Tex.

Filed Jan. 2, 1958, Ser. No. 706,696

7 Claims. (Cl. 61—5)

1. A breakwater adapted to be positioned in a body of water and comprising, a solid wall, buoyancy frame means for floating the wall, a water inlet connected with the frame means for flooding the buoyancy frame means to submerge the same into engagement with the floor of the body of water, and support means for supporting the wall in an inclined position at an acute angle with respect to the floor of the body of water with the lower portion of said wall extending beneath the surface of the body of water in close proximity to the floor thereof and the upper portion of said wall projecting upwardly above the surface of said body of water, the inclination of the wall being at such an angle that the waves striking said wall cause the water masses to climb said wall in opposition to the force of gravity to thereby dissipate the wave energy, the upward projection of said wall being of such height that the water masses cannot spill over the upper end of the wall whereby the weight of the water mass is transmitted in a downward direction through the wall to the floor of the body to thereby maintain the breakwater in stationary position.



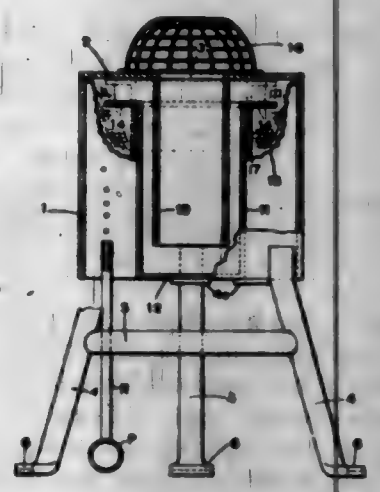
2,967,399

ARTIFICIAL BREAKWATERS

Alec Hibburd Laurie, London, England, assignor to Pneumatic Breakwaters Limited, London, England, a body corporate of Great Britain

Filed July 12, 1957, Ser. No. 671,642

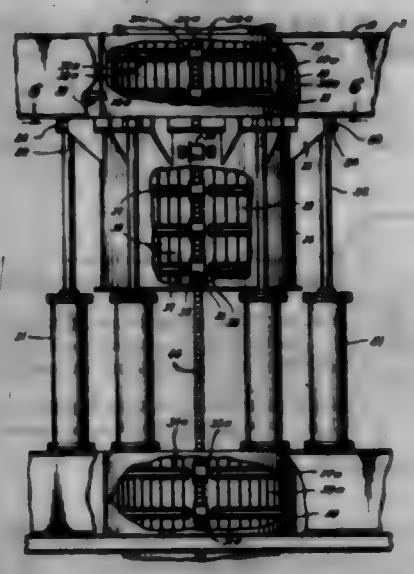
9 Claims. (Cl. 61—6)



1. A pneumatic breakwater comprising in combination, an upright hollow container having an open bottom and a closed top, an aperture formed through said top, a tube supported within said container and fixed to said top and enclosing said aperture, a tubular member supported within said container in surrounding relation to said tube and spaced therefrom, said tubular member having a closed bottom and an open top spaced from the top of the container, and means for introducing gas into the open bottom of said container whereby bubbles of gas are cyclically released through said tube.

2,967,400
METHOD AND APPARATUS FOR ERECTING OFFSHORE PLATFORM

James I. Grant, 6200 Kansas St., and William E. Joer II, 1306 Ben Hur Drive, both of Houston, Tex.
Filed Aug. 8, 1955, Ser. No. 526,837
3 Claims. (Cl. 61—46.5)

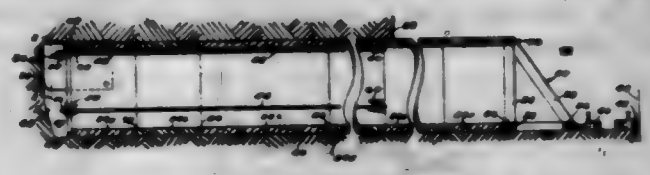


1. In a drilling barge for conducting subaqueous operations on a body of water comprising a bouyant hull and a plurality of vertical, cylindrical columns movable longitudinally relative to said hull to support said hull above said body of water, the combination therewith of means for producing the longitudinal movement of said vertical columns comprising a plurality of rigid frame members joined to said hull, each of said frame members being adjacent to one of said columns, an annular friction brake mounted on each of said frame members to surround one of said columns, said brake being normally conditioned to lock said vertical column against said longitudinal movement, a plurality of sub-frames movably carried on said hull, each of said sub-frames being situated adjacent one of said columns, means for moving each of said sub-frames selectively in opposite vertical directions, a friction band comprising at least one pair of arcuate friction members carried by said sub-frames for travel therewith, and a hinge pivotally interconnecting said pair of arcuate friction members, pressure fluid responsive means operative when said sub-frame is at rest at one end of its path of travel to pivot said friction members about said hinge into claimping engagement with said column and operable when said sub-frame is at rest at the other end of the path of travel to pivot said friction members about said hinge to release clamping engagement thereof with said column, and pressure fluid responsive means to disengage said brake and permit longitudinal movement of said column after said column is engaged by said friction members and to re-engage said brake after said sub-frame reaches said other end of its path of travel but before said column is released by said friction members.

2,967,401
APPARATUS FOR JACKING TUNNELS

Edward P. Washabaugh, Saginaw Township, Saginaw County, Mich., assignor to American-Marietta Company, Chicago, Ill., a corporation of Illinois
Filed Mar. 16, 1955, Ser. No. 494,755
5 Claims. (Cl. 61—84)

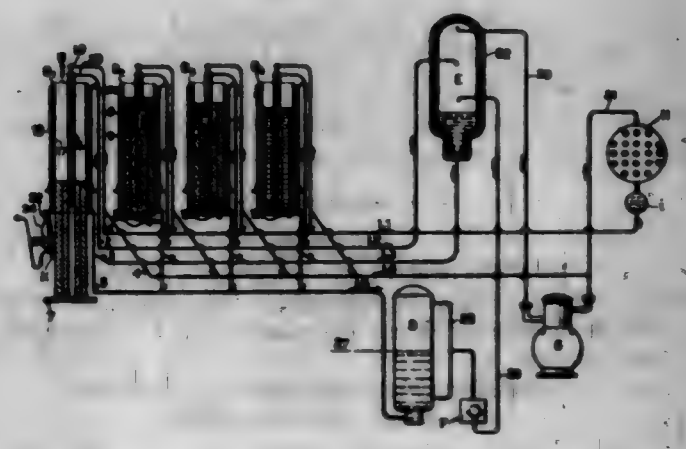
1. A flexible leading end for a tunnel being constructed by the jacking method comprising: a plurality of articulated tunnel sections disposed in tubular alignment, mechanism extending throughout the tubular length of the sections along opposite sides thereof and including adjustable bearing means extending the entire length of said plurality of sections and connecting the mechanism to the forward and rearward tunnel sections, said mech-



anism being extensible and retractable along opposite sides of the sections to shift the sections relative to each other and to different angularly related positions.

2,967,402
METHODS AND MACHINES FOR THE RAPID PRODUCTION OF ICE

Eugen Wilbushewich, Kanzleistrasse 127, Zurich, Switzerland
Filed June 4, 1956, Ser. No. 589,264
Claims priority, application Great Britain Apr. 20, 1956
5 Claims. (Cl. 62—73)



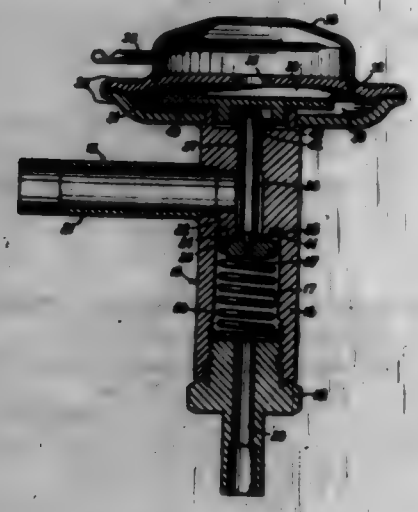
4. In a refrigeration method for the rapid production of hollow liquid frozen rods in molds defined by the walls of a core evaporator and a jacket evaporator, comprising circulating cold and hot refrigerant through the evaporators during alternating freezing and defrosting cycles, filling the molds with liquid to be frozen, and breaking the frozen rods; manually effecting an initial freezing and defrosting cycle to produce a first harvest of said frozen rods, automatically controlling the refrigerant circulation to the respective evaporators during the freezing and defrosting cycles, actuating the automatic control in response to the elongation of the rods as the liquid is frozen, filling the molds with said liquid before the start of each freezing cycle and breaking the frozen rods after each defrosting cycle.

2,967,403
CONSTANT PRESSURE EXPANSION VALVE

Harold T. Lange, Huntleigh Village, and Edward F. Kosnovsky, Webster Groves, Mo., assignor to Sporlan Valve Company, St. Louis, Mo., a corporation of Missouri
Filed Dec. 23, 1957, Ser. No. 704,763
5 Claims. (Cl. 62—196)

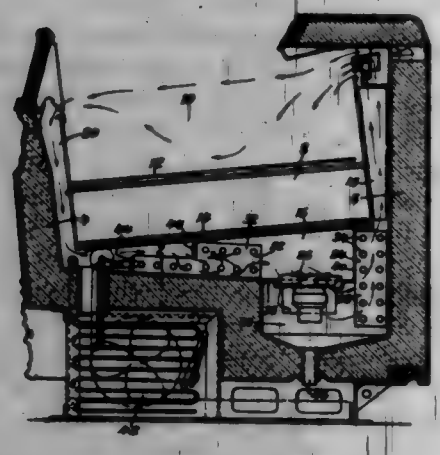
1. In a refrigeration system having a compressor, condenser and evaporator operatively interconnected, an expansion valve connected in the line between the condenser and evaporator, the expansion valve comprising a valve body having an inlet connected to the line leading from the condenser, and an outlet connected to the line leading to the evaporator, a valve body having a refrigerant passage therethrough connecting said valve inlet and outlet, a main valve movably mounted for controlling refrigerant flow through said passage, spring means tending to urge said main valve toward a closed

position, a flexible motor element carried by said body, means subjecting one side of said motor element to a substantially constant pressure, means communicating with the evaporator and subjecting the other side of said motor element to evaporator pressure, a reciprocating



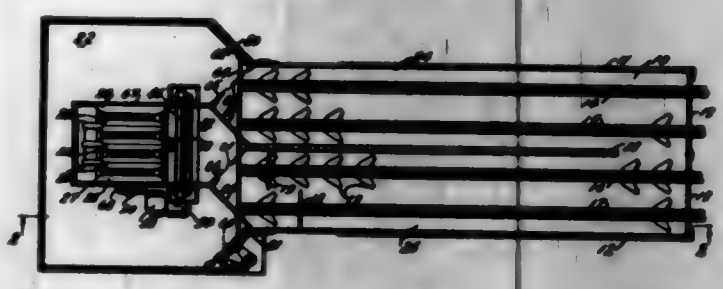
means connecting the motor element and said main valve, the movable main valve being provided with a by-pass passage, and the reciprocating means including a secondary valve for opening and closing said by-pass passage in said movable main valve.

2,967,404
REFRIGERATED DISPLAY CASE
Wayne H. Detwiler, Philadelphia, Pa., assignor to C. V. Hill & Company, Inc., Trenton, N.J., a corporation of New Jersey
Filed Feb. 26, 1958, Ser. No. 717,700
1 Claim. (Cl. 62—256)



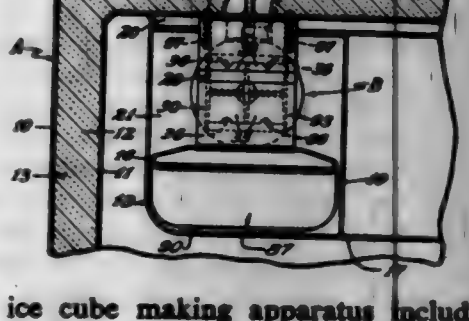
A refrigerated display case comprising an insulated bottom and insulated front, rear and end walls cooperating to define a display space open at the top for access to customers, a cold air duct extending upward adjacent one wall of the case and having an air outlet communicating with the display space near the top thereof, a return air duct extending upward adjacent an opposite wall of the case and having an air inlet communicating with the display space near the top thereof, an air passage located adjacent the bottom of the case beneath the display space and communicating with said cold air duct and said return air duct, and means in said air passage for refrigerating and circulating air through said ducts and display space including a first portion of an evaporator located in said passage adjacent said return air duct, a second portion of an evaporator located in said air passage adjacent the cold air duct, a well in said air passage between said portions of the evaporator in position to receive frost and condensate from the evaporator, means for defrosting the evaporator located adjacent the first portion thereof, and a blower positioned in the well and directing air downward against the bottom of the well, said blower serving to draw air through the return air duct and over the first portion of the evaporator and to force air over the second portion of the evaporator to the cold air duct.

2,967,405
METHOD AND APPARATUS FOR CHILLING CARCASSES OF SLAUGHTERED ANIMALS
William H. Taylor, Chicago, Ill.
(1710 Park Drive, Raleigh, N.C.)
Filed July 26, 1955, Ser. No. 524,322
9 Claims. (Cl. 62—234)



1. The combination with a tunnel, of air impelling means and a refrigerated heat exchanger in the path of air movement, the tunnel having means for supporting carcasses to be refrigerated in the path of the refrigerated air, an air conditioning chamber with which both ends of the tunnel communicate and in which the air impelling means and heat exchanger are disposed, means for effecting relative movement between the carcasses and the air flow comprising doors controlling communication between said impelling means and the respective ends of the tunnel, and means for the periodic operation of such doors to effect reversal of air flow through the tunnel.

2,967,406
ROTARY TYPE ICE CUBE MAKER
Edmund J. Buzicky, St. Paul, Minn., assignor to Whirlpool Corporation, a corporation of Delaware
Filed Sept. 4, 1956, Ser. No. 607,684
7 Claims. (Cl. 62—346)

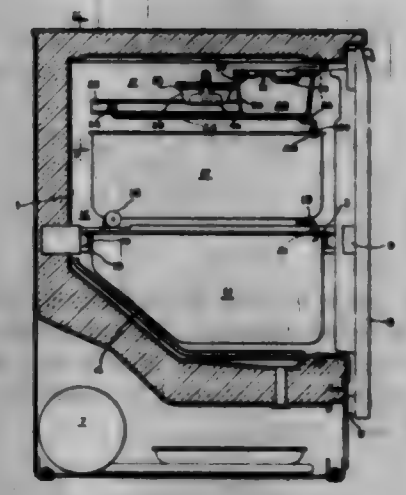


1. An ice cube making apparatus including an axis, a plurality of trays arranged in angularly spaced relation about said axis, means maintaining one of said trays in upright position at all times except during rotation of said trays about said axis, means including a weight spaced from said axis operable at predetermined intervals to rotate said trays about said axis in angular distance equal to the angular spacing of said trays, and a continuously rotatable motor for elevating said weight means.

2,967,407
FREEZING TRAY AND ICE STORAGE ARRANGEMENT FOR REFRIGERATORS
Albert V. Melikian, Louisville, Ky., assignor to General Electric Company, a corporation of New York
Filed Mar. 2, 1959, Ser. No. 796,589
1 Claim. (Cl. 62—344)

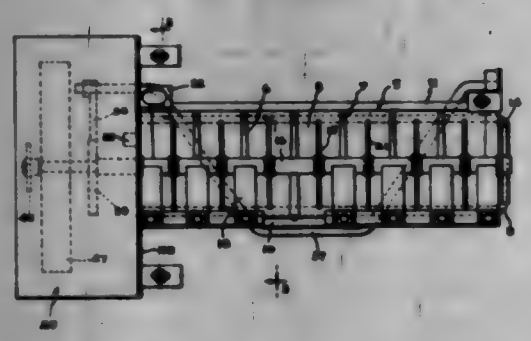
A refrigerator cabinet including a freezer compartment, a shelf slidably supported within said compartment

adjacent the top thereof and movable to an extended position outside said compartment, said shelf including a framework adjacent and along the front edge thereof for receiving and positioning a removable ice receptacle, a freezing tray, means forming part of said shelf for pivotally supporting said tray rearwardly from said frame-



work for movement, when said shelf is extended, between a normal position adjacent the rear side of said framework in which it is supported in a horizontal position and a second position in which said tray is disposed in an inverted position above said receptacle for discharge of ice pieces therefrom.

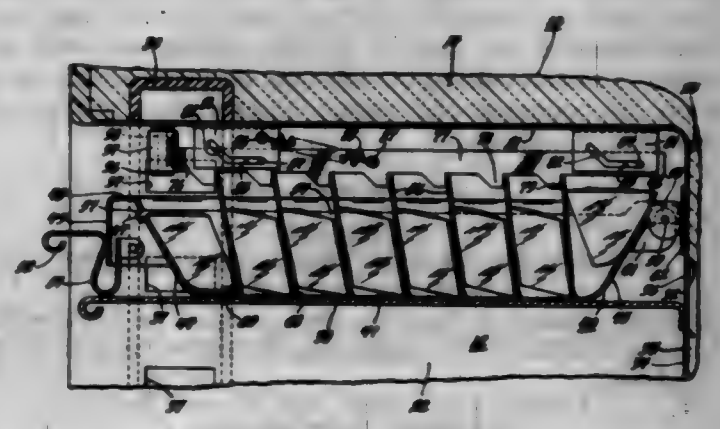
2,967,408
AUTOMATIC ICE MAKER
James L. Knight, Louisville, Ky., assignor to General Electric Company, a corporation of New York
Filed May 18, 1959, Ser. No. 813,788
2 Claims. (Cl. 62—351)



1. An elongated ice mold having a transverse arcuate contour and including a plurality of transverse dividers dividing said mold into a plurality of compartments in which a charge of water is frozen into ice pieces, a shaft rotatably supported above said mold and extending longitudinally thereof, discs mounted on said shaft and having peripheral edge portions immersed in the charge of water in said compartments whereby ice pieces formed in said compartments freeze into engagement with said disc, means for warming said mold to release the ice pieces therefrom, means for rotating said shaft and discs to remove said ice pieces from said compartment, and means comprising a plurality of fingers extending above said shaft in the path of said ice pieces for releasing said ice pieces from said discs during rotation thereof.

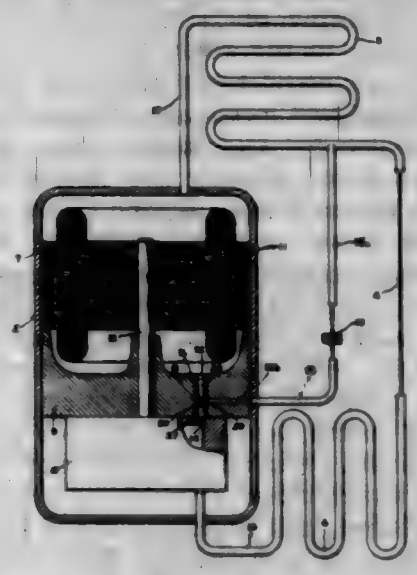
2,967,409
ICE HARVESTING ARRANGEMENT
Lloyd M. Keighley, Kettering, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 8, 1959, Ser. No. 838,592
5 Claims. (Cl. 62—353)

4. In combination, a support, a freezing device disposed in an upright position on said support, said freezing device including an elongated tray and a grid structure locked therein against detachment therefrom having spaced apart substantially inflexible walls anchored for tilting movement relative to said tray, said freezing device being adapted to contain liquid and said grid walls dividing the interior of said tray into a plurality of compartments in which the liquid is to be frozen into ice blocks, a grid wall tilting mechanism separate from and having all parts thereof unattached to said freezing device, said mechanism comprising a member movably mounted above said freezing device normally out of contact therewith and an operable means for moving said member, said operable means upon being operated shifting said member longitudinally along said freezing device into engagement



with walls of said grid structure for applying force thereto in a lengthwise direction only with respect to said elongated tray while the device is supported in said upright position on said support, means for holding the tray of said freezing device stationary on said support during operation of said operable means to cause the force applied to said grid walls to tilt them within said tray and loosen the ice blocks from said grid structure and from walls of the tray solely in response to the tilting of the grid walls, and said grid and tray together with the preloosened ice blocks therein being removable from said support and rotatable as a unit into a substantially inverted position for releasing the ice blocks from said device while said grid structure remains locked in said tray.

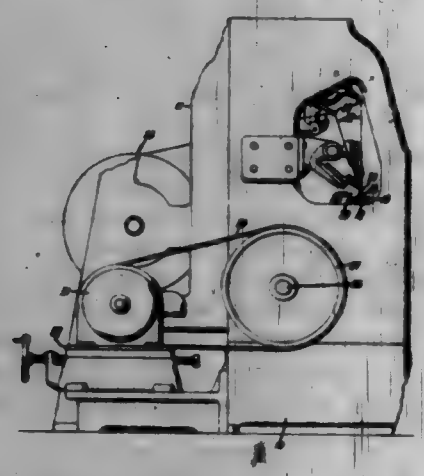
2,967,410
MOTOR COOLING ARRANGEMENT FOR HERMETICALLY SEALED REFRIGERANT COMPRESSOR UNIT
James L. Schulze, Middletown, Ky., assignor to General Electric Company, a corporation of New York
Filed Dec. 21, 1959, Ser. No. 860,848
7 Claims. (Cl. 62—505)



1. In a refrigeration system having a condenser, an evaporator, and a compressor, the combination compris-

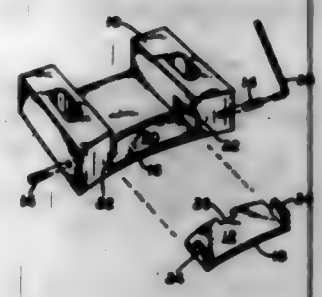
ing a hermetically sealed casing housing said compressor, a motor in said casing for driving said compressor, means for delivering low pressure refrigerant gas from said evaporator into said compressor, a discharge passage leading from said compressor into said casing for conducting compressed refrigerant gas from said compressor into said casing for cooling said motor, said discharge passage including an aspirating means for creating a low pressure region in said discharge gas stream as it passes through said aspirating means, means for conducting high pressure gas from said casing into said condenser, a condensed refrigerant supply passage having one end connecting with said low pressure region of said aspirating means and the other end connecting with a source of condensed refrigerant in said condenser for introducing condensed refrigerant into said discharge passage so that said high pressure discharge gas flowing into said casing and over said motor is mixed with and cooled by said condensed refrigerant to maintain said motor temperature within safe operating conditions.

2,967,411
ELECTRICAL CONTROL CIRCUIT FOR KNITTING MACHINES
Nicholas Koutsxes, Reading, Pa., assignor to Textile Machine Works, Wyomissing, Pa., a corporation of Pennsylvania
Filed June 24, 1957, Ser. No. 667,391
8 Claims. (Cl. 66—86)



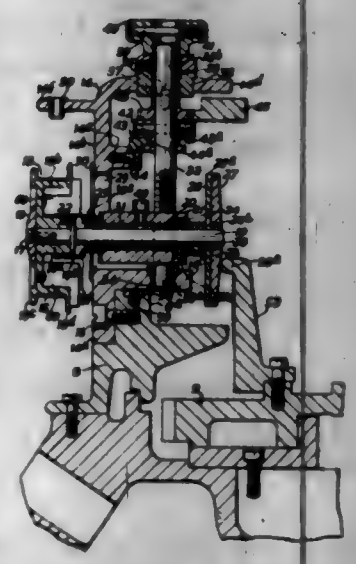
1. In a warp knitting machine having needles, a driving shaft, a non-reversible electric motor for operating said driving shaft, said motor having incorporated therein an electrical braking means and a mechanical braking means for stopping said motor, said electrical braking means being in the form of special windings which act to dissipate the electro-motive force generated in said motor during operation thereof and to apply a magnetic force to the rotor of said motor, in combination with an electrical control circuit for said motor and said electrical and mechanical braking means including a main switch for said motor, means for actuating said main switch for opening and closing the circuit to said motor, a normally open second switch for said electrical braking means, a relay connected to said main switch and acting to operate and close said second switch to actuate said electrical braking means when said circuit to said motor is opened, time delay means associated with said relay to maintain said second switch closed for a predetermined timed interval to slow the speed of said motor, a third switch for said mechanical braking means, a second relay for normally maintaining said third switch closed to hold said mechanical braking means inactive, and means acting in timed relation to the operation of said driving shaft to operate said second relay to open said third switch and activate said mechanical braking means to stop said motor.

2,967,412
THROAT PLATES FOR TEXTILE MACHINES
Karl Ernest Hoefer, 1007 Sullivan St., Greensboro, N.C.
Filed Nov. 15, 1957, Ser. No. 696,744
13 Claims. (Cl. 66—125)



1. A throat plate for use in circular knitting machines comprising, in combination, a throat plate having a U-shaped recess formed therein along its thread bearing edge and a removable U-shaped member adapted for insertion within said recess.

2,967,413
YARN FEEDING AND CONTROLLING MEANS FOR KNITTING MACHINES
Arthur T. D. Jackson and Ernest L. Farmer, Leicester, England, assignors to Mellor Bromley & Co. Limited, Leicester, England, a British company
Filed Dec. 16, 1958, Ser. No. 780,862
Claims priority, application Great Britain Dec. 23, 1957
11 Claims. (Cl. 66—132)



1. In a multi-feeder circular knitting machine, in combination, a needle cylinder, a co-operating needle dial, a gear for driving said dial, a superstructure above the dial and including a support ring for a plurality of yarn packages, a multiplicity of feeder stations at which yarn guides feed to the cylinder and dial yarns drawn from the packages, a plurality of self-contained yarn feeding and controlling units, one to each feeder station, each of said units including a rotary yarn feed wheel having a cylindrical yarn-supporting periphery covered with a slip-resisting material of a nature which exercises a grip on a yarn fed by the wheel to the relevant yarn guide and yet acts to prevent a loose end of such yarn from wrapping around said wheel, a fixed annular guard covering the dial driving gear, a carrier ring serving to carry the aforesaid yarn feeding and controlling units, the said ing being attached to said fixed annular guard and consisting of a circular series of separate and individually removable adjoining arcuate sections, each principally of channel shape in radial cross section with spaced upper and lower flanges which extend horizontally inwards from an upright wall in which is formed at least one vertical aperture, rotary spindles upon which the yarn feed wheels

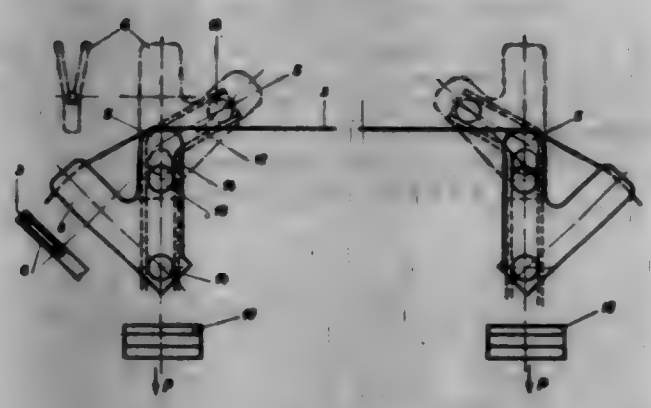
are secured, bored bearing blocks in which said spindles are mounted for rotation, the outer ends of such blocks being located in the vertical apertures in the arcuate carrier ring sections and portions of the blocks clear of the bores having formed therein vertical tapped holes, friction discs secured on the said spindles, a common friction driving ring which is attached to and revolves together with the dial driving gear in contact with the surfaces of the friction discs whereby all of the yarn feed wheels are simultaneously driven, and manually rotatable but axially immovable screws which are engaged in the vertical tapped holes in the aforesaid bearing blocks and extend through bearings in the horizontal flanges of the arcuate carrier ring sections whereby, upon individual rotation of any one of the said screws, the associated bearing block and hence also the corresponding friction disc can be adjusted up and down to vary the radial distance between the axis of the said disc and the point of contact thereof with the common driving ring, for the purpose described.

2,967,414

METHOD OF DRAWING OFF CHAIN KNITTED ARTICLES

Erich Krause, Bopfingen, Wurttemberg, Germany, assignor to Universal Maschinenfabrik G.m.b.H., Westhausen, Wurttemberg, Germany, a corporate body of Germany

Filed Sept. 2, 1959, Ser. No. 837,717
3 Claims. (Cl. 66—150)



1. A method of drawing off, from a knitting machine, continuously-knitted knitted elements of which the leading edges are abruptly wider than the respective adjacent previously-knitted elements, which comprises inserting an inlay in the form of a thread across the beginning of each said knitted element over the entire width thereof, clamping the ends of said inlay with weighted clamping devices and, upon progression of the knitting of the respective element and increase in the length thereof, causing concurrent draw-off and separational movement of said clamping devices to stretch said inlay, concurrently with drawing off said elements.

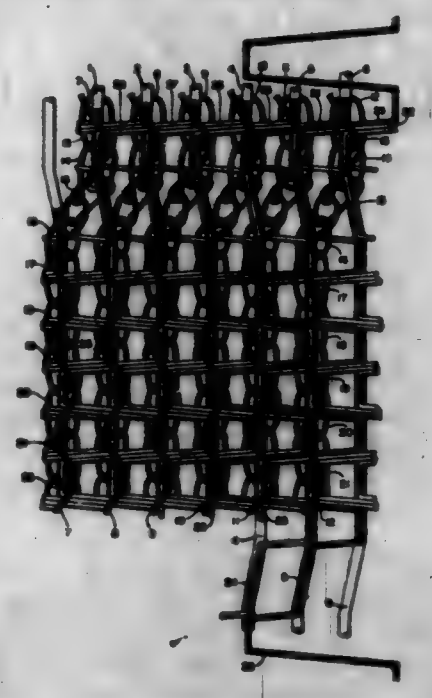
2,967,415

ELECTRICAL HEATING ELEMENT

Charles J. Ford, Canton, Ohio, and John L. Nisbet, Winston-Salem, N.C., assignors to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

Filed June 13, 1957, Ser. No. 665,545
10 Claims. (Cl. 66—193)

1. An electrical resistance heating element comprising a warp knitted fabric having a plurality of spaced unknitted electrical resistance wires extending generally in the warp direction throughout the length of the fabric and held within the wales of said fabric, each wire along its length thereof extending sinuously back and forth between a plurality of adjacent wales of the knitted fabric with the wires having substantially identical aligned sinuous patterns and means to connect said wires to a source of electric current.

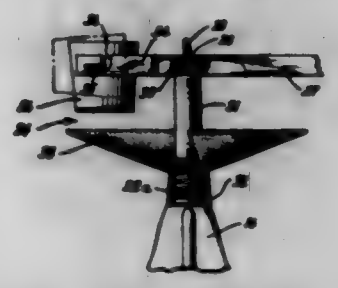


2,967,416

DEVICE FOR INTRODUCING LAUNDERING-AID IN CLOTHES WASHING MACHINES

James J. Devery, Ambler, Pa., assignor to Philco Corporation, Philadelphia, Pa., a corporation of Pennsylvania

Filed Sept. 29, 1958, Ser. No. 763,878
9 Claims. (Cl. 68—17)



1. For use with a clothes washing machine provided with a basket adapted to spin at centrifuging speed; a device for automatically introducing laundering-aid material into said basket, comprising a container for said material, means for pivotally suspending said container to spin with said basket in such manner as to swing from material-retaining position to material-discharging position in response to spinning of said basket, and means for releasably maintaining said container in said discharging position to discharge said material for mixture with water in said basket after termination of said spinning.

2,967,417

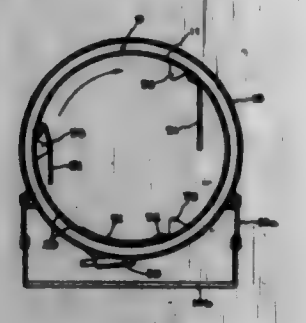
COMBINATION WASHER-DRYER CONSTRUCTION

John Bochan, Louisville, Ky., assignor to General Electric Company, a corporation of New York

Filed Apr. 24, 1958, Ser. No. 730,579
2 Claims. (Cl. 68—24)

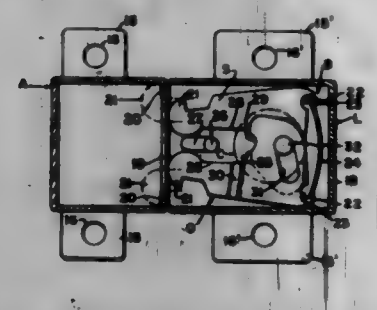
1. In a laundry machine, a substantially cylindrical clothes receptacle rotatable on a non-vertical axis, means for rotating said receptacle at clothes tumbling speed, means for introducing liquid into said receptacle for treating clothes while they are being tumbled, means for thereafter rotating said receptacle at a relatively high centrifuging speed to extract liquid from the clothes, and at least

one imperforate flap member of flexible non-hygroscopic material secured at one end only thereof to the cylindrical wall of said receptacle within said receptacle, said flap member being formed to lie against said cylindrical wall by centrifugal force when said basket is spinning and hanging down from said cylindrical wall by its own weight when the portion thereof to which it is secured is above



it and said basket is stopped or rotating at tumbling speed, said flap member having a width extending substantially the axial length of said receptacle and covering a substantial part of said cylindrical wall when it lies thereagainst, said cylindrical wall having a plurality of perforation formed therein in the portion thereof which is uncovered by said flap member during spinning of said basket.

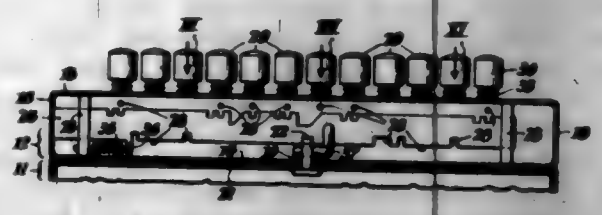
2,967,418
LOCK
James Donald, Denver, Colo., assignor to Shwayder Bros., Inc., Denver, Colo., a corporation of Colorado
Filed Sept. 12, 1957, Ser. No. 683,492
7 Claims. (Cl. 70—71)



4. A lock for cooperation with a catch having spaced latch engaging portions, comprising a pair of latch elements each having a hook at one end for engagement with the corresponding portion of said catch and a base at the opposite end, said latch elements having facing edges provided with a cam surface for moving said latch elements laterally apart so as to cause said hooks to engage said portions of said catch and each said base being provided with an outer corner having an angular ear and an arcuate notch; a fixed pin engageable by said cam surfaces simultaneously; means for moving said latch elements toward said catch and thereby causing said latch elements to be moved laterally apart; and a leaf spring whose opposite ends engage the arcuate notch in the base of the respective latch element and urge said bases apart.

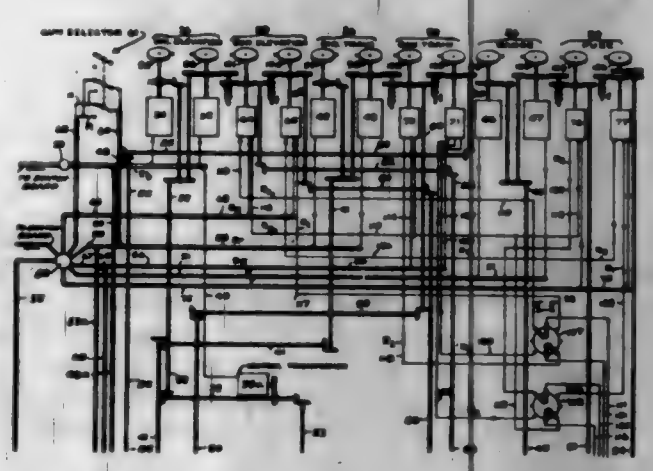
2,967,419
COMBINATION LOCK
Joseph Katona, 1540 Liberator Ave., Allentown, Pa.
Filed Mar. 13, 1958, Ser. No. 721,187
Claims priority, application Austria Mar. 19, 1957
6 Claims. (Cl. 70—313)

1. In a combination lock, a retractable bolt comprising a flat bar having opposed notched edges; a keeper for the bolt; spring means for continuously urging the bolt toward locking engagement with the keeper; means for normally restraining the bolt from movement out of locking engagement with the keeper comprising a spring wire, one end of the wire being secured to the inside of the box, the free end of the wire projecting in a direction substantially normal to the plane of the bar and being normally urged into contact with a notched edge and in registry with a notch; means for retracting the bolt comprising a spring wire, one end of the wire being secured to the inside of the box, the free end of the wire projecting in a direction substantially normal to the plane of the bar and normally being in close proximity to a notched



edge whereby movement of the wire into a notch retracts the bar; and means for simultaneously releasing the restraining means and actuating the retracting means comprising a combination of moveable key elements, each key being adapted to engage and displace a spring wire, whereby it is necessary in order to advance said bolt through successive increments of movement to maintain each retracting means in engagement with the corresponding notch until an additional retracting means has been actuated.

2,967,420
GUN DIRECTOR TESTING SYSTEM
Martin F. Carty, Elmhurst, and Walter F. Conable, Manhasset, N.Y., assignors to Sperry Rand Corporation, Ford Instrument Company Division, Wilmington, Del., a corporation of Delaware
Filed Nov. 12, 1958, Ser. No. 773,224
8 Claims. (Cl. 73—1)

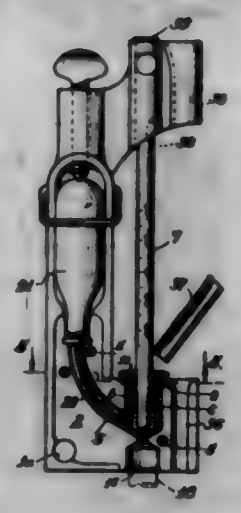


1. A tester for shipboard director systems comprising a plurality of cams, some of said cams yielding basic input data for a hypothetical anti-aircraft problem and the remaining cams yielding selected solutions to said hypothetical anti-aircraft problem according to selected input data, means for driving said cams, synchro transmitters, each of said synchro transmitters being connected to one of said input data cams and having an output connection which transmits said input data to a shipboard director system, control transformers, each of said preselected solution yielding cams being in driving connection with one of said control transformers, said control transformers having input connections which receive problem solutions generated by the shipboard director system, whereby said control transformers yield error quantities on comparison of the problem solutions as produced by the shipboard director system and solution yielding cams.

2,967,421
FREEZING POINT DETERMINATION INSTRUMENT

Rolf E. Darbo, 200 N. Prospect Ave., Madison, Wis.

Filed Jan. 31, 1956, Ser. No. 562,394
6 Claims. (Cl. 73—17)

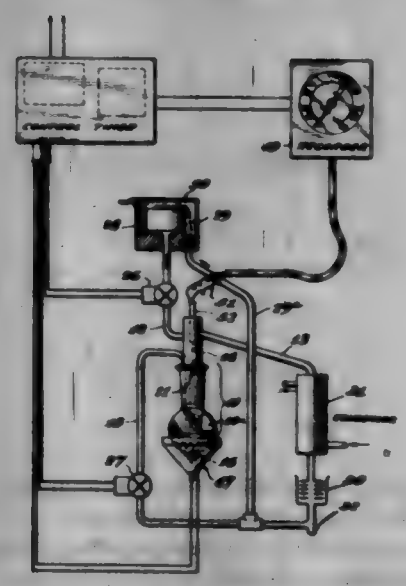


1. In a freezing point determination instrument including a body having a vertical open-topped well therein, a specimen thimble within said well and supported from said body for limited vertical movement between a position resting upon the bottom of said well and a raised position providing clearance between the bottom of said thimble and the bottom of said well, a first refrigerant inlet duct opening into said well at a side thereof, a second refrigerant inlet duct opening into said well at substantially the center of the bottom thereof, the bottom of said thimble and the bottom of said well having mating valving surfaces and forming a check valve normally closing said second inlet duct and opening upon upward movement of the thimble produced by the introduction of refrigerant under pressure to said second inlet duct.

2,967,422
AUTOMATIC BATCH END POINT MEASUREMENT

Sixt Frederick Kapff, Homewood, Dominic Daniel Lo Giurato, Oaklawn, and Robert B. Jacobs, Homewood, Ill., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana

Filed Sept. 14, 1956, Ser. No. 609,889
5 Claims. (Cl. 73—17)

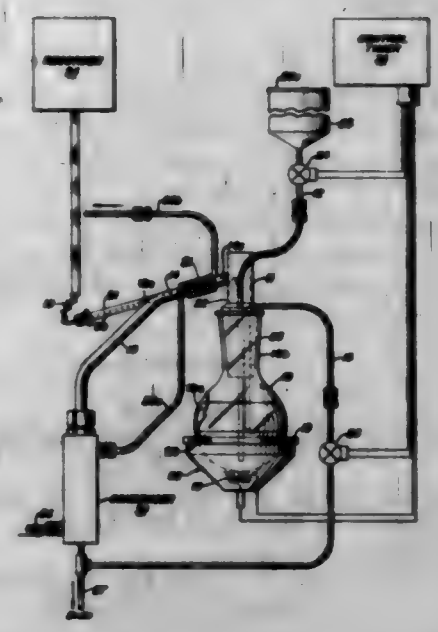


1. An apparatus adapted for the determination of end points of hydrocarbon liquids which includes in combination a distilling flask, electrical heater means for said flask, adjustable support means for said electrical heater means, said support means including a post and an indexed coupling whereby said heater means can be lowered from said flask and rotated about said post to permit manipulation of said flask, a distilling head superposing said distillation flask and comprising a closure therefor, temperature measuring means in said distilling head, supply line means discharging through said head for introducing a sample of liquid into said distillation flask, siphon tube means passing through said head and depending therefrom into said flask for removing excess sample from said flask, solenoid valve means on said supply line and on said siphon tube means, program timer means for controlling said solenoid valves, and elevater sample cup means discharging into said supply line, said sample cup having a capacity in excess of the ultimate sample to be tested, whereby a first quantity of the sample can be introduced into said flask and siphoned therefrom and a second quantity may be introduced into said flask and excess siphoned therefrom to leave a metered sample therein to be heated and vaporized.

2,967,423
AUTOMATIC END POINT APPARATUS

Joseph C. Rhodes, Park Forest, Ill., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana

Filed Apr. 12, 1957, Ser. No. 652,391
7 Claims. (Cl. 73—17)



1. A distillation unit for end point determinations comprising in combination a distillation flask, a distilling head on said flask, condiut means extending through said head for introducing sample liquid into said distillation flask, heating means for said flask to vaporize said liquid therein, vapor discharge tube means connected to said head for withdrawing vapors from said flask, temperature-responsive means within the inlet end of said discharge tube means, said temperature-responsive means being shielded by said tube from radiant heat and being heated essentially only by vapors flowing in said discharge tube means, temperature indicating means connected to said temperature-responsive means, siphon tube means extending into said flask, solenoid valve means on said conduit means and on said siphon tube means, and cooling coil means in heat exchange with said vapor discharge tube whereby said discharge tube is cooled.

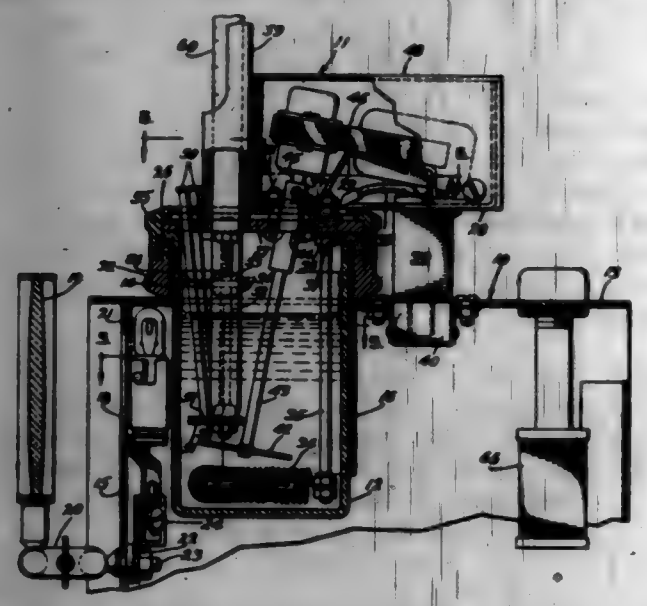
2,967,424
APPARATUS FOR DETERMINING MELTING POINTS

John R. E. Hoover, 624 Crescent Ave., Glenside, Pa.

Filed Jan. 14, 1958, Ser. No. 708,947
1 Claim. (Cl. 73—17)

In apparatus for determining the melting point of a material placed therein comprising a housing and a re-

movable heating and stirring unit adapted to be carried by said housing; a mounting member fixedly secured to said removable unit, a heating coil supported by said mounting member and spaced downwardly from said mounting member, stirring means including an agitator and drive means for the agitator carried by said mounting member, said agitator being spaced downwardly from said mounting member, a beaker, means interconnected



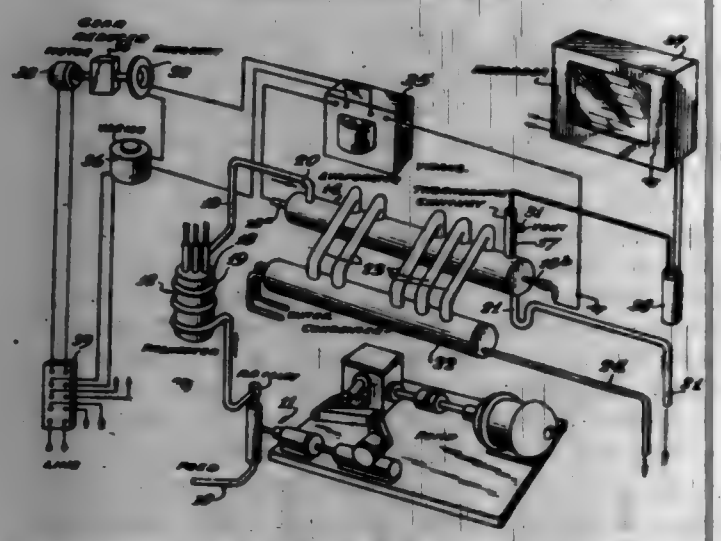
with said mounting member operable to removably secure said beaker to said removable unit with said heating coil and agitator positioned within said beaker, a supporting plate interconnected with said mounting member projecting downwardly thereform to a position within said beaker, and means supported by said plate operable to contain a sample of the material for which the melting point is to be determined with said sample of material positioned within said beaker.

2,967,425

CONTINUOUS END POINT INSTRUMENT AND METHOD

Sixt Frederick Kapff and Robert B. Jacobs, Homewood, Ill., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana

Filed Aug. 30, 1956, Ser. No. 607,002
8 Claims. (Cl. 73—53)



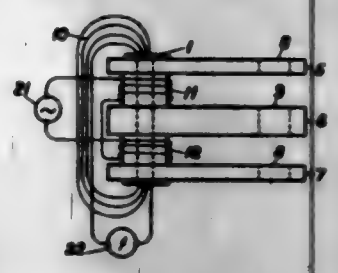
1. In a system for continuous end point determination including an evaporator unit, pump means for introducing a sample of liquid into said unit, means for initially providing a pool of liquid in said unit, heating means for vaporizing said pool of liquid in said unit, means for measuring the temperature of evolved vapors discharged from an upper part of said unit, means shielding said last named means from exposure to radiant heat from said heating means, and means for cycling the output of said heating means.

2,967,426

FORCE MEASURING DEVICE

Orvar Dahle, Vasteras, Sweden, assignor to Allmänna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a corporation of Sweden

Filed Sept. 9, 1957, Ser. No. 682,955
Claims priority, application Sweden September 15, 1956
2 Claims. (Cl. 73—141)



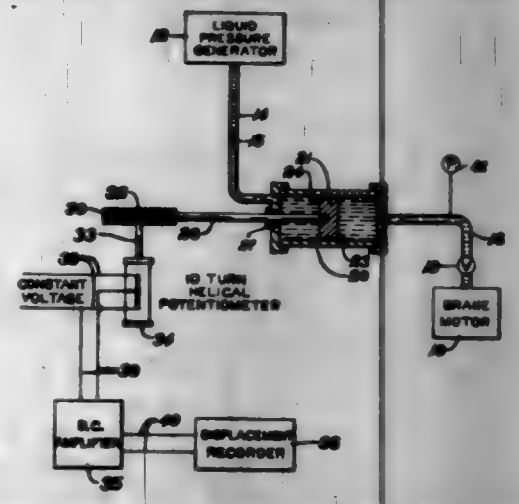
1. A force measuring device comprising a shaft having an axial hole therethrough, flanges integral with said shaft, said shaft and said flanges forming a substantially bobbin-shaped member of substantially homogeneous magnetostrictive material, said flanges having holes therein extending in the longitudinal direction of said shaft, at least one first coil wound on bobbin-shaped member, at least one second coil threaded through said axial hole in said shaft and back through said holes in said flanges, a source of alternating current connected to one of said coils, whereby a magnetic field is created in said bobbin-shaped member, a voltage responsive measuring means connected to the other of said coils, levers attached to the periphery of said flanges and adapted to be influenced by the forces to be measured in such a way that torsional stresses arise in said bobbin-shaped member, the points of attachments of said levers to said flanges lying substantially outside the path of the magnetic flux linked by said coil connected to said measuring means.

2,967,427

MEASURING BRAKE MOTOR DISPLACEMENT

Walter J. Le Blanc, Troy, Ohio, assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York

Filed Mar. 8, 1957, Ser. No. 644,792
5 Claims. (Cl. 73—149)



4. Apparatus for measuring the volume of liquid displaced into a brake motor, which apparatus comprises a liquid supply system for a brake motor including a liquid pressure generator, an axially movable free piston interposed in said system in series with said generator and a brake motor to be actuated by the system, said piston and the associated brake motor cooperating to define a closed liquid circuit for the intervening liquid and said piston being movable translationally when the system is pressurized by said generator to displace liquid in said closed liquid circuit to said brake motor, a rod rigidly con-

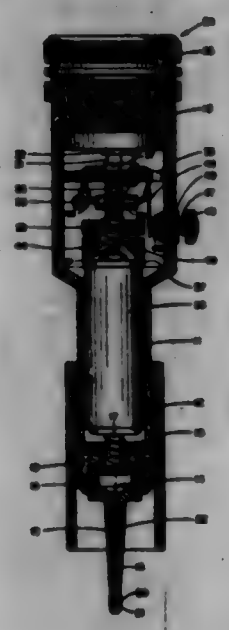
nected to said piston and projecting therefrom to a region outside the liquid system, an electrical signal generator engaged with said rod outside the liquid system and adapted to generate an electrical signal proportional to the slidable movement of said rod resulting from said displacement of the piston, and means to record the magnitude of said signal as a measure of the volume of liquid displaced into the brake motor.

2,967,428

DEVICE FOR TESTING THE EXTENT TO WHICH MEAT HAS BEEN COOKED

Harold E. Burgert, 26 Castleber Road, Rochester, N.Y., assignor of three percent to Irving Arem and Jane L. Arem, twenty-five percent to Charles De Martin, twenty-five percent to Edwin J. Smith, two and one-half percent to Clement J. Bocklage, eleven percent to Allan E. Kappelman, five percent to John W. Branch two percent to Frederick Schleber, and one percent to Frank Beuckman, all of Monroe County, N.Y.

Filed Dec. 26, 1957, Ser. No. 705,164
2 Claims. (Cl. 73—352)



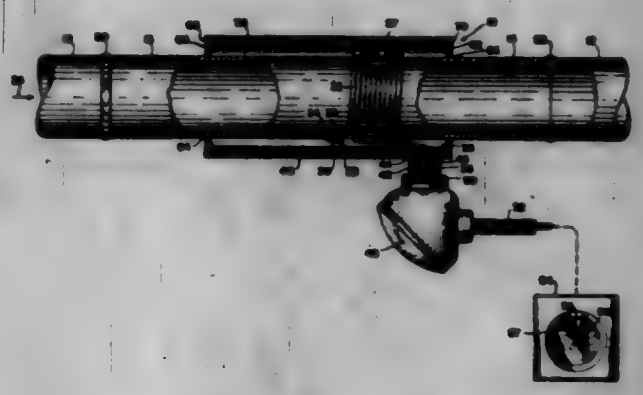
1. A unitary testing device for indicating the extent to which meat has been cooked, comprising a body providing means for grasping and holding said device with one hand, an elongate probe mounted on said body at one end thereof and projecting beyond said one end to be plunged into meat, said probe being made of an electrical insulating material of low thermal conductivity, a temperature sensitive electric resistance element whose resistance changes with change in its temperature mounted in the tip of said probe, a first electrical contact mounted in said probe adjacent the base of the probe, said body being adapted to hold a battery in position so that one pole thereof electrically engages said first contact, conducting means electrically connecting said resistance element in series with said first contact and said body, a plug removably attached to the other end of the body, a second electrical contact mounted on said plug, an electrically operated gauge mounted on said plug, said gauge being calibrated to indicate the extent to which the meat has been cooked, circuit means mounted on said plug and operatively connected electrically to said gauge and said second electrical contact, said circuit means and said second contact being removable with said plug, said second contact engaging the other pole of said battery when said plug is secured in said body, said plug when attached to the body electrically connecting with said body to complete a circuit to said gauge to cause said gauge to indicate the temperature value detected by said resistance element, a cylindrical sleeve adjustably secured to said body around said probe for adjustment axially of said probe, and means for maintaining said sleeve in any adjusted position to control the extent to which said probe can be plunged into the meat.

2,967,429

MEASURING APPARATUS

William S. Tayler, Drexel Hill, Pa., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware

Filed Jan. 29, 1960, Ser. No. 5,431
12 Claims. (Cl. 73—359)



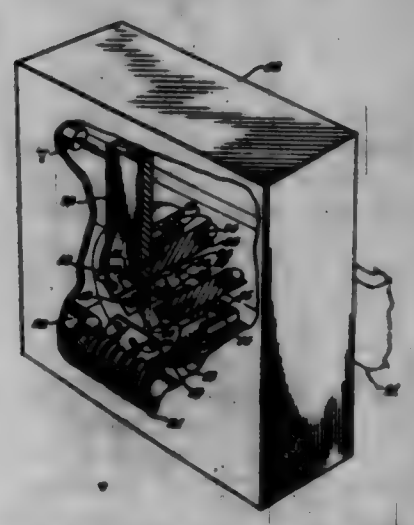
1. An apparatus to accurately measure the temperature of a fluid flowing through a flow tube, comprising a thin walled tubular section adapted to be inserted as a part of said flow tube, a jacket connected to said section and forming an air tight dead air space entirely about a periphery of the outer wall of said tubular section, insulated thermocouple wire forming a portion of a temperature measuring circuit positioned within said jacket and coiled about said outer wall of said tubular section, said wire having a hot junction at one end of said coil and being fixedly positioned on the outer wall of said tubular section at a position midway between the ends of said section, said jacket being provided with a partially sealed off passageway to accommodate the passage of the other end of said coil therethrough and said other end of said wire coil being connected to a temperature indicating means which forms a remaining portion of said thermocouple measuring circuit.

2,967,430

STABILIZER GIMBALS

Thomas C. Leighton, South Pasadena, Calif., assignor to Hycon Mfg. Company, Pasadena, Calif., a corporation of Delaware

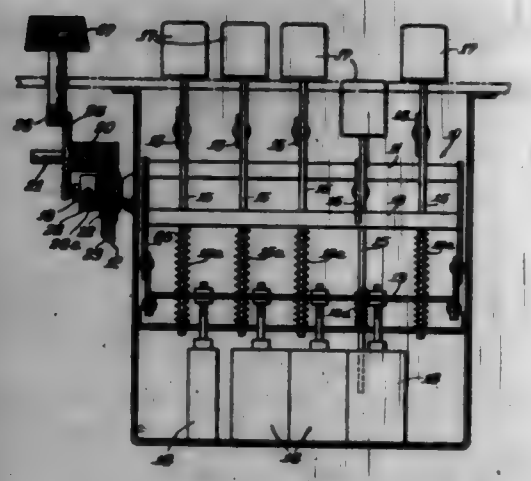
Filed July 28, 1958, Ser. No. 751,456
8 Claims. (Cl. 74—5)



1. In stabilization gimbals, an extended range flexure mount, comprising: a load member adapted to mount a load which is to be angularly stabilized; a support member; at least two adjacently positioned, oppositely in-

clined flexures connecting said load member to said support member, said flexures defining a pivot axis about which the load is stabilized; and means for rotating said support member about the pivot axis in response to a predetermined deflection condition of said flexures.

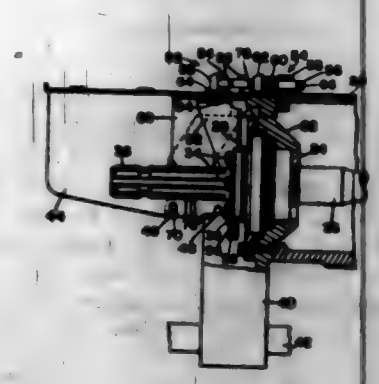
2,967,431
TUNER DISENGAGEMENT MECHANISM
Louis A. Bevacqua, Des Plaines, Ill., assignor to Motorola, Inc., Chicago, Ill., a corporation of Illinois
Filed June 7, 1957, Ser. No. 664,346
9 Claims. (Cl. 74—10.27)



1. In a tuning device having knob tuning means and push-button tuning means for actuating a tuning coil, the combination including a treadle assembly operatively connected to said tuning coil and actuated by both tuning means, a stub shaft fixedly mounted on said treadle assembly, a driven gear carried on said stub shaft, a connecting gear engaging said driven gear and actuated by said knob tuning means, and means carried at a fixed lateral position on said stub shaft bearing against said driven gear for applying a constant predetermined frictional force to said driven gear tending to prevent its rotation with respect to said stub shaft, said predetermined frictional force being less than the frictional force which must be overcome to turn said knob tuning means so that said driven gear slips on said stub shaft in response to actuation of said push-button tuning means, said predetermined force being greater than the frictional force which must be overcome to drive said treadle assembly to operate said tuning coil so that said driven gear rotates with said stub shaft in response to operation of said knob tuning means, said push-button tuning means applying a force to said treadle assembly which overcomes said predetermined frictional force between said driven gear and said force applying means, so that said driven gear rotates about said stub shaft slipping against the friction applying means and moves around the periphery of said connecting gear without imparting motion thereto when said push-button tuning means is actuated, while said driven gear is locked with respect to said stub shaft and transmits power from said connecting gear directly thereto to actuate said treadle assembly when said knob tuning means is actuated.

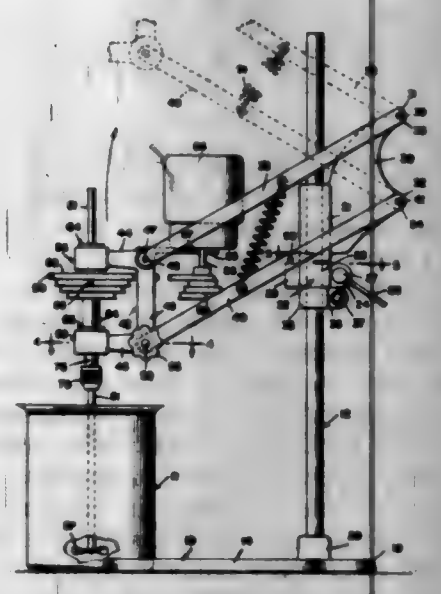
2,967,432
POWER TAKE-OFF SHAFT AND SHIELD ARRANGEMENT
Wallace H. Du Shane and Harold K. Kienzle, Waterloo, Iowa, assignors to Deere & Company, Moline, Ill., a corporation of Delaware
Filed Oct. 6, 1958, Ser. No. 765,417
8 Claims. (Cl. 74—15.6)

1. A power take-off shaft and shield arrangement for a tractor or the like having supporting structure and a power shaft exposed at said structure, comprising: a power take-off shaft extending beyond said structure as a coaxial extension of the power shaft; first shield-mounting means on the structure; a first shield extending away from the structure but terminating short of the length of the power take-off shaft so as to lie in partially protective relation to said power take-off shaft; attachment means on the shield detachably engageable with said first shield



mounting means to normally mount said shield; second shield-mounting means on the first shield and duplicating said first shield-mounting means; a second shield disposed as an extension of the first shield to complete the protective relation to the power take-off shaft; and attachment means on the second shield detachably engageable with the second shield-mounting means and duplicating the first shield attachment means.

2,967,433
APPARATUS FOR SUPPORTING AND FACILITATING THE HANDLING OF WORK TOOLS
Edwin D. Phillips, 549 Lincoln Blvd., Middlesex, N.J.
Filed Feb. 15, 1957, Ser. No. 640,424
15 Claims. (Cl. 74—16)



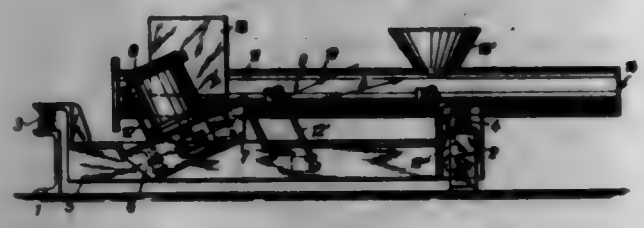
1. As a new combination in an apparatus of the character described an upright support, a member carried by the support for movement thereon, means for securing said member in a position of adjustment on the support, arms pivoted at one end to said member for vertical swinging movement, a head yoke between and pivotally coupled to and carried by the other ends of said arms, a shaft rotatably supported in vertical position by the head yoke, said arms being so constructed and arranged as to impart vertical rectilinear movement to the shaft upon vertical swinging of the arms, and power means supported by the arms between said support and the head yoke to move with the same and having driving connection with the shaft.

2,967,434

OSCILLATING SYSTEM EXCITED AT OR IN THE NEIGHBOURHOOD OF RESONANCE

Walter Mahlfeldt, 95 Bergstrasse, and Hans Schweinfurth, 12a Wildestrasse, both of Hagen, Westphalia, Germany

Filed Dec. 21, 1956, Ser. No. 629,898
Claims priority, application Germany Dec. 27, 1955
6 Claims. (Cl. 74—87)



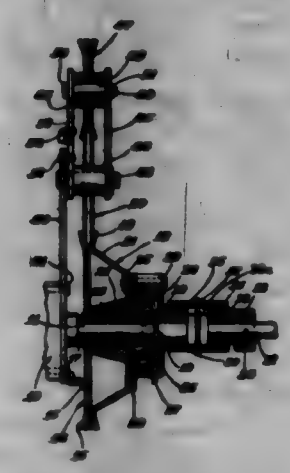
1. An oscillating system excited in the neighbourhood of resonance comprising a resiliently mounted base frame, an oscillator directly and fixedly secured on said base frame, a flyweight in said oscillator, electric means in said oscillator for rotating said flyweight, a body to be oscillated spaced from and in substantially parallel relation to said base frame, a plurality of spaced inclined springs connecting said body to said base frame, said oscillator being at such an angle to said body so that the plane passing through the center of gravity of said body and containing said flyweight is perpendicular to the axis of rotation of said flyweight, whereby there are generated directed oscillations in a plane passing substantially through the centre of gravity of the system consisting of said body and said resilient members, the natural frequency of said system corresponding approximately to the exciting frequency of said oscillator.

2,967,435

FRICTION CLUTCH

Howell N. James, Moline, Ill., assignor to International Harvester Company, Chicago, Ill., a corporation of New Jersey

Filed Mar. 14, 1958, Ser. No. 721,473
6 Claims. (Cl. 74—216.5)



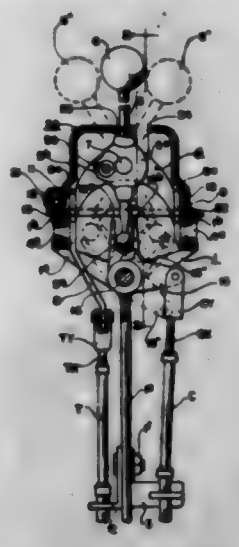
1. A friction clutch comprising a supporting structure, a driving member and an axially aligned driven member and including a V-pulley having its axis of rotation in axial alignment with said driving and driven members and positioned between said driving and driven members, said V-pulley carried on said driving member, said V-pulley comprising separate halves, the first pulley half joined to said driving member and arranged and constructed to be driven thereby, the second pulley half joined to said driven member, and an endless V-belt having a portion thereof mounted within and around said V-pulley, and means extending or retracting another portion of said endless V-belt remote from said portion engaging said V-pulley for tightening and/or loosening said V-belt in said V-pulley to effect a driving arrangement between said pulley halves when the V-belt is tight and a non-driving arrangement between said pulley halves when the V-belt is loose.

2,967,436

THROTTLE AND CLUTCH CONTROL HEAD

Eric J. Steinlein, Galesville, Md.

Filed Mar. 4, 1959, Ser. No. 797,103
19 Claims. (Cl. 74—471)



1. A head having a handle for controlling the advance of an engine throttle by angular motions of the handle about an axis disposed transversely of the head and for controlling the engagement of the engine transmission by rocking motions of the handle transversely of the head, comprising a frame; a bearing block journaled in the frame on said transverse axis; a control lever pivotally connected to said block by joint means having its axis disposed normal to said transverse axis, the lever extending outwardly of the head and carrying the handle and extending inwardly and terminating near the transverse axis at an operator end, said angular motions of the handle pivoting the bearing block about said transverse axis and said rocking motions of the handle displacing the operator end of the lever transversely of the head about said joint means; a linkage pivotally connected to the frame and having a forked inner end comprising plates disposed on opposite sides of said operator end of the lever and said linkage being pivoted by transverse motion thereof and having an outer end connected to transmission control means; and a first arm fixed to the bearing block and extending out from said axis and connected to operate throttle control means.

2,967,437

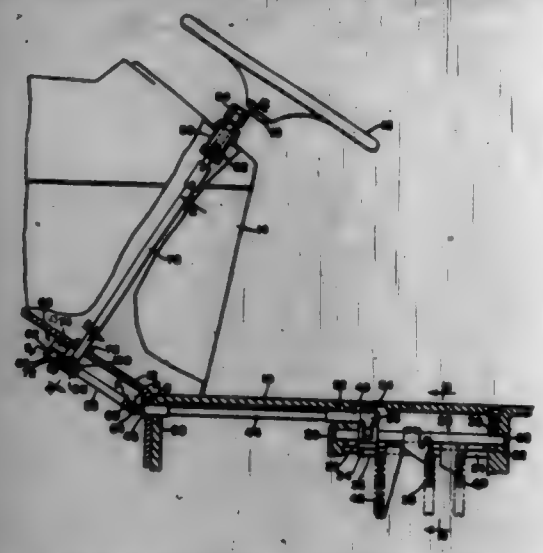
TRANSMISSION SELECTOR AND SHIFTER MEANS

Joseph F. Wagner, Dubuque, Iowa, assignor to Deere & Company, Moline, Ill., a corporation of Delaware

Filed Sept. 11, 1958, Ser. No. 760,383
1 Claim. (Cl. 74—473)

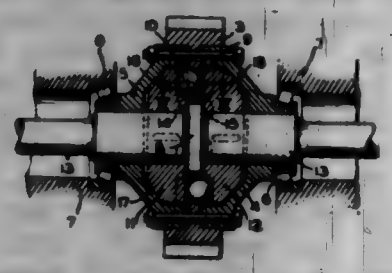
In a vehicle having support structure and a change-speed transmission including a plurality of selector receivers mounted for individual fore-and-aft shifting from a neutral position of transverse alinement, the improvement residing in selector and shifter means comprising: a fore-and-aft rear shaft having front and rear ends respectively remote from and adjacent to the receivers; front and rear means mounting said shaft on the support structure for fore-and-aft movement along and for rocking about its axis; selector means fixed to the rear end of said shaft and engageable with any one of the receivers upon rocking of said shaft and for shifting the selected receiver upon subsequent fore-and-aft shifting of said shaft; a front shaft having a rear end adjacent to the front end of the rear shaft and extending forwardly at an angle to said rear shaft to a front end;

universal joint means interconnecting the rear end of the front shaft and the front end of the rear shaft; bearing means mounting the front end of the front shaft for rocking about its axis to transmit angular movement to the rear shaft and for fore-and-aft shifting along its axis to shift the rear shaft fore-and-aft, said bearing means including a trunnion block having a bore therein coaxially slidably receiving the front end of the front



shaft and a pair of oppositely outwardly extending trunnions coaxial on an axis transverse to the axis of said bore, and a bracket carried by the support structure and carrying the trunnion block via said trunnions to enable said block to rock about the trunnion axis so as to accommodate changes in the angle of said front shaft incident to fore-and-aft shifting thereof; and means for rocking and shifting said front shaft.

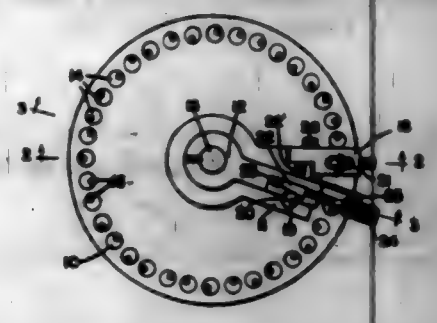
2,967,438
SELF-LOCKING DIFFERENTIAL GEAR
Werner E. Altmann, Stuttgart, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart, Germany
Filed May 28, 1958, Ser. No. 738,338
16 Claims. (Cl. 74—650)



1. A self-locking differential gear, particularly for motor vehicles, comprising input means, two driven members, each provided with a curved track means, said track means having unequal numbers of high and low points resulting in unequal angles of inclination for said track means, means including bodies guided within said differential gear and in bearing contact with said track means to transmit torque from said input means to said driven members while simultaneously therewith enabling relative movement between said driven members, and equalizing means at least at one of said driven members for equalizing the different locking values of said driven members produced by the unequal angles of inclination of said curved track means.

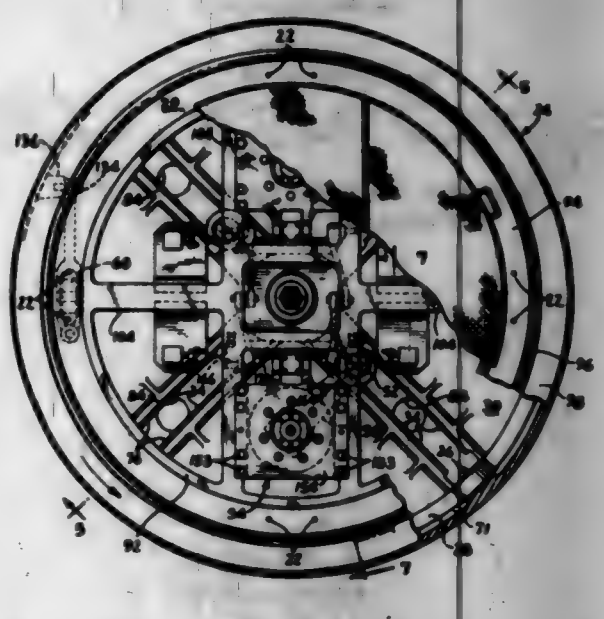
2,967,439
PRECISION ROTARY INSTRUMENT
John M. Cole, 2062A Mather Way, Elkins Park 17, Pa.
Filed June 26, 1958, Ser. No. 744,886
5 Claims. (Cl. 74—815)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. In an angular positioning instrument, the combination of a base formed to provide a first bearing, a plurality of coarse adjustment pegs mounted in tapered bearings in said base with extensions disposed to produce equal angles between themselves and the center of said base, a shaft arranged to rotate in said first bearing and formed to provide a second bearing, a coarse adjustment arm rotatable about said second bearing, a single peg having an



extension displaced from its central axis and mounted in a tapered bearing in said coarse adjustment arm, an index lever hinged to said coarse adjustment arm and having a slot formed to engage said coarse adjustment pegs, and a fine adjustment arm fixed to said shaft and including a wedge movable between said fine adjustment arm and the extension of said single peg.

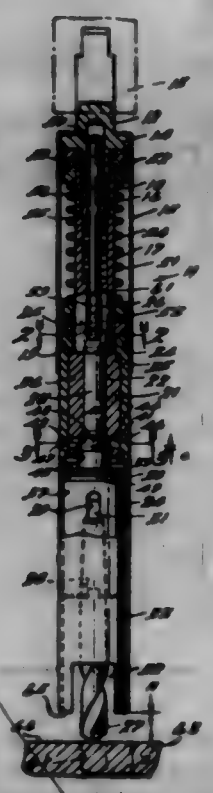
2,967,440
HYDRAULIC INDEXING MECHANISM FOR FOUNDRY TURNTABLES
William A. Hunter, Morton Grove, Ill., assignor to Pettibone Mulliken Corporation, Chicago, Ill., a corporation of Delaware
Filed May 11, 1959, Ser. No. 812,476
9 Claims. (Cl. 74—817)



1. The combination with a fixed turret base and a turret mounted on said base for rotation about a central vertical axis, or indexing means for periodically rotating said turret to impart thereto successive angular displacements of equal magnitude, said indexing means comprising a pair of guide-forming elements on said base and providing a pair of generally radially extending diverging guideways, a drive arm pivoted to said turret at a point removed from said central axis and within the overall circumferential confines of said guideways for swinging movements in opposite directions about a horizontal axis and in a fixed horizontal plane between one extreme position wherein the distal end of said arm is in vertical register with the inner end of one of said guideways and another extreme position wherein the distal end of the arm is in vertical register with the inner end of the other guideway, a vertically shiftable element on the distal end of said arm and selectively engageable with said guideways when said distal end is in register therewith, means

for swinging said guide arm in opposite directions, and means operable when said guide arm is in either extreme position for shifting said vertically shiftable element into and out of engagement with the guideway with which it is in register in such extreme position.

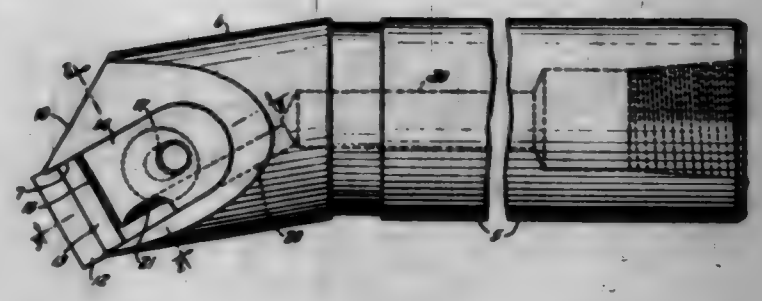
2,967,441
DEVICE FOR CONTROLLING THE DEPTH OF ENTRANCE OF CUTTING TOOLS
Clair E. Miles, 22504 Bayview, St. Clair Shores, Mich.
Filed Dec. 31, 1959, Ser. No. 863,207
11 Claims. (Cl. 77—55)



1. In a device for controlling the depth of entrance of a cutting tool, a drive shaft member adapted to be subjected to rotary and axial forces, a tool holder member slidably and non-rotatably connected to said drive shaft member, a key supported for movement by one of said members between an axial force transmitting position and an inoperative position with respect to the other member, a depth control member mounted for movement relative to said drive shaft member, resilient means responsive to axial movement of said drive shaft member in one direction to urge said depth control member in one direction, said resilient means being yieldable in response to restraint of said depth control member, and a surface on said depth control member movable in response to such restraint from a first position holding said key in its force transmitting position to a second position permitting said key to move to its inoperative position.

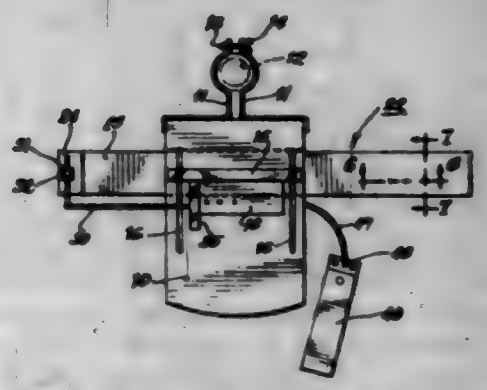
2,967,442
BORING BAR
James M. Forsyth and Jack G. Clark, Houston, Tex., assignors to Forsyth Engineering Company, Houston, Tex., a corporation of Texas
Continuation of application Ser. No. 662,195, May 28, 1957. This application Feb. 2, 1960, Ser. No. 6,321
1 Claim. (Cl. 77—58)

In a boring bar, a bar having the top front part slabbed off, said bar at the front end having a notch extending from the front rearwardly and opening at the top in said slabbed off portion, an anvil extending from the front of said notch to abutting relation therewith at the rear, said anvil lying flat on the bottom of the notch, a carbide tool resting on top of said anvil and confined at the sides by the lateral sides of said notch, a chip breaker resting on said tool, a clamp nut fitted entirely within said notch, said clamp nut having its forward edge only resting on said chip breaker and having its rear edge in said notch and resting on top of said anvil so as to pivot thereon when drawn down and cause the front end of said nut to tightly clasp said chip breaker and tool and anvil in said notch, the top of said clamp nut being slabbed off at the top so as to form a continuation of



the slabbed off end of said bar, a substantially vertical surface on said clamp nut beneath and recessed from its forward end and having a transverse groove therein intermediate its extremities to receive the upper rearward edge of said carbide tool, the lower portion of said vertical surface below said transverse groove forming an abutment surface for said carbide tool, and a screw extending up through said bar and into said clamp nut to draw the latter downwardly in clamping direction.

2,967,443
MACHINE TOOL ACCESSORY
Jordan K. Gartsef, 926 N. Walcot, Chicago, Ill.
Filed Apr. 9, 1959, Ser. No. 805,265
13 Claims. (Cl. 77—64)



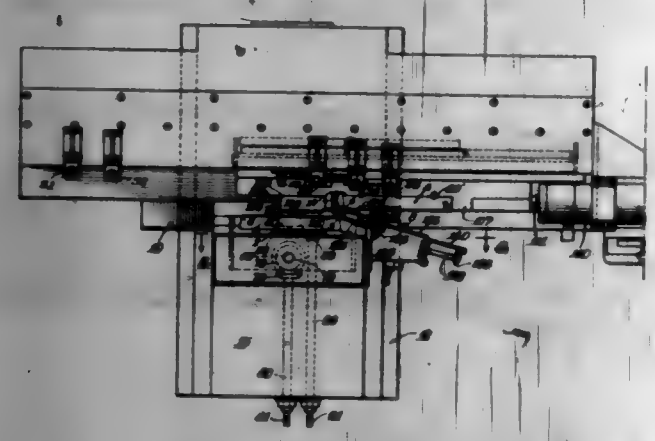
1. In a machine tool having a work table, the combination comprising an elongated member slidably supported by said work table, a plurality of stop elements selectively positioned on said elongated member, each of said stop elements being movable with respect to said elongated member between a retracted position and a stop effecting position and being biased toward said stop effecting position, a stop member secured to said work table and engageable with successive ones of said stop elements in stop effecting position to prevent movement of said elongated member in one direction, release means secured to said work table adjacent said stop member and manually movable with respect to said work table between a retracted position and an actuated position, said release means when moved to said actuated position being engageable with only that one of said stop elements which may be engaging said stop member to move said stop element to retracted position, and means supported by said elongated member and extending over said work table to be engaged by a work piece supported on said work table.

2,967,444

THREAD ROLLING MACHINES

Elmer E. Hallberg and Ralph S. Litterst, Rockford, Ill., assignors to Rockford Machine Tool Co., a corporation of Illinois.

Filed June 3, 1955, Ser. No. 513,085
4 Claims. (Cl. 80—8)



1. A thread rolling apparatus adapted to form threads on a substantially cylindrical workpiece by rolling the workpiece between cooperating dies comprising, in combination, a base structure, a carriage supported on the base structure, a slide having a compression die formed with a substantially flat serrated face, means mounting the slide on the carriage for movement in a direction normal to said face of the compression die, a ram supported on the base structure and having a ram die formed with a substantially flat serrated face arranged in spaced, parallel relationship to said face of the compression die, means mounting the ram for reciprocable movement past the face of the compression die between a starting position in which a blank workpiece may be inserted in pickup position between the dies and an ejection position in which a finished workpiece is ejected from between the dies, means mounting the carriage for adjusting movement toward and away from the path of the ram die to vary the spacing of said dies to accommodate workpieces of different diameters, and means forming a feed channel extending longitudinally of the ram die and including opposed side members for supporting and guiding a blank workpiece into pickup position between the dies, one of the side members forming said channel being supported on said base structure and the other of the side members being attached to the carriage and movable therewith, the construction and arrangement being such that adjustment of the carriage to space said dies for workpieces of different diameters effects a corresponding adjustment of the spacing of said opposed side members.

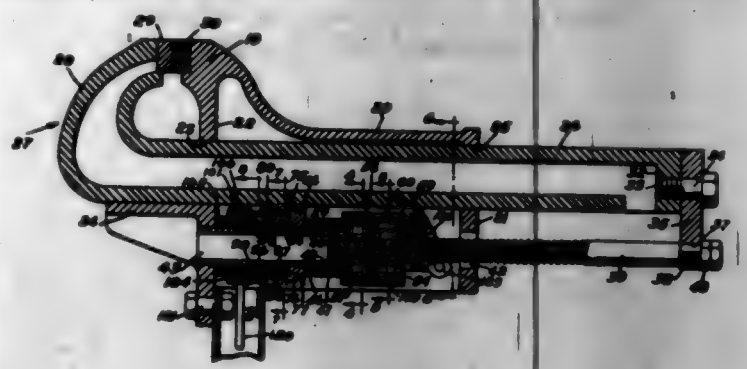
2,967,445

QUICKLY ADJUSTABLE VISE HAVING A NON-ROTATABLE SPINDLE AXIALLY ADVANCED BY A SPLIT-NUT MECHANISM

Hamilton C. Chase, La Habra, Calif., assignor to Julian A. Monax, Los Angeles, Calif.

Filed Oct. 22, 1956, Ser. No. 617,536
8 Claims. (Cl. 81—36)

7. In a drive mechanism: a member to be actuated; means for actuating said member including, screw means, split-nut means having a body provided with an axial bore for operable reception of said screw means, said body having a plurality of annularly spaced longitudinally extending openings in the rear thereof and a plurality of radially extending openings therein; segments operably disposed for sliding movement in said radial openings and having portions of threads at the inner ends for operable engagement with the threads of the screw means; a release sleeve slidably disposed on said body, said sleeve having a cam portion; means holding said sleeve against rotation realtive to said body; release pins carried by said sleeve, said pins extending forwardly into the longitudinally extending openings in the rear of the split-nut body and being engageable with said segments, said sleeve being slidable from a position whereat the segments are held in their screw-thread-engaging position with the pins out of engagement with said segments, to a position whereat said pins engage said segments to move same out of engagement with the screw,



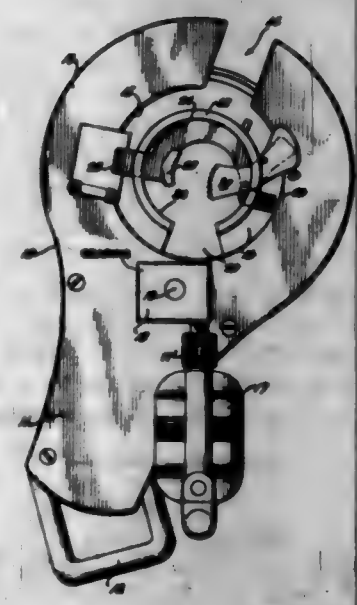
said cam portion of the sleeve being engageable with the segments when the sleeve is moved to the first-mentioned position to force said segments into screw-engaging position; yielding means urging said sleeve to the first-mentioned position; and means for actuating the sleeve to the second-mentioned position, rotation of one of said screw and split-nut means causing actuation of the other of said screw and split-nut means to effect actuation of said member.

2,967,446

POWER OPERATED, PORTABLE PIPE WRENCH

Arthur E. Martois, Los Angeles, Calif.
(2279 W. 233rd St., Torrance, Calif.)

Filed July 18, 1957, Ser. No. 672,806
5 Claims. (Cl. 81—53)

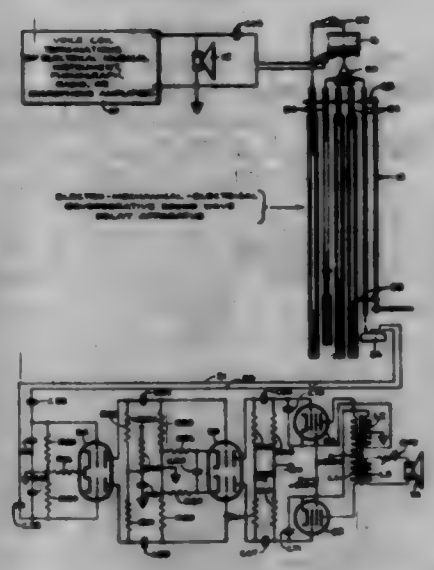


1. In a portable pipe wrench a frame, a chuck, means rotatably mounting said chuck in the frame, drive means on the frame extending to said chuck, said frame having an opening therein extending to said chuck, said chuck having an opening therethrough alignable with the first named opening, a gripping ring, pipe engaging means mounted on the gripping ring, said gripping ring having an opening in the side thereof alignable wtih the first two named openings, and disengageable means on the gripping ring engageable wtih the chuck securing said griping ring to the chuck.

2,967,447
APPARATUS FOR TRANSLATING ELECTRICAL MUSICAL TONE SIGNALS INTO SOUND

John M. Hanert, Des Plaines, Ill., assignor to Hammond Organ Company, Chicago, Ill., a corporation of Delaware

Filed Mar. 6, 1957, Ser. No. 644,266
5 Claims. (Cl. 84—1.26)



1. An apparatus for improving the musical acoustic output derived from a source of electrical musical tone signals comprising two speakers located in the same acoustic region; a channel to transmit the signals from the source to one of said speakers, said channel including means to introduce a substantial reverberative time delay in the major portion of the acoustical output, said delay introducing means comprising a reverberative solid sound wave carrier, means for impressing the signal on the carrier and means for picking up the signal from the carrier a predetermined short interval after the signal is impressed upon it; and a second signal transmission channel coupling the source to the other speaker and operative to transmit the majority of the signal without said amount of time delay.

2,967,448
DRIVE FASTENER WITH ANCHORING TEETH ON THE TAPERED PORTION THEREOF

Robert Lay Hallock, 32 Vine Road, Larchmont, N.Y.

Filed June 20, 1955, Ser. No. 516,684
8 Claims. (Cl. 85—21)

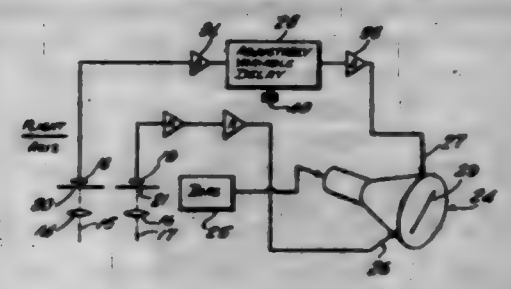


1. A nail for fastening insulation to relatively thin sheet metal having a thickness of approximately 16 to 24 gauge, said nail having a driving end portion and having a penetrating end portion with a generally frusto-conical gently tapering anchoring and sealing portion therebetween, said penetrating portion being tapered from its penetrating extremity substantially to said anchoring and sealing portion and said anchoring and sealing portion extending from said penetrating portion and increasing in transverse dimension towards said driving end portion, and having substantially parallel cutting portions extending around the same and facing said penetrating end portion with no part of the anchoring and sealing portion between adjacent cutting edge of greater transverse dimension than the cutting edge of smaller transverse dimension and with at least a portion thereof of less transverse dimension, and with the spacing of the cutting edges less than one-half the thickness of the metal through which the nail is adapted to be driven.

2,967,449
OPTICAL GROUND-SPEED METER

Morris Weiss, Wantagh, N.Y., assignor to Servo Corporation of America, New Hyde Park, N.Y., a corporation of New York

Filed Jan. 6, 1955, Ser. No. 480,255
11 Claims. (Cl. 88—1)

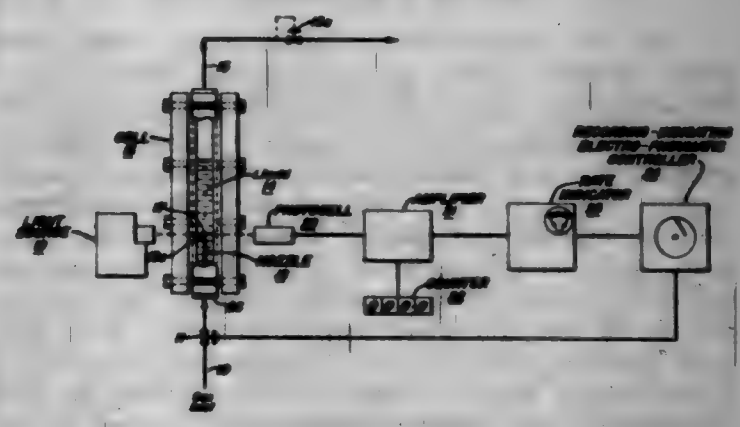


1. A speed-indicating device of the character indicated for determining the relative speed of two relatively moving bodies, two energy-responsive elements and means developing separate continuously and randomly varying electrical output signals for the responses of said elements, separate optical systems respectively focused on said elements and mounted on one of said bodies, said elements being mounted in spaced relation from each other in the sense of said relative movement and having axes directed toward the other of said bodies and in strictly parallel planes, said planes being spaced from each other by substantially the distance between said elements, and correlator means connected to both energy-responsive elements and responsive to both electrical output signals and including means variably delaying the output of one of said elements with respect to that of the other until correlation is achieved, whereby the amount of delay necessary to achieve maximum correlation is a direct measure of said relative speed, and further whereby said measurement of speed is independent of the spacing between the two relatively moving bodies.

2,967,450
OPTICAL BUBBLE FLOWMETER

Stanley E. Shields, Whiting, and Philip W. Dewey, Munster, Ind., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana

Filed Jan. 30, 1957, Ser. No. 637,145
1 Claim. (Cl. 88—14)



An apparatus for continuously measuring flows of high pressure gas in the range of up to about 250 bubbles per minute which comprises in combination: a vertically

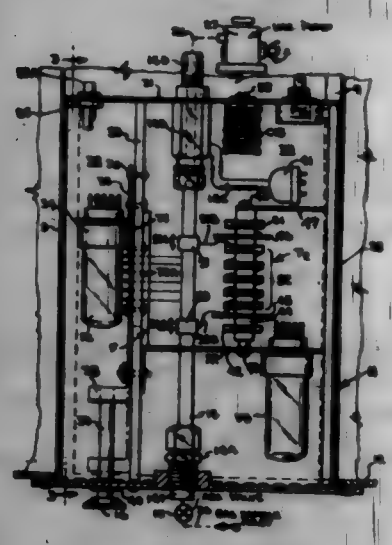
elongated cell having opposed transparent walls; a gas inlet line communicating with the cell through the bottom of said cell; a nozzle means carried by said gas inlet line and discharging the gas as discrete bubbles within a lower portion of said cell, said nozzle means including a length of tubing extending upwardly through the bottom of said cell; gas outlet means at the top of said cell; means for regulating the cell back pressure near said gas outlet means; a quantity of transparent confining liquid having a relatively low vapor pressure disposed in said cell and wholly submerging the nozzle means whereby gas passing through said nozzle means issues as discrete bubbles which pass upwardly through the liquid thereabove and from the cell via the gas outlet means and cell back pressure regulating means; a light source on one side of said cell including means for directing a beam of light through said cell, said beam traversing immediately above said nozzle means; photoelectric means on the opposite side of said cell adapted to receive light from said light source passing through said cell and to deliver an output signal corresponding to each bubble, said photoelectric means being responsive to the interruption of the light beam on said photoelectric means caused by the light-scattering effect of each bubble as it issues from the nozzle means; support means carrying said light source and said photoelectric means in fixed relationship to the vertically elongated cell; an electrical counter means; and electrical circuit means including an amplifier for impressing the output signal of the photoelectric means onto said electrical counter means whereby said counter means registers a linear measure of the flow rate of gas.

2,967,451

METHOD AND APPARATUS FOR GAS ANALYSIS

William R. Farrall, Rochester, Minn., assignor to The Waters Corporation, Rochester, Minn., a corporation of Minnesota

Filed Apr. 4, 1957, Ser. No. 650,584
5 Claims. (Cl. 88—14)



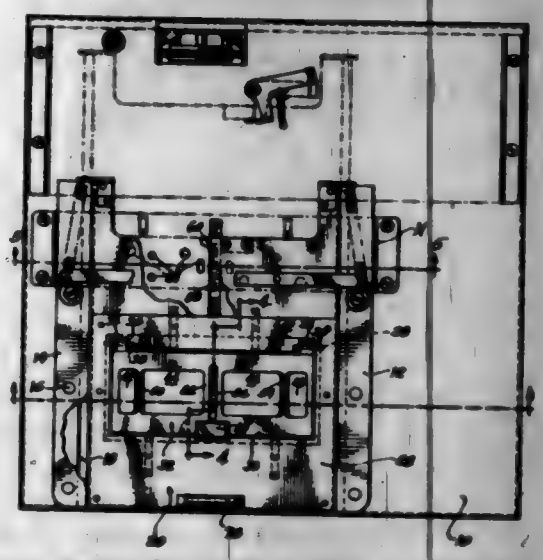
1. A gas analyzer system comprising a light transparent conduit having spaced electrodes thereon, means for conducting a gas sample through said conduit under reduced pressure, means for applying a radio frequency potential to said electrodes rendering the gas in said conduit conductive and luminescent, a photo-responsive element adjacent the conduit for receiving light therefrom, light screen means in the path of light between the conduit and photo-responsive element for stopping passage of all light wave lengths except at least some wave lengths of light in the characteristic spectrum of a selected gas and a responsive circuit having an input connected to said photo-responsive element and an output, said responsive circuit including amplifier connected to the input of the responsive circuit, said amplifier being effective to produce an amplified output signal voltage having a variable voltage component and a component of substantially constant polarity and value, a source of steady voltage having a value and polarity substantially opposite to said amplifier component of substantially constant polarity and value, said source of steady voltage being connected to said amplifier and forming therewith the output of said responsive circuit.

2,967,452

CURRENCY TESTING AND SELECTING DEVICE

William A. Patzer, Chicago, Ill., assignor to Seth B. Atwood, Rockford, Ill.

Filed May 2, 1958, Ser. No. 732,673
10 Claims. (Cl. 88—14)



8. In a device for testing paper or currency, the combination of a housing, means within the housing for testing the paper or currency, a means for displacement for the element to be tested between a normal position outside of the housing and a test position within the housing comprising a drawer mounted for shifting movement endwise relative to the housing, an opening within the top surface of the drawer dimensioned to correspond with the dimension of the element to be tested, a door dimensioned to be received within the opening having an opening dimensioned to correspond with the area of the element to be tested, and means mounting the door on the drawer for displacement between inoperative position outside of the opening for enabling free access thereto to operative position within the opening to hold the element in test position.

2,967,453

MOTION PICTURE PROJECTION SYSTEM UTILIZING BEAM SPLITTING MEANS

Leon W. Wells, Fort Lee, N.J., assignor to Leon Bronesky, New York, N.Y.

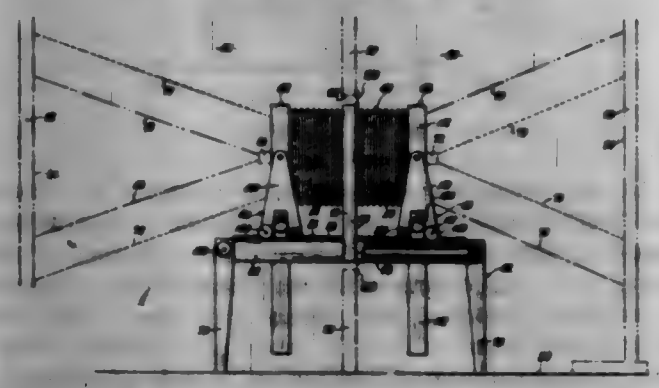
Filed Mar. 31, 1959, Ser. No. 803,323
18 Claims. (Cl. 88—16.6)



11. An optical projecting unit assembly for attachment to a single conventional motion picture projector in

substitution for its lens to project from a split image projection film a pair of quarter-rotated split image half portions of a composite image which are laterally spaced from each other on the film and are in relative orientations of one of the relations toe-to-toe and head-to-head comprising, in combination, a common relay positive lens means to project the image portions simultaneously to a real image plane remote from the film, beam splitting optical means at this real image plane there sharply to separate and reflect laterally to opposite sides a pair of beam subdivisions with each beam subdivision carrying solely one of said image half portions and the other beam subdivision carrying solely the other of said image half portions, said beam splitting means being adapted in the lateral reflection to opposite sides thereof of the beam subdivisions to quarter rotate in opposite directions to inverted positions the separated quarter-rotated split image portions respectively and solely carried by the separated beam subdivisions, a pair of laterally-separated reflecting means located to opposite sides of said image separating and beam splitting optical means separately to redirect and turn the beam subdivisions and the inverted split image portions carried thereby forward toward a screen, a pair of laterally-separated optical means comprising objective lens means to erect the separated and inverted split image portions through 180° and project them separately to the screen in side-by-side relation and in focus at the latter with registration of their side-joining margins on the screen there to form from the separated image parts a composite picture image in the nature of a mosaic assembly of the image parts beside each other, and an oblique reflector interposed between said relay lens means and said image-portions-separating and beam-splitting optical means having its reflecting face arranged at an oblique angle to a transverse plane normal to the axis of an image bearing beam projectable by said relay lens means whereby parts of images reflected thereby are out of precise focus.

2,967,454
DARK ROOM CAMERA
Robert J. Almirante, 5542 Chestnut St., Kansas City, Mo.
Filed Aug. 24, 1953, Ser. No. 375,997
3 Claims. (Cl. 88—24)



1. In a dark room camera installation adapted for use in alternately making either enlarged, reduced or same size exposures of pieces of either opaque or transparent copy upon pieces of photosensitive film and which includes a wall provided with an opening therethrough, a darkened room on one side of the wall having first means for holding a piece of film therein aligned with the opening, and a lighted room on the opposite side of the wall having means for holding a piece of opaque copy therein aligned with the opening, the combination of: a lens; second means for holding a piece of transparent copy; a first frame in the darkened room aligned with the opening and provided with an aperture adapted for alternately remaining open, operably receiving the lens and operably receiving the second film holding means; a second frame in the lighted room aligned with the opening and provided with an aperture adapted for alternately remaining open, operably receiving a lens and operably receiving the transparent copy receiving means; means mounting the first frame between the wall and the first film holding means and for movement toward and away from the wall in alignment with the opening; means mounting the second frame between the wall and the opaque copy holding means and for movement toward and away from the wall in alignment with the opening; a pair of expansible bellows, corresponding ends of the bellows being adapted to be connected to opposite faces of said wall in alignment with the opening and the opposite ends of the bellows being operably coupled with respective first and second frames in alignment with said apertures therein; means for moving the first frame having control parts in and independently manipulable from each of said rooms; and separate means for moving the second frame independently of the first frame and having control parts in and independently manipulable from each of said rooms.

2,967,455
MICROPHOTO APPARATUS
Dwight F. McCormack, 150 Alta Vista Drive, Atherton, Calif.
Filed Feb. 7, 1958, Ser. No. 713,923
3 Claims. (Cl. 88—24)

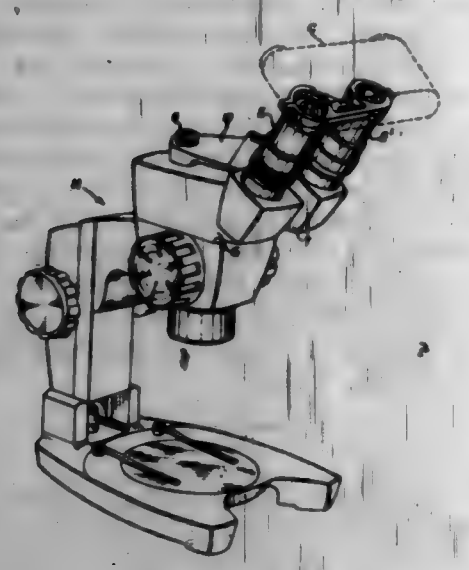


1. A microphoto apparatus comprising a hollow housing having a base, a camera detachably mounted within the housing and having a shutter actuating lug, a mirror within the housing positioned to reflect an image from the base toward the camera, an outwardly opening door pivoted on one wall of the housing to give access to the camera, and means for operating the camera mounted on the door and operatively related to the shutter actuating lug of the camera when the door is closed and non-operatively related thereto when the door is open.

2,967,456
CAMERA ATTACHMENT FOR MICROSCOPE
Howard A. Maier, Williamsville, N.Y., assignor to American Optical Company, Southbridge, Mass., a voluntary association of Massachusetts
Filed May 28, 1959, Ser. No. 816,438
6 Claims. (Cl. 88—24)

1. A device for mounting a stereo camera having a pair of objective housings on a stereoscopic microscope having a pair of eyepieces comprising a base with a bracket projecting therefrom, said base being adapted to be secured to the microscope, a carrier for the camera, cooperating guiding means on said carrier and bracket, a portion of said guiding means requiring initial lifting movement of said bracket and camera away from opera-

tive relation to said microscope eyepieces in a direction generally parallel to the optical axes of said eyepieces, an additional portion of said guiding means permitting swinging movement of said bracket and camera to inoperative position only after said initial lifting movement is completed, a yoke on said carrier supporting a pair



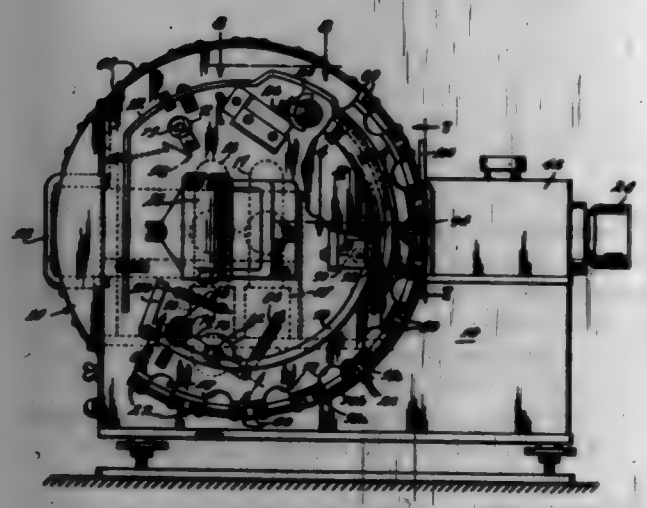
of communicating cups for each eyepiece of the microscope, one cup when in operative position facing outwardly away from the microscope eyepiece for receiving and retaining an objective housing of the camera and the other cup facing inwardly for telescoping over the respective eyepiece of the microscope.

2,967,457

DUAL DRUM SLIDE PROJECTOR

Arnel E. Jackson, Audubon, N.J., assignor to Radio Corporation of America, a corporation of Delaware

Filed May 6, 1957, Ser. No. 657,189
2 Claims. (Cl. 88—27)



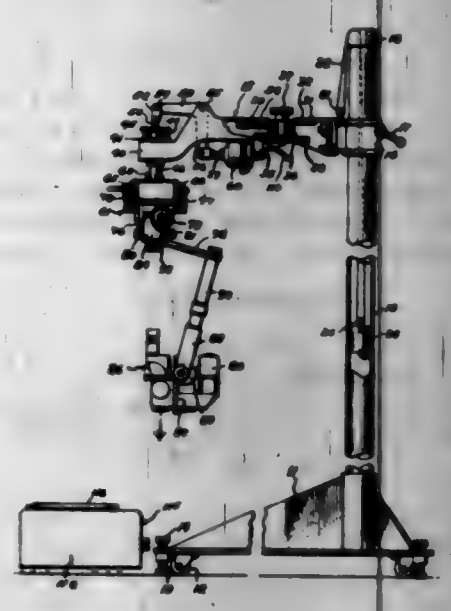
2. A slide projector comprising a frame member for housing a light source, a first slide carrying drum having a circular flange, first means rotatably coupling said first drum at said flange to one side of said member, a second slide carrying drum having a female circular flange, and second means rotatably coupling said second drum at its said flange to the other side of said member, whereby both drums are rotatable about a substantially common axis; said first means comprising a roller rotatably connected to a fixed axis affixed to said one side of said member, a spring-biased roller connected to said one side and spring biased outwardly in a radial direction against said first drum flange, and roller means including a first ball bearing for rotating about an axis parallel to said fixed axis and a second ball bearing for rotating about an axis perpendicular to said first ball bearing axis and said common axis, wherein said first means including said ball bearings engage with said first flange; and said second means comprising a third roller rotatably connected to a fixed axis affixed to the other side of said member, a fourth roller connected to said other sides and spring biased outwardly in a radial direction against said second drum flange, and adjustable roller means including a third ball bearing for rotating about an axis parallel to said third roller fixed axis and adjustable in a direction perpendicular to said common axis and a fourth ball bearing for rotating about an axis perpendicular to said third ball bearing axis and said common axis and adjustable in a direction parallel to said common axis, wherein said second means including said third and fourth ball bearings engage with said second flange; and whereby an adjustment of said third and fourth ball bearings permits both drums to rotate about a common axis and another adjustment of said third and fourth ball bearings permits both drums to rotate about different axes, the distance between said axes being adjustable by said adjustments.

2,967,458

INSTRUMENT FOR USE BY A SURGEON IN VIEWING THE FIELD OF OPERATION UNDER MAGNIFICATION

William Stone, Jr., 243 Charles St., Boston, Mass.

Filed May 16, 1957, Ser. No. 659,684
5 Claims. (Cl. 88—39)



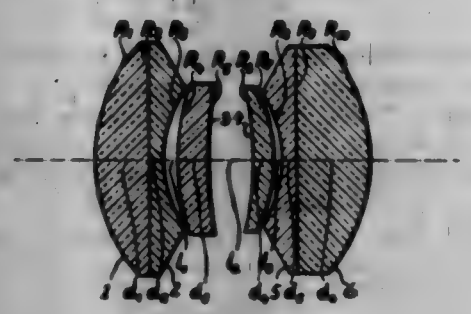
1. In an instrument for use by a surgeon in viewing, under magnification, the eye on which he is operating, a standard, a binocular magnifier, means connected to said standard and supporting said magnifier with its optical axis vertically disposed, said means including a vertically slidable connection, a flexible hydraulic column, and a pair of pressure operated devices at its ends of which one is operatively connected to said connection and the other of which is a control, said means also including a pair of members interconnected for movement relative to said connection and at right angles to each other in parallel, horizontal planes, a pair of hydraulic columns for each member, each column including a pressure operated device at each end, the devices at corresponding ends of each pair of columns being connected to opposite ends of a respective one of said members, and actuator means including a control member movable in any direction in a plane, the devices at the other ends of each pair of columns being connected to said control member for equal opposite movement in response to movements thereof, each pair of thus connected devices having maximum travel on movement of said control member in one predetermined direction and being unaffected by movement of said control member in a direction at right angles thereto.

2,967,459

PHOTOGRAPHIC WIDE ANGLE OBJECTIVE

Carl Baur, Munich-Baldham, and Christian Otzen, Munich, Germany, assignors to Agfa Aktiengesellschaft, Leverkusen, Germany

Filed Apr. 9, 1958, Ser. No. 727,467
Claims priority, application Germany Apr. 18, 1957
4 Claims. (Cl. 88—57)



1. A photographic wide angle objective having an aperture of 1:3.5, an angle of field of 64°, and a rear intercept length of 0.86490, the objective being constructed substantially according to the specifications in the following table:

Lens Elements	Radii	Thicknesses	n_D	ν
1	$R_1 = +0.29417 \cdot f$	$d_1 = 0.08596 \cdot f$	$n_1 = 1.69350$	$\nu_1 = 53.4$
	$R_2 = \infty \cdot f$			
2	$R_3 = +0.20166 \cdot f$	$d_2 = 0.02696 \cdot f$	$n_2 = 1.62374$	$\nu_2 = 47.0$
		$l_1 = 0.02177 \cdot f$		
	$R_4 = +0.49762 \cdot f$			
3	$R_5 = +0.81033 \cdot f$	$d_3 = 0.05174 \cdot f$	$n_3 = 1.54869$	$\nu_3 = 45.4$
		$l_2 = 0.07229 \cdot f$		
	$R_6 = -0.55519 \cdot f$			
4	$R_7 = -0.26899 \cdot f$	$d_4 = 0.08506 \cdot f$	$n_4 = 1.52944$	$\nu_4 = 51.8$
		$l_3 = 0.01357 \cdot f$		
	$R_8 = -0.20426 \cdot f$			
5	$R_9 = \infty \cdot f$	$d_5 = 0.02378 \cdot f$	$n_5 = 1.64769$	$\nu_5 = 33.9$
6	$R_{10} = -0.26362 \cdot f$	$d_6 = 0.12045 \cdot f$	$n_6 = 1.71700$	$\nu_6 = 47.9$

wherein the first column lists six lens elements in numerals in order from the front to the rear; wherein f is the focal length of the objective, n_D is the index of refraction for the D line of the spectrum, and ν is the dispersive index; and wherein R, d and l refer, respectively, to the radii of curvature of the refractive surfaces, the axial thicknesses of the lens elements, and the axial air spaces between the lenses, the subscripts on the characters R, d and l being numbered consecutively from the front to the rear, and the plus and minus signs in the second column corresponding to refractive surfaces which are respectively convex and concave to the front.

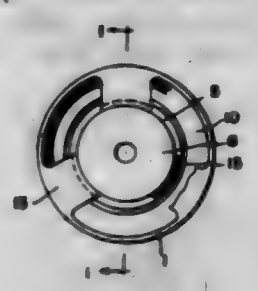
2,967,460

CARTRIDGE CASE EXTERIOR AS INNER SURFACE OF ARCUATE GUN NOZZLES

C Walton Munser, Beverly, Mass., assignor to the United States of America as represented by the Secretary of the Army

Filed July 29, 1958, Ser. No. 751,807
1 Claim. (Cl. 89—1.7)
(Granted under Title 35, U.S. Code (1952), sec. 266)

In a recoilless type gun having a barrel, a projectile receiving chamber in a rear portion of said barrel, a cartridge case secured to a projectile, the side walls of said cartridge case being perforate for radial emission of the products of combustion of propellant, and an enlargement forming venturi passageways at least in part and secured to said barrel around said projectile receiving chamber, the combination therewith of the improvement enabling the length and weight of said gun to be substantially reduced by having a rear cylindrical wall surface of said cartridge case serve as venturi inner wall portions, said improvement including a spider forming a support for a rear portion of said cartridge case behind its perforate portion, said spider being integral with said enlargement and forming a plurality of generally radial walls separating said venturi passageways, the cartridge supporting radially inner end surfaces of at least some of said walls being provided at least one lug receiving



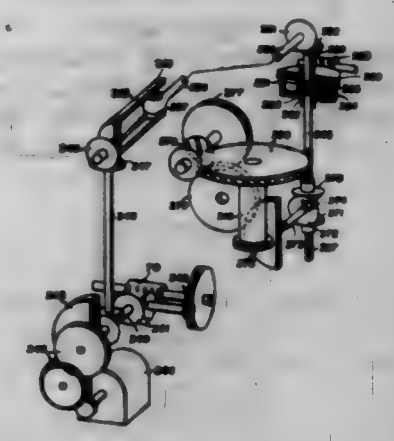
groove, and lugs on said cartridge case for reception in said grooves on rotation of said cartridge case with respect to said gun and its enlargement, said walls being angularly spaced to leave portions of the cartridge case cylindrical surface exposed to products of combustion and whereby such surface portions of the cartridge case may serve as radially inner walls of said venturi passageways and the total weight of the recoilless gun greatly reduced.

2,967,461

METHOD AND MACHINE FOR PRODUCING TEETH AND THREADS ON ENVELOPING MEMBERS

Ernest Wildhaber, Brighton, N.Y.
(124 Summit Drive, Rochester 20, N.Y.)

Filed Feb. 24, 1958, Ser. No. 716,957
30 Claims. (Cl. 90—4)

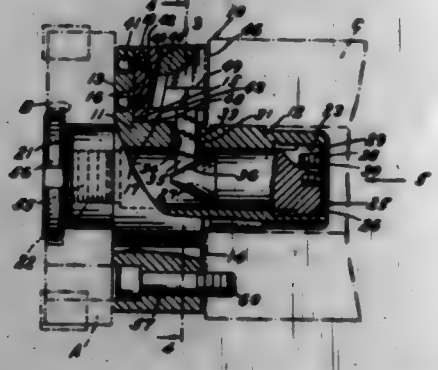


1. The method of producing the teeth and threads of enveloping members, such as wormgears, enveloping worms and the like, which comprises mounting a tool and a workpiece adjacent each other, imparting motion to said tool while turning said workpiece on its axis in timed relation to said tool motion to effect cutting, effecting angular feed motion between said tool and workpiece about an axis disposed at an angle to and offset from the axis of the workpiece, effecting feed motion between said tool and workpiece in a straight path in time with said angular feed motion and at a varying ratio thereto, and changing the timing between said tool and workpiece at a varying rate as compared with said angular feed motion.

14. A machine for producing teeth and threads on enveloping members, comprising a work spindle rotatably mounted in a work head, a tool movably mounted in a tool head, means for imparting motion to said tool, means for rotating said work spindle in time with said tool motion, means for effecting angular feed motion between said tool head and work head about a fixed axis, means

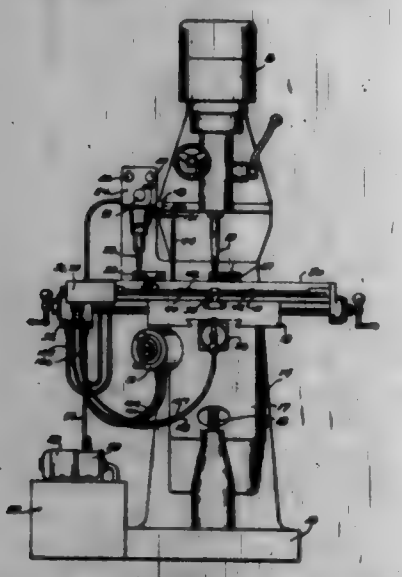
for effecting straight-line feed motion between said tool head and work head in the direction of said fixed axis at a varying ratio to said angular feed motion, and means for changing the timing between said tool and the work spindle at a rate which varies as compared with said angular feed motion.

2,967,462
MILLING MACHINE ADAPTER
William Yogus, Birmingham, Mich., assignor to The Valeron Corporation, Oak Park, Mich., a corporation of Michigan
Filed Dec. 11, 1957, Ser. No. 703,473
18 Claims. (Cl. 90—11)



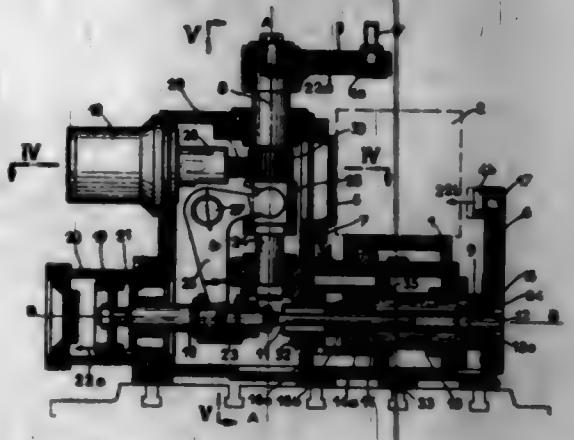
18. An adapter for placement between a tool element and a tool driving element, comprising a body element having axial faces facing said tool element and said tool driving element, a multiplicity of adjustment elements being movably mounted in said body element and extendable from an axial face thereof, adjustment means for positioning said adjustment elements to vary the axial spacing between said driving element and said tool element.

2,967,463
TRACER SYSTEM FOR MACHINE TOOL
Ange Jensen, 2830 Rapids Drive, Racine, Wis.
Filed Mar. 25, 1958, Ser. No. 723,720
19 Claims. (Cl. 90—13.5)



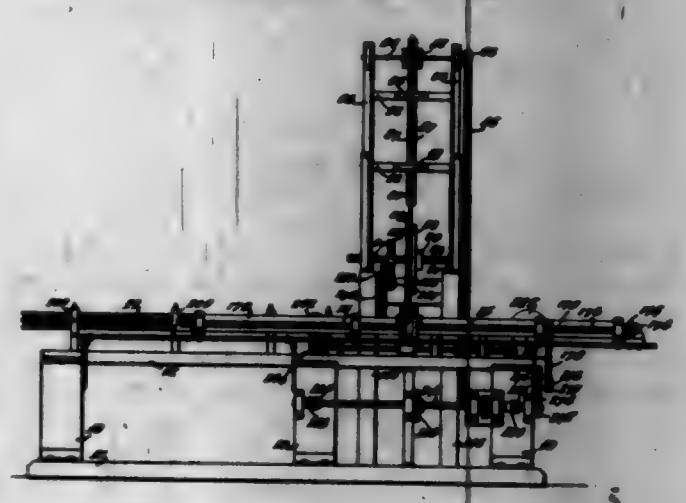
1. In a system for controlling the fluid pressure actuated movement of the knee and table and saddle of a milling machine according to a pattern on the table adjacent the workpiece, the combination of a first valve for controlling transmission of fluid pressure operating the knee, a second valve in part controlling transmission of fluid pressure operating the table, a tracer mounted on the machine and following the pattern contours and movement thereby for actuating the first and second valves responsive to differences in pattern contours, a third valve controlling transmission of fluid pressure operating the saddle, a fourth valve actuated responsive to table movement relative to the saddle for co-acting with the second valve in determining direction of table movement, the third valve being actuated responsive to movement of the fourth valve, and conduits for fluid pressure supplied to and discharge thereof from the valves.

2,967,464
CLAMPS
René Marmillon, Bizillon Le Haute-Saint Etienne, France, assignor to Commissariat a l'Energie Atomique, Paris, France, a company of France
Filed Aug. 27, 1959, Ser. No. 836,388
Claims priority, application France Aug. 30, 1958
9 Claims. (Cl. 90—59)



1. A clamp for a work piece comprising two support plates in planes normal to one another, a jaw in respect of each plate, each jaw being movable towards and away from its plate in a plane normal to the plane of that plate to grip a work piece between that jaw and its plate and being movable between an operative and an inoperative position by movement about an axis in that plane in which it moves towards and away from its plate, a first fluid operable piston being coupled to both jaws to effect movement of the jaws towards and away from their plates and a second fluid operable means being coupled to both jaws to effect movement of both jaws about said axis.

2,967,465
CONTINUOUS SPOOL ASSEMBLY MACHINE
Henry J. Berenson, Milwaukee, Wis., assignor to National Paper Can & Tube Company, Milwaukee, Wis., a corporation of Wisconsin
Filed Jan. 20, 1958, Ser. No. 709,880
11 Claims. (Cl. 93—1)



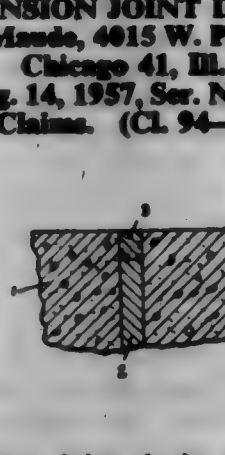
1. A machine for assembling cores and end discs in flanged relation and comprising a carriage, means on which the carriage is movable on a rectilinear path from an assembly station, disc feed means for positively advancing discs in spaced relation to predetermined posi-

tions at the sides of the carriage at said assembly station, core feed means for positively advancing cores to a predetermined position on said carriage between said discs, a plunger having a path of movement to consolidate the cores and discs upon said carriage and to move said carriage together with said discs and cores on its path of movement away from said assembly station, and means for actuating the disc feeder, core feeder and plunger in an automatic sequence cycle in which discs and cores are first automatically and positively fed to said carriage and said plunger is actuated thereafter.

2,967,466
PAVEMENT AND METHOD OF MAKING THE SAME

Jesse Warren Shoemaker, Winchester, and Lansing Tuttle, Natick, Mass., assignors to Warren Brothers Road Company, Cambridge, Mass., a corporation of Massachusetts

Filed June 28, 1956, Ser. No. 592,534
5 Claims. (Cl. 94—5)

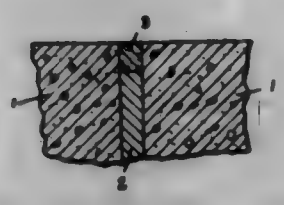


5. A pavement comprising a solid layer of a mixture of aggregate and binder, and a plurality of spaced pellets readily disintegrable by weather or traffic and superficially embedded in said layer to form unconnected pockets opening at the surface of said layer, said pellets being spaced in a predetermined pattern over said layer, whereby to leave a pattern of said pockets when said pellets are disintegrated.

2,967,467
EXPANSION JOINT DEVICE

Michael F. Maude, 4015 W. Patterson Ave., Chicago 41, Ill.

Filed Aug. 14, 1957, Ser. No. 678,248
6 Claims. (Cl. 94—18)

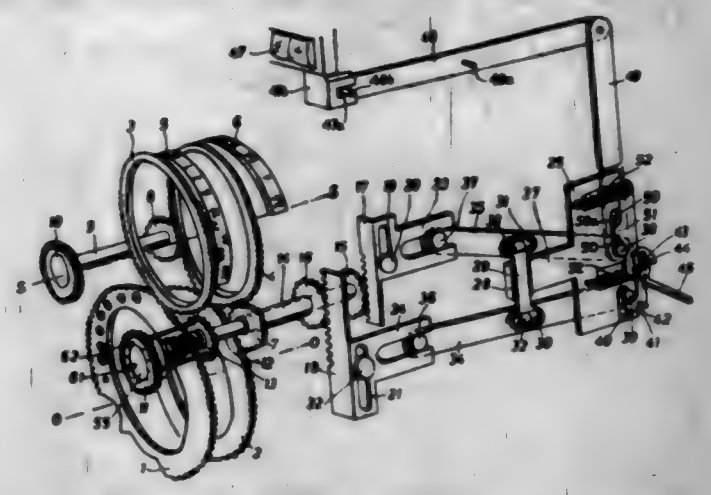


1. In an expansion joint device in combination with spaced adjacent slabs formed by pouring concrete, said device comprising a base member of a width corresponding to the desired space between the vertical edge surfaces of the adjacent concrete slabs and a height less than that of the slabs, a removable topping member on the base member, said topping member being fabricated of a foamed polystyrene material whereby said topping member is relatively easily crushed when subjected to a concentrated load such as an aggregate in a concrete mixture so that as material leveling implements screed material over said joint member said topping member serves to receive said aggregate rather than deflecting said implements from their normal path, and means for securing said topping member to said base member.

2,967,468
PHOTOGRAPHIC SHUTTER AND DIAPHRAGM ADJUSTING MECHANISM

Hermann Bretthauer, Stockheim, near Braunschweig, Germany, assignor to Franke & Heidecke, Fabrik Photographischer Praziosne-Apparate, Braunschweig, Germany, a firm of Germany

Filed Feb. 5, 1959, Ser. No. 791,355
Claims priority, application Germany Feb. 8, 1958
12 Claims. (Cl. 95—10)

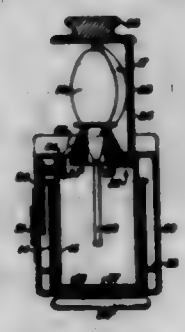


1. A photographic camera including a built-in photoelectrically operated exposure value meter having a pointer, said camera having a picture-taking lens axis, a shutter speed and a diaphragm aperture adjusting ring each mounted for rotary movement about said lens axis, means including a setting shaft and a knob mounted thereon operatively engaging one of said rings for manual adjustment thereof, a pair of axially extending concentric shafts each coupled to one of said rings, a follow-up pointer arranged to be moved into alinement with said meter pointer, lever differential means coupled to said follow-up pointer for determining the exposure value indicating position thereof, and drive means for operatively connecting said concentric shafts and lever differential means and arranged so that said follow-up pointer indicates a constant exposure value when said concentric shafts are turned an equal angular amount in the same direction and indicates a changed exposure value when said concentric shafts are turned relative to one another.

2,967,469
PHOTOGRAPHIC CAMERA

Paul Lachaize, Tassin la Demi-Lune (Rhone), France, assignor to Meclamp, Villeurbanne, France, a company of France

Filed Oct. 8, 1957, Ser. No. 688,898
Claims priority, application France Oct. 12, 1956
5 Claims. (Cl. 95—11)



1. In a photographic camera including a case, the combination of a hollow film take-up spool, a cylindrical cage rigid with the camera case and over which said hollow spool is revolvably fitted, a support slidingly carried inside the cage and adapted to be shifted between an inner inoperative and an outer operative position, a flashlight bulb and a reflector therefor carried by said support and projecting outside the camera case when the support

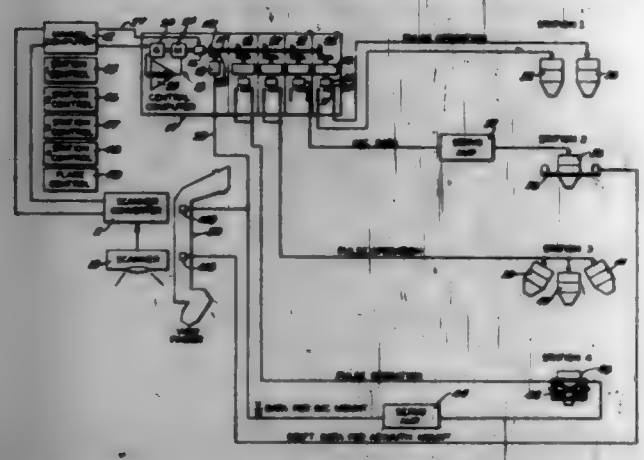
is in its outer operative position and collapsing with the latter inside the camera case for the inner inoperative position of said support.

2,967,470

CONTROL SYSTEM FOR AERIAL PHOTOGRAPHY

Samuel P. Willits, Mount Prospect, William L. Mohns, Jr., Prospect Heights, and James M. McCarty, Arlington Heights, Ill., assignors, by mesne assignments, to Chicago Aerial Industries, Inc., Melrose Park, Ill., a corporation of Delaware

Filed Mar. 28, 1957, Ser. No. 649,078
32 Claims. (Cl. 95—12.5)



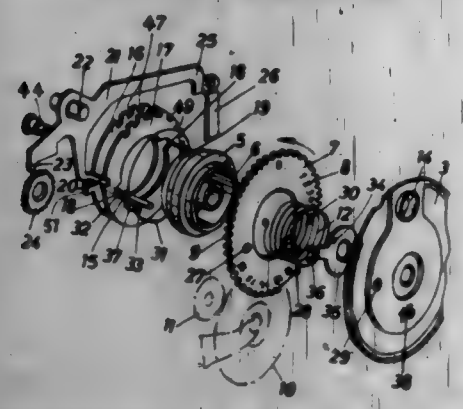
4. A control system for aerial cameras comprising signal generating means for providing electrical signals proportional to the aircraft velocity to altitude ratio, a rotatable shaft, velocity servo means having its input connected to said signal generating means and its output connected to said rotatable shaft for converting said electrical signals to a shaft rotation having a speed corresponding to said electrical signals, a station computer operatively coupled to said shaft and including selectively operable means for varying the output of said station computer in accordance with given pre-flight data, pulse switching means at the output of said station computer, and remotely located pulse operated aerial camera means connected to said pulse switching means and controlled thereby for operation in accordance with the aircraft velocity to altitude ratio and said pre-flight data.

2,967,471

FILM ADVANCE MECHANISM FOR MULTI-FORMAT ROLL FILM CAMERAS

Friedrich Sommermeyer, Braunschweig, Germany, assignor to Franke & Heidecke, Fabrik Photographischer Prazisions-Apparate, Braunschweig, Germany, a firm of Germany

Filed Mar. 17, 1958, Ser. No. 721,857
7 Claims. (Cl. 95—31)



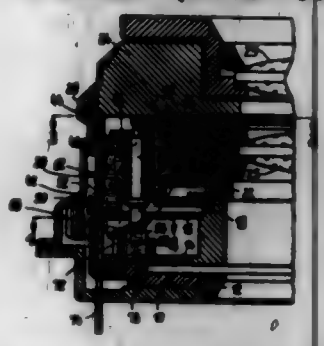
1. A multi-format roll film camera comprising a camera body, film advancing means, a single locking means for locking said advancing means against advancing movement, a single end gear driven by advancing movement of the film, and a side wall having an aperture therein, said advancing means, locking means, gear, and wall all being mounted on said body, characterized by the provision of a detachable and interchangeable cover plate for closing said aperture, means for detachably securing said cover plate in closing relation to said aperture, a gear rotatably mounted non-removably on said cover plate and meshing with said first named gear to be driven thereby, and a notched disk also rotatably mounted non-removably on said cover plate and connected to said second named gear to be driven thereby, said notched disk engaging said locking means to control said locking means to lock said film advancing means upon predetermined movement of said second named gear.

2,967,472

PRESELECTION DIAPHRAGM STRUCTURE FOR PHOTOGRAPHIC CAMERAS

Kurt Gebele, Munich, Germany, assignor, by mesne assignments, to Compur-Werk Friedrich Deckel OHG., Munich, Germany, a firm of Germany

Filed Sept. 27, 1956, Ser. No. 612,465
Claims priority, application Germany Sept. 29, 1955
2 Claims. (Cl. 95—64)



1. A photographic camera including an objective shutter unit having an optical axis, an interchangeable lens unit attachable to and detachable from said shutter unit, interengaging means on the two units for securing them detachably to each other, said lens unit having an adjustable diaphragm, a diaphragm aperture adjusting member rotatably mounted on said lens unit, a spring tending to turn said adjusting member in an aperture-reducing direction, a preselection stop member adjustably mounted for controlling the extent to which said spring may turn said adjusting member in an aperture-reducing direction, a latching pin mounted in said shutter unit for limited axial movement, a latch notch in said aperture adjusting member for receiving the end of said latching pin for releasably holding said adjusting member at a maximum aperture position, said latching pin having a spaced shoulder and cam surface, an exposure controlling member mounted on said shutter unit and including a pawl oscillatable about a rotary axis parallel to said optical axis and movable through a predetermined range of travel in one direction to cause an exposure, said pawl engaging said cam surface during a first portion of its said range of travel to retract said latching pin from said latch notch and release said adjusting member for movement in an aperture-reducing direction, pawl means pivoted to said lens unit for engaging said shoulder to prevent further retraction of said latching pin until said adjusting member strikes said preselection stop member, and means for automatically pivoting said pawl means to disengage said shoulder and allow said exposure controlling member to move through the other portion of its said range of travel to cause the exposure.

2,967,473

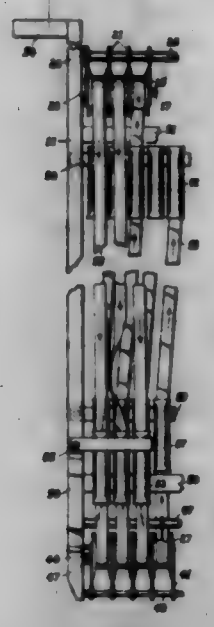
FILM PROCESSING APPARATUS

Paul J. Good, Rochester, N.Y., assignor to Dynacolor Corporation, Brockport, N.Y., a corporation of New York

Filed Jan. 25, 1960, Ser. No. 4,470
9 Claims. (Cl. 95—94)

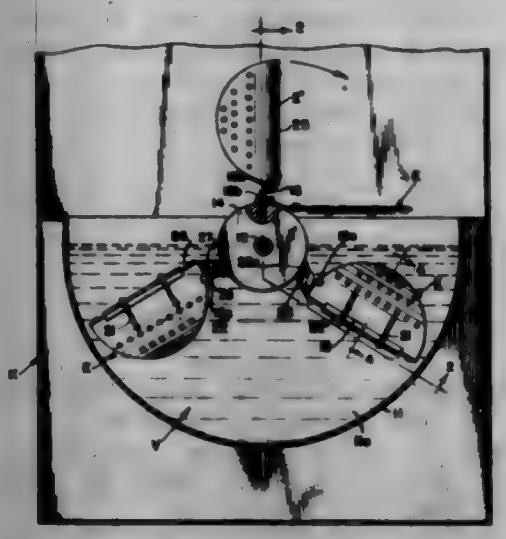
1. A film processing rack for insertion into an agitated solution, said rack comprising a pair of opposing side

frame members, a row of upper rollers and a row of lower rollers each extending between said side frame members, said rollers being adapted to receive a single continuous length of film looped over one of said upper rollers to one of said lower rollers and back up to the next of said upper rollers proceeding in order from one



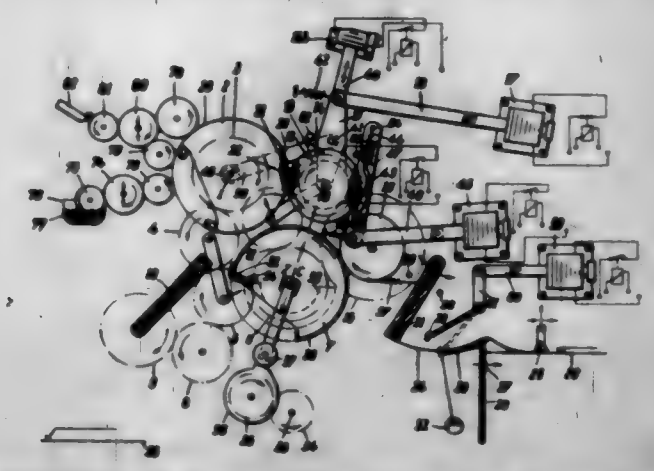
side to the other, means for rotating said lower rollers, and a plurality of rows of guide tubes each extending between said side frame members just below said upper rollers and just above said lower rollers, there being one guide tube for each roller in said respective rows, said film being adapted to pass through said guide tubes to lessen the tendency to break by forming extra loops.

2,967,474
FOOD COOKING MACHINE
John C. Ford, Monterey Park, Calif., assignor to J. C. Ford Mfg. Co., Monterey Park, Calif., a corporation of California
Filed Apr. 30, 1957, Ser. No. 661,271
9 Claims. (Cl. 99—404)



1. A food holding unit including a V-shaped plate-like member, and a normally flat plate-like member having two parts hingedly mounted to occupy a coplanar position relatively and a V-shaped position; spring means for urging said parts to coplanar position; and means for hingedly mounting the second-mentioned member on the first-mentioned member to swing toward or away from the latter.

2,967,475
MACHINE FOR SELECTIVE OFFSET PRINTING
Wilhelm Ritzerfeld, Schorlemer Allee 14, Berlin-Dahlem, and Gerhard Ritzerfeld, Franzensbader Str. 21, Berlin-Grunewald, Germany
Filed Nov. 27, 1959, Ser. No. 855,733
Claims priority, application Germany Nov. 26, 1958
20 Claims. (Cl. 101—91)

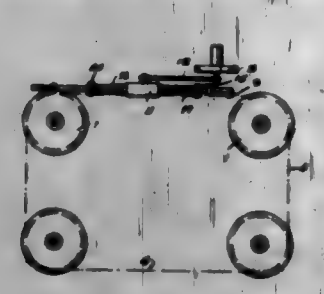


1. Offset printing machine comprising, in combination, rotary printing roller means for supporting on peripheral surface sections thereof sections of a printing form; rotary pressure roller means; rotary offset roller means for receiving on the peripheral surface thereof imprints from the printing form and for transferring the imprints to a copy sheet located between said offset roller means and said pressure roller means; operating means to operatively connected to at least one of said roller means for moving the same relative to the other roller means so that said roller means have a first position in which said printing roller means and said offset roller means cooperate along a first printing line and are spaced from said pressure roller means, a second posion in which all said roller means are spaced from each other, and a third position in which said offset roller means and said pressure roller means cooperate along a second printing line and are spaced from said printing roller means; control means controlled by said printing roller means and operatively connected to said operating means for effecting during one revolution of said printing roller means and in timed relation with the same, movement of said roller means by said operating means to said first position when peripheral sections of said printing roller means supporting selected sections of the printing form pass through said first printing line, for effecting movement of said roller means to said second position when undesired sections of the printing form pass through said first printing line, and for effecting movement of said roller means to said third position after one revolution of said printing roller means; means for rotating said offset roller means in said first position of said roller means in timed relation with said printing roller means, and in said third position of said roller means in timed relation with said pressure roller means; and means operatively connected to said offset roller means for preventing rotation of the same in said second position whereby imprints of selected spaced sections of the printing form are printed in adjacent positions on the copy sheet.

2,967,476
MECHANISM FOR RAISING AND LOWERING THE FRAME IN AUTOMATIC FABRIC PRINTING MACHINES
Ignacio Segnier Vidal, Calle Rasct 35 Torre, Barcelona, Spain
Filed July 1, 1957, Ser. No. 669,217
Claims priority, application Spain Feb. 11, 1957
7 Claims. (Cl. 101—126)

1. In a screen printing machine, in combination, a screen printing frame; a support for said frame; vertically

arranged rotatable screw means on said support for raising and lowering said screen printing frame; wheels for rotating said screw means in the one or the other direction; driving means for driving said wheels; a mechanical power accumulating mechanism associated with said driving means and adapted when released in accumulated state for the rapid actuation of said driving means in the one or the other direction; means for moving said mechani-



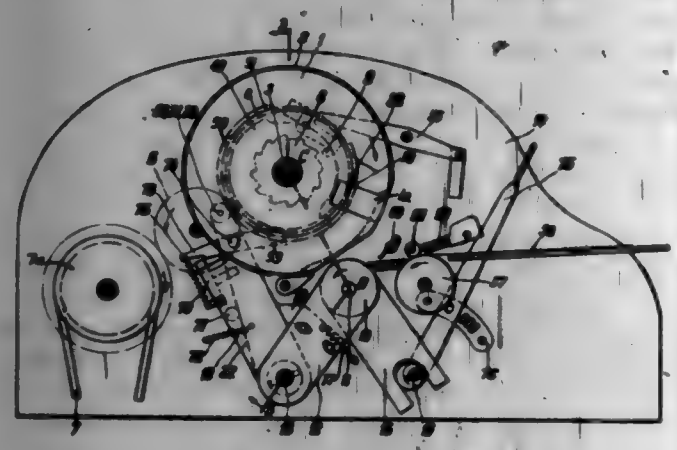
cal power accumulating mechanism from non-accumulating into power accumulating state; stop means holding said mechanism while said power is accumulating; release means for releasing said mechanism automatically when said power has been accumulated for rapid actuation of said driving means alternately in the one or the other direction whereby said screen printing frame is rapidly raised and lowered.

2,967,477

APPARATUS FOR VARYING THE LENGTH OF A PRINTED SECTION OF A PRINTING FORM

Wilhelm Ritzerfeld, Schorlemer Allee 14, Berlin-Dahlem, Germany, and Gerhard Ritzerfeld, Franzensbader Str. 21, Berlin-Grunewald, Germany

Filed Apr. 17, 1959, Ser. No. 807,103
Claims priority, application Germany Apr. 24, 1958
20 Claims. (Cl. 101—132.5)



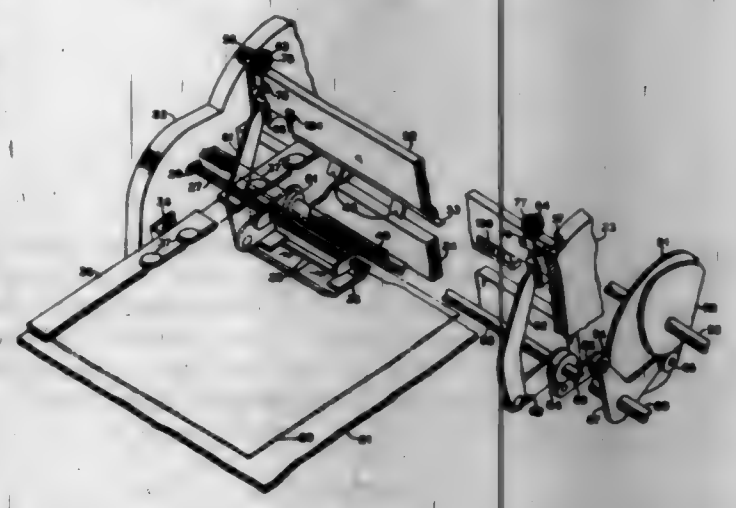
1. In a printing machine, in combination, rotary printing roller means for supporting a printing form; rotary counter pressure roller means, one of said roller means being movable to and from a printing position in close proximity to the other roller means and defining with the same a printing line; first operating means connected to said movable roller means for moving the same to and from said printing position; first control means for said first operating means connected to and operated by said printing roller means for actuating said first operating means during each revolution of said printing roller means to move said movable roller means to and from said printing position while said printing roller means turns through a small angle and a narrow section of the printing form passes through the printing line; second operating means for moving said movable roller means to and from said printing position; coupling means for coupling said second operating means to the movable roller means while said first operating means is actuated by said first control means, and being operatively connected to and actuated by one of said last-mentioned means; second control means for actuating said second operating means while said printing roller means turns through a greater angle; and means for connecting said second control means in a plurality of relatively displaced positions to said first control means so that said second control means is effective during each revolution of said printing roller means to move said movable roller means to said printing position while said printing roller means turns through a greater angle and a wider section of the printing form passes through the printing line so that in addition to said narrow section, at least a part of said wider section is printed on the printing form, said part being different in each of the relatively turned positions.

2,967,478

PRINT TRANSFERRING MACHINE

Hinsdale Smith, Jr., Suffield, Conn., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed May 14, 1958, Ser. No. 735,261
18 Claims. (Cl. 101—134.5)



1. In a machine of the class described for posting data from an original sheet to an underlying ledger or copy sheet wherein the original sheet is moved along a predetermined path one line at a time so that a selected line of data thereon overlies a selected line position on said copy sheet comprising a pressure bar disposed for reciprocation toward and away from said original sheet, a support for said copy sheet, means for reciprocating said pressure bar toward and away from said original sheet to press a line of data thereon into intimate contact with said copy sheet, a heating element disposed along the length of said pressure bar and insulated therefrom for applying heat and pressure against a line of data on said original sheet as the pressure bar is reciprocated to effect transfer of data from the original sheet to the copy sheet, and means for passing current through the heating element for engaging said original sheet.

2,967,479

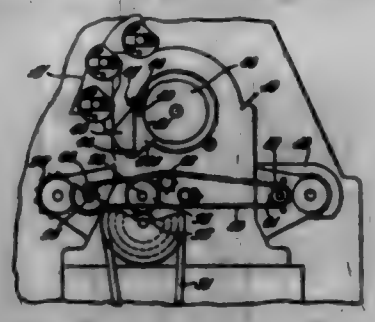
WEB FEEDING AND CONTROL DEVICE FOR PRINTING MACHINES

Herbert Edward George, Epping, and Albert Edward Coupland, Enfield, England, assignors to George & Miller Limited, Enfield, England

Filed Dec. 30, 1958, Ser. No. 783,843
Claims priority, application Great Britain Jan. 7, 1958
7 Claims. (Cl. 101—228)

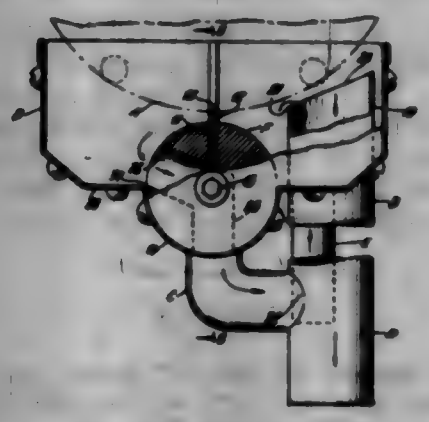
1. A rotary printing machine for printing on paper webs having rows of marginal holes near their lateral edges, said machine comprising a continuously rotatable printing roller, having a printing area extending around only a part of its circumference and extending outwardly from the remainder of its surface, a continuously rotatable pressure roller adapted to press a paper-web against the printing area of the said printing roller so that said

web is gripped between said rollers, a pin wheel drive adapted to engage the marginal holes in the web for drawing the printed web away from the printing roller, an electro-magnetic synchronous servo system comprising a transmitter and a slave unit, means coupling said transmitter unit to said printing roller for rotation there-



with, means coupling said slave unit to said pin wheel drive for rotation therewith, and means operated by the printing roller to energize said transmitter unit only during that part of each revolution of said printing roller during which the paper is gripped between the said printing area of said printing roller and said pressure roller.

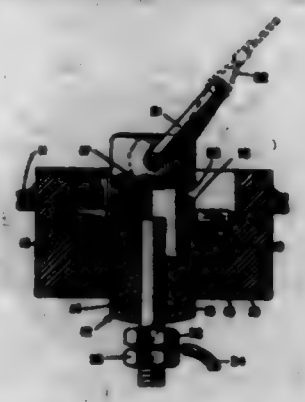
2,967,480
INK APPLYING SYSTEM
George A. Gerard, 1698 East Drive, Point Pleasant, N.J.
Filed Feb. 17, 1958, Ser. No. 715,593
5 Claims. (Cl. 101—364)



1. A printing ink feed system for flexographic and aniline inks in which the ink is received from the ink pan by the screen roller and then transferred to the plate roller and impressed upon the moving sheet of material on an impression roller by said plate roller, said pan being separated into an ink supply section and an ink drain section by doctor blades contacting the bottom and sides of the screen roller and said pan being shallow and receiving only the bottom portion of the screen roller and said blades being positioned in a vertical plane extending through the axis of the roller and said blades extending vertically upwardly from the bottom and inwardly from the sides of said pan.

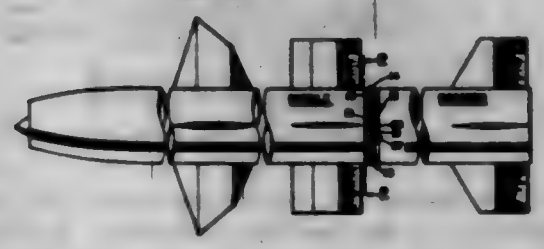
2,967,481
MINE ARMING MEANS
Howard W. Samson, 4301 34th St., Brentwood, Md., and Everett L. Dester, 1443 Channing St. NE., Washington, D.C.
Filed Sept. 17, 1945, Ser. No. 616,938
14 Claims. (Cl. 102—16)
(Granted under Title 35, U.S. Code (1952), sec. 266)

6. In a marine mine, the combination of, a casing for said mine, an electrical terminal disposed exteriorly of said casing and insulated therefrom, a normally discharged condenser, a discharge path for said condenser including electroresponsive detonating means, a charging circuit for said condenser including said casing and said terminal and effective when said mine is immersed in a body of water to cause energy to be stored in the condenser, and means for discharging said condenser when a predetermined change in a physical variable is produced within the surrounding water.



10. A conductivity switch of the character disclosed adapted to operate in a conducting medium comprising, a pair of electrodes each having outer and inner portions, means for preventing the inner portions of the electrodes from contacting said conducting medium and for electrically insulating said electrodes with respect to each other, frangible cover means for sealing off one of said outer portions from the surrounding medium, and means for breaking said cover means to allow said conducting medium to surround and electrically connect said electrodes.

2,967,482
RELEASE MECHANISM
John B. Toomey, Jr., Alexandria, Va., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Nov. 21, 1958, Ser. No. 775,664
6 Claims. (Cl. 102—49)

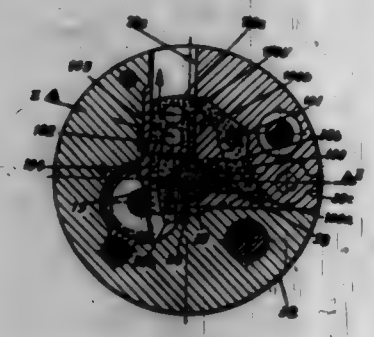


In combination with a missile and an axially disposed booster rocket, and a releasable clamping ring for clamping the missile to the booster rocket, a mechanism on the booster rocket for effecting in-flight release of the clamping ring comprising, a normally locked device including linkage members connected to said ring for constraining said ring in clamping position as the missile and booster rocket travel along a trajectory in response to acceleration forces acting thereon, means including a normally locked set-back element for actuating said constraining device and linkage members to release said ring as said forces decrease to zero value and said set-back element has been unlocked and means actuated by said set-back element as the initial acceleration forces are applied thereto for unlocking the element.

2,967,483
SHELL FUZE
Helmut Junghans, Eckenhof, Schramberg-Sulgau, and Paul Kaiser, Weihergasse 28, Schramberg, Germany
Filed Nov. 19, 1956, Ser. No. 623,094
Claims priority, application Italy Nov. 18, 1955
4 Claims. (Cl. 102—71)

1. Shell fuze with direct time-controlled impact and clockwork-controlled self-destruction device, comprising a percussion pin safety latch, a percussion pin having a gear thereon, a centrifugal two-armed lever having an abutment connected to indirectly contact said latch to

control the release of said latch, a toothed rack element contacting one arm of said lever in safety position and during a predetermined safety period and in operative connection with a fuze movement, said element supporting the centrifugal lever during the safety period and

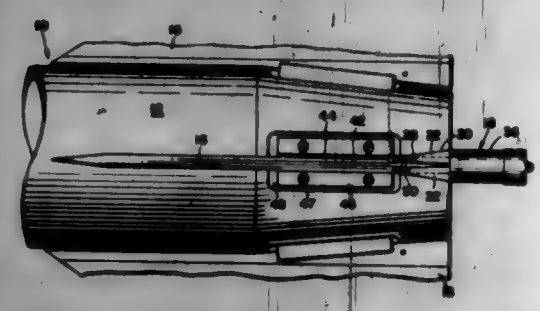


meshing with the pinion of the gear mounted on the percussion pin and having a supporting surface of a length corresponding to the predetermined safety period at the end of which surface the centrifugal lever is released by being out of contact with the rack element.

2,967,484
FLARE MOUNTING

John Q. Tabor, Jr., Rte. 1, Box 117C, Goleta, Calif., and Frederich L. Hanke, 1519 Little Farm Road, Oxnard, Calif.

Filed Nov. 6, 1957, Ser. No. 694,898
3 Claims. (Cl. 102—87)
(Granted under Title 35, U.S. Code (1952), sec. 266)



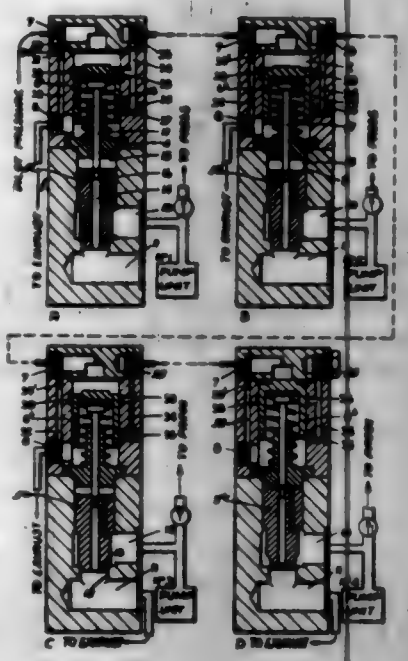
1. The combination of a flare mount and a missile having a stabilizing fin mounted on a boat-tail thereof, said mount comprising a longitudinal rigid body having a pair of legs transversely spaced apart by a longitudinal V-shaped slot open at one end of the body to receive a trailing edge of the fin, said legs formed with free base portions conforming to and engaging the cross-sectional configuration of the boat-tail, means extending transversely through said legs and the fin for securing the body to the fin, said body having flare-supporting means at the other end thereof.

2,967,485
PRESSURE ACTUATED BY-PASS VALVES

Frank Hathorn Towler, Dob Park, Otley, England, and John Maurice Towler, deceased, late of Mayfair, London, England, by Frank Hathorn Towler, executor, Dob Park, Otley, England, assignors to Electraulic Presses Limited, Rodley, near Leeds, England, a limited-liability company of Great Britain

Original application Dec. 4, 1952, Ser. No. 324,104, now Patent No. 2,805,638, dated Sept. 3, 1957. Divided and this application Jan. 3, 1957, Ser. No. 632,341
Claims priority, application Great Britain Dec. 7, 1951
5 Claims. (Cl. 103—11)

1. In a hydraulic system including a plurality of continuously running pressure fluid pumps, a by-pass valve for each pump normally operative to unload the pump by diverting its delivery to exhaust, a pressure fluid operated controller for each valve, an inlet and an outlet for pressure fluid in each controller, said controllers being connected in series with the pilot pressure outlet of the first valve controller connected to the pilot pressure inlet of the next valve controller in the series and so on throughout the series, conduit means connected to the inlet of the first valve controller for supplying thereto pilot pressure fluid to cause the controller to close the associated valve and interrupt the diversion of the pump delivery to ex-

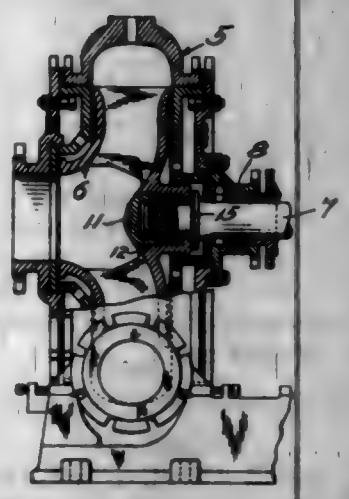


haust whereby to load the pump, said first valve controller and succeeding controllers acting upon operation to direct pilot pressure fluid to the succeeding controller to load the associated pumps in succession, said controllers acting upon interruption of the supply of pilot pressure fluid to allow the associated valves to open and unload the pumps in the same order in which they were loaded.

2,967,486
PUMP

Paulsen Spence, P.O. Box 77, Baton Rouge, La.

Filed Sept. 13, 1957, Ser. No. 683,790
1 Claim. (Cl. 103—103)

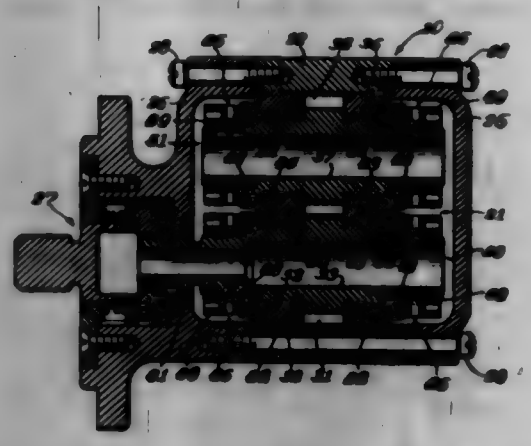


A pump comprising a casing, an impeller made of ferrous metal in said casing, a drive shaft made of ferrous metal extending into said casing, said shaft being threaded and said impeller having a threaded connection with said shaft, said shaft having an abutment shoulder and said impeller having a cooperating abutment surface, a washer interposed between said shoulder and abutment surface, said washer being formed of stainless steel which is hardened and ground to a smooth finish to prevent rusting of said impeller or shaft to said washer or to each other.

2,967,487
COMPENSATING SEAL FOR GEAR PUMP OR MOTOR

John L. Nagely, 1745 Valley View Drive, Grosse Pointe Park, Mich.

Filed Jan. 15, 1958, Ser. No. 709,045
10 Claims. (Cl. 103—126)

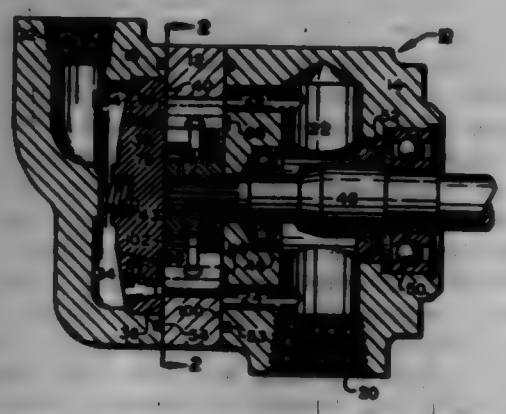


1. In a fluid displacement device of the character described including at least one fluid reaction member adapted to be rotatably mounted in a fluid pressure zone, the combination of a support element adapted to be mounted adjacent said reaction member with the fluid pressure in said zone tending to urge said element away from said reaction member, means cooperating with said support element for rotatably mounting said reaction member and for holding said support element against movement due to said pressure including a shaft element and a thrust member, a seal ring having a peripheral surface defining with said thrust member and said support element a fluid pressure loading chamber adapted to contain high pressure fluid to counterbalance the force on said support element of the fluid pressure in said zone, said seal ring having an end surface cooperating with a complementary surface on one of said elements for relative rotation therebetween and in pressure sealed relation therewith, said peripheral surface of said seal ring being tapered in a direction to provide a component of the force exerted by said high pressure fluid in said chamber to hold said seal ring in said pressure sealed relation, and a resilient ring interposed between and in sealing relation with said thrust member and said seal ring, said resilient ring being yieldable for facilitating alignment and accommodating limited movement of said seal ring to compensate for mechanical inaccuracies and positional variations.

2,967,488
POWER TRANSMISSION

Duncan B. Gardiner, Detroit, Mich., assignor to Vickers Incorporated, Detroit, Mich., a corporation of Michigan

Filed Feb. 7, 1957, Ser. No. 638,778
13 Claims. (Cl. 103—136)

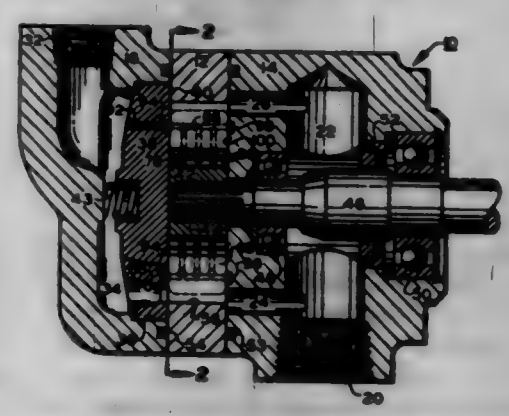


1. In a rotary fluid energy translating device of the sliding vane type including low and high pressure operating passages, one of which is an inlet passage and the other an outlet passage, and a vane track: a rotor having a plurality of radial slots and rotatable within the track; a vane slidable in each slot having a track engaging outer end surface, and an intermediate surface and an inner end surface, both of said latter two surfaces being effective under pressure for urging the vanes toward the track; a reaction member including an outer end surface radially disposed within each vane for telescopic movement relative thereto with the intermediate and outer end surfaces respectively of the vane and reaction members in opposing relation; and passage means connecting the high pressure operating passage of the device to the opposed intermediate and outer end surfaces respectively of the vanes and reaction members for aiding centrifugal force in extending the vanes and for maintaining the outer ends of the vanes in engagement with the vane track.

2,967,489
POWER TRANSMISSION

Ferris T. Harrington, Birmingham, Mich., assignor to Vickers Incorporated, Detroit, Mich., a corporation of Michigan

Filed Feb. 7, 1957, Ser. No. 638,779
16 Claims. (Cl. 103—136)



1. In a rotary fluid energy translating device of the sliding vane type including high and low pressure operating passages, one of which is an inlet passage and the other an outlet passage, and a vane track: a rotor having a plurality of radial slots and rotatable within the track; a vane slidable in each slot having a track engaging outer radial end surface and an inner radial end surface effective under pressure for urging the vane toward the track; a cylinder in each vane having an end wall forming an intermediate vane surface also effective under pressure to urge the vane toward the track; a reaction member, including an outer radial end surface, telescopically disposed within the cylinder for movement relative thereto, said outer end surface being in opposing relation to the intermediate vane surface; and passage means connecting the high pressure operating passage to the cylinders imposing a force on the outer surfaces of the reaction members, whereby a resultant reaction force is imposed on the intermediate vane surfaces for aiding centrifugal force in extending the vanes and for maintaining the vanes in engagement with the track.

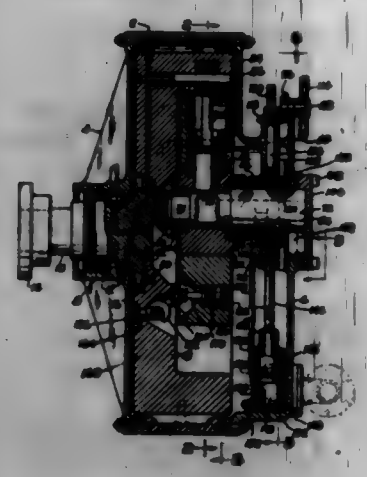
2,967,490
ROTARY PUMP AND THE LIKE

Adolph F. Graf von Soden, Fair Oaks, Calif. (4529 Noyes St., San Diego 9, Calif.)

Filed Oct. 29, 1957, Ser. No. 693,078
6 Claims. (Cl. 103—161)

1. In the apparatus of the class described comprising in combination with a rotary pump unit, a housing having a back plate member and a front cover member, a fly wheel and a cylinder block rotatably mounted in said housing and each mounted independently of the other, a rim section in said fly wheel, a plurality of crank pins

mounted in an equidistant position in said fly wheel rim section, a crank member pivotally mounted on each crank pin, said crank member having a crank rod extending toward the center of said fly wheel and terminating with a crank rod end and also having a lever member extending angularly therefrom and terminating with a crank rod lever end, a link rod member pivotally connected to each crank rod lever end, a plurality of cylinders centripetally positioned in said cylinder block, a piston member in each cylinder having a yoke for pivotally connecting the extended end of each link rod member, a cylindrical passage longitudinally extending through said piston member, a plunger member in said cylindrical passage of each piston member and slidably positioned therein and pivotally connecting said crank



rod end of each crank rod, a shaft connected to said fly wheel extending outwardly therefrom and rotatably mounted in a bearing housing of said back plate member, an independent shaft member for holding said cylinder block in rotatable position and having an outwardly extending end passing through said front cover member, an adjusting means in said front cover member of said housing for holding said outwardly extending end of said shaft member including said cylinder block in an off-center position with respect to the center of said fly wheel, a set of stabilizing means in said fly wheel and extending into said cylinder block for providing a stabilized rotatable position therebetween and for providing a relative rotation action of said cylinder block with respect to said fly wheel, during the operation of said apparatus.

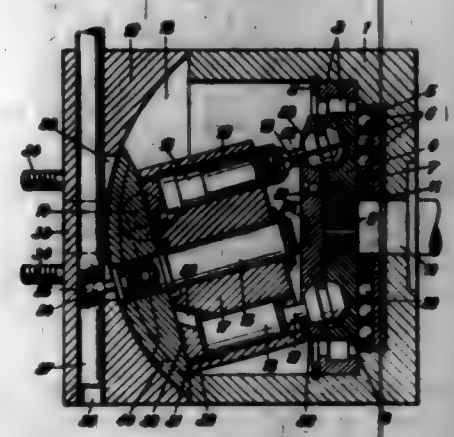
2,967,491

ROTARY PISTON PUMPS

Georg Wiggermann, Spitzgartenweg 10, Kreuzbrona am Bodensee, Germany

Filed Jan. 25, 1954, Ser. No. 405,953
Claims priority, application Germany Jan. 24, 1953
8 Claims. (Cl. 103—162)

1. In a rotary piston pump, in combination, a hollow housing having a cover provided at its inner face with a curved concave surface forming part of a cylinder, said cover being formed with inlet and outlet openings extending from said curved surface through said cover; a cylinder drum formed with a plurality of cylinder bores and with cylinder passages respectively extending from said cylinder bores to an end face of said cylinder drum; a slide member having a first convex face of the same curvature as said concave surface of said cover in rotatably slidable engagement with the latter, the circumferential length of said convex face being substantially shorter than the circumferential length of said concave surface, said slider member having an opposite second face in slidable engagement with said end face of said cylinder drum and covering the ends of said cylinder passages at said end face of said drum, said drum being rotatable about an axis perpendicular to said second face of said slide member, said slide member being formed with a pair of slide member passages respectively communicating at said first face of said slide member directly with said inlet and outlet openings of said cover and respectively terminating at said second face of said slide member on opposite sides of the axis of said cylinder drum and along the path through which



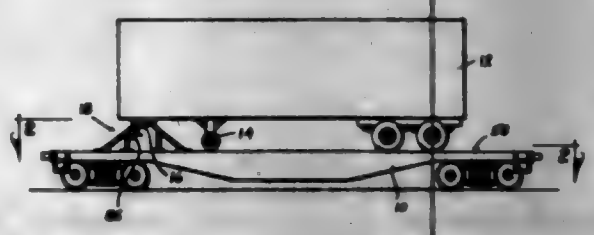
said ends of said cylinder passages move during rotation of said drum; means cooperating with said drum for rotating the latter; and adjusting means operatively connected to said slide member for adjusting the position thereof along said concave surface of said cover so as to thereby adjust the inclination of the axis of said cylinder drum, said slide member passages respectively communicating with said openings in all positions of said slide member.

2,967,492

TRAILER HITCH FOR A PIGGY-BACK RAILROAD FLAT CAR

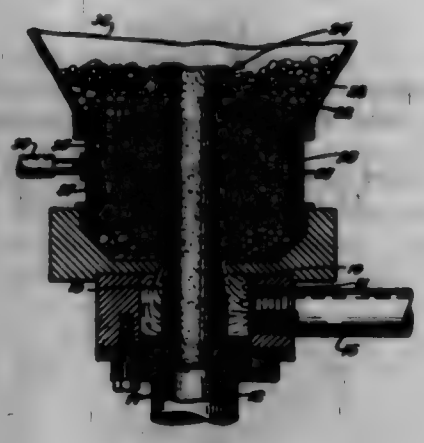
John Keener, Des Moines, Iowa, assignor of thirty-three and one-third percent to George M. Clarkson and thirty-three and one-third percent to Gibson C. Holliday, both of Des Moines, Iowa

Filed July 27, 1959, Ser. No. 829,648
20 Claims. (Cl. 105—368)



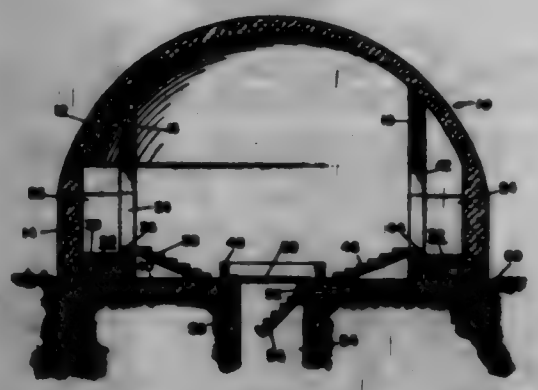
1. In a trailer hitch construction for use on a railroad flat car for securing in piggyback position thereon a wheeled trailer equipped with hitch attaching means, said trailer hitch comprising a plurality of like hitch sections each of which includes a horizontally disposed hitch plate section, a horizontally disposed foot member spaced below said hitch plate section and off-set relative to a vertical alignment therewith, a leg diagonally positioned relative to a horizontal plane and connected at respective ends to said hitch plate section and said foot member, said hitch sections positionable on the flat car after the trailer is in place thereon so that said hitch plate sections are cooperatively engaged with each other to define a unitary hitch plate in engaging relationship with the hitch attaching means on said trailer, means to releasably secure said hitch plate sections as a unitary hitch plate, and means to removably secure said foot members to the bed of said flat car.

2,967,493
METHOD AND APPARATUS FOR APPLYING NUTS TO CANDY
Charles E. Cloud, Wilmette, Ill., and William S. Cloud, 625 Park Ave., Wilmette, Ill.; said Charles E. Cloud assignor to said William S. Cloud
Filed Sept. 24, 1957, Ser. No. 685,992
11 Claims. (Cl. 107—1)



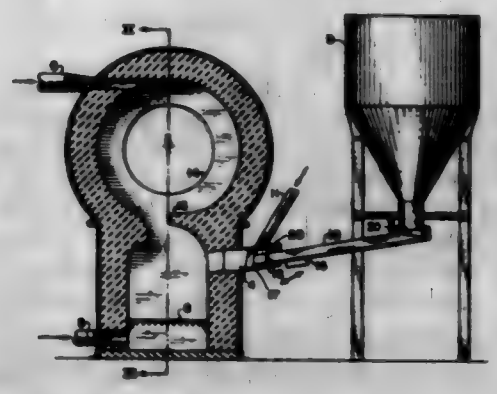
6. The method of making candy including the steps of extruding upwardly through a pool of nut particles a strand of pliable candy, pulsatingly squeezing the contents of the pool toward said strand with enough force to embed nut particles into said pliable candy, and replenishing the pool between squeezes.

2,967,494
PUBLIC BOMBSHELTER
Morton M. Rosenfeld, Mount Vernon, N.Y.
(271 Madison Ave., New York, N.Y.)
Filed Apr. 14, 1958, Ser. No. 728,118
6 Claims. (Cl. 109—1)



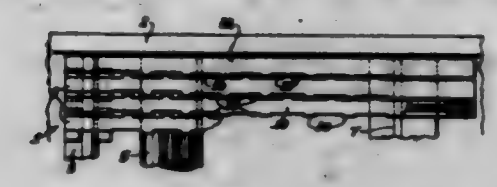
1. In a bombshelter, a raised structure comprising an outer wall extending across a floor to form an enclosure therebetween, a passageway depending from the central portion of the floor of said raised structure to a subterranean bombshelter, a water barrier surrounding the entrance to said passageway, a plurality of spaced entrances in the outer wall of said raised structure in communication with the interior of said raised structure and the surrounding environment, wall buttresses for supporting said raised structure disposed between said entrances and said passageway, an opening through each of said wall buttresses, a raised plateau between each of said entrances and said openings, said plateaus being juxtaposed to said openings, the floor of said openings being raised above the raised plateaus, and an inclined way between each of said entrances and said raised plateaus, with said wall buttresses and inclined ways comprising water barriers between said entrances and said passageway.

2,967,495
METHOD AND APPARATUS FOR COMBUSTION
Simon de Haan, Delft, Netherlands, assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed Sept. 22, 1958, Ser. No. 762,531
Claims priority, application Netherlands Oct. 31, 1957
2 Claims. (Cl. 110—22)



1. A method of burning carbon particles comprising: mixing carbon particles with hydrocarbon oil and water to form solid pellets having an average diameter of 3–15 mm., feeding said pellets continuously into a gasification and partial combustion chamber, introducing air into said chamber, partially burning the pellets with said air in said chamber so that the pellets disintegrate in said chamber, passing the resulting stream of gases and disintegrated pellets upwardly into a second chamber of cylindrical shape, introducing a tangential air stream into said secondary chamber whereby further burning of the gases and disintegrated pellets takes place in a horizontally axially rotating flame pattern, thereafter discharging the gases through a narrow axial outlet from said secondary chamber.

2,967,496
STOKER GRATE
Earland R. Mitchell, 32 Bullock Ave., and Frank D. Friedrich, 135 Northwestern Ave., both of Ottawa, Ontario, Canada
Filed Nov. 18, 1959, Ser. No. 853,802
5 Claims. (Cl. 110—38)

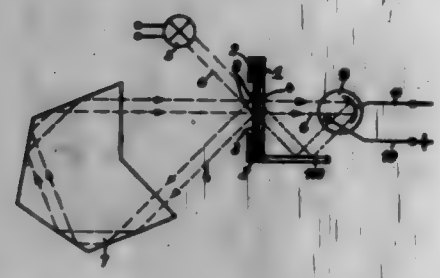


1. A grate bar of unitary cast form having a nose section an intermediate section and tail section and comprising a supporting web and a top portion having an upper burning surface, a lower surface contiguous with said web, and side edges joining said surfaces and disposed laterally outwardly of said web, each said side edge having a plurality of ribs thereon, said ribs defining slots extending from said upper surface to said lower surface, each said slot having a longitudinal extent substantially greater than that of each said rib the endmost of said slots being located respectively in said nose section and in said intermediate section, said nose section slot being of greater depth than said other endmost slot and the intermediate ones of said slots being of less depth than said nose section slot and of gradually decreasing depth from said nose section towards said tail section, said ribs on one of said side edges being offset with respect to said ribs on the other of said side edges whereby said slots in one of said side edges are in laterally disaligned relation with said slots in the other of said side edges.

2,967,497
BUTTON FEED CONTROL FOR SEWING MACHINES

Oskar Braun and Karl Winz, Kaiserslautern, Pfalz, Germany, assignors to G. M. Pfaff A.G., Kaiserslautern, Pfalz, Germany, a corporation of Germany

Filed Nov. 14, 1958, Ser. No. 773,978
Claims priority, application Germany Nov. 16, 1957
6 Claims. (Cl. 112—113)

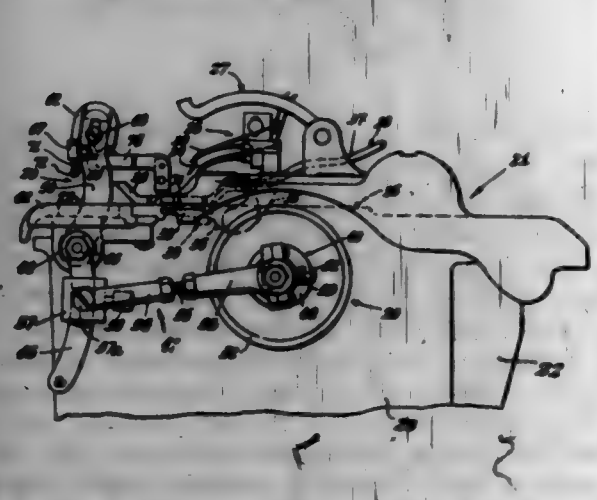


1. In button feeding mechanism for sewing machines including a feeding channel and means for feeding a consecutive series of perforated buttons having opposite faces of relatively high and relatively low reflectivity to said machine, a control system comprising a source arranged at one side of said channel to direct a radiant energy scanning beam upon and at an angle with the surface of said buttons, means to deflect said beam upon reflection by said buttons, to cause the deflected beam to pass substantially axially of and through the perforations of said buttons, and radiant energy sensitive means arranged at the opposite side of said channel to be impinged by said beam, to produce an output current having a predetermined value for buttons oriented with their surface of high reflectivity facing said source and having perforations passing a predetermined fraction of said beam and decreasing for buttons being oriented with their surface of low reflectivity facing said source and/or having perforations passing a fraction of said beam less than said predetermined fraction.

2,967,498
TOP FEED ATTACHMENTS FOR SEWING MACHINES

Harvey W. Russell, Nyack, and Richard Russell, Tappan, N.Y., assignors to Willcox & Gibbs Sewing Machine Company, New York, N.Y., a corporation of New York

Filed May 1, 1958, Ser. No. 732,370
12 Claims. (Cl. 112—207)

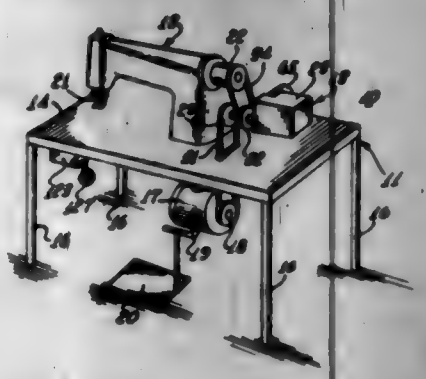


1. A top feed attachment for sewing machines having a frame providing a housing having a main drive shaft extending outwardly therefrom; said attachment comprising an oscillating feed drive shaft, means for romovably rotatably mounting said feed shaft on the frame of a sewing machine outwardly of said housing, a feed dog, means carried by said shaft for suporting said feed dog in position to engage the top surface of the material being sewn, said means being adapted to oscillate with said shaft, means adapted to be removably mounted on the main drive shaft of a sewing machine outwardly of said housing for rotation therewith, said means being eccentric with respect to said main drive shaft, means for oscillating said top feed drive shaft and means for connecting said oscillating means to said eccentric, whereby the former is driven by the main drive shaft of the sewing machine to oscillate said feed drive shaft.

2,967,499
NEEDLE POSITIONER

Saul M. Cohen, Paramus, N.J., assignor to Clinton Industries, Inc., New York, N.Y., a corporation of New York

Filed Oct. 5, 1959, Ser. No. 844,545
14 Claims. (Cl. 112—219)

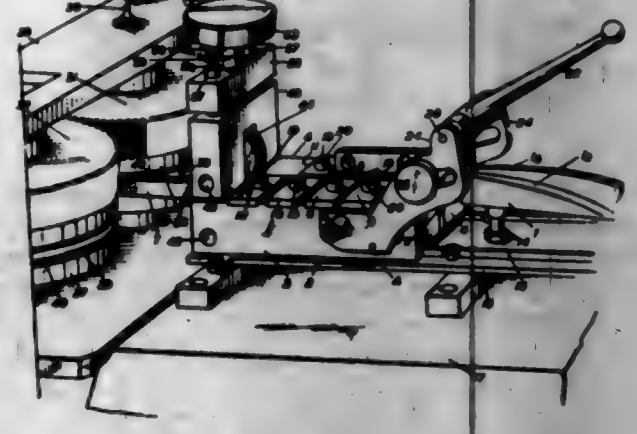


1. An improved sewing machine of the character described, comprising a reciprocable needle bar, a main drive motor, a driven shaft connected to said needle bar, a drive shaft connected to said main motor, first and second oppositely sensed overrunning clutches connecting said shafts, means for disabling one of said clutches, an auxiliary positioning motor, and means including a third overrunning clutch connecting said auxiliary motor to said driven shaft.

2,967,500
TUBE DRAWING MACHINE

John William Lawrence, Leicester, England, assignor to Lawrence Holdings (Overseas) Limited, London, England

Filed May 22, 1953, Ser. No. 356,866
5 Claims. (Cl. 113—34)



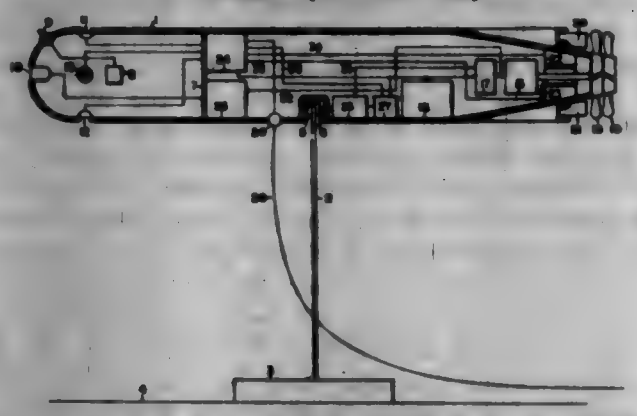
1. A tube drawing machine for continuously producing quadrangularly-sectioned lock-seamed tubing from an initially flat strip comprising, in combination, a U-shaped trough for initially folding the metal strip into a U-formation with one leg of the U slightly longer than the other leg, a guide channel through which the U-formation can be drawn, said channel being of such depth that a portion of both legs extends above said channel, a series of die heads overlying said channel, the die heads comprising means for bending the free edge of the shorter leg both

inwards and upwards parallel to the longer leg to form an L-shaped flange, means for bending the free edge of the longer leg laterally inwards and then downwards to overlap the upper and projecting edge of said first named leg, and further means bending the inner engaged portions of both legs over the lie adjacent to the horizontal portion of said shorter leg, a pair of superimposed sizing rollers having horizontal axes and adapted to press upon the upper and lower sides of the tubing to compress the closing seam and thus accurately size the tubing, a pair of knurled feed wheels rotatable about vertical axes between the nip of which the tubing passes, means for driving the wheels, said wheels gripping the vertical sides of the tubing and feeding forwards the finished tubing emerging from the sizing rollers thereby continuously drawing the metal strip through the latter, and a mandrel of uniform cross-section extending through the channel and between the feed wheels about which the tubing is formed, said mandrel being rigidly held by linkage means attached at the entrance to said channel.

2,967,501

WITHDRAWN

2,967,502
TORPEDO
John Hays Hammond, Jr., Hammond Research Corporation, Gloucester, Mass.
Filed Oct. 13, 1958, Ser. No. 766,760
1 Claim. (Cl. 114—20)



A torpedo having propelling means and guiding means and having a sound wave transmitter and echo wave receiving means adapted to actuate said guiding means for steering said torpedo toward the source of said echo waves, a fixed mooring means, releasable means for mooring said torpedo to said mooring means, a sound wave receiver on said torpedo, monitoring means located at a distant point, lines connecting said sound wave receiver on said torpedo to said monitoring means for monitoring at said distant point the sound received by said receiver, and means operable at said distant point to actuate said releasable means for releasing said torpedo from said mooring means, for starting said propelling means and for energizing said sound wave transmitter and said echo wave receiving means.

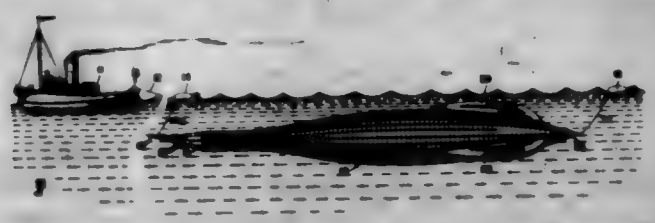
2,967,503
LIFT DEVICE ATTACHMENT FOR MOTORBOATS
Kenneth N. Unger, Chicago, Ill.
(195 Olmsted Road, Riverside, Ill.)
Filed Aug. 18, 1958, Ser. No. 755,570
3 Claims. (Cl. 114—66.5)

2. A device for attachment to the bottom of a motorboat to impart uniform lift to the entire motorboat during its forward motion in water, comprising: a thin supporting fin provided with a top edge adapted for attachment in operative position to the keel of the motorboat, said fin having a depending stabilizing portion extending downwardly into the water when the device is in operative position; an integral flat lift plate having a forward attacking portion and diverging trailing portions extending in a rearward direction and being symmetrically disposed on opposite sides of the supporting stabilizer fin, said lift plate being pivotally secured to the medial portion of said fin between said top edge and the free end



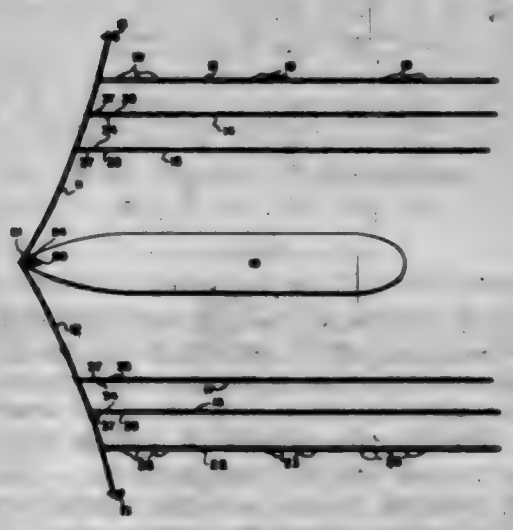
of said depending portion for swinging movement parallel to the plane of the fin; and cooperating fastening means on the fin and the lift plate for securing the lift plate against said swinging movement to position said lift plate at a forwardly inclined angle whereby said fin and said lift plate mutually cooperate during forward motion of the motorboat to impart lift to the motorboat toward the surface of the water while retaining stability and maneuverability thereof during operation.

2,967,504
METHOD AND APPARATUS FOR SWEEPING A MINE
John V. Atanasoff, 3712 Longfellow St., Hyattsville, Md., and Sam Legvold, 129 N. Wilmoth Ave., Ames, Iowa
Filed Apr. 24, 1947, Ser. No. 743,578
14 Claims. (Cl. 114—235)
(Granted under Title 35, U.S. Code (1952), sec. 266)



4. The method of sweeping a pressure mine which comprises streaming a flexible envelope from a vessel, filling said envelope with a ponderous mass of water, and in towing said water filled envelope at a predetermined depth of submersion within the water above the mine at a rate of travel such that the change in the pressure of the water at the mine simulates the pressure signature of a moving vessel.

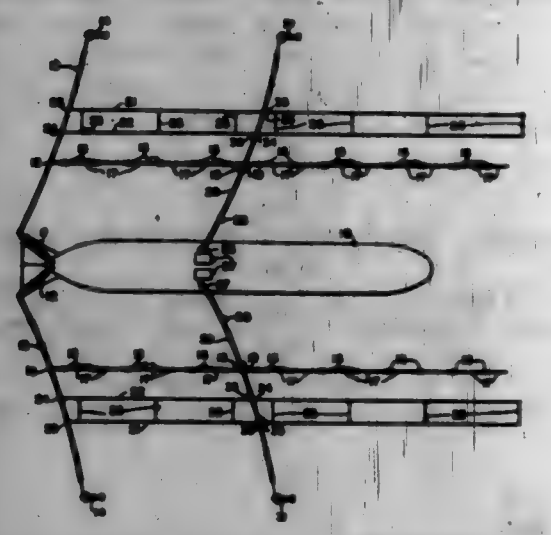
2,967,505
ANTI-TORPEDO DEVICE
Harold W. Klas, 3105 W. St. Joseph St., Lansing, Mich.
Filed Mar. 9, 1943, Ser. No. 478,589
13 Claims. (Cl. 114—240)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. In a device of the character disclosed for destroying a torpedo, a flexible tubular member adapted to be

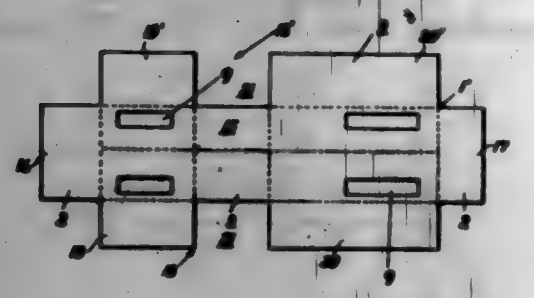
arranged within the water having a quantity of compressed air sealed therein, an explosive charge disposed within the member, means including a detonating device adapted to explode said explosive charge, and means for permitting said detonating device to be inserted within the tubular member in operative relation with respect to the explosive charge without releasing said compressed air.

2,967,506
ANTI-TORPEDO SYSTEM
Clifford S. Livermore, United States Navy
(1424 Chapin St. NW., Washington, D.C.)
Filed May 11, 1945, Ser. No. 593,181
19 Claims. (Cl. 114—240)
(Granted under Title 35, U.S. Code (1952), sec. 266)



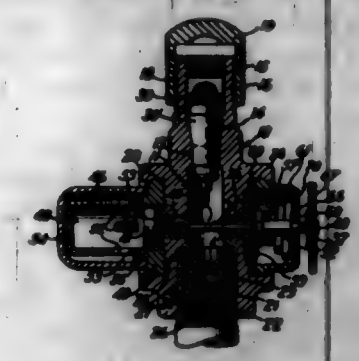
1. In a system of the character disclosed for destroying a torpedo, a plurality of explosive charges arranged within a body of water, a pair of electrodes arranged within the water in predetermined spaced relation, means including said electrodes for detecting a torpedo, and means controlled by said detecting means for firing said explosive charges when the torpedo is adjacent thereto.

2,967,507
DEVICE FOR RENDERING FLOATABLE ARTICLES OF ALL KINDS, ESPECIALLY VEHICLES
Hans Schulz, 15 Kaiser Friedrich Strasse,
Hildesheim, Germany
Filed Nov. 29, 1957, Ser. No. 699,749
Claims priority, application Germany Dec. 3, 1956
4 Claims. (Cl. 115—1)



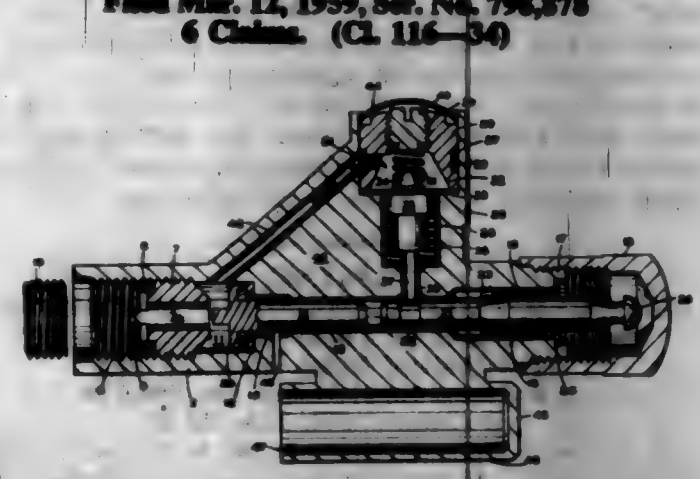
1. A conversion raft for rendering vehicles amphibious comprising a one-piece foldable and portable buoyant carrier including a central portion for engaging and supporting the underside of a vehicle, said central portion including a plurality of transverse wheel aperture portions for receiving the wheels of a land vehicle therethrough to convert the said vehicle to an amphibious vehicle, said foldable carrier including laterally projecting end and side sections hingedly connected to said central section for engaging the ends and sides of said vehicle to afford stability during travel on the water.

2,967,508
LOW PRESSURE ALARM FOR PNEUMATIC TIRES
Jiri Hoverka, Maplewood, N.J., assignor to Tire Safety Inc., Cape May, N.J., a corporation of New Jersey
Filed May 21, 1958, Ser. No. 736,897
5 Claims. (Cl. 116—34)



1. A low pressure alarm device for pneumatic tires comprising a body portion adapted to be applied to the valve stem of a conventional pneumatic tire, said body portion having passage means communicating directly with said valve stem, an air check valve positioned within the passage means to normally prevent the escape of air from said tire and to facilitate filling the tire with air in the conventional manner, said body portion having additional passage means substantially at right angles to the first-named passage means, a reciprocatory valve element disposed within the second-named passage means, a resilient diaphragm associated with said valve element and adapted to shift the valve element toward an open position when the air pressure acting upon the diaphragm drops below normal desired tire pressure, a spring associated with said diaphragm and urging the diaphragm in a direction opposite to that in which it is urged by the air pressure within the tire, and overcoming the action of the diaphragm and shifting the valve element to its open position when the air pressure within the tire drops below the normal range, a whistle producing element carried by said body portion near said valve element, and a spring engaging the valve element in opposition to the first-named spring and aiding in maintaining the valve element in closed position when the tire contains normal air pressure but adapted to yield and permit opening of the valve element when excessive air pressure is developed in the tire and thereby allowing such excessive air pressure to be bled off.

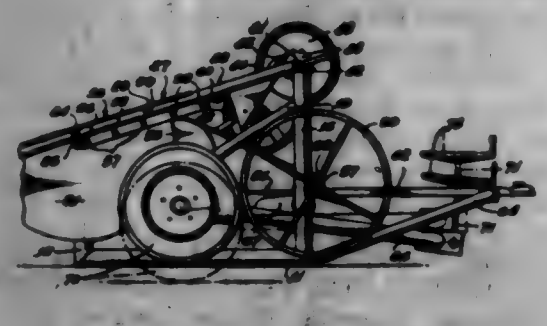
2,967,509
TIRE VALVE LEAK INDICATOR
Stewart R. Florian, 1551 Griffin Road, Dania, Fla.
Filed Mar. 12, 1959, Ser. No. 798,878
6 Claims. (Cl. 116—34)



1. A signal device for indicating an abnormal air pressure in a vehicle tire, that comprises a molded elongated housing of cylindrical shape, the housing being provided with an axial bore and open at its upper and lower ends, the bore at the lower end of the housing being enlarged and internally threaded to have threaded connection with

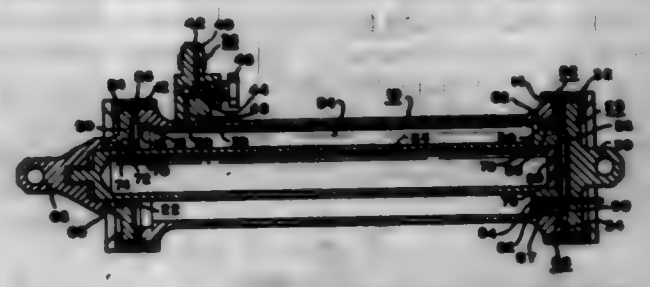
a threaded end of a tire valve stem, a threaded cylindrical plug that also has threaded engagement into the threads of the enlarged bore, the plug having an annular reduced lower end to fixedly receive a compressible seal gasket that is adapted to have sealed engagement with the end of the tire valve stem, the plug being provided with an axial port therethrough, the lower end of the plug also having an integral transversely extending bar that projects downwardly to lie in the path of movement of an upwardly projecting valve core whereby to unseat the valve core when the housing is disposed in full threaded relation to the valve stem, the enlarged bore being concentric to the bore of the body portion and forming a shoulder at the upper end of the enlarged bore, a gasket disposed in the enlarged bore and seated against the shoulder, a valve axially movable in the enlarged bore to bear against the last-named gasket, a valve rod carried by the last-named valve and that is slidable in the bore of the body portion, the last-named valve being biased to a seating engagement against the last-named gasket under the influence of pressurized air from the tire when the valve core is unseated, a plunger also shiftable in the bore of the housing in opposed relation to the last-named valve rod, spring means for biasing the plunger in a direction toward the valve rod whereby to unseat valve when pressure condition exists in the tire that is below the predetermined required pressure, a latch device that is biased toward and from a latching engagement with the plunger, the latch being biased to a latched engagement with the plunger under the influence of air pressure that is in accordance with the required tire pressure, the latch being biased to a release position with respect to the plunger by a spring that is operable to shift the latch to a release position when the tire pressure has been sufficiently lowered, an audible signal device formed on the housing, the housing being provided with an air escape slot that communicates with the bore of the housing above the first-named valve, the first-named valve when unseated by the plunger permitting the escape of air from the tire to pass outwardly through the slot to activate the signal.

2,967,510
CATTLE TABLE
Shelley M. Steedy, Rte. 3, Box 91, Chino, Calif.
Filed May 25, 1959, Ser. No. 815,455
2 Claims. (Cl. 119—103)



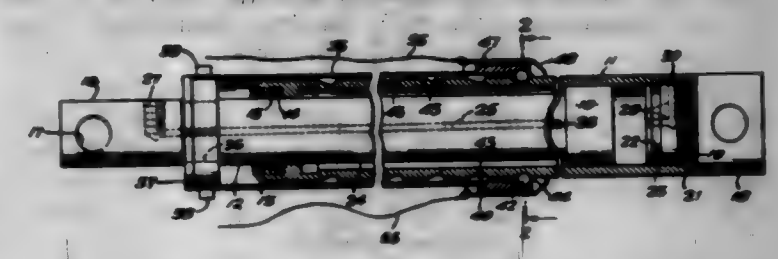
1. A cattle table comprising a frame, a table tiltably mounted on the frame adjacent one end thereof, means on the top of the table when in vertical position for lifting some of the weight of an animal, means on the frame for tilting the table, a towing drawbar on the opposite end of the frame from the table, a ground wheel frame tiltably mounted on the mentioned frame, ground wheels rotatably mounted upon the ground wheel frame, located outwardly of the sides of the first-mentioned frame, and means for moving the ground wheel frame relatively to the drawbar to optionally depress the ground wheels and cause the first-mentioned frame to be supported thereby and to elevate the ground wheels and allow the first-mentioned frame to be supported directly by the ground.

2,967,511
PNEUMATIC ACTUATOR
Howard M. Geyer, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed June 9, 1958, Ser. No. 740,846
10 Claims. (Cl. 121—46)



8. A pneumatically operated actuator including, a cylinder, a reciprocable piston disposed in said cylinder and dividing said cylinder into opposed chambers, said piston having a smaller area exposed to one chamber than to the other chamber and having a passage therethrough for interconnecting said chambers, a porting block attached to said cylinder including throttle valve means for charging said one chamber with air under pressure so as to maintain said piston in the fully retracted position, frangible sealing means normally closing said piston passage, and externally accessible means for rupturing said frangible sealing means to interconnect said opposed chambers whereby air under pressure will flow from said one chamber to the other chamber and effect movement of said piston to the fully extended position.

2,967,512
SELF-LOCKING CYLINDER ASSEMBLY
Raymond W. Born, 1618 Eldred St., West Covina, Calif.
Filed Oct. 28, 1958, Ser. No. 770,074
11 Claims. (Cl. 121—46)

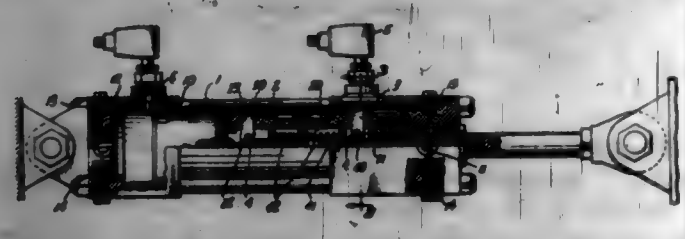


1. A locking device for use on hydraulic cylinders of the type including piston means operating axially of a cylinder therefor and adapted to be extended against a load, said cylinder having a plurality of axially spaced depressions therein, detent means movable with said piston means exteriorly of said cylinder including freely floating locking detent means adapted to seat in an adjacent one of said depressions and means effective to lock said piston means and cylinder against axial movement in one direction so long as said detent means remains seated in one of said depressions, and means for locking said detent means against unintended displacement from the locked position thereof.

2,967,513
ANTI-ROTATION MEANS FOR TOGGLE LOCKS
Richard A. Chace, Bellevue, Wash., assignor, by mesne assignments, to Western Hydraulic & Service Company, Inc., Gardena, Calif., a corporation of California
Filed Mar. 3, 1959, Ser. No. 796,942
4 Claims. (Cl. 121—46)

1. In combination with a guiding element and a complemental guided element relatively reciprocable throughout a given range of movement, one of said elements having a surface which is beveled with relation to the direc-

tion of reciprocation, locking dog means guided in the unbeveled element for movement transversely of the direction of reciprocation between a projected locking position and a retracted unlocked position, said dog means having a beveled tip surface complemental to the bevel of the cooperating element, and being positioned for locking interengagement of such beveled surfaces when projected into locking position, and for free relative reciprocation of said elements when retracted, a toggle device operatively engaged with but free of any connection to the dog means to project the latter into locking position as the toggle device rotates into alignment with the direction of move-



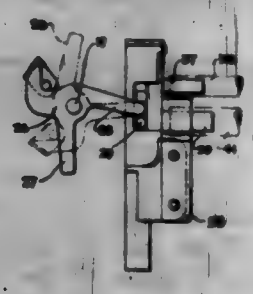
ment of the dog means, stop means to retain the toggle device against movement in the locking direction materially past such aligned position, means to rotate the toggle device in the unlocking direction, for retraction of the dog means, means to apply a force between the relatively reciprocable elements to shift them relatively when the dog means are thus unlocked, the complemental beveled surfaces then urging the dog means into their retracted position, and means interengaged between the toggle device and the element wherein the dog means are guided, to prevent relative rotation therebetween about an axis paralleling the direction of reciprocation while the dog means are retracted.

2,967,514

VALVE MEANS FOR MULTIPLE CARBURETORS

William C. Riester, Buffalo, N.Y., assignor to Trico Products Corporation, Buffalo, N.Y.

Filed Mar. 12, 1957, Ser. No. 645,519
2 Claims. (Cl. 12—46.5)



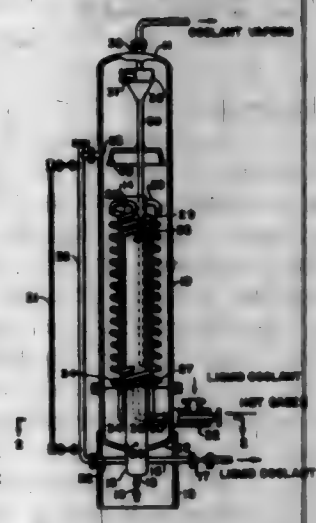
2. A valve assembly for controlling a plurality of motor vehicle carburetors of the type having fluid pressure responsive actuator means adapted for the selective operation of the carburetors, said valve assembly having a first nipple adapted for connection to a fluid pressure responsive carburetor actuator means and second and third nipples adapted for connection to sources of pressure fluids at different pressures, said valve assembly including a housing formed to provide internal passageways for conduction of pressure fluid through the valve assembly, a slide valve movable within said housing between first and second positions for changing the direction of fluid flow through said first nipple, said slide valve having an arm projecting beyond said housing, resilient means urging said slide valve into one of said positions, a rotatable crank having a pair of radially arranged fingers for engaging said arm of said slide valve to shift the latter between said positions, said arm being positioned between said fingers with one of said fingers normally engaging said arm when said slide valve is in said one position, and with the other of said fingers normally being spaced from said arm when said slide valve is in said one position for movement relative to said arm into engagement therewith for thereafter shifting said slide valve out of said one position against the urging of said resilient means and adjustable mounting means for said valve assembly to provide variable spatial adjustment between said arm of said slide valve and said radial fingers of said crank.

2,967,515

WASTE-HEAT BOILER

Marinus J. Hofstede, Delft, and Christinus Dijkstra, The Hague, Netherlands, assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

Filed Dec. 16, 1957, Ser. No. 702,890
Claims priority, application Netherlands Dec. 21, 1956
7 Claims. (Cl. 122—7)



1. A waste-heat boiler suitable for cooling high-temperature gases of the order of 1,000° to 1,500° C. comprising: an upright shell including a bottom closure; an upright liquid-tube mounted within the shell in radially spaced relation thereto and defining therewith a vertically elongated annular cooling space, said tube being in liquid-receiving communication with said cooling space at an upper part of the tube below the top of the shell; a cooling pipe for said hot gases situated within said annular cooling space over an extended vertical part thereof and having inlet and outlet ends extending out of the shell at the bottom thereof; an inlet for admitting a liquid coolant to the lower end of said annular space at the inlet end of said cooling pipe and arranged to direct the liquid coolant for immediate contact with the extremity of said inlet end and subsequent upward flow of the coolant pipe and, thereafter, into the liquid-tube; and means for through said space in external contact with the cooling discharging liquid coolant from the liquid-tube.

2,967,516

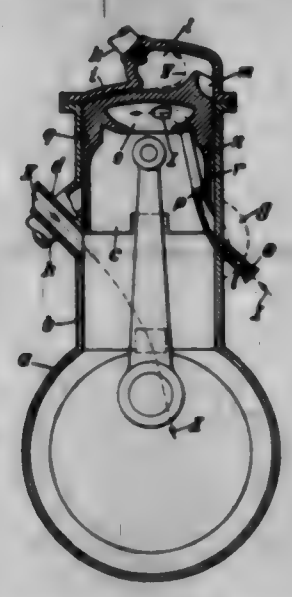
TWO CYCLE INTERNAL COMBUSTION ENGINE WITH MEANS FOR FUEL EVAPORATION

Friedrich Stümpfig, Bismarckstrasse 31, Nurnberg, Germany

Filed Sept. 2, 1958, Ser. No. 758,387
5 Claims. (Cl. 123—73)

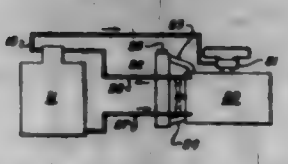
1. Two cycle internal combustion engine of the type adapted to pre-compress air in the crank case thereof, said engine comprising said crank case, a cylinder housing disposed above said crank case having fuel and air mixture and air intake apertures and a piston reciprocable in said cylinder, said piston having an evaporation cavity having the general outline of a solid of revolution defined below the piston head and having a central aperture communicating with the lower hollow part of said piston, a fuel and air mixture intake duct extending upwardly in said piston and having a discharge aperture tangentially of said cavity of a cross-sectional area smaller than said central aperture, and means including said

duct providing for rich fuel and air mixture being drawn into said evaporation cavity while the major portion of the air of combustion is fed into the crank case and into



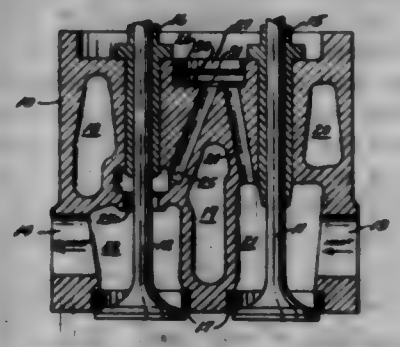
the lower part of said cylinder, whereby the major part of the air of combustion is pre-compressed in said crank case while the rich fuel and air mixture is pre-compressed in said hollow part of said piston.

2,967,517
COOLING SYSTEM FOR ENGINES
John A. Southwick, 1213 Georgia NE., Albuquerque, N. Mex.
Filed Feb. 4, 1960, Ser. No. 6,659
10 Claims. (Cl. 123—41.55)



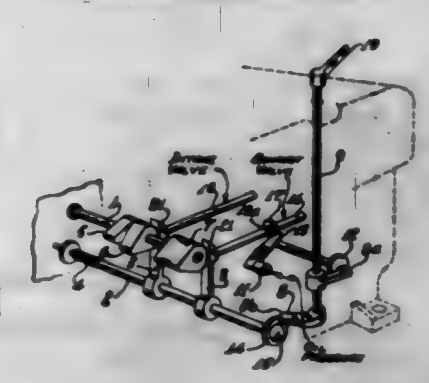
1. A secondary cooling system for an engine having a primary cooling system with a primary coolant, comprising: a secondary coolant characteristically changing state within the secondary system at a lower temperature than that at which the primary coolant changes state within the primary system; means for containing the secondary coolant and preventing commingling of the primary and the secondary coolants; and means for transferring heat from the primary coolant to the secondary coolant.

2,967,518
ENGINE EXHAUST VALVE COOLING MEANS
Arthur A. Zuhn, East Peoria, Ill., assignor to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed Nov. 6, 1959, Ser. No. 851,485
5 Claims. (Cl. 123—41.77)



1. The combination with the cylinder head of an internal combustion engine having an intake valve controlling the admission of air to an engine cylinder and an exhaust valve controlling exhaust of gases from the same cylinder, an intake valve chamber in the head through which air approaches the intake valve, an exhaust valve chamber in the head through which gas is exhausted from the cylinder, and a passageway entirely within the head forming communication between said chambers, whereby some intake air is communicated to the exhaust valve chamber to cool the exhaust valve.

2,967,519
CONTROL AND SAFETY DEVICE FOR FOUR-CYCLE INTERNAL COMBUSTION ENGINES
Rudolf Rösger, Pirna (Elbe), Germany, assignor to VEB Motorenwerk Cunewalde, Obercunewalde, Oberlausitz, Germany
Filed Feb. 28, 1958, Ser. No. 716,317
8 Claims. (Cl. 123—90)

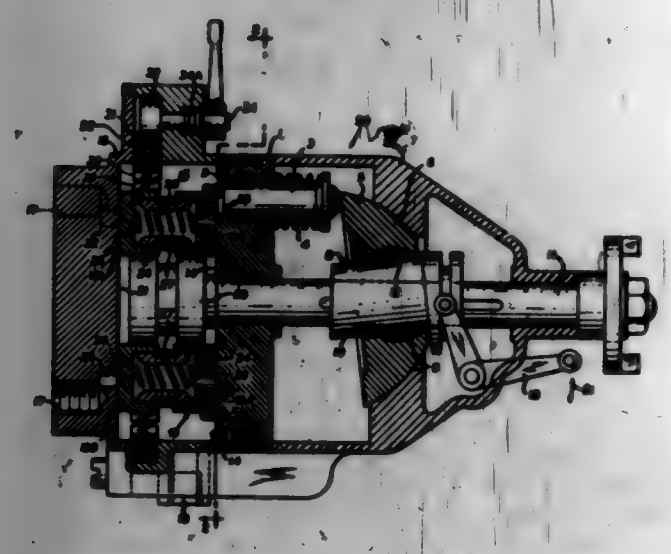


1. A control and safety device for an internal combustion engine comprising lubricating oil pressure means, an intake valve push rod, an exhaust valve push rod, a cam shaft; intake, starting and exhaust cam means mounted on said cam shaft, said exhaust cam means engaging said exhaust push rod for reciprocating movement of said push rod between open and closed exhaust positions; connecting means for selectively and operatively connecting said intake-valve push rod to said intake cam means and to said starting cam means; control means responsive to changes in oil pressure from said oil pressure means, for shifting said connecting means of said intake-valve push rod into and out of engagement with said intake cam means and starting cam means respectively; and locking means responsive to changes in oil pressure for locking said exhaust-valve push rod in the open exhaust position.

2,967,520
RECIPROCATORY FUEL INJECTION PUMPS
John Neville Morris, Birmingham, England, and Gerald J. McCaul, Scarsdale, N.Y., assignors of one-half to The S.U. Carburetter Co. Ltd., Erdington, England, a British company, and one-half to Simmonds Precision Products, Inc., a corporation of New York
Filed Oct. 28, 1957, Ser. No. 692,909
14 Claims. (Cl. 123—140)

1. In a pump for distributing metered quantities of fuel to an internal combustion engine and employing a pump housing having an internal cavity formed in part by opposed bearing surfaces separating a plunger block portion of said pump housing from a distributor block portion thereof, wherein said housing also includes a plurality of metering chambers arranged about a common axis wherein each chamber has an open end in the bearing surface on the plunger block side of said cavity, a reciprocating plunger in each chamber, a fuel intake port for supplying fuel under pressure to the metering chambers, a plurality of discharge passages in said distributor block for supplying fuel to a corresponding number of engine cylinders and communicating with the bearing surface on the distributor block side of said housing, the combination comprising, a ported disc shaped valve mounted eccentrically and seated between said opposed bearing surfaces, an annulus of teeth on the outer pe-

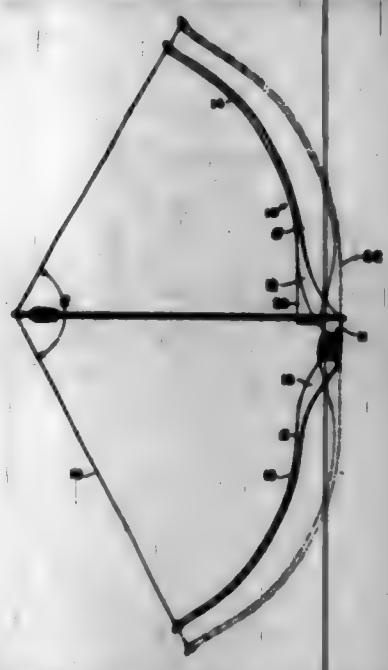
ripbery of said valve, a gear ring having an inner toothed annulus surrounding said valve and meshing with said valve teeth, said gear ring being mounted between said bearing surfaces for rotation about said axis, means imparting hypotrochoid motion to said valve in respect to said axis as the teeth thereof engage said gear ring, and means for releasing said gear ring for rotatable displacement alternately from one to another of two positions and locking said gear ring in such positions, one of said bearing surfaces also having a plurality of spillway passages corresponding to the number of chambers and adapted to register with the fuel intake port, each spillway passage being in spaced relationship with respect to a correlated chamber whereupon said spillway passages



lie outside the path of travel of said valve ports when said releasing means holds said gear ring in a first of its positions and as said chambers are individually interconnected in a desired sequence alternately with the fuel intake port and one and then the other of correlated ones of said discharge ports during valve movement, repositioning of said gear ring to the second of its positions causes correlated orientation of said valve wherein said spillway passages register sequentially with said valve ports upon interconnection of same with respective ones of said chambers during the discharge stroke of the plungers thereof to cause the return of fuel to the fuel intake port as said valve undergoes turning movement.

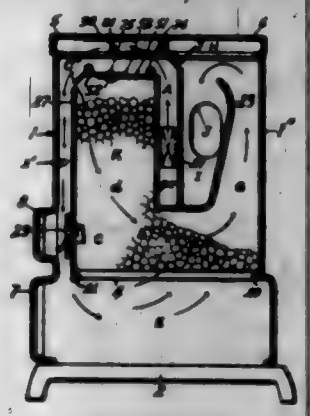
2,967,521
ARCHERY BOW
Emil Pikula, 1994 Wiley Ave., Cleveland, Ohio
Filed Aug. 15, 1956, Ser. No. 604,249
1 Claim. (Cl. 124—24)

An archery bow having a bow string and comprising a single conventional hand grip handle portion, two relatively rigid central portions on either side of and merging into said handle portion, and two flexible arm portions on either side of and merging into said central portions, substantially parallel to said handle portion, said arm portions being rearwardly concave when the bow is braced, the space between said handle portion and said bow string being unobstructed; said handle portion being offset from said central portions in a direction away from said bow string, the lengths of said arms and the length of said bow string being such that the string angle of said bow and the radius of curvature of the arms of said bow when fully drawn with an arrow of a given length are at least equal to the string angle and the radius of curvature of the arms of a bow of substantially greater overall length and not having a handle offset away from its bow string when fully drawn with an arrow of the same length; the fistmele of said bow being at least equal to the fistmele of a bow having substantially longer arms of substantially the same curvature and angular relation-



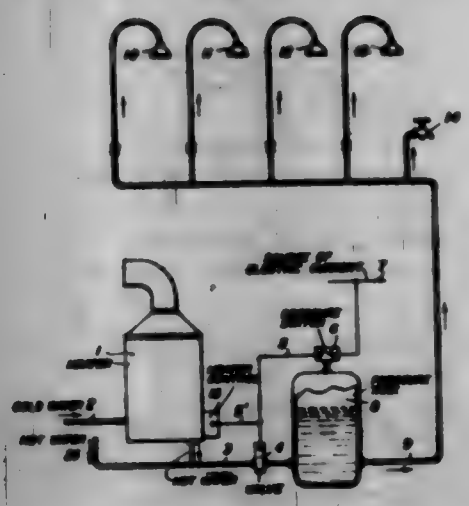
ship at their fixed ends and not having a handle offset away from its bow string.

2,967,522
FURNACE FOR CONTINUOUS BURNING
Tatsumi Takahashi, 1631 Ozan-Shiki, Adachi-Machi, Kitaadachi-gun, Saitama-ken, Japan
Filed Mar. 14, 1956, Ser. No. 571,439
Claims priority, application Japan Mar. 19, 1955
8 Claims. (Cl. 126—73)



1. A furnace for the continuous burning of fuel comprising in combination, wall means defining a casing, a horizontal grate means within the casing dividing the same into a lower ash-receiving portion and an upper fuel-consumption portion, an open-ended fuel-receiving magazine extending above the grate means, a top cover means on the casing and spaced above the upper end of the magazine, a baffle means mounted at the top of the magazine and adapted to cover a major portion of the cross sectional area at the top of the magazine, the space between the top cover means and the baffle means constituting an upper air feeding chamber, said magazine including one wall spaced from an adjacent casing wall so as to define an air passage between the interior of the casing and the exterior of the magazine in constant communication with the lower ash receiving portion and the upper air feeding chamber, said baffle means having at least one edge spaced from the adjacent end of the magazine whereby a limited quantity of air can flow from the upper air feeding chamber directly into the top of the magazine around said edge, and an adjustable air inlet valve means in the top cover means above the magazine through which a regulable quantity of air can be drawn into the upper air feeding chamber for passing into and through said magazine and air passage, respectively.

2,967,523
CONTROL DEVICE FOR HOT WATER SYSTEMS
Walter Wobbe, Wachstrasse 27, Bremen, Germany
Filed May 23, 1957, Ser. No. 661,073
Claims priority, application Germany May 26, 1956
3 Claims. (Cl. 126—362)



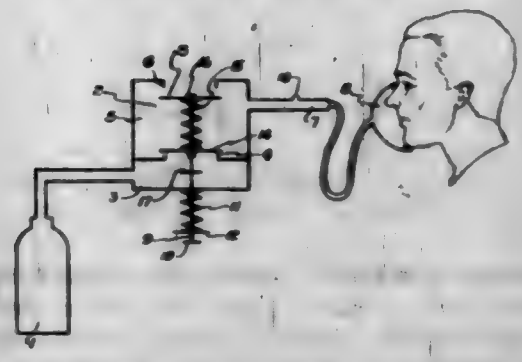
1. A hot water system for supplying heated water, comprising a consumer distribution pipe, an inlet pipe supplying cold water under pressure, a water heater connected to said inlet pipe to receive cold water therefrom; a pressure tank connected to said distribution pipe; a hot water pipe connecting said heater with said tank; a valve in control of the flow through said hot water pipe; control means for controlling the heating function of said heater; and pressure-actuated means responsive to the pressure in said tank and connected with said valve and with said control means, said pressure-actuated means turning on the heater and opening the valve whenever the pressure in the tanks falls by a predetermined amount below the pressure in the inlet pipe, and conversely closing the valve whenever the pressure in the tank is again built up.

2,967,524
TREATMENT APPARATUS FOR STATIC OR DYNAMIC TREATMENT OF THE SPINAL COLUMN
Verner Christensen, Lille Torv 1, Thisted, Denmark
Filed Oct. 25, 1954, Ser. No. 464,460
Claims priority, application Denmark Nov. 6, 1953
2 Claims. (Cl. 128—69)

1. A treatment apparatus for static or dynamic treatment of the spinal column of a patient comprising an enclosing cover of inextensible material, an inflatable bladder therein and an electrical resistance heating element coextensive with said bladder and enclosed within said cover, means for adjusting to different values the diameter of said cover when the enclosed bladder is inflated, said bladder having a tube connection in communication with another deflatable air container having communication with the atmosphere, and having valve means in the tube connection operable by the patient to vary the pressure within the bladder, said bladder, cover, tube and valve means forming a closed system.

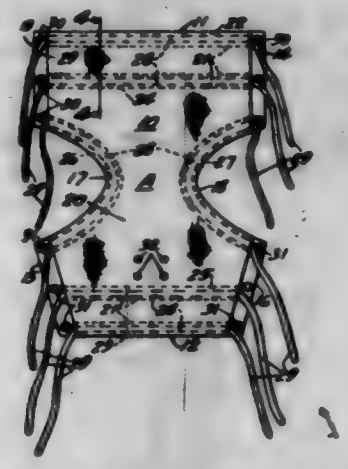
2,967,525
APPARATUS FOR REMOVING OF SECRETIONS FROM AIR DUCTS AND LUNGS
Jurgen Stoffregen, Heidelberg, and Heinz Oehmig, Koln-Merheim, Germany, assignors to Otto Heinrich Drager, Lubeck, Germany
Filed Jan. 28, 1957, Ser. No. 636,833
9 Claims. (Cl. 128—276)

1. An apparatus for removing fluids and mucus from the air ducts and lung cavities of a person comprising an air face mask, a vacuum flask, tube means extending between said mask and flask for forming an air passage therebetween, a suction valve mounted in said tube means, an air valve joined to said tube means and connecting said face mask with the atmosphere, said suction valve being positioned between said vacuum flask and said air valve, and actuating means connected to said suction



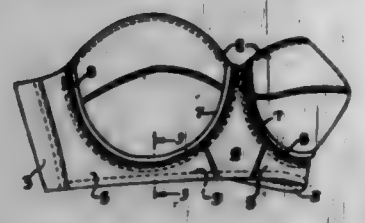
valve and air valve for momentarily opening said suction valve to allow communication between said vacuum flask and said face mask and simultaneously closing said air valve to produce a vacuum in said face mask and an artificial cough in the person.

2,967,526
DIAPER-TYPE GARMENT
Agnes J. Olson, 1243 Woodbridge St., St. Paul, Minn.
Filed Sept. 23, 1957, Ser. No. 685,662
1 Claim. (Cl. 128—287)



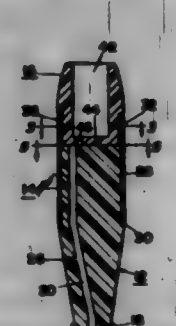
A combined diaper and panty garment comprising an elongated exterior flexible sheet having substantially rectilinear end and side portions adjacent each end, said sheet having a narrowed area intermediate the ends, a flexible waterproof sheet lying inwardly of the exterior sheet and substantially of the same configuration therewith, a pair of inner sheets overlying said flexible waterproof sheet together having substantially the same configuration as the exterior flexible sheet and flexible waterproof sheet and being marginally secured about the entire periphery of the same, said pair of sheets having overlapping flap portions in unsecured relation to each other and in relation to the waterproof sheet, an absorbent pad member lying intermediate the flexible waterproof sheet and said pair of inner sheets, said pad being removable from between the unsecured overlapping portions of said pair of sheets, a pair of drawstrings secured one each along each of the rectilinear end portions and having free ends extending beyond the sides of the garment, a pair of drawstrings secured one each in spaced parallel relation from the rectilinear end portion of the exterior flexible sheet and having free ends extending beyond the side margins thereof, and a separate fixed cooperating pair of fastening elements secured to the exterior flexible sheet adjacent each of the corresponding pairs of free ends of the drawstrings whereby the garment may be shortened by folding inwardly that portion of the garment lying above each of the spaced second mentioned pair of drawstrings during use.

2,967,527
BRASSIERE
Alfred Egon Maas, New York, N.Y., assignor to Maiden Form Brassiere Co., Inc., New York, N.Y., a corporation of New York
Filed Sept. 18, 1959, Ser. No. 839,117
1 Claim. (Cl. 128—465)



A brassiere comprising two panels consisting of an inner panel and an outer panel, the inner panel being formed with arcuate mutually spaced margins above its base line, breast cups connected to the arcuate margins of said inner panel, back bands carried by the inner panel, the outer panel being a unitary structure having upper mutually spaced arcuate margins conforming with the inner panel, the margins of the outer panel which conform to the upper arcuate margins of the inner panel each carrying an arcuate stiffening member, and means connecting the two panels at the back bands of the inner panel, and along the base areas of the two panels, the connection between the arcuate stiffening members and the outer panel being flexible.

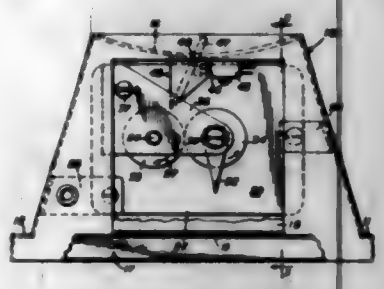
2,967,528
DEVICE FOR ENDING HABIT OF SMOKING
Joseph J. Kelter, Brooklyn, N.Y., assignor to Falmouth Pharmaceuticals Ltd., Larchmont, N.Y., a corporation of New York
Filed Mar. 12, 1959, Ser. No. 798,864
5 Claims. (Cl. 131—198)



1. A device for ending the habit of smoking comprising a mouthpiece member having a passageway therethrough, a cigarette holder member, a sleeve for embracing said members and holding said members in operative engagement, an opening in said cigarette holder member which may be aligned with the passageway in said mouthpiece member when said members are in operative engagement, with said sleeve press fitting one of said members and loosely engaging the other of said members, whereby the other of said members may be rotated within said sleeve, and means on said sleeve cooperating with the other of said members for selectively maintaining said sleeve and the other of said members in such disposition that the opening in said cigarette holder member and the passageway of said mouthpiece member may be selectively registered.

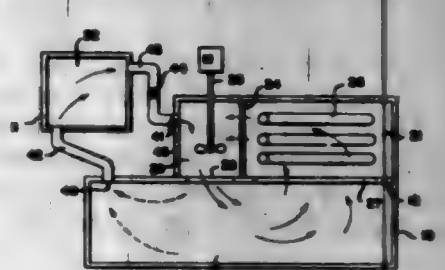
2,967,529
DEVICE FOR HANDLING LIGHTED CIGARETTES OR THE LIKE
Lionel C. Meyers, 250 E. I St., Colton, Calif.
Filed Nov. 10, 1958, Ser. No. 772,752
3 Claims. (Cl. 131—256)

1. A mechanism for extinguishing lighted cigarettes or the like comprising, a pair of rollers with their peripheries adjacent each other, an electric motor and means associated therewith for driving one roller, a chute having an open end directed towards a space between the peripheries of said rollers, a sensing lever mounted for pivotal movement and having a portion extending angularly across said chute near the open end, a switch ac-



tuated by said sensing lever movable to a closed position to establish a circuit to said motor when a cigarette in the chute pivots said sensing lever, and resilient means pivoting the sensing lever to said angular position and opening said switch when a trailing end of the cigarette moves beyond said portion of the lever.

2,967,530
APPARATUS AND METHOD FOR CLEANING METAL WORK PIECES
Robert H. Shoemaker and John A. Faler, Detroit, Mich., assignors to Kolene Corporation, Detroit, Mich.
Filed July 5, 1957, Ser. No. 670,222
7 Claims. (Cl. 134—13)

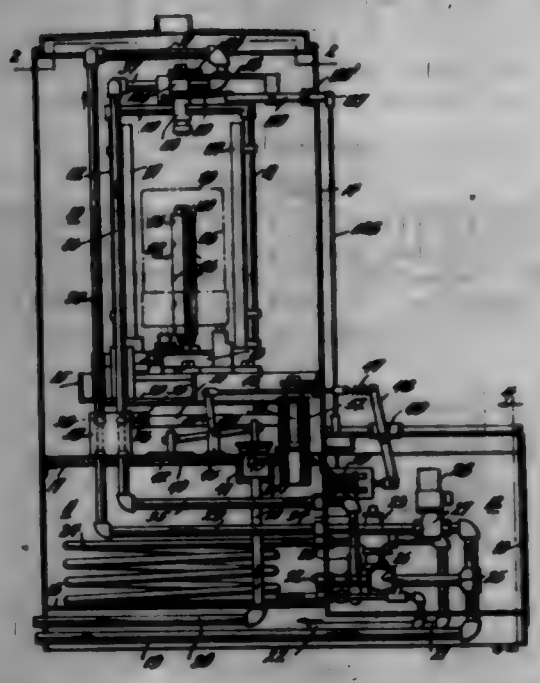


1. The method of cleaning metal from surface contamination, such as oxide and scale thereon, comprising providing a molten salt bath containing a substantial quantity of caustic alkali and salts of alkali metals, said bath being divided into a heating and agitation zone, a metal cleaning zone, and a settling zone, said zones being interconnected to provide molten salt circulation therebetween, heating said molten salt in said heating zone sufficient to maintain the salt continuously fluid in each of said zones, immersing the metal to be cleaned in the cleaning zone of said bath, agitating and circulating said molten salt between the heating and cleaning zones to provide sufficiently large turbulent circulation therebetween to prevent settling of suspended insoluble impurities from said molten salt in either of said zones, said settling zone being interconnected at least with the cleaning zone only near the top of the fluid therein to provide restricted circulation therebetween, thus maintaining the molten salt in the settling zone relatively quiescent, and allowing suspended insoluble impurities to settle therein, and removing settled impurities from said settling zone.

3. Molten salt bath metal workpiece cleaning apparatus comprising a cleaning tank adapted to contain molten salt to substantial depth and receive metal workpieces for cleaning by dipping in the molten salt therein, a second tank comprising a molten salt heating tank adapted to contain molten salt at the same level as the said cleaning tank, said heating tank having heating coils therein adapted to transfer heat to the molten salt by heat supplied to said heating coils, communication means for withdrawing molten salt from said metal cleaning tank and passing the same to said heating tank and communication means for returning heated molten salt from said

heating tank to said cleaning bath at a high fluid flow rate, means for turbulently agitating and impelling the said fluid flow between said cleaning tank and heating tank at such flow rate as to prevent precipitation of insoluble contaminants suspended in the molten salt in either tank, and a third tank comprising a molten salt settling tank adapted to contain molten salt at the same level as both of the cleaning and heating tanks, communication means interconnecting said settling tank with said heating and cleaning tanks at a point near the upper level of the molten salt, the latter said communication means having such restricted fluid flow capacity as to prevent transfer of turbulent agitation from either of said cleaning or heating tanks to said settling tank whereby suspended insoluble impurities in the quiescent body molten salt in said settling tank may settle to the bottom thereof and be withdrawn from the system.

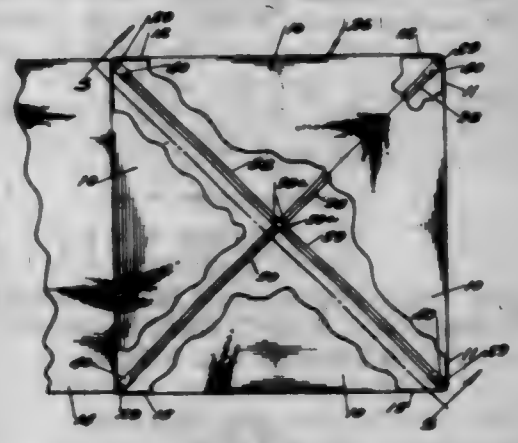
2,967,531
APPARATUS FOR WASHING RECEPTACLES
Herbert H. Nussbaum, Bainbridge, Ga., assignor to Miller Hydro Company, Bainbridge, Ga., a corporation of Georgia
Filed Feb. 29, 1956, Ser. No. 568,644
6 Claims. (Cl. 134—95)



1. Apparatus for washing receptacles, comprising a source of sterilizing medium under pressure, a source of rinsing medium under pressure, an interior spray device, an exterior spray device, means for supporting a receptacle in inverted position and in surrounding and enclosing relation to said interior spray device and with the lateral wall of said receptacle disposed between said interior and exterior spray devices, means for supplying sterilizing medium and rinsing medium to said devices from said sources, and timed control means for said last-mentioned means, and adapter means secured to said receptacle in communication with interior of said receptacle, a distributor head, valve means in said distributor head for connectng one of said sources to said interior spray device and simultaneously interrupting the connection between said spray device and said other source, and sockets on said distributor head for receiving and supporting said adapters.

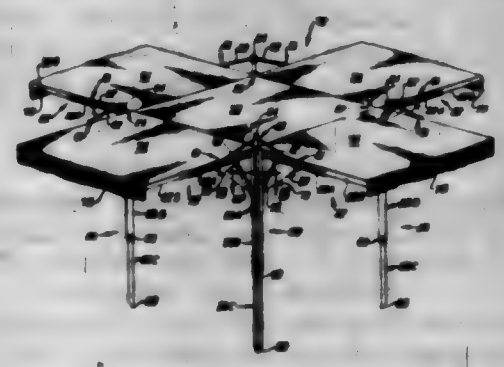
2,967,532
ROLLAWAY TENT STRUCTURE
Kermit H. Burgin, R.R. 1, Whitestown, Ind.
Filed Feb. 10, 1958, Ser. No. 714,319
1 Claim. (Cl. 135—1)

In a tent roof structure, the combination with a flexible roof covering having corners; a pole for each of said corners interengaging therewith; one pair of ribs; a pintle hinge permanently interconnecting opposing end portions of said ribs; said end portions being spaced apart across the hinge to leave a gap therebetween, the combined lengths of said pair of ribs when in straight line opposite extension from said hinge exceeding the distance between a pair of poles, one diagonally located from the other across said roof covering; said one pair of ribs having free rib ends thereof engaging said pair of poles and said ribs extending diagonally upwardly from the poles under the roof covering in inverted V formation by hinging at said hinge as an apex; a second pair of ribs; a second pintle hinge permanently interconnecting opposing end portions of the ribs of the second pair, the rib end portions being spaced one from the other across the hinge to leave a gap therebetween; the combined



lengths of said second pair of ribs in straight opposing end to end alignment including their interconnecting hinge exceeding the distance between a second pair of poles wherein the poles are diagonally disposed at the corner portions of the covering, the diagonal line therebetween crossing the diagonal line between the poles of said first pair; the ribs of said second pair having free ends engaging the poles of said second pair and said second pair of ribs extending diagonally upwardly under said covering from their engagements with the second pair of poles in inverted V formation to have the hinge of said second pair under the hinge of the first rib pair, and the opposing ends of the first pair of ribs adjacent the opposite sides of the second hinge; one of the ribs in each of said pairs terminating at the pintle of the hinge in each pair, and the other ribs terminating by ends spaced at a distance from said pintles.

2,967,533
COLLAPSIBLE PORTABLE ENCLOSURE AND SUN SHIELD APPARATUS
Virgil R. Ballinger, 12121 Washington Blvd., Los Angeles, Calif.
Filed Nov. 18, 1959, Ser. No. 853,899
6 Claims. (Cl. 135—1)



1. A collapsible portable enclosure and sun shield apparatus, comprising: a collapsible knock-down frame including four normally vertical corner frame members, four normally horizontal top frame members, four pairs

of panel frame members, and four upper outer corner hinge members, each pivotally joining adjacent ends of one of said corner frame members, two of said top frame members, and two of said panel frame members for pivotal movement with respect to said corner frame member in mutually perpendicular planes between fully extended substantially horizontal positions and fully collapsed similarly oriented positions in closely adjacent nested relationship with respect to said corner frame member; and flexible cover means comprising thin-sheet flexible material effectively carried by and extending over the four top frame members and the eight panel frame members and provided with controllably engageable and disengageable fastening means at the ends thereof for removably engaging same whereby said cover means can be removed for compact folding and convenient storage together with the collapsed frame during periods of non-use; each of said corner frame members consisting of a plurality of longitudinally controllably extendably engaged elements which may be extended into a fully extended position and which may be retracted into a fully retracted non-use position.

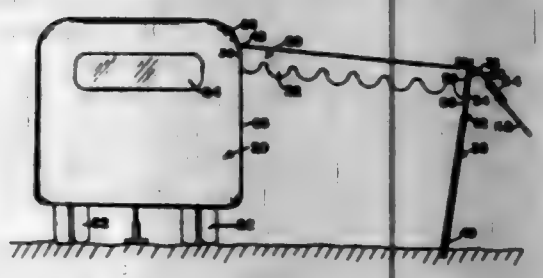
2,967,534
TENT SHELTER
Joseph P. Sliye, 1518 Grant, Lincoln Park 25, Mich.
Filed Nov. 7, 1957, Ser. No. 695,152
5 Claims. (Cl. 135—4)



1. A tent comprising an upper frame and a lower frame detachably connected together; said lower frame comprising a plurality of upright posts and struts connected therebetween adjacent their upper and lower ends; one pair of the struts having detachable connections with post sections adjacent thereto, and the remaining struts comprising foldable sections pivotally connected to the posts, whereby the lower frame may be collapsed into a compact carrying bundle; said upper frame comprising a plurality of upright posts detachably connected with the first mentioned posts, a plurality of upwardly convergent roof rib elements having a hinge connection between their upper ends and pivotally connected with the upper posts at locations spaced upwardly from the rib element lower ends; and foldable struts connecting the rib element lower ends whereby the upper frame may be collapsed into a compact carrying bundle; the combination further comprising a flexible panel carried by the rib elements and slanting downwardly to the foldable struts so as to overlap the upper ends of the upper posts and thereby provide for run-off of rain water away from the tent interior.

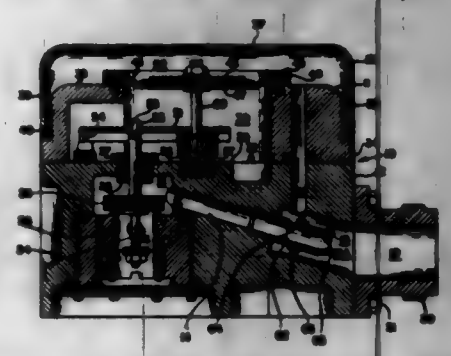
2,967,535
TRAILER AWNING SUPPORT STRUCTURE
Ernest G. Freeman, 407 Newnan Ave., East Point, Ga.
Filed Sept. 25, 1957, Ser. No. 686,119
9 Claims. (Cl. 135—5)

1. In an awning structure of the class described to be supported from a fixed base such as a trailer and having a flexible awning extending outwardly therefrom above the ground, a front edge on said awning supported above the ground and extending longitudinally therealong, a plurality of support posts each having an upper end engageable with and inserted through said awning front edge to support same above ground, a longitudinal structural member supported on said posts and positioned along the front edge of said awning and supporting same, said longitudinal member being composed of a plurality of individual, rigid members permanently connected together, a joint connecting adjacent pairs of said rigid members and having an opening formed therein to receive a respective post therein and therethrough out of said front edge, retaining means on said post retaining said



post in engagement with said respective joints, said individual longitudinally diposed, connected members being fixed against longitudinal displacement and against movement in a longitudinal direction by connection through said joints, said longitudinal individual members being movable in an arcuate direction about a respective joint and along said edge thereby positioning one of said individual members in a different angle than another, whereby said front edge will adjust vertically therealong but is immovable in a longitudinal direction.

2,967,536
RESPIRATORY GAS FLOW REGULATORS
Urban F. Stratman, Davenport, Iowa, assignor to The Bendix Corporation, a corporation of Delaware
Filed June 27, 1957, Ser. No. 668,391
7 Claims. (Cl. 137—63)

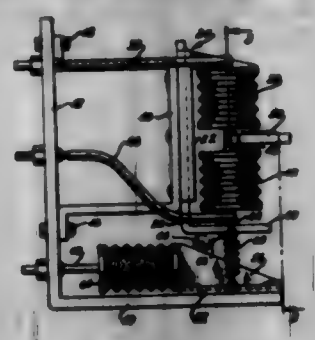


1. A respiratory gas flow regulator comprising a body, a gas supply passageway in the body originating at an inlet and terminating in a supply outlet, and means for regulating the flow of gas through said passageway, comprising a valve in the passageway, and means for operating the valve in accordance with pressure variations at the outlet, including a passage chamber connected to the outlet, a pressure responsive diaphragm in a wall of the chamber, valve actuating means connecting said valve and diaphragm and operated by the diaphragm for opening the valve when the chamber pressure is reduced and closing the valve when the chamber pressure is increased, means for increasing the drop in pressure in the chamber when outlet pressure is reduced, and means for increasing the rise in pressure in the chamber when the outlet pressure rises.

2,967,537
CONTROL APPARATUS RESPONSIVE TO A PLURALITY OF INDEPENDENTLY VARIABLE PRESSURES
John U. Morris, R.D. 6, Oswego, N.Y.
Filed Dec. 3, 1958, Ser. No. 778,029
7 Claims. (Cl. 137—82)

1. A condition responsive positioning device comprising a frame, a carriage mounted on said frame for move-

ment relative to said frame along a fixed path, a first condition responsive device for positioning said carriage at a selected position on said path in accordance with a first control condition, a pair of opposed condition responsive devices mounted on said carriage, means for moving one of said pair of devices in accordance with a second control condition, means for moving the other of

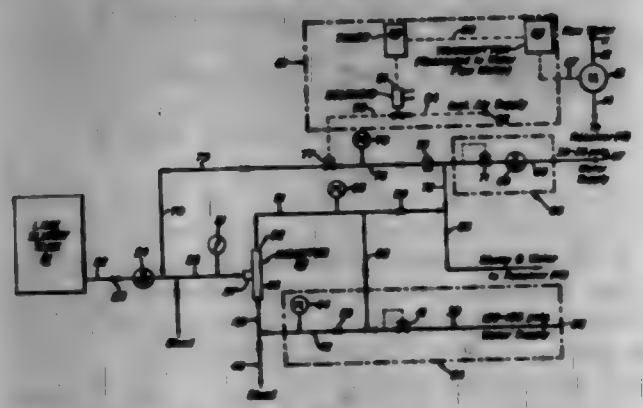


said pair of devices in accordance with a third control condition, a control arm mounted for movement relative to said frame and said carriage, and means connecting said control arm between said pair of devices whereby said arm is positioned relative to said carriage in accordance with the net movement imparted to said pair of devices in accordance with said second and said third control conditions.

2,967,538
PROPORTIONING SYSTEM FOR WATER TREATERS

Alfred B. Hill, Metairie, Lawrence F. Becnel, Destrehan, and Albert P. Tassin, La Place, La., assignors to The American Oil Company, New York, N.Y., a corporation of Maryland

Filed Dec. 26, 1958, Serial No. 783,016
1 Claim. (Cl. 137—113)

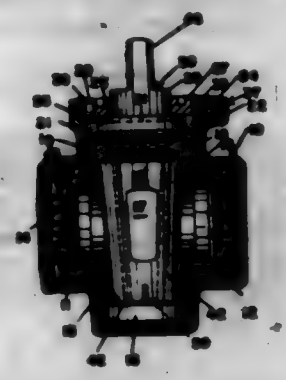


A proportioning system for delivering materials, which system comprises a vessel adapted to contain the material to be delivered in the form of a liquid; a first conduit connected to said vessel in a manner suitable for the flow of liquid material therefrom, which first conduit is provided with check-valve means adapted to permit flow only from said vessel; a jet inductor means; a second conduit joining said check-valve means and the suction side of said jet inductor means; a third conduit means, provided with a flow controller adapted for delivery of liquid at essentially constant high pressure, connected to the driving-liquid entry side of said jet inductor; a fourth conduit means connected to the discharge side of said jet inductor; a fifth conduit means connected to said second conduit, provided with on-off valve means, a flow controller and adapted for delivery of liquid at essentially constant low pressure, said liquid pressure being such as to hold said check-valve in said first conduit closed; and a cyclic timing means for activating said on-off valve means in said fifth conduit in response to the rate of flow of liquid, which liquid is to be intermingled ultimately with the liquid withdrawn from said vessel.

2,967,539
PLUG VALVE

James G. Bradbury, Erie, Pa., assignor to Hays Manufacturing Company, Erie, Pa., a corporation of Pennsylvania

Filed Apr. 8, 1957, Ser. No. 651,220
9 Claims. (Cl. 137—246)

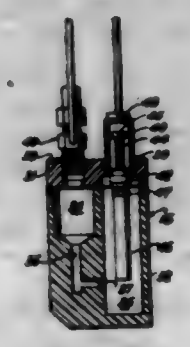


1. A valve comprising a body member having a longitudinal bore, a tapered lateral bore extending laterally across said longitudinal bore closed at one end, the walls of said lateral bore constituting a plug seat, a tapered valve plug disposed in said seat and rotatable therein and having a port alignable with said longitudinal bore, the opposed surfaces of said seat and said plug making sealing engagement with each other over their major axial extent, the surface of one end of said plug being generally cylindrical, two axially spaced circumferential grooves in said cylindrical surface of said plug adjacent one end of said seat and said plug, a cylindrical counterbore in said lateral bore in said body member in the end thereof opposite said closed end, the grooved end of said plug being disposed in said counterbore, an O-shaped packing washer disposed in the outer of said grooves in said plug and engaging the inner surface of said counterbore, and axial grooves in said seat in said body member conducting grease from the lower end thereof to said counterbore in said body member.

2,967,540
LIQUID TYPE CHECK VALVE

Donald A. Dield, Arlington, N.J., assignor to The Fyr-Fyter Company, Dayton, Ohio, a corporation of Ohio

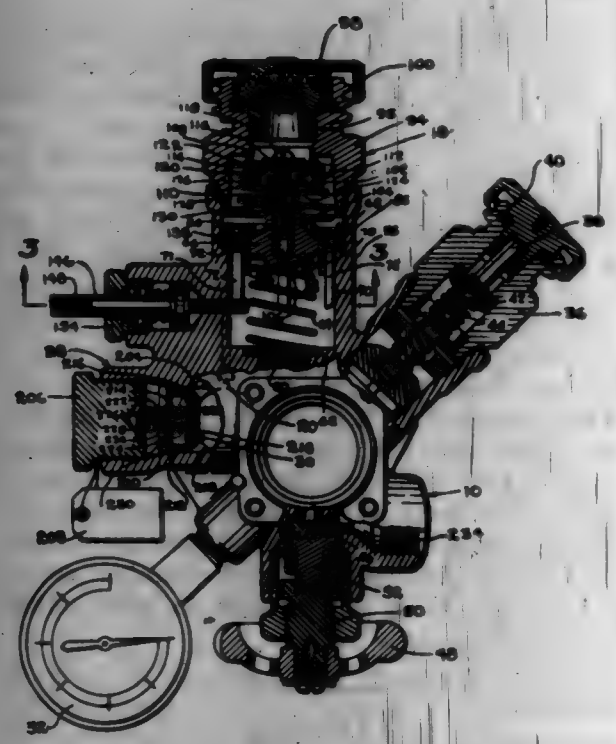
Filed July 29, 1957, Ser. No. 674,705
2 Claims. (Cl. 137—253)



1. A dual liquid type check valve for use in a heat actuated pressure operated fire detecting system, the check valve comprising a pair of body members each having first and second chambers therein, the first chambers having lower portions of reduced diameter and upper portions of enlarged diameter, both chambers open at the top thereof, means forming a horizontally extending fluid passage between each said first and said second chambers and forming with said first and second chambers a U-tube construction adapted to receive liquid, said horizontally extending fluid passage means extending into said second chambers at points spaced from the bottom thereof, a cover member for the pair of body members and closing the chambers therein, inlet means in the cover member

positioned above each first chamber, plunger means extending from the cover member into each of the second chambers, adjustment means for each plunger means manipulable from the exterior of the cover to raise or lower its plunger means in its chamber, a single outlet means positioned in the cover member, and means providing fluid passage from each of the top portions of said second chambers to the outlet through said cover member.

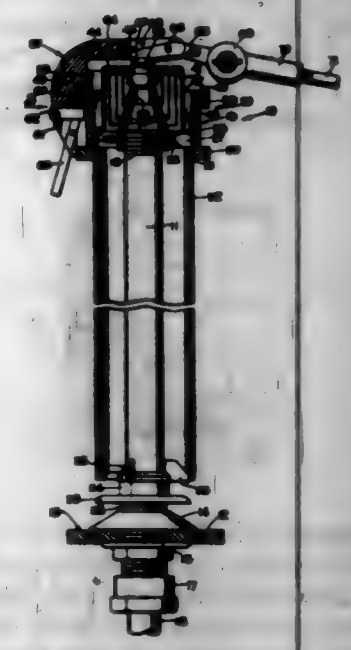
2,967,541
LIQUEFIED GAS FILLER VALVE ASSEMBLY
Harold L. Norway, Evanston, and Woodrow S. Boedecker, Elmhurst, Ill., assignors to The Bastian-Blessing Company, Chicago, Ill., a corporation of Illinois
Filed Jan. 7, 1957, Ser. No. 632,835
19 Claims. (Cl. 137—393)



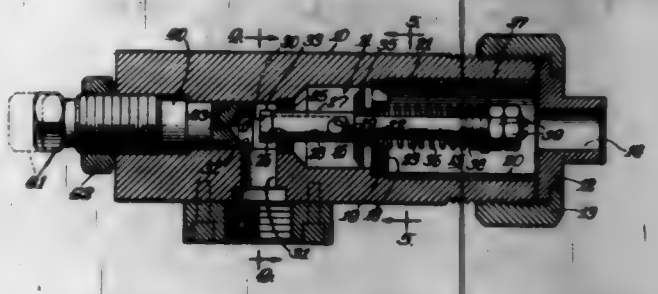
10. In a liquefied gas dispensing system of the class described, a valve body having a filler conduit, valve means in said conduit having a pair of relatively slidable check valve members opening upon introduction of fluid thereagainst, a valve housing secured to said valve body above and in communication with said conduit and valve means, an inflow check valve in said housing, latch means for holding said inflow check valve open, and pressure responsive means for controlling said latch means including a conduit receiving liquefied petroleum gas under pressure in its liquid phase and venting same to atmosphere in its vapor phase.

2,967,542
AIR-FLOW BALL COCK
Bernard B. Einer, 3445 E. Colorado St., Pasadena, Calif.
Filed Jan. 28, 1957, Ser. No. 636,718
10 Claims. (Cl. 137—437)

1. In a flush tank valve for controlling the escape of water from a pressure water supply pipe, the combination of: a valve seat base adapted to connect with said pipe and having a valve seat to which water flows under pressure from said pipe; a tube surrounding said base and fixed in concentric outwardly spaced relation with said base; a valve member slidable in said tube whereby said seat is closed when said member is pressed downward thereagainst; a float actuated lever having one end thereof poised over the center of said valve member, for depressing the latter; and a lever mount clamp pivotably supporting said lever on a horizontal axis and having means for clamping onto said tube with said lever disposed as aforesaid in any desired radial plane containing the axis of said member.



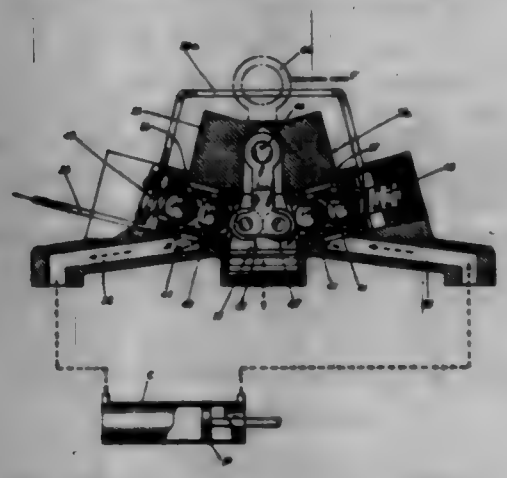
2,967,543
FLOW REGULATING VALVE
Alfred H. Viergutz, Chicago, Ill., assignor to The W. A. Kates Company, a corporation of Illinois
Filed June 1, 1955, Ser. No. 512,538
2 Claims. (Cl. 137—484.2)



1. A flow regulating valve comprising a casing; an elongated generally cylindrical bore in the casing; means in said casing dividing the bore into an inlet section, an outlet section, and an intermediate impellor section; an inlet in the casing opening into said inlet section; an outlet in the casing opening radially into the outlet section; a valving member extending into each of said sections and mounted in said dividing means for movement axially in said bore, said valving member including a cylindrical valving portion positioned in the impellor and outlet sections, said valving portion having an open end in the outlet section, an opening in the impellor section and a passage therein interconnecting the opening and the open end to establish communication between the last mentioned sections through said valving portion; a valve seat in the outlet section positioned in the path of movement of said end of the valving portion; means biasing the valving member toward movement in a direction separating said end of the valving portion from the valve seat; an impellor secured to the valving member in the impellor section of the bore and partially obstructing the flow of fluid therethrough to create a pressure differential on opposite sides of the impellor sufficient to move the valving member toward the valve seat against the bias of the biasing means, and an enlarged generally annular portion formed on said open end and positioned coaxially of the valving portion said enlarged portion being subject to flow of fluid from said outlet section radially outwardly through said outlet and said enlarged

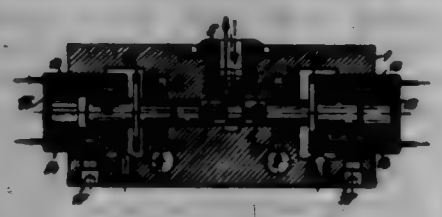
portion being positioned adjacent the radial outlet to urge the valving member toward movement in parallel with said impellor.

2,967,544
VALVE STRUCTURE
Earle S. Pearsall, 15773 Union Ave., Los Gatos, Calif.
Filed Dec. 3, 1954, Ser. No. 473,903
3 Claims. (Cl. 137—622)



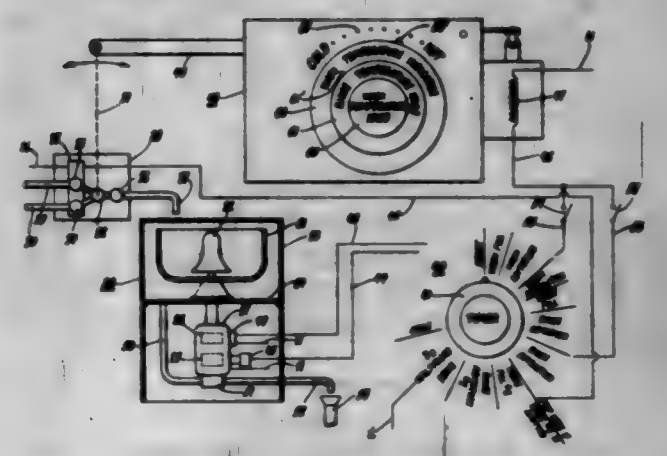
1. A valve structure, comprising: a body formed with a first and a second bore, the inner ends of said bores intersecting a return chamber formed in said body; means in said body for connecting the outer ends of said bores to a source of fluid under pressure; a radially extending opening formed in each of said bores; a ball disposed in each of said bores and having line sealing contact therewith, said balls normally blocking flow from the outer ends of said bores into said openings; spring means disposed in the outer ends of said bores for biasing said balls toward their normal position; and, means operatively connected with said body for moving said balls axially within said bores whereby the opening in one of said bores will be exposed to the outer end thereof while the opening in the other bore is exposed to said return chamber.

2,967,545
MAGNETICALLY ACTUATED SLIDE VALVES
Franz Josef Schmidt, Schmitten (Taunus), Hessen, Germany
Filed July 1, 1958, Ser. No. 746,033
Claims priority, application Germany July 1, 1957
6 Claims. (Cl. 137—623)



1. A control comprising a casing having an elongated bore therein and transverse bores opening into said elongated bore at spaced positions for the conveying of a hydraulic medium, a cylindrical slide in said elongated bore, said slide including two end sections and a central section of substantially the same diameter as said elongated bore and intermediate sections of lesser diameter connecting the first said sections, a movement of said slide in said elongated bore selectively connecting said transverse bores, electromagnets mounted in said casing at opposite extremities of said elongated bore and including coils concentric with said slide, cores on the ends of said slide and operatively disposed with respect to said coils for attraction thereby, said elongated bore having enlarged portions between said central section and said coils, and holding rings firmly fitted in said enlarged portions and encircling the end sections of said slide, said rings firmly engaging said end sections to maintain positions of the slide selected by energization of said electromagnets and to prevent leakage of the hydraulic medium.

2,967,546
SEPARATE WASH AND RINSE TEMPERATURE SELECTORS
Kenneth O. Sisson, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 26, 1956, Ser. No. 612,262
7 Claims. (Cl. 137—624.2)

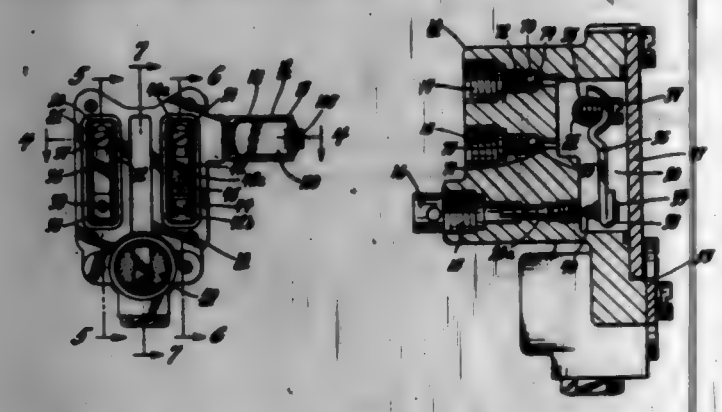


1. A liquid temperature control system including higher and lower temperature liquid supply means, a common liquid receiving means, an adjustable proportioning means for proportioning the flow of higher and lower temperature liquid from said supply means to said receiving means, said proportioning means including adjustment means for adjusting the proportions of the higher and lower temperature liquid to said receiving means, a sequential control device having means for controlling said supply means to provide first and second separate delivery periods, a first delivery period temperature selector means operably connected to said adjustment means during said first period having a range of adjustment to provide an infinite number of different proportions of higher and lower temperature liquid, a second delivery period temperature selector means separate and independent of the first selector means operably connected to said adjustment means during said second period having a range of adjustment to provide at least two different proportions of higher and lower temperature liquid, said sequential control device having means for rendering effective said first selector means and for rendering ineffective said second selector means during said first delivery period and having means for rendering ineffective said first selector means and rendering effective said second selector means during said second delivery period.

2,967,547
HEIGHT CONTROL VALVE
John F. Pribonic, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed July 23, 1958, Ser. No. 750,336
9 Claims. (Cl. 137—627.5)

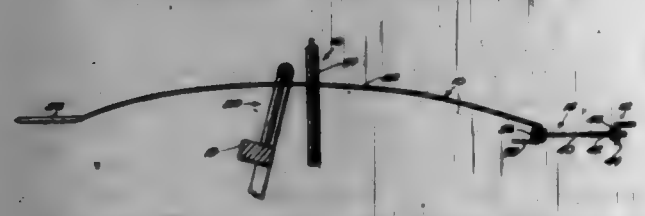
1. A height control or leveling valve for use in a fluid suspension system for a vehicle comprising, a valve body, said valve body having a fluid inlet chamber and a separate fluid exhaust chamber, an oscillatable actuating shaft journalled in said body between said chambers and extending into both of said chambers and projecting from said body adjacent one of said chambers and including seal means on said shaft to prevent transfer of fluid pressures between said chambers, separate inlet and exhaust valve means in said body in fluid communication with said inlet and exhaust chambers respectively, separate valve actuat-

ing means secured to said shaft in each of said chambers engaging respectively the inlet and exhaust valve means, a damping piston reciprocable in a cylinder in said body positioned adjacent corresponding ends of said chambers, and a damping piston actuating member secured to said



shaft extending through a third chamber in said body between said first mentioned chambers and connecting with said cylinder into engagement with said damping piston to reciprocate the same with oscillation of said shaft.

2,967,548
PILE FABRIC LOOM ASSEMBLY AND WIRE THEREFOR
Robert O. Sparling, North Scituate, R.I.
(P.O. Box 5067, Esmond 17, R.I.)
Filed May 21, 1958, Ser. No. 736,740
5 Claims. (Cl. 139—37)



1. In a loom for weaving pile fabric having a frame, at least one harness, at least one longitudinal pile wire comprising an elongated flexible shank having a front end portion of flattened planar form substantially rigid in the plane of said end portion, a rear end portion of said shank including an attachment means, each pile wire having said shank supported by a harness so as to be movable therewith while said front end portion is substantially held from movement by the frictional engagement of the fabric, and means connected to said frame substantially freely movable relative thereto in a limited range and having said attachment means connected thereto so as to permit limited flexing movement of said pile wire in response to movement of said harness.

2,967,549
PILE CARPETS
Stewart McKnight, Amsterdam, N.Y., assignor to Mohasco Industries, Inc., Amsterdam, N.Y., a corporation of New York
Filed May 28, 1958, Ser. No. 738,488
3 Claims. (Cl. 139—402)



1. A pile carpet, which comprises a base formed of binder warp yarns in two sets and picks of filling interlaced therewith, the binder warp yarns being under substantially equal tension and the picks of filling lying substantially in a plane, the binder yarns being distributed across the fabric in spaced pairs with each pair consisting of a yarn of each set and the yarns of each pair passing on opposite sides of each pick and crossing between adjacent picks, and a pile formed of elements of pile yarns in three sets only with the elements of each yarn lying in a row extending lengthwise of the fabric, the pile elements of each yarn being bound beneath single picks of filling distributed along the base and separated by two other picks of filling only, each element extending above the base between each binding pick and the adjacent picks on opposite sides thereof to form a pile element, the rows of pile elements of the several pile yarns being distributed across the fabric in like groups with each group consisting of a row of elements of a pile yarn of each set, each pick of filling binding elements of pile yarns of a single set only and lying beneath elements of pile yarns of the other sets and successive picks of filling binding elements of pile yarns different from the pile yarns forming the elements bound by adjacent picks of filling on opposite sides of said pick.

2,967,550
TIGHTENING AND CUTTING DEVICE FOR HOOPING OBJECTS
Jakob Rosenberger and Otto Jakob, Zurich, Switzerland, assignors to Erich Borbe, Zurich, Switzerland
Filed Dec. 17, 1954, Ser. No. 475,976
Claims priority, application Switzerland Dec. 29, 1953
5 Claims. (Cl. 140—93)



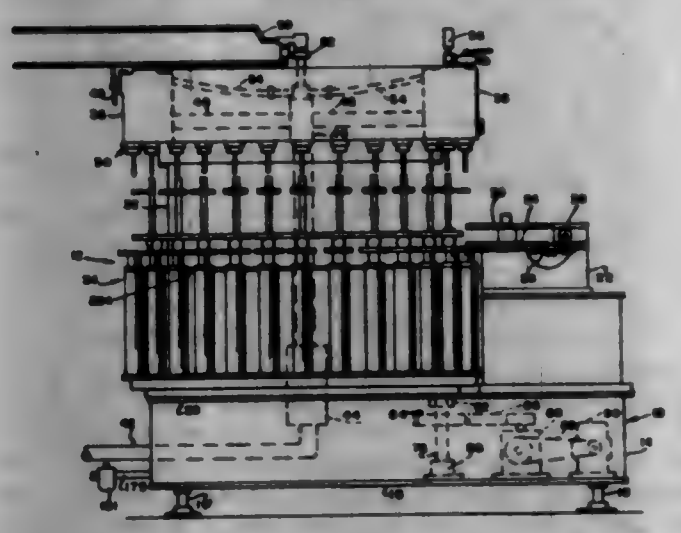
1. An apparatus for tightening and cutting hoop irons in band and like form around an object; comprising a substantially flat elongated hollow frame of inverted U-shaped cross-section, a base plate detachably fixed to the bottom of one wall of said frame so as to form an open sided guide channel for said hoop irons therebetween, said frame and said base plate converging together at one end of each into a rhamphoid and forward front portion, said frame forming a handle at the other and rearward end thereof, an operating shaft transversely and rotatably journalled in said frame intermediate said ends thereof, an operating lever fixedly connected to said shaft for rotation of the latter, pinion means fixedly arranged on said shaft for rotation therewith, a slide arranged with respect to said elongated frame for axial movement while being laterally and vertically retained therein, said slide having a longitudinal slot positioned therein and a forward chamfered end and being provided with a rack engaging said pinion for effectuating the axial movement of said slide, a tightening shoe fixedly attached to and projecting laterally from the bottom of said slide and below said guide channel for said hoop irons, first pawl means arranged for pivoting about said shaft and having a serrated lower face capable of forming a steep angle with said base plate for locking said hoop irons thereagainst, biasing means for urging said first pawl means against said base plate, a first pin fixedly attached to and laterally projecting from said first pawl means into said slot in said slide for rotating said first pawl about said shaft into a position where said serrated lower face of said first pawl means will be spaced from said base plate when said slide is in a rearward terminal position, second pawl means rotatably positioned on said slide above and biased against said tightening shoe for contacting cooperation of a lower face of said second pawl with said tightening shoe, stop means fixedly attached within said frame for contacting and rotating said second

pawl means to raise said lower face of same from said tightening shoe when said slide is in said rearward terminal position, cutting means including a knife having a chamfered upper edge, said knife being adapted for vertical guided movement within said frame and for downward actuation through said hoop irons in said guide channel by means of said forward chamfered end of said slide moving against said chamfered edge of said knife when said slide is moved to a forward terminal position.

2,967,551
FILLING MACHINE

Frederick E. Fauth, Baltimore, and Daniel J. Bastraan, Lutherville, Md., assignors to Crown Cork & Seal Company, Inc., Philadelphia, Pa., a corporation of New York

Filed July 15, 1959, Ser. No. 827,246
18 Claims. (Cl. 141—149)



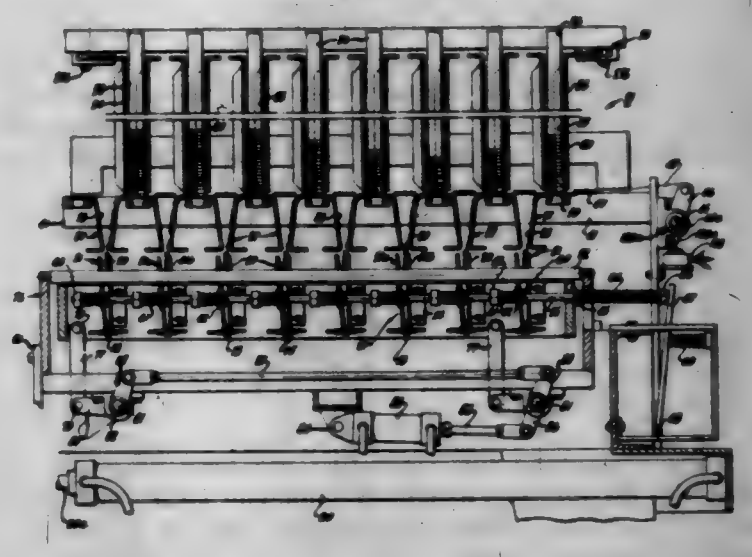
1. In a filling machine for filling containers: a stationary frame structure having an upwardly facing annular bearing surface, said surface being provided with at least a pair of concentrically spaced grooves having a lubricating liquid from a source of liquid supplied thereto at a predetermined pressure; a rotary turret structure having a downwardly facing horizontal annular bearing surface complimentay in size and cooperating with said upwardly facing bearing surface of said stationary frame structure, said rotary turret structure including a cylinder, a container supporting platform carried by said cylinder and operable from a lower position to an upper position by fluid pressure in said cylinder, a filling head positioned above and in alignment with said container supporting platform and a liquid reservoir; means for applying a fluid under a predetermined pressure through said bearing surfaces intermediate said grooves to said cylinder to cause container supporting platform to raise; means for returning lubricating liquid to said source from between said bearing surfaces; and means for exhausting fluid under pressure in said cylinders through said bearing surfaces intermediate said grooves to thereby lower said container supporting platform from its upper position.

2,967,552
GRID ASSEMBLING MACHINE

Arthur J. Randolph, Santa Rosa, Calif., assignor to California Wood Products, Inc., Santa Rosa, Calif., a corporation of California

Filed Dec. 15, 1955, Ser. No. 553,277
7 Claims. (Cl. 144—2)

2. A slat assembling machine of the character described which comprises a magazine having a plurality of upright chutes for holding a like number of upright columns of slats with the slats in each column stacked upon one another in parallel , flat position; a like number of guideways for receiving slats separated from the bottoms of the chutes and turning the slats to edgewise, parallel position; slat feed means for separating the bottommost slats in said chutes and delivering the separated slats to said guideways, levelling means for holding the separated, edgewise slats in level position with their edges in horizontal planes; a clamp for each guideway including a movable jaw which is capable of moving between open and closed positions for receiving and clamping edgewise

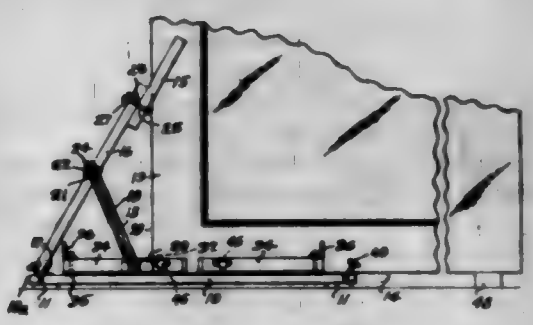


slats, respectively; shifting means for shifting a set of slats in edgewise, parallel, levelled array between a first position in registry with said chutes and a second position; and means for operating said movable jaws and actuated by said shifting means to open the clamps in said first position and to close them when the slats are shifted to said second position.

2,967,553
ADJUSTABLE DOOR SUPPORTING CLAMP AND STOOL

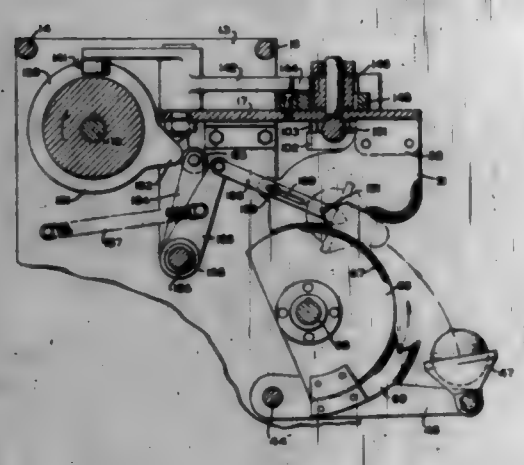
Salvator Coviello, 36 Gorham Place, Trumbull, Conn.

Filed Feb. 24, 1959, Ser. No. 795,128
2 Claims. (Cl. 144—296)



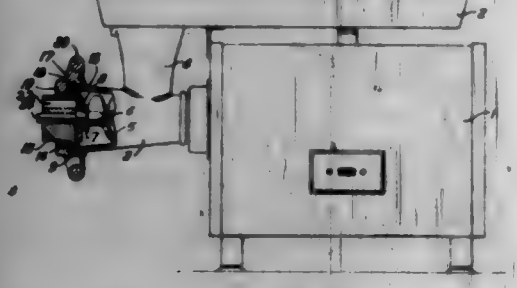
1. A work support comprising a base adapted to support a work member on one edge in an upright position, an arm hinged at one edge to the base adjacent one end thereof and swingable to various angular positions above the base, means for locking said arm in different angular positions, a pair of blocks mounted on the arm adjacent the free edge thereof and projecting beyond this edge to receive the upright edge of a work member between them, means securing the blocks to the arm each individually pivoted on an axis extending in a plane generally parallel to the longitudinal extent of the base to vary the angular position of the blocks, said pivoted blocks also mounted for lateral adjustment toward each other to vary the distance between them, and a pair of blocks mounted on the base by clamping means permitting lateral adjustment of the blocks for work members of different thicknesses.

2,967,554
PEACH PITTER
Lawrence W. Waters, Fullerton, Calif., assignor to United Can and Glass Company, Hayward, Calif., a corporation of Delaware
Filed Feb. 21, 1957, Ser. No. 641,713
6 Claims. (Cl. 146—28)



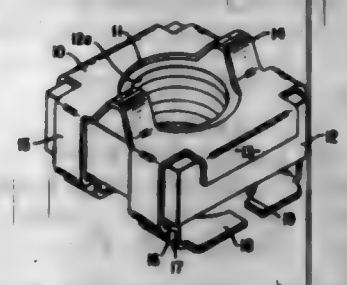
1. In a machine for separating the flesh of a peach from the pit thereof, a pair of coplanar knife members having complementary mating edges, each of said knife members having a generally V-shaped pit receiving notch formed in said mating edge, said notches being opposed to one another when said knife members are in mated position to form a generally diamond shaped hole through said mated knife members, the base dimension of said V-shaped notches being greater than the smallest and less than the largest suture plane diameters of the pit of the peach upon which the machine operates, and the distance between apices of said notches being less than the largest diameter of said pit.

2,967,555
FOOD CHOPPER
Charles N. Baker, 2615 Grayson Drive, Dallas, Tex.
Filed Apr. 28, 1958, Ser. No. 731,468
5 Claims. (Cl. 146—189)



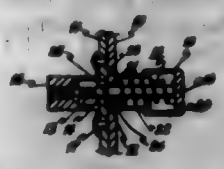
1. In a food chopper of the class having an auger housing, an auger shaft rotatably disposed in the housing, an auger mounted on the shaft, a blade keyed to the shaft, longitudinal keys formed on the inner side of the housing, a shaper and chopper plate having an annular flange on one end thereof, key slots in the outer periphery of the flange registerable with the keys in the housing, a central round hole extending longitudinally of the shaper plate and slidable over the outer end of the shaft, a hold down nut threadedly engaged with the housing and having a part thereon engagable with the flange on the plate to hold the plate in the housing, the combination with the foregoing of an elongated reduced extension on the shaper plate extending outwardly of the housing and the hold down nut; and a plurality of radially disposed passages extending longitudinally through the reduced extension of the plate, the blade being rotatably positioned against the flanged end of the plate.

2,967,556
SHEET METAL SCREW FASTENER WITH EDGEWISE FLEXIBLE PANEL ENGAGING ARMS
Leonard S. Jaworski, Toledo, Ohio, assignor to Prestole Corporation, Toledo, Ohio, a corporation of Michigan
Filed Apr. 16, 1959, Ser. No. 806,958
2 Claims. (Cl. 151—41.75)



2. A fastener comprising a spring metal body having a flat top panel provided with a central aperture, pairs of laterally spaced flat parallel arms on opposite sides of and integral with said body panel and depending at substantially right angles thereto, a relatively narrow upwardly arched strip forming part of the body panel and providing an integral connection between each pair of arms, an integral extension on the outer end of each arm projecting inwardly a short distance at substantially right angles thereto and then projecting downwardly a short distance parallel to the respective arm, a nut loosely fitting said body with its threaded hole in registry with the aperture in the body panel, said nut resting on the inwardly projecting extensions of said arms, flanges on said body panel to assist in retaining the nut within the body, a plate-like foot integral with the lower end of each extension and disposed generally parallel to said body panel and at right angles to the respective extension and extending inwardly toward and terminating close to and in alignment with the respective foot on the opposite side, each foot having a portion projecting laterally outward beyond the nut to form with the adjacent portion of said arm extension a hook portion whereby the fastener is applied to an apertured supporting panel by introducing the hook portions of the feet of oppositely disposed arms into the panel aperture and against an edge thereof and by imparting pressure to the fastener, the respective arms are flexed edgewise to enable entry of the other pair of hook portions into the aperture and upon release thereof opposite pairs of feet resiliently engage opposite edge portions of the panel aperture with the plate-like feet arranged on one side of the panel and the inwardly projecting extensions of the arms disposed on the opposite side of the panel.

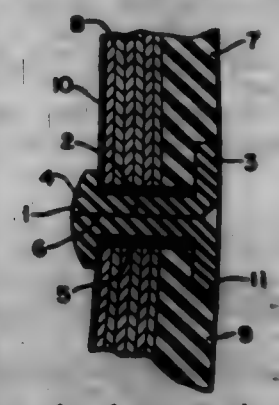
2,967,557
CAPTIVE SCREW WITH SLEEVE TO PREVENT ENGAGEMENT OF THE SCREW HEAD WITH THE WORK
William O. Tait, Locust Valley, and Norman A. Wilkes, Plainview, N.Y., assignors to Reeves Instrument Corporation, Garden City, N.Y., a corporation of New York
Filed Nov. 23, 1956, Ser. No. 624,071
4 Claims. (Cl. 151—69)



1. A fastening device adapted for attaching a panel member to a supporting frame, said supporting frame including receptacle means, comprising in combination, a hollow cap having an open end and a closed end, a

stud having one end rigidly attached directly to the inner surface of said hollow cap, the other end of said stud extending outside said hollow cap, said other end having a threaded region for positive engagement with said receptacle means, a cylindrical member surrounding said stud, said cylindrical member having an outer diameter less than the inner diameter of the open end of said hollow cap, said cylindrical member telescoping within said hollow cap and having an end surface situated outside of said hollow cap for abutting against one side of said panel member, helical spring means surrounding said stud, said spring means being partially compressed between the inside of said hollow cap and said cylindrical member by insertion of the other end of said stud through an aperture in said panel member, and retaining means attached to and carried by said stud at a fixed position thereon between said cylindrical member and the threaded region of said stud, said fixed position being spaced from said threaded region and said hollow cap, said retaining means having a portion protruding from said stud for abutting against the other side of said panel member for holding the fastening device to said panel member, said hollow cap having an internal abutment surface for abutting the other end surface of said cylindrical member, the distance from said internal abutment surface to the open end of said cap being less than the axial length of said cylindrical member.

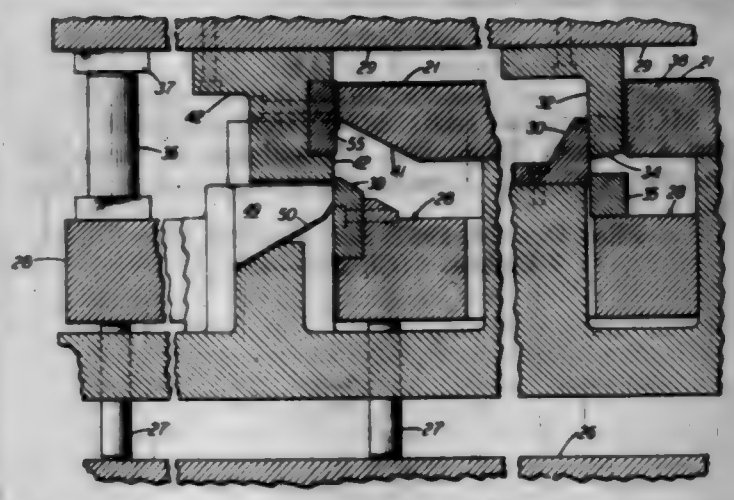
2,967,558
RUBBER VALVE
John P. Urben, Cuyahoga Falls, Ohio, assignor to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
Filed Oct. 20, 1958, Ser. No. 768,477
17 Claims. (Cl. 152—429)



1. An inflation valve for mounting in an opening in a wall of a fluid container, said valve comprising a shank having a normal cross-section greater than that of the opening in which it is to be mounted, said shank comprising a central portion formed of relatively soft pliable rubber having an inflation passage and a sheath integral therewith arranged radially outward of said central portion and having a substantially greater resistance to cutting and abrasion than the rubber of said central portion, said shank being radially compressible and longitudinally extensible to permit mounting in said opening.

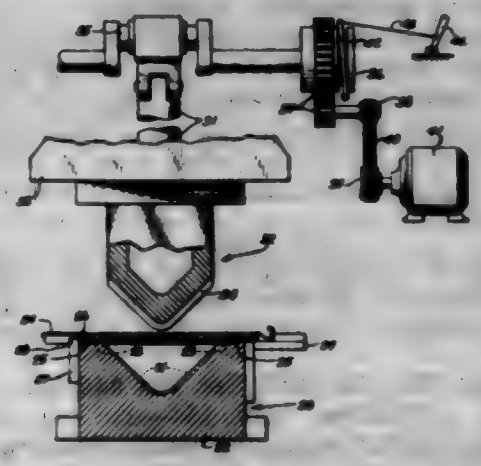
2,967,559
TRIMMING AND FLANGING DIE
Glenn D. Garrison, 320 Hall St. SW., Grand Rapids, Mich.
Filed Feb. 20, 1958, Ser. No. 716,351
4 Claims. (Cl. 153—2)

1. A trimming and flanging die, said die comprising: a base member having a portion normally fixed with respect thereto for engaging and supporting workpieces, said base member also having fixed interrupted shearing means disposed to establish portions of a substantially continuous trim line, and also having spaced shearing means intersecting said trim line and extending to one side thereof; a movable intermediate die member mounted for limited reciprocation with respect to said base member; biasing means urging said intermediate member away from said base member to a limit position; corner-shearing means mounted on said intermediate die member and disposed to establish portions of said trim line connecting said portions established by said fixed interrupted shearing means; a normally upper die member mounted for reciprocating movement with respect to said base and intermediate die members; first shearing means mounted on said upper die member, said first shearing means being disposed on the same side of said trim line as said intermediate die member corner shearing means to cooperate with said fixed shearing means; second shearing means mounted on said upper die member, said second shearing means being disposed on the opposite side



of said trim line from said intermediate die member corner shearing means to cooperate with said corner shearing means and said spaced shearing means to shear out material within the area defined by said corner shearing means and spaced shearing means; bearing means mounted on said upper die member above said intermediate die member corner shearing means between said trim line and said supporting portion; and abutment means operative to cause movement of said intermediate die member with said upper member at a predetermined position in the reciprocating movement of said upper die member, said position being selected to cause shearing action to take place prior to commencement of movement of said intermediate die member.

2,967,560
MACHINE AND PROCESS FOR CORNER BENDING CORRUGATED SHEET
Rudolph H. Thomas, Cleveland, Ohio, assignor to Republic Steel Corporation, Cleveland, Ohio, a corporation of New Jersey
Filed June 11, 1956, Ser. No. 590,647
11 Claims. (Cl. 153—21)



1. The method of forming corner bends in, and transverse to the corrugations of, corrugated sheet metal while maintaining substantially uniform corrugation cross-sectional configuration and smooth corrugation wall surfaces throughout the bend comprising: positioning the

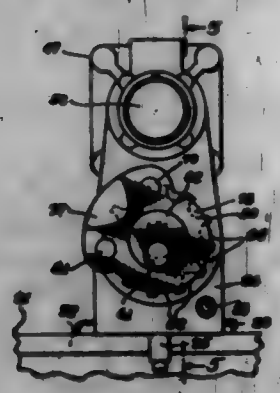
corrugated sheet metal between spaced-apart corner bending dies with the sheet supported on one of said dies at places spaced apart in the direction of said corrugations, including in cooperative relation with each corrugation a temporary deformable metal die member dimensioned to maintain corrugation wall spacing and positioned to receive bending stresses through said sheet metal and having a length corresponding substantially to the ultimate length of engagement of said bending dies with said sheet metal, and closing said dies to exert a bending force on said sheet metal at the region of said bend and counterforces on said temporary die members at regions removed from said region of bend to form said bend while concurrently conformably bending each said temporary die member by bending stresses imparted thereto through said sheet metal.

2,967,561

MULTI-HEAD ROD AND BAR BENDER

Robert J. Petroff, Broadview, Ill., assignor to Place Engineering Co., Inc., Aurora, Ill., a corporation of Illinois

Filed Oct. 24, 1957, Ser. No. 692,172
7 Claims. (Cl. 153—45)



1. A multiple head bar bender which comprises, a series of machine heads horizontally adjustable in an alignment, a work spindle assembly in each of said heads comprising a longitudinally shiftable core portion and a rotatable sleeve portion encircling said core portion, tool elements carried by said core portion including a bending radius pin and a hold-down segment, an additional tool element carried by said rotatable sleeve portion including a circumferentially adjustable disc and a pressure shoe extending perpendicularly from said disc, means to secure the disc circumferentially adjusted relative to the sleeve portion, said pressure shoe and said disc being rotatable with said sleeve portion about a radius eccentric with respect to said radius pin and said pressure shoe having an interiorly facing symmetrically duplicated surface curvature of substantially involute contour whereby to present progressively a sequence of core approaching tangents to a length of stock supported between said radius pin and hold-down segment whilst bending same about said radius pin.

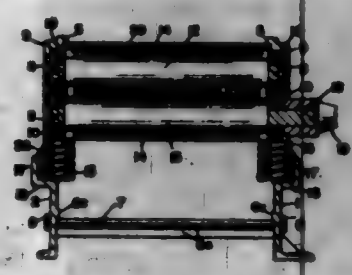
2,967,562

DEVICE FOR LAMINATING PLASTIC SHEETS

David W. Orchard, Mentor, Ohio, assignor to W. L. Gray & Company, Cleveland, Ohio, a corporation of Ohio

Filed Mar. 18, 1957, Ser. No. 646,920
3 Claims. (Cl. 154—1)

1. In a machine for laminating plastic sheets by rolling, a frame structure comprising spaced frame members each having thereon a perch and a hollow bearing housing providing a guideway extending away from the perch in a substantially aligned relation therewith, the perches and bearing housings of said frame members being in a substantially opposed relation transversely of said frame structure, means on said housings providing closed ends for the guideways at the ends of said guideways remote from said perches, antifriction bearings in said guideways, rollers extending transversely of said frame structure and rotatably supported by said bearings with peripheral portions of the rollers in co-operating relation, the bearings supporting one roller being in engagement with said closed ends and the bearings supporting the co-operating roller being in a radially engaged relation with the



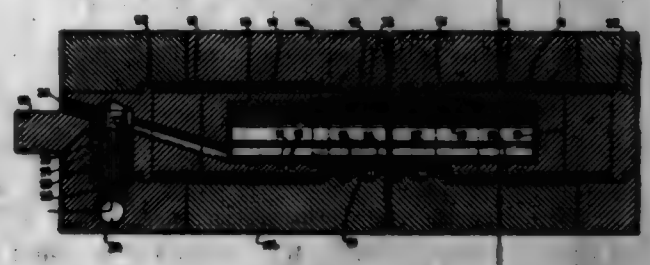
bearings supporting said one roller, coil springs seated on said perches and expansively effective against the bearings supporting said co-operating roller, and driving means connected with at least one of said rollers for imparting rotary movement thereto, the bearing housing of at least one of said frame members having an opening in a side wall thereof and communicating with the guideway thereof at a point between the associated perch and closed end and said opening being of a size for endwise axial movement of said rollers and bearings therethrough to assembled positions in said frame structure.

2,967,563

METHOD OF MAKING MOLDED REINFORCED CORRUGATED HOSE

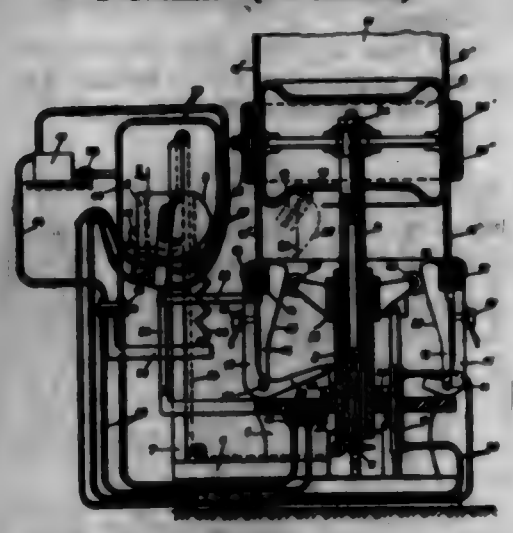
James W. Huff and Joseph H. Bodson, Jr., Trenton, N.J., assignors to Thermoid Company, Trenton, N.J., a corporation of Delaware

Filed Aug. 15, 1956, Ser. No. 604,273
7 Claims. (Cl. 154—8)



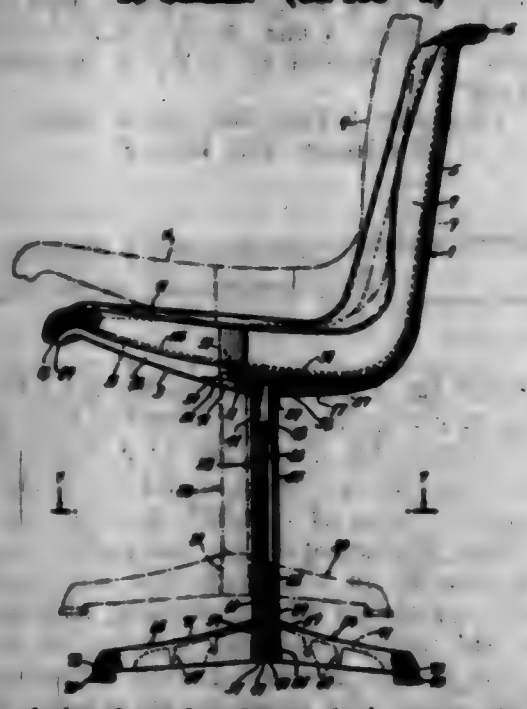
1. A method of making a reinforced corrugated tube of elastomeric material, comprising the steps of providing a tubular blank of incompletely cured elastomeric material, surrounding said blank with a helically coiled metal wire the coils of which are in substantially uniform spaced apart relationship intermediate the ends of said tubular blank, placing a pair of stripe of similar elastomeric material longitudinally along the exterior of said coiled wire with the longitudinal edges of adjacent strips in spaced relation about the circumference of said wire, surrounding the thus formed assembly with a mold having a helical cavity, said mold comprising an upper section and a lower section each providing one-half of the mold cavity, each of said strips being in register with a corresponding half mold cavity and having a width less than the inside diameter of said mold cavity taken at the peaks of its ridges, heating said mold, expanding said blank and superimposed strips into the recesses of said mold, and continuing said heating and expansion for a time sufficient to cure said elastomeric material, whereby said blank is bonded to said strips and the elastomeric material flows into the spaces intermediate adjacent strips and surrounds portions of the coil therein.

2,967,564
APPARATUS FOR MAKING A PNEUMATIC TIRE CARCASS
Walter Nicke, Altwarmbuchen, and Richard Bechadolph, Grossdorf, Hannover, Germany, assignors to Continental Gummi-Werke Aktiengesellschaft, Hannover, Germany
Filed Oct. 19, 1954, Ser. No. 463,252
Claims priority, application Germany Oct. 23, 1953
8 Claims. (Cl. 154—9)



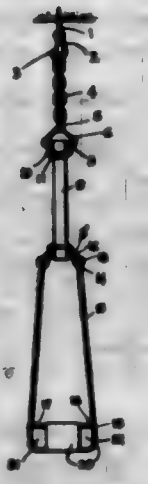
1. In a device for forming the carcass of a pneumatic tire; apparatus for shaping fabric for the carcass comprising a core about which said fabric is shaped, said core being movable along its axis from a first to a second position, means to clamp said fabric to said core with its margins extending axially outwardly, circumferential radially inwardly movable fabric gripping means mounted coaxially in a fixed position in the path of movement of said fabric, and operating means including means for moving said core from said first to said second position, means controlling engagement of said fabric gripping means to hold the adjacent margin of said fabric with the core at said first position, and means controlling radial inward movement of said fabric gripping means on movement of said core toward its second position to fold said fabric about said core on the side adjacent said gripping means.

2,967,565
STACKING CHAIR
Moses R. Schultz, Berto, Pa., assignor, by mesne assignments, to Knoll Associates, Inc., New York, N.Y., a corporation of New York
Filed Jan. 4, 1960, Ser. No. 364
15 Claims. (Cl. 155—2)



1. A chair adapted to be stacked compactly with other similar chairs which comprises a vertically disposed column, a seat supported on the upper end of said column, and a base connected to the lower end of said column for supporting said column and said seat, said seat having a notch open at the forward edge of the seat and extending rearwardly from said edge to an inner end of said notch adjacent said column, said base providing a rearwardly open space disposed at the rearward side of said column and extending forwardly to a forward end of said space adjacent said column, said column of said chair having a thickness transverse to the forward and rearward direction such that said column of a given chair may be received in said space of the base of a chair in superposed stacked relation to said given chair concomitantly with the column of said superposed chair being received in said notch of said given chair.

2,967,566
BABY JUMPER
Thaddeus J. Bleda, 5235 N. Spaulding, Chicago, Ill.
Filed May 17, 1957, Ser. No. 659,917
8 Claims. (Cl. 155—17)

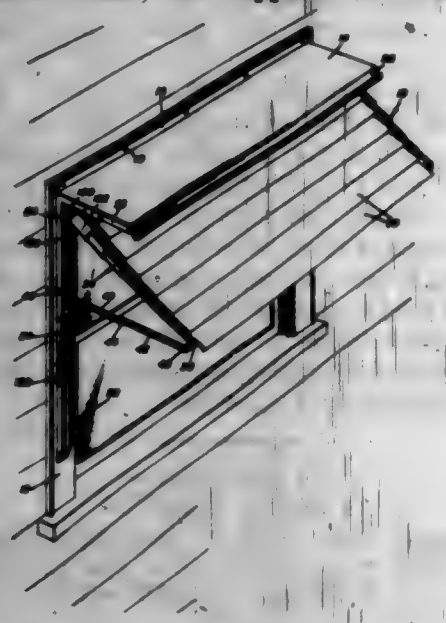


1. A baby bouncer comprising a basket support for a baby, lines from the basket support meeing at a common terminal, an overhead supporting member, a yieldable overhead element between the overhead supporting member and the common terminal, the common terminal comprising a tubular member, a rod passing through the tubular member and having terminal extensions therefrom, the lines connecting to their respective terminal extensions, the lower end of the yieldable overhead element terminating at the tubular member.

2,967,567
FLEXIBLE SHUTTER TELESCOPING TYPE DOOR AND WINDOW AWNING
Pearl M. G. Heckermann, Rte. 2, Box 107, Jefferson City, Mo.
Filed Apr. 1, 1957, Ser. No. 650,009
9 Claims. (Cl. 160—62)

1. A collapsible panel comprising a base, a pair of telescoping supports each having one end secured to said base, each support comprising a plurality of telescoping, longitudinally slidable sleeves, brackets each secured to one end of each sleeve and projecting laterally therefrom towards a sleeve of the other support, said sleeves at the end thereof having one of said brackets being each provided with a longitudinal slot of limited length and width with said sleeves being otherwise continuous, whereby to effect maximum bearing engagement with adjacent sleeves, said slots being of sufficient length and width to receive said brackets therein and to be closed thereby, said brackets being mounted each within a sleeve and having a rib projecting outwardly through the slot thereof, a plurality of parallel slats each having its ends disposed between said supports and secured to the brackets on a pair of supports whereby said slats may be collapsed in nested relation beneath each other and with each bracket abutting the end of the adjacent sleeve,

said brackets thereby constituting stops limiting collapsing of said sleeves when said supports are collapsed and



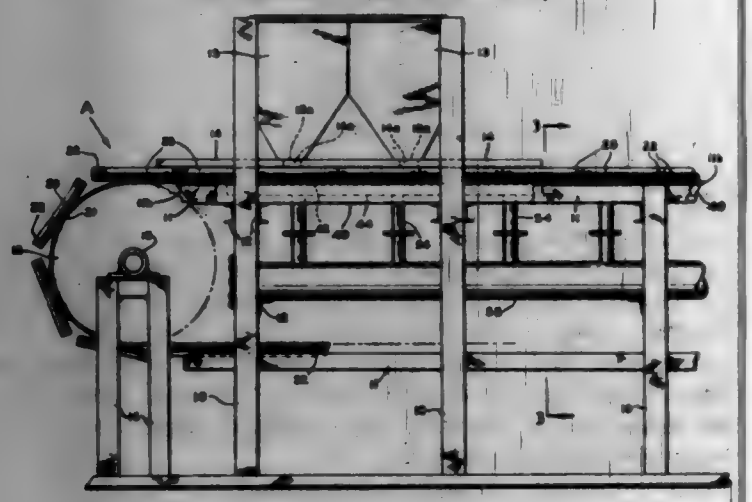
whereby said slats may be expanded into overlapping and spaced relation when said supports are expanded.

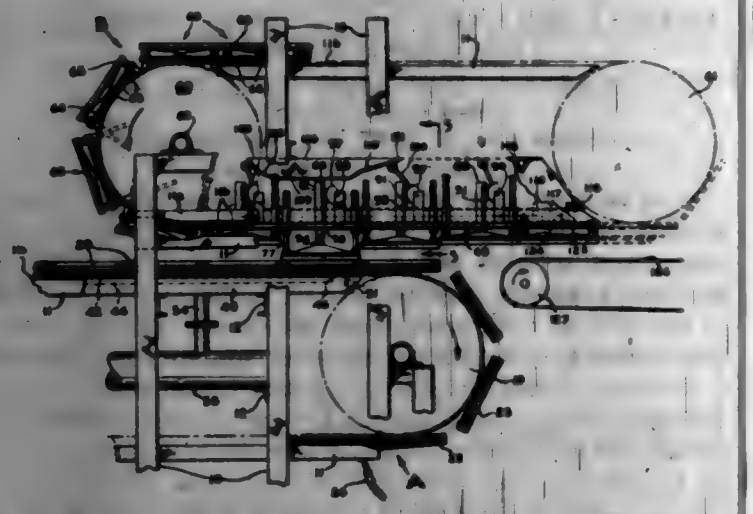
2,967,568

CONTINUOUS IN LINE PULP MOLDING MACHINE

Paul D. Friday, Portland, Oreg., assignor to Paper Maid, Inc., Portland, Oreg., a corporation of Oregon

Filed Aug. 5, 1957, Ser. No. 676,152
22 Claims. (Cl. 162—407)





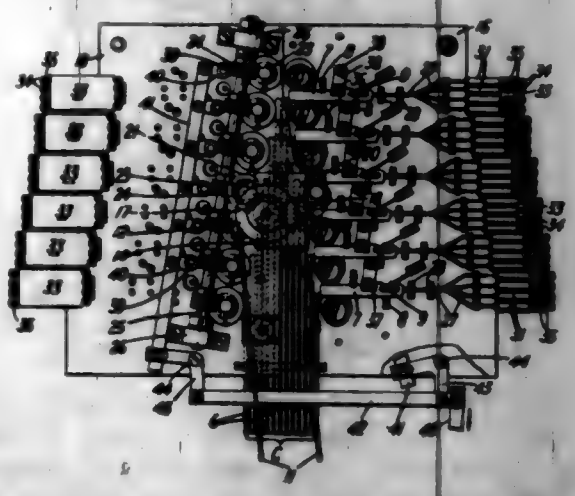
9. In a machine for forming laminated pulp articles, a traveling carrier having a plurality of die holders in edge abutting relation, a plurality of pulp supply tanks disposed above said carrier, a flat plate on the bottom of said tanks overlying said die holders in sliding sealing engagement therewith, and discharge openings for said tanks in said plate spaced along the run of said carrier for sequentially depositing layers of pulp from said tanks in die members moving along said run, and vacuum means communicating with the die holders for forming pulp layers on dies contained in the die holders.

2,967,569

PUNCHING APPARATUS

Reginald Raymond Eden, Sylvanus, Lagham Park, South Godstone, England, assignor to International Computers and Tabulators Limited, London, England, a British company

Filed Mar. 27, 1959, Ser. No. 802,467
Claims priority, application Great Britain Apr. 16, 1958
10 Claims. (Cl. 234—116)



1. Punching apparatus comprising a die, at least one row of punches supported for independent lengthwise movement into and out of punching relation with the die, a punch actuator for each punch, each said actuator being engaged between continuously rotatable eccentric rollers for continuous rocking movement about an axis transverse to the longitudinal axes of the punches and supported for lengthwise movement into and out of the path of the punch appropriate thereto, an operating element co-operating with each said actuator to effect movement of the actuator from a datum position thereof into the path of the punch appropriate thereto, actuator-restoring means co-operating with each actuator to restore the actuator to the datum position thereof following movement thereof by the operating element appropriate thereto, and punch-restoring means co-operating with the punches to effect movement thereof out of operative engagement with the die.

2,967,570

NOZZLE FOR FIRE EXTINGUISHERS

Ignatius Nurkiewicz, Colts Neck, N.J., assignor to Stop-Fire, Inc., Brooklyn, N.Y., a corporation of New York

Filed July 1, 1955, Ser. No. 519,529
2 Claims. (Cl. 169—1)



1. A nozzle for a gas-borne powder fire extinguisher comprising an elongated tubular member having at one end an attachment for connection to a container carrying a fire extinguishing powder under gas pressure, said tubular member being of a length to cause the powder and gas when discharged to be thoroughly mingled, a cylindrical member in alignment with and attached to the opposite end of said tubular member, of larger diameter than said tubular member, to form an expansion chamber, one of said members having a transverse wall at the point where said members are joined, said wall having a plurality of nozzle passages therethrough dis-

charging axially of said cylindrical member whereby the mixture of gas and powder from the tubular member may pass into the cylindrical member in the form of high speed jets collinear with the cylindrical member, said cylindrical member having openings through its outer wall near said transverse wall inclined inwardly and forwardly, whereby the jets will be mixed with outside air substantially at the point of entrance into the expansion chamber, said expansion chamber being of a length to cause thorough mixing of the gas-borne powder with the incoming air.

2,967,571

FIRE EXTINGUISHER WITH INSULATED PUMP

Walter M. Haessler, Chatham, N.J., assignor to The Fyr-Fyter Company, Dayton, Ohio, a corporation of Ohio

Filed Feb. 24, 1959, Ser. No. 794,909
1 Claim. (Cl. 169—33)



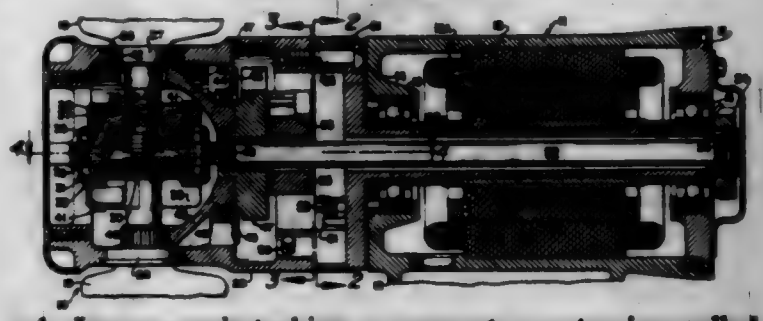
In a fire extinguisher of the type used for dispensing an electrically conductive fire extinguishing agent, the extinguisher including a metallic container and a pump extending through an opening in the top of the container down into the container in contact with the electrically conductive fire extinguishing agent normally stored therein, and the pump is provided with a hose having a nozzle at the outer end thereof for the discharge of the fire extinguishing agent, the pump adapted to be reciprocated to pump the fire extinguishing fluid from the container, the improvement wherein an electrical insulating member is provided in the wall of the container providing the sole supporting means for the pump, the electrical insulating member having an aperture, the pump received in the aperture, a pair of annular nuts threadedly engaged around the wall of the pump and securing the wall of the aperture of the electrical insulating member therebetween, a reinforcing plate for the opening in the top of the container, and means bringing in clamped engagement the edge of the electrical insulating member, the wall of the opening in the top of the container and the reinforcing plate, thereby providing the mounting for the pump whereby corrosion of the fire extinguisher is minimized.

2,967,572

RAM AIR TURBINE

Dariton K. Breaux, Palos Verdes Estates, Richard D. Pascale, Los Angeles, and James Eugene Young, North Hollywood, Calif., assignors to The Garrett Corporation, Los Angeles, Calif., a corporation of California

Filed Apr. 11, 1957, Ser. No. 652,237
9 Claims. (Cl. 170—68)



1. In a ram air turbine: a support; a rotor journalled in said support, said rotor having a frame; blade means disposed on said frame for pitch adjustment about axes extending angularly to the axis of rotation of said rotor; flyweight means mounted on said frame for pivotal movement about a pair of axes parallel to and disposed on diametrically opposite sides of the axis of rotation of said rotor, said flyweight means being movable in response to centrifugal force resulting from the rotation of said rotor; torsion bar means disposed on the axis of rotation of said rotor and anchored at one end to said frame; a cam element secured to the opposite end of said torsion bar means, movement of said flyweight means causing said cam element to impart torque to said torsion bar; and motion transmitting means operatively connecting said cam element and said blade means to adjust the latter in response to movement of said cam element.

2,967,573

PNEUMATIC AIRFOIL

William C. Johnson, Jr., Manton, Ohio, assignor to Goodyear Aircraft Corporation, Akron, Ohio, a corporation of Delaware

Filed Oct. 14, 1954, Ser. No. 462,330
2 Claims. (Cl. 178—159)



2. A lifting airfoil for an aircraft including a flexible, airtight, fabric envelope of streamlined shape in vertical cross-section, a plurality of flexible, substantially non-extensible threads positioned in substantially parallel relationship inside the envelope and extending substantially vertically between and connecting the top and bottom surfaces of the envelope, means closing the ends of the envelope, the threads being of progressively greater length from the leading edge of the envelope to about the middle thereof and then being of progressively shorter length towards the trailing edge of the envelope to hold the envelope in streamlined shape, gas under pressure in the envelope to tension the threads thereof, and valve means for inflating and deflating the envelope.

2,967,574

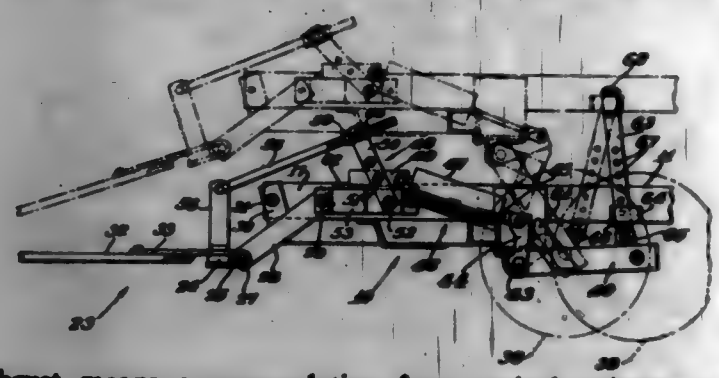
CONTROL MEANS FOR DISK HARROW

James Merkoski, Clarendon Hills, Ill., assignor to International Harvester Company, Chicago, Ill., a corporation of New Jersey

Filed Jan. 12, 1959, Ser. No. 786,251
6 Claims. (Cl. 172—328)

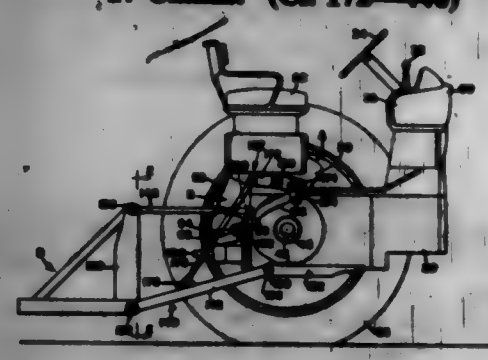
1. In a disk harrow including a tool frame, a pair of tandem disk gangs secured to the frame in laterally converging relation, and a transverse rockshaft mounted on the frame and having wheel-carrying arms thereon for swinging in a vertical plane between operating and transport positions of the tool frame, the combination of a

hitch frame pivotally connected to the forward end of said tool frame for vertical swinging, thrust means operatively connecting the rockshaft to said hitch frame to effect a controlled pivoting thereof in response to vertical swinging of said wheels, lost motion means in said



thrust means accommodating free vertical swinging of the hitch frame relative to the tool frame in the operating position of said gangs, and means adjustable in length incorporated in said thrust means adapted to take up said lost motion upon extension thereof to transmit the vertical swinging of the wheels to the hitch frame.

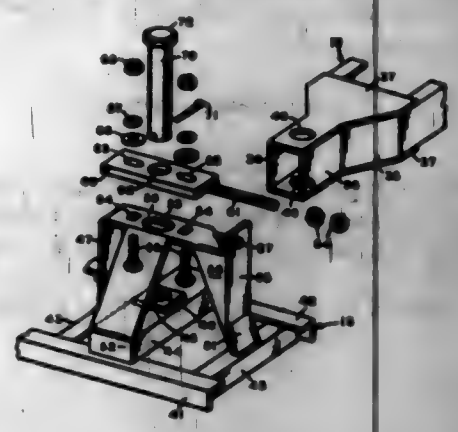
2,967,575
TRACTOR-IMPLEMENT POWER CONTROL SYSTEM
Wallace H. De Shone, Waterloo, and Edward H. Fletcher, Cedar Falls, Iowa, assignors, by mesne assignments, to Deere & Company, a corporation of Delaware
Filed Aug. 2, 1956, Ser. No. 601,742
17 Claims. (Cl. 172—446)



1. Implement-connecting linkage for a tractor, comprising: a pair of laterally spaced apart links having implement-receiving free ends and further having tractor-proximate ends pivotally connected to the tractor for independent vertical swinging; a first power-operated unit on the tractor, including a rockshaft spaced from the links; a pair of laterally spaced apart lift means having connections respectively to the links and further having connections respectively to the rockshaft for normally incurring simultaneous vertical swinging of the links upon rocking of the rockshaft, one of said connections being vertically adjustable independently of the other to enable independent vertical swinging of the respective link relative to said rockshaft; and a second power-operated unit on the tractor independent of the first unit and including a rockshaft and force-transmitting means connecting said second unit rockshaft to the aforesaid adjustable connection so as to act on said adjustable connection and to react on the tractor for selectively fixing and adjusting said adjustable connection respectively according to whether said second unit rockshaft is fixed or rocked.

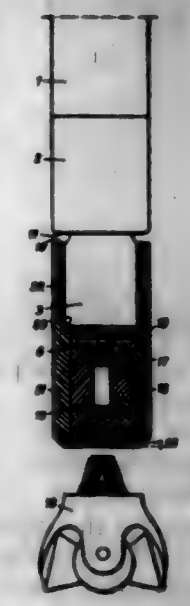
2,967,576
OFFSET DISC HARROW
Paul H. Garner, % Alexander Manufacturing Co., Picayune, Miss.
Filed Oct. 28, 1957, Ser. No. 692,906
9 Claims. (Cl. 172—583)

1. In a disc harrow, a main frame, a gang frame extending transversely of said main frame, the main frame being provided with vertically spaced apertures, a vertical pivot pin extending through said main frame apertures and engaging said main frame, the main frame apertures closely approximating the outer dimension of said pivot pin so that the relative position of said pin and main frame is maintained at all times, attachment means connecting one end of said pivot pin to said gang frame to permit the sides of said gang frame to be



tilted from the horizontal about such attachment means, a guide means attached to said gang frame engaging the pivot pin to determine the direction of tilt, a lever means attached to said pivot pin, and means adjustably connecting said lever means to said gang frame for varying the length of the said lever means between the gang frame and pivot pin for holding the gang frame in adjusted tilted position.

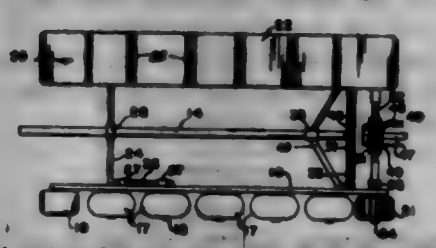
2,967,577
TURBINES FOR THE ACTUATION OF DRILLS
Wladimir Tirnopolsky, Issy-les-Moulineaux, France (6 Ave. F. D. Roosevelt, Paris 8, France)
Filed Aug. 2, 1957, Ser. No. 675,968
Claims priority, application France Aug. 4, 1956
6 Claims. (Cl. 175—107)



5. In a well-drilling turbine comprising a body, a shaft assembly including a wear-taking joint and a shaft of reduced diameter projecting from the lower end of said body, said shaft ending in a threaded portion to which said wear-taking joint is screwed, and a tool having a threaded end portion screwed into said joint: a diameter-reduction compensating sleeve surrounding and carried by said wear-taking joint, said sleeve extending upwardly from said joint to surround substantially the entire projecting end of said shaft and having a diameter substantially equal to that of the turbine body, a primary reference surface on the lower end of said body, a secondary reference surface on the upper end of said compensating

sleeve spaced from and opposing said primary reference surface, primary holding means provided on said tool for retaining said compensating sleeve in assembled relation with wear-taking joint, abutment means between said shaft assembly and said compensating sleeve adapted to longitudinally position said sleeve relative to said shaft assembly and secondary holding means provided on said sleeve for retaining said sleeve on said joint after the removal of said tool.

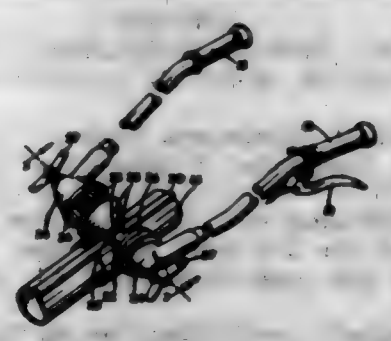
2,967,578
SUSPENSION AND DRIVE MECHANISM FOR ENDLESS TREAD VEHICLES
William H. Schoners, Lakewood, Colo., assignor to The Kristi Co., a corporation of Colorado
Filed Mar. 4, 1957, Ser. No. 643,771
5 Claims. (Cl. 180—6.7)



1. Suspension and drive mechanism for track laying vehicles adapted to increase the ability of such vehicles to negotiate difficult terrain inclusive of steeply sloping side hills, comprising a main base frame for said vehicle, support facilities for a passenger-operator on said base frame, track drive support frames extending along and disposed on opposite sides of said vehicle, lever means at the front and back ends of said base frame pivotally connected to said vehicle base frame, rotative members on each of said track drive support frames inclusive of at least one drive wheel and a plurality of idler wheel members, and endless track disposed about said rotative members and movable therewith for the transmission of vehicle drive forces received from said drive wheel to the supporting ground, means pivotally interconnecting the lever means at the front end of said base frame to said track drive support frames to provide a front lever suspension system, means pivotally interconnecting the lever means at the back end of said base frame to said track drive support frames to provide a back lever suspension system, power means for moving one of said lever suspension systems to adjusted angular positions with respect to said base frame, said movements through the interaction of said track drive support frames being effective to move the other of said lever suspension systems to a corresponding position whereby said track drive support frames and the endless tracks thereon may be placed in relative parallel positions one above the other along an inclined supporting surface with the inside track edge disposed at an angle with respect to said surface for increasing the support characteristics of said vehicle and for increased freedom from slipping, an engine drive unit supported by said base frame, power transmission members connecting said engine drive unit and the drive wheel of said track drive support unit in all alternate adjusted positions of said support unit, and drive control members for selectively regulating the power delivered to the drive wheels on each of said track drive support frames.

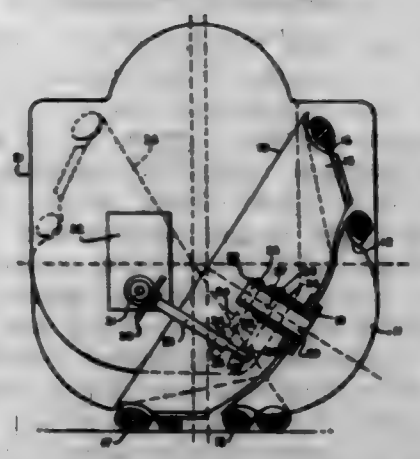
2,967,579
POWER-DRIVEN CULTIVATING MACHINE OR TRACTOR
John Arthur Howard, West Horndon, England, assignor to Rotary Hoes Limited, West Horndon, England
Filed Feb. 12, 1959, Ser. No. 792,797
Claims priority, application Great Britain Feb. 18, 1958
4 Claims. (Cl. 180—19)

1. A power-driven cultivating machine having a handle-bar means for a walking operator comprising a boom supported from the machine, a handle-bar, said boom of circular cross-section but with a longitudinal rib on its exterior, and a split clamp means attached to said handle-bar, the split of said split clamp means adapted to contain said longitudinal rib, said split clamp means when released adapted to be slid along said boom with said



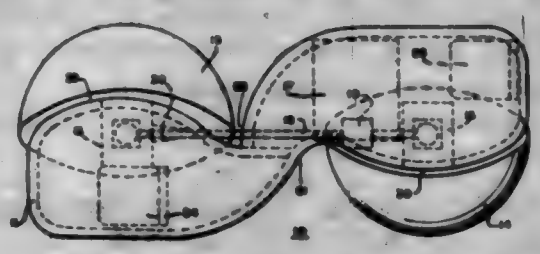
longitudinal rib preventing rotation of said split clamp means on said boom, and said split clamp means when tightened adapted for its surfaces on opposite sides of its split to engage the adjacent surfaces of said longitudinal rib to locate said split clamp means longitudinally of said boom.

2,967,580
COMPOSITE WHEEL
Elie P. Aghnides, 46 W. 54th St., New York 19, N.Y.
Filed June 26, 1956, Ser. No. 593,959
4 Claims. (Cl. 180—22)



4. A wheeled vehicle having a composite wheel with inner and outer round spaced members that normally contact the ground, means mounting said members for independent rotation, the outer of said members being hemispheroidal, said two members being of different diameter, and means to drive said two members at the same linear ground speed.

2,967,581
TANDEM WHEEL VEHICLE HAVING TILTED AXLES
Elie P. Aghnides, 46 W. 54th St., New York 19, N.Y.
Filed June 26, 1956, Ser. No. 593,853
5 Claims. (Cl. 180—30)



1. A vehicle having a body with two wheels on opposite sides of the vehicle one of which is near the front of the vehicle and the other near the rear, which wheels taken together entirely support the body, each said wheel having its axis pointing outwardly and downwardly with

the inner lower portion of the wheel located under the body, each said wheel being generally hemispheroidal with the wheel diameter generally decreasing as the distance from the body increases.

2,967,582

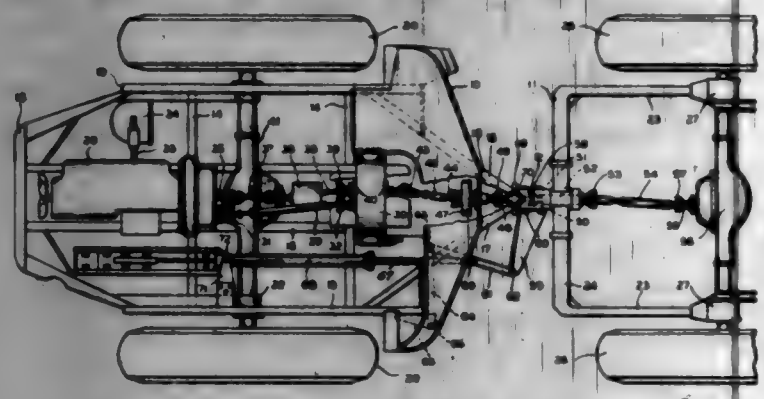
HYDRAULIC POWER STEERING MECHANISM FOR VEHICLE HAVING ARTICULATED SECTIONS

Bruce J. McColl, Strathmore, Quebec, Canada, assignor to Clark Equipment Company, a corporation of Michigan

Original application Oct. 15, 1956, Ser. No. 615,869, now Patent No. 2,884,083, dated Apr. 28, 1959. Divided and this application Aug. 13, 1958, Ser. No. 754,816

Claims priority, application Canada Oct. 21, 1955

5 Claims. (Cl. 180—79.2)



1. In an articulated vehicle having a front chassis and a rear chassis, a coupling for connecting said front chassis to said rear chassis comprising a vertical trunnion, means for mounting said vertical trunnion on one of said chassis, a horizontal trunnion, means for mounting said horizontal trunnion on the other of said chassis, and a coupling web, bearing means on said coupling web to receive said vertical trunnion, additional bearing means on said coupling web to receive said horizontal trunnion, the bearing means on said coupling web receiving said vertical trunnion being adapted to permit limited movement between said front chassis and said rear chassis about a vertical axis, the additional bearing means on the coupling web receiving the horizontal trunnion being adapted to permit relative oscillation between said front chassis and said rear chassis about a horizontal axis, a steering arm connected to said coupling web and extending laterally therefrom, a double acting cylinder and piston hydraulic mechanism mounted on the said front chassis, a link connecting the piston rod of said hydraulic mechanism to the end of said arm, said piston rod being connected to substantially the central portion of said link, and a supporting link for said link connected between said front chassis and the end of said link which is remote from the steering arm, the steering arm extending from said link in one direction and said supporting link extending from said link in a direction opposite to said one direction and the length of said supporting link being substantially the same as the length of the steering arm to enable said double acting hydraulic mechanism to control the position of said steering arm without substantial lateral displacement of said hydraulic mechanism.

2,967,583

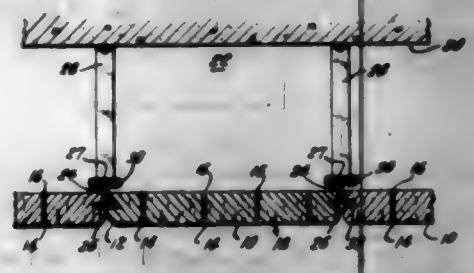
VENTILATING THROUGH FISSURED ACOUSTICAL UNIT

William A. Jack, Hampton, N.J., assignor to Johns-Manville Corporation, New York, N.Y., a corporation of New York

Filed Sept. 23, 1957, Ser. No. 685,635

3 Claims. (Cl. 181—33)

1. An acoustical unit for a combined air distributing and acoustical ceiling comprising, an acoustical panel of substantial thickness, said panel having a first surface adapted to be the visible surface of the panel and a second surface considered the rear side of the panel, said first surface having non-uniform and irregular, spaced fissures formed therein extending only through a partial



thickness of the panel, and said first surface also having a plurality of air metering openings, of the drilled or perforated type, extending from at least some of the bottoms of said fissures through the body portion of the panel to the second surface of the panel.

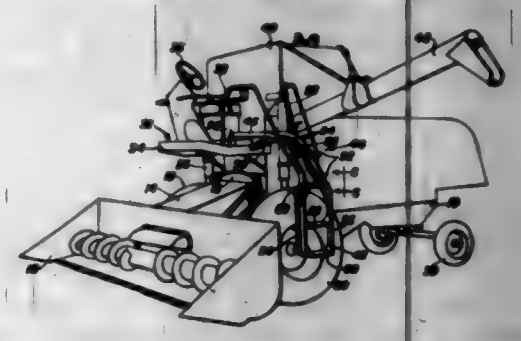
2,967,584

LADDER FOR AGRICULTURAL VEHICLE

Paul H. Westerlund, Moline, Ill., assignor, by mesne assignments, to Deere & Company, a corporation of Delaware

Filed Aug. 5, 1957, Ser. No. 676,308

5 Claims. (Cl. 182—97)



1. For an agricultural machine having a supporting frame advanceable over the ground and including an operator's station spaced above the ground: ladder means affording access to said station from the ground, comprising an upper supporting section positionable at one side of the machine to lead to the operator's station and including means for affixation thereof to the supporting frame to depend from the frame to a lower terminal portion adapted for positioning at a substantial distance above the ground; a lower section normally in depending relation to said supporting section and having a lower portion proximate to the ground; means hinging the lower section to the terminal portion of the upper section on an axis transverse to the line of advance and located forwardly as respects the center of gravity of the lower section so that said lower section is biased by its own weight to its normally depending relation to said upper supporting section; and one-way engageable stop means between the two sections for stopping the lower section in its normally depending relation to the upper section and being disengageable for enabling said lower section to swing rearwardly when encountering an obstruction incident to advance of the machine.

2,967,585

ADJUSTABLE SCAFFOLD SUPPORT

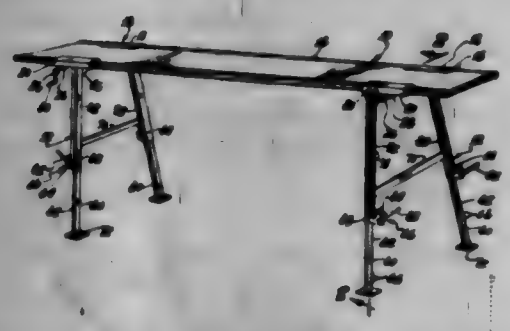
Charles L. Bybee, 741 E. Bonnie Brae Court, Ontario, Calif., and Charles L. Vance, 549 N. 2nd Ave., Upland, Calif.

Filed Dec. 6, 1957, Ser. No. 701,170

6 Claims. (Cl. 182—184)

1. An adjustable scaffold support comprising clamping means, said clamping means including a pair of U-shaped

vise jaws adapted for mutual sliding engagement, said vise jaws being adapted to receive a platform therebetween, screw means engaging each of said vise jaws for selectively positioning the jaws relative to each other to clamp said platform, a pair of upper leg means attached



to and extending from one of said vise jaws, a lower leg mounted on each of the upper leg means for movement relative thereto, and latch means mounted on each of said upper leg means for engaging said lower leg to maintain the lower leg in a selected position relative to the upper leg means.

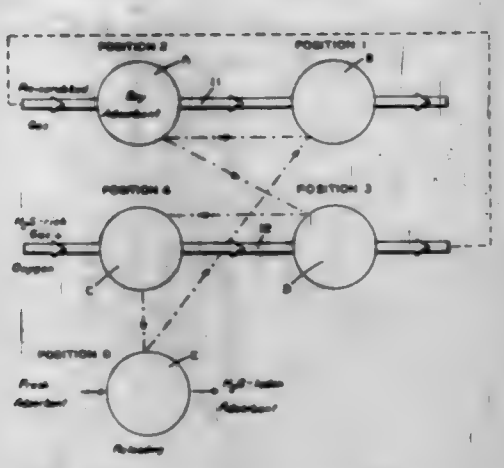
2,967,586
SEPARATOR
Franz Jaklitsch, 823 Marywood, Royal Oak, Mich.
Filed Feb. 2, 1956, Ser. No. 563,634
12 Claims. (Cl. 183—12)



1. Apparatus for separating liquid and solid particles from a gaseous substance, comprising a vessel having substantially aligned inlet and outlet ports on opposite sides thereof and defining an essentially straight passageway for the gaseous substance containing the particles to be separated therefrom, and substantially platelike precipitating members within said vessel, the precipitating members being arranged to divide at least a portion of said passageway into narrow sections, each section extending along a straight line of connection between said ports, each precipitating member having at least two trailing edges, the hydraulic diameter of each of said sections being 0.2″ at the most, so that particles are deposited from the gaseous substance flowing through each section onto the confronting faces of the members at opposite sides of the section, at least a portion of each of the trailing edges being disposed at an acute angle with respect to said straight passageway, the angle being sufficiently small to ensure the adherence to the trailing edges of particles deposited on said confronting faces.

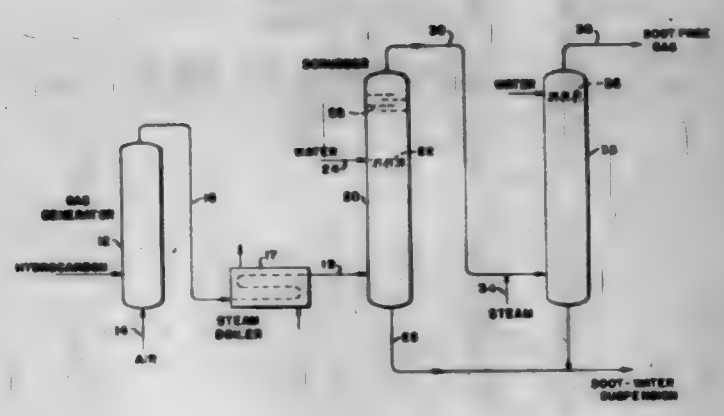
2,967,587
PROCESS AND APPARATUS FOR DRY-PROCESS ADSORPTION OF HYDROGEN SULFIDE FROM COKE-OVEN GASES
Arthur Steding and Rudolf Müller, Essen, Germany, assignors to Didier-Werke A.G., Wiesbaden, Germany, a corporation of Germany
Filed Mar. 25, 1958, Ser. No. 723,791
Claims priority, application Germany Mar. 29, 1957
4 Claims. (Cl. 183—114.2)

1. A process for enriching an adsorbent with hydrogen sulfide, compriaing the steps of first placing said adsorbent in contact with an illuminating gas of relatively low H_2S content and thereafter contacting said adsorbent with a furnace draft gas of relatively high H_2S content, said adsorbent being first placed in a downstream position of a stream of said illuminating gas, then transferred to an upstream position of the same gas stream, thereafter placed in a downstream position of a stream of said



furnace draft gas, and finally transferred to an upstream position of the last-mentioned gas stream.

2,967,588
SOOT RECOVERY
Karel Swart, The Hague, Netherlands, assignor to Shell Oil Company, a corporation of Delaware
Filed Aug. 18, 1958, Ser. No. 755,673
Claims priority, application Netherlands Dec. 31, 1957
4 Claims. (Cl. 183—120)

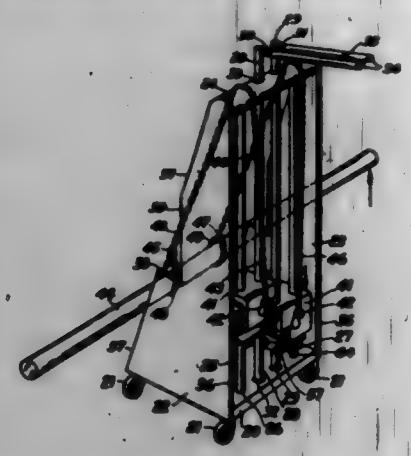


1. In a process employing a water spray in the removal of soot from a hot gaseous stream, the improvement comprising spraying the gaseous stream with finely dispersed water to cool and to saturate said stream and thereby removing a large proportion of the soot in a water-soot suspension, discontinuing the spraying and passing the saturated gaseous stream through a de-entraining zone wherein substantially all of its entarined water droplets are removed, introducing saturated steam into the water-saturated gaseous stream, and subsequently further cooling the gaseous stream and during the course of said cooling substantially completing the removal of the soot therefrom.

2,967,589
WEIGHT SUPPORTING MECHANISM
Robert A. Forbes, 515 Harrison St., Monroe, Mich.
Filed July 15, 1957, Ser. No. 671,818
10 Claims. (Cl. 187—1)

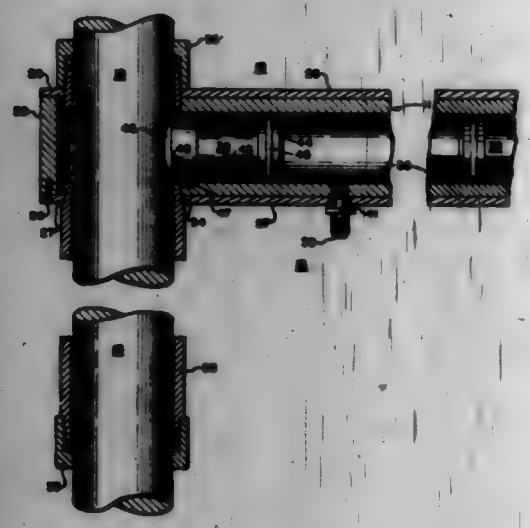
1. In combination with a pair of parallel guides, an anchoring means adapted for co-operation with said pair of parallel guides, said anchoring means comprising a runner slidable along the guides, a trailer slidable along the guides, said runner having a fulcrum adjacent but spaced from one of said guides, said trailer having a fulcrum adjacent but spaced from the other of said guides, a pair of levers each co-operating with a respective one

of said fulcrums and the guide adjacent thereto, and a link coupling the ends of the levers whereby the levers



grip the guides while the runner and the trailer are urged apart.

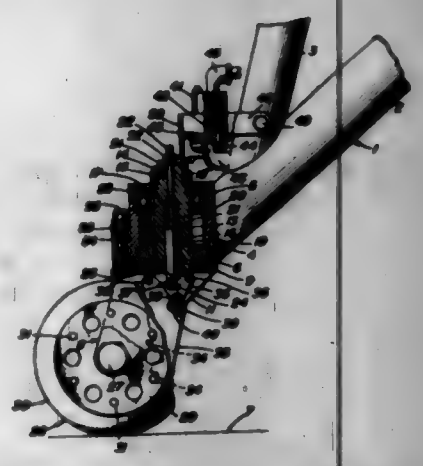
2,967,590
BRAKING APPARATUS
Jack B. Ottestad, Claremont, Calif., assignor to General Dynamics Corporation, San Diego, Calif., a corporation of Delaware
Filed July 16, 1957, Ser. No. 672,179
3 Claims. (Cl. 188—41)



1. A braking apparatus adapted for movement with respect to a pair of ways, said apparatus comprising support means in slidable encompassing engagement with said ways, said support means having bore means, a cylinder, a pair of pistons carried within said cylinder and arranged to be urged into frictional engagement with said pair of ways through said bore means, respectively, and means for admitting fluid pressure to said cylinder between said pair of pistons thereby to effect a substantially balanced braking action by said pair of pistons against said pair of ways whereby relative movement between said support means and said pair of ways is retarded in stabilized manner.

2,967,591
BRAKE MECHANISM
Beverley M. Blount, Chevy Chase, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed Apr. 7, 1959, Ser. No. 804,853
3 Claims. (Cl. 188—69)

1. In a caster brake mechanism, a caster mount, a caster unit having a yoke provided with a vertical stem, bearings journaling the stem in the caster mount, a caster wheel, means rotatably mounting the caster wheel in the yoke, said wheel having side plates, studs projecting from the side plates, a locking detent having forward and rearward edges and disposed adjacent the caster wheel at each side thereof, means pivotally mounting the locking detents at the upper end thereof about a horizontal axis on the yoke, said locking detents having notches on the forward edge thereof for engagement by the studs, a plunger vertically movable in the stem and having an annular groove at the lower end thereof, means connecting the plunger with the locking detents, said last-mentioned means including actuating links, an actuating bar carried by and connected between the links and engaging said groove in



the plunger, toggle links connecting the actuating links with the locking detents; a spring normally urging the plunger in a downward direction for shifting the actuating bar, links, and locking detents downwardly whereby said studs will engage in the notches for locking the caster wheel against rotation, and fluid pressure operated means connected to the upper end of the plunger for shifting the plunger against the compression of the spring for moving said actuating bar, links, and locking detents upwardly to move the locking detents out of engagement with the studs whereby said caster wheel will be released for rotation.

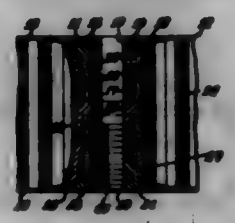
2,967,592
TELESCOPICALLY EXTENSIBLE POLE
Elmer L. Stein, Milwaukee, Wis., assignor to Eye-Beam Displays, Inc., Milwaukee, Wis., a corporation of Wisconsin
Filed Mar. 10, 1958, Ser. No. 720,274
5 Claims. (Cl. 189—26)



1. An extension pole comprising a first section having a central opening and terminal notches at opposite sides of the opening, an elastomeric band engaged in the notches and spanning the opening, said band having a portion hooked around the exterior of the terminal por-

tion of said first section, and a second section telescopically engageable in the opening of the first section and terminally engaged with that portion of the rubber band which spans said opening between said notches, the bias of said band effected by the insertion of the second section into said opening being exerted in a direction to expand the overall length of said sections.

2,967,593
STRUCTURAL SPACER
Kenneth V. Cushman, Whittier, Calif., assignor to The Delron Company, Inc., South Gate, Calif., a corporation of Nevada
Filed Jan. 29, 1958, Ser. No. 712,003
10 Claims. (Cl. 189—34)



1. A structural spacer, comprising; a generally cylindrical body of malleable metal having at least one end thereof formed as a peripheral continuous hollow tubular portion, a clamping element having a cylindrical portion slidably guided in the interior of said tubular portion, a conical portion flaring outwardly from said cylindrical portion, and a flange-like head extending laterally from the outer end of said conical portion, the diameter of said conical portion adjacent said head being substantially equal to the outer diameter of the outer end of said hollow tubular portion.

2,967,594
COLUMN AND BEAM CONNECTION
Arthur F. Deam, 289 W. Minnesota Ave., De Land, Fla.
Original application Feb. 9, 1956, Ser. No. 564,463. Divided and this application July 11, 1957, Ser. No. 671,172
1 Claim. (Cl. 189—36)



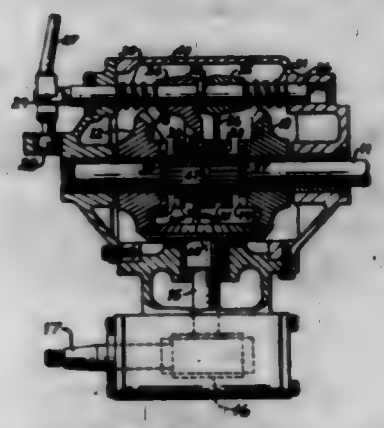
In a building structure, a column having at least three adjoining straight sides of generally equal width, each of which sides is disposed to the next side at a cross-sectional angle of substantially 120°, a connector having three adjoining straight sides of generally equal width which are disposed to one another at angles of substantially 120°, each of the sides of the connector resting against one of said adjoining straight sides of the column, three girders, one abutting against each one of the sides of the connector and secured to said connector, and a saddle having at least three adjoining straight sides disposed to one another at substantially 120° angles, each of the straight sides of the saddle resting against one of said straight sides of the column and the saddle being secured to the column beneath the connector, and the connector resting endwise on the saddle and said saddle supporting the combination of the connector and the girders.

2,967,595
WINDOW SASH RACK CONSTRUCTION
Abe Zitsmer, Detroit, Mich., assignor to Alumatic Corporation of America, Milwaukee, Wis., a corporation of Wisconsin
Filed Feb. 5, 1958, Ser. No. 713,388
6 Claims. (Cl. 189—72)



4. In a device of the character described, a window sash rack comprising a plastic strip from which rack lugs project integrally at one side thereof and a mounting rib projecting integrally at another side thereof, said rib comprising an enlarged bead connected to the strip on a relatively narrow neck portion.

2,967,596
LOCKING MECHANISM FOR POWER TRANSMISSION
Russell D. Page, Decatur, Ill., assignor to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed Jan. 5, 1959, Ser. No. 784,921
5 Claims. (Cl. 192—4)

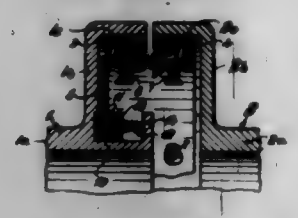


1. In a power transmission comprising a driven shaft, a pair of gears rotatable thereon, and a pair of grooved shifting collars between said gears rotatable with and slidable on said shaft, said gears and collars having interengaging clutch teeth thereon to effect a driving connection with either of said gears, a pair of shifting forks for sliding said collars, interengageable means on one fork and the other collar to prevent rotating the shaft when the collars are centrally positioned and to permit rotation thereof when either collar is moved into engagement with one of said gears.

2,967,597
SMOOTHLY OPERATING CENTRIFUGAL CLUTCH
Richard Binder, Schweinfurt (Main), Germany, assignor to Fichtel & Sachs A.G., Schweinfurt (Main), Germany, a corporation of Germany
Filed July 8, 1957, Ser. No. 670,502
Claims priority, application Germany July 7, 1956
7 Claims. (Cl. 192—105)

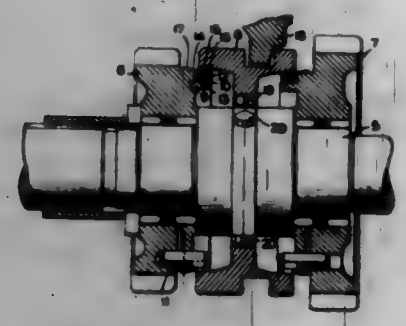
1. A speed-responsive clutch comprising a revolubble driving member adapted to be driven by power operated

means, a revoluble driven member in axial alignment with said driving member, an intermediate member in axial alignment with said driving and driven members, said intermediate member being freely revoluble independently of either of said driving or driven members, coupling means carried by said intermediate member and simultaneously engageable with both of said driving and driven members for coupling said driving and driven members together for torque transmission through said intermediate member, centrifugal weight means carried by said intermediate member and acting on said coupling means, said centrifugal weight means causing said coupling means to couple said driving member to said driven member through said intermediate member, resilient



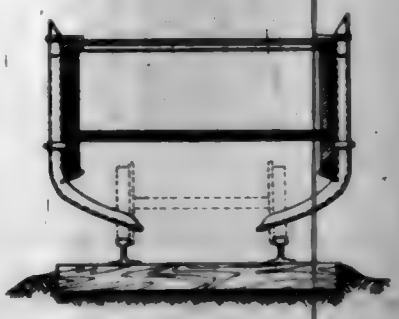
means acting on said centrifugal weight means and yieldingly preventing said centrifugal weight means form causing said coupling means to couple said driving and driven members together through said intermediate member until said intermediate member has been accelerated to a predetermined minimum coupling speed, and spring-pressed slip-type friction means carried by said driving member and continuously engaging said intermediate member for limited torque transmission from said driving member to said intermediate member at all speeds, said intermediate member being freely revoluble with respect to said driven member at speeds below said coupling speed, said slip-type friction means limiting the maximum rate of acceleration of said intermediate member to said coupling speed.

2,967,598
SHIFTING ARRANGEMENT FOR CHANGE SPEED GEARS
Werner E. Altmann, Stuttgart, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Untertürkheim, Germany
Filed Sept. 16, 1957, Ser. No. 684,021
Claims priority, application Germany Sept. 20, 1956
16 Claims. (Cl. 192—114)



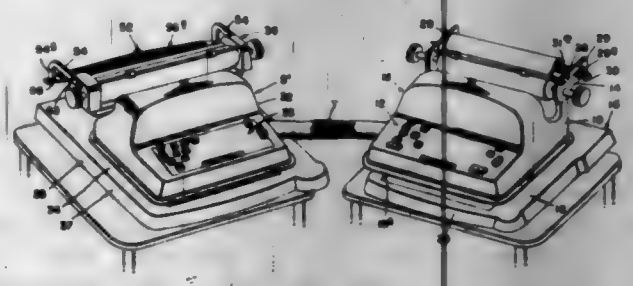
1. A shifting mechanism for change-speed transmissions of motor vehicles having two friction clutch members movable relative to each other and adapted to be brought at first into synchronism with each other and thereupon to be connected for common rotation with one another, comprising means on said two members initially establishing synchronous rotation therebetween and thereafter establishing a force-locking connection between said two members, said means including means for moving one of said members axially relative to the other of said members into a first position in which said synchronous rotation is established and into a second position in which said common rotation is established, said first-named means including a synchronizing ring carried by the other of said two members and conical force-locking surface means on each of said two members, said conical force-locking surface means on said two members being in force-locking engagement when said one of said members is in said second position, driving means for said one of said members comprising means exerting an axial pressure on said one member to hold said two members in said force-locking engagement.

2,967,599
TIE PLATE CHUTE
Bartley P. Mousseau, P.O. Box 112, Chapleau, Ontario, Canada
Filed Nov. 7, 1957, Ser. No. 694,998
3 Claims. (Cl. 193—5)



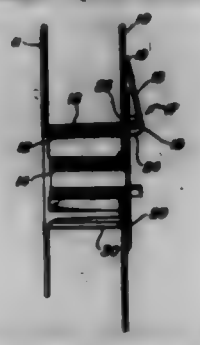
1. A portable chute for railway cars comprising a tubular chute for mounting on the side wall of the railway car having its lower end curved inwardly and extending beneath the bottom of the car, brackets attached to the sides of the chute adjacent its upper end and projecting laterally from the chute having hooks at their free ends adapted to engage over the upper edge of the side wall of the railway car, and coil springs having one end attached to the sides of said chute and their opposite ends to the lower edge of the side wall of the railway car yieldably holding said hooks in engagement with the wall of the railway car and the chute in vertical position.

2,967,600
MASTER AND SLAVE CONTROL TYPING SYSTEM AND STRUCTURAL UNITS FOR USE THEREIN
Le Roy V. Oxley and Clarence M. Blythe, Hendersonville, N.C., assignors to Robotyper Corporation, Hendersonville, N.C., a corporation of Michigan
Filed May 24, 1955, Ser. No. 510,791
33 Claims. (Cl. 197—5)



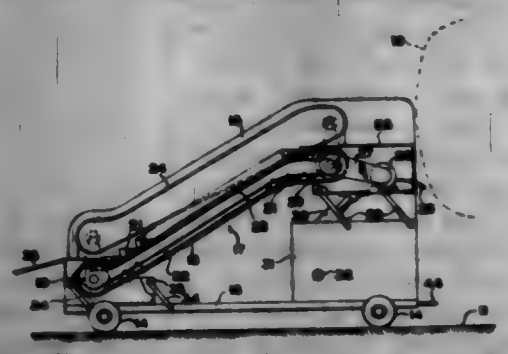
1. A typing system comprising a master typewriter, a slave typewriter, mechanism operatively coupling the typing keys of the two typewriters whereby manual actuation of the master machine keys will effect typing actuation of corresponding keys of the slave machine, means controlled by the master machine for effecting a predetermined carriage movement of the slave machine upon actuation of one key of the master machine, and cooperating means controlled by the carriage movements of the two machines for effecting predetermined stopping and starting of typing operation of the slave machine only.

2,967,601
TRIGGER MOUNTING FOR TYPEWRITER SPOOL
Walter D. Landgraf, 4808 96th Place, Oak Lawn, Ill., and Richard P. Landgraf, 9948 S. Hoyne Ave., Chicago, Ill.
Filed July 14, 1959, Ser. No. 827,098
1 Claim. (Cl. 197—175)



A spool for a typewriter ribbon, including a hub and parallel flanges extending from said hub perpendicularly of the axis of said hub, a mounting plate secured to the exterior wall of one of said flanges, said mounting plate including a window communicating with a further window in said one of said flanges, adjacent the outer periphery of said hub, said mounting plate including parallel ears extending outwardly of said mounting plate at the ends of said first mentioned window, said ears each including a U-shaped opening having its open end adjacent to and communicating with said outer wall of said one of said flanges, and a bent trigger lever having one arm extending through said windows and between said flanges adjacent to said outer periphery of said hub and having another arm extending generally radially and adjacent said outer wall of said one of said flanges, said bent trigger lever having oppositely extending pivot points saddled by said U-shaped openings and lying against said outer wall of said one of said flanges.

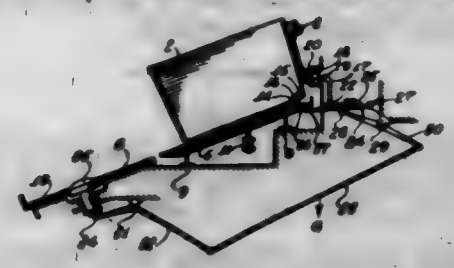
2,967,602
BOARDING APPARATUS FOR AIRCRAFT AND THE LIKE
Russell B. Mosier, deceased, late of Meadville, Pa., by Ethel J. Mosier, administratrix, 376 Bea Avon St., Meadville, Pa.
Filed June 26, 1959, Ser. No. 823,151
8 Claims. (Cl. 198—16)



1. Boarding apparatus for aircraft and the like comprising a moving stairway mounted on a mobile frame, means interconnecting said frame and said stairway for vertical uniform movement for the top and bottom thereof as a unit, and power means on said frame thus to raise and lower said stairway thereby to maintain the treads of said stairway substantially horizontal.

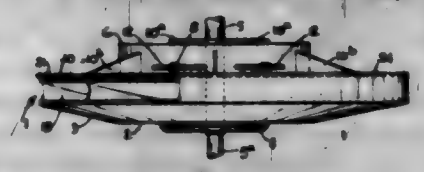
2,967,603
CONVEYOR CONTROL SYSTEM
Siegfried Klooss, Taucha, near Leipzig, Germany, assignor to VEB Schuh- und Sattlermaschinenbau Leipzig, Leipzig, Germany
Filed Aug. 20, 1959, Ser. No. 835,035
10 Claims. (Cl. 198—38)

1. In a conveyor system comprising conveyor means, inclined container supports carried by said conveyor means and movable past a plurality of operating stations, each of said operating stations including an inclined slide adjacent said conveyor in alignment with said container support, upstanding means on said support to permit hooking of a container thereon, and a container on said support including a recess portion positioned over said upstanding portion to hold the container on the support; the improvement comprising, control means for selectively discharging a container at a preselected station including a plurality of control levers rotatably mounted adjacent each station, means to bias one end of said control levers outwardly into the path of movement of said containers on said conveyor, a container lifting member pivotally mounted at each station and biased upwardly against said control levers,



and control contact members located at predetermined spaced positions along the length of said container and extending outwardly therefrom to move in a path to intersect said control lever, said contact control means being effective to rotate said levers against said biasing and to move the opposite end off said container lifting member, said container lifting member being effective to move against a lower edge of said container and to lift said container off said upstanding portion of said conveyor support member and cause said container to exit from said support and slide down said slide member, said control levers and said contact means on said container being so spaced whereby each of said control levers are actuated simultaneously by said contact control means at the station which is set to receive said container.

2,967,604
SPINNERS FOR USE IN DISTRIBUTING GRANULAR MATERIALS
Hereward J. B. Topp, Hatuma R.D., Waipukurau, Hawkes Bay, New Zealand
Filed Dec. 27, 1957, Ser. No. 705,566
17 Claims. (Cl. 198—128)



1. An improved spinner comprising a rotatably mounted scattering means, said scattering means including a receiving plate forming a central part and an outer peripheral portion, mounting means, a dividing wall attached to the mounting means and arranged to remain in a stationary position between the receiving plate and the outer peripheral portion, and an adjustable part on the dividing wall having a weir-shaped member adjustably attached thereto and arranged to give access from the receiving plate to the outer peripheral portion at a position so that material is scattered where required from the scattering means when in operation.

2,967,605
CONVEYOR
Felix I. Stewart, 121 Earle St., Huntsville, Ala.
Filed Aug. 13, 1959, Ser. No. 833,430
14 Claims. (Cl. 198—181)

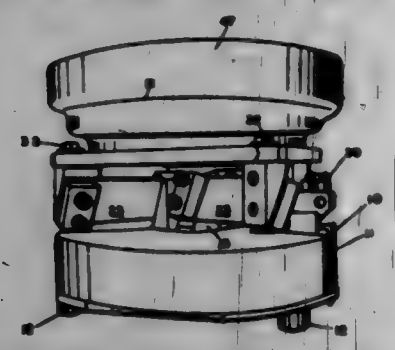
1. A conveyor comprising a plurality of material supporting sections, means pivotally connecting said sec-

tions to each other in tandem relationship, said material supporting sections having side portions which taper toward the ends of said material supporting sections, other sections hingedly connected along their inner edges to



the tapered side portions of said material supporting sections, means hingedly connecting adjacent ones of other sections to each other, and means translatably supporting said material supporting sections.

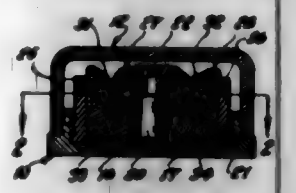
2,967,606
VIBRATORY HELICAL CONVEYOR
Robert R. Peterson, Erie, Pa., assignor to Erie Manufacturing Co., Erie, Pa., a corporation of Pennsylvania
Filed Aug. 12, 1958, Ser. No. 754,571
10 Claims. (Cl. 198—220)



1. A vibratory feeder for feeding articles of manufacture comprising a base member extending upwardly and having flat surfaces disposed thereon, said surfaces being disposed at an angle to the horizontal, a plate having spaced members each with a flat surface thereon, the said flat surface on each said speced member lying in a common plane with a corresponding one of said first mentioned surfaces, flat plate like springs, one end of each said spring being attached to said base member with one side of said spring engaging one said first mentioned surface, the other end of each said spring having one lateral surface on the opposite side from the surface engaging one said first mentioned surface lying on one said surface of one of said spaced members, each said spring lying in a plane disposed at least ten degrees from the vertical, a hopper attached to said plate, said hopper having a helical track attached to the inner periphery and extending therealong, a U-shaped permanent magnet attached to said plate spaced from the center and adjacent an edge thereof with the legs thereof extending downwardly, and an E-shaped member attached to said base member and having a coil of wire attached thereto and connected to a source of alternating current, said legs of said U-shaped magnet interfitting with the legs of said E-shaped member, said magnet and said member being adapted to vibrate said hopper whereby said hopper is vibrated in a helical path and articles of manufacture in said hopper move up said track.

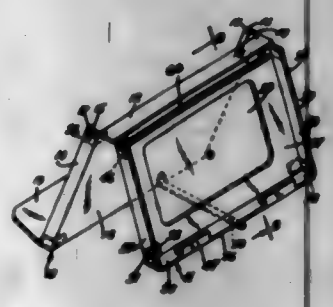
2,967,607
CONTACT LENS COMFORT CASE
Richard G. Hollinger, 16745 Kingston, Huntington Woods, Mich.
Filed Mar. 16, 1960, Ser. No. 15,466
5 Claims. (Cl. 206—5)

1. A contact lens carrying case, comprising: a body closed at the lower end thereof and open at the upper end thereof; a lens carrier means releasably mounted in said body; a cover detachably mounted on the upper end of said body and enclosing the same with a water-tight connection; a fluid chamber formed in said body below said lens carrier; said lens carrier means including a pair



of resilient absorbent cushion members, each of which is provided with a slit formed therein for the reception of a lens; and, said cushion members extending downwardly from the lens carrier means into said fluid chamber for contact with the fluid therein and absorption of the same.

2,967,608
CARRYING CASE AND DISPLAY DEVICE
Edward A. Linker, Bellmore, and Clarence M. Le Poer, New York, N.Y., assignors to The Chartmakers, Inc., New York, N.Y., a corporation of New York
Filed Aug. 7, 1958, Ser. No. 753,821
1 Claim. (Cl. 206—45.11)



A carrying case and display device including oppositely disposed casing parts, one of said parts consisting of a main wall, oppositely disposed double ply narrow side walls and a double ply narrow top wall having end extensions secured between the double ply side walls, the other casing part comprising a main wall, double ply narrow side walls, a narrow top wall having end extensions secured between the double ply side walls and a flap connected with the said top wall and overlying the main wall of the other part when the parts are in closed relation, said case including a single ply bottom wall having free ends and connected with said main walls, the main wall of one of said casing parts being relatively narrower than the main wall of the other casing part for the telescopically fitting of the side and top walls of one of said casing parts within the side and top walls of the other casing part when the said casing parts are in closed relation, said casing parts being swingable from closed relation to open relation with said bottom wall uppermost and the casing parts disposed in spaced apart inclined open relation for use of both casing parts for display purposes, the plies of each of said double ply side and top walls being spaced apart along their outer edges by a narrow rim portion forming triangular shaped side and top walls in section of said double ply side and end walls respectively, auxiliary plies secured to the inner face of said main walls respectively and disposed at its edges against the inner plies of said double ply side and top walls for retaining said double plies in said triangular formation, a strap affixed to the main wall having said flap, and said strap and the other

casing part having interengageable releasably securing means for securing said casing parts in closed relation or in said open relation for display purposes.

2,967,609
COMBINED PAPER CUP AND PACKAGE
Elbert S. Gabbard, Park Ridge, Ill., assignor to Goldene Shaw, Cook County, Ill.
Filed Oct. 28, 1957, Ser. No. 692,933
2 Claims. (Cl. 206—47)



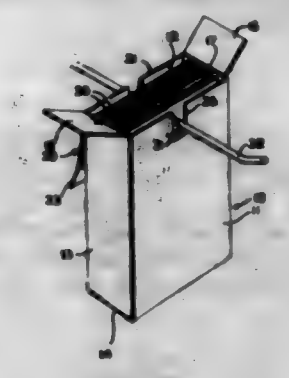
1. A combined paper cup and packaged product comprising a rectangular cover portion folded double to form an enclosure, a cup portion integrally formed with the cover portion from a single flat sheet and having one edge common with a doubled edge of the cover portion and an opposite edge forming a convex curve symmetrical with respect to the fold-line of the cover portion, the cup portion extending substantially the entire width of the cover portion and being wholly folded into the cover portion along the common edge and folded double within the cover portion along said fold-line, and a product comprising an envelope containing a soluble substance within the enclosure thus formed, constructed and arranged so that upon opening of the package and unfolding of the cup portion, the cup portion may be formed into a substantially conical cup having the cover portion as a handle, and the contents of the envelope may be dissolved in the cup.

2,967,610
SHEET DISPENSING PACKAGE
Robert W. Ebert and Harry J. Sheerin, Neenah, and Philip A. Lockley, Appleton, Wis., assignors to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware
Filed Feb. 6, 1958, Ser. No. 713,684
1 Claim. (Cl. 206—57)



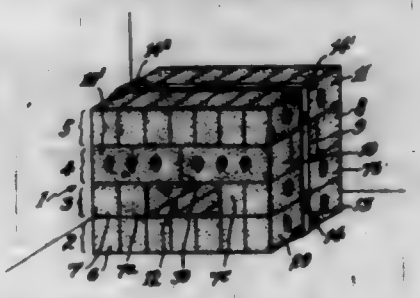
A dispensing package comprising a rectangular carton having front and back side walls and having disposed therein in juxtaposition two stacks of folded sheet material with the sheets thereof being in parallel relation with the side walls, the stacks being of substantially equal size and having noninterleaved abutting edges extending transversely of the carton at substantially the mid-section thereof, the stacks being maintained therein under substantial transverse compression, a continuous line of weakening extending through the carton walls to encircle the package in a plane co-extensive with the plane of abutment between said stacks to facilitate manual severance of the carton walls and separation of the package into two containers having both open and closed ends, each of said containers housing therein one of said stacks of material, with folded edges of the material in each stack being then exposed at the open end of each container, a side wall of each severable container being provided with continuous lines of fracture defining a substantially rectangular removable panel portion passing medially and diagonally across said first named line of weakness.

2,967,611
CARTON FOR MERCHANDISING DISPLAY CARDS
George F. Bolinger, Shelbyville, Ill., assignor to Sta-Rite Gimmie Lou, Inc., Shelbyville, Ill., a corporation of Illinois
Filed Nov. 17, 1958, Ser. No. 774,265
3 Claims. (Cl. 206—57)



1. In combination, a carton comprising spaced parallel vertical front and rear wall and spaced parallel side walls, said front wall having an upwardly opening slot extending downwardly from the upper edge thereof, a closure flap connected to the upper edge of said rear wall and extending from side wall to side wall of the carton and normally folded down to close the top of the carton, said closure flap and said back wall having cooperating slots opening into each other whereby, when said closure flap is folded back against the rear face of said back wall, said cooperating slots will generally coincide with each other and form, in effect, a single slot opening through the top edge of said back wall, and a plurality of cards in said carton generally parallel to said front and rear walls and provided with corresponding positioned openings therethrough near the tops thereof, said cards generally corresponding in shape and size to the space between said side walls to be positioned thereby whereby said openings will be alined with each other and with the slot in said front wall and with said single slot, whereby when said closure flap is folded back against the rear face of said back wall, a supporting rod may be inserted through the openings in said cards and said carton may be withdrawn downwardly from said cards.

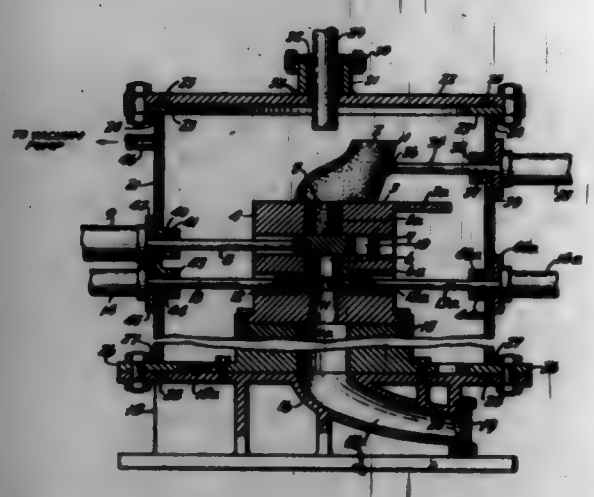
2,967,612
BRICK PACKAGE
Earl F. Bessmer, 10 Dupont St., Parlin, N.J.
Filed July 17, 1959, Ser. No. 827,921
8 Claims. (Cl. 206—65)



1. A transportable brick package comprising a vertical stack unit of superimposed sections consisting of a bottom section containing a row of brick laid on their stretcher sides in running relation, a second section defining a centrally-located void having a width sufficient for access thereinto of a fork lift truck tine and consisting of an equal height of brick disposed on their sides and each side of and bounding said void, a third section comprising two adjacent rows of an equal number of brick, the header ends of one latter row abutting those of the other at a point substantially midway over said void, the brick in each latter row being disposed on their sides at right angles to and over the brick

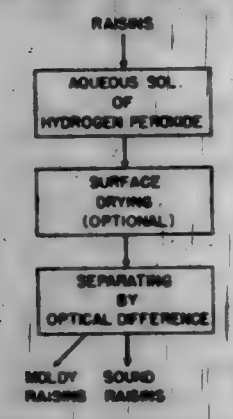
forming the respective boundary of said void in a manner so that the center of gravity of each abutting brick row is over the respective void-bounding brick, a top section identical with the bottom section, and a band circumscribing the closed periphery of said package and serving to hold the brick together, the outer banded edges of all sections being disposed substantially in flush relation with each other.

2,967,613
METAL FORMING APPARATUS
John L. Ellis, White Plains, and Claus G. Goetzel, Hastings-on-Hudson, N.Y., assignors to 134 Woodworth Corporation, a corporation of New York
Filed Apr. 28, 1955, Ser. No. 504,474
1 Claim. (Cl. 207—2)



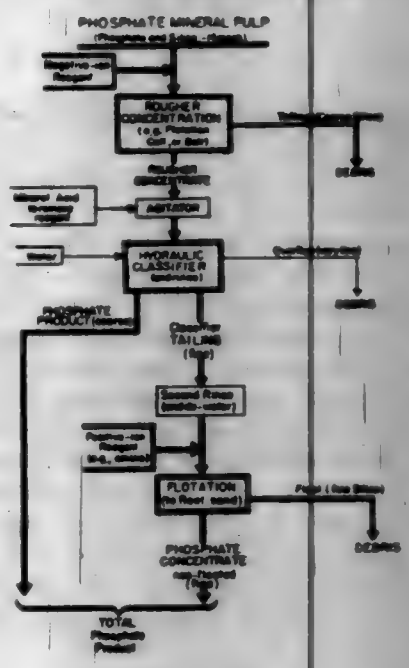
An apparatus for making extrusions from metal powder comprising: structure providing at least three bores oriented in fixed alignment one above the other, said bores being spaced from each other; a gate movable in the space between the first and second bores for closing off the first bore; means movable across the top of the bore for depositing powder in the closed off said first bore; a sectional die having sections movable in the space between the second and third bores for forming an extrusion apparatus in association with the second bore; a ram movable into said first and second bores to compress the powder in said first bore against said gate, to push the compressed compact from said first bore into said second bore, and to extrude the same through said die; and means for moving said ram, said gate, and said die sections into operative and inoperative positions.

2,967,614
SORTING RAISINS BY OPTICAL DIFFERENCE
Fredoon S. Nury, Oakland, and William F. Talburt, Berkeley, Calif., assignors to the United States of America as represented by the Secretary of Agriculture
Filed June 30, 1959, Ser. No. 824,164
4 Claims. (Cl. 209—2)



1. A process of separating moldy raisins from a lot of raisins containing moldy raisins and sound raisins which comprises immersing the lot of raisins in an aqueous solution of hydrogen peroxide until the moldy raisins develop sponginess, removing the raisins from the solution, and segregating the moldy and sound raisins by means selectively responsive to the difference in optical properties of the moldy and sound raisins.

2,967,615
CONCENTRATION OF PHOSPHATE MINERAL
Charles M. Goin, Beaverdam, Va., assignor to The American Agricultural Chemical Company, New York, N.Y., a corporation of Delaware
Filed Mar. 25, 1958, Ser. No. 723,852
9 Claims. (Cl. 209—12)

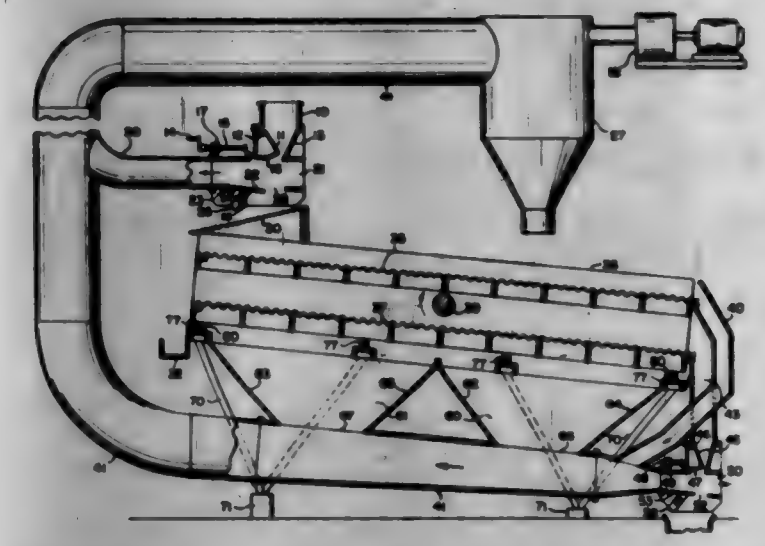


1. A process of concentrating phosphate-containing mineral material which comprises both coarse and fine phosphate and siliceous particles, comprising subjecting said material to roughing concentration in water with negative-ion reagent material to yield a phosphate-enriched concentrate having a reduced content of coarse siliceous particles, subjecting said concentrate, in aqueous pulp, to hydraulic classification by settling while adding water, for separating a coarse settled product having a greater phosphate content than said concentrate and for producing a rinsed phosphate-containing tailing including fine siliceous particles, said hydraulic classification comprising effecting downward settling of coarse particles from the solids of said pulp, and collection of the aforesaid coarse settled product at a lowermost locality, while directing said additional water continuously upward through the region of said downward settling and into a locality thereabove while segregating and carrying away the said rinsed tailing of fine particles from said last-mentioned locality and separately removing excess water as overflow, and subjecting said tailing to silica-removing concentration in water with positive-ion reagent material to separate siliceous particles and produce a concentrate having a greater phosphate content than the first-mentioned concentrate.

2,967,616
GRAIN CLEANER
Mark M. Philippbar, Kenmore, N.Y.
(1314 Niagara St., Buffalo 13, N.Y.)
Filed May 21, 1959, Ser. No. 814,917
7 Claims. (Cl. 209—32)

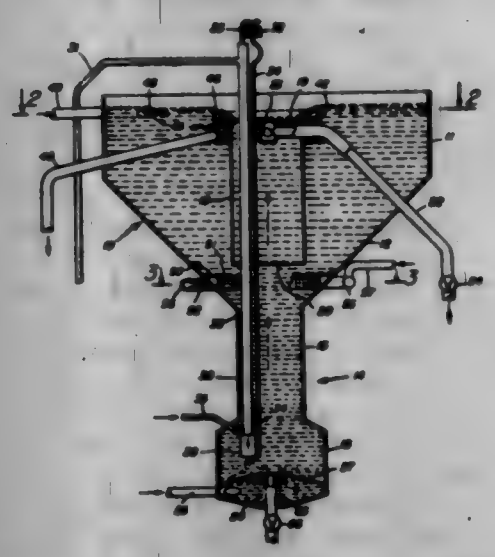
1. Apparatus for cleaning grain comprising a plurality of screens mounted one above another to successively receive grain, means for vibrating said screens to cause material retained thereon to traverse each of said screens from one end thereof to the other, a chute for directing

grain so that it falls by gravity onto the uppermost of said screens, means including a first duct for drawing a stream of air by suction through the grain falling through said chute to remove dust therefrom, a receptacle positioned to receive the material that does not pass through said uppermost screen, the lowermost of said screens being mounted below the uppermost screen to receive material passing through the uppermost screen, a second chute positioned to receive the material that does not pass



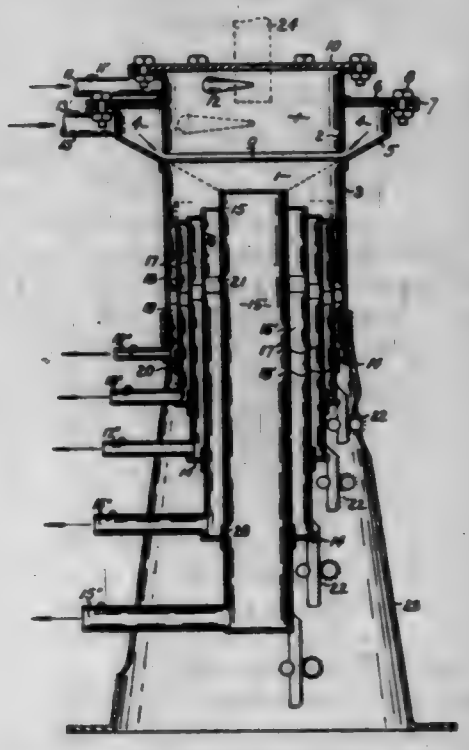
through said lowermost screen, means including a second duct for drawing an air stream by suction through the grain falling through said second chute to remove light material therefrom, means for conducting the material which passes through said lowermost screen into said second duct, said first and second ducts being connected and forming a single duct beyond the point of their connection and delivering the material which is carried by the air streams to a collecting point.

2,967,617
HYDRAULIC CLASSIFIER
Robert D. Evans, Pierce, and Harvie W. Brenthitt, Jr., Lakeland, Fla., assignors to The American Agricultural Chemical Company, New York, N.Y., a corporation of Delaware
Filed Mar. 14, 1958, Ser. No. 721,403
10 Claims. (Cl. 209—158)



2. Hydraulic classifying apparatus comprising upright liquid column-defining structure having liquid-introducing means at the lowest region thereof, for effectuating classification by settling of liquid-carried solids supplied to a predetermined intermediate locality of said structure, to accumulate faster-settling particles at said lowest region of said structure and to carry slower-settling particles to an upper region of the structure above the intermediate locality, removal means at said regions for separately withdrawing liquid bodies respectively containing said faster-settling and slower-settling particles, tank means surrounding part of said column-defining structure and enclosing the said predetermined locality, to be filled with liquid for travel, downward into said locality, of solids to be classified, overflow means disposed centrally of the tank means adjacent the top thereof and spaced substantially inward of the wall of the tank means, and means for introducing feed pulp of solids to be classified, into the tank means at approximately the level of the overflow means, in a direction to effect circular flow of liquid in the tank means around the overflow means, said pulp-introducing means and said overflow means being constructed and arranged to promote centrifugal segregation of solids to be classified, toward the wall of the tank means, and to effectuate overflow of liquid which carries substantially non-settling material, into the central overflow means.

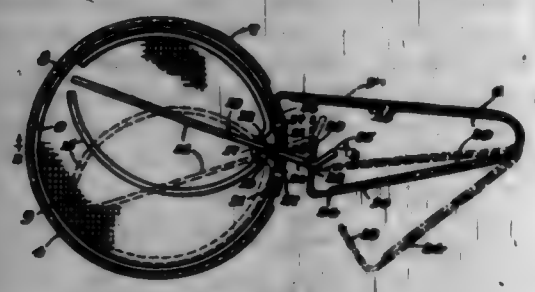
2,967,618
VORTICAL SEPARATOR
Zdenek Vana, Box 225, P Station, D, Ottawa, Ontario, Canada
Filed Mar. 28, 1960, Ser. No. 18,098
3 Claims. (Cl. 209—211)



1. An apparatus for multiple separation of suspended articles from a fluid carrier by density difference comprising in combination: a closed main vortex chamber having a substantially horizontal top portion, a circular wall section and a bottom portion, tangential feeding means in said circular wall section enabling said fluid carrier to spin in said vortex chamber, a continuous circumferential gap in said chamber wall section for discharging an additional fluid carrier into said main chamber, an outer vortex chamber enclosing said gap from outside, feeding means connected to said outer vortex chamber and adapted to supply said additional fluid carrier and to impart it a spin, a series of intercepting tubes in said bottom portion of said main chamber and concentric with each other and with said chamber, said tubes being of different lengths and diameters and graduated from small to large having lower ends slidingly connected with each other to form a bottom of said chamber, said tubes thus having a sliding movement along said chamber in an axial direction thereof enabling each of them to be adjusted individually and to control a distance of the upper edge of each of said tubes from said circum-

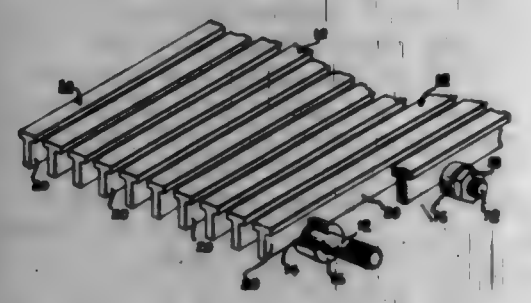
ferential gap, means to drain products of separation from annular spaces defined by said tubes and by said circular wall of said main chamber, and means to control said sliding movement of said tubes.

2,967,619
FLOUR SIFTER
Clarence S. Glenny, Rockford, Ill., assignor to The Washburn Company, Worcester, Mass., a corporation of Massachusetts
Filed Dec. 20, 1956, Ser. No. 629,688
1 Claim. (Cl. 209—357)



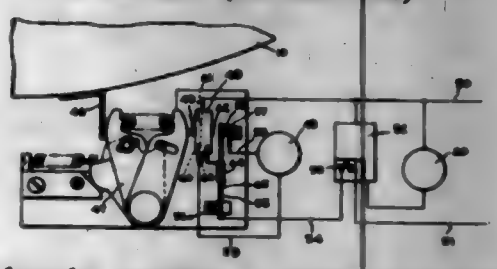
A sifter comprising a generally cylindrical body having a flat sifter screen mounted therein in a transverse plane, an agitator oscillatable on said screen about a vertical axis located in one side of said body and having a vertically extending shaft rigid therewith disposed on said axis, said shaft having its upper end portion bent horizontally to define an operating radius arm rigid with its upper end extending outwardly through an opening provided in one side of said body for oscillation, a generally U-shaped openable and closeable handle disposed radially outwardly from the same side of said body as said arm and adjacent the same, the cross portion of the U being outermost, said handle having laterally extending portions on the inner ends of the two legs of the U, one of which extends from its associated arm toward the other arm and is spaced from and movable relative to said body and is pivotally connected with the aforesaid agitator radius arm, and the other of which extends from its associated arm toward the other arm and has abutment with the outer side of said body and is adapted to be secured thereto as an attaching portion, a plate curved to conform to and abutting the inner side of said body and closing said opening from the inside of said body and defining a bearing for said shaft that is closed at the top where the bearing engages the bent portion of the shaft at the inner end of the radius arm to prevent upward displacement of said agitator from close contact with said screen, said plate having the lower end thereof spaced appreciably above said screen and agitator, and a single means for securing said handle attaching portion and said agitator bearing plate to opposite sides of the wall of said body.

2,967,620
SCREEN
Leon C. Bixby, 234 Elm St., Wellington, Ohio
Filed Dec. 10, 1956, Ser. No. 627,263
11 Claims. (Cl. 209—395)



1. A wire screen including, in combination, a supporting rod, means providing a plurality of like annular spacer elements distributed in substantially equispaced relation on said rod, a plurality of longitudinal wire elements disposed in substantially coplanar relation, said wire elements being positioned to one side of said supporting rod in non-surrounding relation thereto and extending substantially normal to said supporting rod, there being one said wire element sandwiched between each pair of adjacent spacer elements on said rod, means interengaging each said wire element with an adjacent spacer element, and means for compressing the sandwiched spacer elements and wire together whereby said wires are positioned in equispaced relation between said spacer elements.

2,967,621
UNBALANCE CORRECTING SYSTEM FOR USE IN LAUNDRY MACHINES
Matt F. Metzger, Jeffersonville, Ind., assignor to General Electric Company, a corporation of New York
Filed Dec. 9, 1959, Ser. No. 858,548
5 Claims. (Cl. 210—138)

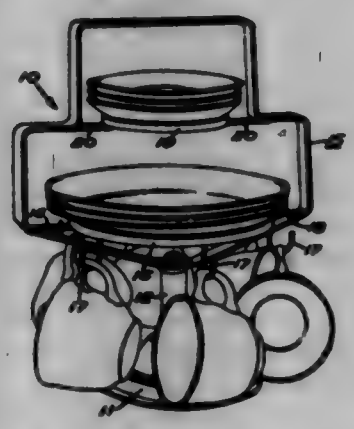


1. In a laundry machine: a clothes receptacle rotatable on a non-vertical axis; means for rotating said receptacle including electrical speed control means having an energized condition and an unenergized condition; an energizing circuit for said speed control means, said rotating means rotating said receptacle at a low clothes tumbling speed when said control means is in one of said conditions and rotating said receptacle at a high liquid extraction speed when said control means is in the other of said conditions; an unbalance switch in said circuit movable from a first position to a second position upon a predetermined magnitude of receptacle unbalance vibration resulting from high speed rotation; resistance heater means; an energizing circuit for said heater means; heat sensitive means controlled by said heater means having a first position when said heater means is at a lower temperature and a second position when said heater means is at a higher temperature; said speed control means circuit causing said speed control means to assume said one condition thereof when said unbalance switch assumes said second position and to assume said other condition when said heat sensitive means and said unbalance switch both move to their first positions, said heat sensitive means and said unbalance switch cooperatively controlling completion of said heater energizing circuit and causing de-energization of said heater means in response to operation of said unbalance switch to said second position thereof, movement of said heat sensitive means from one of its positions to the other causing it to engage said unbalance switch and move said unbalance switch to said first position thereof, the de-energization of said heater means causing cooling thereof and a consequent movement of said heat sensitive means to said first position thereof whereby both said unbalance switch and said heat sensitive means are eventually returned to their respective first positions.

2,967,622
STORAGE RACK
Paul L. Poglein, 1111 Green St., and Leslie J. Poglein, R.D. 1, both of Jeannette, Pa.
Filed May 11, 1956, Ser. No. 584,303
3 Claims. (Cl. 211—41)

1. A handy, portable, stably-balanced support and carrying rack of the character shown and described for

articles commonly used in a table setting, such as plates and saucers having bottom flanges which comprises: a one-piece vertically-extending strap metal frame, having an upper pair of horizontally-spaced-apart and opposed vertical bounding side portions connected at their upper ends by an integral substantially horizontal top handle portion, having a lower pair of horizontally spaced-apart and opposed vertical bounding side portions in a horizontally-outwardly offset and balanced relation with respect to said upper pair of bounding side portions, and having a pair of downwardly and inwardly declining connector portions extending below and from said lower pair of bounding side portions; upper and lower pairs of horizontal cross-connecting portions rigidly secured to said strap metal frame, an upper article-positioning shelf ring rigidly secured to said upper pair of cross connecting portions centrally between lower ends of said upper pair of vertically bounding side portions to receive a bottom flange of a saucer therein and to horizontally support vertically nested saucers thereabove, a bottom article-positioning shelf ring of larger diameter than said upper



article-positioning shelf ring rigidly secured to said lower pair of cross connection portions centrally between lower ends of said lower pair of vertically bounding side portions to receive a bottom flange of a plate therein and horizontally support vertically nested plates thereabove; said upper and lower shelf rings cooperating with said upper and lower pairs of vertical bounding side portions and defining an upper horizontal planar surface and a lower horizontal planar surface of greater horizontal area than the upper planar surface that are bounded by said frame for supporting the saucers and plates between said bounding side portions; said strap metal frame, said horizontal cross-connecting portions, and said upper and bottom article-positioning shelf rings being rigidly connected together to form a rigid unitized support body a centrally-positioned upright stand, an upright assembly secured at its upper end to and connecting lower ends of said connector portions together in a balanced relationship horizontally-centrally of said frame, and said upright assembly being secured at its lower end to said upright stand for supporting said frame in a stable and balanced upright position on said stand.

2,967,623
DISPLAY HANGER
Edward E. Schaefer, 1534 Park Ave., River Forest, Ill.
Filed Aug. 15, 1958, Ser. No. 755,221
2 Claims. (Cl. 211—45)

1. A display hanger comprising an elongated crossbar having an axial opening at one end thereof and a reduced diameter axial projection extending rigidly from the opposite end thereof, and a supporting frame comprising a single piece of resilient wire doubled centrally upon itself and curved to provide a normally superposed but resiliently spreadable double hook portion for the hanger, said wire extending outwardly in opposite directions from the base of said hook portion generally parallel to said crossbar and thence laterally toward said crossbar, one end portion of the wire being formed into a substantially closed loop of smaller diameter than said opposite end of said crossbar for receiving and encircling said axial projection and the other end portion of said wire being inturned and extending axially into said opening in said one end of said crossbar, the distance between the laterally extending



portions of the wire being such that said loop and the inturned end portion of the wire are normally biased axially inwardly against the respective ends of said crossbar for normally retaining the crossbar and frame in fully connected relation and resisting accidental separation thereof, and said double hook portion being resiliently spreadable from its normally superposed relation for axially displacing said loop outwardly and disengaging the same from said projection.

2,967,624
DRIP DRYER
William Spellman, 215 Mount Hope Place, Bronx, N.Y.
Filed June 16, 1959, Ser. No. 820,782
2 Claims. (Cl. 211—100)

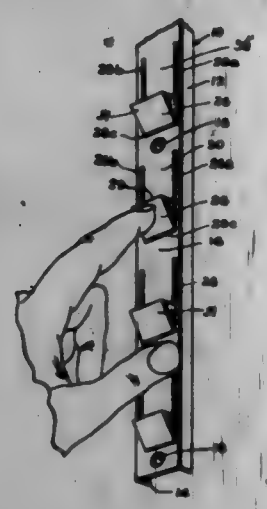


1. A plate adapted to be supported in a vertical position, having two horizontally aligned bearings thereon, a wire mounted in said bearings, a plurality of garment-supporting bars, each having one end pivoted on said wire between said bearings, said wire having a portion on each end extending beyond said bearings and bent forwardly, a support rod extending between and detachably connected to the ends of said forwardly bent portion, a brace rod pivoted to said plate at a point below the aforementioned bearings, said brace rod having its ends attached to said support rod to support said rod in position to hold said garment supporting bars in horizontal position.

2,967,625
SHELVING BRACKET
Don R. Hoogenstyn, 833 Oakmere Place,
North Muskegon, Mich.
Filed Apr. 21, 1958, Ser. No. 729,893
9 Claims. (Cl. 211—183)

3. In an assembly for installation upon supporting wall surfaces whereby to provide support for shelving and the like, a standard comprising an elongate member formed of a substantially flexible and resilient material and having a face portion and oppositely disposed side wall portions integrally connected at one of their edges to said face portion and extending rearwardly therefrom and de-

fining a channel therebetween said face portion being provided with continuous U-shaped relieved portions longitudinally spaced-apart thereon and a plurality of tongue portions integrally connected to said face portion and extending downwardly from the point of connection between opposite sides of said U-shaped relieved portions in substantially the same plane as said face portion, said



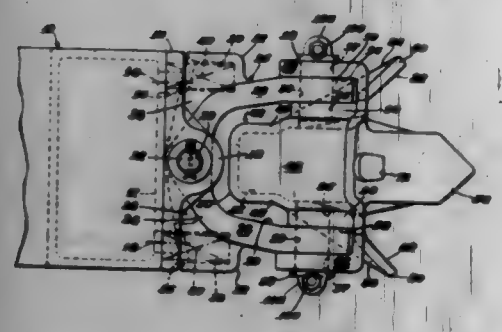
tongue portions carrying at their respective lower ends brackets projecting forwardly therefrom and provided with a bearing surface, said tongue portions being adapted to pivot rearwardly at its point of integral connection to the face portion into the said channel zone, said channel dimensioned to have a depth adequate to permit the outer edges of said brackets to clear the face of the standard in its rearward displaced position.

2,967,626

SHANKLESS COUPLER ARRANGEMENT

Kenneth V. Livelsberger, Alliance, Ohio, assignor to American Steel Foundries, Chicago, Ill., a corporation of New Jersey

Filed Sept. 13, 1957, Ser. No. 683,816
7 Claims. (Cl. 213—75)



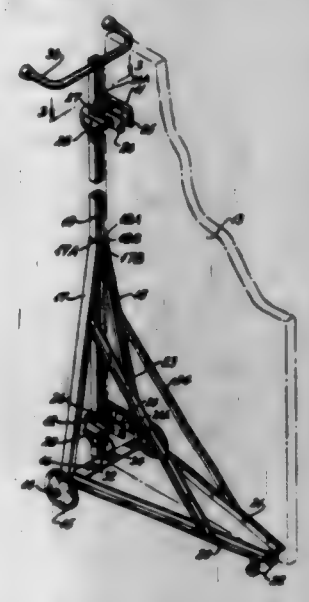
1. In a vehicle coupling arrangement the combination of: a shankless coupler having a head and a knuckle; a yoke; means for pivotally connecting the yoke to the vehicle to permit relative rotational movement therebetween about an axis lying in a vertical plane extending transversely of the vehicle; said yoke having a pair of forwardly extending vertically spaced arms defining therebetween an opening for receiving the coupler head; and means for pivotally connecting the coupler head to the yoke arms to permit relative rotational movement therebetween about another axis extending in a direction normal to said first mentioned axis, lying in a plane parallel to said first mentioned plane, and passing through the coupler head; said means comprising a pair of axially aligned pins spaced from each other at opposite sides of the coupler head and extending through related axially aligned openings of the yoke arms and the coupler head, respectively, disposed at opposite sides of the coupler head.

2,967,627

DOOR DOLLY AND JACK

Marvin M. Vinson, 37 Linden St., Montgomery, Ala.

Filed June 23, 1958, Ser. No. 743,839
3 Claims. (Cl. 214—1)



1. A door dolly and jack comprising a cross member, wheels mounted on the ends of said cross member to provide for wheeled support thereof, a pair of converging members mounted with their divergent ends fixed to the ends of said cross member and having their converging ends spaced apart a distance at least equal to the thickness of a door, a polygonal stub shaft mounted on said cross member and extending upwardly from the plane defined by said cross member and said converging members, a polygonal post slidably mounted on said stub shaft, a pair of strut members extending upwardly from said cross member in converging relation with their divergent ends fixed to said cross member and their upper converging ends connected together providing a post receiving channel closed on the sides thereof adjacent the ends of said cross member and the ends of said first converging members and snugly receiving said polygonal post whereby said post may be raised or lowered in telescoping relation to said shaft, brace means for securing said first and second pairs of converging members in fixed position, clamp means mounted on said post both above and below said channel formed by the converging ends of said second pair of converging members with said clamps having door receiving portions in registry with the open spaces between the converging ends of said first pair of converging members whereby a door may be snugly received in said clamping members in any position including having the door in contact with the supporting surface or with said door in a raised position, said post being provided with handlebar shaped projections spaced from said cross members whereby said wheels and the ends of said handlebar shaped members may serve to support the door with one edge substantially parallel to a supporting surface.

2,967,628

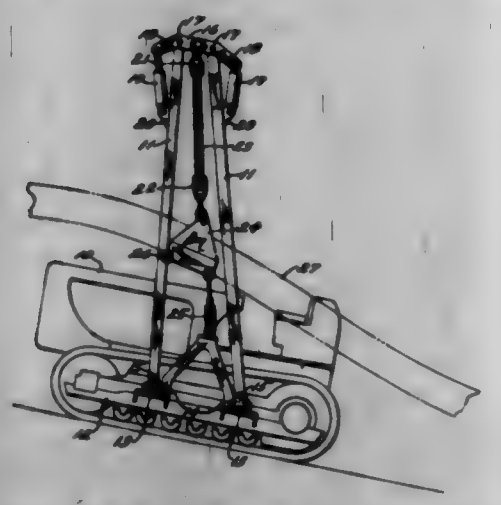
TILTING BOOM FOR PIPE LAYING TRACTOR OR OTHER VEHICLE

Nicholai M. Erdahl, Milwaukee, Wis., and Norman E. Risk and John H. McCarthy, Peoria, Ill., assignors to Caterpillar Tractor Co., Peoria, Ill., a corporation of California

Filed Oct. 15, 1959, Ser. No. 846,654
4 Claims. (Cl. 214—1)

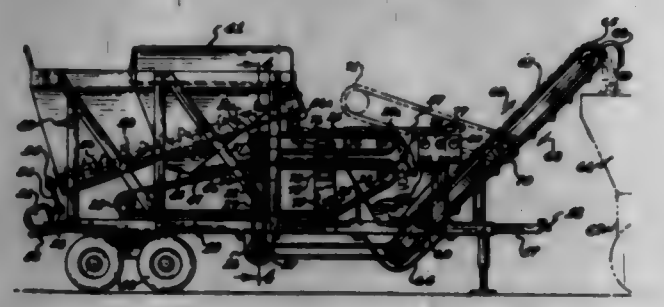
1. In a vehicle mounted boom including two spaced upstanding legs, means to tilt the boom for improving distribution of weight supported thereby when the vehicle is disposed on an incline comprising pivotal connections

between the lower ends of the legs and the vehicle, a link extending between and pivoted to the legs adjacent their



upper ends, and a double acting power actuated extensible member between said link and one of said legs.

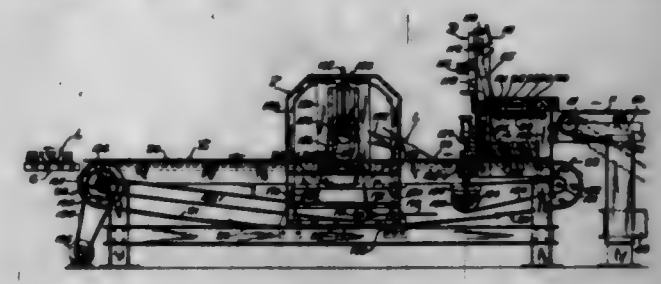
2,967,629
CONCRETE BATCHING PLANT STRUCTURE
Russell F. Long, 1045 W. Maryland, Phoenix, Ariz.
Filed Jan. 30, 1958, Ser. No. 712,242
2 Claims. (Cl. 214—2)



1. A concrete batching machine having, a frame, a plurality of material supply hoppers fixed on said frame, a conveyor, one for each of said hoppers, mounted on said frame, a discharge opening in each of said hoppers communicating with each of said conveyors, a source of driving power, means for concurrently and individually connecting and disconnecting said source of driving power relative to each of said conveyors so that said conveyors can operate concurrently and individually, an individual sensing device connected to each conveyor responsive to the amount of material delivered by each conveyor and connected to control said connecting and disconnecting means, a common receiving hopper fixed on said frame adapted to consolidate the discharged materials from said conveyors to a common discharge point, and adjustable indicating and control means for each of said sensing devices adapted to determine the amount of material to be delivered by each conveyor into said common receiving hopper.

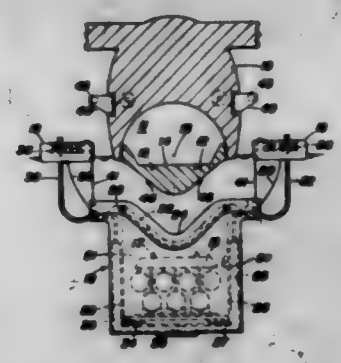
2,967,630
APPARATUS FOR HANDLING RIGID SHEET MATERIAL
Clarence E. Parker, deceased, late of Painesville, Ohio, by Frieda Parker, executrix, Painesville, Ohio, assignor to The Coe Manufacturing Company, Painesville, Ohio, a corporation of Ohio
Filed Feb. 26, 1958, Ser. No. 717,744
5 Claims. (Cl. 214—6)

1. In apparatus for handling rigid sheet-like articles, hopper means adapted to hold a plurality of sheet-like articles transferred thereto, first conveyor means for feeding sheet-like articles to said hopper means, said hopper means having an opening in one side adjacent to the bottom thereof, means in said hopper means for discontinuing the operation of said first conveyor means upon the articles in said hopper means reaching a predetermined height, second conveyor means underneath said hopper means and a distance below the bottom of said opening slightly greater than the thickness of one of said articles, said second conveyor means comprising means for withdrawing the bottom one of said articles in said hopper



means therefrom through said opening, and means at the discharge side of said hopper means for turning said one article withdrawn from said hopper means in a clockwise direction bottom side up and placing it on said second conveyor means adjacent to said opening, said second conveyor means also comprising means for removing a second article from said hopper means through said opening and placing it on top of said first article.

2,967,631
METHOD AND APPARATUS FOR UNDERWATER LOADING OF A WATER VESSEL
Edward M. Storms, Parkville, Osmond F. Field, Jr., Fullerton, Thomas C. Hill, Aberdeen, and Albert C. Hake, Middleboro, Md., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Apr. 26, 1957, Ser. No. 655,455
9 Claims. (Cl. 214—13)

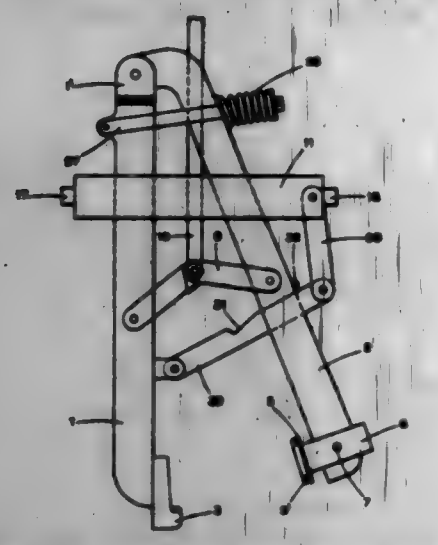


5. In an apparatus for loading a water vessel having a bay closed by a rotary underwater door, said bay having a longitudinal axis and a transverse axis, means for rotating said rotary door around an axis which lies in any plane parallel to the plane containing said longitudinal axis and said transverse axis, a waterproof caisson having a chamber therein open at the top for encompassing said rotary door, a cover closing said chamber and having substantially the same configuration as the exterior surface of the door of the water vessel, and means for releasably sealing said cover to the upper end of said caisson and means for securing said cover to said door so that after the cover is released it will rotate with said door thereby enabling a load to be transferred from said chamber to said bay.

2,967,632
PICK-UP GRABS FOR FILLED SACKS
Donald Henry Coates, Swine, near Hull, England, assignor to Chisholm, Fox & Garner Ltd., Hull, England
Filed July 25, 1958, Ser. No. 751,086
8 Claims. (Cl. 214—147)

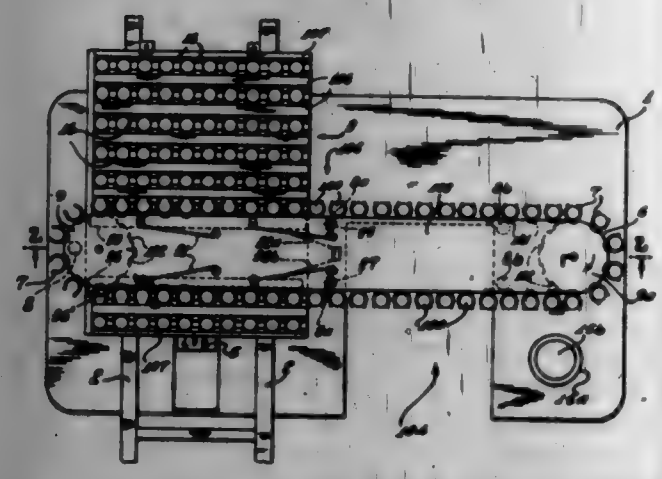
1. A sack lifting grab, comprising a pair of elongated members pivotally joined together at one end, each mem-

ber having a jaw at the other free end thereof, a first link means pivotally connecting the members for separating and closing the jaws thereon, a suspension means movable relative to said members, a second link means connecting said suspension means and members, spring



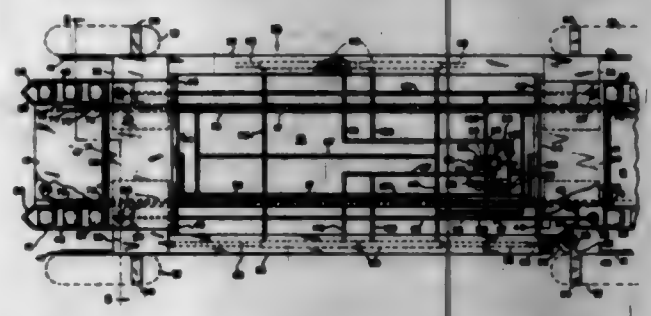
means urging said members together to close said jaws, and cam means coacting with said second link means to apply a closing force to said members upon movement of said suspension means, said force being supplemental to closing forces exerted by said spring means and said first link means.

2,967,633
AUTOMATIC FRACTION COLLECTOR
Hans Stegemann, Berlin-Kopenick, and Ernst-Gotthard Neumann, Berlin, Germany, assignors to Deutsche Akademie der Wissenschaften zu Berlin, Berlin-Adlershof, Germany
Filed June 25, 1958, Ser. No. 744,477
Claims priority, application Germany Aug. 5, 1957
10 Claims. (Cl. 214—309)



1. An automatic fraction collector for selectively collecting fractions in a plurality of receptacles, comprising a housing, a storage rack movably mounted on said housing, a plurality of yieldable holder members mounted in said rack in equal spaced rows and adapted to grip the receptacles, said holder members having opening means on each side thereof in alignment with the rows for allowing movement of receptacles through said holders in the direction of said rows and preventing movement of said receptacles transverse to said rows, means on said housing for moving said rack in a direction transverse to said rows, conveyor means extending longitudinally over and across the rack and parallel to said rows, yieldable means mounted on said conveyor means for gripping said receptacles, said yieldable means having openings directed transversely to the rows on the portion of said conveyor extending over the rows for gripping said receptacles upon said rack being moved transversely to said rows and toward said yieldable means; means for moving said conveyor means in steps in a straight path so as to move said yieldable means into the path of motion of said receptacles whereby upon said rack being moved toward said yieldable means the receptacles are gripped by said yieldable means, and upon said rack being moved away from said yieldable means the receptacles are released; said means for moving said conveyor means in a straight path further removing said receptacles from the rack in the direction of said rows after said yieldable means have gripped said receptacles and placing said receptacles into said rack before releasing said receptacles.

2,967,634
VEHICLE TRANSFER CARRIER
Lawrence A. Bogar, 3218 W. Daisy Ave., and Adrian L. Long, 963 E. 13th Ave., both of Spokane, Wash.
Filed Dec. 26, 1956, Ser. No. 630,559
9 Claims. (Cl. 214—331)



1. A vehicle transfer carrier comprising a carriage adapted to be rolled under a vehicle, a lift frame on said carriage, laterally extendable longitudinal side members on said lift frame, fluid pressure operated means for extending said side members outwardly until their movements are arrested by engagement with the inner sides of the vehicle wheels, wheel pick-up shoes mounted for longitudinal movement on said side members for engagement with peripheral surfaces of the vehicle wheels, fluid pressure operated means operable only after said extending movement of said side members is arrested to move said shoes longitudinally into wheel engaging positions, and fluid pressure operated jacks operable only after said shoes are moved to wheel engaging positions to elevate said lift frame for lifting the vehicle.

2,967,635
BOAT LOADING DEVICE
Forest H. Barnett, 7816 S. Douglas, Tacoma, Wash.
Filed Nov. 20, 1957, Ser. No. 697,688
6 Claims. (Cl. 214—450)



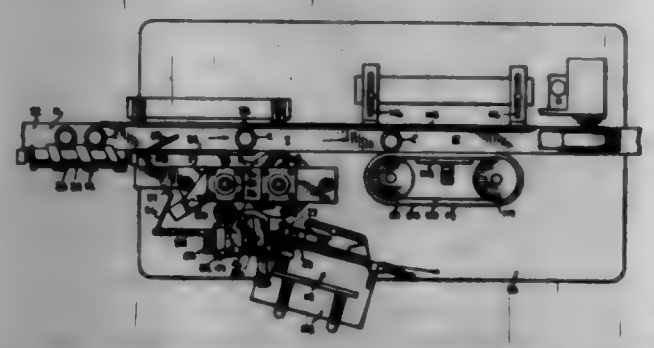
3. In combination with a hard top vehicle of the character described having a rear end bumper; a boat loading and carrying frame structure comprising paired laterally spaced longitudinal rods, cross-rods joining said longitudinal rods in rigid spacings, means fixing said frame structure to the car to extend upwardly along the back and over the top thereof a roller mounted on the vehicle top, transversely thereof, and forwardly of said loading and carrying frame structure, a rigid loading frame swingingly fixed to the upwardly extending portions of

said frame structure at the rear end of said vehicle at a level substantially above said bumper but below the level of said top, to swing between a downwardly and rearwardly directed position to an upwardly and forwardly leaning position, means at the swinging end of said loading frame for effecting its hinged connection with the transom end wall of a boat to permit the boat to be swung about said hinged connection to an unended position of support and leaned against one of said cross rods; said loading frame being adapted to be swung upwardly and forwardly to lift the rear end of the attached boat and to swing its forward end downwardly against said rollers for forward travel and support and to bring said loading frame to a position of rest against the frame structure, a standard supported on one of the cross-rods, a sheave wheel mounted at the upper end of said standard, a cable winding drum mounted by the standard, a cable wound on the drum and extended therefrom over said sheave and equipped at its end for attachment to the prow end of a boat as attached to said loading frame for loading, as a means for upending the boat preparatory to lifting it by means of the loading frame.

2,967,636
LABELING MACHINE

Herman David Manas, Roslyn Estates, and Roy John Manas, Brooklyn, N.Y., assignors to M.R.M. Machinery Co., Inc., Brooklyn, N.Y., a corporation of New York

Filed Apr. 7, 1959, Ser. No. 804,880
21 Claims. (Cl. 216—54)



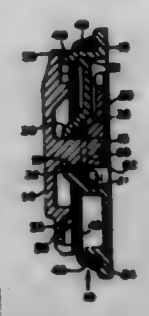
1. In a labeling machine for substantially completely adhering a label to a container, including a label magazine, means to urge labels in said magazine toward a delivering end, means to retain the labels in said magazine, means for operating said retaining means for releasing individual leading labels successively from said magazine, remover means for withdrawing the successively released labels individually from said magazine by adhesion to a part of the area thereof upon their release, means for applying adhesive to said remover means, means for picking off each label adhered to said remover means and transferring such label individually to a label-applying position with adhesive on a part of its area as received from said remover means, and separate means for application of additional adhesive to each picked off label in residual non-adhesive bearing parts of its area during its transfer to the label-applying position.

2,967,637
FILLER CAP ASSEMBLY

Chester C. De Pew, Farmingdale, N.Y., assignor to Chester Corporation, Wilton, Conn., a corporation of Connecticut

Filed July 17, 1957, Ser. No. 672,474
3 Claims. (Cl. 220—24.5)

1. The combination of a filler cap for a tank and an apertured adapter therefor, said adapter being provided with a downwardly and inwardly curved annular flange and a vertically slotted ring at the lower end of the flange, said cap including a closure plate having a central aperture and an annular outwardly and downwardly opening groove below its upper marginal edge, and a resilient O ring in said groove, the upper end of said groove being substantially C-shaped in cross section and of such size as to provide a space into which the O ring can expand, and a retainer plate with an upwardly extending annular flange engaging the lower section of the ring to confine it within the slot, the downwardly curved annular flange of the adapter forming the arc of a circle whose center is on substantially the same horizontal plane as the center of the O ring, which latter engages said curved flange when the cap is in closed position, and a rotatable clamp-

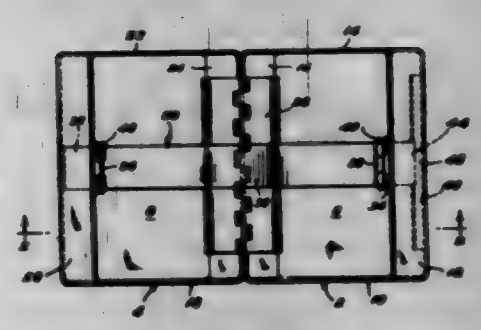


ing plate carried by the closure plate and provided with clamping fingers which underlie the slotted adapter ring, a stud portion extending upwardly from the center of the clamping plate and through the central aperture of the closure plate, a handle pivoted at the upper end of the stud portion and provided with a camming surface which engages the closure plate and which, when the handle is rotated from open position, where it is substantially vertical, to closed position, where it is flat against the closure plate, simultaneously urges the fingers upwardly against the O ring and the closure plate downwardly to compress the O ring against the curved flange.

2,967,638
HINGED BOX

Joseph O. Burman, Jr., Attleboro, Mass., assignor to Progressive Machinery Corp., Attleboro, Mass., a corporation of Massachusetts

Filed Apr. 23, 1958, Ser. No. 730,485
7 Claims. (Cl. 220—35)



1. A box comprising opposed box sections hinged to each other along one edge of each to open and close, spring means lying within said box and attached to said sections to bias said sections apart, said spring means lying along the bottoms of said sections and incorporating as an integral part thereof and at each end thereof latch means for holding said sections closed, and release means formed as an integral part of a wall of one of said box sections opposite a hinged wall for disengaging said latch means.

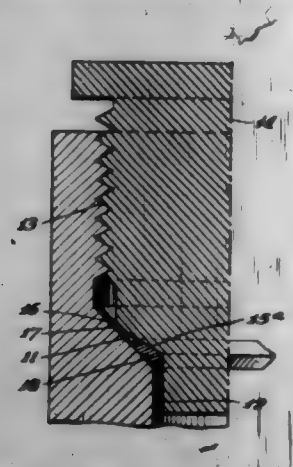
2,967,639
HIGH PRESSURE CLOSURE

Ward E. Knestrel, Whiting, Ind., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana

Filed Feb. 8, 1957, Ser. No. 638,993
4 Claims. (Cl. 220—46)

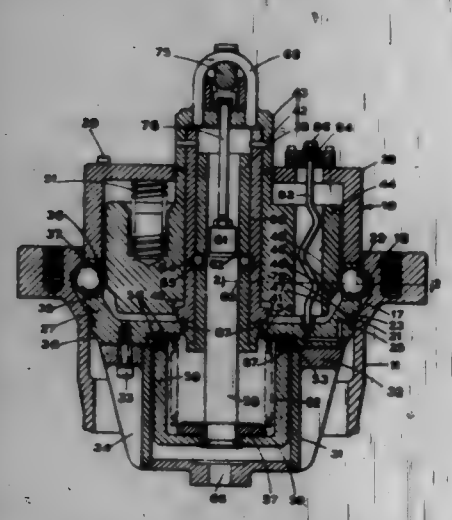
2. A pressure sealing closure adapted for use on high pressure systems which closure comprises a first mem-

ber having a tapered recessed seating surface, a second member having an inner frusto-conical seating surface of a different taper than said recess surface, an outer frusto-conical surface substantially parallel to said recessed seating surface, said seating surfaces defining a tapered annular interval which decreases in radial cross-section away from the longitudinal axis of said members with a clearance angle provided between said outer frusto-conical seating surface and said recessed seating surface, a projection on said second member coaxial with said frusto-conical surface and merging therewith to form an obtuse angle, said projection extending into said first



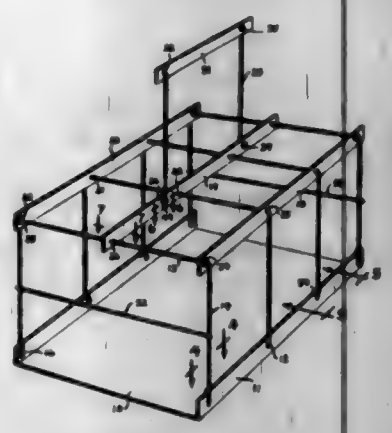
member and beyond said recessed seating surface; means engaging said members to make up the closure and prevent separation of said members; a sealing ring about said projection in contact therewith and confined between said tapered seating surfaces, said ring being of wedge-shaped radial cross-section with its broadest face exposed to the retained pressure and an edge thereof providing the contact with said projection, said sealing ring initially being of rectangular cross-section and having substantial thickness and formed in situ when the closure is made up, said projection acting to restrain said ring during the deforming thereof into said wedge-shaped cross-section.

2,967,640
PLUGS OR CLOSURES
Henry Roberts, Bournemouth, England, assignor to Flight Refuelling Limited, Blandford, England, a British company
Filed Jan. 27, 1958, Ser. No. 711,408
Claims priority, application Great Britain Feb. 6, 1957
10 Claims. (Cl. 220—55.3)



1. A plug for closing a cylindrical passageway having a circumferential groove in the wall thereof and making a fluid tight joint with said wall, said plug comprising a body, a shoulder on said body to engage a mating surface in the passageway, packing means on said shoulder, primary locking members mounted in radial apertures in said body for movement into said circumferential groove, a plunger mounted for axial sliding movement in said body, a camming surface on said plunger operative on axial sliding movement of the plunger in one direction to displace said locking members outwardly into said groove, a sleeve fixed to said body and extending axially through said plunger, secondary radially movable locking members operative to lock said plunger to said sleeve and an axially slidable member having a camming surface cooperating with said secondary locking members to displace them into locking position, said axially slidable member being responsive to pressure on the inner side of the plug for engaging said secondary locking members.

2,967,641
BOTTLE CARRIER
John M. Versnick, 1612 18th Ave., Rockford, Ill.
Filed Oct. 23, 1957, Ser. No. 691,921
6 Claims. (Cl. 220—111)



4. A bottle carrier comprising a sheet metal tray having upturned flanges along opposite sides, said flanges each having a plurality of longitudinally spaced holes therein spaced apart a distance slightly greater than the diameter of the bottles to be carried with each hole in one flange aligned with a corresponding hole in the opposite flange, a plurality of U-shaped wire bails each including spaced parallel leg portions and a connecting web portion dimensioned to span the space between said flanges, said bails having inturned ends on the leg portions pivotally received in aligned ones of said holes in said flanges, three spaced metal bars each having a plurality of holes therein spaced apart a distance corresponding to the spacing of the holes in said flanges, a pair of said bars being mounted on said web portions adjacent opposite ends thereof with the web portions extending through the holes in the side bars, the other of said bars being mounted on said web portions intermediate said pair of bars with said web portions extending through the holes therein, a carrying handle including an elongated grip portion and attachment portions mounted on said grip portion for pivotal movement relative thereto in a plane extending longitudinally of the grip portion, and means mounting the attachment portions on the other of said bars for axial sliding and pivotal movement relative to the bar in a plane extending longitudinally thereof to permit the handle to be compactly collapsed and folded with said carrier.

2,967,642
ORIENTING APPARATUS
James E. Curry, North Hollywood, Calif., assignor to Pacific Semiconductors, Inc., Culver City, Calif., a corporation of Delaware
Filed June 10, 1957, Ser. No. 664,685
14 Claims. (Cl. 221—173)

1. Apparatus for delivering a plurality of unidirectional conducting semiconductor diodes all oriented in one

of two predetermined orientations such that each of said diodes are similarly oriented and aligned with respect to its direction of conduction, said diodes being cylindrical about a vertical axis through the length thereof said apparatus comprising: an inclined guideway for receiving said diodes, each of said diodes being randomly aligned in said guideway in either the forward or back direction; means for selectively halting the first of said diodes at a sensing station, said sensing station being located intermediate the ends of said guideway; electrical sensing means located adjacent said sensing station, said sensing



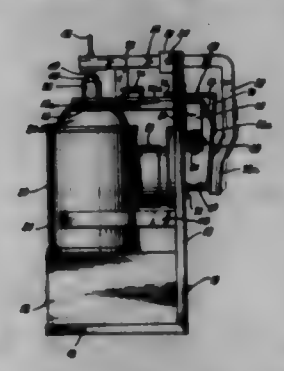
means being adapted to produce an electrical signal only if said diode at said station is aligned in one of said predetermined orientation, said electrical signal being produced only if current of a predetermined value passes through said diode; and means for selectively reversing the direction of orientation of each said aligned diodes which is not oriented in said predetermined orientation when presented to said sensing means said means for selectively reversing being coupled to and controlled by said electrical sensing means, whereby said diodes are delivered from said last named means aligned in said predetermined orientation.

2,967,643

INTERMITTENT VALVE ACTUATING ASSEMBLY FOR ATOMIZING DEVICES

Albert L. Edelstein and Joseph Glickstein, New York, N.Y., assignors to Syncro-Mist Controls, Inc., New York, N.Y., a corporation of New York

Filed Feb. 25, 1958, Ser. No. 717,405
10 Claims. (Cl. 222—70)



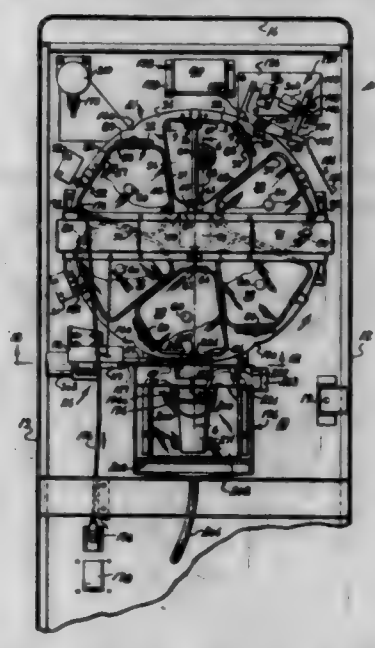
1. In an automatic valve actuator assembly for an atomizer device having a valve release member, wherein said assembly includes a frame and means on the frame for mounting the atomizer device in a fixed position, a valve actuator mechanism for periodically and successively actuating said atomizer device, said mechanism comprising a carrier mounted on said frame for movement through an operating cycle, drive means on said frame operatively connected for moving said carrier continuously through successive operating cycles, actuating means including a spring mounted on said carrier in a position to be translated along a selected path in response to the movement of said carrier through said operating cycle and movable relative thereto from a normal position to a stressed position, and cam means mounted along a prescribed portion of said selected path and engageable with said spring for moving said spring from said normal position to said stressed position and positively latching said spring therein and then releasing said spring for return movement thereof to said normal position, said actuating means being arranged relative to said mounted atomizer device to operatively engage and actuate said valve release member in response to said return movement.

2,967,644

DISPENSING MACHINE

S. Morgan Barber, San Marcos, and Ernest N. Martin, Escondido, Calif., assignors, by mesne assignments, to Universal Metal Products Corporation, a corporation of Missouri

Filed Feb. 28, 1956, Ser. No. 568,319
19 Claims. (Cl. 222—144)



1. In a dispensing machine, a dispensing mechanism comprising a rotatable wheel member, a plurality of commodity canisters spaced circumferentially on said wheel member, said canisters having side walls and front and rear end walls, one of the side walls being formed with a dispensing opening and another of the side walls contiguous to said last named side wall being formed with a filling opening, each of said canisters including a shaft extending radially of the wheel member and mounted in the canister so that one end of the shaft protrudes from the canister adjacent the central portion of said wheel member, a measuring member mounted in the canister on said shaft and adapted to move a measured quantity of material over the dispensing opening in said canister, valve means mounted on the canister and movable between open and closed positions to permit discharge of the measured quantity, means mounted adjacent the central portion of said wheel member and adapted to engage the protruding end of the shaft of the selected canister for rotating the shaft through a predetermined arc, and means for moving the valve means of the selected canister to an open position and maintaining the valve means in an open position during rotation of the shaft of the selected canister.

2,967,645

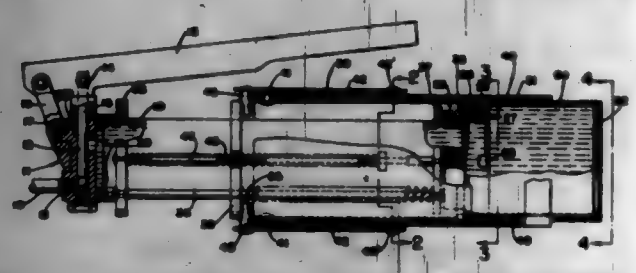
SELF-LOADING GREASE GUN

Elwin A. Hawk, Sr., East Rochester, Ohio, assignor of one-fourth to Elwin A. Hawk, Jr., one-fourth to Joseph L. Reto, and one-fourth to George A. Hawk, all of East Rochester, Ohio

Filed July 25, 1958, Ser. No. 750,912
6 Claims. (Cl. 222—325)

1. In combination with a grease gun having a dispensing head and a grease supply cylinder connected

at one end thereto, an annular gasket mounted on the outer end of said cylinder, a sleeve slidable over the cylinder, means on said sleeve for holding a grease can telescoped over said gasket, spring means adapted



when compressed for urging said sleeve toward said head, linkage means on said sleeve for compressing said spring means, and a second spring means for urging said sleeve away from said head when the first spring means is uncompressed.

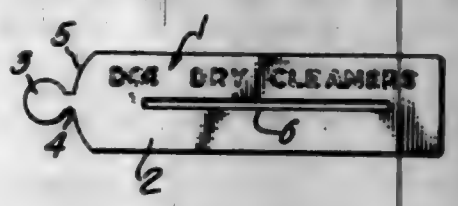
2,967,646
REVERSIBLE SPOUTS AND NOZZLES WITH CLINCHED IN GASKET
Robert Marshall Curtis, Blakehurst, New South Wales, Australia, assignor to American Flange & Manufacturing Co., Inc., New York, N.Y., a corporation of Delaware
Filed Dec. 28, 1956, Ser. No. 631,317
7 Claims. (Cl. 222—539)



1. Closure construction for containers including a nozzle for surrounding the opening in a container wall, said nozzle comprising a light weight sheet metal member, generally in the form of a cylinder, and formed for the reception of a closure member thereover, means carried by the inner end of said nozzle for securing said nozzle to a container wall about said opening therein, the outer end of said nozzle being turned inwardly and then directly downwardly into a downwardly turned collar portion and then being turned radially inwardly from the lower end of said collar portion to form an annular gasket receiving ledge, a pre-formed annular gasket seated on said ledge, the outer periphery of said gasket engaging said collar and the inner edge of said ledge being turned upwardly in the form of a lip, said lip terminating in engagement with the inner periphery of said gasket, at a position below the upper surface of said gasket, to hold said gasket on said ledge by retaining the same between said collar and said lip and to expose the upper surface of said gasket devoid of any overlying metal.

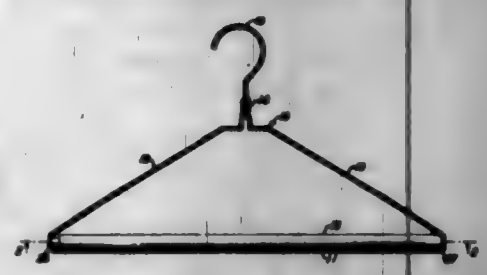
2,967,647
BODY COAT STAYS
Robert W. Billingsley, 826 W. Broad St., Richmond, Va.
Filed Mar. 10, 1959, Ser. No. 798,414
1 Claim. (Cl. 223—71)

A coat stay adapted to be used with the usual open face coat having buttonholes on one side and buttons oppositely disposed on the other side of the coat opening, said stay comprising, a flat elongated body portion of stiff material, a tab projecting from one end of said body portion adapted for insertion through the corresponding buttonhole, said tab being connected to said body portion at said end by a relatively narrow neck, said body portion, tab, and neck being in a common plane and insertable in coplanar relation, said neck adapted to form an axis for the rotation of the stay relative to the insertion of the tab in a buttonhole, and said body portion being provided with a longitudinal slot having spaced



apart sides providing a race for the thread shank of a corresponding button, said body portion adapted to slide freely on said button shank by means of said slot when the tab is inserted in a buttonhole and rotated in coplanar relation with the body portion, so that the coat will freely adjust to a hanger or bag when used in connection with the coat.

2,967,648
GARMENT SUPPORTING BAR FOR WIRE GARMENT HANGERS
Gilmour McDonald, Box 4302, Washington 12, D.C.
Filed Aug. 27, 1958, Ser. No. 757,542
2 Claims. (Cl. 223—98)

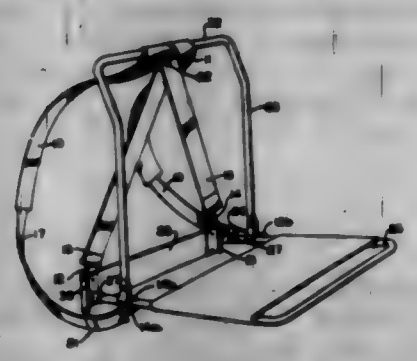


1. The combination of a garment supporting bar and a wire garment hanger of the type having a horizontal member and upwardly converging side members terminating in a suspension hook, said bar comprising an elongated rod of substantially rigid material, said rod being round in cross section, of greater diameter and of less length than said horizontal member, an axial bore in one end of said rod, a plunger slidably received in said bore, a compression spring in said bore for urging said plunger outwardly of said rod and aligned transverse grooves in the outer end of said plunger and the opposite end of said rod, said rod being attached to said hanger with said side members received in said grooves and with said rod engaging said horizontal member to support garments draped over said rod.

2,967,649
PACK HARNESS
Richard G. Mack, Dolores St. and Franciscan Way, Carmel, Calif.
Filed Jan. 27, 1958, Ser. No. 711,307
3 Claims. (Cl. 224—5)

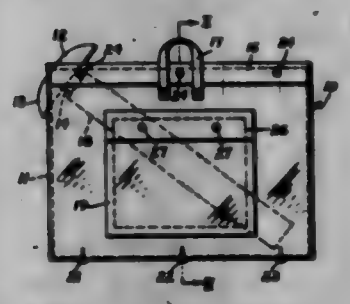
1. A pack frame and harness comprising in combination a pack frame having a substantially horizontal support member and a U-shaped back member joined to the support member substantially at right angles thereto, said support member having inwardly directed extensions beyond the juncture with said back member with a yielding back support affixed to and extending between said extensions, and a harness including a pair of crossed straps each having a wide portion and a narrow portion, safety snap hooks at the free ends of said wide and narrow portions, said straps being secured together at the crossing, the hooks at the free ends of the wide portions being attached to the free ends of said support extensions, said

straps extending up between the wearer and the frame, above the crossover of the back member, then over, around and under said crossover forming a self-adjusting



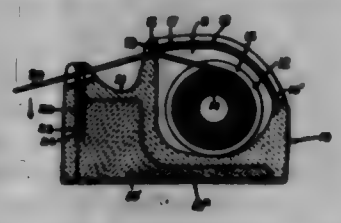
engagement therewith, and having the narrow portions passing under the arms of a user, for attachment to the frame by means of the said hooks at the free ends thereof, outward of the juncture of the support and back member.

2,967,650
DRAFTING EQUIPMENT CARRIER
Richard W. Bow, 39 Grand St., Worcester, Mass.
Filed Jan. 30, 1959, Ser. No. 790,183
1 Claim. (Cl. 224—45)



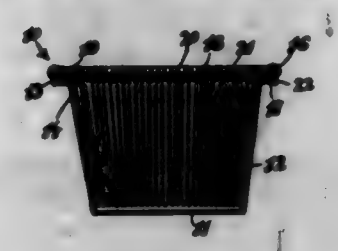
A drafting equipment carrier, comprising a rectangular main body formed of sectional sheet material and adapted to be folded along a line parallel to and midway between the ends to form two halves and to embrace a drawing board, a handle fastened adjacent each end of the body member, means for securing the two ends together, and an elongated pocket fastened to the body member and extending diagonally across one of the said halves for holding a T-square.

2,967,651
FLOSS FONT
Eli A. Zackheim, South Plainfield, Arthur R. Meares, Westfield, and Joseph F. Hanlon, Middlesex, N.J., assignors to Johnson & Johnson, a corporation of New Jersey
Filed Mar. 1, 1955, Ser. No. 491,454
4 Claims. (Cl. 225—80)



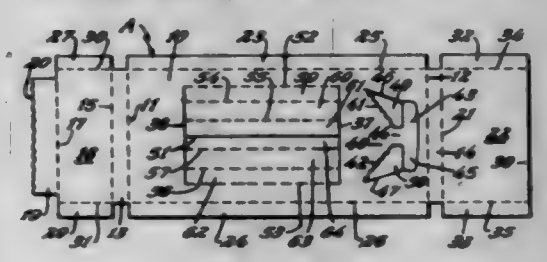
1. In a dental floss dispenser, a cutting device comprising a blade, a snubber of resilient material and means holding the blade and snubber closely adjacent to each other, the said blade and snubber having slit upper edges with the slits in registry, the edges of the slits being normally substantially in contact, whereby movement of the floss down the blade slit severs the floss and the snubber grips and holds a floss end in the slit therein.

2,967,652
FOIL CUP AND PACKAGE AND METHOD OF PRODUCING SAME
Gerald L. Canfield, Carmel, and Billy J. Schelske, Indianapolis, Ind., assignors, by mesne assignments, to Ekco-Alcoa Containers, Inc., Wheeling, Ill., a corporation of Illinois
Continuation of application Ser. No. 576,488, Apr. 5, 1956. This application Nov. 7, 1958, Ser. No. 773,540
3 Claims. (Cl. 229—5.5)



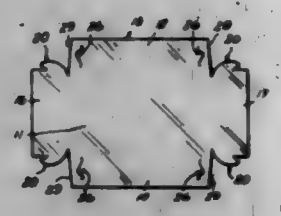
1. A sealable container comprising a cup formed of foil sheet material defining a fluted frusto conical wall structure with a generally upstanding upper flexible marginal lip terminating in a curled bead, said lip being diametrically shrinkable from a cover receiving diameter to a cover securing diameter, an internal shoulder at the base of said lip, with the flutes being flattened at said lip and on said shoulder forming a flat cover receiving area, a relatively stiff flat cover for the container proportioned to rest on said flattened shoulder and spaced from said flattened lip above said shoulder, a continuous film of pressure deformable sealant material positioned on said shoulder and between the edge of said cover and said flattened lip when said lip is at its cover receiving diameter and said film being of lesser thickness and positioned on said shoulder and between the edge of said cover and said flattened wall and overlying the upper peripheral edge of said cover when said lip is at its cover securing diameter.

2,967,653
TINSEL PACKAGING CARTON
William F. Pretz, Manitowoc, Wis., assignor to National Tinsel Mfg. Company, Manitowoc County, Wis., a corporation of Wisconsin
Filed Aug. 8, 1956, Ser. No. 602,804
1 Claim. (Cl. 229—30)



A blank comprising a generally rectangular paperboard sheet cut and creased to provide an elongated rectangular bottom panel, side wall panels foldably connected to two parallel edges thereof, end wall panels foldably connected to the remaining edges of said bottom panel, top wall panels foldably connected to said end wall panels along parallel fold lines, side wall panels foldably connected to the side edges of said top panels, the combined length of said top panels being substantially less than the length of said bottom panel between said remaining edges thereof, a pair of opposed flap structures foldably connected to said bottom panel along parallel fold lines, said flap structures being formed by a central cut line parallel to said first two parallel edges of said bottom panel, and transverse cut lines extending from the ends of said central cut lines toward said first two parallel edges, said flap structures being divided by parallel fold lines into three panels comprising inner side wall panels, top panels, and other side panels.

2,967,654
PLASTIC CONTAINER BLANK
Charles E. Palmer, Turnpike Road, Somers, Conn.
Filed Dec. 29, 1958, Ser. No. 783,308
2 Claims. (Cl. 229—35)



1. An unscored container blank formed of polystryene-like plastic sheet material and including a bottom panel and integrally formed end and side wall panels adapted to be cold-folded into a rectilinear configuration, said side wall panels having tapered ends and being provided adjacent each end with a non-linear slit pointing towards the adjacent end of the side panel, each of said slits having a reversely curved inner end portion and forming an opening in the side wall panels bounded by a shoulder extending longitudinally of the side wall panel, and said end panels being provided with foldable end flaps, each flap having a tab providing a transverse nose portion and a rearwardly inclined leading edge, the leading edge of the tab being adapted to abut the inner end of the slit when the end panel is substantially vertical and the ends of the side panels and tab being adapted to flex inwardly about said point of abutment during further folding of the end panel for passage of the nose portion through said slit to engage behind the shoulder of the side wall, the surfaces of the blank at the interconnections between the bottom panel and the end and side panels and between the end panels and the end flaps being smooth and unbroken and free from weakened or scored lines.

2,967,655
POLYGONAL CARTON
Gaylord E. Seger, Jr., Navarre, Ohio, assignor to Massillon Container Co., Navarre, Ohio, a corporation of Ohio
Filed May 19, 1958, Ser. No. 736,367
2 Claims. (Cl. 229—37)



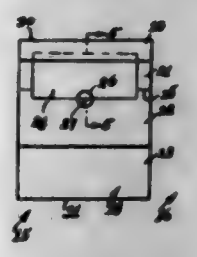
2. A carton including eight side panels divided by foldable creases, some of said side panels having ends extending perpendicular to the creases, the other of said side panels each having flaps integral with corresponding panels, the flaps including an inner pair and an outer pair of flaps, the inner pair of flaps being divided from their respective panels by foldable creases aligned with the ends of adjacent panels, the foldable creases of said inner flaps being shorter than the width of the corresponding panel by a distance at each end substantially equal to the thickness of the material constituting the carton, the outer pair of flaps being divided from their respective panels by foldable creases offset and spaced outwardly from the plane of alignment of said ends of the panels by a distance substantially equal to the thickness of the material constituting the carton, the inner flaps having outer ends abuttable with each other when the carton is in an assembled position in a zone alignable with the ends of the panels, each flap including an inclined side extending outwardly from the foldable crease of said flap, the inclined sides of the inner flaps being abuttable with the inner surfaces of adjacent side panels, and the inclined sides of the outer flaps being abuttable with the ends of said adjacent side panels.

2,967,656
PACKAGE
John G. Vergobbi, Quincy, Mass., assignor to Pneumatic Scale Corporation, Limited, Quincy, Mass., a corporation of Massachusetts
Filed Sept. 10, 1957, Ser. No. 683,185
4 Claims. (Cl. 229—52)



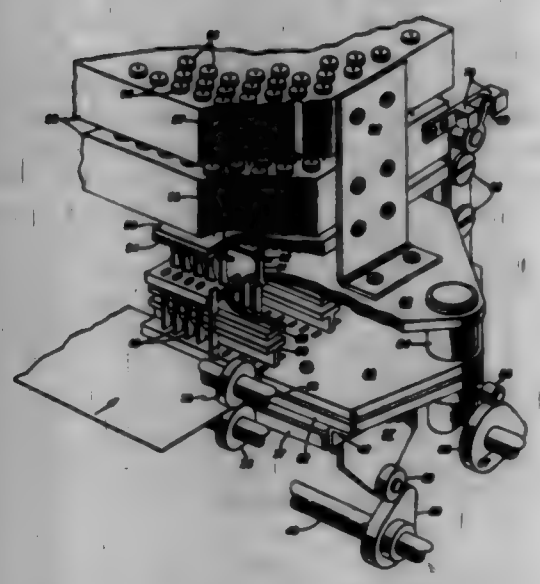
1. A package comprising a carton having an inner liner bag, said carton having side and end wall panels and provided with top and bottom closures, and a flexible carrying handle secured to the package, said flexible handle comprising a relatively narrow ribbon having its ends extended through slit openings in opposed wall panels of the carton and adhesively secured between the opposed wall panels and the adjacent walls of the liner bag.

2,967,657
LETTERHEADS AND THE LIKE
Bernard Kushner, 143 Larkin Court, Stratford, Conn.
Filed Sept. 24, 1957, Ser. No. 685,927
7 Claims. (Cl. 229—92.3)



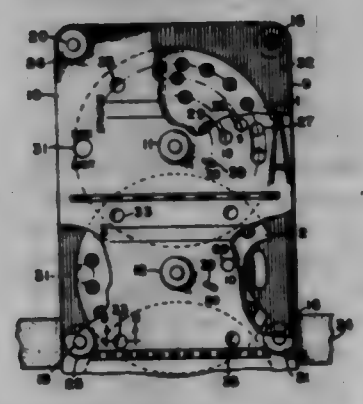
1. In an article of the character described, a letterhead spread out flat, provided with a fold line thereacross; said letterhead being foldable on said fold line whereby the back surfaces of the two successive parts of the letterhead are against one another, a sheet member positioned behind and against the letterhead, across said fold line and hingedly mounted on one of said parts about a line parallel to and spaced from said fold line, track means on the second of said parts, extending behind said hind hinged sheet and holding such sheet against said second part; said sheet being constantly slidably associated with said track means for movement in a direction perpendicular to said fold line; the second part of the letterhead having window space therethrough; said hind hinged sheet showing a name and address thereon in separate lines one below the other on the front surface thereof; the name and address being across the window space when the letterhead is in flat condition folded on said fold line and only the line showing the name being across the window space when the letterhead is in spread out flat condition; the last menticned position of the name being in the position of and serving as the salutation on the letterhead.

2,967,658
RECORD PUNCHING MACHINE
Charles E. Connolly, Endicott, and Lawrence A. Wilson, Apalachin, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Dec. 26, 1957, Ser. No. 705,349
2 Claims. (Cl. 234—13)



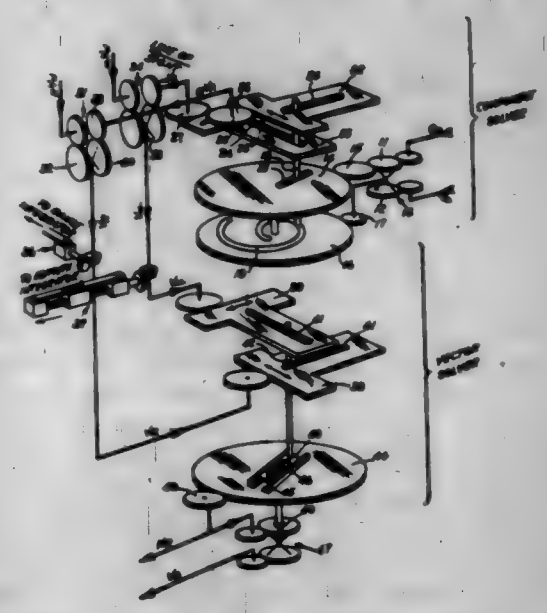
1. In a machine of the class described, a punching station including a plurality of punching instrumentalities, means for feeding a record to said punching station, means at said punching station for retaining said record in registered position to be acted upon by said punching instrumentalities, means for operating said instrumentalities to punch said record, means effective after punching to release said retaining means to free said record, means operable to shift said record transversely of its direction of feed, means for again operating said retaining means to register said shifted record, and means for operating said punching instrumentalities to punch said record a second time.

2,967,659
SAMPLER AND TIMBER TALLY
Robert E. Reinhardt, 3483 S. Utah St., Arlington, Va.
Filed Feb. 14, 1958, Ser. No. 715,477
4 Claims. (Cl. 235—1)
(Granted under Title 35, U.S. Code (1952), sec. 266)



2. A device for sampling and tallying which comprises a colored base mounting plate and a cover therefor; a plurality of disc dials rotatably mounted between said base plate and cover, each of said disc dials being provided with a predetermined number of holes disposed in a series of concentric circles extending radially inward from the periphery of the disc, the outermost or peripheral circle containing said holes equally spaced from each other, the holes in each of the inner circles being different in number from each other and fewer in number than the holes in the peripheral circle and in a predetermined ratio to the holes in the peripheral circle, the holes in each of said inner circles being randomly spaced from each other; said cover being provided with windows over the inner concentric circles of the disc whereby the holes in the disc will appear in said windows and expose the colored mounting plate when the disc is rotated; reference means to indicate a complete revolution of the dial; and means for preventing rotation of the disc more than one peripheral hole at a time.

2,967,660
GROUND SPEED COMPUTER
Richard A. Phillips, East Norwich, N.Y., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Dec. 13, 1956, Ser. No. 628,288
1 Claim. (Cl. 235—61)



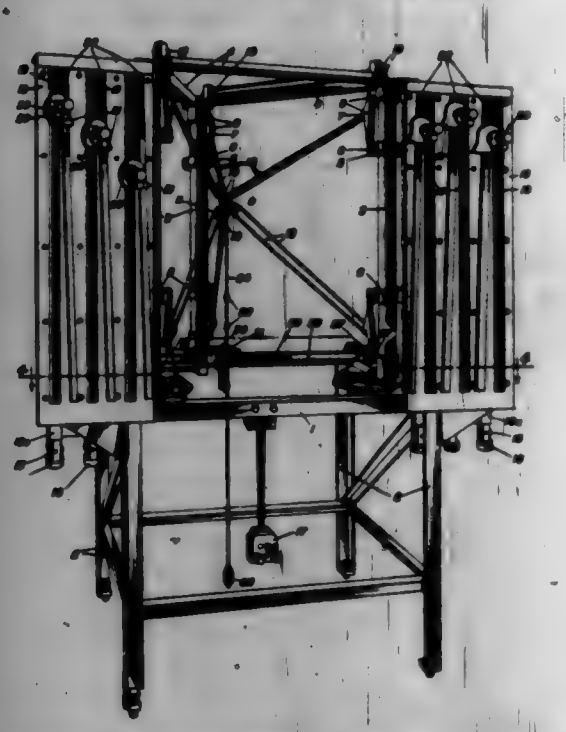
A computer for computing ground speed velocity of an aircraft comprising: a first differential for combining input data of air speed and relative heading angle relative to a line of sight, said differential having a first output representative of the combined input data and a second output representative of relative heading angle; a cam gear in drivable relation with said first output of said differential; a first vector gear in drivable relation with said second output; a pin in following relation with said cam gear and slidable relation with said first vector gear; first and second gear racks in drivable relation with said pin, said first rack being translatable in a direction parallel with said line of sight for providing a first component of air speed and said second rack being translatable in a direction transverse to said line of sight for providing a second component of air speed; a second differential for algebraically combining said first component of air speed with a component of wind velocity parallel with said line of sight; a third differential for algebraically combining said second component of air speed with a component of wind velocity transverse to said line of sight; a third rack connected to the output of said second differential; a fourth rack connected to the output of said third differential; a second vector gear; a speed rack slidably attached to said second vector gear; a speed pin connected to said speed rack and slidably connected with said third and fourth racks; an output gear in drivable relation with said speed rack; and a fourth differential having one input connected with said output gear and a second input connected with said second vector gear whereby the output of said fourth differential is representative of the ground speed of said aircraft.

2,967,661

POINT IN SPACE COMPUTER

Bruce H. Rule, Pasadena, Calif., assignor to the United States of America as represented by the Secretary of the Navy

Filed Mar. 12, 1946, Ser. No. 653,911
3 Claims. (Cl. 235—61)



1. A machine for computing the point in space of a sound impulse from data indicative of the differences in time of reception of the said sound impulse by sound sensitive devices occupying a known spatial relationship with respect to one another, comprising a plurality of guide means having effective centers corresponding on a reduced scale to the spatial relationship of the said sound sensitive devices, a member representing the point of origin of the said sound impulse, lines radiating from the said member through the said guide means, tensioning means common to the said lines beyond said guide means, adjustable means interposed between the said guide means and the said tensioning means adapted to vary the relative lengths of the lines between the said member and the said guide means, a pointer and scale associated with the said adjustable means, means interposed in each of the said lines between the said guide means and the said tensioning means for taking up excess length of line, said lines between said member and said tensioning means being of selected lengths such that said tensioning means, upon proper adjustment of said adjustable means commensurate with differences in the time of reception of said sound impulse by said sound sensitive devices, will dispose said member in a position of similitude relative to the point of origin of said sound impulse, and stops engaged by the said take up means when the said adjustable means is set in correspondence with the spatial relationship of the said point of sound impulse origin and the said sound sensitive devices.

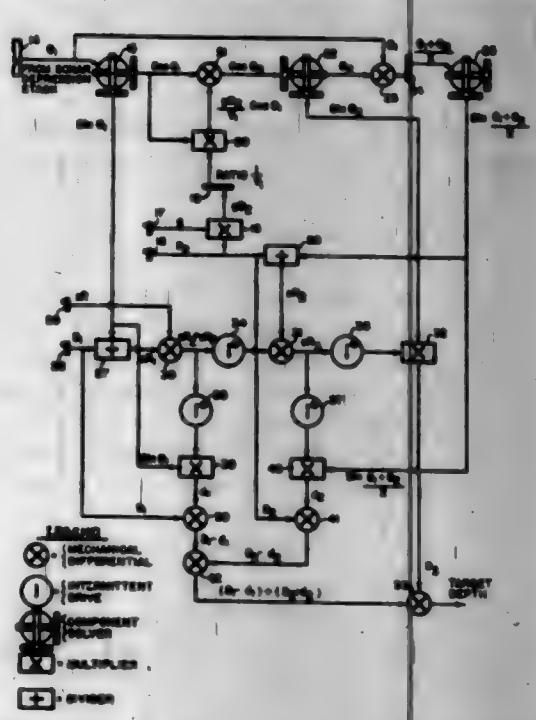
2,967,662

SUBMARINE DEPTH COMPUTER

Charles H. Bauer, Los Angeles, Calif., assignor to the United States of America as represented by the Secretary of the Navy

Filed Oct. 19, 1950, Ser. No. 190,946
5 Claims. (Cl. 235—61.5)

1. In a combination of underwater sound echo-distance slant range measuring equipment of the type wherein an angularly movable sound ray projector is adapted to direct a sound ray toward an underwater target, the water between the target and the surface selectivity comprising a mixed upper layer, a mixed upper layer and a thermocline middle layer or a mixed upper layer, a thermocline middle layer and an isotherm lower layer, the underwater equipment including means to provide indication of the slant range in the water layers, bathythermograph means to provide indications of temperature gradients and of a component of the mixed and of the thermocline layers and a calculator for computing the component of said slant range; said calculator comprising means for computing said component of said slant range in the mixed layer, means for computing said component of said slant range in the thermocline layer, means for computing said component of said slant range in the isotherm layer and means for computing the total component of the slant range in all layers present between the target and the water surface; said means comprising first means settable in accordance with the bathythermograph indication of thermocline layer depth, second means settable in accordance with the bathythermograph indication of temperature gradient, means responsive to said first and second settable means for computing the quotient of their product divided by a constant factor representing the velocity in the medium at the initial point of entry into the water layers, means responsive to the output of said means for computing and to the sound ray projector angle to compute an out-



put corresponding to the angle at which the sound ray enters the lower isothermal layer, means averaging said projector angle and said isotherm layer angle output to determine an output corresponding to the average path angle in the middle thermocline layer, means responsive to said first settable means and the average path angle output to compute an output corresponding to the approximate slant range in the middle layer, third means settable in accordance with the mixed layer depth, means responsive to the projector angle and to the third settable means to compute an output corresponding to the slant range in the upper mixed layer, fourth means settable in accordance with the total slant range, first subtracting means to compute the difference between the upper mixed layer slant range output and the setting of said fourth settable means, a positive output from and negative output from said first means to subtract respectively indicating target position beneath and above the mixed layer, second subtracting means responsive to a positive output and unresponsive to a negative output of said first means to subtract and to the approximate slant range in the middle layer to compute the difference therebetween which when positive represents the excess of the total slant range over the slant range of the upper layer and the approximate slant range of the middle layer

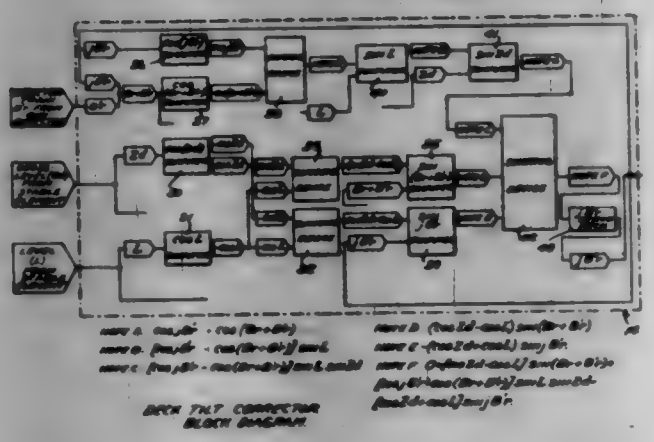
and thus the slant range of the lower layer and when negative a target position above the lower layer, means responsive to a positive output and irresponsive to a negative output of said second subtracting means, and responsive to the isotherm layer angle output to compute the target depth in the lower layer and adding means responsive to the outputs of the first and third settable means and the output of said last-recited means for adding depths of the upper mixed layer, the middle thermocline layer and the lower isotherm layer to compute total target depth where the target is disposed in the isotherm layer such that the total slant range exceeds the slant ranges of the mixed layer plus the thermocline layer.

2,967,663

DECK TILT CORRECTOR

William H. Newell, Mount Vernon, N.Y., assignor to Sperry Rand Corporation, a corporation of Delaware

Filed Feb. 18, 1953, Ser. No. 337,465
1 Claim. (Cl. 235—61.5)



A deck tilt corrector adaptable for a gun fire control system for obtaining the quantity ($jB'r$) representing deck tilt correction, comprising means responsive to the quantity ($jB'r$) as input obtained from the output of the corrector for obtaining cos ($jB'r$), means responsive to the input (Zd) representing cross-level angle for obtaining —cos (Zd) and +cos (Zd), means responsive to the input (L) representing level angle for obtaining —cos (L), means responsive to ($jB'r$) and ($B'r$) representing director train as inputs for obtaining ($Br+B'r$), in which (Br) represents relative target bearing, means responsive to ($Br+B'r$) as input for obtaining —cos ($Br+B'r$), means responsive to +cos (Zd) and —cos (L) as inputs for adding +cos (Zd) and —cos (L) to obtain cos (Zd)—cos (L), means resopnsive to cos (Zd)—cos (L) and ($Br+B'r$) as inputs for obtaining the first computation quantity

$$[\cos (Zd)-\cos (L)] \sin (Br+B'r)$$

means responsive to cos ($jB'r$) and —cos ($Br+B'r$) as inputs for adding cos ($jB'r$) and —cos ($Br+B'r$) to obtain cos ($jB'r$) —cos ($Br+B'r$), means responsive to cos ($jB'r$)—cos ($Br+B'r$), and (L) and (Zd) as inputs for obtaining the second computation quantity

$$\sin (L) \sin (Zd)[\cos (jB'r)-\cos (Br+B'r)]$$

means responsive to —cos (Zd) and —cos (L) as inputs for adding —cos (Zd) and —cos (L) for obtaining —[cos (Zd)+cos (L)], means responsive to —[cos (Zd)+cos (L)] and ($jB'r$) as inputs, for obtaining the third computation quantity

$$-[\cos (Zd)+\cos (L)] \sin (jB'r)$$

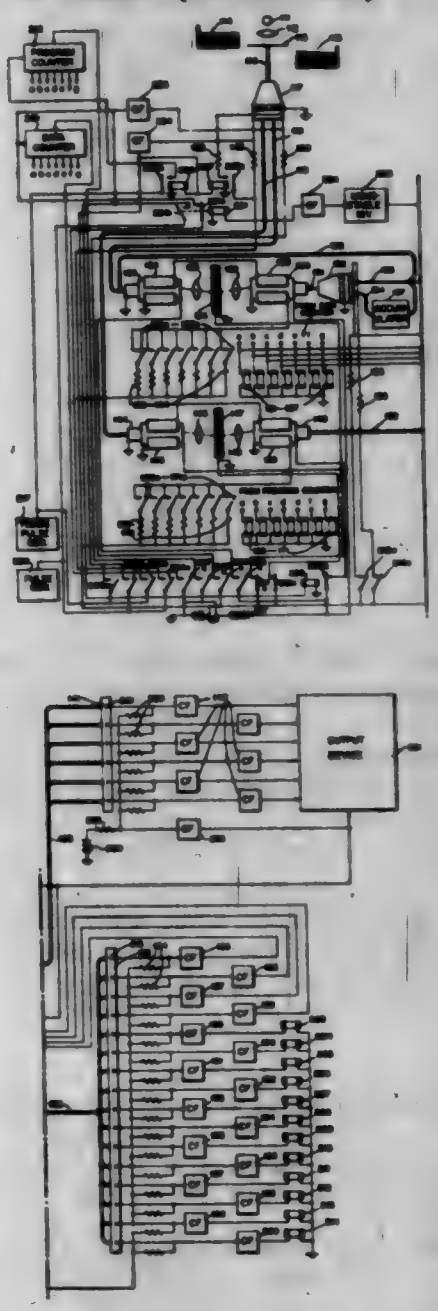
and a null seeking device for equating the sum of said three computation quantities to zero and for obtaining thereby the quantity ($jB'r$).

2,967,664

ELECTRO-OPTICAL DATA PROCESSING SYSTEM

Thomas I. Rees, Los Angeles, Calif., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Mar. 21, 1960, Ser. No. 16,558
23 Claims. (Cl. 235—61.6)



1. A computer for digit representing radiant energy pulses comprising optical sensing means for developing digit representing light pulses, electro-optical storage means, first electro-optical means for reading said digit representing light pulses into various areas of said storage means, second electro-optical means for reading out said stored light pulses, and electro-optical means for accumulating values read out of storage, said accumulating means being optically connected to said first means for the purpose of storing accumulated values.

2,967,665

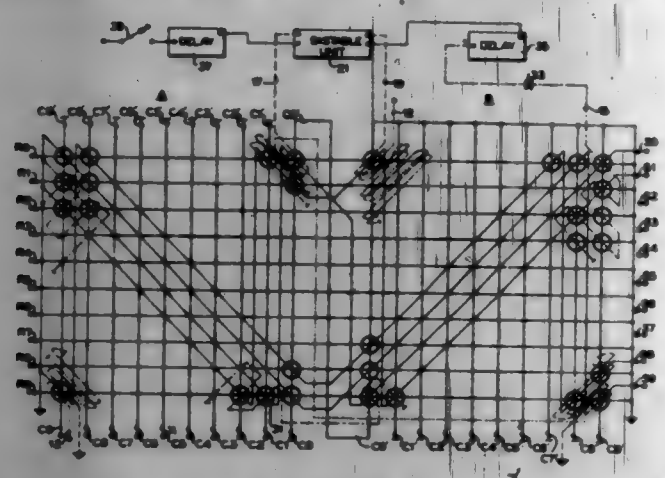
MAGNETIC CORE ADDING DEVICE

Theodor Einsele and Karl Gaenzhorn, Sindelfingen, Germany, assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Aug. 19, 1957, Ser. No. 678,852
Claims priority, application Germany Aug. 31, 1956
8 Claims. (Cl. 235—168)

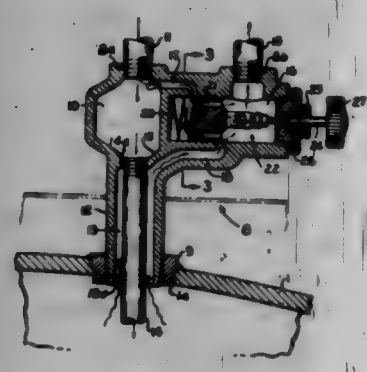
1. An adding device for adding numbers represented by the presence of a pulse on one of a plurality of digit lines, comprising in combination, a first and a second matrix of bistable magnetic cores, first and second sets of input digit lines representing the numbers to be added, said first and second sets of input digit lines threading the

cores of each of said matrices in corresponding coordinates, so that a predetermined core in each of said matrices is effectively energized for each combination of inputs by coincident energization of the two input digit lines intersecting the core, a plurality of output digit lines, said output digit lines being inductively coupled to the cores in said first matrix, said coupled cores being selected by a combination of input lines wherein the summation of the digit values corresponding to each of said combined input lines is equal to a value corresponding



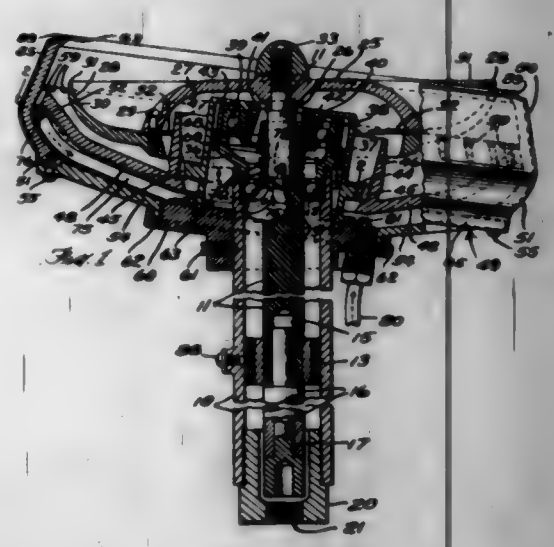
to that indicative of the digit value of the respective output lines inductively coupled to the cores selected, and being inductively coupled to the cores in said second matrix, said coupled cores being selected by a combination of input lines wherein the summation, increased by one, of the digit values corresponding to each of said combined input lines is equal to a value corresponding to that indicative of the digit value of the respective output line inductively coupled to the cores selected, and means for selectively controlling the magnetization of all of the cores in said first or said second matrices.

2,967,666
COMBINATION MIXING VALVE AND FITTING FOR WATER HEATER
Arthur W. Carlson, Kankakee, Ill., assignor to A. O. Smith Corporation, Milwaukee, Wis., a corporation of New York
Filed Apr. 5, 1956, Ser. No. 576,416
3 Claims. (Cl. 236—12)



1. In a water heater, the combination of a tank to contain water to be heated and having a single water conducting aperture therein, a fitting including an outer tubular member secured within said aperture and having a first opening disposed in communication with the interior of the tank and having a second opening disposed in communication with a source of cold water, said tubular member having a discharge opening disposed to discharge heated water at an intermediate temperature, said fitting also including an inner tubular member disposed within the outer tubular member with one end of said inner tubular member disposed in communication with said second opening and the other end of said inner tubular member extending through the first opening and into the interior of the tank to thereby conduct cold water to the tank, said inner tubular member being of a smaller cross sectional area than the outer tubular member to provide a passage therebetween, conduit means providing communication between said passage and said discharge opening and serving to conduct hot water from the tank to said discharge opening, second conduit means connecting the inner tubular member directly with said discharge opening for conducting a portion of the cold water directly to said discharge opening to thereby obtain a mixing of hot and cold water at an intermediate temperature, and thermostatic valve means disposed adjacent to said discharge opening to control the flow of hot and cold water through said first and second conduit means, respectively, to thereby regulate the temperature of said intermediate water.

2,967,667
ELECTROSTATIC SPRAY APPARATUS
Edward O. Norris, Roseville Road, Westport, Conn.
Filed June 17, 1957, Ser. No. 666,102
8 Claims. (Cl. 239—15)

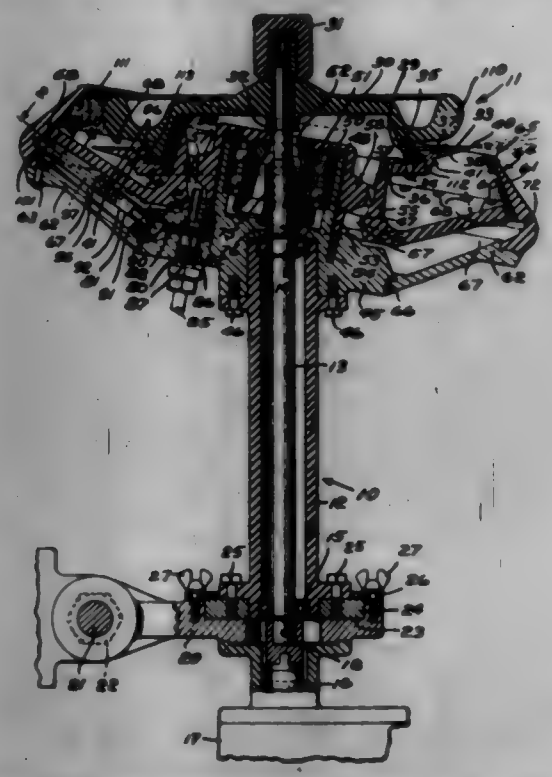


1. A rotary spray device comprising a stationary housing, a rotary distributor supported by said housing and adapted to eject a spray centrifugally from its entire outer periphery, a collecting case mounted on said housing to rotate in a plane which is tilted with respect to the plane of said distributor, said case having an annular peripheral wall defining a spray intercepting zone and positioned to intercept the spray ejected from a predetermined angular portion of the periphery of said distributor, said wall having an annular channel displaced from said intercepting zone into which liquid intercepted by said annular wall flows and is collected by centrifugal action in the form of a rotating layer, a separating wall carried by said case between said channel and said intercepting zone and forming with said channel a scoop chamber shielded by said last wall from said intercepting zone, said separating wall having peripheral passages for the flow of the intercepted liquid along said peripheral wall into said channel, a stationary scoop supported by said housing and disposed in said scoop chamber and having an open end arranged to dip into and receive liquid from said layer in said channel, said scoop being connected and arranged to feed said liquid to said distributor for spraying thereby.

2,967,668
CENTRIFUGAL SPRAYING DEVICE
Edward O. Norris, Ledgemoor Lane, Westport, Conn.
Filed Feb. 5, 1959, Ser. No. 791,303
8 Claims. (Cl. 239—15)

1. A spraying system comprising a centrifugal spray device including a rotatable atomizer defining an annular

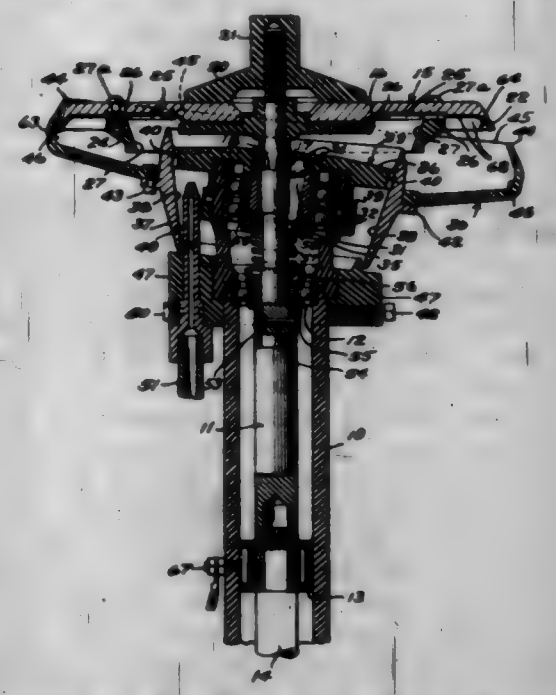
flow surface along which the material to be sprayed flows under centrifugal action and having a peripheral discharge edge, a rotary bowl having its axis tilted in relation to the axis of said atomizer for intercepting part of the spray projected from said edge and collecting the intercepted material, means forming in said bowl an annular scoop chamber extending radially outwardly and rotatable with said bowl, said scoop chamber having means to cause the material intercepted in the bowl to flow thereinto, a stationary scoop disposed in said scoop chamber and arranged with its nose end at the outer periphery of said scoop chamber, an inlet feed pipe arranged to deliver fresh material to the device, said scoop near its other end having a connection with said feed pipe, and a jet connected to said feed pipe and arranged



to deliver material towards said atomizer flow surface, said scoop and said jet constituting branches of said feed pipe, a valve having an outlet connected to the feed pipe and having an inlet adapted to be connected to a source of material supply, means defining a chamber in communication with the outlet of said valve, and means automatically operable in response to the actuation of said valve for expanding said chamber while said valve is being operated towards closed position for creating a suction which draws the material from the scoop, the scoop chamber and the jet, whereby spray operations are substantially instantaneously shut off, and for contracting said chamber while said valve is operating toward open position for forcing material back into said scoop, scoop chamber and jet, whereby spray operations are substantially instantaneously restarted.

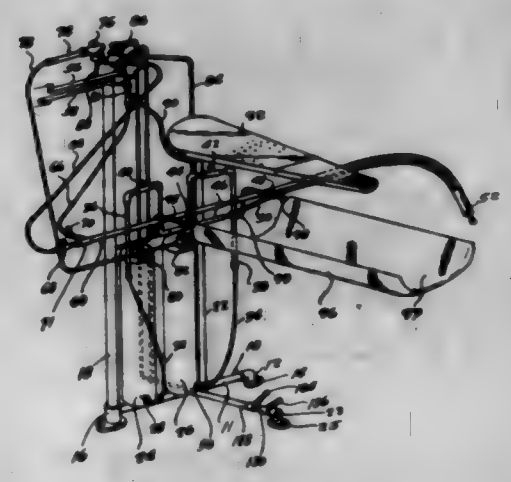
2,967,669
CENTRIFUGAL SPRAYING DEVICE
Edward O. Norris, Roseville Road, Westport, Conn.
Filed Mar. 5, 1958, Ser. No. 719,357
1 Claim. (Cl. 239—219)

A rotary spray device comprising a rotary distributor disk, means feeding sprayable material to said disk at a point remote from the periphery thereof, means rotating said disk at a rate to cause said material to flow radially outwardly along the surface thereof and to be discharged from the periphery of said disk as a uniform spray due to the action of centrifugal force, a collecting case mounted to rotate in a plane inclined to the plane of said disk, said case having a peripheral wall forming an internal annular channel and being positioned to intercept the spray discharged from a predetermined portion of the periphery of said disk, means rotating said case at a rate substantially the same as that of said distributor to cause the intercepted spray to form a layer held centrifugally in said channel, said disk being



mounted with its peripheral edge dipping into said channel adjacent said wall to thereby pick up additional spray material from said channel and to discharge the same peripherally as a spray combined with the first mentioned spray.

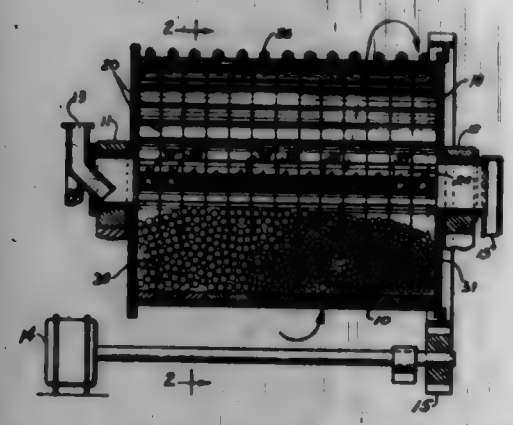
2,967,670
PRE-SPOTTING MACHINE
Roscoe McRoberts, 2119 Pollack Ave., Evansville, Ind.
Filed Oct. 3, 1958, Ser. No. 765,109
5 Claims. (Cl. 239—353)



1. A pre-spotting machine comprising: a support frame; a pair of tanks mounted upon the frame, one of said tanks being adapted to hold water and the other tank being adapted to hold a mixture of solvent and soap; a dispensing gun; means providing communication between the respective tanks and the dispensing gun; a line extending from a source of air under pressure into communication with the respective tanks; means for admitting air under pressure into the tanks through said air pressure line, to displace liquid from the tanks and force the same to the gun, the means providing communication between the tanks and gun comprising individual lines extending from the respective tanks, and a common line connected to the individual lines from the tanks, requiring mixture of the water with the solvent and soap exteriorly of the tanks, enroute to the gun following displacement of the tank contents responsive to the admission of air under pressure thereto; means for supplying

steam under pressure to said gun, comprising a valve controlling flow through the steam supply means, and a pedal-operated assembly for opening the valve under the control of a worker, said pedal assembly including a pedal rockably mounted upon the frame, a vertically shiftable rod having a motion-translating connection to the pedal resulting in vertical movement of the rod responsive to depression of the pedal, a projection on the rod, and a valve operating arm biased by the projection to a valve opening position responsive to upward movement of the rod; and a second pedal assembly and valve for controlling the admission of air under pressure, the second valve assembly including a second pedal swingably mounted upon the frame, a second rod mounted upon the frame for vertical movement in closely spaced relation to the first rod, an air inlet valve including a valve operating arm, and a projection on the second rod engageable with the arm of the air inlet valve to rock the same to a valve opening position responsive to depression of the second pedal, the first pedal assembly being arranged to control the admission only of air under pressure to the tanks, the second pedal assembly including a plurality of projections on the second rod, one operating the steam inlet valve arm and the other operating a second air inlet valve arm, the last named projections engaging their respective arms in following order during successively following stages of the upward movements of the second rod with each projection engaging its arm while the other projection is disengaged from its arm, so as to cause the admission of air through the second air valve, and the admission of steam through the steam inlet valve, each independently of the other.

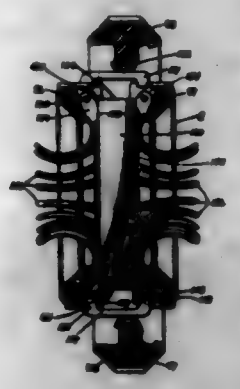
2,967,671
CLASSIFYING LINER FOR BALL MILLS
Fernando Falla, 59 Elm St., Millburn, N.J.
Filed June 26, 1958, Ser. No. 744,727
9 Claims. (Cl. 241—183)



1. A classifying liner for the rotating cylinder of ball mills comprising a succession of ring liner elements including a plurality of interlocking blocks having an inwardly directed undulating surface, and a selected block of a ring liner element being provided with a pair of merging hemispherical cavities of different diameters and respective integral discharge grooves, the said grooves diverging in a direction opposite to the cylinder rotation.

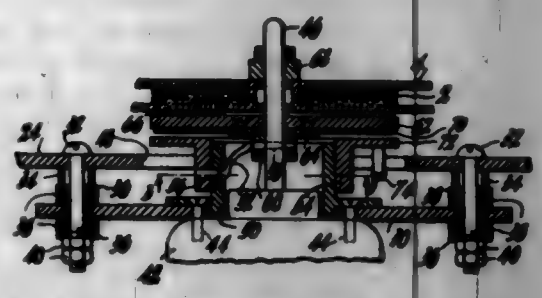
2,967,672
WINDING FORM
Bard E. Zwayer, Fort Wayne, Ind., assignor to General Electric Company, a corporation of New York
Filed Nov. 14, 1955, Ser. No. 546,454
12 Claims. (Cl. 242—1.1)

1. A winding form for use in a winding machine of the type which winds coils directly into the slots of a dynamoelectric machine stator core comprising: a pair of annular members each having a side formed to receive one end of the core, said members being respectively adapted to be positioned at the ends of the core with their formed sides thereagainst and adapted to be moved axially away from said core, means for securing said members together when they are positioned at the respective core ends, a plurality of finger members each having outer surfaces for receiving and positioning the end turns of a coil wound in the slots of a core, means for mounting said finger members on each of said annular members for angular movement relative to said annular members, each



of said finger members extending substantially axially away from the core when said annular members are positioned at the ends thereof, said outer surfaces of said finger members engaging said end turns for angularly moving said finger members from a position radially inwardly of said end turns to a position radially outwardly thereof upon the movement of said annular members axially away from said core, thereby to permit the separation of said annular members from said core.

2,967,673
REELING SYSTEM
Wesley M. Fujii, Haddonfield, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed May 2, 1955, Ser. No. 505,107
9 Claims. (Cl. 242—55.12)



1. In a reeling system for driving a reelable member between a supply reel and a takeup reel, means for driving each of said reels, brake means operatively coupled to each of said reel driving means, each of said brake means including means defining a brake surface, means for urging said surface into engagement with said reel driving means, and means for defining a helical path of movement for said brake surface defining means whereby braking forces applied to said reel driving means are regenerative in one direction of rotation of said reel driving means and degenerative for rotation in the opposite direction.

2,967,674
WEB TENSIONER
Richard B. Lawrance, Winchester, and Robert A. Pendleton, Dedham, Mass., assignors to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed May 5, 1958, Ser. No. 734,874
11 Claims. (Cl. 242—75.2)

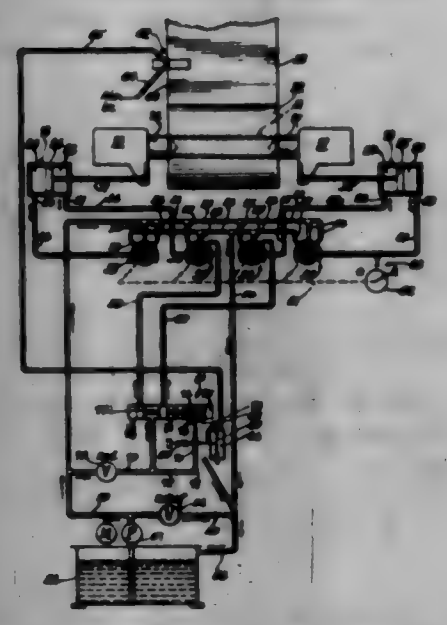
3. A unidirectional tape tensioner for a tape handling apparatus comprising a valve body having formed therein

a pressure chamber and a port for supplying sub-atmospheric pressure to said pressure chamber, a bracket pivotally mounted to said valve body and capable of assuming either of two operating positions to open or close said pressure chamber, a tape drag member secured to said



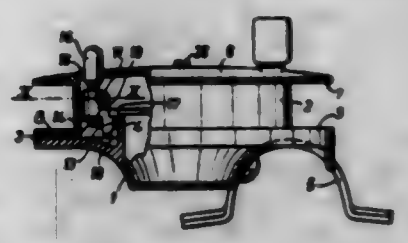
bracket, said tape drag member being formed with an apertured tape receiving surface, and a pressure port formed in said bracket for communicating sub-atomspheric pressure from said pressure chamber to said apertured tape receiving surface only when said bracket is pivoted to open said chamber.

2,967,675
CONTROL SYSTEM FOR COIL SUPPORT
Frank J. Markey, Hammond, Ind., assignor to GPE Controls, Inc., a corporation of Illinois
Filed Apr. 9, 1956, Ser. No. 576,950
13 Claims. (Cl. 242—78.6)



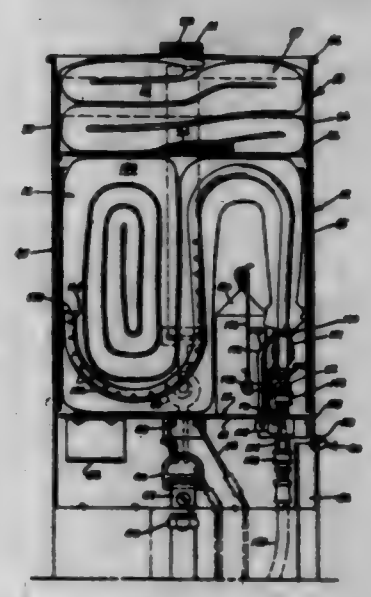
1. A hydraulic control system including a pair of shafts that are axially movable to engage and release a coil structure, each said shaft having operatively connected to it the output member of a hydraulic power unit provided with first and second fluid input connections delivery to the different ones of which is effective to develop forces that are exerted to move the connected shaft in opposite directions, and the forces that are developed in response to delivery of fluid to corresponding first and second of said input connections of the different said units being exerted to move said shafts oppositely and respectively inward toward advanced positions for engaging a coil structure and outward to retracted positions, a fluid supply means for supplying fluid at a selected pressure, valve means selectively actuable to connect said fluid supply means simultaneously to either both said first or both said second input connections of both power units and simultaneously exhaust the other said corresponding connections respectively to move both said shafts inward or outward, a pair of different controlled lines, additional valve means for connecting the different said controlled lines to said second power unit input connections while said first connections are connected to said fluid supply means, and means for selectively exhausting fluid from either one of the controlled lines, and delivering fluid at a pressure lower than said selected pressure to the other of the different said controlled lines thereby to simultaneously move said shafts in a selected, single direction.

2,967,676
BRAKING DEVICE FOR FISHING REELS
Anders Ingemar Klingberg, Hermanstrop, Lindesberg, Sweden
Filed Nov. 27, 1956, Ser. No. 624,546
Claims priority, application Sweden Dec. 15, 1955
6 Claims. (Cl. 242—84.52)



1. In a fishing reel in combination, a rigid base member, a spool rotatably mounted in said base member, said base member being formed with a braking surface in the shape of a surface of revolution with relation to the axis of rotation of the spool, a braking block pivotally mounted in said spool allowing said block to swing in a plane axilaly related to the spool under the action of centrifugal force as exerted by the rotation of the spool, said braking block and its pivot being so located with respect to the braking surface of the base member as to allow said block to come into contact with said braking surface under the action of a predetermined degree of centrifugal force, and means accessible from outside the spool for preadjusting the braking action by changing the position of balance of the braking block with relation to its pivot.

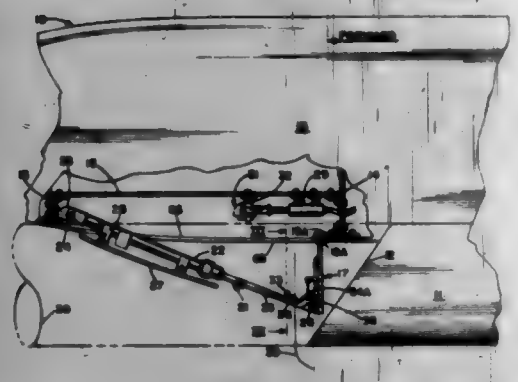
2,967,677
APPARATUS FOR LAUNCHING BALLOONS
Otto C. Winzen, St. Paul, and Raymond C. Hawkins, Minneapolis, Minn., assignors to Winzen Research, Inc., Minneapolis, Minn., a corporation of Minnesota
Filed May 13, 1957, Ser. No. 660,022
1 Claim. (Cl. 244—2)



In combination, a cylindrical container having open top and bottom ends, a gas containing cylinder serving

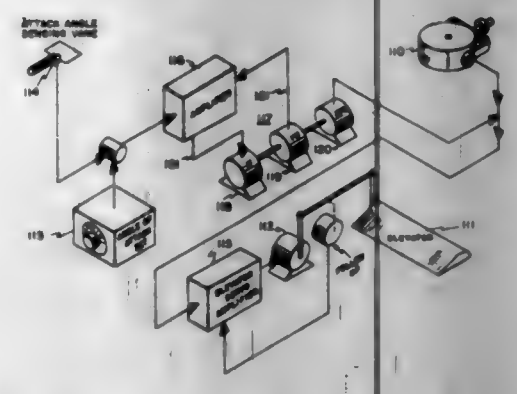
as a closure at the bottom end, a circumferential reinforcement for said gas containing cylinder providing a shoulder abutting said bottom end of said container, sling means securing said gas containing cylinder thereto, a first cover member secured to the other end of said container and secured to a body member by a break-tie, said body member providing a first partition, said partition in cooperation with said first cover member providing a compartment in which a parachute is collapsed, said parachute being secured to said cover by a second break-tie, said partition forming together with said cylinder and a second movable partition a second compartment in which a balloon in collapsed condition is positioned, said body member being secured to said movable partition, said parachute being attached by means providing slack to said movable partition, said movable partition being initially anchored to said container, means for extending said parachute, means operative in response to the extension of said parachute for actuating a timer assembly, said timer assembly being secured to said movable partition, conduit means connecting said gas container cylinder to said balloon, and valve means for controlling the flow of gas therethrough, first explosion means controlled by said timer assembly for releasing said movable partition for movement toward the top of said container and for releasing said body member from said movable partition, said body member being secured to said container only by securance to said movable partition, means responsive to the movement of said platform for opening said gas valve to provide gas to said balloon, and second explosion means controlled by said timer assembly for releasing said balloon from said movable partition and for releasing said conduit means from said balloon.

2,967,678
DUCT AIRFLOW STABILIZING AND AIRCRAFT BRAKING MEANS
William B. Briggs, Dallas, Tex., assignor to Chance Vought Aircraft, Incorporated, Dallas, Tex., a corporation of Delaware
Filed Aug. 13, 1956, Ser. No. 603,644
24 Claims. (Cl. 244—53)



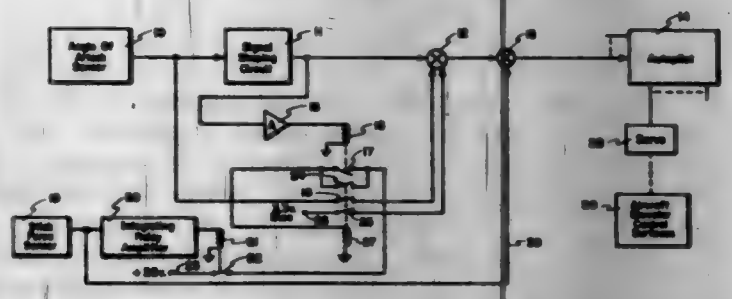
1. In combination with an aircraft provided with a power plant for the supersonic propulsion thereof and with a duct for supplying air to said power plant, said duct having a connection with said power plant, a duct airflow stabilizing apparatus comprising: structure completely defining a ram inlet opening into said duct; means for engendering a normal shock wave well upstream of and across said inlet opening; said means being mounted on said aircraft and of separate identity from all of said structure defining said inlet opening, said means being movable relative to said structure to an extended position, said opening, when said means is in said extended position, having a projected area into which at least some of said means extends; whereby, when said first-mentioned means is extended, airflow upstream of said inlet opening is reduced to subsonic speeds and air is spilled around said inlet opening to reduce mass-flow into said duct below a level capable of supporting excessive duct airflow instabilities.

2,967,679
ANGLE OF ATTACK CONTROL
John C. Owen, Grand Rapids, Mich., assignor to Lear, Incorporated
Filed July 24, 1957, Ser. No. 673,868
1 Claim. (Cl. 244—77)



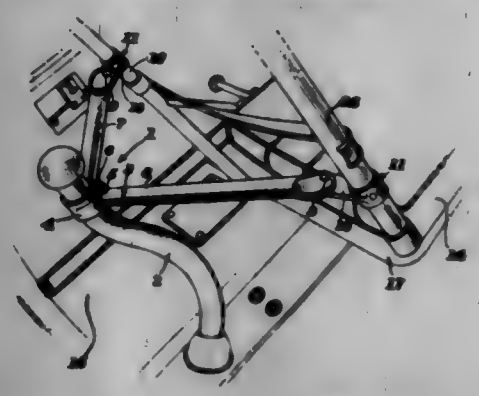
In an aircraft, attack angle control apparatus comprising means responsive to angle attack and having an output electrical signal which is a function of angle of attack, means for producing an electrical signal which is a function of a desired angle of attack, means combining the aforesaid two signals to form a third signal which is a function of the difference between the said two combined signals, motor means connected to receive and responsive to said third signal, means connected to said motor for generating an electrical signal proportional to the velocity of said motor, means for feeding said velocity signal to the input of said combining means, gyroscopic means for producing a signal responsive to the angular displacement of said aircraft, and means responsive to the angular displacement of said motor and the output of said gyroscopic means for controlling the angle of attack of said aircraft.

2,967,680
AIRCRAFT LONGITUDINAL CONTROL AUGMENTER
Raymond I. Meyers, Rockford, Mich., and Kenneth C. Kramer, Woodland Hills, Calif., assignors to Lear, Incorporated
Filed Sept. 2, 1958, Ser. No. 758,205
4 Claims. (Cl. 244—77)



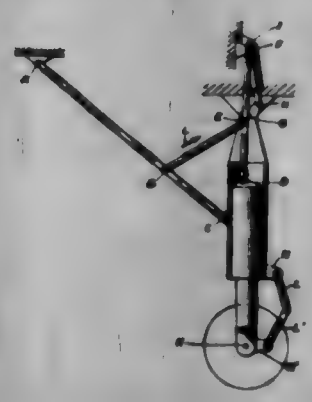
1. An aircraft longitudinal control augmenter comprising an angle of attack sensor capable of emitting a signal proportional to the angle of attack, an autopilot, first circuit means for applying that portion of said signal to the autopilot which indicates said aircraft is in a critical angle of attack, a control stick force sensor capable of emitting a signal proportional to the force applied to said control stick, second circuit means for comparing said signal from said angle of attack sensor and said signal from said control stick force sensor, and circuit means for transmitting the resultant of said compared signals to said autopilot.

2,967,681
CONTROL STICK LOCK
Harvey D. Berquist, Frederic, Wis.
Filed Oct. 9, 1957, Ser. No. 689,241
1 Claim. (Cl. 244—83)



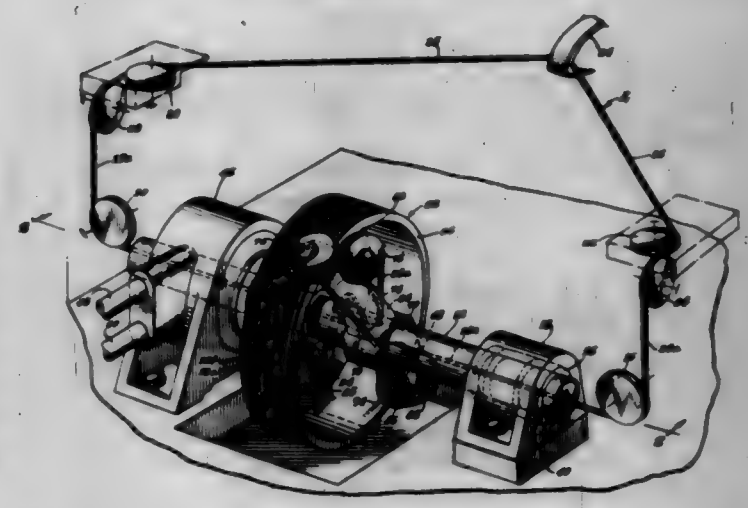
For use in an airplane having a control stick operably disposed therein and a frame to which is secured directly or indirectly rigid members, a control stick lock apparatus comprising a cylindrical collar having a pair of semicylindrical pivotally-connected jaw members adapted to encase a portion of said control stick, the configuration of the inside surface of each of said jaw members corresponding to the configuration of a portion of the outer surface of said control stick, a pair of rigid bars, each of said bars being attached at one end to a different one of said jaw members whereby when said jaw members engage said control stick said bars form a V-shape having an apex at said collar, each of said bars having at the end thereof opposite said one end a projection, and a pair of clamp members carried in spaced relation by the rigid members and having suitably-formed apertures for receiving said projections.

2,967,682
LANDING GEAR SHORTENING MECHANISM
John Peter Fullam, Baie d'Urfee, Quebec, and Raymond W. F. Crawley, St.-Laurent, Quebec, Canada, assignors to Jarry Hydraulics, Montreal, Quebec, Canada
Filed Dec. 8, 1958, Ser. No. 778,884
2 Claims. (Cl. 244—102)



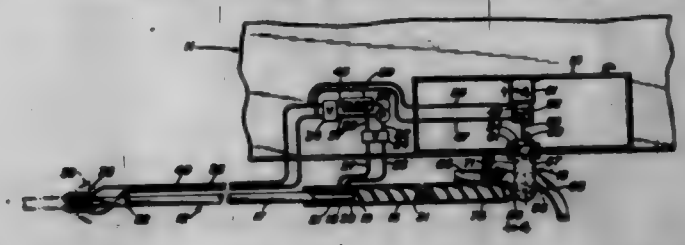
1. In an aircraft, a landing gear shortening mechanism comprising a main structure pivotally mounted on the aircraft, actuating means mounted between the aircraft and said main structure for pivoting said main structure between an extended and a retracted position, a shock strut capsule having two telescopic members the upper one of which is slidable mounted in said main structure for movement longitudinally thereof, arms connecting the lower one of said telescopic members with said main structure, an articulated stay connected between said main structure and the aircraft, an articulated shortening link connected between the upper end of said upper telescopic member of said shock strut capsule and the aircraft, a stabilizer pivotally connected between said stay and said shortening link at points near the articulation points of said stay and said shortening link, cracking means connected to either one of said stay and said shortening link, and locking means connected to either one of said stay and said shortening link.

2,967,683
APPARATUS FOR ARRESTING AIRCRAFT
Wilbur D. Crater, Los Angeles, Calif., assignor to Operations Research, Inc., Silver Spring, Md., a corporation of Delaware
Filed Feb. 24, 1959, Ser. No. 794,992
24 Claims. (Cl. 244—110)



19. In an apparatus to launch an aircraft or the like, the combination of: a cable forming a normally extended loop to be engaged by the aircraft; a substantially non-rotating drum means to be wound with the cable at the opposite ends of said loop for retracting the loop; a pair of arms rotatable co-axially of said drum means adjacent thereto to wind said portions respectively on the drum means; means to route said cable portions to the region of the axis of rotation of said arms and outward adjacent the arms to points overlying said drum means; and power means to rotate said two arms thereby to contract said loop for launching the aircraft.

2,967,684
COMBINATION INFLIGHT REFUELING AND DUMPING FOR HELICOPTERS
Robert S. Knecht, 407 E. Wayne Ave., Silver Spring, Md.
Filed Dec. 31, 1958, Ser. No. 784,483
6 Claims. (Cl. 244—136)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. An inflight fluid handling system for aircraft comprising tank means, means forming an elongated telescopic passage, hollow toroidal shaped coupling means joining said tank means to said elongated telescopic means whereby passage communication is provided between the outer end of said elongated telescopic means and the interior of said tank means, said hollow coupling means being rotatable relative to said tank, said elongated telescopic means comprising at least a first and second tube, said second tube mounted within and coaxial with said first tube, a motor mounted on said first tube adjacent said hollow coupling means, said elongated telescopic means being rotatable relative to said hollow coupling in a plane substantially at right angles to the plane of rota-

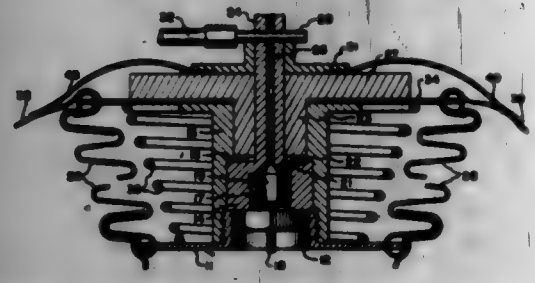
tion of said hollow coupling means, electrically driven rack and pinion means driven by said motor for controllably positioning said elongated means horizontally and vertically relative to said tank, first valve means in said elongated means, second valve means in said tank, said first and second valve means being constructed and arranged to be controllably moved to a sealing position and to an open position whereby passage communication between the outer end of said elongated means and the interior of said tank means is sealed off and opened, and hydraulic control means which is remotely operable for said first and second valve means.

2,967,685

PILOT CHUTE EJECTION DEVICE

Clarence E. Magnuson, La Mesa, Calif., assignor to General Dynamics Corporation, San Diego, Calif., a corporation of Delaware

Filed Dec. 19, 1957, Ser. No. 703,269
7 Claims. (Cl. 244—149)



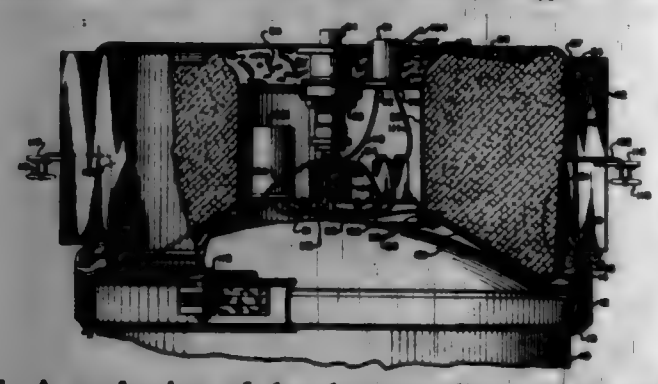
1. Means for ejecting a chute away from its stored position comprising in combination, a chute with a collar affixed thereto, a piston attached to said collar, a base, a piston chamber on said base for receiving said piston and from which said piston may be ejected, resilient means for exerting forces between said base and said piston and collar for ejecting said piston from said piston chamber releasable retaining means for retaining said base, collar and piston in assembled relation, and explosive means for removing said retaining means to eject said piston from said piston chamber.

2,967,686

DELAYED OPENING PARACHUTE PACK

Gordon L. Fogal, 2607 Parker Ave., Silver Spring, Md., and Graham B. Brown, 144 Moncure Drive, Alexandria, Va.

Filed Nov. 15, 1949, Ser. No. 127,471
8 Claims. (Cl. 244—150)
(Granted under Title 35, U.S. Code (1952), sec. 266)



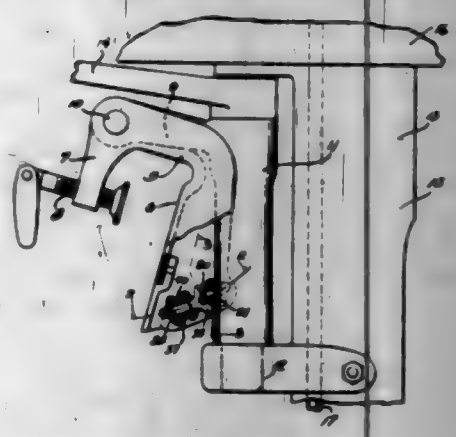
1. A mechanism of the character disclosed for releasing a parachute from a parachute pack at a preselected altitude above the surface of the earth as the mechanism falls free from a launching aircraft comprising, in combination, a fixed cup-shaped member in which the parachute is disposed, a plurality of shroud lines on the hem of said parachute for securing the parachute to the cup member, a cover carried by said cup member and secured to the crown of the parachute for initially enclosing the parachute within the cup member to form said parachute pack, a complementary member secured to the cover, means for releasably locking said complementary member to said cup member, an electroresponsive explosive charge arranged within said cup member in proximate spaced relation with respect to said locking means and adapted to release the locking means when the charge is fired, a battery disposed within said cup member for firing said charge as the battery is connected thereto, an F.M. radar altimeter for generating a D.C. current variably in accordance with the altitude of the altimeter above the surface of the earth, and a relay controlled by said generated current and constructed and arranged to be operated thereby for connecting said electroresponsive explosive charge to said battery when said generated current reaches a predetermined value corresponding to said preselected altitude.

2,967,687

THRUST MEMBER ADJUSTMENT AND LOCK

John W. Glasic, Waukegan, Ill., assignor to Outboard Marine Corporation, Waukegan, Ill., a corporation of Delaware

Filed Apr. 4, 1957, Ser. No. 650,710
8 Claims. (Cl. 248—4)



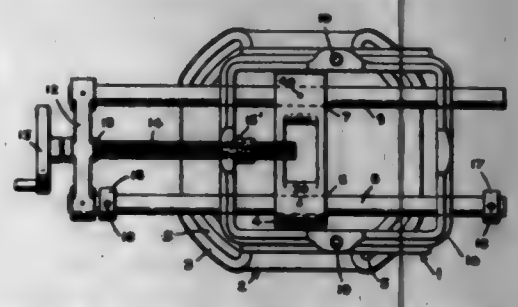
3. In an outboard motor, which includes a propulsion unit having a thrust member, a transom bracket provided with a transverse pintle upon which said unit is pivoted, the said bracket being provided with laterally spaced arms spanned by a thrust-receiving bar for positioning said member, said bar being provided with axially spaced pinions, the bracket arms having fixed rack teeth with which said pinions are in rolling mesh for effecting the adjustment of said bar along the path of oscillation of said thrust member as the bar is rotated, and lock means engageable with said pinions in one position thereof to prevent rotation of said pinions, whereby to transmit thrust from said bar through said pinions to said rack teeth.

2,967,688

ADJUSTABLE MOTOR MOUNT

Fritz E. Sechers, Oil City, Pa., assignor to Worthington Corporation, Harrison, N.J., a corporation of Delaware

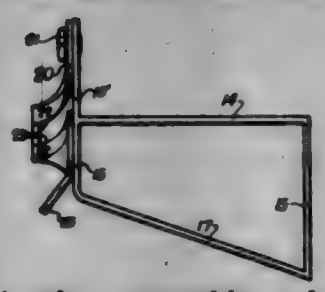
Filed Aug. 27, 1959, Ser. No. 836,544
1 Claim. (Cl. 248—23)



An adjustable motor mount for positioning a motor relative a driven member and comprising, in combination, a generally rectangular base portion including a plate-like lower section having arcuate elongated bolt-receiving slots formed in the corners thereof for fixing said base portion

in a suitable position relative said driven member, said base portion further including a block-like upper section, plural guide rods fixedly mounted in said block-like upper section and spaced parallel in relationship to one another, a frame having holes therein receiving said guide rods therethrough and slidably mounting said frame on said guide rods so that said frame is able to translate longitudinally along said guide rods but is restrained from wobbling on said guide rods, a motor receiving plate, mount means for connecting said motor to said motor receiving plate, said motor receiving plate having a flat bottom surface to facilitate preassembly with said motor, connecting means comprising crescent-shaped slots through said motor receiving plate for detachably connecting said motor-receiving plate on said frame, said crescent-shaped slots adapted to receive bolts for connecting said motor-receiving plate to said frame so that the angular alignment of said motor relative said driven member can be varied, moving means connected to said frame for translating said frame longitudinally along said guide rods, stop means comprising collars mounted about said guide rods outwardly of said frame and adapted to abut said frame for restraining the movement of said frame to position said motor a desired distance from said driven member.

2,967,689
CLAMP BRACKET FOR CONCRETE FORMS
Carl M. Jahn, 2640 St. Paul St., Denver, Colo.
Filed Dec. 15, 1958, Ser. No. 780,549
9 Claims. (Cl. 248—205)



1. A clamp bracket removably and replaceably coactable with the headed terminal extension of a rod and a timber transversely thereof, comprising a rigid, angular, closed loop formed with spacedly-parallel, plane end portions and a flat seat portion bridging therebetween, said end portions being formed with side-intersecting, transverse, registered slots parallel to and subjacent said seat portion adapted to loosely and slidably accommodate the rod extension in a length exceeding the half width of said end portions, a coplanar flange continuation of one of said end portions beyond said seat portion and away from the slot subjacent the latter, a detent pivoted to and adjacent the free margin of said flange to swing in contact with and over the exterior plane common to said flange and associated end portion, a cam surface inclined outwardly from the exterior face of said detent to swing therewith in tracking relation over the inner end of the underlying slot, and an arcuate throat traversing said cam surface in side-intersecting relation with the detent disposed and adapted to accommodate and slidably receive a rod extension engaged through the inner end of the adjacent slot.

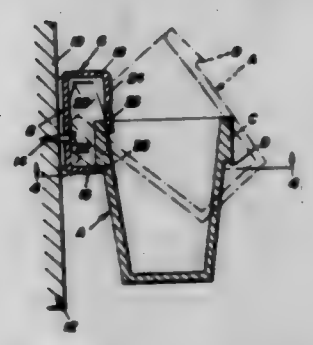
2,967,690
SUPPORTING BRACKETS FOR AUTOMOBILE AWNINGS
John P. Francis, 20 Boston St., Haverhill, Mass.
Original application May 7, 1957, Ser. No. 657,541, now Patent No. 2,913,211, dated Nov. 17, 1959. Divided and this application July 31, 1959, Ser. No. 836,841
2 Claims. (Cl. 248—229)

1. A fastening bracket for adjustably supporting the retractable longitudinal frame member of a windshield awning structure, comprising a rigid vertically disposed flat companion inner plate member, a contacting rigid vertically disposed companion intermediate plate member, and a contacting rigid vertically disposed companion outer plate member having a flat body portion, said intermediate plate member having flat body portions engaging a flat body portion of said inner plate member and of said outer plate member, said intermediate plate member having an arcuately contoured bottom portion adapted to clampingly engage the outside of the rain gutter of an automobile, the said inner plate member and the said intermediate plate member adapted to engage repectively the inside and the outside of the said rain gutter, said



inner plate member and said intermediate plate member being connected together by clamping bolt means, said companion outer plate member having a coiled longitudinal portion forming a fully circular longitudinal support for encompassing and rigidly supporting the frame member at the uppermost end portion above the said vertically flat portion of said outer plate member, and a clamping pivotal bolt member extending from the said intermediate plate member and adjustably connecting the said outer plate member to said companion intermediate plate member, said outer plate member being adjustably supported for forward and rearward angular clamping adjustment from the said clamping pivotal bolt member.

2,967,691
FLOWER POT HOLDER
Ernst O. Lehnbeuter, 645 NE. 34th St., Oakland Park, Fla., and William L. Warmington, 271 Hibiscus Ave., Lauderdale-by-the-Sea, Fla.
Filed May 19, 1958, Ser. No. 736,382
1 Claim. (Cl. 248—311)



A holder for a conventional circular flower pot of the type including a horizontal, circumferentially extending shoulder on its upper portion, said holder comprising: a bracket including a flat, vertical apertured bar for mounting on a wall, a flat, horizontal arm of a material width on the lower end of said bar and engageable beneath the shoulder for supporting the pot, a horizontal arm on the upper end of the bar projecting forwardly beyond the first-named arm and terminating in a depending finger of a material width spaced above the horizontal plane of first-named arm and engageable in the upper portion of the pot for retaining same on said first-named arm, and spaced lugs on the free end of said first-named arm engageable with the periphery of the pot at circumferentially spaced points immediately beneath the shoulder for stabilizing said pot on the holder.

2,967,692
CEILING FIXTURES

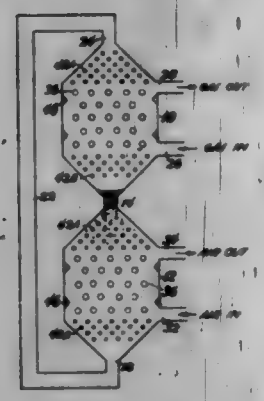
Isidore Wolar, 290 Collins Ave., Mount Vernon, N.Y.
Filed Feb. 26, 1958, Ser. No. 717,777
3 Claims. (Cl. 248—343)



1. A ceiling fixture comprising a generally rectangular plate, said plate having an elongated slot extending therethrough and disposed centrally thereof, said slot being adapted to receive fastening means to adjustably secure said plate to a supporting surface, means on said plate extending in the direction of said supporting surface to frictionally engage said supporting surface to hold the plate in an adjusted position, the last said means producing a stress on said fastening means to effect firm frictional engagement between said fastening means and said plate, and a hook member carried by said plate in closely spaced relationship to said slot, said hook member extending from said plate in a direction opposite to the first said means for receiving and supporting a pendant fixture support.

2,967,693
PELLET TYPE HEAT EXCHANGER

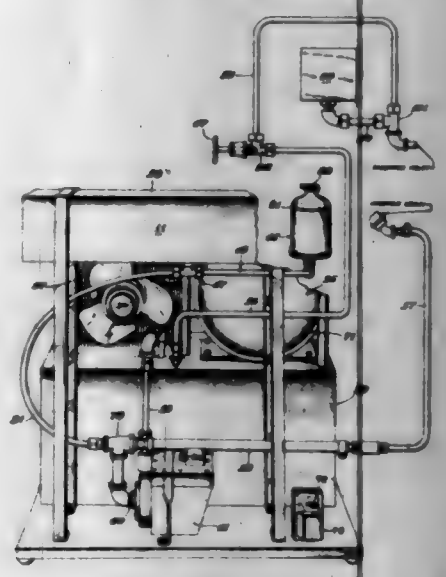
John A. Cunningham, Wellsville, N.Y., and Andrew J. Anthony, Tariffville, Conn., assignors to The Air Preheater Corporation, New York, N.Y., a corporation of New York
Filed Aug. 31, 1956, Ser. No. 607,393
3 Claims. (Cl. 257—55)



1. Pellet heat exchange apparatus or the like having a closed, upright housing with a pellet inlet port at its uppermost end and a pellet outlet port at its remotely spaced end; a fluid inlet port in the housing spaced above the pellet outlet port and a fluid outlet port in the housing subjacent the pellet inlet port adapted to permit fluid to flow in opposition to the normal flow of pellets through the housing; layers of laterally spaced rod members extending transversely across the housing intermediate the fluid inlet and fluid outlet ports adapted and arranged to distribute the pellets evenly while simultaneously retarding their passage through the housing; and other layers of laterally spaced rod members spaced apart a distance less than the first named layers and extending across the housing intermediate the pellet inlet and fluid outlet ports adapted to diffuse the pellets and retard their flow sufficient to provide a concentration of pellets effecting a fluid seal.

2,967,694
COOLING SYSTEM

William M. Cunningham, Chicago, Ill., assignor to Ludlow Typograph Company, a corporation of Delaware
Filed Dec. 23, 1957, Ser. No. 704,633
1 Claim. (Cl. 257—366)



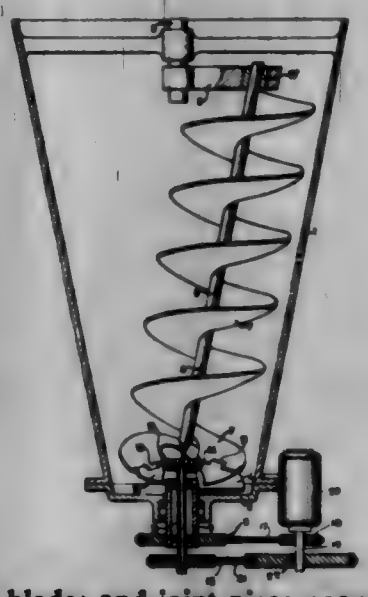
A cooling system for an electrically operated metal casting machine and which includes a jacketed mold to be cooled, said jacket including an inlet port and an outlet port, said system comprising a closed tank, liquid coolant in said tank, cooling means for said coolant in said tank, a conduit connecting the interior of said tank to the inlet port of the jacket on the mold a pump having an outlet port and an inlet port, a conduit connecting the outlet of the jacket on the mold to the inlet port of said pump, a conduit connecting the outlet of said pump to the interior of said tank, means for operating said pump continuously while said casting machine is in operation to pump coolant from the outlet port of the jacket to said tank under pressure whereupon it flows to the inlet of the jacket on the mold, a pressure sensitive means in communication with the coolant in said conduit connecting said tank and the jacket inlet operable to disconnect electrical current to said casting machine when the coolant pressure in the conduit associated therewith falls below a predetermined pressure, a coolant make-up tank containing coolant at atmospheric pressure, and a conduit connected to the inlet of said pump whereby coolant is automatically drawn into the circulating coolant stream as required.

2,967,695
COUPLING JOINT

Constant J. Nauta, 56 Julianalaan, Overveen, Netherlands
Filed June 16, 1958, Ser. No. 742,185
Claims priority, application Netherlands June 25, 1957
5 Claims. (Cl. 259—102)

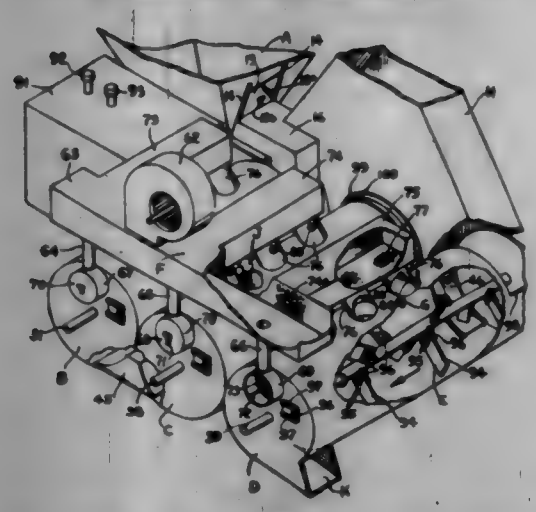
1. A mixing device comprising a mixing vessel having a frusto-conical side wall tapering toward the bottom of the vessel, a first mixing screw blade having its longitudinal axis extending parallel to said side wall and mounted for rotation about said longitudinal axis and for turning about the central axis of said vessel, a second mixing screw blade disposed in the bottom portion of said vessel with the longitudinal axis of said second screw blade being coaxial with said central axis of the vessel and intersecting said longitudinal axis of the first screw blade, means for rotating one of said first and second screw blades about its longitudinal axis, and means rotatably coupling together the adjacent ends of said first and second screw blades including a blade-shaped joint piece interposed between said adjacent ends of the screw blades to form an unbroken continuation of the latter and means connecting said joint piece to said adjacent ends

of the screw blades for transmitting rotational movement between the latter so that, upon rotation of said one screw blade, the other screw blade is rotated therewith



and said screw blades and joint piece cooperate to cause the continuous mixing of the contents of the vessel and the simultaneous movement of the contents along said frusto-conical side wall of the vessel.

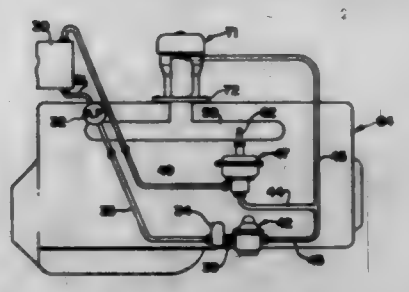
2,967,696
ASPHALT MIXER AND DRIER
John H. Mauldin, Greenville, and John P. Medlock, Taylors, S.C.; said Medlock assignor to said Mauldin
Filed Sept. 20, 1957, Ser. No. 685,096
5 Claims. (Cl. 259—158)



1. In an asphalt and aggregate mixer and drier and the like having an elongated mixing chamber, automatically operable means continuously feeding a supply of aggregate into said mixing chamber, automatically operable means positioned within said mixing chamber so as to agitate and to move the aggregate longitudinally within said mixing chamber, the combination including, an air duct, an air chamber communicating with said duct and with said mixing chamber, means providing a high static air pressure and a relatively large draft of air having a low velocity in said air chamber for introduction into said mixing chamber, and means introducing a flame into said draft of air positioned within said air chamber so that flame is distributed substantially uniformly throughout said mixing chamber.

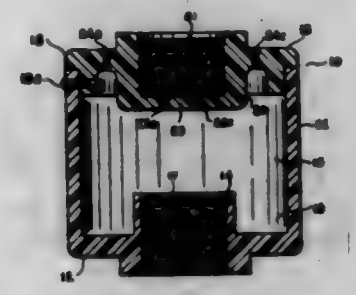
2,967,697
FUEL INJECTOR
Arthur G. Sellers, 1591 Cunard Road, Columbus, Ohio
Filed Jan. 9, 1959, Ser. No. 785,955
14 Claims. (Cl. 261—23)

1. A fuel injector for an internal combustion engine, comprising: means for supplying fuel at a pressure regulated in response to the air pressure in the intake manifold of the engine; a fuel metering valve connected to receive fuel from said supplying means; an atomizer connected to receive fuel from said metering valve and to discharge said fuel in a fine spray to said engine; an air horn comprising an air throttle valve, for supplying



air to said intake manifold; and operator controlled means for adjusting said air throttle valve and said fuel metering valve; said adjusting means comprising means for varying the adjustment of said air throttle valve and said fuel metering valve in response to the air velocity in said air horn to regulate the ratio of fuel to air supplied to said engine.

2,967,698
FOAM GENERATING DEVICES
Harold G. Strohm, Waukegan, Ill., assignor to Production Specialists, West Allis, Wis., a partnership of Wisconsin
Filed Mar. 31, 1958, Ser. No. 725,288
2 Claims. (Cl. 261—76)

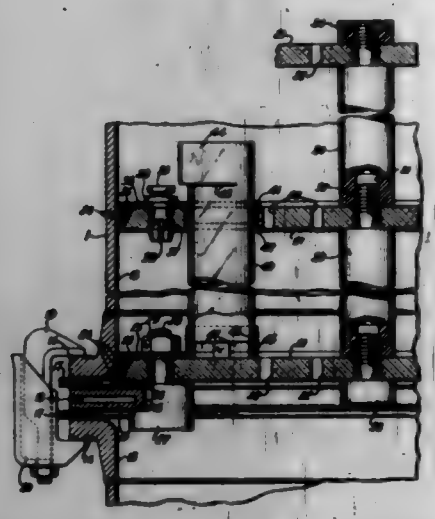


1. In combination, a hollow cylindrical member, a top portion enclosing the top end of said member, said top portion being adapted for connection to the discharge end of a tube supplying liquid under pressure, said top portion being provided with a plurality of angularly disposed apertures for directing said fluid into said hollow cylindrical member and toward the side and bottom thereof in jet streams, means comprising at least one aperture for permitting egress and ingress of air into said hollow cylindrical member, a bottom portion enclosing the bottom end of said member, said bottom portion being provided with a centrally disposed aperture, and a projection surrounding said centrally disposed aperture inside of said cylindrical member to provide a moat between said centrally disposed aperture and the side of said cylindrical member, said moat being adapted to retain a quantity of liquid therein, whereby said jet streams play upon said liquid in said moat to break it into foam, said foam being momentarily contained in said moat before spilling over into the said centrally disposed aperture.

2,967,699
LIQUID-GAS CONTACT APPARATUS
Carl S. Brown, Pepper Pike, Ohio, assignor to A. O. Smith Corporation, Milwaukee, Wis., a corporation of New York
Filed Nov. 7, 1958, Ser. No. 772,625
8 Claims. (Cl. 261—114)

1. In a liquid-gas contact apparatus, a plurality of generally cylindrical sections disposed in and end-to-end relation, a glass coating covering the internal surfaces of

each of the sections, a ring disposed between the adjacent ends of the sections and projecting inwardly beyond the internal diameter of the sections to provide a seat, a series of corrosion resistant perforated plates disposed in spaced relation within said sections with the lowermost plate in any one section being supported by the ring located between said section and the next lower



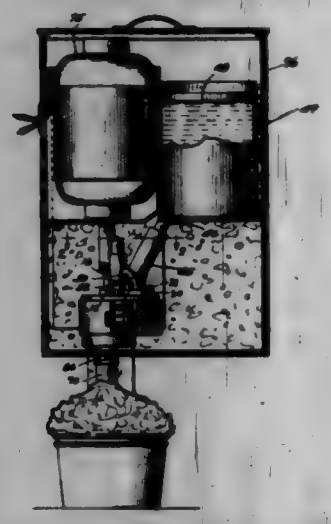
section, means for supporting the remaining plates in any one section from said lowermost plate, the peripheral edge of said plates being spaced out of contact with the glass coating covering the internal surfaces of said sections to provide a clearance therebetween, and a corrosion resistant seal disposed within said clearance to prevent flow of liquid and gas therethrough.

2,967,700

WHIPPING AND AERATING APPARATUS

John C. Lee, Park Forest, and Alexander Forsyte, Chicago, Ill., assignors, by mesne assignments, to Morris B. Kallison, Chicago, Ill.

Filed Mar. 1, 1955, Ser. No. 491,458
7 Claims. (Cl. 261—148)



1. Apparatus for whipping material in relatively small quantities, said apparatus comprising a first plate having chambers, a pair of meshing gears in said chambers for pumping purposes, said chambers including intake and discharge ports for a second pump stage, a cover for said first plate, a second plate cooperating with said cover and having chambers, a pair of meshing gears in said chambers functioning as a first stage gear pump, said first stage having intake and discharge ports, a rigid connection between a gear of the first pump stage and a gear of the second pump stage so that the two stages are driven in predetermined fixed relation, said first stage having a substantially smaller pumping capacity than said second stage, means for supplying whipping material to the intake of said first pump stage, means for feeding the output of said first stage to the intake of said second stage, means for supplying gas to the intake of said second stage, said second stage functioning to operate on all of the whipping material supplied thereto by the first stage and to accommodate gas in predetermined fixed relation to the quantity of whipping material, a mixing chamber rigidly supported on said first plate and extending below one of the gears of said second stage pump, a drive shaft extending through one gear of said second stage pump and into the mixing chamber, said drive shaft being adapted to be driven by a suitable source of power such as an electric motor, agitating means within said mixing chamber coupled to said drive shaft, means for connecting the discharge of said second stage to said mixing chamber and restricted discharge means carried by said mixing chamber for permitting the discharge of material from said mixing chamber to atmosphere while maintaining a back pressure within said mixing chamber.

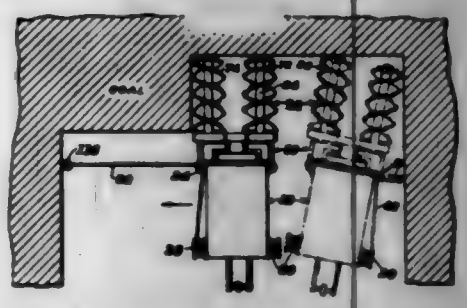
2,967,701

METHOD OF CONTINUOUS LOW SEAM SHORT WALL MINING USING ROTARY AUGER CUTTERS

Arnold G. Wilcox, Daniels, W. Va.
(Shady Springs, W. Va.)

Original application May 6, 1957, Ser. No. 657,160. Divided and this application June 30, 1960, Ser. No. 40,014

1 Claim. (Cl. 262—1)



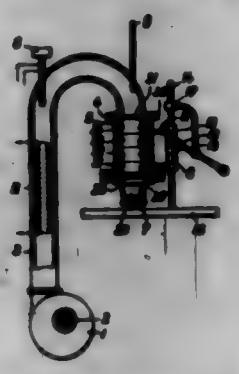
A process of continuous short wall coal mining in a coal seam having a height less than of the order of 48 inches by the use of a continuous mining machine including a pair of parallel oppositely pitched rotary auger cutters each having a diameter dimension less than the height of the seam being mined but a combined diameter dimension greater than the height of the seam being mined which comprises the steps of: sumping said pair of parallel auger cutters longitudinally into a face of such a seam of coal while oppositely rotating said auger cutters in directions so as to simultaneously convey the coal engaged by said auger cutters outwardly of the seam face to thereby longitudinally progressively inwardly form in such seam an opening in the shape of a pair of side-by-side cylinders; moving said auger cutters in a direction transverse to the rotational axes thereof into engagement with the coal in said seam between the face thereof and the inner end of said opening while oppositely rotating said auger cutters in directions so as to simultaneously convey the coal engaged by said auger cutters outwardly of the seam face until a room section is formed having a substantially horizontally extending roof defined by said upper strata, a substantially horizontally extending floor substantially defined by said lower strata, sides spaced horizontally apart a distance substantially greater than the largest horizontal transverse dimension of said opening, and an end defining a new seam face spaced a substantial horizontal distance from said first mentioned seam face, the opposite sides of said room section being formed by substantially vertical transverse movement of opposite auger cutters, the portion of said room section extending from a position adjacent one side thereof to a position adjacent the other side thereof being formed by simul-

taneous horizontal transverse movement of said parallel auger cutters in one direction only with the lower periphery of one auger cutter forming said floor and the upper periphery of the other auger cutter forming said roof; and continuously gathering and conveying away from the first mentioned seam face the coal conveyed outwardly thereof during the sumping and transverse movements of said auger cutters.

2,967,702
HEATING DEVICE FOR GRANULATED MATERIALS

Rudolf Flötgen, Kassel, Germany, assignor to Teldec Telefunken-Decca Schallplatten G.m.b.H., Hamburg, Germany

Filed Feb. 11, 1957, Ser. No. 639,400
Claims priority, application Germany Feb. 10, 1956
6 Claims. (Cl. 263—40)

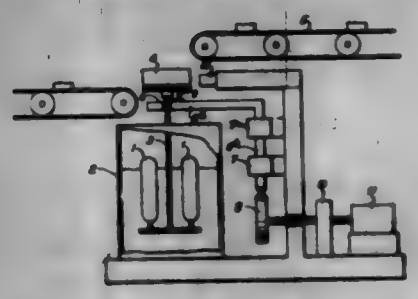


1. A heating device for heating granular material, comprising in combination, gaseous heating medium supply means including a delivery conduit having an open end portion; a support; a tubular member having opposite open ends and mounted on said support for movement relative thereto between two positions; tubular receptacle means arranged in and supported by said tubular member, extending in the direction thereof, and adapted to contain granular material to be heated, said receptacle means having a mouth portion and being formed with separable gas-permeable wall means arranged transversely to the axis of said receptacle means and extending across the entire interior cross-section thereof; and moving means for moving said tubular member, together with said receptacle means, into and out of a position wherein said mouth portion of said receptacle means is in substantially fluid-tight engagement with said open end portion of said delivery conduit, whereby when said tubular member is in said position thereof, a gaseous heating medium emanating from said open end of said delivery conduit is passed in its entirety through granulated material in said receptacle means.

2,967,703
WEIGHING MACHINES

Brian Harold Jones, Hillingdon, England, assignor to The Sperry Gyroscope Company Limited, Brentford, England, a British company

Filed Oct. 3, 1958, Ser. No. 765,107
6 Claims. (Cl. 265—43)

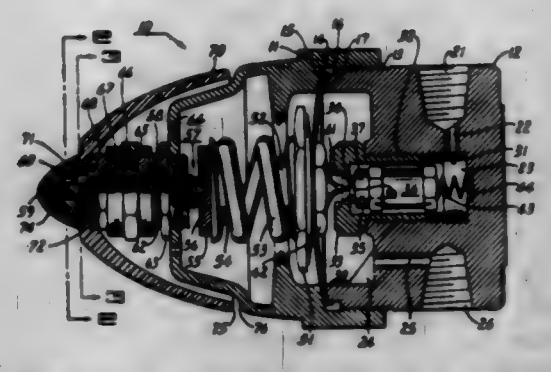


1. In a weighing machine, a weighing unit including a movable carriage arranged to support an article to be weighed by the unit, stop means arranged adjacent said carriage to engage the same and to arrest further movement of the carriage after an initial small movement thereof in response to the placing of an article on the carriage, and an initiation device responsive to said small movement of said carriage to render the stop means ineffective and to thereby allow the carriage to move to weigh the article thereon.

2,967,704
SPRING ADJUSTING DEVICE

George L. Hausmann, 32 Ross Circle, Oakland, Calif.

Filed Dec. 4, 1956, Ser. No. 626,265
1 Claim. (Cl. 267—1)

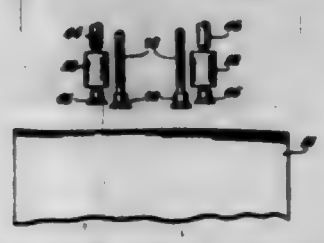


In a diaphragm controlled valve, a housing for said diaphragm and valve, a compression spring for biasing said diaphragm in a valve opening direction, means for increasing and decreasing the compression of said spring comprising a pressure plate having contact with one end of said spring, a packing nut threaded on said housing, a screw having two diameters the smaller of which diameters passes through said packing nut and the larger diameter of which is threaded through said housing, a stop washer freely mounted upon the smaller diameter of the screw and located between said housing and said packing nut, said stop washer contacting the larger diameter portion of the screw to limit the outward travel of the larger diameter portion of said screw in said housing, and the terminal end of the larger diameter of the screw having contact with said pressure plate, an adjustment nut threaded on the smaller diameter of the screw exteriorly of the housing and contacting the packing nut to limit the inward adjustment of said screw, an adjustment knob fixed on the smaller diameter of the screw and having a protective skirt which overlies the adjustment nut and closely surrounds said housing to thereby prevent adjustment of said adjustment nut when the knob is in place, the washer determining the outward limit of movement of said screw and the adjustment of the nut on the smaller diameter of the screw determining the inward limit of movement of travel of said screw whereby the upper and lower biasing limits of the spring may be pre-set.

2,967,705
SHEET FEEDER

Robert E. Lindemann, Le Roy, Ohio, assignor to Harris-Intertype Corporation, a corporation of Delaware

Filed Aug. 13, 1956, Ser. No. 603,488
16 Claims. (Cl. 271—26)



1. The method of feeding sheets from a pile to a sheet handling machine, comprising the steps of grasping the top

sheet of the pile at two points spaced apart near the rear edge of the sheet on opposite sides of the center line of the machine, raising the sheet thus grasped past two transversely spaced forwarding means disposed between said grasped points until the portion of the sheet between the forwarding means is tautened against the same, and thereafter grasping the sheet with the forwarding means and forwarding it independently of said first named grasping means toward the sheet handling machine.

2,967,706

TOY AIRCRAFT AND CONTROL THEREFOR

Frank Pettit, 696 Fairway Drive, Union, N.J.

Filed June 6, 1957, Ser. No. 663,934
9 Claims. (Cl. 272—31)



1. In a tethered aircraft toy having a pylon, an arm removably carried by said pylon for rotation about its longitudinal axis and movement through both horizontal and vertical planes and a tethered aircraft including a rotary propelling member carried by said arm, means for operating said aircraft comprising an electric motor coupled with said propelling member, a second electric motor carried by said pylon, speed reducing gearing constantly coupling said second motor with said arm for controlling rotation of said arm about its own axis, a control stick including a rheostat mechanically coupled therewith and connected with said first mentioned motor for controlling the magnitude of current through said motor, and switch means including at least two control members therefor connected with said second motor for selectively controlling the direction of rotation thereof.

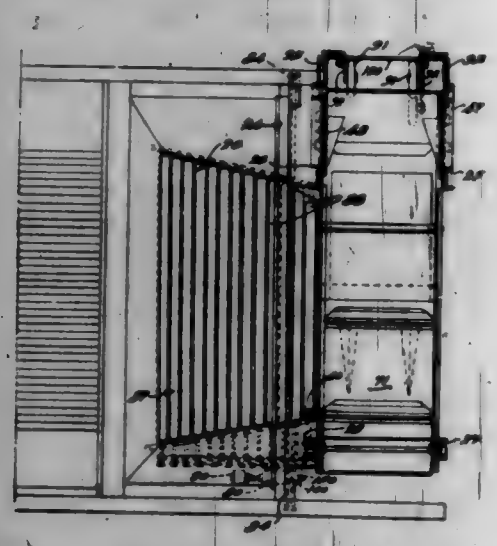
2,967,707

BOWLING PIN AND BALL ELEVATING AND DELIVERING MECHANISM

Ernest Hedenskoog, Donald A. Norberg, and Alvin E. Johnson, Muskegon, Mich., assignors, by mesne assignments, to The Brunswick Automatic Pinsetter Corporation, a corporation of Delaware

Original application Aug. 4, 1953, Ser. No. 372,366. Divided and this application June 7, 1955, Ser. No. 515,759

5 Claims. (Cl. 273—43)



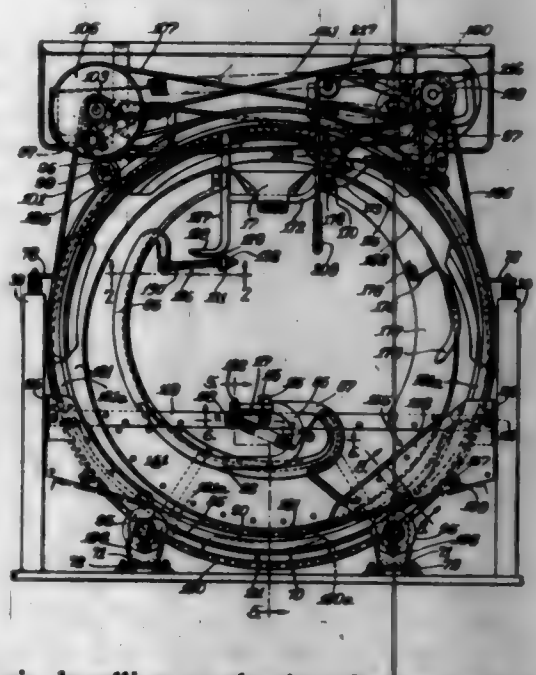
1. In a bowling pin handling machine for raising pins from a pit at the end of an alley and setting them upon the alley bed, a frame means supported in the pit, sprocket wheels supported by the frame means, a pair of spaced chains mounted on the sprocket wheels to operate in a continuous path downwardly along one side, horizontally across the bottom of the pit, upwardly along the opposite side, and upwardly and forwardly near the top portion and then across the top portion to the side at which the chains travel downwardly, a plurality of carriers disposed horizontally between the chains and projecting inwardly and upwardly therefrom, a fabric material carried by the chains in the space therebetween to form a fabric wall between the adjacent carriers, said upward projecting portions of the carrier being notched to receive a portion of the ball and to center the ball on the carrier, a plurality of rollers laterally disposed in the pit forwardly of the raising mechanism, and means for driving said rollers in rotation for delivering the ball and pins to the raising mechanism, said driving means driving the rollers adjacent to the raising means at substantially greater speed than the speed of the rollers adjacent to the alley bed.

2,967,708

PIN HANDLING MECHANISM

William F. Huck, Forest Hills, N.Y., and Alexander J. Albrecht, Teaneck, N.J., assignors, by mesne assignments, to The Brunswick Automatic Pinsetter Corporation, Paramus, N.J., a corporation of Delaware

Filed Sept. 16, 1955, Ser. No. 534,726
16 Claims. (Cl. 273—43)



1. A pin handling mechanism for use with an automatic pinsetter mounted on a bowling alley comprising, in combination, a pin elevating member mounted at the rear of the alley pit and movable in a continuous path having an opening therethrough and an upwardly extending portion to elevate pins from a pickup position adjacent the floor of the alley pit to an elevated discharge position, a pin receiving tray adjacent the pin discharge position adapted to receive pins from the elevating member, and means mounting the pin receiving tray for movement between a position in which the tray directs pins forwardly of the pin elevating member for reuse and a position in which the tray directs pins rearwardly through the opening in the path of the pin elevating member.

2,967,709

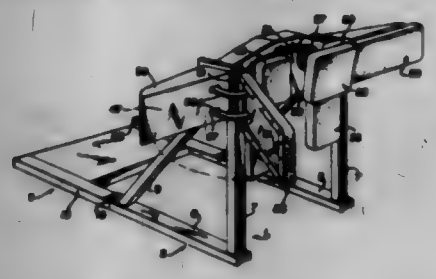
ATHLETIC TRAINING APPARATUS

Jacob N. Stahley, 515 S. Hayes St., Moscow, Idaho

Filed Nov. 12, 1959, Ser. No. 852,397
7 Claims. (Cl. 273—95)

7. Athletic training apparatus comprising a support, a first impact member mounted on the front of the support for contact with a portion of the body of a trainee,

a pair of second impact members mounted on the front of the support one on either side of and to the rear of said first impact member for contact with portions of the body of a trainee, and a pair of third impact members mounted on the support adjacent their upper ends one below each said second impact member for rearward swinging movement, and a pair of wing members mounted on the support one on the outer side of each said



second impact member for swinging movement about upright axes disposed on the impact member side of the wing members, means continuously urging the wing members to swing to the front toward each other about said axes, means for releasably retaining the wing members in spread-apart relationship, and means for selectively individually releasing the wing members for swinging movement to the front under the influence of said urging means.

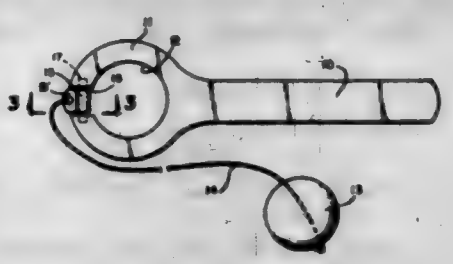
2,967,710
BAT
Clinton V. Carlson, Minneapolis, Minn., assignor to Cocom Industries, Inc., Minneapolis, Minn., a corporation of Minnesota
Filed Sept. 2, 1958, Ser. No. 758,237
2 Claims. (Cl. 273—72)



1. A toy bat composed of relatively light and flexible plastic material having a relatively long hollow tubular outer impact end portion and a relatively short hollow grasping end portion, said outer and inner end portions being joined by an intermediate oppositely tapering portion providing an elongated transversely reduced area of progressively varying transverse dimensions, and said oppositely tapering portion being filled with a transversely solid and relatively rigid material throughout a substantial longitudinal extent thereof on opposite sides of its area of minimum diameter to provide a relatively rigid intermediate section of reduced diameter between the light and flexible tubular hand grip and impact portions of said bat, whereby said bat will not collapse, buckle and fold backwardly upon itself in use.

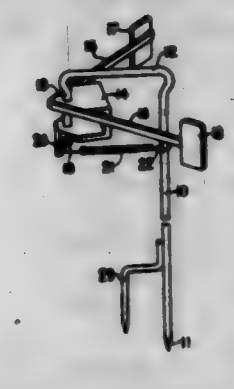
2,967,711
BALL TOY
James C. Anderson, 4213 Beauchamp Drive, Alexandria, Va.
Filed July 15, 1959, Ser. No. 827,260
1 Claim. (Cl. 273—98)

A ball toy comprising a handle having a hole formed in one end thereof and adapted to receive a ball therethrough, a slot extending through said end in line with said handle and communicating with said hole, a sleeve rotatably mounted within said slot by pins extending transversely of the slot into said end, a projection extend-



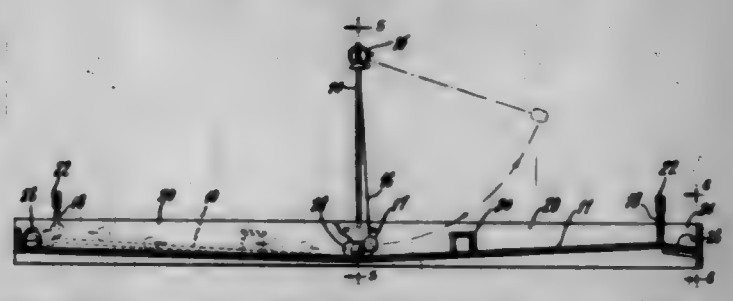
ing radially from said sleeve and having a small hole formed therethrough, a string secured at one end to said projection and through said small hole and extending to terminate at the other end in said ball.

2,967,712
RIFLE TARGET
Clarence N. Breitenfeldt, Rte. 2, Marathon, Wis.
Filed July 22, 1959, Ser. No. 828,902
2 Claims. (Cl. 273—102.1)



1. A rifle target comprising a rod adapted to be supported by one end extending into the ground, a lateral arm depending from said rod, said arm terminating with a vertical portion, a hub member rotatably mounted on said vertical portion, target arms extending laterally from said hub member and angled approximately 90 degrees from one another, target elements secured to the outer ends of said target arms, a projection upstanding from said hub member radially displaced from the axis of rotation of said hub member and disposed in a radial plane bisecting the planes formed by said target arms, a tension spring secured between said projection and said rod and serving to carry the target arms alternately to an over centre position abutting the rod.

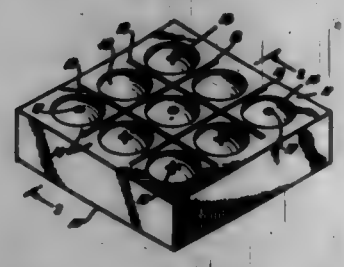
2,967,713
PENDULUM BALL GAME
Daniel F. Kumpmann, 151A Randolph Ave., Mine Hill, Dover, N.J.
Filed Mar. 25, 1960, Ser. No. 17,590
5 Claims. (Cl. 273—119)



1. A game of the character disclosed comprising a playing board having inclined planes sloping from the ends of the board and meeting at an intermediate portion of the board to form a V-shaped trough for retaining a row of balls on a transverse starting line, a swinging

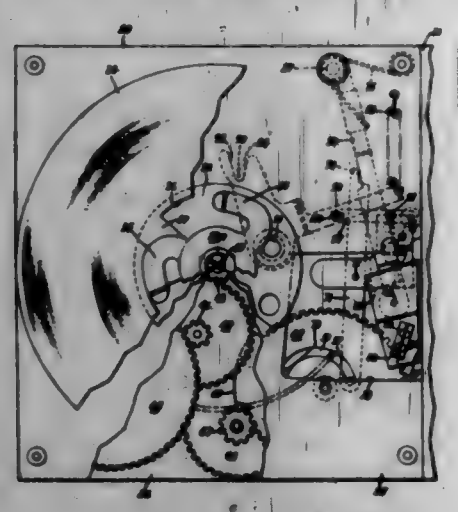
weight suspended over said transverse starting line in position to strike the balls on that line, scoring means for the balls at the opposite ends of the board and guide channels extending from said scoring means for automatically returning the scoring balls back to said starting line.

2,967,714
GAME DEVICES
Rosario Joseph Calabrese, 1118 Warren St., New Milford, N.J.
Filed Oct. 2, 1958, Ser. No. 764,904
3 Claims. (Cl. 273—130)



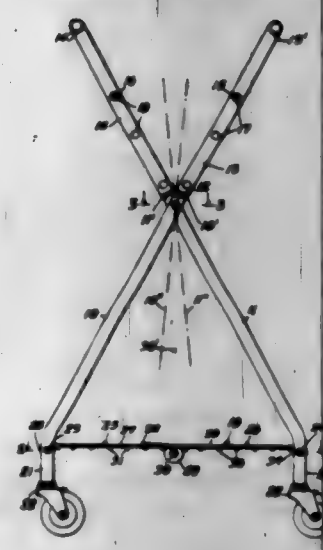
1. A game device comprising a plurality of spaced plates, means for supporting said plates in generally parallel relationship, at least one of said plates having a plurality of openings therein, a plurality of spherical playing elements having smooth continuous surfaces and positioned between said plates with each element projecting through one of the openings in said one plate, the openings in said one plate being of a size relative to said spherical elements to cause the smooth continuous surface of each playing element to frictionally engage the plate at the edge of its respective opening to at all times retain the elements between said plates and in spaced relation to each other while permitting them to be turned manually in any direction in the openings, and each of said spherical elements having different characters thereon arranged in a particular pattern whereby to adapt any of its different characters to be exposed in the opening through which it projects by manually turning it in any required direction in said opening.

2,967,715
MINIATURE RECORDING DEVICE
William A. Black, Montclair, N.J., and John S. Millard, Whittier, Calif., assignors to General Time Corporation, New York, N.Y., a corporation of Delaware
Filed Apr. 19, 1955, Ser. No. 502,429
9 Claims. (Cl. 274—9)



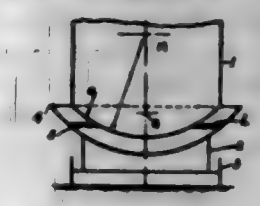
1. In a miniature recording device the combination comprising a recording element, a transducer cooperating therewith, means including a source of limited torque for rotating the recording element, a governor closely coupled to the recording element for limiting the speed thereof, a brake for blocking the movement of the recording element, a movable impulse member, said impulse member having an over-center spring for causing the same to be moved between an off position and an on position with a flipping action, means coupled to said impulse member for applying a forward impulse to the recording element incident to the impulse member being flipped to its on position, and a manual operator having a lost motion connection with said impulse member for releasing the brake and for moving said impulse member over-center.

2,967,716
COLLAPSIBLE PORTABLE HAMPER
Charles E. Murcott, 134 Cabot Road, Massapequa, N.Y.
Filed Dec. 23, 1958, Ser. No. 782,475
4 Claims. (Cl. 280—41)



1. A device of the character described, comprising two pairs of pivoted main frames, a one-piece U-shaped supplemental tubular frame mounted on the upper end of each of the main frames and telescoping therewith for adjustment of the supplemental frame in different positions on the main frames, interengaging means on the main and supplemental frames for retaining said supplemental frames in different positions of adjustment, casters rotatably mounted in the lower ends of all of said main frames for free movement of the device over a supporting surface, a platform comprising two openwork sections, each comprising side and crossrods, one section being pivoted to one main frame, the other section being pivoted to the other main frame, and means pivotally coupling adjacent portions of said sections centrally of said frames when in extended position for collapsible mounting within the main frames when the latter are in collapsed position.

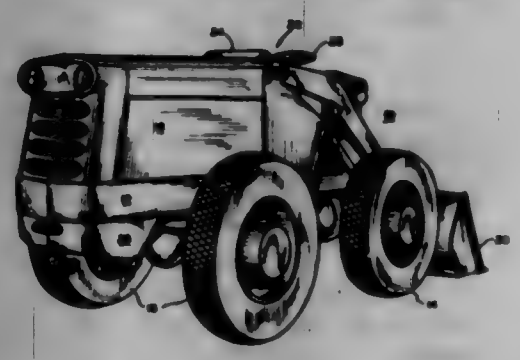
2,967,717
FLUID SUSPENSION FOR WHEELED VEHICLES
Frank A. Track, 29 St. George Ave., Stamford, Conn.
Filed July 20, 1956, Ser. No. 599,037
9 Claims. (Cl. 280—124)



1. A fluid suspension for a vehicle comprising: a supporting base having a transversely curvilinear upper surface, a load carrying body above the base, said load carrying body having a transversely curvilinear bottom surface, side walls connecting the base to the load carrying body to form within the confines of said walls above the base and below the load carrying body a buoyancy chamber, and means for supplying and discharging fluid

under pressure to and from the buoyancy chamber, said side walls being flexible and adapted for rolling tangential coaction with curvilinear surfaces of the supporting base and the load carrying body to permit rotary lateral movement between the load carrying body and the supporting base and to also permit relative vertical movement between the load carrying body and the supporting base, whereby said rolling and unrolling coaction of the flexible walls provide a corrective righting moment at all times between the load carrying body and the supporting base, the curvilinear bottom surface of the load carrying body serving to establish the metacentric point of rotation of the load carrying body, and means interposed between the load carrying body and the supporting base to permit a definite amount of both vertical and curvilinear transverse movement within predetermined limits by the load carrying body relative to the supporting base.

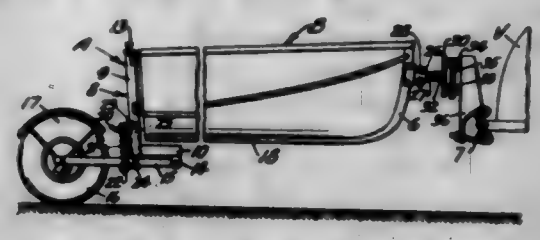
2,967,718
REMOVABLE COUNTERWEIGHT
Herbert L. Orwig, Batavia, N.Y., assignor to Clark Equipment Company, a corporation of Michigan
Filed Apr. 22, 1959, Ser. No. 808,060
2 Claims. (Cl. 280—150)



1. In a counterweighted vehicle, a frame having a pair of parallel spaced apart horizontally disposed side frame members and a transversely disposed end member joining the said side members, each said side frame member including an inturned projection near the bottom thereof, a counterweight adapted to be removably supported on the said side frame members, the said counterweight including a pair of parallel spaced apart lug portions on the top thereof, the said lug portions extending upwardly and outwardly and being adapted to engage the said inturned projections on the said side frame members, the said end member of the frame having cut-out portions for allowing the removal of the said counterweight longitudinally of the said side frame members, the said lug portions on the counterweight passing through the said cut-out portions when the counterweight is removed, and removable pin means adapted to connect the said counterweight to the said frame for holding it thereon, the said removable pin means comprising an inturned projection on the said transversely disposed end member having a vertically disposed aperture therein, a vertically disposed aperture in the said counterweight adapted to align with the said first mentioned aperture, and a pin adapted to be removably positioned in the said aligned apertures.

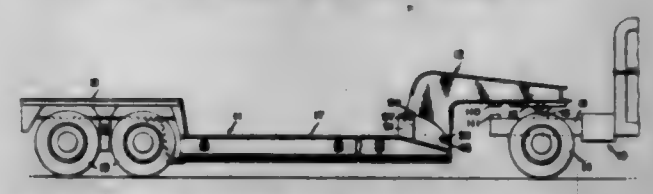
2,967,719
TOWING ASSEMBLY FOR BOATS
Calvin D. Williams, Cloquet, Minn., assignor to Arthur K. Randle, Esaberram, Minn.
Filed Oct. 13, 1958, Ser. No. 767,027
14 Claims. (Cl. 280—414)

1. A towing assembly for boats and the like comprising a frame adapted to be secured to one end of a boat, a wheel member, pivotal mounting means rotatably mounting said wheel member and also pivotally mounting said wheel member on said frame for free vertical movement about an axis substantially parallel to the axis of rotation of said wheel member, the axis of rotation and the axis of vertical pivotal movement of said wheel member lying in a common plane disposed substantially nor-



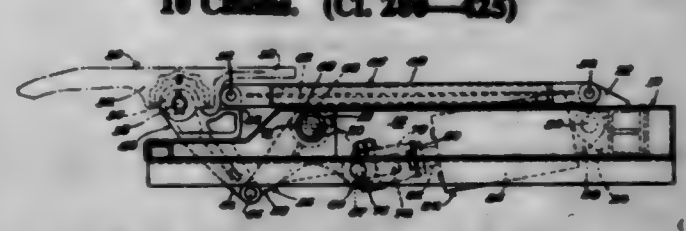
mal to a vertical plane extending through the point of securement of said frame when the latter is secured to a boat, and means for restraining the vertical movement of said wheel member when said frame is so secured to a boat.

2,967,720
DETACHABLE GOOSENECK FOR TRAILERS AND THE LIKE
Rudolph C. Smith and Elmer Benson, Jr., Harrisburg, Pa., assignors to L. B. Smith, Inc., Camp Hill, Pa., a corporation of Pennsylvania
Filed Feb. 7, 1958, Ser. No. 713,858
21 Claims. (Cl. 280—425)



2. In a trailer including a body and wheel means supporting the rear end of the body, said body having first latching means and first coupling means adjacent the forward end thereof, a gooseneck for the forward end of the body and including a frame, a support assembly pivotally supported by said frame and including second latching means on the lower portion thereof for engaging said first latching means, second coupling means pivotally supported by said frame for engaging said first coupling means, and means supported by said frame and operatively connected to said support assembly for selectively adjusting the position of said support assembly relative to said frame when said second latching means is in latching engagement with said first latching means.

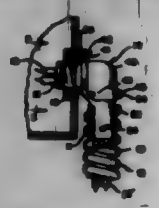
2,967,721
FIFTH WHEEL ELEVATING DEVICE
Robert J. Helton, Munster, Ind., assignor to American Steel Foundries, Chicago, Ill., a corporation of New Jersey
Filed Mar. 13, 1959, Ser. No. 799,280
10 Claims. (Cl. 280—425)



1. In a fifth wheel elevating device for highway tractor-trailer vehicles, the combination of: a frame, for attachment to the chassis of a tractor, including a pair of spaced longitudinal elements interconnected by at least one transverse element; a fifth wheel, for detachable connection to a trailer; a pair of mounting brackets pivotally connected to opposite sides of the fifth wheel member; a strut member including a pair of longitudinally extending strut elements disposed adjacent respective longitudinal frame elements and having their opposite ends pivotally connected to the transverse frame element and the respective mounting brackets, respectively; a power cylinder

positioned centrally of said frame with its axis disposed to extend parallel to said longitudinal elements, said power cylinder being pivotally connected to said frame transverse element and having a rod extending therefrom toward said fifth wheel member; a transversely extending equalizer member connected intermediate its ends to the power cylinder rod; and a pair of bell crank levers fulcrumed intermediate their ends to respective longitudinal elements of the frame, said levers having certain corresponding ends pivotally connected to opposite ends of said equalizer member and having their opposite corresponding ends pivotally connected to the respective mounting brackets at locations spaced from the pivotal connections between said brackets and said longitudinal strut elements.

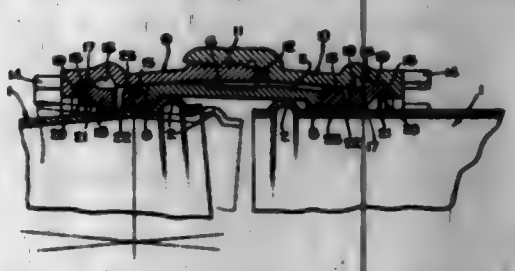
2,967,722
ANGULAR CONNECTOR FITTINGS FOR FLEXIBLE CONDUIT
Charles Liffin, 20000 Sherwood Ave., Detroit, Mich.
Filed May 18, 1959, Ser. No. 814,849
3 Claims. (Cl. 285—127)



1. A sheet metal angular connector fitting made of three separate members, namely a sleeve member, a ferrule, and a cover; the ferrule being an externally threaded sheet metal tube having its rear edge enlarged by being flanged outwardly to provide a stop for the ferrule when the latter is mounted in a hole in a mounting plate; the sleeve member being made of a flat T-shaped sheet metal blank whose cross bar is rolled into a thin walled sheet metal tubular sleeve portion having a first end formed to fit inside a conduit and having external locking lugs and whose leg is an integral part of and extended from the opposite or second end of the sleeve portion and which is a planar portion of ring form whose axis is at an angle to the axis of the sleeve; the ring portion having its outer edge crimped over the enlarged rear edge or outward flange of the ferrule to reinforce the ferrule flange in its stopping against the mounting plate; the cover being of sheet metal and of a contour to fill the gap or area between the said second end of the sleeve portion and the ring portion and being of U cross section and having on one edge a flange for receiving a ring portion edge and stopping the cover against the ring portion edge; the cover also having its sides fitting over the sides of the sleeve portion at its said second end.

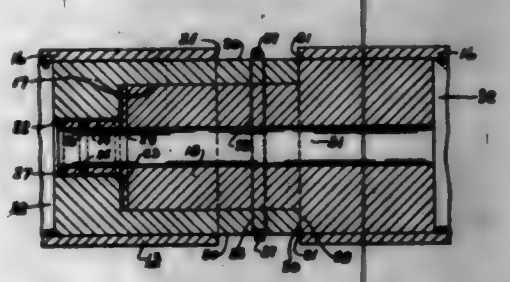
2,967,723
TUBE COUPLING
Barry B. Willis, La Canada, Calif., assignor to On Mark Couplings, Inc., Los Angeles, Calif., a corporation of California
Filed July 1, 1957, Ser. No. 669,040
2 Claims. (Cl. 285—233)

1. In a coupling for interconnecting two tubing members having circumferential enlargements forming rearward shoulders near the tubing ends, including a retainer ring to bridge the ends of the two tubing members with inner circumferential shoulders of the retainer ring in engagement with said rearward shoulders to prevent separation of the two tubing members, said retainer ring being expansile to clear said tubing enlargements for the purpose of assembly, a coupling body to confine said retainer ring, said coupling body being made in separable sections for the purpose of assembly and having inner circumferential shoulders at its opposite ends dimensioned to clear said enlargements for the purpose of assembly, a pair of sealing rings to embrace the respective tubing members inside the coupling body adjacent the opposite ends of the retainer ring, said sealing rings being expansile to clear the tubing enlargements for the purpose of assembly, and a pair of back-up rings for said sealing rings in engagement with the inner circumferential shoulders respectively of the coupling body, the improvement comprising: said coupling body



having two inner circumferential bearing channels for cooperation with said back-up rings respectively; each of said back-up rings being formed by a plurality of segments, the axially outward ends of said segments being in pivotal engagement with said bearing channels for swinging movement of the segments between radially outward positions to clear the tubing enlargements for the purpose of assembly and radially inward positions to back-up said sealing rings; and spring means mounted in each of said back-up rings to urge said segments radially outward into said bearing channels.

2,967,724
AIR DRILL STEM
George L. Adams, Salem, Ohio, assignor to The Salem Tool Company, Salem, Ohio, a corporation of Ohio
Filed May 8, 1957, Ser. No. 657,860
6 Claims. (Cl. 285—330)

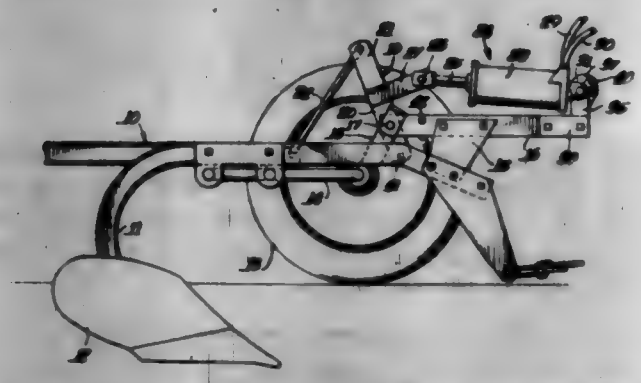


4. A stabbing joint between sections of an earth boring drill string having couplings of complementary nonround pin and socket members held from parting by transverse locking means, characterized in that the drill string and coupling have an axial passage therethrough, and each complementary nonround pin and socket has consecutively engaging mating radial annular shoulders, mating nonround portions, second radial annular shoulders held from engagement by said first radial shoulders, and cylindrical portions with clearance therebetween, an annular groove in the cylindrical portion of the pin member spaced from said second shoulder, an elastomer ring in said groove and engaging the cylindrical socket to form a seal, and a beveled end on the end of said cylindrical portion of the pin.

2,967,725
RAM MOUNTING FOR IMPLEMENTS
Raymond F. Roberson, Canton, Ill., assignor to International Harvester Company, Chicago, Ill., a corporation of New Jersey
Filed Oct. 7, 1957, Ser. No. 688,573
4 Claims. (Cl. 287—95)

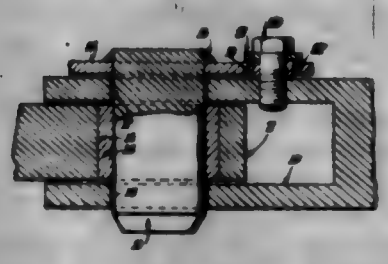
1. In an implement including an extensible and retractable hydraulic ram anchored at one end to the im-

plement, means connecting the other end of the ram to the implement, comprising a stationary part on the implement having a generally horizontal portion adapted to slidably support said other end of the ram upon operation thereof, said horizontal portion being of sufficient length to accommodate sliding movement of said other



end of the ram relative thereto, a stop on said stationary part engageable by said other end of the ram after a predetermined extension thereof to react thereagainst, and releasable latch means carried by the stationary part operative to lock said other end of the ram to the implement upon engagement thereof with said stop.

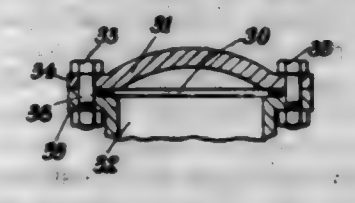
2,967,726
PIVOT PIN SECURING MEANS
Alvin G. Weston, Mundelein, Ill., assignor to The Frank G. Hough Co., a corporation of Illinois
Filed May 8, 1958, Ser. No. 733,964
5 Claims. (Cl. 287—189)



1. Means for securing a pin which pivotally interconnects two members comprising, a flange secured on one end of said pin and extending radially outwardly therefrom, an opening formed through said flange, spacer and washer means positioned in said opening and secured to one of said members by a capscrew positioned through said spacer and washer means and threaded into said one of said members until tensioned with the head thereof against the washer portion of said spacer and washer means, said spacer and washer means being formed so that the spacer portion thereof positioned within said opening has an outer diameter sufficiently smaller than the diameter of said opening so that when said pin is deflected along its longitudinal axis sufficient clearance remains between the walls of said opening and the outer surface of said spacer portion so that said flange is projected against said one of said members rather than against said spacer portion, the washer portion of said spacer and washer means having an outer diameter greater than the diameter of said opening.

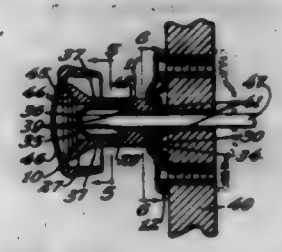
2,967,727
GASKETS AND LIKE JOINT RINGS
Percy Wills, Bridgwater, England, assignor to Wills Pressure Filled Joint Ring, Limited, Bridgwater, England, a British company
Filed Feb. 14, 1952, Ser. No. 271,567
Claims priority, application Great Britain Sept. 8, 1950
1 Claim. (Cl. 288—20)

A joint comprising two members to be jointed together having plane opposed joint faces, a gasket between said joint faces consisting of a smooth endless tube of metal filled with gas under a pressure of between 100 to 1400 pounds per square inch, the walls of which tube are under an initial stress due to permanent set in a plane at right angles to the plane of the gasket, means



for drawing the joint faces together to clamp the gasket and limit means positively spacing the opposed joint faces apart a distance greater than the elastic limit of the gasket walls whereby the faces are unable to compress the gasket sufficiently to produce further permanent set.

2,967,728
DOOR HANDLE CONSTRUCTION
Harold W. Falk, Minneapolis, Minn., assignor to Wright Products, Inc., St. Paul Park, Minn., a corporation of Minnesota
Filed Feb. 14, 1958, Ser. No. 715,242
8 Claims. (Cl. 292—347)



1. A door handle assembly including a hollow escutcheon plate assembly having a pivot aperture therein, a door knob having a shank projecting therefrom, said shank including an end projecting through said pivot aperture and supported by said escutcheon plate assembly, a shoulder on said shank engageable against the outer surface of said escutcheon plate assembly, an axial shaft socket in said shank, a generally V-shaped spring mounted within said socket and projecting from said shank end, a washer inwardly of said escutcheon plate assembly and engaging the inner surface of the same about said aperture, and outwardly turned end portions on said spring engaging said washer and holding the same against the end of said shank, said end portions being of a length to permit said washer to pass thereover when said spring ends are flexed together.

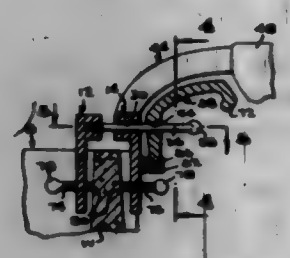
2,967,729
COMBINATION BAILER AND VASE
Luther George Davis, Rte. 1, Box 159, St. Cloud, Fla.
Filed Sept. 20, 1955, Ser. No. 535,410
1 Claim. (Cl. 294—55)



A watertight boat bailer and receptacle comprising a receptacle having a rectangular imperforate bottom wall of greater length than width, a top wall of less length and greater width than said bottom wall and positioned above and spaced from said bottom wall,

the rear ends of said top and bottom walls defining a single plane substantially at right angles to a plane midway between said top and said bottom walls, imperforate side walls extending between the side edges of said top and bottom walls, said side walls flaring upwardly from said bottom wall toward said top wall, a rear wall fixed to the rear ends of said top, bottom, and side walls, said walls being sealed and fixed together to provide a watertight compartment which is open at its forward end, the forward end having an inclined mouth, the bottom edge of the side walls being of same length as the adjacent edges of the bottom wall, an arch shaped handle substantially the length of the top wall fixed centrally of and extending longitudinally along said top wall to provide for balanced manipulation of the bailer, said bailer being of a size and shape to be securely grasped by the entire hand with the fingers between the handle and the top wall, the shape of said bailer being such that the side of the bailer may be positioned closely adjacent the sloping sides of a flat bottom boat for removing water from said boat whereby improved bailing can be obtained with a minimum number of bailing operations, said bailer serving to remove a maximum amount of water from a limited space so that a boat can be bailed substantially dry without requiring additional equipment.

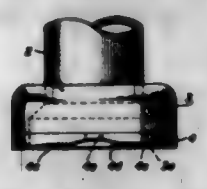
2,967,730
CONCRETE BLOCK LIFTER
William F. Vann, R.F.D., Chatom, Ala.
Filed Dec. 31, 1959, Ser. No. 863,349
7 Claims. (Cl. 294—62)



6. A lifter comprising a movable jaw, a fixed jaw facing the movable jaw, means nontiltably and nonrotatably mounting the movable jaw on the fixed jaw for movement toward and away from the fixed jaw, a handle fixed on the stationary jaw and extending laterally therefrom, a locking lever pivoted on the fixed jaw and located adjacent to the handle, and detent means fixed to the movable jaw and engageable by said lever for locking the movable jaw in adjusted relation to the fixed jaw, said mounting means comprising pin means fixed on a jaw, the other jaw having bore means through which the pin means are slidably engaged, said pin means comprising outer pins and a center pin fixed on the movable jaw, the fixed jaw having outer bores and a center bore through which related pins extend, the center pin constituting said detent means, said locking lever having a detent bore aligned with said center bore with the center pin extending through the detent bore, the detent bore being larger in diameter than the center pin, and edges at the ends of the detent bore for binding engagement with the detent pin in a pivoted position of the locking lever.

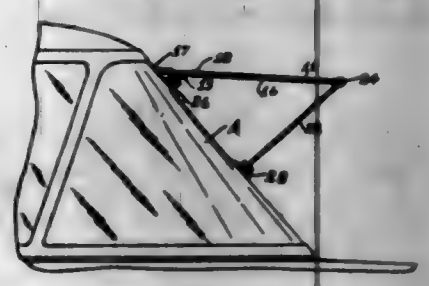
2,967,731
SUCTION PICK-UP HEAD
Richard L. Swartz, Columbia, S.C., assignor to Universal Business Machines, Inc., Columbia, S.C., a corporation of South Carolina
Filed Sept. 30, 1957, Ser. No. 687,160
6 Claims. (Cl. 294—64)

1. A suction pick-up head comprising a tube, a flat wall member secured to and lying across the mouth of said tube and having an aperture formed therein, said wall having a shallow cylindrical groove no wider than the aperture formed in the outer face thereof extending from the outer edge of said wall, and terminating at the



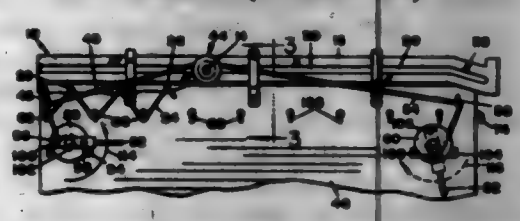
nearest rim portion of the aperture, a second cylindrical groove formed in the outer face of said flat wall at the bottom of said shallow cylindrical groove and having a shorter radius of curvature than said shallow groove and coextensive therewith.

2,967,732
RAIN SHIELD ATTACHMENT FOR VEHICLES
Sherman T. Richardson, Richmond, Ind.
(13446 Gulf Blvd., Mederia Beach, St. Petersburg 8, Fla.)
Filed Apr. 2, 1958, Ser. No. 725,992
2 Claims. (Cl. 296—95)



1. A rain shield composed of a frame extending about a portion thereof, a filler member positioned in the frame, a cover member extending over the frame and the filler, clamping members secured over opposite edges of the rain shield and secured therethrough, means connected at each of the corners of the rain shield providing for removably securing the four corners of the rain shield in spaced relation to the surface of a windshield, and with all of said securing means being removably secured directly to the windshield.

2,967,733
ROLLABLE TARPAULIN FOR OPEN TRUCK AND CAR BODIES
Brough E. Amerine, R.R. 1, Box 42, Setauta, Kans.
Filed July 28, 1958, Ser. No. 751,394
2 Claims. (Cl. 296—98)



2. In a vehicle body cover, the combination which comprises a tarpaulin designed to provide a cover for open truck and railway car bodies, the bodies having side and end walls, means for anchoring one end of the cover to one end wall of the body, grommets in the sides and end of the cover opposite to the end anchored to the end wall of the body, cables threaded through the grommets, hooks on the walls of the body and positioned to receive the cables, rails having elongated slots therein, means for mounting the rails on the upper edges of the side walls of the body, chains positioned in the rails, a shaft extended across the cover and positioned with the ends in the slots of the rails, sprockets on the ends of the shaft and positioned in meshing relation with the chains of the rails, a double pulley on one end of the shaft, pulleys rotatably mounted on the opposite ends of the

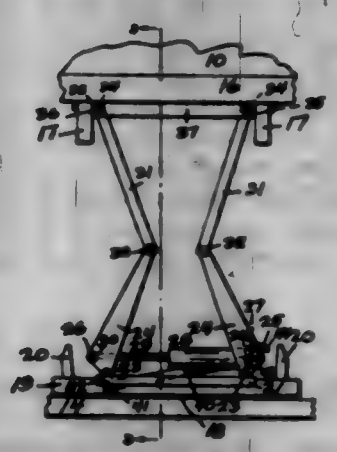
body and aligned with sections of the double pulley, cables trained over sections of the double pulley and pulleys mounted on the body, and a hand crank for operating the pulleys to extend and retract the cover.

2,967,734
CLOSURE CURTAINS
Richard A. Brown, 1916 NW. Overton, Portland, Oreg.
Filed Mar. 17, 1959, Ser. No. 799,988
4 Claims. (Cl. 296—143)



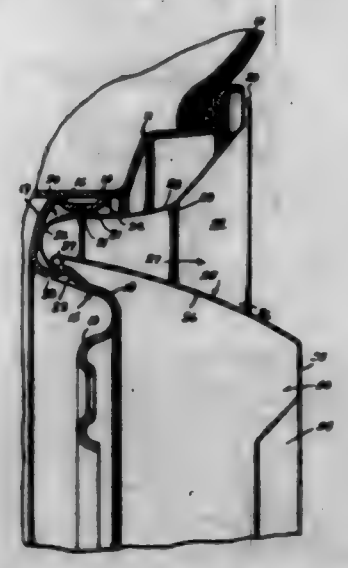
1. A closure curtain for vehicle bodies of the type including a bottom wall, spaced parallel end walls supported on the bottom wall and a top wall carried by said end walls with said curtain closing a normally open side of said body, and comprising an elongated flexible panel, means securing one edge of said panel to the side edge of said top wall, lacing means releasably securing the opposite edge of said panel to the side edge of said bottom wall, pivoted means on the adjacent side edge of each of said end walls for releasably securing the vertical edges of said panel to said end walls, a reinforcing cable secured in longitudinally extending relation to said panel intermediate the upper and lower ends thereof, and resilient means on said end walls releasably engaging said cable to maintain said panel in taut condition on said body.

2,967,735
WAGON HOIST
Vernon J. Lundell, Cherokee, Iowa
Filed Jan. 5, 1955, Ser. No. 479,995
1 Claim. (Cl. 298—22)



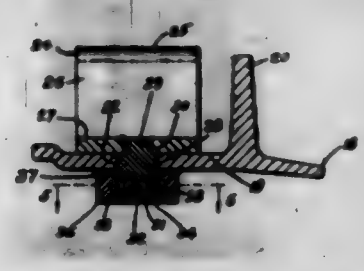
A wagon box hoist comprising a lower base member, a pair of spaced arms pivotally attached at one end of said lower base member, a further pair of spaced arms pivotally attached to the other end of said base member, means for spreading said pairs of arms apart, bars pivotally secured to the outer terminals of said arms, the upper terminals of said bars being pivoted to a wagon box to raise the same, said means for spreading said arms apart comprising a hydraulic cylinder, a piston in said cylinder, a piston rod attached to said piston, the end of said piston rod being pivotally secured to said further pair of said arms at a distance from the pivotal attachment of said further arms to said base; said base, said arms, and said bars operating in a plane parallel to the axis about which the wagon box is pivoted, a framework including ears, means for pivotally attaching the upper ends of said bars to said ears, means for securing said framework to said wagon box, the pivotal connection betweeen said arms and said bars being relatively loose to provide a lost motion action, a synchronizing bar pivotally attached to said arms on one side of their pivot and to an extension of said further arms on the opposite side of their pivot, said arms and said further arms being substantially in the shape of elongated triangles, one of the corners of the shortest side of said triangles being pivoted to said base and the other corners on the shortest side of said triangles being pivoted to said cylinder and said piston rod.

2,967,736
WHEEL COVER
George Albert Lyon, 13881 W. Chicago Blvd., Detroit 28, Mich.
Filed June 15, 1955, Ser. No. 515,716
10 Claims. (Cl. 301—37)



1. In a wheel structure including rim and body parts with the body part having an axially inset recess to accommodate an inset cover construction and having a camming bulged surface and a retaining shoulder in opposed relation in the recess, a cover including inner and outer cover members, one of said cover members including a relatively deeply axially inset annular side wall having a projection to be cammingly bottomed on said bulged surface and a resilient extremity capable of being tensioned and engaged behind the retaining shoulder, said other cover member including an axially inwardly extending annular wall having a second extremity capable of snap-on, pry-off engagement with the retaining shoulder.

2,967,737
DETACHABLE TRACTION UNITS
George V. Moore, 1004 Laurel Road, Santa Paula, Calif.
Filed Nov. 30, 1959, Ser. No. 856,311
4 Claims. (Cl. 305—51)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. Accessory traction units for use with the endless tracks of a tractor where said endless tracks consist of

a plurality of segmented track plates having upper and lower surfaces and a transverse row of bolt holes formed therein, each traction unit comprising:

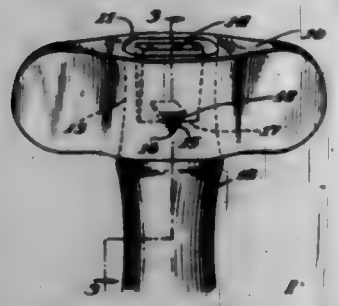
a generally raised portion extending upwardly from a generally planar base portion;

a plurality of studs depending downwardly from said planar base portion and adapted to fit into said bolt holes in said track plates;

fastening means secured to the lower surfaces of said track plates concentric with said bolt holes; and

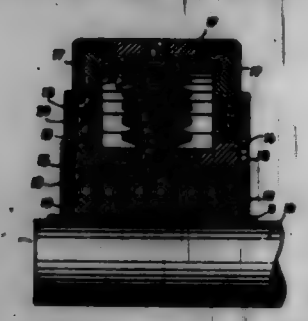
means carried by said studs for cooperating with said fastening means whereby said traction units may be securely attached to the upper surfaces of said track plates and, by the application of force applied in a direction normal to the upper surfaces of said track plates, may be removed therefrom.

2,967,738
TOOL HANDLE FASTENING
Robert Edwin Moore, 336 White Oak Lane, Winnetka, Ill.
Filed Apr. 9, 1958, Ser. No. 727,468
3 Claims. (Cl. 306—33)



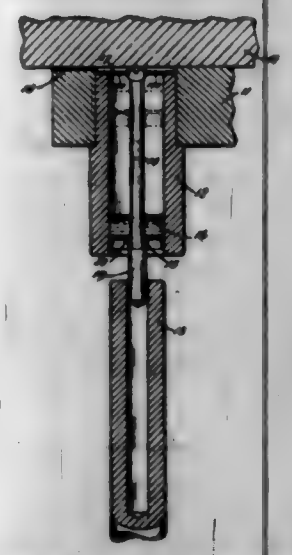
1. In a tool comprising a metal member having an aperture opening therethrough, a non-metallic handle having one end of split section disposed in said aperture and frictionally engaged with said member in pressure tight contact by means of a wedge disposed centrally in said aperture in spreading relation within said split section of the handle, said split section, said member, and said wedge having communicating openings therethrough defining a through passage in said tool; the improvement wherein said passage has a firm locking element both impact-shock-resistant and impact cushioning to prevent loosening of said locking element in said tool and wherein said locking element comprises a plastic type bonding material completely filling said passage and setting in situ therein to bond all surrounding walls thereof to form an impact-resistant molded counterpart of said passage that rigidly fixes said member, said handle, and said wedge in solid predetermined fixed cooperating relation.

2,967,739
DAMAGE-PROOF JOURNALLING OF BEARINGS FOR RAPIDLY ROTATING SHAFTS
August Hoffmann, Sigismundkorso 75 (II), Berlin-Frohnau, Germany
Filed Jan. 2, 1959, Ser. No. 784,617
Claims priority, application Germany Jan. 23, 1958
12 Claims. (Cl. 308—1)



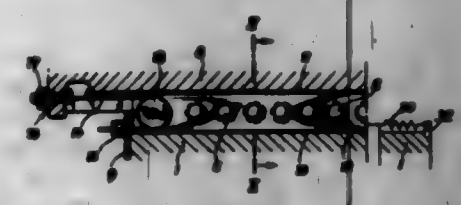
1. A damage-proof journal for rapidly rotating machine shafts, comprising bearing means for a shaft to be rotated, inner bearing cage means embracing said bearing means, outer bearing cage means radially spaced from said inner bearing cage means, spring means disposed between said inner and outer bearing cage means, means independent of said spring means for rigidly interconnecting said inner and outer bearing cage means, said interconnecting means being subject to rupture responsive to radial pressure resulting from corresponding radial displacement of said shaft, said rupture releasing said inner bearing cage means relative to said spring means for movement radially in any direction with respect to said outer bearing cage means against the pressure of said spring means, thereby allowing said shaft to move radially into a position according to the displacement thereof and be supported by said spring means.

2,967,740
LUBRICANT RETAINER FOR LEADER PIN BUSHINGS AND THE LIKE
Kazimir Janiszewski, 5426 Andover Road, Milwaukee, Wis.
Filed Mar. 9, 1959, Ser. No. 798,870
4 Claims. (Cl. 308—5)



1. In a device of the character described, the combination with a bushing and leader pin and a floating piston disposed within the bushing and upon which a body of oil may be supported for the lubrication of the bushing, of a guide rod extending centrally through the bushing and upon which said piston is slidably mounted, means on the guide rod for limiting the movement of the piston in one direction, and means for venting the bushing above the piston, said leader pin having a central socket in which the guide rod and said piston limiting means are freely received and from which they are freely withdrawn.

2,967,741
MACHINE TOOLS, PARTICULARLY GRINDING MACHINES
Richard Bostelmann, Hamburg-Bergedorf, Germany, assignor to Robert Blohm, Hamburg-Bergedorf, Germany
Filed Jan. 29, 1958, Ser. No. 711,888
Claims priority, application Germany Sept. 14, 1957
3 Claims. (Cl. 308—6)



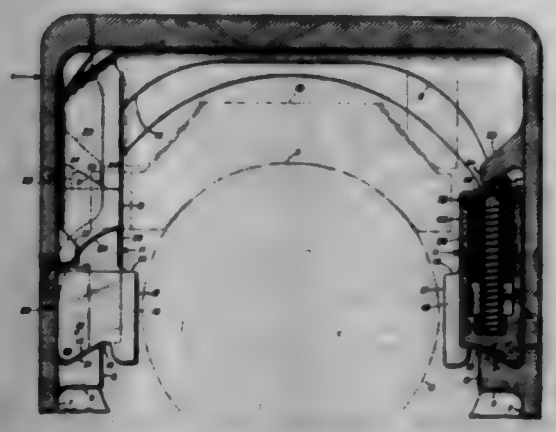
1. In a machine tool having a movable member movably supported on a relatively fixed member parallel guide

surfaces formed on said members and roller bearing bodies engaging said guide surfaces interposed between said members, a cage housing said roller bearing bodies, pulley means mounted on said cage and a flexible cable means affixed at one point to said movable member and said fixed member at another point, both of said points being on a common side of said pulley means said cable means passing over said pulley means intermediate said points whereby movement of said movable member a given distance in a given direction translates said cage one half of said given distance in a like direction.

2,967,742
JOURNAL BOX

Emil H. Blattner, deceased, late of Williamsville, N.Y., by Elizabeth Blattner, executrix, Rochester, N.Y., and Donald G. Symer, Lancaster, N.Y., assignors to Symington Wayne Corporation, Salisbury, Md., a corporation of Maryland

Filed May 13, 1958, Ser. No. 734,929
9 Claims. (Cl. 308—38)



1. In a solid bearing journal box, the combination of a pair of waste retainer ribs instanding from opposite side walls of said journal box, a pair of journal stops each supportable by and seatable in a seat along one of said ribs, and yieldable latch means acting between said box and each of said stops for releasably locking said stops in position.

2,967,743
ANTI-WRAP BEARING SEAL

Ralph S. Howe, Jr., New Britain, Conn., assignor to The Fafnir Bearing Company, New Britain, Conn., a corporation of Connecticut

Filed Jan. 3, 1957, Ser. No. 632,292
1 Claim. (Cl. 308—187.1)

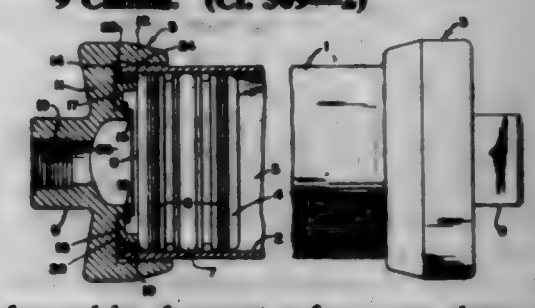


A seal for an antifriction bearing comprising an outer bearing ring of predetermined width, an inner bearing ring of a width substantially wider than said outer bearing ring and adapted to fit over a shaft, antifriction bearing elements interposed between said outer and said inner bearing rings, a substantially cylindrical surface member adapted to fit closely about said wider inner bearing ring, an outwardly flared portion formed integrally at one end of said cylindrical surface, a first rigid seal ring portion formed integrally around its inner edge with said outwardly flared portion and extending generally across the radial space between said bearing rings, said first seal ring portion being secured around its outer edge to said outer bearing ring, an annular ring of yieldable rubberlike material positioned against said first seal ring portion on the side thereof adjacent said antifriction bearing elements, the innermost edge of said annular ring of yieldable rubberlike material being bent out to be against the innermost surface of said outwardly flared portion and to terminate in contact with said inner bearing ring, a second rigid seal ring positioned against the opposite side of said annular ring of yieldable rubberlike material from said first seal ring portion, the innermost edge of said second seal ring terminating approximately in axial alignment with the junction between said first seal ring portion and said outwardly flared portion, and the outermost edge of said second seal ring being curved outwardly and downwardly to grip the outermost edges of both said first seal ring portion and said annular ring of yieldable rubber-like material.

2,967,744
ACCUMULATOR

Robert H. Davies, Aurora, Ohio, assignor to Parker-Hannifin Corporation, Cleveland, Ohio, a corporation of Ohio

Filed May 6, 1959, Ser. No. 811,341
9 Claims. (Cl. 309—2)

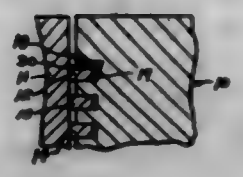


1. A cylinder and head structure for accumulators and the like comprising a thin-wall cylinder formed with an externally threaded end portion and with a cylindrical bore therethrough in which a piston is adapted to reciprocate; an internally threaded head screwed onto said cylinder and having a transverse end wall which abuts the end of said cylinder and which extends radially inward of such bore; a packing retainer ring carried by said head including a cylindrical wall which extends axially from such end wall in radially spaced relation to such bore, and a transverse wall which extends radially from such cylindrical wall toward such bore in axially spaced relation to such end wall whereby said head, cylinder, and retainer ring define an annular packing chamber; and an elastic packing ring in such packing chamber effective to make fluid-tight contact with such end wall and bore.

2,967,745
PISTON RING GROOVE SPACER

Guy L. Stevens, 40300 Grand River Ave., Novi, Mich.

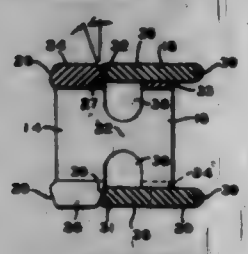
Filed Mar. 17, 1960, Ser. No. 15,619
3 Claims. (Cl. 309—44)



3. A piston having a ring groove; said groove having an inwardly and upwardly tapered bottom face; a spacer

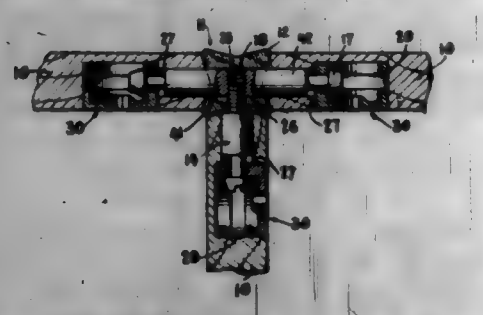
ring of a material harder than the material of the piston; said spacer ring having a plurality of lateral projections on the inner side thereof when the spacer ring is in the free state; and, said spacer ring being mounted in the groove and against the upper end surface and bottom tapered surface of the groove with said projections engaging said tapered bottom surface to secure the spacer ring in place, whereby the spacer becomes a fixed part of the piston.

2,967,746
PISTON RING
Helmuth G. Braendel, Malvern, Pa., assignor to Wilkening Mfg. Co., Philadelphia, Pa., a corporation of Delaware
Filed July 27, 1960, Ser. No. 45,730
3 Claims. (Cl. 309—44)



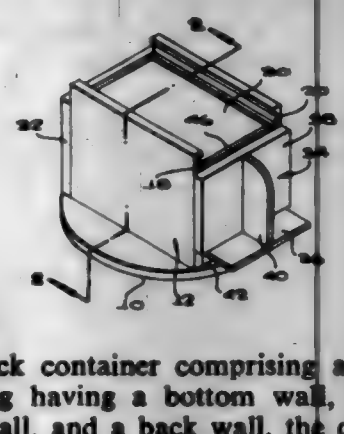
1. A piston ring comprising an expander and a spacer sinuously corrugated in phase, said spacer having a height less than said expander and having its inner peripheral surface coextensive with the inner peripheral surface of said expander, a top rail on the top peaks of said spacer, the uppermost surface of said top rail being flush with the uppermost surface of the top peaks of said expander, a bottom rail juxtaposed to the lowermost surface of the bottom peaks of said spacer, the bottommost surface of said bottom rail being flush with the bottommost surface of the bottom peaks of said expander, the top and bottom peaks of said expander matingly engaging said top and bottom rails so that said expander imparts a radial force to said rails as said expander expands, and a web integral with said spacer and said expander securedly joining said spacer and said expander and defining a space for circumferential flow of oil.

2,967,747
KNOCKDOWN FURNITURE CONNECTOR
Johannes Antonius Bus, Amsterdam, Netherlands, assignor to N.V. Utrechtsche Machinale Stoel- en Meubelfabriek "U.M.S.," Utrecht, Netherlands, a limited-liability company of the Netherlands
Filed Sept. 6, 1956, Ser. No. 608,237
Claims priority, application Great Britain Feb. 1, 1956
3 Claims. (Cl. 312—257)



1. In an article of furniture, a connecting means between a bar and at least two panels, said means comprising at least two draw members secured together within the body of said bar, said draw members having an end section extending outwardly from said bar at right angles thereto and having a rearwardly facing shoulder facing said bar and positioned in a hole in said panel surrounded by the walls of said panel and extending into a recess in the side wall of said panel in communication with said hole the axis of said hole and said recess being at right angles to each other and a hollow cylindrical locking member positioned in said recess, said locking member having a cut-away portion in the cylindrical surface thereof in communication with the hollow interior thereof, said cut-away portion being of a size to receive the end of the draw member and said locking member further having a slot in the cylindrical surface and an internal arcuate wedge surface adapted to cooperate with the shoulder on said draw member whereby said bar and the edge faces of said panels are detachably and firmly locked.

2,967,748
BUTTER CONTAINER
Edward R. Dreiling, Compton, Calif.
(68 S. Maddux Drive, Reno, Nev.)
Filed Jan. 17, 1958, Ser. No. 709,488
1 Claim. (Cl. 312—318)

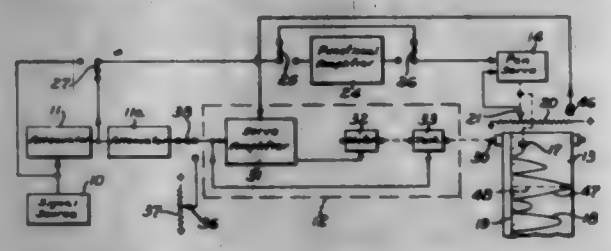


A food block container comprising a horizontal rectangular casing having a bottom wall, upstanding side walls, a top wall, and a back wall, the casing having an open front, a food block supporting tray removably inserted in the open front of the casing, said tray having a bottom wall having side edges, said casing side walls having inner surfaces formed with grooves extending from front to rear thereof in which said side edges are engaged, said grooves being wider than the thickness of the side edges, said grooves having lower sides adjacent to the casing bottom wall upon which the side edges of the tray bottom wall slidably rest, an upstanding rib on and extending across the casing bottom wall at the front end of the casing, and a depending rib on and extending across the tray bottom wall to engage behind the upstanding rib in the fully inserted position of the tray, an upstanding front wall on said tray bottom wall, to abut the front end of the casing and close said open front in the fully inserted position of the tray, and handle means on the front end of the tray, said tray bottom wall having upstanding rails extending along its side edges and bearing against the inner surfaces of the casing side walls, said tray bottom wall being otherwise unencumbered, the side walls of the casing having upper portions extending above the casing top wall and having inward sides formed with second grooves extending from front to rear therealong, said second grooves being of the same width and depth as the first mentioned grooves, a stop rib upstanding on and extending across the casing top wall at the front end thereof, the tray when withdrawn from the casing being adapted to be positioned over the casing with the side edges of its bottom wall engaged in the second grooves and with its depending rib engaged behind the stop rib.

2,967,749
INTEGRATING METHOD AND APPARATUS
Allen Strickler, Fullerton, Calif., assignor to Beckman Instruments, Inc., a corporation of California
Filed Feb. 24, 1958, Ser. No. 717,236
13 Claims. (Cl. 346—33)

1. In an apparatus for recording as a lineal quantity the integral with respect to an independent variable of an input signal which has peak values alternating with the occurrence of minimum values, the combination of:

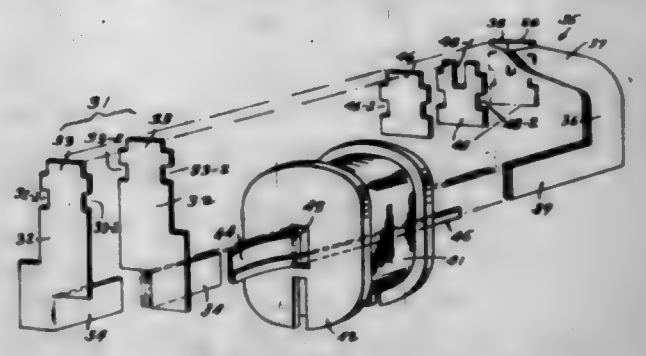
a chart having a linear axis; a marking element for marking on said chart; means for continuously deriving the integral of said input signal with respect to said independent variable; means for relatively displacing said chart and said marking element in the direction of said axis as a function of said integral; and means for actu-



ating said marking element in response to the magnitude of said input signal for marking said chart and indicating thereon the positions of occurrence of said minimum values, with the lineal distance on said axis between minimum markings being a measure of the integral of the signal for the period between the minimum values thereof.

2,967,750
MAGNETIC RECORD TRANSDUCING HEADS
Herman W. Koren, Bronxville, and Ignatius Michalko, Ossining, N.Y., assignors to Sonotone Corporation, Elmsford, N.Y., a corporation of New York
Filed Apr. 4, 1956, Ser. No. 575,990
5 Claims. (Cl. 346—74)

1. In a magnetic transducing head for transducing magnetic record signals with a relatively flat magnetic record track by relative motion between the head and the flat record track in a predetermined track direction; said head having only a single magnetic core loop with only two core pole ends forming only a single transducing gap through which the field of said core loop is interlinked with successive portions of said track moving past said gap; transducer windings surrounding a portion of said core loop; said core loop being formed of two complementary opposite core bodies which are formed only of



magnetic sheet members; two sheet members of said two core bodies, respectively, having each a relatively flat mutually overlapping pole sheet end bordering said transducing gap and extending in a direction transverse to said track direction, at least one of said sheet members having a sheet section extending in a direction generally parallel to the direction of said track direction, all of said transducing windings surrounding only sheet portions of said core loop extending generally parallel to said track direction.

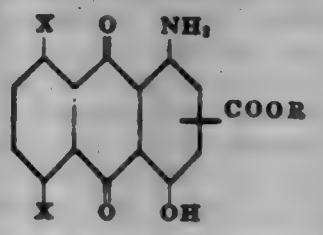
CHEMICAL

2,967,751
DYEING OF LEATHER
Clemens Streck, Loudonville, N.Y., assignor to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed May 31, 1957, Ser. No. 662,587
10 Claims. (Cl. 8—13)

1. A process for dyeing leather on one side comprising spraying such leather with an aqueous alkaline bath consisting essentially of an aqueous alkaline solution of in about equivalent amounts, an ice color coupling component devoid of solubilizing groups and an ice color diazoamino component which is an ice color diazo compound devoid of solubilizing groups, which compound has been solubilized and stabilized against azoic coupling on the alkaline side by reaction with an organic amine containing at least one solubilizing group and at least one replaceable hydrogen atom attached to an amino nitrogen atom, and then developing the ice color on the leather by treatment with an acidic material.

2,967,752
BLUE DISPERSE DYESTUFFS OF THE ANTHRAQUINONE SERIES
Paul Bächeler, Reinach, Switzerland, assignor to Sandoz Ltd., Basel, Switzerland
No Drawing. Filed May 18, 1959, Ser. No. 813,616
Claims priority, application Switzerland May 30, 1958
7 Claims. (Cl. 8—25)

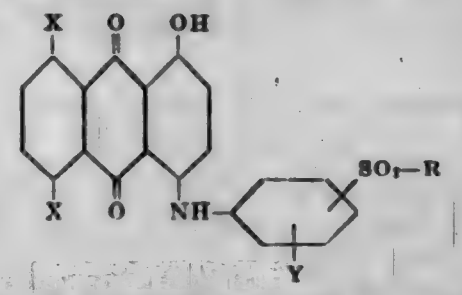
1. A disperse dyestuff of the anthraquinone series of the formula:



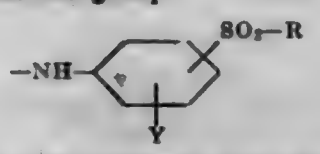
wherein one X stands for the hydroxy group, the other X stands for the amino group and R stands for a member selected from the group consisting of lower alkyl, lower hydroxyalkyl, lower alkoxyalkyl, lower alkoxyalkoxyalkyl and lower chloroalkyl.

2,967,753
BLUE DISPERSE-DYESTUFFS OF THE ANTHRAQUINONE SERIES
Peter Bitterli and Jacques Guenthard, Basel, Switzerland, assignors to Sandoz Ltd., Basel, Switzerland
No Drawing. Filed June 12, 1959, Ser. No. 819,804
Claims priority, application Switzerland June 16, 1958
6 Claims. (Cl. 8—25)

1. Blue disperse dyestuffs of the anthraquinone series which have the formula



wherein one X represents the hydroxy group and the other X represents the group



R represents a member selected from the group consisting of lower alkyl, lower alkoxyalkyl, lower alkoxyalkoxyalkyl, lower hydroxyalkyl and lower chlorohydroxyalkyl, Y represents a member selected from the group consisting of hydrogen and methyl, and the group —SO_2—R stands in one of the meta- and para-positions to the —NH— group.

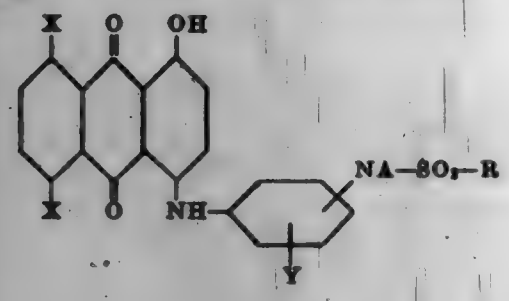
2,967,754

DISPERSE DYESTUFFS OF THE ANTHRAQUINONE SERIES

Peter Bitterli and Jacques Günthard, Basel, Switzerland, assignors to Sandoz A.G., Basel, Switzerland

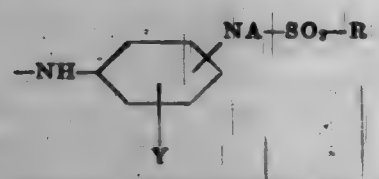
No Drawing. Filed May 15, 1959, Ser. No. 813,366
Claims priority, application Switzerland May 28, 1958
7 Claims. (Cl. 8—26)

1. A disperse dyestuff of the anthraquinone series of the formula



wherein:

one X stands for the hydroxy group and the other X for the radical



R stands for a member selected from the group consisting of low molecular alkyl, low molecular hydroxyalkyl, low molecular alkoxyalkyl and low molecular acyloxyalkyl,

A stands for a member selected from the group consisting of hydrogen and cyanoethyl, and

Y stands for a member selected from the group consisting of hydrogen and methyl, and in which the radical —NA—SO_2—R stands in one of the meta- and the para-positions to —NH—.

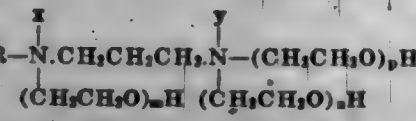
2,967,755

LEVELING AND STRIPPING AGENTS

Robert Christian Keller, Basel, Switzerland, assignor to Sandoz Ltd., Basel, Switzerland

No Drawing. Filed Jan. 30, 1958, Ser. No. 712,066
Claims priority, application Switzerland Feb. 5, 1957
17 Claims. (Cl. 8—84)

8. A method of carrying out a textile material-dyeing operation in an aqueous bath containing a dyestuff which is applicable to the textile material, which comprises immersing the textile material in the said bath in the presence in the bath of a water-soluble compound, the cation of which corresponds, upon complete dissociation of the compound in aqueous solution to the formula



wherein R is an aliphatic hydrocarbon radical containing 8 to 22 carbon atoms, each of m, n and p represents a whole number from 0 to 200, the sum of $m+n+p$ amounting to 10 to 200 and each of x and y being selected from the group consisting of H, lower alkyl and phenyl(lower)alkyl.

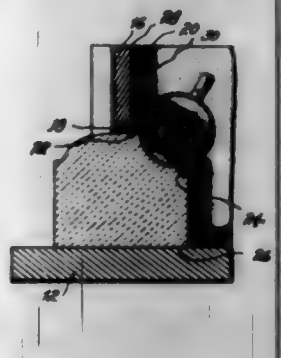
2,967,756

COMPOSITE PLASTIC-FIBROUS METAL MAT TOOL

Arthur P. Mazzacchelli, Scotch Plains, and Thomas E. Bugel, Montclair, N.J., assignors to Union Carbide Corporation, a corporation of New York

Filed Sept. 26, 1957, Ser. No. 686,404
9 Claims. (Cl. 18—47)

1. A dimensionally rigid plastic tool comprising a thermoset consolidated mass of a mat of metallurgically-bonded metallic filaments in a matrix derived from a thermosetting resin selected from the group consisting of epoxy resin and polyester resin, said consolidated mass of metallic filaments and matrix including the tool working surface, said mat of metallurgically-bonded metallic filaments conforming to the tool working surface, said matrix containing a sufficient quantity of said filaments to improve the thermal conductivity of said article materially.

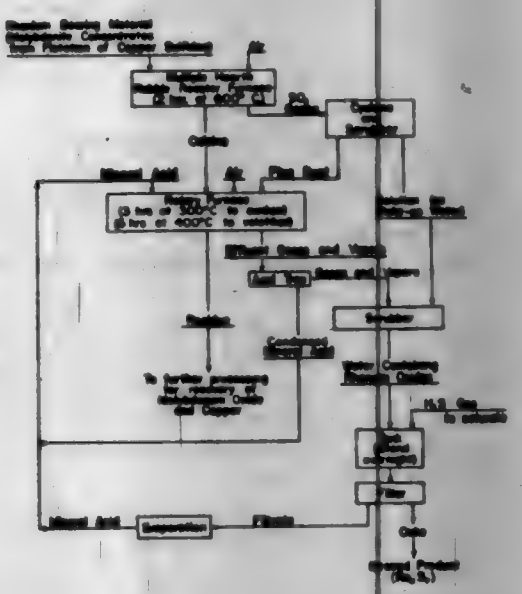


2,967,757

ACID PROCESS FOR THE RECOVERY OF RHENIUM VALUES FROM MINERALS CONTAINING SAME

Stuart R. Zimmerley and Emil E. Malouf, Salt Lake City, Utah, assignors to Kennecott Copper Corporation, New York, N.Y., a corporation of New York

Filed Oct. 31, 1958, Ser. No. 771,161
5 Claims. (Cl. 23—19)



1. An acid process for the recovery of about 90 to 95% of the rhenium contained by a molybdenum sulfide metallurgical concentrate comprising thoroughly wetting such a concentrate with about twice its weight of sulfuric acid to make a slurry; as a first stage, heating said slurry to approximately 300° C. for approximately three hours to oxidize the rhenium content thereof; thereafter, and as a second stage, increasing the heat to approximately 400° C. and maintaining it at about that temperature for a period of approximately five hours, while vigorously agitating the slurry, to volatilize any unreacted acid and the rhenium oxide which formed; and treating the resulting vapors for the recovery of rhenium oxide.

2. The process of claim 1, wherein the mineral material contains sulfur in excess of what may be combined with the rhenium and is first subjected to a roasting operation at approximately 600° C. for approximately two hours for oxidizing a considerable quantity of sulfur therefrom without volatilizing any significant quantity of rhenium.

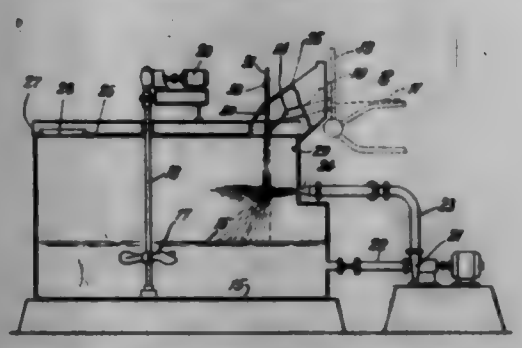
2,967,758

METHOD OF AND APPARATUS FOR DISINTEGRATING AND DISPERSING A MOLTEN SMELT STREAM

Benjamin N. Thorson, Seattle, Wash., assignor to The Babcock & Wilcox Company, New York, N.Y., a corporation of New Jersey

Continuation of application Ser. No. 265,433, Jan. 8, 1952. This application June 21, 1956, Ser. No. 592,987

8 Claims. (Cl. 23—48)



1. A process for the recovery of chemicals from pulp residual liquor comprising the steps of incinerating a sodium base pulp residual liquor containing combustible organic and non-combustible inorganic chemicals in an incinerating zone and reducing the inorganic chemicals to a molten metal smelt containing one or both compounds from the group of sodium carbonate and sodium sulphide, gravitationally discharging the molten smelt as a substantially continuous stream from said incinerating zone in a downward trajectory towards a pool of aqueous dissolving liquor chemically reactive to said smelt, and disintegrating and dispersing said stream of smelt while above the level of said pool of dissolving liquor by discharging a downwardly directed jet of gaseous fluid intersecting said smelt stream at a position of substantial vertical tangency while at a high jet velocity and driving said disintegrated and dispersed smelt into said pool of dissolving liquor.

2,967,759

MANUFACTURE OF HF

Eugene Wainer, Cleveland Heights, Ohio, assignor to Horizons Incorporated, Cleveland, Ohio, a corporation of New Jersey

No Drawing. Filed Feb. 2, 1959, Ser. No. 790,349

4 Claims. (Cl. 23—153)

1. A process for producing hydrogen fluoride which comprises bringing a gas selected from the group consisting of hydrogen and hydrocarbon gases into contact with a salt melt containing a molten fluoride from the group consisting of alkali metal fluorides, alkaline earth metal fluorides and magnesium fluoride, while maintaining the temperature between 1650° C. and 2750° C. and recovering the HF produced by separating the HF from the off-gases.

2,967,760

PROCESS OF PREPARING DIBORANE

Stanley J. Chiras, Niagara Falls, N.Y., assignor, by mesne assignments, to Olin Mathieson Chemical Corporation, a corporation of Virginia

No Drawing. Filed Apr. 6, 1955, Ser. No. 499,756

5 Claims. (Cl. 23—204)

1. A method for the preparation of diborane which comprises reacting at least one halide selected from the group consisting of bismuth trichloride and bismuth trifluoride and an alkali metal borohydride while the borohydride is in admixture with at least one solvent of the class $R—(OC_nH_{2n})_x—OR'$ wherein R and R′ are alkyl radicals having from 1 to 2 carbon atoms, wherein n is an integer from 2 to 3 and wherein x is an integer from 2 to 4 and recovering diborane from the reaction mixture.

2,967,761

PROCESS OF PREPARING DIBORANE

Hugh J. Bronaugh, Dover, N.J., assignor, by mesne assignments, to Thiokol Chemical Corporation, a corporation of Delaware

No Drawing. Filed Dec. 23, 1955, Ser. No. 554,932

7 Claims. (Cl. 23—204)

1. In the preparation of diborane by reacting a lower dialkyl sulfate and an alkali metal borohydride the steps of reacting from 0.25 to 0.5 mole of the lower dialkyl sulfate per one mole of alkali metal borohydride while in admixture with an organic liquid of the class

$$RO—(CH_2—CH_2O)_n—R$$

wherein n is an integer from 2 to 4 and R is selected from the group consisting of methyl and ethyl radicals, at a temperature from −30° C. to +40° C. whereby a gas essentially comprising a lower alkane substantially free from diborane is evolved, removing such gas from the zone of reaction and heating the reaction mixture to a temperature of 100° C. to 150° C. whereby diborane substantially free from alkane is separately evolved and recovered.

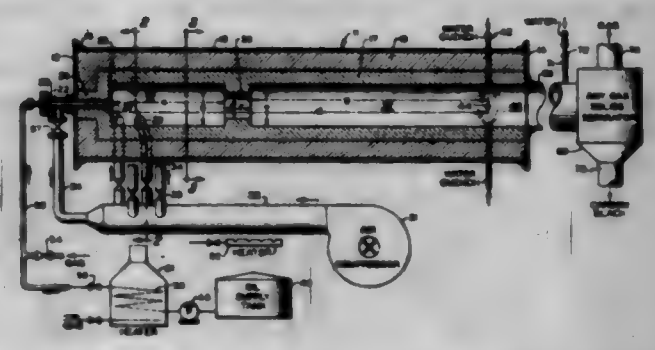
2,967,762

FURNACE CARBON BLACK PROCESS AND APPARATUS

Joseph C. Krejci, Phillips, Tex., assignor to Phillips Petroleum Company, a corporation of Delaware

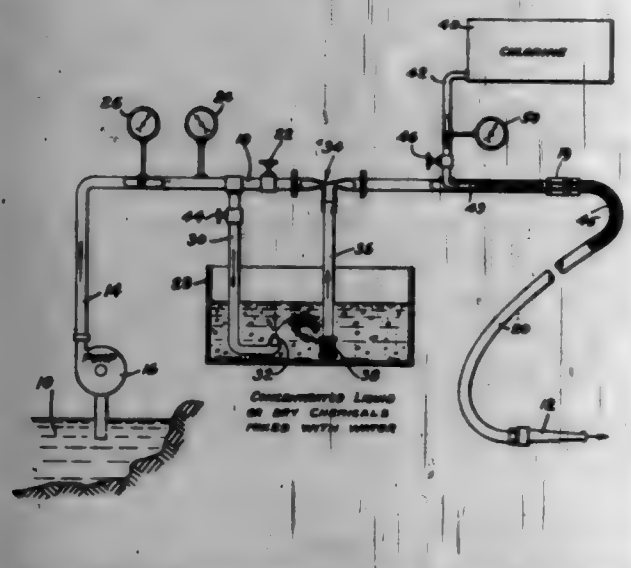
Filed Apr. 6, 1956, Ser. No. 576,630

4 Claims. (Cl. 23—209.6)



1. A process for producing carbon black comprising introducing a vaporous hydrocarbon into an inlet end of a first generally cylindrical zone along the axis thereof, establishing a mass of hot combustion gases surrounding said vaporous hydrocarbon in said first zone by continuously injecting tangentially thereinto a free oxygen containing gas, continuously passing said vaporous hydrocarbon surrounded by said hot combustion gases from said first zone through a second choke zone axially into a third generally cylindrical zone of substantially the same diameter as said first zone, said choke zone being spaced from 2.5 to 3.5 times the diameter of said first zone from the inlet end of the furnace, but with the sum of the lengths of the first and second zones being less than half the sum of the lengths of all three zones, the interior of said coke zone being from ½ to ¾ the diameter of said first zone, and the length of said choke zone being from ½ its diameter to twice its diameter, said first and third zones being in communication through said choke zone and in substantial axial alignment therewith, forming carbon black from said vaporous hydrocarbon by pyro-chemical action due to the heat of the surrounding hot combustion gases without the further addition of any substantial amount of air, removing the resulting carbon black and gases from the end of said third zone, and separating the carbon black from the resulting gaseous products of said process.

2,967,763
APPARATUS FOR PRODUCING A DECONTAMINATING SOLUTION
John J. Doman, Camarillo, and Jay R. Dawes, Oxnard, Calif., assignors to the United States of America as represented by the Secretary of the Navy
Filed May 16, 1957, Ser. No. 659,737
4 Claims. (Cl. 23—252)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A portable decontaminating apparatus for producing a continuous pressurized stream of an aqueous solution of calcium hypochlorite comprising in combination:

a main conduit having an inlet section and an outlet section;

a natural water source;

pumping means for delivering water from said natural source to said inlet section of said main conduit;

an open top mixing tank for holding a supply of comminuted lime; said tank having a bottom and an upwardly extending wall structure;

a branch conduit leading from said inlet section to the interior of said tank, said branch conduit terminating near said tank bottom in an upwardly extending simple nozzle, and said branch conduit delivering water to the lime in said tank whereby a lime slurry is formed;

a venturi-aspirator connecting said inlet section and said outlet section;

an inlet tube leading from said tank to the throat of said venturi aspirator whereby a portion of the said lime slurry is drawn into the stream of water passing through said venturi-aspirator;

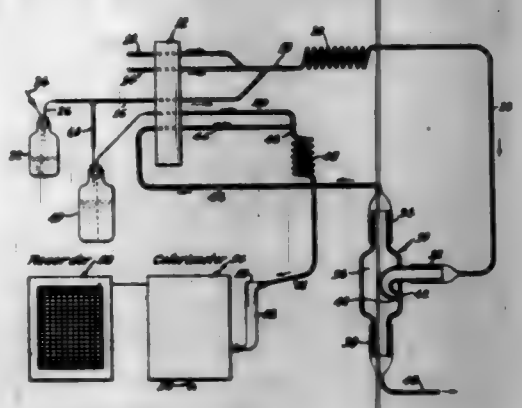
a flexible hose coupled to the outboard delivery end of said outlet section, said flexible hose terminating in a simple delivery nozzle for spraying said solution over the area or object to be decontaminated;

a source of chlorine under pressure; and

means for introducing said chlorine under pressure into the outboard end of said outlet section and said hose in the direction of flow centrally of said stream whereby the pressure of said water and lime slurry solution is augmented by the pressure of said chlorine and whereby said chlorine is intimately mixed with said lime slurry to produce said pressurized stream of calcium hypochlorite solution.

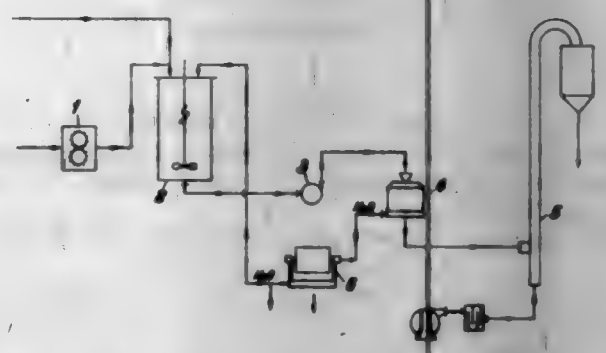
2,967,764
APPARATUS FOR ANALYSIS AND OTHER PROCESSING OF FLUIDS
Leonard T. Skeggs, Cleveland, Ohio, assignor to Technicon Instruments Corporation, Chauncey, N.Y., a corporation of New York
Filed Apr. 24, 1958, Ser. No. 730,613
7 Claims. (Cl. 23—253)

1. Apparatus for treating a liquid for analysis or other processing in respect to a substance from which a gas can be liberated, comprising conduit means, means for pumping said liquid and a reagent in predetermined relative proportions through said conduit whereby said gas is generated in said conduit during the flow of said fluids therethrough, gas and liquid separator means in fluid-flow communication with said conduit means to receive



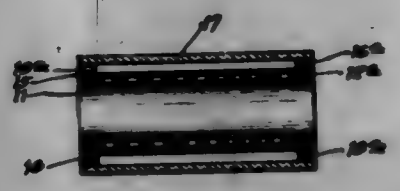
the gaseous and liquid constituents of the fluid stream flowing through said conduit means, second conduit means, and means for transmitting at least part of said gas separated from the liquid, at a predetermined rate of flow to said second conduit means, for further processing during the flow of the gas through said second conduit means.

2,967,765
TREATMENT OF CELLULOSIC MATERIALS
Lothar Reinhardt, Aschau, Kreis Muhldorf, Upper Bavaria, and Friedrich Stecher, Aschau, Kreis Juhldorf, Upper Bavaria, Germany, assignors to Wasag-Chemie A.G., Essen, Germany
Filed Nov. 6, 1956, Ser. No. 620,662
Claims priority, application Germany Nov. 7, 1955
1 Claim. (Cl. 23—285)



In an apparatus for forming nitric acid esters of cellulose from nitrating acid and a cellulosic material containing cellulose fibers and cellulose fiber agglomerations, in combination, mixing means for mixing nitrating acid and cellulosic material; pressure fluctuations creating means operatively connected to said mixing means for subjecting the mixture of nitrating acid and cellulosic material to hydrodynamic pressure waves of sufficient intensity to cause substantially complete disintegration of the fiber agglomerations of said raw material into individual fibers and for simultaneously partially esterifying the same, said pressure fluctuations creating means comprising at least one throttling passage means for passing said mixture therethrough and for mechanically producing in said mixture hydrodynamic pressure waves whereby the frequency of the thus produced pressure waves may be controlled by the speed of circulation of said mixture and the number of throttling passages in said passage means; and means for completing esterification of the thus partially esterified fibers operatively connected to said pressure fluctuations creating means.

2,967,766
METHOD AND APPARATUS FOR MAKING CYLINDRICAL PRINTED CIRCUITS
Melvin A. Wetmore, Norwalk, and William H. Howell, Fairfield, Conn., assignors to Aladdin Industries, Incorporated, Nashville, Tenn., a corporation of Illinois
Filed Oct. 22, 1957, Ser. No. 691,721
3 Claims. (Cl. 41—43)



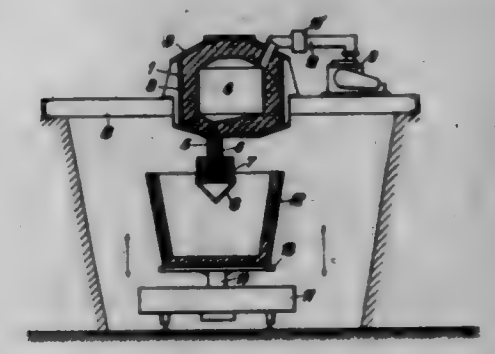
3. The method of making a transparent photographic image carrier for use in fashioning cylindrical printed-circuit elements such as inductance coils, comprising the steps of depositing a thin coating of transparent plastic on a cylindrical mandrel, metalizing the surface of said plastic coating, depositing a layer of photo-resist compound over said metalized surface, exposing said layer to light through an image-carrying film to produce therein a latent image representing said printed-circuit element, developing the latent image in said photo-resist layer, etching said metalized surface to remove the same in all areas thereof not covered by said developed image, coating said etched metalized surface with a thin layer of transparent plastic, thus sandwiching said etched surface between said first and second layers of plastic, mounting said coated mandrel within a rigid transparent protective cover wholly enclosing said etched metalized surface and circumferentially abutting said second plastic layer in two spaced zones, sealing said cover circumferentially to said second plastic layer in both of said zones, and dissolving away said mandrel.

2,967,767
IRON POWDER COMPOSITION FOR GAS-CUTTING, GAS-WASHING, AND GAS-SCARFING
Seiji Nishikiori, 40 Jiodani, Hinaga, Chita-cho, Chita-gun, Aichi-ken, Japan, and Yasuharu Okuda, 18, 1 Yomei-cho, Mizuho-ku, Nagoya-shi, Japan
No Drawing. Filed Nov. 28, 1958, Ser. No. 776,707
Claims priority, application Japan Dec. 7, 1957
1 Claim. (Cl. 75—.5)

An iron powder composition used for gas-cutting, gas-washing or gas scarfing purposes comprising a mixture of 10–90% by weight of commercial iron powder and 10–90% by weight of a powdered alloy comprising a copper base metal and at least one alloying element taken from a group consisting of aluminum, magnesium, silicon, calcium, titanium, and zirconium within the limit ranging from 10% to 60% by weight of said base metal.

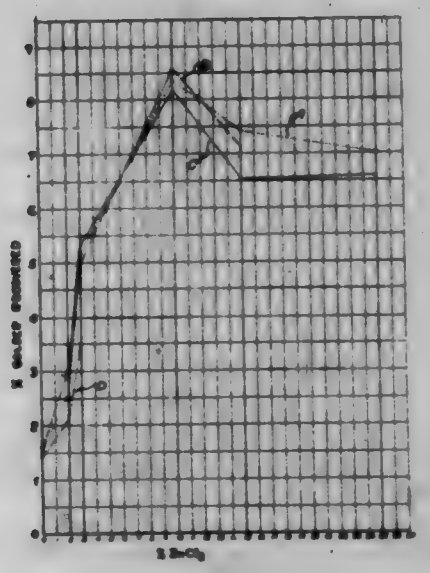
2,967,768
PROCESS FOR DESULPHURISING PIG- AND CAST-IRON MELTS
Fritz Harders, Post Ergste, über Schwerte (Ruhr), Germany, assignor to Dortmund-Hörder Hüttenunion Aktiengesellschaft, Dortmund, Germany
Filed May 6, 1959, Ser. No. 811,325
Claims priority, application Germany July 29, 1958
1 Claim. (Cl. 75—49)

A process for desulphurizing pig- and cast-iron melts, which comprises, in combination, the steps of introducing an iron melt rich in carbon into a heated vacuum vessel from a container disposed below said vacuum vessel and communicating with it through a pipe opening into the bottom of said vacuum vessel, applying a layer of carbon onto the surface of said melt in said vessel, the carbon being in the form of small pieces up to the size of walnuts and substantially free from sulfur, heating the surface of said charge to a temperature above its average temperature, subjecting said charge to the influence of a reduced pressure below 10 mm. Hg, periodically varying the distance between said vacuum vessel and said container,



freezing out the sulfur compounds liberated during said vacuum treatment, finishing said vacuum treatment and emptying the contents of said vacuum vessel into said container by increasing the distance of said vacuum vessel and said container when the sulfur-content of said melt has reached its predetermined value.

2,967,769
METAL SWEATING PROCESS
Samuel A. Glaeck, Chicago, Ill., assignor to American Smelting and Refining Company, New York, N.Y., a corporation of New Jersey
Filed Apr. 29, 1958, Ser. No. 731,756
1 Claim. (Cl. 75—78)



A process of treating metal scrap comprising a leady metal physically associated with less fusible metal having a melting point above 1000° F. to remove the leady metal therefrom by sweating without melting the less fusible metal which comprises immersing and agitating said scrap for a period of time of about five to ten minutes in a molten salt bath containing 38 to 63% magnesium chloride, 30 to 53% sodium chloride and 3 to 15% zinc chloride while maintaining the temperature of the bath below about 1000° F. thereby melting the leady metal and shaking the same from the less fusible metal without melting the latter metal whereby the leady metal is separated from the less fusible metal and is physically incorporated into said salt bath, and separately recovering the thus separated leady metal and the less fusible metal from the salt bath.

2,967,770
TRANSFORMABLE STAINLESS STEEL
Albert M. Hall, David C. Ludwigson, and Donald B. Roach, Columbus, and Virgil W. Whitmer, Canton, Ohio, assignors, by mesne assignments, to Republic Steel Corporation, Cleveland, Ohio, a corporation of New Jersey
No Drawing. Filed May 29, 1959, Ser. No. 816,681
6 Claims. (Cl. 75—125)

1. A stainless steel alloy consisting essentially of about: 12% to 20% chromium, 1% to 7% nickel, 0.5% to 5% manganese, 0.06% to 0.2% carbon, not more than 1% silicon, the total of nickel and manganese being not more than 7.5%; not more than 4% molybdenum, not more than 4% tungsten, not more than 1% vanadium, not more than 0.4% phosphorus, 0.75% to 1.5% copper, 0.04% to 0.3% boron, and the balance iron.

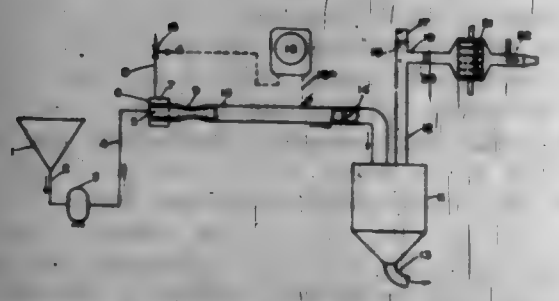
2,967,771
RAPID ACTING FLAME-RETARDANT FILM EMULSION DRYING SOLUTION
David Kaner, 2043 Coldwater Canyon Drive, Beverly Hills, Calif., and Patrick D. Dignan, Van Nuys, Calif. (5407 Satsuma Ave., North Hollywood, Calif.)
9 Claims. (Cl. 96—50)

1. A liquid for drying gelatin emulsions consisting of not more than 48 nor less than 8 parts of trichlorotrifluoroethane, not more than 2 nor less than 1 part triethanolamine, and not less than 50 nor more than 90 parts of alcohol, said alcohol being half ethyl and half isopropyl, all per 100 parts by volume.

2,967,772
PHOTOGRAPHIC TANNING DEVELOPER
Jozef Frans Willems, Wilrijk-Antwerp, and Albert Emiel Van Hoof, Berchem-Antwerp, Belgium, assignors to Gevaert Photo-Producten N.V., Mortsel, Belgium, a Belgian company
No Drawing. Filed Sept. 2, 1958, Ser. No. 758,576
Claims priority, application Netherlands Sept. 5, 1957
6 Claims. (Cl. 96—66)

1. A photographic tanning developer solution having reduced tendency to aerial oxidation and capable of forming relief images upon development of an exposed silver halide emulsion, comprising an alkaline solution of a polyhydroxybenzene selected from the group consisting of pyrogallol and pyrocatechol and a water-soluble salt of a boron ascorbic acid compound which is the reaction product of boric acid and ascorbic acid.

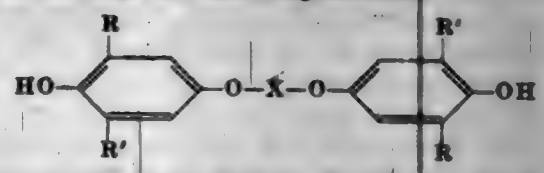
2,967,773
METHOD OF COOKING FOOD
James B. Anderson, Mount Lebanon Township, Allegheny County, Pa., assignor to H. J. Heinz Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed May 10, 1955, Ser. No. 507,262
2 Claims. (Cl. 99—107)



1. The method of steam cooking solid food substances which comprises comminuting the food substances into separated particles, conveying such particles as a flowable mass to a cooking environment at a controlled rate, injecting the particles in continuous progression with a high velocity flow of steam into said environment, the particles being dispersed by the steam and being then conveyed by the steam through said environment in a dispersed and suspended condition with the steam as a continuous phase suspending medium, controlling the pressure in said environment to regulate the temperature and retention time and continuously discharging the steam with the entrained particles from said cooking environment into an expansion environment where the suspended particles are dropped out of the steam and the steam substantially expanded to reduce its temperature and preclude further cooking of the particles.

2,967,774
STABILIZATION OF OXIDIZABLE MATERIALS WITH 4,4'-ALKYLENEDIOXYBIS(ALKYLATED PHENOLS)
Alan Bell, M B Knowles, and Clarence E. Tholstrup, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Filed Dec. 16, 1957, Ser. No. 702,814
13 Claims. (Cl. 99—163)

1. A composition of matter comprising a normally oxidizable organic material stabilized with a phenolic compound having the following formula:

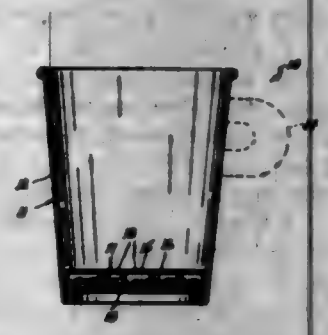


wherein each R represents an alkyl organic radical containing from 1 to 10 carbon atoms and each R' represents a member selected from the group consisting of a hydrogen atom and an alkyl-organic radical containing from 1 to 12 carbon atoms, said alkyl-organic radicals being selected from the group consisting of alkyl, cycloalkyl, alkenyl, and aralkyl radicals and X represents an alkylene radical containing from 1 to 10 carbon atoms.

2,967,775
UTILIZATION OF N-HYDROXYPHENYL UREAS AS ANTIOXIDANTS FOR EDIBLE FATS AND OILS
Mitchell F. Zienty, Elkhart, Ind., assignor to Miles Laboratories, Inc., Elkhart, Ind., a corporation of Indiana
No Drawing. Filed Dec. 11, 1958, Ser. No. 779,573
11 Claims. (Cl. 99—163)

1. A substance selected from the group consisting of edible fats and oils subject to oxidative deterioration containing as an inhibitor from about 0.025 to about 0.1% by weight of a urea selected from the group consisting of N-p-hydroxyphenyl urea and N-o-hydroxyphenyl urea to retard said deterioration.

2,967,776
BEVERAGE CONTAINERS
Marion T. Utley, Box 2, Steele, Mo.
Filed Dec. 18, 1957, Ser. No. 703,595
1 Claim. (Cl. 99—171)



A vessel for preparing and drinking instantly prepared beverages, comprising a disposable paper cup having a side wall, an imperforate bottom, and a foraminous par-

tition spaced above said bottom and defining a chamber in the bottom portion of said cup, and a soluble beverage ingredient in dry form provided in said chamber, said soluble ingredient being adapted to infuse through said foraminous partition into a liquid beverage ingredient when the latter is poured into the cup, said partition being formed from liquid permeable material treated to be relatively rigid when dry but relatively soft when wet, whereby the partition will sag to the bottom of the cup upon infusion of the soluble ingredient into the liquid ingredient to assure homogenous consistency of the prepared beverage by preventing trapping of undissolved particles of the soluble ingredient in said chamber.

2,967,777

METHOD OF PACKAGING FOOD PRODUCTS TO INHIBIT GROWTH OF MOLDS AND BACTERIA

Paul E. Grindrod, Portage, Wis.
(1008 Gleaview Drive, Madison, Wis.)

Filed Oct. 31, 1957, Ser. No. 693,614
4 Claims. (Cl. 99—178)



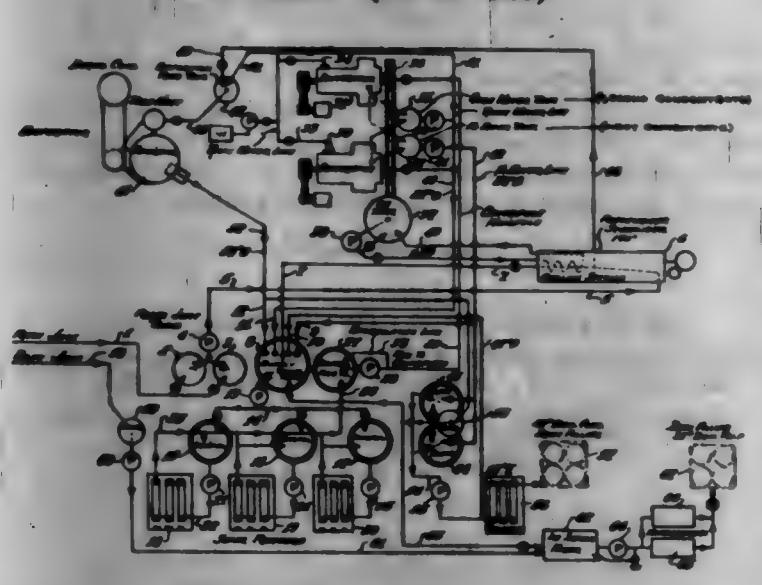
1. A method of packaging cheese in an atmosphere of carbon dioxide in a pouch of material impervious to carbon dioxide and through which the cheese is visible, while preventing the pouch from adhering to the cheese to give it a shiny appearance, said method including subjecting the cheese to vacuum to withdraw its gas content, the cheese being left with a capability for carbon dioxide absorption, and the introduction into the pouch of the cheese to be packaged and a volume of carbon dioxide under superatmospheric pressure which is materially in excess of the volume of carbon dioxide which the packaged cheese is capable of absorbing, and thereafter sealing the pouch about the cheese and carbon dioxide.

2,967,778

METHOD FOR MAKING JUICE CONCENTRATES

Samuel P. Cole, Orange City, Charles S. Walker, Clearwater, and Herbert W. Reed, Eustis, Fla., assignors to Institutum Divi Thomae Foundation, Cincinnati, Ohio, a corporation of Ohio

Filed Aug. 20, 1957, Ser. No. 679,319
9 Claims. (Cl. 99—205)



1. A process of producing a concentrate from a beverage liquid containing flavoring esters, which process comprises introducing and recirculating the beverage liquid in a closed recirculatory system while subjecting the liquid to freezing temperatures, maintaining the recirculating liquid in a state of continuous agitation to convert it into a pumpable slurry having an ice crystal size of less than about 1/32 inch in the greatest dimension, continuously removing a portion of the slurry so formed from the recirculatory system and subjecting it to centrifugal separation to remove the ice crystals from a liquid constituting a first concentrate having a higher Brix value than the original beverage liquid and containing substantially all of the flavoring esters present in the original beverage liquid excepting for that portion thereof which clings to the ice crystals, and thereafter subjecting the ice crystals to a single washing treatment with water under centrifugal conditions, said washing treatment being conducted with the ice crystals at a temperature below the freezing point and with the washing water and at temperature above the freezing point, the quantity of water employed being proportioned to provide a second concentrate having a Brix value closely approaching the Brix value of the first concentrate, and an ice residue having substantially no Brix value.

2,967,779

OPTICAL GLASS

Tetsuro Izumitani, Osaka City, Japan, assignor to the Director of the Agency of Industrial Science and Technology, the Ministry of International Trade and Industry, Japanese Government, Tokyo, Japan

No Drawing. Filed Mar. 24, 1958, Ser. No. 723,092
Claims priority, application Japan Nov. 20, 1957
3 Claims. (Cl. 106—54)

1. An optical glass composition consisting of 18 to 23 percent by weight of boric oxide, 28 to 45 percent by weight of cadmium oxide, 20 to 34 percent by weight of lanthanum oxide, the total weight of boric oxide, cadmium oxide and lanthanum oxide being less than 90% by weight of the total weight of the composition, and further consisting of 0 to 7 percent by weight of tantalum oxide, 3 to 5 percent by weight of silicon dioxide, 2 to 7 percent by weight of zirconium oxide and 2 to 6 percent by weight of titanium oxide.

2,967,780

SUPERSULFATE CEMENT SLAG ACTIVATOR

Henry James Schneiter, Grand Island, and Kenneth F. Smith, Buffalo, N.Y., assignors to National Gypsum Company, Buffalo, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 23, 1958, Ser. No. 782,398
1 Claim. (Cl. 106—109)

An improved supersulfate cement consisting essentially of a mixture of from 75% to 95% finely ground granulated blast furnace slag and from 5% to 25% finely ground gypsum, said granulated blast furnace slag and said gypsum being of a fineness such that the Blaine specific surface thereof is at least 4500 square centimeters per gram, and from 0.5% to 2.0%, based on the weight of said mixture, of an activator, said activator consisting essentially of finely ground air cooled slag, said air-cooled slag being of a fineness such that the Blaine specific surface thereof is at least about 3500 square centimeters per gram.

2,967,781

WAX COATING COMPOSITION AND PAPERBOARD COATED THEREWITH

Eugene A. Jakaitis, Morton, Pa., assignor to The Atlantic Refining Company, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Oct. 7, 1959, Ser. No. 844,864
7 Claims. (Cl. 106—270)

1. A wax coating composition for paperboard consisting essentially of from 93.0 to 96.7 weight percent of a paraffin wax having a melting point ranging from 110° F. to 140° F., from 0.3 to 1.0 weight percent of

polyethylene having an average molecular weight ranging from 10,000 to 14,000, from 2.0 to 4.0 weight percent of a microcrystalline wax having a melting point ranging from 145° F. to 160° F., and from 1.0 to 2.0 weight percent of a Fischer-Tropsch wax having a melting point ranging from 215° F. to 230° F.

2,967,782

INK OIL AND METHOD OF MANUFACTURE

Robert E. Manley, Yonkers, N.Y., assignor to Texaco Inc., a corporation of Delaware

No Drawing. Filed Nov. 29, 1957, Ser. No. 699,456
9 Claims. (Cl. 106—311)

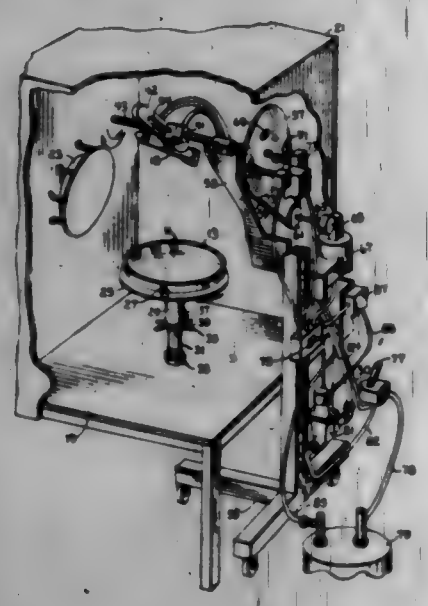
1. A process for the manufacture of ink oil which comprises contacting a waxy petroleum distillate fraction with liquid furfural as a selective solvent which selectively dissolves the more aromatic hydrocarbons therefrom, said selective solvent being at least partially immiscible with said petroleum distillate fraction under the conditions of contacting, to yield an extract characterized by a relatively increased proportion of aromatic hydrocarbons as compared with said distillate fraction, contacting said extract with concentrated sulfuric acid, neutralizing the resulting treated oil with a neutralizing agent for sulfuric acid selected from the group consisting of sodium carbonate, sodium bicarbonate and sodium hydroxide and admixing the resulting acid treated, neutralized extract with a minor amount in the range 3–20% vol. of a naphthene base oil and a minor amount in the range 0.05–1.5% vol. of a pour point depressant to yield a finished ink oil, said ink oil having an API gravity not in excess of 22, a Tag-Robinson color of at least 1.0, a pour point not in excess of +30° F., which ink oil upon admixture with carbon black, wherein carbon black comprises about 5% by weight of the admixture, shows no appreciable oil separation, gel formation or thickening after aging about 164 hours at 120° F.

2,967,783

FABRICATION OF IMAGE DISPLAY SCREENS

Joseph B. Shinal, Seneca Falls, N.Y., assignor, by mesne assignments, to Sylvania Electric Products Inc., Wilmington, Del., a corporation of Delaware

Filed July 29, 1957, Ser. No. 674,969
2 Claims. (Cl. 117—34)



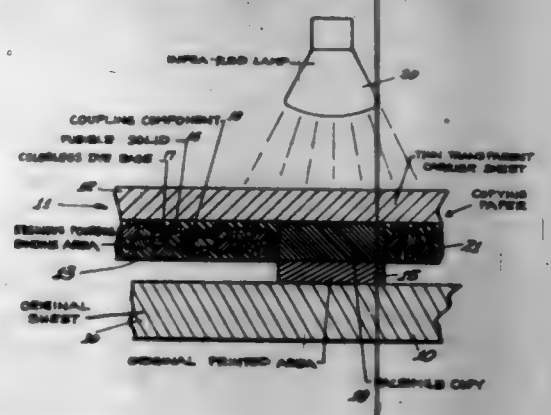
1. In the method of forming a screen pattern on the curvilinear viewing panel of an image display device having a given radius, the step of spray coating said panel with a photo-sensitized light hardenable substance by making a pass across said panel with an oscillatory, mounted, spray device spaced from the panel approximately the distance of the panel radius and with the spray device mounted eccentric to the center axis of the panel so that the spray pass is made off center of the panel, the step of rotating the panel through a given angle to a fixed position, the step of repeating the spray pass and repeating the rotating of the panel and the passing of the spray over the panel until the panel is completely uniformly coated.

2,967,784

THERMOGRAPHIC COPYING PAPER

Douglas A. Newman, Glen Cove, Allan T. Schlotzhauer, Locust Valley, Alfred M. Vogel, Westagh, Donald B. Albert, Flushing, and Joseph J. Quattrone, Whitestone, N.Y., assignors to Columbia Ribbon & Carbon Manufacturing Company, Inc., Glen Cove, N.Y., a corporation of New York

Filed May 2, 1958, Ser. No. 732,461
6 Claims. (Cl. 117—36)



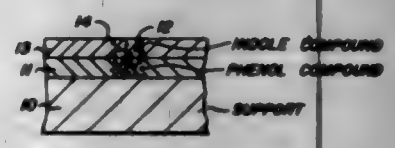
1. A heat-sensitive copying paper capable of reproducing copies of heat-absorbing graphic materials by thermographic copying means upon being placed in heat-conductive relation with said copies of graphic materials and subjected to high-intensity irradiation, comprising a thin flexible backing, a heat-sensitive coating on said backing, said coating comprising a complex including a color forming solid material consisting of a colorless derivative of a dye-stuff adapted to be converted into the corresponding colored dyestuff on reaction with a coupling reagent, a coupling reagent for said color forming solid material including a compound selected from the group consisting of arylamides of o-hydroxy carboxylic acids and acylacetarylamides, and a third reagent including a solid fusible acid material inactive at temperature ranges below about 60° C., said complex being substantially uniformly distributed throughout a thin translucent plastic binder, said third reagent becoming effective at a temperature range of about 60–120° C. and forming a milieu in which the coupling reaction of the color forming solid material and the coupling reagent form a dye facsimile image of the graphic materials when heat developed in the graphic materials is transferred to the coating.

2,967,785

THERMOGRAPHIC COPYING MATERIAL

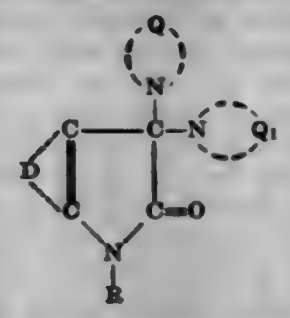
Frank D. Allen, James A. Van Allan, and John J. Segura, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Aug. 14, 1959, Ser. No. 833,764
11 Claims. (Cl. 117—36)



1. A heat-sensitive, copying sheet comprising a support and coated on said support a heat-sensitive area

containing a compound selected from the class represented by the following general formula:



wherein R represents a member selected from the class consisting of a hydrogen atom and an alkyl group, Q and Q_1 each represents the non-metallic atoms necessary to complete a monocyclic nucleus containing only one nitrogen atom, said nucleus containing an unsubstituted carbon atom in the 3-position with respect to said nitrogen atom, and D represents the atoms necessary to complete a benzene ring, said heat-sensitive area being disposed on said support so that upon exposure of said heat-sensitive area to radiant energy in heat-conductive association with a pattern containing portions highly absorptive of said radiant energy and portions substantially nonabsorptive of said radiant energy, said heat-sensitive area undergoes a rapid color change only in those areas in heat conductive association with those areas highly absorptive of said radiant energy, said heat-sensitive, copying sheet being stable at room temperature, being substantially insensitive to visible radiations and being non-sticking at 125° C.

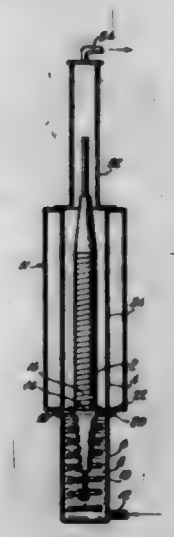
2,967,786
METHOD OF LAMINATING
Warren K. Wilson, Akron, Ohio, assignor to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
No Drawing. Filed Aug. 22, 1958, Ser. No. 756,540
6 Claims. (Cl. 117—49)

1. The method of coating a metal base with a linear copolyester selected from the group consisting of (*a*) random ethylene terephthalate-ethylene isophthalate copolyesters in which the ethylene terephthalate units comprise from 80 to 30 percent of the sum of the ethylene terephthalate and ethylene isophthalate units in the copolyester and the ethylene isophthalate units comprise from 20 to 70 percent of said sum and (*b*) random ethylene terephthalate-2-2-bis[4(beta hydroxyethoxy) phenyl] propane terephthalate copolyesters in which the ethylene terephthalate units comprise from 80 to 20 percent of the sum of the ethylene terephthalate and 2,2-bis[4-(beta hydroxyethoxy) phenyl] propane terephthalate units and the 2,2-bis [4(beta hydroxyethoxy) phenyl] propane terephthalate units comprise from 20 to 80 percent of said sum which comprises heating the metal and maintaining it at a temperature of from 100 to 300° C., contacting it with molten polyester resin maintained at a temperature from 150 to 300° C. and cooling the composite article.

2,967,787
FABRIC FINISHING WITH HEAT HARDENABLE RESIN
James A. Murphy, Wilmington, Del., assignor to Joseph Barcroft & Sons Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Aug. 21, 1958, Ser. No. 756,278
7 Claims. (Cl. 117—62)

1. The method of finishing fabrics comprising applying a ketone-aldehyde resin precondensate to the fabric, condensing the ketone-aldehyde resin, and thereafter reducing the ketone-carbonyl groups of the completely condensed ketone-aldehyde resin to form a corresponding secondary alcohol.

2,967,788
METHOD OF IMPREGNATING WOUND CONDENSER BUSHINGS WITH A DIELECTRIC LIQUID
Marc G. Mathers, San Mateo, Calif., assignor to Federal Pacific Electric Company, a corporation of Delaware
Filed Aug. 20, 1957, Ser. No. 679,273
9 Claims. (Cl. 117—94)

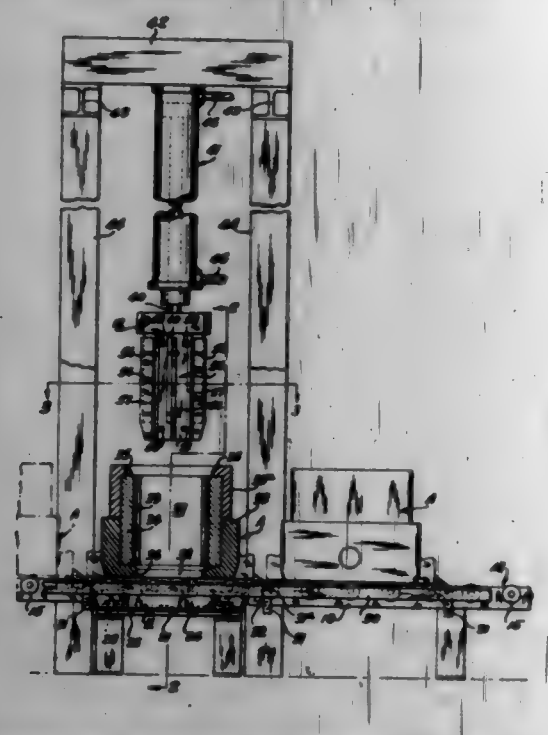


5. The process of impregnating an elongated core of tightly wrapped paper with an oil, comprising the steps of introducing said oil in degassed condition under a high positive pressure P_A at one end of said core while maintaining the other end of said core under a substantially lower pressure P_B for a prolonged period of time, wherein P_B is greater than the pressure required to prevent formation of bubbles in the oil that emerges at said other end of said core and thereby to cause gases present in the core to dissolve in the oil and to maintain gases dissolved in said oil.

2,967,789
PROCESS OF COATING GRANULES WITH PHENOL-ALDEHYDE RESIN
Howard E. Hoyt, Bainbridge, N.Y., assignor to The Borden Company, a corporation of New Jersey
No Drawing. Filed Nov. 26, 1957, Ser. No. 698,907
4 Claims. (Cl. 117—100)

1. In coating impervious granular material selected from the group consisting of sand, Carborundum, and glass with a hardenable binder, the process which comprises warming an aqueous solution of a phenol, an aldehyde, and an alkali catalyst of condensation of the phenol and aldehyde at a temperature not above about 75° C. until a non-gelled, non-tacky, water soluble, alkali-catalyzed addition product of the phenol and aldehyde results and the content of the free aldehyde ceases to fall rapidly, the alkali being used in amount to establish the pH of the solution above 7, the phenol being selected from the group consisting of phenol, cresol and xylenol, the aldehyde being selected from the group consisting of formaldehyde, furfuraldehyde, acetaldehyde, and propionaldehyde, and the proportion of the aldehyde used being about 0.6–0.85 mole for 1 mole of the phenol, mixing the said addition product in aqueous solution with the said particles to form a coating thereover, applying to said coating an acid selected from the group consisting of hydrochloric, sulphuric, and phosphoric acids in amount to establish the pH of the resulting mixture at not above 2, maintaining the temperature of the particles with the acidified coating thereon at a temperature not above about 75° C. until the said addition product is converted to an acid catalyzed thermoplastic phenol formaldehyde resin, and drying and stirring the resulting mixture until a dry free-flowing granular product results.

2,967,790
METHOD AND APPARATUS FOR CLEANING A HOT TOP
Robert C. Benson, Lyndhurst, and Benjamin F. Anthony, Cleveland Heights, Ohio, assignors to Oglebay Norton Company, Cleveland, Ohio, a corporation of Delaware
Filed Dec. 16, 1957, Ser. No. 703,824
5 Claims. (Cl. 134—8)



1. The method of removing spent veneer from a hot top comprising a casing having a first opening of uniform cross section communicating with one end thereof and a frangible brick lining providing the side walls of said opening, said veneer being on said side walls and said casing having inturned portions at its other end opposite to said one end extending inwardly of said side walls and defining a second opening, the steps comprising effecting relative movement between a cleaning member configured to clean the veneer from said side walls and said hot top to cause the cleaning member to move into said first opening from said one end and throughout the extent of said side walls, and centering said cleaning member with respect to said first opening in response to said relative movement and holding said cleaning member centered during the movement of the latter through said opening by piloting on said portions with a part carried by said cleaning member and moved by said relative movement through said first opening and into said second opening and into engagement with said portions in advance of the entrance of said cleaning member into said first opening.

5. An apparatus for removing a spent veneer from the side walls of an axially extending opening in a casing of a hot top, the opening having a uniform cross section throughout the length of the walls from which the veneer is to be removed and a frangible brick lining providing the side walls to be cleaned, a cleaning member having a configuration corresponding to the configuration of the uniform cross section of the opening and conceivable in said opening from one end thereof and adapted to remove veneer from the side walls upon movement within said opening from said one end of said side walls to the other end thereof, the outer periphery of said cleaning member being disposed about an axis aligned with the axis of said opening during the cleaning operation, support means for supporting said cleaning member and said hot top in an approximately axially aligned relationship and for effecting reciprocatory movement to effect work and return strokes of said cleaning member, and pilot means on said member engaging said casing during said work stroke to hold said casing and cleaning member in an aligned position and against relative movement transversely of the axis of said opening, said pilot means being disposed on said cleaning member to engage said casing in advance of said cleaning member being received in said opening, said support means supporting said hot top and cleaning member for relative centering movement to align said axes in response to relative movement between said cleaning member and casing to dispose the former in said opening comprising a horizontal roller table for supporting said hot top for relative movement of said hot top with respect to said cleaning member in either of two opposite directions from an aligned position with said cleaning member and means supporting said table and cleaning member for movement in opposite directions perpendicular to the first said directions.

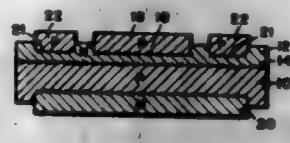
2,967,791
PROCESS OF COATING ALUMINUM
Roy A. Halversen, Dearborn, Mich., assignor to Parker Rust Proof Company, Detroit, Mich., a corporation of Michigan
No Drawing. Filed Aug. 19, 1957, Ser. No. 679,100
16 Claims. (Cl. 148—6.16)

1. A method of forming a coating on the surface of aluminum which comprises the steps of contacting the aluminum surface with an aqueous acidic operating solution containing chromic acid, the fluoride ion, and having a free acid of 3–170 points, withdrawing a portion of said operating solution and passing the said portion through a strongly acidic cation exchange resin bed and returning the effluent therefrom to said processing solution, the quantity of said solution passed through said bed being such as to maintain the aluminum concentration in said operating solution in the range of about 0.005% and 0.4% by weight.

2,967,792
SPINNERETTE
Konrad Ruthardt, Hanau (Main), Germany, assignor to W. C. Heraeus G.m.b.H., Hanau (Main), Germany, a body corporate of Germany
Filed Nov. 24, 1959, Ser. No. 856,634
Claims priority, application Germany July 12, 1956
7 Claims. (Cl. 148—32.5)

1. A spinnerette comprising an age-hardened metal member having at least one orifice formed therethrough and made from an alloy containing 7 percent to 15 percent iridium, 5 percent to 30 percent rhodium, the rest being palladium.

2,967,793
SEMICONDUCTOR DEVICES WITH BI-POLAR INJECTION CHARACTERISTICS
John Philips, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Feb. 24, 1959, Ser. No. 795,296
9 Claims. (Cl. 148—33)



1. A semiconductor device having bi-polar injecting characteristics consisting of, (1) a first single crystal semiconductor element of a first type of semiconductivity, (2) a mass-of-metal in intimate contact with one side of said first semiconductor element, said mass-of-metal providing a source of minority carriers to said first element when energized by reverse electrical potential, (3) a second semiconductor element of a second type of semiconductivity on another side of said first element, (4) a

first semiconductor transition region disposed between the first and the second semiconductor elements, (5) a third semiconductor element having the same type of semiconductivity as said first element, said third element being disposed on a surface of said second element, said third element being structurally isolated from said first element, said third element serving as a first emitter element, (6) a second semiconductor transition region disposed between said second and third elements, (7) a fourth semiconductor element having the same type of semiconductivity as said first element and said third element, said fourth element being disposed on a surface of said second element, said fourth element being structurally isolated from said first element and said third element, said fourth element serving as a second emitter element, and (8) a third transition region disposed between the fourth element and the second element, said second and third transition regions being within a diffusion length of said first transition region said minority carriers flowing from the mass-of-metal to the third element and the second element when a potential of a first polarity is applied to the third element, and said minority carriers flowing to the fourth element and the second element when a potential of a second polarity is applied to the fourth element.

2,967,794

FINE PARTICLE MAGNETS

Charles D. Coxe, Fairfield, Conn., assignor to Handy & Harman, New York, N.Y., a corporation of New York

No Drawing. Filed Sept. 12, 1956, Ser. No. 609,404
12 Claims. (Cl. 148—101)

1. A wrought magnetic material comprising metallic filamentary ferromagnetic particles having a high length-to-diameter ratio, said particles being oriented with their long dimensions substantially parallel and being dispersed through a solid non-magnetic matrix.

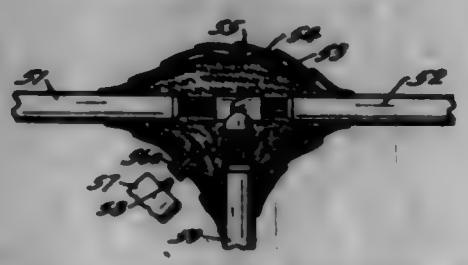
5. A process for manufacturing ferromagnetic material including aligned ferromagnetic particles having a length-to-diameter ratio in excess of 100 and a diameter of the order of 1 micron comprising the steps of intimately mixing powdered ferromagnetic particles with a non-ferromagnetic powder to produce a mixture containing substantially from 5% to 75% of ferromagnetic powder by volume, compacting and sintering said mixture into a billet, and cold working said billet by repeated drawing and annealing operations to reduce the diameter of said ferromagnetic particles to a dimension of the order of magnitude of 1 micron.

2,967,795

PROTECTION OF WIRE-SPLICES

Emil Wayne Bollmeier, Mendota Township, Dakota County, and Leo F. Velsty, New Canada Township, Ramsey County, Minn., assignors to Minnesota Mining & Manufacturing Company, St. Paul, Minn., a corporation of Delaware

Filed Oct. 18, 1955, Ser. No. 541,146
8 Claims. (Cl. 154—2.22)



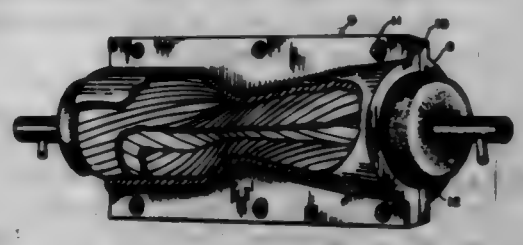
1. A method of protecting wire and cable splices comprising: surrounding the entire splice area with wrappings of open porous flexible and conformable insulating screen material to produce a compact, smoothly contoured support structure full of interconnected open voids; applying over and in contact with said support structure and adjacent cable area a close-fitting flexibly conformable liquid-tight pressure-resistant covering having a resin entry port; forcing a liquid self-curing insulating resinous composition under pressure through said port to fill all voids within said covering; and permitting the resinous composition to cure and solidify.

2,967,796

METHOD OF MAKING TUBULAR STRUCTURES OF LAMINATED FIBROUS MATERIAL

Bernard D. Raffel, Akron, Ohio, assignor to Goodyear Aircraft Corporation, Akron, Ohio, a corporation of Delaware

Filed Sept. 16, 1957, Ser. No. 684,315
3 Claims. (Cl. 154—83)



1. The method of making a tubular structure of substantially hour-glass shape of laminated unwoven filaments and plastic binding material which comprises building about an inflated expansible mandrel in substantially cylindrical shape a substantially cylindrical body of unwoven concentric plies of filaments extending helically in substantially parallel relation with the filaments of each ply having a helix angle of less than 45 degrees and the filaments of successive plies being at opposite angles, confining the body in a passage of substantially the desired hour-glass shape, expanding the body by further increased inflation of the mandrel to conform to such passage by fluid pressure applied therewithin by the inflatable mandrel, removing the mandrel, placing opposed core members in opposite ends of the body, said core members together providing a rigid core having the shape of the interior of the desired article, confining the body and core members in a curing mold having a mold cavity of the desired shape of the exterior of the article, forcing the mold cores axially together to compress and confine the body, and curing the confined body.

2,967,797

METHOD OF FORMING PAPER CONTAINING TITANOUS HYDROXIDE AND PRODUCT THEREOF

Joseph R. Weschler, New Brunswick, N.J., and Paul Legally and Herta Legally, State College, Pa., assignors, by mesne assignments, to Johnson & Johnson, New Brunswick, N.J., a corporation of New Jersey

No Drawing. Filed Dec. 10, 1956, Ser. No. 627,108
7 Claims. (Cl. 162—158)

1. The method of forming a paper sheet having improved wet strength comprising the steps of mixing with a slurry of paper pulp including cellulose fibers, a water soluble trivalent titanium salt, hydrolyzing said salt to form $Ti(OH)_3$, forming a paper web from said pulp and drying said web to form a paper sheet.

2,967,798

INSECTICIDAL REPELLENT

Willis N. Bruce, Champaign, Ill., assignor to Lee Ratner, Miami Beach, Fla.

No Drawing. Filed Jan. 31, 1958, Ser. No. 712,333
7 Claims. (Cl. 167—22)

1. An insecticidal repellent comprising a combination of di-n-butyl succinate and an insecticide selected from

the group consisting of pyrethrum, allethrin, and cyclethrin wherein said succinate makes up from about 99.5% to about 10% and said insecticide makes up from about 0.5% to about 90% by weight of said combination.

2,967,799

ARSENOSOBENZENE PESTICIDE

Donald C. Wehner, Stamford, Conn., assignor to American Cyanamid Company, New York, N.Y., a corporation of Maine

No Drawing. Filed May 21, 1959, Ser. No. 814,686
9 Claims. (Cl. 167—30)

1. A method of preventing the growth and development of a microorganism in contact with a substrate substance which is subject to attack by said microorganism and where the growth of the microorganism is undesirable, said microorganism being selected from the group consisting of bacteria, fungi and algae, which comprises incorporating with said substrate substance arsenosobenzene in growth-inhibiting amounts.

2,967,800

ORGANIC MERCURY COMPOSITION

George J. Six, Wood-Ridge, William J. Leddy, Rutherford, and Eugene L. Cadmus, Glenridge, N.J., assignors, by mesne assignments, to Wood Ridge Chemical Corporation, Wood-Ridge, N.J., a corporation of Nevada

No Drawing. Filed Nov. 26, 1957, Ser. No. 698,989
8 Claims. (Cl. 167—38)

1. A process for the preparation of methyl mercuric nitrile which comprises reacting methyl iodide with mercury with the formation of methyl mercuric iodide, removing unreacted methyl iodide from the reaction mass by steam distillation, then reacting the thus purified methyl mercuric iodide with an alkali metal cyanide, extracting the reaction mass with benzene, and finally removing methyl mercuric nitrile from the benzene solution by treatment with water.

8. A method for the disinfecting of seed which comprises treating seed with a small but effective amount of methyl mercuric nitrile, said methyl mercuric nitrile being in the form of a solution in which it is the essential active constituent.

2,967,801

USE OF VITAMIN D IN PREVENTING HYPERCALCURIA RESULTING FROM ADRENAL CORTICAL STEROID ADMINISTRATION

Irwin Clark, Plainfield, N.J., assignor to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Mar. 3, 1958, Ser. No. 718,459
13 Claims. (Cl. 167—77)

1. A therapeutic preparation comprising a mixture of vitamin D in at least a physiologic amount and a therapeutic dosage of a biologically active anti-inflammatory steroid compound.

2,967,802

HYDRATED CALCIUM PHOSPHATE GEL-ANTIGEN COMPOSITION AND METHOD OF PREPARING SAME

John P. Towey, Tennis Van Wyke, Karl A. Ratcliff and William A. Dorrance, all of Des Moines, Iowa, assignors, by mesne assignments, to Diamond Laboratories, Des Moines, Iowa, a limited partnership

No Drawing. Filed Dec. 2, 1957, Ser. No. 699,951
6 Claims. (Cl. 167—78)

1. A mixture of an antigen with a hydrated calcium phosphate gel, said gel consisting essentially of

$$Ca_{10}(PO_4)_6(OH)_2$$

said gel having been prepared by admixing an aqueous acid solution of a calcium salt with an aqueous alkaline solution of a phosphate, the ratio of the calcium ions to phosphate ions being approximately 10 to 6, the alkaline solution being of sufficient strength that after admixing with said acid solution the overall pH is at least about 9.

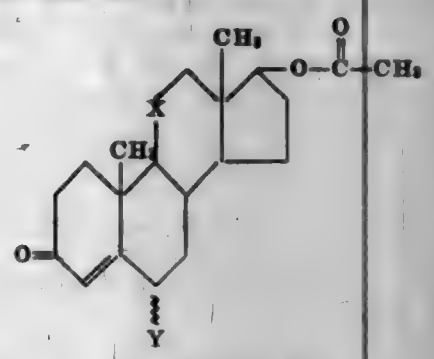
2,967,803

PROCESS FOR THE PRODUCTION OF 17β-ACETOXYANDROSTENES

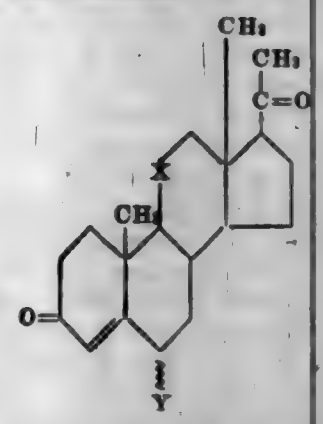
Gunther S. Fonken, Kalamazoo, and Herbert C. Murray, Barry Township, Barry County, Mich., assignors to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Filed July 24, 1959, Ser. No. 829,197
13 Claims. (Cl. 195—51)

1. A process for the production of 17β-acetoxytestosterones of the formula:



wherein X is selected from the group consisting of the methylene radical, the carbonyl radical, the α-hydroxymethylene radical and the β-hydroxymethylene radical, and Y is selected from the group consisting of hydrogen, fluoro and methyl, which comprises contacting a 20-ketopregnene of the formula:



wherein X and Y are defined as above, to the oxidizing activity of a species of the fungus Cladosporium to produce the corresponding 17β-acetoxytestosterone.

2,967,804

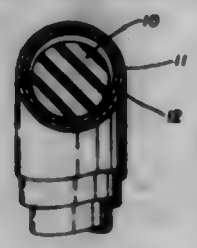
METHOD OF MAKING DEXTROSE USING PURIFIED AMYLOGLUCOSIDASE

Ralph W. Kerr, Riverside, Ill., assignor to Corn Products Company, a corporation of Delaware

No Drawing. Filed Dec. 30, 1957, Ser. No. 705,828
4 Claims. (Cl. 195—66)

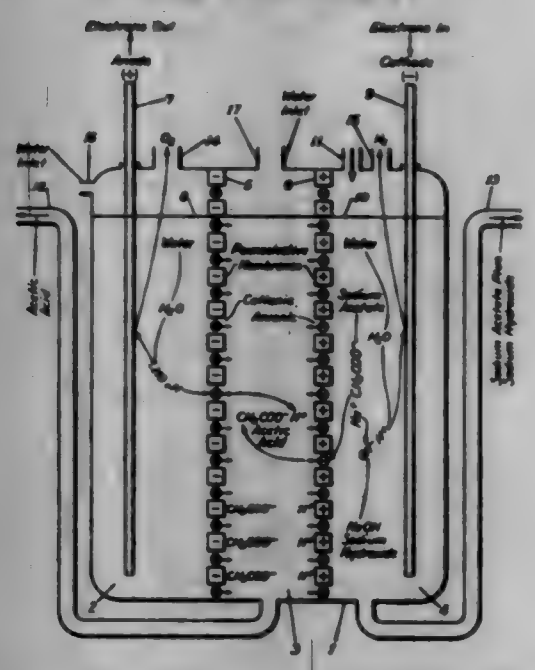
3. A process for obtaining pure amyloglucosidase from an amyloglucosidase containing enzyme preparation which comprises treating an aqueous solution of said preparation about 0.5 to about 2 percent of a water insoluble hydrous synthetic magnesium silicate, at a pH of about 3.8 to about 4.5, centrifuging the mixture, adding to the liquid phase containing the amyloglucosidase sufficient acetone to provide a 50 percent by volume acetone solution, adding thereto about 0.25 gram of electrolyte per 100 ml. of acetone solution to precipitate the amyloglucosidase, separating and washing the amyloglucosidase, redissolving the amyloglucosidase in 50 percent by volume aqueous acetone, adding about 0.25 gram of electrolyte per 100 ml. of solution to precipitate the amyloglucosidase and separating the purified amyloglucosidase.

2,967,805
RESILIENT SEALING MEANS AND METHOD OF MAKING SAME
Clarence W. Forestek, 4210 W. 62nd St., Cleveland, Ohio
Filed Aug. 22, 1957, Ser. No. 679,559
6 Claims. (Cl. 204—20)



1. A method of making a heat resistant O-ring from an annular resilient core that has the property of expanding when treated with a volatile substance, comprising the steps of; expanding the resilient core by treating the same with a volatile substance; electrodepositing a metallic coating that is porous to said volatile substance onto said core member while the same is in said expanded condition; effectuating evaporation of said volatile substance through said porous coating, whereby said core is shrunk to normal size.

2,967,806
ELECTROLYTIC DECOMPOSITION WITH PERMSELECTIVE DIAPHRAGMS
Sidney G. Osborne, Saint Davids, Ontario, Canada, and George T. Miller, Lewiston, N.Y., assignors to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York
Filed Apr. 2, 1953, Ser. No. 346,365
4 Claims. (Cl. 204—72)

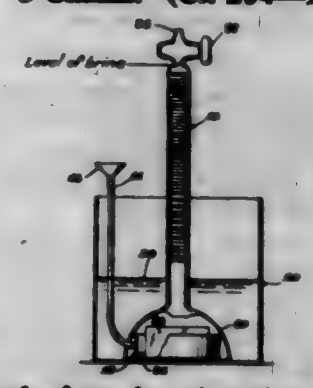


1. A process for effecting the electrolytic decomposition of salts of organic aliphatic acids which comprises: introducing the salt to be electrolyzed into the third compartment of a multicompartment electrolytic cell, said cell having a first compartment containing an anode in contact with liquid electrolyte, a second compartment adjacent to the anode compartment containing the organic aliphatic acid resulting from the electrolysis of said salt and a cathode compartment containing a cathode in contact with liquid electrolyte, said liquid electrolyte containing the cation resulting from the electrolysis of said salt; interposing a cationic permselective diaphragm between the first compartment and the second compartment containing the organic aliphatic acid and interposing an anionic permselective diaphragm between the second compartment and the third compartment containing the salt of the organic aliphatic acid; maintaining the diaphragms wet with electrolyte; impressing a voltage across said electrodes and recovering the products of electrolysis so produced.

2,967,807
ELECTROLYTIC DECOMPOSITION OF SODIUM CHLORIDE
Sidney G. Osborne, Saint Davids, Ontario, Canada, and George T. Miller, Lewiston, N.Y., assignors to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York
Filed Jan. 23, 1952, Ser. No. 267,846
2 Claims. (Cl. 204—98)

1. The method of producing the electrolytic decomposition of sodium chloride and producing chlorine and sodium hydroxide comprising introducing the sodium chloride and water into a multi-compartment electrolytic cell, said cell having an anode compartment receiving electrolyte and discharging chlorine and an anode in contact with said liquid electrolyte, and a cathode compartment receiving electrolyte and discharging sodium hydroxide and a cathode in contact with said liquid electrolyte; forming a membrane by combining a supporting material with an ion exchange resin dispersed therein and polymerized to an insoluble infusible condition, sealing the membrane to substantial impermeability to passage of liquids and gases and to ions of a given sign while passing ions of the opposite sign, being composed of material having the characteristics of an ionized salt pair, interposing said membrane between the electrode compartments, maintaining the membrane wet with electrolyte, impressing a decomposition voltage across said electrodes and recovering the chlorine and sodium hydroxide products of electrolysis so produced.

2,967,808
INHIBITION OF DECOMPOSITION OF AMALGAM
Robert S. Karpiak, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Aug. 14, 1958, Ser. No. 755,073
3 Claims. (Cl. 204—99)

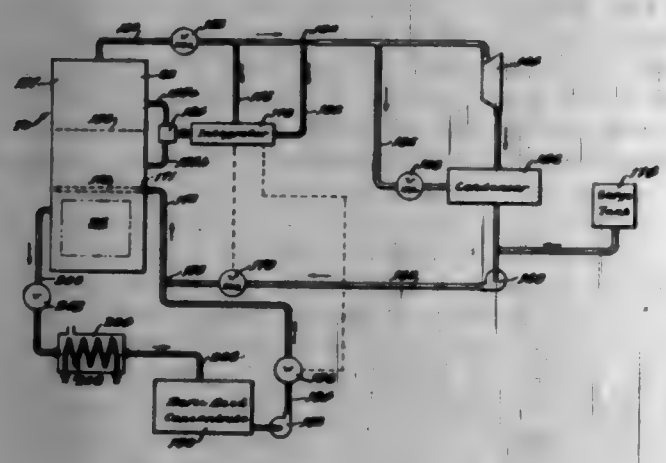


1. The method of producming chlorine by electrolysis of an alkali metal chloride brine employing a mercury cathode consisting of admixing with the brine between 0.001 and 0.05 percent by volume of a water-soluble organic hydroxy compound unreactive with alkali metal amalgams selected from the class consisting of alkylene glycols, mono- and polyalkylene glycol monoethers, halosubstituted derivatives of said glycols and ethers, epihalohydrin, and higher molecular weight saturated alcohols containing at least 5 carbon atoms.

2,967,809
METHOD AND APPARATUS FOR CONTROLLING DIRECT-CYCLE NEUTRONIC REACTORS
Glenn A. Reed, East Natick, Mass., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed Aug. 13, 1957, Ser. No. 678,252
1 Claim. (Cl. 204—154.2)

The method of controlling reactivity in a direct-cycle boiling-water neutronic reactor wherein the steam de-

veloped in the reactor operates a turbogenerator and the spent steam therefrom is condensed and returned to the reactor, said neutronic reactor including a pressure vessel containing fuel elements forming the reactor core, said pressure vessel being filled with light water to a level above the top of the reactor core but not reaching the top of the pressure vessel, said method comprising maintaining boric acid in the water in the pressure vessel and controlling the amount of boric acid within the reactor core by continuously removing a portion of the water containing boric acid from the reactor core, concentrating



the boric acid by evaporating the water therefrom, and returning a controlled amount of the concentrated acid to the reactor core and simultaneously controlling the water level in the pressure vessel by varying the rate of condensate return to the reactor whereby an increase in the rate of condensate return raises the water level in the pressure vessel thereby removing a part of the boric acid from the reactor core and a decrease in the rate of condensate return lowers the water level in the pressure vessel thereby concentrating the boric acid within the reactor core.

2,967,810
PROCESS FOR PREPARING HIGHLY FLUORINATED COMPOUNDS
John Ferguson Harris, Jr., Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Oct. 16, 1958, Ser. No. 767,503
9 Claims. (Cl. 204—158)

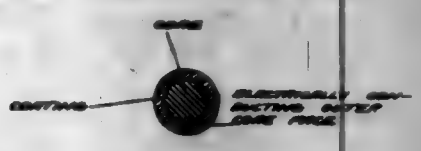
1. A process which comprises irradiating with ultraviolet light polyfluoroacyl fluoride of the general formula $X—R_1—COF$, and recovering from the resulting mixture a condensation product of said acyl fluoride, said condensation product having the general formula

$$X—R_2—X$$

whereinabove X is selected from the group consisting of —H, —Cl, —F, and —COF; R_1 and R_2 are divalent aliphatic perfluorocarbon radicals; and R_2 is composed of a plurality of R_1 units.

2,967,811
FUEL ELEMENTS FOR THERMAL-FISSION NUCLEAR REACTORS
Oliver Flint, Strand, London, England, assignor, by direct and mesne assignments, to the United States of America as represented by the United States Atomic Energy Commission
Filed Mar. 20, 1951, Ser. No. 216,607
7 Claims. (Cl. 204—193.2)

3. A fuel element for a thermal fission nuclear reactor comprising a core of a refractory oxide of the class consisting of beryllia, magnesia and alumina, a film of a metal of the class consisting of copper, silver, nickel on the outer face of the core and a coating of an oxide

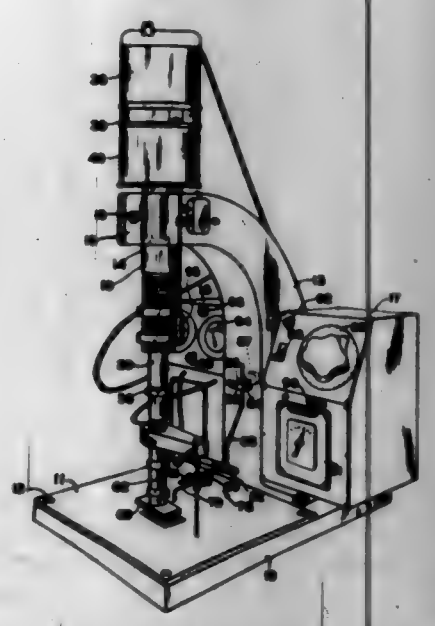


of a metal isotope of the class consisting of U 235, U 233 and Pu 239 on the said film of metal.

2,967,812
NEUTRONIC REACTOR FUEL COMPOSITION
William C. Thurber, Oak Ridge, Tenn., assignor to the United States of America as represented by the United States Atomic Energy Commission
No Drawing. Filed Jan. 31, 1958, Ser. No. 712,599
11 Claims. (Cl. 204—193.2)

8. In a neutronic reactor fuel element comprising an inner fuel core and an outer aluminum cladding completely surrounding said inner core, said inner core consisting essentially of aluminum, uranium, and boron as a burnable poison, the improved inner core composition in which boron is dispersed as a nickel boride.

2,967,813
AUTOMATIC MARKING DEVICE
Allen R. Lindsay, Cleveland Heights, Ohio (% The Lectroetch Co., 14925 Elderwood Ave., East Cleveland 12, Ohio)
Filed Aug. 29, 1958, Ser. No. 757,985
15 Claims. (Cl. 204—224)

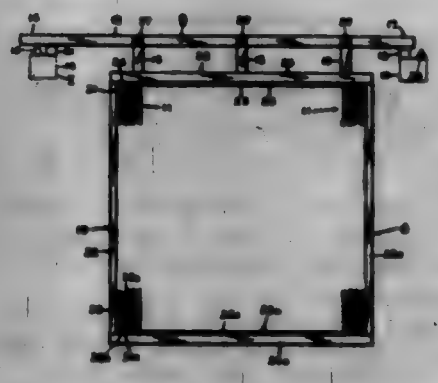


1. An automatic marking device for the electrolytic marking of metals, comprising a work-contacting head including an electrode and dielectric stencil means, support means for said head, a surface adapted to position the work to be marked for engagement by the head, drive means operative to reciprocate said support means and hence the work-contacting head relative to such surface, electric circuit means for controlling such operation of the drive means in accordance with a predetermined timed cycle of actuation thereof, further circuit means for applying current to the electrode means of the work-contacting head, and means for energizing said further circuit means thus to apply current to the electrode means in response to engagement of the work by said head.

2,967,814
HELIX WIRE ANODE

Sidney B. Twwiner, Baldwin, N.Y., assignor to Phelps Dodge Corporation, New York, N.Y., a corporation of New York

Filed Oct. 15, 1958, Ser. No. 767,391
4 Claims. (Cl. 204—284)



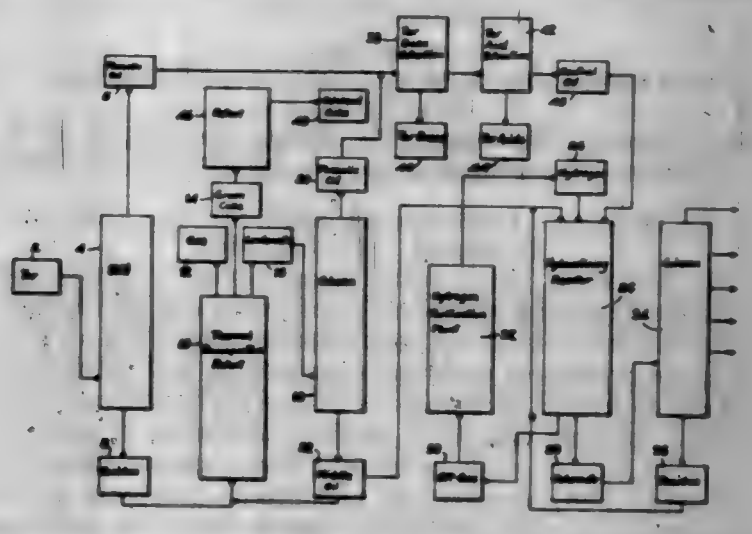
1. A helix wire anode for use in a system for electrowinning of copper, or the like, which comprises a conductive suspension bar, a frame having top, bottom and end rails, said frame being secured to said suspension bar and having a peripheral shape suitable for suspension in an electrolytic tank containing liquid electrolyte, and a plurality of helixes of wire which is not corroded by the electrolyte, each of said helixes comprising coils of uniform diameter and having its opposite ends connected to opposed rails of said frame with the long axes of said helixes lying parallel to each other a distance apart which is substantially less than the outside diameter of said coils and each of said helixes having its coils turned in the opposite angular direction from the angular direction of the turns of the coils of the next adjacent helix, the coils of each helix being spaced apart a distance sufficient to cause overlapping and contacting of each coil with the adjacent coils of the next adjacent helix and said helixes occupying substantially all of the area bounded by said frame, so that the effective wetted surface of a unit area of said anode when it is placed in operative position in the electrolyte in the electrolytic tank is materially greater than the effective wetted surface of a like unit area of a planar anode, said contacting coils of wire providing conductive paths for the distribution of electrical current over the entire area of the helixes within said frame with a minimum of ohmic resistance.

2,967,815
UTILIZATION OF LOW-TEMPERATURE TARS

Manuel Benjamin Dell, New Kensington, Pa., and Vernon M. Stowe, Caseyville Township, St. Clair County, Ill., assignors to Aluminum Company of America, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Jan. 10, 1958, Ser. No. 708,211
5 Claims. (Cl. 208—2)

1. In the utilization of low-temperature tars to prepare electrode-quality coke, refined hydrocarbon liquids suitable as solvents and other valuable products, the method comprising distilling low-temperature tar to recover phenolic oil; thermally decomposing the residue from said phenolic oil distillation at a temperature between 375° C. and 475° C. and a pressure between atmospheric and 100 pounds per square inch to convert said residue into coke, gaseous products, and condensible oils including phenolic oil and middle oil, said condensible oils being comprised, in part, of organic compounds containing combined heteroatoms; recycling a portion of condensible hydrocarbons in admixture with said residue in an amount between 0.3 and 3.0 to 1 prior to said thermal decomposition step; extracting phenolic constituents from said first-mentioned and second-mentioned phenolic oils; hydrorefining said middle oil by catalytic treatment with hydrogen at a temperature between 425° C. and 620° C., a pressure between 100 and 1000 pounds per square inch and a liquid hourly



space velocity between 0.25 and 4.0, thereby obtaining refined hydrocarbon liquids suitable as solvents.

2,967,816
PROCESS FOR DECOLORIZING PETROLEUM RESINS AND PRODUCTS OBTAINED BY ADDING THE DECOLORIZED RESINS TO FUEL OIL

Charles N. Hudson, Springdale, Conn., assignor to Sinclair Refining Company, New York, N.Y., a corporation of Maine

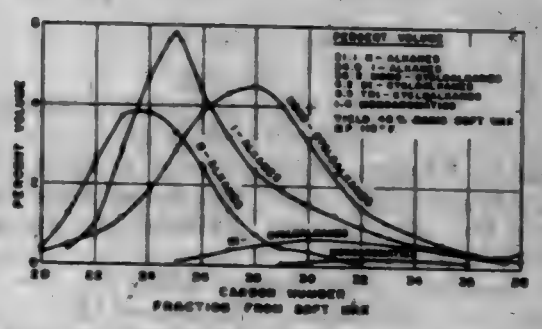
No Drawing. Filed July 23, 1957, Ser. No. 673,576
6 Claims. (Cl. 208—15)

3. A decolorized, pour depressed composition prepared by a process which comprises contacting a blend consisting essentially of about .05 to 2 percent by weight of an oil-soluble, propane-insoluble, paraffin base-derived resinous petroleum fraction having a viscosity of about 3,000 to 10,000 SSU at 210° F. and a petroleum fuel oil stock boiling in the range of about 300–900° F. with a desulfurization catalyst under non-cracking conditions of approximately 600–780° F., 0.5 to 4.0 WHSV, 300 to 1000 p.s.i. and 3 to 20 to 1 hydrogen to petroleum fuel oil stock ratio.

2,967,817
WAX PRODUCT COMPRISING TWO PARAFFIN WAXES AND AN ISOPARAFFINIC-NAPHTHENIC PLASTIC WAX

Stanley Marple, Jr. and Robert J. Olson, Houston, and Delmar M. Bartay, Pasadena, Tex., assignors to Shell Oil Company, a corporation of Delaware

Filed Apr. 30, 1956, Ser. No. 581,709
6 Claims. (Cl. 208—21)



4. As a new composition of matter, a wax composition comprising 0.5–5% by weight of a paraffin wax of crystalline structure having a melting point between about 165° F. and about 195° F., between about 20% and about 35% by weight of isoparaffin-naphthenic distillate wax of crystalline structure having a melting point between 108° F. and 117° F. and at least 60% by weight of a paraffin hydrocarbon wax of a crystalline structure

having a melting point between about 123 and 145° F., the oil content of said composition being less than about 0.2%.

2,967,818

METHOD FOR SEPARATION OF BITUMINOUS MATERIALS

Lee Garwin, Oklahoma City, Okla., assignor to Kerr-McGee Oil Industries, Inc., a corporation of Delaware

No Drawing. Filed Apr. 21, 1958, Ser. No. 729,529
11 Claims. (Cl. 208—45)

1. A process for separating an asphaltic bituminous material including asphaltenes, resins and oils into at least two fractions, which process comprises separating a heavy fraction containing essentially asphaltenes and resins substantially free of asphaltic oils from a lighter solvent fraction containing dissolved residual asphaltic bituminous material including oils by treating in a single treating zone at elevated temperature and pressure each volume of the asphaltic bituminous material with at least two volumes of a solvent consisting essentially of at least one cycloparaffin hydrocarbon having less than ten carbon atoms, the temperature of treatment being at least about 350° F. and not exceeding about 500° F., the temperature and pressure of treatment being adjusted to maintain liquid phase conditions and provide a solvent density in excess of 0.27 g./ml. and less than about 0.50 g./ml., the separated substantially asphaltic oil-free asphaltene-resin fraction being in the liquid phase and having a viscosity whereby it is freely flowable from the treating zone, and withdrawing the liquid phase asphaltene-resin fraction from the treating zone.

2,967,819

PROTECTION OF PLATINUM-CONTAINING REFORMING CATALYSTS AGAINST HALOGENS

Leonard N. Lewn, Media, and James E. Connor, Jr., Drexel Hill, Pa., assignors to The Atlantic Refining Company, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Feb. 28, 1958, Ser. No. 718,123
10 Claims. (Cl. 208—88)

1. In a reforming process wherein a hydrocarbon charge material containing ethylene dichloride and ethylene dibromide resulting from tetraethyl lead fluid contamination is contacted with a platinum containing hydrocarbon reforming catalyst under reforming conditions, the improvement which consists of contacting said hydrocarbon charge material under reforming conditions with hydrogen and a solid alkaline earth metal compound selected from the group consisting of calcium oxide, calcium sulfide, barium oxide, and barium sulfide to produce the corresponding alkaline earth metal halides and contacting the dehalogenated hydrocarbon charge material with the platinum containing hydrocarbon reforming catalyst.

2,967,820

CATALYST FOR HYDROCARBON CONVERSIONS

Herbert L. Johnson, Media, Henry E. Reif, Drexel Hill, and Abraham Schneider, Overbrook Hills, Pa., assignors to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

No Drawing. Filed June 4, 1958, Ser. No. 739,698
7 Claims. (Cl. 208—112)

4. A process for removing nonhydrocarbons from mixtures thereof with a petroleum fraction and for lowering the boiling points of a portion of the petroleum fraction which comprises contacting a petroleum fraction selected from the group consisting of gas oils and petroleum residues containing nonhydrocarbons, at a temperature of from about 550° F. to 900° F., a pressure of from about 1000 to 2500 p.s.i.g. and a space rate of from 0.3 to 5, and in the presence of added hydrogen, with a catalyst consisting essentially of cobalt molybdate in amount to provide from 5% to 20% by weight of molybdenum calculated as molybdic oxide and from 0.53% to 10.5% by weight of cobalt calculated as cobalt oxide, from 0.2% to 5% by weight of a promoter selected from the group consisting of zinc oxide and cadmium oxide, and the balance alumina.

2,967,821

CATALYTIC REFORMING OF PETROLEUM HYDROCARBONS WITH AN ALUMINA-CHROMIUM OXIDE CATALYST CONTAINING BISMUTH OXIDE AND AN ALKALI METAL OXIDE

John Arthur Edgar Moy and Bernard Whiting Burbidge, Sunbury-on-Thames, England, assignors to The British Petroleum Company Limited, London, England, a British joint-stock corporation

No Drawing. Filed Sept. 4, 1957, Ser. No. 681,890
Claims priority, application Great Britain Sept. 13, 1956
5 Claims. (Cl. 208—136)

1. A process for the treatment of a feedstock consisting essentially of a mixture of C_6 to C_7 non-aromatic hydrocarbons to effect a dehydrogenation or dehydrocyclization thereof comprising contacting the feedstock in a reaction zone in the presence of a catalyst consisting essentially of from 5 to 25% chromium oxide, from 0.1 to 5% of bismuth, expressed as the oxide, and 0.1 to 5% of an alkali metal, expressed as the oxide, and the balance alumina, at a temperature of from 450–580° C. and a pressure not in excess of about 50 p.s.i.g., and a space velocity of 0.1 to 1 v./v./hr., and in the absence of added hydrogen to the reaction zone, and recovering a product of increased aromatic content.

2,967,822

CATALYTIC REFORMING OF PETROLEUM HYDROCARBONS WITH AN ALUMINA-CHROMIUM OXIDE CATALYST COMPRISING BORON OXIDE

John Arthur Edgar Moy and Bernard Whiting Burbridge, Sunbury-on-Thames, England, assignors to The British Petroleum Company Limited, London, England, a British joint-stock corporation

No Drawing. Filed Dec. 4, 1957, Ser. No. 700,564
Claims priority, application Great Britain Dec. 7, 1956
5 Claims. (Cl. 208—136)

1. A process for the treatment of a feedstock consisting essentially of a mixture of C_6 to C_7 non-aromatic hydrocarbons to effect a dehydrogenation or dehydrocyclization thereof comprising contacting the feedstock in a reaction zone with a catalyst consisting essentially of 5 to 25% of chromium oxide, 0.1 to 5% boron, expressed as oxide, and balance alumina, at a temperature of about 450 to 580° C., at a pressure not in excess of about 50 p.s.i.g., at a space velocity of 0.1 to 1 v./v./hr., and in the absence of added hydrogen to the reaction zone, and recovering a product having increased aromatic content.

2,967,823

PROCESS FOR THE REFORMATION OF GASOLINE HYDROCARBONS WITH A METALLIC NICKEL CATALYST

Wolfgang Langenbeck, Rostock, Hermann Kaufmann, Leuna, and Jürgen Welker, Halle, Germany, assignors to VEB Leuna-Werke "Walter Ulbricht," Merseburg, Germany

No Drawing. Filed Oct. 7, 1958, Ser. No. 765,722
Claims priority, application Austria Oct. 22, 1957
11 Claims. (Cl. 208—137)

1. A process for reforming a gasoline hydrocarbon fraction boiling in the temperature range of about 80° C. to 200° C. to improve the octane rating thereof which comprises contacting said gasoline hydrocarbon in the presence of hydrogen at elevated temperatures in the

range of about 200° C. to 520° C. with a catalyst consisting of a mixture of metallic nickel with an oxide selected from the group consisting of zinc oxide, magnesium oxide and mixtures thereof and recovering said gasoline fraction with the improved octane rating.

2,967,824

PROCESS OF DEODORIZING HYDROCARBONS OF PETROLEUM

Joseph Quiquerez, Gonfreville-l'Orcher, and Edouard Weisang, Le Havre, France, assignors to Compagnie Française de Raffinage, Paris, France, a corporation of France

No Drawing. Filed June 18, 1957, Ser. No. 666,468
Claims priority, application France June 18, 1956
13 Claims. (Cl. 208—289)

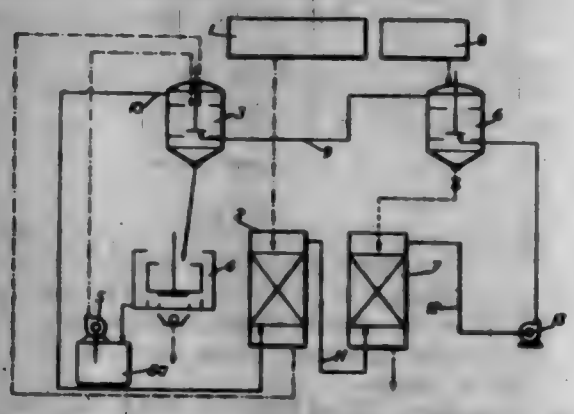
1. A method for deodorizing fuel oil, thermal and catalytic cycle petroleum distillate stocks, petroleum middle distillates, and like petroleum distillation fractions, having a preponderant proportion of hydrocarbon components with boiling points at least as high as 200° C., which comprises the steps of adding to said material to be deodorized after the completion of substantially all the refining and treating steps to which said material is subjected prior to use a solution of a condensation product of an alkyl-imino-phenol with an organic cobalt salt in an organic solvent, said solution being soluble in said material to be deodorized, and maintaining said added solution in said material to be deodorized for a substantial time and during storage thereof prior to use for reaction therein effecting deodorizing thereof and preventing formation therein of odoriferous components during storage.

2,967,825

PROCESS FOR THE ATHERMAL REMOVAL OF WATER FROM AQUEOUS LIQUORS BY AN ORGANIC SOLVENT

Abraham Baniel, Haifa, Israel, assignor to Makhtsavei Israel, Hakiria, Tel Aviv, Israel, an Israeli company

Filed Nov. 25, 1958, Ser. No. 776,266
Claims priority, application Israel Dec. 26, 1957
4 Claims. (Cl. 210—21)



1. A process for the athermic concentration of an aqueous donor liquor containing a disperse phase, wherein an organic solvent of limited water-miscibility in which the dispersed phase of the donor liquor is insoluble, is circulated between the latter and an acceptor having a lower partial water pressure than the donor liquor, thereby to carry water from the donor liquor to the acceptor.

2,967,826

CALCIUM SOAP GREASE CONTAINING LITHIUM HYDROXIDE

John P. Dilworth, Fishkill, Bill L. Benge, Clinton Hollow, and Terence B. Jordan, Fishkill, N.Y., assignors to Texaco Inc., a corporation of Delaware

No Drawing. Filed Dec. 23, 1957, Ser. No. 704,290
17 Claims. (Cl. 252—18)

1. In the preparation of calcium base greases, the improvement which comprises heating a dehydrated mixture of a calcium fatty acid soap and mineral lubricating oil containing about 1–3 percent by weight based on the weight of the finished grease of lithium hydroxide at a temperature in about the range 400–600° F. for about 1–5 hours in the presence of oxygen until a product having an ASTM dropping point above 400° F. is obtained, containing free alkali in an amount equivalent to at least about 60 percent by weight of the lithium hydroxide originally present in the said mixture.

2,967,827

METHOD OF RESISTING RADIATION DAMAGE TO ORGANIC FLUIDS AND COMPOSITIONS THEREFOR

Robert O. Bolt, San Rafael, and James G. Carroll, Martinez, Calif., assignors, by mesne assignments, to the United States of America as represented by the United States Atomic Energy Commission

No Drawing. Filed June 29, 1956, Ser. No. 595,014
12 Claims. (Cl. 252—28)

1. A nuclear radiation-resistant composition which is predominately a mixture of a base oil which is adversely affected by nuclear radiations selected from the group consisting of long-chain paraffinic hydrocarbons, long-chain paraffin substituted aromatic hydrocarbons, organic esters and polyethers and a radiation-resistant, liquid polymer of an alpha methyl styrene which polymer is soluble in said base oil and more viscous than said base oil, said mixture being composed of 1–70% of said polymer and the remainder said base oil.

2,967,828

SILICEOUS AMINO COMPOUNDS AND LUBRICATING GREASE CONTAINING SAME

Frederick J. Ihde, Jr., Mountain Lakes, N.J., assignor to Nopco Chemical Company, Harrison, N.J., a corporation of New Jersey

No Drawing. Filed Sept. 13, 1955, Ser. No. 534,162
31 Claims. (Cl. 252—49.7)

18. A mineral lubricating grease consisting essentially of a lubricating oil and from about 15% to about 40% by weight of a compound produced by reacting (*a*) a salt of a partial amide, said salt being selected from the group consisting of water-soluble and water-dispersible salts of partial amides and said partial amide being prepared by reacting an alkylene polyamine with a material selected from the group consisting of aliphatic monocarboxylic acids, their esters and acyl halides containing the radical RCO—, said R representing a carbon chain length of from about 5 to about 21 carbon atoms, glycerides, naphthenic acid and tall oil, and (*b*) an approximately stoichiometrically equivalent quantity of a silicate salt selected from the group consisting of sodium silicates, potassium silicates and ammonium silicates sufficient to neutralize all of the acid radicals of said salt of a partial amide.

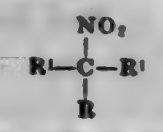
2,967,829

STABILIZED LIQUID PETROLEUM LUBRICANT

Edward O. Bennett, Houston, Tex., assignor to Commercial Solvents Corporation, Terre Haute, Ind., a corporation of Maryland

No Drawing. Filed June 27, 1958, Ser. No. 744,925
6 Claims. (Cl. 252—51.5)

1. A liquid petroleum lubricant composition consisting essentially of a liquid petroleum hydrocarbon and a sufficient amount of a nitroester to stabilize said hydrocarbon against metabolizing bacteria, said nitroester having the following structural formula:



wherein R is selected from the group consisting of hydro-

gen, halo, methyl, ethyl, and propyl; R^1 is selected from the group consisting of methyl, ethyl, propyl, and acyloxyalkyl with the proviso that at least one acyloxyalkyl radical is present; wherein the acyloxyl and alkyl radicals contain 1 to 3 carbon atoms each.

2,967,830

WITHDRAWN

2,967,831

HYDRAULIC FLUID AND ITS PREPARATION

Gordon H. Hommer, Concord, Calif., assignor to Tidewater Oil Company, a corporation of Delaware

Original application Sept. 29, 1954, Ser. No. 459,046, now Patent No. 2,892,854, dated June 30, 1959. Divided and this application Sept. 25, 1958, Ser. No. 768,515

21 Claims. (Cl. 252—77)

1. A water soluble oil-emulsifier base useful in the preparation of aqueous fluid emulsions consisting essentially of a petroleum oil fraction mixed in approximately equal proportions with the product made by the process of reacting at a temperature between about 300° F. and 350° F. a mixture of fatty acid having at least eight carbon atoms per molecule and a lower alkanolamine until between 75% and 90% of the total acid value and no more is consumed in a water-splitting reaction, and removing said water from the resulting product, the alkanolamine being present in amount between 1.1 and 1.5 equivalents per equivalent of acid.

2. A water soluble oil-emulsifier base useful in the preparation of aqueous fluid emulsions consisting essentially of a petroleum oil fraction mixed in approximately equal proportions with the reaction product made by reacting at a tempeature between about 300° F. and 350° F. a lower alkanolamine with an acid stock consisting on an acid-equivalent basis essentially of 100% to 75% fatty acid having at least eight carbon atoms per molecule and 0% to 25% ethylene diamine tetraacetic acid until between 75% and 90% of the total acid value is consumed in a water-splitting reaction, and removing said water from the resulting product, the alkanolamine being present in an amount between 1.1 and 1.5 equivalents per equivalent of acid.

2,967,832

POLYPHOSPHATE DETERGENT COMPOSITIONS CONTAINING DICYANDIAMIDE TARNISH INHIBITOR

Charles E. Light, Darien, Conn., assignor to American Cyanamid Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Nov. 15, 1954, Ser. No. 469,001

2 Claims. (Cl. 252—137)

1. A detergent composition suitable for use in washing copper-containing metals comprising from about 15 to 35 parts by weight of an organic detergent, about 5 to 50 parts of an inorganic alkali metal polyphosphate normally causing tarnishing of said copper-containing metal and, as a tarnish-inhibitor for said polyphosphate, from 0.01 to about 2 parts by weight of dicyandiamide.

2,967,833

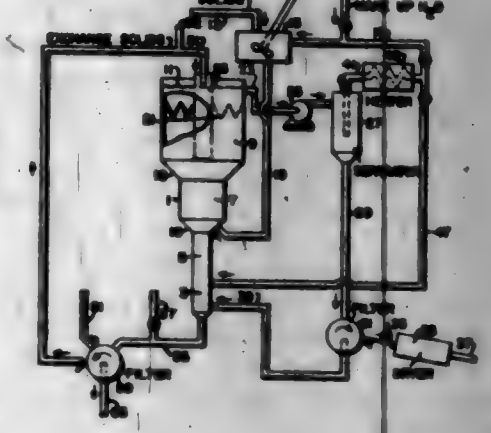
PURIFYING WATER INSOLUBLE SOLIDS

Charles N. Kimberlin, Jr., Baton Rouge, La., assignor to Esso Research and Engineering Company, a corporation of Delaware

Filed Dec. 13, 1952, Ser. No. 325,747

9 Claims. (Cl. 252—317)

1. A process for purifying gels which comprises passing a water slurry of water insoluble previously dried gel particles to be purified into a hindered settling mixing zone, introducing ion exchange solid particles of a larger size than said gel particles into said mixing zone, said ion exchange solid particles having about the same density as the solid gel particles, introducing water into said mixing zone and passing it upwardly through said mixing zone at a velocity to carry said gel particles and some ion exchange particles upwardly into a superimposed disengaging zone, reducing the velocity of the water in said disengaging zone to cause dropping back of ion exchange particles while permitting upward flow of said gel particles, withdrawing a slurry of ion exchange particles and some of said gel particles from the bottom of said mixing zone into a lower stripping zone in com-



munication with the bottom of said mixing zone, maintaining an upward flow of water in said stripping zone at a velocity to remove said gel particles from the ion exchange particles, passing a slurry of ion exchange particles into a settling zone to form a more concentrated water slurry of ion exchange particles, removing the last mentioned thickened slurry and separating ion exchange particles therefrom, regenerating the ion exchange particles and returning them to said mixing zone, withdrawing a slurry of said gel particles as purified gel particles from the upper portion of said disengaging zone, separating said purified gel particles from the water, drying said purified gel particles and recycling at least part of the water to said settling zone.

2,967,834

PREPARATION OF SOLID METAL HALIDE POLYMERIZATION CATALYSTS

John H. Daniel, Jr., Old Greenwich, and Donald F. Rossler, Stamford, Conn., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Feb. 13, 1958, Ser. No. 714,959

8 Claims. (Cl. 252—429)

1. A method for preparing an atmospheric stable metal halide catalyst component useful in conjunction with an organo-metallic cocatalyst for the preparation of linear polymers selected from the group consisting of polymers of ethylene, and of alpha-olefinic and 1,3-diolefinic polymerizable compounds, which comprises blending under inert atmospheric conditions; (A) a polymer of said group having the same composition as the polymer to be prepared, (B) a solvent for said polymer selected from the class consisting of aliphatic hydrocarbons having up to 20 carbon atoms, aromatic hydrocarbons and halogenated hydrocarbons (A), and (C) a finely divided metal halide of a transition metal selected from groups IVB to VIB of the periodic system, in a relative weight ratio of A to B to C in the range of 0.1:1:1 to 10:200:1, respectively said polymer forming a solution with said solvent.

2,967,835
HYDROGENATION CATALYST

Eugene V. Hort, Westfield, N.J., assignor to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 1, 1957, Ser. No. 675,549
17 Claims. (Cl. 252—447)

1. A process for producing a hydrogenation catalyst comprising treating an aqueous dispersion containing a copper compound and metallic palladium with a reducing agent to precipitate metallic copper in situ on the palladium.

2,967,836
ADHESIVE COMPRISING PHENOL ALDEHYDE RESIN AND WATER DISPERSIBLE GUM

William Richard Moffitt, Stamford, Conn., and Morris B. Berkey, Mercer Island, Wash., assignors to The Borden Company, New York, N.Y., a corporation of New Jersey

No Drawing. Filed Nov. 15, 1954, Ser. No. 469,040
4 Claims. (Cl. 260—17.2)

1. An adhesive comprising (1) a water soluble, further condensable product of the alkali-catalyzed condensation of 1–3 moles of formaldehyde with 1 mole of a phenol selected from the group consisting of phenol and cresol, the phenol and formaldehyde being so condensed in contact with a water dispersible gum selected from the group consisting of locust bean, karaya, and guar gums, and (2) sodium hydroxide serving as catalyst of further condensation of the resulting product, the proportions being about 0.1%–2.5% of the gum and 3.5%–31.4% of sodium hydroxide on the weight of the selected phenol, the said sodium hydroxide being in addition to the alkali catalyst of the said condensation, and the gum serving to decrease the penetration of the adhesive composition when applied to wood, increase the permissible assembly time with the adhesive, and decrease the time required for curing at the elevated temperatures of curing thereof.

2,967,837
COMPOSITIONS AND METHODS FOR CURING EPOXY RESINS

Jack Greenfield, Lake Hiawatha, N.J., assignor to Tung Research and Development League, Lyndhurst, N.J., a corporation of Louisiana

No Drawing. Filed July 30, 1958, Ser. No. 751,834
10 Claims. (Cl. 260—18)

1. The method of producing a curing agent for epoxy resin compositions which comprises the steps of heating together an acid derived from a vegetable oil which has a conjugated diene configuration and an alpha beta unsaturated dibasic acid until a tribasic acid adduct is formed, and thereafter esterifying one carboxyl group only of the resulting tribasic acid by heating together substantially equimolar proportions of a monohydric alcohol and said tribasic acid adduct.

2,967,838
NEW SYNTHETIC DRYING OILS

Alexander M. Partansky, Concord, Calif., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Nov. 15, 1954, Ser. No. 469,019
4 Claims. (Cl. 260—19)

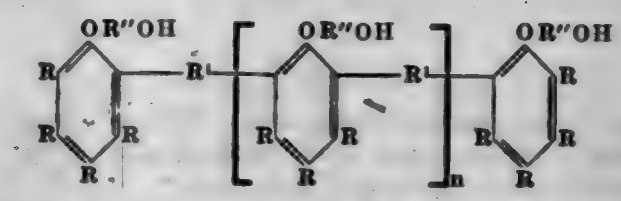
1. An esterification product of (1) the oxyalkylated reaction product of (*a*) a phenol-formaldehyde novolak in which there are 4 to 10 phenolic hydroxyls per molecule, substantially all of the phenolic constituents of the condensate being the trifunctional phenol, C_6H_5OH, with (*b*) from 0.85 to 1.2 mols for each phenolic nucleus of at least one compound from the group consisting of ethylene oxide and propylene oxide, said oxyalkylated product being one which is insoluble in aromatic hydrocarbons, and (2) carboxylic acids in amount to provide from 0.35 to 0.9 carboxyl group per alcoholic hydroxyl of the said oxyalkylated product, at least 60 percent of the carboxyl groups being furnished by fatty acids having drying characteristics.

2,967,839
COATING COMPOSITION OF AN AMINOTRIAZINE/ALDEHYDE RESIN AND ESTERS OF OXYALKYLATED PHENOL-ALDEHYDE RESIN

Ronald L. Millar, Elmhurst, and Charles G. Moore, Elmwood Park, Ill., assignors to The Glidden Company, Cleveland, Ohio, a corporation of Ohio

No Drawing. Filed June 14, 1955, Ser. No. 515,538
13 Claims. (Cl. 260—19)

1. A coating composition whose film-forming vehicle is a mineral spirits thinnable, single-phase, organic-solvent solution comprising a blend of the following: (A) at least one oil-soluble polyhydroxylic resin having the general formula:



wherein R represents a monovalent radical selected from the group consisting of hydrogen and alkyl radicals of 4–18 carbons, wherein R′ represents a divalent hydrocarbon radical of an aldehyde having up to 8 carbons, wherein R″ represents a divalent alkylene radical of an oxyalkylene compound having up to 4 carbons, and wherein *n* is an integer between 1 and 13; said polyhydroxylic resin having been esterified with glyceride oil fatty acids employed in amounts between about 15% by weight on the esterified resin and equal molar amounts based on the esterifiable alcoholic hydroxyls of said polyhydroxylic resin; (B) at least one organic solvent-soluble, mineral spirits tolerant resinous aldehyde condensation product of an aminotriazine having at least one amino group and a hydrogen atom attached to the amino nitrogen of each of said groups, said aminotriazine-aldehyde resin being present in said film-forming vehicle in amounts between 1% and 99% by weight on the total of A plus B.

2,967,840
POLYESTERS OF 4,5-EPOXYCYCLOHEXANE-1,2-DICARBOXYLIC ACIDS

Benjamin Phillips and Paul S. Starcher, Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Dec. 27, 1956, Ser. No. 630,765
16 Claims. (Cl. 260—22)

15. An oxirane oxygen-containing polyester of 4-cyclohexene-1,2-dicarboxylic acid, propylene glycol and oleic acid wherein an oxirane oxygen is attached to the 4,5-ring positions of the cyclohexane-1,2-dicarbonyl groups of said polyester.

2,967,841
PROCESS FOR IMPROVED DISPERSION OF PIGMENTS IN ENAMELS

Albert R. Hanke, Westfield, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Mar. 25, 1957, Ser. No. 648,005
14 Claims. (Cl. 260—22)

1. In a process for preparing an enamel coating composition by milling an oil-modified alkyd resin vehicle and a pigment, selected from the group consisting of phthalocyanine and dioxazine pigments said pigment being one which is agglomerated in said vehicle to the extent that it is the predominating cause of color variation in the

enamel composition upon using different methods of applying said composition, the improvement which comprises passing the milled material through a homogenizer.

2,967,842

COMPOSITION COMPRISING ALKENYL AROMATIC RESIN AND HEXACHLOROCYCLOPENTADIENE-DIVINYLBENZENE ADDUCT AND PROCESS FOR PREPARING

Carleton W. Roberts, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Feb. 27, 1958, Ser. No. 717,804
15 Claims. (Cl. 260—33.8)

1. A flame-retardant composition of matter comprising an intimate mixture of from 50 to 95 percent by weight of an alkenyl aromatic resin comprising a solid flammable polymer containing in chemically combined form at least 50 percent by weight of at least one alkenyl aromatic compound having the general formula:



wherein Ar represents an aromatic radical of the group consisting of hydrocarbon and halohydrocarbon radicals of the benzene series and R is a member of the group consisting of hydrogen and the methyl radical, and from 50 to 5 percent by weight of at least one halogen-containing organic compound selected from the group consisting of meta-bis(1,4,5,6,7,7-hexachlorobicyclo [2.2.1]-5-hepten-2-yl)benzene, para-bis(1,4,5,6,7,7-hexachlorobicyclo [2.2.1]-5-hepten-2-yl)benzene and mixtures thereof.

2,967,843

EPOXY RESIN COMPOSITION HAVING HIGH HEAT STABILITY

John Delmonte, Glendale, and Frank N. Hirosawa, Los Angeles, Calif., assignors to Furane Plastics Incorporated, Los Angeles, Calif., a corporation of California

No Drawing. Filed Nov. 19, 1956, Ser. No. 622,774
16 Claims. (Cl. 260—37)

15. A glass cloth laminate structure comprising superimposed layers of glass cloth impregnated and bonded together by a polyglycidal ether of 2,2 bis (4-hydroxy phenyl) propane resin-maleic anhydride methyl cyclopentadiene adduct mixture, the proportion being in the range from 0.8 to 3 moles of resin for each mole of the adduct, said glass cloth resin structure having been cured for at least 2 hours at a temperature of not less than 500° F.

2,967,844

WITHDRAWN

2,967,845

ALPHA OLEFIN HYDROCARBONS STABILIZED WITH CARBON BLACK AND A CARBOCYCLIC THIOETHER

Walter L. Hawkins, Montclair, Vincent L. Lanza, Summit, and Field H. Winslow, Springdale, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Nov. 29, 1956, Ser. No. 625,067
11 Claims. (Cl. 260—41)

1. A composition which is stabilized against oxidation comprising from 0.5 percent to 5 percent by weight of carbon black particles of a maximum size of 1000 angstroms, from 0.01 percent to 5 percent of a thioether containing two carbocyclic benzoid aromatic nuclei at least one of which is joined through a methylene group to the sulfur atom, in which thioether the maximum number of carbon atoms in each moiety including substituents is 30, and an essentially saturated hydrocarbon polymeric material selected from the group consisting of polymers of ethylene, propylene, butene-1, 3-methyl butene-1, 4-methyl pentene-1, 4,4-dimethyl pentene-1, dodecene-1, 3-methyl pentene-1, and mixtures of any of these materials, and in which all weight percents are based on the said composition.

2,967,846

ALPHA OLEFIN POLYMERS STABILIZED WITH FUSED RING SULFIDE COMPOUNDS

Walter L. Hawkins, Montclair, Vincent L. Lanza, Summit, and Field H. Winslow, Springdale, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Nov. 29, 1956, Ser. No. 625,068
10 Claims. (Cl. 260—41)

1. A composition which is stabilized against oxidation comprising from 0.5 percent to 5 percent by weight of carbon particles of a maximum size of 1000 angstroms, from 0.01 percent to 5 percent of a compound of the structure Ar—S—Ar' in which Ar and Ar' are fused ring carbocyclic benzenoid aromatic radicals both of which contain at least one substituent selected from the group consisting of hydroxyl radicals and secondary amine radicals and, further, in which compound the maximum number of carbon atoms in each fused ring moiety including substituents is 30, and an essentially saturated hydrocarbon polymeric material selected from the group consisting of polymers of ethylene, propylene, butene-1, 3-methyl butene-1, 4-methyl pentene-1, 4,4-dimethyl pentene-1, dodecene-1, 3-methyl pentene-1, and mixtures of any of these materials, and in which all weight percents are based on the said composition.

2,967,847

ALPHA OLEFIN HYDROCARBONS STABILIZED WITH CARBON BLACK AND A COMPOUND HAVING R-S-S-R STRUCTURE

Walter L. Hawkins, Montclair, Vincent L. Lanza, Summit, and Field H. Winslow, Springdale, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Nov. 29, 1956, Ser. No. 625,108
6 Claims. (Cl. 260—41)

1. A composition which is stabilized against oxidation comprising from 0.5 percent to 5 percent by weight of carbon black particles of a maximum size of 1000 angstroms, from .01 percent to 5 percent by weight of a compound containing at least one unit of the structure R—S—S—R' in which R and R' are alkyl radicals each containing from 4 to 30 carbon atoms, and an essentially saturated hydrocarbon polymeric material selected from the group consisting of polymers of ethylene, propylene, butene-1, 3-methyl pentene-1 and mixtures of any of these materials and in which all weight percents are based on the said composition.

2,967,848

ALPHA-OLEFIN HYDROCARBONS STABILIZED WITH CARBON BLACK AND A COMPOUND HAVING R(SH)$_x$ STRUCTURE

Walter L. Hawkins, Montclair, Vincent L. Lanza, Summit, and Field H. Winslow, Springdale, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Nov. 29, 1956, Ser. No. 625,109
7 Claims. (Cl. 260—41)

1. A composition which is stabilized against oxidation comprising from 0.5 percent to 5 percent by weight of carbon black particles of maximum size of 1000 Angstroms, from .01 percent to 5 percent of a compound of the structure R—(SH)$_x$ in which R is an alkyl radical containing from 6 to 30 carbon atoms and x is an integer

having a maximum value of two, and an essentially saturated hydrocarbon polymeric material selected from the group consisting of polymers of ethylene, propylene, butene-1, 3-methyl pentene-1, dodecene-1, 4,4-dimethyl pentene-1, 3-methyl butene-1, 4-methyl pentene-1 and mixtures of any of these materials, and in which all weight percents are based on the said composition.

2,967,849

STABILIZED STRAIGHT CHAIN HYDROCARBONS

Walter L. Hawkins, Montclair, Vincent L. Lanza, Summit, and Field H. Winslow, Springdale, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Nov. 29, 1956, Ser. No. 625,110
10 Claims. (Cl. 260—41)

1. A composition which is stabilized against oxidation comprising from 0.5 percent to 5 percent by weight of carbon black particles of a maximum size of 1000 angstroms, from 0.01 percent to 5 percent of a compound of the structure R—SH in which R is a ring structure each containing at least one carbon atom and in which the maximum number of carbon atoms in each of the ring structures including substituents is 30, and an essentially saturated hydrocarbon polymeric material selected from the group consisting of polymers of ethylene, propylene, butene-1, 3-methyl butene-1, 4-methyl pentene-1, 4,4-dimethyl pentene 1, dodecene 1, 3-methyl pentene-1 and mixtures of any of these materials, and in which all weight percents are based on the said composition.

2,967,850

COMPOSITIONS OF STABILIZED STRAIGHT CHAIN HYDROCARBONS CONTAINING CARBON BLACK AND A COMPOUND HAVING R-S-S-R STRUCTURE

Walter L. Hawkins, Montclair, Vincent L. Lanza, Summit, and Field H. Winslow, Springdale, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Nov. 29, 1956, Ser. No. 625,577
10 Claims. (Cl. 260—41)

1. A composition which is stabilized against oxidation comprising from 0.5 percent to 5 percent by weight of carbon black particles of a maximum size of 1,000 angstroms, from 0.01 percent to 5 percent of a compound containing at least one unit of the structure R—S—S—R' in which R and R' are ring structures each containing at least one carbon atom and in which the maximum number of carbon atoms in each of the said ring structures including substituents is 30, and an essentially saturated hydrocarbon polymeric material selected from the group consisting of polymers of ethylene, propylene, butene-1, 3-methyl butene-1, 4-methyl pentene-1, 4,4-dimethyl pentene-1, dodecene-1, 3-methyl pentene-1, and mixtures of any of these materials, and in which all weight percents are based on the said composition.

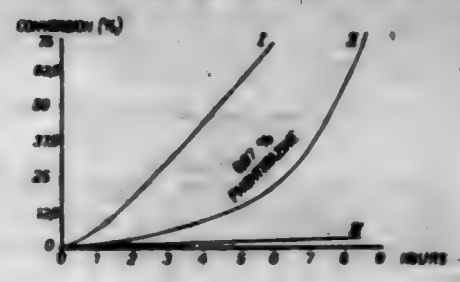
2,967,851

DIAZO CATALYSTS FOR THE POLYMERIZATION OF CHLOROPRENE

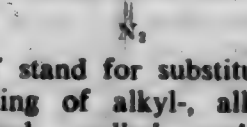
Ernst Roos, Leverkusen, and Dietrich Rosahl, Köln-Stammheim, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

Filed Mar. 25, 1958, Ser. No. 723,880
Claims priority, application Germany Mar. 30, 1957
10 Claims. (Cl. 260—45.9)

1. In a process for the polymerization of chloroprene containing a stabilizer which has been added to inhibit polymerization of the chloroprene during its transport and storage, said stabilizer comprising 0.01–3% by weight of a rubber anti-oxidant selected from the group consisting of a polyhydric aromatic phenol, an aromatic amine, an alkylated phenol, a styrolized phenol, a bis-hydroxyphenyl methane which is alkylated in the phenyl nucleus, an amino phenol, a styrolized diphenylamine, and a phenothiazine, the presence of said anti-oxidant



tending to adversely affect the subsequent polymerization of the chloroprene, the improvement comprising catalyzing the polymerization of the chloroprene by employing as a polymerization catalyst 0.005–2% by weight, based on the chloroprene, of a diazo compound of the general formula



wherein R and R' stand for substituents selected from the group consisting of alkyl-, alkoxy, cycloalkoxy-, aralkoxy-, cycloalkyl-, aralkyl-, and aryl-radicals, and wherein in all radicals consisting of or containing alkyl radicals, the chain length of the alkyl group is up to 10 carbon atoms, the polymerization being conducted at a pH value of 7–12 and at a temperature of about 40–110° C.

2,967,852

LOW PRESSURE POLYOLEFINE WITH A PHOSPHORIC ACID SALT STABILIZER

Albert Frese, Marl, Kreis Recklinghausen, Germany, assignor to Chemische Werke Hüls Aktiengesellschaft, Marl, Kreis Recklinghausen, Germany

No Drawing. Filed May 13, 1958, Ser. No. 734,857
Claims priority, application Germany Nov. 14, 1957
1 Claim. (Cl. 260—45.9)

A composition of matter comprising a normally solid, low-pressure poly-α-olefine in which the α-olefine contains from 2 to 4 carbon atoms, from 0.005% to 2%, based on the weight of the polyolefine, of an alkali metal salt of an oxygen acid of phosphorus selected from the group consisting of orthophosphoric acid, pyrophosphoric acid, metaphosphoric acid and phosphorous acid and from 0.01% to 0.5%, based on the weight of the polyolefine, of an anti-oxidant selected from the group consisting of 2,2'-methylene-bis-(4-methyl-6-tert.-butylphenol), o-cresylcamphane and methylglyoxal-di-(aminophenol).

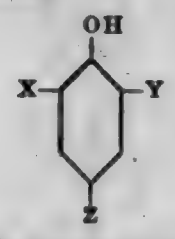
2,967,853

ARALKYL, TERT.-ALKYL, ALKYL SUBSTITUTED PHENOLS AS ANTIOXIDANTS IN RUBBERS

Ronald B. Specht, Franklin Township, Portage County, Ohio, assignor to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

No Drawing. Filed Mar. 31, 1955, Ser. No. 498,430
15 Claims. (Cl. 260—45.95)

3. A rubber composition containing rubber which is normally susceptible to deterioration by sunlight and atmospheric oxygen and as an antioxidant therefor an antioxidant amount of a phenol conforming to the following structural formula



wherein X is an aralkyl radical selected from the group consisting of primary aralkyl radicals and secondary

aralkyl radicals, Y is a tertiaryalkyl radical having at least 4 but not over 12 carbon atoms, and Z is an alkyl radical having at least 1 but not over 4 carbon atoms and being selected from the group consisting of primary alkyl radicals and secondary alkyl radicals.

2,967,854

P-XYLYLENE DIOL POLYESTERS

Janis A. Bungs, Painesville, Ohio, assignor to Diamond Alkali Company, Cleveland, Ohio, a corporation of Delaware

No Drawing. Filed Feb. 6, 1957, Ser. No. 638,454
10 Claims. (Cl. 260—75)

1. A polyester exhibiting both amorphous and crystalline forms, the amorphous form having a softening range between approximately 65° and 95° C. and the crystalline form having a melting point of approximately 195°–245° C., obtained by heating dimethylterephthalate with a mixture of p-xylylene diol and an alkylene glycol containing two to six carbon atoms in the presence of a polymerization catalyst selected from the group consisting of alkali metal alkoxides and heavy metal oxides, successively increasing the temperature in a stepwise manner to approximately 220°–225° C., applying at least a partial vacuum and stepwise increasing the temperature to approximately 265°–270° C., wherein the dimethylterephthalate and the diol-glycol mixture are reacted in a molar ratio of 1:1 to 1:2, inclusive, and the alkylene glycol comprises approximately 10 to 40 molar percent of the diol-glycol mixture.

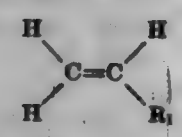
2,967,855

COPOLYMERS AND PROCESS FOR PREPARING THE SAME

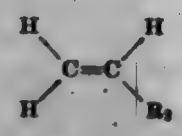
John L. Lang, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Jan. 30, 1957, Ser. No. 637,062
2 Claims. (Cl. 260—80.5)

1. A process for preparing thermoplastic copolymers comprising the preparation of a homogeneous monomeric material consisting of from 5 to 50 percent by weight of a first monomer having the general formula:



wherein R_1 is an organic functional substituent capable of making the hydrogen on the adjacent carbon active and which is selected from the group consisting of carboxyl, carboxyamide, esterified carboxyl, and aldehyde with from 65 to 10 percent by weight of a second monomer different from said first monomer and having the general formula:



wherein R_2 is selected from the group consisting of any of the values of R_1, nitrile, phenyl, and alkyl substituted phenyl, and a third monomer in an amount of not more than 30 percent by weight having the general formula:



wherein R_3 is selected from the group consisting of hydrogen and methyl and R_4 is selected from the group consisting of hydrogen, halogen, and alkyl at least 1 of said monomers other than said first monomer containing an aryl substituent attached directly to a terminal carbon of the ethylenic unsaturation, heating a mixture of said homogeneous monomeric material and the copolymer product of polymerization thereof at a polymerization temperature between about 130° C. and about 155° C. at a pressure sufficient to preserve the liquid state the proportion of said copolymer product being not more than about 50 percent by weight of said mixture, maintaining the proportions of said monomeric material and the proportion of said copolymer product in said mixture substantially constant by feeding additional of said mixed monomeric material to the mixture at the rate at which said monomeric material is polymerized while withdrawing said copolymer product at about the same rate at which said monomeric material is being fed to said mixture.

2,967,856

THREE-COMPONENT METAL HYDRIDE-TRANSITION METAL HALIDE CATALYST AND OLEFIN POLYMERIZATION PROCESS THEREWITH

Harry W. Coover, Jr. and Frederick B. Joyner, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Mar. 31, 1958, Ser. No. 724,912
10 Claims. (Cl. 260—93.7)

1. In the polymerization of *a*-monoolefinic hydrocarbons containing 3 to 8 carbon atoms to form solid crystalline polymer, the improvement which comprises catalyzing the polymerization reaction with a catalytic mixture consisting essentially of a hydride selected from the group consisting of sodium hydride, potassium hydride, calcium hydride and lithium aluminum hydride, a chloride of a transition metal selected from the group consisting of titanium, zirconium, vanadium, chromium and molybdenum and an organophosphorus compound selected from the group consisting of tri-lower alkyl phosphites, tri-lower alkyl phosphates and hexalower alkyl phosphoric triamides, the molar ratio of hydride to organophosphorus compound being within the range of 1:1 to 1:0.25.

2,967,857

TREATMENT FOR STABILIZING POLYMERIZED OLEFINS PREPARED WITH CATALYTIC METAL COMPOUNDS

Charles R. Pfeifer and Richard O. Whipple, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Oct. 10, 1955, Ser. No. 539,698
5 Claims. (Cl. 260—94.9)

1. In a process wherein a normally gaseous monoalpha-olefin is polymerized with a Ziegler-type catalyst system which is of the class that is an admixture of (*a*) a strong reducing agent selected from the group consisting of aluminum trialkyls, dialkyl aluminum halides, dialkyl aluminum hydrides and dialkyl aluminum alkoxides and (*b*) a compound selected from the group consisting of halogenides, oxyhalogenides, complex halogenides, freshly precipitated oxides and hydroxides, alcoholates, acetates, benzoates and acetylacetonates of metals of groups IV–B, V–B and VI–B of the Mendeléeff Periodic System; and the resulting polymerized product is treated, before being permitted to be exposed to air, to inactivate catalyst residue therein, the improved treatment for the indicated purpose which consists of contacting the catalyst residue-containing polymerized product with water containing a dissolved synthetic detergent surfactant material before the polymer product is permitted to be exposed to air.

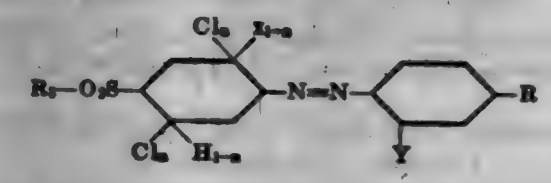
2,967,858

MONOAZO DYESTUFFS OF LOW WATER SOLUBILITY

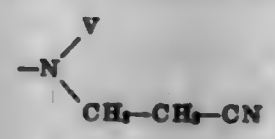
Ernest Merian, Bottmingen, Basel-Land, Curt Müller, Basel, and Otto Senn, Arlesheim, Basel-Land, Switzerland, assignors to Sandoz Ltd., Basel, Switzerland

No Drawing. Filed Feb. 5, 1959, Ser. No. 791,258
Claims priority, application Switzerland Feb. 7, 1958
4 Claims. (Cl. 260—205)

1. A monoazo dyestuff of low solubility in water, of the formula



wherein R_3 represents a member selected from the group consisting of lower alkyl, allyl, lower cyanoalkyl, lower chloroalkyl and lower bromoalkyl, *x* represents a member selected from the group consisting of cyano, trifluoromethyl and sulfonic acid lower alkylamide, *y* represents a member selected from the group consisting of hydrogen, chlorine, lower alkyl, trifluoroacetylamino and alkanoylamino with not more than 18 carbon atoms, *n* represents a member selected from the group consisting of 1 and 0, and R is selected from the group consisting of



and



wherein V represents a member selected from the group consisting of lower alkyl and lower hydroxyalkyl, and W_1 represents a member selected from the group consisting of lower acetoxyalkyl, propionyloxyalkyl, alkyl-substituted carbamic acid alkyl ester and phenyl-substituted carbamic acid alkyl ester.

2,967,859

PROCESS FOR DIGLUCOSE UREIDE

Lloyd I. Osipow, Mossey, and William C. York, deceased, late of Westbury, N.Y., by Ruth M. York, administratrix, Mineola, N.Y., assignors to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut

No Drawing. Filed May 22, 1959, Ser. No. 814,996
12 Claims. (Cl. 260—211)

1. A process for the preparation of diglucose ureide which comprises heating at least two moles of glucose with one mole of urea from about 75° C. to the boiling point of the reaction mixture in the presence of about 0.2 to 1 mole of water for each mole of glucose and a strong acid catalyst, and recovering the diglucose ureide thus formed from the reaction mixture.

2,967,860

5-TRIFLUOROMETHYL DERIVATIVES OF VITAMIN B_{12}

David Perlman, Princeton, and John T. Sheehan, Middlesex, N.J., assignors to Olin Mathieson Chemical Corporation, New York, N.Y., a corporation of Virginia

Filed Aug. 15, 1956, Ser. No. 604,248
3 Claims. (Cl. 260—211.5)

1. A compound selected from the class consisting of 5-trifluoromethylbenzimidazole-hydroxo - cobalamin and salts thereof.

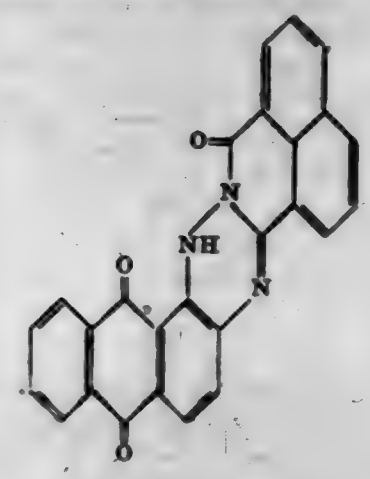
2,967,861

NAPHTHALIMIDO-TRIAZINO-ANTHRAQUINONE

William L. Mosby, North Plainfield, and William L. Berry, Neshanic, N.J., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Oct. 12, 1959, Ser. No. 845,612
1 Claim. (Cl. 260—249)

The compound of the formula



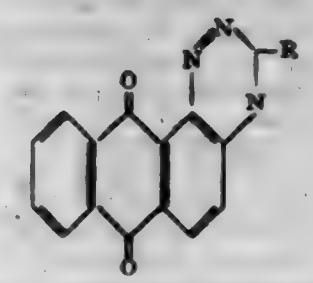
2,967,862

ANTHRAQUINONE 1,2,4-TRIAZINES

William L. Berry, Neshanic, and William L. Mosby, North Plainfield, N.J., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Oct. 12, 1959, Ser. No. 845,635
4 Claims. (Cl. 260—249)

1. Compounds of the structure



in which R is selected from the group consisting of 2-anthraquinonyl, 1 - chloro - 2 - anthraquinonyl, 1-methoxy-2-anthraquinonyl and 1-amino-2-anthraquinonyl.

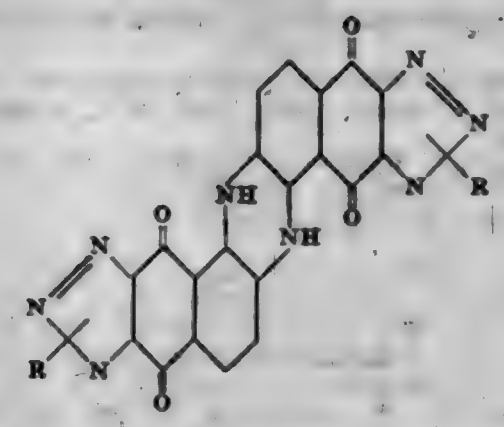
2,967,863

NITRO- AND AMINO-NAPHTHOTRIAZOLE QUINONES

Mario Scalera, Somerville, N.J., Andrew S. Tomcufcik, Tappan, N.Y., and William B. Hardy, Bound Brook, N.J., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine

No Drawing. Filed July 25, 1958, Ser. No. 750,897
1 Claim. (Cl. 260—250)

A compound having the structure:



in which R is a lower alkyl group.

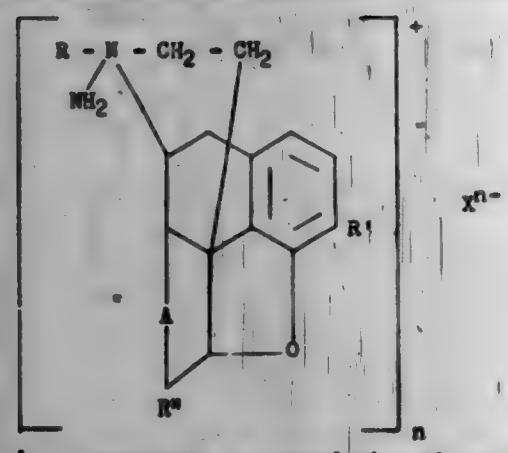
2,967,864

QUATERNIZED MORPHINE DERIVATIVES

Bernard Rudner, Pittsburgh, Pa., assignor to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut

No Drawing. Filed Aug. 18, 1958, Ser. No. 755,394
10 Claims. (Cl. 260—256.4)

1. Compounds of the formula:



wherein —A— represents an unsubstituted two carbon linkage selected from the group consisting of —C—C—, —C=C—, =C—C= and =C—C; R is selected from the group consisting of lower alkyl and lower alkenyl radicals; R′ is selected from the group consisting of hydrogen, hydroxyl, lower alkoxy and lower alkanoyloxy; R″ is selected from the group consisting of hydrogen, hydroxyl, lower alkoxy, lower alkanoyloxy and oxo; X is a pharmaceutically acceptable anion; and *n* is an integer less than four.

8. N-aminoethylmorphinium 5,5-diethylbarbiturate.

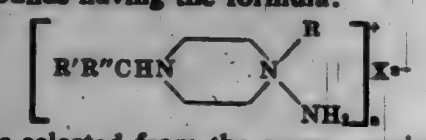
2,967,865

PIPERAZINIUM SALTS

Bernard Rudner, Pittsburgh, Pa., assignor to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut

No Drawing. Filed Sept. 16, 1958, Ser. No. 761,295
8 Claims. (Cl. 260—268)

1. Compounds having the formula:



wherein R is selected from the group consisting of lower alkyl, lower allylic alkenyl and hydroxy lower alkyl; R′ and R″ are selected from the group consisting of phenyl, halo phenyl, lower alkyl phenyl and lower alkoxy phenyl; X is a pharmaceutically acceptable anion; and *n* is an integer from one to three.

2,967,866

N-(p-CHLOROBENZYL) CYCLOSERINE

Edward B. Hodge, Terre Haute, Ind., assignor to Commercial Solvents Corporation, New York, N.Y., a corporation of Maryland

No Drawing. Filed Apr. 7, 1959, Ser. No. 804,575
4 Claims. (Cl. 260—307)

1. N-(p-chlorobenzyl)cycloserine.

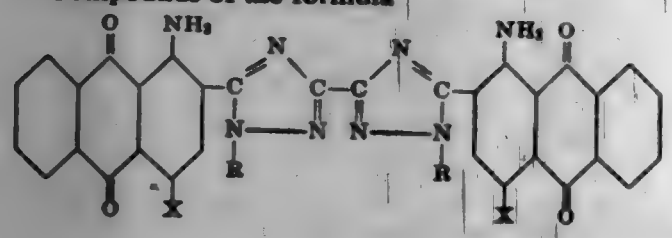
2,967,867

VAT DYES OF ANTHRAQUINONE-BIS-TRIAZOLE SERIES

Ann W. Joyce, Millersville, Md., assignor to American Cyanamid Company, New York, N.Y., a corporation of Maine

No Drawing. Filed May 7, 1959, Ser. No. 811,525
6 Claims. (Cl. 260—308)

1. Compounds of the formula



in which R is selected from the group consisting of hydrogen and lower alkyl, and X is selected from the group consisting of hydrogen, nitro, chloro, bromo, amino and aromatic carboxylic acylamido.

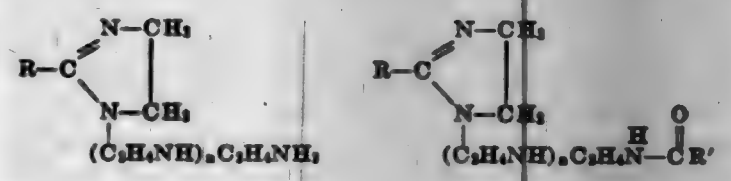
2,967,868

CERTAIN SULFUR TRIOXIDE TREATED IMIDAZOLINE DERIVATIVES

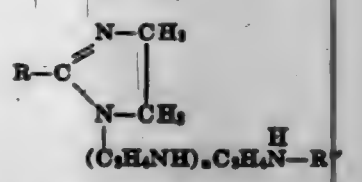
Alvin Howard Smith, Glendale, Mo., assignor to Petrolite Corporation, Wilmington, Del., a corporation of Delaware

No Drawing. Filed May 15, 1959, Ser. No. 813,348
6 Claims. (Cl. 260—309.6)

1. A member of the group consisting of sulfur trioxide treated imidazolines and acid addition salts thereof obtained by contacting an imidazoline selected from the class consisting of



and



wherein R and R′ are each selected from the class consisting of alkyl and alkenyl groups containing 1 to 21 carbon atoms, where *n* is 0 to 2, and where R″ is selected from the class consisting of hydroxyalkyl and hydroxyalkyleneoxy groups containing 2 to 9 carbon atoms, while dissolved in a hydrocarbon solvent, with sulfur trioxide diluted with air under sulfonation conditions including a temperature of 50–75° C. and an air to sulfur trioxide ratio by volume of 7 to 12:1.

2,967,869

PROCESS FOR OBTAINING D(—)-α-HYDROXY-β,β-DIMETHYL-γ-BUTYROLACTONE

Charles O. Beckmann, Bayville, and Howard C. Klein, Brooklyn, N.Y., and Richard Griffith, Middletown, N.J., assignors to Nopco Chemical Company, Harrison, N.J., a corporation of New Jersey

No Drawing. Filed June 19, 1958, Ser. No. 742,996
23 Claims. (Cl. 260—343.6)

1. A process for obtaining D(—)-α-hydroxy-β,β-dimethyl-γ-butyrolactone which comprises the steps of bringing into contact with each other l-brucine and a racemic material selected from the group consisting of racemic α,γ-dihydroxy-β,β-dimethylbutyramide and racemic α-hydroxy-β,β-dimethyl-γ-butyrolactone in the presence of from about 3% to about 26% by weight of said racemic material of a racemization agent in methanol, recovering from the resulting reaction product a complex of l-brucine D(—)-α-hydroxy-β,β-dimethyl-γ-butyrolactone and freeing from said complex said D(—)-α-hydroxy-β,β-dimethyl-γ-butyrolactone, said racemization agent being selected from the group consisting of alkali metal and alkaline earth metal alcoholates in which the alcohol portion contains from one to about four carbon atoms, aluminum isopropoxide, alkali metal silicates and alkali metal carbonates.

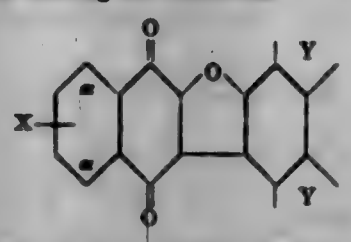
2,967,870

DERIVATIVES OF DINAPHTHO-FURAN-DIONE

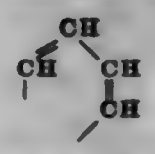
David I. Randall, New Vernon, and Wilhelm Schmidt-Nickels, Little York, N.J., assignors to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Nov. 17, 1958, Ser. No. 774,169
18 Claims. (Cl. 260—346.2)

1. Compounds having the formula



wherein one adjacent pair of Y valences are bonded to hydrogen atoms, the other adjacent pair of Y valences are bonded to a group having the formula



and X is selected from the group consisting of NO_2 and NH_2 and is bonded in one of the α positions.

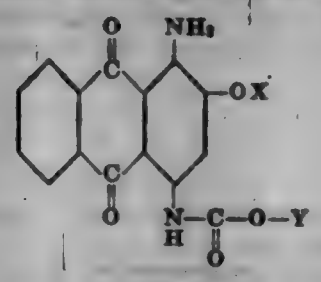
2,967,871

ANTHRAQUINONE DYE COMPOUNDS

James M. Straley and Ralph R. Giles, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Mar. 10, 1958, Ser. No. 720,024
7 Claims. (Cl. 260—377)

1. The anthraquinone compounds having the formula:



wherein X represents a member selected from the group consisting of a methyl group, an ethyl group, a β-methoxyethyl group and a β-ethoxyethyl group and Y represents a member selected from the group consisting of an alkyl hydrocarbon group having 4 to 8 carbon atoms and a cyclohexyl group.

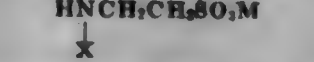
2,967,872

PROCESS FOR MAKING ACYL TAURIDES

Carl Peer Lorentzen, Indianapolis, Ind., assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio

No Drawing. Filed Dec. 18, 1958, Ser. No. 781,189
6 Claims. (Cl. 260—401)

1. A process for the production of higher acyl taurides which comprises reacting, with agitation, at least one mole of a higher molecular weight fatty acid anhydride with one mole of taurine salt in aqueous solution having the formula



where X is selected from the group consisting of hydrogen and alkyl radicals having one to four carbon atoms and M is selected from the group consisting of alkali metal, alkaline earth metal, magnesium, ammonium and substituted ammonium, in the absence of alkaline agents at a temperature above the melting point of said anhydride whereby the reaction product is a mixture of said taurides and free higher molecular weight fatty acids substantially free from inorganic salts, soaps and unreacted taurine salt.

2,967,873

PROCESS FOR THE PRODUCTION OF ALIPHATIC AND CYCLOALIPHATIC MONOCARBOXYLIC ACID ALKYL ESTERS

Herbert Koch and Karl Erich Möller, Mulheim (Ruhr), Germany, assignors to Studiengesellschaft Kohle m.b.H., Mulheim (Ruhr), Germany

No Drawing. Filed Apr. 15, 1958, Ser. No. 728,537
Claims priority, application Germany Apr. 24, 1957
13 Claims. (Cl. 260—410.9)

1. In the process for the production of aliphatic and cycloaliphatic monocarboxylic acid alkyl esters by reacting an olefine having at least 6 carbon atoms in its molecule with carbon monoxide and an aliphatic alcohol of low molecular weight in the presence of an acid catalyst containing boroff fluoride, the improvement which comprises in a first stage reacting an olefine with carbon monoxide at an elevated pressure in the presence of a catalyst consisting of a mixture of a hydroxy fluoboric acid and an alkoxy fluoboric acid, both in significant amounts, said catalyst containing at least 1 mol and at the most 2 mols of water in bound form plus an alcohol which is a member selected from the group consisting of methanol, ethanol and propanol in bound form per mol of boron fluoride, thereafter in a second stage adding to the reaction mixture an alcohol which alcohol is identical with the alcohol component of the catalyst mixture for separating the catalyst from the reaction product which product consists of a major amount of a mono-carboxylic acid alkyl ester and a minor amount of a free mono-carboxylic acid and separately recovering said ester and said acid.

2,967,874

PROCESS FOR INCREASING THE CHAIN LENGTH OF LEVULINIC ACID

Johann Giesen, Haldenstein, near Chur, and Wilhelm Deiters, Chur, Switzerland, assignors to Inventa A.G. für Forschung und Patentverwertung, Zurich, Switzerland

No Drawing. Filed June 8, 1959, Ser. No. 818,503
Claims priority, application Germany July 10, 1956
3 Claims. (Cl. 260—413)

1. A process of making saturated carboxylic acids having a straight chain of 7 to 10 carbon atoms from levulinic acid while precluding the formation of branched condensation products which comprises substituting one hydrogen atom in the β-methylene group of said levulinic acid with a chlorine atom, splitting HCl off the β-chlorolevulinic acid, thus formed, by action of a sodium salt thereon, thereby obtaining acetoacrylic acid; condensing the latter with an aliphatic aldehyde containing from 2 to 5 carbon atoms in a straight chain to a carboxylic acid by action of a basic medium, selected from the group consisting of alkali salts and alkali hydroxides, and saturating said carboxylic acid by hydrogenation.

2,967,875

PROCESS FOR THE PRODUCTION OF NEW ADDITION PRODUCTS FROM ALUMINIUM HYDROCARBONS AND ACETYLENE OR ACETYLENE DERIVATIVES

Günther Wilke, Mulheim (Ruhr), Germany, assignor to Karl Ziegler, Mulheim (Ruhr), Germany

No Drawing. Filed Feb. 15, 1956, Ser. No. 565,554
Claims priority, application Germany Feb. 15, 1955
12 Claims. (Cl. 260—448)

1. Process for the production of organic aluminum addition products, which comprises contacting an organic aluminum compound having the formula AlR_2R',

in which R is a hydrocarbon radical and R′ is a member selected from the group consisting of hydrogen and hydrocarbon radicals with an acetylenic hydrocarbon compound having the formula R′—C≡C—R″, in which R″ is a member selected from the group consisting of hydrogen, hydrocarbon radicals, and the group —AlR_2 at a temperature ranging from about room temperature to about 60° C. and recovering the addition product formed.

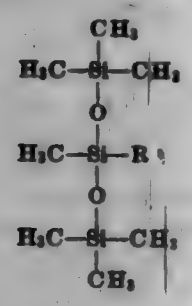
2,967,876

ORGANOFUNCTIONAL SILOXANES

Donald L. Bailey, Snyder, N.Y., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Dec. 17, 1957, Ser. No. 703,251
3 Claims. (Cl. 260—448.2)

1. An organofunctional siloxane selected from the group of siloxanes represented by the formula:



wherein R represents a member selected from the group consisting of, beta-acetoxyethyl, and gamma-acetoxypropyl radicals.

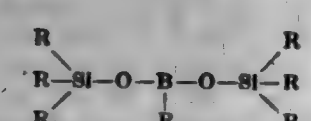
2,967,877

COMPOUNDS CONTAINING BORON AND SILICON

Stephen J. Groszos, Cincinnati, Ohio, assignor to American Cyanamid Company, New York, N.Y., a corporation of Maine

No Drawing. Original application Sept. 24, 1957, Ser. No. 685,826, now Patent No. 2,915,543, dated Dec. 1, 1959. Divided and this application Nov. 19, 1958, Ser. No. 774,832
5 Claims. (Cl. 260—448.2)

1. A compound represented by the general formula



wherein each R represents a radical selected from the class consisting of aryl, alkaryl, and halogenoaryl radicals.

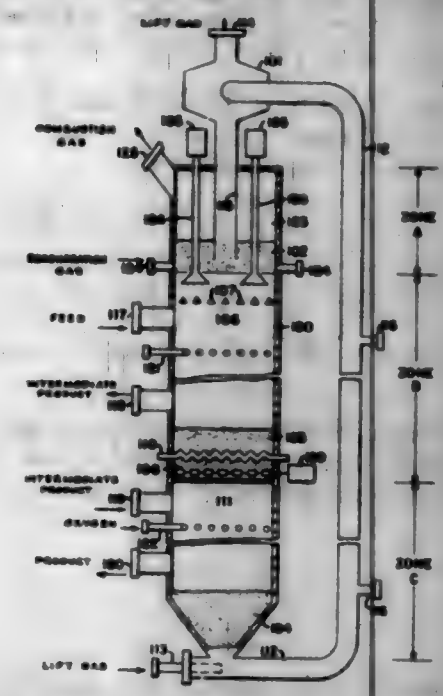
2,967,878

VAPOR PHASE CATALYTIC CONVERSION PROCESSES

Merrell R. Fenske and Jennings H. Jones, State College, Pa., assignors to Esso Research and Engineering Company, a corporation of Delaware

Filed Mar. 31, 1958, Ser. No. 725,157
15 Claims. (Cl. 260—451)

1. A catalytic conversion process which comprises contacting in an upper zone a hydrocarbon vapor feed with finely divided catalyst particles in essentially free fall condition whereby said hydrocarbon feed is cracked to produce unsaturated compounds of lower molecular weight than said feed, withdrawing cracked product from said upper reaction zone and accumulating said finely divided solids, cooling said accumulated finely divided solids, passing cracked product into a lower reaction zone in contact with said cooled finely divided solids and an oxygen-containing gas, said solids being distributed downwardly through said lower reaction zone in essentially free fall condition and in an amount sufficient to aid in controlling the temperature in said lower reaction zone and recovering valuable oxygenated products from said lower zone.



2,967,879

6-BENZOYL-2-CYCLOHEXYL-3-METHOXYPHENYL BENZOATE AND PROCESS OF PRODUCTION

Robert L. Hudson, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Sept. 22, 1958, Ser. No. 762,223
2 Claims. (Cl. 260—476)

1. 6-benzoyl-2-cyclohexyl-3-methoxyphenyl benzoate.

2. A method of preparing 6-benzoyl-2-cyclohexyl-3-methoxyphenyl benzoate which comprises reacting, in the presence of zinc chloride and at a temperature of from 20° to 75° C., two molecular portions of benzoyl chloride and one molecular proportion of 2-cyclohexylresorcinol dimethyl ether.

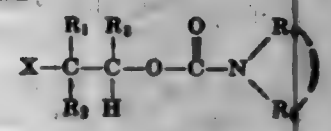
2,967,880

CARBAMIC ACID GLYCOL ESTERS

Otto Finke, Karl Zeile, and Herbert Köppe, all of Ingelheim (Rhine), Germany, assignors to C. H. Boehringer Sohn, Ingelheim (Rhine), Germany, a partnership

No Drawing. Filed Oct. 16, 1958, Ser. No. 767,523
Claims priority, application Germany Oct. 21, 1957
17 Claims. (Cl. 260—482)

1. The levo-enantiomorphs, substantially free from their optical antipodes, of carbamic acid esters having the structural formula



wherein:

X is selected from the group consisting of hydroxyl, chlorine and bromine,

R_1 and R_2 are selected from the group consisting of lower alkyl, lower alkenyl, phenyl, lower alkyl-substituted phenyl, lower alkoxy-substituted phenyl, cyclohexyl and benzyl,

R_3 is lower alkyl

R_4 is selected from the group consisting of hydrogen, lower alkyl and carbamyl,

R_5 is selected from the group consisting of hydrogen and lower alkyl, and

R_4 and R_5, together with each other and the adjacent nitrogen atom, form a heterocyclic radical selected from the group consisting of piperidyl and morpholyl.

2,967,881

WITHDRAWN

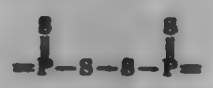
2,967,882

PREPARATION OF ACRYLIC ACID ESTERS

Jesse T. Dunn and William R. Proops, Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Apr. 1, 1958, Ser. No. 725,483
9 Claims. (Cl. 260—486)

1. In the manufacture of an acrylic acid ester by the inter-action of acetylene with carbon monoxide and an alcohol at elevated temperature and under increased pressure, the improvement which comprises carrying out the reaction in the presence of a catalyst complex combination of a nickel halide and a disulfide of an organic sulfur-phosphorus-containing acid compound having pentavalent phosphorus in the bis-(phosphorthio) disulfide radical thereof, said bis-(phosphorthio) disulfide radical having the formula:



in which all of the free valences bonds thereof are satisfied by members selected from the group consisting of R, R′, RZ and R′Z groups, wherein R and R′ singly are members selected from the group consisting of alkyl radicals containing up to about 22 carbon atoms, aryl radicals selected from the group consisting of a phenyl and naphthyl radical, and trihydrocarbylsilanyl radicals; Z represents a member selected from the group consisting of an oxygen atom and an amido radical; and when taken together RZ and R′Z attached to the same phosphorus atom represent a cyclic dioxa nucleus.

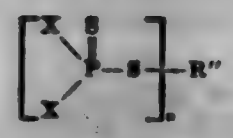
2,967,883

PREPARATION OF ACRYLIC ACID ESTERS

Jesse T. Dunn and William R. Proops, Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Apr. 1, 1958, Ser. No. 725,515
19 Claims. (Cl. 260—486)

1. In the manufacture of an acrylic acid ester by the interaction of acetylene with carbon monoxide and an alcohol at elevated temperature and under increased pressure, the improvement which comprises carrying out the reaction in the presence of a catalyst complex combination of a nickel halide and an organic sulfur-phosphorus-containing acid compound containing a pentavalent phosphorus atom having a thiono radical and a mercapto radical attached thereto, as represented by the general formula:



wherein R″ represents a member selected from the group consisting of a hydrogen atom and a nickel atom; *n* is an integer having a value of 1 and 2; and X represents a member selected from the group consisting of R, R′, RZ and R′Z radicals in which R and R′ singly are members selected from the group consisting of alkyl radicals containing up to about 22 carbon atoms, aryl radicals selected from the group consisting of a phenyl and naphthyl radical, and trihydrocarbylsilanyl radicals; Z represents a member selected from the group consisting of an oxygen atom and an amido radical; and when taken together RZ and R′Z represent a cyclic dioxa nucleus.

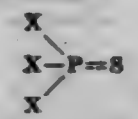
2,967,884

PREPARATION OF ACRYLIC ACID ESTERS

Jesse T. Dunn and William R. Proops, Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Apr. 1, 1958, Ser. No. 725,516
7 Claims. (Cl. 260—486)

1. In the manufacture of an acrylic acid ester by the interaction of acetylene with carbon monoxide and an alcohol at elevated temperature and under increased pressure, the improvement which comprises carrying out the reaction in the presence of a catalyst complex combination of a nickel halide and an organic phosphorus-sulfur compound containing a pentavalent phosphorus atom having a thiono radical attached thereto as represented by the general formula:



wherein X represents a member selected from the group consisting of R, R′, R″, RZ, R′Z and R″Z in which R, R′ and R″ represent members selected from the group consisting of alkyl radicals containing up to about 22 carbon atoms and aryl radicals selected from the group consisting of a phenyl and naphthyl radical, Z represents a member selected from the group consisting of an oxygen atom, a sulfur atom and an amido radical; and when taken together R′Z and R″Z represents a cyclic dioxa nucleus.

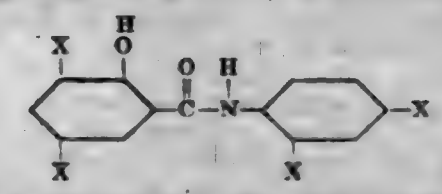
2,967,885

PREPARATION OF HALOGENATED ANILIDES OF SALICYLIC ACID

Vincent Lamberti, Hackensack, N.J., assignor to Lever Brothers Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Aug. 22, 1958, Ser. No. 756,536
9 Claims. (Cl. 260—559)

1. In the process for preparing halogenated salicylanilides having the formula



wherein X is selected from the group consisting of bromine, chlorine and hydrogen with at least two halogen substituents being present in the molecule, by treating salicylanilide with a halogen selected from the group consisting of chlorine and bromine, the improvement which comprises treating an aqueous slurry of said halogenated salicylanilide having a pH substantially below 4 with a soluble alkali metal phosphate thereby to raise the pH to a value of at least about 4, and thereafter separating the halogenated salicylanilide from the liquid associated therewith.

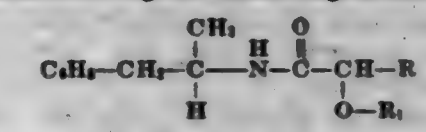
2,967,886

AMIDES OF d-α-METHYLPHENETHYLAMINE

Seymour L. Shapiro, Hastings-on-Hudson, and Louis Freedman, Bronxville, N.Y., assignors to U.S. Vitamin & Pharmaceutical Corporation, a corporation of Delaware

No Drawing. Filed July 17, 1957, Ser. No. 672,355
6 Claims. (Cl. 260—562)

1. As a composition of matter an amide of d-α-methylphenethylamine having the following structural formula:



where R is a member of the group consisting of hydrogen and methyl, and R_1 is a member of the group consisting of hydrogen, lower alkyl, lower alkenyl, and aralkyl.

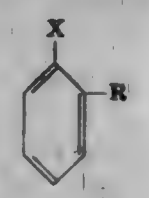
2,967,887

PROCESS FOR THE PREPARATION OF PHENYL-MERCAPTO-PHENYLAMINES AND PHENYL-MERCAPTO-NAPHTHYLAMINES

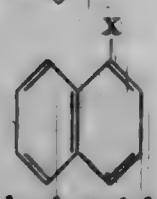
William E. Hanford and John W. Copenhaver, Short Hills, and Horace R. Davis, Jr., Cedar Grove, N.J., assignors to The M. W. Kellogg Company, Jersey City, N.J., a corporation of Delaware

No Drawing. Filed Apr. 30, 1956, Ser. No. 581,286
5 Claims. (Cl. 260—580)

1. A process which comprises; reacting in an alkaline medium at a temperature in the range of between about 25° C. and about 250° C., a thiophenol having only carbon and hydrogen substituents in the phenyl portion thereof and a compound selected from the group consisting of



and



in which X is a radical selected from the group consisting of the nitro radical and the nitroso radical and R is a radical having not in excess of 20 carbon atoms and is selected from the group consisting of an alkyl radical, the phenyl radical, the carboxyl radical and the amino radicals, to produce the corresponding compounds selected from the group consisting of a phenylmercapto-phenylamine and a phenylmercapto-naphthylamine free of nitro substitution.

2,967,888

PROCESS FOR THE PURIFICATION OF KETENE

Theodor Altenschöpfer, Eduard Eak, and Hellmuth Spes, Burghausen, Germany, assignors to Wacker-Chemie G.m.b.H., Munich, Germany, a firm

No Drawing. Filed Oct. 22, 1958, Ser. No. 768,844
Claims priority, application Germany Oct. 24, 1957
13 Claims. (Cl. 260—585.5)

1. Process for the purification of crude ketene produced by the catalytic thermal decomposition of acetic acid at reduced pressure, which comprises separating the greater part of the water and acetic acid therein by cooling, bringing the ketene-containing thermal decomposition reaction product remaining into intimate contact with a liquid of the group consisting of hexachlorobutadiene and those aliphatic ethers having a boiling point above 130° C. while at a temperature of 0° C. to 90° C. whereby said liquid and the impurities in said thermal decomposition product are completely miscible, and then separating the ketene from said liquid.

2,967,889

PROCESS FOR PREPARING ETHER-ALDEHYDES

Ellis R. White, Oakland, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 2, 1958, Ser. No. 777,614
6 Claims. (Cl. 260—602)

1. In a process for the production of a beta-aliphatic-oxypropionaldehyde composed of carbon, hydrogen and oxygen, wherein acrolein and an aliphatic alcohol of from 1 to 25 carbon atoms composed of carbon, hydrogen and oxygen containing only reactive hydroxyl are caused to react in the liquid phase in the presence of a catalyst, the improvement which comprises employing as the catalyst a monoamine salt of an acid selected from the group consisting of phosphoric acid and sulfuric acid and an alkanolamine having a hydroxyalkyl group of from 1 to 7 carbon atoms bonded to the amino nitrogen and having each of the remaining valences of the amino nitrogen satisfield by a member of the group consisting of hydroxyalkyl groups of from 1 to 7 carbon atoms, hydrocarbon groups of from 1 to 7 carbon atoms, and the hydrogen atom, and conducting the reaction of the alcohol and the acrolein in the presence of water, the amount of water being at least 1% of the combined weights of the alcohol and acrolein.

2,967,890

PROCESS FOR PREPARING BETA-ALIPHATICOXY-PROPIONALDEHYDES

John W. Mecorney, Lafayette, and Ellis R. White, Oakland, Calif., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 2, 1958, Ser. No. 777,615
3 Claims. (Cl. 260—602)

1. In a process for the preparation of a beta-aliphatic oxypropionaldehyde composed of carbon, hydrogen and oxygen wherein acrolein and an aliphatic alcohol of from 1 to 25 carbon atoms composed of carbon, hydrogen and oxygen and containing only reactive hydroxyl are caused to react in the liquid phase in the presence of a catalyst, the improvement which comprises employing as the catalyst a monoamine salt of an acid selected from the group consisting of phosphoric acid and sulfuric acid and a hydrocarbon amine wherein one hydrocarbon group of from 1 to 7 carbon atoms is bonded to the amino nitrogen atom and each of the remaining valences on amino nitrogen is satisfied by a member of the group consisting of hydrocarbon groups of from 1 to 7 carbon atoms and the hydrogen atom, and conducting the reaction under substantially anhydrous conditions.

2,967,891

MANUFACTURE OF SECONDARY BUTYLBENZENE HYDROPEROXIDE

Charles B. Holder, Beacon, N.Y., assignor to Texaco Inc., a corporation of Delaware

Filed Apr. 3, 1958, Ser. No. 726,145
4 Claims. (Cl. 260—610)

1. In the hydroperoxidation of liquid phase secondary butylbenzene with elemental oxygen, the improvement which comprises: as a pretreatment contacting said secondary butylbenzene at a temperature of about 180–260° F. with elemental oxygen for about 10 minutes to 4 hours, terminating said pretreating contact when the secondary butylbenzene hydroperoxide concentration is not substantially in excess of 0.5 gram per 100 ml., contacting the so-treated secondary butylbenzene with a strong base, separating the treated secondary butylbenzene from the strong base, establishing concentration of secondary butylbenzene hydroperoxide in the separated secondary butylbenzene at about 0.8–5 grams per 100 ml. by adding preformed secondary butylbenzene hydroperoxide thereto, and oxidizing the resulting reaction mixture with elemental oxygen at a temperature of 180–260° F. until the secondary butylbenzene hydroperoxide concentration is not substantially in excess of about 30 grams per 100 ml.

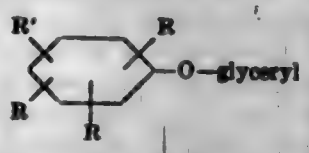
2,967,892

PRODUCTION OF ETHERS BY REACTION OF PHENOLS WITH 3-CHLORO-1,2-PROPYLENE CARBONATE

John S. Smith, Lake Jackson, Tex., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

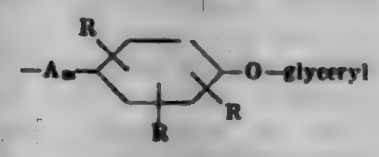
No Drawing. Filed Nov. 12, 1959, Ser. No. 852,195
5 Claims. (Cl. 260—613)

1. A method for preparing glyceryl ethers having the formula



wherein each R represents an independently selected mem-

ber from the group consisting of hydrogen, halogen and alkyl having from 1 to 4 carbon atoms, R' represents a member of the group consisting of hydrogen, halogen, alkyl, having from 1 to 4 carbon atoms, and the group



wherein *m* is an integer from 0 to 1, R has the aforesaid significance, and A represents a divalent aliphatic hydrocarbon group containing from 1 to 4 carbon atoms inclusive, which comprises reacting the corresponding phenol with 3-chloro-1,2-propylene carbonate in the presence of a strong alkali.

2,967,893
HYDROGENATION OF 2-BUTYNE-1,4-DIOL TO 1,4-BUTANEDIOL
Eugene V. Hort and David E. Graham, Westfield, N.J., assignors to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Dec. 30, 1958, Ser. No. 783,717
9 Claims. (Cl. 260—635)

1. A process for the catalytic hydrogenation of 2-butyne-1,4-diol to 1,4 butanediol comprising treating a mixture containing a nickel catalyst and 2-butyne-1,4-diol in liquid form with hydrogen, at a pressure of about 0 to 20 atmospheres gauge and a tempearture of about 20 to 80° C. until substantially no more hydrogen is being absorbed, and then raising the temperature of the mixture at least 25° C. and within the range of about 80° to 140° C. and continuing the treatment of the mixture with hydrogen until the carbonyl number of the 1,4-butanediol product has been reduced to the desired value.

2,967,894
METHOD FOR THE PREPARATION OF AROMATIC FLUOROCARBONS
Walter J. Pummer, Rockville, Md., Lee A. Wall, Washington, D.C., and Roland E. Florin, Takoma Park, Md., assignors to the United States of America as represented by the Secretary of the Army
No Drawing. Filed Aug. 13, 1959, Ser. No. 833,651
13 Claims. (Cl. 260—650)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A method which comprises the vapor phase hydrolysis of a substituted toluene selected from the group consisting of fluorinated toluenes and chlorofluoro toluenes containing a trifluoromethyl group with steam in the presence of an alumina catalyst and recovering the hydrolyzed and decarboxylated compounds.

2,967,895
PROCESS FOR THE PRODUCTION OF 1,2,4-TRIVINYLCYCLOHEXANE
Fritz Dericks, Walter Franke, and Walter Stumpf, all of Marl, Kreis Recklinghausen, Germany, assignors to Chemische Werke Huls Aktiengesellschaft, Marl, Kreis Recklinghausen, Germany, a corporation of Germany
No Drawing. Filed June 25, 1959, Ser. No. 822,719
Claims priority, application Germany July 1, 1958
2 Claims. (Cl. 260—666)

1. Process for the production of 1,2,4-trivinylcyclohexane from cyclododecatriene (1,5,9) which comprises passing cyclododecatriene (1,5,9) in the vapor phase over a palladium catalyst at a temperature of from 400 to 600° C.

2. 1,2,4-trivinylcyclohexane.

2,967,896
RESOLUTION OF ANTHRACENE OILS USING ZEOLITIC MOLECULAR SIEVES
Raymond N. Fleck, West Covina, and Carlyle G. Wight and Edward L. Wiseman, Fullerton, Calif., assignors to Union Oil Company of California, Los Angeles, Calif., a corporation of California
No Drawing. Filed Mar. 3, 1959, Ser. No. 796,750
13 Claims. (Cl. 260—675)

1. A process for separating a fluid hydrocarbon mixture comprising the isomers, anthracene and phenanthrene, which comprises contacting said mixture with a solid granular adsorbent consisting essentially of a partially dehydrated crystalline zeolitic metallo alumino silicate having pores of substantially uniform diameter between about 7 A. and about 13 A., whereby there is obtained a rich adsorbent enriched in the most readily adsorbed of said isomers and a fluid raffinate product enriched in the least readily adsorbed of said isomers; and treating said rich adsorbent to remove the most readily adsorbed isomer therefrom as a fluid extract product, the proportions of anthracene and phenanthrene in said extract product being different from the proportions of anthracene and phenanthrene in said raffinate product.

2,967,897
ISOPRENE PREPARATION
Dexter B. Sharp, Vandalia, and John R. Le Blanc, Dayton, Ohio, assignors to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed Nov. 13, 1957, Ser. No. 696,062
8 Claims. (Cl. 260—681)

1. A process for preparing isoprene from an isopentene which comprises photoxidizing 2-methyl-2-butene in the presence of a photosensitizer to 2- and 3-methyl-3-buten-2-yl hydroperoxides, reducing the said hydroperoxides to 2- and 3-methyl-3-buten-2-ols, separating unreacted 2-methyl-2-butene from reaction mixture and recycling it to the photoxidizing procedure, and dehydrating the said buten-2-ols to isoprene.

ELECTRICAL

2,967,898
PRIMARY CELL
Samuel Ruben, 271 North Ave., New Rochelle, N.Y.
Filed Nov. 19, 1957, Ser. No. 697,470
9 Claims. (Cl. 136—119)

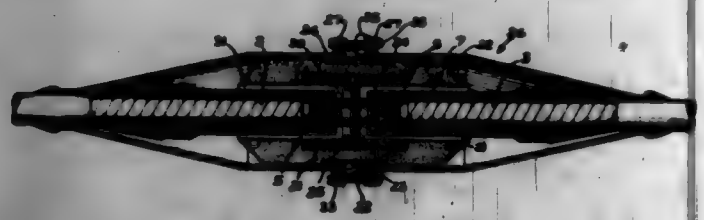


8. A cathode-depolarizer electrode for electric current producing cells comprising a support of stainless steel, and a depolarizer layer of which the effective depolarizing constituent consists of mercuric dioxysulfate consolidated on and substantially coextensive with said support.

2,967,899
STOP JOINTS AND FEEDING JOINTS FOR SINGLE-CORE OIL-FILLED ELECTRIC CABLES
Paolo Gazzana Priaroggia, Milan, Italy, assignor to Pirelli Società per Azioni, Milan, Italy
Filed June 5, 1956, Ser. No. 589,458
Claims priority, application Italy June 15, 1955
9 Claims. (Cl. 174—22)

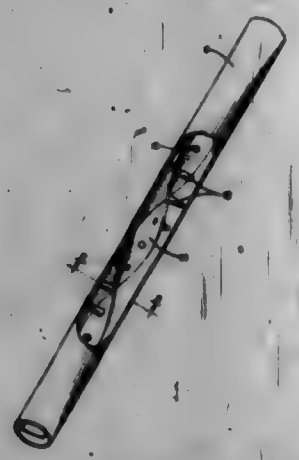
3. A joint between high voltage oil-filled hollow conductor cables, said joint including a connector compris-

ing a mass of solid insulation having a longitudinal bore therethrough for receiving the ends of cable conductors to be connected, a connecting ferrule within the bore, said connecting ferrule having an oil flow opening in the wall thereof for oil flow to and from the cable conductor through the ferrule, said ferrule being spaced from the wall of the bore to form an oil duct from the oil flow opening in the ferrule through the bore to the outside of said mass of insulation, a screening electrode embedded within the mass of solid insulation and surrounding the ferrule, said ferrule being separable and distinct from but mechanically and electrically connected to the electrode, a sleeve of insulation surrounding the end of the cable



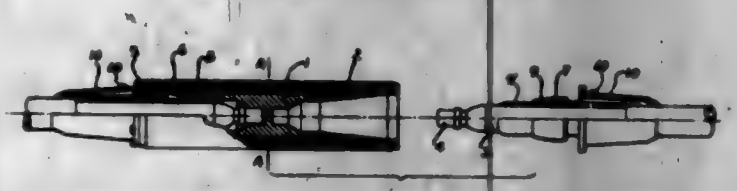
conductor and extending into the bore and surrounding the adjacent end of the ferrule, the duct being between the sleeve of insulation and the wall of the bore in the mass of solid insulation, the electrode surrounding the portion of the ferrule where the oil flow opening is located and surrounding a portion of the sleeve of insulation and terminating short of the ends of the mass of solid insulation, whereby the duct is protected against high electric stresses, a second screening electrode embedded in the mass of solid insulation concentric with but spaced from the first screening electrode and insulated therefrom, and a grounding connection to said second electrode.

2,967,900
COAXIAL TRANSMISSION LINE
Stanley A. Pryga, Paramount, Calif., assignor to North American Aviation, Inc.
Filed Apr. 17, 1958, Ser. No. 729,102
4 Claims. (Cl. 174—28)



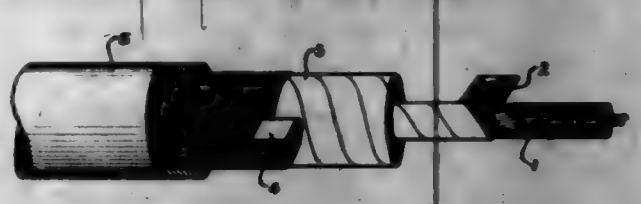
4. A transmission line comprising an elongated outer conductor, an elongated inner conductor positioned within said outer conductor, said inner conductor comprising a helically twisted strip of rectangular cross section having one pair of mutually opposite surfaces of relatively large dimension as compared with the other pair of mutually opposite surfaces, whereby electric field lines between said inner and outer conductors in said transmission line are concentrated about said other pair of surfaces and electric field lines are of minimum density at central portions of said one pair of surfaces, and a plurality of elongated separator pins fixedly attached to said inner conductor positioning said inner conductor within said outer conductor, each of said pins being spaced from its adjoining pins, said pins being consecutively positioned along a helical path within said outer conductor, each pin having the opposite end portions thereof in supporting contact with the inner surface of said outer conductor and with a central portion of one of said inner conductor surfaces of relatively large dimension, the dimension of each pin in a direction transverse to its longitudinal extent being substantially less than the extent of said relatively large dimension surface of said inner conductor, whereby said pins are substantially spaced from said concentrated electric field lines.

2,967,901
CONSTRUCTION OF JOINTS AND SEALING ENDS OF HIGH TENSION ELECTRIC CABLES
Paolo Gazzana Priaroggia, Milan, Italy, assignor to Pirelli Societa per Azioni, Milan, Italy
Filed Apr. 21, 1954, Ser. No. 424,729
Claims priority, application Italy Apr. 22, 1953
28 Claims. (Cl. 174—73)



1. A prefabricated terminating and joint structure for a high voltage cable including a conductor and solid insulation surrounding the same, and carrying an insulating fluid, said structure having a homogenous solid dielectric mass of material that is impervious to the insulating fluid and is in the shape of an imperforate sleeve adapted to be slipped into a position to surround the cable core and capable of withstanding high dielectric stresses and spaced from the cable conductor and from the solid cable insulation, a casing surrounding said dielectric mass, the casing having a peripherally extending internal casing flange, a portion of said mass of dielectric material being in close contact with said flange around the entire periphery of the flange and sealed thereto to eliminate any space between the dielectric mass and the flange to produce a fluid-tight joint, and the remainder of said dielectric mass being spaced from said casing and covered with a conductive material.

2,967,902
PAPER SCREENING TAPES FOR HIGH TENSION ELECTRIC CABLES
Franco Pasini, Milan, Italy, assignor to Pirelli Societa per Azioni, Milan, Italy
Filed Mar. 14, 1957, Ser. No. 645,972
Claims priority, application Italy Mar. 16, 1956
4 Claims. (Cl. 174—102)

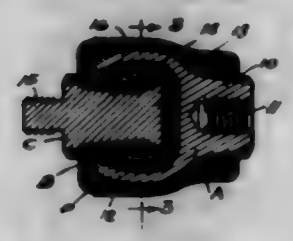


4. Screened high tension electric cable having a conductor surrounded by insulation including impregnated paper, and screening means comprising at least one paper tape that has two superposed paper layers firmly bonded to one another with the fibres of the two layers intertangled at their interface, one of said layers being insulating and the other layer being a sheet of paper rendered conductive by having electrical conductive powder incorporated in the cellulose fibre pulp of the paper, said tape being located within the cable and with one surface thereof in direct contact with a conducting surface of the cable characterized by the fact that the screening tape is applied in such manner as to have the insulating layer turned towards the insulation of the cable.

2,967,903
STRAIN INSULATOR

Harry Yale Magcoch, Havertown, Pa., assignor to Electric Service Works, Delta-Star Electric Division, H. K. Porter Company (Delaware), a corporation of Delaware

Filed Nov. 9, 1956, Ser. No. 621,346
1 Claim. (Cl. 174—180)

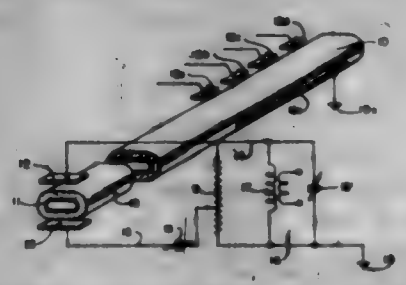


An electric insulator unit comprising a member having at one end thereof a socket with an outwardly bulging sidewall, a filling of dielectric material in said socket, a member having an axially tapered shank and at one end thereof an axially tapered head, said head and part of said shank being disposed within said socket and embedded in said dielectric material, whereby a load tending to pull said members apart is translated into compression of a mass of said dielectric material extending about said headed member and intervening said head and a bulged wall portion of said socket proximate the rim of said socket, the taper of said shank being such that the shank cross-section increases in area in an axial direction from the head end toward the open end of the socket, whereby the tapered shank surface when put in tension is readily separable from the surrounding dielectric to thereby prevent tensile mechanical fracture of the latter and avoid electrical breakdown between said socketed and headed members, the tapers of said head and shank being of opposite sense to one another and the tapered surfaces of said head and shank intersecting one another abruptly where the head joins the shank, said mass of dielectric material thereby being compressed to transmit said tensile load from one to the other of said members, and a jacket of dielectric material commonly embracing said socketed and headed members, said dielectric filling being a material that is capable of withstanding high compressive and shearing stresses, and said dielectric jacket being a material that is elastic and rubber-like.

2,967,904
FERRO-ELECTRIC ELECTROLUMINESCENT COLOR TELEVISION DISPLAY DEVICE

Pierre Marie Gabriel Toulon, Pittsburgh, Pa., assignor to Moore & Hall, Washington, D.C., a firm comprising Nelson Moore, William D. Hall, and Elliott L. Pollock

Original application May 13, 1955, Ser. No. 508,144. Divided and this application July 25, 1956, Ser. No. 599,960
22 Claims. (Cl. 178—5.4)

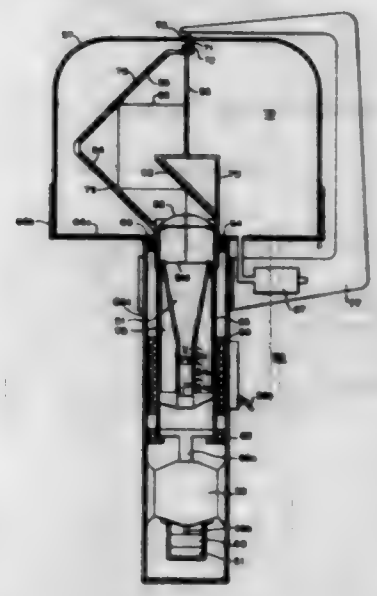


1. In a television apparatus, in combination, a viewing screen, a number of electrodes associated therewith and corresponding to the elemental picture areas of said screen, a pair of condensers comprising ferro-electric material exhibiting domain structure hysteresis coupled to each electrode, each condenser pair having a common junction, voltage means connected across each condenser pair and video signal input means connected to said common junction to vary the effective relative capacity of the condensers comprising each pair in accordance with its respective video signal and a selected line and field scanning sequence, each said condenser providing signal storage means for maintaining the modulated light level produced by its respective electrode at the respective elemental picture area for a period greater than half the period of a scanning frame of said picture screen.

2,967,905
THREE DIMENSIONAL DISPLAY APPARATUS

Max Hirsch, 4810 N. 11th St., Philadelphia 41, Pa.

Filed Jan. 13, 1958, Ser. No. 708,474
62 Claims. (Cl. 178—6.5)



1. Apparatus for the exhibition of three dimensional images comprising an information means for forming data signals, a rotatable screen for sweeping out a volume adapted to have its axis of rotation substantially parallel to its surface and light generating means responsive to said data signals coupled to said information means for repetitively converting said data signals received from said information means into points of light on said rotating screen at any angular position of said screen, said screen being further adapted to rotate at a rate sufficient to exhibit persisting images in said volume.

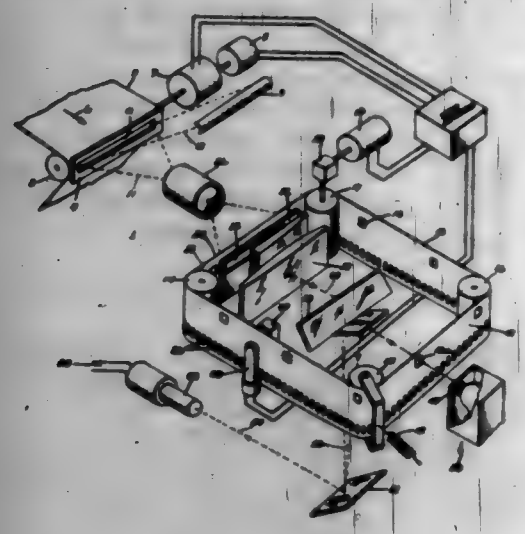
2,967,906
FLAT-COPY SCANNER

Neal A. Blake, Fort Wayne, Ind., and Kenneth N. Freeman, Cincinnati, Ohio, assignors to International Telephone and Telegraph Corporation

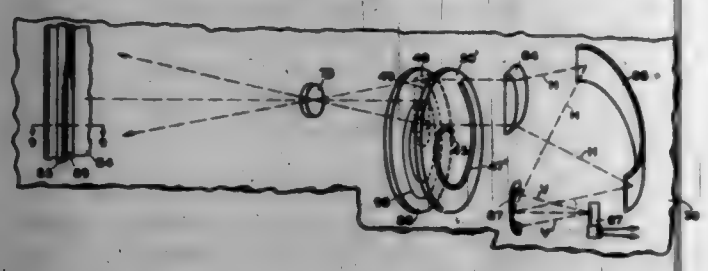
Filed Oct. 29, 1957, Ser. No. 693,175
11 Claims. (Cl. 178—7.1)

1. In a flat copy scanning system for facsimile transmission: means for supporting the copy to be scanned; means for directing light onto a transverse line element of said copy; an endless tape spaced from said copy for receiving light from said line element and having a plurality of evenly spaced-apart light apertures therearound; means having an elongated light slot formed therein arranged on one side of said tape, said slot being aligned with the line of said light apertures; means for moving said tape lengthwise of said slot whereby said apertures successively scan said line element; photosenstive means arranged to receive light from said apertures and slot during each scanning of said line element and to provide a signal in response thereto; said apertures being spaced-apart a distance greater than the length of said slot; and

means arranged to direct light through one of said apertures and onto said photosensitive means when no aperture is scanning said line element for providing a blanking pulse.



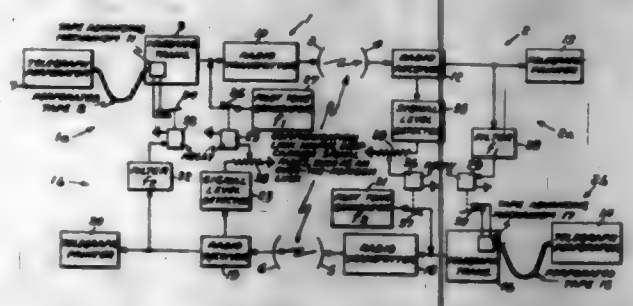
2,967,907
CONTINUOUS FACSIMILE SCANNING APPARATUS
George M. Stamps, New Hyde Park, N.Y., assignor, by mesne assignments, to Hogan Faximile Corporation, a corporation of Delaware
Filed June 2, 1952, Ser. No. 291,144
12 Claims. (Cl. 178—7.6)



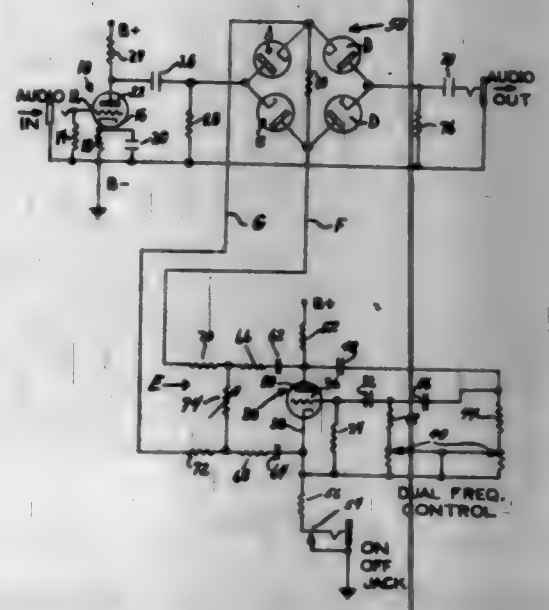
7. A facsimile scanning apparatus, comprising a rotatable flat opaque member having therein a fine continuous multiturn spiral slit disposed in an optical path, means for rotating said member at a substantially constant speed, a stationary opaque member having a fine linear slit therein disposed in said path to intersect optically said spiral slit and to define therewith a plurality of scanning apertures, said apertures being repeatedly movable along the linear slit during rotation of the spiral slit, each of the slits having a substantially equal width, each of the slits being continuously transparent from end to end thereof, another rotatable opaque member having an opening therein disposed in said optical path, and means for rotating said other opaque member at a speed equal to $1/N$ times the speed of rotation of the flat opaque member, where N is the number of turns of the spiral slit, the opening in said other member being so shaped and disposed that only one of said scanning apertures is continuously exposed in said optical path through said opening during rotation of the rotatable members.

2,967,908
TELEGRAPH COMMUNICATION SYSTEMS WITH CARRIER MONITORING
Richard E. Gray, New York, and George Q. McColl, Brooklyn, N.Y., assignors to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland
Filed Apr. 28, 1959, Ser. No. 809,376
20 Claims. (Cl. 178—69)

1. A telegraph error reducing system comprising a signal receiving station, a signal transmitting station including a carrier signal generator and a signal source modulating said generator, means disposed in said receiving station responsive to carrier signal received from said transmitting station to produce a control signal when the amplitude of said received carrier signal drops below a given amplitude, means to couple said control signal to said transmitting station, and means disposed in said transmitting station responsive to said control signal to render said signal source inoperative during that period of time said received carrier signal is below said given amplitude.



2,967,909
TREMOLO
Joseph Rice, 103—26 68th Ave., Forest Hills, Queens, N.Y.
Filed Jan. 11, 1954, Ser. No. 403,394
1 Claim. (Cl. 179—1)

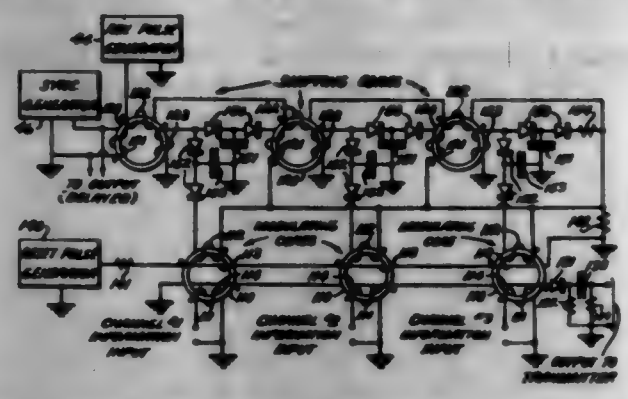


A tremolo including an audio frequency amplifier, a low frequency oscillator, means for adjusting said low frequency oscillator to a predetermined constant frequency and means for mixing a signal passing through said audio amplifier with the predetermined low frequency signal from said low frequency oscillator, said means including a bridge rectifier circuit including a low resistor and means for impressing the predetermined low frequency signal from said low frequency oscillator across said low resistor.

2,967,910
PULSE TRANSMITTER
Robert E. Wilson, Moorestown, Lawrence E. Mertens, Collingswood, and Richard H. Bergmann, Plainfield, N.J., assignors to Radio Corporation of America, a corporation of Delaware
Filed May 25, 1955, Ser. No. 510,972
4 Claims. (Cl. 179—15)

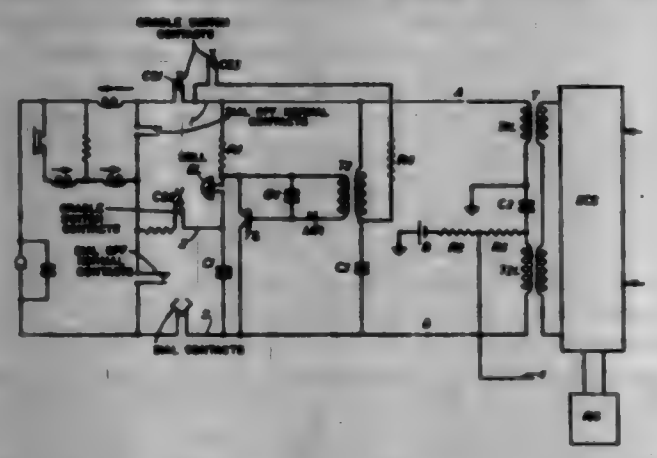
3. A pulse-time modulation multiplex transmitter comprising a plurality of magnetic modulating cores having substantially rectangular hysteresis loop characteristic, input means coupled to said cores for applying signal information to each of said cores, a plurality of magnetic

shifting cores having substantially rectangular hysteresis loop characteristic arranged and operated as a channel selection counter, means coupling said shifting cores individually to said modulating cores, means for operating said counter to condition first one and then another of said modulating cores to produce an output pulse upon



a reset pulse being applied thereto, means to apply reset pulses to said modulating cores to cause each modulating core after being conditioned by said counter to produce an output pulse time modulated according to the information supplied thereto by said input means, and an output circuit coupled to said modulating cores for deriving said output pulses.

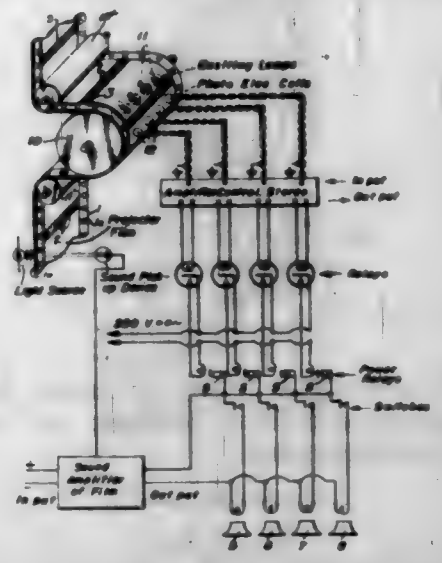
2,967,911
TELEPHONE BELL RINGING CIRCUITS
Thomas Harold Flowers, Mill Hill, London, and Robert Charles Barker, Dollis Hill, London, England, assignors to Her Majesty's Postmaster General, London, England
Filed Nov. 13, 1956, Ser. No. 621,592
Claims priority, application Great Britain Nov. 14, 1955
3 Claims. (Cl. 179—84)



1. A bell ringing circuit for a subscriber's telephone station of a telephone exchange comprising in combination, a source of potential, a bell, a signal receiving circuit for receiving an activating signal, a rectifier circuit coupled to said signal receiving circuit to receive the output therefrom, a control circuit comprising a transistor switch whose conductivity is varied between conductive and non-conductive states by an output from said rectifier circuit to energize said bell from said source, and an instability preventing resistor means in series connection with the bell and the emitter-collector circuit of the transistor switch.

2,967,912
DEVICE FOR STEREO-REPRODUCTION OF SOUND REGISTERED ON CINEMATOGRAPH FILMS
Ramon Ubeda Perello, Buenos Aires, Argentina, assignor to Ivan Ibañez, Buenos Aires, Argentina
Filed Feb. 25, 1957, Ser. No. 642,042
4 Claims. (Cl. 179—100.3)

1. In a sound reproducing system for motion picture projectors employing a picture film strip of normal dimensions having a single sound track along one side thereof, a series of transversely extending opaque potions arranged between the picture frames of said strip provided with a series of laterally spaced signal areas said opaque portions extending along the entire width of the picture frames, a single sound reproducing output circuit adapted to be energized by said sound track, a plurality of loud



speaker units connected to said circuit, selector switch means in said output circuit for individually and collectively connecting said loud speaker unit in said output circuit, electro-magnetic means for controlling said selective switch means and electro-magnetic control circuits for said electro-magnetic means adapted to be energized when certain of said signal areas move into registry with control means in said electro-magnetic circuit.

2,967,913
ELECTRONIC INTENSIFYING EAR-DRUM
Maurice Aubert and Eugène Miquelis, both of 4 Ave. de Verdun, Nice, France
Filed Apr. 24, 1957, Ser. No. 654,778
Claims priority, application France Apr. 26, 1956
7 Claims. (Cl. 179—107)

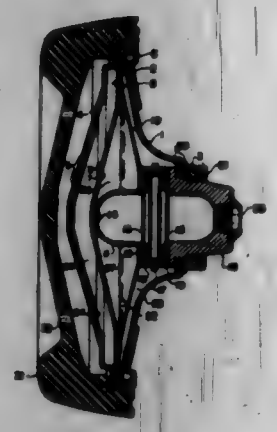


1. In combination in an electric ear drum for deaf persons: a tubular body formed with at least a portion thereof insertable in the ear passage of the outer ear, a microphone in said tubular body at one end thereof, a plastic water-retaining body in axial alignment with said tubular body and mounted on the other end thereof, liquid in said plastic body, a transistorized amplifying unit within said tubular body connected with said microphone to receive signals therefrom, and a receiver interposed between said plastic water-retaining body and said amplifying unit connected with the amplifying unit to receive signals therefrom and operable to develop vibrations in said plastic body, and means for supplying electrical energy to said microphone, amplifying unit and receiver.

2,967,914
TELEPHONE TRANSMITTER
Harold C. Pye, Oak Park, Ill., assignor to Automatic Electric Laboratories, Inc., a corporation of Delaware
Filed June 2, 1955, Ser. No. 512,672
15 Claims. (Cl. 179—123)

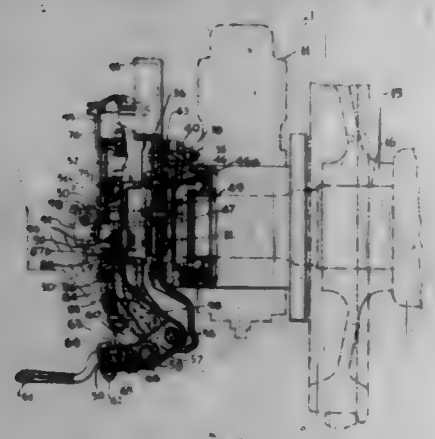
1. A transmitter for use in a telephone set including, a diaphragm unit comprising two conical shaped mem-

bers having their peripheries in contact defining an air chamber therebetween, passage ways in one of said conical members for permitting the movement of air to and



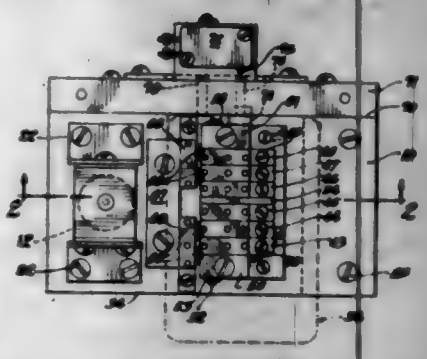
from said chamber, and means comprising said chamber and said perforations for controlling the resonant frequency of said diaphragm.

2,967,915
MOUNTING FOR THIRD RAIL SHOE ASSEMBLY
Albert G. Dean, Narberth, Pa., assignor to The Budd Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Oct. 31, 1956, Ser. No. 619,539
3 Claims. (Cl. 191—49)



1. A mounting for a third rail shoe and its operating mechanism on a railway truck having a frame, fore and aft wheel-axle and disk brake units, and axle journal boxes, the truck and its equipment being such that space for shoe mountings between the journal boxes longitudinally and between the truck parts and the right-of-way clearance lines transversely is inadequate to permit the reception of shoe supporting means and where the space between the journal boxes and right-of-way clearance lines is very limited, comprising in combination with the truck frame and journal boxes, a metal anchorage cap secured over the end of a journal box, a molded reinforced plastic insulating shoe-mechanism mounting board, bolts having resilient insulating sleeves in said cap securing the mounting board to said cap, said bolts having heads at the outer side of said mounting board integrally covered with plastic material, and bolts extending through said mounting board with their heads integrally covered with plastic material at the inner side of said mounting board securing the shoe operating mechanism on the outer side of said mounting board, said mounting board being of an area sufficiently extensive to completely cover the cap and completely back the shoe operating mechanism and being of such thinness that all of the shoe operating mechanism lies behind the right-of-way clearance lines, said board having an integral marginal outwardly extending stiffening and flash baffling flange completely surrounding the shoe operating mechanism, said marginal flange lying behind the outermost portions of the shoe operating mechanism.

2,967,916
COMBINATION PASS CARD AND MONITOR SWITCH SYSTEM
William J. Williams, Berwyn, Ill. (Western Industries, Inc., 2742 W. 36th Place, Chicago, Ill.)
Filed June 1, 1959, Ser. No. 817,311
9 Claims. (Cl. 200—5)

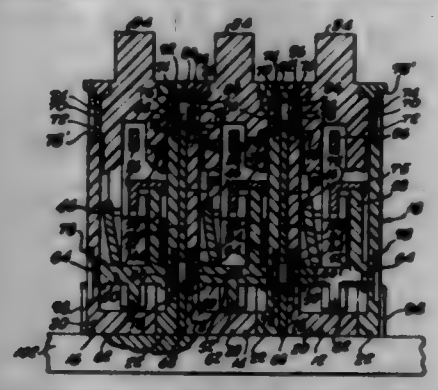


1. For use with a stiff card provided with embossings in selected areas and to predetermined depths, said card having one face above which all said embossings project, the other card face being free of any projections, a monitor head for receiving said card and cooperating therewith, said monitor head including a pair of rigid plates, one plate having a smooth face for cooperating with the other face of said card, the other plate being a matrix plate, means for normally disposing said two plates in face to face relation but spaced sufficiently to permit ready insertion of said embossed cards between said plates, said matrix plate having at least one cavity complementarily arranged to accommodate the card embossing when the two plates are moved toward each other to grip the card, means for moving said plates toward each other after a card is in proper position so that the card is tightly gripped therebtween, said matrix plate having a plurality of passages extending from the roof of a cavity through the matrix plate to the face of said matrix plate remote from said card, said passages being so located as to correspond with coded locations of card embossings, a feeler pin disposed in each passage and longitudinally movable therein, each feeler pin having a normal position where an end portion thereof extends from the cavity roof into the cavity region in the absence of a card embossing, at least one electric switch carried by said matrix plate on said remote face, means for physically coupling said pins to said electric switch, said electric switch including means for biasing said switch to a normal position from which position said switch is operable to an off-normal position by movement of cooperating feeler pins into the matrix plate, the embossing on said stiff card having sufficient rigidity to operate pins and biased switches to obtain positive switch action with relatively small movement of active feeler pins, said construction being characterized by mechanical accuracy in the monitor head and requiring stiff cards with accurate embossing whereby reproduction of counterfeit cards to the required accuracy for operating a monitor head is rendered difficult.

2,967,917
CIRCUIT BREAKERS
Louis W. Cole, Harrison, N.Y., assignor to Federal Pacific Electric Company, a corporation of Delaware
Filed Apr. 23, 1958, Ser. No. 730,301
13 Claims. (Cl. 200—50)

1. A plurality of single-pole circuit breaker units mounted in laterally adjacent predetermined relation, each unit being self contained in its separate enclosure

and provided with a circuit-breaker mechanism independently trippable upon the occurrence of predetermined current in the circuit thereof, said circuit-breaker mechanism comprising a movable contact member, an operating mechanism therefor and a trip mechanism operable to latch said operating mechanism in circuit-closed condition and to unlatch the same for operating said movable member to circuit-open condition upon said occurrence, the trip mechanism of each of said units including an

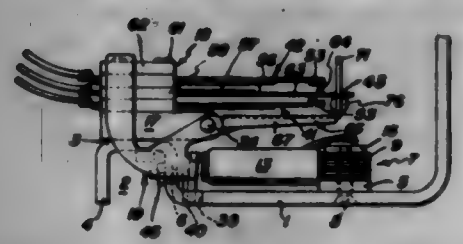


externally accessible tripping element, and means insertable between the enclosures of said units providing a detachable connection between an adjacent pair of externally accessible tripping elements with said units in said predetermined relation to provide conjoint operation between the corresponding interconnected units, said means comprising a locating support bearing a coupling device insertable between said enclosures into laterally adjacent relation therewith.

2,967,918
HIGH SPEED RELAY

John H. MacNeill, Charles F. West, and Mark R. Thomson, Melbourne, Fla., assignors to Soreban, Inc., Melbourne, Fla., a corporation

Filed Apr. 30, 1958, Ser. No. 731,996
14 Claims. (Cl. 200—87)



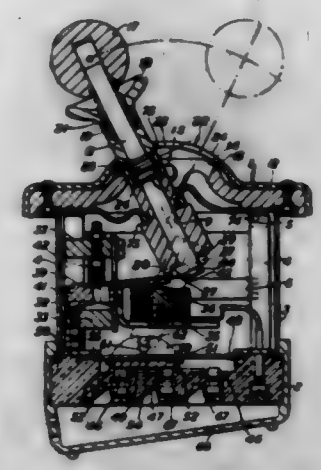
1. An electromagnetic relay comprising an electromagnet including at least one pole having a pole face, a large body of low-friction, non-magnetic bearing material disposed adjacent said pole face, an armature having a cross member disposed adjacent to and spaced from said pole face, said armature further comprising a pair of members disposed generally perpendicular to said cross member and each lying on a different side of said body, each of said members including a counterweight and a curved member, and a hinge pin disposed in aligned apertures in said curved members and said body, said hinge pin being secured to said curved members and rotatable in said body, and the center of mass of said armature lying approximately on a center line of said aligned aperture.

2,967,919
LEVER OPERATED ELECTRIC SWITCHES

Edwin Greaves, Longlevens, Gloucester, England, assignor to Dowty Nucleonics Limited, Andoversford, England, a British company

Filed June 1, 1959, Ser. No. 817,210
Claims priority, application Great Britain June 5, 1958
11 Claims. (Cl. 200—166)

6. A lever-operated electric switch comprising a switch casing, a lever mounted in the casing for pivotal switch operating movement about an axis transverse to its longitudinal axis and for twisting movement about its longitudinal axis, a pawl movably mounted in the casing to engage the lever when in one switch operating position to prevent pivotal movement to another switch operating position, a projection carried by the lever within the

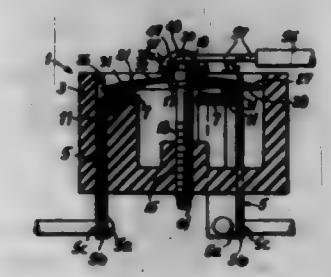


casing and movable on twisting movement of the lever to engage the pawl to move it out of locking engagement with the lever, an electromagnet, and a pivoted armature for the electromagnet, this armature forming the pawl engageable with the lever whereby locking of the switch depends on energization of the electromagnet.

2,967,920
THERMOSTATIC SWITCH

Walter R. Harper, Jr., Barrington, R.I., and Curtis F. Kruger, North Attleboro, Mass., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Dec. 1, 1958, Ser. No. 777,298
10 Claims. (Cl. 200—113)

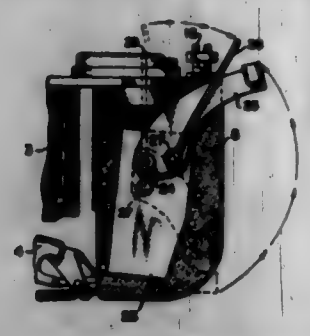


1. A thermostatic switch comprising a base, contact means fixed on the base, a snap-acting thermostatic element adapted to snap from a first to a second position upon reaching a predetermined temperature, and means for supporting said element on the base, said element having a hole therein, said supporting means having a shoulder and a stud extending from said shoulder through said hole, one side of said element being engageable with said shoulder, said element having contact portions on said one side engageable with said fixed contact means when said element is in its first position, a contact member loosely mounted on said stud on the other side of said element, and means for retaining said contact member and element on said stud, a portion of said element adjacent the hole therein on said other side thereof being in relatively low electrical resistance contact with said contact member when said element is in its said first position, said contact member being adapted for connection of an electrical lead thereto, and said retaining means being spaced from said shoulder a distance such that the portion of said element around the hole is free to snap.

2,967,921
QUICK DETACHABLE ARC CHUTE ASSEMBLY FOR CONTACTORS

Robert L. Carver, Prestonsburg, Ky., assignor to Ensign Electric & Manufacturing Co., Huntington, W. Va., a corporation of West Virginia

Filed Aug. 12, 1959, Ser. No. 833,277
6 Claims. (Cl. 200—144)

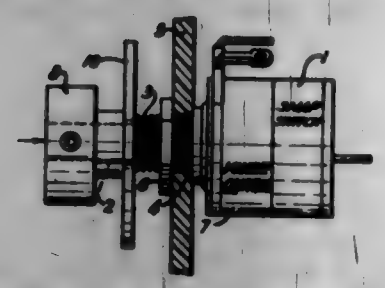


1. In a contactor having a frame including a horizontal support member, and an arc chute assembly disposed beneath said support member so that the top of said arc chute assembly lies adjacent the bottom of said support member, and means for detachably securing said arc chute assembly to said frame in such manner that said arc chute assembly depends from said support member, said means comprising a clamping lever pivotally mounted at one end on said arc chute assembly, and a U-shaped bail embracing said support member and said arc chute assembly and pivoted at its ends to said clamping lever.

2,967,922
PUSH-PUSH SWITCH

Henry M. Dressel, St. Marys, Pa., assignor to Stackpole Carbon Company, St. Marys, Pa., a corporation of Pennsylvania

Filed Dec. 11, 1959, Ser. No. 859,021
3 Claims. (Cl. 200—172)



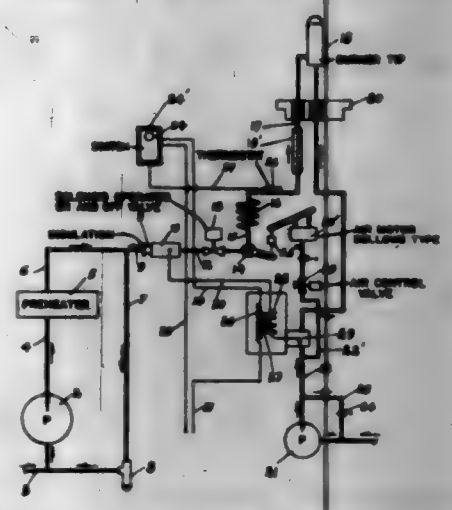
1. The combination with a snap switch having a mounting bushing through which slidably extends an actuating shaft movable outward and inward to operate the switch, of a knob rigidly mounted on the outer end of the shaft for pushing the shaft inward in the bushing, and a stiff substantially flat disc loosely mounted on the shaft between the knob and bushing in close proximity thereto when the knob is in its inner position, the disc projecting radially beyond the knob in all directions to provide a marginal portion around the knob, the outer surface of said marginal portion being adapted to be engaged by a finger at any side of the shaft and pushed lengthwise of the shaft to tilt the disc against the adjoining end of the bushing and thereby cause the disc at the opposite side of the shaft to push the knob outward.

2,967,923
OIL BURNER

Bertram B. Reilly, Pittsburgh, Pa., assignor to Dravo Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Dec. 19, 1957, Ser. No. 703,891
2 Claims. (Cl. 219—19)

1. A fuel oil burning system comprising a metallic burner spray nozzle, a metal pipe connected to the nozzle through which oil is supplied to the nozzle, a metal air pipe connected to the nozzle and to a source of air under pressure for supplying air to the nozzle for atomizing the oil, means for supplying fuel oil to the first pipe, there being an insulating coupling between said means and the first-named pipe, and a source of low voltage current

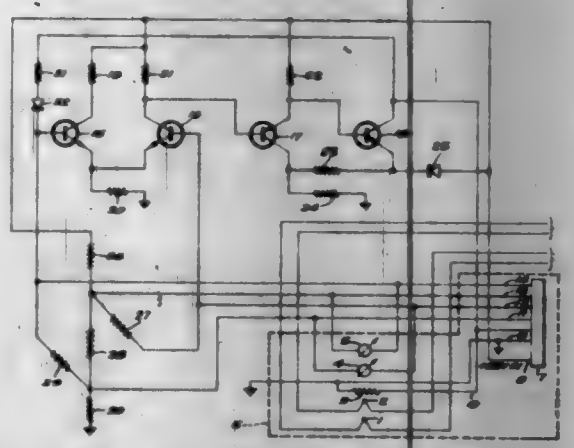


having one terminal connected to the first-named pipe at a point remote from the nozzle and its other terminal connected to the air pipe, whereby the oil pipe, nozzle and a section of the air pipe form a closed circuit across the terminals of the current source, the said pipes and source of current being so related that the pipes constitute a resistance heater to warm the fluids in the respective pipes and at the nozzle.

2,967,924
STABLE TEMPERATURE REFERENCE FOR INSTRUMENT USE

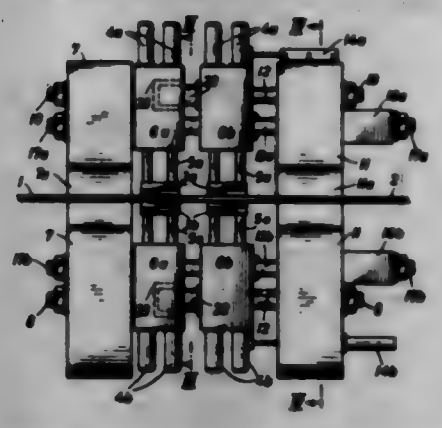
Clifford K. Friend, 18606 Citronia St., Northridge, Calif.

Filed June 12, 1958, Ser. No. 741,555
7 Claims. (Cl. 219—20)



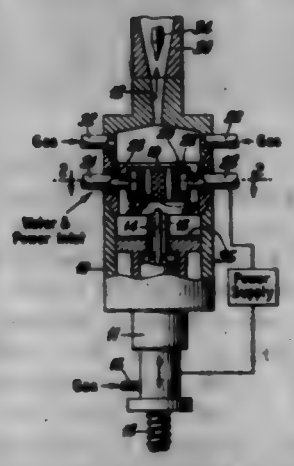
3. A temperature stabilizing system for accurately controlling the temperature of an independent element comprising the combination of; first and second thermistors each for producing a change of electrical resistance as a function of temperature, thermally conductive imbedding means in a substantially solid state, said imbedding means substantially enclosing said independent element and said first thermistor disposed in close proximity with said independent element, electric heating means thermally connected to said imbedding means, said second thermistor being disposed at a point farther from said independent element than said first thermistor, said second thermistor moreover being located with respect to said heating means and said imbedding means so as to sense heat from said heating means prior to the sensing of said first thermistor, and control means adapted to control electrical energy to and therefore heat from said electrical heating means in response to a combination of the changes of electrical resistance of said first and second thermistors.

2,967,925
RESISTANCE BUTT-WELDING MACHINE
Eberhard Rietsch, Mulheim (Ruhr), Germany, assignor to Theodor Wuppermann G.m.b.H., Leverkusen, Germany
Filed Jan. 13, 1959, Ser. No. 786,618
Claims priority, application Germany Jan. 15, 1958
10 Claims. (Cl. 219—57)



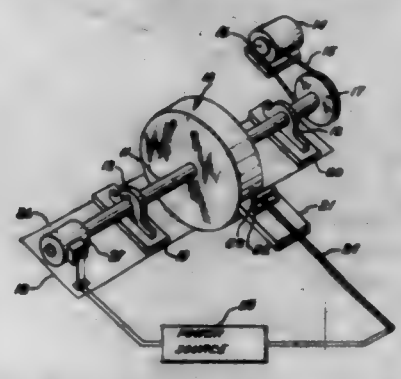
1. A resistance butt-welding machine wherein an upsetting force is subdivided into at least two equal component forces directed parallel with respect to the effective axis of the upsetting force imposed on two workpieces being joined, members effecting an upsetting force and being arranged in pairs in one plane with a workpiece axis and symmetrical with respect to said axis thereof, a frame substantially subject only to tensile stress for absorbing the reaction forces of the upsetting forces, said frame being in symmetrical spatial relation with respect to the axis of the work, and a movable slide carrying gripping jaws and guided through guides independent of the frame, said frame which is independent of the frame slide absorbing only reaction forces and being in a stationary machine stand for longitudinal displacement for the purpose of absorbing tensile stresses and comprising four draw beams arranged parallel with respect to the work axis, the axial section of the draw beams constituting corners of a rectangle, the axial section of the workpiece axis being located at the intersection of the diagonals of said rectangle, and the points of attack of the two parallel upsetting partial forces being located each in the middle between two adjacent draw beams.

2,967,926
TESTING PROCESS AND APPARATUS
Theodore Edstrom, Parkview, Ohio, assignor to Union Carbide Corporation, a corporation of New York
Filed Mar. 10, 1958, Ser. No. 720,219
9 Claims. (Cl. 219—75)



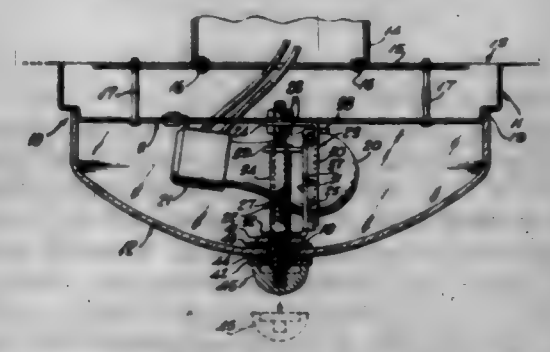
4. In an apparatus for producing very high velocity gas flow at elevated temperatures which comprises a chamber containing an electric arc producing device including an anode and a cathode; at least one inlet port for introducing fluid into said chamber to be heated by said arc; and at least one exhaust nozzle; the improvement comprising the provision of said anode in the form of a central hub having axially spaced spokes radiating therefrom which extend to an anode supporting ring, thereby forming passageways through said anode, said anode being spaced between the cathode of said arc producing device and said inlet port.

2,967,927
PROCESS FOR MAKING METAL PARTICLES
Victor P. Weismann, 430 Prospect Circle, South Pasadena, Calif.
Filed Sept. 22, 1958, Ser. No. 762,598
13 Claims. (Cl. 219—121)



1. Apparatus for producing particulate metal from a solid metal piece which comprises a wheel having a heat-resistant surface, means rotating the wheel, means for feeding the solid metal piece toward the wheel surface and generally normal thereto, and means for heating substantially the entire portion of the piece approaching proximity to the wheel surface to a temperature at least approximating the melting point of the piece.

2,967,928
LIGHTING FIXTURE
Isidore Wolar, 290 Collins Ave., Mount Vernon, N.Y.
Filed Sept. 20, 1957, Ser. No. 685,204
12 Claims. (Cl. 240—78)

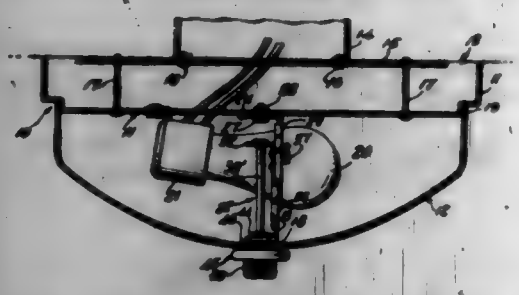


1. A hanger for lighting fixtures comprising a pair of L-shaped bracket members, means coupling one leg of one member to one leg of the other member for longitudinal movement one relative to the other, means on the other leg of one member for supporting the hanger, an elongated tube carried by the other leg of the other member and locked against rotary movement relative thereto and a rod carried by said hanger and in axial alignment with said tube, said rod extending through the tube for the receipt of fastening means on the end thereof when the bracket members are moved inwardly one of the other.

2,967,929
DIFFUSER SUPPORT FOR LIGHTING FIXTURES
Isidore Wolar, 290 Collins Ave., Mount Vernon, N.Y.
Filed Dec. 27, 1957, Ser. No. 705,524
6 Claims. (Cl. 240—144)

6. A hanger for lighting fixtures having enclosure means comprising at least two elongated channel mem-

bers coupled one to the other for relative longitudinal movement, means cooperating with said members for restricting longitudinal movement thereof, an elongated bracket member coupled to at least one of said channel members for relative longitudinal movement and means including a captive knob assembly having a pair of in-



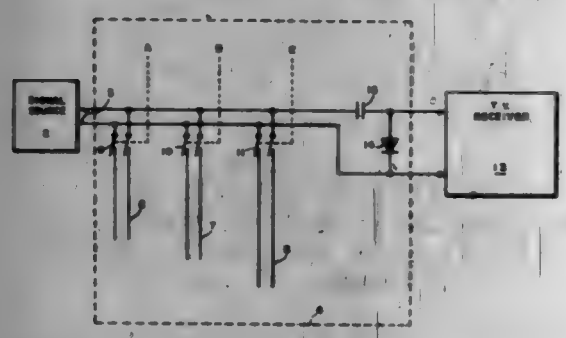
dividual knob portions coupled one to the other for rotation of one knob portion relative to the other knob portion, one of said knob portions releasably securing said enclosure means to the last said bracket and the other knob portion releasably holding the enclosure in an enclosing position.

2,967,930

SELECTIVE CONVERSION NETWORK

Robert V. Anderson, Mount Kisco, N.Y., assignor to General Precision, Inc., a corporation of Delaware

Filed Nov. 13, 1959, Ser. No. 852,757
6 Claims. (Cl. 250—20)



1. A selective conversion network for converting any one preselected information bearing carrier signal from a plurality of information bearing carrier signals and associated conversion signals each having a different frequency to the same predetermined intermediate frequency comprising, means for short circuiting all of the conversion signals but the one associated with the one preselected carrier, and means for mixing all of the carrier signals with the said one conversion signal associated with the one preselected carrier to convert only the said one preselected carrier to the said predetermined intermediate frequency.

2,967,931

WAVE METERS

Douglas Ray Wills, Leverstock Green, England, assignor to Marconi Instruments Limited, London, England, a British company

Filed Dec. 19, 1956, Ser. No. 629,408
Claims priority, application Great Britain Dec. 21, 1955
3 Claims. (Cl. 250—39)

1. A heterodyne wave meter comprising a source of test frequency to be measured, first and second variable frequency oscillators, said oscillators being operative over the same frequency range and having common control frequency varying means, means independent of said common control for varying the frequency of said second oscillator over a relatively small range of frequencies, a check frequency source, a mixer, a counter circuit responsive to the output of said mixer, means to apply to said mixer selectively at will, first: the test frequency and oscillations from said first variable frequency oscillator so as to provide a zero or low beat frequency to compare said frequencies to a first order; second: the oscillations generated by said check frequency source and said first or second oscillator for checking the frequency of the latter oscillators; third: the test frequency and oscillations from the second variable frequency oscillator whereby said independently variable means may be adjustable to



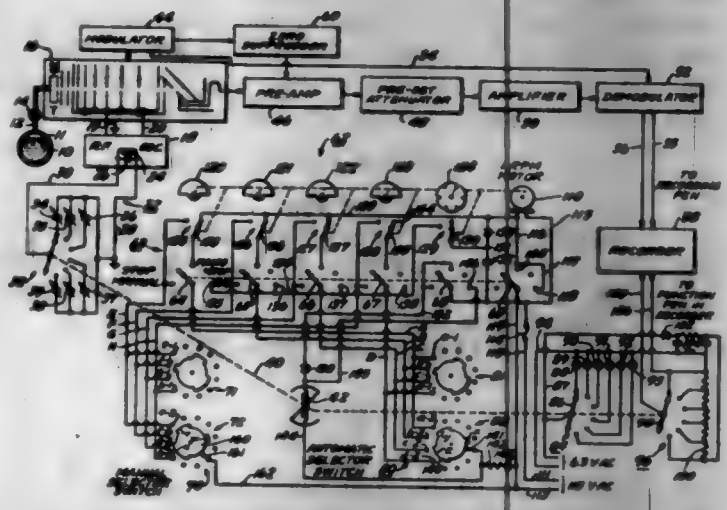
provide exact coincidence between the test frequency and said oscillations; or fourth: the oscillations from said first and second variable frequency oscillators whereby said counter indicates the beat frequency between said variable frequency oscillators and provides an accurate indication of the test frequency in conjunction with the frequency indicated by the oscillation frequency of said first variable frequency oscillator.

2,967,932

GAS DETECTING AND ANALYZING METHODS AND APPARATUS

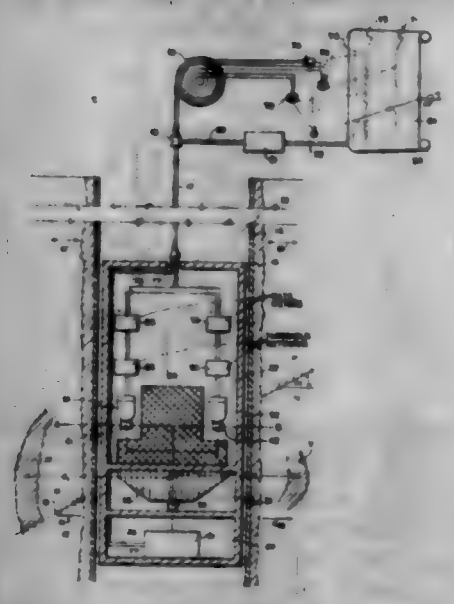
Robert Bruce Edwards, San Jose, Calif., and Ernest H. Koopf, Dallas, Tex., assignors to Core Laboratories, Inc., Dallas, Tex.

Filed Jan. 15, 1957, Ser. No. 634,317
3 Claims. (Cl. 250—41.9)



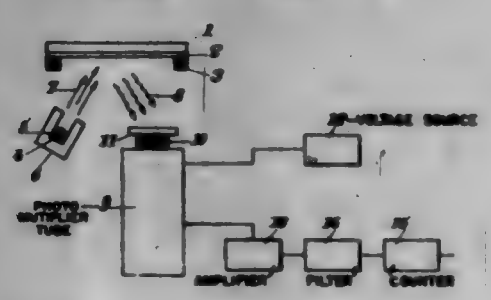
1. Apparatus for logging the hydrocarbon gas content of mixtures of unknown gases comprising measuring means having a plurality of different operating conditions and selectively measuring the relative concentrations of the following six hydrocarbon gases: methane, ethane, propane, butane, pentane, and hexane, each operating condition corresponding with the measurement of one of said gases; first switch means connected to said measuring means and having six positions each one corresponding with and producing one of said measurements; second switch means having a pair of positions, one of said pair corresponding with measurement of methane, and the other of said pair interconnecting said second and first switch means and producing a measurement controlled by said first switch means; and cyclic drive means operating said second switch means back and forth between said pair of positions.

2,967,933
DIP DETERMINATION
Serge A. Scherbatskoy, 804 Wright Bldg., Tulsa, Okla.
Filed Nov. 7, 1955, Ser. No. 545,296
11 Claims. (Cl. 250—71.5)



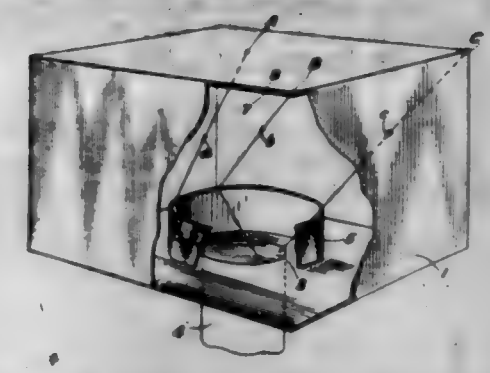
3. In an apparatus for ascertaining the direction and sense of incident photons, a relatively small detecting element adapted to interact with an incident photon in such a manner that a secondary photon released as a result of said interaction escapes from said element, a relatively large detecting element adapted to interact with an incident photon in such a manner that a secondary photon released as a result of said interaction is absorbed by said large detecting element, said two elements being mounted in alignment along a reference direction and being spaced apart a determined distance one from the other, first means associated with said small detecting element for producing an electrical impulse coincident with the interaction of an incident photon with said small element, a second means associated with said large detecting element for producing an electrical impulse coincident with the interaction of an incident photon with said large element, a coincidence circuit connected to said first and second means for producing an output pulse whenever current pulses produced by said two means occur in substantial coincidence, and an indicator connected to said coincidence circuit.

2,967,934
APPARATUS FOR MEASURING THE THICKNESS OF A DEPOSIT
Pierre Pascal Martinelli, Paris, France, assignor to Commissariat a l'Energie Atomique, Paris, France, a French society
Filed Apr. 11, 1956, Ser. No. 577,574
Claims priority, application France Apr. 12, 1955
4 Claims. (Cl. 250—71.5)



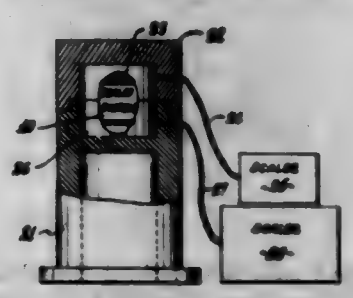
1. An apparatus for measuring the thickness of a deposit formed on a support which comprises, in combination, means for projecting a beam of beta rays onto said deposit, means for detecting the X-rays emitted from said deposit, screen means interposed between said deposit and said detecting means to stop parasitic beta rays travelling toward said detecting means and means connected with the output of said detecting means for measuring the intensity of the radiations received at said detecting means that range in a narrow frequency band containing an X-ray characteristic of the matter of said deposit.

2,967,935
SCINTILLATION DETECTOR
Jeremy David Cook, Sydenham, London, England, assignor to North American Philips Company, Inc., New York, N.Y.
Filed Mar. 26, 1958, Ser. No. 724,197
Claims priority, application Great Britain May 6, 1957
7 Claims. (Cl. 250—71.5)



1. A scintillation radiation detector comprising a light-tight chamber, a radiation-receiving planar phosphor screen adjacent a surface of said chamber, a light-transparent window in said chamber arranged opposite said screen and much smaller than said screen, a light-sensitive element positioned outside the chamber for receiving light passing through said window, and a cylindrical light-reflective surface adjacent said window and between said window and screen with its cylindrical axis at right angles to said window and screen, said reflective surface having dimensions relative to those of the chamber, screen and window at which the amount of light generated at screen and passing through the window is greater for scintillations occurring at the parts of the screen remote from the center thereof than for scintillations occurring at the center region of the screen.

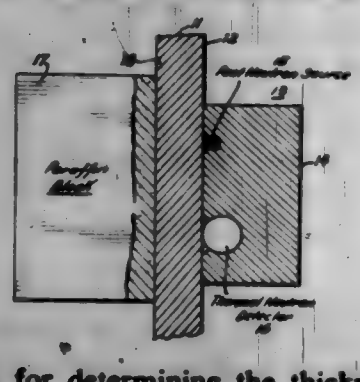
2,967,936
NON-DESTRUCTIVE METHOD FOR TESTING BODIES FOR PENETRABILITY BY PARTICULATE MATTER
Clifton W. Reed, Redondo Beach, and Benedict Cassen, Pacific Palisades, Calif., assignors, by mesne assignments, to American Electronics, Inc., Los Angeles, Calif., a corporation of California
Filed Apr. 12, 1955, Ser. No. 500,728
9 Claims. (Cl. 250—83)



3. A method for determining the penetration of fluidic matter into interior surface-connected defects of a solid body, comprising the steps of: providing fluidic matter made up at least in part of molecules having atoms capable of yielding detectable high penetrability and low penetrability nuclear radiations in a known emission ratio, exposing an exterior surface of said body to said fluidic matter, removing the body from exposure to the fluidic matter; measuring the intensity of the high penetrability radiations emanating from the body owing to those of

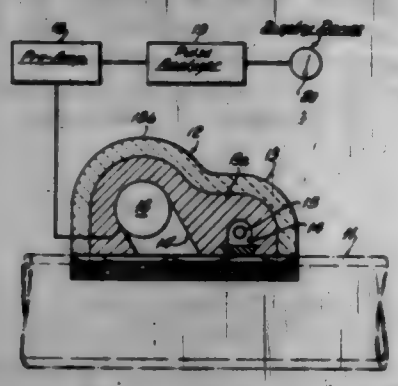
said molecules which have penetrated into the body during said exposure and also owing to those which have adhered to the external surface of the body; and measuring the intensity of the low penetrability radiations owing to those of said molecules which have adhered to the external surface of the body, whereby the radiations solely from those of said molecules which have penetrated into the body may be determined.

2,967,937
METHOD AND APPARATUS FOR MEASURING THICKNESS
Alexander S. McKay, Bellaire, Tex., assignor to Texaco Inc., a corporation of Delaware
Filed Dec. 16, 1955, Ser. No. 553,565
18 Claims. (Cl. 250—83.1)



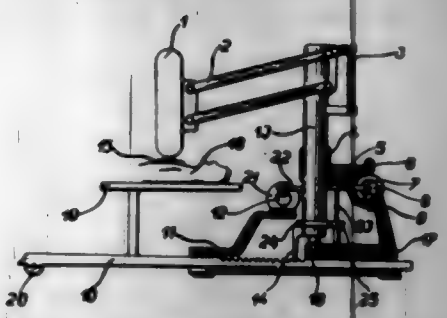
1. Apparatus for determining the thickness of a substance comprising a source of fast neutrons, a detector of thermal neutrons, a housing adapted and arranged to contain said source and said detector and adapted and arranged to be positioned on one side of a substance whose thickness is to be measured, a portable moderator comprising a predetermined quantity of an hydrogenous material adapted and arranged to be positioned on the opposite side of said substance, and indicating means associated with said detector for providing a signal display that is proportional to the counting rate of thermal neutrons detected thereby.

2,967,938
THICKNESS MEASUREMENT
Alexander Scott McKay, Bellaire, and Arthur Herbert Lord, Jr., Houston, Tex., and Rowland W. Johnston, Jr., Sacramento, Calif., assignors to Texaco Inc., a corporation of Delaware
Filed Feb. 9, 1956, Ser. No. 564,489
18 Claims. (Cl. 250—83.3)



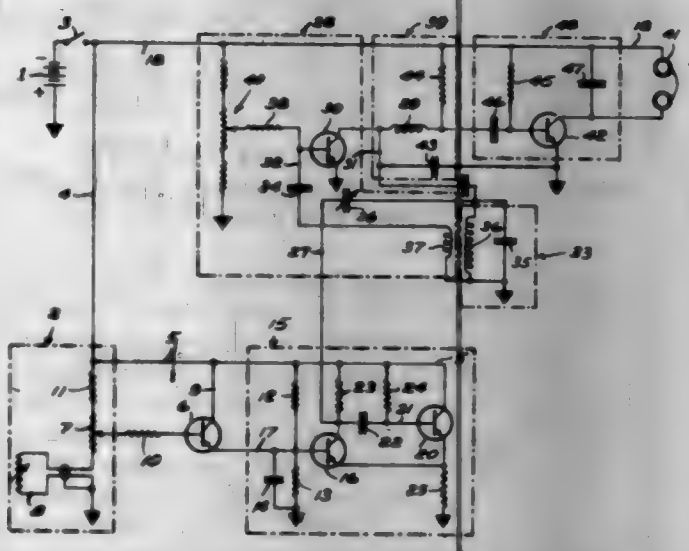
1. The method of determining the thickness of a substance which comprises directing a source of neutrons toward the substance whose thickness is to be determined in such manner as to cause prompt gamma-rays to be induced in the substance, which gamma-rays are emitted therefrom, concurrently detecting said emitted gamma-rays, providing a signal that is proportional to the detected gamma ray flux and correlating said signal with reference data obtained by examination of a sample of similar substance of predetermined thickness as an indication of the thickness of the substance at the place of measurement.

2,967,939
GAMMAGRAPH FOR MEDICAL PURPOSES
Archimire Cuba, 15 Krizova, and Kamil Kalfusch, 60 Dukelska, both of Brno, Czechoslovakia
Filed May 12, 1958, Ser. No. 734,621
Claim priority, application Czechoslovakia May 13, 1957
4 Claims. (Cl. 250—83.3)



4. In a radiation detecting scanning device, in combination, a frame structure; a support for an object the radiation of which is to be scanned; means for moving said support relative to said frame structure in a predetermined linear path; carrier means for carrying a radiation sensitive device pivotally mounted on said frame structure; means for actuating reciprocating pivotal movement of said carrier means; means for moving said support relative to said frame structure in said predetermined path; a recording cylinder and recording stylus means mounted on said frame for relative rotary and axially translatory movement; and means operatively connected to said support means and said carrier means for rotating said recording cylinder and said recording stylus means relative to each other in coordination with the movement of said support relative to said frame structure in said predetermined path, and for axially moving said recording cylinder and said recording stylus means relative to each other in coordination with said pivotal movement of said carrier means.

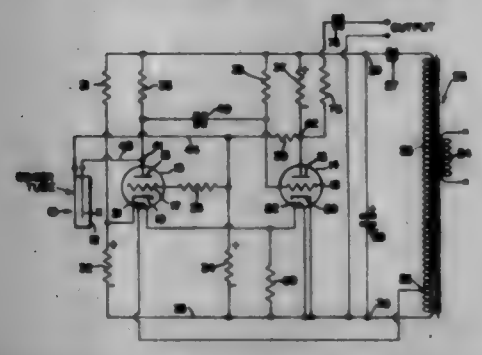
2,967,940
TRANSISTORIZED FM–IR DETECTOR
Theodor Erb, Forest Hills, Walter G. Egan, Richmond Hill, and Irwin Fredricks, Flushing, N.Y., assignors to Sperry Rand Corporation, Ford Instrument Company Division, Wilmington, Del., a corporation of Delaware
Filed Mar. 5, 1959, Ser. No. 797,488
4 Claims. (Cl. 250—83.3)



1. An audio responsive system comprising an infrared detector, a transistor having the conventional base, emitter and collector electrodes, the base electrode of said transistor being arranged to receive the output of said radiation sensitive device, a free running multivibrator modulation controlled by said transistor, a frequency tuned detector circuit disposed to receive the output of

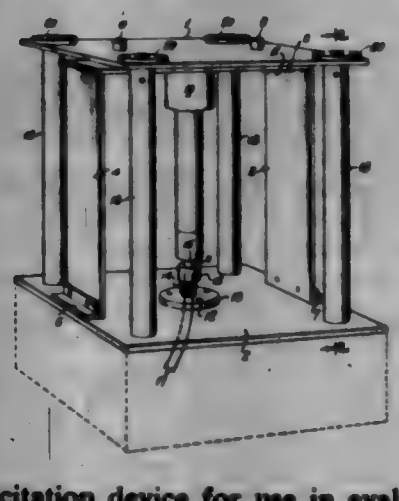
said multivibrator and adapted to establish an audio beat frequency and an audio amplifier and indicator circuit coupled to said detector circuit.

2,967,941
CONTROL APPARATUS
William B. Hamelink, Minneapolis, Minn., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed Apr. 17, 1958, Ser. No. 729,170
11 Claims. (Cl. 250—83.6)



1. In combination, a non-selfquenching radiation counter having an anode and a cathode, and an ionizing medium therebetween, a pair of electronic valves each having a pair of main current conducting electrodes and a control electrode, circuit means interconnecting said pair of electronic valves in multi-vibrator relationship such that one of said valves is normally in a conducting state and the other of said valves is normally in a non-conducting state, circuit means connecting the anode of said radiation counter to a main current conducting electrode of one of said electronic valves, circuit means connecting the cathode of said radiation counter to a main current conducting electrode of said other electronic valves, to thereby apply an operating voltage to said radiation counter, circuit means connecting said radiation counter in controlling relation to the control electrode of one of said electronic valves to cause said multi-vibrator to operate upon said radiation counter becoming ionized, said electronic valves thereby being rendered effective to quench said radiation counter.

2,967,942
APPARATUS FOR TESTING RADIATION DETECTION DEVICES
George E. Davis, 345 Clinton Ave., Brooklyn 38, N.Y., and Elmo J. Di Ianni, 247 Schenck Blvd., Floral Park, N.Y.
Filed June 2, 1959, Ser. No. 817,697
11 Claims. (Cl. 250—83.6)
(Granted under Title 35, U.S. Code (1952), sec. 266)



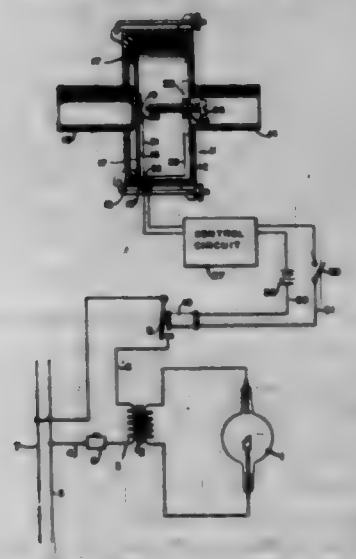
1. An excitation device for use in evaluating a radiation detection unit, which comprises a support for detachably mounting said detection unit to be evaluated, a plurality of metallic members arranged in a row around said detection unit, extending approximately parallel to said unit, and mounted on said support for individual rotation about axes parallel to the axis of said unit, and means for securing said members in any desired position, each member carrying a band of radiation source that extends in a direction lengthwise of and is parallel and eccentric to the axis of rotation of that member, metallic means disposed between said member and said unit for blocking out an undesired type of radiation, whereby when said unit to be evaluated is mounted on said support, said members may be individually rotated to vary the intensity of radiation reaching said unit from each of a plurality of different directions until a uniform strength of field is provided upon said unit on all sides thereof, to enable evaluation of the detection unit.

2,967,943
GASEOUS DISCHARGE DEVICE
James D. Gow, Berkeley, Calif., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed June 19, 1958, Ser. No. 743,219
8 Claims. (Cl. 250—84.5)



1. A gaseous discharge device comprising envelope means for establishing an evacuated region, electrode means disposed within said region for establishing a uniform potential gradient electric field therein, magnet means carried by said envelope for establishing a magnetic field in axial symmetry with the electric field, said magnetic field having a parallel portion directed in the direction of decreasing potential gradient of the electric field and a diverging portion diverging radially outward therefrom to thereby establish a crossed electric-magnetic field region within said evacuated region, said crossed field region trapping and accumulating stray electrons existing within said evacuated region and imparting energy thereto, and inlet means communicating with said envelope means for admitting ionizable gas into said evacuated region, said gas being ionized in said crossed field region by the energetic stray electrons therein to establish an intense ionized gaseous discharge.

2,967,944
X-RAY INITIATING SYSTEM
Lee B. Lusted, 4221 Leland St., Chevy Chase, Md.
Filed July 23, 1957, Ser. No. 673,708
3 Claims. (Cl. 250—95)



1. An initiating system for controlling the energization of an X-ray tube comprising a breath-operated switch

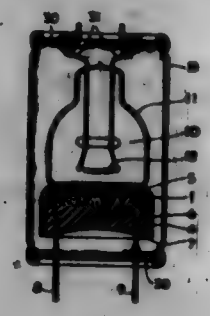
adapted to be inserted into or placed adjacent to a patient's mouth and to be operated by the breathing processes of the patient and adjustable circuit means energized by closure of said breath-operated switch to control the energization of the X-ray tube in accordance with the degree of inhalation or exhalation by the patient.

2,967,945

VARIABLE ELECTRIC IMPEDANCE

Nico Arie De Gier, Eindhoven, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Nov. 13, 1958, Ser. No. 773,764
Claims priority, application Netherlands Mar. 9, 1957
7 Claims. (Cl. 250—217)



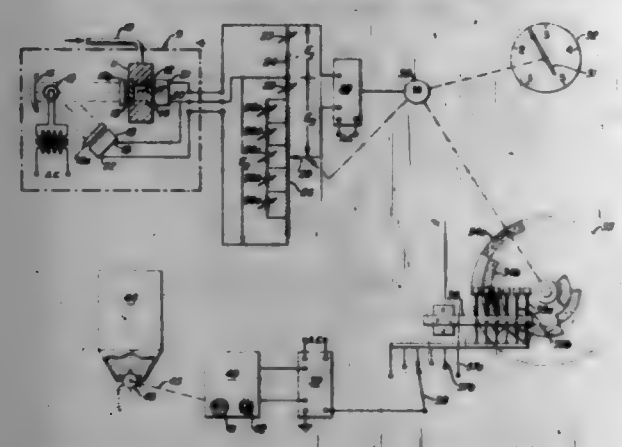
1. A variable-impedance electrical device comprising an electrical lamp including an envelope and a filament whose voltage determines its output light intensity, a hollow, optically-transparent body secured to the lamp envelope, a support member, a photo-conductive member mounted on the support, a thin fixed-resistance member mounted on the support and connected to the photo-conductive member, said support being mounted within the hollow body with the photo-conductive member oriented to receive directly the light radiated by said lamp, an opaque element surrounding the lamp envelope and hollow member, and a pair of electrodes coupled to spaced points of the photo-conductive member.

2,967,946

LIGHT TRANSMISSIVITY CONTROL INSTRUMENT

Frank A. Leisey, Chicago, Ill., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana

Filed Oct. 31, 1957, Ser. No. 693,666
13 Claims. (Cl. 250—218)



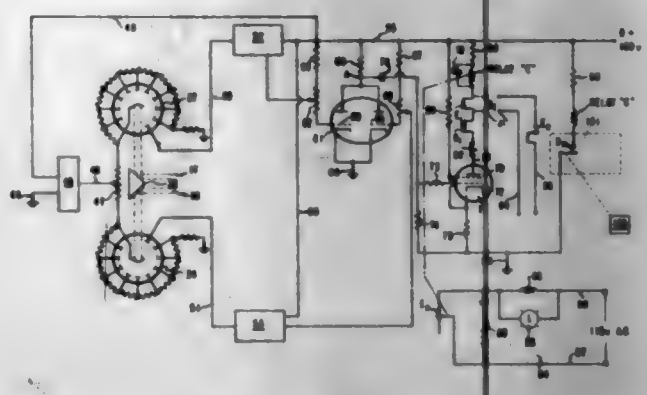
1. A control instrument which comprises in combination a light transmissivity comparison device, said device providing a signal which varies with the light transmissivity of a fluid sample; a self-balancing potentiometer system with motor drive responsive to said signal, the response of said motor drive being adjustably non-linearizable with respect to said signal; a movably-mounted carrier, said carrier being movable in accordance with said response of said motor drive; a plurality of strips positioned so as to contact said carrier, each strip corresponding to a predetermined light transmissivity range; an electrical circuit including a plurality of contacts connectable with said strips, whereby said electrical circuit may actuate control means.

2,967,947

SHEET INSPECTION METHOD AND APPARATUS

William M. Flook, Jr., Greenville, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Oct. 4, 1956, Ser. No. 613,926
9 Claims. (Cl. 250—219)



1. An apparatus for the inspection of a running sheet for defects protruding along a normal to said sheet comprising in combination a pair of sighting paths disposed transverse said sheet closely adjacent thereto in planes substantially coparallel to the plane including said running sheet and spaced apart in the direction of sheet travel a distance equal to the minimum length of defect it is desired to base rejection upon, a light source directed at said sheet in the vicinity of said sighting paths, and electro-optical means responsive to light reflected along said sighting paths from said defects consisting of a pair of individual photomultiplier tubes each responsive to light from one of said sighting paths solely, a voltage amplifier in electrical circuit with the output of each of said photomultiplier tubes individually, a coincidence circuit including a vacuum tube having two triode sections, the grid of one of which triode sections is in electrical circuit with the amplified voltage output of one said photomultiplier tube while the grid of the other of said triode sections is in electrical circuit with the amplified voltage output of the other of said photomultiplier tubes, a thyratron tube having its control grid in electrical circuit with the combined output of both of said triode sections of said vacuum tube in said coincidence circuit, and means responsive to the output of said thyratron tube indicating the existence of individual ones of said defects.

2,967,948

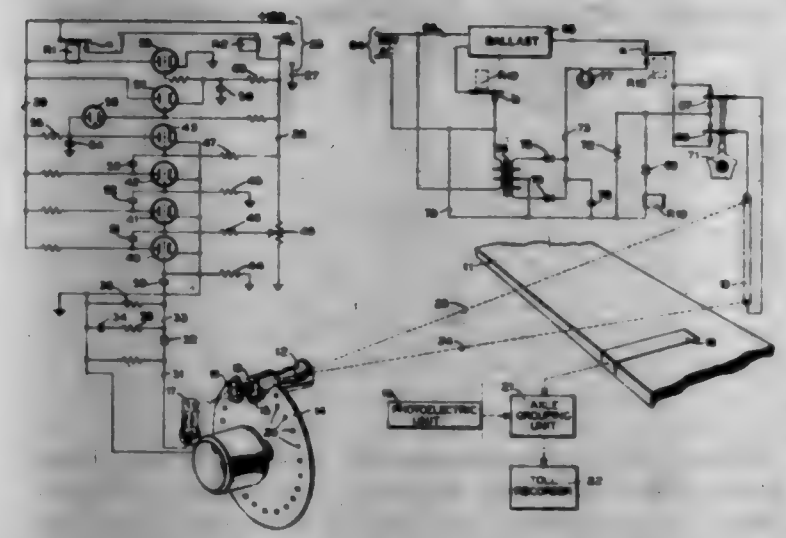
OBJECT DETECTING AND INDICATING DEVICE

Francis L. Pratt, Endwell, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Sept. 20, 1955, Ser. No. 535,494
8 Claims. (Cl. 250—222)

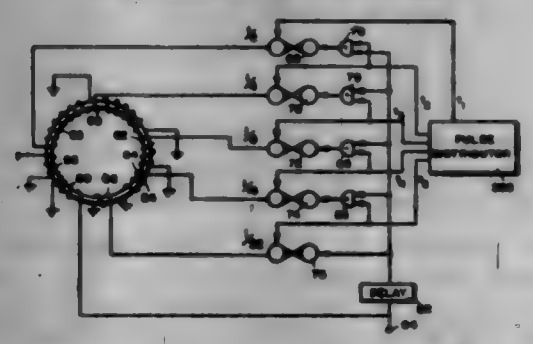
1. An optical device having a source of light energy and light energy responsive means for detecting objects in a predetermined region between said light energy source and said light energy responsive means comprising optical means for operatively connecting said light energy source and said light energy responsive means by focusing an image of said light energy source in a focal plane therebetween, a mask arranged outside said focal plane having a transparent opening therein the configuration of which corresponds to the image of said light energy source, means for scanning said image at said focal plane so as to expose said light energy responsive means to

successive portions of said image, and electrical means associated with said light energy responsive means for detecting an absence of light energy at said light energy



responsive means during the scanning of said image, to thereby detect the presence of an object in said predetermined region.

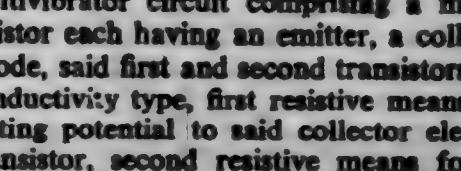
2,967,949
SATURABLE COMPARATOR
Richard T. Loewe, Whittier, Calif., assignor to North American Aviation, Inc.
Filed Sept. 13, 1956, Ser. No. 609,713
13 Claims. (Cl. 307—88)



1. A comparator comprising a saturable device having a saturated physical state and a transition state, means for applying to said device a first driving force of a sense and maximum magnitude sufficient to drive said device into said saturated state considerably beyond said transition state, means for applying to said device during the application of said first driving force a second driving force of a sense and maximum magnitude sufficient to drive said device into said transition state, means for sensing the change of state of said device during application of said second driving force, said driving forces being several orders of magnitude greater than the minimum driving force required to saturate said device whereby said transition state appears as a sharp discontinuity at which comparison of said first and second driving forces is achieved, and feedback means responsive to said sensing means for effecting bi-directional fluctuation of one of said forces about a value substantially equal to the value of the other of said forces.

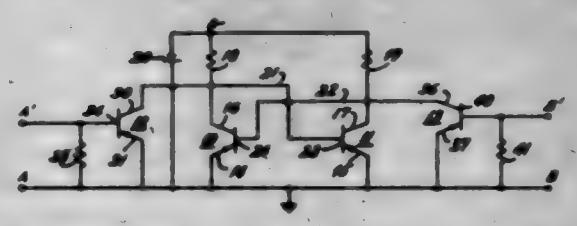
2,967,950
MAGNETIC FREQUENCY DIVIDER CIRCUIT ARRANGEMENT
Jean François Marchand, Eindhoven, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed June 18, 1958, Ser. No. 742,942
Claims priority, application Netherlands July 12, 1957
2 Claims. (Cl. 307—88)

1. A magnetic frequency divider circuit comprising a first and a second core each composed of magnetic material having a rectangular hysteresis loop, first and second windings coupled to said first core, first and second windings coupled to said second core, said first windings being connected in series-aiding relationship, said second windings being connected in series opposition, a third winding on said first core, means for applying pulses of one polarity to said first windings in series, means for applying pulses of the opposite polarity simultaneously to said



third winding and to said second windings, the pulses of one polarity alternating in time with the pulses of opposite polarity, the first winding on the first core having more turns than the first winding on the second core, the second winding on the first core having less turns than the second winding on the second core, said third winding having the same number of turns as the second winding on the first core and being wound in a direction opposite from said second winding.

2,967,951
DIRECT-COUPLED TRANSISTOR CIRCUIT
Ralph B. Brown, Philadelphia, Pa., assignor to Philco Corporation, Philadelphia, Pa., a corporation of Pennsylvania
Filed Jan. 17, 1955, Ser. No. 482,344
17 Claims. (Cl. 307—88.5)

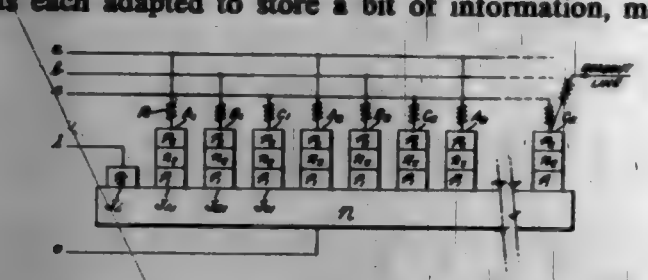


13. A multivibrator circuit comprising a first and a second transistor each having an emitter, a collector and a base electrode, said first and second transistors being of the same conductivity type, first resistive means for supplying operating potential to said collector electrode of said first transistor, second resistive means for supplying operating potential to said collector electrode of said second transistor, means for operating said emitter electrodes of said transistors at the same potential, a first connection of substantially zero resistance between said collector electrode of said first transistor and said base electrode of said second transistor, and a second connection of substantially zero resistance between said collector electrode of said second transistor and said base electrode of said first transistor, each of said transistors being rendered substantially non-conductive by the potential applied to the base electrode thereof from said collector electrode of the other of said transistors when said other transistor is in saturation, and each of said transistors being rendered saturated by the potential developed at said collector electrode of said other transistor when said other transistor is substantially non-conductive.

2,967,952
SEMICONDUCTOR SHIFT REGISTER
William Shockley, 23466 Corta Via, Los Altos, Calif.
Filed Apr. 25, 1956, Ser. No. 580,513
10 Claims. (Cl. 307—88.5)

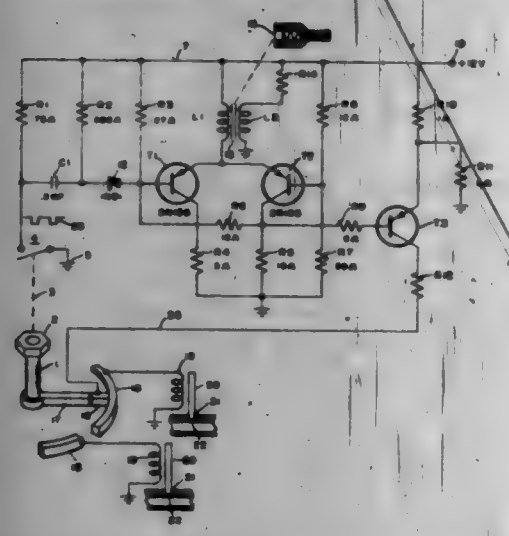
1. A semiconductor shift register comprising a body of semiconductor material, a plurality of semiconductor devices forming a junction with said body, a portion of said body forming a region in each device and the junc-

tion being a junction in the respective device, each of said devices being adapted to be triggered from a low conducting to a high conducting state in response to a pulse having at least a predetermined amplitude and serving to inject carriers into the body when in a high conducting state, the devices being so spaced that the injected carriers diffuse to adjacent devices to bias the same, and said devices being arranged to form storage units each adapted to store a bit of information, means



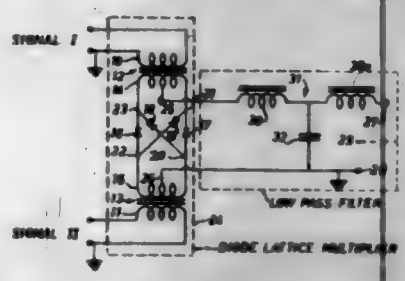
for injecting carriers into said body adjacent the first device in response to information, means for applying controlling pulses across the devices, said pulses having an amplitude which is sufficient to trigger biased devices into a high conducting state but less than the triggering voltage of an unbiased device, said controlling pulses being so timed and applied that they serve to shift the input information to successive devices or store the information, and means connected to at least one device for reading out the information.

2,967,953
INDUCTANCE CONTROLLED MULTIVIBRATOR
Noble Franklin Pribble, Baltimore, Md., assignor to The Bendix Corporation, a corporation of Delaware
Filed Sept. 24, 1956, Ser. No. 611,654
3 Claims. (Cl. 307—88.5)



1. A monostable multivibrator comprising a first transistor and a second transistor, means including a resistor connecting the collector electrode of each of said transistors to a voltage reference plane, means including a resistor connecting the base electrode of said first transistor to the collector electrode of said second transistor, means connecting the emitter electrodes of said transistors, an inductive element connecting said emitters to a terminal of a voltage supply source, said inductive element comprising a first coil, an iron core movable in said first coil for varying the inductance thereof, a second coil wound about said iron core and connected across said voltage supply source, means biasing said second transistor to conduction, the values of said biasing means and said inductive element being such that said conduction cuts off said first transistor, and means triggering said first transistor causing said first transistor to conduct and said second transistor to be cut-off for a period of time whose duration depends on the inductance of said inductive element.

2,967,954
DIODE LATTICE MULTIPLIER WITH INHERENT LIMITING
Gilbert Louis Hobrough, Scarborough, Ontario, Canada, assignor, by mesne assignments, to Hunting Survey Corporation Limited, Toronto, Ontario, Canada
Filed Mar. 10, 1959, Ser. No. 798,494
4 Claims. (Cl. 307—88.5)



4. An electronic multiplier for multiplying two input electrical signals having frequency components and comprising: a diode lattice in the form of four silicon diodes each having a cathode and an anode and means connecting said diodes electrically in a series ring having two pairs of opposite junctions; two transformers each having a centre tapped secondary winding; means connecting one of said secondary windings across one pair of opposite junctions; means connecting the said other secondary winding across the other pair of opposite junctions; an input signal primary winding for each of said transformers of a turns ratio in relation to the secondary winding thereof substantially equal to

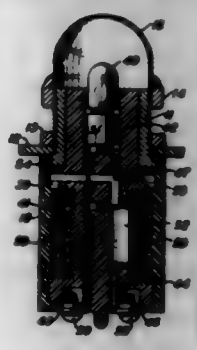
$$\sqrt{\frac{R_{ss}}{\sqrt[3]{R_r R_f}}}$$

where:

R_{ss} is the signal source impedence
R_r is the reverse resistance of the diode
R_f is the forward resistance of the diode;

means for extracting an output signal from centre taps of said secondary windings; and a series input low pass filter for filtering said output signal and of a current demand less than about one-half the peak value of signal current through said diodes.

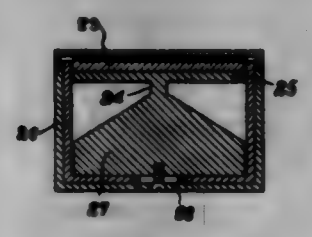
2,967,955
VOLTAGE STEP-DOWN SIGNAL DEVICE
Henry Smith, Central Valley, N.Y., assignor to J. & H. Smith Manufacturing Company, Newburgh, N.Y., a partnership of New York
Filed May 13, 1957, Ser. No. 658,731
7 Claims. (Cl. 307—157)



7. A voltage step-down and indicator light assembly for visual display purposes comprising, in combination, a signal element having two terminals, a two-piece body of circular cross section, formed of similar, half-cylinder piece-parts and having upper and lower reduced radii sections, said piece-parts having predesigned cavities formed in their cooperating diametral sides, an L-shaped terminal having an open-ended cylindrical receptacle affixed to its upper end and a power connector at its lower

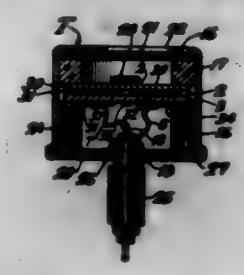
end, an S-shaped terminal having a power connector at its lower end and a thin strip of conductive material attached to its intermediate portion, an S-shaped connector having a thin strip of conductive material attached to its lower end, an insulated washer to electrically separate said L-shaped terminal and said connector, said terminals, connector and washer supported in proper relation to each other in some of said cavities whereby said conductive strips extend outside of said body formed of said piece-parts and yet not beyond the outermost periphery of said body, a film type capacitor including two contiguous sheets of translucent dielectric upon which have been deposited thin deposits of metal to act as first and second electrodes, said first electrode having a portion extending beyond said second electrode at one end of said film capacitor and said second electrode having a portion extending beyond said first electrode at the other end of said film capacitor, said capacitor wound on said lower reduced radius portion of said body whereby the extending portion of said first electrode contacts said conductive strip affixed to said S-shaped terminal and the extending portion of said second electrode contacts said conductive strip affixed to said connector, said capacitor, terminals and connector in situ completing an electrical path for said signal element when one of said terminals of said signal element engages said receptacle and the other of said terminal contacts the upper part of said connector, a cylindrical sleeve having a shoulder at its lower end and threaded on its outer surface to retain a cap and lens assembly, said sleeve fitting over the uppermost reduced radius section of said body such that the shoulder of said sleeve abuts the body shoulder formed between the two reduced radii parts of said body, means cooperating with said connectors of said terminals to connect a source of alternating-current power thereto, and a unitary insulated body of thermosetting resin to enclose said capacitor and said body and to retain said sleeve shoulder adjacent said body shoulder.

2,967,956
TRANSDUCER
Abraham I. Dranetz and Hugh J. Cullin, Metuchen, N.J., assignors to Gulton Industries, Inc., a corporation of New Jersey
Filed Apr. 19, 1955, Ser. No. 502,459
4 Claims. (Cl. 310—9.1)



1. An electro-mechanical transducer comprising, a substantially disc shaped member including at least one substantially disc shaped piezo-sensitive element provided with electrodes, a support secured at right angles to the center of the substantially disc shaped member and having transverse dimensions appreciably less than the planar dimensions of the substantially disc shaped member for supporting the center only of the substantially disc shaped member, a housing therefor, means within the housing connected to the support and having a mass greater than the mass of the support for substantially preventing longitudinal movement of the support so as to provide a substantially stationary center support for the substantially disc shaped member, and means for applying flexing forces directly to the substantially disc shaped member for flexing the same substantially uniformly about its substantially stationary center, as into and out of umbrella shape.

2,967,957
ELECTROACOUSTIC TRANSDUCER
Frank Massa, 373 Atlantic Ave., Cohasset, Mass.
Filed Sept. 17, 1957, Ser. No. 684,551
11 Claims. (Cl. 310—9.4)



1. In an electroacoustic transducer the combination of a housing structure, a circular opening through one wall of said housing structure, a resilient washer-like member arranged to surround said opening, a circular unitary transducer assembly comprising a composite circular disc consisting of two bonded circular plates, the first plate comprising a material element having the property of being made piezoelectric by the application of a direct current polarizing potential, said element when piezoelectric in response to such a direct current polarizing potential having transverse dimensions which are subject to change under the influence of an applied alternating current, conductor means for applying said direct current polarizing potential to said first plate, and the second plate comprising a metallic material whose transverse dimensions are not subject to dimensional changes under the influence of an applied alternating electric current, said second plate comprising sectionalized electrode means adapted to be connected to a source of direct current polarizing potential and being of opposite polarities during the polarization of such element, said unitary transducer assembly being arranged such that an annular portion of one surface area of said disc makes contact with said resilient washer-like member and the center section of said disc lies opposite the circular opening placed in said housing.

2,967,958
HIGH FREQUENCY CRYSTALS
David I. Kosowsky, West Newton, and Francis Earle Clark, Marlboro, Mass., assignors to Hycon Eastern, Inc., Cambridge, Mass., a corporation of Delaware
Filed Nov. 1, 1957, Ser. No. 693,829
2 Claims. (Cl. 310—9.4)

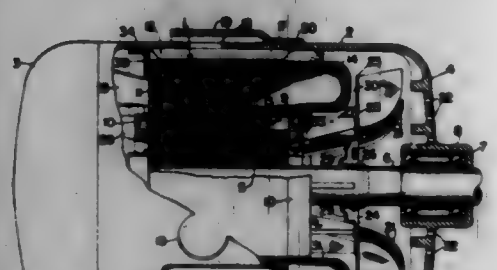


1. A thickness shear piezoelectric crystal for use in a frequency selective filter, said crystal having a thickness adapted to produce resonance of the crystal in the fundamental mode at a frequency in the range above five megacycles, plated electrodes with a maximum diameter E in thousands of an inch as given by the formula

$$E=\frac{1500}{F}$$

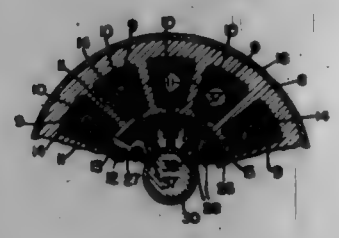
where F is the resonant frequency of the crystal in megacycles, and having a diameter which is approximately twice the plated electrode diameter.

2,967,959
VENTILATING APPARATUS FOR DYNAMO-ELECTRIC MACHINES
Robert S. Waters, Feeding Hills, Mass., assignor to A. O. Smith Corporation, Milwaukee, Wis., a corporation of New York
Filed June 21, 1957, Ser. No. 667,118
7 Claims. (Cl. 310—63)



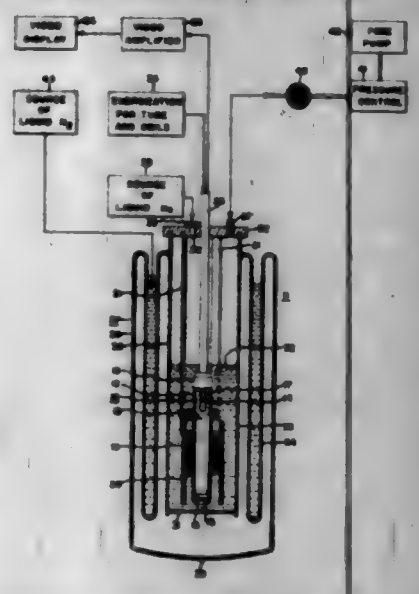
1. In a dynamoelectric machine having an annular stator core carrying a winding extending axially from each end of the core and having the core disposed within a frame sealed at one axial end and open at the opposite, one or more air passages between said core and said frame, means to seal said passages adjacent the closed end of the housing to prevent discharge of air from the passages into the closed end of the motor, said frame having discharge openings for said passages intermediate the length of the core to permit the discharge of air from within the motor, fan means interposed between the stator and the open end of the housing and secured to the machine shaft to draw air into the housing and to pass the air over the stator core and then to discharge it through said openings, and a high heat transfer plastic enclosure about the extending stator winding only adjacent the open end of housing to protect the adjacent extended winding from foreign matter.

2,967,960
SUBMERSIBLE MOTORS AND METHOD OF FABRICATING THE SAME
Kenneth J. Waldschmidt, Milwaukee, Wis., assignor to A. O. Smith Corporation, Milwaukee, Wis., a corporation of New York
Filed May 8, 1957, Ser. No. 657,922
7 Claims. (Cl. 310—86)



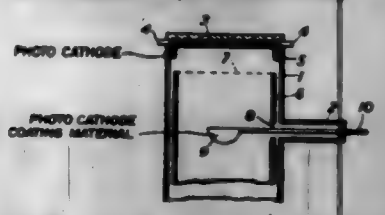
7. A method of manufacturing a hermetically sealed annular stator assembly comprised of a metallic housing and an annular core structure carrying electric windings disposed within inner longitudinal slots and extended at each end of the core and a thin inner bore liner secured to a housing to hermetically seal the core and windings within the housing and a potted resin disposed within the housing to establish a heat transfer medium to carry away the heat generated within the winding, which comprises curing the resin with the liner removed and with inserts disposed within each of the slot openings to prevent potting of resin therein, and subsequently expanding the liner against the inner bore of the core and partially into said open slots to establish a space between said liner and the cured resin.

2,967,961
THERMALLY SENSITIVE PICKUP TUBE
Hans W. Heil, Syracuse, N.Y., assignor to General Electric Company, a corporation of New York
Filed July 24, 1958, Ser. No. 750,813
22 Claims. (Cl. 313—65)



1. In a thermally sensitive pickup tube, a thin target having a thermally sensitive material capable of localized regions of superconductivity, a heat radiation absorbing layer for reception of a thermal image on one surface of said target providing good heat transfer through said layer to said sensitive material, means for providing a substantially uniform magnetic field in the region of said target, means for cooling said sensitive material at a substantially uniform rate to a temperature below the superconducting temperature of said material, the reception of a thermal image on said one surface of said target causing said regions to assume non-uniform temperatures indicative of the thermal image for inducing corresponding non-uniformities in the magnetic field near said target, means for sensing magnetic field conditions at the other surface of said target comprising means for causing an electron beam to scan said other surface of said target, and current collecting means sensitive to changes in the beam trajectory occurring in the vicinity of said target.

2,967,962
TELEVISION AND LIKE CAMERA TUBES
Walter Ernest Turk, Chelmsford, Essex, England, assignor to English Electric Valve Company Limited, London, England, a British company
Filed Oct. 23, 1958, Ser. No. 769,252
Claims priority, application Great Britain Jan. 6, 1958
10 Claims. (Cl. 313—65)

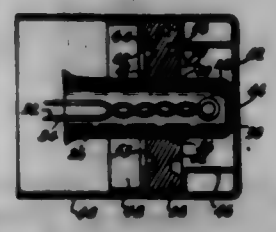


10. A camera tube including a picture receiving photocathode with a field terminating mesh adjacent thereto wherein said mesh has an initial coating of metal of low light reflecting quality.

2,967,963
ELECTRON GUN STRUCTURE
David C. Ballard, Marion, Robert J. Konrad, Jonesboro, and Richard W. Osborne, Marion, Ind., assignors to Radio Corporation of America, a corporation of Delaware
Filed Apr. 30, 1957, Ser. No. 656,137
4 Claims. (Cl. 313—82)

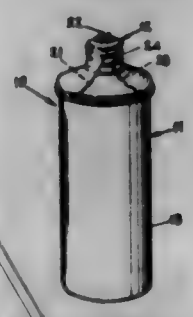
1. An electrode assembly for a cathode ray tube, said assembly comprising a pair of coaxially disposed tubular

electrodes with one of said pair of tubular electrodes enclosing the other of said tubular electrodes, an insulating annular member fixed between said electrodes, said annular member having in one surface thereof a circular groove extending around said other of said tubular elec-



trodes, and a shielding member fixed to one of said pair of electrodes and fixing said other electrode relative to said one of said electrodes, said shielding member having a circular portion extending within and spaced from the sides of said groove.

2,967,964
ELECTROLUMINESCENT LAMP
Charles M. Browne, Toledo, Ohio, assignor to Libbey-Owens-Ford Glass Company, Toledo, Ohio, a corporation of Ohio
Filed June 8, 1956, Ser. No. 590,130
1 Claim. (Cl. 313—108)



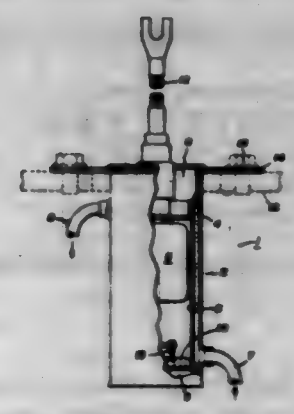
An electroluminescent lamp comprising, a glass body of generally cylindrical shape and open at one end, a first and second electrode fused to said body, a transparent electrically conducting film on the inner wall of said body in electrical contact with the first of said electrodes and out of electrical contact with the second of said electrodes, a layer of solid dielectric material disposed on the inner wall of said electrically conductive film, said dielectric material having a field-responsive phosphor imbedded therein, an electrically conducting layer of material disposed on the inner surface of said dielectric material in electrical contact with the second of said electrodes and out of electrical contact with the first of said electrodes, a screw type socket adapted to engage a conventional screw type electrical outlet, and means for electrically connecting said screw type socket to said electrodes.

2,967,965
LUMINOUS DISPLAY PANEL
James W. Schwartz, Princeton, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed June 2, 1958, Ser. No. 739,959
8 Claims. (Cl. 313—108)



1. A luminous display panel including a first set of spaced apart conductors extending in one direction and in a single plane, a second set of spaced apart conductors extending in a direction transverse to the extension of said first set and in a plane parallel to the plane of said first set of conductors, and a member between said conductors having a multiplicity of elongated nonrectilinear cavities, said conductors of the first set communicating through and along the elongated dimension of said cavities with the conductors of the second set.

2,967,966
ELECTRIC DISCHARGE DEVICE
Howard E. Zavers, Scotia, N.Y., assignor to General Electric Company, a corporation of New York
Filed Apr. 26, 1960, Ser. No. 24,692
5 Claims. (Cl. 313—161)



1. An arc discharge device comprising a generally cylindrical metal envelope, a liquidous cathode within said envelope at one end thereof and electrically contacted by the lower end of the wall of said envelope, an anode supported within said envelope in axially spaced and insulated relation with respect to said cathode, a coaxial contact member circumferentially welded to the wall of said envelope above said anode, and the wall of said envelope and said coaxial contact both being formed of high electrical resistance materials, whereby circumferentially uniform current conduction about said device from said cathode to means engaged by said coaxial contact member is insured, thereby to insure against presence of undesirable magnetic fields in said device.

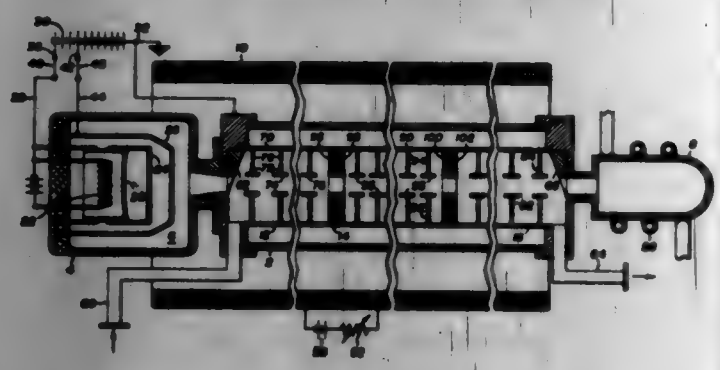
2,967,967
BEAM TYPE ELECTRON TUBE
Frank J. Pilas, Lyndhurst, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Sept. 29, 1958, Ser. No. 763,855
9 Claims. (Cl. 313—299)



1. A sheet-metal electrode adapted to be stacked end-on-end with others of its kind without nesting and jam-

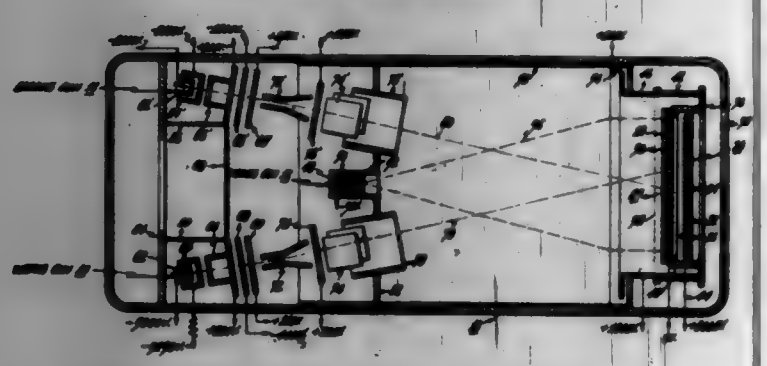
ming comprising a box-like frame structure including in parallel disposition a pair of rectangular apertured end plates, and two pair of parallel, elongated, coextensive, sheet metal beam plate legs joined to said pair of end plates substantially at their corners and supporting said end plates in spaced mutual overlying registry, each of said pair of legs lying in one of two parallel planes.

2,967,968
ELECTRON DISCHARGE DEVICE
Ervin J. Nalos, Los Altos, Calif., assignor to General Electric Company, a corporation of New York
Filed June 24, 1957, Ser. No. 667,414
11 Claims. (Cl. 315—3.5)



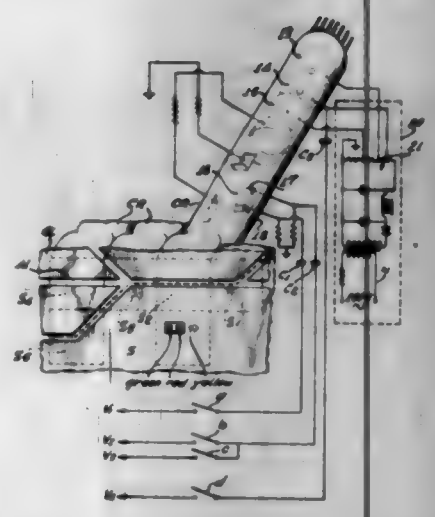
1. A device for amplifying electromagnetic waves in a selected frequency band comprising means for generating an electron beam having a predetermined path, means for modulating the density of the electron beam in accordance with an applied wave to be amplified, a loaded filter type waveguiding structure having a plurality of sections disposed adjacent said electron beam path and in interacting relation with the density modulated electron beam, said waveguiding structure being loaded to provide a phase shift near π radians per section in the selected frequency band and having a wave propagation passband at least a portion of which is at a higher frequency than said selected frequency band, and means associated with the waveguiding structure and responsive to interaction of the density modulated electron beam with said waveguiding structure for deriving an amplified version of the applied wave.

2,967,969
DIRECT VIEW STORAGE TUBE WITH CONTROLLED ERASURE
Arthur Charles Stocker, Collingswood, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Jan. 8, 1958, Ser. No. 707,830
6 Claims. (Cl. 315—8.5)



1. A signal storage tube system comprising an electrical storage tube containing a charge storage member, and a viewing screen, means providing a writing electron beam, means providing an erasing electron beam, means for deflecting said beams across said storage member with said writing beam trailing said erasing beam by a predetermined amount, connection means for a source of signals for modulating said writing beam with signal intelligence during deflection thereof to store said intelligence on said charge storage member, means providing a viewing beam to flood said storage member and reproduce said stored intelligence on said viewing screen, means for activating said erasing beam to erase said stored intelligence on said storage member line by line, and means for varying the intensity of said erasing beam during the erasure of each line of said stored intelligence.

2,967,970
TRACK INSTALLATION INDICATING SYSTEM
Fritz Liewald, Berlin-Mahlsdorf, Germany, assignor to VEB Werk für Signal- und Sicherungstechnik Berlin, Berlin-Treptow, Germany
Filed Aug. 6, 1957, Ser. No. 676,582
Claims priority, application Germany Aug. 6, 1956
5 Claims. (Cl. 315—9)

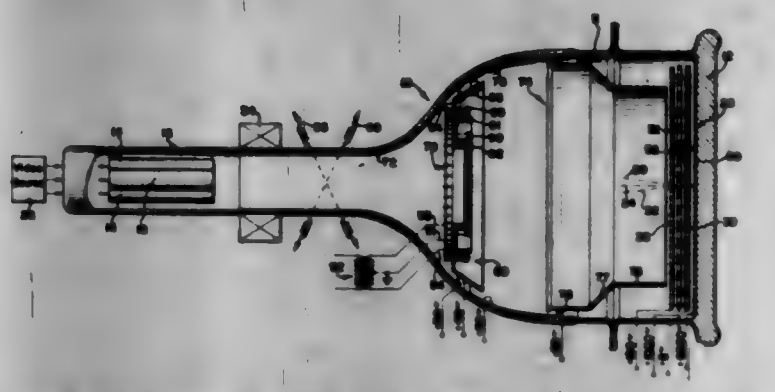


1. An arrangement for representing a railroad track installation and train movements and operating conditions along the track, comprising cathode ray tube means including a plurality of cathode ray tubes arranged in juxtaposed horizontal and vertical rows having contiguous screens constituting a flat extended fluorescent screen surface and means for projecting a plurality of electron beams onto separate adjacent portions of said fluorescent screen surface, said cathode ray tube means further including deflection means and a control grid for each electron beam; means for representing a single extended track layout on said surface including cover means for masking substantially all of said fluorescent surface except the portions representing the track, a plurality of sources of voltage of different wave forms and amplitudes; and switching means including train responsive switches disposed along the track for selectively connecting said voltage sources to said deflection means and control grids of the several cathode ray tubes in response to predetermined operational conditions along said track for modulating the electron beams and deflecting them along said track representing portions.

2,967,971
STORAGE TUBE WITH IMPROVED FLOOD GUN
Chester D. Beintema, Santa Monica, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Aug. 14, 1957, Ser. No. 678,079
2 Claims. (Cl. 315—12)

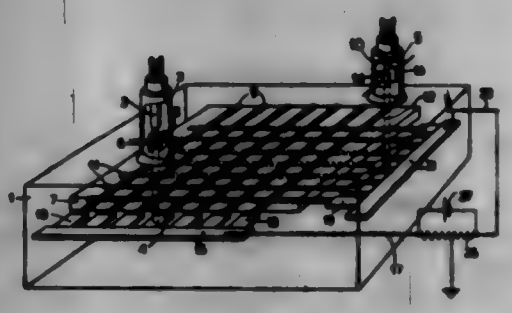
1. A half-tone direct viewing storage tube comprising, in combination, a viewing screen, a storage screen, an electron producing means, a reflector having a continuous channel therein, an electrically continuous filamentary cathode disposed in said channel and adapted to be heated directly, and a plurality of leads extending through said

reflector and electrically insulated therefrom, said leads being connected at one end thereof to spaced points along



said filamentary cathode and alternate leads connected at the other end thereof to respective common junctions.

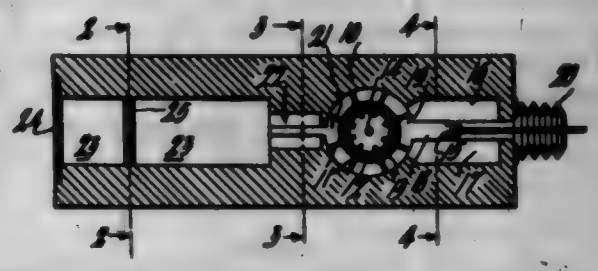
2,967,972
ELECTRON DISPLAY DEVICE
Edward Fokke de Haan, Eindhoven, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Mar. 17, 1958, Ser. No. 721,705
Claims priority, application Netherlands Apr. 2, 1957
9 Claims. (Cl. 315—13)



1. A display device comprising an electro-luminescent body, a pair of grid-like electrodes each comprising plural non-intersecting elongated conductors and each located on one side of said electro-luminescent body and both defining a plurality of conductor crossings at which the intervening portion of the electro-luminescent body can be caused to luminesce when the potential of a conductor of one electrode is raised and the potential of a conductor of the other electrode is lowered, first and second common electrical terminals, a radiation-responsive, variable-resistive element coupling each conductor of said one electrode to the first common terminal, and coupling each conductor of the other electrode to the second common terminal, first and second electron guns for producing a pair of electron beams, first deflection means for causing the beam from the first gun to become successively coupled to the variable-resistive elements coupled to the conductors of the said one electrode, and second deflection means for causing the beam from the second gun to become successively coupled to the variable-resistive elements coupled to the conductors of the other electrode, whereby coupling of the beam to a variable-resistive element sharply reduces its resistance and effectively connects the associated conductor to the associated common terminal.

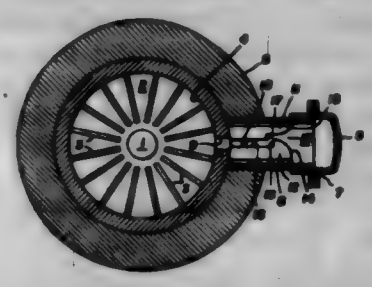
2,967,973
TUNABLE MAGNETRON WITH COMPENSATING IRIS
Frank E. Vaccaro, Orange, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed May 19, 1955, Ser. No. 509,465
6 Claims. (Cl. 315—39.53)

1. A magnetron system, comprising, an anode block having a plurality of resonators, tuning means coupled to at least one of said resonators to tune said anode block over a frequency range from f to f', where f' is at the high end of the range, an output waveguide coupled to another of said resonators, said anode block presenting a standing wave ratio R at resonance at



frequency f and R′ at frequency f', and an iris mounted in said output waveguide, said iris being proportioned to be resonant at frequency f' and to present an individual standing wave ratio at resonance at frequency f substantially equal to R'/R.

2,967,974
MAGNETRON OUTPUT COUPLER
James Rodney M. Vaughan, Scotia, N.Y., assignor to General Electric Company, a corporation of New York
Filed Mar. 4, 1959, Ser. No. 797,067
4 Claims. (Cl. 315—39.53)

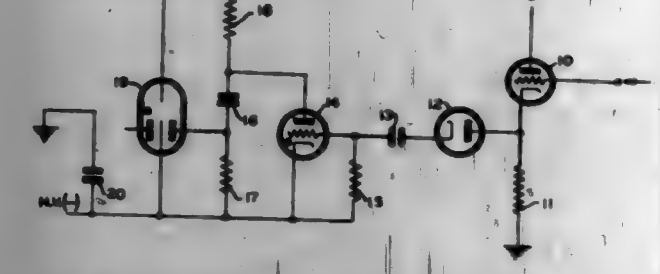


1. An output coupling system comprising a resonator, a waveguide wherein coupling is effected between said resonator and waveguide by an aperture interconnecting said resonator and waveguide and coaxial with said waveguide, an energy transparent dielectric window sealed across said waveguide, and a pair of impedance-matching transformer vanes within said waveguide between said aperture and window and extending from diametrically opposed inner surfaces of said waveguide toward each other, said vanes extending longitudinally from said aperture toward said window for a distance of substantially only a quarter wavelength long at the center frequency of said system, the opposed surfaces of said vanes defining an indirect energy passage between said aperture and window effective for transmitting energy from said resonator to said window and preventing straight line transit of conductive material from said aperture toward said window, thereby to avoid damage to said window by accumulations of conductive material thereon.

2,967,975
HIGH SPEED PHOTOGRAPHIC LIGHT CIRCUIT
Robert B. Hartmann II, Bridgeport, Conn., assignor to Remington Arms Company, Inc., Bridgeport, Conn., a corporation of Delaware
Filed Apr. 30, 1958, Ser. No. 732,870
3 Claims. (Cl. 315—241)

1. An electrical very high intensity short duration light flash producer system comprising in combination, a normally non-conducting high voltage luminescent-discharge lamp having a principal positive electrode and a principal negative electrode between which a discharge may pass when the lamp is conducting to produce light and an initiator electrode adjacent to said principal negative electrode and operative when energized to render the

lamp conducting, means for connecting the principal electrodes to a high voltage power supply means to cause energy from the source to discharge between the principal electrodes through the lamp when the lamp is conducting to produce a very high intensity flash of light of very short duration, a first condenser and a second condenser, means for connecting the initiator electrode through said first condenser and a first resistor to the positive side of the power supply means, said second condenser connecting the negative side of said power supply to ground, means for connecting the initiator



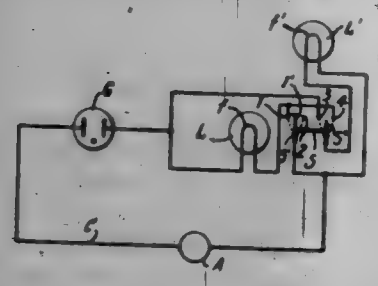
electrode to the negative side of the power supply means through a second resistor, switching means connected in parallel across said first condenser and said second resistor for selectively connecting said first condenser to said negative side of said high voltage power source to cause said initiator electrode instantaneously to become a different potential with respect to said principal negative electrode and render said lamp conducting to enable a discharge to pass between said principal electrodes and produce a very high intensity flash of light of extremely short duration.

2,967,976

BLINKING LIGHT ARRANGEMENT

German Daniel Lanata, Hotel Park Plaza, 50 W. 77th St., New York, N.Y.

Filed May 13, 1958, Ser. No. 734,975
14 Claims. (Cl. 315—322)



1. Blinking light arrangement, comprising, in combination, an electric lighting means including at least one electric incandescent lamp; a glow discharge lamp; and circuit means connecting said lamps in series and adapted to connect said series combination of lamps to a source of electric energy, whereby said electric incandescent lamp is caused to alternate between a maximum of light intensity output and a minimum output which may include zero output.

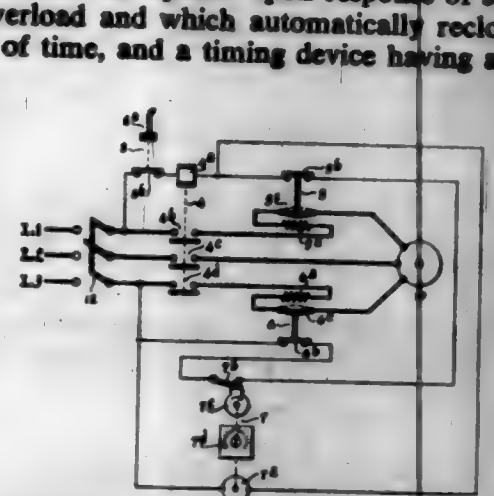
2,967,977

ELECTRICAL PROTECTIVE SYSTEM

Forrest C. McNicol and Theodore F. Rosing, Milwaukee, Wis., assignors to Cutler-Hammer, Inc., Milwaukee, Wis., a corporation of Delaware

Filed Nov. 19, 1956, Ser. No. 622,892
7 Claims. (Cl. 317—36)

1. In a protective control system for an electrical load device, in combination, a source of electrical power, an electrical load device, an electroresponsive contactor operable to connect said load device to and disconnect it from said source and having an operating coil, control means for said contactor, an overload device having an overload responsive element connected in a circuit connection to said load device and having normally closed contacts which are opened upon response of said element to an overload and which automatically reclose after an interval of time, and a timing device having an electrical



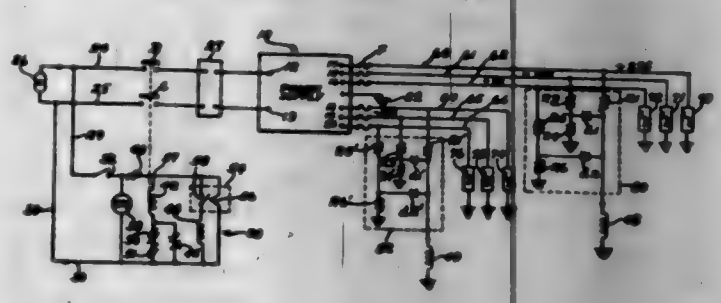
timer connected in series with the operating coil of said electroresponsive contactor across a side of said source and having normally closed contacts which are opened for an interval of time upon operation of said electrical timer, said last mentioned contacts connected in series with said operating coil of said contactor and said contacts of said overload device across said side of said source.

2,967,978

POWER SUPPLY FAULT SENSING AND PROTECTIVE CONTROL CIRCUIT

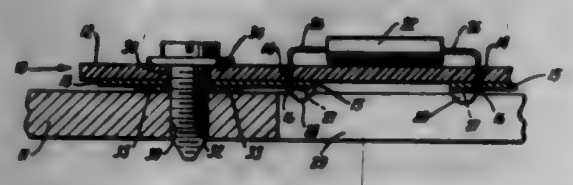
William H. Smith, St. Clair Shores, Mich., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan

Filed Apr. 28, 1958, Ser. No. 731,260
6 Claims. (Cl. 317—46)



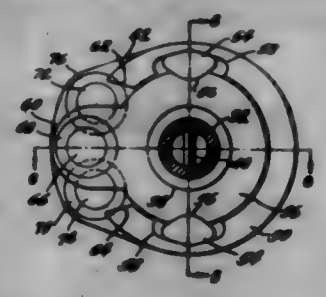
1. In a power supply system for supplying a plurality of separately developed output voltages of different voltage levels over a plurality of different supply conductors to a plurality of different load circuits from a source of electrical power connected to the input of the power supply, an internal-external fault sensing and protective control circuit for said power supply comprising voltage responsive control means, switching means controlled by said voltage responsive control means and connected in the input of the power supply, and a diode gate control circuit for said voltage responsive control means including a first circuit path connected to one of said output supply conductors and said voltage responsive control means, a separate voltage divider network provided for and connected to each of the remaining output supply conductors, and a separate diode connected between the division point of a different one of the voltage divider networks and to the first circuit path and poled to divert current flow supplied to the voltage responsive control means from the first circuit path through a portion of a divider network in the event of a failure of voltage to the load circuit supplied from the output supply conductor to which that divider network is connected.

2,967,979
ELECTRICAL CONNECTION FOR PRINTED WIRING PANEL
Edgar W. Plesser, Glenside, and Henry W. Scher, Elkins Park, Pa., assignors to Philco Corporation, Philadelphia, Pa., a corporation of Pennsylvania
Filed Jan. 20, 1956, Ser. No. 560,398
2 Claims. (Cl. 317—101)



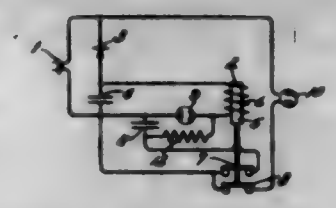
1. In an electrical circuit construction, the combination of a printed wiring panel having mounting apertures therein, conductive strips defining a circuit pattern on one face of said panel and including circuit grounding strips with portions disposed about and adjoining said apertures, a conductive chassis for mounting said panel, portions of said chassis confronting said grounding strip portions and having apertures in registry with said panel apertures, screw-threaded tightening fasteners passing through said registering apertures and having pressure-applying elements bearing on the other face of said panel about the openings therein, and solder masses carried by said grounding strip portions and disposed in engagement with said chassis portions, said masses being located in line with said pressure-applying elements and being compressed thereby through said tightening fasteners into spreading contact with said portions of said grounding strips and chassis.

2,967,980
ELECTRICAL POWER ASSIST OR SERVO MECHANISM AND CONTROL MEANS THEREFOR
Stanford R. Ovshinsky, 14121 W. McNichols Road, Detroit, Mich., assignor of one-third to David Tann and one-third to Herbert C. Ovshinsky, both of Detroit, Mich.
Filed Mar. 26, 1956, Ser. No. 573,724
4 Claims. (Cl. 317—123)



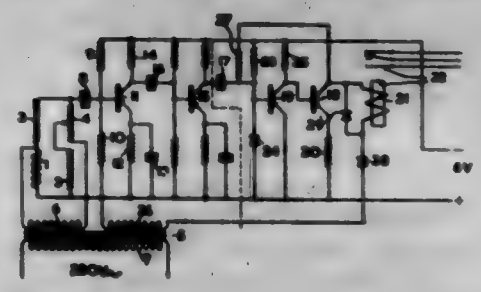
1. A control resistor for reversible electrically operated means and comprising in combination, a first rotatable plate having a cavity spaced from its axis of rotation and opening on one side of the plate, a first magnet mounted in said cavity in spaced relationship to said one side and connected as an electrode to a source of electrical energy, a plurality of magnetic particles disposed in said cavity between said magnet and said one side, a second plate superimposed on said one side of said first plate and relatively rotatable therewith on said axis of rotation, and a pair of magnets supported by said second plate in spaced relationship to said axis, the said pair of magnets being spaced from said cavity so that relative rotation between the plates in one direction will position one of said pair of magnets over said cavity and relative rotation in the opposite direction will position the other of said pair of magnets over the said cavity, the said one and other of said pair of magnets being connected as electrodes in circuits with said electrically operated means to cause operation thereof in one direction and the opposite direction, respectively, when said circuits are closed, relative rotation between the plates in said one direction being effective to establish and displace a magnetic field between said first magnet and said one of said pair of magnets whereby to close the circuit and vary the current flow therein for operation of the electrical means in said one direction, and relative rotation between the plates in the opposite direction being effective to establish and displace a magnetic field between said first magnet and said other of said pair of magnets whereby to close the circuit and vary the current flow therein for operation of the electrical means in the opposite direction.

2,967,981
LIGHT SENSITIVE CONTROL CIRCUIT
Robert A. Wise, Asheboro, N.C., assignor to General Electric Company, a corporation of New York
Filed Apr. 15, 1958, Ser. No. 728,693
6 Claims. (Cl. 317—124)



1. A light actuated load control device comprising: a source of D.C. power; a relay including an operating coil and normally closed control and load switches; a photo conductive cell connected in series with said coil across said power source; a high impedance control circuit including said control switch in electrical parallel with said cell; and a capacitor in electrical parallel with said control switch; energization of said coil to its minimum relay pick up level through said coil opening said control switch; whereupon charging current drawn by said capacitor completes pick up of said relay.

2,967,982
SWITCH-CONTROL CIRCUIT ARRANGEMENT OPERATING BY MEANS OF A PHASE-SENSITIVE DETECTOR
Adriaan Adam Dubbelman, Bellevue, Johannesburg, Union of South Africa, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed July 19, 1957, Ser. No. 672,915
Claims priority, application Netherlands Sept. 7, 1956
8 Claims. (Cl. 317—148.5)



1. A circuit arrangement for actuating a switch under the control of signal oscillations of a given frequency, comprising an amplifier, a phase sensitive detector having an input circuit coupled to the output of said amplifier and an output circuit coupled to switch-actuating means, means for supplying said signal oscillations to the input of said amplifier, a source of reference oscillations of said given frequency, means for supplying said reference oscillations to the output circuit of said detector, and a direct current regenerative feedback path interconnecting the output circuit of said detector and the input circuit of said amplifier, whereby the direct current in the output circuit of said

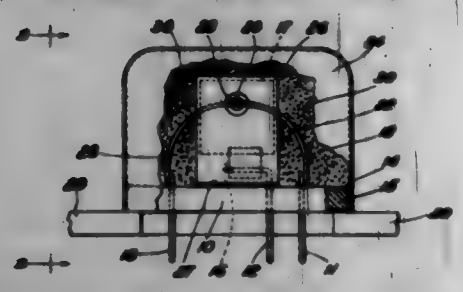
detector abruptly increases during determined half-cycles of said signal oscillations and said reference oscillations, and said switch actuating means is abruptly energized due to said abrupt increase.

2,967,983
FAST ACTING SOLENOID
Ronald W. Dankleft, Pasadena, Calif., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Jan. 3, 1958, Ser. No. 706,977
3 Claims. (Cl. 317—189)



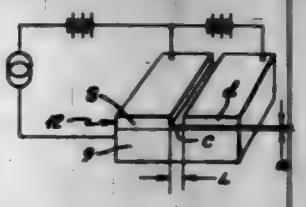
1. A fast acting solenoid including a casing, first and second magnetic disc members engageable and disengageable with the opposite ends of said casing, a movable connecting rod mounting said discs adjacent the opposite ends thereof and axially arranged within said casing, a magnetic plunger mounted on said connecting rod between said disc members and movable with and relative to said rod, first and second substantially similar compression springs disposed between said plunger and the respective first and second disc members, first and second substantially similar electrical coils disposed within said casing, first and second cylindrical magnetic cores associated with the respective first and second coils and coaxial with the first and second springs respectively whereby upon energization of said first coil, adjacent portions of said casing, the plunger, the first core and the first disc member are magnetically polarized thereby magnetically drawing the plunger and first disc member toward each other and compressing said first spring therebetween until said first magnetic disc engages said casing and upon the alternate energization of said second coil, adjacent portions of said casing, the plunger, the second core and the second disc member are magnetically polarized thereby magnetically drawing the plunger and second disc member toward each other and compressing said second spring therebetween until said second magnetic disc engages said casing, the stored energy of said compressed spring in each instance serving to rapidly move said first and second disc members in a push-pull relationship from one bi-stable stationary position to the other in response to the alternate energization and de-energization of the first and second coils.

2,967,984
SEMICONDUCTOR DEVICE
Noel C. Jamison, Irvington, N.Y., assignor to North American Philips Company, Inc.
Filed Nov. 3, 1958, Ser. No. 771,310
11 Claims. (Cl. 317—234)



1. A semiconductor device comprising an envelope having a good heat-conducting portion, a semiconductive member mounted within said envelope, electrode connections to said semiconductive member, a metal, heat-dissipating member connected to the good heat-conducting portion of the envelope and extending within the envelope to an area closely spaced from a heat generating portion of the semiconductive member and its electrode connections, and a mass of metal particles having an insulating coating interposed between the semiconductive member and its electrodes, and the heat-dissipating member to shorten the path for heat flow thereto.

2,967,985
TRANSISTOR STRUCTURE
William Shockley, 23466 Cerra Via, and Robert N. Noyce, both of Los Altos, Calif.; said Noyce assignor, by mesne assignments, to said Shockley
Filed Apr. 11, 1957, Ser. No. 652,117
5 Claims. (Cl. 317—235)



4. A field effect transistor comprising a block of semiconductive material of one conductivity type, said block having a relatively low carrier concentration, a layer of semiconductive material of opposite conductivity type forming a junction therewith, said layer including source, drain and channel regions, said channel region being small in two dimensions and serving to separate the source and drain regions, a region of material of the same conductivity type as the gate region but having a higher carrier concentration forming a junction with the channel and being integral with the gate region.

2,967,986
ELECTRICAL CONDENSER
Jayson C. Balsbaugh, Marshfield, Mass., assignor to AMP Incorporated, Harrisburg, Pa.
Filed Mar. 28, 1957, Ser. No. 649,257
6 Claims. (Cl. 317—258)

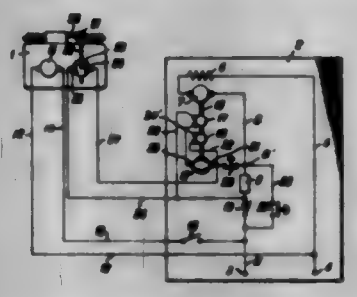


1. An electrical condenser which comprises overlapping spaced electrodes, a plurality of layers of indurated bentonite of uniform thickness between said electrodes and extending beyond the edges of said electrodes, and an adequately plasticized polyvinyl carbazole resin covering and pressed into intimate conformity and adhesion with the adjacent surfaces of the electrodes and of said indurated bentonite layers, forming therewith a dense body of high electrical breakdown strength and low loss, said polyvinyl carbazole resin including polyvinyl carbazole having a softening range providing plastic flow under pressure within a temperature range of approximately 150° to 300° C. and having a K-value as herein defined at least about 45.

2,967,987
SYNCHRONIZING APPARATUS
Herbert Reinsch, Stuttgart, Germany, assignor to Eugen Bauer G.m.b.H., Stuttgart-Unterturkheim, Germany
Filed Apr. 23, 1956, Ser. No. 579,819
Claims priority, application Germany Apr. 23, 1955
6 Claims. (Cl. 318—75)

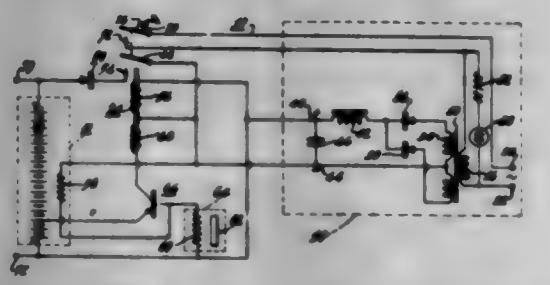
1. Apparatus for maintaining a predetermined relationship between the rotational speeds of independent rotary

members comprising, in combination, energizing means for energizing the rotary members to cause the same to rotate; switching means movable between circuit-opening and circuit-closing positions by said rotary members and connected in circuit between said energizing means and one of the rotary members for regulating the energization of said one rotary member so that the respective rotational speeds of the rotary members are maintained in a predetermined relationship whereby said switching means maintain the circuit between said energization means and said one rotary member in circuit-closing position when the speed relationship differs from the predetermined in a first sense and in circuit-opening position when



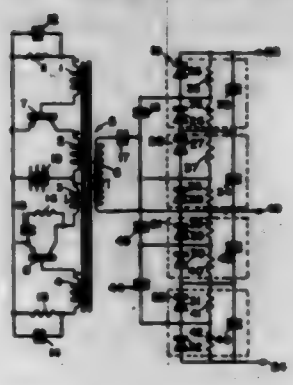
the speed relationship differs from the predetermined in the other sense; a first centrifugally operated switch fixedly mounted on said one rotary member for rotation therewith and connected in circuit between said energizing means and said switching means for rendering said switching means ineffective until a first predetermined rotational speed of said one rotary member is reached; and a second centrifugally operated switch fixedly mounted on said one rotary member for rotation therewith and connected in circuit between said energizing means and said switching means for rendering said switching means ineffective for all rotational speeds of said one rotary member higher than a second predetermined rotational speed.

2,967,988
BATTERY CHARGING SYSTEM
Carl G. Seright, Trenton, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Mar. 25, 1958, Ser. No. 723,872
11 Claims. (Cl. 320—36)



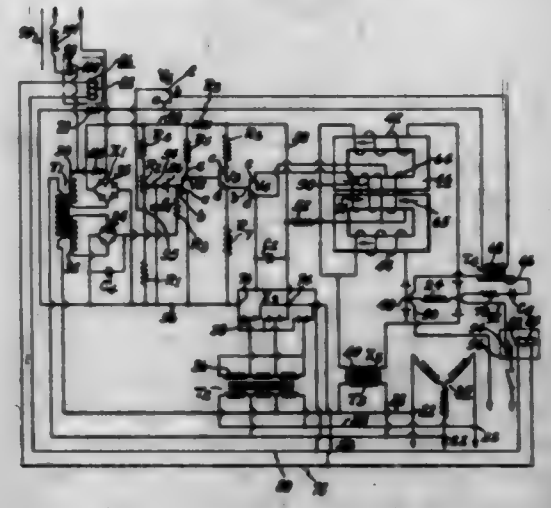
1. A charging system for charging a battery from a source of charging voltage comprising a relay switch, said battery having circuit connection terminals, said relay switch having circuit closing means, means including said relay switch to apply said source of charging voltage to said terminals of said battery for charging said battery, means to hold said circuit closing means of said relay switch closed following closure thereof, a pair of impedances, means connecting said impedances in series with each other and to said source of charging voltage, one of said impedances having a negative temperature coefficient of resistance and being connected in a heat receiving relationship with said battery, a transistor having an emitter, collector and a base, means connecting said base between said impedances, a release winding in said relay switch, and means connecting the emitter-collector path of said transistor and said release winding in series with each other and between a voltage point on said battery and a voltage point of said source of charging voltage whereby said transistor is biased to cut-off when said one impedance is within a predetermined temperature range with respect to the other impedance and whereby said transistor is made conductive when said one impedance is heated by said battery to a temperature outside of said temperature range.

2,967,989
HIGH VOLTAGE POWER SUPPLY
Robert F. Eno, Lakewood, Charles F. Swett, Downey, Rexford F. Goode, Puente, Paul F. Mooney, Fullerton, and Harry F. Eckerle, Long Beach, Calif., assignors to North American Aviation, Inc.
Filed Sept. 27, 1956, Ser. No. 612,439
8 Claims. (Cl. 321—2)



3. A high voltage D.-C. power supply comprising a source of D.-C. potential, a saturable transformer having a plurality of primary windings, and a secondary winding, a pair of alternately conductive transistors connected to supply current from said source to said primary windings, one of said transistors controlled by one of said primary windings, the other of said transistors controlled by another of said primary windings whereby the voltage induced in said secondary winding by said primary windings is alternating, frequency responsive means connected to said secondary winding means, rectifying means responsive to the output of said frequency responsive means for supplying high voltage direct current to a load, and control winding means on said saturable transformer responsive to changes in voltage across said load to vary the frequency of conduction of said transistors.

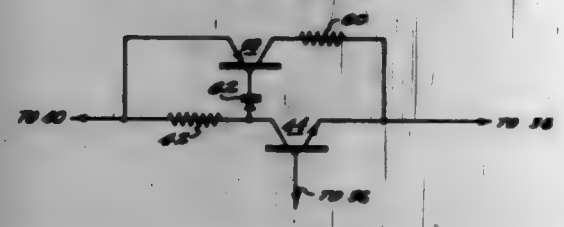
2,967,990
CONTROL CIRCUIT
William J. Rady and Charles W. King, Anderson, Ind., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed May 23, 1956, Ser. No. 586,787
18 Claims. (Cl. 322—28)



18. A voltage regulator circuit network for an alternating current generator having an exciting field winding

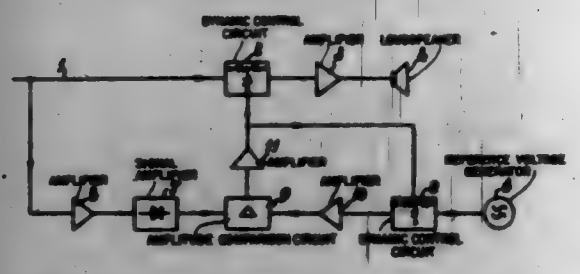
and output terminals, comprising; means including a transformer and rectifier connected to said terminals, and means including a voltage sensitive diode, a transistor, and a saturable iron core reactor connected in circuit with said first means and field for varying the excitation of said field inversely with variations in voltage at said terminals, said transistor having base and emitter electrodes connected in a circuit with said first means through said diode, and means for applying a bias to said circuit to make the base of the transistor positive with respect to the emitter until the current through said diode exceeds a predetermined value.

2,967,991
POWER SUPPLY
Don E. Deutsch, Haddon Heights, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Jan. 8, 1957, Ser. No. 633,824
5 Claims. (Cl. 323—22)



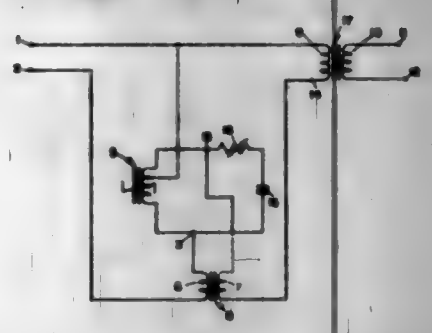
1. In combination, a source of current, a pair of output terminals, a variable impedance device, a first impedance, means connecting said first impedance and said variable impedance element in series with each other and between said source and one of said pair of output terminals, means connected between said pair of output terminals and said variable impedance device to vary the impedance thereof in response to a predetermined electrical connection between said pair of output terminals, a transistor, a second impedance, means connecting said transistor in a series circuit with said second impedance, said last-mentioned circuit being connected in shunt with said variable impedance device and said first impedance, a diode, and means connecting said first impedance to said transistor through said diode.

2,967,992
SIGNAL EXPANSION DEVICE
Jacob Willem Scholten, Hilversum, Netherlands, assignor, by mesne assignments, to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed June 14, 1955, Ser. No. 525,833
Claims priority, application Netherlands June 15, 1954
8 Claims. (Cl. 323—66)



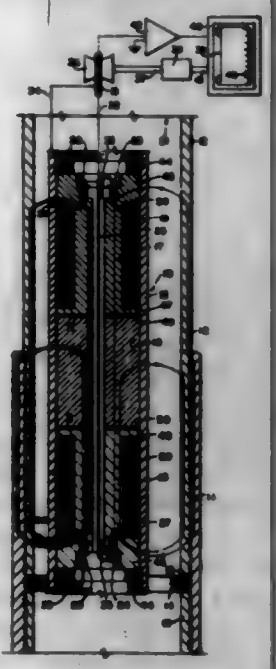
6. A signal expansion circuit comprising a source of input signals, a source of reference oscillations, means for producing a control voltage comprising an amplitude comparison circuit having two input circuits and an output circuit, a signal rectifier circuit connected between said source of signals and one of said input circuits, means connected to said output circuit for dynamically controlling signals under control of said control voltage, said dynamic controlling means being connected to said source of signals and source of oscillations to provide dynamically controlled first and second signals corresponding respectively to said input signals and reference oscillations, and means applying said second signals to the other of said input circuits.

2,967,993
MAGNETIC QUADRATURE CIRCUIT
Harry F. Eckerle, Jr., and Neville L. Radcliffe, Jr., Long Beach, Calif., assignors to North American Aviation, Inc.
Filed Apr. 9, 1956, Ser. No. 577,119
4 Claims. (Cl. 323—109)



1. In combination, a single phase alternating current input circuit having two terminals, a single phase alternating current output circuit having two terminals, and phase shifting apparatus connecting said input circuit with said output circuit whereby said output circuit is 90 degrees out of phase with said input circuit, said apparatus comprising a saturable reactor having two portions, a transformer whose primary winding is connected in series with one portion of said saturable reactor across said input terminals, the secondary winding of said transformer connected in series with the second portion of said saturable reactor across two of said output terminals, said portions being connected in series opposition, and a capacitor connected across said saturable reactor to form a resonant circuit.

2,967,994
CASING JOINT LOCATOR
Glen Peterson, Tulsa, Okla., assignor to Well Surveys, Incorporated, a corporation of Delaware
Filed Mar. 25, 1957, Ser. No. 648,131
14 Claims. (Cl. 324—37)



1. Apparatus adapted to be moved through a borehole for locating the joints between sections of steel casing lining said borehole comprising permanent magnet means; substantially identical armature means disposed in mag-

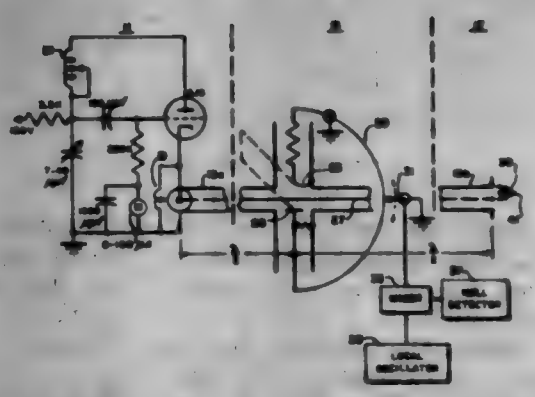
netic contact with each pole of said magnet means, each of said armature means comprising a magnetically soft core having a face in substantial contact with said magnet means, said face being substantially coextensive with the adjacent surface of said magnet means, magnetically soft pole means spaced from said face, and coil means disposed on said core between said pole means and said face; means providing a magnetic flux path from said magnet means including both of said armature means and a portion of said casing; means connecting said coil means differentially to provide for the induction of net voltage only when said casing portion is magnetically asymmetrical with respect to said armature means; and means operatively associated with said coil means for recording said voltage as a function of the depth of said armature means in said borehole.

2,967,995

APPARATUS FOR MEASURING THE EQUIVALENT ELECTRICAL PARAMETERS OF CRYSTAL UNITS

Dennis Pechmeralki, Freehold, N.J., assignor to the United States of America as represented by the Secretary of the Army

Filed Aug. 26, 1957, Ser. No. 680,369
4 Claims. (Cl. 324—56)
(Granted under Title 35, U.S. Code (1952), sec. 266)



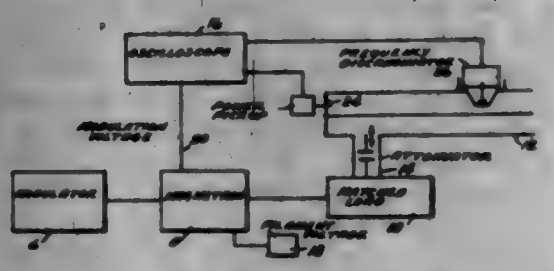
1. Means for measuring the parameters of high frequency oscillating crystal units comprising: an oscillator controllable by a crystal to be tested, an inversion line from said oscillator to said crystal, and means for measuring the relative voltage, current, and phase of the energy in said line to determine the operating parameters of said crystal while said oscillator functions under the control of said crystal.

2,967,996

MAGNETRON TESTER

Henry K. Bradford, Falls Church, Va., assignor to U.S. Electronics Corporation, Alexandria, Va., a corporation of Delaware

Filed Apr. 25, 1955, Ser. No. 503,723
6 Claims. (Cl. 324—58)



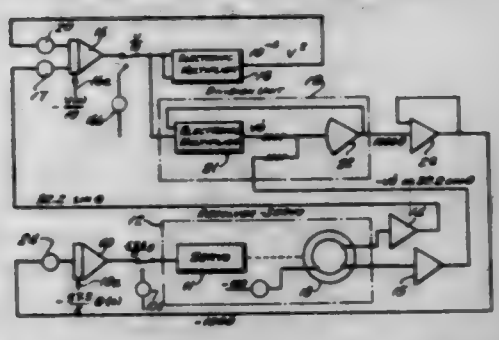
1. Electronic test equipment for testing an oscillator comprising a power supply, means coupling said supply to said oscillator, a matched load for said oscillator, means for coupling said oscillator to said load, an open ended slotted line test section, means for coupling said test section to said load comprising an attenuator, a frequency discriminating probe device positioned at an odd quarter-wave length spacing with respect to a standing wave on said slotted line for the approximate frequency of said oscillator, and an instrument for indicating the output of said probe device connected to said probe device, said instrument being calibrated in frequency for direct reading of the frequency of said oscillator.

2,967,997

METHOD AND APPARATUS FOR CHECKING ELECTRONIC ANALOG COMPUTERS

Rawley D. McCoy, Bronxville, N.Y., assignor to Reeves Instrument Corporation, New York, N.Y., a corporation of New York

Filed Apr. 20, 1955, Ser. No. 502,645
14 Claims. (Cl. 324—73)



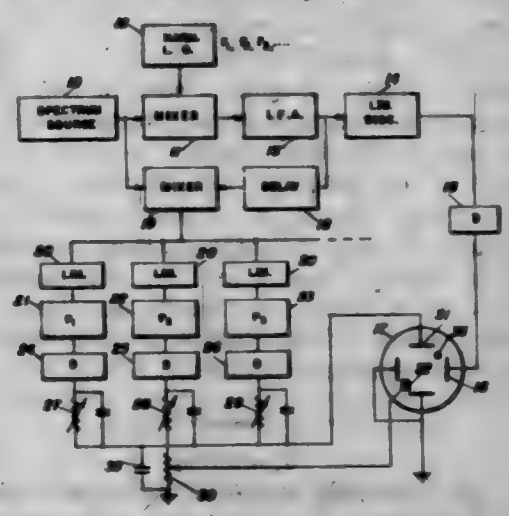
1. In an apparatus for checking the operation of an analog computer which includes an integrator having an input and an output connected in the computer circuit, the combination which comprises means for disconnecting the output of the integrator from the computer circuit and substituting a predetermined voltage in the computer circuit in place thereof, means for disconnecting the input to the integrator from the computer circuit after a predetermined period of operation of the integrator with its output disconnected from the computer circuit, and means for measuring the output of the integrator after said predetermined period of operation.

2,967,998

NON-SCAN SPECTRUM ANALYZER

Hyman Hurvitz, 1313 Juniper St. NW., Washington, D.C.

Filed Aug. 22, 1956, Ser. No. 605,546
19 Claims. (Cl. 324—77)



3. A frequency indicator for a wide band of frequencies made up of narrow equally wide sub-bands, comprising a mixer, a source of harmonically related local oscillations having separations equal to the width of said sub-bands, means coupling said source of harmonically related local oscillations with said mixer, a source of a discrete frequency occurring within said wide band of frequencies and therefore within one of said sub-bands, means cou-

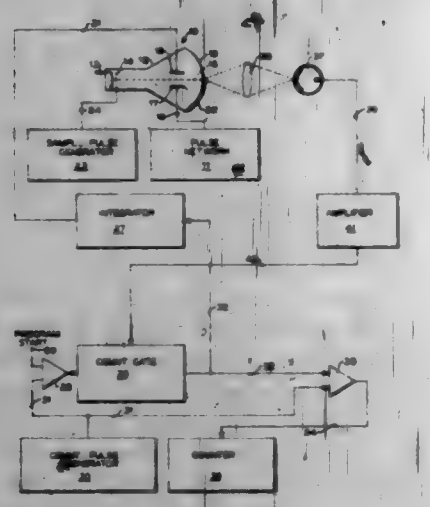
pling said source of a discrete frequency with said mixer, an intermediate frequency amplifier having a width equal substantially to the width of said sub-bands multiplied by the factor n, where n is selected from the values 1 and ½, means for generating a first signal of amplitude representative of the position of said discrete frequency within said one of said sub-bands, means for generating a second signal of amplitude representative of the position of said one of said sub-bands within said wide band, and means responsive to said signals for generating a visual mark representative simultaneously of said amplitudes of said signals.

2,967,999

WAVEFORM MEASURING APPARATUS

Georg N. Gaebelein, Endicott, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Nov. 27, 1957, Ser. No. 699,372
8 Claims. (Cl. 324—121)



1. A device for measuring an instantaneous amplitude of a repetitive signal voltage comprising sample pulse generating means to provide a series of pulses occurring at predetermined time intervals with respect to said repetitive signal voltage, means for generating a series of count pulses occurring in timed relationship with respect to said sample pulses, a cathode ray tube having a screen, deflection plates and a control grid, means for masking a portion of said screen, means for applying said sample pulses to said grid to bias the same to permit an electron beam to impinge upon said screen, means for applying said repetitive signal voltage to at least one of said deflection plates to deflect the electron beam to impinge upon the masked portion of said screen, a comparison voltage generating means for providing a linear comparison voltage rising at a known rate wherein the voltage begins to rise at a predetermined time, means for applying said comparison voltage to another of said deflection plates to counteract the deflection caused by said repetitive voltage signal, a counter, means for applying count pulses to said counter starting at the time the comparison voltage begins to rise, and means operable in response to said electron beam impinging upon said unmasked portion of the screen to terminate the entry of count pulses into said counter.

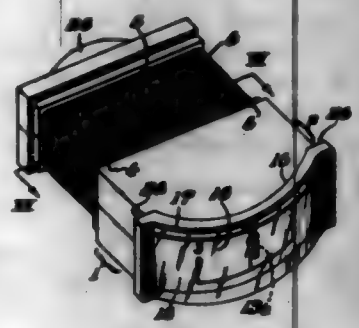
2,968,000

EDGEWISE INDICATING METER

William E. Pfeffer, Perkasie, Pa., assignor to Electro-Mechanical Instrument Co., Perkasie, Pa.

Filed Jan. 28, 1959, Ser. No. 789,582
2 Claims. (Cl. 324—146)

1. In an electrical edgewise indicating meter, a flat elongated hollow casing of dielectric material rectangularly oblong in cross section, said casing having a relatively wide perimetric groove adjacent its rear end, a rounded front end with a window curved on a radius struck from the center of the groove, said casing being formed by two complemental inter-fitting half sections which meet in a plane centrally between the wide sides of the casing, and one of the casing sections having in the plane of the perimetric groove, slots respectively between pairs of spaced lugs extending inwardly and upwardly from opposite side walls of said section; a graduated scale disposed in the window opening of the casing; a channel bar with the ends thereof respectively engaged in the



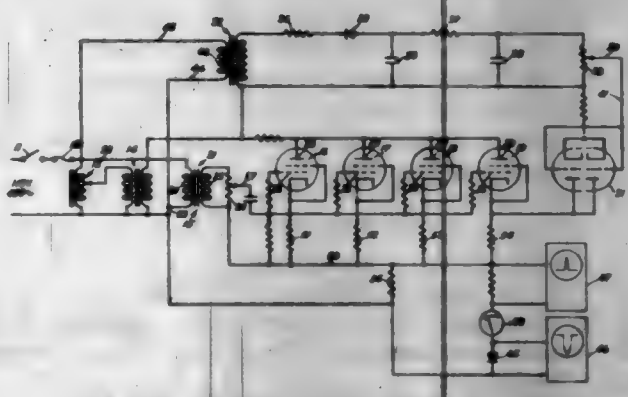
slots on the said one casing component and held in place by the other casing component; a pointer, for coordination with the scale, affixed to an arbor having its ends pivotally supported in the flanges of the bar; a permanent magnet disk also affixed to the arbor; and a current carrying coil of wire wrapped about the casing within the perimetric groove to secure the two casing sections together, and to provide flux for reaction with the flux of the permanent magnet disk on the arbor.

2,968,001

CRYSTAL DIODE TEST APPARATUS

John R. Archer, Indianapolis, Ind., assignor to the United States of America as represented by the Secretary of the Navy

Filed Dec. 4, 1958, Ser. No. 778,269
4 Claims. (Cl. 324—158)
(Granted under Title 35, U.S. Code (1952), sec. 266)

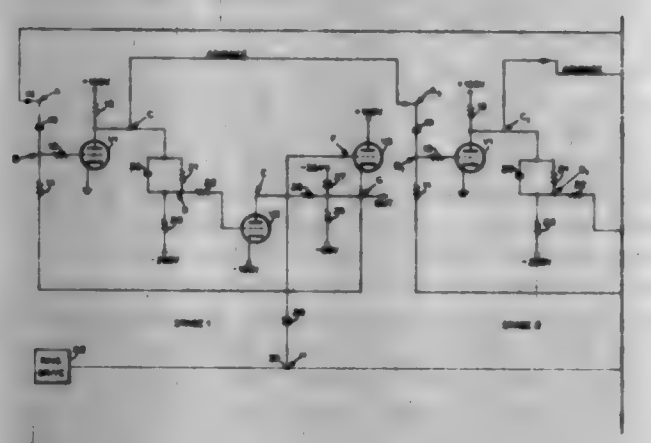


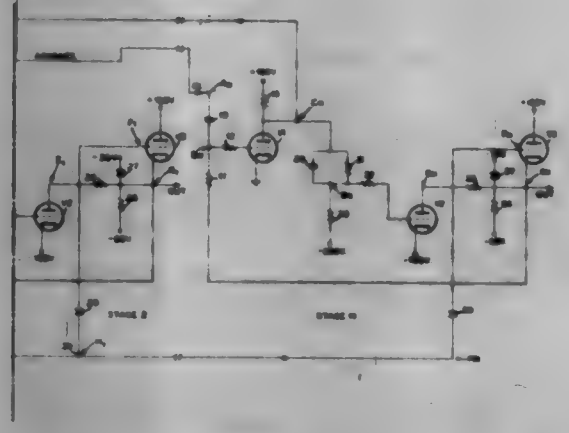
1. A test set for confirming the characteristics of a crystal diode comprising, a source of alternating current, a crystal diode to be tested, a forward current channel connected to said source of alternating current and polarized to conduct current only during the positive half-cycles of said alternating current for applying current to said crystal diode, said forward current channel including shaping and clipping means for providing high peak current to said crystal diode, an inverse voltage channel connected to said source of alternating current and polarized to conduct current only during the negative half-cycles of said alternating current for applying predetermined peak inverse voltage to said crystal diode and separate means for indicating the average forward current, the forward peak current, and the peak inverse voltage of said crystal diode.

2,968,002
PUSH-PULL RING CIRCUIT

Gonnng L. Clapper, Vestal, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Aug. 31, 1956, Ser. No. 607,475
3 Claims. (Cl. 328—43)





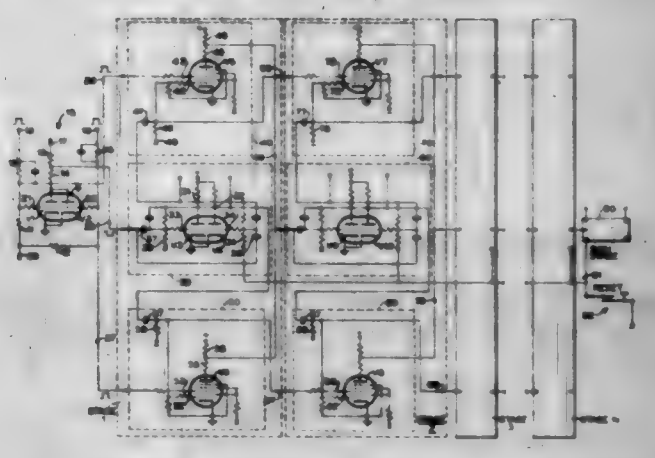
1. A ring circuit comprising a plurality of interconnected bistable devices, each said device being operated successively from a first to a second stable state in response to the operation of the preceding device from a second to a first stable state, each said device including a plate driver and cathode follower connected electron discharge tubes connected plate to cathode respectively and to a common output line wherein the plate of said driver is connected to the grid of said cathode follower, a timing pulse source, and means for selectively connecting said pulse source to that device which is in a second stable state whereby said preceding device is switched from a second to a first stable state.

2,968,003
REVERSIBLE ELECTRONIC COUNTER

Donald H. Apgar, Binghamton, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Dec. 19, 1957, Ser. No. 703,790
3 Claims. (Cl. 328—44)

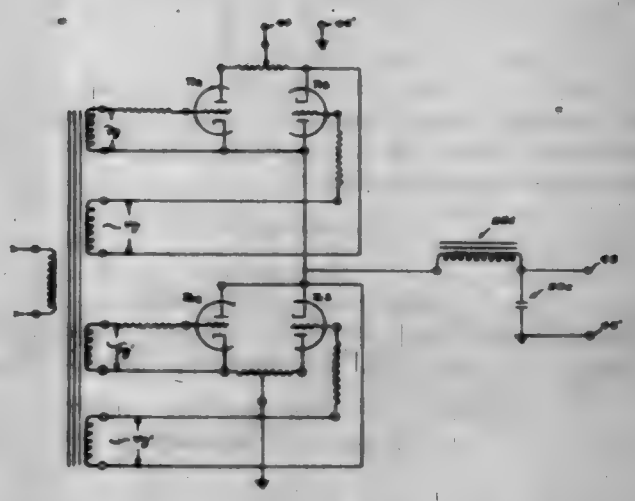
1. A binary counter comprising a series of multistable storage elements operable to alternate states indicative of binary "1" or "0" in response to successive input pulses, said storage elements each having a plurality of output terminals having voltages indicative of the state of said element, and AND circuit associated with each storage element means for generating a self-sustaining carryover pulse from a given stage to the next successive stage in response to a change in state of a preceding stage and a corresponding change in state of the given stage in response to the change of state of said preceding device, said last-mentioned means comprising means for connecting one output terminal of the element associated with said AND circuit to said AND circuit, means for connecting a similar one of said output terminals of said preceding element to said AND circuit, and means included in the connections between the output terminals and said AND circuit for providing an indication to said AND circuit of a change in state of said multistable storage elements whereby a positive rise of voltage on the terminal of a preceding storage element and a positive rise in voltage on said output terminal of the associated storage element will enable said AND circuit, and means for connecting the output of said AND circuit to the next successive storage element to change the state of said element.



2,968,004
ANALYZER CHANNEL FOR USE IN AN AUTOMATIC HYSTERESIS LOOP RECORDER

Ernst R. Czerlinsky, Arlington, and Raymond A. MacMillan, Greenwood, Mass., assignors to the United States of America as represented by the Secretary of the Air Force

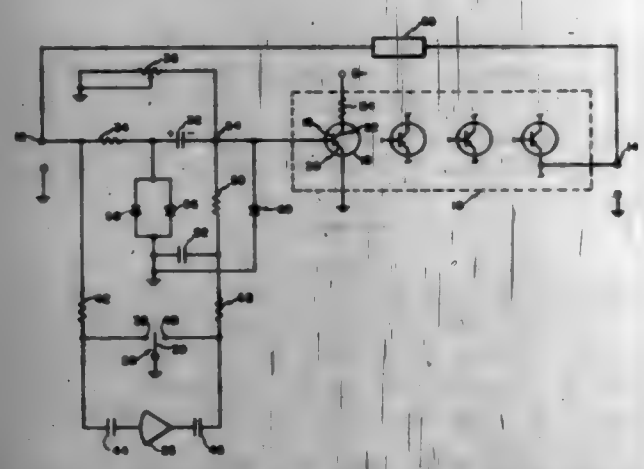
Original application Sept. 27, 1956, Ser. No. 612,569. Divided and this application Aug. 18, 1958, Ser. No. 755,817
1 Claim. (Cl. 328—133)
(Granted under Title 35, U.S. Code (1952), sec. 266)



A switching circuit comprising a first pair of electron discharge tubes, each tube having an anode, a cathode and a control grid, first means connecting the anode of one of said tubes to the cathode of the other tube, second means connecting the cathode of said one of said tubes to the anode of said other tube, an alternating voltage supply source, a first circuit comprising an inductance and a capacitance, said first pair of tubes, said voltage source and said first circuit being connected in series, a second circuit for applying the alternating voltage from said source to the grids of said first pair of tubes, said second circuit comprising phase rotating means for changing the phase relation between the voltage in said first circuit and the voltage applied to the grids of said first pair of tubes, a second pair of electron discharge tubes, each tube hav-

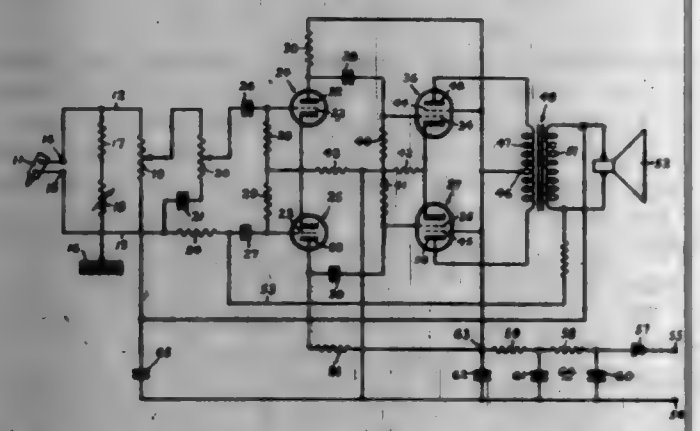
ing an anode, a cathode and a control grid, third means connecting the anode of one of said second pair of tubes to the cathode of the other of said second pair of tubes, fourth means connecting the cathode of said one of said second pair of tubes to the anode of said other of said second pair of tubes, said second pair of tubes being connected in parallel with said first circuit, and fifth means for applying to the grids of said second pair of tubes an alternating voltage which is 180 degrees out of phase with respect to the voltage applied to the grids of said first pair of tubes.

2,968,005
STABILIZED DIRECT COUPLED TRANSISTOR AMPLIFIER
James R. Patmore, Neptune, N.J., assignor to Electronic Associates Inc., Long Branch, N.J., a corporation of New Jersey
Filed Feb. 8, 1960, Ser. No. 7,229
6 Claims. (Cl. 330—9)



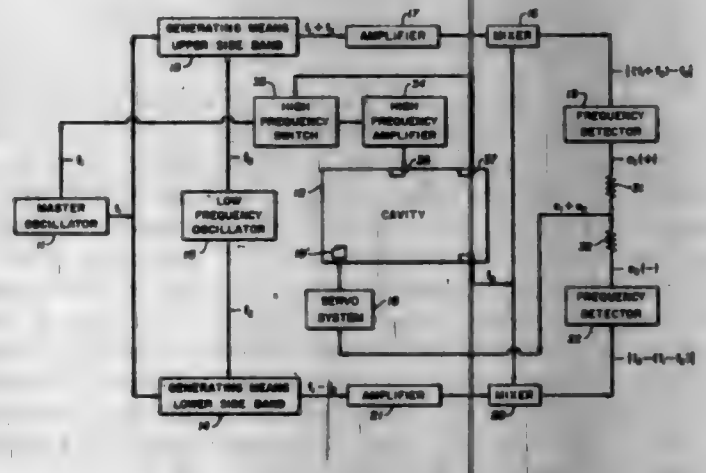
1. In an automatic stabilizing circuit, the combination comprising a direct-coupled amplifier channel including a transistor having a base, an emitter and a collector, a base current blocking capacitor coupling said base to a source of signal potential, a modulated carrier-type amplifier channel connected in shunt circuit across said blocking capacitor, and means coupled to said base and to a point of fixed potential for limiting to a predetermined amplitude the potential of one polarity which is impressed across said capacitor by said modulated carrier-type amplifier channel.

2,968,006
A.C.-D.C. AMPLIFIER
William S. Bachman, Southport, Conn., assignor to Columbia Broadcasting System, Inc., New York, N.Y., a corporation of New York
Filed Oct. 23, 1956, Ser. No. 617,773
4 Claims. (Cl. 330—123)



1. An A.C.-D.C. amplifier mounted on a conductive chassis comprising a signal input channel including a pair of receiving terminals and a conductor connected to said chassis, a balanced, cathode-coupled electron tube phase inverter having a pair of input terminals connected to receive the output of said channel and to provide a further output each of the phase inverter input terminals being linked to one of the signal receiving terminals and both of the phase inverter input terminals being linked to the conductor connected to the chassis so as to cause an input signal at the receiving terminals to be applied in out-of-phase relation at the phase inverter terminals, power supply means including a positive conductor and a negative conductor connected directly to an electrical energy input terminal of said amplifier and arranged to operate from either an alternating current source or a direct current source, circuit means connecting said power supply means to said phase inverter for energizing the latter including a connection between the negative conductor and the coupled cathodes of the phase inverter, and a shock hazard minimizing impedance connected between said negative conductor and said chassis, thereby impressing any signals induced across the shock hazard minimizing impedance upon the pair of phase inverter terminals in in-phase relation so that they are cancelled by the phase inverter.

2,968,007
AUTOMATIC FREQUENCY CONTROL SYSTEM
Calvin F. Hansen, Bountiful, Utah, and John D. Salisbury, Livermore, Calif., assignors to the United States of America as represented by the United States Atomic Energy Commission
Filed June 25, 1959, Ser. No. 823,278
7 Claims. (Cl. 331—11)

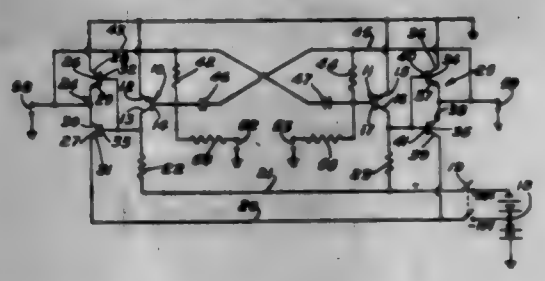


1. In a system for equalizing the frequency of a cavity resonator and a high frequency oscillator energizing said resonator, the combination comprising a low frequency oscillator, an upper side band producing circuit receiving signals from said high frequency oscillator and said low frequency oscillator, a lower side band producing circuit receiving signals from said high frequency oscillator and said low frequency oscillator, a cavity oscillator operable at the resonant frequency of said cavity, a switch having a first setting inactivating said cavity oscillator and coupling said high frequency oscillator to said cavity, said switch having a second setting activating said cavity oscillator and decoupling said high frequency oscillator from said cavity, a first mixer combining the outputs of said upper side band circuit and said cavity oscillator; a second mixer combining the outputs of said lower side band circuit and said cavity oscillator, a first frequency responsive detector coupled to the output of said first mixer, a second frequency responsive detector coupled to the output of said second mixer, and a frequency regulating means responsive to the outputs of said first and second detectors and operable to equalize the frequencies of said high frequency oscillator and said cavity.

2,968,008
SELF-STARTING MULTIVIBRATOR

Pete E. Marcoholtz, San Diego, Calif., assignor to Daystrom, Incorporated, Murray Hill, N.J., a corporation of New Jersey

Filed Apr. 11, 1957, Ser. No. 652,249
4 Claims. (Cl. 331—113)

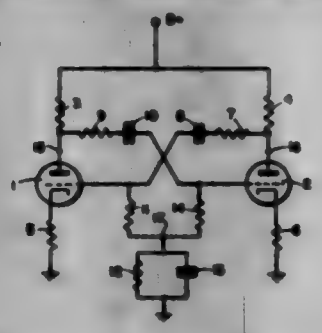


1. A free-running multivibrator circuit, comprising: a first and second primary transistor, each having base, emitter and collector electrodes; a source of supply potential; a first pair of resistors connected individually in circuit between each of said collector electrodes and a fixed point of potential of said source; a control transistor network associated with each of said primary transistors, each of said networks including a pair of transistors having their emitter-collector electrode circuits connected in series to said supply potential, and their base electrodes connected to the collector electrode of the associated primary transistor; and connections respectively between the base electrode of each primary transistor and the emitters of each transistor control network, one of said connections containing a resistor and the other a capacitor.

2,968,009
FREQUENCY STABLE MULTIVIBRATOR

Pierce E. Reeves, Mountain View, Calif., assignor to North American Aviation, Inc.

Filed Aug. 14, 1957, Ser. No. 678,108
2 Claims. (Cl. 331—144)

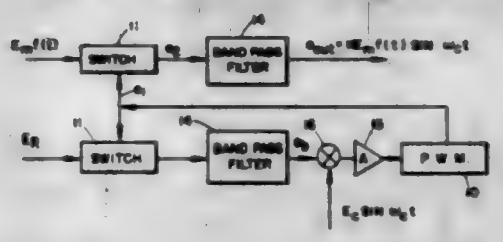


1. In an internally frequency controlled multivibrator, a first and second electronic valve each comprising at least an anode, a cathode, and a control element, a source of direct current having a positive and a ground terminal connected to establish operating potentials on the anode, cathode, and control elements of said electronic valves, means coupling the anode and control element circuits of said electronic valves to establish a free-running multivibrator of predetermined frequency, said coupling means comprising a first resistor-capacitor circuit coupling the anode of said first valve to the control element of said second valve and a second resistor-capacitor circuit coupling the anode of said second valve to the control element of said first valve, and means degeneratively coupling the anodes and control elements of said electronic valves to ground to cause said multivibrator to tend to maintain said predetermined frequency, said degeneratively coupling means including a third circuit having a resistor and a capacitor connected in parallel across a pair of terminals, means for connecting one of said terminals to both said control elements, the other said terminal being connected to said ground terminal.

2,968,010
AMPLITUDE MODULATOR

Robert O. Case, Jr., Whittier, Calif., assignor to North American Aviation, Inc.

Filed Jan. 6, 1958, Ser. No. 707,317
14 Claims. (Cl. 332—41)

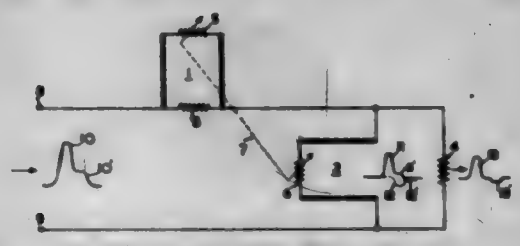


1. In an amplitude modulator for providing a sinusoidal output of carrier frequency having an amplitude directly proportional to the amplitude of a relatively slowly varying modulating frequency signal, means for periodically sampling a modulating-frequency signal, means for varying said sampling periods according to an alternating carrier-frequency signal, and means connected to said sampled modulating-frequency signal for transmitting the side bands associated with the carrier-frequency signal and attenuating the frequencies of the sampling period and the harmonics associated therewith.

2,968,011
PULSE CORRECTING CIRCUIT

Jan Karel Schouten and Jan Verstraten, Hilversum, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed June 17, 1957, Ser. No. 666,066
Claims priority, application Netherlands Aug. 23, 1956
5 Claims. (Cl. 333—20)



1. A pulse correcting circuit for correcting the amplitude of a pulse tail following a pulse, comprising a pair of input terminals, two transmission line sections of equal electrical length and equal characteristic impedance and each having an input end and an output end, impedance means respectively connected across the input ends of said transmission line sections and each having a value of impedance equal to said characteristic impedance, means connecting the input ends of said transmission line sections in series between said input terminals, first and second resistors respectively connected across the output ends of said transmission line sections, the product of the resistance values of said first and second resistors being equal to the square of said characteristic impedance, and a pair of output terminals connected across the input end of one of said transmission line sections.

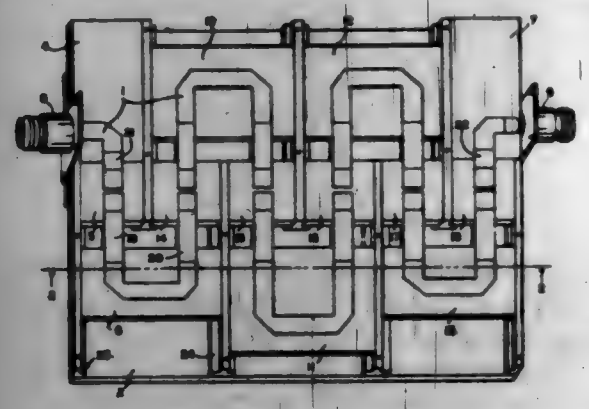
2,968,012
AIR DIELECTRIC STRIP-LINE TUNABLE BANDPASS FILTER

David Alstadter, Falls Church, Va., assignor to the United States of America as represented by the Secretary of the Air Force

Filed Sept. 15, 1959, Ser. No. 840,213
1 Claim. (Cl. 333—73)

A strip-line bandpass filter comprising a ground plane structure and a strip conductor parallel thereto, said strip conductor being sinuous in form with a reactance ele-

ment situated between adjacent loops and between the end loops and input and output wave transmission means, each of said reactance elements being constituted by an intermediate gap in a strip conductor supported on a thin insulating card, each of said loops comprising a U-shaped strip conductor supported on a thin insulating



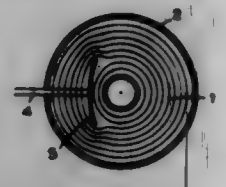
card, said U-shaped conductor having strip spring extensions beyond the edge of the card which overlap and make spring contact with the strip conductors in the two adjacent reactance elements, and means for slidably mounting the cards having said U-shaped conductors for movement relative to the associated reactance elements for adjusting the electrical lengths of said loops.

2,968,013

HOLLOW ELECTRICAL RESONATORS

Bert Alexander Auld, Vancouver, British Columbia, Canada, assignor to Electric & Musical Industries Limited, Middlesex, England, a company of Great Britain

Filed Sept. 28, 1956, Ser. No. 612,654
9 Claims. (Cl. 333—83)



1. A hollow electrical resonator having a re-entrant part and comprising conductive tuning means describing a lamina facing said re-entrant part, and means for producing tuning movement of said conductive means from an outer zone of the resonator to the re-entrant part thereof and vice versa, said tuning means having a substantial effective area normal to the direction of tuning movement so that, at least a substantial part of the path swept by said conductive means on movement thereof when the path is produced past the re-entrant part, lying to one side of said re-entrant part, said conductive means being dimensioned to cause capacitive tuning of said resonator in response to movement of said conductive means, together with inductive tuning substantially counteracting an increase in the capacitive tuning rate as the conductive means approaches said re-entrant part.

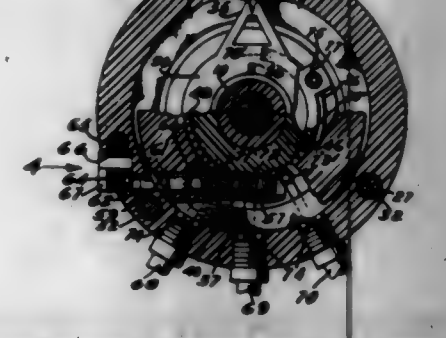
2,968,014

SYNTHETIC STIBNITE CRYSTAL AND METHOD FOR PRODUCING THE SAME

Lee W. Gildart and Jean Anthony Powell, Lexington, Ky., assignors to Kentucky Research Foundation, Lexington, Ky.

Filed Apr. 1, 1959, Ser. No. 803,422
11 Claims. (Cl. 338—22)

6. For use as a solid state switch in an electrical circuit, a stibnite crystal enriched in antimony by an amount comprising between about 1.0% and about 3.5% by weight of the total weight of the crystal, said crystal being characterized by normally having a first stable operating condition of high resistivity in the order of about 10^9 ohm-centimeter when subjected to an electrical breakdown field of less than about 1000 volts per centimeter and having a second stable operating condition of low resistance in the order of about 10^4 ohm per centimeter when subjected to an electrical breakdown field of more than about 1000 volts per centimeter, said crystal being adapted to regain its high resistivity upon being heated to within the range of from about 100° C. to 300° C.



10. In a method of producing a substantially homogeneous stibnite crystal enriched in antimony, the steps comprising, mixing antimony and sulfur to form a mixture enriched in antimony by an amount comprising between about 1.0% and about 3.5% by weight of the total weight of the mixture, melting and reacting said mixture in a closed container to form a molten stibnite and continuously agitating said mixture during said melting and reacting in order to prevent sublimation of sulfur from said mixture.

2,968,015

PHASABLE GANGED POTENTIOMETER

Elias Blanco, Los Angeles, Calif., assignor to Daystrom, Incorporated, Murray Hill, N.J., a corporation of New Jersey

Filed Aug. 4, 1958, Ser. No. 752,912
13 Claims. (Cl. 338—135)

1. A potentiometer, comprising: a casing; a ring-shaped resistance element in said casing; a rotatable shaft extending axially of said resistance element and projecting from said casing; a slider contact carried by said shaft and movable thereby over said resistance element; and means for varying the angular position of said slider contact with respect to said shaft, said means including a rotatable member having an axis of rotation at right angles to said shaft axis and being accessible for rotation from the casing exterior.

2,968,016

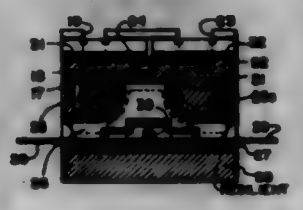
BLADE CONNECTOR

Wilhelm Angele, Huntsville, Ala., assignor to the United States of America as represented by the Secretary of the Army

Filed Sept. 19, 1958, Ser. No. 762,189
2 Claims. (Cl. 339—75)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. In a connector for interconnecting two multiconductor flat cables, a mounting base, a contact body having

interconnecting contact blades with a first contact region adapted to make contact with the conductive lines of a first flat cable and a second contact region adapted to make contact with a second flat cable having a matching set of conductive lines, said cables being inserted at opposite ends of the connector, first and second shafts positioned in slots in said mounting base, said first shaft comprising an eccentric link to said first contact region and said second shaft comprising an eccentric link to



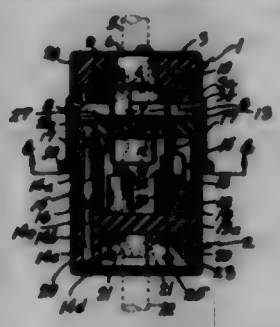
said second contact region, means to rotate said shafts, a resilient pressure pad connected to said mounting base for supporting said cables, first and second springs supported by said mounting base and respectively exerting a clamping force against said first and second contact regions for clamping said cables between said pressure pad and said contact blades, said clamping force being relieved when said shafts are rotated to a release position.

2,968,017
LOCKING CONNECTOR

Joseph F. Healy, Westport, Conn., assignor to Harvey Hubbell, Incorporated, Bridgeport, Conn., a corporation of Connecticut

Original application Mar. 7, 1952, Ser. No. 275,400, now Patent No. 2,871,456, dated Jan. 27, 1959. Divided and this application Apr. 29, 1958, Ser. No. 733,778

3 Claims. (Cl. 339—88)



1. An electrical connector comprising: an insulating receptacle body; a plurality of stationary contacts carried within said body; said receptacle body being provided with an end wall having a plurality of curved slots leading to said stationary contacts; a plurality of inwardly facing recesses formed in said wall and opening on the inner side thereof; each of said recesses being spaced laterally respectively from one end of one of said slots; a detachable cap body having a plurality of elongated contact fingers for selective insertion into and through said slots to engage said stationary contacts by relative longitudinal movement of said cap and receptacle bodies; said slots being of a length to permit movement of said contact fingers in said slots by relative turning movement of said cap and receptacle bodies; said contact fingers having their free end portions widened and being provided with laterally spaced projecting lugs which are arranged to extend outwardly relative to said receptacle body and seat in said recesses to lock said cap and receptacle bodies against relative turning movement and separation when said bodies are connected; and spring means disposed within said receptacle body comprising a plurality of individual springs that are disposed in said receptacle body to individually engage the free ends of said contact fingers and bias them and said cap body outwardly to seat said lugs in said recesses and retain them therein to lock said cap body against turning relative to said receptacle body; said lugs being movable to and from said recesses to lock and release said cap and receptacle bodies by relative longitudinal and turning movements; said stationary contacts and said contact fingers being of a width such that they are in engagement to maintain electrical connection between them throughout such movements.

2,968,018
MEANS FOR ATTACHING A WIRE TO A BINDING PLATE

Harvey Hubbell, Southport, Conn., assignor to Harvey Hubbell, Incorporated, Bridgeport, Conn., a corporation of Connecticut

Filed Jan. 25, 1957, Ser. No. 636,292

5 Claims. (Cl. 339—95)



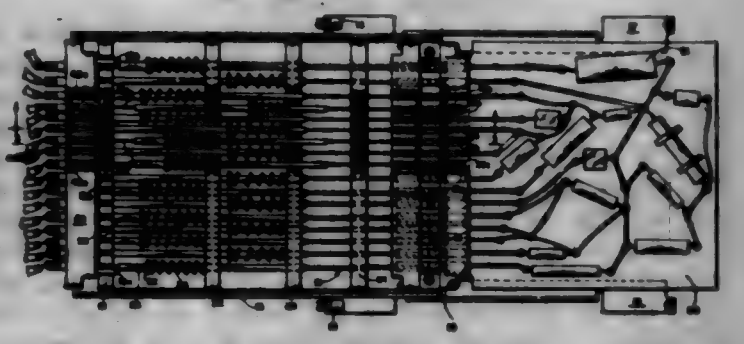
5. A wire attaching means for an electric wiring device comprising: a formed plate of uniform thickness having an intermediate portion and opposite end portions offset forwardly from the intermediate portion with the connections between the end portions and intermediate portion providing spaced inclined shoulders extending across the plate; said plate provided with a threaded opening in its intermediate portion between said shoulders and a forwardly offset sharp edge extending along one edge of said intermediate portion between said shoulders; and a binding screw adjustably mounted in said opening and having a head disposed on the forward side of said plate which is of a size and shape and disposed so as to have a portion of its periphery overlie said sharp edge whereby said head is arranged to clamp a pair of lead wires to the face of said plate over said sharp edge in positions longitudinally of and adjacent said shoulders and with said sharp edge sunk into said lead wires.

2,968,019
SELF-ADAPTIVE TEST FIXTURE FOR KEYED RECEPTACLE

Wilbert H. Steinmann, Arcadia, and Arthur A. White, North Hollywood, Calif., assignors to North American Aviation, Inc.

Filed Jan. 4, 1960, Ser. No. 118

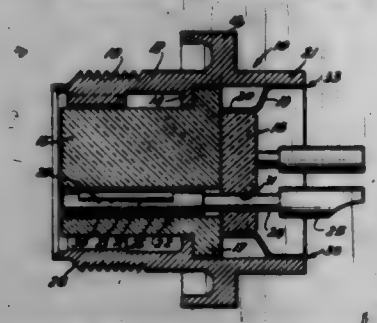
10 Claims. (Cl. 339—151)



1. A self-adaptive fixture for use in testing plug-in modules, each of said modules being keyed to mate with a separate correspondingly keyed plug-in receptacle in associated equipment, comprising a plurality of conductor rods, support means for slidably supporting said conductor rods, a nonkeyed plug-in electrical receptacle fixedly mounted on said support means, said conductor

rods being positioned to mate with and make slidable electrical contact on one of the ends thereof with the contacts of said nonkeyed receptacle, the other of the ends of said rods being positioned to mate with the contacts of any one of said keyed receptacles in said associated equipment, and means for urging said conductor rods towards said keyed receptacle, whereby when said conductor rods are inserted in said keyed receptacle electrical connections are provided between corresponding contacts in said any one of said keyed and said nonkeyed receptacles and said nonkeyed receptacle effectively becomes keyed in accordance with the keying of said keyed receptacle.

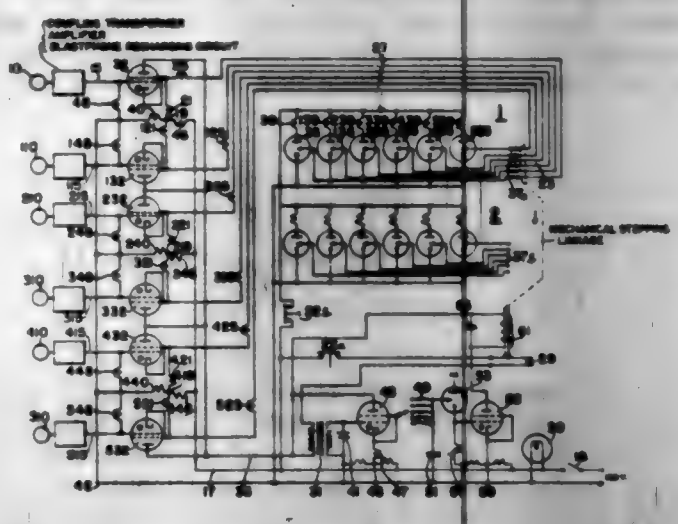
2,968,020
ELECTRICAL CONNECTOR
Harry E. Barnhart, Sidney, N.Y., assignor to The Bendix Corporation, a corporation of Delaware
Filed Feb. 12, 1958, Ser. No. 714,740
7 Claims. (Cl. 339—192)



1. An electrical connector comprising an elongated metal shell, a gas impermeable electrically insulating ceramic insert positioned transversely within the shell with its periphery spaced inwardly from the inner wall of the shell, a passage through the insert directed longitudinally of the shell, an electrical conductor extending through the passage and sealed to the walls thereof, yieldable annular gas impermeable means interposed between and connected to the insert and the shell for supporting the insert in the shell and for effecting a seal between the insert and the shell, a second ceramic electrically insulating insert positioned within the shell inwardly of the first recited insert, said second insert being strong, rigid, and heat resistant, a further passage in the second insert aligned with the passage in the first recited insert and receiving the said electrical conductor, and means retaining the said second insert in the shell.

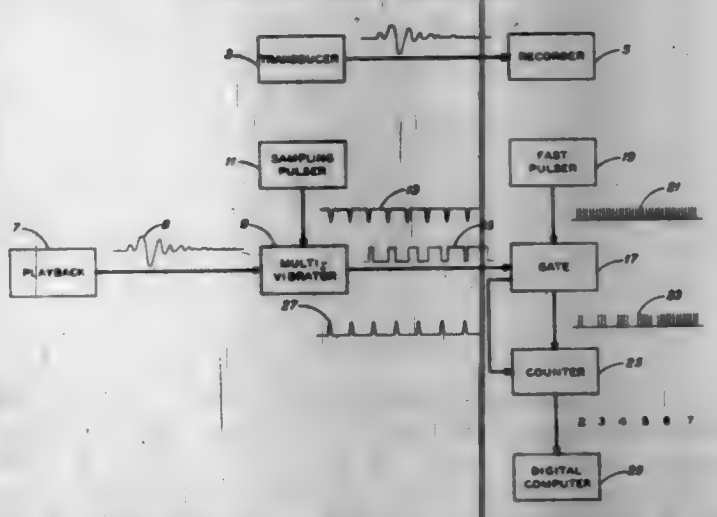
2,968,021
DEPTH CHARGE ATTACK RECORDER
Gaynor O. Rockwell, Houston, Tex., assignor to the United States of America as represented by the Secretary of the Navy
Filed Apr. 3, 1946, Ser. No. 659,191
6 Claims. (Cl. 340—6)

3. A receiving system for determining the direction of each of a plurality of wave energy sources from a location by intercepting a propagated wave emanating from each wave source, said system comprising a plurality of wave detecting devices arranged in a known space pattern about the location, an output circuit connected to each of said detecting devices for energization thereby in response to detection of wave energy, said output circuits being arranged as a plurality of sets of output circuits, means interconnecting the output circuits of each set whereby when one output circuit of a set is conducting the remaining output circuits of the same set cannot conduct, a plurality of banks of indicating devices, the number of indicating devices in each bank being equal to the number of said detecting devices, first switch means adapted for connecting the indicating devices of only one of said banks at any one time to corresponding ones of said output circuits whereby the conducting output circuits activate the corresponding indicating devices connected thereto, a normally closed second switch means connected in series with said output circuits, actuating means for stepping said first switch means to another of said plurality of banks of indicating devices and for



briefly opening said second switch means for resetting said output circuits, and means electrically connected to said output circuits and including means for operating said actuating means as soon as one output circuit of each set is conducting.

2,968,022
SEISMIC SIGNAL DIGITALIZATION METHOD AND APPARATUS
Robert R. Unterberger, Whittier, Calif., assignor to California Research Corporation, San Francisco, Calif., a corporation of Delaware
Filed Oct. 11, 1954, Ser. No. 461,606
1 Claim. (Cl. 340—15)



An analysis apparatus for a multitrace record of seismic signals comprising in combination, a plurality means for converting each of said seismic signals within said records to a series of first pulses, means for initiating said first pulses sequentially at uniform time intervals to establish in serial relationship the beginning of each respective first pulse at a predetermined uniform time interval, said means for initiating being repetitive at a substantially higher rate than the seismic signals within said records, means for proportioning the duration of sequential first pulses in accordance with the amplitude of sequential incremental portions of said seismic signals, a source of second pulses having a high frequency relative to said series of first pulses, a plurality of gating means, a computer, circuit means connecting said source of second pulses to said computer through said gating means, means employing said series of first pulses from said plurality of means for converting said seismic signals to gate said circuit means connecting said second pulses to said computer at said uniform time intervals

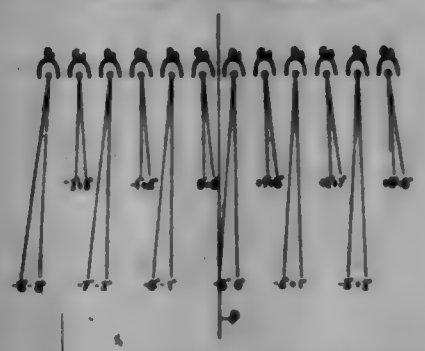
and in accordance with the duration of each of said series of first pulses to produce an input of digitalized seismic signals representing the sequential amplitude along said multitrace record, and means in said computer for comparing said digitalized seismic signals and for identifying characteristic similarities in said seismic signals within said multitrace record.

2,968,023

VISUAL POSITION-INDICATING ARRANGEMENTS

Harold Matthew Ferguson, Hatch End, and Walter Robert Stevens, Pinner Hill, England, assignors to The General Electric Company Limited, London, England

Filed Aug. 21, 1956, Ser. No. 605,344
6 Claims. (Cl. 340—26)



1. An arrangement for providing an observer approaching a location with a visual indication of his position relative to an approach plane passing through the location, including at said location two groups of plural light sources, each group having a common optical characteristic, the characteristics of the two groups being distinguishable, said light sources being arranged in alternate sequence of the groups along a line transverse to the approach plane, each light source being arranged to project a beam of light into a working region of the arrangement bounded by two planes inclined to and including between them said approach plane, each beam being of relatively narrow beam angle as compared with the angle between said boundary planes in planes perpendicular to said approach plane, wherein in each group of light sources the light beams are directed

(1) so that the center lines of the beams in said perpendicular planes have progressive angular displacements relative to each other about an axis parallel to said approach plane,

(2) so that each beam overlaps all the other beams in the same group, and

(3) so that at least the greater number of the center lines of the beams in the same group are directed to one side of the approach plane,

the sense of the said displacements and the side of the approach plane to which the center lines of the beams are mainly directed being different for the two groups, and wherein the plural light sources are spaced apart so as to be separately visible to the observer when the latter is in the paths of two or more of the light beams within the working region of the arrangement, the pattern of light sources of the two groups seen along the line sequence by the observer providing the required visual indication.

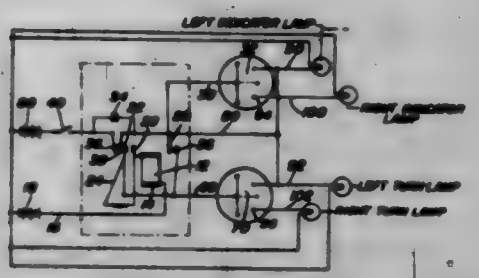
2,968,024

SIGNALING MEANS FOR VEHICLES AND THE LIKE

Harold C. Pearsall, 4011 Curtis St., Houston, Tex., assignor of seventeen percent to Joel G. Pearsall, Sr., seventeen percent to Joel G. Pearsall, Jr., and sixteen percent to Bobbie J. Pearsall, all of Houston, Tex.

Filed May 22, 1956, Ser. No. 586,465
5 Claims. (Cl. 340—81)

1. A signalling device for use on vehicles or the like including a source of electrical energy, a first circuit connected thereto and including a pair of contacts, means for biasing said contacts to a normally open position, a thermo-responsive resistance element connected between said contacts, said contacts being closed upon heating of said thermo-responsive element so as to form a shunt therefor, a plurality of indicators responsive to electric current connected in said circuit, switching means for selecting one of said indicators, the selection of an indicator closing said circuit and starting operation thereof whereby said thermo-responsive element alternately opens and closes said contacts whereby the current flowing through said indicator alternates between a high value and



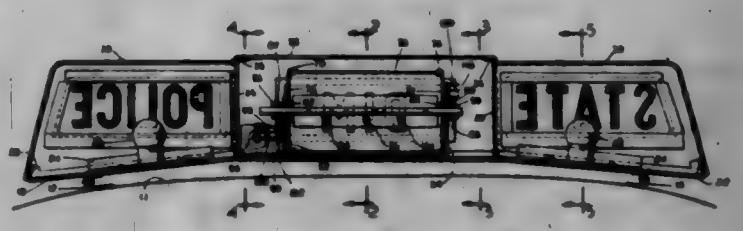
a lower values, a second circuit connected to said source including a second switch for opening and closing said second circuit and a second pair of contacts, said second circuit being connected to one of said indicators, means for biasing said second pair of contacts to a normally closed position, means for alternately closing and opening said second pair of contacts so as to vary the current through said indicator, the selection of one of said indicators other than the one connected to said second circuit and the closing of said second switch causing current to flow in both of said circuits whereby said two indicators alternately receive electrical current varying between a high value and a low value.

2,968,025

PATROL CAR SIGNAL

Wilbur D. Owens, Albany, Ga., assignor to American Signal Company, Albany, Ga., a corporation of Georgia

Filed May 28, 1958, Ser. No. 738,440
7 Claims. (Cl. 340—125)



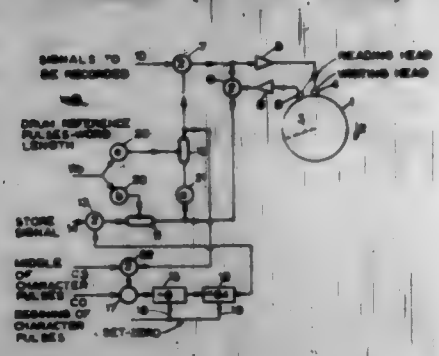
7. A rotary signal device comprising a frame having a base plate, and upstanding spaced end supports, a transverse shaft support member mounted on the outside of each of said end supports in spaced relation to the end support, a stationary shaft extending between said end support members, a polygonal drum having translucent faces with indicia thereon rotatably mounted on said shaft and located between said end supports, means mounted on said shaft within said drum to illuminate said drum faces, a sleeve extending through the end support affixed to each end of said drum, a cam fixed to one of said sleeves and disposed between one of said end supports and support members having a single notch, a cam operated switch support plate affixed to said last named end supports, cam operated switches angularly disposed about said cam and adapted to be operated one at a time by said cam and mounted on said plate, said switches being angularly disposed in relation to each other in correspondence with the angular relation between the drum faces and means for angularly indexing said plate about the axis of said shaft to index said cam controlled switches in relation to said cams.

2,968,026

STORES, ESPECIALLY FOR DIGITAL COMPUTERS

Robert Justin Froggatt, Norwood Green, Southall, England, assignor to Electric & Musical Industries Limited, Hayes, England, a company of Great Britain

Filed Apr. 5, 1957, Ser. No. 650,960
Claims priority, application Great Britain Apr. 7, 1956
5 Claims. (Cl. 340—172.5)



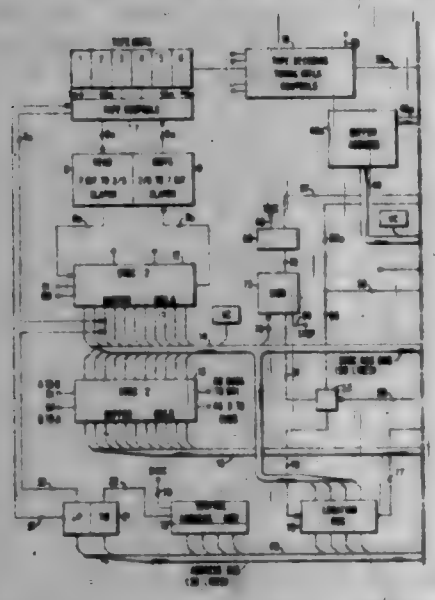
1. A storage arrangement, especially for electrical data handling apparatus, comprising a circulating store having an input signal transducer and an output signal transducer, an information signal path including a normally closed gate connected to one of said transducers, a source of access demanding signals means responsive to an access demanding signal for opening said gate at predetermined times in relation to cycles of said store to allow transfer of signals through the respective path, means for generating marking signals timed in relation to cycles of said store, means for altering the timing of said marking signals in response to opening of said gate to cause said marking signals to indicate the location of signals recorded in the store, and means responsive to an access demanding signal for interconnecting said transducers at times determined by said marking signals to shift signals recorded in the store before the opening of said gate to allow the transfer of signals, so that successive signals can be recorded or reproduced by opening said gate at successive times similarly related to respective cycles of the store whilst the timing of the marking signals is altered to indicate the extremity of said series of signals.

2,968,027

DATA PROCESSING SYSTEM MEMORY CONTROLS

James A. McDonnell, Binghamton, Joseph M. Terlato, Bronx, and Jack E. Greene, Vestal, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Aug. 29, 1958, Ser. No. 758,063
10 Claims. (Cl. 340—172.5)



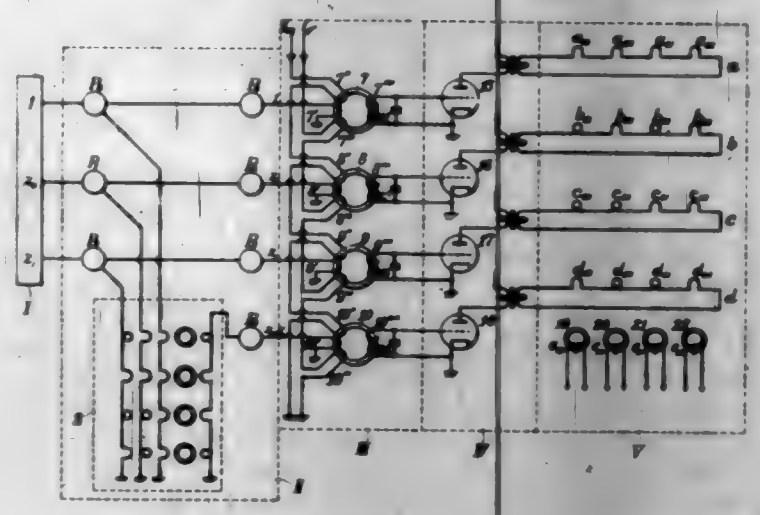
1. In a data processing system having a memory provided with addressable locations for storing data words and a variety of instruction words, the former being manipulated under control of the latter, programming means controlled by the instructions for controlling the manipulation of the data words, peripheral units including data word transmission means for supplying data words to or receiving data words from said memory under control of appropriate program instructions; the combination of means for effecting, in the memory, scatter read or write operations under control of record control words, each constituted of a sign and a start and a stop address, stored in other addressable locations of the memory comprising: a location address register for receiving and storing the address of a record control word derived from an instruction in said programming means; a record definition register constituted of a sign register, a start address register and a stop address register, respectively, for receiving and storing the sign, the start and stop address of a programmed record control word; address selection control means responsive to the address settings in said start register for selecting a data word location in the memory and for enabling the transmission of the data word; address comparing means connected to said start and stop registers for comparing the address settings and providing an equal signal in response to an equal comparison between said address settings; an adder for advancing the address settings in the start register for each associated data word transmitted to or from the memory; and a record control word sign interrogating means operable in response to an equal comparing signal to provide a control to continue or disable the scatter read or write operations depending upon the character of the sign interrogated.

2,968,028

MULTI-SIGNALS CONTROLLED SELECTING SYSTEMS

Eiichi Goto and Hiroshi Yamada, Tokyo, Japan, assignors to Fuje Tsushinki Seizo Kabushiki Kaisha, Kawasaki, Japan, a corporation of Japan

Filed June 18, 1957, Ser. No. 666,449
Claims priority, application Japan June 21, 1956
7 Claims. (Cl. 340—174)



1. An electrical system controlled by a plurality of input signals for selecting a desired one out of a plurality of output circuits comprising, means for supplying a combination of input signals having a given frequency and one of both zero and π phase positions, coding circuit means connected to receive the input signals from the first-mentioned means for generating under control of said input signals another combination of signals at least equal in number to the input signals and having the same frequency and one of both zero and π phase positions in a combination different than the combination of input signals, frequency changing means operably coupled to the coding circuit for receiving all of said

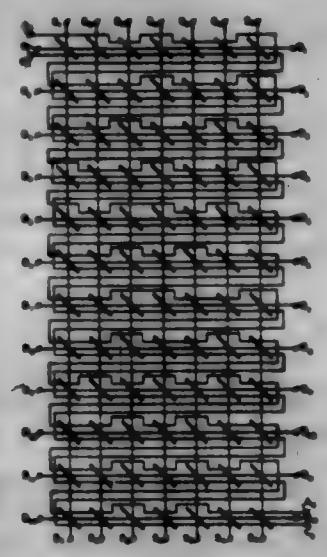
last-mentioned combination of signals for changing the frequency of all of said signals maintaining the respective phase positions unchanged, a plurality of output circuits comprising a plurality of output transformers comprising windings each directed in a given polarity sense, and means operably coupled to the frequency changing means for energizing said transformers by the last-mentioned signals in such a manner that a selected one only of said output circuits is energized to deliver an output signal having an energy level corresponding at least to the energy levels of all of the input signals combined and a phase position corresponding to a phase position of one of said last-mentioned signals.

2,968,029

PERMANENT MEMORY STORAGE COMPRISING MAGNETICALLY BISTABLE CORES ARRANGED IN ROWS OF M-CORES EACH

Hermann Karl Maria Grosser, Hilversum, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed June 9, 1958, Ser. No. 740,794
Claims priority, application Netherlands June 28, 1957
4 Claims. (Cl. 340—174)



1. A permanent memory comprising a plurality of magnetic cores having a substantially rectangular hysteresis curve, said cores being arranged in rows, each row containing m cores and corresponding to a code groups, b rows being combined to form a core matrix, the memory comprising c core matrices, a group of wires totalling a and designated $A_1 \ldots A_a$ threaded through all rows of all core matrices, the wire A_x being threaded through the yth row of the zth core matrix according to the code group x, y, z, a group of wires totaling b and designated $B_1 \ldots B_b$, the wire B_y being threaded through all cores of the yth row of every core matrix, a group of wires totaling c and designated $C_1 \ldots C_c$, the wire C_z being threaded through all cores of all rows of the zth core matrix, and a group of reading wires totaling m and designated $S_1 \ldots S_m$, each reading wire S_p being threaded through all p^{th} cores of all rows, the position of a code group in the memory being determined by an address of three co-ordinates x, y, z of which x designates the position of the code group concerned in the row concerned, y designates the position of the row concerned in the matrix concerned, and z designates the core matrix concerned.

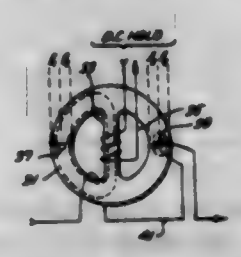
2,968,030

MAGNETIC CORE FLIP-FLOP CIRCUIT

Hewitt D. Crane, Palo Alto, Calif., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan

Filed June 12, 1958, Ser. No. 741,694
7 Claims. (Cl. 340—174)

3. A bistable magnetic core circuit comprising a pair of negating core elements of magnetic material having high flux remanence, each of the negating cores having an outer portion defining a relatively long closed loop flux path and a shunting portion extending between opposite regions of the outer portion, each core element having input and output apertures extending through the outer portion and located on opposite sides remote from the shunting portion, clearing windings respectively wound on the outer portions of each of the core elements and including turns linking the output apertures, a first closed conductive loop including windings linking the output aperture of a first one of the core elements and



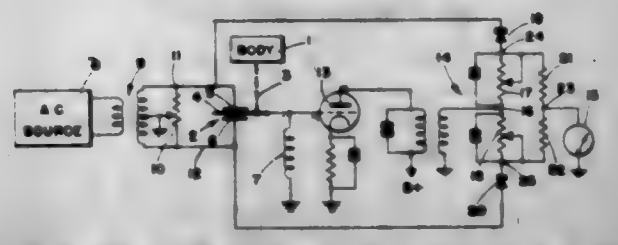
the input aperture of a second one of the core elements, a second closed conductive loop including windings linking the output aperture of the second one of the core elements and the input aperture of the first one of the core elements, and means for successively pulsing a current through the clearing winding linking the first core element, the loop coupling the output of the second core element to the input of the first core element, the clearing winding linking the second core element, and the loop coupling the output of the first core element to the input of the second core element.

2,968,031

ELECTRONIC MICROMETER

Walter H. Higa, Pasadena, Calif., assignor to North American Aviation, Inc.

Filed Feb. 24, 1955, Ser. No. 490,345
5 Claims. (Cl. 340—265)



1. An electronic micrometer for detecting and measuring minute mechanical displacements comprising a normally balanced three-element, capacitive pickoff sensitive to said mechanical displacements; an impedance connected to said capacitive pickoff to form thereby a T-network, said impedance having a single reactive component which resonates with the reactances of said pickoff at a predetermined frequency when said pickoff is balanced; a source of alternating signals of said predetermined frequency; means connecting said T-network to said source in a manner to subject opposite ends of said network to substantially equal voltages of opposite polarity; and indicator means sensitive to the phase and magnitude of the voltage across said impedance whereby the output of said indicator means is a predetermined function of said mechanical displacement.

2,968,032

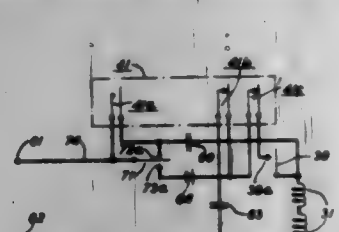
SIGNALING SYSTEM

Albert J. Chase, Walter Kalin, and Paul L. Wise, Indianapolis, Ind., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Sept. 23, 1958, Ser. No. 762,861
3 Claims. (Cl. 340—393)

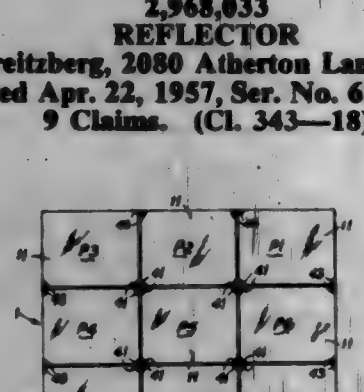
1. In combination in a system capable of providing either a chime or ringing signal sound output, a pair of

signaling power terminals, a signaling winding, a clapper assembly movable in response to the energization of said winding, circuit means including a chime signal circuit configuration and a ringing signal circuit configuration, subscriber-actuated means for connecting said winding to said terminals by means of one of said chime and ringing signal circuit configurations, and clapper-actuated means for switching said system to



the chime circuit configuration only when said subscriber-actuated means is switched to the chime circuit condition and power is actually applied to said terminals, so that, except when said subscriber-actuated means is in the chime circuit connecting position and signal power is actually applied to said terminals, the impedance of the system connected to said terminals is characteristic of said ringing circuit configuration.

2,968,033
REFLECTOR
James S. Kreitzberg, 2080 Atherton Lane, Butte, Mont.
Filed Apr. 22, 1957, Ser. No. 654,177
9 Claims. (Cl. 343—18)

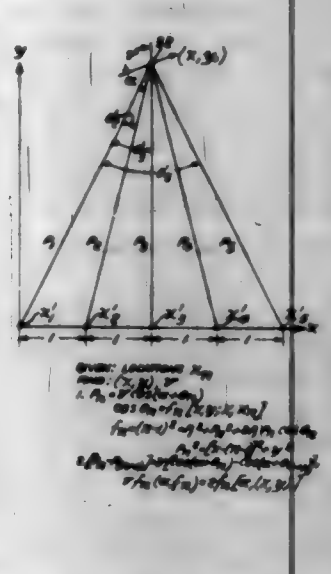


1. A microwave reflector comprising an assembly of individual modular reflector units each of rectangular shape in elevation, said units being arranged in horizontal rows and vertical tiers, each unit being of rectangular box-like form having a flat front skin plate, each unit having an internal framework to which the front skin plate is secured, and means for holding the units in assembly with the front skin plates thereof coplanar comprising holding members secured to the front and rear of the units at the meeting corners thereof, the holding members which are secured to the front of the units projecting forward from the front skin plates and the holding members which are secured to the rear of the units projecting rearward therefrom, and fasteners extending through adjacent ones of said holding members in planes parallel to the plane of the front skin plates spaced forward and rearward of the units.

2,968,034
DOPPLER FREQUENCY POSITION FIXING METHOD
Nicholas J. Cafarelli, Jr., Westfield, N.J., assignor to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland
Filed Aug. 16, 1955, Ser. No. 528,723
7 Claims. (Cl. 343—112)

1. A method of determining the unknown location of one terminal of a radio communication system relative to the known location of another terminal of said system when said terminals are moving relative to each other, comprising the steps of:

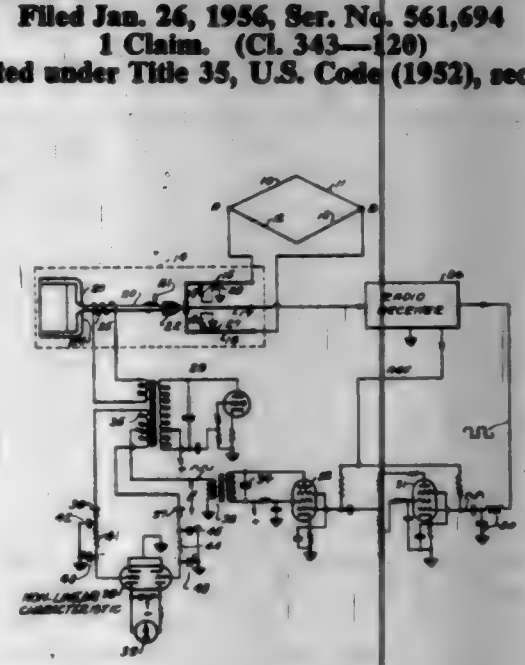
(*a*) receiving the transmissions from one of said terminals at a plurality of receiving locations known distances apart,



(*b*) obtaining the Doppler frequency difference in the transmissions received at adjacent pairs of receiving locations, and

(*c*) computing from said Doppler frequency difference the change in axial velocity of one of said terminals relative to each of said pairs of receiving locations and computing from said change in axial velocity the location of the unknown terminal of said communication system.

2,968,035
RADIO COMPASS
Janis A. Sirons, Springfield, Ohio, assignor to the United States of America as represented by the Secretary of the Air Force
Filed Jan. 26, 1956, Ser. No. 561,694
1 Claim. (Cl. 343—120)
(Granted under Title 35, U.S. Code (1952), sec. 266)



A radio compass circuit comprising directive antenna means, an alternating current driven mechanical switching means connected to said antenna means for alternately switching the directivity of said antenna means between two positions in one of which the directivity is to the right of a predetermined axis through the antenna and in the other which the directivity is an equal amount to the left of said axis, a radio receiver having its input connected to said antenna means, said receiver having means for generating an automatic gain control voltage, a phase sensitive rectifier having a signal input circuit and a reference phase input circuit and producing in its output circuit

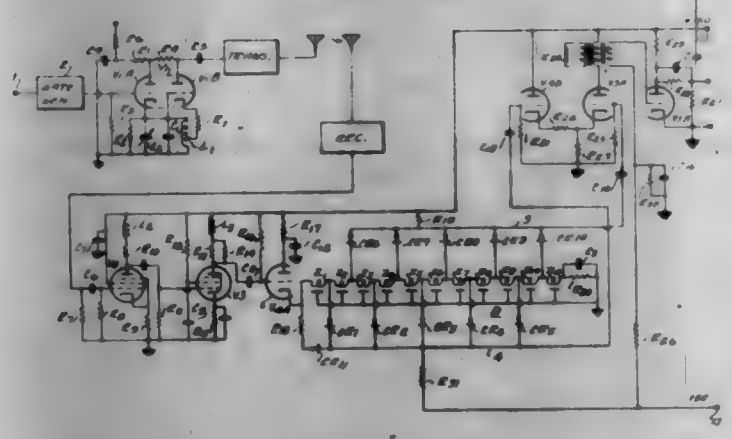
a direct voltage having an amplitude proportional to the amplitude of the signal applied to its input circuit and a polarity determined by the phase of the input signal with respect to the reference phase, a variable gain amplifier connected between the output of said receiver and the signal input of said phase sensitive rectifier, means for applying said automatic gain control voltage to said amplifier for controlling its gain in inverse relation to the received signal strength, means for energizing said switching means and the reference phase input to said rectifier from a common source of alternating current, means for indicating the magnitude and polarity of a direct voltage, and a time constant integrating circuit and a nonlinear transmission device connected in cascade between the output of said rectifier and said indicating means, said nonlinear device having a transmission characteristic such that the rate of change of its output relative to its input decreases as the absolute magnitude of the input increases.

2,968,036

RADIANT ENERGY SIGNALLING SYSTEM

Oliver I. Steigerwalt, Wadsworth, Ohio, assignor to the United States of America as represented by the Secretary of the Air Force

Filed July 12, 1957, Ser. No. 671,680
4 Claims. (Cl. 343—225)



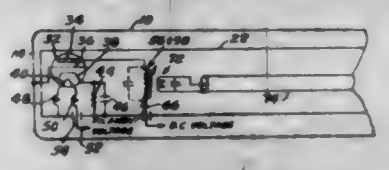
1. In a signalling system having means to radiate an electrical signal including a control pulse having a predetermined number of cycles of a predetermined frequency and means to receive the radiated signal, a discriminator responsive to said control pulse in the received signal comprising a delay line composed of a plurality of serially connected electrically equal sections, each section providing a delay of one-half wave length at the predetermined frequency, the number of sections being equal to twice the predetermined number of cycles plus one, a junction point between each of said sections, a first control conductor, means including a resistor for applying positive potential to said first control conductor, a first group of unidirectional conductors connected between said first control conductor and each even number junction after the input terminal of said delay line, said first group of unidirectional conductors being operative in the absence of a positive potential at each of said even number junctions, to reduce the positive potential of said first control conductor, a second control conductor, a second group of unidirectional conductors connected between each of the odd number junctions, except the final terminal, and said second conductor, means including a resistor for impressing a negative potential on said second control conductor and means including a resistor and a unidirectional conductor for impressing the potential of the input terminal on said second control conductor.

2,968,037

HIGH FREQUENCY RECEIVING ANTENNA

Thomas F. Thompson, 1465 W. 11th Ave., Eugene, Oreg.

Filed Apr. 8, 1957, Ser. No. 651,233
7 Claims. (Cl. 343—701)



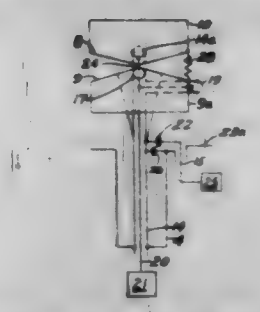
1. A receiving antenna comprising a hollow elongated electrically continuous signal receiving element including closed ends and having at least one end point of substantially maximum signal strength, signal amplification means contained within the hollow-signal receiving element and having plate and control grid elements, means connecting the control grid element to said end point of substantially maximum signal strength, means connecting the plate element to a source of operating potential, and tuned circuit means contained within the hollow-signal receiving element and associated with the plate element for connecting the output of the plate element to the input of a remotely positioned receiver.

2,968,038

MULTIBAND TAIL-CAP ANTENNA

Arthur Hauptschein, New York, N.Y., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Feb. 19, 1959, Ser. No. 794,482
1 Claim. (Cl. 343—708)

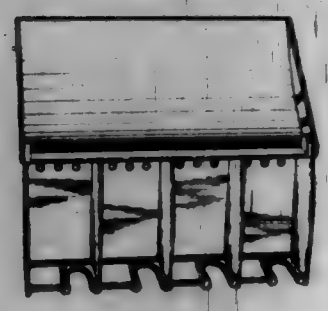


A multiband antenna for installation atop the vertical stabilizer of an aircraft wherein the radiation therefrom is vertically polarized over the region of space between +30 degrees and −30 degrees in elevation said antenna comprising a coaxial line of chosen impedance having an inner and an outer conductor; a source of energy having a frequency band of 950 to 1215 megacycles; means for connecting the said source with the inner conductor of the coaxial line through the bottom of the stabilizer; a second source of energy having a frequency band of 460 to 950 megacycles; a coaxial line connector mounted on the tip of the stabilizer, one terminal of the connector being coupled to the outer conductor of the coaxial line and the other terminal of the connector being connected to the stabilizer of the aircraft at a point about halfway up the said stabilizer; means for connecting the said second source with the connector; a pair of frusto-pyramidal sections mounted at a predetermined distance above the stabilizer and adapted to receive the outer conductor of the coaxial line; a section of open circuited coaxial line connected in series with the inner conductor whereby an improved impedance match for the various frequencies is provided; a shunt stub connected to the coaxial line adjacent the point at which it feeds said pyramidal sections whereby the various frequencies are able to be matched so that simultaneous interference-free operation of all three bands may be provided.

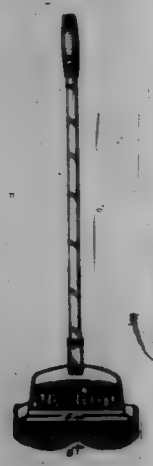
DESIGNS

JANUARY 10, 1961

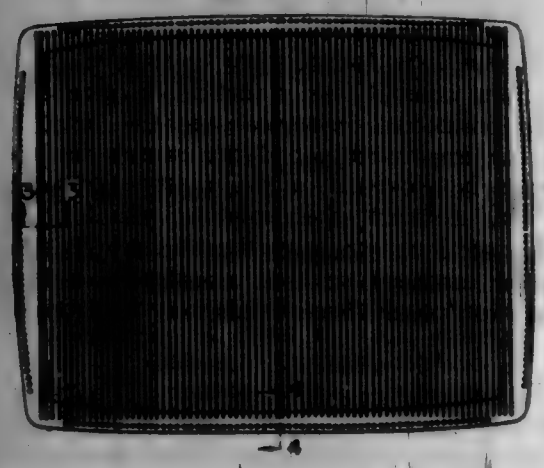
189,567
TOOTH-BRUSH HOLDER
Stanley James Clayton, 30 Blacklow Brow, Huyton-with-Roby, near Liverpool, England
Filed Jan. 21, 1959, Ser. No. 54,262
Claims priority, application Great Britain Sept. 24, 1958
Term of patent 14 years
(Cl. D4—3)



189,568
COMBINED CLEANING AND WAXING MACHINE FOR FLOORS OR THE LIKE
Robert I. Lappin, Marblehead, Mass.
(% Signal Mfg. Co., 69 Bennett St., Lynn, Mass.)
Filed Jan. 21, 1959, Ser. No. 54,259
Term of patent 14 years
(Cl. D9—2)



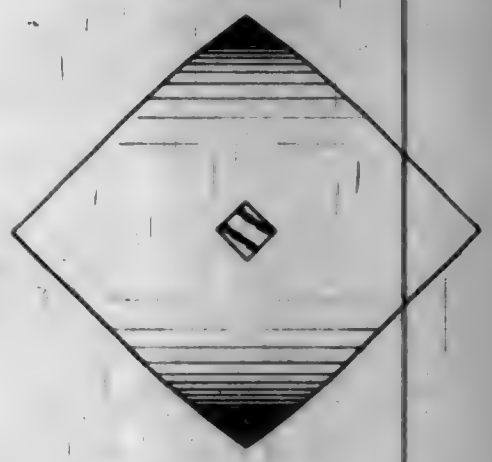
189,569
STOVE MAT OR SIMILAR ARTICLE
Joseph C. Breneman, Wooster, Ohio, assignor to Rubbermaid Inc., Wooster, Ohio, a corporation of Ohio
Filed July 28, 1960, Ser. No. 61,560
Term of patent 14 years
(Cl. D9—6)



189,570
TELEPHONE BOOTH
Francis F. Peabody, Minneapolis, Minn.
Filed May 18, 1959, Ser. No. 55,937
Term of patent 14 years
(Cl. D13—1)



189,571
HOUSE
Keith M. Lang, 2535 Grand Ave. S., Minneapolis, Minn.
Filed Apr. 11, 1960, Ser. No. 60,118
Term of patent 14 years
(Cl. D13—1)



189,572
COMBINED RAILING POST AND BRACKET
Leo J. Meyers, Murraysville, Pa.
Filed Aug. 12, 1959, Ser. No. 57,151
Term of patent 14 years
(Cl. D13—7)

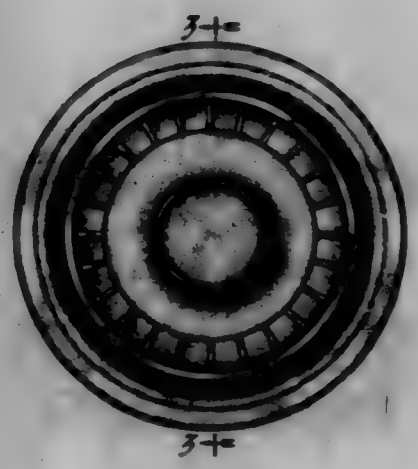




189,573
EXHAUST DEFLECTOR
Linus E. Russell, Springfield, Ohio, assignor to Peters & Russell, Inc., Springfield, Ohio, a corporation of Ohio
Filed Aug. 15, 1958, Ser. No. 52,213
Term of patent 14 years
(Cl. D14—6)



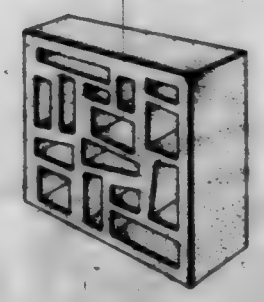
189,574
WHEEL COVER
Irvin W. Rybicki, Birmingham, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed May 23, 1960, Ser. No. 60,708
Term of patent 7 years
(Cl. D14—30)



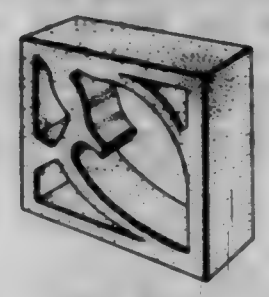
189,575
STEP STOOL
Earl F. Hamilton, Columbus, Ind., assignor to Hamilton Cosco, Inc., Columbus, Ind., a corporation of Indiana
Filed Mar. 30, 1959, Ser. No. 55,227
Term of patent 14 years
(Cl. D15—8)



189,576
SCREEN WALL BUILDING BLOCK
Vernon H. Walt, Manhattan Beach, Calif., assignor, by mesne assignments, to Kaiser Steel Corporation, Oakland, Calif., a corporation of Nevada
Filed Sept. 6, 1960, Ser. No. 62,040
Term of patent 14 years
(Cl. D18—2)



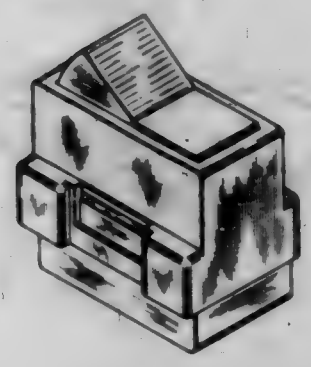
189,577
SCREEN WALL BUILDING BLOCK
Wilfred Tunstall, Yucaipa, Calif., assignor, by mesne assignments, to Kaiser Steel Corporation, Oakland, Calif., a corporation of Nevada
Filed Sept. 8, 1960, Ser. No. 62,069
Term of patent 14 years
(Cl. D18—2)



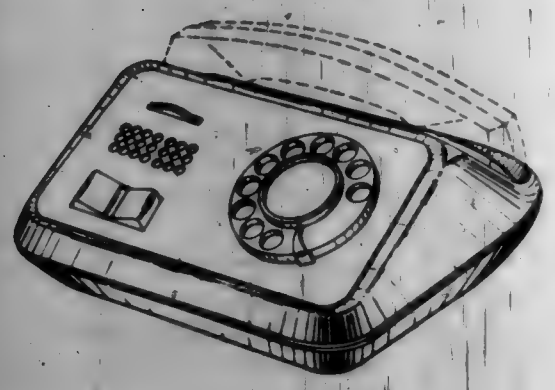
189,578
ELECTRICAL CONTACT OR SIMILAR ARTICLE
Walter H. Mokas and Robert G. Mawney, Attleboro, Mass., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Feb. 10, 1960, Ser. No. 59,333
Term of patent 14 years
(Cl. D26—13)



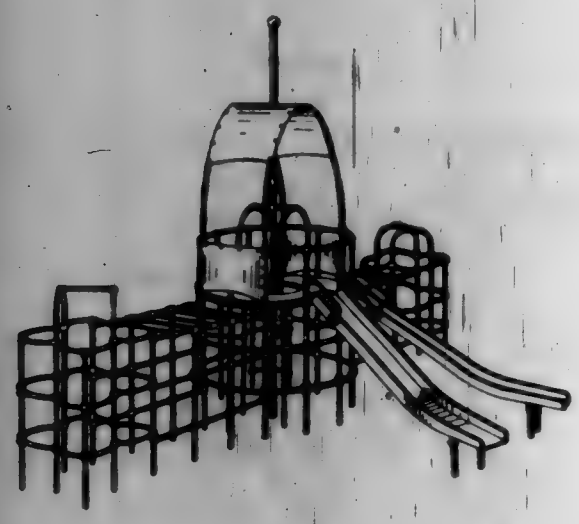
189,579
ELECTRICAL SWITCH ENCLOSURE
Robert E. Larkin, Lisbon, Wis., assignor to Cutler-Hammer, Inc., Milwaukee, Wis., a corporation of Delaware
Filed July 25, 1960, Ser. No. 61,498
Term of patent 14 years
(Cl. D26—13)



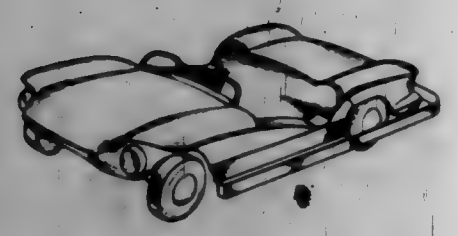
189,580
TELEPHONE BASE
Thomas G. Cannon, Lockport, Ill., assignor to Automatic Electric Laboratories, Inc., Northlake, Ill., a corporation of Delaware
Filed June 23, 1960, Ser. No. 61,092
Term of patent 14 years
(Cl. D26—14)



189,581
PLAYGROUND GYM STRUCTURE
Ralph E. Williams and Warren P. Miller, Anderson, Ind., assignors to American Playground Device Co., Anderson, Ind., a corporation of Indiana
Filed July 12, 1960, Ser. No. 61,306
Term of patent 14 years
(Cl. D34—5)



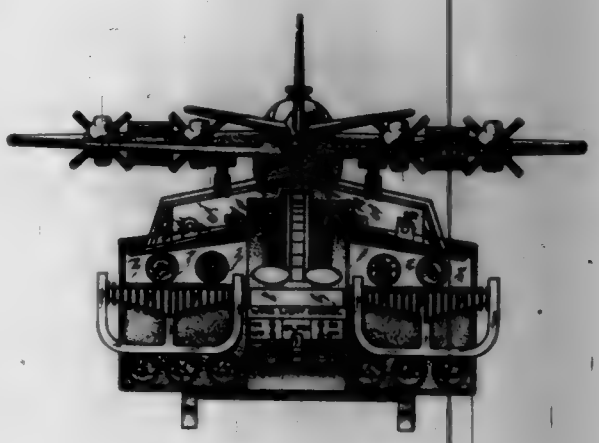
189,582
AMUSEMENT RIDE CAR
Robert H. Gurr, North Hollywood, Calif., assignor to Disneyland, Inc., Anaheim, Calif., a corporation of California
Filed Jan. 18, 1960, Ser. No. 59,084
Term of patent 14 years
(Cl. D34—15)



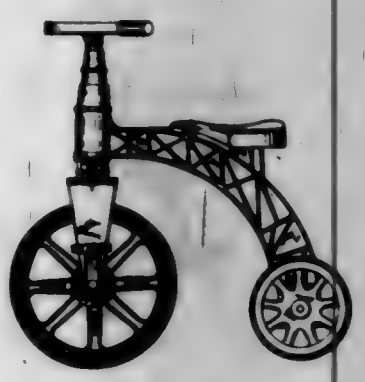
189,583
RETURN TOP
Samuel O. Albert, 830 Crittenden St. NW., Washington, D.C.
Filed Apr. 5, 1960, Ser. No. 60,053
Term of patent 14 years
(Cl. D34—15)



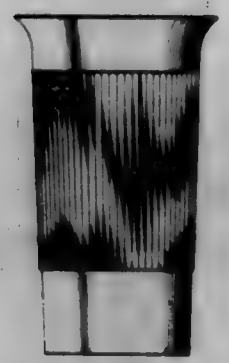
189,584
COMBINED AIRPLANE AND CONTROL PANEL TOY
Saul Robbins, 35 Mountain Way, West Orange, N.J., and Isaac Heller, 2080 Arrowwood Drive, Scotch Plains, N.J.
Filed Sept. 2, 1960, Ser. No. 61,993
Term of patent 14 years
(Cl. D34—15)



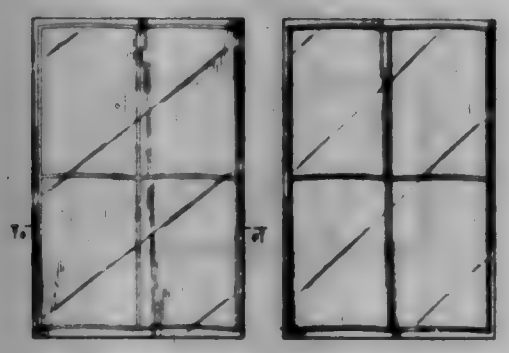
189,585
TRICYCLE
Harry Horowitz, New York, and Abraham Schneiderman, Westbury, N.Y. (both of 276 Nostrand Ave., Brooklyn, N.Y.)
Filed Aug. 31, 1960, Ser. No. 61,966
Term of patent 14 years
(Cl. D34—15)



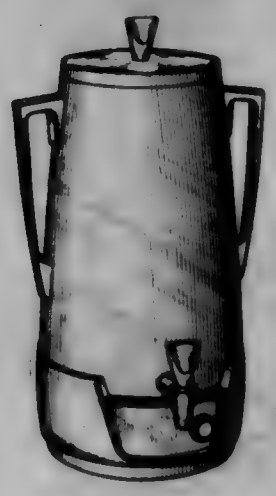
189,586
TUMBLER
George S. Nalle, Jr., 108 W. 2nd St., Austin, Tex.
Filed May 31, 1960, Ser. No. 60,790
Term of patent 14 years
(Cl. D36—8)



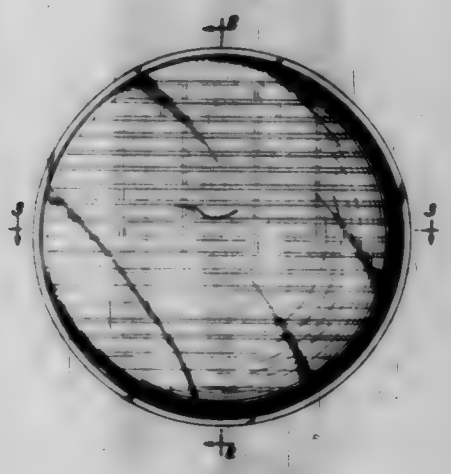
189,587
GLASS PANEL
Walter Lerch, 1 Uechtingstrasse, Gelsenkirchen-Schalke, Germany
Filed Sept. 29, 1959, Ser. No. 57,732
Term of patent 14 years
(Cl. D36—11)



189,588
COFFEE MAKER OR THE LIKE
Joseph Palma, Jr., Wheaton, Ill., assignor to Cory Corporation, Chicago, Ill., a corporation of Delaware
Filed Aug. 3, 1960, Ser. No. 61,619
Term of patent 14 years
(Cl. D44—26)



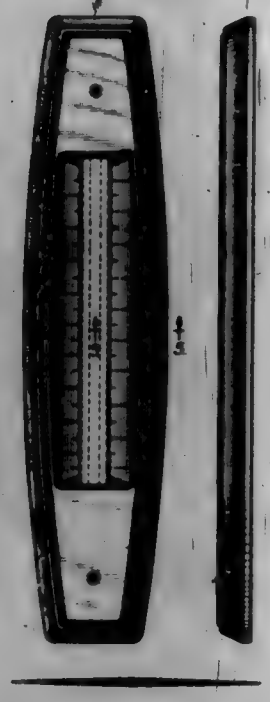
189,589
AUTOMOBILE HEADLIGHT ANTI-BLINDING LENS
Emile H. Fregeau, 3495 5th Ave. N., St. Petersburg, Fla.
Filed Aug. 11, 1958, Ser. No. 52,149
Term of patent 14 years
(Cl. D48—32)



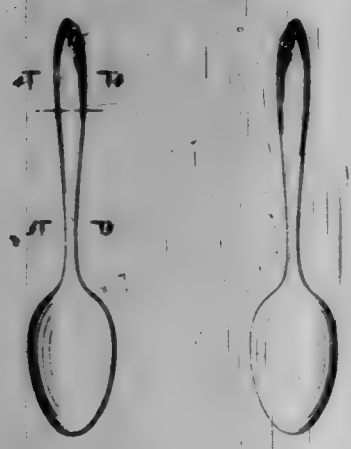
189,590
LEVELING SQUARE
Thomas J. White, 204 Hawthorne Road, Linthicum Heights, Md.
Filed Mar. 24, 1958, Ser. No. 50,144
Term of patent 14 years
(Cl. D52—1)



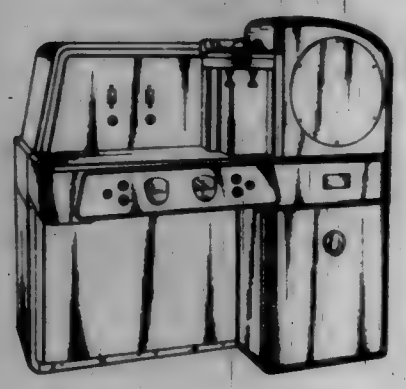
189,591
WEATHER INSTRUMENT OR SIMILAR ARTICLE
George B. Jensen, Chicago, Ill., assignor to Airguide Instrument Company, Chicago, Ill., a corporation of Illinois
Filed Dec. 14, 1959, Ser. No. 58,650
Term of patent 14 years
(Cl. D52—7)



189,592
SPOON OR SIMILAR ARTICLE
Stuart A. Young, South Meriden, Conn., assignor to Wallace Silversmiths, Inc., Wallingford, Conn., a corporation of Connecticut
Filed Nov. 17, 1959, Ser. No. 58,377
Term of patent 14 years
(Cl. D54—12)



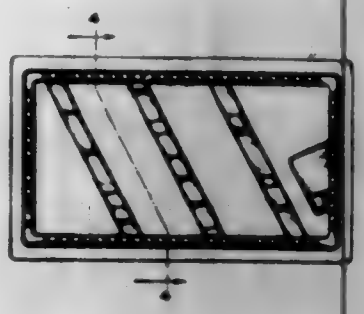
189,593
AUTOMATIC MULTI-ELEMENT SPECTROMETER
Alfonso De Pietro, Valhalla, N.Y., assignor to North American Philips Co., Inc.
Filed June 9, 1958, Ser. No. 51,252
Term of patent 14 years
(Cl. D57—1)



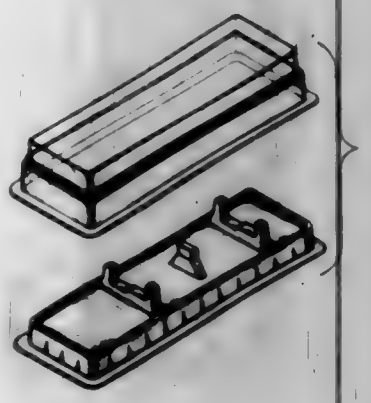
189,594
COMBINED CONTAINER AND CLOSURE THEREFOR
William H. Robinson, 602 E. Jefferson St., Miamisburg, Ohio
Filed Nov. 28, 1958, Ser. No. 53,578
Term of patent 14 years
(Cl. D58—12)



189,595
DISPLAY BOX FOR WRITING INSTRUMENTS OR OTHER ELONGATED ARTICLES
Alvin A. Kahn, Englewood Cliffs, N.J., assignor to David Kahn, Inc., Hudson County, N.J., a corporation of New Jersey
Filed Oct. 19, 1959, Ser. No. 57,971
Term of patent 14 years
(Cl. D58—13)



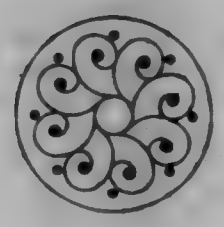
189,596
DISPLAY BOX FOR WRITING INSTRUMENTS OR THE LIKE
Alvin A. Kahn, Englewood Cliffs, N.J., assignor to David Kahn, Inc., Hudson County, N.J., a corporation of New Jersey
Filed Oct. 19, 1959, Ser. No. 57,972
Term of patent 14 years
(Cl. D58—13)



189,597
CLOSURE FOR A COSMETIC CONTAINER
William H. Harris, Litchfield, Conn., assignor to Scovill Manufacturing Company, Waterbury, Conn., a corporation of Connecticut
Filed Nov. 23, 1959, Ser. No. 58,431
Term of patent 7 years
(Cl. D58—26)



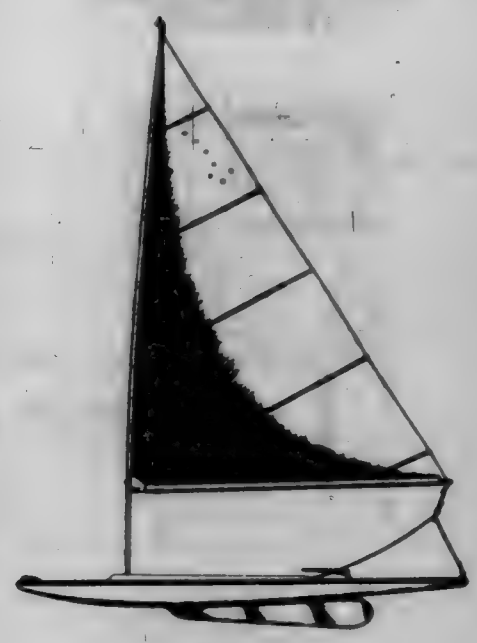
189,598
CLOSURE FOR A COSMETIC CONTAINER
Thomas F. Slater, Waterbury, Conn., assignor to Scovill Manufacturing Company, Waterbury, Conn., a corporation of Connecticut
Filed Nov. 23, 1959, Ser. No. 58,432
Term of patent 7 years
(Cl. D58—26)



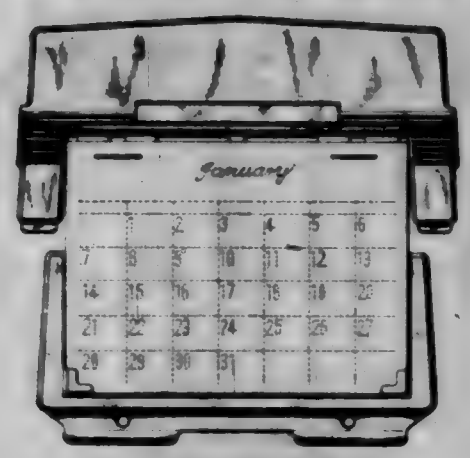
189,599
SQUEEZE BULB FOR SIPHONING AND DISPENSING SHAMPOO OR THE LIKE
Bruno W. Kersten, Chester, Pa., assignor to Marion S. Pump, Kalamazoo, Mich.
Filed Dec. 2, 1959, Ser. No. 58,531
Term of patent 14 years
(Cl. D62—2)



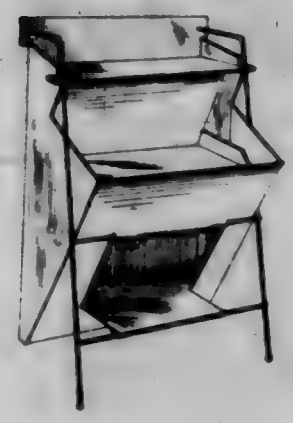
189,600
SAILBOAT
Charles H. Jones, Jr., Oak St., Lunenburg, Mass.
Filed Feb. 19, 1959, Ser. No. 54,678
Term of patent 14 years
(Cl. D71—1)



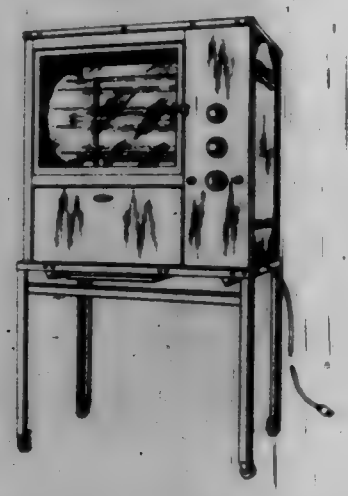
189,601
DESK CALENDAR
Howard L. Moore, Cochranton, Pa.
Filed July 13, 1960, Ser. No. 61,350
Term of patent 14 years
(Cl. D74—5)



189,602
COMBINED MERCHANDISING AND DISPLAY STAND FOR PACKAGED PHARMACEUTICAL SUPPLIES OR THE LIKE
Kenneth B. Hawthorne, Princeton, and Frederick A. Maguire, Pompton Plains, N.J., assignors to Johnson & Johnson, a corporation of New Jersey
Filed Feb. 2, 1960, Ser. No. 59,230
Term of patent 14 years
(Cl. D86—9)



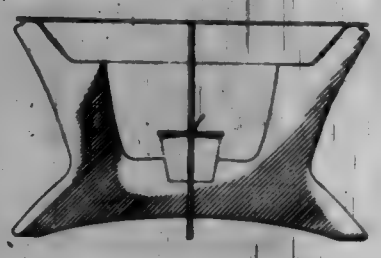
189,603
COMBINED COOKING AND WARMING CABINET
Robert Lee Paschal, 5028 Old Mansfield Road, Fort Worth, Tex.
Filed Aug. 27, 1958, Ser. No. 52,406
Term of patent 7 years
(Cl. D81—10)



189,604
FOOD WARMER
Jerome P. Heilweil, Wynnewood, Pa. (Trenton Ave. and Ann St., Philadelphia, Pa.)
Filed Nov. 10, 1959, Ser. No. 58,294
Term of patent 14 years
(Cl. D81—10)



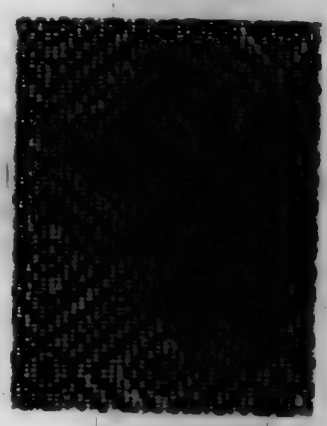
189,605
WARMING STAND
Norman K. Andersen, Pacific Palisades, Calif., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed Mar. 11, 1960, Ser. No. 59,701
Term of patent 14 years
(Cl. D81—10)



189,606
EMBOSSED PLASTIC SHEET MATERIAL
Staley A. Carpenter, Marietta, Ohio, assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York
Filed July 5, 1960, Ser. No. 61,219
Term of patent 14 years
(Cl. D87—3)



189,607
PILE FABRIC FLOOR COVERING
Ernest R. Kuepfer, Cornwall on the Hudson, N.Y., assignor to The Firth Carpet Company, Inc., New York, N.Y., a corporation of New York
Filed July 17, 1958, Ser. No. 51,815
Term of patent 14 years
(Cl. D92—4)



LIST OF REISSUE PATENTEES

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NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

Buckreus, John C., to United States Trust Co. of New York. Hosiery and method of forming same. Re. 24,922, 1–10–61, Cl. 66—185.

Tone, Richard N.: *See*—
Wilbur, Warren D. Re. 24,921.

United States Trust Co. of New York: *See*—
Buckreus, John C. Re. 24,922.

Wilbur, Warren D., ½ to R. N. Tone. Concrete slab key-joint forming member. Re. 24,921, 1–10–61, Cl. 94—17.

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Merrill, Grant. Nectarine tree. 2,010, 1–10–61, Cl. 47—62.

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American Playground Device Co.: *See*—
Williams, Ralph E., and Miller. 189,581.

Andersen, Norman K., to Reynolds Metals Co. Warming stand. 189,605, 1–10–61, Cl. D81—10.

Automatic Electric Laboratories, Inc.: *See*—
Cannon, Thomas G. 189,580.

Breneman, Joseph C., to Rubbermaid Inc. Stove mat or similar article. 189,569, 1–10–61, Cl. D9—6.

Cannon, Thomas G., to Automatic Electric Laboratories, Inc. Telephone base. 189,580, 1–10–61, Cl. D26—14.

Carpenter, Staley A., to The B. F. Goodrich Co. Embossed plastic sheet material. 189,606, 1–10–61, Cl. D87—3.

Clayton, Stanley J. Tooth-brush holder. 189,567, 1–10–61, Cl. D4—3.

Cory Corp.: *See*—
Palma, Joseph, Jr. 189,588.

Cutler-Hammer, Inc.: *See*—
Larkin, Robert E. 189,579.

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Disneyland, Inc.: *See*—
Gurr, Robert H. 189,582.

Firth Carpet Co., Inc., The: *See*—
Kuepfer, Ernest R. 189,607.

Fregeau, Emile H. Automobile headlight anti-blinding lens. 189,589, 1–10–61, Cl. D48—32.

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Harris, William H., to Scovill Mfg. Co. Closure for a cosmetic container. 189,597, 1–10–61, Cl. D58—26.

Hawthorne, Kenneth B., and F. A. Maguire, to Johnson & Johnson. Combined merchandising and display stand for packaged pharmaceutical supplies or the like. 189,602, 1–10–61, Cl. D80—9.

Hellwell, Jerome P. Food warmer. 189,604, 1–10–61, Cl. D81—10.

Heller, Isaac: *See*—
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Horowitz, Harry, and A. Schneiderman. Tricycle. 189,585, 1–10–61, Cl. D34—15.

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Jones, Charles H., Jr. Sailboat. 189,600, 1–10–61, Cl. D71—1.

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Kahn, Alvin A., to David Kahn, Inc. Display box for writing instruments or the like. 189,596, 1–10–61, Cl. D58—13.

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Kahn, Alvin A. 189,596.

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Walt, Vernon H. 189,576.

Kersten, Bruno W., to M. S. Pump. Squeeze bulb for siphoning and dispensing shampoo or the like. 189,599, 1–10–61, Cl. D62—2.

Kuepfer, Ernest R., to The Firth Carpet Co., Inc. Pile fabric floor covering. 189,607, 1–10–61, Cl. D92—4.

Lang, Keith M. House. 189,571, 1–10–61, Cl. D13—1.

Lappin, Robert I. Combined cleaning and waxing machine for floors or the like. 189,568, 1–10–61, Cl. D9—2.

Larkin, Robert E., to Cutler-Hammer, Inc. Electrical switch enclosure. 189,579, 1–10–61, Cl. D26—13.

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Palma, Joseph, Jr., to Cory Corp. Coffee maker or the like. 189,588, 1–10–61, Cl. D44—26.

Paschal, Robert L. Combined cooking and warming cabinet. 1–10–61, Cl. D81—10.

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Walt, Vernon H., to Kaiser Steel Corp. Screen wall building block. 189,576, 1–10–61, Cl. D18—2.

White, Thomas J. Leveling square. 189,590, 1–10–61, Cl. D52—1.

Williams, Ralph E., and W. P. Miller, to American Playground Device Co. Playground gym structure. 189,581, 1–10–61, Cl. D34—3.

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Aghnides, Elie P. Composite wheel. 2,967,580, 1–10–61, Cl. 180—22.
Aghnides, Elie P. Tandem wheel vehicle having tilted axles. 2,967,581, 1–10–61, Cl. 180—30.
Ahlborn, Edward L. Magnetically adjustable hair trimmer. 2,967,354, 1–10–61, Cl. 30—30.
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Alminana, Robert J. Dark room camera. 2,967,454, 1–10–61, Cl. 88—24.
Alstadter, David, to United States of America, Air Force. Air dielectric strip-line tunable bandpass filter. 2,968,012, 1–10–61, Cl. 333—73.
Altenschöpfer, Theodor, E. Enk, and H. Spes, to Wacker Chemie G.m.b.H. Process for the purification of ketene. 2,967,888, 1–10–61, Cl. 260—585.5.
Altmann, Werner E., to Daimler-Benz Aktiengesellschaft. Self-locking differential gear. 2,967,438, 1–10–61, Cl. 74—650.
Altmann, Werner E., to Daimler-Benz Aktiengesellschaft. Shifting arrangement for change speed gears. 2,967,598, 1–10–61, Cl. 192—114.
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Groszos, Stephen J. 2,967,877.
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Anderson, James C. Ball toy. 2,967,711, 1–10–61, Cl. 273—98.
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Angele, Wilhelm, to United States of America, Army. Blade connector. 2,968,016, 1–10–61, Cl. 339—75.
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Ballard, David C., R. J. Konrad, and R. W. Osborne, to Radio Corp. of America. Electron gun structure. 2,967,963, 1–10–61, Cl. 313—82.
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Bollmeier, Emil W., and L. F. Vokaty, to Minnesota Mining & Mfg. Co. Protection of wire-splices. 2,967,795, 1–10–61, Cl. 154—2.22.

Bolt, Robert O., and J. G. Carroll, to United States of America, Atomic Energy Commission. Method of resisting radiation damage to organic fluids and compositions therefor. 2,967,827, 1–10–61, Cl. 252—28.

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Electro-Mechanical Instrument Co.: *See*—
Pfeffer, William E. 2,968,000.

Electronic Associates Inc.: *See*—
Patmore, James R. 2,968,005.

Ellis, John L., and C. G. Goetzel, to 134 Woodworth Corp. Metal forming apparatus. 2,967,613, 1–10–61, Cl. 207—2.

English Electric Valve Co. Ltd.: *See*—
Turk, Walter E. 2,967,962.

Enk, Eduard: *See*—
Altenschöpfer, Theodor, Enk, and Spes. 2,967,888.

Eno, Robert F., C. F. Swett, R. F. Goode, P. F. Mooney, and H. F. Eckerle, to North American Aviation, Inc. High voltage power supply. 2,967,989, 1–10–61, Cl. 321—2.

Ensign Electric & Mfg. Co.: *See*—
Carver, Robert L. 2,967,921.

Erb, Theodor, W. G. Egan, and I. Fredricks, to Sperry Rand Corp., Ford Instrument Co. Division. Transistorized FM-IR detector. 2,967,940, 1–10–61, Cl. 250—83.3.

Erdahl, Nicholai M., N. E. Risk, and J. H. McCarthy, to Caterpillar Tractor Co. Tilting boom for pipe laying tractor or other vehicle. 2,967,628, 1–10–61, Cl. 214—1.

Eriez Mfg. Co.: *See*—
Peterson, Robert R. 2,967,606.

Esso Research and Engineering Co.: *See*—
Fenske, Merrell R., and Jones. 2,967,878.
Kimberlin, Charles N., Jr. 2,967,833.

Evans, Robert D., and H. W. Breathitt, Jr., to The American Agricultural Chemical Co. Hydraulic classifier. 2,967,617, 1–10–61, Cl. 209—158.

Extale, Gilbert J., and F. W. Riddington, to General Electric Co. Boiler coating and method for applying. 2,967,365, 1–10–61, Cl. 38—77.

Eye-Beam Displays, Inc.: *See*—
Stein, Elmer L. 2,967,592.

Fabanich, John P., 20% to B. L. Snyder. Weatherproof garment for hunters. 2,967,306, 1–10–61, Cl. 2—94.

Fafnir Bearing Co., The: *See*—
Howe, Ralph S., Jr. 2,967,743.

Faler, John A.: *See*—
Shoemaker, Robert H., and Faler. 2,967,530.

Falk, Harold W., to Wright Products, Inc. Door handle construction. 2,967,728, 1–10–61, Cl. 292—347.

Falla, Fernando. Classifying liner for ball mills. 2,967,671, 1–10–61, Cl. 241—183.

Falmouth Pharmaceuticals Ltd.: *See*—
Kelter, Joseph J. 2,967,528.

Farbenfabriken Bayer Aktiengesellschaft: *See*—
Roos, Ernst, and Rosahl. 2,967,851.

Farmer, Ernest L.: *See*—
Jackson, Arthur T. D., and Farmer. 2,967,413.
Farrall, William R., to The Waters Corp. Method and apparatus for gas analysis. 2,967,451, 1–10–61. Cl. 88—14.
Fauth, Frederick E., and D. J. Bustraan, to Crown Cork & Seal Co., Inc. Filling machine. 2,967,551, 1–10–61, Cl. 141—149.
Fay, Philip S., and G. W. Nichols, to The Standard Oil Co. Satellite demonstration model. 2,967,358, 1–10–61, Cl. 35—46.
Federal Pacific Electric Co.: *See*—
Cole, Louis W. 2,967,917.
Mathers, Marc G. 2,967,788.
Fenske, Merrell R., and J. H. Jones, to Esso Research and Engineering Co. Vapor phase catalytic conversion processes. 2,967,878, 1–10–61. Cl. 260—451.
Fenway Machine Co., Inc.: *See*—
Yermish, Israel J. 2,967,355.
Ferguson, Harold M., and W. R. Stevens, to The General Electric Co. Ltd. Visual position-indicating arrangements. 2,968,023, 1–10–61, Cl. 340—26.
Fetzer, Maurice C.: *See*—
Roberts, Sidney G., Fetzer, and Hess. 2,967,351.
Fichtel & Sachs A.G.: *See*—
Binder, Richard. 2,967,597.
Field, Osmond F., Jr.: *See*—
Storma, Edward M., Field, Hill, and Hake. 2,967,631.
Finke, Otto, K. Zeile, and H. Köppe, to C. H. Boehringer Sohn. Carbamic acid glycol esters. 2,967,880, 1–10–61. Cl. 260—482.
Fleck, Raymond N., C. G. Wight, and E. L. Wiseman, to Union Oil Co. of California. Resolution of anthracene oils using zeolitic molecular sieves. 2,967,896, 1–10–61, Cl. 260—675.
Fletcher, Edward H.: *See*—
Du Shane, Wallace H., and Fletcher. 2,967,575.
Flight Refuelling Ltd.: *See*—
Roberts, Henry. 2,967,640.
Flint, Oliver, to United States of America, Atomic Energy Commission. Fuel elements for thermal-fission nuclear reactors. 2,967,811, 1–10–61, Cl. 204—193.2.
Flook, William M., Jr., to E. I. du Pont de Nemours and Co. Sheet inspection method and apparatus. 2,967,947, 1–10–61, Cl. 250—219.
Florian, Steuart R. Tire valve leak indicator. 2,967,509, 1–10–61, Cl. 116—34.
Florin, Roland E.: *See*—
Pummer, Walter J., Wall, and Florin. 2,967,894.
Flotgen, Rudolf, to Teldec Telefunken-Decca Schallplatten G.m.b.H. Heating device for granulated materials. 2,967,702, 1–10–61, Cl. 263—40.
Flowers, Thomas H., and R. C. Barker, to Her Majesty's Postmaster General. Telephone bell ringing circuits. 2,967,911. 1–10–61, Cl. 179—84.
Foerster, Hans-Joachim M., to Daimler-Benz Aktiengesellschaft. Hydrostatic transmission. 2,967,395, 1–10–61, Cl. 60—53.
Fogal, Gordon L., and G. B. Brown. Delayed opening parachute pack. 2,967,686, 1–10–61, Cl. 244—150.
Fonken, Gunther S., and H. C. Murray, to The Upjohn Co. Process for the production of 17β-acetoxy-androstenes. 2,967,803, 1–10–61, Cl. 195—51.
Forbes, Robert A. Weight supporting mechanism. 2,967,589, 1–10–61, Cl. 187—1.
Ford, Charles J., and J. L. Nisbet, to The Goodyear Tire & Rubber Co. Electrical heating element. 2,967,415, 1–10–61, Cl. 66—193.
Ford, J. C., Mfg. Co.: *See*—
Ford, John C. 2,967,474.
Ford, John C., to J. C. Ford Mfg. Co. Food cooking machine. 2,967,474, 1–10–61, Cl. 99—404.
Ford Motor Co.: *See*—
Humenik, Michael, Jr., and Moskowitz. 2,967,349.
Forestek, Clarence W. Resilient sealing means and method of making same. 2,967,805, 1–10–61, Cl. 204—20.
Forsyte, Alexander: *See*—
Lee, John C., and Forsyte. 2,967,700.
Forsyth Engineering Co.: *See*—
Forsyth, James M., and Clark. 2,967,442.
Forsyth, James M., and J. G. Clark, to Forsyth Engineering Co. Boring bar. 2,967,442, 1–10–61, Cl. 77—58.
Francis, John P. Supporting brackets for automobile awnings. 2,967,690, 1–10–61, Cl. 248—229.
Franke & Heidecke, Fabrik Photographischer Präzisions-Apparate: *See*—
Bretthauer, Hermann. 2,967,468.
Sommermeyer, Friedrich. 2,967,471.
Franke, Walter: *See*—
Derichs, Fritz, Franke, and Stumpf. 2,967,895.
Fredricks, Irwin: *See*—
Erb, Theodor, Egan, and Fredricks. 2,967,940.
Freedman, Louis: *See*—
Shapiro, Seymour L., and Freedman. 2,967,886.
Freeman, Ernest G. Trailer awning support structure. 2,967,535, 1–10–61, Cl. 135—5.
Freese, George E., Jr., to Globe Mfg. Co. Ski pants. 2,967,308, 1–10–61, Cl. 2—270.
Frese, Albert, to Chemische Werke Huls Aktiengesellschaft. Low-pressure polyolefine with a phosphoric acid salt stabilizer. 2,967,852, 1–10–61, Cl. 260—45.9.
Friday, Paul D., to Paper Maid, Inc. Continuous in line pulp molding machine. 2,967,508, 1–10–61, Cl. 162—407.
Friedland, Siegmund, J. W. Sutton, J. Doggart, and D. P. Barton, to V. & E. Plastics Ltd. Manufacture of hollow inflated plastic objects. 2,967,829, 1–10–61, Cl. 18—26.
Friedrich, Frank D.: *See*—
Mitchell, Earland R., and Friedrich. 2,967,496.
Friend, Clifford K. Stable temperature reference for instrument use. 2,967,924, 1–10–61, Cl. 219—20.
Froggatt, Robert J., to Electric & Musical Industries Ltd. Stores, especially for digital computers. 2,968,026, 1–10–61, Cl. 340—172.5.
Fromm, Kenneth N.: *See*—
Blake, Neal A., and Fromm. 2,967,906.
Fuje Tsushinki Seizo Kabushiki Kaisha: *See*—
Goto, Eiichi, and Yamada. 2,968,028.
Fujii, Wesley M., to Radio Corp. of America. Reeling system. 2,967,678, 1–10–61, Cl. 242—55.12.
Fullam, John P., and R. W. F. Crawley, to Jarry Hydraulics. Landing gear shortening mechanism. 2,967,682, 1–10–61, Cl. 244—102.
Furane Plastics Inc.: *See*—
Delmonte, John, and Hiroshwa. 2,967,843.
Fyr-Fyter Co., The: *See*—
Diehl, Donald A. 2,967,540.
Haessler, Walter M. 2,967,571.
G-M Laboratories Inc.: *See*—
McMaster, Archie J., Lieberman, and Stastny. 2,967,346.
GPE Controls, Inc.: *See*—
Markey, Frank J. 2,967,675.
Gabbard, Elbert S., to G. Shaw. Combined paper cup and package. 2,967,609, 1–10–61, Cl. 206—47.
Gaebelein, Georg N., to International Business Machines Corp. Waveform measuring apparatus. 2,967,999, 1–10–61, Cl. 324—121.
Gagnier Fibre Products Co.: *See*—
Gagnier, George E. 2,967,324.
Gagnier, George E., to Gagnier Fibre Products Co. Bumper assembly. 2,967,324, 1–10–61, Cl. 16—86.
Ganzhorn, Karl: *See*—
Einsele, Theodor, and Ganzhorn. 2,967,665.
Gardiner, Duncan B., to Vickers Inc. Power transmission. 2,967,488, 1–10–61, Cl. 103—136.
Garner, Paul H. Offset disc harrow. 2,967,576, 1–10–61, Cl. 172—583.
Garrett Corp., The: *See*—
Breaux, Darlton K., Pascale, and Young. 2,967,572.
Garrison, Clarence L. Fish hook dislodger. 2,967,373, 1–10–61, Cl. 43—53.5.
Garrison, Glenn D. Trimming and flanging die. 2,967,559, 1–10–61, Cl. 153—2.
Gartsef, Jordan K. Machine tool accessory. 2,967,443, 1–10–61, Cl. 77—64.
Garwin, Leo, to Kerr-McGee Oil Industries, Inc. Method for separation of bituminous materials. 2,967,818, 1–10–61, Cl. 208—45.
Gebele, Kurt, to Compur-Werk Friedrich Deckel OHG. Preselection diaphragm structure for photographic cameras. 2,967,472, 1–10–61, Cl. 95—64.
General Aniline & Film Corp.: *See*—
Hort, Eugene V. 2,967,885.
Hort, Eugene V., and Graham. 2,967,893.
Randall, David I., and Schmidt-Nickels. 2,967,870.
Streck, Clemens. 2,967,751.
General Dynamics Corp.: *See*—
Henry, Earle G. 2,967,342.
Magnuson, Clarence E. 2,967,685.
Ottestad, Jack B. 2,967,590.
General Electric Co.: *See*—
Bochan, John. 2,967,417.
Extale, Gilbert J., and Riddington. 2,967,365.
Heil, Hans W. 2,967,961.
Jensen, Robert E. 2,967,394.
Knight, James L. 2,967,408.
Melikian, Albert V. 2,967,407.
Metzger, Matt F. 2,967,621.
Nalos, Ervin J. 2,967,968.
Schulze, James L. 2,967,410.
Vaughan, James R. M. 2,967,974.
Wise, Robert A. 2,967,981.
Zuvers, Howard E. 2,967,966.
Zwayer, Bard E. 2,967,672.
General Electric Co. Ltd., The: *See*—
Ferguson, Harold M., and Stevens. 2,968,023.
General Motors Corp.: *See*—
Geyer, Howard M. 2,967,511.
Keighley, Lloyd M. 2,967,400.
Pribonic, John F. 2,967,547.
Rady, William J., and King. 2,967,990.
Rhea, Oscar H. 2,967,347.
Sisson, Kenneth O. 2,967,546.
General Precision, Inc.: *See*—
Anderson, Robert V. 2,967,930.
General Time Corp.: *See*—
Black, William A., and Millard. 2,967,715.
George, Herbert E., and A. E. Coupland, to George & Miller Ltd. Web feeding and control device for printing machines. 2,967,479, 1–10–61, Cl. 101—228.
George & Miller Ltd.: *See*—
George, Herbert E., and Coupland. 2,967,479.
Gerard, George A. Ink applying system. 2,967,480, 1–10–61, Cl. 101—364.
Gevaert Photo-Producten N.V.: *See*—
Willems, Jozef F., and Van Hoof. 2,967,772.
Geyer, Howard M., to General Motors Corp. Pneumatic actuator. 2,967,511, 1–10–61, Cl. 121—40.
Giesen, Johann, and W. Deiters, to Inventa A.G. fur Forschung und Patentverwertung. Process for increasing the chain length of levulinic acid. 2,967,874, 1–10–61, Cl. 260—413.
Gildart, Lee W., and J. A. Powell, to Kentucky Research Foundation. Synthetic stibnite crystal and method for producing the same. 2,968,014, 1–10–61, Cl. 338—22.
Giles, Ralph R.: *See*—
Straley, James M., and Giles. 2,967,871.
Glenn, Ashley C., to The Cincinnati Milling Machine Co. Locking mechanism for machine tool control device. 2,967,323, 1–10–61, Cl. 51—233.
Glenny, Clarence S., to The Washburn Co. Flour sifter. 2,967,619, 1–10–61, Cl. 209—357.

Glickstein, Joseph: *See*—
Edelstein, Albert L., and Glickstein. 2,967,643.

Glidden Co., The: *See*—
Millar, Ronald L., and Moore. 2,967,839.

Globe Mfg. Co.: *See*—
Freese, George E., Jr. 2,967,308.

Glueck, Samuel A., to American Smelting and Refining Co. Metal sweating process. 2,967,769, 1–10–61, Cl. 75—78.

Glusic, John W., to Outboard Marine Corp. Thrust member adjustment and lock. 2,967,687, 1–10–61, Cl. 248—4.

Goetsel, Claus G.: *See*—
Ellis, John L., and Goetsel. 2,967,613.

Goin, Charles M., to The American Agricultural Chemical Co. Concentration of phosphate mineral. 2,967,615, 1–10–61, Cl. 209—12.

Good, Paul J., to Dynacolor Corp. Film processing apparatus. 2,967,473, 1–10–61, Cl. 95—94.

Goode, Rexford F.: *See*—
Eno, Robert F., Swett, Goode, Mooney, and Eckerle. 2,967,989.

Goodrich, B. F., Co., The: *See*—
Le Blanc, Walter J. 2,967,427.

Goodyear Aircraft Corp.: *See*—
Johnson, William C., Jr. 2,967,573.
Raffel, Bernard D. 2,967,796.

Goodyear Tire & Rubber Co., The: *See*—
Ford, Charles J., and Nisbet. 2,967,415.
Spacht, Ronald B. 2,967,853.
Urban, John P. 2,967,558.
Wilson, Warren K. 2,967,786.

Goto, Eiichi, and H. Yamada, to Fuje Tsushinki Seizo Kabushiki Kaisha. Multi-signals controlled selecting systems. 2,968,028, 1–10–61, Cl. 340—174.

Gow, James D., to United States of America, Atomic Energy Commission. Gaseous discharge device. 2,967,943, 1–10–61, Cl. 250—84.5.

Grace, W. R., & Co.: *See*—
Osipow, Lloyd I., and York. 2,967,859.
Rudner, Bernard. 2,967,864.
Rudner, Bernard. 2,967,865.
Rumsey, Herbert, Jr. 2,967,383.

Graf von Soden, Adolph F. Rotary pump and the like. 2,967,490, 1–10–61, Cl. 103—161.

Graham, David E.: *See*—
Hort, Eugene V., and Graham. 2,967,892.

Grant, James I., and W. E. Joor, II. Method and apparatus for erecting offshore platform. 2,967,400, 1–10–61, Cl. 61—46.5.

Gray, Richard E., and G. Q. McColl, to International Telephone and Telegraph Corp. Telegraph communication systems with carrier monitoring. 2,967,908, 1–10–61, Cl. 178—69.

Gray, W. L., & Co.: *See*—
Orchard, David W. 2,967,562.

Greaves, Edwin, to Dowty Nucleonics Ltd. Lever operated electric switches. 2,967,919, 1–10–61, Cl. 200—106.

Greene, Jack E.: *See*—
McDonnell, James A., Teriato, and Greene. 2,968,027.

Greenfield, Jack, to Tung Research and Development League. Compositions and methods for curing epoxy resins. 2,967,837, 1–10–61, Cl. 260—18.

Griffith, Richard: *See*—
Beckmann, Charles O., Klein, and Griffith. 2,967,869.

Grimaldi, Guy M., to Sylvania Electric Products, Inc. Automatic socket packaging machine. 2,967,385, 1–10–61, Cl. 53—7.8.

Grindrod, Paul E. Method of packaging food products to inhibit growth of molds and bacteria. 2,967,777, 1–10–61, Cl. 99—178.

Grosser, Herman K. M., to North American Philips Co., Inc. Permanent memory storage comprising magnetically bistable cores arranged in rows of M-cores each. 2,968,029, 1–10–61, Cl. 340—174.

Groszos, Stephen J., to American Cyanamid Co. Compounds containing boron and silicon. 2,967,877, 1–10–61, Cl. 260—448.2.

Guenthard, Jacques: *See*—
Bitterli, Peter, and Guenthard. 2,967,752.

Gulton Industries, Inc.: *See*—
Drametz, Abraham I., and Cullin. 2,967,956.

Günthard, Jacques: *See*—
Bitterli, Peter, and Günthard. 2,967,754.

Haake, Frederich L.: *See*—
Taber, John O., Jr., and Haake. 2,967,484.

Haddock, Albert A.: *See*—
Himick, Afton A., Billinghurst, and Haddock. 2,967,891.

Haessler, Walter M., to The Fyr-Fyter Co. Fire extinguisher with insulated pump. 2,967,571, 1–10–61, Cl. 169—33.

Hake, Albert C.: *See*—
Storms, Edward M., Field, Hill, and Hake. 2,967,631.

Hall, Albert M., D. C. Ludwigson, D. B. Roach, and V. W. Whitmer, to Republic Steel Corp. Transformable stainless steel. 2,967,770, 1–10–61, Cl. 75—125.

Hallberg, Elmer E., and R. S. Litterst, to Rockford Machine Tool Co. Thread rolling machines. 2,967,444, 1–10–61, Cl. 80—8.

Hallock, Robert L. Drive fastener with anchoring teeth on the tapered portion thereof. 2,967,448, 1–10–61, Cl. 85—21.

Halvorsen, Roy A., to Parker Rust Proof Co. Process of coating aluminum. 2,967,791, 1–10–61, Cl. 148—6.16.

Hamelink, William B., to Minneapolis-Honeywell Regulator Co. Control apparatus. 2,967,941, 1–10–61, Cl. 250—83.6.

Hammon, George L. Spring adjusting device. 2,967,704, 1–10–61, Cl. 267—1.

Hammond, John H., Jr. Torpedo. 2,967,502, 1–10–61, Cl. 114—20.

Hammond Organ Co.: *See*—
Hanert, John M. 2,967,447.

Handy & Harman: *See*—
Coxe, Charles D. 2,967,794.

Hanert, John M., to Hammond Organ Co. Apparatus for translating electrical musical tone signals into sound. 2,967,447, 1–10–61, Cl. 84—1.26.

Hanford, William E., J. W. Copenhaver, and H. R. Davis, Jr., to The M. W. Kellogg Co. Process for the preparation of phenylmercaptophenylamines and phenylmercaptonaphthylamines. 2,967,887, 1–10–61, Cl. 260—580.

Hanke, Albert R., to E. I. du Pont de Nemours and Co. Process for improved dispersion of pigments in enamels. 2,967,841, 1–10–61, Cl. 260—22.

Hanlon, Joseph F.: *See*—
Zackheim, Eli A., Meares, and Hanlon. 2,967,651.

Hansen, Calvin F., and J. D. Salisbury, to United States of America, Atomic Energy Commission. Automatic frequency control system. 2,968,007, 1–10–61, Cl. 331—11.

Harders, Fritz, to Dortmund-Hörder Huttenunion Aktiengesellschaft. Process for desulphurising pig- and cast-iron melts. 2,967,768, 1–10–61, Cl. 75—49.

Hardy, William B.: *See*—
Scalera, Mario, Tomcufcik, and Hardy. 2,967,863.

Harper, Walter R., Jr., and C. F. Kruger, to Texas Instruments Inc. Thermostatic switch. 2,967,920, 1–10–61, Cl. 200—118.

Harrington, Ferris T., to Vickers Inc. Power transmission. 2,967,489, 1–10–61, Cl. 103—136.

Harris-Intertype Corp.: *See*—
Lindemann, Robert E. 2,967,705.

Harris, John F., Jr., to E. I. du Pont de Nemours and Co. Process for preparing highly fluorinated compounds. 2,967,810, 1–10–61, Cl. 204—158.

Hartman, Robert B., II, to Remington Arms Co., Inc. High speed photographic light circuit. 2,967,975, 1–10–61, Cl. 315—241.

Hauptschein, Arthur, to United States of America, Navy. Multiband tail cap antenna. 2,968,038, 1–10–61, Cl. 343—708.

Hawk, Elwin A., Jr.: *See*—
Hawk, Elwin A., Sr. 2,967,645.

Hawk, Elwin A., Sr., ¼ to E. A. Hawk, Jr., ¼ to J. L. Reto, and ½ to G. A. Hawk. Self-loading grease gun. 2,967,645, 1–10–61, Cl. 222—326.

Hawk, George A.: *See*—
Hawk, Elwin A., Sr. 2,967,645.

Hawkins, Raymond C.: *See*—
Winzen, Otto C., and Hawkins. 2,967,677.

Hawkins, Walter L., V. L. Lanza, and F. H. Winslow, to Bell Telephone Laboratories, Inc. Alpha olefin hydrocarbons stabilised with carbon black and a carbocyclic thioether. 2,967,845, 1–10–61, Cl. 260—41.

Hawkins, Walter L., V. L. Lanza, and F. H. Winslow, to Bell Telephone Laboratories, Inc. Alpha olefin polymers stabilised with fused ring sulfide compounds. 2,967,846, 1–10–61, Cl. 260—41.

Hawkins, Walter L., V. L. Lanza, and F. H. Winslow, to Bell Telephone Laboratories, Inc. Alpha olefin hydrocarbons stabilized with carbon black and a compound having R-S-S-R structure. 2,967,847, 1–10–61, Cl. 260—41.

Hawkins, Walter L., V. L. Lanza, and F. H. Winslow, to Bell Telephone Laboratories, Inc. Alpha-olefin hydrocarbons stabilized with carbon black and a compound having $R(SH)_x$ structure. 2,967,848, 1–10–61, Cl. 260—41.

Hawkins, Walter L., V. L. Lanza, and F. H. Winslow, to Bell Telephone Laboratories, Inc. Stabilized straight chain hydrocarbons. 2,967,849, 1–10–61, Cl. 260—41.

Hawkins, Walter L., V. L. Lanza, and F. H. Winslow, to Bell Telephone Laboratories, Inc. Compositions of stabilized straight chain hydrocarbons containing carbon black and a compound having R-S-S-R structure. 2,967,850, 1–10–61, Cl. 260—41.

Hays Mfg. Co.: *See*—
Bradbury, James G. 2,967,539.

Healy, Joseph F., to Harvey Hubbell, Inc. Locking connector. 2,968,017, 1–10–61, Cl. 339—88.

Heckerman, Pearl M. G. Flexible shutter telescoping type door and window awning. 2,967,567, 1–10–61, Cl. 160—62.

Hedenskoog, Ernest, D. A. Norberg, and A. E. Johnson, to The Brunswick Automatic Pinsetter Corp. Bowling pin and ball elevating and delivering mechanism. 2,967,707, 1–10–61, Cl. 273—43.

Hedrick, Warren R., to Midland-Ross Corp. Louver construction. 2,967,337, 1–10–61, Cl. 20—63.

Heil, Hans W., to General Electric Co. Thermally sensitive pickup tube. 2,967,961, 1–10–61, Cl. 313—65.

Heinz, H. J., Co.: *See*—
Anderson, James B. 2,967,773.

Helbig, Jim D., and M. P. Warner, to Jerome D. Rosenberg. Hand-propelled polishing machine. 2,967,315, 1–10–61, Cl. 15—49.

Hellman, Werner F. Toy. 2,967,375, 1–10–61, Cl. 46—44.

Helton, Robert J., to American Steel Foundries. Fifth wheel elevating device. 2,967,721, 1–10–61, Cl. 280—425.

Henry, Earle G., to General Dynamics Corp. Adjustable strap fastener. 2,967,342, 1–10–61, Cl. 24—206.

Heraeus, W. C., G.m.b.H.: *See*—
Ruthardt, Konrad. 2,967,792.

Herzfeld, Richard P. Spring loaded hinge. 2,967,325, 1–10–61, Cl. 16—189.

Hess, James B.: *See*—
Roberts, Sidney G., Fetzer, and Hess. 2,967,351.

Higa, Walter H., to North American Aviation, Inc. Electronic micrometer. 2,968,031, 1–10–61, Cl. 340—265.

Hill, Alfred B., L. F. Becnel, and A. P. Tassin, to The American Oil Co. Proportioning system for water treaters. 2,967,538, 1–10–61, Cl. 137—113.

Hill, C. V., & Co., Inc.: *See*—
Detwiler, Wayne H. 2,967,404.

Hill, Robert L., to Morgan Packing Co., Inc. Machine for loading into containers substantially uniform pieces of a solid substance having a tendency to adhere to the machine. 2,967,386, 1–10–61, Cl. 53—123.

Hill, Thomas C.: *See*—
Storms, Edward M., Field, Hill, and Hake. 2,967,631.

Himick, Afton A., R. J. Billinghurst, and A. A. Haddock, to Industrial Cable & Sling Co. Wire cable sling and method of fabricating same. 2,967,391, 1–10–61, Cl. 57—142.

Hirosawa, Frank N.: *See*—
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Hobrough, Gilbert L., to Hunting Survey Corp. Ltd. Diode lattice multiplier with inherent limiting. 2,967,954, 1–10–61, Cl. 307—88.5.

Hodge, Edward B., to Commercial Solvents Corp. N-(p-chlorobenzyl) cycloserine. 2,967,866, 1–10–61, Cl. 260—307.

Hoefer, Karl E. Throat plates for textile machines. 2,967,412, 1–10–61, Cl. 66—125.

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Hofstede, Marinus J., and C. Dijkstra, to Shell Oil Co. Waste-heat boiler. 2,967,515, 1–10–61, Cl. 122—7.

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Hollansworth, McFerrell, to McKinney Mfg. Co. Folding door aligner. 2,967,322. 1–10–61, Cl. 16—1.

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Osborne, Sidney G., and Miller. 2,967,807.

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Howard, John A., to Rotary Hoes Ltd. Power-driven cultivating machine or tractor. 2,967,579, 1–10–61, Cl. 180—19.

Howe, Ralph S., Jr., to The Fafnir Bearing Co. Anti-wrap bearing seal. 2,967,743, 1–10–61, Cl. 308—187.1.

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Hubbell, Harvey. 2,968,018.

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Hudson, Robert L., to The Dow Chemical Co. 6-benzoyl-2-cyclohexyl-3-methoxyphenyl benzoate and process of production. 2,967,879, 1–10–61, Cl. 260—476.

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Jackson, Arnel E., to Radio Corp. of America. Dual drum slide projector. 2,967,457, 1–10–61, Cl. 88—27.

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Manas, Herman D. and R. J., to M.R.M. Machinery Co., Inc. Labeling machine. 2,967,636, 1–10–61, Cl. 216—54.

Manas, Roy J.: *See*—
Manas, Herman D. and R. J. 2,967,636.

Manchester Machine & Tool Co.: *See*—
Novkov, Raymond E. 2,967,345.

Manley, Robert E., to Texaco Inc. Ink oil and method of manufacture. 2,967,782, 1–10–61, Cl. 106—311.

Marchand, Jean F., to North American Philips Co., Inc. Magnetic frequency divider circuit arrangement. 2,967,950, 1–10–61, Cl. 307—88.

Marconi Instruments Ltd.: *See*—
Willis, Douglas R. 2,967,931.

Marenholtz, Pete E., to Daystrom, Inc. Self-starting multivibrator. 2,968,008, 1–10–61, Cl. 331—113.

Markey, Frank J., to GPE Controls, Inc. Control system for coil support. 2,967,675, 1–10–61, Cl. 242—78.6.

Marmillion, Rene, to Commissariat a l'Energie Atomique. Clamps. 2,967,464, 1–10–61, Cl. 90—59.

Marple, Stanley, Jr., R. J. Olson, and D. M. Bartay, to Shell Oil Co. Wax product comprising two paraffin waxes and an isoparaffinic-naphthenic plastic wax. 2,967,817, 1–10–61, Cl. 208—21.

Martin, Ernest N.: *See*—
Barber, S. Morgan, and Martin. 2,967,644.

Martinelli, Pierre P., to Commissariat a l'Energie Atomique. Apparatus for measuring the thickness of a deposit. 2,967,934, 1–10–61, Cl. 250—71.5.

Martois, Arthur E. Power operated, portable pipe wrench. 2,967,446, 1–10–61, Cl. 81—53.

Massa, Frank. Electroacoustic transducer. 2,967,857, 1–10–61, Cl. 310—9.4.

Massillon Container Co.: *See*—
Seger, Gaylord E., Jr. 2,967,655.

Mathers, Marc G., to Federal Pacific Electric Co. Method of impregnating wound condenser bushings with a dielectric liquid. 2,967,788, 1–10–61, Cl. 117—94.

Maude, Michael F. Expansion joint device. 2,967,467, 1–10–61, Cl. 94—18.

Mauldin, John H., and J. P. Medlock; said Medlock assor. to said Mauldin. Asphalt mixer and drier. 2,967,696, 1–10–61, Cl. 259—158.

Massucchelli, Arthur P., and T. E. Bugel, to Union Carbide Corp. Composite plastic-fibrous metal mat tool. 2,967,756, 1–10–61, Cl. 18—47.

McCarthy, John: *See*—
Erdahl, Nicholai M., Risk, and McCarthy. 2,967,628.

McCarty, James M.: *See*—
Willits, Samuel P., Mohan, and McCarty. 2,967,470.

McCaul, Gerald J.: *See*—
Morris, John N., and McCaul. 2,967,520.

McColl, Bruce J., to Clark Equipment Co. Hydraulic power steering mechanism for vehicle having articulated sections. 2,967,582, 1–10–61, Cl. 180—79.2.

McColl, George Q.: *See*—
Gray, Richard E., and McColl. 2,967,908.

McCormack, Dwight F. Microphoto apparatus. 2,967,455, 1–10–61, Cl. 88—24.

McCormick, Clarence E., to Lee Rubber & Tire Corp. Apparatus for making flexible spiral wound wire hose. 2,967,390, 1–10–61, Cl. 57—11.

McCoy, Rawley D., to Reeves Instrument Corp. Method and apparatus for checking electronic analog computers. 2,967,997, 1–10–61, Cl. 324—73.

McDonald, Gilmour. Garment supporting bar for wire garment hangers. 2,967,648, 1–10–61, Cl. 223—98.

McDonnell, James A., J. M. Terlato, and J. E. Greene, to International Business Machines Corp. Data processing system memory controls. 2,968,027, 1–10–61, Cl. 340—172.5.

McKay, Alexander S., to Texaco Inc. Method and apparatus for measuring thickness. 2,967,937, 1–10–61, Cl. 250—83.1.

McKay, Alexander S., A. H. Lord, Jr., and R. W. Johnston, Jr., to Texaco Inc. Thickness measurement. 2,967,938, 1–10–61, Cl. 250—83.3.

McKinney Mfg. Co.: *See*—
Hollansworth, McFerrell. 2,967,322.

McKnight, Stewart, to Mohasco Industries, Inc. Pile carpets. 2,967,549, 1–10–61, Cl. 139—402.

McMaster, Archie J., W. G. Lieberman, and E. O. Stastny, to G-M Laboratories Inc. Process for manufacturing small motors. 2,967,346, 1–10–61, Cl. 29—155.5.

McNicol, Forrest C., and T. F. Rosing, to Cutler-Hammer, Inc. Electrical protective system. 2,967,977, 1–10–61, Cl. 317—36.

McRoberts, Roscoe. Pre-spotting machine. 2,967,670, 1–10–61, Cl. 239—352.

Meares, Arthur R.: *See*—
Zackheim, Eli A., Meares, and Hanlon. 2,967,651.

Mecimap: *See*—
Lachaize, Paul. 2,967,469.

Mecorney, John W., and E. R. White, to Shell Oil Co. Process for preparing beta-aliphaticoxy-propionaldehydes. 2,967,890, 1–10–61, Cl. 260—602.

Medlock, John P.: *See*—
Mauldin, John H., and Medlock. 2,967,696.

Meier, John M. Manually operated snow plow. 2,967,363, 1–10–61, Cl. 37—53.

Melikian, Albert V., to General Electric Co. Freezing tray and ice storage arrangement for refrigerators. 2,967,407, 1–10–61, Cl. 62—344.

Mellor Bromley & Co. Ltd.: *See*—
Jackson, Arthur T. D., and Farmer. 2,967,413.

Merck & Co., Inc.: *See*—
Clark, Irwin. 2,967,801.

Merian, Ernest, C. Müller, and O. Senn, to Sandoz Ltd. Monoazo dyestuffs of low water solubility. 2,967,858, 1–10–61, Cl. 260—205.

Mertens, Lawrence E.: *See*—
Wilson, Robert E., Mertens, and Bergman. 2,967,910.

Metzger, Matt F., to General Electric Co. Unbalance correcting system for use in laundry machines. 2,967,621, 1–10–61, Cl. 210—138.

Metzinger, Julian. Door protector. 2,967,333, 1–10–61, Cl. 20—16.

Meyers, Lionel C. Device for handling lighted cigarettes or the like. 2,967,529, 1–10–61, Cl. 131—256.

Meyers, Raymond I., and K. C. Kramer, to Lear, Inc. Aircraft longitudinal control augmenter. 2,967,680, 1–10–61, Cl. 244—77.

Michalko, Ignatius: *See*—
Koren, Heiman W., and Michalko. 2,967,750.

Midland-Ross Corp.: *See*—
Hedrick, Warren R. 2,967,337.

Miles, Clair E. Device for controlling the depth of entrance of cutting tools. 2,967,441, 1–10–61, Cl. 77—55.

Miles Laboratories, Inc.: *See*—
Zienty, Mitchell F. 2,967,775.

Millar, Ronald L., and C. G. Moore, to The Glidden Co. Coating composition of an aminotriazine/aldehyde resin and esters of oxyalkylated phenolaldehyde resin. 2,967,839, 1–10–61, Cl. 260—19.

Millard, John S.: *See*—
Black, William A., and Millard. 2,967,715.

Miller, George T.: *See*—
Osborne, Sidney G., and Miller. 2,967,806.
Osborne, Sidney G., and Miller. 2,967,807.

Miller, Gustave: *See*—
Watson, Donald G. 2,967,357.

Miller Hydro Co.: *See*—
Nussbaum, Herbert H. 2,967,531.

Mine Safety Appliances Co.: *See*—
Austin, Harry W. 2,967,304.

Minneapolis-Honeywell Regulator Co.: *See*—
Hamelink, William B. 2,967,941.
Lawrance, Richard B., and Pendleton. 2,967,674.
Taylor, William S. 2,967,429.

Minnesota Mining & Mfg. Co.: *See*—
Bollmeier, Emil W., and Vokaty. 2,967,795.

Miquelis, Eugène: *See*—
Aubert, Maurice, and Miquelis. 2,967,913.

Mitchell, Earland R., and F. D. Friedrich. Stoker grate. 2,967,496, 1–10–61, Cl. 110—38.

Moffitt, William R., and M. B. Berkey, to The Borden Co. Adhesive comprising phenol aldehyde resin and water dispersible gum. 2,967,836, 1–10–61, Cl. 260—17.2.

Mohan, William L., Jr.: *See*—
Willits, Samuel P., Mohan, and McCarty. 2,967,470.

Mohasco Industries, Inc.: *See*—
McKnight, Stewart. 2,967,549.
Möller, Karl E.: *See*—
Koch, Herbert, and Möller. 2,967,873.
Monax, Julian A.: *See*—
Chase, Hamilton C. 2,967,445.
Monsanto Chemical Co.: *See*—
Sharp, Dexter B., and Le Blanc. 2,967,897.
Montoscuro, Joseph. Insole construction for a shoe. 2,967,362, 1–10–61, Cl. 36—37.
Mooney, Paul F.: *See*—
Eno, Robert F., Swett, Goode, Mooney, and Eckerle. 2,967,989.
Moore, Charles G.: *See*—
Millar, Ronald L., and Moore. 2,967,839.
Moore, George V. Detachable traction units. 2,967,737, 1–10–61, Cl. 305—51.
Moore & Hall: *See*—
Toulon, Pierre M. G. 2,967,904.
Moore, Robert E. Tool handle fastening. 2,967,738, 1–10–61, Cl. 306—33.
Morehart, Jewell K. Battery lead salvaging machine. 2,967,350, 1–10–61, Cl. 29—204.
Morehead, John H. Roller register. 2,967,356, 1–10–61, Cl. 33—141.
Morgan Packing Co., Inc.: *See*—
Hill, Robert L. 2,967,386.
Morkoski, James, to International Harvester Co. Control means for disk harrow. 2,967,574, 1–10–61, Cl. 172—328.
Morris, John N., and G. J. McCaul, ½ to S.U. Carburetter Co. Ltd., and ½ to Simmonds Precision Products, Inc. Reciprocatory fuel injection pumps. 2,967,520, 1–10–61, Cl. 123—140.
Morris, John U. Control apparatus responsive to a plurality of independently variable pressures. 2,967,537, 1–10–61, Cl. 137—82.
Mosby, William L.: *See*—
Berry, William L., and Mosby. 2,967,862.
Mosby, William L., and W. L. Berry, to American Cyanamid Co. Naphthalimido-triazino-anthraquinone. 2,967,861, 1–10–61, Cl. 260—249.
Mosier, Ethel J.: *See*—
Mosier, Russell B. 2,967,602.
Mosier, Russell B., deceased (E. J. Mosier, administratrix). Boarding apparatus for aircraft and the like. 2,967,602, 1–10–61, Cl. 198—16.
Moskowitz, David: *See*—
Humenik, Michael, Jr., and Moskowitz. 2,967,349.
Motorola, Inc.: *See*—
Bevacqua, Louis A. 2,967,431.
Mousseau, Bartley P. Tie plate chute. 2,967,599, 1–10–61, Cl. 193—5.
Moy, John A. E., and B. W. Burbidge, to The British Petroleum Co. Ltd. Catalytic reforming of petroleum hydrocarbons with an alumina-chromium oxide catalyst containing bismuth oxide and an alkali metal oxide. 2,967,821, 1–10–61, Cl. 208—136.
Moy, John A. E., and B. W. Burbidge, to The British Petroleum Co. Ltd. Catalytic reforming of petroleum hydrocarbons with an alumina-chromium oxide catalyst comprising boron oxide. 2,967,822, 1–10–61, Cl. 208—136.
Mueller, Charles W., to Radio Corp. of America. Semiconductor devices. 2,967,344, 1–10–61, Cl. 29—25.3.
Müller, Curt: *See*—
Merian, Ernest, Müller, and Senn. 2,967,858.
Müller, Rudolf: *See*—
Steding, Arthur, and Müller. 2,967,587.
Murcott, Charles E. Collapsible portable hamper. 2,967,716, 1–10–61, Cl. 280—41.
Murphy, James A., to Joseph Bancroft & Sons Co. Fabric finishing with heat hardenable resin. 2,967,787, 1–10–61, Cl. 117—62.
Murray, Herbert C.: *See*—
Fonken, Gunther S., and Murray. 2,967,803.
Musser, C Walton, to United States of America, Army. Rifle barrel with two sets of grooves of different depth and twist. 2,967,369, 1–10–61, Cl. 42—78.
Musser, C Walton, to United States of America, Army. Cartridge case exterior as inner surface of arcuate gun nozzles. 2,967,460, 1–10–61, Cl. 89—1.7.
N.V. Utrechtsche Machinale Stoel-En Meubelfabriek "U.M.S.": *See*—
Bus, Johannes A. 2,967,747.
Nagely, John L. Compensating seal for gear pump or motor. 2,967,487, 1–10–61, Cl. 103—126.
Nalos, Ervin J., to General Electric Co. Electron discharge device. 2,967,968, 1–10–61, Cl. 315—3.5.
National Gypsum Co.: *See*—
Schneiter, Henry J., and Smith. 2,967,780.
National Paper Can & Tube Co.: *See*—
Berenson, Henry J. 2,967,485.
National Tinsel Mfg. Co.: *See*—
Prota, William F. 2,967,653.
Nauta, Constant J. Coupling joint. 2,967,695, 1–10–61, Cl. 259—102.
Nelson, Charles J.: *See*—
Nelson, Evan S. and C. J. 2,967,318.
Nelson Co., The: *See*—
Nelson, Evan S. and C. J. 2,967,318.
Nelson, Evan S. and C. J., to The Nelson Co. Impact-type marking device. 2,967,318, 1–10–61, Cl. 15—131.
Neumann, Ernst-Gotthard: *See*—
Stegemann, Hans, and Neumann. 2,967,633.
Newell, William H., to Sperry Rand Corp. Deck tilt corrector. 2,967,663, 1–10–61, Cl. 235—61.5.
Newman, Douglas A., A. T. Schlotzhauer, A. M. Vogel, D. B. Albert, and J. J. Quattrone, to Columbia Ribbon & Carbon Mfg. Co., Inc. Thermographic copying paper. 2,967,784, 1–10–61, Cl. 117—36.
Nichols, Gilbert W.: *See*—
Fay, Philip S., and Nichols. 2,967,358.
Niclas, Walter, and R. Beckadolph, to Continental Gummi-Werke Aktiengesellschaft. Apparatus for making a pneumatic tire carcass. 2,967,564, 1–10–61, Cl. 154—9.
Nisbet, John L.: *See*—
Ford, Charles J., and Nisbet. 2,967,415.
Nishikiori, Seiji, and Y. Okada. Iron powder composition for gas-cutting, gas-washing, and gas-scarfing. 2,967,767, 1–10–61, Cl. 75—.5.
Nopco Chemical Co.: *See*—
Beckmann, Charles O., Klein, and Griffith. 2,967,869.
Ihde, Frederick J., Jr. 2,967,828.
Norberg, Donald A.: *See*—
Hedenskoog, Ernest, Norberg, and Johnson. 2,967,707.
Norris, Edward O. Electrostatic spray apparatus. 2,967,667, 1–10–61, Cl. 239—15.
Norris, Edward O. Centrifugal spraying device. 2,967,668, 1–10–61, Cl. 239—15.
Norris, Edward O. Centrifugal spraying device. 2,967,669, 1–10–61, Cl. 239—219.
North American Aviation, Inc.: *See*—
Case, Robert O., Jr. 2,968,010.
Eckerle, Harry F., Jr., and Radcliffe. 2,967,993.
Eno, Robert F., Swett, Goode, Mooney, and Eckerle. 2,967,989.
Higa, Walter H. 2,968,031.
Loewe, Richard T. 2,967,949.
Pryga, Stanley A. 2,967,900.
Reeves, Pierce E. 2,968,009.
Steinman, Wilbert H., and White. 2,968,019.
North American Philips Co., Inc.: *See*—
Cook, Jeremy D. 2,967,935.
De Gier, Nico A. 2,967,945.
De Haan, Edward F. 2,967,972.
Dubbelman, Adriaan A. 2,967,982.
Grosser, Hermann K. M. 2,968,029.
Jamison, Noel C. 2,967,984.
Marchand, Jean F. 2,967,950.
Scholten, Jacob W. 2,967,992.
Schouten, Jan K., and Verstraten. 2,968,011.
Norway, Harold L., and W. S. Boedecker, to The Bastian-Blessing Co. Liquefied gas filler valve assembly. 2,967,541, 1–10–61, Cl. 137—393.
Novkov, Raymond E., to Manchester Machine & Tool Co. Adjustable chip breaker. 2,967,345, 1–10–61, Cl. 29—96.
Noyce, Robert N.: *See*—
Shockley, William, and Noyce. 2,967,985.
Nurkiewicz, Ignatius, to Stop-Fire, Inc. Nozzle for fire extinguishers. 2,967,570, 1–10–61, Cl. 169—1.
Nury, Fredoon S., and W. F. Talburt, to United States of America, Agriculture. Sorting raisins by optical difference. 2,967,614, 1–10–61, Cl. 209—2.
Nussbaum, Herbert H., to Miller Hydro Co. Apparatus for washing receptacles. 2,967,531, 1–10–61, Cl. 134—95.
ON Mark Couplings, Inc.: *See*—
Willis, Barry B. 2,967,723.
O'Donnell, William J. Multiple safety pocket construction. 2,967,307, 1–10–61, Cl. 2—253.
Oehmig, Helms: *See*—
Stoffregen, Jurgen, and Oehmig. 2,967,525.
Oglebay Norton Co.: *See*—
Beason, Robert C., and Anthony. 2,967,790.
O'Hare, Harry M., to Tidy Chemical Co. Liquid dispensing apparatus. 2,967,310, 1–10–61, Cl. 4—227.
Okada, Yasuharu: *See*—
Nishikiori, Seiji, and Okada. 2,967,767.
Olin Mathieson Chemical Corp.: *See*—
Chiras, Stanley J. 2,967,760.
Perlman, David, and Sheehan. 2,967,860.
Olson, Agnes J. Diaper-type garment. 2,967,526, 1–10–61, Cl. 128—287.
Olson, Robert J.: *See*—
Marple, Stanley, Jr., Olson, and Bartay. 2,967,817.
134 Woodworth Corp.: *See*—
Ellis, John L., and Goetzel. 2,967,613.
Operations Research, Inc.: *See*—
Crater, Wilbur D. 2,967,683.
Orchard, David W., to W. L. Gray & Co. Device for laminating plastic sheets. 2,967,562, 1–10–61, Cl. 154—1.
Orwig, Herbert L., to Clark Equipment Co. Removable counterweight. 2,967,718, 1–10–61, Cl. 280—150.
Osborne, Richard W.: *See*—
Ballard, David C., Konrad, and Osborne. 2,967,963.
Osborne, Sidney G., and G. T. Miller, to Hooker Chemical Corp. Electrolytic decomposition with permselective diaphragms. 2,967,806, 1–10–61, Cl. 204—72.
Osborne, Sidney G., and G. T. Miller, to Hooker Chemical Corp. Electrolytic decomposition of sodium chloride. 2,967,807, 1–10–61, Cl. 204—98.
Osipow, Lloyd I., and W. C. York, deceased (by R. M. York, administratrix), to W. R. Grace & Co. Process for diguicose ureide. 2,967,859, 1–10–61, Cl. 260—211.
Ottestad, Jack B., to General Dynamics Corp. Braking apparatus. 2,967,590, 1–10–61, Cl. 188—41.
Otsen, Christian: *See*—
Baur, Carl, and Otsen. 2,967,459.
Outboard Marine Corp.: *See*—
Glusic, John W. 2,967,687.
Watkins, Lucius D. 2,967,388.
Ovshinsky, Herbert C.: *See*—
Ovshinsky, Stanford R. 2,967,980.
Ovshinsky, Stanford R., ½ to D. Tann, and ½ to H. C. Ovshinsky. Electrical power assist or servo mechanism and control means therefor. 2,967,980, 1–10–61, Cl. 317—123.
Owen, John C., to Lear, Inc. Angle of attack control. 2,967,679, 1–10–61, Cl. 244—77.
Owens, Wilbur D., to American Signal Co. Patrol car signal. 2,968,025, 1–10–61, Cl. 340—125.
Oxe, Walter. Footwear heel. 2,967,361, 1–10–61, Cl. 36—35.
Oxley, Le Roy V., and C. M. Blythe, to Robotyper Corp. Master and slave control typing system and structural units for use therein. 2,967,600, 1–10–61, Cl. 197—5.

Pacific Semiconductors, Inc.: *See*—
Curry, James E. 2,967,642.
Page, Russell D., to Caterpillar Tractor Co. Locking mechanism for power transmission. 2,967,596, 1–10–61, Cl. 192—4.
Palmer, Charles E. Plastic container blank. 2,967,654, 1–10–61, Cl. 229—35.
Paper Maid, Inc.: *See*—
Friday, Paul D. 2,967,568.
Parker, Clarence E., deceased, by F. Parker, executrix, to The Coe Mfg. Co. Apparatus for handling rigid sheet material. 2,967,630, 1–10–61, Cl. 214—6.
Parker, Frieda: *See*—
Parker, Clarence E. 2,967,630.
Parker-Hannifin Corp.: *See*—
Davies, Robert H. 2,967,744.
Parker Rust Proof Co.: *See*—
Halversen, Roy A. 2,967,791.
Partansky, Alexander M., to The Dow Chemical Co. New synthetic drying oils. 2,967,838, 1–10–61, Cl. 260—18.
Pascale, Richard D.: *See*—
Breaux, Darlton K., Pascale, and Young. 2,967,572.
Pasini, Franco, to Pirelli Societa per Azioni. Paper screening tapes for high tension electric cables. 2,967,902, 1–10–61, Cl. 174—102.
Pass, Melvin K., and M. H. Schouveller. Fish line untwister. 2,967,372, 1–10–61, Cl. 43—43.18.
Patmore, James R., to Electronic Associates Inc. Stabilized direct coupled transistor amplifier. 2,968,005, 1–10–61, Cl. 330—9.
Patzer, William A., to S. B. Atwood. Currency testing and selecting device. 2,967,452, 1–10–61, Cl. 88—14.
Pearsall, Bobbie J.: *See*—
Pearsall, Harold C. 2,968,024.
Pearsall, Earle S. Valve structure. 2,967,544, 1–10–61, Cl. 137—622.
Pearsall, Harold C., 17% to J. G. Pearsall, Sr., 17% to J. G. Pearsall, Jr., and 16% to B. J. Pearsall. Signaling means for vehicles and the like. 2,968,024, 1–10–61, Cl. 340—81.
Pearsall, Joel G., Jr.: *See*—
Pearsall, Harold C. 2,968,024.
Pearsall, Joel G., Sr.: *See*—
Pearsall, Harold C. 2,968,024.
Pendleton, Robert A.: *See*—
Lawrance, Richard B., and Pendleton. 2,967,674.
Perello, Ramon U., to I. Ibanez. Device for stereo-reproduction of sound registered on cinematograph films. 2,967,912, 1–10–61, Cl. 179—100.3.
Perlman, David, and J. T. Sheehan, to Olin Mathieson Chemical Corp. 5-trifluoromethyl derivatives of vitamin B_{12}. 2,967,860, 1–10–61, Cl. 260—211.5.
Pernecky, Paul, Jr. Glove and like article holder. 2,967,340, 1–10–61, Cl. 24—18.
Peterson, Glen, to Well Surveys, Inc. Casing joint locator. 2,967,994, 1–10–61, Cl. 324—37.
Peterson, Robert R., to Eries Mfg. Co. Vibratory helical conveyor. 2,967,606, 1–10–61, Cl. 198—220.
Petroff, Robert J., to Pines Engineering Co., Inc. Multi-head rod and bar bender. 2,967,561, 1–10–61, Cl. 153—45.
Petrolite Corp.: *See*—
Smith, Alvin H. 2,967,868.
Pettibone Mulliken Corp.: *See*—
Hunter, William A. 2,967,440.
Pettit, Frank. Toy aircraft and control therefor. 2,967,706, 1–10–61, Cl. 272—31.
Pfaff, G. M., AG.: *See*—
Braun, Oskar, and Winz. 2,967,497.
Pfeffer, William E., to Electro-Mechanical Instrument Co. Edgewise indicating meter. 2,968,000, 1–10–61, Cl. 324—146.
Pfeifer, Charles R., and R. O. Whipple, to The Dow Chemical Co. Treatment for stabilizing polymerized olefins prepared with catalytic metal compounds. 2,967,857, 1–10–61, Cl. 260—94.9.
Phelps Dodge Corp.: *See*—
Tuwiner, Sidney B. 2,967,814.
Philco Corp.: *See*—
Brown, Ralph B. 2,967,951.
Devery, James J. 2,967,416.
Plesser, Edgar W., and Seher. 2,967,979.
Philippbar, Mark M. Grain cleaner. 2,967,616, 1–10–61, Cl. 209—32.
Philips, John, to Westinghouse Electric Corp. Semiconductor devices with bi-polar injection characteristics. 2,967,798. 1–10–61, Cl. 148—33.
Phillips, Benjamin, and P. S. Starcher, to Union Carbide Corp. Polyesters of 4,5-epoxycyclohexane-1,2-dicarboxylic acids. 2,967,840, 1–10–61, Cl. 260—22.
Phillips, Edwin D. Apparatus for supporting and facilitating the handling of work tools. 2,967,433, 1–10–61, Cl. 74—16.
Phillips Petroleum Co.: *See*—
Krejci, Joseph C. 2,967,762.
Phillips, Richard A., to United States of America, Navy. Ground speed computer. 2,967,660, 1–10–61, Cl. 235—61.
Pikula, Emil. Archery bow. 2,967,521, 1–10–61, Cl. 124—24.
Pilas, Frank J., to Radio Corp. of America. Beam type electron tube. 2,967,967, 1–10–61, Cl. 313—290.
Pines Engineering Co., Inc.: *See*—
Petroff, Robert J. 2,967,561.
Pirelli Societa per Azioni: *See*—
Pasini, Franco. 2,967,902.
Priaroggia, Paolo G. 2,967,899.
Priaroggia, Paolo G. 2,967,901.
Pittsburgh Plate Glass Co.: *See*—
Jones, Richard W., and Black. 2,967,378.
Plastic Molded Arts Corp.: *See*—
Tommarchi, Paul. 2,967,830.
Plesser, Edgar W., and H. W. Seher, to Philco Corp. Electrical connection for printed wiring panel. 2,967,979, 1–10–61, Cl. 317—101.
Pneumatic Breakwaters Ltd.: *See*—
Laurie, Alec H. 2,967,399.
Pneumatic Scale Corp., Ltd.: *See*—
Vergobbi, John G. 2,967,656.
Whelan, James P. 2,967,321.
Pochmerski, Dennis, to United States of America, Army. Apparatus for measuring the equivalent electrical parameters of crystal units. 2,967,995, 1–10–61, Cl. 324—56.
Poglein, Leslie J.: *See*—
Poglein, Paul L. and L. J. 2,967,622.
Poglein, Paul L. and L. J. Storage rack. 2,967,622, 1–10–61, Cl. 211—41.
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Pratt, Francis L., to International Business Machines Corp. Object detecting and indicating device. 2,967,948, 1–10–61, Cl. 250—222.
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Priaroggia, Paolo G., to Pirelli Societa per Azioni. Stop joints and feeding joints for single-core oil-filled electric cables. 2,967,899, 1–10–61, Cl. 174—22.
Priaroggia, Paolo G., to Pirelli Societa per Azioni. Construction of joints and sealing ends of high tension electric cables. 2,967,901, 1–10–61, Cl. 174—73.
Pribble, Noble F., to The Bendix Corp. Inductance controlled multivibrator. 2,967,953, 1–10–61, Cl. 307—88.5.
Pribonic, John F., to General Motors Corp. Height control valve. 2,967,547, 1–10–61, Cl. 137—627.5.
Procter & Gamble Co., The: *See*—
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Production Specialists: *See*—
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Progressive Machinery Corp.: *See*—
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Dunn, Jesse T., and Proops. 2,967,883.
Dunn, Jesse T., and Proops. 2,967,884.
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Pryga, Stanley A., to North American Aviation, Inc. Coaxial transmission line. 2,967,900, 1–10–61, Cl. 174—28.
Pummer, Walter J., L. A. Wall, and R. E. Florin, to United States of America, Army. Method for the preparation of aromatic fluorocarbons. 2,967,894, 1–10–61, Cl. 260—650.
Pye, Harold C., to Automatic Electric Laboratories, Inc. Telephone transmitter. 2,967,914, 1–10–61, Cl. 179—123.
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Quiquerez, Joseph, and E. Weisang, to Compagnie Francaise de Raffinage. Process of deodorizing hydrocarbons of petroleum. 2,967,824, 1–10–61, Cl. 208—289.
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Mueller, Charles W. 2,967,844.
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Vaccaro, Frank E. 2,967,973.
Wilson, Robert E., Mertens, and Bergman. 2,967,910.
Rady, William J., and C. W. King, to General Motors Corp. Control circuit. 2,967,990, 1–10–61, Cl. 822—28.
Raffel, Bernard D., to Goodyear Aircraft Corp. Method of making tubular structures of laminated fibrous material. 2,967,796, 1–10–61, Cl. 154—83.
Randall, David I., and W. Schmidt-Nickels, to General Aniline & Film Corp. Derivatives of dinaphtho furan-dione. 2,967,870, 1–10–61, Cl. 260—346.2.
Randolph, Arthur J., to California Wood Products, Inc. Grid assembling machine. 2,967,552, 1–10–61, Cl. 144—2.
Ratcliff, Karl A.: *See*—
Towey, John P., Van Wyke, Ratcliff, and Dorrance. 2,967,802.
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Reed, Clifton W., and B. Cassen, to American Electronics, Inc. Non-destructive method for testing bodies for penetrability by particulate matter. 2,967,936, 1–10–61, Cl. 250—83.
Reed, Glenn A., to United States of America, Atomic Energy Commission. Method and apparatus for controlling direct-cycle neutronic reactors. 2,967,809, 1–10–61, Cl. 204—154.2.
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Cole, Samuel P., Walker, and Reed. 2,967,778.
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Tait, William O., and Wilkes. 2,967,557.
Reeves, Pierce E., to North American Aviation, Inc. Frequency stable multivibrator. 2,968,009, 1–10–61, Cl. 331—144.
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Reinhardt, Lothar, and F. Stecher, to Wasag-Chemie A.G. Treatment of cellulosic materials. 2,967,765, 1–10–61, Cl. 23—285.

Reinhardt, Robert E. Sampler and timber tally. 2,967,659, 1–10–61, Cl. 285—1.

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Rhea, Oscar H., to General Motors Corp. Method of undercutting a commutator. 2,967,347, 1–10–61, Cl. 29—155.54.

Rhodes, Joseph C., to Standard Oil Co. Automatic end point apparatus. 2,967,423, 1–10–61, Cl. 73—17.

Rice, Joseph. Tremolo 2,967,909, 1–10–61, Cl. 179—1.

Rice, Paul E. Orthopedic shoe. 2,967,360, 1–10–61, Cl. 36—8.5.

Richards, William H. Scrubbing mop. 2,967,317, 1–10–61, Cl. 15—119.

Richardson, Shurman T. Rain shield attachment for vehicles. 2,967,732, 1–10–61, Cl. 296—95.

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Riester, William C., to Trico Products Corp. Valve means for multiple carburetors. 2,967,514, 1–10–61, Cl. 121—46.5.

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Ritzerfeld, Gerhard: *See*—
Ritzerfeld, Wilhelm, and Ritzerfeld. 2,967,475.
Ritzerfeld, Wilhelm, and Ritzerfeld. 2,967,477.

Ritzerfeld, Wilhelm, and G. Machine for selective offset printing. 2,967,475, 1–10–61, Cl. 101—91.

Ritzerfeld, Wilhelm and G. Apparatus for varying the length of a printed section of a printing form. 2,967,477, 1–10–61, Cl. 101—132.5.

Roach, Donald B.: *See*—
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Roberts, Carleton W., to The Dow Chemical Co. Composition comprising alkenyl aromatic resin and hexachlorocyclopentadiene-divinylbenzene adduct and process for preparing. 2,967,842, 1–10–61, Cl. 260—33.8.

Roberts, Henry, to Flight Refuelling Ltd. Plugs or closures. 2,967,640, 1–10–61, Cl. 220—55.3.

Roberts, Sidney G., M. C. Fetzer, and J. B. Hess, to Kaiser Aluminum and Chemical Corp. Method of making an aluminum base alloy article. 2,967,351, 1–10–61, Cl. 29—420.5.

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Ozley, Le Roy V., and Blythe. 2,967,600.

Rockford Machine Tool Co.: *See*—
Hallberg, Elmer E., and Litterst. 2,967,444.

Rockwell, Gaynor O., to United States of America, Navy. Depth charge attack recorder. 2,968,021, 1–10–61, Cl. 340—6.

Roos, Ernst, and D. Rosahl, to Farbenfabriken Bayer Aktiengesellschaft. Diazo catalysts for the polymerization of chloroprene. 2,967,851, 1–10–61, Cl. 260—45.9.

Rosahl, Dietrich: *See*—
Roos, Ernst, and Rosahl. 2,967,851.

Rosenberg, Jerome D.: *See*—
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Rosenberger, Jakob, and O. Jakob, to E. Borbe. Tightening and cutting device for hooping objects. 2,967,550, 1–10–61, Cl. 140—93.

Rosenfeld, Morton M. Public bombshelter. 2,967,494, 1–10–61, Cl. 109—1.

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Daniel, John H., Jr., and Rossler. 2,967,834.

Rotary Hoes Ltd.: *See*—
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Ruben, Samuel. Primary cell. 2,967,898, 1–10–61, Cl. 136—119.

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Rudner, Bernard, to W. R. Grace & Co. Piperazinium salts. 2,967,865, 1–10–61, Cl. 260—268.

Rule, Bruce H., to United States of America, Navy. Point in space computer. 2,967,661, 1–10–61, Cl. 235—61.

Rumsey, Herbert, Jr., to W. R. Grace & Co. Packaged product and method of making the same. 2,967,383, 1–10–61, Cl. 53—14.

Russell, Harvey W. and R., to Willcox & Gibbs Sewing Machine Co. Top feed attachments for sewing machines. 2,967,498, 1–10–61, Cl. 112—207.

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S.U. Carburetter Co. Ltd.: *See*—
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Sandoz Ltd.: *See*—
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Bücheler, Paul. 2,967,752.
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Scalera, Mario, A. S. Tomcufcik, and W. B. Hardy, to American Cyanamid Co. Nitro- and amino-naphthotriazole quinones. 2,967,863, 1–10–61, Cl. 260—250.

Schaefer, Edward E. Display hanger. 2,967,623, 1–10–61, Cl. 211—45.

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Schleber, Frederick: *See*—
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Scholten, Jacob W., to North American Philips Co., Inc. Signal expansion device. 2,967,992, 1–10–61, Cl. 323—66.

Schomers, William H., to The Kristi Co. Suspension and drive mechanism for endless tread vehicles. 2,967,578, 1–10–61, Cl. 180—6.7.

Schouten, Jan K., and J. Verstraten, to North American Philips Co., Inc. Pulse correcting circuit. 2,968,011, 1–10–61, Cl. 333—20.

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Pass, Melvin K., and Schouveller. 2,967,372.

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Schulz, Hans. Device for rendering floatable articles of all kinds, especially vehicles. 2,967,507, 1–10–61, Cl. 115—1.

Schulze, James L., to General Electric Co. Motor cooling arrangement for hermetically sealed refrigerant compressor unit. 2,967,410, 1–10–61, Cl. 62—505.

Schwartz, James W., to Radio Corp. of America. Luminous display panel. 2,967,965, 1–10–61, Cl. 313—108.

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Scott, David B., Jr., to Soilserv, Inc. Method for treating seeds, and product of said method. 2,967,376, 1–10–61, Cl. 47—1.

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Semon, Howard W., and E. L. Deeter. Mine arming means. 2,967,481, 1–10–61, Cl. 102—16.

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Shapiro, Seymour L., and L. Freedman, to U.S. Vitamin & Pharmaceutical Corp. Amides of d-a-methylphenethylamine. 2,967,886, 1–10–61, Cl. 260—562.

Sharp, Dexter B., and J. R. Le Blanc, to Monsanto Chemical Co. Isopreen preparation. 2,967,897, 1–10–61, Cl. 260—681.

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Shelby, Richard K., and G. A. Creevy, to Continental Can Co., Inc. Molding machine. 2,967,328, 1–10–61, Cl. 18—19.

Shell Oil Co.: *See*—
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Hofstede, Marinus J., and Dijkstra. 2,967,515.
Marple, Stanley, Jr., Olson, and Bartay. 2,967,817.
Mecorney, John W., and White. 2,967,890.
Swart, Karel. 2,967,588.
White, Ellis R. 2,967,889.

Shields, Stanley E., and P. W. Dewey, to Standard Oil Co. Optical bubble flowmeter. 2,967,450, 1–10–61, Cl. 88—14.

Shinal, Joseph B., to Sylvania Electric Products Inc. Fabrication of image display screens. 2,967,783, 1–10–61, Cl. 117—34.

Shockley, William. Semiconductor shift register. 2,967,952, 1–10–61, Cl. 307—88.5.

Shockley, William, and R. N. Noyce; said Noyce assor. to said Shockley. Transistor structure. 2,967,985, 1–10–61, Cl. 317—235.

Shoemaker, Jesse W., and L. Tuttle, to Warren Brothers Road Co. Pavement and method of making the same. 2,967,486, 1–10–61, Cl. 94—5.

Shoemaker, Robert H., and J. A. Faler, to Kolene Corp. Apparatus and method for cleaning metal work pieces. 2,967,530, 1–10–61, Cl. 134—13.

Short, Joe T., to Callaway Mills Co. Collapsible holder for mops. 2,967,320, 1–10–61, Cl. 15—147.

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Six, George J., W. J. Leddy, and E. L. Cadmus, to Wood Ridge Chemical Corp. Organic mercury composition. 2,967,800, 1–10–61, Cl. 167—38.

Skeggs, Leonard T., to Technicon Instruments Corp. Apparatus for analysis and other processing of fluids. 2,967,784, 1–10–61, Cl. 23—253.

Small, Samuel N., to A. G. Cohen and P. Weiss. Folding multiple rigid section umbrellas. 2,967,379, 1–10–61, Cl. 50—49.

Smith, A. O., Corp.: *See*—
Brown, Carl S. 2,967,699.
Carlson, Arthur W. 2,967,666.
Waldschmidt, Kenneth J. 2,967,960.
Waters, Robert S. 2,967,959.

Smith, Alonzo L. Breakwater. 2,967,398, 1–10–61, Cl. 61—5.

Smith, Alvin H., to Petrolite Corp. Certain sulfur trioxide treated imidazoline derivatives. 2,967,868, 1–10–61, Cl. 260—309.6.

Smith, Edwin J.: *See*—
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Smith, Henry, to J. & H. Smith Mfg. Co. Voltage step-down signal device. 2,967,955, 1–10–61, Cl. 307—157.

Smith, Hinsdale, Jr., to International Business Machines Corp. Print transferring machine. 2,967,478, 1–10–61, Cl. 101—134.5.

Smith, J. & H., Mfg. Co.: *See*—
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Smith, John C., to The Dow Chemical Co. Production of ethers by reaction of phenols with 3-chloro-1,2-propylene carbonate. 2,967,892, 1–10–61, Cl. 260—613.

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Schneiter, Henry J., and Smith. 2,967,780.

Smith, L. B., Inc.: *See*—
Smith, Rudolph C., and Benson. 2,967,720.

Smith, Rudolph C., and L. Benson, Jr., to L. B. Smith, Inc. Detachable gooseneck for trailers and the like. 2,967,720, 1–10–61, Cl. 280—425.

Smith, William H., to Burroughs Corp. Power supply fault sensing and protective control circuit. 2,967,978, 1–10–61, Cl. 317—46.

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Sommermeyer, Friedrich, to Franke & Heidecke, Fabrik Photographischer Prazisions-Apparate. Film advance mechanism for multi-format roll film cameras. 2,967,471, 1–10–61, Cl. 95—31.

Sonotone Corp.: *See*—
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Southwick, John A. Cooling system for engines. 2,967,517, 1–10–61, Cl. 123—41.55.

Spacht, Ronald B., to The Goodyear Tire & Rubber Co. Aralkyl, tert.-alkyl, alkyl substituted phenols as antioxidants in rubbers. 2,967,853, 1–10–61, Cl. 260—45.95.

Sparling, Robert O. Pile fabric loom assembly and wire therefor. 2,967,548, 1–10–61, Cl. 139—37.

Spellman, William. Drip dryer. 2,967,624, 1–10–61, Cl. 211—100.

Spence, Paulsen. Pump. 2,967,486, 1–10–61, Cl. 103—103.

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Sperry Rand Corp.: *See*—
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Erb, Theodor, Egan, and Fredricks. 2,967,940.

Spes, Hellmuth: *See*—
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Sporlan Valve Co.: *See*—
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Staadt, Richard L., to International Harvester Co. Hydraulic fluid pressure operated device for clutches. 2,967,396, 1–10–61, Cl. 60—54.5.

Stackpole Carbon Co.: *See*—
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Stahley, Jacob N. Athletic training apparatus. 2,967,709. 1–10–61, Cl. 273—53.

Stampe, George M., to Hogan Faximile Corp. Continuous facsimile scanning apparatus. 2,967,907, 1–10–61, Cl. 178—7.6.

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Kapff, Sixt F., and Jacobs. 2,967,425.
Kapff, Sixt F., Lo Giurato, and Jacobs. 2,967,422.
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Sta-Rite Ginnie Lou, Inc.: *See*—
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Stastny, Edwin O.: *See*—
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Stecher, Friedrich: *See*—
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Steding, Arthur, and R. Müller, to Didier-Werke A.G. Process and apparatus for dry-process adsorption of hydrogen sulfide from coke-oven gases. 2,967,587, 1–10–61, Cl. 183—114.2.

Stegemann, Hans, and E.-G. Neumann, to Deutsche Akademie der Wissenschaften zu Berlin. Automatic fraction collector. 2,967,633, 1–10–61, Cl. 214—309.

Steigerwalt, Oliver L., to United States of America, Air Force. Radiant energy signalling system. 2,968,036, 1–10–61, Cl. 343—225.

Stein, Elmer L., to Eye-Beam Displays, Inc. Telescopically extensible pole. 2,967,592, 1–10–61, Cl. 189—26.

Steinlein, Eric J. Throttle and clutch control head. 2,967,436, 1–10–61, Cl. 74—471.

Steinman, Wilbert H., and A. A. White, to North American Aviation, Inc. Self-adaptive test fixture for keyed receptacle. 2,968,019, 1–10–61, Cl. 339—131.

Stelzer, William, to Kelsey-Hayes Co. Control device for utilising an internal combustion engine to create sub-atmospheric pressure. 2,967,392, 1–10–61, Cl. 60—14.

Stevens, Guy L. Piston ring groove spacer. 2,967,745, 1–10–61, Cl. 309—44.

Stevens, Walter R.: *See*—
Ferguson, Harold M., and Stevens. 2,968,023.

Stewart, Felix I. Conveyor. 2,967,605, 1–10–61, Cl. 198—181.

Stocker, Arthur C., to Radio Corp. of America. Direct view storage tube with controlled erasure. 2,967,969, 1–10–61. Cl. 313—8.5.

Stockton, Charles O., Jr. Awning structure. 2,967,336, 1–10–61, Cl. 20—57.5.

Stoffregen, Jurgen, and H. Oehmig, to O. H. Drager. Apparatus for removing of secretions from air ducts and lungs. 2,967,525, 1–10–61, Cl. 128—276.

Stone, William, Jr. Instrument for use by a surgeon in viewing the field of operation under magnification. 2,967,458, 1–10–61, Cl. 88—39.

Stoody, Shelley M. Cattle table. 2,967,510, 1–10–61, Cl. 119—103.

Stop-Fire, Inc.: *See*—
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Storms, Edward M., O. F. Field, Jr., T. C. Hill, and A. C. Hake, to United States of America, Navy. Method and apparatus for underwater loading of a water vessel. 2,967,631, 1–10–61, Cl. 214—13.

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Dell, Manuel B., and Stowe. 2,967,815.

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Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 95,516 (ROCK OF AGES AND DESIGN), Boutwell, Milne & Varnum Co., Granite blocks and monumental stones; **Reg. No. 284,826**, same, Rock of Ages Corporation, Granite monuments and memorials; **Reg. No. 286,083**, same, Polished blocks or slabs of granite, etc.; **Reg. No. 641,854**, same, Granite surface plates; **Reg. No. 641,855** (ROCK OF AGES), same, **filed** Nov. 2, 1959, D.C., E.D.N.Y. (Brooklyn), Doc. 20/243, *Rock of Ages Corporation* v. *Associated Monument Company*. Order of discontinuance Nov. 23, 1960.

Reg. No. 284,826. (See Reg. No. 95,516.)

Reg. No. 286,083. (See Reg. No. 95,516.)

Reg. No. 306,223 (FOOD FAIR), Union Premier Food Stores, Inc., Butter and eggs, **filed** Oct. 24, 1960, D.C., S.D. Ga. (Savannah), Doc. 1196, *Ernest Huth* v. *Food Fair Stores, Inc.*

Reg. No. 506,080 (GOLD BOND AND DESIGN), Gold Bond Stamp Company, Trading stamps and stamp collecting books, **filed** Nov. 30, 1960, D.C., N.D.N.Y. (Utica), Doc. 8374, *Gold Bond Stamp Company et al.* v. *The Carl Company.*

Reg. No. 508,498 (CHIQUITA BANANA AND DESIGN), United Fruit Company, Fresh bananas, **filed** Nov. 21, 1960, D.C., S.D.N.Y., Doc. 60/4586, *United Fruit Company* v. *James P. Cresswell Company.*

Reg. No. 606,484 (CAMPUS), J. Weiss, doing business as Master Products Company, Stencils, **filed** Nov. 28, 1960, D.C.,

CONDITION OF TRADEMARK APPLICATIONS AS OF NOVEMBER 30, 1960

Total number of applications awaiting action [excluding renewals and Sec. 12 (c)]	11,901
Date of oldest new application	June 3, 1960
Date of oldest amended application	June 1, 1960

J. H. MERCHANT, Director, Trademark Examining Operation

TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application: New	Oldest Application: Amended
(I) C. M. WENDT, Classes 2, 3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 39, 40, 41, 42, 43, 44, 50	6-17-60	7-4-60
(II) H. E. KASCHUB (Acting), Classes 1, 6, 18, 22, 37, 38, 45, 46, 47, 48, 49, 51, 52; Service Mark Classes 100, 101, 102, 103, 104, 105, 106, 107; Collective Membership Marks, Class 200; Certification Marks, Classes A and B	6-3-60	6-1-60
Renewals (All Classes)	11-19-60	11-29-60
Sec. 12 (c) Publications (All Classes)	11-1-60	11-29-60

Applications filed during the month of November 1960—1833

Registrations Issued ..... 292—No. 709,492 to No. 709,783
Renewals Issued 60

The TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington 25, D. C., to whom all subscriptions should be made payable and all communications addressed; subscription price, $10.00 per annum, foreign mailing $3.75 additional; single copies, 20 cents each.

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 10 cents each. Address orders to the Commissioner of Patents, Washington 25, D.C.

S.D.N.Y., Doc. 60/4662, *Richard R. Woodward et al. v. Mr. Pat, Inc.*

Reg. No. 617,545 (BLENDAIRE), The Barbizon Corporation, Woven fabric made of nylon, cotton and other synthetic fibers, and combinations thereof, filed Dec. 15, 1958, D.C., S.D.N.Y., Doc. 141/29, *Jaunty Fabrics Corporation* v. *American Enka Corporation*. Stipulation and order of dismissal Nov. 29, 1960.

Reg. No. 635,923 (ABSOLUTE), Cambridge Filter Corporation, Air filters, filed Nov. 25, 1960, D.C., N.D.N.Y. (Utica), Doc. 8371, *Flanders Filters, Inc.* v. *Cambridge Filter Manufacturing Corporation.*

Reg. No. 641,854. (See Reg. No. 95,516.)

Reg. No. 641,855. (See Reg. No. 95,516.)

Reg. No. 654,878 (BLACK MAGIC), Palmer Pann Corporation, Painting sets, consisting of a plurality of small containers of paints of different colors, brushes, cleaners, and one or more canvasses or other materials bearing outlines of areas to be colored with such paints, filed Nov. 23, 1960, D.C., N.D. Ohio (Toledo), Doc. 8552, *Palmer Pann Corporation* v. *National Biscuit Company.*

Reg. No. 686,021 (NO 5), Buitoni Foods Corporation, Sauce to be used upon all types of pasta, including macaroni and spaghetti; **Reg. No. 701,945** (CHEF MARCO AND DESIGN), same, Ravioli and sauces for use over spaghetti, macaroni, omelets, fish, roasts, cutlets and hamburgers, filed Nov. 21, 1960, D.C., N.D. Calif. (San Francisco), Doc. 39/546, *Buitoni Foods Corporation* v. *Golden Grain Macaroni Company.* Same, filed same, Doc. 39/547, *Buitoni Foods Corporation* v. *Roma Macaroni Factory.*

Reg. No. 701,945. (See Reg. No. 686,021.)

MARKS PUBLISHED FOR OPPOSITION

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Notice of opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.
As provided by section 31 of said act, a fee of twenty-five dollars must accompany each notice of opposition.

Class 1—Raw or Partly Prepared Materials

SN 74,821. Asahi Kasei Kogyo Kabushiki Kaisha, Kita-ku, Osaka, Japan. Filed June 1, 1959.

CUPLON

Priority claimed under Sec. 44(d) on Japanese application filed Apr. 16, 1959; Reg. No. 555,784, dated Sept. 21, 1960.
For Staple Fibers.

Class 2—Receptacles

SN 51,475. Cellofiex Corporation, Elizabeth, N.J., assignee of Aaron London, Brooklyn, N.Y. Filed May 12, 1958.

TWIN BUTLER

For Tissue Dispenser and Disposal Receptacle.
First use Apr. 7, 1958.

SN 87,726. Fred M. Schneider, Cincinnati, Ohio. Filed Dec. 21, 1959.

TRANS POTS

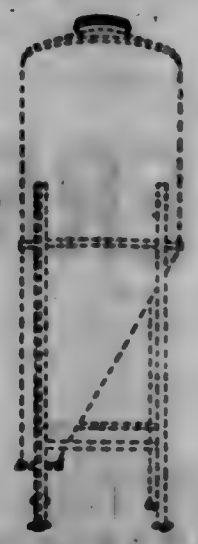
The word "Pots" is disclaimed apart from the mark as shown.
For Knockdown Planting Pots.
First use October 1958.

SN 88,427. The Risdon Manufacturing Company, Naugatuck, Conn. Filed Jan. 4, 1960.

VANITI-MIST

For Aerosol Dispensing Containers Sold Empty for Subsequent Filling by the Customer.
First use in or about April 1959.

SN 88,597. Columbian Steel Tank Company, Kansas City, Mo. Filed Jan. 7, 1960.



The mark consists of coloring the cap portion of the deck of the tank red. The drawing is lined for red. Owner of Reg. Nos. 203,217, 410,173, and others.
For Hopper Bottom Tanks.
First use on or about June 1, 1956.

SN 102,683. Neely Manufacturing Co. Inc., Corydon, Iowa. Filed Aug. 15, 1960.

Zarco Zip

For Garment Bags.
First use July 15, 1960.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

SN 86,508. Markay Bags, Inc., New York, N.Y. Filed Dec. 2, 1959.

MB

Owner of Reg. No. 411,924.
For Ladies' Handbags.
First use Feb. 9, 1935.

SN 86,509. Markay Bags, Inc., New York, N.Y. Filed Dec. 2, 1959.

MB

Owner of Reg. No. 411,924.
For Ladies' Handbags.
First use Feb. 9, 1935.

SN 101,973. Pioneer Industries, Inc., Darby, Pa. Filed Aug. 3, 1960.

CONGRESSIONAL

For Leather Accessories—Namely, Wallets and Billfolds.
First use July 13, 1960.

Class 4—Abrasives and Polishing Materials

SN 92,464. H.D.T. Company Factors, Inc., White Plains, N.Y. Filed Mar. 9, 1960.

The Finishing Touch for Any Car

Owner of Reg. No. 573,040.
For Polish in Liquid and Paste Form for Automobiles and All Lacquered, Varnished or Baked Enamel Finishes and All Other Hard Surfaces.
First use at least as early as July 1927.

SN 99,740. Hol-Tite Products Incorporated, Lyndhurst, N.J. Filed June 27, 1960.

STRIKE

For Bowling Ball Cleaner and Polish.
First use Aug. 4, 1959.

Class 5—Adhesives

SN 90,228. Cheshire, Incorporated, Chicago, Ill. Filed Feb. 3, 1960.

CHESHIRE

Owner of Reg. No. 515,248.
For Adhesives for Applying Address Labels.
First use in September 1956.

Class 6—Chemicals and Chemical Compositions

SN 69,863. Zellstoffabrik Waldhof, Mannheim-Waldhof, Germany. Filed Mar. 18, 1959.

For Lipides, Nucleic Acids and Salts Thereof, Nucleotides, Nucleosides, Natural Purines, Derivatives of Nucleic Acid, Peptides.
First use 1956; in commerce about March 1958 for nucleosides and nucleotides.

SN 90,028. The Dow Chemical Company, Midland, Mich. Filed Feb. 1, 1960.

CINNARYL

For Taste and Scent Creating and Carrying Chemical Useful in Flavorings and Flavoring Extracts, and Also in Perfume Extracts, Soaps, and Cosmetics.
First use Apr. 17, 1959.

SN 91,891. Warshawsky and Company, Inc., Chicago, Ill. Filed Feb. 29, 1960.

KAR-LIFE

Owner of Reg. No. 683,960.
For Automotive Chemicals—Namely, Brake Fluids, and Anti-Freeze Solutions.
First use Oct. 28, 1959.

SN 92,037. Nopco Chemical Company, Newark, N.J. Filed Mar. 2, 1960.

NOPCOTAN

Owner of Reg. No. 531,071.
For Synthetic Tanning Agents Used in the Treatment of Leather—Namely, Chemical Compositions Used as Leather Tanning or Retanning Agents and as Tanning Auxiliaries.
First use June 9, 1959.

SN 98,918. Morton Chemical Company, Chicago, Ill. Filed June 13, 1960.

Owner of Reg. No. 690,027.
For Industrial and Agricultural Chemicals—Namely, Magnesium Compounds; Halides; Sulfates; Carbonates; Calcium Compounds; Metal Oxides; Hydrochloric Acid; Organic Intermediates; Photographic Chemicals; Disinfectant, Fungicidal, Nematocidal and Insecticidal Compositions Employed in the Treatment of Seeds, Soil and Turf and as Space Fumigants; Animal Repellents; and Antifoaming Agents.
First use on or about Sept. 4, 1958.

SN 98,958. General Mills, Inc., Minneapolis, Minn. Filed May 25, 1960.

OLD SETTLER

For Oil Well Mud Additive Composed Principally of Vegetable Gums.
First use Mar. 8, 1960.

Class 12—Construction Materials

SN 64,658. The Tilt-O-Pane Distributing Corporation, Pittsburgh, Pa. Filed Dec. 19, 1958.

TILT-O-PANE

For Wooden Windows.
First use on or about July 15, 1958.

SN 73,884. The Butter Hardware Co., Butler, Wis. Filed May 18, 1959.

JAMB-TITE

For Combination Weatherstrip and Sash Balance Units.
First use on or about Mar. 1, 1959.

SN 89,671. General Refractories Company, Philadelphia, Pa. Filed Jan. 26, 1960.

FERROX

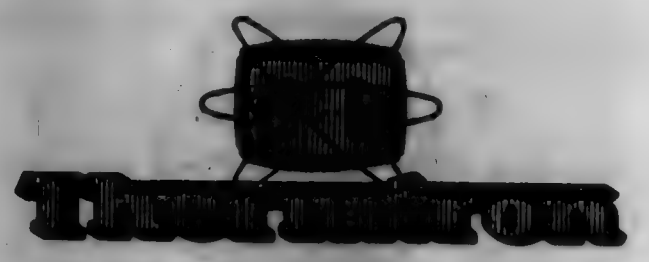
Owner of Reg. No. 414,717.
For Refractory Brick for Metallurgical and Other Furnaces.
First use Oct. 8, 1959.

SN 90,772. Minnesota and Ontario Paper Company, Minneapolis, Minn. Filed Feb. 11, 1960.

GRECIAN

For Acoustical Tileboard.
First use Jan. 17, 1959.

SN 93,040. Gerber Electric and Supply Inc., Fort Wayne, Ind. Filed Feb. 29, 1960.



The drawing is lined for red but no claim is made to color.
For Insulation—viz., Cellulose Material.
First use June 12, 1959.

SN 97,254. Sonneborn Chemical and Refining Corporation, New York, N.Y. Filed May 16, 1960.



For Asphalt Emulsion for Waterproofing; Caulking Compound for Use on Masonry and Other Parts of Buildings; Hardening and Waterproofing Powdered Composition for Hydraulic Mixes Comprising Comminuted Metallic Ferrous Aggregate, Dry Earth Colors and Portland Cement.
First use Nov. 24, 1959.

SN 98,357. Granite City Steel Company, Granite City, Ill. Filed June 8, 1960.

S-I-P

For Metal Construction Form Sheets.
First use Apr. 5, 1957.

SN 99,532. North Wilkesboro Hardware, Inc., North Wilkesboro, N.C. Filed June 22, 1960.

LOWE'S

For Construction Materials Including Garage Doors, Plywood, Closet Linings, Steel Dampers, Glass Doors, Shower Stalls and Bases.
First use Apr. 18, 1960.

SN 100,551. The Babcock & Wilcox Company, New York, N.Y. Filed July 8, 1960.

KAO

Owner of Reg. Nos. 437,188, 644,351, and others.
For Refractory Brick Shapes.
First use June 17, 1960.

SN 102,953. The Stevens Brush Company, Cleveland, Ohio. Filed Aug. 18, 1960.

Black Tex

The drawing is lined for the color yellow which is an integral portion of the mark.
For Asphaltic Sealing Compound.
First use Mar. 23, 1960.

SN 103,008. The Biddle Company, St. Louis, Mo. Filed Aug. 19, 1960.

BUTYLGRIP

For Caulking Compounds and Sealers.
First use on or about July 8, 1960.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

SN 89,697. Modern Upholstered Chair Co., Inc., Morristown, Tenn. Filed Jan. 26, 1960.

Vagilok

For Detachable Clamp or Clip for Use in Holding Sectional Sofas in Contiguous Relation To Form a Continuous Sofa.
First use Dec. 22, 1959.

SN 90,015. Crawford Fitting Company, Cleveland, Ohio. Filed Feb. 1, 1960.

DESO

For Fluid Control and Connecting Devices—Namely, Valved Connectors.
First use Dec. 6, 1958.

SN 91,127. Societe Anonyme "Tefal," Sarcelles, Seine-et-Oise, France. Filed Feb. 17, 1960.

T. FAL

Owner of French Reg. No. 3,201, dated Aug. 19, 1959 (Pontoise); Natl. Inst. No. 131,153.
For Kitchen and Cooking Utensils, Particularly Made of Aluminum With an Inner Coating of Polytetrafluorethylene.

SN 91,209. Peters & Russell, Inc., Springfield, Ohio. Filed Feb. 18, 1960.

PAR CLEATS

No claim is made to the exclusive rights in the word "Cleats" apart from the mark as shown. Owner of Reg. No. 352,327.
For Fastening Devices—Namely, Cleats.
First use Oct. 6, 1959.

SN 91,217. T.N.T. Corporation, Los Angeles, Calif. Filed Feb. 18, 1960.

KWIK KLEET

Applicant disclaims the notation "Kleet" insofar as the phonetic meaning of the term would mean "cleat," apart from the mark as shown and used.
For Shoe Spike Assemblies.
First use Oct. 23, 1959.

SN 99,817. The Yale & Towne Manufacturing Company, New York, N.Y. Filed June 27, 1960.

YALE

Owner of Reg. Nos. 63,654, 664,624, and others.
For Metal Pipes, Pipe Fittings, Metal Tubing, Tubing Fittings, Hydraulic Valves, Hose Clamps, Thermostat Valves, Nuts, Bolts, Washers, and Retainers.
First use at least as early as 1953.

SN 100,229. The Delron Company, Inc., South Gate, Calif. Filed July 5, 1960.

DELRON

For Nuts, Lock Nuts, Sandwich Panel Fasteners, Bolts, Screws, and the Like.
First use approximately Jan. 15, 1949.

Class 14—Metals and Metal Castings and Forgings

SN 88,944. Sheet Aluminum Corporation, Port Huron, Mich. Filed Jan. 13, 1960.

SHALCO

For Sheet, Strip and Coiled Aluminum.
First use August 1958.

SN 90,444. Reynolds Metals Company, Richmond, Va. Filed Feb. 5, 1960.

REYNOLDS WRAP JR.

Owner of Reg. Nos. 605,277 and 677,909.
For Color-Coated Aluminum Foil.
First use on or about Sept. 21, 1959.

SN 98,944. Strategic Materials Corporation, New York, N.Y. Filed June 13, 1960.

STRATMETAL

For Ferrous Metal Products Including Pig Iron, Iron, Semi-Steels, Steels and Ferroalloys.
First use May 3, 1960.

SN 99,210. Ralph W. Grauert, Inc., New York, N.Y. Filed June 17, 1960.

GOLDEN TOUCH

For Gold Transfer Foil and Strip.
First use Mar. 14, 1960.

SN 102,431. Southern Oxygen Company, Bladensburg, Md. Filed Aug. 10, 1960.

Southern

Owner of Reg. Nos. 508,425 and 581,968.
For Welding Rods.
First use Oct. 10, 1952.

SN 102,553. L. B. Foster Company, Inc., Pittsburgh, Pa. Filed Aug. 12, 1960.

PER-FIT

Owner of Reg. No. 698,001.
For Crane Stops—Viz., Stop Chocks Bolted to the Rails of Overhead Cranes for Limiting the Movement of the Crane on the Rails.
First use July 22, 1960.

Class 15—Oils and Greases

SN 89,111. American Grease Stick Company, Muskegon Heights, Mich. Filed Jan. 18, 1960.

PART-EASE

For Penetrating Oil for Loosening Rusty and Corroded Metal Surfaces.
First use Jan. 4, 1960.

SN 102,274. Spray Products Corporation, Camden, N.J. Filed Aug. 8, 1960.

SPRAY

Owner of Reg. No. 612,810.
For Priming Fuel for Starting Diesel and Gasoline Engines.
First use Nov. 19, 1953.

SN 105,063. El Paso Natural Gas Products Company, El Paso, Tex. Filed Sept. 23, 1960.

ESCORT

Owner of Reg. Nos. 653,295, 698,429, and 698,430.
For Motor Oils.
First use May 27, 1960.

SN 105,064. El Paso Natural Gas Products Company, El Paso, Tex. Filed Sept. 23, 1960.

EL PASO

Owner of Reg. Nos. 653,295, 698,429, and 698,430.
For Motor Oils.
First use May 28, 1960.

SN 105,065. El Paso Natural Gas Products Company, El Paso, Tex. Filed Sept. 23, 1960.

EL PASO
TRANSPOWER

Owner of Reg. Nos. 653,295, 698,429, and 698,430.
For Automatic Transmission Fluid.
First use June 1, 1960.

SN 105,066. El Paso Natural Gas Products Company, El Paso, Tex. Filed Sept. 28, 1960.



Owner of Reg. Nos. 653,295, 698,429, and 698,430.
For Motor Oils.
First use May 21, 1960.

SN 105,067. El Paso Natural Gas Products Company, El Paso, Tex. Filed Sept. 23, 1960.



Owner of Reg. Nos. 653,295, 698,429, and 698,430.
For Motor Oils.
First use May 28, 1960.

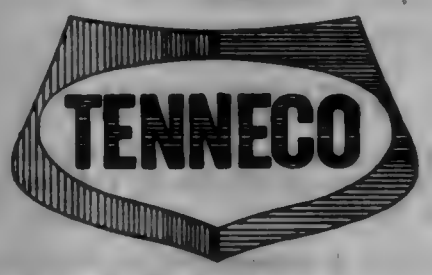
SN 105,068. El Paso Natural Gas Products Company, El Paso, Tex. Filed Sept. 28, 1960.



RED FLAME

Owner of Reg. Nos. 653,295, 698,429, and 698,430.
For Motor Oils.
First use May 21, 1960.

SN 107,518. Tennessee Gas Transmission Company, Houston, Tex. Filed Oct. 31, 1960.



The drawing is lined for red and blue.
For Petroleum Products Including Gasoline, Lubricating Oil and Grease, Diesel Fuel, and Furnace Oils.
First use Oct. 24, 1960.

Class 16—Protective and Decorative Coatings

SN 63,326. Lawter Chemicals, Inc., Chicago, Ill. Filed Nov. 28, 1958.

A-P

For Paint Vehicle.
First use May 7, 1958.

SN 74,568. Bourns, Inc., Riverside, Calif. Filed May 27, 1959.

MILISEAL

For Protective Coating for Potentiometers.
First use Nov. 6, 1958.

SN 76,471. Electrolube Limited, Slough, England. Filed June 25, 1959.

ELECTROLUBE

Owner of British Reg. No. 751,405, dated Feb. 28, 1956.
For Coating Compositions for Metal Surfaces To Prevent Tarnishing and Corrosion Thereof.

SN 85,990. Radiation Applications, Incorporated, Long Island City, N.Y. Filed Nov. 24, 1959.

RAIBOND

For Fluorocarbon Polymeric Materials Which Have Been Treated So That Their Surfaces Are Bondable, Dyeable and Printable.
First use Aug. 13, 1959.

SN 88,469. John T. Kennedy Co., Kansas City, Mo. Filed Jan. 5, 1960.

POLYUNITHON

For Protective Coating That Gives a Varnish-Like Finish.
First use on or about Sept. 11, 1959.

SN 89,335. De Mert & Dougherty, Inc., Chicago, Ill. Filed Jan. 20, 1960.

PROFLO

For Additive for Fortifying Paints, Varnishes, Enamels, and Alkyd-Type Vehicles.
First use on or about Dec. 28, 1959.

SN 89,441. Link Research Corporation, Beverly Hills, Calif. Filed Jan. 21, 1960.

MAGI-FOAM PAINTS

The word "Paints" is disclaimed apart from the mark.
For Paints, Particularly Paints for Use by Children on Toys and the Like.
First use Dec. 8, 1959.

SN 89,834. Bohn Aluminum & Brass Corporation, Detroit, Mich. Filed Jan. 28, 1960.

BOHN-KOTE

For Protective Coating for Metals, Primarily for Metal Casings, Coils, Fins, Fans, Guards and Other Articles Which Are Subject to Refrigeration in a Corrosive Atmosphere.
First use Oct. 21, 1958.

SN 90,540. Master-Krete, Inc., Kansas City, Mo. Filed Feb. 8, 1960.

SURFACE-FLEX

For Asphaltic Product for Surface Coating Tennis Courts, Patios, Playgrounds, and Industrial Floors.
First use January 1951.

SN 96,924. Battenfeld Grease & Oil Corporation, Inc., Kansas City, Mo. Filed May 12, 1960.

ALUMAZON

For Paint, Aluminum Asphalt Coatings, Roof Coatings, and Plastic Cement.
First use Nov. 1, 1959.

SN 97,780. The Patterson-Sargent Company, Cleveland, Ohio. Filed May 24, 1960.

ROYALON

For Paints.
First use Apr. 22, 1960.

SN 98,023. Outers Laboratories, Inc., Onalaska, Wis. Filed May 27, 1960.

GUNSLICK

Owner of Reg. Nos. 323,141 and 699,543.
For Gun Stock Finishing Kits Containing Stain and Filler.
First use on or about June 1959.

SN 98,188. Art Cement Manufacturing Co., Miami, Fla. Filed May 25, 1960.

ART-CO

The drawing is lined for red.
For Paints.
First use in January 1956.

SN 98,783. Federal Paint Company, Inc., New York, N.Y. Filed June 10, 1960.

CAVENDISH IMPERIAL

For Paint Product.
First use Sept. 25, 1959.

Class 17—Tobacco Products

SN 91,304. Ellebrecht Cigaretten- und Rauchtabakfabriken A.G., Homburg, Saar, Germany. Filed Feb. 16, 1960.

DIMITRINO

Owner of German Reg. No. 724,450, dated Apr. 29, 1959.
For Tobacco, Tobacco Products, Particularly Cigars, Cigarillos, Cheroots, Chewing and Smoking Tobacco, Cigarettes; Cigarette Paper.

SN 91,325. Arnold André, Bunde, Westphalia, Germany. Filed Feb. 23, 1960.

„Handelsgold"

Owner of German Reg. No. 475,149, dated Apr. 26, 1938.
For Cigars, Cigarillos and Smoking Tobacco.

SN 103,545. Consolidated Cigar Corporation, New York, N.Y. Filed Aug. 29, 1960.

AIR-TIPS

For Cigars.
First use Aug. 12, 1960.

SN 103,738. Philip Morris Incorporated, New York, N.Y. Filed Aug. 31, 1960.

EAST WIND

For Cigarettes.
First use Aug. 11, 1960.

SN 103,739. Philip Morris Incorporated, New York, N.Y. Filed Aug. 31, 1960.

WEST WIND

For Cigarettes.
First use Aug. 11, 1960.

Class 18—Medicines and Pharmaceutical Preparations

SN 72,421. Frank R. De Lucca, d.b.a. B & S. Chemical Co., Upper Darby, Pa. Filed Apr. 28, 1959.

HEYL'S

For Pills for the Relief of Constipation and Joint Aches and for Pains and Stiffness Associated With Rheumatic and Arthritic Conditions.
First use as early as 1939.

SN 83,799. La Lanne Incorporated, Oakland, Calif. Filed Oct. 22, 1959.

FORMULA 100

Applicant disclaims the word "Formula" apart from the mark.
For Mineral and Vitamin Food Supplement.
First use on or about Sept. 18, 1956.

SN 93,273. The Chattanooga Medicine Company, d.b.a. Chattem Laboratories, Chattanooga, Tenn. Filed Mar. 21, 1960.

VELVIN

For Pharmaceutical Preparation for the Relief and Control of Constipation and Relief of Overacid Stomach.
First use Feb. 19, 1960.

SN 101,962. Makers of Kal, Inc., Los Angeles, Calif. Filed Aug. 3, 1960.

KALIVO-12

For Liver, Iron and Vitamin B12 Preparation.
First use July 18, 1960.

SN 103,670. Merck & Co., Inc., Rahway, N.J. Filed Aug. 30, 1960.

DELTRONE

Owner of Reg. No. 682,454.
For Hormonal Compound for Use in Veterinary Medicine.
First use Aug. 19, 1960.

SN 104,414. American Cyanamid Company, New York, N.Y. Filed Sept. 14, 1960.

D.N.P.

For Anti-Hookworm Preparation for Veterinary Use.
First use Aug. 25, 1960.

SN 104,416. American Cyanamid Company, New York, N.Y. Filed Sept. 14, 1960.

POLYDEC

For Antibiotic Preparation for Veterinary Use.
First use Aug. 25, 1960.

SN 104,501. American Home Products Corporation, d.b.a. Ives-Cameron Company, New York, N.Y. Filed Sept. 15, 1960.

ROVASONE

For Intestinal Parasiticide.
First use Aug. 18, 1960.

SN 104,662. Ravensberg GmbH Chemische Fabrik, Konstanz, Germany. Filed Aug. 24, 1960.

SALVIZOL

Owner of German Reg. No. 697,026, dated Nov. 10, 1956.
For Pharmaceuticals, Particularly in the Nature of Anti-Bacterial and Antimycotic Preparations.

Class 19—Vehicles

SN 83,655. Simca, Paris, France. Filed Oct. 20, 1959.

Plein Ciel

The translation of the French term "Plein-Ciel" is "open sky." Owner of French Reg. No. 422,881, dated Oct. 16, 1952 (Seine); Natl. Inst. No. 316.
For Automobiles.

SN 83,656. Simca, Paris, France. Filed Oct. 20, 1959.

Grand Large

The translation of the French term "Grand Large" is "great width." Owner of French Reg. No. 422,883, dated Oct. 16, 1952 (Seine); Natl. Inst. No. 318.
For Automobiles.

SN 83,658. Simca, Paris, France. Filed Oct. 20, 1959.

Chatelaine

Owner of French Reg. No. 427,238, dated Apr. 3, 1953 (Seine); Natl. Inst. No. 8,693.
For Automobiles.

SN 83,659. Simca, Paris, France. Filed Oct. 20, 1959.

Messagère

The translation of the French term "Messagere" is (female) "messenger." Owner of French Reg. No. 422,882, dated Oct. 16, 1952 (Seine); Natl. Inst. No. 317.
For Automobiles.

SN 83,660. Simca, Paris, France. Filed Oct. 20, 1959.

Beaulieu

The translation of the French term "Beaulieu" is "beautiful place." Owner of French Reg. No. 466,489, dated July 30, 1957 (Seine); Natl. Inst. No. 94,100.
For Automobiles.

SN 83,661. Simca, Paris, France. Filed Oct. 20, 1959.

Chambord

Owner of French Reg. No. 465,254, dated May 31, 1957 (Seine); Natl. Inst. No. 91,108.
For Automobiles.

SN 89,576. General Motors Corporation, Detroit, Mich. Filed Jan. 25, 1960.

CORVAN

For Motor Vehicles—Namely, Trucks.
First use Nov. 9, 1959.

SN 91,890. Warshawsky and Company, Inc., Chicago, Ill. Filed Feb. 29, 1960.

KAR-LIFE

Owner of Reg. No. 683,960.
For Automotive Body Parts—Namely, Radiators, Chrome Trim, Shock Absorbers, Brakes and Parts Thereof, Rear View Mirrors, Headlamp Rims, Springs, Windshields, and Side and Rear Window Glasses.
First use Oct. 28, 1959.

SN 92,192. Simca, Paris, France. Filed Oct. 20, 1959.

Ariane

"Ariane" is commonly a girl's name derived from "Ariadne" of Greek mythology. Owner of French Reg. No. 464,893, dated May 20, 1957 (Seine); Natl. Inst. No. 90,526.
For Automobiles.

SN 92,338. Vought Industries, Inc., Dallas, Tex. Filed Mar. 7, 1960.

STAR

Owner of Reg. Nos. 438,198, 646,408, and 653,700.
For Mobile Homes.
First use Nov. 1, 1945.

SN 101,413. Jack C. McKee, d.b.a. Drifter Manufacturing Company, Gallatin, Tenn. Filed July 25, 1960.

DRIFTER

For Boats.
First use at least as early as Aug. 17, 1959.
Subj. to Intf. with SN 102,249.

SN 102,249. Kop-Ron Machine Corporation, d.b.a. Kop-Ron, Gallatin, Tenn. Filed Aug. 8, 1960.

DRIFTER

For House Boats.
First use Nov. 2, 1959.
Subj. to Intf. with SN 101,413.

SN 102,494. Morrison-International Corp., Buffalo, N.Y. Filed Aug. 11, 1960.

CAMP CAR

For Trailers Used for Housing, Office and Facility Purposes.
First use Feb. 1, 1954.

SN 102,573. Muehleisen Manufacturing Company, San Diego, Calif. Filed Aug. 12, 1960.

SNUG-ON

For Boat Covers.
First use January 1960.

SN 102,686. The O'Day Corporation, Boston, Mass. Filed Aug. 15, 1960.

HUNTER

For Boats.
First use Dec. 18, 1958.

SN 102,687. The O'Day Corporation, Boston, Mass. Filed Aug. 15, 1960.

OSPRAY

For Boats.
First use Mar. 12, 1958.

SN 102,942. Montclair Mobile Homes, Inc., Montclair, Calif. Filed Aug. 18, 1960.

HACIENDA

For Mobile Residences.
First use June 22, 1960.

SN 102,954. Studebaker-Packard Corporation, South Bend, Ind. Filed Aug. 18, 1960.

LARK

For Automotive Vehicles—Namely, Passenger Vehicles.
First use Oct. 16, 1958.

Class 21—Electrical Apparatus, Machines, and Supplies

SN 71,012.. John Jay Jakosky, Newport Beach, Calif. Filed Apr. 7, 1959.

QUADRAPHASE

For Radio, Television and Radar Antennae.
First use Feb. 20, 1959.

SN 72,559. Tohwa Electric Company, Limited, Shinagawa-ku, Tokyo, Japan. Filed Apr. 29, 1959.

ASTRA

Owner of Japanese Reg. No. 403,797, dated Oct. 9, 1951.
For Electric Light Bulbs.
Subj. to Intf. with SN 78,641.

SN 78,641. Metalcraft Products Company, Inc., Philadelphia, Pa. Filed July 29, 1959.

ASTRALITE

For Fluorescent Lighting Fixtures.
First use in February 1953.
Subj. to Intf. with SN 72,559.

SN 90,703. Quartite Creative Corporation, Flushing, N.Y. Filed Feb. 10, 1960.

QUARTITE

For Electric Lamps and Lamp Bases.
First use September 1951.

SN 91,832. Nuclear Electronics Corporation, Philadelphia, Pa. Filed Feb. 29, 1960.

ELECTRO-PLEX

For FM Multiplex Receivers, Modulation Monitors, Frequency Monitors, and Communications Receivers.
First use January 1959.

SN 93,777. Ericsson Telephones Limited, Beeston, Nottingham, England. Filed Mar. 28, 1960.

DIGITRON

Owner of British Reg. No. 775,398, dated Mar. 14, 1958.
For Electric Gas Discharge Tubes for the Display of Characters.

SN 98,046. Adlerwerke vorm. Heinrich Kleyer A.G., Frankfurt am Main, Germany. Filed Apr. 29, 1960.

ADLER



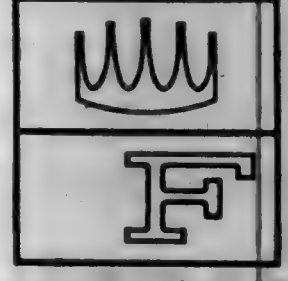
Owner of German Reg. No. 730,457, dated Oct. 29, 1959.
For Electrotechnical Apparatus—Namely, Radio Receivers, Loudspeakers, Sound Reproducing Machines.

SN 98,845. Automatic Electric Company, Northlake, Ill. Filed June 13, 1960.

CALL COMMANDER

For Keyset Telephone Instrument.
First use May 17, 1960.

SN 98,891. General Motors Corporation, Detroit, Mich. Filed June 13, 1960.



Owner of Reg. Nos. 633,585, 635,188, and others.
For Electric Ranges, Ovens, Food Waste Disposers, Dishwashing Machines, and Parts Thereof.
First use Feb. 5, 1960, on electric ranges; in or before February 1946 in a different display.

SN 100,901. Flud-O-Lite, Inc., Hialeah, Fla. Filed July 15, 1960.

POWER SPAN

For Reflectors and Fluorescent Light Fixtures.
First use on or about Jan. 1, 1959.

SN 101,063. The Warner & Swasey Company, Cleveland, Ohio. Filed July 18, 1960.

LITEALL

For Portable Lighting Equipment.
First use June 3, 1960.

SN 101,144. AMP Incorporated, Harrisburg, Pa. Filed July 20, 1960.

SYSCOM

For Patchcord Programming Systems, Patchcords, Patchboards, Patchcord Permanent Rear Boards, Patchcord Contact Springs, Patchcord Programming Panels, and Multi-Aperture Devices Employing Magnetic Memory Elements for Use in Computing and Control Equipment.
First use Jan. 26, 1960, on patchcords.

SN 101,221. Vocaline Company of America, Inc., Old Saybrook, Conn. Filed July 20, 1960.

COMMAIRE

For Two-Way Citizens Band Radio Telephones.
First use May 20, 1959.

SN 102,428. Southern Oxygen Company, Bladensburg, Md. Filed Aug. 10, 1960.

Southern

Owner of Reg. Nos. 508,425 and 581,968.
For Electric Arc Welding Machines and Component Parts Thereof.
First use October 1953.

Class 22 — Games, Toys, and Sporting Goods

SN 74,549. United Feature Syndicate, Inc., New York, N.Y., assignee of Selchow & Righter Company, New York, N.Y. Filed May 26, 1959.

PEANUTS

Owner of Reg. No. 550,036.
For Pawns, Illustrated Cards and Dice for Playing a Board Game.
First use Mar. 2, 1959.

SN 85,141. La Lanne Incorporated, Oakland, Calif. Filed Nov. 12, 1959.

GLAMOUR STRETCHER

For Physical Conditioning Device in the Form of an Elastic Exerciser Band.
First use Aug. 1, 1957.

SN 91,220. Alexander Doll Company, Inc., d.b.a. Madame Alexander, New York, N.Y. Filed Feb. 19, 1960.

"Baby Dimples"

For Dolls.
First use Feb. 9, 1960.

SN 93,790. Hassenfeld Bros., Inc., Central Falls, R.I. Filed Mar. 28, 1960.

BRIDG-IT

For Equipment Sold as a Unit for Playing a Board Game.
First use on or about Jan. 12, 1960.

SN 95,283. Arthur M. Hunter, San Leandro, Calif. Filed Apr. 18, 1960.

MAD

For Apparatus Sold as a Unit for Playing a Board Game.
First use Apr. 8, 1960.

SN 98,856. Jerome U. Bibi, d.b.a. Bibi & Associates, San Marino, Calif. Filed June 13, 1960.

TĒNO

For Equipment (or Apparatus) Sold as a Unit for Playing a Card Game.
First use Apr. 4, 1960.

SN 99,669. St. Croix Sales Corporation, Park Falls, Wis. Filed June 24, 1960.

Super Corona

For Fishing Equipment—Namely, Rods, Reels, Baits, Lures, Hooks, Lines, Creels and Nets.
First use May 26, 1960.

SN 99,717. Claude R. Briney, d.b.a. Rite-Depth, Rochelle, Ill. Filed June 27, 1960.

RITE-DEPTH

For Fish Lure.
First use June 16, 1960.

SN 99,854. The Hubley Manufacturing Company, Lancaster, Pa. Filed June 28, 1960.

PANTHER PISTOL

No claim of exclusive right is made to "Pistol" as used on toy pistols.
For Toy Pistols.
First use May 10, 1960.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

SN 47,183. Eastman Oil Well Survey Company, Denver, Colo. Filed Mar. 6, 1958.

EASTCO

Owner of Reg. No. 550,199.
For Oil Well Tools Such as Whipstocks, Knuckle Joints, Various Deflecting Tools for Well Drilling, Hole Openers, Stabilizers, Drill Collars, Casing Rollers, Various Bits Such as Differentials, Spudding, Survey and Reamer Bits and Flexible Pilots.
First use in or about June 1950.

SN 74,024. The W. E. Bassett Company, Derby, Conn. Filed May 19, 1959.

KUSTOM KOUNT

For Combined Tool.
First use Mar. 20, 1959.

SN 74,270. Textile Engineering Corporation, Whitman, Mass. Filed May 21, 1959.

CLEANGUIDE

For Apron Tensioning Devices for Spinning and Roving Frames.
First use Oct. 6, 1958.

SN 74,271. Textile Engineering Corporation, Whitman, Mass. Filed May 21, 1959.

VARITENSOR

For Lower Apron Nose Bars for Double Apron Spinning Frames.
First use Oct. 6, 1958.

SN 75,069. Dakota Aviation Company, Huron, S. Dak. Filed June 4, 1959.

AERO-DYNE

For Auxiliary Tank Carrier Type Aircraft Spraying Apparatus for Insecticides and the Like.
First use Apr. 22, 1959.

SN 77,433. The Garrett Corporation, Los Angeles, Calif. Filed July 10, 1959.

MAXIMIZER

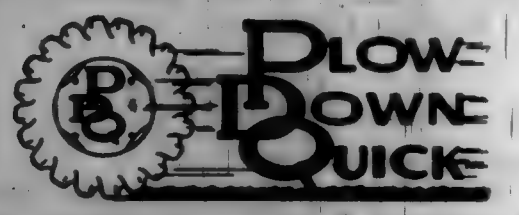
For Modification Kit Assembly for Aircraft Comprising Engine Cowling, Baffles and Exhaust System, Oil Cooler Fairing, Wheel Well Doors and Tail Wheel Well Closure.
First use June 9, 1959.

SN 79,599. Reid Metal Products, Inc., Burbank, Calif. Filed Aug. 14, 1959.



For Motion Control Devices, Including Locking Controls Such as Brakes, Clutches and No-Back Devices for Levers, Cranks, Shafts and the Like.
First use Sept. 30, 1958.

SN 81,560. Greystone, Inc., Altona, Ill. Filed Sept. 17, 1959.



For Fertilizer Spreaders Adapted for Mounting on Earth-Working Farm Implements Such as Tractors, Disk Harrows and Plows.
First use Feb. 24, 1959.

SN 84,038. Warshawsky and Company, Inc., Chicago, Ill. Filed Oct. 26, 1959.

KAR-LIFE

Owner of Reg. No. 683,960.
For Internal Combustion Engines and Parts Thereof—Namely, Mufflers, Tail Pipes, Exhaust Pipes, Muffler Clamps, Engine Blocks, Axle and Drive Shafts, Cylinder Heads, Gears, Pinions, and Fuel Pumps.
First use Sept. 26, 1958.

SN 84,703. Van Brode Milling Co., Inc., Clinton, Mass. Filed Nov. 5, 1959.

RIVAL

For Molded Articles of Plastic Composition—Namely, Knives, Forks, and Spoons.
First use Mar. 26, 1959.

SN 84,759. Harbison-Fischer Manufacturing Company, Inc., d.b.a. Harbison Fischer Mfg. Co., Fort Worth, Tex. Filed Nov. 6, 1959.

TUFF-TEMPER

For Well Producing Equipment—Namely, Pumps, Pump Barrels, Pump Valves, Ball and Seat Valves, Pump Plungers, Drop and Seat Valves, and Well Pump Replacement Parts.
First use Sept. 1, 1933.

SN 85,484. General Implement Corporation, Clearwater, Fla. Filed Nov. 17, 1959.

FOG-GUN

For Thermal Aerosol Insecticide Distribution Equipment.
First use July 16, 1959.

SN 86,214. Tom Thumb Donut Corp., Minneapolis, Minn. Filed Nov. 27, 1959.

TOM THUMB

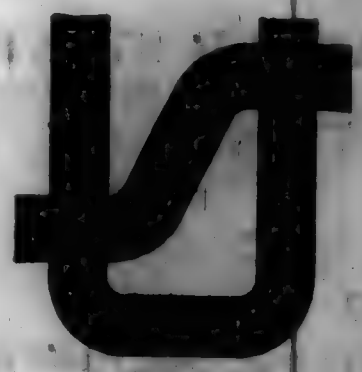
For Machine for Manufacturing Doughnuts and the Like.
First use in or about August 1950.

SN 87,923. Universal Maschinenfabrik G.m.b.H., Westhausen, Kreis Aalen, Wurttemberg, Germany. Filed Dec. 23, 1959.

MCI

For Automatic Flat Knitting Machines.
First use July 6, 1957; in commerce July 6, 1957.

SN 88,271. Union Special Machine Company, Chicago, Ill. Filed Dec. 30, 1959.



For Industrial Sewing Machines, Accessories Therefor, and Parts Thereof.
First use Nov. 18, 1959.

SN 88,697. Superior Manufacturing Co., Albert City, Iowa. Filed Jan. 8, 1960.



For Grease Guns and Grease Gun Loading Equipment.
First use Feb. 20, 1959.

SN 88,978. The Duriron Company, Inc., Dayton, Ohio. Filed Jan. 14, 1960.

RILOAD

Owner of Reg. No. 698,990.
For Journal, Slide, and Thrust Bearings of Perforated Metal Having a Fluorocarbon Resin Coating.
First use May 15, 1959.

SN 89,612. Tecumseh Products Company, Tecumseh, Mich. Filed Jan. 26, 1960.



Owner of Reg. Nos. 600,313 and 650,879.
For Internal Combustion Engines and Parts Therefor.
First use on or about July 1, 1957; October 1946 as to "Power Products"; on or about Sept. 15, 1955, as to "P" and design.

SN 89,682. John E. Howard, Baltimore, Md. Filed Jan. 26, 1960.

CELTO FORM

For Taps for Forming Screw Threads.
First use Nov. 23, 1959.

SN 89,879. Textile Marking Machine Co., Inc., Syracuse, N.Y. Filed Jan. 28, 1960.

THERM-O-RITE

For Machines for Printing Identification on Garments and Fabrics.
First use Oct. 14, 1959.

SN 90,069. Koppers Company, Inc., Pittsburgh, Pa. Filed Feb. 1, 1960.

GLULOK

For Paper Working Machinery.
First use Oct. 1, 1958.

SN 90,367. Southern Machinery Company, Greenville, S.C. Filed Feb. 4, 1960.

SOMACO

For Textile Looms, Roving Frames, Spinning Frames, Cards and Finishing Machinery, and Parts and Equipment for the Same.
First use Sept. 25, 1959.

SN 92,203. American Corn Cutter Co., Inc., Winamac, Ind. Filed Mar. 7, 1960.

AMERICAN

For Corn Cutter.
First use on or about Mar. 27, 1957.

SN 93,381. Thompson Ramo Woolridge, Inc., Cleveland, Ohio. Filed Mar. 21, 1960.

TORK-SEL

For Rotary or Oscillatory Actuators for Missile and Aircraft Applications.
First use Nov. 30, 1958.

SN 95,690. Cherry-Burrell Corporation, Cedar Rapids, Iowa. Filed Apr. 25, 1960.

THERMINJECTOR

For Steam-Injection Apparatus for Continuously Processing Comestible Products.
First use Mar. 22, 1960.

SN 98,043. Adlerwerke vorm. Heinrich Kleyer A.G., Frankfurt am Main, Germany. Filed Apr. 29, 1960.

TIPPA

Owner of German Reg. No. 600,453, dated July 21, 1950.
For Typewriters.

SN 98,061. Phil E. Davis, Mesa, Ariz. Filed May 31, 1960.

Rota-Buck

For Rotary Mold-Board Scraper.
First use May 1, 1958.

SN 98,242. South African Associated Newspapers Limited, Johannesburg, Transvaal, Union of South Africa. Filed June 1, 1960.

SAANSAW

Priority claimed under Sec. 44(d) on Union of South Africa Reg. No. 60/1808, dated May 13, 1960.
For Cutting Machinery Including Machinery for Cutting Reels of Paper.

SN 98,286. Italian Imports Company, Cleveland, Ohio, assignee of Industria Prodotti Stampati, Turin, Italy. Filed June 2, 1960.

TITANIA

For Hand-Operated Machine for Rolling and Cutting Dough Into Noodles, Spaghetti, Ravioli, and the Like.
First use Sept. 1, 1957; in commerce Sept. 1, 1957.

SN 96,799. H. F. Livermore Corporation, Boston, Mass. Filed June 10, 1960.

DOFF-RITE

For Filling Feelers for Looms.
First use May 16, 1960.

SN 99,814. The Yale & Towne Manufacturing Company, New York, N.Y. Filed June 27, 1960.

YALE

Owner of Reg. Nos. 63,654, 664,624, and others.
For Chains, Engines and Parts Thereof, Pumps, Bearings, Gears, Pinions, Shafts, Hydraulic Rams, Sheaves, Rollers, Mufflers for Internal Combustion Engines.
First use at least as early as 1958.

SN 100,176. The DoAll Company, Des Plaines, Ill. Filed July 1, 1960.

Demon Precision

The words "High-Speed Steel" are disclaimed apart from the mark as shown. Owner of Reg. Nos. 587,052, 593,137, and 642,546.
For Saw Bands.
First use on or before Apr. 18, 1960.

SN 100,178. The DoAll Company, Des Plaines, Ill. Filed July 1, 1960.

Demon Claw Tooth

The words "High-Speed Steel" are disclaimed apart from the mark as shown. Owner of Reg. Nos. 587,052, 589,069, and others.
For Saw Bands.
First use on or before Apr. 8, 1960.

SN 100,182. The DoAll Company, Des Plaines, Ill. Filed July 1, 1960.

Demon Buttress

The words "High-Speed Steel" are disclaimed apart from the mark as shown. Owner of Reg. Nos. 408,487, 587,052, and 642,546.
For Saw Bands.
First use on or before Apr. 8, 1960.

SN 100,652. Taber Pump Co., Buffalo, N.Y. Filed July 11, 1960.

TABER PUMP CO.

For Pumps.
First use Mar. 1, 1959.

SN 100,679. Allyn Bank Equipment Co., Chicago, Ill. Filed July 12, 1960.

MAGNA-RACK

For Magnetic Rubber Stamp Holder.
First use May 21, 1960.

SN 104,990. D.B.A. Products Co., Deerfield, Ill. Filed Sept. 22, 1960.

LANE MASTER

For Electrically Driven Portable Machines for Cleaning, Polishing, and Buffing Bowling Alleys and Having a Controlled Fountain for Feeding Liquid Polishing Material.
First use June 18, 1960.

SN 105,106. Tacoma Equipment Importers, Inc., Tacoma, Wash. Filed Sept. 23, 1960.

JET

For Chain and Ratchet Hoists.
First use Aug. 4, 1960.

Class 24 — Laundry Appliances and Machines

SN 98,431. The Cal-Dak Company, Los Angeles, Calif. Filed June 6, 1960.

STEP-UP

For Laundry Carts.
First use Dec. 14, 1959.

Class 25 — Locks and Safes

SN 97,874. Racine Stamping Corporation, Racine, Wis. Filed May 25, 1960.

FOREMAN

Owner of Reg. No. 591,468.
For Outboard Motor Locks.
First use July 3, 1952.

Class 26 — Measuring and Scientific Appliances

SN 84,527. Foster Grant Co., Inc., Leominster, Mass. Filed Nov. 3, 1959.

ff77

For Sunglass Lenses Sold as Component and Integral Parts of Sunglasses.
First use Oct. 8, 1959.

SN 84,529. Foster Grant Co., Inc., Leominster, Mass. Filed Nov. 3, 1959.



The word "Lens" is disclaimed apart from the mark as shown.

For Sunglass Lenses Sold as Component and Integral Parts of Sunglasses.

First use Oct. 8, 1959.

SN 84,624. Safargo Company, Ohio, Ill. Filed Nov. 4, 1959.

"METER MIKE"

For Extension Apparatus for Meters for the Purpose of Reading Water Meters in a More Convenient and Accessible Place.

First use July 5, 1958.

SN 89,689. Levelite, Inc., New Rochelle, N.Y. Filed Jan. 26, 1960.

LEVELITE

For Illuminated Hand Levels of the Workbench Type Used To Determine the Level of Workpieces.

First use Aug. 6, 1959.

SN 90,701. Peerless Camera Stores Corp., New York, N.Y. Filed Feb. 10, 1960.

ROBIN

For Cameras and Photographic Lenses.

First use on or about Oct. 22, 1959, on cameras.

SN 90,921. Batist R. Hautsen, New Augusta, Ind. Filed Feb. 15, 1960.

SCRATCHOMETER

For Scratch Resistance Testers of Insulating Coatings.

First use on or about Mar. 15, 1958.

SN 91,854. Seatronics-Cartronics, Inc., Towson, Md. Filed Feb. 29, 1960.

CARTACH

For Automobile Tachometers.

First use Apr. 1, 1957.

SN 91,855. Seatronics-Cartronics, Inc., Towson, Md. Filed Feb. 29, 1960.

SEATACH

For Gasoline Engine Tachometers.

First use Jan. 13, 1957.

SN 93,247. Affiliated Manufacturers, Inc., Oldwick, N.J. Filed Mar. 21, 1960.

MICRO-FEEDER

For Mechanically Actuated Vibratory Apparatus for the Feeding, Sorting, and Dispensing of Small Parts for Further Processing.

First use Apr. 10, 1958.

SN 93,371. Societe d'Optique et de Mecanique de Haute Precision, Paris, France. Filed Mar. 21, 1960.

SOM BERTHIOT

Owner of French Reg. No. 398,180, dated Nov. 24, 1949 (Paris); Natl. Inst. No. 476,379.

For Telescopes, Field Glasses, Refractometers, Lenses and Double Lenses, Telemeters, Viewing Devices, Prismatic Astrolabes, Microscopes, Stereoscopes, Periscopes, Photographic Apparatus and Objectives, Projection Apparatus, Sextants, Compasses, Navigational Compasses, Gyroscopic Compasses, Level Theodites, Alidades, Plane Tables, Tachometers, Photogrammetric Apparatus, Stereocomparators, Rectifiers, Seismographs, and for Optical Glass.

SN 93,372. Societe d'Optique et de Mecanique de Haute Precision, Paris, France. Filed Mar. 21, 1960.

SOM

Owner of French Reg. No. 398,179, dated Nov. 24, 1949 (Paris); Natl. Inst. No. 476,378.

For Telescopes, Field Glasses, Refractometers, Lenses and Double Lenses, Telemeters, Viewing Devices, Prismatic Astrolabes, Microscopes, Stereoscopes, Periscopes, Photographic and Cinematographic Apparatus and Objectives, Projection Apparatus, Sextants, Compasses, Navigational Compasses, Gyroscopic Compasses, Level Theodites, Alidades, Plane Tables, Tachometers, Photogrammetric Apparatus, Stereocomparators, Rectifiers, Seismographs, and for Optical Glass.

SN 93,881. Arthur H. Thomas Company, Philadelphia, Pa. Filed Mar. 28, 1960.

THOMAS

For Laboratory Equipment for Chemical, Biological, and Physics Laboratories.

First use Nov. 29, 1954.

SN 93,957. Transdyne Corp., Albertson, N.Y. Filed Mar. 29, 1960.

TRANSDYNE

For Measuring and Scientific Appliances, Equipment and Devices; Electronic, Electrical, Electro-Mechanical, Ultrasonic Test Equipment and Gauges—Namely, Radio Frequency Measuring Equipment, Radio Frequency Generating Equipment, Cleansing Equipment Utilizing Ultrasonic Frequencies, Power Supplies for Radio Frequency Transmitting Equipment, Measuring Equipment for Ultra-High Frequencies; Training and Teaching Aids Incorporating Electronic Principles—Namely, Operational Equipment, Procedural Equipment and Display Panels for Air, Land and Sea Navigation.

First use in or about the early part of November 1955.

SN 96,340. Kenro Graphics, Inc., Cedar Knolls, N.J. Filed May 3, 1960.

KENRO VERTICAL

The word "Vertical" is disclaimed apart from the mark shown.

For Cameras and Accessories for Such Cameras Consisting of Camera Backs, Lenses, Lens Holders, Filters, Exposure Processing Equipment, Projection Attachments, Lighting Equipment and Focusing and Exposure Controlling Devices.

First use Dec. 3, 1954.

SN 96,047. Adlerwerke vorm. Heinrich Kleyer A.G., Frankfurt am Main, Germany. Filed Apr. 29, 1960.

ADLER



Owner of German Reg. No. 730,457, dated Oct. 29, 1959.

For Signalling, Measuring and Control Apparatus—Namely, Computing Machines, Cash Registers, Accounting Machines, Punch Card Machines, Billing Machines, and Parts of All of These Machines; Electric Computing, Billing and Other Types of Accounting Machines, and Parts of All These Machines; Devices for Measuring Typing Speed; Devices for Automatic Line Lock of the Right Hand Margin; Devices for the Equalization of Line Ends; Control Bars for Accounting Machines.

SN 98,215. General Aniline & Film Corporation, New York, N.Y. Filed June 1, 1960.

SUPERPAK

Owner of Reg. No. 526,187.

For Cartons for Bulk Packaging of Light-Sensitive Photographic Film.

First use Apr. 7, 1960.

SN 101,002. Inland Container Corporation, Indianapolis, Ind. Filed July 18, 1960.

POLYGAL

For Refrigerated Milk Dispensing Machines and Machines for Use in Filling Collapsible Containers With a Metered Amount of Liquid.

First use June 15, 1960.

SN 101,256. General Aniline & Film Corporation, New York, N.Y. Filed July 21, 1960.

TAG ALONG

For Multiple Slide Changer for Automatic Slide Projector.

First use May 12, 1960.

SN 102,020. General Motors Corporation, Detroit, Mich. Filed Aug. 4, 1960.

ROUNDICORDER

Owner of Reg. No. 696,034.

For Precision Measurement Instruments for Measuring Roundness.

First use July 6, 1960.

SN 102,672. Henry E. Lilley, d.b.a. Yorktowne Optical Company, York, Pa. Filed Aug. 15, 1960.

PRESCRIPT-SUN

For Sun Shade.

First use on or about July 18, 1960.

SN 103,504. Toledo Scale Corporation, Toledo, Ohio. Filed Aug. 8, 1960.

LECTROLEVER

For Weighing Scales.

First use May 6, 1960.

SN 103,778. General Aniline & Film Corporation, New York, N.Y. Filed Sept. 1, 1960.

FINACHROME

For Light-Sensitive Photographic Materials, Particularly Film.

First use Aug. 4, 1960.

Class 27 — Horological Instruments

SN 99,813. The Yale & Towne Manufacturing Company, New York, N.Y. Filed June 27, 1960.

YALE

Owner of Reg. Nos. 63,654, 664,624, and others.

For Hour Meters.

First use at least as early as 1953.

Class 28 — Jewelry and Precious-Metal Ware

SN 86,786. J. Jenkins Sons Co., Inc., Baltimore, Md. Filed Dec. 7, 1959.

GEMTRONIC

For Inlay Seal for Gemstones Incorporated into School Rings.

First use Feb. 4, 1959.

SN 98,819. Wm. Schneider, Inc., New York, N.Y. Filed June 10, 1960.

FAMILY

For Finger Rings Made of Precious Metal.

First use on or about Aug. 15, 1959.

SN 99,373. Fred Seltzer Corp., Lincolnwood, Ill. Filed June 20, 1960.



For Synthetic Diamonds Set in Jewelry for Personal Wear—Namely, Finger Rings, Earrings, Pendants, Brooches, Bracelets, and Cuff Links.

First use Aug. 25, 1959.

SN 102,390. Hugo Herzberg Company, St. Louis, Mo. Filed Aug. 10, 1960.



For Costume Jewelry.

First use June 1, 1955.

SN 102,913. Feature Ring Co., Inc., New York, N.Y. Filed Aug. 18, 1960.

BEAUTI FLEX

Owner of Reg. Nos. 566,449, 586,853, and 673,193.
For Finger Rings Made of Precious Metal.
First use Aug. 4, 1960.

SN 102,914. Feature Ring Co., Inc., New York, N.Y. Filed Aug. 18, 1960.

STAR FLEX

Owner of Reg. Nos. 572,621, 600,749, and 673,193.
For Finger Rings Made of Precious Metal.
First use Aug. 4, 1960.

SN 102,916. Feature Ring Co., Inc., New York, N.Y. Filed Aug. 18, 1960.

JEWEL FLEX

Owner of Reg. Nos. 617,443, and 673,193.
For Finger Rings Made of Precious Metal.
First use Aug. 4, 1960.

SN 102,917. Feature Ring Co., Inc., New York, N.Y. Filed Aug. 18, 1960.

FASHION FLEX

Owner of Reg. Nos. 587,138, 593,415, and 673,198.
For Finger Rings Made of Precious Metal.
First use Aug. 4, 1960.

Class 29—Brooms, Brushes, and Dusters

SN 87,277. Pro-Phy-Lac-Tic Brush Company, Florence, Mass. Filed Dec. 14, 1959.

GUARDIAN

For Tooth Brushes.
First use Nov. 24, 1959.

SN 89,114. American Sponge and Chamois Company, Inc., Long Island City, N.Y. Filed Jan. 18, 1960.

CONTOUR

For Cellulose Sponges.
First use Jan. 4, 1960.

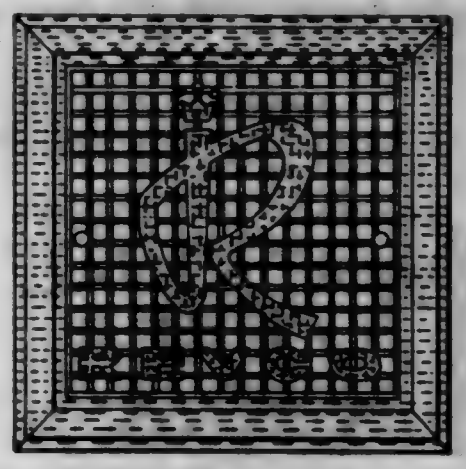
SN 90,507. Florence Folkendik, Elizabeth, N.J. Filed June 22, 1960.

PUFFADAY

For Powder Puff.
First use June 8, 1960.

Class 31—Filters and Refrigerators

SN 30,605. Revco, Inc., Deerfield, Mich. Filed May 23, 1957.



The drawing is lined for silver and gold. Owner of Reg. No. 599,663.
For Household Refrigerators and Household Freezers, Household Heating and Air-Conditioning Units of the Heat Pump Type, and Freezers of the Chest and Reach-In Types for Industrial Cooling Operations.
First use July 1956.

SN 83,934. Amana Refrigeration, Inc., Amana, Iowa. Filed Oct. 26, 1959.

FROST-MAGNET

For Frost Attractor Units in Automatic Defrosting Freezers and Combination Freezers and Refrigerators.
First use Oct. 21, 1959, on frost attractor units in combination freezers and refrigerators.

SN 88,858. Indiana Commercial Filters Corporation, Lebanon, Ind. Filed Jan. 12, 1960.

MICHIANA

For Filters for Internal Combustion Engines.
First use May 1939.

SN 90,390. Bruner Corporation, Milwaukee, Wis. Filed Feb. 5, 1960.

Empress

For Water Softeners.
First use Nov. 10, 1959.

SN 90,699. North American Philips Company, Inc., New York, N.Y. Filed Feb. 10, 1960.

CRYOGENERATOR

For Refrigerating Machines.
First use August 1959.

SN 91,254. Frederick D. Gugeler, d.b.a. Hydro-Master Parts Co., Lombard, Ill. Filed Feb. 19, 1960.

HYDRO SCREEN

For Parts or Components of Water Softening Apparatus.
First use Dec. 18, 1959.

SN 91,473. Tyler Refrigeration Corporation, Niles, Mich. Filed Feb. 23, 1960.

THERMO STRUT

For Commercial Refrigerated Food Cases.
First use Feb. 8, 1960.

SN 91,889. Warshawsky and Company, Inc., Chicago, Ill. Filed Feb. 29, 1960.

KAR-LIFE

Owner of Reg. No. 683,960.

For Automotive Filters—Namely, Oil Filters and Air Filters.

First use Nov. 24, 1959.

SN 94,086. The National Filter Media Corporation, New Haven, Conn. Filed Mar. 31, 1960.

NATIONAL FILTER MEDIA

The words "Filter Media" are disclaimed apart from the mark as shown, without prejudice to common law or other rights.

For Filter Media of Woven Cloth.

First use Jan. 6, 1950.

SN 97,566. Matsushita Electric Industrial Co., Ltd. (Matsushita Denki Sangyo Kabushiki Kaisha), Kitakawachi-gun, Osaka, Japan. Filed May 4, 1960.

National

Owner of Japanese Reg. No. 523,013, dated July 4, 1958.

For Electric Water Coolers.

SN 98,919. The Murray Corporation of America, Syracuse, N.Y. Filed June 13, 1960.

SPIRA-FILTER

For Washing Machine Filters.

First use on or about June 6, 1960.

SN 99,820. The Yale & Towne Manufacturing Company, New York, N.Y. Filed June 27, 1960.

YALE

Owner of Reg. Nos. 63,654, 664,624, and others.

For Air Cleaners, Oil Filter Containers, Oil Filter Cartridges.

First use at least as early as 1953.

Class 32 — Furniture and Upholstery

SN 89,628. Worldsbest Industries, Inc., Cudahy, Wis. Filed Jan. 25, 1960.

BAR-B-TABLE

For Attachable Work Counters for Outdoor Grills.

First use Dec. 22, 1959.

SN 93,801. Holland Wire Products, Incorporated, Holland, Mich. Filed Mar. 28, 1960.

Holland Maid

For Spring Units for Mattresses, Box Springs, Upholstered Furniture, Bedroom Furniture, Living Room Furniture, and Occasional Furniture.

First use Apr. 15, 1959.

SN 93,802. Holland Wire Products, Inc., Holland, Mich. Filed Mar. 28, 1960.



For Spring Units for Mattresses, Box Springs, Upholstered Furniture, Bedroom Furniture, Living Room Furniture and Occasional Furniture.

First use Apr. 8, 1958.

SN 95,325. Simmons Company, New York, N.Y. Filed Apr. 18, 1960.

PRIDE OF CLEVELAND

For Mattresses and Box Springs.

First use February 1954.

SN 102,193. Duncan Ewan Cameron, London, England. Filed Aug. 8, 1960.

TRABLE

Owner of British Reg. No. 769,263, dated Sept. 13, 1957.

For Stands (Furniture), Adapted for the Fitting of Trays and Utensils.

Class 34 — Heating, Lighting, and Ventilating Apparatus

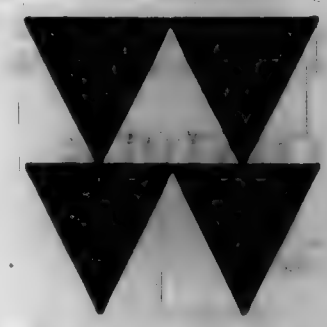
SN 95,382. Mor-Flo Heater Corporation, Cleveland, Ohio. Filed Apr. 19, 1960.

Revere

For Automatic Gas and Electric Water Heaters and Components Thereof.

First use 1952.

SN 97,148. Warren Webster & Company, Inc., Camden, N.J Filed May 13, 1960.



For Heating and Air Conditioning Apparatus Comprising: Air Conditioners Having Facilities for Heating, Ventilating and Cooling, Convector Type Radiators, Finned Tubing for Heat Radiation, Baseboard Type Radiators; Hot Water Heating Equipment Comprising: Accumulator Expansion Tanks, Purge Headers, Expansion Joints; Unit Space Heaters; Steam Heating Equipment; and Parts of all Such Apparatus and Equipment.

First use on or about Apr. 1, 1959.

SN 97,363. Carl V. Ankli, St. Petersburg, Fla. Filed May 18, 1960.

ELEC/BLEND

For Heating and Air Conditioning Unit.
First use Dec. 1, 1959.

SN 102,393. Humble Oil & Refining Company, Houston, Tex. Filed Aug. 10, 1960.

WATCHDOG

Owner of Reg. No. 647,698.
For Oil Burners.
First use May 2, 1960.

SN 102,426. Southern Oxygen Company, Bladensburg, Md. Filed Aug. 10, 1960.



Owner of Reg. Nos. 508,425 and 581,968.
For Gas Welding Torches and Component Parts Thereof, Flint Lighters and Flints Therefor.
First use Nov. 25, 1959.

SN 102,555. Glaser Products Corporation, St. Louis, Mo. Filed Aug. 12, 1960.

GRILLMASTER

For Barbecue Braziers.
First use Jan. 5, 1956.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 89,381. Simmerwerke W. Simmer K.G., Kufstein, Austria. Filed Jan. 20, 1960.



Owner of Austrian Reg. No. 40,471, dated Jan. 27, 1959.
For Radial Shaft Sealing Rings, Machinery Packings and Components Thereof.

SN 89,790. Rayco Mfg. Co., Paramus, N.J. Filed Jan. 27, 1960.

RAYCO

Owner of Reg. Nos. 506,311 and 576,999.
For Automobile Tires.
First use Oct. 10, 1959.

Class 36 — Musical Instruments and Supplies

SN 92,580. American Heritage Publishing Co., Inc., New York, N.Y. Filed Mar. 11, 1960.

AMERICAN HERITAGE

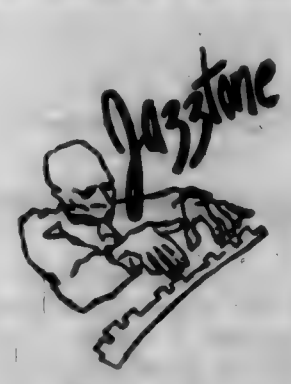
Owner of Reg. Nos. 628,293, 696,460, and others.
For Tape Recordings.
First use during November 1955.

SN 100,786. Samuel Josefowitz, New York, N.Y. Filed July 13, 1960.



For Phonograph Records of the Circular Disk Type.
First use June 22, 1960.

SN 101,105. Samuel Josefowitz, New York, N.Y. Filed July 19, 1960.



For Phonograph Records of the Circular Disk Type.
First use June 22, 1960.

Class 37 — Paper and Stationery

SN 56,815. United States Envelope Company, Springfield, Mass. Filed Aug. 7, 1958.



For Envelopes, Writing Paper, Writing Tablets, Notebooks, and Packaged Filler and Typewriter Paper.
First use on or about July 22, 1958.

SN 76,994. Western Tablet & Stationery Corporation, Dayton, Ohio. Filed July 2, 1959.

NAME FRAME

For Notebook Filler Paper.
First use June 9, 1959.

SN 81,535. Burroughs Corporation, Detroit, Mich. Filed Sept. 17, 1959.

REGISTER CHECK

No claim of exclusive right is made to the word "Check" apart from the mark as shown.
For Personal Money Order Forms.
First use on or about July 1, 1937.

SN 93,097. Sanitor Mfg. Co., Kalamazoo, Mich. Filed Mar. 17, 1960.

Q TOWELS

The exclusive right to the use of the term "Towels," apart from the mark as shown, is disclaimed.
For Paper Towels.
First use Jan. 22, 1960.

SN 101,218. United Printers and Publishers (Incorporated), Dedham, Mass. Filed July 20, 1960.



For Paper Towels, Paper Napkins, Paper Coasters, Paper Place Mats, and Note Paper.
First use Sept. 2, 1959.

Class 38 — Prints and Publications

SN 69,012. The Miller Publishing Company, Minneapolis, Minn., assignee of The Miller Publishing Company, Minneapolis, Minn. Filed Mar. 5, 1959.



For Monthly Trade Magazine.
First use Mar. 1, 1958.

SN 72,435. Insurance Company of North America, Philadelphia, Pa. Filed Apr. 28, 1959.



The drawing is lined for blue.
For Printed Publications Published from Time to Time.
First use in March 1959.

SN 75,219. Sovereign Order of Saint John of Jerusalem, Inc., Shickshinny, Pa. Filed June 5, 1959.

Maltese Cross

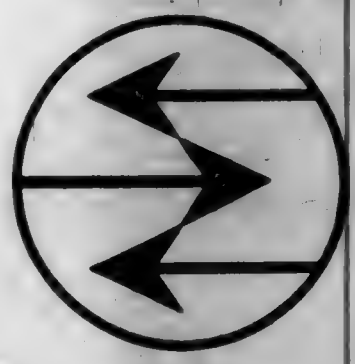
Owner of Reg. No. 659,477.
For Periodical.
First use Feb. 11, 1959; as early as 1911, on printed publications.

SN 75,638. Last Six, Inc., Littleton, Colo. Filed June 12, 1959.

SIX-O-MATIC

For Tickets and Instruction Sheets for Use With Punch Machines at Race Tracks.
First use June 1, 1959.

SN 77,545. International Business Machines Corporation, New York, N.Y. Filed July 13, 1959.



For Pamphlets.
First use in November 1958.

SN 82,744. Williams & Hill Limited, Toronto, Ontario, Canada. Filed Oct. 5, 1959.

PFM PICTAFILM

Owner of Canadian Reg. No. 104,472, dated Sept 28, 1956.
For Exposed Motion Picture Films.

SN 85,678. Pee Cee Tape & Label Company of Missouri, Scranton, Pa., by change of name from Mark'Andy, Inc., Scranton, Pa. Filed Nov. 19, 1959.

PERSONA

For Printed Labels.
First use prior to Jan. 1, 1956.

SN 95,890. James J. Gannon Jr., Brooklyn, N.Y. Filed Apr. 27, 1960.

COLORVISTA

For Motion Pictures.
First use Dec. 16, 1959.

SN 98,355. Gille Associates, Inc., Detroit, Mich. Filed June 3, 1960.

DATA PROCESSING

Owner of Reg. Nos. 678,661 and 700,991.
For Periodical.
First use Jan. 20, 1960.

SN 98,362. Jobber Product Publishing Corp., Chicago, Ill. Filed June 3, 1960.

JPN SHOW DAILY

Owner of Reg. Nos. 636,625 and 665,804.
For Newspaper.
First use Jan. 5, 1960.

SN 96,844. Atlantis, New York, N.Y. Filed June 13, 1960.

ΜΗΝΙΑΙΑ ΕΙΛΛΟΤΡΑΛΛΗΜΕΝΗ

ΑΤΛΑΝΤΙΣ

MONTHLY ILLUSTRATED ATLANTIS

The Greek words shown when translated into English mean "monthly illustrated" and "Atlantis." The words "Monthly Illustrated" are disclaimed apart from the mark.
Owner of Reg. No. 399,328.
For Illustrated Magazine.
First use Oct. 27, 1952; Mar. 1, 1894 as to "Atlantis."

SN 99,054. Geigy Chemical Corporation, Ardsley, N.Y. Filed June 15, 1960.

CATALYST

For House Organ Published From Time to Time.
First use June 3, 1960.

SN 99,160. The Modern Hospital Publishing Co., Inc., Chicago, Ill. Filed June 16, 1960.

THE NATION'S SCHOOLS

For Periodical Publication.
First use Jan. 15, 1928.

SN 99,161. The Modern Hospital Publishing Co., Inc., Chicago, Ill. Filed June 16, 1960.

COLLEGE AND UNIVERSITY BUSINESS

For Periodical Publication.
First use July 10, 1946.

SN 99,162. The Modern Hospital Publishing Co., Inc., Chicago, Ill. Filed June 16, 1960.

THE MODERN HOSPITAL

For Periodical Publication.
First use Sept. 1, 1913.

SN 99,537. Providence Lithograph Company, Providence, R.I. Filed June 22, 1960.

LECTRO-CHROMA

Owner of Reg. Nos. 697,841 and 697,843.
For Lithographed Color Reproductions.
First use November 1959.

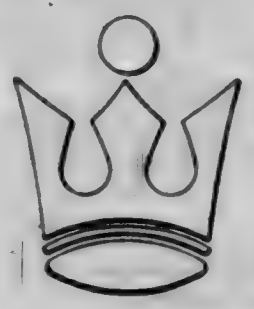
SN 99,590. The Lutheran Digest, Inc., Minneapolis, Minn. Filed June 23, 1960.

THE *Lutheran* DIGEST

Owner of Reg. No. 624,663.
For Periodical Publication.
First use October 1952.

Class 39—Clothing

SN 73,936. Jack Kramer Sportswear, Inc., Los Angeles, Calif. Filed May 18, 1959.



For Tennis Shorts, Jackets and Shirts.
First use Jan. 1, 1959.

SN 76,104. V. Mayes & Company (Australia) Proprietary Limited, Moorabbin, near Melbourne, Australia. Filed June 19, 1959.

DEB-U-FORM

Owner of Australian Reg. No. A154,045, dated May 26, 1951.
For Brassieres, Corselets, Corsets, Girdles, Hosiery Suspenders, and Hosiery Suspender Belts for Inner Wear.

SN 84,468. Shoe Corporation of America, Columbus, Ohio. Filed Nov. 2, 1959.



For Children's Shoes.
First use Sept. 12, 1959.

SN 84,800. Prestige, Inc., New York, N.Y. Filed Nov. 6, 1959.

Rolledge

For Stockings.
First use on or about Oct. 22, 1959.

SN 87,922. Tyer Rubber Company, Andover, Mass. Filed Dec. 23, 1959.

PRO GARD

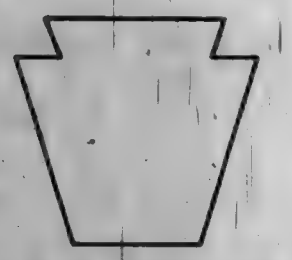
For Rubber and Canvas Shoes.
First use July 17, 1958.

SN 88,261. Stowe-Woodward Inc., d.b.a. Ebonite Company, Newton Upper Falls, Mass. Filed Dec. 30, 1959.

BOWLERINA

For Bowling Shoes for Women.
First use June 1959.

SN 88,489. Pittsburgh Garter Company, Pittsburgh, Pa. Filed Jan. 5, 1960.



For Garters, Arm Bands, Trouser Belts, and Girdles.
First use Jan. 1, 1918.

SN 89,293. Perfect Brassiere Company, Inc., Jersey City, N.J. Filed Jan. 19, 1960.

TORSO-MATE

For Brassieres.
First use Feb. 24, 1959.

SN 89,368. New York Girl Coat Co., Inc., New York, N.Y. Filed Jan. 20, 1960.

GROW-WITH-HER COAT

No claim is made to the word "Coat" apart from the mark as shown.
For Girls' Coats.
First use May 25, 1950.

SN 89,567. The Formfit Company, Chicago, Ill. Filed Jan. 25, 1960.

ORBIT

For Brassieres and Girdles.
First use Jan. 18, 1960.

SN 90,866. The Star Union Pajama Company, New York, N.Y. Filed Feb. 12, 1960.

MCKNIGHT

For Men's and Boys' Pajamas.
First use June 20, 1955.

SN 91,412. The May Department Stores Company, St. Louis, Mo. Filed Feb. 23, 1960.

HEADLINERS!

For Women's Shoes.
First use Feb. 3, 1953.

SN 91,569. Trench Mfg. Co., Inc., Buffalo, N.Y. Filed Feb. 24, 1960.



The drawing is lined for blue and gold.
For Hats and Caps.
First use June 16, 1959.

SN 91,930. Endicott Johnson Corporation, Endicott, N.Y. Filed Mar. 1, 1960.

CORDOTAN

For Shoes for Men, Women and Children.
First use Aug 19, 1937.

SN 93,596. Joseph H. Cohen & Sons, Inc., New York, N.Y. Filed Mar. 24, 1960.

FORT KNOX
A MINT OF VALUE

Applicant disclaims the words "A Mint of Value."
For Men's and Boys' Outer Garments—Namely, Suits, Coats, Sport Coats, Jackets, Top Coats, Overcoats, Slacks, Trousers and Vests.
First use Dec. 10, 1959.

SN 94,327. Mandel's of California, Los Angeles, Calif. Filed Apr. 4, 1960.



For Women's Shoes.
First use Mar. 1, 1958.

SN 95,844. National Shoes, Inc., New York, N.Y. Filed Apr. 26, 1960.



For Shoes for Women, Girls, and Children.
First use Aug. 8, 1958.

SN 96,153. Monique Szytenberg, Paris (Seine), France. Filed Apr. 29, 1960.



Priority claimed under Sec. 44(d) on French Reg. No. 484,349, dated Nov. 27, 1959 (Seine) Natl. Inst. No. 134,919.
For Clothing—Namely, Blue Jeans, Shorts, Vests and Raincoats.

SN 96,980. Pennington & Co., Inc., Columbia, S.C. Filed May 12, 1960.

AILEEN PENNINGTON

"Aileen Pennington" is the name of a living individual whose signature appears on behalf of applicant corporation and in consent to the use of her name.
For Shirts, Blouses, Shorts, Skirts and Slacks for Girls, Misses and Women.
First use Apr. 2, 1960.

SN 97,036. Champ Hats, Inc., Philadelphia, Pa. Filed May 18, 1960.

SKYLINER

For Men's and Boys' Hats and Caps.
First use Apr. 29, 1960.

SN 97,182. Durite Leather Goods Co., Inc., New York, N.Y. Filed May 16, 1960.

SNAP-A-MATIC

For Belts and Shoes for Men, Women, and Children.
First use Oct. 15, 1959.

SN 98,301. Mister Ease, Inc., New York, N.Y. Filed June 2, 1960.

GOLDEN-EASE

Owner of Reg. Nos. 581,813, 696,478, and others.
For Men's Sport Shirts.
First use Apr. 5, 1960.

SN 98,847. Baitch & Castaldi, Inc., New York, N.Y. Filed June 13, 1960.

RUSTICANA

For Ladies' and Misses' Coats and Suits.
First use May 1958.

SN 99,108. Varsity Pajamas, Incorporated, New York, N.Y. Filed June 15, 1960.

VARSITY

Owner of Reg. Nos. 81,813, 606,765, and others.
For Men's, Women's, Boys', Girls' and Children's Pajamas, Pajama and Slipper Sets, Nightshirts, Sleeping Garments of That Type Commercially and Commonly Known as Sleepers, Bedjackets, Night-Robes, Running Pants, T-Shirts, Knitted and Textile Underwear Comprising Undershirts, Shorts, Stretch Nylon Briefs, Drawers and Union Suits for Men, Women and Children.
First use May 1907, on pajamas, drawers, union suits, and undershirts; Dec. 1, 1899 on outer shirts, collars, and cuffs.

SN 100,025. Holt Hosiery Corporation, New York, N.Y. Filed June 30, 1960.

PATCH-NICKS

For Leotards, Hosiery and Tights.
First use on or about June 16, 1960.

SN 100,185. The Harris Company, San Bernardino, Calif. Filed July 1, 1960.

RAMSGATE CLOTHING

The word "Clothing" is disclaimed apart from the mark shown. Owner of Reg. No. 383,000.
For Men's Clothing—Namely, Suits, Sport Coats, Topcoats, and Overcoats.
First use June 4, 1940.

SN 101,012. Kute Kiddies Coats, Inc., New York, N.Y. Filed July 18, 1960.



The drawing is lined for blue.
For Boys' and Girls' Jackets.
First use Apr. 22, 1960.

SN 102,348. Saks & Company, New York, N.Y. Filed Aug. 9, 1960.

Anne Fogarty

The consent of Anne Fogarty, a living individual whose name comprises the mark, is of record.
For Women's and Misses' Dresses.
First use July 11, 1960.

Class 40—Fancy Goods, Furnishings, and Notions

SN 71,803. Joseph S. Brownstein, d.b.a. Snag-Prufe Fasteners, Louisville, Ky. Filed Apr. 20, 1959.

SNAG-PRUFE

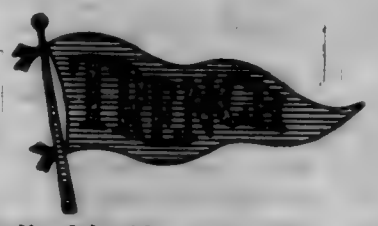
For Metal Fasteners To Be Attached to Military Insignia, Buttons, and Pins.
First use February 1957.

SN 90,380. Duratex, Inc., Pawtucket, R.I. Filed Feb. 4, 1960.

DURATEX

For Woven Cotton Tape, Woven Elastic Tape and Elastic Braid Used in Connection With Articles of Wearing Apparel and Shoe Laces.
First use Jan. 27, 1960.

SN 91,570. Trench Mfg. Co., Inc., Buffalo, N.Y. Filed Feb. 24, 1960.



The drawing is lined for blue and gold.
For Souvenir Pillow Tops.
First use June 16, 1959.

SN 98,807. Muscatine Pearl Works, Muscatine, Iowa. Filed June 10, 1960.

EVERYDAY

For Buttons Made of Non-Precious, Non-Metallic Materials.
First use Aug. 3, 1959.

SN 99,095. Shannahan, Inc., Jacksonville Beach, Fla. Filed June 15, 1960.

Tidy-Pins

For Diaper Fasteners.
First use May 19, 1960.

Class 41—Canes, Parasols, and Umbrellas

SN 102,373. Bradford's Inc., Teaneck, N.J. Filed Aug. 10, 1960.

SEE-BRELLA

For Umbrellas.
First use Sept. 8, 1959.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 58,493. Edward D. Brown, New York, N.Y. Filed Sept 8, 1958.

EDBROWN TERRY MONOGRAMS

Applicant disclaims the words "Terry Monograms" apart from the mark as shown.
For Towels.
First use July 13, 1958.

SN 64,012. Andrew Y. Michie & Sons Company, Philadelphia, Pa. Filed Dec. 10, 1958.

NATURE CLOTH

Applicant makes no claim to the word "Cloth" apart from the mark as shown.
For Haircloth.
First use Nov. 24, 1958.

SN 98,849. Barth & Dreyfuss, Los Angeles, Calif. Filed June 13, 1960.

TERRY TREASURE

For Towels.
First use May 5, 1960.

SN 100,478. United Merchants and Manufacturers, Inc., New York, N.Y. Filed July 7, 1960.

COMARRA

For Composite Vinyl Plastic-Cloth Laminate Fabrics Adapted To Be Made Into Apparel for Men, Women and Children, and Accessories—Namely, Women's Handbags, Belts and Caps, Men's Caps, Gloves and Slippers, Children's Belts, Caps and Slippers, and Upholstery.
First use on or about Apr. 7, 1960.

SN 100,499. Dan River Mills, Incorporated, Danville, Va. Filed July 8, 1960.

SOVEREIGN

Owner of Reg. No. 430,327.
For Woven Shirting Fabrics of Cotton, Rayon or Mixtures Thereof in the Piece.
First use May 10, 1946.

SN 100,662. United Merchants and Manufacturers, Inc., New York, N.Y. Filed July 11, 1960.

MATINÉE

For Matte Jersey Rayon Fabrics Adapted To Be Made up Into Women's Blouses, Dresses, Shirts, and Tops, Slacks, Skirts and Culottes.
First use August 1955.

SN 100,766. Dyersburg Cotton Products, Inc., Dyersburg, Tenn. Filed July 13, 1960.

FURLON

For Knitted Pile Fabric.
First use in June 1956.

SN 100,767. Dyersburg Cotton Products, Inc., Dyersburg, Tenn. Filed July 13, 1960.

Mor-a-Lon

For Knitted Pile Fabric.
First use June 1958.

SN 101,610. Fairmont Converting Co., Inc., New York, N.Y. Filed July 28, 1960.

STARLINER

For Cotton Piece Goods.
First use Mar. 27, 1957.

SN 102,694. Plymouth Rubber Company, Inc., Canton, Mass. Filed Aug. 15, 1960.

FEATHER-TOUCH

For Vinyl Sheeting and Fabric-Backed Sheeting of Plastic for Furniture Upholstery Purposes, for Automobile Upholstery Purposes, for Such Articles of Wearing Apparel as Jackets and Coats, for Facings for Luggage and Handbags, and for Lining Walls, Closet Shelves, and the Like.
First use May 15, 1960.

Class 44—Dental, Medical, and Surgical Appliances

SN 102,427. Southern Oxygen Company, Bladensburg, Md. Filed Aug. 10, 1960.



Owner of Reg. Nos. 508,425 and 581,968.
For Oxygen Tents and Parts Thereof, Including Humidifiers for Oxygen Therapy.
First use Oct. 10, 1952.

Class 45—Soft Drinks and Carbonated Waters

SN 95,403. White Rock Corporation, Brooklyn, N.Y. Filed Apr. 19, 1960.

WHITE ROCK

Owner of Reg. Nos. 23,873, 425,008, and others.
For Maltless Carbonated Soft Drinks, and Minerals, Extracts, Concentrates and Syrups Therefor.
First use in October 1893.

Class 46—Foods and Ingredients of Foods

SN 83,009. Southern Bakeries Company, Atlanta, Ga. Filed Oct. 9, 1959.



Applicant claims no exclusive rights in "Bread" as the name of the goods identified. Owner of Reg. Nos. 213,360 and 216,875.
For Bread.
First use Sept. 1, 1955.

SN 86,876. Chemo Puro Manufacturing Corporation, Newark, N.J. Filed Dec. 8, 1959.

CHEMOCIDE

For Chemical Food Preservatives.
First use Jan. 15, 1957.

SN 88,595. Central Soya Company, Inc., Ft. Wayne, Ind. Filed Jan. 7, 1960.

CENTROL

Owner of Reg. No. 411,555, 590,431, and others.
For Soybean Flour, Soybean Protein, Soybean Grits, Soybean Meal and Soybean Flakes, for Use in Human Foods and Animal Feeds.
First use Mar. 14, 1939.

SN 90,566. Pacific Gamble Robinson Co., d.b.a. Ryan Fruit Co., Seattle, Wash. Filed Feb. 8, 1960.

CHIEF JOSEPH



Owner of Reg. No. 130,399.
For Fresh Deciduous Fruits and Fresh Citrus Fruits.
First use Apr. 1, 1919.

SN 92,058. C. J. Van Houten & Zoon N.V., Weesp, Netherlands. Filed Mar. 2, 1960.

AMERICO

Owner of Dutch Reg. No. 74,426, dated June 20, 1939.
For Chocolate Bars, Chocolate Squares, Chocolate Lozenges, Chocolate Bonbons and Other Assorted Chocolates.

SN 94,080. Milk Foods, Inc., U.S.A., d.b.a. Milk Foods, Inc., Modesto, Calif. Filed Mar. 31, 1960.

MF dairy dip

No claim is made to the words "Dairy Dip" apart from the mark. Owner of Reg. No. 696,519.
For Flavored Seasoning Products in Powdered Form for Use in Dips, Said Seasoning Products Being Mainly Dairy and Vegetable in Nature.
First use Sept. 30, 1959.

SN 95,945. Société des Produits Nestlé S.A., Vevey, Switzerland. Filed Apr. 27, 1960.

SELIM

Owner of Swiss Reg. No. 149,513, dated Nov. 27, 1953.
For Candy.

SN 95,946. Société des Produits Nestlé S.A., Vevey, Switzerland. Filed Apr. 27, 1960.

MOSAÏK

The English equivalent of the word "Mosaik" is "mosaic" in the sense of inlay work. Owner of Swiss Reg. No. 170,732, dated June 11, 1958.
For Candy.

SN 96,795. John Engelhorn & Sons, Newark, N.J. Filed May 10, 1960.

CLEVE FARM

For Pork Sausage and Sliced Bacon.
First use Apr. 1, 1958.

SN 96,855. Gebrüder Giulini G.m.b.H., Ludwigshafen (Rhine), Germany. Filed May 11, 1960.

TARI

Owner of German Reg. No. 809,706, dated July 28, 1951.
For Chemical Products, Including Phosphate Products for Maintaining the Freshness of and Preserving Foods.

SN 97,540. Beacon Specialty Co., Inc., Gloucester, Mass. Filed May 20, 1960.

SEA-PRO

For Dehydrated Edible Fish Combined With Sea Moss and With Vitamins Added, in Powder Form for Addition to Foods.
First use on or about May 6, 1960.

SN 97,584. Smith Orchards, Pateros, Wash. Filed May 20, 1960.

SMITH'S TREAT

For Fresh Deciduous Fruit—Namely, Apples.
First use at least as early as the year 1951.

SN 98,969. Carnation Company, Los Angeles, Calif. Filed June 14, 1960.

YANKEE DOODLE

For Ice Cream.
First use May 25, 1960.

SN 102,071. Universal Trading Corp., Long Beach, Calif. Filed Aug. 4, 1960.

STAR of the SEA

For Canned Tuna.
First use July 19, 1960.

SN 102,075. The Wander Company, d.b.a. Ovaltine Food Products, Chicago, Ill. Filed Aug. 4, 1960.

SWISSBAR

For Candy.
First use July 14, 1960.

SN 102,114. Hygrade Food Products Corporation, Detroit, Mich. Filed Aug. 5, 1960.

HY-RATION

For Dog Food.
First use June 1947.

SN 102,237. W. T. Hawkins, Ltd., Chicago, Ill. Filed Aug. 8, 1960.

MAGIC-POP

For Confection In Cake Form Consisting of Vegetable Shortening, Salt, and Unpopped Popcorn.
First use January 1960.

SN 102,241. Idaho Potato Processors, Inc., Burley, Idaho. Filed Aug. 8, 1960.

IDA-PAK

For Fresh Frozen French Fried Potatoes; and Fresh Frozen Crinkle Cut French Fried Potatoes.
First Use at least as early as March 1959.

SN 102,242. Idaho Potato Processors, Inc., Burley, Idaho. Filed Aug. 8, 1960.

Idaho Valley

For Fresh Frozen French Fried Potatoes; and Frozen Hash Brown Potatoes.
First use at least as early as October 1959.

SN 102,391. Honeggers' & Co., Inc., Fairbury, Ill. Filed Aug. 10, 1960.

BEEF PACKER

For Cattle and Livestock Feeds.
First use May 30, 1960.

Class 47 — Wines

SN 95,820. E. & J. Gallo Winery, Modesto, Calif. Filed Apr. 26, 1960.

Ripple

Owner of Reg. Nos. 694,648, 695,025, and 695,800.
For Wines.
First use Dec. 29, 1959.

SN 97,644. Franzia Brothers Winery, d.b.a. Old Chateau Wine Co., Ripon, Calif. Filed May 23, 1960.

Val-Vin

For Wines.
First use July 1, 1957.

SN 97,645. Franzia Brothers Winery, d.b.a. Franzia Bros. Winery, Ripon, Calif. Filed May 23, 1960.

Franzia

For Wines and Vermouths.
First use Feb. 26, 1946.

Class 49 — Distilled Alcoholic Liquors

SN 82,388. Barton Distilling Company, Chicago, Ill. Filed Sept. 30, 1959.

STUART & WILLIAMS

For Whiskey.
First use Nov. 25, 1936.

SN 100,274. Mackenzie Brothers Dalmore Limited, Ross-Shire, Alness, Scotland. Filed July 5, 1960.

DALMORE

Owner of British Reg. No. 22,504, dated June 11, 1880.
For Whisky.

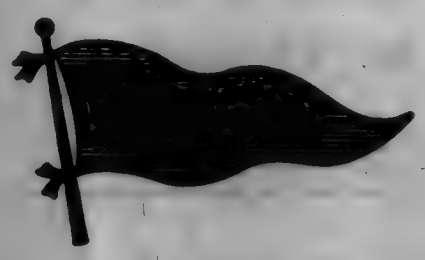
Class 50—Merchandise Not Otherwise Classified

SN 89,010. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed Jan. 14, 1960.

3M SIGNAL

For Roadway Markers Which Reflect Light Visually.
First use Sept. 24, 1958.

SN 91,568. Trench Mfg. Co., Inc., Buffalo, N.Y. Filed Feb. 24, 1960.



The drawing is lined for blue and gold.
For Pennants, Banners and Signs.
First use June 16, 1959, on pennants.

SN 95,888. Flo-Matic Corporation, Miami, Fla. Filed Apr. 27, 1960.

FLO-MATIC

For Bottle Cap.
First use Apr. 21, 1960.

SN 98,155. Schooline Corporation, d.b.a. Zoo-Line, Hollywood, Calif. Filed May 31, 1960.

ZOO-LINE

For Decorative Art Accessories Comprising Miniature Representations of Animals, Human Beings, and Objects.
First use June 10, 1957.

SN 98,595. Schenley Industries, Inc., New York, N.Y. Filed June 7, 1960.



Applicant disclaims the outline of an easel design as shown.
For Display Pieces Containing Advertising Material for Use in the Window or in the Interior of a Store.
First use Apr. 1, 1960.

SN 98,981. Farmers Elevator Service Company, Fort Dodge, Iowa. Filed June 14, 1960.

FELCO

Owner of Reg. No. 600,806.
For Livestock and Poultry Feeders and Waterers.
First use March 1959.

SN 100,721. Parks-Barnes, Inc., Hermosa Beach, Calif. Filed July 12, 1960.

ROCK-O-RAMA

For Colored Pumice Stones Sold as Decorative Material for Indoor and Outdoor Displays—for Example, in Ornamental Jars, Terrariums, Vases, Plant Pots, Pools and Rock Gardens, as Mosaics and as Table and Patio Decorations, and for Commercial Window and Counter Displays.
First use June 29, 1960.

SN 100,830. Aluminum Hardwares, Inc., Forest Park, Ill. Filed July 14, 1960.

NORTHERN LIGHTS

For Aluminum Christmas Trees, Aluminum Garlands and Christmas Tree Stands.
First use Feb. 29, 1960.

SN 100,879. Carl C. Beck, Albany, N.Y. Filed July 15, 1960.

CABEC

For Artificial Wreaths and Floral Baskets.
First use Feb. 4, 1960.

Class 51—Cosmetics and Toilet Preparations

SN 74,553. Staber's Hollywood Cosmetic Laboratories, Inc., Los Angeles, Calif. Filed May 26, 1959.

Staber's for Beauty

The wording "For Beauty" is disclaimed apart from the mark as shown. Owner of Reg. No. 513,949.
For Preparations for Conditioning and Grooming the Hair—Namely, Wave Cream, Hair Dressings, and Shampoo.
First use in 1934.

SN 77,674. Les Parfums Chypron S.A., Bois-Colombes, Seine, France. Filed July 14, 1959.

SANICUTAN

Owner of French Reg. No. 477,830, dated Jan. 28, 1959 (Seine); Natl. Inst. No. 119,994; and U.S. Reg. No. 705,064.
For Eau de Cologne, Perfumes, Toilet Waters, Hair Tonics, Shaving Soaps, Cosmetic Skin Astringents, Hair and After-Shaving Lotions, Depilatories, Perspiration Checks and Deodorants, Brilliantine, Hair Oil, Mouth Wash, Toothpaste, Cosmetic Skin Creams, Suntan Cream and Oil Bath Salts, Body Skin Powder, Face Powder, Rouge, Lipsticks, Eyebrow Pencil, Eyelid Shadow, Eyebrow and eyelash Mascara, Balm for Use on Eyelashes, Make-Up in Cake and Liquid Form, Nail Polish, Nail Polish Remover, Nail Oil and Nail White Pencil.

SN 82,741. Valmor Products Company, Chicago, Ill. Filed Oct. 5, 1959.

LONG-GLO

For Water-Repellent Hair Dressing Preparations.
First use Mar. 12, 1959.

SN 91,365. Walter Friedmann, d.b.a. Firma Cosmetique Sans Soucis, Baden-Baden, Germany. Filed Feb. 23, 1960.

BIO-DROGA-KOSMETIK

Owner of German Reg. No. 666,715, dated Nov. 16, 1954.
For Cellular Extracts Incorporated as an Ingredient in Cosmetics.

SN 97,457. Charles of the Ritz, Inc., New York, N.Y. Filed May 19, 1960.

FRESH PAINT

For Nail Lacquer, Nail Polish Remover, and Cuticle Lotion.
First use Feb. 26, 1959, on nail lacquer.

SN 97,979. Avon Products, Inc., New York, N.Y. Filed May 27, 1960.

SKIN-SO-SOFT

For Skin Lotion and Cream.
First use May 6, 1960.

SN 99,044. Cippy, Inc., Clifton, N.J. Filed June 15, 1960.

*fashion model

For Face Powders, Lipsticks, Eyelash Mascara, Eyebrow Mascara, Nail Polish, Hair Spray, Cologne, Perfume, Deodorant, Cake Make-Up, Liquid Make-Up.
First use May 17, 1960.

SN 99,391. Allen B. Wrisley Company, Chicago, Ill. Filed June 20, 1960.

BLUE FERN

For Perfume and Cologne.
First use Jan. 15, 1959.

SN 99,917. The Coppertone Corporation, Memphis, Tenn. Filed June 29, 1960.

QT

For Indoor Tanning Lotion.
First use Mar. 8, 1960.

SN 100,039. Pacquin, Inc., New York, N.Y. Filed June 30, 1960.

MANI MAGIC

Owner of Reg. No. 630,607.
For Cream Cuticle Remover.
First use in or about August 1959.

Class 52 — Detergents and Soaps

SN 70,069. MacDermid Incorporated, Waterbury, Conn. Filed Mar. 23, 1959.

METEX Copper Brightener CI

The words "Copper Brightener" are hereby disclaimed apart from the mark as shown. Owner of Reg. Nos. 186,356, 525,342, and 618,445.
For Copper brighteners.
First use Feb. 19, 1957.

SERVICE MARKS

Class 100 — Miscellaneous

SN 83,905. Ontario Chemical and Equipment Co., Ontario, Calif. Filed Oct. 23, 1959.

FABMAGIC

For Rug Cleaning Machine Rental Services.
First use Sept. 27, 1957.

SN 91,075. The Corporation Trust Company, New York, N.Y. Filed Feb. 17, 1960.

CT SYSTEM

For Rendering to Lawyers Services Relating to the Incorporation, Qualification and Statutory Representation of Corporations, and Other Related Services.
First use during January 1949.

Class 101 — Advertising and Business

SN 41,016. Glowing Home Company, New York, N.Y. Filed Nov. 20, 1957.

GLOWING HOME 

For Advertising and Informational Services to Retail Furniture Dealers Comprising the Furnishing of Advertising Mailing Pieces, Circulars, Flyers and Mats and the Dissemination of Information Relating to Purchasing, Sales and Collection Operations of Retail Furniture Dealers.
First use in or about March 1957.

SN 82,307. United Rent-Alls, Inc., Lincoln, Nebr. Filed Sept. 28, 1959.

United Rent-Alls

For Renting Power Tools, Garden and Yard Tools, Party and Banquet Needs Such as Chairs, Tables, Silverware, Chinaware, Household and Sick Room Furniture, Contractors' Equipment, Office Equipment.
First use July 13, 1948.

Class 102 — Insurance and Financial

SN 72,434. Insurance Company of North America, Philadelphia, Pa. Filed Apr. 28, 1959.

INSURANCE BY NORTH AMERICA

No exclusive claim is made to the words "Insurance By" apart from the mark as shown.
For Underwriting of Insurance.
First use in February 1959.

SN 72,436. Insurance Company of North America, Philadelphia, Pa. Filed Apr. 28, 1959.

INA

For Underwriting of Insurance.
First use in February 1959.

SN 72,437. Insurance Company of North America, Philadelphia, Pa. Filed Apr. 28, 1959.



The drawing is lined for blue.
For Underwriting of Insurance.
First use in February 1959.

SN 79,557. Amalgamated Credit Systems, Inc., St. Louis, Mo., assignee of D–S Agency, Inc., St. Louis, Mo. Filed Aug. 14, 1959.



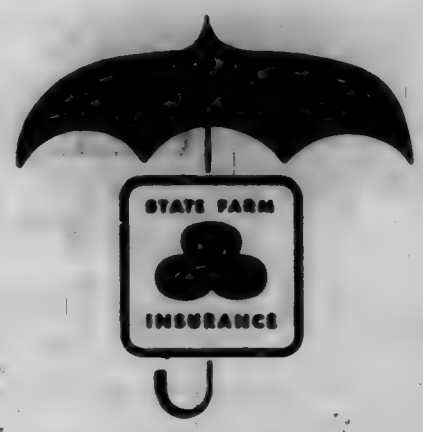
No claim is made to the words "Credit Systems" apart from the mark as shown.
For Delinquent Account Collection Services.
First use June 15, 1959.

SN 83,861. The Budget Plan, Inc., Huntingdon, Pa. Filed Oct. 23, 1959.

THE MONEY MAN AT THE BUDGET PLAN

For Personal Loan Service.
First use Aug. 17, 1959.

SN 96,369. State Farm Mutual Automobile Insurance Company, Bloomington, Ill. Filed May 3, 1960.



The words "Auto," "Life," "Fire," and "Insurance" are disclaimed apart from the mark as shown. Owner of Reg. Nos. 632,863, 632,864, and 645,890.
For Underwriting Life Insurance.
First use Dec. 8, 1959.

Class 106 — Material Treatment

SN 96,073. Aluminum Development Corporation, Pelham Manor, N.Y. Filed Apr. 28, 1960.

ALDECO

For Anodizing the Aluminum Articles of Others.
First use Apr. 15, 1960.

Class 107 — Education and Entertainment

SN 83,175. Bennett Levine, Baltimore, Md. Filed Oct. 13, 1959.

BRICKS AND BATS

For Title of a Radio Program.
First use November 1958.

SN 87,329. Earle C. Anthony, Inc., Los Angeles, Calif. Filed Dec. 15, 1959.

KFI FROST WARNINGS

Applicant disclaims the exclusive right to the use of the words "Frost Warnings" except in the form shown.
For Providing, Through the Medium of Radio, Agricultural Weather Forecasts, Particularly Minimum Temperature Forecasts.
First use Nov. 15, 1941.

SN 97,494. Laudermilk and Yoder, Long Beach, Calif. Filed May 19, 1960.

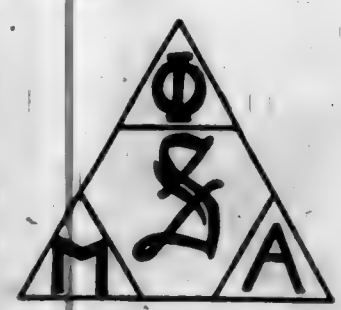
FLIGHT TO ADVENTURE

For Television Program in the Nature of a Documentary, Travelogue, Adventure Series.
First use Nov. 13, 1955.

COLLECTIVE MEMBERSHIP MARKS

Class 200

SN 63,742. Phi Mu Alpha Sinfonia Fraternity of America, Incorporated, d.b.a. Phi Mu Alpha Sinfonia Fraternity of America and Phi Mu Alpha Sinfonia Fraternity, Murray, Ky. Filed Dec. 5, 1958.



The mark consists of an equalateral triangle bearing: a large letter "S" in center; the Greek letter "Phi" at top corner; "M" at left corner; and "A" in right corner. Each corner-letter is sectioned from the center portion by the use of a line which forms a triangle of each corner.

For Indicating Membership in Phi Mu Alpha Sinfonia Fraternity.

First use May 10, 1910.

TM 76

TRADEMARK REGISTRATIONS ISSUED
PRINCIPAL REGISTER

Class 1 — Raw or Partly Prepared Materials

709,492. METAL SKIN. Paper Products Development Corp. SN 90,940. Pub. 10–25–60. Filed 2–15–60.

Class 2 — Receptades

709,493. CANTEEN AND DESIGN. Automatic Canteen Company of America. SN 46,531. Pub. 10–25–60. Filed 2–25–58.

709,494. SYSTE-MATIC. Butler Manufacturing Company. SN 86,538. Pub. 10–25–60. Filed 12–3–59.

709,495. QUIK-SERV. United States Envelope Company. SN 95,789. Pub. 10–25–60. Filed 4–25–60.

709,496. BEAUTY-PAK. E. W. Twitchell Incorporated. SN 96,442. Pub. 10–25–60. Filed 5–4–60.

709,497. MELCOWARE. Spaulding Industries, Inc. SN 96,634. Pub. 10–25–60. Filed 5–6–60.

Class 4 — Abrasives and Polishing Materials

709,498. GEOMETRIC DESIGN. S. C. Johnson & Son, Inc. SN 96,122. Pub. 10–25–60. Filed 4–29–60.

Class 5 — Adhesives

709,499. PETER COOPER'S. Peter Cooper Corporations. SN 95,572. Pub. 10–25–60. Filed 4–22–60.

709,500. SANSET. Aristo Corporation. SN 97,440. Pub. 10–25–60. Filed 5–19–60.

Class 6 — Chemicals and Chemical Compositions

709,501. OLOX. Dril-Kem, Inc. SN 53,862. Pub. 10–25–60. Filed 6–19–58.

709,502. BIOFERM. Bioferm Corporation. SN 72,694. Pub. 10–25–60. Filed 5–1–59.

709,503. LUMISCREEN. Hercules Powder Company, assignee of Imperial Color Chemical & Paper Corp. SN 78,204. Pub. 10–25–60. Filed 7–22–59.

709,504. CUPOSIT. Shipley Company, Inc. SN 78,933. Pub. 10–25–60. Filed 8–3–59.

709,505. ZERO MASTER. Gold Seal Chemicals Corporation. SN 86,656. Pub. 10–25–60. Filed 12–4–59.

709,506. ZERO SAFE. Gold Seal Chemicals Corporation. SN 86,657. Pub. 10–25–60. Filed 12–4–59.

709,507. X-ALL. Amchem Products, Inc. SN 86,716. Pub. 10–25–60. Filed 12–7–59.

709,508. ANT DINER. The Sterling Co., Inc. SN 96,280. Pub. 10–25–60. Filed 5–2–60.

709,509. DAPPER. The Dill Company, Inc. SN 97,180. Pub. 10–25–60. Filed 5–16–60.

Class 8 — Smokers' Articles, Not Including Tobacco Products

709,510. THE TRADE WINDS LINE AND DESIGN. Brier-King Mfg. Co. SN 55,874. Pub. 10–25–60. Filed 7–16–58.

Class 10 — Fertilizers

709,511. SHELL N-SOL. Shell Oil Company, assignee of Shell Chemical Corporation. SN 80,690. Pub. 10–25–60. Filed 9–1–59.

Class 12 — Construction Materials

709,512. QUARTER CENTURY BONDED ROOFS ETC. AND DESIGN. Allied Chemical Corporation. SN 80,767. Pub. 10–25–60. Filed 9–3–59.

709,513. DENNYFOIL D'OR. Denny Paper & Board Company. SN 84,594. Pub. 10–25–60. Filed 11–4–59.

709,514. BAROMIX. Berry Asphalt Company. SN 90,488. Pub. 10–25–60. Filed 2–8–60.

709,515. ORANGE. Mayer Pollock Steel Corporation. SN 91,030. Pub. 10–25–60. Filed 2–16–60.

709,516. SOLARBAR. Arketex Ceramic Corporation. SN 94,038. Pub. 10–25–60. Filed 3–31–60.

709,517. ANCHORBOND. Allied Chemical Corporation. SN 95,966. Pub. 10–25–60. Filed 4–28–60.

709,518. PLI-TAB. Plibrico Company. SN 98,739. Pub. 10–25–60. Filed 6–9–60.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

709,519. OKUSA AND DESIGN. Okusa International Corporation. SN 90,131. Pub. 10–25–60. Filed 1–26–60.

709,520. STIMPSON. Edwin B. Stimpson Company, Inc. SN 92,326. Pub. 10–25–60. Filed 3–7–60.

Class 14 — Metals and Metal Castings and Forgings

709,521. EX-TEN. United States Steel Corporation. SN 95,334. Pub. 10–25–60. Filed 4–18–60.

Class 15 — Oils and Greases

709,522. KENOIL. Kendall Refining Company. SN 99,435. Pub. 10–25–60. Filed 6–21–60.

709,523. RE B EK AND DESIGN. Strohmeyer & Arpe Company. SN 90,797. Pub. 10–25–60. Filed 6–27–60.

Class 16 — Protective and Decorative Coatings

709,524. FLOOR COMMAND. Grace-Lee Products Inc. SN 81,559. Pub. 10–25–60. Filed 9–17–59.

709,525. LASTICOLOR. Taussig Paint Sales Co., Inc. SN 84,629. Pub. 10-25-60. Filed 11-4-59.

709,526. FASHION KOTE. Seal Rite Caulking Company, Inc. SN 86,826. Pub. 10-25-60. Filed 12-7-59.

709,527. RUSTLON. Dupli-Color Products Co., Inc. SN 86,942. Pub. 10-25-60. Filed 12-9-59.

709,528. TRI-DELTA AND DESIGN. Tri-Delta Products Co. SN 92,829. Pub. 10-25-60. Filed 3-14-60.

709,529. SEAL-DRY. Warren L. Sheldon, d.b.a. Seal Dry Products Company. SN 95,525. Pub. 10-25-60. Filed 4-21-60.

709,530. REILLY REDHEAD AND DESIGN. Reilly Tar & Chemical Corporation. SN 95,765. Pub. 10-25-60. Filed 4-25-60.

Class 17—Tobacco Products

709,531. HOLLYWOOD. Steuben Cigarette Co., Inc. SN 82,730. Pub. 10-25-60. Filed 10-5-59.

Class 18—Medicines and Pharmaceutical Preparations

709,532. PACIFIC. The Rabin Company, d.b.a. John David Drug Company. SN 72,259. Pub. 10-25-60. Filed 4-27-59.

709,533. ACTOL. The S. E. Massengill Company. SN 76,962. Pub. 8-9-60. Filed 7-2-59.

709,534. TYTACSIN. Saul M. Herstein, d.b.a. Southwest Surgical Service. SN 90,841. Pub. 10-25-60. Filed 2-12-60.

709,535. PROLYSAMINE. The Upjohn Company. SN 92,569. Pub. 10-25-60. Filed 3-10-60.

709,536. SENOLYT. The Purdue Frederick Company. SN 93,005. Pub. 10-25-60. Filed 3-10-60.

709,537. S.F.-FORTE. The Upjohn Company. SN 93,641. Pub. 10-25-60. Filed 3-24-60.

709,538. SOMARETIC. Carter Products, Inc. SN 95,418. Pub. 10-25-60. Filed 4-20-60.

709,539. DRAMCILLIN-S. White Laboratories, Inc. SN 96,449. Pub. 10-25-60. Filed 5-4-60.

709,540. ARCROSE. The May Department Stores Company. SN 96,512. Pub. 10-25-60. Filed 5-5-60.

709,541. CONTOSE. Contactinol Inc. SN 96,680. Pub. 10-25-60. Filed 5-9-60.

709,542. FUL-GLO. Barnes-Hind Ophthalmic Products, Inc. SN 97,612. Pub. 10-25-60. Filed 5-23-60.

709,543. ALLEREST. Joseph E. Seagram & Sons, Inc. SN 98,027. Pub. 10-25-60. Filed 5-27-60.

709,544. LIQUI-CEE. U.S. Standard Products Co. SN 98,175. Pub. 10-25-60. Filed 5-31-60.

709,545. ABLTABS. U.S. Vitamin & Pharmaceutical Corporation. SN 98,176. Pub. 10-25-60. Filed 5-31-60.

709,546. MINDI. The William A. Webster Company. SN 98,408. Pub. 10-25-60. Filed 6-3-60.

709,547. LIPOTHYN. Flint, Eaton & Co. SN 98,464. Pub. 10-25-60. Filed 6-6-60.

709,548. ARMATHOID. Armour and Company. SN 98,842. Pub. 10-25-60. Filed 6-13-60.

709,549. REDUCINE ETC. AND DESIGN. The Reducine Company Limited. SN 98,933. Pub. 10-25-60. Filed 6-13-60.

709,550. UROCLENE. Salinas Pharmaceuticals Inc. SN 98,935. Pub. 10-25-60. Filed 6-13-60.

709,551. KENPECTIN. Kenwood Laboratories, Inc. SN 99,333. Pub. 10-25-60. Filed 6-20-60.

709,552. BROCSIL. Beecham Research Laboratories Limited. SN 99,711. Pub. 10-25-60. Filed 6-27-60.

709,553. TRUQUIL. H. Lundbeck & Co., A./S. SN 99,702. Pub. 10-25-60. Filed 6-27-60.

709,554. CARBACEL AND DESIGN. Professional Pharmacal Co., Inc. SN 99,784. Pub. 10-25-60. Filed 6-27-60.

709,555. CHUZITS. American Home Products Corporation, d.b.a. Fort Dodge Laboratories. SN 99,834. Pub. 10-25-60. Filed 6-28-60.

709,556. INPERSOL. Abbott Laboratories. SN 99,901. Pub. 10-25-60. Filed 6-29-60.

709,557. MYCIFRADIN. The Upjohn Company. SN 101,068. Pub. 10-25-60. Filed 7-18-60.

709,558. EXNA. A. H. Robins Company, Inc. SN 103,073. Pub. 10-25-60. Filed 8-22-60.

Class 19—Vehicles

709,559. DMI AND DESIGN. Dennis Mitchell Industries. SN 70,701. Pub. 10-25-60. Filed 4-2-58.

709,560. MOTORETTE. Yard-Man, Inc. SN 83,587. Pub. 10-25-60. Filed 10-19-59.

709,561. SPACE CORP. AND DESIGN. Space Corp. SN 89,953. Pub. 10-25-60. Filed 1-29-60.

709,562. RANCHERO AND DESIGN. Vought Industries, Inc. SN 93,886. Pub. 10-25-60. Filed 3-28-60.

709,563. AUTO-ATTIC. The Eagle-Picher Company. SN 97,465. Pub. 10-25-60. Filed 5-19-60.

709,564. FETH-R-MATIC. McCauley Industrial Corporation. SN 97,501. Pub. 10-25-60. Filed 5-19-60.

709,565. WATERSPEED. The Fiberglass Boat Company. SN 97,641. Pub. 10-25-60. Filed 5-23-60.

Class 21—Electrical Apparatus, Machines, and Supplies

709,566. MINNIE. Amphenol Electronics Corporation. SN 64,239. Pub. 10-25-60. Filed 12-15-58.

709,567. SHARP AND DESIGN. Hayakawa Electric Co. Ltd. SN 69,422. Pub. 10-25-60. Filed 3-12-59.

709,568. DAUPHIN. Hisao Akasaka. SN 75,046. Pub. 10-25-60. Filed 6-4-59.

709,569. SKYLIGHT. Macbeth Corporation. SN 79,496. Pub. 10-25-60. Filed 8-13-59.

709,570. ENCO. Humble Oil & Refining Company, by merger from Penola Oil Company. SN 82,358. Pub. 10-25-60. Filed 9-29-59.

709,571. PIPING-HOT. Kary Canatsey. SN 85,296. Pub. 10-25-60. Filed 11-16-59.

709,572. ELECTRODYNE. Hupp Corporation. SN 85,343. Pub. 10-25-60. Filed 11-16-59.

709,573. MARINE CORE. Amphenol-Borg Electronics Corporation. SN 85,705. Pub. 10-25-60. Filed 11-20-59.

709,574. MEDALIST. Sears, Roebuck and Co. SN 86,339. Pub. 10-25-60. Filed 11-30-59.

709,575. ALCUB. Allen West & Company Limited. SN 88,702. Pub. 10-25-60. Filed 12-4-59.

709,576. CLAGE AND DESIGN. Claus-Holmer Gerdes, d.b.a. Claus-Holmer Gerdes Heiswasserapparate & Armaturen. SN 88,525. Pub. 10-25-60. Filed 1-6-60.

709,577. KIRKHOF AND DESIGN. Kirkhof Manufacturing Corporation. SN 92,380. Pub. 10-25-60. Filed 3-8-60.

709,578. DELMONICO. Thompson-Starrett Co., Inc. SN 92,972. Pub. 10-25-60. Filed 3-16-60.

709,579. MELABS. Melabs. SN 93,829. Pub. 10-25-60. Filed 3-28-60.

709,580. MELABS AND DESIGN. Melabs. SN 94,174. Pub. 10-25-60. Filed 4-1-60.

709,581. RICE-O-MAT. Matsushita Electric Corporation of America. SN 94,406. Pub. 10-25-60. Filed 4-5-60.

709,582. ROYALINE LIGHTING AND DESIGN. John C. Virden Company. SN 95,132. Pub. 10-25-60. Filed 4-14-60.

709,583. COLORESCENT. Prescolite Manufacturing Corporation. SN 95,313. Pub. 10–25–60. Filed 4–18–60.

709,584. VELOTRON. Velotron Inc. SN 95,335. Pub. 10–25–60. Filed 4–18–60.

709,585. AMPLIFRAME. North American Philips Company, Inc. SN 95,383. Pub. 10–25–60. Filed 4–19–60.

709,586. ISOVAL. Etablissements Merlin & Gerin S.A. SN 95,426. Pub. 10–25–60. Filed 4–20–60.

709,587. FANCIFUL REPRESENTATION OF A SMALL PERSON. Cannon Electric Company. SN 95,686. Pub. 10–25–60. Filed 4–25–60.

709,588. MORPHO. Cannon Electric Company. SN 95,687. Pub. 10–25–60. Filed 4–25–60.

709,589. MONO-TET. W. L. Gore & Associates, Inc. SN 95,717. Pub. 10–25–60. Filed 4–25–60.

709,590. GOLD COMET. In-Sink-Erator Manufacturing Company. SN 95,722. Pub. 10–25–60. Filed 4–25–60.

709,591. SILVER STAR. In-Sink-Erator Manufacturing Company. SN 95,724. Pub. 10–25–60. Filed 4–25–60.

709,592. ALCUPAN. Alois Schiffmann. SN 95,853. Pub. 10–25–60. Filed 4–26–60.

Class 22 — Games, Toys, and Sporting Goods

709,593. KADETS OF AMERICA AND REPRESENTATION OF EAGLE, RIFLES, STARS, ETC. Kadets of America. SN 51,025. Pub. 10–25–60. Filed 5–5–58.

709,594. TORAY AND DESIGN. Toyo Rayon Co., Ltd. SN 81,649. Pub. 10–25–60. Filed 9–18–59.

709,595. M METRO-SPORTS AND DESIGN. Metro Sports Company. SN 84,153. Pub. 10–25–60. Filed 10–28–59.

709,596. HEADLINER. Wilson Sporting Goods Co. SN 84,826. Pub. 10–25–60. Filed 11–6–59.

709,597. SKYWAY. Bridgestone Tire Company Limited. SN 86,867. Pub. 10–25–60. Filed 12–8–59.

709,598. BS AND DESIGN. Bridgestone Tire Company Limited. SN 86,868. Pub. 10–25–60. Filed 12–8–59.

709,599. LUNAR LAUNCHER. Hasenfeld Bros., Inc. SN 95,596. Pub. 10–25–60. Filed 4–22–60.

709,600. HASBRO AND DESIGN. Hasenfeld Bros., Inc. SN 95,599. Pub. 10–25–60. Filed 4–22–60.

709,601. HY-ALIA. Jay J. Lennon, d.b.a. Lennon Enterprises. SN 95,739. Pub. 10–25–60. Filed 4–25–60.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

709,602. SPEED KLEEN. Kollmann Mfg. Co., Inc. SN 85,351. Pub. 10–25–60. Filed 11–16–59.

709,603. RAIN MACHINE AND DESIGN. Rain Machine, Inc. SN 86,830. Pub. 10–25–60. Filed 12–7–59.

709,604. INCREMATIC. Gallmeyer & Livingston Company. SN 90,247. Pub. 10–25–60. Filed 2–3–60.

709,605. SACKETT AND DESIGN. The A. J. Sackett and Sons Company. SN 92,304. Pub. 10–25–60. Filed 3–7–60.

709,606. ROTO MISSION AND DESIGN. Airborne Accessories Corporation. SN 95,965. Pub. 10–25–60. Filed 4–28–60.

709,607. MALSBARY AND DESIGN. Malsbary Manufacturing Company. SN 96,602. Pub. 10–25–60. Filed 5–6–60.

709,608. METROPOLITAN. The Bastian-Blessing Company. SN 96,662. Pub. 10–25–60. Filed 5–9–60.

709,609. DYNAPAK. General Dynamics Corporation. SN 96,848. Pub. 10–25–60. Filed 5–11–60.

709,610. SPEEDISTACKER. Moore Business Forms, Inc. SN 97,085. Pub. 10–25–60. Filed 5–13–60.

Class 24 — Laundry Appliances and Machines

709,611. ULTIMATIC. Whirlpool Corporation. SN 95,022. Pub. 10–25–60. Filed 4–18–60.

709,612. GALAMATIC. A.E.I.-Hotpoint Limited. SN 95,850. Pub. 10–25–60. Filed 4–19–60.

Class 26 — Measuring and Scientific Appliances

709,613. TELECONTROL. Hancock Industries, Inc. SN 47,763. Pub. 11–18–58. Filed 3–14–58.

709,614. SPECTROLATOR. Microchemical Specialties Co. SN 62,580. Pub. 10–25–60. Filed 11–17–58.

709,615. SEPTON. Voigtlander A.G. SN 94,035. Pub. 10–25–60. Filed 10–26–59.

709,616. SPACE CORP. COMET AND GLOBE DESIGN. Space Corp. SN 89,955. Pub. 10–25–60. Filed 1–29–60.

709,617. TMI. Toastmasters International. SN 93,897. Pub. 8–9–60. Filed 3–21–60.

709,618. V (FANCIFUL). Calculator Equipment Corporation. SN 97,170. Pub. 10–25–60. Filed 5–16–60.

Class 28 — Jewelry and Precious-Metal Ware

709,619. M–H AND DESIGN. McGrath-Hamin, Inc. SN 94,408. Pub. 10–25–60. Filed 4–5–60.

709,620. SHED-LITE. Shedlin Inc. SN 94,617. Pub. 10–25–60. Filed 4–7–60.

709,621. PHOTO-FLEX. Speidel Corporation. SN 94,846. Pub. 10–25–60. Filed 4–11–60.

709,622. LEILANI. The International Silver Company. SN 95,176. Pub. 10–25–60. Filed 4–15–60.

709,623. MARVELUSTRE. Marvella, Inc. SN 95,295. Pub. 10–25–60. Filed 4–18–60.

709,624. TWEEDBEADS. Coro, Inc. SN 95,484. Pub. 10–25–60. Filed 4–21–60.

709,625. RUBY-ITE. Diamond-Ite International, Inc. SN 95,488. Pub. 10–25–60. Filed 4–21–60.

Class 29 — Brooms, Brushes, and Dusters

709,626. BAC-O-BATH. Dave Rose, Inc. SN 88,690. Pub. 10–25–60. Filed 1–6–60.

Class 31 — Filters and Refrigerators

709,627. FAT-TENDER. The Broaster Co. SN 91,143. Pub. 10–25–60. Filed 2–18–60.

709,628. PIGGY-BACK. W. O. Baker, d.b.a. Baker Filtration Company. SN 95,675. Pub. 10–25–60. Filed 4–25–60.

Class 32 — Furniture and Upholstery

709,629. TORSION-FLEX. Modern Sleep Products Company. SN 74,234. Pub. 8–1–60. Filed 5–21–59.

709,630. THEO. A. KOCH®. Emil J. Paidar Company. SN 78,724. Pub. 10–25–60. Filed 7–30–59.

709,631. FLEXSTEEL. Flexsteel Industries, Inc. SN 84,220. Pub. 10–25–60. Filed 10–29–59.

709,632. TOKONOMA. Douglas Furniture Corporation. SN 86,548. Pub. 10–25–60. Filed 12–3–59.

709,633. COLONIAL PREMIER. Colonial-Premier Company. SN 95,479. Pub. 10–25–60. Filed 4–21–60.

Class 34 — Heating, Lighting, and Ventilating Apparatus

709,634. HEARTHMATE. Wallace Silversmiths, Inc. SN 53,967. Pub. 10–25–60. Filed 6–20–58.

709,635. HEARTHMASTER. Wallace Silversmiths, Inc. SN 53,968. Pub. 10–25–60. Filed 6–20–58.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

709,636. NEWPORT. Associated Tire Dealers, Inc., d.b.a. Newport Tire Stores. SN 89,990. Pub. 10–25–60. Filed 2–1–60.

709,637. FINE-LINE. Seiberling Rubber Company. SN 96,429. Pub. 10–25–60. Filed 5–4–60.

Class 37 — Paper and Stationery

709,638. VUE ALL. Robert R. Citron. SN 75,902. Pub. 7–26–60. Filed 6–17–59.

709,639. LINDEN HOUSE. Twin County Grocers, Incorporated. SN 86,708. Pub. 10–25–60. Filed 10–20–59.

709,640. RITEMOR. White & Wyckoff Mfg. Co. SN 87,098. Pub. 10–25–60. Filed 12–10–59.

709,641. SABER. David Kahn, Inc. SN 88,668. Pub. 10–25–60. Filed 1–8–60.

709,642. FLINTNAMEL. Metz Paper Company. SN 92,081. Pub. 10–25–60. Filed 3–2–60.

709,643. PG POLYGLEAM. Crocker, Burbank Papers Inc. SN 93,159. Pub. 10–25–60. Filed 3–18–60.

709,644. EXPERIENCE. Kurtz Bros. SN 95,605. Pub. 10–25–60. Filed 4–22–60.

709,645. PAPERTIME BY CASE AND DESIGN. Case Stationery Co., Inc. SN 95,876. Pub. 10–25–60. Filed 4–27–60.

709,646. MT. RUSHMORE. Carpenter Paper Company. SN 96,087. Pub. 10–25–60. Filed 4–29–60.

Class 38 — Prints and Publications

709,647. TEXTURAMA. Philip Brodatz, d.b.a. Customlab. SN 83,601. Pub. 10–25–60. Filed 10–20–59.

709,648. TOURETTES. Shell Oil Company. SN 89,465. Pub. 10–25–60. Filed 1–21–60.

709,649. ARCO. The Acorn Company. SN 91,065. Pub. 10–25–60. Filed 2–17–60.

709,650. SENATOR CAUCUS. General Features Corporation. SN 93,681. Pub. 10–25–60. Filed 3–25–60.

709,651. LADIES DAY. General Features Corporation. SN 94,663. Pub. 10–25–60. Filed 4–8–60.

709,652. PIONEER PETE'S. Daniel R. Valentine. SN 94,928. Pub. 10–25–60. Filed 4–12–60.

709,653. JEFF COBB. General Features Corporation. SN 95,076. Pub. 10–25–60. Filed 4–14–60.

Class 39 — Clothing

709,654. SINGER AND DESIGN. Singer Glove Manufacturing Company. SN 28,808. Pub. 11–4–58. Filed 4–24–57.

709,655. SINGER. Singer Glove Manufacturing Company. SN 28,809. Pub. 11–4–58. Filed 4–24–57.

709,656. CAPER MATES. Max A. Okin, d.b.a. Caper Mates Company. SN 53,525. Pub. 10–25–60. Filed 6–13–58.

709,657. STYLED BY ALLEGHENY AND DESIGN. S. Schwab Company. SN 70,831. Pub. 10–25–60. Filed 4–3–59.

709,658. REPRESENTATION OF ZEBRA. El Morocco Corporation. SN 72,597. Pub. 10–25–60. Filed 4–30–59.

709,659. ABED AND ABOUT. Kathryn Cooper. SN 74,382. Pub. 10–25–60. Filed 5–25–59.

709,660. SNAP TAB. Mabs, Inc., d.b.a. Lancer of California. SN 79,257. Pub. 10–25–60. Filed 8–10–59.

709,661. "MISTER PACKABLE" AND DESIGN. Eagle Clothes, Inc. SN 79,634. Pub. 10–25–60. Filed 8–17–59.

709,662. KOOKIE. Shoe Corporation of America. SN 85,916. Pub. 5–31–60. Filed 11–23–59.

709,663. PATIO LIFE. Shoe Corporation of America. SN 85,918. Pub. 10–25–60. Filed 11–23–59.

709,664. BENNISONS. Barouch Bros., Inc. SN 85,955. Pub. 10–25–60. Filed 11–24–59.

709,665. GAY LASS. Blue Bell, Inc. SN 85,956. Pub. 10–25–60. Filed 11–24–59.

709,666. THOM McAN DOUBLE PLAY. Melville Shoe Corporation. SN 86,170. Pub. 10–25–60. Filed 11–27–59.

709,667. RAVE. The Formfit Company. SN 86,250. Pub. 2–9–60. Filed 11–30–59.

709,668. CONTINENTAL CREWS ETC. AND DESIGN. Rockford Textile Mills, Inc. SN 81,941. Pub. 11–8–60. Filed 9–23–59.

709,669. EVAPONTE AND DESIGN. Evaponte AG. SN 88,030. Pub. 10–25–60. Filed 12–28–59.

709,670. ELY & WALKER. Burlington Industries, Inc. SN 88,643. Pub. 10–25–60. Filed 1–8–60.

709,671. REPRESENTATION OF A GIRL DANCING. William Underberger, d.b.a. Coast Ballet Manufacturing Company. SN 91,479. Pub. 10–25–60. Filed 2–23–60.

709,672. "LITTLE RASCAL" AND DESIGN. Bernstein & Sons Shirt Corp. SN 92,861. Pub. 10–25–60. Filed 3–15–60.

709,673. ALFRED WERBER OF SAINT LOUIS. Alfred Werber, Inc. SN 93,032. Pub. 10–25–60. Filed 3–16–60.

709,674. BARRY WALT MIDWEIGH. Barry-Walt, Inc. SN 93,485. Pub. 10–25–60. Filed 3–23–60.

709,675. KAYTIDES. Kayser Corporation of America. SN 93,808. Pub. 10–25–60. Filed 3–28–60.

709,676. HAWKEYE AND DESIGN. Acme Boot Company, Inc. SN 93,967. Pub. 10–25–60. Filed 3–30–60.

709,677. HEATHER-LUVLY. J.I. Originals, Inc. SN 95,094. Pub. 10–25–60. Filed 4–14–60.

709,678. FLI-FRO. Schiller Bros., Inc. SN 95,394. Pub. 10–25–60. Filed 4–19–60.

709,679. ALL CONFERENCE. Marcus Loeb & Company, Inc. SN 95,508. Pub. 10–25–60. Filed 4–21–60.

709,680. ZORRA. Fox Wood Knitwear, Inc. SN 95,581. Pub. 10–25–60. Filed 4–22–60.

709,681. MUNSING. Munsingwear, Inc. SN 95,613. Pub. 10–25–60. Filed 4–22–60.

709,682. WINTERNAP. The Perry Knitting Company. SN 95,760. Pub. 10–25–60. Filed 4–25–60.

709,683. HEARTHSIDE. Salant & Salant, Inc. SN 96,040. Pub. 10–25–60. Filed 4–28–60.

709,684. MARATHON CLOTH. Robert Hall Clothes, Inc. SN 96,218. Pub. 10–25–60. Filed 5–2–60.

709,685. DAILY-NEW. The Lovable Brassiere Co. SN 97,770. Pub. 10–25–60. Filed 5–24–60.

709,686. BUTTONS "N" BOWS. Carolina Maid Products, Inc. SN 97,988. Pub. 10–25–60. Filed 5–27–60.

709,687. GRAND MAID. G. & L. Manufacturing Co., Inc. SN 98,078. Pub. 10–25–60. Filed 5–31–60.

709,688. WK–A. Wright Knit Hosiery Mills, Inc. SN 98,688. Pub. 10–25–60. Filed 6–8–60.

Class 40—Fancy Goods, Furnishings, and Notions

709,689. CONFORMA. I. B. Kleinert Rubber Company. SN 96,011. Pub. 10–25–60. Filed 4–28–60.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

709,690. SOLANO. Coin and Bernstein, Inc. SN 83,058. Pub. 10–25–60. Filed 10–12–59.

709,691. BOCKERLON. Irving Rothlein. SN 88,622. Pub. 10–25–60. Filed 1–7–60.

709,692. ELY & WALKER. Burlington Industries, Inc. SN 88,644. Pub. 10–25–60. Filed 1–8–60.

709,693. LADY AUGUSTA. United Merchants and Manufacturers, Inc. SN 92,666. Pub. 10–25–60. Filed 3–11–60.

709,694. WAVERLY. F. Schumacher & Co. SN 95,856. Pub. 10–25–60. Filed 4–26–60.

709,695. BATHSPUN. United Merchants and Manufacturers, Inc. SN 97,727. Pub. 10–25–60. Filed 5–23–60.

709,696. SENECRON. United Merchants and Manufacturers, Inc. SN 97,728. Pub. 10–25–60. Filed 5–23–60.

709,697. VOILA. Ottavia Incorporated. SN 97,864. Pub. 10–25–60. Filed 5–25–60.

709,698. PLASTI-MACHE. Ben Walters Inc. SN 97,896. Pub. 10–25–60. Filed 5–25–60.

Class 44—Dental, Medical, and Surgical Appliances

709,699. MARLEX. Phillips Petroleum Company. SN 75,351. Pub. 10–25–60. Filed 6–8–59.

709,700. THE ORIGINAL SUN-FLECTOR. Lawrence Schrager, d.b.a. North American Plastics Company. SN 84,020. Pub. 10–25–60. Filed 10–26–59.

709,701. THERMASSAGE. Health Aids, Inc. SN 85,013. Pub. 10–25–60. Filed 11–10–59.

709,702. ELLMAN ROTO-PRO. Pfingst & Company, Inc. SN 91,621. Pub. 10–25–60. Filed 2–25–60.

709,703. SONOCAINE. Jose A. Correa. SN 94,568. Pub. 10–25–60. Filed 4–7–60.

709,704. SCHERMER STEREOGESIC. Robert Schermer and Marvin Schermer. SN 95,771. Pub. 10–25–60. Filed 4–25–60.

709,705. THERM X-CHANGE. Gorman-Rupp Industries, Inc. SN 101,094. Pub. 10–25–60. Filed 7–19–60.

709,706. AQUAMATIC K-THERMIA. Gorman-Rupp Industries, Inc. SN 101,095. Pub. 10–25–60. Filed 7–19–60.

709,707. PACON AND DESIGN. Pacon Manufacturing Corporation. SN 101,193. Pub. 10–25–60. Filed 7–20–60.

709,708. PACON. Pacon Manufacturing Corporation. SN 101,194. Pub. 10–25–60. Filed 7–20–60.

709,709. BONFIL. The L. D. Caulk Company. SN 101,310. Pub. 10–25–60. Filed 7–22–60.

Class 45—Soft Drinks and Carbonated Waters

709,710. HOLLY. Cohasset Beverage Company. SN 76,461. Pub. 2–2–60. Filed 6–25–59.

709,711. JAY-MAR AND DESIGN. Queen Water Manufacturing Company, Inc., d.b.a. Jay-Mar Syrup Company. SN 88,088. Pub. 10–25–60. Filed 12–28–59.

709,712. RAVE. Cramore Products, Inc. SN 92,222. Pub. 10–25–60. Filed 3–7–60.

709,713. JIFFY. General Foods Corporation. SN 92,460. Pub. 10–25–60. Filed 3–9–60.

Class 46—Foods and Ingredients of Foods

709,714. DEEP MINTED. Libby, McNeill & Libby. SN 55,797. Pub. 10–25–60. Filed 7–22–58.

709,715. HOLIDAY. Allied Old English, Incorporated. SN 62,655. Pub. 10–25–60. Filed 11–18–58.

709,716. DAI-DAY. Allied Old English, Incorporated. SN 62,658. Pub. 10–25–60. Filed 11–18–58.

709,717. MOTHER'S PANTRY. Allied Old English, Incorporated. SN 62,659. Pub. 10–25–60. Filed 11–18–58.

709,718. ENTRAPPED. Florasynth Laboratories, Incorporated. SN 73,085. Pub. 10–25–60. Filed 5–7–59.

709,719. GARNERS. T. W. Garner Food Company. SN 77,366. Pub. 10–25–60. Filed 7–9–59.

709,720. GOLDEN VALLEY. General Mills, Inc. SN 77,663. Pub. 10–25–60. Filed 7–14–59.

709,721. G.L.F. QUALITY AND DESIGN. Cooperative Grange League Federation Exchange, Inc. SN 78,906. Pub. 10–25–60. Filed 7–23–59.

709,722. PERKEL JELLATHIN. Edward S. Kellogg, d.b.a. Perkins-Kellogg Food Co. SN 81,995. Pub. 10–25–60. Filed 9–24–59.

709,723. MODERN MAID. Modern Maid Food Products Inc. SN 85,509. Pub. 10–25–60. Filed 11–17–59.

709,724. KRINKLET. Fairmont Foods Company. SN 87,343. Pub. 10–25–60. Filed 12–15–59.

709,725. ODIN AND DESIGN. Thor Packing Co., Inc. SN 90,198. Pub. 10–25–60. Filed 2–2–60.

709,726. FONTESSA. C. J. van Houten & Zoon, N.V. SN 92,037. Pub. 10–25–60. Filed 3–2–60.

709,727. HIDDEN TREASURE. South Coast Fisheries, Inc. SN 92,934. Pub. 10–25–60. Filed 3–15–60.

709,728. FLASH. Dried Milk Products Cooperative. SN 93,166. Pub. 10–25–60. Filed 3–18–60.

709,729. CONSTELLATION. Venus Foods. SN 93,233. Pub. 10–25–60. Filed 3–18–60.

709,730. TEXOCRAT AND DESIGN. Charles Wetegrove Co., Inc. SN 94,930. Pub. 10–25–60. Filed 4–12–60.

709,731. SUNSHINE. Sunshine Biscuits, Inc. SN 95,398. Pub. 10–25–60. Filed 4–19–60.

709,732. FLEER DUBBLE BUBBLE AND DESIGN. Frank H. Fleer Corporation. SN 97,393. Pub. 10–25–60. Filed 5–18–60.

709,733. CUSTOM HOUSE. Riviera Packing Company. SN 97,520. Pub. 10–25–60. Filed 5–19–60.

Class 47—Wines

709,734. HAWAIIAN ROSE. John Bardenheier Wine & Liquor Company, d.b.a. Bardenheiers Wine Cellars. SN 82,626. Pub. 10–25–60. Filed 10–5–59.

709,735. LEI. Schenley Industries, Inc., d.b.a. Weston Winery. SN 95,204. Pub. 10–25–60. Filed 4–15–60.

Class 49—Distilled Alcoholic Liquors

709,736. HIRAM WALKER'S OLD 'N RARE. Hiram Walker & Sons, Inc. SN 84,960. Pub. 10–25–60. Filed 11–9–59.

709,737. OLD TRADERS. Ambrose & Company. SN 86,715. Pub. 10–25–60. Filed 12–7–59.

709,738. WINDY MORN. Harry Gilmour Young, d.b.a. Plaza Wine & Liquor Co. and as Gillie Young's Plaza Wine & Liquor Co. SN 95,346. Pub. 10–25–60. Filed 4–18–60.

Class 50 — Merchandise Not Otherwise Classified

709,739. "TWIST-OFF." Continental Can Company, Inc., assignee of White Cap Company. SN 57,041. Pub. 10–25–60. Filed 8–11–58.

709,740. WALKERS BEACON. Beacons, Inc. SN 72,178. Pub. 10–25–60. Filed 4–24–59.

709,741. WE LIKE TO WRITE ON CLARIDGE CHALKBOARDS AND DESIGN. Claridge Products and Equipment, Incorporated. SN 76,650. Pub. 10–25–60. Filed 6–29–59.

709,742. MOUNTAIN GREENERY. Schwab and Udell Inc. SN 93,554. Pub. 10–25–60. Filed 3–23–60.

709,743. ADAPTAPLEX. Adaptaplex Mfg. Co. SN 95,403. Pub. 10–25–60. Filed 4–21–60.

Class 51 — Cosmetics and Toilet Preparations

709,744. FASHION FOILS. Clairol Incorporated (Delaware corporation), assignee of Clairol Incorporated (Connecticut corporation). SN 58,404. Pub. 7–12–60. Filed 9–5–58.

Class 52 — Detergents and Soaps

709,745. ATCOSOL. Metro-Atlantic, Inc. SN 690,727. Pub. 8–21–56. Filed 7–5–55.

709,746. ATCOSYN. Metro-Atlantic, Inc. SN 690,728. Pub. 8–21–56. Filed 7–5–55.

709,747. ATCOTEX. Metro-Atlantic, Inc. SN 690,729. Pub. 8–21–56. Filed 7–5–55.

709,748. ATCO FIX. Metro-Atlantic, Inc. SN 690,730. Pub. 9–11–56. Filed 7–5–55.

709,749. ATCOPEN. Metro-Atlantic, Inc. SN 690,731. Pub. 8–21–56. Filed 7–5–55.

709,750. ATCOSOFT. Metro-Atlantic, Inc. SN 690,732. Pub. 8–21–56. Filed 7–5–55.

709,751. ATCOLENE. Metro-Atlantic, Inc. SN 690,733. Pub. 8–28–56. Filed 7–5–55.

709,752. ATCOPON. Metro-Atlantic, Inc. SN 690,734. Pub. 8–21–56. Filed 7–5–55.

709,753. PERK. Armour and Company. SN 57,661. Pub. 10–20–59. Filed 8–22–58.

709,754. PACE-PERK. Caled Products Company, Inc. SN 64,611. Pub. 10–20–59. Filed 12–19–58.

709,755. KLENZALL. The Griffith Laboratories, Inc. SN 70,467. Pub. 8–8–60. Filed 3–30–59.

709,756. SAV-ON. Sav-On Drugs, Inc. SN 87,012. Pub. 10–25–60. Filed 11–20–59.

709,757. ENDOX. Enthone, Incorporated. SN 93,062. Pub. 10–25–60. Filed 3–17–60.

709,758. REFRESH-KNIT. Peter Freund Knitting Mills, Inc. SN 94,982. Pub. 10–25–60. Filed 4–13–60.

709,759. LIQUA CLEAN. Hagan Chemicals & Controls, Inc. SN 95,275. Pub. 10–25–60. Filed 4–18–60.

709,760. GET. The Procter & Gamble Company. SN 95,390. Pub. 10–25–60. Filed 4–19–60.

709,761. BAY. The Procter & Gamble Company. SN 95,391. Pub. 10–25–60. Filed 4–19–60.

709,762. BUCKET O' SUDS. Harold E. Little, d.b.a. Roanoke Chemical Company. SN 100,743. Pub. 10–25–60. Filed 6–16–60.

Service Marks

Class 100 — Miscellaneous

709,763. DOMINIC CLUB AND DESIGN. The Dominic Club. SN 37,241. Pub. 10–25–60. Filed 9–16–57.

709,764. ALI. Acton Laboratories, Inc. SN 76,779. Pub. 10–25–60. Filed 6–25–59.

709,765. CLASSIC FORM AND DESIGN. Automatic Enterprises of Texas, Incorporated. SN 84,379. Pub. 10–25–60. Filed 11–2–59.

Class 102 — Insurance and Financial

709,766. DRAFCHEX. Drafchex, Inc. SN 89,841. Pub. 10–25–60. Filed 1–28–60.

709,767. DRAFCHEX CREDIT SYSTEM AND DESIGN. Drafchex, Inc. SN 89,842. Pub. 10–25–60. Filed 1–28–60.

Class 103 — Construction and Repair

709,768. NOCRACK. Marvin Walter, d.b.a. M. Walter Insulating and Roofing Co. SN 70,329. Pub. 10–25–60. Filed 3–26–59.

Class 105 — Transportation and Storage

709,769. PACTA AND DESIGN. Polish American Catholic Travel Association, Inc. SN 94,093. Pub. 10–25–60. Filed 3–31–60.

Class 106 — Material Treatment

709,770. NI–20. The Chapman Valve Manufacturing Company (Delaware corporation), assignee of The Chapman Valve Manufacturing Company (Massachusetts corporation). SN 61,544. Pub. 10–25–60. Filed 10–29–58.

709,771. MISCELLANEOUS DESIGN. Mud Control Laboratories, Inc. SN 87,895. Pub. 10–25–60. Filed 12–23–59.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

Class 2 — Receptacles

709,772. Slumberest Company, Georgetown, Ky. SN 85,409. Filed P.R. 11–16–59; Am. S.R. 10–24–60.

SHIP'N'SHOW

For Combined Packaging, Shipping, and Display Case. First use Sept. 25, 1959.

Class 15 — Oils and Greases

709,773. Accessory Sales, Inc., Fort Lauderdale, Fla. SN 92,576. Filed P.R. 3–11–60; Am. S.R. 11–17–60.

STALL-PRUF

For Starting Fluid for Motors. First use Sept. 1, 1959.

Class 16—Protective and Decorative Coatings

709,774. Alim Corporation, New York, N.Y. SN 70,689. Filed P.R. 4-2-59; Am. S.R. 10-31-60.

Saf

For Fire Retardant Paints.
First use Jan. 20, 1959.

Class 17—Tobacco Products

709,775. Louis Dobbelmann N.V., Waddinxveen, Netherlands. SN 96,106. Filed P.R. 4-29-60; Am. S.R. 11-1-60.

DOBBELMANN

Owner of Dutch Reg. No. 70,574, dated Dec. 22, 1936.
For Smoking and Chewing Tobacco, Snuff, Cigars, and Cigarettes.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

709,776. Keiser Manufacturing Co., West Reading, Pa. SN 49,698. Filed P.R. 4-15-58; Am. S.R. 9-19-60.

BLISTERPROOF

For Grass Shears and Parts Thereof.
First use Apr. 1, 1958.

709,777. Ware Machine Works, Inc., Ware, Mass. SN 58,765. Filed P.R. 9-10-58; Am. S.R. 11-21-60.

HYDRO-TRENCHER

For Hydraulic Backhoe and Shovel and Parts Thereof.
First use January 1958.

709,778. Frans Morat G.m.b.H., Stuttgart-Vaihingen, Germany. SN 90,775. Filed P.R. 2-11-60; Am. S.R. 11-21-60.

MORAT

Owner of German Reg. No. 720,845, dated Jan. 8, 1959.
For Circular Knitting Machines and Parts Therefor.

Class 28—Jewelry and Precious-Metal Ware

709,779. Edison Brothers Stores, Inc., St. Louis, Mo. SN 67,338. Filed P.R. 12-15-59; Am. S.R. 11-17-60.

DYSON'S

For Costume Jewelry.
First use Sept. 28, 1959.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

709,780. The Maxee Carpet Company, Bloomsburg, Pa. SN 66,626. Filed P.R. 1-28-59; Am. S.R. 11-18-60.

INTER-WEVE

For Textile Carpets and Rugs.
First use Dec. 5, 1958.

709,781. Textron Inc., Providence, R.I. SN 74,063. Filed P.R. 6-2-59; Am. S.R. 8-18-60.

"The Important Fabric!"

For Wool, Cotton and Synthetic Piece Goods and Combinations Thereof.
First use Apr. 22, 1959.

Class 44—Dental, Medical, and Surgical Appliances

709,782. The Dentists' Supply Company of New York, York, Pa. SN 40,747. Filed P.R. 11-13-57; Am. S.R. 11-2-60.

PLASTICROWN

For Artificial Teeth.
First use on or about June 13, 1957.

709,783. Sierra Engineering Co., Sierra Madre, Calif. SN 64,762. Filed P.R. 12-22-58; Am. S.R. 11-17-60.

NO GLARE

For Medical and Surgical Equipment and Instruments—Namely, Breathing and Anesthetic Devices, Fittings and Parts Thereof—Namely, Tracheotome, Endotracheal Tube Holder and Bite Block, Endotracheal Tube, Orepharyngeal Airways, Slip Joint, Y Adapter, Y Connector, Mouth Adapter, Nasal Adapter, Universal Adapter, Suction Elbow, Elbow Adapter, Airway Adapter, Y Valve, J-Y Adapter, Pediatric Connector, Infant Ether Mask, and Surgical Flashlight Extension, Magnetic Needle Retrievers, Patient Supports, Forceps, Epidural Needles, and Hypo Needle Electrodes.
First use Oct. 23, 1958.

TRADEMARK REGISTRATIONS RENEWED

136,749. REPRESENTATION OF CLOVER LEAF. Cl. 28. 11-9-20.
136,757. KATZING'S DUTCH BLACK ETC. Cl. 46. 11-9-20.
136,840. CAFFREE. Cl. 46. 11-9-20.
136,969. UNION. Cl. 12. 11-9-20.
136,979. HOMELIKE. Cl. 46. 11-9-20.
136,987. SILVER-FLASH. Cl. 15. 11-9-20.
137,570. RELIANCE AND DESIGN. Cl. 35. 11-30-20.
137,620. ALPINE SUN AND DESIGN. Cl. 44. 11-30-20.
138,572. TRIANGLE DESIGN. Cl. 46. 1-4-21.
138,781. JUBILEE. Cl. 23. 1-11-21.
138,868. W IN AN EGG SHAPE DESIGN. Cl. 46. 1-11-21.
139,893. WIRTHMORE AND DESIGN. Cl. 46. 2-22-21.
141,583. THE AMERICAN BEAUTY AND DESIGN. Cl. 46. 4-26-21.
142,124. ACETIDINE. Cl. 18. 5-3-21.
382,487. ROUND HOUSE AND DESIGN. Cl. 39. 10-29-40.
382,745. GOLDENMOON. Cl. 46. 11-12-40.
382,836. ADELITE. Cl. 50. 11-12-40.

382,870. TESKIT. Cl. 26. 11-12-40.
382,970. BIAS-CUP. Cl. 39. 11-19-40.
383,259. VITACRILIC. Cl. 44. 11-26-40.
383,325. "KEY-MASTER." Cl. 13. 12-3-40.
383,352. ADEL. Cl. 13. 12-3-40.
383,580. WHITE. Cl. 23. 12-17-40.
383,606. ADEL. Cl. 13. 12-17-40.
383,607. ADEL AND DESIGN. Cl. 13. 12-17-40.
383,975. KOLECT-A-MATIC. Cl. 37. 12-31-40.
384,175. REPRESENTATION OF AN EAGLE. Cl. 39. 1-7-41.
384,368. DELATEX. Cl. 23. 1-14-41.
384,553. CROMIZE. Cl. 16. 1-21-41.
384,577. ADEL. Cl. 23. 1-21-41.
384,876. CRANELITE. Cl. 34. 2-4-41.
384,877. VERTILATERAL. Cl. 34. 2-4-41.
384,961. CLIMAX. Cl. 5. 2-11-41.
385,230. FULL-FLO. Cl. 35. 2-18-41.
385,549. YELLOW BAND DESIGN. Cl. 46. 3-11-41.
385,555. ORBO STEEL WOOL BALLS AND DESIGN. Cl. 4. 3-11-41.
385,569. DELATEX. Cl. 35. 3-11-41.
385,671. BROVIRA. Cl. 26. 3-11-41.
385,753. CHASE AND STAR DESIGN. Cl. 2. 3-18-41.
385,754. M AND DESIGN. Cl. 21. 3-18-41.
385,803. STARTRIGHT. Cl. 39. 3-18-41.
385,847. TRAINS. Cl. 38. 3-18-41.
386,144. TRADEMARK DESIGN OF COTTON FABRIC. Cl. 35. 3-25-41.
386,145. TRADEMARK DESIGN OF COTTON FABRIC. Cl. 35. 3-25-41.
386,160. PROTECTO-VALV. Cl. 21. 3-25-41.
386,522. MOCASE. Cl. 14. 4-15-41.
386,560. FLOR-MASTER. Cl. 16. 4-15-41.
386,636. SUPER-TEX AND DESIGN. Cl. 39. 4-22-41.
386,721. PLUS AND MINUS. Cl. 38. 4-22-41.
386,805. HOMCO. Cl. 12. 4-22-41.
386,836. SOLITE. Cl. 40. 4-22-41.
386,917. WORLD'S FAIR GRAND PRIZE WATCH ETC. AND DESIGN. Cl. 27. 4-29-41.
386,904. GILLION AND DESIGN. Cl. 46. 4-29-41.
386,905. SELINE AND DESIGN. Cl. 46. 4-29-41.
387,087. FIRE WEED. Cl. 51. 4-29-41.
387,088. GINGER TEA. Cl. 51. 4-29-41.
387,089. RHUBARB. Cl. 51. 4-29-41.
387,148. REPRESENTATION OF A HAMMER HEAD. Cl. 23. 5-6-41.
387,149. JOHNSON'S BLEM. Cl. 4. 5-6-41.
387,150. JOHNSON'S SHUR-TRED. Cl. 16. 5-6-41.

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688,500. NATURALIFT. Cl. 39. 11-17-59.
695,099. SHOE PRINT AND ARROW DESIGN. Cl. 39. 3-22-60.

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45,287. STEWART HARTS HORN AND DESIGN. Cl. 32. 8-8-05.
389,670. D & P SPRA-TOX. Cl. 6. 8-19-41.
597,628. O'SHAUGHNESSY AND DESIGN. Cl. 39. 11-2-54.
598,316. SHEFFIELD. Cl. 39. 11-16-54.

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598,333. FEATHERLAND FARM AND DESIGN. Cl. 1.
598,334. SOFT-PAK AND DESIGN. Cl. 1.
598,337. BLUE JAY. Cl. 1.
598,349. AURA WAX. Cl. 4.
598,354. FIRE-KILLER. Cl. 6.
598,355. REPEL WATER WITH SHIELD DESIGN. Cl. 6.
598,356. FURGARD. Cl. 6.
598,370. LOMCO. Cl. 13.
598,373. ROTITE. Cl. 13.
598,374. TRY TRI-CLOVER. Cl. 13.
598,380. FREELUBE. Cl. 15.
598,387. NUTRILITE AND DESIGN. Cl. 18.
598,394. PRANTIZOL. Cl. 18.
598,398. AZIUM. Cl. 18.
598,410. TRIPLE LOOK OUT SAFETY (FANCIFUL). Cl. 19.
598,411. BOCA RATON. Cl. 19.
598,412. PALM BEACH. Cl. 19.
598,415. MON-O-COACH AND DESIGN. Cl. 19.
598,416. BIRD IN CIRCLE DESIGN. Cl. 19.
598,424. WALL-SHOP. Cl. 21.
598,431. TELE-VANES. Cl. 21.
598,434. COSMOPOLITAN AND DESIGN. Cl. 21.
598,435. DEL-VAL. Cl. 21.
598,437. FLOPADOODLE. Cl. 22.
598,442. A GRANDAD'S TOY AND DESIGN. Cl. 22.
598,444. CARTE BLANCHE. Cl. 22.
598,445. GOB SHOPS. Cl. 22.
598,447. TOCO CRAFT. Cl. 22.
598,448. TOCO CRAFT AND DESIGN. Cl. 22.
598,449. CINCHER. Cl. 22.
598,459. PROP AND DESIGN. Cl. 23.
598,470. VICTORY-VIC-VAC. Cl. 23.
598,473. HYDROLESE. Cl. 23.
598,474. ONE-PUNCH. Cl. 23.
598,480. MICROFILLER. Cl. 23.
598,481. WAR EAGLE. Cl. 23.
598,483. TRAILERIG AND DESIGN. Cl. 23.
598,485. CLEAROMATIC. Cl. 23.
598,488. LEAVES THE OPTICASE CO. AND DESIGN. Cl. 26.
598,489. DEPIX. Cl. 26.
598,490. KID QUATICS. Cl. 26.
598,494. KWIK-STIK. Cl. 26.
598,495. DUO-VAC. Cl. 26.
598,498. EMPIRICAL. Cl. 36.
598,503. COPPER ROMANCE. Cl. 38.
598,512. HALLIE LEE. Cl. 39.
598,519. HOLLYCREST. Cl. 39.
598,520. PETAL LIGHT AND DESIGN. Cl. 39.
598,530. MANTEAU. Cl. 39.
598,531. IN-B-TEEN. Cl. 39.
598,534. COLCOMBET S.A.R.L. AND DESIGN. Cl. 40.
598,536. STYL O CRAFT. Cl. 40.
598,540. SERA-SHEEN AND DESIGN. Cl. 42.
598,541. NATALOOM. Cl. 42.
598,542. FASHION LEADER. Cl. 42.
598,544. PERMASHEER. Cl. 42.
598,549. EXTENDA. Cl. 42.
598,551. SEINE. Cl. 42.
598,555. KEESET. Cl. 43.
598,557. LEES AND DESIGN. Cl. 43.
598,559. MED-O-SONIC. Cl. 44.
598,560. STERI-LANCE. Cl. 44.
598,562. BESTASTE BIG BOYS. Cl. 46.
598,568. NORA LEE'S ETC. AND DESIGN. Cl. 46.
598,570. FFV. Cl. 46.
598,575. VANITY FAIR. Cl. 46.
598,579. AMSTERDAM. Cl. 46.
598,581. JEAN NATE ETC. Cl. 51.
598,586. SCHEME. Cl. 51.
598,588. RESERVOIR. Cl. 51.
598,592. DIET-FORM. Cl. 51.
598,593. ARCTIC LOTION. Cl. 51.
598,597. TUNE. Cl. 52.
598,604. TREND 40. Cl. 52.
598,609. KOZY KAT ETC. AND DESIGN. Cl. 12.
598,610. KOZY PUP ETC. AND DESIGN. Cl. 12.
598,613. GAMES GALORE FOR ONE AND MORE. Cl. 22.
598,618. DEMI-KLIPS. Cl. 23.
598,621. MARCA SICILIA ETC. AND DESIGN. Cl. 46.

TRADEMARK REGISTRATIONS AMENDED, DISCLAIMED, CORRECTED, ETC.

500,219. TRIANGLE DESIGN. Cl. 14. 5–11–48. The American Rolling Mill Company. Armco Steel Corporation, Middletown, Ohio. Amended to appear:



533,845. TRIANGLE DESIGN. Cl. 13. 11–28–50. Armco Steel Corporation, by change of name from The American Rolling Mill Company, Middletown, Ohio. Amended to appear:



534,853. TRIANGLE DESIGN. Cl. 12. 12–19–50. The American Rolling Mill Company, now by change of name Armco Steel Corporation, Middletown, Ohio. Amended to appear:



537,313. ARMCO AND TRIANGLE DESIGN. Cl. 14. 2–6–51. Armco Steel Corporation, Middletown, Ohio. Amended to appear:



547,758. LODORANT. Cl. 51. 9–11–51. Parfum l'Orle, Inc. International Products Corporation, New York, N.Y. Amended to appear:

LODORANT

591,268. RUGGIES. Cl. 39. 6–15–54. W. L. Kreider's Sons Mfg. Co. Inc., Palmyra, Pa. Amended to appear:

Ruggies

603,474. LATICRETE. Cl. 12. 3–22–55. Dominion Rubber Company, Limited. United States Rubber Company, New York, N.Y. Amended: In the statement, column 1, lines 5 through 7 and column 2, lines 1 through 6, the description of goods is deleted and *liquid latex composition for blending with hydraulic cement and fillers such as wood chips, inert chemical, chipped stone or marble to form a composite building material for use as flooring, wainscotting insulating or structural repair materials; the mark is also used on mixtures of hydraulic cement and such fillers to be blended with liquid latex compositions* is inserted.

607,231. ANOROC. Cl. 21. 6–14–55. Simplex Wire & Cable Co., Cambridge, Mass. Corrected: In the statement, column 2, line 1, after "For:" *wires, cables, insulated wires, insulated cables, braided wires, braided cables,* should be inserted.

609,117. HOUSE OUT BACK. Cl. 38. 7–19–55. H. S. Crocker Co., Inc., San Bruno, Calif. Amended to appear:

House Out Back

613,928. AVIA. Cl. 27. 10–11–55. Degoumois & Cie., S.A., Neuchatel, Switzerland. Corrected: In the certificate, lines 3 and 14, "Degumois" should be deleted and *Degoumois* should be inserted.

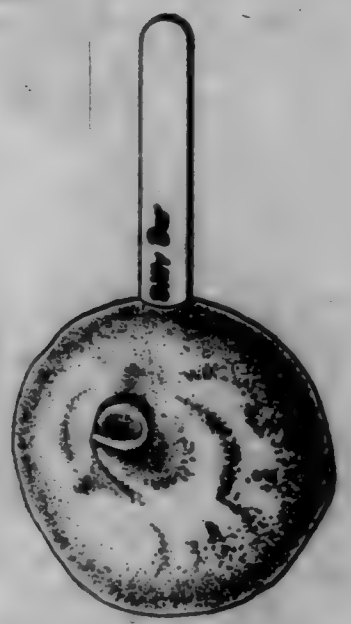
625,726. FERRO-TIC. Cl. 14. 4–24–56. Sintercast Corporation of America. 134 Woodworth Corporation, Yonkers, N.Y. Amended to appear:

FERRO-TIC

626,906. FERRO-TIC. Cl. 23. 5–15–56. Sintercast Corporation of America. 134 Woodworth Corporation, Yonkers, N.Y. Amended to appear:

FERRO-TIC

665,873. DILLY BAR AND DESIGN. Cl. 46. 8–12–58. National Dairy Queen Development Co., assignee of D & F Enterprises. Dairy Queen National Development Company, St. Louis, Mo. Amended: In the statement, column 2, line 7, "Dairy Queen-" is deleted, and the drawing is amended to appear:



694,170. PRY-LITE. Cl. 21. 3–8–60. Emerson-Pryne Company, Pomona, Calif. Amended to appear:

PRY-LITE

698,444. SPRAYOLA. Cl. 16. 5–31–60. Haas Chemical Corp., Scranton, Pa. Corrected: In the statement, column 1, line 1, "Hass" should be deleted and *Haas* should be inserted.

703,934. SPECTRACOAT. Cl. 26. 9–6–60. Spectracoat, Inc., Belmont, Calif. Corrected: In the statement, column 2, line 1, "oblution" should be deleted and *ablation* should be inserted.

704,502. TITAN. Cl. 14. 9–20–60. Cerra de Pasco Corporation, assignee of Titan Metal Manufacturing Company, New York, N.Y. Corrected: In the statement, column 2, line 1, "machine" should be deleted and *machined* should be inserted.

705,025. DON'S PRIZE. Cl. 46. 9-27-60. Frozen Meat Packers, Inc., Miami, Fla. Corrected:

Don's
PRIZE

705,299. SAFE-T-SET. Cl. 44. 10-4-60. Guardian Products Company, Inc., Los Angeles, Calif. Corrected: In the statement, column 2, line 2, "and" first occurrence should be deleted and *Acme* should be inserted.

705,449. LESLIE-SPIROFLEX. Cl. 13. 10-11-60. Leslie Co., Lyndhurst, N.J. Corrected: In the statement, column 2, line 1, "oil" should be deleted.

705,522. KRALET. Cl. 31. 10-11-60. Consolidated Thermoplastics Company, assignee of Kraloy Plastic Pipe Co., Inc., Stamford, Conn. Corrected: In the statement, column 1, line 4, "assignor to" should be deleted and *assignee of* should be inserted.

706,280. BIG HAND. Cl. 28. 10-25-60. Branick Manufacturing Company, Inc., Fargo, N. Dak. Corrected: In the statement, column 1, line 1, "Barnick" should be deleted and *Branick* should be inserted.

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(Registered; Renewed; Canceled; Amended, Disclaimed, Corrected, etc.; New Certificates; 12c Publications.)

A.E.I.-Hotpoint Ltd., London, England. 709,612, pub. 10–25–60. Cl. 24.
Abbott Laboratories, North Chicago, Ill. 709,556, pub. 10–25–60. Cl. 18.
Abney, Nora L., d.b.a. Nora Lee's, Niles, Calif. 598,568, canc. Cl. 46.
Accessory Sales, Inc., Fort Lauderdale, Fla. 709,773. Cl. 15.
Acme Boot Co., Inc., Clarksville, Tenn. 709,676, pub. 10–25–60. Cl. 39.
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Acorn Co., The, Philadelphia, Pa. 709,649, pub. 10–25–60. Cl. 38.
Acton Laboratories, Inc., Acton, Mass. 709,764, pub. 10–24–60. Cl. 100.
Adaptaplex Mfg. Co., Beaverton, Oreg. 709,742, pub. 10–25–60. Cl. 50.
Adel Precision Products Corp., to General Metals Corp., Oakland, Calif. 382,836, canc. Cl. 50.
Adel Precision Products Corp., Burbank, to General Metals Corp., Oakland, Calif. 383,352, ren. 1–10–61. Cl. 13.
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Adel Precision Products Corp., Los Angeles, to General Metals Corp., Oakland, Calif. 384,577, ren. 1–10–61. Cl. 23.
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Alim Corp., New York, N.Y. 709,774. Cl. 16.
Allen West & Co. Ltd., Brighton, England. 709,575, pub. 10–25–60. Cl. 21.
Allied Chemical Corp., New York, N.Y. 709,512, pub. 10–25–60. Cl. 12.
Allied Chemical Corp., New York, N.Y. 709,517, pub. 10–25–60. Cl. 12.
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American Rolling Mill Co., The: *See*—
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American Rolling Mill Co., The Armco Steel Corp., Middletown, Ohio. 500,219. Am. 7(d). Cl. 14.
American Rolling Mill Co., The, now by change of name Armco Steel Corp., Middletown, Ohio. 534,852. Am. 7(d). Cl. 12.
Amphenol-Borg Electronics Corp., Broadview, Ill. 709,578, 10–25–60. Cl. 21.
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Armco Steel Corp.: *See*—
American Rolling Mill Co., The.
Armco Steel Corp., by change of name from The American Rolling Mill Co., Middletown, Ohio. 533,845. Am. 7(d). Cl. 13.
Armco Steel Corp.: *See*—
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Armco Steel Corp., Middletown, Ohio. 537,313. Am. 7(d). Cl. 14.
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Bernstein & Sons Shirt Corp., New York, N.Y. 709,672, pub. 10–25–60. Cl. 39.
Berry Asphalt Co., Magnolia, Ark. 709,514, pub. 10–25–60. Cl. 12.
Berte, Ellwood, to John K. Berte, Peoria, Ill. 136,757, ren. 1–10–61. Cl. 46.
Bestaste Products Co.: *See*—
Pieri, John J.
Bioferm Corp., Wasco, Calif. 709,502, pub. 10–25–60. Cl. 6.
Blue Bell, Inc., Greensboro, N.C. 709,665, pub. 10–25–60. Cl. 39.
Bolta Comb Co., Inc., New York, N.Y. 598,536, canc. Cl. 40.
Branick Mfg. Co., Inc., Fargo, N. Dak. 706,290, cor. Cl. 23.
Bridgestone Tire Co. Ltd., Chuo-ku, Tokyo, Japan. 709,507–8, pub. 10–25–60. Cl. 22.
Brier-King Mfg. Co., New York, N.Y. 709,510, pub. 10–25–60. Cl. 8.
Brillo Mfg. Co., Inc., Brooklyn, N.Y. 383,555, ren. 1–10–61. Cl. 4.
Broaster Co., The, Rockton, Ill. 709,627, pub. 10–25–60. Cl. 31.
Brodatz, Philip, d.b.a. Customlab, New York, N.Y. 709,647, pub. 10–25–60. Cl. 38.
Brown, Lloyd E., d.b.a. Fire Killer Mfg. Co., Syracuse, N.Y. 598,354, canc. Cl. 6.
Burlington Industries, Inc., New York, N.Y. 709,670, pub. 10–25–60. Cl. 39.
Burlington Industries, Inc., New York, N.Y. 709,692, pub. 10–25–60. Cl. 42.
Burns, Jabez, & Sons, to Jabez Burns & Sons, Inc., New York, N.Y. 138,781, ren. 1–10–61. Cl. 23.
Burns, Jabez, & Sons, Inc.: *See*—
Burns, Jabez, & Sons.
Butler Mfg. Co., Kansas City, Mo. 709,494, pub. 10–25–60. Cl. 2.
Cabot, Godfrey L., Inc., Boston, Mass. 598,337, canc. Cl. 1.
Calculator Equipment Corp., Orange, N.J. 709,618, pub. 10–25–60. Cl. 26.
Caled Products Co., Inc., Brentwood, Md. 709,754, pub. 10–20–59. Cl. 52.
Canatsey, Kary, La Jolla, Calif. 709,371, pub. 10–25–60. Cl. 21.
Cannon Electric Co., Los Angeles, Calif. 709,387–8, pub. 10–25–60. Cl. 21.
Caper Mates Co.: *See*—
Okin, Max A.
Cardwell Mfg. Co., Inc., Wichita, Kans. 598,483, canc. Cl. 23.
Carolina Maid Products, Inc., Granite Quarry, N.C. 709,696, pub. 10–25–60. Cl. 39.
Carpenter Paper Co., Omaha, Nebr. 709,646, pub. 10–25–60. Cl. 37.
Carte Blanche Co., New York, N.Y. 598,444, canc. Cl. 22.
Carter Products, Inc., Baltimore, Md. 709,538, pub. 10–25–60. Cl. 18.
Case Stationery Co., Inc., New York, N.Y. 709,645, pub. 10–25–60. Cl. 37.
Casey, Frank J., Albion, Nebr. 598,474, canc. Cl. 23.
Caulk, L. D., Co., The, Milford, Del. 709,709, pub. 10–25–60. Cl. 44.
Cerro De Pasco Corp. from Titan Metal Mfg. Co., New York, N.Y. 704,302, cor. Cl. 14.
Chapman Valve Mfg. Co., The, Indian Orchard, Mass. from The Chapman Valve Mfg. Co., Springfield, Mass. 709,770, pub. 10–25–60. Cl. 100.
Chase Bag Co., New York, N.Y. 383,753, ren. 1–10–61. Cl. 2.
Chicago-Allis Mfg. Corp.: *See*—
Chicago Belting Co.
Chicago Belting Co., to Chicago-Allis Mfg. Corp., Chicago, Ill. 137,370, ren. 1–10–61. Cl. 35.
Citron, Robert E., Stockton, Calif. 709,686, pub. 7–26–60. Cl. 37.
Clairol Inc., New York, N.Y., from Clairol Inc., Stamford, Conn. 709,744, pub. 7–12–60. Cl. 51.
Claridge Products and Equipment, Inc., Harrison, Ark. 709,741, pub. 10–24–60. Cl. 50.
Claus-Holmer Gerdes, d.b.a. Claus-Holmer Gerdes Heisswasserapparate & Armaturen, Luneburg, Germany. 709,576, pub. 10–25–60. Cl. 21.

Claus-Holmer Gerdes Heisswasserapparate & Armaturen: *See*—
Claus-Holmer Gerdes.
Clearing Machine Corp., Chicago, Ill. 598,485, canc. Cl. 23.
Cleveland Fruit Juice Co., The, Cleveland, Ohio. 382,745, ren. 1–10–61. Cl. 46.
Coast Ballet Mfg. Co.: *See*—
Underberger, William.
Cohasset Beverage Co., Youngstown, Ohio. 709,710, pub. 2–2–60. Cl. 45.
Cohen, Goldman & Co., Inc., New York, N.Y., to House of Worsted-Tex, Inc., Baltimore, Md. 386,636, ren. 1–10–61. Cl. 39.
Coin and Bernstein, Inc., New York, N.Y. 709,690, pub. 10–25–60. Cl. 42.
Colcombet S.A.R.L., St. Etienne, France. 598,534, canc. Cl. 40.
Colonial-Premier Co., Chicago, Ill. 709,633, pub. 10–25–60. Cl. 32.
Consolidated Thermoplastics Co., From Kraloy Plastic Pipe Co., Inc., Stamford, Conn. 705,522, cor. Cl. 21.
Contactisol Inc., Lindenhurst, N.Y. 709,541, pub. 10–25–60. Cl. 18.
Continental Can Co., Inc., New York, N.Y., from White Cap Co., Chicago, Ill. 709,739, pub. 10–24–60. Cl. 50.
Cooper, Kathryn, Fort Lauderdale, Fla. 709,659, pub. 10–25–60. Cl. 39.
Cooper, Peter, Corpn., Gowanda, N.Y. 709,499, pub. 10–25–60. Cl. 5.
Cooperative Grange League Federation Exchange, Inc., Ithaca, N.Y. 709,721, pub. 10–25–60. Cl. 46.
Corn Products Co.: *See*—
St. Albans Grain Co.
Coro, Inc., New York, N.Y. 709,624, pub. 10–25–60. Cl. 28.
Cramore Products, Inc., Point Pleasant Beach, N.J. 709,712, pub. 10–25–60. Cl. 45.
Crocker, Burbank Papers Inc., Fitchburg, Mass. 709,643, pub. 10–25–60. Cl. 37.
Crocker, H. S., Co., Inc., San Bruno, Calif. 600,117. Am. 7(d). Cl. 38.
Crompton Co., Crompton, R.I. 598,551, canc. Cl. 42.
Curres, Jose A., Brookline, Mass. 709,703, pub. 10–25–60. Cl. 44.
Customlab: *See*—
Brodats, Philip.
D & F Enterprises: *See*—
National Dairy Queen Development Co.
Dairy Queen National Development Co.: *See*—
National Dairy Queen Development Co.
David, John Drug Co.: *See*—
Rabin Co., The.
Degoumois & Cie., S.A., Neuchatel, Switzerland. 613,928, cor. Cl. 27.
De Laval Separator Co., The, Poughkeepsie, N.Y. 384,368, ren. 1–10–61. Cl. 23.
De Laval Separator Co., The, Poughkeepsie, N.Y. 385,569, ren. 1–10–61. Cl. 35.
Denney, Frances, Philadelphia, Pa. 598,592, canc. Cl. 51.
Denny Paper & Board Co., Philadelphia, Pa. 709,513, pub. 10–25–60. Cl. 12.
Dentists' Supply Co. of New York, The, York, Pa. 709,782. Cl. 44.
Depix Corp., Whitestone, N.Y. 598,489, canc. Cl. 26.
Dexter Folder Co.: *See*—
Filmsort, Inc.
Diamond-ite International, Inc., New York, N.Y. 709,625, pub. 10–25–60. Cl. 28.
Dill Co., Inc., The, Norristown, Pa. 709,509, pub. 10–25–60. Cl. 6.
Dobbelmann, Louis, N.V., Waddinxveen, Holland. 709,775. Cl. 17.
Doggett-Pfeil Co., Springfield, N.J. 389,670, canc. Cl. 6.
Dominic Club, The, Minneapolis, Minn. 709,763, pub. 10–24–60. Cl. 100.
Dominion Rubber Co., Ltd. United States Rubber Co., New York, N.Y. 603,474. Am. 7(d). Cl. 12.
Douglas Furniture Corp., Chicago, Ill. 709,632, pub. 10–25–60. Cl. 32.
Drafchex, Inc., Detroit, Mich. 709,766–7, pub. 10–24–60. Cl. 102.
Dried Milk Products Cooperative, Eau Claire, Wis. 709,728, pub. 10–25–60. Cl. 46.
Drill-Kem, Inc., Houston, Tex. 709,501, pub. 10–25–60. Cl. 6.
Dupli-Color Products Co., Inc., Chicago, Ill. 709,527, pub. 10–25–60. Cl. 16.
Eagle-Picher Co., The, Cincinnati, Ohio. 709,563, pub. 10–25–60. Cl. 19.
Eagle Clothes, Inc., Brooklyn, N.Y. 709,661, pub. 10–25–60. Cl. 39.
Edison Brothers Stores, Inc., St. Louis, Mo. 709,779. Cl. 28.
Edwards, J., & Co., Philadelphia, Pa. 695,099, canc. Cl. 39.
El Morocco Corp., New York, N.Y. 709,658, pub. 10–25–60. Cl. 39.
Emerson-Pryne Co., Pomona, Calif. 694,170. Am. 7(d). Cl. 21.
Empirical Recording: *See*—
Jones, David B.
Engelhard Hanovia, Inc.: *See*—
Hanovia Chemical and Mfg. Co.
Enthone, Inc., New Haven, Conn. 709,757, pub. 10–25–60. Cl. 52.
Etablissements Merlin & Gerin S.A., Grenoble, France. 709,586, pub. 10–25–60. Cl. 21.
Evaporto AG, Chur, Switzerland. 709,669, pub. 10–25–60. Cl. 39.
Fairmont Foods Co., Omaha, Nebr. 709,724, pub. 10–25–60. Cl. 46.
Featherland Farm Inc., Sudbury, Mass. 598,333, canc. Cl. 1.
Fiberglass Boat Co., The, Somerset, Pa. 709,565, pub. 10–25–60. Cl. 19.
Filmsort, Inc., to Dexter Folder Co., Pearl River, N.Y. 598,480, canc. Cl. 23.
Fire Killer Mfg. Co.: *See*—
Brown, Lloyd E.
Fleer, Frank H., Corp., Philadelphia, Pa. 709,732, pub. 10–25–60. Cl. 46.
Flexsteel Industries, Inc., Dubuque, Iowa. 709,631, pub. 10–25–60. Cl. 32.
Flint, Eaton & Co., Decatur, Ill. 709,547, pub. 10–25–60. Cl. 18.
Florasynth Laboratories, Inc., New York, N.Y. 709,718, pub. 10–25–60. Cl. 46.
Fluegelman, N., & Co., Inc., New York, N.Y. 598,540, canc. Cl. 42.
Ford, J. B., Sales Co., The, to Wyandotte Chemicals Corp., Wyandotte, Mich. 382,870, ren. 1–10–61. Cl. 26.
Formfit Co., The, Chicago, Ill. 709,667, pub. 2–9–60. Cl. 39.
Fort Dodge Laboratories: *See*—
American Home Products Corp.
Fox Wood Knitwear, Inc., New York, N.Y. 709,680, pub. 10–25–60. Cl. 39.
Freeman Chemical Co., The: *See*—
Freeman, Michael W.
Freeman, Michael W., d.b.a. The Freeman Chemical Co., Detroit, Mich. 598,380, canc. Cl. 15.
Freres, Wolff, Inc., New York, N.Y. 598,593, canc. Cl. 51.
Freund, Peter, Knitting Mills, Inc., North Bergen, N.J. 709,758, pub. 10–25–60. Cl. 52.
Fricke Dental Mfg. Co.: *See*—
Fricke & Getz Dental Mfg. Co.
Fricke & Getz Dental Mfg. Co., to L. R. Fricke, d.b.a. Fricke Dental Mfg. Co., Chicago, Ill. 382,259, ren. 1–10–61. Cl. 44.
Fricke, Lawrence R.: *See*—
Fricke & Getz Dental Mfg. Co.
Frozen Meat Packers, Inc., Miami, Fla. 705,025, cor. Cl. 46.
Furgard Products Co.: *See*—
Jakutis, Frank E.
G. & L. Mfg. Co., Inc., Boston, Mass. 709,587, pub. 10–25–60. Cl. 39.
Gabriel Co., The, Cleveland, Ohio. 598,431, canc. Cl. 21.
Gallmeyer & Livingston Co., Grand Rapids, Mich. 709,604, pub. 10–25–60. Cl. 23.
Garner, T. W., Food Co., Winston-Salem, N.C. 709,719, pub. 10–25–60. Cl. 46.
Gates Rubber Co., The, Denver, Colo. 385,230, ren. 1–10–61. Cl. 35.
General Aniline & Film Corp., New York City, N.Y. to Agfa Aktiengesellschaft, Leverkusen-Bayerwerk, Germany. 385,671, ren. 1–10–61. Cl. 26.
General Dynamics Corp., San Diego, Calif. 709,609, pub. 10–25–60. Cl. 23.
General Features Corp., New York, N.Y. 709,650–1, pub. 10–25–60. Cl. 38.
General Features Corp., New York, N.Y. 709,652, pub. 10–25–60. Cl. 38.
General Foods Corp.: *See*—
Kaffee Hag Corp.
General Foods Corp., White Plains, N.Y. 709,713, pub. 10–25–60. Cl. 45.
General Metals Corp.: *See*—
Adel Precision Products Corp.
General Mills, Inc., Minneapolis, Minn. 709,720, pub. 10–25–60. Cl. 46.
General Motors Corp., Detroit, Mich. 598,481, canc. Cl. 23.
Gob Shops of America, Inc.: *See*—
Sterling Stores Corp.
Gold Seal Chemicals Corp., Brooklyn, N.Y. 709,505–6, pub. 10–25–60. Cl. 6.
Gordon-Brown Co., Vallejo, Calif. 598,559, canc. Cl. 44.
Gore, W. L., & Associates, Inc., Newark, Del. 709,589, pub. 10–25–60. Cl. 21.
Gorman-Rupp Industries, Inc., Bellville, Ohio. 709,705–6, pub. 10–25–60. Cl. 44.
Grace-Lee Products Inc., Minneapolis, Minn. 709,524, pub. 10–25–60. Cl. 16.
Green Shoe Mfg. Co., The, Boston, Mass. 385,803, ren. 1–10–61. Cl. 39.
Griffith Laboratories, Inc., The, Chicago, Ill. 709,755, pub. 3–8–60. Cl. 52.
Guardian Products Co., Inc., Los Angeles, Calif. 705,299, cor. Cl. 44.
Haas Chemical Corp., Scranton, Pa. 698,444, cor. Cl. 16.
Hagan Chemicals & Controls, Inc., Pittsburgh, Pa. 709,759, pub. 10–25–60. Cl. 52.
Hall, Robert, Clothes, Inc., New York, N.Y. 709,684, pub. 10–25–60. Cl. 39.
Hancock Industries, Inc., Jackson, Mich. 709,613, pub. 11–18–59. Cl. 26.
Hanovia Chemical and Mfg. Co., to Engelhard Hanovia, Inc., Newark, N.J. 137,620, ren. 1–10–61. Cl. 44.
Hartshorn, Stewart, Co., East Newark, N.J. 45,287, canc. Cl. 32.
Hassenfeld Bros., Inc., Central Falls, R.I. 709,599–600, pub. 10–25–60. Cl. 22.
Hawkridge Brothers Co., Boston, Mass. 386,522, ren. 1–10–61. Cl. 14.
Hayakawa Electric Co. Ltd., Abeno, Osaka, Japan. 709,567, pub. 10–25–60. Cl. 21.
Health Aids, Inc. New York, N.Y. 709,701, pub. 10–25–60. Cl. 44.
Hercules Powder Co., Wilmington, Del., from Imperial Color Chemical & Paper Corp., Glen Falls, N.Y. 709,503, pub. 10–25–60. Cl. 6.
Herstein, Saul M., d.b.a. Southwest Surgical Service, Pueblo, Colo. 709,534, pub. 10–25–60. Cl. 18.
Holophane Co., Inc., New York, N.Y. 384,876–7, ren. 1–10–61. Cl. 34.
Homasote Co., Trenton, N.J. 386,805, ren. 1–10–61. Cl. 12.
House of Worsted-Tex, Inc.: *See*—
Cohen, Goldman & Co., Inc.

Humble Oil & Refining Co., Houston, Tex.; by merger from Penola Oil Co., New York, N.Y. 709,570, pub. 10–25–60. Cl. 21.
Hupp Corp., Cleveland, Ohio. 709,572, pub. 10–25–60. Cl. 21.
Imperial Color Chemical & Paper Corp.: *See*— Hercules Powder Co.
In-Sink-Erator Mfg. Co., Racine, Wis. 709,590–1, pub. 10–25–60. Cl. 21.
International Silver Co., The, Meriden, Conn. 709,622, pub. 10–25–60. Cl. 28.
Ironwood Trailer Coaches, Inc., Ironwood, Mich. 598,415, canc. Cl. 19.
J. I. Originals, Inc., Boston, Mass. 709,677, pub. 10–25–60. Cl. 39.
Jakutis, Frank E., d.b.a. Furgard Products Co., Seattle, Wash. 598,356, canc. Cl. 6.
James Lees and Sons Co., Bridgeport, Pa. 598,557, canc. Cl. 43.
Jay-Mar Syrup Co.: *See*— Queen Water Mfg. Co., Inc.
Jeffrey Mfg. Co., The, Columbus, Ohio. 598,473, canc. Cl. 23.
Jergens, Andrew, Co., The, Cincinnati, Ohio. 598,597, canc. Cl. 52.
Johnson Publishing Co., Inc., Chicago, Ill. 598,503, canc. Cl. 38.
Johnson, S. C., & Son, Inc., Racine, Wis. 387,149, ren. 1–10–61. Cl. 4.
Johnson, S. C., & Son, Inc., Racine, Wis. 387,150, ren. 1–10–61. Cl. 16.
Johnson, S. C., & Son, Inc., Racine, Wis. 709,498, pub. 10–25–60. Cl. 4.
Jones, David B., d.b.a. Empirical Recording, Yellow Springs, Ohio. 598,498, canc. Cl. 36.
Kadets of America, Savannah, Tenn. 709,593, pub. 10–25–60. Cl. 22.
Kaffee Hag Corp., New York, to General Foods Corp., White Plains, N.Y. 136,840, ren. 1–10–61. Cl. 46.
Kahn, David, Inc., North Bergen, N.J. 709,641, pub. 10–25–60. Cl. 37.
Kahn's, E., Sons Co., The, Cincinnati, Ohio. 141,583, ren. 1–10–61. Cl. 46.
Kalmbach Publishing Co., Milwaukee, Wis. 385,847, ren. 1–10–61. Cl. 38.
Kaysam Corp. of America, Paterson, N.J. 709,675, pub. 10–25–60. Cl. 39.
Keiser Mfg. Co., West Reading, Pa. 709,776. Cl. 23.
Kellogg, Edward S., d.b.a. Perkins-Kellogg Food Co., Los Angeles, Calif. 709,722, pub. 10–25–60. Cl. 46.
Kendall Refining Co., Bradford, Pa. 709,522, pub. 10–25–60. Cl. 15.
Kenneth, Malcom, Co., Boston, Mass. 597,628, canc. Cl. 39.
Kenneth, Malcom, Co., Boston, Mass. 598,316, canc. Cl. 39.
Kenwood Laboratories, Inc., Brooklyn, N.Y. 709,551, pub. 10–25–60. Cl. 18.
Kirkhof Mfg. Corp., Grand Rapids, Mich. 709,577, pub. 10–25–60. Cl. 21.
Kleinert, I. B., Rubber Co., New York, N.Y. 386,836, ren. 1–10–61. Cl. 40.
Kleinert, I. B., Rubber Co., New York, N.Y. 709,689, pub. 10–25–60. Cl. 40.
Kollmann Mfg. Co., Inc., Erie, Pa. 709,602, pub. 10–25–60. Cl. 23.
Kraloy Plastic Pipe Co., Inc.: *See*— Consolidated Thermoplastics Co.
Kreider's, W. L., Sons Mfg. Co. Inc., Palmyra, Pa. 591,268. Am. 7(d). Cl. 39.
Krone, Martin, Brooklyn, N.Y. 598,410, canc. Cl. 19.
Kurtz Bros., Clearfield, Pa. 709,644, pub. 10–25–60. Cl. 37.
Kurtzman Bros., Los Angeles, Calif. 598,519, canc. Cl. 39.
Kwikset Locks, Inc., Anaheim, Calif. 598,494, canc. Cl. 26.
Labline, Inc., Chicago, Ill. 598,495, canc. Cl. 26.
Lancer of California: *See*— Mabs, Inc.
Lennon Enterprises: *See*— Lennon, Jay J.
Lennon, Jay J., d.b.a. Lennon Enterprises, Joliet, Ill. 709,601, pub. 10–25–60. Cl. 22.
Leslie Co., Lyndhurst, N.J. 705,449, cor. Cl. 13.
Libby, McNeill & Libby, Chicago, Ill. 709,714, pub. 10–25–60. Cl. 46.
Lincoln Fabrics Co. Inc., New York, N.Y. 598,544, canc. Cl. 42.
Little, Harold E., d.b.a. Roanoke Chemical Co., Salem, Va. 709,762, pub. 10–25–60. Cl. 52.
Loeb, Marcus, & Co., Inc., Atlanta, Ga. 709,679, pub. 10–25–60. Cl. 39.
Longines-Wittnauer Co. Inc., The, to Longines-Wittnauer Watch Co., Inc., New York, N.Y. 386,917, ren. 1–10–61. Cl. 27.
Longines-Wittnauer Watch Co., Inc.: *See*— Longines-Wittnauer Co. Inc., The.
Lovable Brassiere Co., The, Atlanta, Ga. 709,685, pub. 10–25–60. Cl. 39.
Ludlow Valve Mfg. Co., Inc., The, Troy, N.Y. 598,373, canc. Cl. 13.
Lundbeck, H., & Co., A/S., Copenhagen, Denmark. 709,553, pub. 10–25–60. Cl. 18.
Luther, Otto H., New Preston, Conn. 598,609–10, canc. Cl. 12.
Mabs, Inc., d.b.a. Lancer of California, Los Angeles, Calif. 709,660, pub. 10–25–60. Cl. 39.
MacBeth Corp., Newburgh, N.Y. 709,569, pub. 10–25–60. Cl. 21.
Magee Carpet Co., The, Bloomsburg, Pa. 709,780. Cl. 42.
Malsbary Mfg. Co., Oakland, Calif. 709,607, pub. 10–25–60. Cl. 23.
Manteau Inc., New York, N.Y. 598,530, canc. Cl. 39.
Marien Metal Products Co., Hazel Park, Mich. 598,459, canc. Cl. 23.
Marvella, Inc., New York, N.Y. 709,623, pub. 10–25–60. Cl. 28.
Massengill, S. E., Co., The, Bristol, Tenn. 709,533, pub. 8–9–60. Cl. 18.
Matsushita Electric Corp. of America, New York, N.Y. 709,581, pub. 10–25–60. Cl. 21.
May Department Stores Co., The, St. Louis, Mo. 709,540, pub. 10–25–60. Cl. 18.
Mayer, Oscar, & Co., to Oscar Mayer & Co., Inc., Chicago, Ill. 385,549, ren. 1–10–61. Cl. 46.
Mayer, Oscar, & Co., Inc.: *See*— Mayer, Oscar, & Co.
Mayer Pollock Steel Corp., Pottstown, Pa. 709,515, pub. 10–25–60. Cl. 12.
McCauley Industrial Corp., Dayton, Ohio. 709,564, pub. 10–25–60. Cl. 19.
McGrath-Hamin, Inc., Providence, R.I. 709,619, pub. 10–25–60. Cl. 28.
Medimetics, Inc., Seattle, Wash. 598,588, canc. Cl. 51.
Melabs, Palo Alto, Calif. 709,579–80, pub. 10–25–60. Cl. 21.
Melville Shoe Corp., New York, N.Y. 709,666, pub. 10–25–60. Cl. 39.
Merchandise Purchasing Corp., New York, N.Y. 598,586, canc. Cl. 51.
Merck & Co., Inc.: *See*— Sharp & Dohme.
Messerschmitt A.G., Augsburg, Germany. 598,416, canc. Cl. 19.
Metro-Atlantic, Inc., Centredale, R.I. 709,745–7, pub. 8–21–56. Cl. 52.
Metro-Atlantic, Inc., Centredale, R.I. 709,748, pub. 9–11–56. Cl. 52.
Metro-Atlantic, Inc., Centredale, R.I. 709,749–50, pub. 8–21–56. Cl. 52.
Metro-Atlantic, Inc., Centredale, R.I. 709,751, pub. 8–28–56. Cl. 52.
Metro-Atlantic, Inc., Centredale, R.I. 709,752, pub. 8–21–56. Cl. 52.
Metro Sports Co., Chiyoda-ku, Tokyo, Japan. 709,595, pub. 10–25–60. Cl. 22.
Mets Paper Co., Pawtucket, R.I. 709,642, pub. 10–25–60. Cl. 37.
Microchemical Specialties Co., Berkeley, Calif. 709,614, pub. 10–25–60. Cl. 26.
Millen, James, Mfg. Co., Inc., Malden, Mass. 385,754, ren. 1–10–61. Cl. 21.
Mitchell, Dennis, Industries, Philadelphia, Pa. 709,559, pub. 10–25–60. Cl. 19.
Model Brassiere Corp., Cortland, N.Y. 382,970, ren. 1–10–61. Cl. 39.
Modern Maid Food Products Inc., Jamaica, N.Y. 709,723, pub. 10–25–60. Cl. 46.
Modern Sleep Products Co., Chicago, Ill. 709,629, pub. 3–1–60. Cl. 32.
Moore Business Forms, Inc., Niagara Falls, N.Y. 709,610, pub. 10–25–60. Cl. 23.
Morat, Franz, G.m.b.H., Stuttgart-Vaihingen, Germany. 709,778. Cl. 23.
Mud Control Laboratories, Inc., Oklahoma City, Okla. 709,771, pub. 10–25–60. Cl. 106.
Munsingwear, Inc., Minneapolis, Minn. 709,681, pub. 10–25–60. Cl. 39.
Myers, L. O., Corp., San Francisco, Calif. 598,370, canc. Cl. 13.
Nate, Jean, Inc., New York, N.Y. 598,581, canc. Cl. 51.
Nathan, Emanuel, to The Opticase Co., Newark, N.J. 598,488, canc. Cl. 26.
National Automotive Fibres, Inc., Detroit, Mich. 598,542, canc. Cl. 42.
National Dairy Queen Development Co., from D & F Enterprises. Dairy Queen National Development Co., St. Louis, Mo. 665,873. Am. 7(d). Cl. 46.
Newport Tire Stores: *See*— Associated Tire Dealers, Inc.
Nicoll, Nathalie, Inc., San Francisco, Calif. 598,541, canc. Cl. 42.
Nocona Leather Goods Co., Nocona, Tex. 598,449, canc. Cl. 22.
Nora Lee's: *See*— Abney, Nora L.
North American Philips Co., Inc., New York, N.Y. 709,585, pub. 10–25–60. Cl. 21.
North American Plastics Co.: *See*— Schrager, Lawrence.
Nutrilite Products, Inc., Buena Park, Calif. 598,387, canc. Cl. 18.
Okin, Max A., d.b.a. Caper Mates Co., New York, N.Y. 709,656, pub. 10–25–60. Cl. 39.
Okusa International Corp., New York, N.Y. 709,519, pub. 10–25–60. Cl. 13.
134 Woodworth Corp.: *See*— Sintercast Corp. of America.
Opticase Co., The: *See*— Nathan, Emanuel.
Ottavia Inc., New York, N.Y. 709,697, pub. 10–25–60. Cl. 42.
Packard Motor Car Co., Detroit, Mich. 598,411, canc. Cl. 19.
Packard Motor Car Co., Detroit, Mich. 598,412, canc. Cl. 19.
Pacon Mfg. Corp., Metuchen, N.J. 709,707–8, pub. 10–25–60. Cl. 44.
Parfum l'Orle, Inc., International Products Corp., New York, N.Y. 547,758. Am. 7(d). Cl. 51.
Peggy Sage, Inc., Stamford, Conn. 387,087–8, ren. 1–10–61. Cl. 51.
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Perfection Biscuit Co., Fort Wayne, Ind. 598,579, canc. Cl. 46.
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Perry Knitting Co., The, Perry, N.Y. 709,682, pub. 10–25–60. Cl. 39.
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Pfingst & Co., Inc., New York, N.Y. 709,702, pub. 10–25–60. Cl. 44.
Phillips Petroleum Co., Bartlesville, Okla. 709,699, pub. 10–25–60. Cl. 44.
Pieri, J. G., Co.: *See*—
Pieri, John J.
Pieri, John J., executor of the estate of Joseph G. Pieri, deceased, d.b.a. J. G. Pieri Co. and also as Bestaste Products Co., Buffalo, N.Y. 598,542, canc. Cl. 46.
Pieri, Joseph G.: *See*—
Pieri, John J.
Plaza Wine & Liquor Co.: *See*—
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Plibrico Co., Chicago, Ill. 709,518, pub. 10–25–60. Cl. 12.
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Prescolite Mfg. Corp., Berkeley, Calif. 709,583, pub. 10–25–60. Cl. 21.
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Propper Mfg. Co., Inc., Long Island City, N.Y. 598,560, canc. Cl. 44.
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Purex Corp., Ltd., South Gate, Calif. 596,604, canc. Cl. 52.
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Ray Mfg. Co., Detroit, Mich. 598,448, canc. Cl. 22.
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Remington Rand Inc., Buffalo, to Sperry Rand Corp., New York, N.Y. 383,975, ren. 1–10–61. Cl. 37.
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Schiller Bros., Inc., New York, N.Y. 709,678, pub. 10–25–60. Cl. 39.
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Shawnee Garment Mfg. Co., Shawnee, Okla. 382,487, ren. 1–10–61. Cl. 39.
Shedden, Warren L., d.b.a. Seal Dry Products Co., Dundee, Ill. 709,529, pub. 10–25–60. Cl. 16.
Shedlin Inc., New York, N.Y. 709,620, pub. 10–25–60. Cl. 28.
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Shell Oil Co.: *See*—
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Shipley Co., Inc., Wellesley, Mass. 709,504, pub. 10–25–60. Cl. 6.
Shoe Corp. of America, Columbus, Ohio. 709,662, pub. 5–31–60. Cl. 39.
Shoe Corp. of America, Columbus, Ohio. 709,663, pub. 10–25–60. Cl. 39.
Sierra Engineering Co., Sierra Madre, Calif. 709,783. Cl. 44.
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Sintercast Corp. of America. 134 Woodworth Corp., Yonkers, N.Y. 625,726. Am. 7(d). Cl. 14.
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Weston Biscuit Co. Inc.
Southwest Surgical Service: *See*—
Herstein, Saul M.
Space Corp., Garland, Tex. 709,561, pub. 10–25–60. Cl. 19.
Space Corp., Garland, Tex. 709,616, pub. 10–25–60. Cl. 26.
Spaulding Industries, Inc., Chicago, Ill. 709,497, pub. 10–25–60. Cl. 2.
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Speidel Corp., Providence, R.I. 709,621, pub. 10–25–60. Cl. 28.
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Sterling Co., Inc., The, St. Louis, Mo. 709,606, pub. 10–25–60. Cl. 6.
Sterling Stores Corp., now by change of name Gob Shops of America, Inc., Pawtucket, R.I. 598,445, canc. Cl. 22.
Steuben Cigarette Co., Inc., New York, N.Y. 709,531, pub. 10–25–60. Cl. 17.
Stimpson, Edwin B., Co., Inc., Brooklyn, N.Y. 709,520, pub. 10–25–60. Cl. 13.
Strohmeyer & Arpe Co., New York, N.Y. 709,523, pub. 10–25–60. Cl. 15.
Strouse, Adler Co., The, New Haven, Conn. 384,175, ren. 1–10–61. Cl. 39.
Sunshine Biscuits, Inc., Long Island City, N.Y. 709,731, pub. 10–25–60. Cl. 46.
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Swank, Inc., Attleboro, Mass. 598,618, canc. Cl. 28.
Taussig Paint Sales Co., Inc., Jenkintown, Pa. 709,525, pub. 10–25–60. Cl. 16.
Textron Inc., Providence, R.I. 709,781. Cl. 42.
Thompson-Starrett Co., Inc., Corona, N.Y. 709,578, pub. 10–25–60. Cl. 21.
Thor Packing Co., Inc., Holtville, Calif. 709,725, pub. 10–25–60. Cl. 46.
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Toastmasters International, Santa Ana, Calif. 709,617, pub. 8–9–60. Cl. 26.
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Tri-Clover Machine Co., Kenosha, Wis. 598,374, canc. Cl. 13.
Tri-Delta Products Co., Phoenix, Ariz. 709,528, pub. 10–25–60. Cl. 16.
Twin County Grocers, Inc., Linden, N.J. 709,639, pub. 10–25–60. Cl. 37.
Twitchell, E. W., Inc., Philadelphia, Pa. 709,496, pub. 10–25–60. Cl. 2.
Underberger, William, d.b.a. Coast Ballet Mfg. Co., Hollywood, Calif. 709,671, pub. 10–25–60. Cl. 39.
Union Metal Mfg. Co., The, Canton, Ohio. 136,969, ren. 1–10–61. Cl. 12.
United Chemical Co., Inc., Kansas City, Mo. 386,560, ren. 1–10–61. Cl. 16.
United Merchants and Manufacturers, Inc., New York, N.Y. 709,693, pub. 10–25–60. Cl. 42.
United Merchants and Manufacturers, Inc., New York, N.Y. 709,695–6, pub. 10–25–60. Cl. 42.
United States Envelope Co., Springfield, Mass. 709,495, pub. 10–25–60. Cl. 2.
United States Rubber Co., New York, N.Y. 384,961, ren. 1–10–61. Cl. 5.

United States Rubber Co., New York, N.Y. 386,144–5, ren. 1–10–61. Cl. 35.
United States News Publishing Corp., Washington, D.C. 386,721, ren. 1–10–61. Cl. 38.
U.S. Standard Products Co., Mt. Prospect, Ill. 709,544, pub. 10–25–60. Cl. 18.
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United States Steel Corp., Pittsburgh, Pa. 709,521, pub. 10–25–60. Cl. 14.
U.S. Vitamin & Pharmaceutical Corp., New York, N.Y. 709,545, pub. 10–25–60. Cl. 18.
Upjohn Co., The, Kalamazoo, Mich. 709,535, pub. 10–25–60. Cl. 18.
Upjohn Co., The, Kalamazoo, Mich. 709,537, pub. 10–25–60. Cl. 18.
Upjohn Co., The, Kalamazoo, Mich. 709,557, pub. 10–25–60. Cl. 18.
Valentine, Daniel R., Salt Lake City, Utah. 709,652, pub. 10–25–60. Cl. 38.
Van Houten, C. J. & Zon, N. V., Weesp, Netherlands. 709,726, pub. 10–25–60. Cl. 46.
Vaughan & Bushnell Mfg. Co., Chicago, Ill. 387,148, ren. 1–10–61. Cl. 23.
Velotron Inc., New York, N.Y. 709,584, pub. 10–25–60. Cl. 21.
Venus Foods, Los Angeles, Calif. 709,729, pub. 10–25–60. Cl. 46.
Victory Mold & Die Co., New York, N.Y. 598,470, canc. Cl. 23.
Virden, John C., Co., Cleveland, Ohio. 709,582, pub. 10–25–60. Cl. 21.
Voigtlander A.G., Braunschweig, Germany. 709,615, pub. 10–25–60. Cl. 26.
Vought Industries, Inc., Texarkana, Tex. 709,562, pub. 10–25–60. Cl. 19.
Walker, Hiram, & Sons, Inc., Peoria, Ill. 709,736, pub. 10–24–60. Cl. 49.
Wallace Silversmiths, Inc., Wallingford, Conn. 709,634–5, pub. 10–25–60. Cl. 34.
Walter, M., Insulating and Roofing Co.: *See*—
Walter, Marvin.
Walter, Marvin, d.b.a. M. Walter Insulating and Roofing Co., Chicago, Ill. 709,768, pub. 10–24–60. Cl. 103.
Walters, Ben, Inc., New York, N.Y. 709,698, pub. 10–25–60. Cl. 42.
Ward Baking Co., New York, N.Y. 136,979, ren. 1–10–61. Cl. 46.
Ware Machine Works, Inc., Ware, Mass. 709,777. Cl. 23.
Webster, William A., Co., The, Memphis, Tenn. 709,546, pub. 10–25–60. Cl. 18.
Welch, W. W., Co., Cincinnati, Ohio. 598,434, canc. Cl. 21.
Werber, Alfred, Inc., St. Louis, Mo. 709,673, pub. 10–25–60. Cl. 39.
Western Oil Refining Co., Indianapolis, Ind. to Shell Oil Co., New York, N.Y. 136,987, ren. 1–10–61. Cl. 15.
Weston Biscuit Co., Inc., d.b.a. Southern Biscuit Co., Richmond, Va. 598,570, canc. Cl. 46.
Weston Winery: *See*—
Schenley Industries, Inc.
Wetegrove, Charles, Co., Inc., Raymondville, Tex. 709,730, pub. 10–25–60. Cl. 46.
Whirlpool Corp., St. Joseph, Mich. 709,611, pub. 10–25–60. Cl. 24.
White Cap Co.: *See*—
Continental Can Co., Inc.
White Laboratories, Inc., Kenilworth, N.J. 709,539, pub. 10–25–60. Cl. 18.
White Sewing Machine Corp., Lakewood, Ohio. 383,580, ren. 1–10–61. Cl. 23.
White & Wyckoff Mfg. Co., Holyoke, Mass. 709,640, pub. 10–25–60. Cl. 37.
Wilson Sporting Goods Co., River Grove, Ill. 709,596, pub. 10–25–60. Cl. 22.
Wright Knit Hosiery Mills, Inc., Hickory, N.C. 709,688, pub. 10–25–60. Cl. 39.
Wyandotte Chemicals Corp.: *See*—
Ford, J. B., Sales Co., The.
Yard-Man, Inc., Jackson, Mich. 709,560, pub. 10–25–60. Cl. 19.
Young, Harry G., d.b.a. Plaza Wine & Liquor Co., and as Gillie Young's Plaza Wine & Liquor Co., Washington, D.C. 709,738, pub. 10–25–60. Cl. 49.
Young's Gillie, Plaza Wine & Liquor Co.: *See*—
Young, Harry G.

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OFFICIAL GAZETTE • UNITED STATES PATENT OFFICE

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PATENTS

NOTICES

Board of Appeals Decisions Rendered in the Month of November 1960

Examiner affirmed	185
Examiner affirmed in part	24
Examiner reversed	59
Total	278

Patents Available for Licensing or Sale

2,614,015. Wax Paper Dispenser (Plastic Dispenser for Wax Paper or Aluminum Foil in Kitchen). Charles L. McGehee, 4891 E. Tyler, Fresno 2, Calif.

2,922,321. Differential Gearing. Rheinstahl Eisenwerke Mülheim/Meiderich AG., Mulheim-Ruhr, Germany. Correspondence to: Michael S. Striker, 360 Lexington Ave., New York 17, N.Y.

2,949,947. Straight Beam Adjustable Jaw Clamp. John D. Story, Bethany, Okla. Correspondence to: Walter D. Hanson, Suite 929 Leonhardt Bldg., Oklahoma City 2, Okla.

2,955,461. Electromagnetic Torsional Feeler. Vyskumny a skusobni letecky ustav, Letnany, Czechoslovakia. Correspondence to: Richard Low, 1060 Broad St., Newark 2, N.J.

2,956,231. Suppression of Secondary Overswings or Overlaps in Multistage Amplifiers of Wide Dynamic Range. Chirana Praha, narodni podnik, Prague, Czechoslovakia. Correspondence to: Richard Low, 1060 Broad St., Newark 2, N.J.

2,961,056. Side Parking Device for Motor Vehicles. Arthur Thomas Munns, 307 W. Olive St., San Bernardino, Calif.

General Electric Company is prepared to grant non-exclusive licenses under the following 9 patents upon reasonable terms to domestic manufacturers.

Applications for license under the following patent may be addressed to: General Electric Company, X-Ray Dept., 4855 Electric Ave., Milwaukee 1, Wis.

2,798,963. Self-Regulating X-Ray Tube.

Applications for license under the following 3 patents may be addressed to: General Electric Company, Patent Counsel, Chemical and Metallurgical Division, 1 River Road, Schenectady 5, N.Y.

2,895,891. Cellulosic Materials.

2,897,127. Method of Producing Cross-Linked Polyvinyl Alcohol.

2,938,822. High Bond Strength Laminate Product.

Applications for license under the following 5 patents may be addressed to: Patent Counsel, Major Appliance Division, General Electric Company, Appliance Park, Louisville 1, Ky.

2,950,607. Water Heating and Cooling System.

2,950,667. Room Air Conditioner Having Vent Control Means.

2,955,350. Bearing for a Rotary Shaft.

2,959,179. Dishwashing Machine.

2,959,357. Dishwasher.

Patents Withdrawn From Register

General Electric Company hereby withdraws from the Register of Patents Available for Licensing or Sale the following 4 patents. The patents were listed in the OFFICIAL GAZETTE as indicated below:

2,814,355. Electrostatic Gas Filter. July 14, 1959.

2,864,460. Electrode Arrangement for Electrostatic Gas Filter. Mar. 10, 1959.

2,888,092. Electrostatic Gas Filter. Oct. 20, 1959.

2,917,180. Electrostatic Gas Filter Having Arrangement for Cancelling Captured Charge. Apr. 5, 1960.

New Applications Received During November 1960

Patents	6,330
Designs	360
Plant Patents	22
Reissues	19
Total	6,730

Issue

Patents	770	No. 2,968,039 to No.	2,968,808, incl.
Designs	27	No. 189,606 to No.	189,634, incl.
Plant Patents	1	No. 2,011	
Reissues	4	No. 24,923 to No.	24,926, incl.
Total	802		

CONDITION OF PATENT APPLICATIONS AS OF OCTOBER 31, 1960

Total number of pending applications (excluding Designs)	196,714
Total number of pending Design applications	5,671
Total number of applications awaiting action (excluding Designs)	89,507
Total number of Design applications awaiting action	1,506
Date of oldest new application	June 4, 1959
Date of oldest amended application	June 8, 1959

M. C. ROSA, Director, Patent Examining Operation

PATENT EXAMINING GROUPS, AND SUPERVISORY EXAMINERS	DIVISIONS
(I) STONE, I. G., CHEMICAL AND RELATED ARTS	6, 21, 26, 42, 46, 50, 56, 59, 60, 66, 64.
(II) EVANS, N. H., COMMUNICATIONS, RADIANT ENERGY AND ELECTRICAL ARTS	16, 36, 37, 41, 43, 44, 48, 51, 54, 65.
(III) YUNG KWAI, E., MECHANICAL MANUFACTURING, MACHINE ELEMENTS AND DESIGNS	2, 12, 13, 14, 21, 24, 57, 58, 61, 81, 82.
(IV) SPINTMAN, S., MATERIAL HANDLING AND TREATING, OPTICS, RAILWAYS AND AMUSEMENT DEVICES.	7, 11, 17, 27, 34, 35, 39, 52, 62.
(V) HULL, J. S., STATIC STRUCTURES AND INSTRUMENTS OF PRECISION	5, 8, 30, 39, 32, 38, 40, 52, 66.
(VI) MURPHY, T. P., AGRICULTURE, CALCULATORS, PUMPS AND MOTORS, TRANSPORTATION	1, 4, 9, 10, 18, 22, 23, 29, 45, 47.
(VII) KAUFFMAN, H. E., HEATING AND COOLING, PLASTIC SHAPING AND COATING, SEPARATION AND MIXING, BODY TREATMENT AND CARE.	3, 15, 19, 25, 30, 32, 49, 55, 67.
(CLASS.) GORECKI, G. A., ARTS UNDERGOING RECLASSIFICATION AS LISTED UNDER CLASSIFICATION DIVISIONS.	91, 92, 93, 94, 95.

DIVISIONS, EXAMINERS AND SUBJECTS OF INVENTION (Roman numerals in parentheses indicate Examining Group)	Oldest Application: New	Oldest Application: Amended
1. (VI) GOLDBERG, A. J., Brakes; Planting; Plant Husbandry; Scattering Unloaders; Earth Working	4-4-60	4-1-60
2. (III) STONE, A., Fishing, Trapping and Vermin Destroying; Presses; Tobacco; Textile Wringers; Buckles, Buttons and Clasps	4-20-60	4-11-60
3. (VII) MARMELSTEIN, N., Metal Founding and Treatment; Metallurgy (Process and Apparatus); Alloys; Electrical Resistors	3-28-60	3-22-60
4. (VI) FALLER, E. A., Hoists; Power Driven Conveyors; Handling Apparatus; Elevators; Pneumatic Dispatch; Store Service; Conveyors, Chutes, Skids, Guides and Ways	3-25-60	3-18-60
5. (V) ROBINSON, C. W., Harvesters; Unearthing Objects; Threshing; Knotters; Animal Husbandry; Bee Culture; Dairy; Butchering; Vegetable and Meat Cutters and Comminuters; Fences; Gates; Music; Signals and Indicators; Acoustics	10-20-60	11-9-60
6. (I) LIDOFF, H. J. (MARCUS, L., acting), Carbon Chemistry (part), e.g., Heterocyclic, General Organic Processes, Amides	11-19-60	12-9-60
7. (IV) ANDERSON, E. G., Optics	2-15-60	1-15-60
8. (V) BREHM, G. L., Beds; Chairs and Seats; Cabinets; Tables; Miscellaneous Furniture; Fire Escapes; Ladders; Deposit and Collection Receptacles; Scaffolds	4-6-60	4-11-60
9. (VI) BRANSON, J. H., Pumps; Fans; Turbines	3-14-60	3-3-60
10. (VI) BOYD, S., Firearms; Ordnance; Ammunition; Explosive Charge Making	4-1-60	4-4-60
11. (IV) BENHAM, E. V., Boots, Shoes and Leggings; Shoe and Leather Manufacture; Button, Eyelet and Rivet Setting; Nailing, Stapling and Clip Clenching; Card, Picture and Sign Exhibiting; Cutlery; Pipes and Tubular Conduits	3-17-60	3-13-60
12. (III) DURHAM, B. G. (acting), Machine Elements; Engine Starters; Interrelated Clutch and Motor Controls	4-4-60	3-21-60
13. (III) BEALL, T. E., Gear Cutting; Electric Lamp and Tube Manufacture; Needle and Pin Making; Metal Working (part), e.g. Special Work, Forging, Plastic Working, Drawing, Sawing, Milling, Planing, Turning	3-9-60	3-11-60
14. (III) WILTZ, W. A., Metal Working (part) e.g. Sheet Metal; Metal Bending, Miscellaneous Processes, Assembly and Disassembly Apparatus; Wire Fabrics	3-1-60	11-16-59
15. (VII) BRINDISI, M. V., Plastics; Plastic Block and Earthenware Apparatus	5-3-60	4-3-60
16. (II) ANDRUS, L. M., Telephony; Recorders (part)	3-30-60	3-10-60
17. (IV) LEIGHEY, R. A., Packaging; Typewriters; Printing; Type Casting and Setting; Sheet Material Associating or Folding; Sheet Feeding or Delivering	3-24-60	3-15-60
18. (VI) BLUM, A., Power Plants; Fluid Transmissions; Servomotor Systems; Jet Motors; Combustion Turbines; Speed or Acceleration	3-4-60	3-3-60
19. (VII) PATRICK, P. L., Stoves and Furnaces; Boilers; Fluid Fuel Burners; Heating Systems; Miscellaneous Heating; Automatic Temperature and Humidity Regulation; Illuminating Burners	3-21-60	3-18-60
20. (V) SEERS, J. D., Miscellaneous Hardware; Closure Fasteners; Locks; Safes; Bank Protection; Bread, Pastry and Confection Making; Tents and Canopies; Umbrellas; Canes; Undertaking; Electrical Connectors	3-6-60	3-6-60
21. (III) MADER, R. C., Textiles	4-4-60	3-1-60
22. (VI) BUCHLER, M. B., Aeronautics; Boats; Buoys; Ships; Marine Propulsion; Propellers; Windmills; Fluid Diaphragms and Bellows	1-21-60	1-13-60
23. (VI) SMILOW, L., Data Processors; Digital and Analog Computers; Calculators; Bookkeeping Machines; Cash and Fare Registers; Voting Machines; Counters	6-4-60	6-6-60
24. (III) HICKEY, T. J., Apparel (except Corsets and Brassieres); Apparel Apparatus; Sewing Machines; Textiles, Ironing or Smoothing; Clutches and Power-Stop Control; Work Holders	2-9-60	2-9-60
25. (VII) NEVIUS, R. D., Coating—Processes, Miscellaneous Products and Apparatus; Distillation; Wood Treating Apparatus; Paper Making	1-11-60	12-2-60
26. (II) RADER, O. L., Electricity—Generation, Motive Power, Transmission Systems, Voltage and Phase Control Systems, Furnaces, Battery Charging and Discharging, Arc Lamps, Prime Mover Dynamo Plants; Elevators (part), e.g. Miscellaneous Electric Control Mechanisms; Inductors; Transformers	2-1-60	12-16-59
27. (IV) JAMES, S., Brushing, Scrubbing and General Cleaning; Brush, Broom and Mop Making; Textiles, Fluid Treating Apparatus; Cleaning and Liquid Contact With Solids	5-2-60	4-27-60
28. (VI) BRAUNER, R. H., Internal Combustion Engines; Expansible Chamber Motors; Fluid Servomotors; Spring, Weight and Animal Powered Motors; Cylinders; Pistons; Drive Shafts; Flexible-Shaft Couplings; Cranks or Sockets; Fluid Current Conveyors; Pressure Modulating Relays; Wheel Substitutes	4-11-60	3-15-60
29. (V) FRITZ, M. M., Tools; Woodworking; Button, Barrel and Wheel Making; Besoms; Cloth, Leather and Rubber Receptacles; Package and Article Carriers; Valved Pipe Couplings; Rod Joints; Tool-Handling Fastenings	3-4-60	1-25-60
30. (VII) O'LEARY, R. A., Comminuters; Refrigeration; Fluid Sprinkling, Spraying and Diffusing, Separating and Assorting Solids (part)	5-9-60	5-2-60

DIVISIONS, EXAMINERS AND SUBJECTS OF INVENTION (Roman numerals in parentheses indicate Examining Group)	Oldest Application	
	New	Amended
31. (I) BOETTCHER, A. M., Carbon Chemistry (part), e.g., Urea Adducts, Silicon Containing Carbon Compounds, Hydrogenation of Carbon Oxides, Partial Oxidation of Non-Aromatic Hydrocarbon Mixtures, Hydrocarbons, Halogenated Hydrocarbons; Synthetic Resins (part) (e.g., Oil-Modified; Stabilized); Mineral Oils	4-11-60	4-11-60
32. (VII) BERMAN, H., Gas and Liquid Contact Apparatus; Heat Exchange; Agitation; Fire Extinguishers; Centrifugal Bowl Separators; Liquid Separation or Purification (part)	4-1-60	4-1-60
33. (V) MUSHAKE, W. L., Bridges; Hydraulic and Earth Engineering; Roads and Pavements; Building Structures	1-13-60	12-10-59
34. (IV) QUACKENBUSH, L., Railways—Draft Appliances, Switches and Signals, Surface Track, Rolling Stock, Track Sanders; Electricity, Transmission to Vehicles; Dumping Vehicles; Vehicle Fenders; Hand and Hoist Line Implements	11-5-59	10-6-59
35. (IV) DEMBO, L. J., Dispensing; Filling Receptacles; Toilet; Severing by Tearing or Breaking; Coin Controlled Apparatus; Dispensing Cabinets; Article Dispensing; Coin Handling	3-28-60	2-12-60
36. (V) EVANS, R. L. (CUTTING, C. A., acting), Measuring and Testing (part)	2-5-60	1-11-60
37. (II) LEVY, M. L., Electricity—Switches, Welding, Heating, Photo-Cell Circuits	1-6-60	12-18-59
38. (I) PARKER, C. B., Carbon Chemistry (part), e.g., Azo, Carbocyclic or Acyclic Compounds (part), e.g., Anthrones, Triarylmethanes, Esters, Acids, Ketones, Aldehydes, Ethers, Phenols, Alcohols, Proteins, Amines, Natural Resins	11-30-59	12-4-59
39. (IV) WEIL, I., Fluid-Pressure Regulators; Valves; Fluid Handling (except Pressure Modulating Relays, Float Valves, Diaphragms and Bellows)	3-18-60	3-15-60
40. (V) DRUMMOND, E. J., Receptacles—Metallic, Paper, Wooden, Glass; Special Receptacles and Packages	4-13-60	4-11-60
41. (II) LOVEWELL, N. N., Recorders (part); Sound Recording; Television; Telegraphy (part)	3-24-60	2-16-60
42. (II) REYNOLDS, E. R., Electric Signaling; Telegraphy (part)	1-31-60	1-31-60
43. (I) KNIGHT, W. B. (WOLK, M. O., acting), Medicines, Poisons, Cosmetics; Sugar and Starch; Skins and Leathers; Preserving, Sterilizing and Disinfecting (except Wood Treatment Apparatus); Bleaching, Dyeing, Fluid Treatment of Textiles	11-2-59	10-29-59
44. (II) JUSTUS, C. L., Directive Radio Systems; Nuclear Batteries; Nuclear Resonant Devices; Radar; Sonar; Torpedoes	10-14-59	10-8-59
45. (VI) MANIAN, J. A., Wheels, Tires and Axles; Railway Wheels and Axles; Lubrication; Bearings and Guides; Belt and Sprocket Gearing; Spring Devices; Animal Draft Appliances; Excavating	4-4-60	2-23-60
46. (I) WILES, W. G. (CAMPBELL, R. L., acting), Actinide Series (e.g., Fissionable) Compounds; Sintered Metal Stock; Explosives; Power Plants (part); Metallurgy (part); Radioactive Medicines; Nuclear Reactions; Carbon Chemistry (part)	2-17-60	2-12-60
47. (VI) KANOF, W. J., Mining, Quarrying, and Ice Harvesting; Motor Vehicles; Land Vehicles; Education	4-18-60	4-27-60
48. (II) BERNSTEIN, S., Electricity—Conversion Systems, Protective Systems; Measuring and Testing (except Meters); Switchboards, Relays, Magnets, Condensers, Transistors, Barrier Layer Rectifiers	2-1-60	1-21-60
49. (VII) BENDETT, B., Drying and Gas or Vapor Contact With Solids; Ventilation; Wells; Concentrating Evaporators; Earth Boring	1-20-60	12-3-59
50. (I) ARNOLD, D., Carbon Chemistry (part), e.g., Synthetic Resin Compositions (part), Synthetic Rubber Compositions, Natural Rubber; Synthetic Resins (part) (e.g., Butadiene Polymers and Copolymers, Polyacrylonitriles, Acrylate Polymers and Copolymers)	1-14-60	12-2-59
51. (II) WESTBY, G. N., Modulators; Piezoelectric Devices; Antennas; Oscillators; Miscellaneous Electron Space Discharge Device Systems; Radio Detectors	1-21-60	1-7-60
52. (V) LE ROY, C. A., Supports and Racks; Separating and Assorting Solids (part)	11-23-59	11-13-59
53. (IV) NINAS, G. A., Label Pasting and Paper Hanging; Books and Book Making; Manifolding; Printed Matter; Stationery; Paper Files and Binders; Flexible or Portable Closures or Partitions; Doors, Windows, Awnings, and Shutters; Harness; Whip Apparatus; Food Apparatus; Closure Operators; Illumination	3-16-60	4-15-60
54. (II) NILSON, R. G., Electric Lamps; Electronic Tubes; Miscellaneous Discharge Devices; Lamp, Cathode Ray and Gas Discharge Device Circuits; Ray Energy (e.g., X-Ray, Ultraviolet, Radioactive) Applications; Mass Spectrometers	3-3-60	3-21-60
55. (VII) WHITMORE, H. B. (acting), Surgery; Dentistry; Artificial Body Members	2-29-60	2-29-60
56. (I) SPECK, J. R., Abrading Compositions; Batteries; Coating or Plastic Compositions; Electrical and Wave Energy Chemistry	2-2-60	2-4-60
57. (III) MILLER, A. B., Bolt, Nut, Rivet, Nail, Screw, Chain, and Horseshoe Making; Driven and Screw Fastenings; Nut and Bolt Locks; Jewelry; Pipe Joints or Couplings; Cutting	2-15-60	1-12-60
58. (III) BRONAUGH, F. H., Rolls and Rollers; Making Metal Tools and Implements; Stone Working; Abrading Processes and Apparatus; Baths, Closets, Sinks, and Spittoons; Boring and Drilling; Paper Manufactures; Selective Cutting	3-7-60	3-7-60
59. (I) BRINDISI, M. A., Inorganic Chemistry; Fertilizers; Gas, Heating and Illuminating	12-11-59	11-20-59
60. (I) MANGAN, P. E., Carbon Chemistry (part), e.g., Synthetic Resins (part); Miscellaneous Polymers (e.g., Vinyl Polymers); Synthetic Resin Compositions (part), Synthetic Rubber; Photographic Processes and Products	3-3-60	3-1-60
61. (III) STRIZAK, J. P., Winding and Reeling; Pushing and Pulling; Horology; Railway Mail Delivery; Feeding of Indefinite Lengths	4-27-60	4-29-60
62. (IV) LOWE, D. D. (FULLER, E. R., acting), Games; Toys; Amusements and Exercising Devices; Mechanical Guns and Projectors; Photographic Apparatus	3-23-60	3-17-60
63. (I) WINKELSTEIN, A. H., Foods and Beverages; Fermentation; Carbon Chemistry (part), e.g., Lignins, Carbohydrate Derivatives, Fats, Sulfurized Compounds; Heavy Metal Compounds	11-23-59	1-7-60
64. (I) GREENWALD, J., Fuels; Miscellaneous Compositions	12-8-59	12-15-59
65. (II) SAX, E. J., Wave Guides; Electric Motors; Conductors; Insulators; Amplifiers	4-5-60	3-22-60
66. (V) LISANN, L., Geometric Instruments; Measuring and Testing (part)	11-5-59	10-22-59
67. (VII) KRAFFT, C. F., Liquid Separation or Purification (part); Laminated Fabrics	1-15-60	1-4-60
81. (III) MONCURE, J. A., Industrial Arts	3-8-60	3-15-60
82. (III) HUNTER, E. H., Household, Personal and Fine Arts	3-15-60	3-22-60
91. BAILEY, J. S., Ornamentation; Glass	3-21-60	4-1-60
92. GAUSS, H., Radio Transmitters, Receivers and Tuners	4-21-60	4-26-60
93. WAHL, R. A. (PURDY, W. F., acting), Wire Working	1-26-60	12-16-59
94. BERLOWITZ, W. (COLE, W. S., acting), Gas Separation	3-2-60	3-3-60
95. ANGEL, C. D., Metallic Building Structures; Packed Rod Joints; Joint Packings	3-10-60	3-7-60
M. E. DIV. A (I) GASTON, L. H., Carbon Chemistry (part), e. g., Steroids; Synthetic Resins (part), i. e., Polyethylenes	4-5-60	3-3-60

EXPIRATION OF PATENTS

The patents within the range of numbers indicated below expire during December 1960, except those which may have been extended under the provisions of the Veterans Patent Extension Act (54 Stat. 316 as amended by 66 Stat. 321) and those which may have expired earlier due to shortened terms under the provisions of Public Law 600. A list of Veterans' patents which have been extended appears in the *Annual Index of Patents—1960*.

Patents..... Numbers 2,955,941 to 2,958,690, inclusive
Plant Patents..... Number 810

DECISIONS IN PATENT AND TRADEMARK CASES

United States Court of Appeals
District of Columbia Circuit

GORDON S. CARBONNEAU *v.* ROBERT C. WATSON, COMMISSIONER OF PATENTS

No. 16,723. Decided November 17, 1960

[— U.S.App.D.C. —; — F.2d —; 127 USPQ 252]

PATENTABILITY — PARTICULAR SUBJECT MATTER — CLOSELY SPACED POT STRUCTURE FOR LOUD SPEAKER MAGNETS. The refusal of certain claims in an application entitled "Closely Spaced Pot Structure for Loud Speaker Magnets," as unpatentable over the prior art, affirmed.

APPEAL from the United States District Court for the District of Columbia.

AFFIRMED.

Austin A. Webb, pro hac vice, and *Munson H. Lane* for appellant.

Clarence W. Moore (*David Kreider*, of counsel) for appellee.

Before MR. JUSTICE REED, retired,[1] and PRETTYMAN and BASTIAN, *Circuit Judges*

PER CURIAM:

This is a civil action brought in the District Court under Section 145, Title 35, United States Code, to direct and authorize the Commissioner of Patents to issue a patent. The application for the patent was entitled "Closely Spaced Pot Structure for Loud Speaker Magnets." It related to a magnetic structure for use in a permanent magnet loud speaker. The Primary Examiner and the Board of Appeals in the Patent Office were of opinion that the claims were not patentable over the prior art. Upon trial in the District Court those rulings were affirmed. We are of the same opinion.

AFFIRMED.

[1] Sitting by designation pursuant to Sec. 294(a), Title 28, U.S. Code.

PATENT SUITS

Notices under 35 U.S.C. 290; Patent Act of 1952

2,254,214, E. G. Gage, Safety circuit for cathode ray tubes; 2,261,571, same, Safety circuits for thermionic apparatus; 2,319,594, same, Safety high potential electrical sources and circuits; 2,375,697, same, High potential apparatus rendered safe for handling, filed Dec. 2, 1960, D.C., S.D.N.Y., Doc. 60/4752, *Lexington School for the Deaf et al.* v. *Magnavox Company et al.* Same, filed same, Doc. 60/4753, *Lexington School for the Deaf et al.* v. *Emerson Radio & Phonograph Corporation et al.*

2,261,571. (See 2,254,214.)

2,319,594. (See 2,254,214.)

2,375,697. (See 2,254,214.)

2,422,730, K. Moore, Circumferentially travelling type tire mounting device, filed June 25, 1959, D.C.N.J. (Newark), Doc. 526/59 and Doc. 724/58, *Roosevelt Moore* v. *Atlas Supply Company, Inc.* Patent held invalid; complaint dismissed (notice Dec. 7, 1960).

2,494,790, Duvall and Barnard, Trailer coupling, filed Dec. 2, 1960, D.C., S.D. Tex. (Houston), Doc. 13/436, *Alfred L. Barnard* v. *Fruehauf Trailer Company.*

2,646,266, A. C. Barlow et al., Method of molding thermosetting synthetic resin materials, filed May 21, 1958, D.C., N.D. Ill. (Chicago), Doc. 58c912, *Fairhaven Properties Corporation* v. *Chicago Offset Priting Co., Inc. et al.* Dismissed for want of prosecution Nov. 28, 1960.

2,667,618, W. Eisbein, Developing apparatus, filed Nov. 23, 1955, D.C., N.D. Ill. (Chicago), Doc. 55c2179, *Copease Manufacturing Co., Inc.* v. *Peray, Inc.* Claims 1, 2, 3, 4, 5 and 11 of patent held invalid. Except for determination of invalidity defendants would have infringed. Complaint and amended complaint dismissed (notice Dec. 5, 1960). Same, filed April 13, 1955, same, Doc. 55c550, *Copease Manufacturing Co., Inc.* v. *American Photocopy Equipment Co. et al.* Decree as above.

2,680,054, L. H. Conover, Tetracycline, filed October 23, 1950, D.C.N.J. (Trenton), Doc. 927/60, *Charles Pfizer & Co., Inc.* v. *Mondial Chemical Company et al.* Consent judgment; injunction granted Nov. 30, 1960.

2,725,645, J. D. Scala, Outer shoe sole unit, filed Mar. 6, 1959, D.C., M.D. Pa. (Scranton), Doc. 6567, *Joseph D. Scala* v. *Pocono Shoe Manufacturing Co., Inc. et al.* Stipulation and order of dismissal with prejudice Dec. 6, 1960.

2,762,227, T. Marks, Fully automatic machine for making brushes, filed Dec. 2, 1960, D.C., E.D. Pa. (Philadelphia), Doc. 28/221, *American Brush Machinery Co., Inc.* v. *Crown Wreath Corporation.*

2,770,130, Romanowski and Weinecke, Magnetic flow meter, filed Feb. 4, 1960, D.C., N.D. Ill. (Chicago), Doc. 60c188, *Bowser, Inc.* v. *Fischer & Porter Co., Inc.* Dismissed by stipulation without prejudice Feb. 4, 1960.

2,802,448, D. H. Young, Fountain pen construction and ink cartridge therefor, filed Dec. 2, 1960, D.C. Del. (Wilmington), Doc. 2273, *Waterman-Bic Pen Corporation* v. *W. A. Sheaffer Pen Company.*

2,866,906, Miller and Greene, Vertical louvre wall box, filed Sept. 24, 1959, D.C., N.D. Ohio (Toledo), Doc. 8286, *John J. Nesbitt, Inc.* v. *Schoemenower Manufacturing Corporation.* Consent judgment; patent held valid and infringed; injunction granted Nov. 28, 1960.

2,815,032, Rosenfeld and Neudorf, Combination toilet device, filed Nov. 30, 1960, D.C., S.D.N.Y., Doc. 60/4723, *Erie Dent et al.* v. *Irwin Corporation.*

2,858,137, H. Marker, Automatically releasable ski binding, filed Nov. 28, 1960, D.C. Mass. (Boston), Doc. 60/868–C, *Georg Von Opel* v. *Guenther Mergens Company.*

2,866,272, J. W. Ledwell, Method of manufacturing a knit stocking, filed Dec. 6, 1960, D.C., M.D.N.C. (Greensboro), Doc. C–161–G–60, *United States Trust Company of New York* v. *Silver-Knit Hosiery Mills, Inc.*

2,836,473, King and Adolphson, Drilling fluid composition and process, filed Dec. 1, 1960, D.C., S.D. Tex. (Houston), Doc. 13/434, *Puget Sound Pulp and Timber Company* v. *Milwhite Mud Sales Company.*

2,856,714, H. D. Sterick, Heating unit, filed Dec. 2, 1960, D.C., W.D. Pa. (Pittsburgh), Doc. 60/771, *Harrison D. Sterick* v. *Union Chill Mat Company et al.*

Re. 24,642, Dietrich and Shaw, Ball pen, filed Dec. 7, 1960, D.C. Md. (Baltimore), Doc. 12/700, *Esser Corporation* v. *The Koch Office Supply Company.*

Des. 174,793, C. O. Bliss, Pitcher or similar article, filed Feb. 14, 1958, D.C., S.D.N.Y., Doc. 130/31, *Bliss-craft of Hollywood* v. *United Plastics Company et al., doing business as Great Eastern Housewares Company.* Patent held invalid; relief denied on second and third causes of action; counterclaim denied Nov. 25, 1960.

Des. 185,146, A. J. Hamel et al., Coach for pick-up trucks, filed Jan. 21, 1960, D.C., E.D. Wash. (Spokane), Doc. 1911, *Honorbuilt Trailer Manufacturing Company* v. *Cheney Weeder Company, Inc. et al.* Order of dismissal without prejudice Nov. 30, 1960.

Des. 186,118, F. Bonomi, Doll's head, filed Nov. 23, 1960, D.C., S.D.N.Y., Doc. 4635, *Vogue Dolls, Inc. et al.* v. *Valentine Dolls, Inc.*

REISSUES

JANUARY 17, 1961

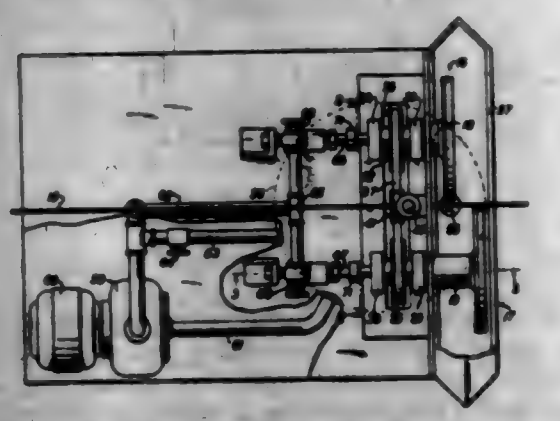
Matter enclosed in heavy brackets [ ] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates additions made by reissue.

24,923
COLOR CODING APPARATUS

Wilbur L. Hoff, Downers Grove, Ill., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Original No. 2,865,323, dated Dec. 23, 1958, Ser. No. 503,293, Apr. 22, 1955. Application for reissue May 25, 1959, Ser. No. 815,764

10 Claims. (Cl. 118—314)



1. An apparatus for color coding [an insulated wire] *elongated articles* comprising means to advance [the insulated wire] *an elongated article to be color coded* in a longitudinal path and at a known linear speed, a hollow wheel for a coloring liquid having a peripheral member and a central inlet, means to feed the coloring liquid to the inlet, outlets of predetermined sizes for the wheel disposed in the peripheral member at positions spaced predetermined distances apart to direct streams of the coloring liquid radially from the wheel, means to rotatably support the wheel relative to [the] *said* path [of the insulated wire whereby] *so that* the streams of coloring liquid successively will be moved through the path, and means *operatively connected to said article-advancing means* to rotate the wheel [at a predetermined speed relative to] *and to maintain a fixed ratio between the peripheral speed of the wheel and* the linear speed of the [insulated wire to cause streams of the coloring liquid to pass through the outlets to] *article, said ratio for the predetermined sizes and spacings of the outlets being such that the portions of the radial streams intercepting the longitudinally advancing article* form *discrete, longitudinally spaced,* color code markings [.] on the [insulated wire,] *article* of *relative* sizes comparable to the *relative* sizes of the outlets and at *relative* positions on the [insulated wire] *article* comparable to the *relative* spacings of the outlets in the peripheral member.

24,924
GUN DRILLING TOOL

John R. Willingham, Detroit, Mich., assignor to Star Cutter Co., Farmington, Mich., a corporation of Michigan

Original No. 2,674,908, dated Apr. 13, 1954, Ser. No. 357,248, May 25, 1953. Application for reissue Apr. 10, 1956, Ser. No. 577,426

5 Claims. (Cl. 77—68)

1. A deep hole drill comprising a drill tip carried on the end of a shank with [straight equally] spaced longitudinally positioned flutes providing chip carrying channels in the peripheral surfaces of the tip and shank, [with the flutes in the shank aligned with the flutes in the drill tip,] and with the flutes separated by lands having [radially positioned] leading sides, the trailing edges of the lands being connected by inclined surfaces to inner edges of the leading sides of following lands, and the intersection of said leading sides of the lands with the peripheral surfaces of the [head] *tip* and shank providing scraping edges for maintaining clear and unobstructed chip carrying channels throughout the length of the drill, the leading end of said drill having [an eccentrically positioned point with coplanar cutting edges extended angularly therefrom and with said] cutting edges [positioned between the flutes], said drill having a longi-



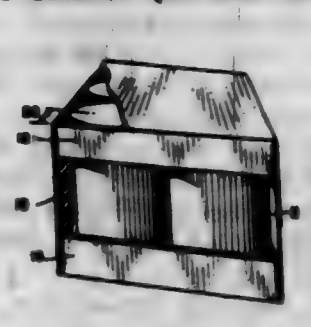
tudinally disposed bore extended continuously through the tip and shank and said bore being eccentrically positioned [whereby the wall of the drill tip around the bore intercepts one of said cutting edges a greater distance from the center on one side of the drill than on the opposite side whereby the portion of the cutting edges extending from the point towards the center terminates at a point spaced from the longitudinal axis of the drill tip,] *and having the axis of said drill extending therethrough* so that in use material is cut around a centrally positioned pin and said pin is located in one side of the eccentrically positioned bore providing an open fluid carrying channel through the drill.

24,925
CARTON PACKAGE

John V. Fisher, deceased, late of Los Angeles, Calif., by Constance M. Fisher, administratrix, Hollywood, Calif., assignor to Container Corporation of America, Chicago, Ill., a corporation of Delaware

Original No. 2,889,048, dated June 2, 1959, Ser. No. 454,938, Sept. 9, 1954. Application for reissue July 11, 1960, Ser. No. 42,187

3 Claims. (Cl. 206—65)



3. A package comprising a group of upright cylindrical containers that are substantially in engagement with each other, a carton having vertical opposed end panels extending over two of the laterally oppositely outwardly facing sides of said group in substantial engagement with one of the sides of the containers at each of said sides of the group, and panel extensions integral with said end panels along their opposite vertical edges but otherwise free from securement to said end panels, said end panel extensions extending into said carton to positions be-

tween said end panels and said containers adjacent thereto with said last mentioned containers solely holding said end extensions in their said positions, top and bottom panels extending between and secured to said end panels and extending over the upper and lower ends of the containers of said group substantially in engagement therewith, said top and bottom panels and said end panels together defining an end loading carton, at least one of said top and bottom panels having at a side edge thereof extending between said end wall panels a container retaining extension attached thereto and extending over the adjacent end portions only of the laterally facing sides of the containers of said group at said side of said carton and substantially in engagement with said laterally facing sides, and means integrally connecting said container retaining extension with said end panel extension effective for holding said container retaining extension in its position extending over said containers whereby said containers will be held in said carton by said container retaining extension through its connection with said end panel extension and by the holding engagement between said end panel extension and the containers adjacent thereto.

24,926

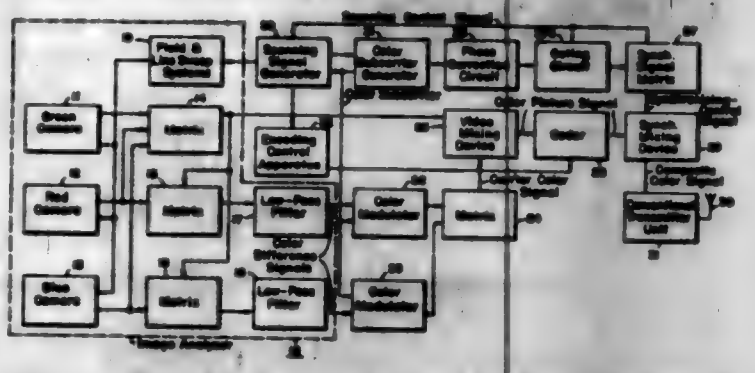
SUBSCRIPTION COLOR TELEVISION SYSTEM

Walter S. Druz, Bensenville, and Erwin M. Roschke, Des Plaines, Ill., assignors to Zenith Radio Corporation, a corporation of Delaware

Original No. 2,853,544, dated Sept. 23, 1958, Ser. No. 355,718, May 18, 1953. Application for reissue Feb. 13, 1959, Ser. No. 793,225

26 Claims. (Cl. 178—5.1)

25. In a subscription color television receiver for receiving, demodulating and transducing a coded color television signal into a visible image having entertainment value, said coded television signal comprising a scanning synchronizing control representation and a plurality of discrete image defining components including, a color carrier component phase and amplitude modulated by chrominance information, a chrominance demodulation synchronizing signal component for controlling synchronous demodulation of said chrominance component in said receiver, and a luminance signal component representing monochrome brightness information, said television signal having been coded by imposing changing electrical delay on at least predetermined portions of at least one of said components with respect to at least one other portion of any of said components, said changing delay being in accordance with a secret coding schedule, the combination of: means for separating said scanning synchronizing control representation from said image defining components and said image defining components from each other upon reception by said receiver of a color television signal of the type described; means operatively coupled with said separating means and responsive to said chrominance demodulation synchronizing signal for developing a chrominance demodulation signal; means operatively coupled with said separating means and said demodulation signal developing means responsive to image defining components and developed chro-



minance demodulation signal for producing demodulated color signals; means operatively coupled with said demodulated color signal producing means and said separating means for producing a visible color image; means producing a decoding control signal representing the character of said secret coding schedule; and controllable signal delay means operatively coupled with said last named means and said separating means and responsive to said decoding control signal for imposing changeable electrical delay on those portions of said signal components required to re-establish phase coincidence between portions of said components affected by said secret coding schedule, whereby a predetermined phase relationship between said scanning synchronizing component and all image defining components are represented in said visible color image.

PLANT PATENTS

GRANTED JANUARY 17, 1961

Illustrations for plant patents are usually in color and therefore it is not practicable to reproduce the drawing.

2,011

PEONY PLANT

Carl G. Klehm, 3 E. Algonquin, Arlington Heights, Ill.

Filed Sept. 30, 1959, Ser. No. 843,596

1 Claim. (Cl. 47—60)

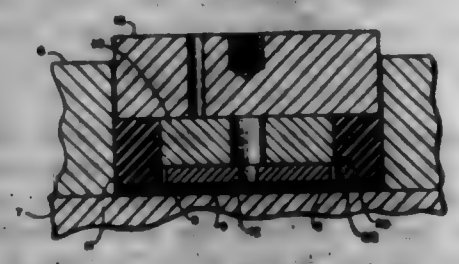
A new and distinct variety of peony plant characterized by its extremely large size of bloom, its distinct color, and the robust heartiness of the plant as shown and described herein.

PATENTS

GRANTED JANUARY 17, 1961

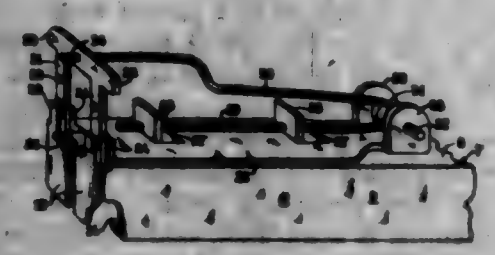
GENERAL AND MECHANICAL

2,968,039
APPARATUS FOR JOINING WORKPIECE ELEMENTS
Paul W. Crapuchettes, Atherton, Calif., assignor to the United States of America as represented by the Secretary of the Army
Filed Oct. 29, 1958, Ser. No. 770,569
5 Claims. (Cl. 1—1)



1. In combination with a pressing device an apparatus for assembling workpiece parts by a cold penetration operation comprising a hollow rigid metallic body to contain a first workpiece element, a holding and guiding element containing a group of second workpiece elements to be driven into said first workpiece element, a lateral pressure member having limited elasticity and fluidity under high pressure inserted between and laterally engaging both the wall of said body and at least a portion of the surface of said second workpiece elements and a pressure transferring member above and contacting with the upper vertical extremity of said second workpiece elements and the upper face of said lateral pressure element whereby force exerted by said press thereon will drive the second workpiece elements into the first workpiece element while the lateral pressure member exerts an intense lateral stabilizing pressure upon said second workpiece elements.

2,968,040
STAPLING MACHINES
Henri Felix Fénon, Neuilly-sur-Seine, France, assignor, by mesne assignments, to Societe AGRAF, Vincennes (Seine), France, a corporation of France
Filed July 2, 1956, Ser. No. 595,390
Claims priority, application France July 20, 1955
1 Claim. (Cl. 1—3)



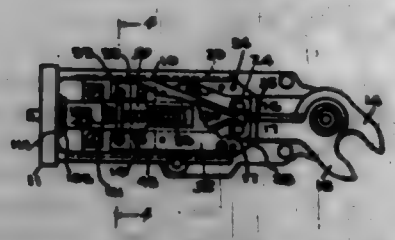
In a stapling machine, a staple-guide rail having an upper transverse wall and two side walls between which the staples are guided, first lugs constituted by extended portions of said side walls and disposed in a first plane which is substantially perpendicular to said rail and is in spaced relation to one end of said upper wall, apertured projections on said transverse wall, a plate having integral second lugs which are spaced from said first lugs, said plate having apertures in which are engaged said apertured projections, a staple driver mounted between and slidably guided by said first lugs and said second lugs for sliding motion in a second plane which is substantially perpendicular to and is disposed transversely of said rail for removing the staples one by one from said rail and driving them into the material to be stapled, means for urging the staples along said rail toward said second plane, said driver having a first aperture and a second aperture and said plate having a projection which extends into said first aperture of the driver with play between said driver and said projection in the vertical direction to permit said sliding motion of said driver to a limited extent, a double-limbed hairpin-shaped spring of which one limb freely extends into said second aperture of said driver and biases the latter upwardly whereas the other limb is engaged in said apertured projections and retains said plate on said transverse wall, and a pressure-applying member pivotably mounted relative to said rail for applying stapling pressure directly on said driver when stapling.

2,968,041
APPLICATOR FOR SURGICAL CLAMPS
John F. Skold, 4700 N. Oak Park Ave., Chicago, Ill.
Filed Sept. 25, 1958, Ser. No. 763,402
17 Claims. (Cl. 1—49.1)



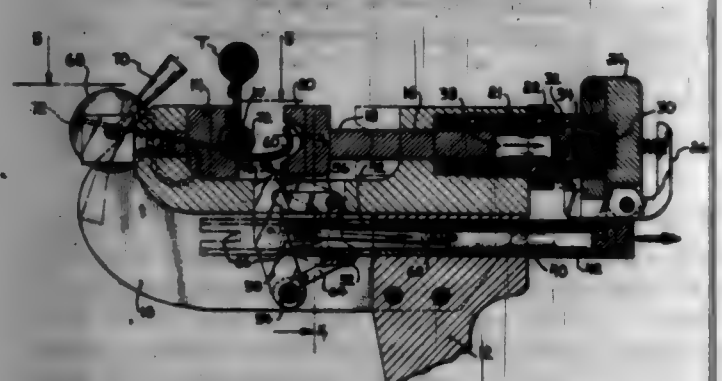
1. A surgical instrument for constricting anatomical tissue closing thereabout a split wire clamp, said instrument being in the form of a gun having a barrel section, a trigger section and a grip section, said barrel section including an elongated barrel-frame member, a pair of first class jaw levers each pivoted medially of its ends to a medial region of the frame member for swinging movement in a vertical plane about a horizontal fulcrum axis, a pair of opposed cooperating clamp-collapsing jaws on the forward ends of the levers respectively, said levers being movable between retracted positions wherein said jaws are in open spaced apart relationship and advanced positions wherein said jaws are in closed positions of close proximity to each other, means normally urging said levers toward their retracted positions, means on said frame defining a longitudinally extending guideway, a cam actuator for said jaws slidable in said guideway, cooperating cam surfaces on said cam actuator and the rear end of each of said levers, said cam actuator being movable between a retracted position wherein said cooperating cam surfaces are out of effective engagement and an advanced position wherein said cooperating cam surfaces are in engagement with one another and said levers are in their advanced positions, a movable finger-actuated trigger proper carried by said trigger section, and means operatively connecting said trigger proper and actuator for translating the movements of the former into corresponding movements of the latter.

2,968,842
C-RING CLINCHING TOOL
Donne K. Yankee, Sterling, Mass., assignor to Novelty Tool Company, Inc., Spencer, Mass., a corporation of Massachusetts
Filed Apr. 11, 1957, Ser. No. 652,127
12 Claims. (Cl. 1—187)



1. A C-ring clinching tool comprising a body, a manually controlled reciprocable power operated tool mounted on the body, a pair of jaws movably mounted on the body which have grooves arranged for receiving and holding a U-shaped C-ring with its legs projecting forward at an obtuse angle relative to the longitudinal center line of the body and with one leg in advance of the other, a magazine for supplying C-rings, means including a slideway arranged to receive a ring from the magazine and a pusher operated by said tool and reciprocable in the slideway to feed a C-ring into said angular arrangement in the jaw grooves, the center lines of the slideway and the jaw grooves lying substantially in a plane parallel with the center line of the body, and means operated by the tool to move the jaws and clinch a ring held therein.

2,968,843
HAND TOOL FOR CRIMPING ELECTRICAL CONNECTORS ONTO CONDUCTORS
Henry W. Dennler, Lebanon, Pa., assignor to AMP Incorporated, Harrisburg, Pa.
Filed May 19, 1959, Ser. No. 814,339
5 Claims. (Cl. 1—215)



1. A tool for crimping electrical connectors including: a first die, a second relatively movable die cooperating with the first die to crimp a connector therebetween, explosive means for operating said relatively movable die, means for detonating said explosive means including a first pivoted lever adapted to urge the movable die toward the explosive means, a ram on said movable die adapted to strike the explosive means with the necessary detonating force, a spring means for urging said lever against said die in a direction calculated to drive the die and the ram against the explosive means, and releasable means for restraining the die until the spring is loaded to a predetermined amount.

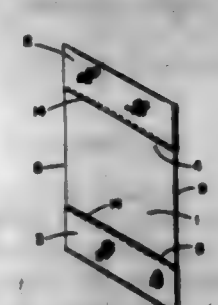
2,968,844
SLEEPING GARMENT FOR INFANTS
Bettye S. Dudley, 3826 Ingalls Ave., Alexandria, Va.
Filed July 3, 1957, Ser. No. 669,846
1 Claim. (Cl. 2—69.5)

Infant's sleeping garment comprising congruent front and back panels having transverse upper ends, a dihedrally folded ventilating gusset of substantially uniform width extending outwardly from said panels and continuously about the bottom and sides of said panels, a seam uniting the longitudinal edges of the sides of said gusset respectively to the adjacent edges of the corresponding panels throughout the length of said gusset, the length of said panels being so related to the size of the infant whom the garment is designed to fit that the upper ends of said panels extend to a position below the armpits of the infant, said gusset terminating in transverse open ends at a distance below the upper edges of said panels, at both sides, said panels being open at their lateral edges



from their upper ends to the open ends of said gusset, the portions of said panels above the open ends of said gusset forming flaps that can be folded down to facilitate servicing the nether parts of the infant, means for detachably fastening said lateral edges together at the upper ends of said panels to form said ends into a body embracing circumference, the open lateral edges of said panels below said fastening means defining, with the open ends of said gusset, placket openings for venting said gusset, said seam forming a stop for suppressing the invasion into said gusset, of contour irregularities originating in said panels incident to distension of said garment by the infant.

2,968,845
SIMULATED POCKET HANDKERCHIEF
Robert L. Johnson, Los Angeles, Calif.
(1708 W. 4th St., San Pedro, Calif.)
Filed Aug. 13, 1957, Ser. No. 678,267
3 Claims. (Cl. 2—279)

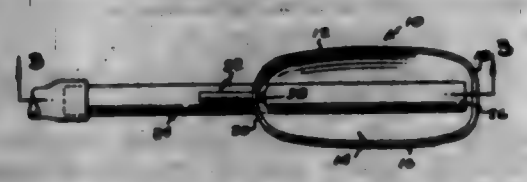


1. A simulated pocket handkerchief device comprising a substantially rectangular sheet member means having squared opposite end portions, said sheet member means being adapted for insertion in a pocket with either of said two opposite end portions projecting therefrom, and a folded cloth segment for either of said opposite edge portions, said cloth segments complementarily covering said end portions by being folded over the same and stitched thereto for simulating the appearance of a folded pocket handkerchief when projecting from a pocket with which said sheet member is associated, said sheet member means including slidable means for adjusting the length and angular relationship between said opposite end portions.

2,968,846
SUCTION EVACUATED URINAL
William A. Duke, P.O. Box 53, Snyder, Tex.
Filed Mar. 20, 1959, Ser. No. 800,781
2 Claims. (Cl. 4—110)

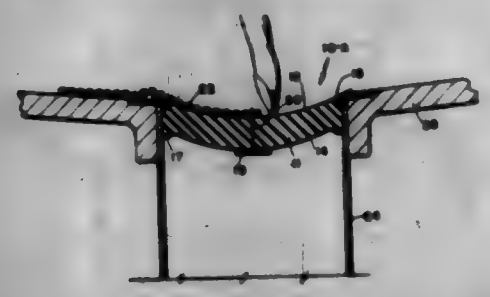
1. A suction evacuated urinal comprising a body contacting urinal cup, said cup having a bottom wall and

said circumferential wall extending laterally from said bottom wall, said circumferential wall having outer and inner wall portions, an open ended pipe extending through said inner end wall portion toward said outer end wall portion and terminating close to and spaced from said outer end wall portion, said pipe extending along said bottom wall, said pipe having a portion out-



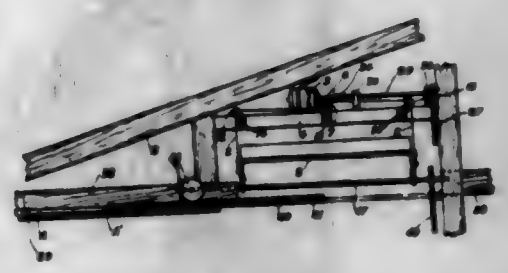
side of the cup, to which suction producing means is adapted to be connected, said circumferential wall having a continuous body contacting edge therearound, and an air inlet tube extending through said inner end wall portion, said tube having an opening within the cup at said inner end wall portion and having an open end outside of the cup.

2,968,047
STAY PUT DRAIN PLUG
Herbert G. Stilborn, P.O. Box 361, Moosomin, Saskatchewan, Canada
Filed Feb. 17, 1958, Ser. No. 715,699
1 Claim. (Cl. 4—295)



In a drain plug for use in closing the upper opening of a cylindrical drain pipe comprising, a resilient disc shaped main body portion of substantially uniform thickness normally having a lower circular edge portion with an outwardly extending thin integral upper flange, a smooth unobstructed convex upper surface and a substantially smooth concave lower surface, said thin integral annular flange extending a short distance radially outwardly from said circular edge portion as a continuation of the top surface, said lower circular edge portion of said plug extending from the bottom surface thereof upwardly to the lower surface of said flange and formed to provide an integral resilient annular bead with normally semi-circular external surface, said main body portion of said drain plug being made entirely of resilient material adapted to be collapsed from a convex outside position to a concave extending inside position without effecting a change in the thickness thereof and said semi-circular annular edge portion of said drain plug adapted to be moved outwardly from normal location and in a direction to enlarge the diameter of the circular lower portion of said plug as and when the said normally convex upper surface is depressed from an outside position to an inside position as indicated from the released position of the drain plug when loosely installed in a drain pipe with cylindrical walls and with said flange resting upon the upper peripheral edge of the drain pipe to that of the sealing position of the drain plug when in use, a centrally located rod extending perpendicularly through said main body portion of said plug, a washer secured with the lower end of said rod and extending at right angles therewith, an aperture in the upper end of said rod and a short section of flexible chain having one end thereof secured within said aperture in said rod whereby said drain plug can be released from its tight in use position to the loose normal position.

2,968,048
HOIST FOR BEDS
Guy Roberge, 660 Laurentian Blvd., St. Laurent, Quebec, Canada
Filed Nov. 1, 1954, Ser. No. 466,191
2 Claims. (Cl. 5—10)

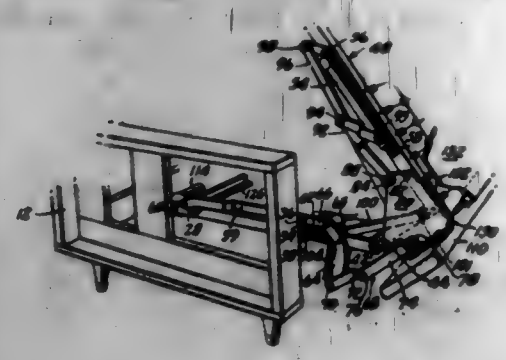


1. The combination with a room having a ceiling and an attic above said ceiling, of a hoisting device mounted in said attic and including winch drums, an electric motor worm and gear means operatively connecting said motor and winch drums, pulleys mounted above said ceiling, flexible cables wound on said winch drums and extending over said pulleys, a bed, hook and ring means at the outer ends of said flexible cables and at the four corners of said bed to removably connect said cables to said bed, said motor being operative to raise said bed from said room through an aperture in said ceiling in a position above said ceiling and within said attic, said aperture being proportioned for the passage of said bed, a panel separate from said bed and mounted on the ceiling for movement between a position closing said ceiling aperture and a position opening said ceiling aperture, means for moving said panel between said positions, means for supporting said panel in closing position and switch means in the electric circuit of said electric motor responsive to the movement of said panel and closing the circuit to said electric motor when said panel is in open position, and opening said circuit when said panel is in closed position, so constructed and arranged that said cables can be disconnected from said bed when the latter is in lowered position within said room and said cables can be wound on said winch drums and said ceiling aperture can be closed by said panel, said panel when in closed position causing opening of said circuit through said switch means and affording a safety support to prevent the bed in raised position from accidentally dropping through said aperture.

2,968,049
CONVERTIBLE BED
John J. Barabas, New Rochelle, N.Y., assignor to Castro Convertible Corporation, New Hyde Park, N.Y., a corporation of New York
Filed Oct. 31, 1957, Ser. No. 693,636
3 Claims. (Cl. 5—55)

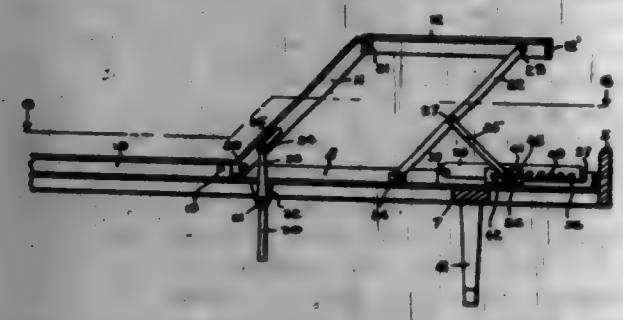
1. In a three section sofa-bed wherein the rear end of the inner section must be locked up when the bed is unfolded, an inner section, a connecting section, and end section, said sections being adapted to fold into U shape within a furniture frame and to unfold in a straight line to make a bed, a rear swing link pivoted to the rear end of said inner section, a front swing link connected to support the front end of said inner section, an arm-like member pivoted to said inner section near its forward end, a long push link pivoted to said rear swing link and to said arm-like member to rotate it backward and upward when said sections are folded and outward and down-

ward when they are unfolded, a pin riding in a slot in said inner section adjacent said arm-like member and adapted when said sections are unfolded to move against said member to prevent rotation of it but when said sections are folded to move away from said member to permit it to rotate, said pin being carried on a connecting



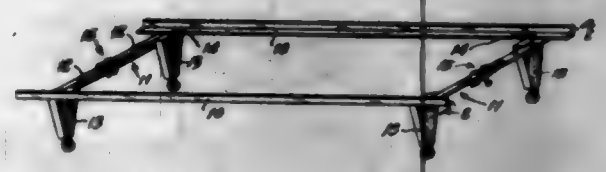
link whose forward end is pivoted to said connecting section, said pin abutting the rear end of said slot when said sections are folded and bearing against the rear side of said arm-like member when said sections are unfolded, and corner linkage means actuated by rotation of said arm-like member when said sections are folded to draw them into rigid right-angle relation.

2,968,050
ADJUSTABLE BED DEVICE
Martin Shmukmann, 4735 E. 10th Ave., Hialeah, Fla.
Filed June 4, 1958, Ser. No. 739,888
2 Claims. (Cl. 5—69)



1. A contour forming bed device including a main frame and a supplemental frame, a plurality of frame sections that are pivotally connected together transversely and with the several sections in end to end relation constituting a full length support for a flexible mattress, one of said sections being a head-end section and being swingable in a vertical plane to constitute an inclined back rest, prop means for supporting the back rest in a desired degree of angularity, the said prop means being adjustably connected with respect to the supplemental frame, a second frame section adjacent to the head-end section and being fixedly connected with the supplemental frame, a third frame section connected to the second section and being swingable in a vertical plane, a foot-end frame section being pivotally connected to the third frame section to be shiftable in a vertical plane and with the foot-end frame section being at all times parallel with the supplemental frame, bars connected with the supplemental frame and with the outer end portion of the foot-end frame section and that constitutes the means for swinging the foot-end frame section and the third frame section in a vertical plane, and to maintain the foot-end frame section horizontally throughout its movement, brace arms connected with the bars and with the brace arms at their free ends being connected by a cross rod, the said cross rod adapted to engage in toothed rack bars carried by the supplemental frame and whereby to maintain the bars and the frame sections in a predetermined degree of adjustment, the said foot-end and third frame sections constituting leg rests, the said rack bars being pivotally connected with respect to the supplemental frame, the rack bars having downwardly directed inclined teeth, a slide device adapted to traverse the rack bar and with the cross rod being carried by the slide device, the terminal ends of the rod extending beyond the slide device to be disposed in a path to engage the teeth of the rack bars and means carried by the slide that also projects beyond the slide to engage the teeth of the rack bar, the spacing of the projecting ends of the rod and the said means being such as to provide for relative movement between the ends of the rod and parts of said means to actuate the bar in a vertical plane for a release movement of the brace arms when the third frame section is manually lifted upwardly and whereby to progressively release the brace arms and their associated rod and slide device to raise or lower the third frame section.

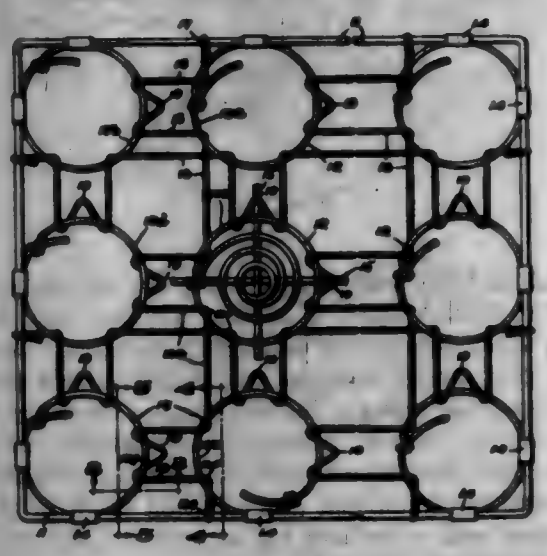
2,968,051
BED FRAME AND CLAMPING MEANS THEREFOR
Sol J. Imber, 544 Cannova St., and David Imber, 1324 Plimpton Ave., both of New York, N.Y.
Continuation of application Ser. No. 743,269, June 20, 1958. This application Jan. 25, 1960, Ser. No. 6,585
1 Claim. (Cl. 5—181)



The combination with a collapsible bed frame having side members, and end members each comprising metallic angles extendible laterally from said side members and arranged to overlap one another to an extent dependent upon the desired width for the bed frame each of said angles having a substantially horizontal plane portion and a substantially vertical plane portion; of clamp members to hold said metallic angles together in adjusted position and thereby to secure the width adjustment of the bed frame; each of said clamp members comprising a plurality of portions formed of a single piece of sheet metal bent and pierced as hereinafter set forth, including a back portion arranged to be disposed at an angle of about 45° to the horizontal, a pair of substantially parallel side portions disposed at right angles to said back portion and each extending in a substantially vertical plane, which is perpendicular to both the substantially horizontal plane portions and the substantially vertical plane portions of the angles clamped by each clamp member when in use, an L-shaped aperture pierced in each of said side portions and each comprising an aperture portion extending substantially horizontally and an aperture portion extending substantially vertically, these aperture portions meeting at substantially a sharp right angle, both apertures in said side portions being substantially identical in size, shape and disposition and being arranged freely to receive overlapping portions of said metallic angles with the intersecting corner part of the section of each metallic angle disposed toward the sharp right angled portion of each of said apertures, a set screw threaded through said back portion and arranged to bear against the inside of the innermost of a pair of said metallic angles, so as to press both said angles together and against the boundaries of said apertures in said side members, and a pair of flange portions extending substantially

horizontally from said side portions and in a single substantially horizontal plane overlying and contiguous in use with the horizontal plane portion of the upper one of said angles clamped by each said clamp member to protect superjacent portions of bedding equipment from damage by impingement with any relatively sharp portions of each said clamp member.

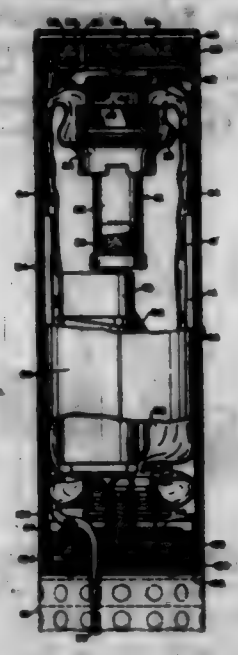
2,968,852
INTERLOCKED SPRING ASSEMBLY FOR PADDED BOX SPRINGS
Joseph F. Clampa, Medford, Mass., assignor to Standard Box Spring Company, Boston, Mass., a corporation of Massachusetts
Filed Aug. 28, 1959, Ser. No. 836,728
1 Claim. (Cl. 5—248)



A spring assembly comprising a border frame, a plurality of spring coils arranged in parallel rows and parallel lines within the frame, the uppermost convolutions of the coils in the outermost rows and lines being connected to the border frame, and the uppermost convolutions of each of the coils being spaced from the next adjacent coils, a series of reinforcing wires extending across the frame both longitudinally and transversely and having end portions attached to the frame, each wire interlocking the uppermost convolutions of the coils in one row or line with the corresponding convolutions of the coils in a next adjacent row or line, respectively, and said wire having a bight portion provided with a reverse bend forming a V-shaped hook portion disposed within the bight portion and hooked over a convolution, the reverse bend of the bight portion partially encircling said convolution, and the sides of the V-shaped hook portion being transversely crimped to completely encircle said convolution, said transverse crimps providing resilient shoulders for releasably securing said hook portion to said convolution with a snap action.

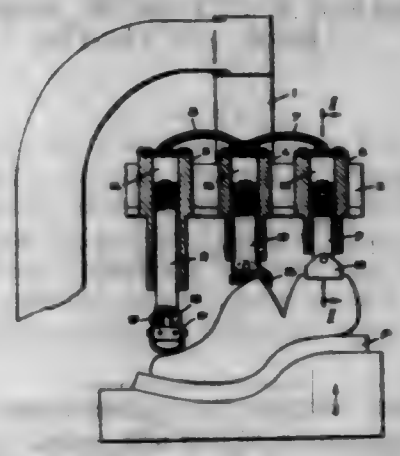
2,968,853
BUOYANCY CONTROL
Roland M. Gogelick, Arlington, Mass., William J. Finney, Paducah, Ky., and Richard L. Brown, Arlington, Mass., assignors to the United States of America as represented by the Secretary of the Navy
Filed Mar. 14, 1946, Ser. No. 654,492
13 Claims. (Cl. 9—8)

1. In a buoyancy control for an underwater suspension device comprising, a supporting enclosure having gas generating means therein, a valve in said enclosure including opposed disc and seat sections cooperatively operable for regulating the flow of gas therefrom, pressure responsive means secured to said disc section, and velocity responsive means secured to said seat section, said pressure and velocity responsive means thereby being effective to regulate the opening of said valve conformably to



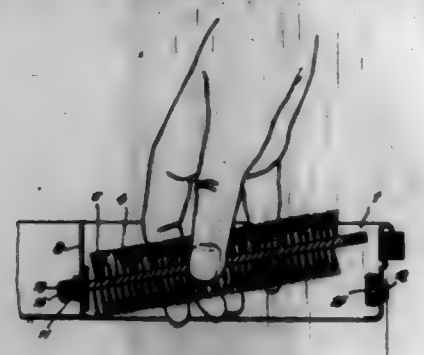
the rate of ascent or descent of said enclosure as it seeks a stable equilibrium state.

2,968,854
SHOE CEMENTING PRESS
Ernst Hausmann, Stetten-Hechingen, and Werner Lorenz, Alfeld (Leine), Germany, assignors to Schuhmaschinen-Gesellschaft Hauke & Co. m.b.H., Alfeld (Leine), Germany, a firm of Germany
Filed June 10, 1957, Ser. No. 664,601
Claims priority, application Germany June 9, 1956
17 Claims. (Cl. 12—33)



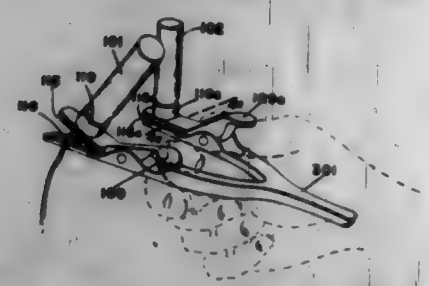
1. A shoe press comprising means for pressing a sole against the lower side of a lasted shoe for cementing the same thereto, a plurality of pressure members to be applied at least to the upper side of said shoe and the last therein and at least at three different points thereof to counter the pressure to which said shoe is subjected by said sole pressing means, means for supporting said pressure members, means for guiding said pressure members so as to be movable in only one direction relative to the lasted shoe, means for transmitting a movement of each of said pressure members to the other pressure members when a pressure is applied to said sole by said first means for automatically controlling the position of said other pressure members in relation to the position of said first pressure member; at least two of said pressure members including end members pivotable about axes transverse to said one direction and adapted to engage the upper side of the last.

2,968,055
ROTATABLE BRUSH ROLLERS FOR BRUSHING APPARATUS OR SUCTION-CLEANER NOZZLES
Erik Torvald Linderoth, Stockholm, Sweden, assignor to Amica-Produkter, Kommanditbolaget Erik Linderoth & Co., Stockholm, Sweden, a corporation of Sweden
Filed Sept. 25, 1958, Ser. No. 763,395
Claims priority, application Sweden Oct. 7, 1957
3 Claims. (Cl. 15—41)



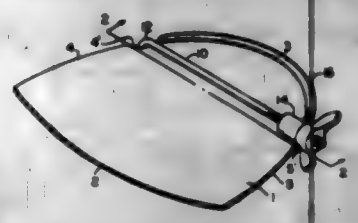
1. In brushing apparatus comprising a rigid frame and at least one brush roller having a shaft journalled at its ends in opposed bearings carried by said frame, the improvement characterized by the fact that at least one of said bearings comprises a cup-shaped member attached to the rigid frame, the open end portion of said member being relatively rigid to provide a bearing bushing portion for rotatably receiving an end of said shaft, and the closed end portion being flexible and resilient and thus free for axial extension and lateral displacement, whereby the end of said shaft may be readily moved axially within the bearing and at an angle to its normal position to facilitate the mounting and removal of the brush roller.

2,968,056
ENAMELED INSULATION STRIPPER FOR WIRES
Anthony Aveni, 1966 S. Normandie Ave., Los Angeles, Calif.
Filed Sept. 2, 1955, Ser. No. 532,241
2 Claims. (Cl. 15—124)



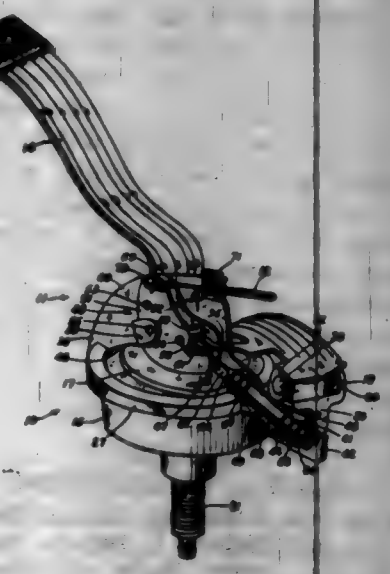
1. An enamel stripper for enamel-coated wires comprising the combination of first and second corrosive fluid resistant containers, each having a dispensing end including a perforated washer at said dispensing end; first and second alligator clamps, each having, respectively, mating upper and lower jaws operably held together in opposing relation by resilient means attached thereto; one of said jaws of each of said clamps, respectively, having an integral threaded cap, said cap being perforated in the surface in common with said jaw and adapted to receive one of said containers, respectively, by the dispensing end thereof and to hold said dispensing end in a sealed relation to said cap therein; each of said jaws of said clamps, respectively, having a saturable pad removably attached to the mating surfaces thereof; and a handle both said handle and said alligator clamps being attached together in an operable relation, the handle forming the vertical of a Y, and the alligator clamps forming the upper diagonals, respectively, of the Y, to permit the operation of said padded jaws of said clamps against the urge of said resilient means by the thumb when the handle is held in one's hand, said first container having a corrosive fluid and said second container having a neutralizing fluid, said fluids being dispensed through the perforations of said washer and said cap and said jaw of said clamp in common with said cap to saturate said pads in opposing relation and held together by said resilient means, whereby enamel coated wires may be inserted between said pads of said first alligator clamp to remove said enamel with said corrosive fluid, and thereafter between the pads of said second alligator clamp to neutralize any corrosive fluid remaining thereon.

2,968,057
ADJUSTABLE CONTOUR KNIFE
William J. Pratt, North Bellmore, N.Y., assignor of one-half to James P. Malone, Mineola, N.Y.
Filed Nov. 13, 1958, Ser. No. 773,758
1 Claim. (Cl. 15—236)



A contour knife comprising a flat flexible member having a first straight end, a second smaller end, and two tapering sides connecting said ends, means to curve said member comprising a clamp connected to said two sides, said clamp comprising a hollow tubular member notched on one end to fit the edges of said flexible member, a threaded bolt passing through said tubular member, said smaller end being curved and adapted to fit in the palm of the hand and a molded lip on said smaller end to facilitate holding in the hand.

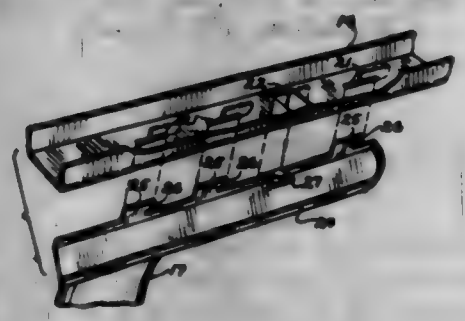
2,968,058
COORDINATOR DEVICE FOR WINDSHIELD CLEARING SYSTEM
Leonard C. Neufeld, Des Moines, Iowa, assignor to The Delman Company, Cookeville, Tenn., a corporation of Tennessee
Filed May 19, 1958, Ser. No. 736,078
5 Claims. (Cl. 15—250.02)



1. An actuating device for a windshield clearing system including a wiper unit and a washer unit, the wiper unit including a wiper motor and a reciprocally movable valve member for controlling the operation of said wiper motor, the washer unit including a fluid pump assembly having an operator operated, pivotally mounted lever member adapted upon oscillatory movement to alternately cause said pump assembly to emit fluid therefrom; said actuating device comprising, a toggle joint the ends of

which are pivotally mounted on said pump assembly and the knee portion of which is movable through a dead center, a finger element extended from said lever member, said toggle joint operatively engageable by said finger element whereby to move said knee portion back and forth through the dead center upon the said oscillatory movement of said lever member, means anchored on said pump assembly and connected to said toggle joint for biasing said knee portion away from dead center, and motion transmitting means interconnecting said toggle joint with said valve member.

2,968,859
LEG HINGE FOR IRONING TABLES
Donald J. Munson, Minneapolis, Minn., assignor to The J. R. Clark Company, Spring Park, Minn., a corporation of Minnesota
Filed Apr. 7, 1958, Ser. No. 726,914
1 Claim. (Cl. 16—172)



A hinge construction comprising a first element having a portion of sheet material provided with a series of elongated slots arranged in longitudinal alignment, a second element having a series of spaced flat teeth projecting outwardly therefrom in alignment on a common plane, said teeth being spaced apart equally with the spacing of the slots and each having a dimension longitudinally of their alignment which is less than the length of the slots allowing the teeth to be inserted into the respective slots in the first element, the teeth having planar unidirectional projections at their extended ends adapted to hook behind said sheet material when the second element is shifted longitudinally of the slots after such insertion to hold the elements together against separation in a relatively swingable condition about an axis extending along said slots, said first element portion having an opening aligned with the slots which is wider than the slots crosswise of the direction of such alignment, and said second element having a locking tab extending therefrom which is aligned with the teeth and movable between an inner position and an extended position, said tab positioned on said element longitudinally of the teeth to oppose the said opening in the first element after said longitudinal shifting to enter said opening when moved to its extended position to lock said second element against return shifting movement.

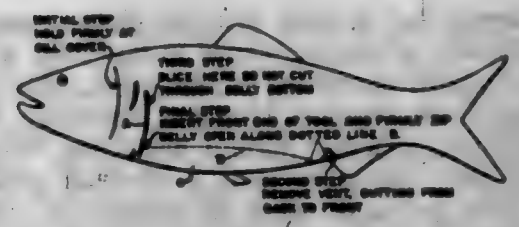
2,968,860
TOOL FOR OPENING BELLIES OF FISH
William F. Eubanks, Box 954, Vero Beach, Fla.
Filed Aug. 1, 1958, Ser. No. 752,469
9 Claims. (Cl. 17—7)

1. A tool for the purpose described comprising a handle, a spoon carried by the handle, a cutting tool also carried by the handle and having a blade lying at least partially along the bowl of the spoon, said spoon having a notched shank slidable longitudinally in the handle, and binding means on the handle positioned to enter



notches of the shank to retain the spoon in locked adjusted position on the handle.

2,968,861
PROCESS FOR OPENING BELLIES OF FISH
William F. Eubanks, Box 954, Vero Beach, Fla.
Original application Aug. 1, 1958, Ser. No. 752,469. Divided and this application May 21, 1959, Ser. No. 818,498
3 Claims. (Cl. 17—45)

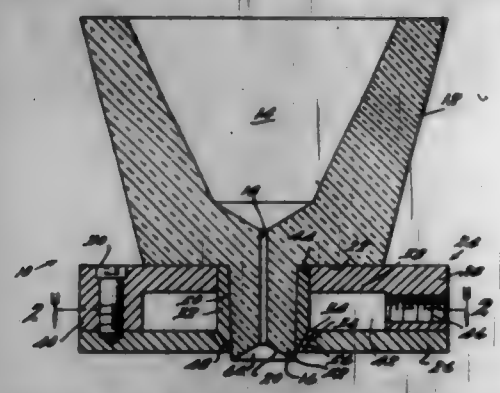


3. A process for removing roe from shad or the like fish comprising removing the vent, exposing the roe by making a ventral incision between the region adjacent the front ventral fin and the region adjacent the pectoral fin, and making an incision between the removed vent area and the area between the front ventral and pectoral fins, and lifting out the roe from the belly cavity.

2,968,862
ATOMIZING NOZZLE AND POURING CUP ASSEMBLY FOR THE MANUFACTURE OF METAL POWDERS
Robert L. Probst and Philip I. Karp, Ann Arbor, Charles H. Sayre, Ypsilanti, and Austin H. Beebe, Jr., Ann Arbor, Mich., assignors to Federal-Mogul-Bower Bearings, Inc., Detroit, Mich., a corporation of Michigan
Filed Mar. 23, 1959, Ser. No. 801,182
3 Claims. (Cl. 18—2.5)

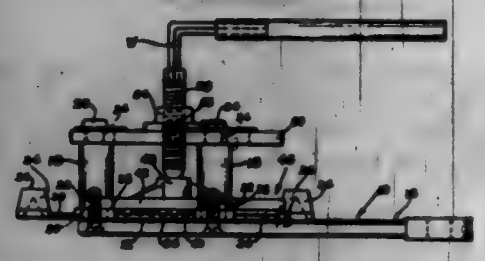
1. Apparatus for manufacturing metal powder comprising means forming a downwardly extending discharge passage for molten metal, said means having an outer surface and an annular downwardly and outwardly inclined lower end surface communicating at substantially the center of the upper end thereof with the discharge end of said passage and intersecting said outer surface at the lower end thereof to thereby form an outer edge, and nozzle means arranged in a substantially concentric relation with said annular surface, said nozzle means having discharge passage means arranged so that an annular downwardly inclined stream of gas from said nozzle means is directed across said outer edge of said inclined

surface for drawing molten metal out the lower end of said discharge passage so that it flows downwardly on



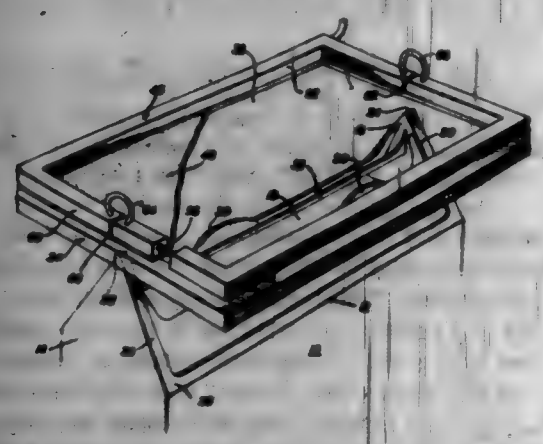
said end surface and said gas stream atomizes the molten metal flowing off said edge to thereby form metal particles.

2,968,063
PORTABLE DEVICE FOR MAKING RUBBER PRINTING PLATES
Ralph F. Derby, Sr., 29 Broadway, Raynham, Mass.
Filed Sept. 18, 1959, Ser. No. 840,284
10 Claims. (Cl. 18—5)



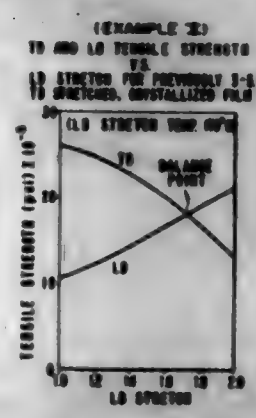
1. A device for making printing plates comprising a base, a plurality of posts attached to said base, a plurality of arms rotatably connected to said posts, each said arm embodying a stop member extending upwardly, each said arm embodying a ledge portion projecting laterally beyond said post connected to it, a pressure plate resting on said ledge portions, when in position of use, and a cover resting on said base posts and embodying a movable pressure member in contact with said pressure plate.

2,968,064
CLAMPING FRAME FOR VACUUM FORMING PARTS
George H. Howell, Birmingham, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed June 24, 1959, Ser. No. 822,669
9 Claims. (Cl. 18—19)



3. Molding apparatus comprising in combination a die holder having a base section, a frame supporting ledge formed around said base section by the peripheral facing of said die holder, opposite peripheral portions of said die holder extending upwardly from said base section to form a die retaining cavity therebetween, the side surfaces of said upwardly extending peripheral portions of said die holder that form part of said peripheral facing being inclined to the base and terminating in substantially parallel ridges, forming means in said cavity; a holding frame for plastic molding material having a surface coextensive with and adapted to engage said supporting ledge of said die holder, said frame having a plurality of sections, means to secure moldable material to said frame sections inwardly adjacent said frame surface, and hinge means connecting said sections along said frame surface at points corresponding to said parallel ridges of said die holder whereby said frame may be folded about said pivotal hinge means to engage said frame surface with said ledge of said die holder and thereby position said moldable material adjacent said die.

2,968,065
PROCESS FOR BIAXIALLY ELONGATING THERMOPLASTIC POLYMERIC FILMS
Le Roy Frederick Gronholz, Kenmore, N.Y., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Dec. 12, 1957, Ser. No. 702,329
20 Claims. (Cl. 18—48)

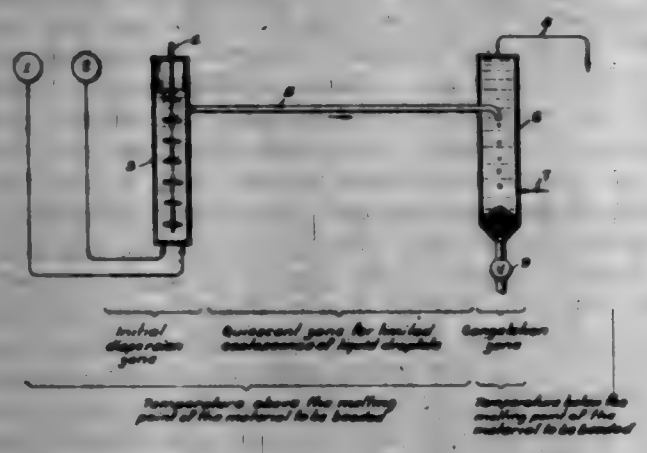


1. A process for biaxially elongating polymeric film which comprises the steps, in sequence, of elongating a substantially amorphous, crystallizable, polymeric film selected from the group consisting of films of polyethylene terephthalate, polyhexamethylene, adipamide, polycaprolactam, polyhexamethylene sebacamide, polyethylene-2,6-naphthalate, polyethylene-1,5-naphthalate, polytetramethylene-1,2-dioxybenzoate and copolymers of ethylene terephthalate and ethylene isophthalate, said copolymers containing at least 70% ethylene terephthalate, in one direction at a temperature T_1 between the second order transition temperature of the film and about 35° C. above said transition temperature; thereafter, subjecting the film to a temperature within a range of about 25° C. above T_1 to just below the crystalline melting temperature range of the film while restricting dimensional change of the film; and thereafter, elongating the film in a direction at right angles to the direction of previous elongation at a temperature within a range of about 130° C. below to about 30° C. below the crystalline melting temperature range of the film.

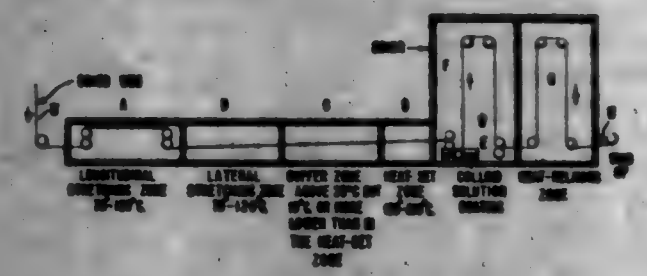
2,968,066
FORMATION OF SOLID BEADS BY CONGELATION OF SUSPENDED LIQUID DROPLETS
Donald E. Ballast, Ralph M. Wiley, and Stanley I. Bates, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Apr. 3, 1958, Ser. No. 726,096
1 Claim. (Cl. 18—48)

A method for making solid material in bead form which comprises forming by agitation means an unstable dispersion of droplets of that material in a liquid state in at least half its volume of an aqueous liquid suspending

medium, the material to be beaded being one that is insoluble in and chemically non-reactive with the aqueous suspending medium in the subsequent operations and that is capable of existing reversibly in liquid and solid states while dispersed in the aqueous suspending medium at temperatures between the freezing point and boiling point of the aqueous suspending medium, the aqueous suspending medium being one that contains a colloidally dispersed water-insoluble, hydrophilic, colloidal solid particle emulsifier capable of stabilizing an oil-in-water suspension, the colloidal solid particle emulsifier being present in amount corresponding to from 0.005 to 10 grams per liter of the dispersed liquid material, said unstable dispersion being made at a temperature above the congelation temperature and below the boiling temperature of the liquid constituents of the dispersion and by agitation means to disperse the liquid droplets in smaller-than-stable sizes in the aqueous liquid suspending medium, bringing the resulting unstable dispersion to a condition of quiescence at a temperature above the congelation temperature and below the boiling temperature of the liquid constituents of the dispersion, whereby the unstable droplets undergo a limited coalescence to form a stable suspension of droplets having substantially uniform size, and bringing the resulting stable dispersion to a temperature below the congelation temperature of the material in the dispersed droplets but above the congelation temperature of the aqueous suspending medium, whereby the liquid droplets are transformed into solid beads having substantially uniform sizes.

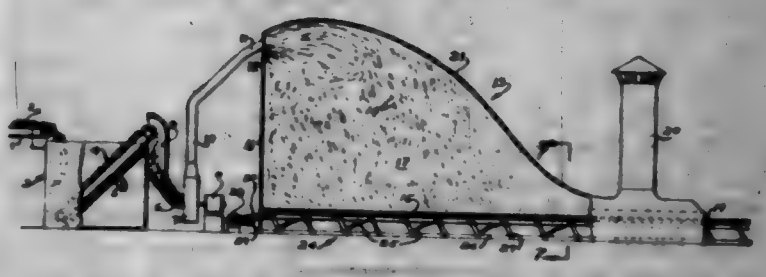


2,968,067
PROCESS FOR MAKING ORIENTED FILMS
Cecil Louis Long, Westfield, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Feb. 2, 1959, Ser. No. 790,494
8 Claims. (Cl. 18—48)



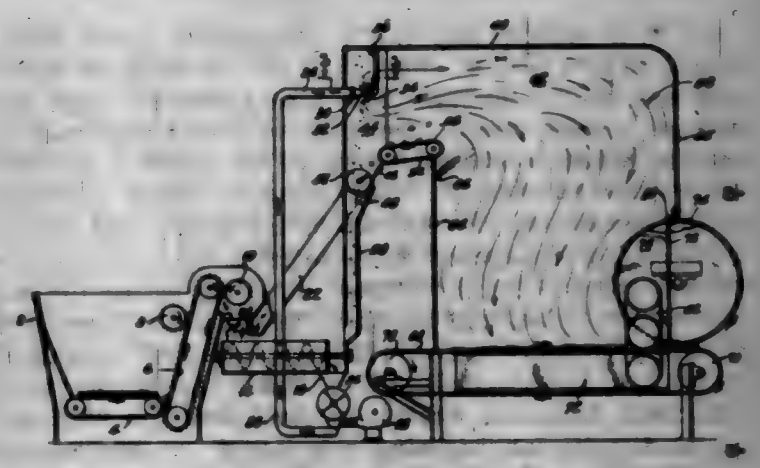
1. A process for making polymeric film having balanced properties from an unoriented film composed of an orientable, crystallizable, linear, organic polymer which is capable of being formed into filaments which when cold-drawn show by characteristic X-ray patterns molecular orientation along the fiber axis which comprises treating a continuous, moving length of said unoriented film by (*a*) stretching said film longitudinally at a temperature between 70° and 120° C. while it is moving and is under lateral tension to prevent significant contraction in a direction at right angles to the direction of travel, (*b*) then stretching the moving film in the lateral direction at right angles to the longitudinal direction at a temperature between 70° and 120° C., whereby at the end of the longitudinal and lateral stretching steps a biaxially oriented film is formed, then (*c*) passing said oriented film into a separate zone at a controlled temperature and maintaining the biaxially oriented film for .005 to 5 minutes at a temperature above 25° C. but at least 10° C. less than the temperature used in subsequent heat-setting step (*d*) while maintaining the lateral and longitudinal tensions essentially the same as those reached at the end of the lateral stretching step, and (*d*) heat-setting the resulting film at a temperature from 150° to 230° C. under conditions such that no substantial shrinkage occurs; steps (*c*) and (*d*) being carried out while the oriented film is moving at a speed of 5 to 900 feet per minute.

2,968,068
METHOD AND APPARATUS FOR MAKING FELTS AND BATTS FROM FIBROUS MATERIAL
Judd A. Brown, 101 Hilldale Drive, San Anselmo, Calif.
Filed July 22, 1957, Ser. No. 673,325
11 Claims. (Cl. 19—155)



11. The method of making a felt from fibrous material comprising the steps of: suspending fibers of such material in air and permitting them to fall downwardly by gravity, supporting a layer of said falling fibers on a horizontally extending surface and simultaneously subjecting said surface to vibrations having an upward vertical component and a horizontal component, said horizontal component being operative to advance said layer in one direction relative to said surface while said vertical component is settling said fibers in relatively closely intermeshing relationship.

2,968,069
METHOD AND APPARATUS FOR CLEANING AND FELTING FIBROUS MATERIAL
Edward R. Powell, North Plainfield, N.J., assignor to Johns-Manville Corporation, New York, N.Y., a corporation of New York
Filed Jan. 30, 1956, Ser. No. 562,245
13 Claims. (Cl. 19—156)



1. A method of opening, cleaning and felting a fibrous material such as mineral wool comprising subjecting

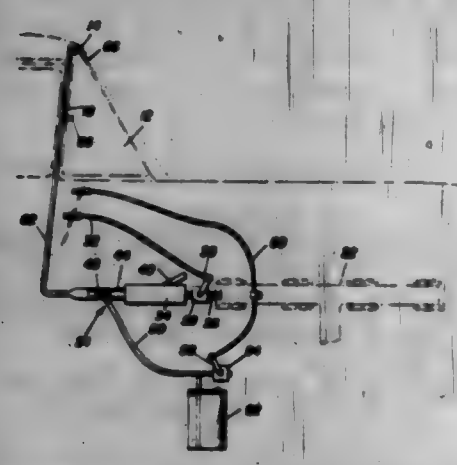
the material to an opening and cleaning action, separately collecting relatively unopened clumps of fiber and relatively open fiber felting the relatively open fiber and resubjecting the relatively unopened clumps to the opening and cleaning action.

2,968,870
BUILDING PANEL CONSTRUCTION
Olaf P. Wolstead, 1306 Howell St., Seattle 1, Wash.
Filed Dec. 10, 1957, Ser. No. 701,863
6 Claims. (Cl. 20—4)



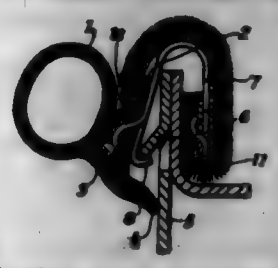
1. A panel construction comprising a plurality of base sheets arranged substantially edge to edge in a common plane, a plurality of finish sheets edge-abutting in a parallel common plane, an interfacial adhesive mounting the finish sheets upon said base sheets, and supporting studs of sheet metal extending along the opposite edges of the base sheets, and each including flange means along one edge, a web separating adjoining base sheets, and flange elements of foraminous formation directed to opposite sides of the web and positioned interfacially between the base sheets and the finish sheets and obscured by the latter, the foramens of the flange elements being permeated by the adhesive intermediate the base and finish sheets.

2,968,871
WINDSHIELD CLEANER
Mario S. Di Perna, 27 Banks St., Somerville, Mass.
Filed Sept. 16, 1958, Ser. No. 760,143
5 Claims. (Cl. 20—40.5)



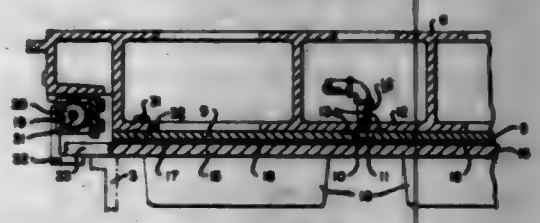
1. In a vehicle that has a transparent panel and a source of hot gas, an attachment for cleaning the panel, said attachment comprising a tube connected with said hot gas source, tubing connected with said tube and extending along at least one edge of the panel, a plurality of nozzles attached to said tubing to direct a stream of said gases over the surface of the panel, said nozzles each issuing superposed spray patterns, the spray of one pattern of each nozzle adapted to sweep across the surface of the panel, and the spray of the other superposed pattern of each nozzle overlying the first mentioned pattern to form a deflector, a liquid supply connected with said tube, and control means connected with said liquid supply for exposing the liquid to the rush of gas through said tube to draw liquid from said supply into said tube for admixture with the gas prior to discharge through said nozzles.

2,968,872
DRAUGHT EXCLUDING STRIPS, BEADINGS, MOULDINGS OR THE LIKE
Thomas John Robert Bright, The Lodge, Leek Wootton, Warwick, Warwickshire, England
Filed Apr. 29, 1954, Ser. No. 426,456
1 Claim. (Cl. 20—69)



A draught excluding strip for vehicle doors comprising a continuous U section clip, said clip including an integral lip for maintaining a snap-on connection with a supporting flange on a vehicle, sealing means comprising a soft but resilient material including an effective portion compressible between a door and a fixed part of a vehicle and an integral attachment portion lying on one face of a limb of the U section clip, ornamental covering means enclosing the clip and attachment portion, one edge of the covering means being turned upwardly around one edge of the clip into the interior thereof, said clips having two sets of tangs, one set being pressed outwardly out of one limb and perforating both attachment portion and covering means, and the other set pressed inwardly out of the other limb and perforating only the upwardly turned part of the covering means, both sets of tangs having their extremities turned over to hold the parts firmly together.

2,968,873
FOUNDRY MOLD SQUEEZING APPARATUS
Ernest N. McWithey, Zelienople, Pa., assignor to Herman Pneumatic Machine Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Sept. 14, 1959, Ser. No. 839,793
1 Claim. (Cl. 22—42)

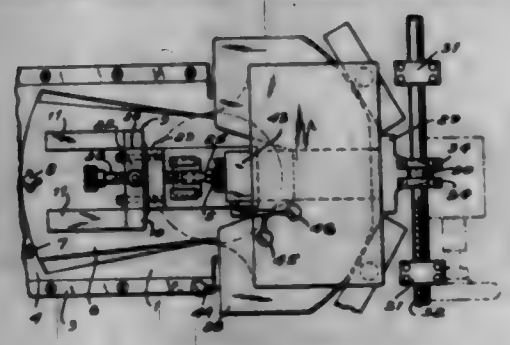


In foundry mold squeezing apparatus for squeezing or pressing finely divided mold forming material against a pattern during the formation of a foundry mold out of said material, a head, means for mounting the head for movement toward and away from the pattern and for forcing the head under pressure in the direction toward the pattern, a squeeze plate for squeezing or pressing the mold forming material against the pattern when the head is forced toward the pattern, the squeeze plate having thereon squeezing means shaped conformably to the pattern, vacuum means for holding the squeeze plate in place on the squeeze head and safety means appliable when the squeeze plate is in place on the squeeze head having means underlying the squeeze plate positively insuring holding the squeeze plate against falling from the squeeze head in the event of failure of the vacuum source.

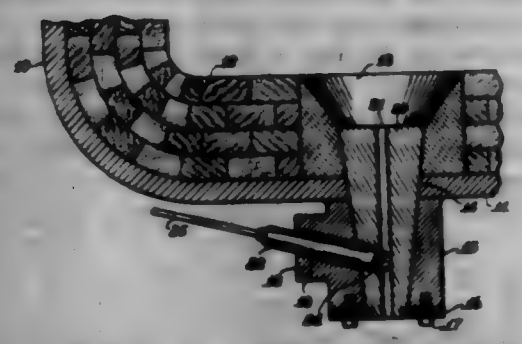
2,968,874
APPARATUS FOR AND METHOD OF CONTROLLING OR INSPECTING OF MEMBERS OR MECHANICAL PARTS
Adolph Razlow, 158 Montclair Ave., Montclair, N.J.
Filed Jan. 18, 1955, Ser. No. 482,565
10 Claims. (Cl. 22—57)

1. In apparatus for forming castings of a plurality of cross-sections of a work piece, comprising a base, a first

bracket mounted on said base, means for moving said first bracket on said base from a predetermined operative position into inoperative position, a vise means adapted to clamp a work piece therein and supported by said first bracket, means for vertical adjustment of said vise means relative to said first bracket, a second bracket disposed on said base opposite said first bracket, a box mounted on said second bracket, said box comprising a hollow body having an intermediate plate to form two compartments in said body, a plurality of fingers reciprocating in each of said compartments, said fingers in one of said compartments being spaced apart from said fingers in the other of said compartments and said fingers having projections extending beyond said body in operative position and disposed inside said body in inoperative position, the space between said fingers of the respective compartments defining a chamber for the castings to be formed, means for advancing and withdrawing, respectively, said fingers and means for feeding molten metal into said chamber.

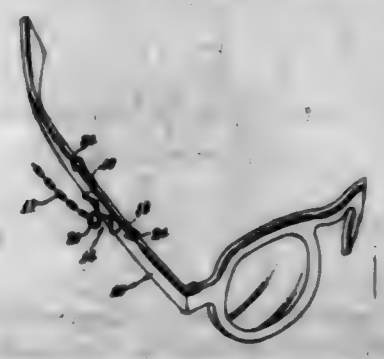


2,968,075
HOT METAL VALVE
William Edward Flickinger, Sr., 232 S. Garland Ave., and George Dolesic, 126 S. Jackson St., both of Youngstown, Ohio
Filed Oct. 1, 1958, Ser. No. 764,563
2 Claims. (Cl. 22—84)



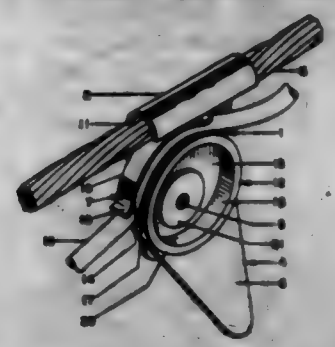
1. A hot metal valve for a ladle including a nozzle frame secured to the ladle and having a vertically disposed opening therein, a nozzle disposed within said vertical opening in said nozzle frame said nozzle having an axially disposed hot metal passageway therein, a secondary passageway in said nozzle angularly disposed with respect to said hot metal passageway and being circular in cross section throughout its length and extending from the hot metal passageway outwardly to the side of the nozzle, an angularly disposed passageway in said nozzle frame disposed in alignment with said secondary passageway in said nozzle, an elongated solid plug valve circular in cross section rotatably and reciprocably movable in said angular disposed passageways in said nozzle frame and nozzle and movable into and out of said hot metal passageway to restrict flow of hot metal therethrough, the diameter of said plug valve being at least twice the diameter of said hot metal passageway in said nozzle so as to allow closure of said passageway by rotary and reciprocatory movement of the plug valve, and means for actuating said vaive.

2,968,076
HOLDER MEANS FOR SPECTACLES
Mortimer L. Chanko, 250 Kingsland Terrace, South Orange, N.J.
Filed June 24, 1957, Ser. No. 667,538
1 Claim. (Cl. 24—3)



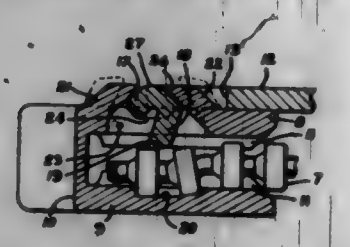
In a holder for supporting spectacles having temples from a wearer's neck when the spectacles are removed from the wearer's eyes and which includes a supporting band, means for releasably attaching said band to the temples of the spectacles, said attaching means comprising a resilient member having parts engageable with the temple at the upper and lower edge portions thereof and at the inner and outer sides, respectively, said resilient member having a spring loop, arms integral with said loop and crossing each other and extending from the opposite ends thereof, respectively, of the latter and disposed in the same plane therewith, and arms integral with said first-mentioned arms respectively, and offset laterally therefrom and extending therefrom in diverging relation in a plane parallel to the plane of said loop, said first-mentioned arms having parts engageable with one of said edge portions of the temple and said other arms having parts engageable with the other edge portion of said temple.

2,968,077
WIRING ACCESSORY
William H. Miller, Elmhurst, and Harry F. Hollen, Chicago, Ill., assignors to Cook Electric Company, Chicago, Ill., a corporation of Delaware
Filed May 27, 1959, Ser. No. 816,125
3 Claims. (Cl. 24—81)



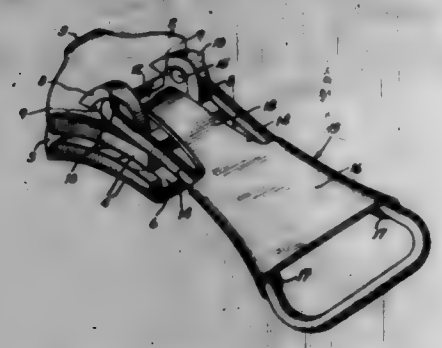
1. A device for gripping an elongate object comprising a cylindrical member having an eccentric axis of rotation; a support member movable with respect to said cylindrical member about said axis and having a portion of a cylindrical flange eccentrically spaced from said axis and spaced outwardly from said cylindrical member, said cylindrical portion and cylindrical surface moving closer together when rotated relative to each other in one direction to cause a first object placed between said cylindrical member and said flange to be wedged therebetween; a base member being rotatable with respect to said support member about said axis of rotation and having a flange spaced outwardly from said cylindrical flange, said flanges coming closer together in one direction to cause a second object placed between said flanges to be wedged therebetween; and means rotatively connecting said cylindrical, support and base members and constituting said axis of rotation.

2,968,078
SHEET METAL SLIDER
Otto John Hoelster, Plymouth, Conn., assignor to Scovill Manufacturing Company, Waterbury, Conn., a corporation of Connecticut
Filed Jan. 7, 1958, Ser. No. 707,641
4 Claims. (Cl. 24—205.14)



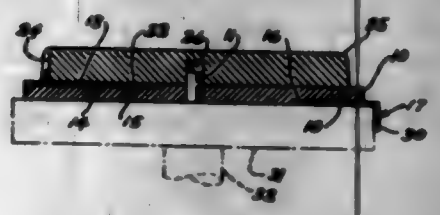
1. A sheet metal slider comprising parallel front and back wings united by a neck at one end, a one piece sheet metal pull tab having a pintle portion at one end and a hole through the tab adjacent the pintle portion, a pair of ears struck out from the front wing of the slider creating an opening in said front wing, a pair of lugs integral with the pull tab on opposite sides of the pintle portion extending angularly into the said opening in the slider when the pull tab is laying flat upon the slider in its forward position, the forward one of said ears extending into the hole in said pull tab when the latter is in said position, and the other of said ears having an angular surface bearing against the rearward one of said lugs when the pull tab is in its forward position, the said ears being of such length that they do not project from the front face of the slider substantially more than the thickness of said pull tab.

2,968,079
LOCK SLIDER FOR SLIDE FASTENERS
Alexander M. Brown, Conneaut Lake, Pa., assignor to Talon, Inc., a corporation of Pennsylvania
Filed Feb. 14, 1958, Ser. No. 715,457
4 Claims. (Cl. 24—205.14)



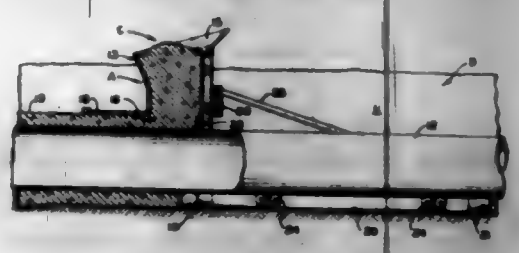
1. A slider for slide fasteners comprising a body member having a pair of spaced-apart wing portions connected at one end by a neck portion so as to provide substantially a Y-shaped channel therebetween, a pair of spaced-apart lug portions arranged on one of said wing portions and extending outwardly therefrom, said wing portion having an aperture arranged therein between said lug portions communicating with said channel, a bail-like pull member having a pair of spaced-apart resilient leg portions, a transversely extending trunnion portion arranged on the end of each of said leg portions pivotally attached to the respective lug portions, an independent reinforcing member extending between said leg portions so as to bridge the same and having the marginal edges thereof curled around said opposed leg portions for holding them in their proper spaced relation, and an angularly arranged elongated yieldable locking tongue extending outwardly from the end of said reinforcing member which extends between said lug portions, through said aperture and into said slider channel in one position of said pull member.

2,968,080
JIG FOR A POTTER'S WHEEL
Henry Threlfall, 3235 W. Carlisle St., Philadelphia, Pa.
Filed Aug. 18, 1959, Ser. No. 834,579
5 Claims. (Cl. 25—24)



1. A jig comprising a disc having a pin extended upwardly from the upper surface and positioned on the center thereof, an L-shaped bracket slidably mounted in a slot in the upper surface of the disc, and a plurality of clips slidably mounted in radially disposed slots in the under surface of the disc.

2,968,081
APPARATUS FOR ENCASING METAL PIPE IN CONCRETE
Gilbert D. Williamson and Charles T. McNeill, Yuba City, and Elmer L. Tunnell, Modesto, Calif., assignors, by direct and mesne assignments, to Pisali-Con Pipe Co., a corporation of California
Filed Oct. 24, 1955, Ser. No. 542,128
2 Claims. (Cl. 25—38)

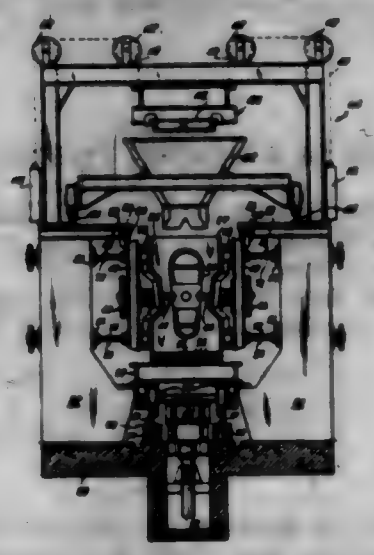


1. Apparatus for producing cementitious conduits in a ditch having bottom and side walls, comprising: an elongated skid member having a leading end, a trailing end and an outer surface of substantially U-shaped cross-section, said skid member adapted for being longitudinally disposed in a ditch with said outer surface engaged with the bottom and side walls thereof; means mounted upon said skid between said leading and trailing ends for supporting a stationary continuous tubular inner form that is adapted to be encased by cementitious material, said support means including transversely and longitudinally spaced roller members that will engage and support said tubular inner form in spaced relation to the bottom and side walls of said ditch; a hopper rigidly mounted at the trailing end of said skid having an upper open end to receive cementitious material and a lower end opening for depositing cementitious material over and about a supported inner form; a rigid screed trowelling means mounted to said hopper and extending rearwardly thereof; and a sealing member fixed relative to said skid member extending downward from the leading edge of said lower hopper opening and engaging the peripheral surface of a supported tubular inner form to prevent forward leakage of the cementitious material; whereby a stationary tubular form member extending longitudinally of said ditch and supported upon the roller guide members of said skid can be expeditiously encased with cementitious material by moving said skid forwardly in said ditch, cementitious material being fed into said upper hopper opening and deposited over said tubular form member; said roller guide members allowing said skid to be moved longitudinally of said ditch and from between said inner form and said ditch and said sealing member preventing forward leakage of the cementitious material onto said skid.

2,968,882
MOLD ASSEMBLIES

Georg Schütze, Köln-Bickendorf, Hermann Barthelmess, Fürstenfeldbruck, and Anton Heisl, Bamberg-Frankenforst, Germany, assignors to Alweg-Forschung Gesellschaft mit beschränkter Haftung, Köln, Germany, a corporation of Germany

Filed Feb. 15, 1957, Ser. No. 640,467
Claims priority, application Germany Feb. 18, 1956
9 Claims. (Cl. 25—121)

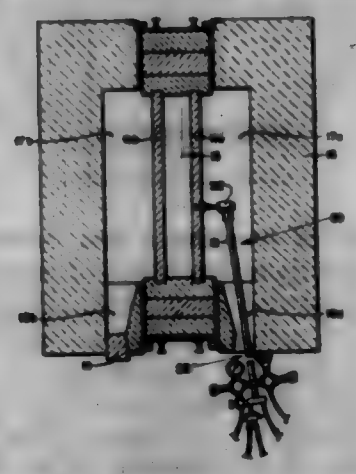


1. A mold assembly for use in fabricating elongated straight, curved or twisted concrete beam structures comprising a rigid elongated foundation structure, a plurality of support members rigid with said foundation structure and extending vertically upwardly from the lateral edges of said foundation structure at spaced points along the length thereof, flexible sheet-like side mold assemblies, means supporting said side mold assemblies on said vertical support members for shifting movement toward and away from the longitudinal center of said foundation and for bending and twisting movements, a flexible bottom mold assembly adapted to extend across the space between the bottom edges of said side mold assemblies, tracks carried by the lower portion of said foundation structure and extending longitudinally thereof, a wheeled frame movable along said tracks, means adjustably mounting said bottom mold assembly on said frame for selective vertical shifting movement with respect thereto and end mold assemblies carried by said side mold assemblies for forming the ends of said beam structures.

2,968,883
HOT PATCHING OF REFRACTORY STRUCTURES

George F. Lentz, 135 S. 2nd St., Quakertown, Pa., and William H. Finkeldey, 55 Scenic Drive, Hastings on Hudson, N.Y.

Filed Sept. 21, 1956, Ser. No. 611,261
10 Claims. (Cl. 25—155.5)

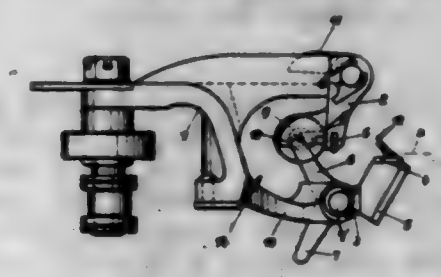


1. The method of patching a solid refractory structure that normally is heated to a temperature at least approaching the range of visible red heat, which comprises directing onto said structure while it is heated to such a temperature a spray of finely divided particles of an incombustible refractory composition that is solid at the temperature of said structure, heating said particles in said spray to a high temperature sufficient to melt at least one refractory constituent of said particles therein before said particles reach said structure, and congealing the sprayed particles together as they accumulate on said heated structure to form a dense solid patch thereon.

2,968,884
COMBINED FEELER GRIPPER AND PIN-SET CHAIN LINK

Gustav Möhring, Stuttgart, Germany, assignor to Famatex G.m.b.H., Stuttgart-Korswestheim, Germany

Filed Apr. 19, 1957, Ser. No. 653,939
Claims priority, application Germany Apr. 28, 1956
7 Claims. (Cl. 26—62)

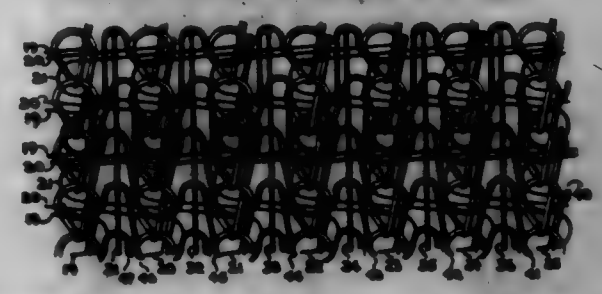


1. In a combined feeler gripper and pin-set chain link the combination of an oscillatably suspended feeler gripper yoke and latch means on the yoke, a fabric holding unit, said holding unit including a pin rack, a gripper table and a locking member, said rack, table and locking member being mounted to oscillate in unison about a common axis disposed below said feeler gripper yoke, said locking member cooperating with the latch means on said yoke for selectively retaining said holding unit in one of a plurality of positions of use when said table is in an inoperative position.

2,968,885
KNITTED PILE FABRIC WITH IMPROVED LONGITUDINAL STABILITY

Russell R. Matthews, Cornwall on the Hudson, N.Y., assignor to The Firth Carpet Company, Inc., New York, N.Y., a corporation of New York

Filed Mar. 6, 1959, Ser. No. 797,633
1 Claim. (Cl. 28—80)



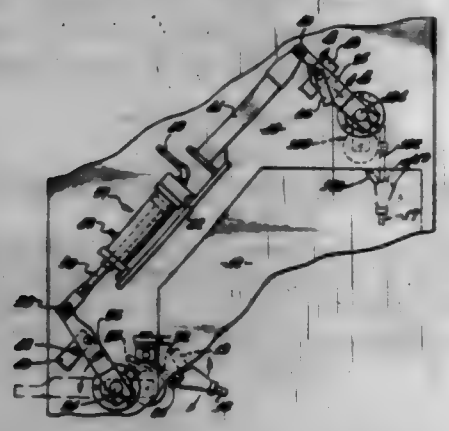
A longitudinally stable warp knitted pile fabric comprising a flat backing base having parallel, spaced chain stitch warps and a plurality of wefts extending individually back and forth across the chain stitch warps and being bound thereby, stuffer warps between adjacent chain stitch warps, said stuffer warps lying on the wefts, pile loops extending upwardly from said base, each of said pile loops being formed between adjacent chain stitch warps and bound by the stitches thereof, said pile loops extending over the stuffer warps, and a backsizing in the fabric base on the side opposite the pile loops, said backsizing penetrating the base so as to secure together the chain stitch warps, the wefts, the stuffer warps which freely rest on the wefts and the lower portion of the pile loops where they are held by the chain stitches.

2,968,086

PEENING SHOT NOZZLE RECIPROCATING APPARATUS

Henry O. Fuchs, Altadena, Calif., assignor to Metal Improvement Equipment Company, Los Angeles, Calif., a corporation of California

Filed July 7, 1958, Ser. No. 746,752
6 Claims. (Cl. 29—90)



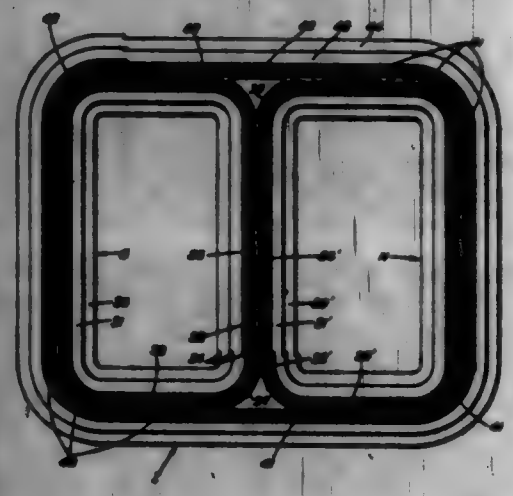
1. In shot peening equipment, a housing forming a work peening zone, nozzle apparatus in said housing directed toward said zone for jetting shot at work in said zone, an elongated member mounting said nozzle apparatus in said housing, and means for supporting and bodily oscillating said member in either of two locations of oscillation near said zone so that the nozzle apparatus is directed toward said zone during oscillation, said last named means including an actuating link and two auxiliary links mounted to turn within the housing about spaced apart parallel axes, first means for pivotally interconnecting one end portion of said elongated member to either of said auxiliary links, and other means pivotally interconnecting the opposite end portion of said elongated member with said actuating link so that the elongated member may be swung between said first and second locations and therein pivotally connected by said first means to either one of said auxiliary links, and thereafter said elongated member may be bodily oscillated in response to back and forth turning of said actuating link.

2,968,087

METHOD OF CONSTRUCTING MAGNETIC CORES

Robert P. Thompson, Zanesville, and Albert C. Wurdack, Jr., South Zanesville, Ohio, assignors to McGraw-Edison Company, a corporation of Delaware

Filed Apr. 19, 1955, Ser. No. 502,374
3 Claims. (Cl. 29—155.57)



3. In the method of constructing a three legged magnetic core having two inner core loops wound of magnetic strip material and an outer convoluted core loop embracing said inner core loops and wound of magnetic strip material continuous with the magnetic strip material of said inner loops, the improvement which comprises the steps of disposing said inner core loops in a common plane with adjacent sides abutting and with the same direction of winding and with free lengths of uncut magnetic strip material continuous with the magnetic strip material of said two inner core loops extending from opposite ends of the center leg formed jointly by said abutting sides, holding said inner core loops in abutting coplanar relation and spirally winding said free lengths of uncut magnetic strip material in the direction opposite to that in which said inner loops are wound into a closed convoluted core surrounding said inner loops in embracing relation thereto.

2,968,088

METHOD OF FORMING TIMING MOTOR SHADING RINGS

Llewellyn Alwin Hantau, Detroit, and Charles F. Hantau, Huntington Woods, Mich., assignors to Paragon Electric Company, Two Rivers, Wis.

Filed June 30, 1955, Ser. No. 519,032
2 Claims. (Cl. 29—155.57)



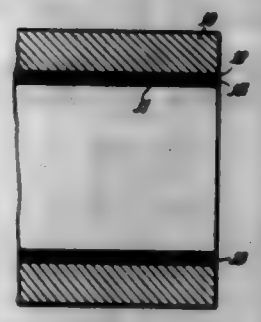
1. A method of forming an annular shading ring for accommodating the pole piece of a synchronous timing motor which comprises the steps of forming an elongated strip of shading material, removing material at predetermined intervals along said elongated strip to form T-shaped notches for receiving said pole piece, said T-shaped notches extending inwardly of said strip from one margin thereof, shaping the side margins of each portion of said strip located between said T-shaped notches to a predetermined configuration, and finally bending said strip edge-wise adjacent said T-shaped notches to provide an annular shading ring, said predetermined configuration of said portions of said strip between said T-shaped notches conforming essentially to the configuration of the annulus formed by said edge-wise bending, and said edge-wise bending not appreciably changing the shape of said portions of said elongated strip between said T-shaped notches.

2,968,089

BRONZE TO ALUMINUM BOND AND THE METHOD OF MAKING IT

Russell R. Fike, Euclid, Ohio, assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois

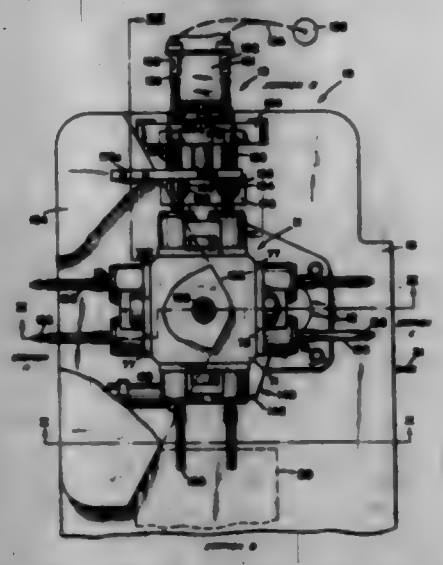
Filed Mar. 30, 1956, Ser. No. 575,132
2 Claims. (Cl. 29—183.5)



1. The process of bonding a first member consisting of a metal of the class consisting of aluminum or aluminum alloy to a second copper-lead alloy member comprising the steps of etching said first member in a caustic solution, dipping said first member in an acid solution, plating said etched first member with zinc, plating said first member with copper, plating said first member with a copper-tin alloy to a thickness of at least 0.001 to 0.002 inch; coating said first and said second members with a silver-tin-lead alloy having a composition of about

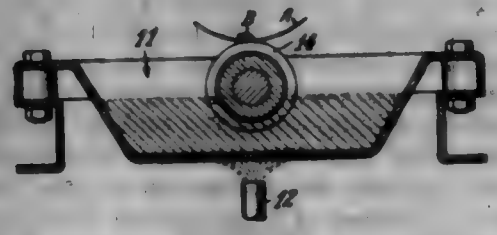
95% lead, 1½ to 2½% silver and the balance tin, and assemblying said members at a temperature of 650° F. to 825° F., said copper-tin alloy consisting of about 80% to 85% copper and correspondingly about 20% to 15% tin.

2,968,090
TURRET TYPE ARTICLE HANDLING MACHINE
Fred R. Cohrs, Vicksburg, and William Ralph Smith, Kalamazoo, Mich., assignors to The Upjohn Company, Kalamazoo, Mich., a corporation
Filed Apr. 5, 1957, Ser. No. 651,017
12 Claims. (Cl. 29—340)



1. A turret-type, article handling machine, comprising: a turret head and means rotatably supporting same; article holding means rotatably supported upon said turret head at spaced intervals therearound; a shaft rotatably and coaxially mounted in said turret head and drivingly connected to said article holding means for rotating same; actuating means, including linkage connected to said turret head and said shaft, for rotating said turret head and for oscillating said shaft, said linkage moving said turret head and said shaft at least partially simultaneously in the same circumferential direction and then moving said shaft with respect to said turret head in the opposite circumferential direction; and means for automatically disconnecting said shaft from said article holding means at selected intervals in the rotation of said turret head.

2,968,091
METHOD OF APPLYING SOLDER TO A JOINT
William H. Schoenfeld, Jr., Glen Ellyn, Ill., assignor to American Can Company, New York, N.Y., a corporation of New Jersey
Filed Jan. 29, 1954, Ser. No. 406,966
4 Claims. (Cl. 29—503)

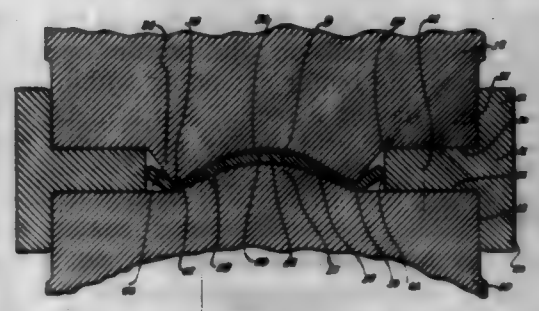


1. A method of applying at high speed to a metal joint a soft solder which does not readily adhere to solder applicators composed essentially of iron comprising providing a bath of molten soft solder containing greater than 90% by weight of lead and less than 10% by weight of a metal selected from the group consisting of tin, zinc, arsenic, bismuth, and cadmium, immersing at least a portion of the surface of a solder applicator in said molten solder to provide said surface with a thin adherent layer of said molten solder, said applicator being composed of a solid alloy of a major portion of a metal selected from the group consisting of iron and steel and a minor portion of a metal selected from the group consisting of tin, zinc, arsenic, bismuth, and cadmium, and bringing said joint into contact with said layer of molten solder on said applicator to transfer said molten solder to said joint.

2,968,092
PROCESS OF WORKING STEEL FOR PREVENTING SURFACE DEFECTS THEREOF
Tadashi Ohtake, Tobata City, and Keizo Ishizaki and Naoki Eguchi, Yawata City, Japan, assignors to Yawata Iron and Steel Co., Ltd., Tokyo, Japan
No Drawing. Filed Feb. 12, 1957, Ser. No. 639,633
Claims priority, application Japan Feb. 13, 1956
17 Claims. (Cl. 29—528)

1. In hot-working a steel containing as impurity a member selected from the group consisting of copper+tin+arsenic and copper+tin; the improvement which comprises, in combination, applying to the bare surface of the aforesaid steel a material consisting essentially of an agent selected from the group consisting of iron sulfide, sodium sulfide, potassium sulfide, aluminum sulfide, mixtures of these sulfides with one another and mixtures of these sulfides with iron oxide and hot-working the resulting steel at a temperature at which the applied agent is in molten state; said agent being applied in an amount per unit area of said surface which is substantially the same as the amount of alloy of iron from the steel and said impurity present on said surface per unit area in liquid phase during the hot-working step.

2,968,093
METHOD OF COINING METAL BLANKS FOR MAKING CARTRIDGE CASINGS
George Albert Lyon, 13881 W. Chicago Blvd., Detroit, Mich.
Filed June 6, 1952, Ser. No. 292,158
2 Claims. (Cl. 29—534)

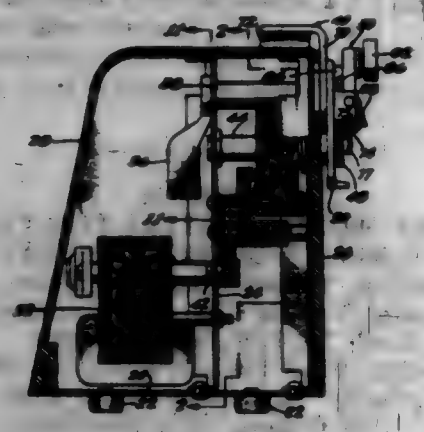


1. In a method of coining polygonal metal blanks preparatory to drawing of the blanks into shell casings, placing the blanks over a cylindrical die member of smaller diameter than the diameter of a circle about the corners of the blank and with the corner portions of the blank lying upon the die member in substantially centered relation, and driving the blank into the cylindrical die member and thereby wiping the corners of the blank longitudinally along the cylindrical wall of the die member and bending the corners angularly to substantially jammingly fix the blank within the die member for coining and trimming operations within the die member.

2,968,094
POWER CAN OPENER
Henry Sachs, 866 S. Wooster, Los Angeles, Calif.
Filed Apr. 21, 1958, Ser. No. 729,970
4 Claims. (Cl. 30—4)

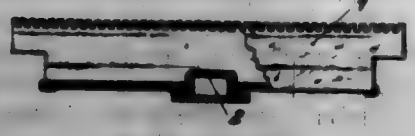
1. A can opening device comprising, a frame, a power driven wheel supported on said frame, a plate pivotally

mounted upon said frame, a cutter wheel carried upon said plate, a slot in said plate, a movable element supported by said frame projecting within said slot and mov-



able to bring said cutter wheel into cutting relationship with said power wheel, a vertical spring and a horizontal spring mounted upon said plate immediately adjacent said cutter wheel for engaging the can being cut.

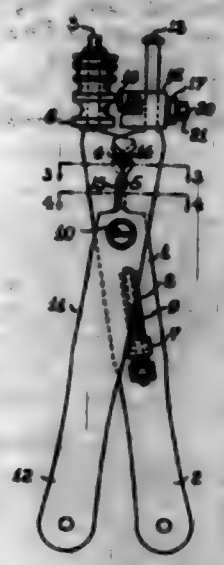
2,968,095
IMPROVEMENT IN RECIPROCATING CUTTERS FOR DRY SHAVERS AND CLIPPERS
Roger Préjean, Jeffre la Celle-Saint Cloud, France, assignor to Societe Anonyme Defim, a corporation of France
Filed Sept. 18, 1959, Ser. No. 840,871
1 Claim. (Cl. 30—43)



In an apparatus for dry shaving and hair clipping having a driving pin, a cutter comprising a cutter to be given a reciprocating rectilinear motion by the pin and having a lower central extension with bottom opening therein, a shock absorbing buffer extending within said extension opening and having a recess, and a metal reinforcement mounted inside said buffer recess for being engaged by the pin and being hooked on to two opposite sides of said buffer.

2,968,096
WIRE STRIPPING TOOL
Vincent Bonito, 101 Meloy Road, West Haven, Conn., and Vincent Peter Ferlanti, 56 Palm St., Bridgeport, Conn.
Filed Feb. 29, 1960, Ser. No. 11,326
2 Claims. (Cl. 30—91)

1. A tool for stripping insulation from electrical conductors, comprising a pair of pivotally connected arms, each terminating in a handle at one end and in a stud at the other end; a guide roller, having a multiplicity of peripheral grooves of various predetermined widths and depths, rotatably mounted on the stud of one of said arms, said grooves being perpendicular to the plane of said arms; a cutter block slidably mounted on the stud of the other arm, said cutter block being provided with a slot facing the guide roller and disposed perpendicularly to the plane of said arms; a cutter blade mounted within said slot with one end pivotally secured to the said cutter block; a set screw threadedly mounted in said cutter block preventing the sliding of the cutter block when tightened; a blade adjusting nut coaxially rotatably mounted within said set screw; a blade adjusting bolt threadedly engaging the said blade adjusting nut and is pivotally connected to the other end of the said cutter blade; a stop block slidably mounted on one of the said arms limiting the angle of the closing of the arms to predetermined minimum values depending on the position of the said stop block, said stop block being provided with a hole coaxial with its sliding motion, having threads interrupted by opposing



gaps; an adjusting screw of flat cross section, rotatably mounted on the said arm and passing through said stop block, having threads on opposing portions of its periphery, engaging the threaded hole of said stop block in one position of said adjusting screw, and permitting the free sliding of said stop block in other position of said adjusting screw.

2,968,097
ORTHODONTIC APPLIANCES
Irvin S. De Wonkin, 1000 Washington Ave., St. Louis, Mo.
Filed Jan. 12, 1959, Ser. No. 786,306
18 Claims. (Cl. 32—14)



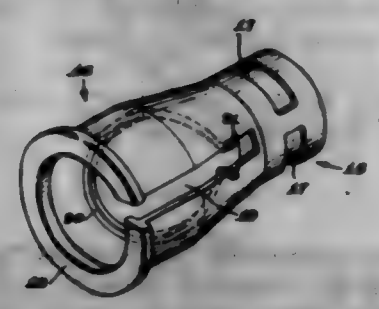
1. An orthodontic headgear comprising first and second straps, fasteners securing said straps together at their ends, the second strap being adapted to extend over the top of the head from one side of the head to the other, the first strap being adapted to extend around in back from one end of the second strap to the other, a pair of face bow guide members, one at each end of the first strap, extending forwardly from the ends of the first strap, each guide member being secured to the headgear by the fastener at the respective end of the first strap, each of said guide members having a lengthwise passage for slidably guiding the shank of a face bow, each fastener being adapted to have secured thereto an elastic band for attachment to the face bow which is slidable in the respective guide member for exerting traction on the face bow, each of said first and second fasteners entending through holes in the first and second straps and the respective guide member, the guide member being located on the outside of said straps, and said fastener having a head on the outside spaced from the adjacent strap so as to provide an annular groove for receiving the elastic band.

2,968,098
DIVIDER FOR CARPENTERS
Jean-Yves Collin, 6241 3rd Ave., Rosemont, Montreal, Quebec, Canada
Filed Dec. 15, 1958, Ser. No. 780,483
4 Claims. (Cl. 33—41)



1. A divider comprising, in combination, a pair of rigid legs of equal length having tips at one end and pivotally interconnected at their other end, a straight slotted bar pivotally connected to one leg intermediate the ends of the latter, clamping means mounted on the other leg and engageable with the slot of said bar in order to clamp said legs at any adjusted angular position, the pivotal and clamping connections of said bar to said legs being equally spaced from the respective tips of the legs, lugs on said bar, a level assembly supported by said lugs and rotatable about its longitudinal axis, said longitudinal axis being parallel to a line joining the pivotal and clamping connections of said bar to said legs and remaining parallel to a line joining the tips of said legs irrespective of the distance between said tips.

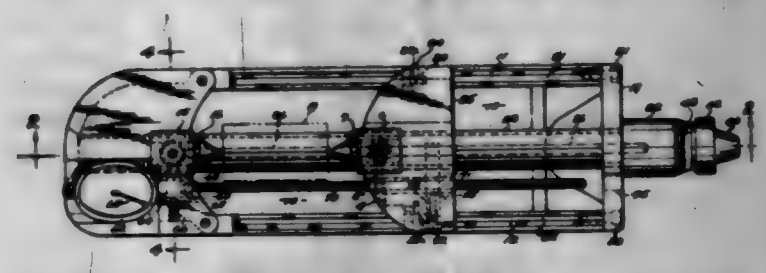
2,968,099
TELESCOPIC SIGHT PROTECTOR
Robert E. Peters, Jr., 622 Gratiot Ave., Saginaw, Mich.
Filed Oct. 30, 1957, Ser. No. 693,490
3 Claims. (Cl. 33—50)



1. A telescopic sight protector comprising: a flexible resilient tube having two sections, the first of said sections adapted to fixedly engage a telescopic sight and the second of said sections extending away from said telescopic sight, said second section defining a drain means at the bottom of said section, and, an interiorly protruding drip ring integral with and located intermediate the ends of said second section and communicating with said drain means.

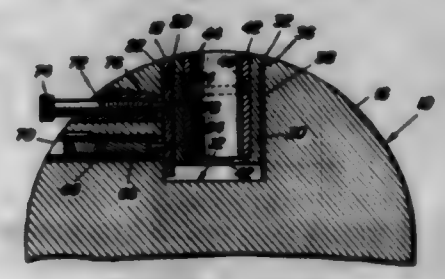
2,968,100
CHECKING GAUGE
Howard L. Etchell, Maple Heights, Ohio, assignor to Bedford Gear and Machine Products, Inc., Bedford, Ohio, a corporation of Ohio
Filed July 5, 1957, Ser. No. 670,239
18 Claims. (Cl. 33—147)

1. A gauge comprising a supporting structure, a pair of cooperating gauging blocks mounted on said supporting structure, a center tube mounted on said supporting structure and extending longitudinally thereof between said cooperating gauging blocks, at least one of said gauging blocks mounted on said center tube for guided movement toward and away from the other of said gauging blocks, loose bearing means between said movable gauging block and said center tube, said loose bearing means being adapted for endwise movement independent of relative movement between said movable gauging block and said



center tube, a guideway on each side of said center tube extending substantially parallel to said center tube, said guideways being closely associated with said supporting structure, and together with said center tube providing a three point support for said movable gauging block, and indicating means operatively connected to said movable gauging block and responsive to the relative positions of said cooperating gauging blocks.

2,968,101
BOWLING BALL GRIP MEASURING MEANS
Arno A. Teesman, 1736 E. Commerce St., San Antonio, Tex.
Filed Oct. 10, 1958, Ser. No. 766,467
4 Claims. (Cl. 33—174)



1. A bowling ball grip measuring device comprising a dummy bowling ball, finger stall means disposed in said ball and bisected by a diametral plane through said ball, span measuring slide means bisected by said diametral plane and slidably disposed in recess means formed within said ball in spaced relation to said finger stall means, said slide means being adjustably slidable along said diametral plane toward and away from said finger stall means in said recess means, thumb stall means disposed in said slide means and detent means operatively connected to said slide means and disposed in said ball and extending into said recess means, said detent means extending laterally outwardly from said ball and away from said diametral plane for locking said slide means in adjusted position relative to the ball.

2,968,102
INDICATING DIAL BORE GAGES
Harold S. Ralfsnider, 4171 42nd St., San Diego, Calif.
Filed Dec. 5, 1957, Ser. No. 700,873
8 Claims. (Cl. 33—178)

1. In an indicating dial bore gage, the combination of a dial indicator having a scale graduated to indicate hole dimensions in ten-thousandths of an inch; mechanism for operating said dial indicator; a hollow extension connected with and downwardly protruding from said dial indicator, and communicating with the interior thereof; a plunger mounted to slide within said extension and connected with the mechanism for operating said dial indicator; said plunger having at the end thereof a head terminating in the form of a wedge, two spherical balls

held in non-escapable separation at the end of said extension, the wedge of said head being located to be interposed between said balls and upon compression thereof to cause the longitudinal movement of said plunger and the actuation of said dial indicator to indicate dimensions



upon the scale thereof, said balls being of critical, known diameter and being manually compressible together for self-setting of the dial indicator at the fixed minimum setting of the bore gage, thereby avoiding the necessity for setting rings or the like.

2,968,103
DRIERS FOR POWDERED OR GRANULAR MATERIAL
Cyril H. Matthews, Lyte Works, Rogerstone, Newport, England
Filed July 12, 1957, Ser. No. 671,668
2 Claims. (Cl. 34—164)



1. A drier for powdered or granular or broken material, comprising a vertically disposed drying chamber, inlet means to said chamber for feeding thereto material to be dried, outlet means from said chamber for material passing therethrough, means for passing heated gases through said chamber, a pair of vertically disposed rods slidably mounted in said chamber, resilient members secured to a fixture co-acting with said pair of vertically disposed rods to retain said rods in animated suspension, means for animating said vertically disposed rods, and a plurality of grids equal to or substantially equal to the cross sectional area of said chamber disposed in spaced relationship on said rods within the chamber, whereby material fed into said chamber has imparted thereto a pulsating movement causing the material disposed on said grids to travel through the chamber by falling successively on said grids and be impelled from each grid upwards therefrom to travel for a period freely suspended to delay the passage of the material through the chamber and ensure an extended drying period for the material passing through the chamber.

2,968,104
HEAD MODEL WITH HAIRS
Yonezo Ito, 33 2-chome Azukusa Kamiasakusa, Daito-ku, Tokyo, Japan
Filed May 27, 1959, Ser. No. 816,197
5 Claims. (Cl. 35—59)



1. A head model with hairs firmly embedded therein, characterized in that a hollow shell of relatively thin wall and formed of soft synthetic resin is provided at its upper and back portion thereof with hairs directly embedded therein, said hairs, however, passing through the wall of said shell to secure firm grip thereof, a mass of light-weight, foamed, elastic and granular substance is filled into the inner space of said shell in the presence of adhesive mixed therewith, the shell is closed at the bottom end and the thus assembled is then carried by a supporting means.

2,968,105
PNEUMATIC JUMP BOOT CONSTRUCTION
Olympio C. Rizzo, North Bergen, N.J.
(269 Cator Ave., Jersey City 5, N.J.)
Filed Mar. 3, 1959, Ser. No. 796,916
1 Claim. (Cl. 36—2.5)

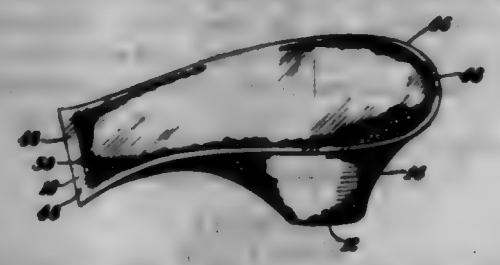


A jump boot comprising, in combination, a laced upper, a sole, a cushion connected between said sole and said upper, a wedge block forming a heel support integrally connected between said cushion and said upper adjacent to one rear end of said upper, said sole comprising a substantially flat resilient pad secured to the bottom of said cushion, said cushion comprising an upper cushion part, a lower cushion part, and a resilient layer separating said upper and lower cushion parts, and an exterior resilient strip enclosing said upper and lower cushion parts and said wedge block, said resilient strip extending completely around the periphery of said upper and lower cushion parts and said wedge block.

2,968,106
LIGHTWEIGHT HEELS
Edgar E. Joiner, Andover, and John F. Szumski, Marblehead, Mass., assignors to Fred W. Means Heel Company, Inc., Lawrence, Mass., a corporation of Massachusetts
Filed Oct. 1, 1958, Ser. No. 764,541
6 Claims. (Cl. 36—34)

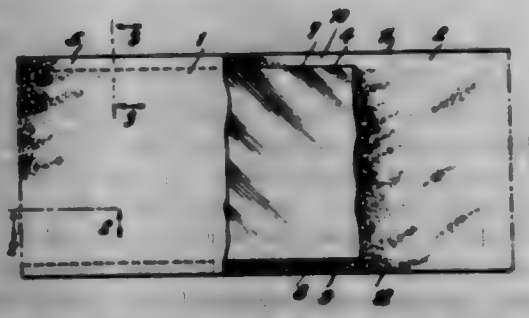
1. As an article of manufacture, a heel for a shoe comprising the combination of a thin flexible thermoplastic

resin shell, said shell presenting an exterior surface in the shape of a heel, and a body of a cellular resin filling



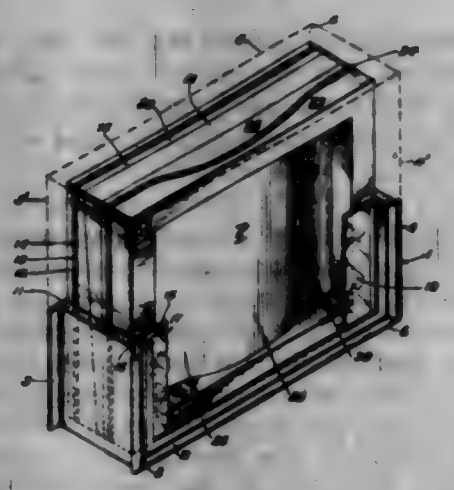
said shell and adhering to and reinforcing the walls of said shell to form a lightweight unitary heel structure.

2,968,107
PADDING FOR LAUNDRY ROLLS
Joseph R. Crockford, 144—25 33rd Ave., Flushing, N.Y., assignor of one-fourth to Harry Radzinsky, Hollywood, Fla.
Filed Jan. 26, 1959, Ser. No. 788,923
1 Claim. (Cl. 38—66)



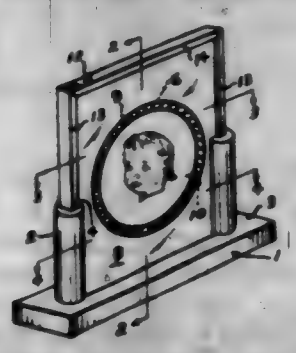
A padding for laundry rolls comprising, a plurality of layers of fibrous material, a layer of metallic foil sandwiched between the layers of fibrous material, the side edges of the metallic foil terminating inwardly of the side edges of the layers of fibrous material to thereby cause marginal edge portions of the top and bottom layers of fibrous material to project beyond the side edges of the metallic foil, said projecting marginal edge portions of the fibrous material being sufficiently compressed together to cause the matted relationship of their fibres thereby without materially decreasing the thickness or the compressibility of the layers of fibrous material and to cause said marginal edge portions to form enclosing means for the metallic foil to hold the same against shifting.

2,968,108
PICTURE DISPLAY DEVICES
David M. Knox, 310 E. 55th St., New York, N.Y.
Filed Oct. 27, 1959, Ser. No. 848,948
6 Claims. (Cl. 40—152)



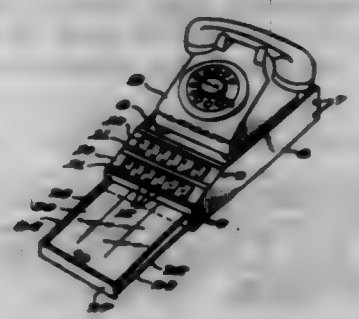
1. A picture ensemble for displaying a picture so that the viewing effect is three-dimensional, the ensemble comprising: a generally rectangular-shaped frame having an aperture through which a picture is to be viewed; a pair of moldings within said aperture and constructed to provide a first pair of facing contoured surfaces extending across one side of said frame and a second pair of facing contoured surfaces extending across the opposite side of said frame, each said surface being defined as the surface generated by moving a line along a curved path with the line remaining perpendicular to a plane containing said path; means made of opaque material supported between each pair of said surfaces and conforming to the contour thereof; and a picture on said material and partaking of its contour.

2,968,109
MEMENTO FRAME
Arthur Tiemsma, 3733 Otterbein, Dayton, Ohio
Filed Dec. 3, 1958, Ser. No. 777,953
2 Claims. (Cl. 40—152.1)



1. A memento frame including a relatively thick plate element having a base mounting it in generally vertically projected relation, said plate element having a channel in one face defining means for centrally locating a picture thereon, said channel being adapted to releasably mount a memento in framing relation to the picture.

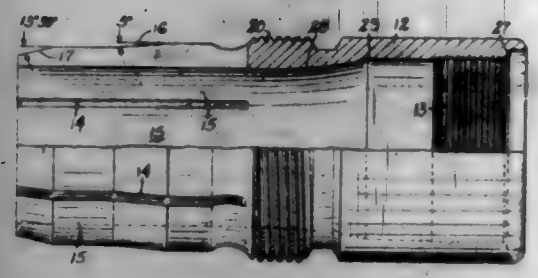
2,968,110
TELEPHONE SUPPORTING INDEX DEVICE
John E. Quarnstrom, 1145A Winchester Ave., Glendale 1, Calif.
Filed Aug. 25, 1959, Ser. No. 835,896
10 Claims. (Cl. 40—336)



1. A telephone instrument support and index device comprising a box-like frame structure having a recessed top surface in which the base of the instrument is received, a front opening in said frame structure, a drawer slideably mounted in said frame and movable in a horizontal line to an open position through said front opening to expose the contents of said drawer to view, spring means constantly biasing said drawer to move to open position, latch means normally holding said drawer in closed position, a plurality of data bearing sheets stacked in said drawer, a plurality of manually operable keys mounted at the front end of said frame structure; there being a key for each of said sheets, means for releasing said drawer retaining latch, a plurality of trains of mechanisms, one for each of said keys, each of said trains of mechanisms being operable by the key associated therewith to actuate said latch releasing means and each of said trains of mechanism, additionally, being sepa-

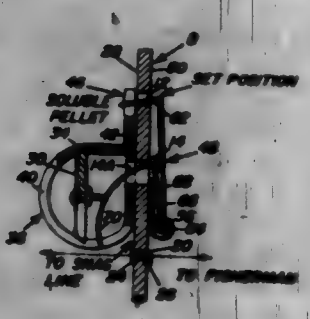
rately operable to restrain any of said sheets lying above the sheet associated with the actuated key from movement with the released drawer and to move the said associated sheet and any sheets lying between it and the drawer bottom out with the released drawer.

2,968,111
ADJUSTABLE GUN CHOKE
Herbert Welles Steane, West Hartford, Conn., assignor to The Poly Choke Company, Incorporated, East Hartford, Conn., a corporation of Connecticut
Filed June 13, 1958, Ser. No. 741,769
3 Claims. (Cl. 42—79)



1. An adjustable choke for gun barrels comprising a tubular cylindrical element adapted to be secured at its rear end to the muzzle end of a gun barrel, said element having slots opening through its forward end to divide its forward portion into spaced segments displaceable inwardly, said segments having at least a first and a second annular series of tapering shoulders thereon, one of said series being spaced from the other longitudinally of the axis of the element and being inclined rearwardly, a sleeve embracing said element and threadedly connected thereto for movement longitudinally thereof, said sleeve having complementary tapering interior annular shoulders therein to engage the shoulders of the segments and displace the latter inwardly to constrict the effective size of the opening therebetween, the beveled surfaces of the outer series of shoulders on the segments being inclined at an angle of 13 degrees and 30 minutes with respect to the axis of the barrel, those of the second series making an angle of 5 degrees with the axis of the barrel, and the angle of the shoulders on the sleeve being greater respectively than those of the cooperating shoulder in the element, and the pitch of the threads on the sleeve and element being substantially twenty-four to the inch.

2,968,112
FISH LINE RETRIEVER WITH CUTTING BLADE
Robert E. McClure, 47 Ehle Ave., Corsopolis, Pa.
Filed June 4, 1959, Ser. No. 818,046
6 Claims. (Cl. 43—17.2)



1. A fishing line cutting and retrieving device which is attachable to and slidable on the fishing line itself and which does not need a separate retrieving line for its use comprising a panel providing a base, said panel being provided with means for detachably and slidingly mounting the panel on the fishing line to descend the line to the place where the lower portion of the line has become snagged, line severing means mounted on said panel and located in a position to cut the line at the desired time, and additional means also mounted on the panel to clamp the panel to the line, said additional means being manually set in an inactive state and being mechanically held but automatically released and coming into play to clamp said panel to the line at a predetermined time.

2,968,113
FISH LURE
William W. Multanen, 3060 Mission Drive, Santa Cruz, Calif.
Filed Sept. 25, 1959, Ser. No. 842,485
6 Claims. (Cl. 43—42.06)



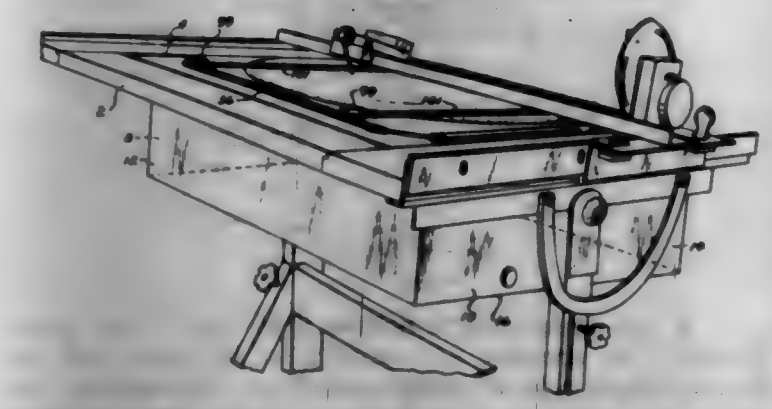
1. In a fish lure, a lure body having a slot therein opening outwardly of the body, a fishhook including a return bent hook portion releasably received in the slot with the body concealing said hooked portion, the fishhook also including an end portion outwardly extended from the hook portion and being in spaced relation to the body, the body on the opposite side thereof from the end portion of the fishhook being adapted to have bait positioned thereagainst, and elastic means connected to the fishhook and adapted to engage the bait for releasably urging the bait against the body and the fishhook into the slot.

2,968,114
COMBINED SINKER AND FISH LURE
Walter J. Spierer, 1635 Montgomery Ave., Bronx 53, N.Y.
Filed Oct. 21, 1958, Ser. No. 768,710
2 Claims. (Cl. 43—44.99)



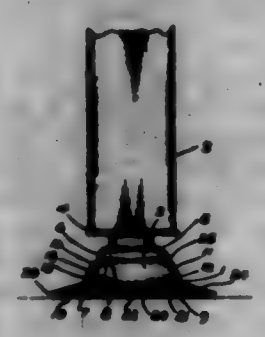
1. In a combination sinker and fish lure, a substantially oval-shaped, box-like hollow body having a solid bottom from which extends a peripheral wall structure formed by two substantially parallel side wall elements and two curved end wall elements joining the side wall elements, there being a plurality of recesses provided along the edges of all wall elements, a central extension projecting from the bottom and bridging the side wall elements at their central portions nearest the bottom, a cover for the hollow body, its peripheral edges conforming in shape substantially to that of the side and end wall elements, there being a centrally located slot extending from one side edge of the cover toward and terminating at substantially the middle of the cover, there being a recess provided at the slot terminus, and a threaded element extending from the center of said central bottom extension and having a head removably engaging the recess at the slot terminus.

2,968,115
LINE-UP TABLE HAVING AN ANGULARLY ADJUSTABLE WORK SURFACE
Woodruff Randolph, Claire N. Brewer, and Charles O. Gest, Indianapolis, Ind., assignors to International Typographical Union of North America, Indianapolis, Ind.
Filed Nov. 25, 1958, Ser. No. 776,376
4 Claims. (Cl. 45—131)



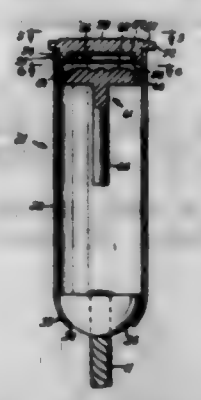
1. A table for use in drawing angularly related lines on a sheet, comprising a frame defining an interior square opening and having a recess in its inner upper edge, a square supporting member on which a sheet to be lined is laid and which has its peripheral edge normally positioned within said recess, said supporting member being mounted for vertical movement from its position within said recess to an upper position and to an intermediate position both of which are above the frame, an external gear connected to said supporting member for rotation and vertical movement therewith, and a fixed internal ring gear positioned for co-operation with said external gear and being of such thickness that the two gears are in mesh when the supporting member is within the recess and in its intermediate position thereby to hold the supporting member from rotation and are not in mesh when the supporting member is in its upper position thereby to permit free rotation of the supporting member, and means for moving the supporting member and the connected external gear to said positions.

2,968,116
FURNITURE GLIDE SHOE
Herbert Aronson, % Chilldore Co., 210 W. 15th St., Kansas City, Mo.
Filed Sept. 2, 1958, Ser. No. 758,220
1 Claim. (Cl. 45—137)



A glide shoe for use with a furniture support having a foot with a bottom surface and a periphery substantially toroidal in shape with a plane of greatest width spaced above said bottom surface comprising, a base member molded of plastic material that is relatively rigid in thick sections but relatively resilient in thin sections, said molded base member having a floor-engaging bottom surface substantially larger than the furniture support foot to which it is adapted to be applied, said base member having an integral upwardly extending central portion with a substantially toroidal cavity therein and a restricted opening extending from said cavity through the top of said central portion, said opening being significantly smaller than the dimension of the foot in the plane of greatest width thereof, said cavity being dimensioned to tightly receive the furniture support foot therein and having a lower portion substantially corresponding in shape and size to the furniture support foot below the plane of greatest width thereof, said central portion having a frusto-convex exterior and a thick wall section defining the periphery of the cavity below said plane of greatest width thereof and a relatively thin wall section defining the restricted opening and the periphery of the cavity above said plane of greatest width thereof, said frusto-convex exterior having an inwardly offset step located in said plane of greatest width and dividing said thick and thin wall sections whereby the flexibility of the shoe is substantially limited to the thin wall section above said plane of greatest width, said thin wall section being progressively thinner from adjacent said offset step to said restricted opening whereby said thin wall section will deform radially outwardly under pressure thereon by a support foot at said restricted opening to permit said support foot to enter into said cavity and then said thin wall section will return to its original shape wherein the opening is significantly smaller than the dimension of the foot in the plane of greatest width thereof to engage and grip said foot above the plane of greatest width of said foot providing secure retention thereof in said cavity.

2,968,117
TRICK ROPE DEVICE
Ray G. Trombly, Portland, Oreg., assignor to Great Western Toy Company, a corporation of Oregon
Filed Apr. 6, 1959, Ser. No. 804,435
4 Claims. (Cl. 46—1)

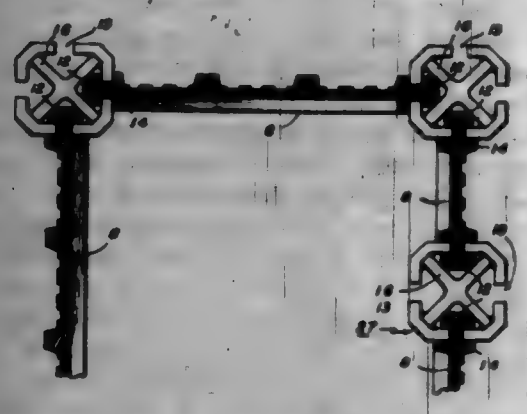


1. Means for protectively supporting a printing stamp and inking pad from the neck of a person usefully associated therewith, said supporting means including a cord and a hollow cylindrical cover open at one end to receive said stamp and said pad and at the other end to receive one end of said cord, together with means cooperatively formed on said pad and said one end of said cover removably to secure said stamp and said pad in said cover, means cooperatively formed on said one end of said cord and said other end of said cover swivelingly to secure said cord to said cover, means forming a slip noose on the other end of said cord and safety means formed on said cord within said noose to limit the minimum size of said noose to prevent choking said person.

2,968,118
TOY BUILDING BLOCKS
Nils L. Paulson, Chicago, Ill., assignor to Halsam Products Company, Chicago, Ill., a corporation of Illinois
Filed June 18, 1956, Ser. No. 591,960
6 Claims. (Cl. 46—19)

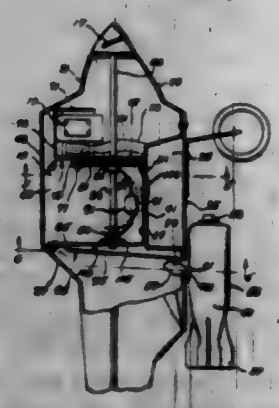
1. A building toy comprising in combination a plurality of telescoped column units of rectangularly arranged faces, each face having longitudinally extended slots therein open at each end and extending continuously from end to end of the unit, each unit having a longi-

tudinally extending recess behind and wider than the slot and also extending from end to end of said unit, each unit having a non-circular stud projecting from one end only and adapted to be telescoped into the open end of an adjacent unit to connect the same together and to register said slots to provide a continuous slot open at both ends extending from top to bottom of the assembled column units, and a wall unit having along a side edge a marginal rib with an enlarged head of a size to



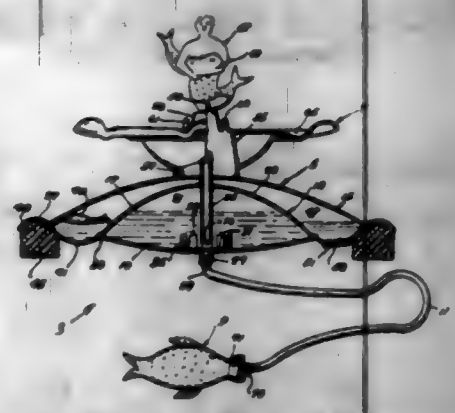
fit into a recess behind the slot in a column and a reduced neck below said head adapted to slide in said slot, said wall unit and assembled column being interlocked by a relative longitudinal movement wherein the said head enters the said recess at an open end, said stud connecting said faces together in a unitary structure and holding said faces adjacent said slots substantially rigid against lateral separation whereby the enlarged head of said wall unit is held in said recess against lateral separation from said column unit.

2,968,119
TOY
Marvin I. Glass, 57 E. Ohio St., Chicago, Ill., and Leonid Kripak, Elmhurst, Ill.; said Kripak assignor to said Glass
Filed Aug. 5, 1958, Ser. No. 753,296
3 Claims. (Cl. 46—77)



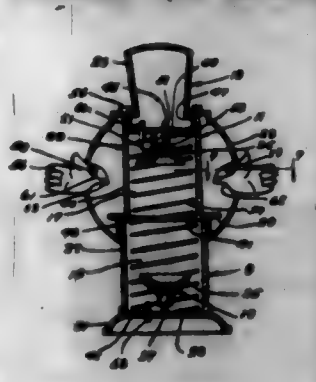
1. A toy comprising a simulated airplane, a remote control station, and a flexible cable connecting said airplane and said remote control station, said airplane including a motor energizable by said remote control station, a propeller driven by said motor, means driven by said motor for producing a sound effect resembling a motor roar, and means rotated by said motor and responsive to centrifugal force thereby produced for releasing a bomb carried by the airplane and for producing a noise effect simulating the sound of machine gun firing, said remote control station including switch means operable selectively to drive said motor at a low speed and at a higher speed, whereby the higher rate of rotation produced by said motor is effective to operate said means responsive to centrifugal force for releasing a bomb carried by the airplane and for producing a noise effect simulating the sound of machine gun firing.

2,968,120
TOY
Bayard C. Reed, Chicago, Ill., assignor to Marvin I. Glass, Chicago, Ill.
Filed Sept. 8, 1958, Ser. No. 759,770
5 Claims. (Cl. 46—91)



1. A toy comprising a hollow fluid-impervious vessel having a jet aperture in a portion of its upper surface for delivering a jet of water, means for forcing entry of water into said vessel including a water inlet chamber located along the underside of said vessel, said inlet chamber having an opening communicating with said vessel and an aperture affording entry of water into said inlet chamber, a valve associated with said opening for maintaining a uni-directional flow of water into said vessel, and a flexible diaphram operating under the application of pressure to seal said water entering aperture and to place the water in said chamber under pressure so as to flow through said valve into said vessel, and a conduit communicating with and extending downwardly in said vessel from said jet aperture in said upper surface to adjacent the bottom of said vessel for preventing the escape of air from said vessel to thereby afford the compression of the entrapped air within the upper portion of said vessel, said head of compressed air maintaining the jet aperture in continuous contact with the water in said vessel and forcing the water through said conduit and outwardly of said jet aperture in a jet stream.

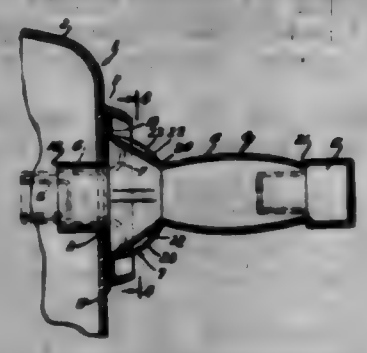
2,968,121
TOY
Charles Pearson, Jr., Elmhurst, Ill., and Marvin I. Glass, 57 E. Ohio St., Chicago, Ill.; said Pearson assignor to said Glass
Filed Apr. 4, 1958, Ser. No. 726,569
5 Claims. (Cl. 46—118)



4. A toy comprising a body, a tubular section in said body, a plurality of members which are adapted to move from a position in said body to a position out of said body each including a tubular section which is slidably interfitted with said body tubular section, means biasing each of said members out of said body, a suction cup for maintaining each of said members in said body for predetermined periods of time, at least one element carried by said body for movement into and out of said body, means biasing said element out of said body, and means connecting said element to the tubular section associated with one of said members for maintaining said element

in said body when said one member is in said body and which is operable in response to relative movement of said one member relative to said body to permit said element to move out of said body under the influence of its associated biasing means.

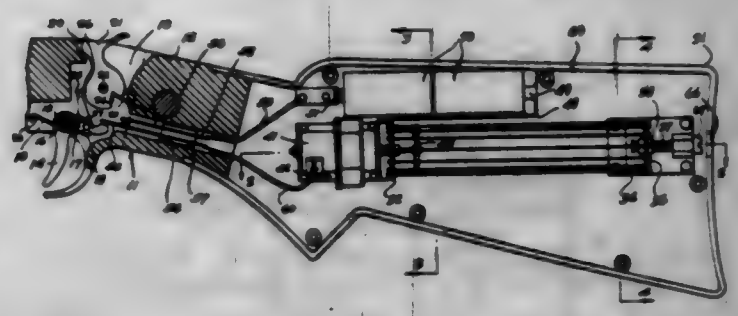
2,968,122
DOUBLE POP-UP TOY FIGURES
Harvey M. Wescott, Cadmus's Neck Road, South Westport, Mass.
Filed June 1, 1959, Ser. No. 817,118
1 Claim. (Cl. 46—145)



An air-filled pop-up action toy of elastic material including a hollow main body and at least one alternately collapsible and extensible arm attached at one end to the main body adapted to be extended from the main body upon the application of squeezing pressure thereto and to be collapsed and sucked inward with respect to the main body upon release of said pressure, said arm comprising in part a tubular body open at both ends, said tubular body having a maximum diameter intermediate said ends thereof and minimum diameters at the ends thereof, the diameters of said ends of the tubular body being equal to each other, said arm further comprising a cylindrical body having the diameter of one end thereof reduced and equal to the diameter of the ends of said tubular body, said one end of said cylindrical body being secured to one end of the tubular body in alignment therewith, the other end of the cylindrical body having a closure thereon, the main body having a circular opening thereinto, an annular disc of larger diameter than said circular opening secured to the main body in alignment with said circular opening and having a cylindrical flange extending from the circumferential edge of the axial opening therethrough into the main body, the diameter of said flange being substantially equal to the diameter of said ends of the tubular body, a substantially frusto-conical hollow body open at both ends, one end of the frusto-conical body having a diameter intermediate between the diameter of said disc and the diameter of said flange and being secured to the outer surface of said disc in alignment with said flange, the other end of said frusto-conical body having a diameter equal to the diameters of said ends of the tubular body, the other end of said tubular body being secured to said other end of the frusto-conical body, the junctions of said ends of the tubular body with said frusto-conical body and said cylindrical body providing circumferential fold lines facilitating collapse of said cylindrical body into said tubular body and of said tubular body with the cylindrical body therein into said frusto-conical body and said flange upon release of squeezing pressure upon the main body.

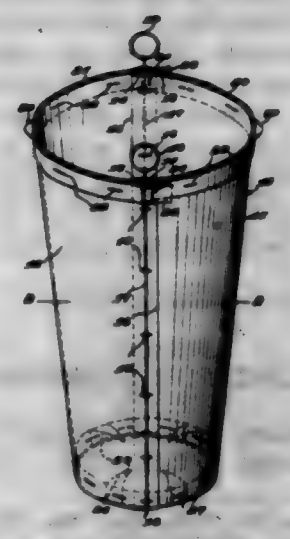
2,968,123
RICOCHET SOUND PRODUCING TOY
Stanley E. Hadden, 8656 W. Fairway Drive, Baton Rouge, La.
Filed June 19, 1959, Ser. No. 821,551
4 Claims. (Cl. 46—232)

1. In a sounding toy of the character described, a hollow main body, a plurality of elongated sounding strings, means securing said strings under tension in said body in parallel relation and at substantially equal radial distances from a common axis, whereby said strings define an elongated enclosure, an electric motor, means mounting said motor in said body on said axis, said motor being provided with a shaft element extending along said axis and inside said elongated enclosure, a



rigid arm mounted on said shaft element, a resilient striking plate secured to the end of said arm and extending substantially radially therefrom, said striking plate being of sufficient length to strike the strings responsive to rotation of the shaft element, a source of current, a switch on the body, and means connecting said motor to said source through said switch.

2,968,124
PLANT CONTAINER
Milo G. Coplen, Rock Creek Nurseries, Rockville, Md.
Filed May 10, 1957, Ser. No. 658,362
5 Claims. (Cl. 47—37)

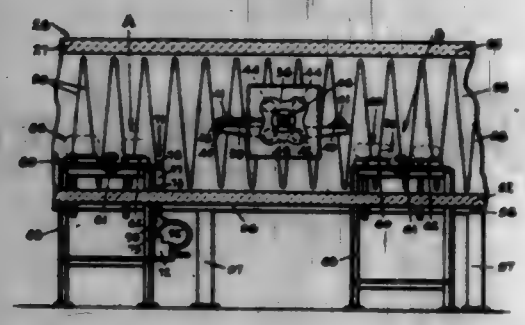


1. A plant pot comprising a pair of side wall portions having diametrically opposed overlapped edge portions extending from the bottom to the top of the pot, said edge portions being releasably secured together by means of a series of staples disposed in spaced relation lengthwise of the said edge portions, a band encircling the upper end of said side wall portions and being secured thereto by staples disposed in spaced relation circumferentially of the band, said band having overlapped end portions in overlying relation to said overlapped edge portions of said side wall, said overlapped end portions of said band being releasably secured together by means of a staple, a bottom member disposed within the lower end of said side wall which comprises a circular wall conforming with said side wall and secured thereto by circumferentially spaced staples, said bottoms member further comprising an upwardly convex top wall, said top wall being provided with circumferentially spaced drainage openings adjacent said circular wall, and a plurality of lugs projecting outwardly of said band adapted to engage lacing for holding mulch on the top of the pot.

2,968,125
APPARATUS FOR PRODUCING A MULTIPLE SHEET GLAZING UNIT

Charles H. Cowley, Toledo, Harry N. Dean, Waterville, and Eldwin C. Montgomery, Toledo, Ohio, assignors to Libbey-Owens-Ford Glass Company, Toledo, Ohio, a corporation of Ohio

Filed Apr. 12, 1955, Ser. No. 500,877
3 Claims. (Cl. 49—1)

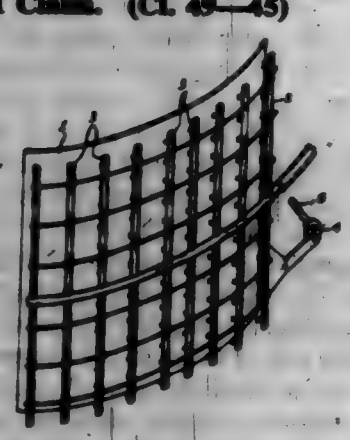


1. Apparatus for producing multiple sheet glazing units, comprising means for supporting a plurality of sheets in spaced relation with respect to one another, a plurality of means for heating the marginal edge portions of the sheets, means for effecting relative rectilinear movement of said sheets and heating means in the planes of said sheets, the heating means being in proximity to and positioned to direct heat toward the marginal edge portions of said sheets to render them pliable, a plurality of means for bringing the heated edge portions together to form completely fused edge walls, punching means adjacent one of said heating means and disposed forwardly of one of said edge wall forming means, said punching means being movable in a direction normal to one of said sealed edge walls for forming an opening substantially instantaneously in said one sealed edge wall during relative movement of said one edge wall and said heating means, means operably connected with said punching means to actuate the punching means as the edge wall is being formed, and means for subsequently intermittently rotating said sheet supporting means to position successive sides of said sheets in adjacent relation to others of said heating and edge wall forming means.

2,968,126
BLOWING FRAME FOR TEMPERING GLASS SHEETS

Ronald E. Richardson, Oshawa, Ontario, Canada, assignor to Pittsburgh Plate Glass Company, Pittsburgh, Pa.

Filed June 18, 1956, Ser. No. 592,112
Claims priority, application Canada Aug. 15, 1955
1 Claim. (Cl. 49—45)

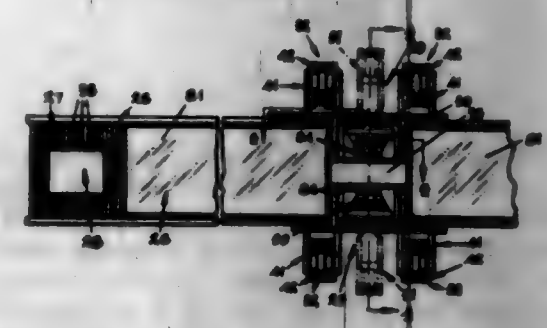


A blowing frame for tempering glass sheets, said frame comprising a plurality of tempering pipes, the longitudinal axes of said pipes being substantially parallel to one another, each of said pipes having a plurality of passageways forming a plurality of sets of spaced nozzles, each such passageway extending from the interior to the exterior of a said pipe at an angle to the longitudinal axis of said pipe, each such passageway tapering in the direction of air flow from the interior to the exterior of its pipe, and each such passageway comprising at least three coaxial portions including an innermost portion of maximum taper, an intermediate portion of intermediate taper and an outermost portion of minimum taper, said portions merging one into the other to provide said passageway with an approximation to a continuously curved inwardly bowed tapering wall structure.

2,968,127
APPARATUS FOR PRODUCING MULTIPLE SHEET GLAZING UNITS

John A. Woods, Toledo, Ohio, assignor to Libbey-Owens-Ford Glass Company, Toledo, Ohio, a corporation of Ohio

Original application Feb. 27, 1953, Ser. No. 339,229. Divided and this application June 4, 1959, Ser. No. 827,987
6 Claims. (Cl. 49—53)

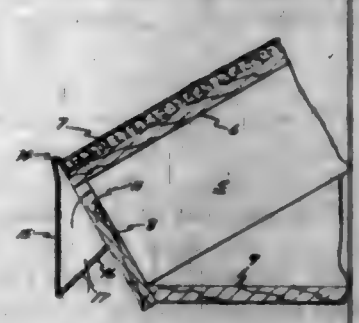


1. In apparatus for sealing together the marginal edge portions of spaced sheets of glass, a tunnel-like furnace having a sealing station disposed along said furnace and walls that are cut away to form an open bay at a side of said sealing station, sealing means at said sealing station for sealing the edge portions of the sheets together in the atmosphere exteriorly of the furnace at said sealing station, means for moving said sheets along a defined path within said furnace and past said bay and sealing means, and exhaust means adjacent said bay and substantially above the path of the marginal edge portions of the glass sheets being moved therepast.

2,968,128
FINISHING STRIP FOR ROOF EDGE

Thomas Pelican, 301 S. Howard St., Spokane, Wash.

Filed Apr. 21, 1955, Ser. No. 502,836
1 Claim. (Cl. 50—67)



A finishing means for the lower edge of a roof having supporting rafters, sheathing secured to the top edges of the supporting rafters and roofing material mounted on the upper surface of the sheathing, comprising a face plate extending downwardly from the roof edge secured to and abutting the outer ends of the rafters, said face plate having air passages therein adjacent to the sheathing, and between the rafters, a strip having a mounting flange secured to and overlapping the upper surface of the sheathing at said lower edge, said strip comprising a bead abutting the lower edge of the roofing material, a depending face portion joined to said mounting flange by said bead

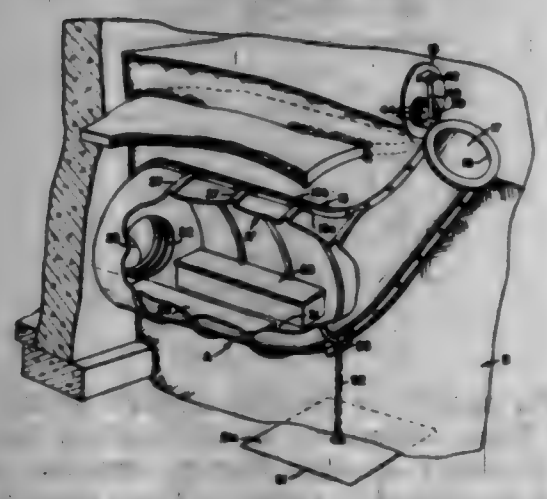
and diverging downwardly away from said face plate, said strip also comprising a flange extending from the lower edge of the face portion inwardly and upwardly to the face plate and bearing against the face plate, said last named flange having apertures therein for admission of air, certain of said apertures being along the lowermost portion thereof.

2,968,129
WITHDRAWN

ERRATUM

For Class 50—116 see:
Patent No. 2,968,263

2,968,130
PROTECTIVE UNDERGROUND SHELTER
Willard Bascom, Washington, D.C., assignor to American Home Shelters, Berkeley, Calif., a firm
Filed Nov. 29, 1957, Ser. No. 699,813
5 Claims. (Cl. 50—119)

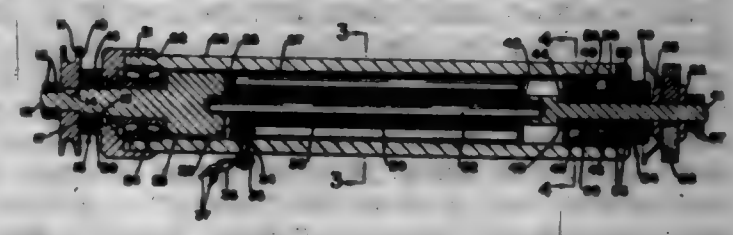


3. A protective shelter comprising: a pair of outwardly bulged approximately parabolic arched wall sections formed of reinforced plastic each having an upper and a lower continuous flange coextensive with the length thereof; the upper flanges and the lower flanges, respectively, of the sections being arranged in fixed abutment thereby defining a hollow shell including a chamber portion and a neck portion having uninterrupted floor and ridge beams; the chamber portion terminating in an upwardly inclined neck portion of reduced cross-section terminating at its upper end in a hatch opening; the upper portions of said neck and said hatch opening extending substantially above the plane of that length of the ridge beam along said chamber portion.

2,968,131
WITHDRAWN

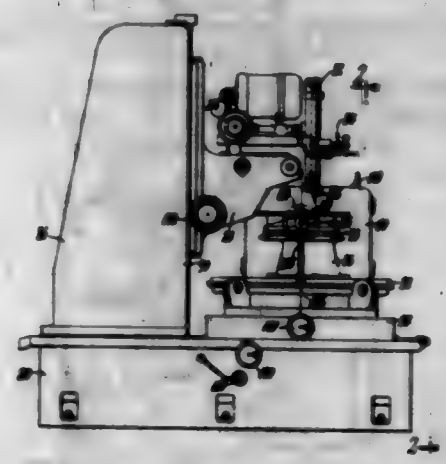
2,968,132
MAGNETOSTRICTIVE GRINDING MACHINE
Richard L. Hazelton, Fairview Park, Ohio, assignor to Ozmi American Engineering Company, Cleveland, Ohio, a partnership
Filed Sept. 18, 1956, Ser. No. 610,468
2 Claims. (Cl. 51—34)

1. A magnetostrictive grinding machine comprising a shaft member of a magnetostrictive material, a magnetic winding surrounding said shaft and spaced therefrom, and a high frequency electric current power source connected to said winding, a rotary driving means attached to said shaft, a housing for said winding, a bearing between said shaft and said housing, said bearing being capable of permitting the amount of longitudinal movement caused by the distortion of a magnetostrictive effect,



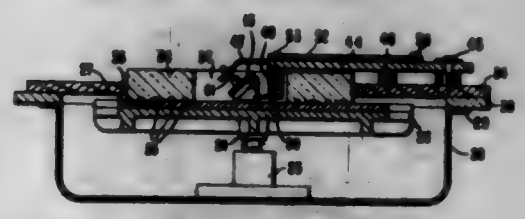
a grinding wheel attached to the opposite end of said shaft.

2,968,133
INVOLUTE GENERATING DEVICE AND INDEXING MECHANISM THEREFOR
Mayo M. Reichardt, Milford, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Nov. 23, 1956, Ser. No. 624,073
8 Claims. (Cl. 51—123)



2. In an involute generating mechanism for generating involute gear tooth profiles, a base circle drum and involute generating tapes, said tapes being secured to adjustable tape rolls, means for linearly adjusting said tape rolls whereby said tapes extend tangentially from substantially the same point on said base circle drum in opposite directions, and take-up means for said tapes whereby said tape rolls are automatically rotated to receive or discharge said tapes whereby said tapes are kept taut when said rolls are adjusted.

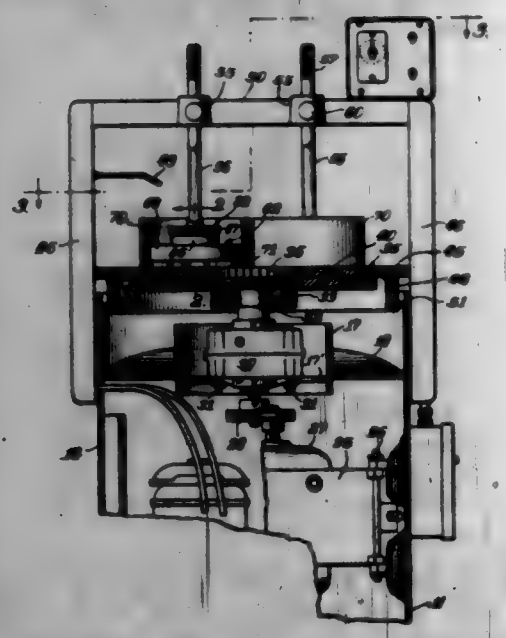
2,968,134
MANUFACTURE OF PRECISION CONES
Thomas G. Lewis, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Oct. 9, 1959, Ser. No. 845,493
9 Claims. (Cl. 51—124)



7. An apparatus for the line-contact lapping of precision cones comprising, in combination, a rotating plate disposed with axis of rotation substantially vertical and covered with a layer of optical pitch over the entire top surface except for a central circular area approximately 4" in diameter kept free of pitch, a rotatable rigid lap conditioning ring supported by abutment on said optical pitch in a predetermined position in space at a preselected

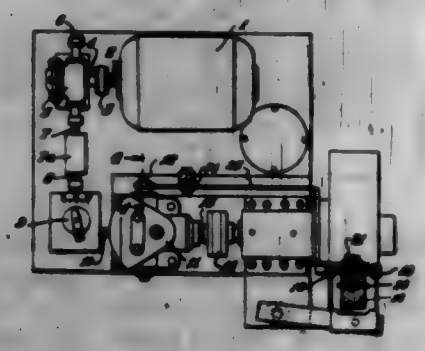
eccentricity with respect to the center of rotation of said rotating plate, said lap conditioning ring being adapted to be rotated by frictional contact with said layer of optical pitch, a support arm pivoted for free rotation at one end and having the other end overlying said layer of optical pitch, means at said other end of said support arm for the retention of a cone being lapped in free rotation under frictional contact along an element of said cone with said layer of optical pitch, and means connected to said support arm for to-and-fro oscillation of said support arm and said cone in retention therewith across the surface of said layer of optical pitch.

2,968,135
LAPPING MACHINE
Stephen A. Boettcher, Evanston, and Jack C. Page, Palatine, Ill., assignors to Abrading Systems Company, Skokie, Ill., a corporation of Illinois
Filed Apr. 7, 1958, Ser. No. 726,753
7 Claims. (Cl. 51—129)



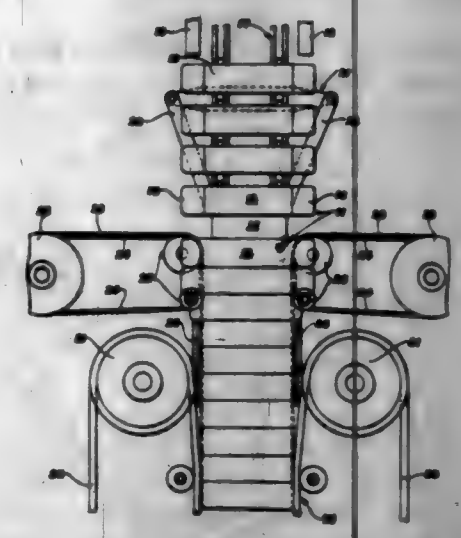
1. In a lapping machine, a rotatably operated lap having a planar lapping surface, truing means frictionally engaging said surface and thereby being rotatably driven about a fixed axis transverse to said surface, and means acting laterally against said truing means for adjustably retarding rotational velocity of said truing means independently of downward pressure on said lapping surface to regulate abrasive wear of said surface.

2,968,136
GRINDING MACHINE ASSEMBLIES
George Dewey Behlen, Cincinnati, Ohio, assignor to The United States Electrical Tool Co., Cincinnati, Ohio, a corporation of Ohio
Filed Nov. 4, 1957, Ser. No. 694,298
4 Claims. (Cl. 51—134.5)



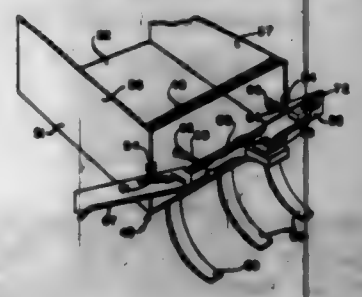
1. In combination with a variable displacement piston type hydraulic motor suitably connected with the drive shaft of a grinding wheel, said motor having a mechanical element for controlling the speed of operation of said motor, a grinding wheel mounted on said drive shaft, a spark guard plate associated with said grinding wheel and means connecting said guard plate and said mechanical element to regulate the rate of operation of said motor dependent on the wear of the periphery of said grinding wheel and the relative position of said guard plate with respect to the periphery of said grinding wheel.

2,968,137
METHOD AND APPARATUS FOR FORMING CONNECTED BOXES
Howard R. De Mallie, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Oct. 28, 1957, Ser. No. 692,639
13 Claims. (Cl. 53—14)



1. The method of forming separate groups of connected boxes comprising, in combination, feeding the boxes in closely arranged relation, applying rupturable bands to the ends of the closely arranged boxes to arrange the latter in connected relation in a row, moving the connected row of boxes in one direction and at one speed, and simultaneously moving a group of boxes at the leading end of said row in another direction and at a different speed to rupture said bands between said row and said group to separate the latter from said row.

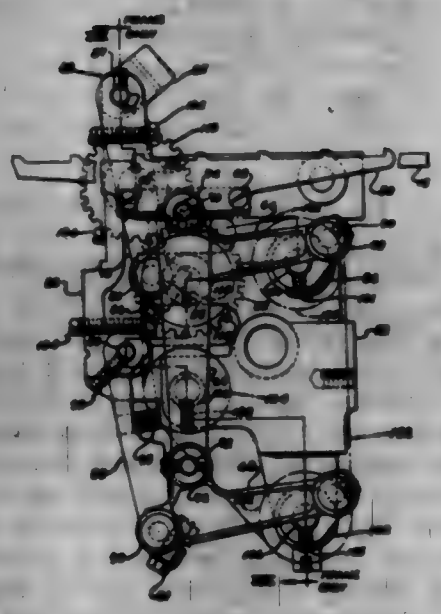
2,968,138
CARD FEEDING DEVICE
Owe M. Toennies, Cincinnati, Ohio, assignor to The Grove Research and Development Co., Cincinnati, Ohio, a corporation of Ohio
Filed Feb. 4, 1959, Ser. No. 791,078
2 Claims. (Cl. 53—196)



1. A wrapper-feeding device for a package wrapping machine which comprises a wrapper-holding box having an open end, means for urging a plurality of wrappers toward said open end, upright flanged members mounted at said open end for engaging edges of one of the wrappers at said open end, the flanged members holding the wrappers in substantially vertical position, a suction cup mounted adjacent said open end for movement substantially normally to the wrappers, said suction cup being

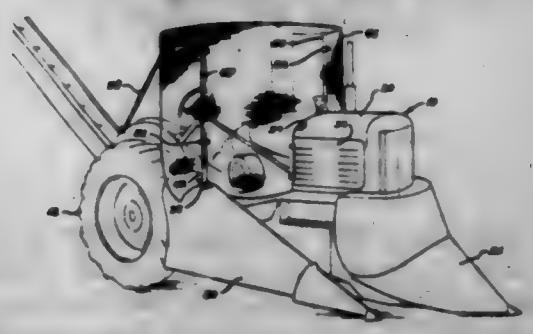
movable between a wrapper-gripping position engaging said one of the wrappers and a wrapper delivery position spaced from the wrapper-gripping position, means for impressing a vacuum on the suction cup when in wrapper-gripping position, means for moving the suction cup to wrapper delivery position when the vacuum is impressed to draw said one of the wrappers free of the flanged members, and a quarter-circular guide below the wrapper delivery position, said guide having an upwardly extending wrapper receiving end and a substantially horizontal lower discharge end, the vacuum being releasable when the suction cup is in wrapper delivery position to release said one of the wrappers to drop downwardly therefrom along the guide, said one of the wrappers making a quarter-turn as it falls along the guide to be discharged substantially horizontally.

2,968,139
GUM WRAPPING MACHINE
Carl E. Mehlhorn and Franklin B. Roberts, Springfield, Mass., assignors to Package Machinery Company, East Longmeadow, Mass., a corporation of Massachusetts
Filed Sept. 16, 1959, Ser. No. 840,335
2 Claims. (Cl. 53—223)



1. In a gum wrapping machine comprising a folding channel having means for folding a wrapper about a stick of gum with one end lying against the bottom face of the gum and the other end trailing therebehind and with the marginal edge portions of the wrapper extending beyond each side of the stick, and means for tucking and folding the marginal wrapper portions against the bottom face of the stick with inwardly folded marginal portions of said other end also trailing said folding channel having rails positioning the sticks of gum relative to the folding means, and a conveyor for advancing sticks of gum through said folding channel, said conveyor comprising a pair of transversely spaced chains, lugs secured thereto for engaging the sticks of gum and advancing them along said rails and a pair of sprockets adjacent the end of the folding channel around which the chains pass, a transport aligned with said folding channel and having rails which serve as continuations of the folding channel rails and means for advancing, in step-by-step fashion, the partially wrapped sticks of gum along the transport rails after they have been delivered thereto by said conveyor, said transport advancing means comprising a pair of transversely spaced bars having a plurality of matched notches and means for moving said bars in a path wherein the notches engage the trailing edges of the sticks of gum and advance them along the transport rails, the path of movement of said bars being a closed loop wherein the bars move in rectilinear fashion as they advance the sticks and then drop below the level of the gum as they are returned to engage the next succeeding sticks of gum, a pair of vertically overlying rolls mounted on each side and outwardly of the notched bars with the axis of the rolls horizontal and transverse to the path of movement of the sticks of gum, each upper roll having the lower extent of its periphery in the plane of the upper portion of the partially wrapped wrappers and each lower roll having a raised arcuate segment with a sharp leading edge for pressing the inwardly folded wrapper portion against the trailing edge of the stick of gum and thereafter creasing said folded trailing wrapper portion, said raised segment being closely spaced relative to said upper roll and means for rotating the lower rolls in timed relation to the movement of the notched bars so as to properly crease the wrapper, a rotatable tumble box at the terminal end of said transport for receiving the sticks therefrom, means for advancing the stick from said tumble box after it has been rotated and completing the wrapping operation as the stick is advanced in the same direction as it had been advanced by the transport.

2,968,140
SHIELD DEVICE FOR CORN PICKER-MOUNTED TRACTORS
Hans Theodore Wellendorf, Box 336, Schleswig, Iowa
Filed Dec. 18, 1958, Ser. No. 781,378
3 Claims. (Cl. 56—119)



1. In combination, a tractor having an operator's station on its rearward portion, a corn picking machine mounted on said tractor and having two gathering units adjacent the respective sides of said tractor, and a vertical screen transversely mounted on said tractor and said corn picking machine to separate the forward portion of said tractor and said corn picking machine from said operator's station, at least the bottom edge portion of said screen being flexible.

2,968,141
POLE SUPPORTED FRUIT HARVESTER WITH ENDLESS PICKING MEANS
John J. McGough, 35—16 79th St., Jackson Heights, N.Y.
Filed Feb. 6, 1959, Ser. No. 791,664
5 Claims. (Cl. 56—332)



1. A head for use with a pole supported chute, comprising a frame, a pair of endless belts having opposed coacting flights, supporting drums about which each belt is trained, said drums being mounted on said frame, differential driving means operatively connected to at

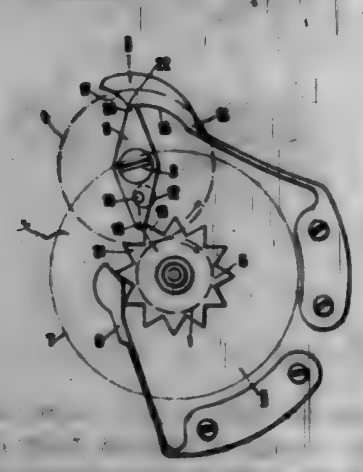
least one drum of each belt, and the drums being driven in the same direction, thus causing the opposed flights to move in opposite directions at different speeds, whereby when a fruit is engaged between said belts it will be twisted and moved inwardly to be deposited in said chute.

2,968,142
FARM IMPLEMENT
Cornelis van der Lely and Ary van der Lely, Maasland, Netherlands, assignors to C. van der Lely N.V.
Filed Dec. 12, 1956, Ser. No. 627,814
Claims priority, application Netherlands Dec. 13, 1955
6 Claims. (Cl. 56—377)



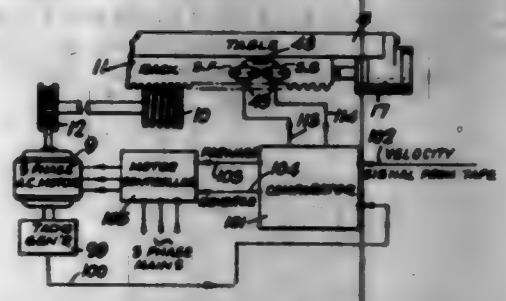
1. An implement, for displacing material lying on the ground, said implement having a normal direction of travel and comprising a row of overlapping rake wheels, a frame operatively associated with and supporting the row of rake wheels in oblique relation to said direction of travel, support means operatively disposed intermediate the ends of said frame and including a substantially horizontal pivot means transverse to said direction, said frame being rotatably mounted on said pivot means for movement between different positions, and locking means operatively associated with said frame and said pivot means to fix said frame on said pivot means.

2,968,143
QUICK HAND SHIFT MEANS
Friedrich Meyer, Grenchen, Switzerland, assignor to Ebauches S.A., Neuchatel, Switzerland
Filed Feb. 11, 1958, Ser. No. 714,591
Claims priority, application Germany Feb. 25, 1957
4 Claims. (Cl. 58—125)



1. A device for suddenly advancing an indicating member, particularly an hour indicating member, in a time-piece movement, with a member subjected to the action of a spring and advancing once per unit of time a star wheel, the said member being driven by means of a lag-coupling means, the said member being constructed as a lever and the spring acting upon the said lever having a control surface for bending the spring by means of the said lever and, adjacent to said control surface, an impulse surface for imparting to the lever a sudden motion, at least one of the control and impulse surfaces being curved.

2,968,144
SERVO CONTROLLED DRIVE MECHANISM
Joseph Kenneth Royle and Anthony Williams, Stockport, England, assignors to National Research Development Corporation, London, England, a British corporation
Filed Mar. 17, 1959, Ser. No. 799,943
Claims priority, application Great Britain Mar. 26, 1958
7 Claims. (Cl. 60—6)



1. Apparatus for driving a first object along a predetermined path in relation to a second object comprising two driving mechanisms coupled together and to the first object and the second object in such a manner that movements of the first object relative to the second object along the said path are dependent upon the algebraic sum of the individual driving actions of the two driving mechanisms, the first driving mechanism being capable of a relatively high driving acceleration over only a relatively short range of driving action and the second driving mechanism being capable of a relatively long range of driving action but being arranged to provide only a relatively low driving acceleration, means, responsive to a first signal representing the motion required of the first object in relation to the second object along the said path, for actuating the first driving mechanism, means for producing a second signal, means for applying the second signal to control the driving action of the second driving mechanism, the second signal representing the average velocity, over a continuously advancing time period of predetermined duration, of the motion required of the first object relative to the second object along the said predetermined path, and being related to the first signal in such a manner as to prevent the first driving mechanism from reaching the end of its range of driving action.

2,968,145
MONOPROPELLENT FOR USE IN ROCKET MOTORS
Irving A. Kaufek, West Los Angeles, Calif., assignor to North American Aviation, Inc.
No Drawing. Filed May 10, 1954, Ser. No. 428,789
9 Claims. (Cl. 60—35.4)

1. The method of fueling a rocket engine combustion chamber comprising flowing a monopropellent consisting essentially of a miscible mixture of a liquid fluorine compound selected from the class consisting of fluorine monoxide, nitrogen trifluoride and mixtures thereof, as an oxidizer component and an approximately stoichiometric proportion of a liquid fluorinated saturated lower alkyl hydrocarbon as a fuel component into the combustion chamber and igniting said miscible mixture.

2,968,146
CONVERTIBLE TURBO-ROCKET AND RAM JET ENGINE
Alun Raymond Howell and Charles Ernest Moss, both of Cove, Farnborough, England, assignors to Power Jets (Research and Development) Limited, London, England, a British company
Filed Feb. 26, 1957, Ser. No. 642,542
Claims priority, application Great Britain Mar. 23, 1956
12 Claims. (Cl. 60—35.6)



3. A jet propulsion engine comprising in combination an air inlet, a jet propulsion nozzle, inner and outer walls defining therebetween an annular duct, said duct interconnecting the inlet and the nozzle, a combustion chamber in the duct, a dynamic compressor located in the duct between the inlet and the chamber and including axial flow compressor blading which extends into said duct through apertures in one of said walls, compressor driving means, a driving coupling connected between the compressor driving means and the compressor, a compressor blade supporting structure coaxial with but radially spaced from said one duct wall externally of the duct pivotally supporting said compressor blading and means for moving said supporting structure relatively to said one duct wall to vary the length of compressor blade portions within the duct during operation of the engine.

2,968,147
SUPERSONIC DIFFUSER WITH SHOCK POSITIONING MEANS
Richard H. Truly, Jr., Bellevue, Leonard P. Bonifaci, Mercer Island, and Bernard F. Beckelman, Kirkland, Wash., assignors to Boeing Airplane Company, Seattle, Wash., a corporation of Delaware
Filed Apr. 23, 1957, Ser. No. 654,610
11 Claims. (Cl. 60—35.6)

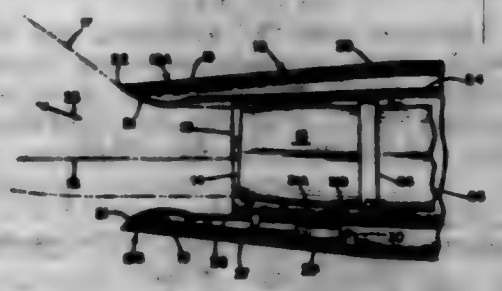


1. In a supersonic ram jet engine, in combination with a supersonic diffuser having a utilizer therein and subject to the formation of undesired oblique shock waves thereing which tend to extend and spread rearwardly from the diffuser entrance progressively with increase of relative supersonic speed between the diffuser and the outside free air mass or with reduction in utilizer-produced back pressure, means mounted inside said diffuser, said means having its forward portion spaced rearwardly from the entrance of the diffuser and forwardly of said utilizer to prevent such rearward extent and spread of shock waves, said means comprising a plurality of stream divider elements mounted in said diffuser to form a grid extending generally transversely across the diffuser interior, said grid being adapated to produce a back pressure ahead of the same which increases progressively with diffuser speed and which thereby prevents rearward movement of the shock system in the diffuser, the net composite open area of the grid to air flow therethrough bearing a predetermined relationship to the diffuser inlet cross-sectional area, such that during an increase of supersonic speed of the diffuser, air flow through the grid becomes sonic substantially as the normal shock in the diffuser advances rearwardly to a position incipient to formation of undesired oblique shock waves therein.

2,968,148
VANADIUM-CONTAINING RESIDUAL FUELS MODIFIED WITH ZINC AND ALKALI METAL COMPOUNDS
Albert G. Bocchini, Oakmont, and Charles E. Trautman, Chesswick, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware
Filed Apr. 16, 1958, Ser. No. 728,904
6 Claims. (Cl. 60—35.6)

6. In a gas turbine plant in which a fuel oil containing vanadium is burned and which includes heat resisting metallic parts exposed to hot combustion gases and liable to be corroded by the corrosive vanadium-containing ash resulting from combustion of said oil, the method of reducing said corrosion which comprises introducing in said plant upstream of said parts a small amount of a vanadium-free mixture of a zinc compound and an alkali metal compound, the amount of said zinc compound being sufficient to yield about 4 atom weights of zinc per atom weight of vanadium in said fuel, and the amount of said alkali metal compound being sufficient to yield about 1 atom weight of alkali metal per atom weight of vanadium in said fuel.

2,968,149
FLIGHT CONTROL MEANS
Harry M. Graham, Dallas, and Kenneth T. Murty, Arlington, Tex., assignors to Chance Vought Aircraft, Incorporated, Dallas, Tex., a corporation of Delaware
Filed Apr. 24, 1957, Ser. No. 655,293
17 Claims. (Cl. 60—35.55)

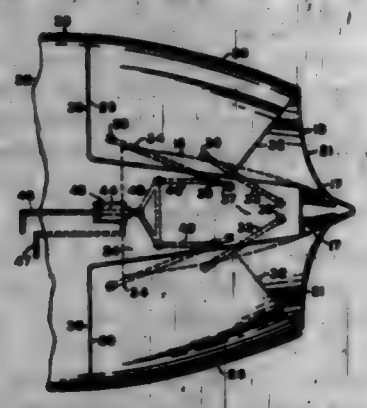


1. For an aircraft, a flight control means comprising: fixed structure of said aircraft; a nozzle conducting a gaseous flow and provided with an opening for the discharge of said flow in form of a jet along a first axis, said nozzle being deflectable relative to said fixed structure for bringing said jet to flow along a second axis; a flap mounted on said fixed structure in the vicinity of said opening, said flap being always laterally spaced from said jet when the latter flows along said first axis and contacted by said jet when the latter flows along said second axis; and means for deflecting said nozzle relative to said fixed structure and flap, whereby said flap, when contacted by said jet, deflects the latter in a direction away from said first and second axes and toward said flap.

2,968,150
JET ENGINE EXHAUST SOUND SUPPRESSOR AND THRUST REVERSER
Kenneth W. Goebel, San Diego, and Leavin G. Pierce, National City, Calif., assignors to Rohr Aircraft Corporation, Chula Vista, Calif., a corporation of California
Filed Feb. 21, 1958, Ser. No. 716,635
8 Claims. (Cl. 60—35.55)

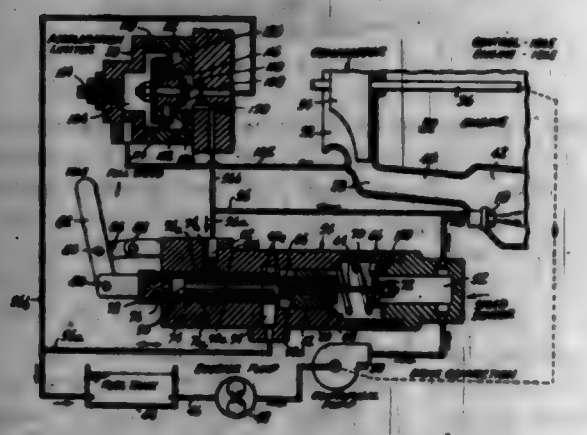
1. In a reactive propulsion engine for producing a high velocity gas stream, the combination of a generally cylindrical tail pipe receiving said stream; an innercone having a portion within said tail pipe and a portion projecting past the downstream end thereof, the axis of said innercone being concentric with that of said tail pipe; a long hollow nozzle abutting the downstream end of said tail pipe to convey the gas stream issuing therefrom, said

innercone having the small end thereof extending past the downstream end of said nozzle, said nozzle having a plurality of spaced apart inwardly extending corrugations whose depth progressively increases toward the downstream end of the innercone and whose width progressively decreases as the periphery of the innercone is approached, regions of said corrugations at the downstream



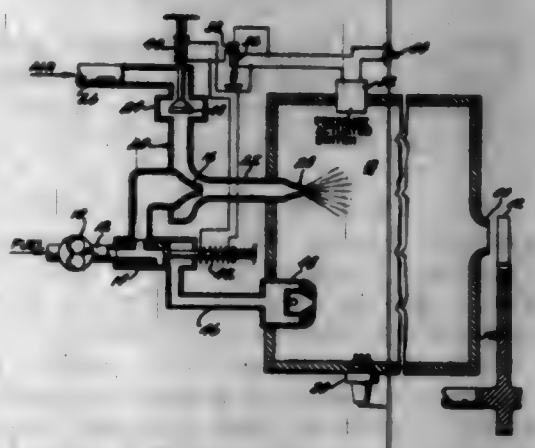
end thereof together with the periphery of said innercone forming a plurality of gas passages whereby the gas stream in passing through the nozzle is subdivided at least in part into a plurality of high velocity jets, said corrugations having radially and longitudinally extending curved trailing edges which approach the axis of the nozzle at a progressively decreasing acute angle.

2,968,151
ACCELERATION RATE CONTROL FOR GAS TURBINES
Frank J. Abraham, John R. Anderson, and Robert W. Teel, Seattle, Wash., assignors to Boeing Airplane Company, Seattle, Wash., a corporation of Delaware
Filed Oct. 7, 1958, Ser. No. 765,820
10 Claims. (Cl. 60—39.28)



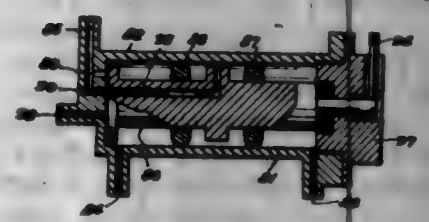
1. In combination with a gas turbine engine having an air compressor and a by-pass type burner nozzle, a fuel source, fuel pump means driven by the engine and operable thereby to deliver fuel from said source to said nozzle at a pressure substantially proportional to the square of engine speed, by-pass line means having two branches returning fuel from said nozzle to said source, said compressor over an intermediate portion of the engine's speed range producing an air-pressure proportionate rate of increase with increasing speed which is first less and then greater than the proportionate rate of increase of fuel pressure in said by-pass line, an acceleration limiter comprising valve means comprising a variable restriction in one of said by-pass branches, first actuating means responsive to compressor air pressure urging said valve means toward closed position, and second actuating means responsive to by-pass line fuel pressure urging said valve means open and being in substantial equilibrium with the first actuating means at upper and lower speeds of an intermediate speed range of the engine, whereby the opening of said valve means is greater substantially throughout said intermediate speed range than otherwise, and flow restricting means in the other of said by-pass branches, operable to present a flow restriction therein variable at will to change the engine speed over an operating range thereof.

2,968,152
AIR SEPARATOR FOR MONOFUEL BURNER
Earl K. Moore, Granby, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Oct. 1, 1956, Ser. No. 613,326
2 Claims. (Cl. 60—39.46)



1. In a system feeding monofuel to a combustion chamber contaminated with burned gases, an aspirator having an air supply line connecting the atmosphere with said combustion chamber, means discharging said fuel under pressure through said aspirator into said combustion chamber to atomize said fuel and draw air through said line into said combustion chamber and mix said atomized fuel with said air substantially free of said burned gases to provide a relatively easily ignitable mixture and means responsive to the pressure in said combustion chamber, incident to ignition of said discharged fuel, blocking said aspirator air supply line.

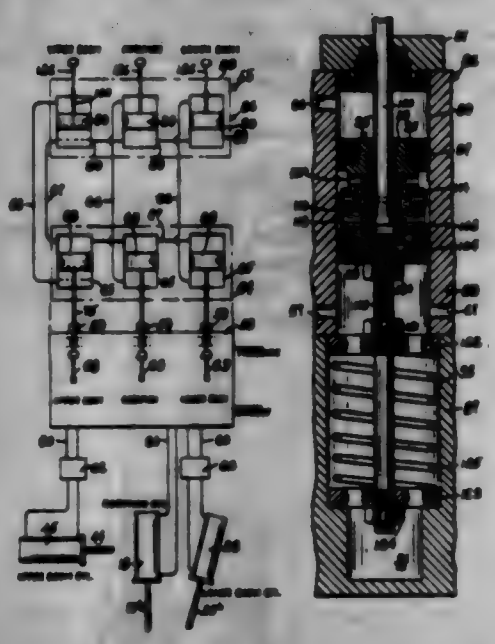
2,968,153
HYDRAULIC BRAKE SYSTEM
Norman Henry Hackett, Flat 4, 19 Imperial Ave., Bondi, near Sydney, New South Wales, Australia
Filed June 26, 1958, Ser. No. 744,777
3 Claims. (Cl. 60—54.5)



2. For use in a hydraulic brake system having a master cylinder and a pair of brake actuating cylinders; a safety device comprising a housing having an axially extending bore therein, means hydraulically sealing both ends of said bore, a stem extending coaxially through said bore and supported within said housing for rotation between a first and a second position, a central shoulder on said stem, inlet conduit means connecting said housing to said master cylinder, first conduit means in said stem communuicating within said inlet conduit means when said stem is in said first rotative position and extending through said stem to open into said bore from central shoulder, outlet conduit means connecting each end of said bore to the respective brake actuating cylinders, and a pair of sealing rings mounted upon said stem on opposite sides of said central shoulder in sliding sealing engagement with said stem and the wall of said bore

to define movable pressure transmission barriers and seals between said central shoulder and the respective outlet conduits.

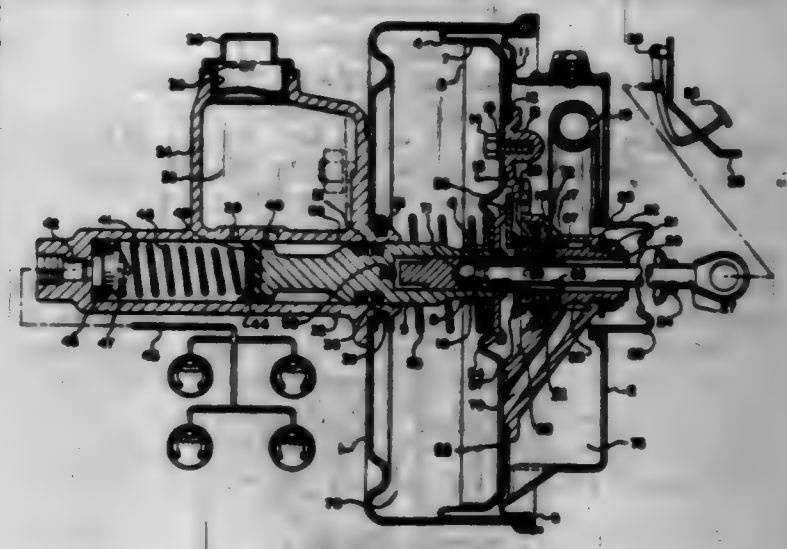
2,968,154
HYDRAULIC SYSTEM FOR A BOOM STRUCTURE
David M. Richey, Woodbridge, Conn., assignor to Emhart Manufacturing Company, Hartford, Conn., a corporation of Delaware
Filed Aug. 3, 1959, Ser. No. 831,367
3 Claims. (Cl. 60—54.5)



1. In a servo hydraulic system for remote operation of a plurality of slide valves each having two extreme operative positions and being spring biased to an intermediate neutral position, a cylinder block having cylinders formed therein corresponding in number to the slide valves, pistons in the cylinders provided with piston rods fixed to the respective slide valves, a second cylinder block at a point remote from the first block and having cylinders formed therein corresponding in number to the first-mentioned cylinders, pistons in the cylinders in the second block, fluid lines each having one end thereof connected to one end of each of the first-mentioned cylinders and having the other end thereof connected to the opposite end of the corresponding cylinders in the second block, fluid passage means interconnecting the other ends of said cylinders, the pistons in the second block being spring biased to neutral positions intermediate the ends of the cylinders, each of the last-mentioned pistons having means defining an orifice at each end thereof and a longitudinal valve chamber therebetween, valve means extending into each valve chamber and movable lengthwise to close either of said orifices, the valve means being spring biased to an intermediate open position, and said valve means comprising a movable control member extending from the piston to impart closing movement of the valve means and movement of the piston to operate the corresponding slide valve.

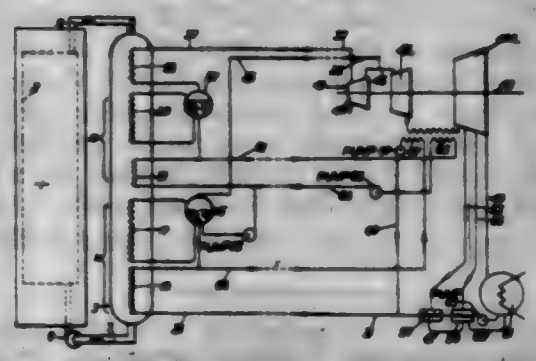
2,968,155
POWER BRAKE BOOSTER UNIT
George E. Kellogg, Miamisburg, and Robert H. Bauman, Dayton, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Aug. 26, 1958, Ser. No. 757,260
8 Claims. (Cl. 60—54.6)

1. In a brake booster unit comprising in combination, a brake booster housing, a master cylinder mounted adjacent to and concentric with said booster unit housing, a movable wall employing a flexible diaphragm and concentrically mounted within said booster unit housing and centrally and solely supported by the master piston extending into said master cylinder, a vacuum valve means and an air valve means mounted within said movable wall and operated by a manual control means, said air valve slidably mounted within a hollow rearward portion of said master piston, a portion of said



manual control means extending into a hollow portion of the rearward end of said air valve member and contacting said air valve member at a point forward of said movable wall thereby providing a master piston as the sole supporting means for said movable wall and said sliding air valve.

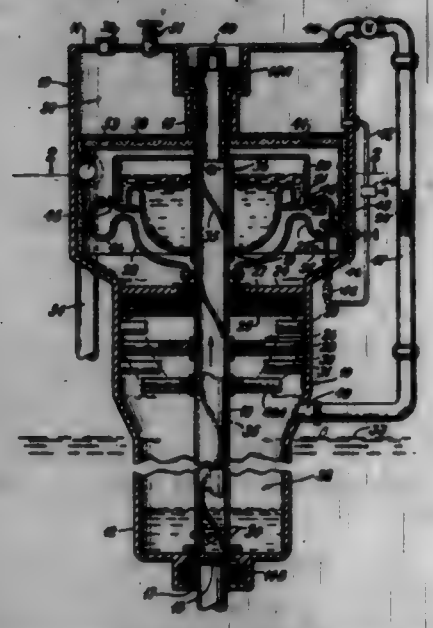
2,968,156
POWER PLANT
Pierre Henri Pacault and Jean Frederic Thiequin, Paris, France, assignors to Babcock & Wilcox Limited, London, England, a British company
Filed Mar. 6, 1958, Ser. No. 719,551
Claims priority, application France Mar. 8, 1957
3 Claims. (Cl. 60—73)



1. Power plant comprising elastic fluid engine means including a higher pressure stage and a lower pressure stage, duct means connected to the expanded fluid outlet from the higher pressure stage and to the inlet of the lower pressure stage, a first elastic-fluid indirect reheater disposed in that duct means, a second elastic-fluid indirect reheater disposed in that duct means between the first reheater and the lower pressure stage, second duct means for the flow of a fluid heat carrier, first vapour generating means disposed in the second duct means, a vapour outlet from this vapour generating means connected to the engine means, first economiser means disposed in the second duct means, a hot liquid outlet from this economiser means connected to the first vapour generating means, second vapour generating means disposed in the second duct means and operating at a higher pressure than the first vapour generating means, a vapour outlet from the second vapour generating means connected to the engine means, second economiser disposed in the second duct means and operating at a higher pressure than the first economiser means, a hot

liquid outlet from this economiser means connected to the second vapour generating means, first pipe means connecting the outlet of the first economiser means to the first reheater and second pipe means connecting the outlet of the second economiser means to the second reheater.

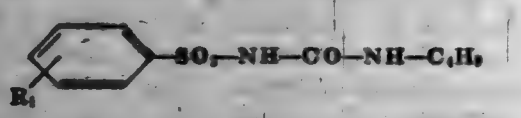
2,968,157
CLOSED CIRCUIT STEAM TURBINE MARINE MOTOR
Walter L. Crossan, 175 Ames Ave., Leonia, N.J.
Filed May 3, 1956, Ser. No. 582,555
2 Claims. (Cl. 60—105)



1. A marine motor comprising a closed circuit steam turbine having an enclosed housing, a hollow rotatable shaft mounted within said housing, a boiler mounted on the top of said shaft, flash tubes connected to said boiler mounted on said shaft, means to heat the boiler and flash tubes to produce steam pressure in said flash tubes, impeller blades mounted on said shaft and stator blades mounted in said housing below said flash tubes, means for directing the steam path from the flash tubes downwardly against the impeller and stator blades for rotating the shaft, a condensation chamber below said blades for condensing the spent steam to liquid, apertures in the lower part of the hollow shaft to receive the condensed liquid, helix ribs within the cavity of the hollow shaft for carrying the condensed liquid to the boiler.

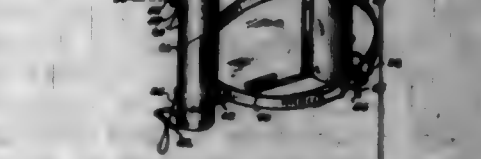
2,968,158
NEW BENZENE SULFONYL UREAS; COMPOSITION AND PROCESS FOR LOWERING BLOOD SUGAR THEREWITH
Heinrich Ruschig, Bad Soden, Taunus, Walter Arnmüller, Gerhard Korger, Hans Wagner, and Josef Scholz, Frankfurt am Main, and Alfred Binder, Hofheim, Taunus, Germany, assignors, by mesne assignments, to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware
No Drawing. Filed July 31, 1956, Ser. No. 601,108
Claims priority, application Germany Aug. 8, 1955
15 Claims. (Cl. 167—65)

1. The compounds of the group consisting of (1) benzenesulphonylureas of the formula



wherein R_1 represents an alkyl group having at most 6 carbon atoms, and (2) pharmaceutically acceptable basic salts thereof.

14. A process for the lowering of blood sugar in the treatment of diabetes which comprises orally administering an effective amount of a composition having as the essential active ingredient a compound selected from the group consisting of (1) sulphonylureas of the formula:



wherein R is selected from the group consisting of hydrogen, and alkyl and alkoxy having at most six carbon atoms, R_1 is selected from the group consisting of hydrogen, cyclohexyl and alkyl and alkoxy having at most six carbon atoms, and R_2 is selected from the group consisting of alkyl, alkenyl, cycloalkyl and cycloalkylalkyl of two to eight carbon atoms and (2) pharmaceutically acceptable basic salts thereof.

2,968,159
COMBINED AIR TANK AND WEIGHT CARRIER
Everett W. Edmund, 665 Kings Highway, Haddonfield, N.J.
Filed Nov. 20, 1959, Ser. No. 854,470
10 Claims. (Cl. 61—69)

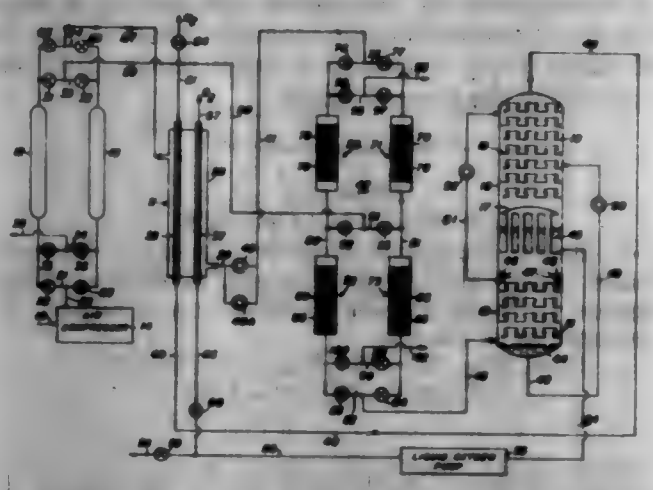


1. A combined air tank and weight carrier comprising a vertical, substantially rectangular plate having parallel tubular portions at its vertical edges for the slidable reception therein of metal weights, and means on the carrier for attaching thereto an air tank and a belt for securing said carrier to a human body; bushings rigidly mounted axially in the upper ends of said tubular portions, curved tubular shoulders hangers having depending straight portions telescopically and rotatably mounted in said bushings, coengaging means on said straight portions and said bushings for preventing withdrawal of said hangers from said bushings; resilient means in said bushings abutting the inner ends of said hangers for normally holding them in their extreme extended positions but permitting their forcible depression, said bushings and shoulder hangers having coengaging means for limiting rotatability of said hangers when in their extreme extended positions and permitting free rotation thereof to permit folding together of said hangers when in their depressed positions; and releasable supports for said metal weights in the lower ends of said tubular portions.

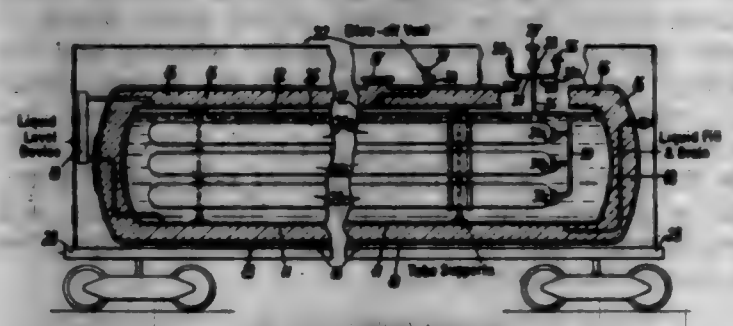
2,968,160
METHOD AND APPARATUS FOR SEPARATING GASEOUS MIXTURES INCLUDING HIGH BOILING POINT IMPURITIES
Clarence J. Schilling and Clyde McKinley, Allentown, Pa., assignors to Air Products Incorporated, a corporation of Michigan
Filed Apr. 9, 1956, Ser. No. 576,963
26 Claims. (Cl. 62—18)

1. Method of separating low boiling point components of gaseous mixtures including a high boiling point im-

purity, which comprises compressing gaseous mixture including high boiling point impurity to a predetermined superatmospheric pressure, passing the compressed gaseous mixture through a heat exchange zone in heat exchange relation with relatively cold product of an ensuing fractionating step to cool the gaseous mixture to a relatively low temperature, the predetermined pressure of the compressed gaseous mixture being such that the compressed gaseous mixture at the relatively low temperature leaving the heat exchange zone is above the precipitation temperature of the high boiling point impurity corresponding to the predetermined pressure, expanding the cool gaseous mixture to a relatively low pressure to reduce its temperature to below the precipitation temperature of the high boiling point impurity corresponding to the relatively low pressure, the expanded gaseous mixture including precipitated high boiling point impurity and non-precipitated high boiling point impurity, the precipitated high boiling point impurity and the non-precipitated high boiling point impurity of the expanded gaseous mixture comprising substantially the total high boiling point impurity of the compressed gaseous mixture, forming a fluid comprising components of the gaseous mixture and including substantially the total high boiling point impurity of the expanded gaseous mixture, subjecting the fluid to a purification step and then to a fractionating step to produce low boiling point components of the gaseous mixture as product, the purification step consisting of passing the fluid through filter and adsorber zones to substantially completely remove the high boiling point impurity therefrom.



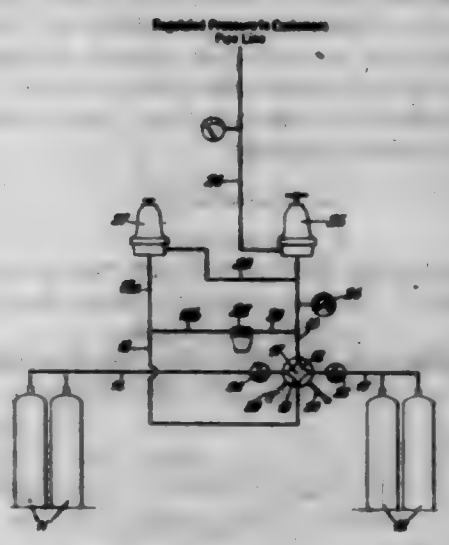
2,968,161
BULK HELIUM TRANSPORTATION
Lyman A. Bliss, New York, N.Y., assignor to Union Carbide Corporation, a corporation of New York
Filed Aug. 16, 1956, Ser. No. 604,556
6 Claims. (Cl. 62—45)



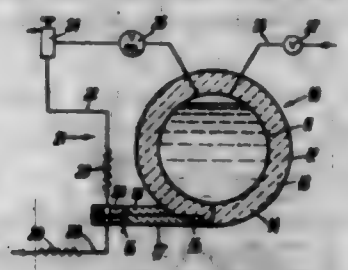
1. In a system for the high pressure storage of helium in the gaseous state and at a low temperature which comprises, a high pressure metallic receiver for holding a supply of the helium gas, a thermally insulated vessel surrounding said receiver to define a refrigeration space therebetween, said space providing a gas sealable closure and containing a liquefied refrigerant having a boiling point at atmospheric pressure warmer than —320° F., said refrigerant conductively associated with the high pressure receiver to maintain the outer surface thereof at a temperature approximating said liquefied refrigerant, whereby said metallic receiver will be characterized by a strength at said reduced temperature substantially greater than said receiver would have at ambient temperature.

2,968,162
AUTOMATIC CHANGEOVER MANIFOLD
Byron H. Acomb, Watchung, N.J., assignor to Union Carbide Corporation, a corporation of New York
Filed Jan. 26, 1959, Ser. No. 788,837
6 Claims. (Cl. 62—50)

1. A manifold system for a liquefiable gas contained in at least two different sources and being directed to a common discharge line, including means for feeding gas directly from each of said sources to said discharge line, means for permitting accumulated vaporized gas in each of said sources to flow to said discharge line when said source is not in direct communication with said line and the pressure therein due to said accumulation of vaporized gas has exceeded a predetermined value, and means for automatically changing over the direct feed of gas to said discharge line from any one source of gas which has become depleted, to another of said sources having sufficient gas therein whereby a continuous flow may be maintained at said discharge line from a portion of said sources without loss of vaporized gas therefrom.



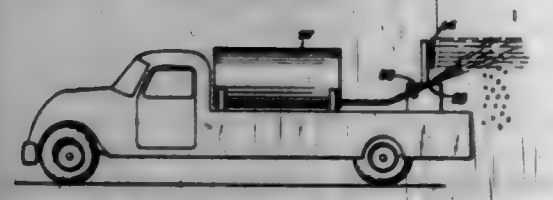
2,968,163
APPARATUS FOR STORING AND DISPENSING LIQUEFIED GASES
John H. Beckman, Speedway, Ind., assignor to Union Carbide Corporation, a corporation of New York
Filed May 19, 1958, Ser. No. 736,257
16 Claims. (Cl. 62—51)



1. A cold converter for storing liquefied gas having a boiling point below —40° F., and dispensing gas obtained from such liquid comprising in combination a double-walled heat insulated container for holding a body of said liquefied gas and having lower and upper sections; fluid conduit means communicating with said lower section

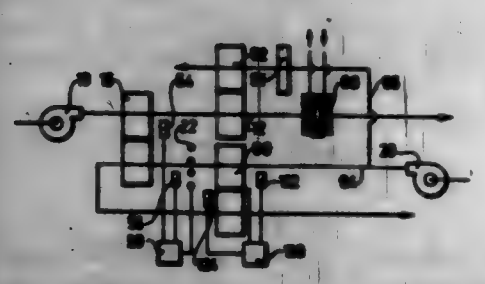
for liquefied gas withdrawal from such container; thermal insulation means associated with said fluid conduit means so as to minimize heat inleak to the fluid therein; a pressure building-gas withdrawal circuit including vaporizing and warmup means and a fluid conduit communicating between such vaporizing means and said upper section of said container; a gas delivery circuit having vaporizing means therein and communicating with said pressure building-gas withdrawal circuit; and a pressure closing, flow regulating valve in said fluid conduit means communicating with the container lower section, said valve also communicating with said pressure building-gas withdrawal circuit and said gas delivery circuit, and being arranged and constructed to regulatively open when the pressure in said pressure building-gas withdrawal circuit falls below a predetermined value so to adjustably control the total quantity of liquid withdrawn from said container lower section through said fluid conduit means, said valve also being adapted to preferentially allow gas withdrawal from the container upper section and through said pressure building-gas withdrawal circuit to said gas delivery circuit when the container pressure is relatively high, and allow liquid withdrawal from the container lower section to increase in quantity as the container pressure decreases, at least part of such withdrawn liquid flowing through said valve and said pressure building-gas withdrawal circuit to the container upper section to increase the container pressure.

2,968,164
METHOD OF GENERATING SNOW
Alden W. Hanson, 1605 St. Andrews Drive, Midland, Mich.
Filed Feb. 24, 1958, Ser. No. 716,906
7 Claims. (Cl. 62—74)



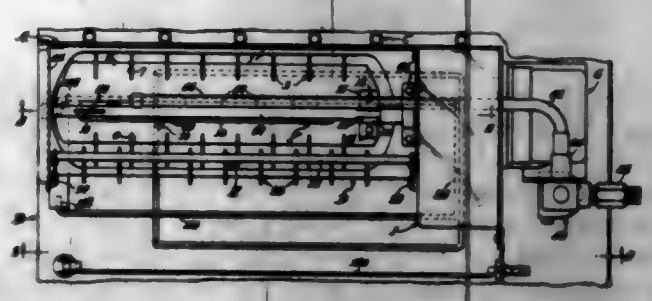
1. The method of forming, distributing, and depositing snow upon a surface, including: mechanically providing a large volume movement of air at atmospheric pressure; said movement of air created by a motor-driven propeller, said air having an ambient temperature at or below about 30 degrees Fahrenheit; and projecting water into said movement of air in an amount and at a rate such that substantially all of the water so-introduced is at least partially crystallized prior to depositing on said surface.

2,968,165
AIR CONDITIONING METHOD AND APPARATUS
Per Gunnar Norbäck, 1C Bergsliden, Lidingo, Sweden
Filed Dec. 22, 1955, Ser. No. 554,793
4 Claims. (Cl. 62—94)



1. A method of conditioning air for an enclosure with the aid of a moisture transferrer having a moisture sorption element and of a sensible cooling element, which comprises the steps of passing a stream of air to be conditioned in contact with the sorption element and the cooling element in series, varying the capacity of said sorption element to remove moisture from the stream of air in response to a condition of the air in said stream to produce a predetermined moisture content required for comfort conditions, maintaining said moisture content substantially unchanged until it enters the enclosure by maintaining the sensible cooling element at a temperature above the dew point temperature of the air in said stream whereby moisture will be removed from said stream in said sorption element without being cooled and said stream will be cooled by said cooling element without moisture removal as it passes in contact therewith, the stream of air leaving the sorption element being cooled in successive stages, which cooling is carried out with a temperature on the cooling element of a degree to avoid condensation thereon, the air stream in the first of said stages being cooled to a lower temperature than when cooled in the second stage.

2,968,166
ICE CUBE MACHINES
Clyde F. Baker, Muskegon Heights, George P. Kennedy, Conklin, and Valentine M. Knrent, Muskegon, Mich., assignors to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Filed Dec. 31, 1956, Ser. No. 631,539
5 Claims. (Cl. 62—135)

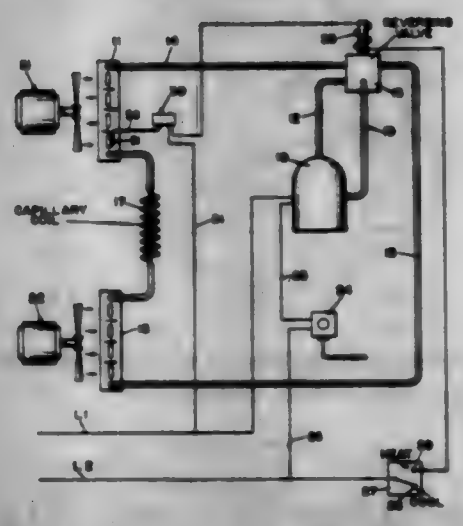


1. In an ice making machine, a tray for receiving a liquid to be frozen, means for supplying liquid to said tray, means for freezing said liquid, a grid structure in the tray and composed of relatively movable plates for dividing the frozen liquid into blocks, power means associated with the grid structure for moving the plates relative to one another from a first position to a second position and effective to loosen the blocks from the grid structure and tray while said grid structure is disposed within said tray, a rotatable shaft, means connecting said grid structure to said shaft, a control member rotatable with and movable axially on said shaft, said control member having a lateral face defined by a flat surface, means operatively connecting said grid structure to said control member, an electrical circuit, an electric motor in said circuit and adapted to drive said shaft, a switch for controlling said motor, said control member being moved axially by the operation of said power means to move said plates to a second position whereby said flat surface actuates said switch to start the electric motor to rotate the grid structure and thereby remove the loosened blocks from the tray, and means associated with the flat surface of said lateral face of said control member to prevent said power means from actuating said switch when said liquid supplying means is inoperative to supply liquid to said tray.

2,968,167
DEFROSTER CONTROL
Lloyd C. Raney, Fort Lauderdale, Fla., assignor to Rance Incorporated, Columbus, Ohio, a corporation of Ohio
Filed July 24, 1957, Ser. No. 673,958
4 Claims. (Cl. 62—156)

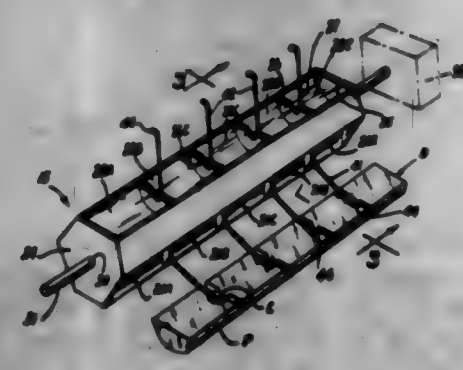
1. In a reversible heat pump system having a heat exchanger operating during the cooling cycle of the pump

at a relatively high temperature and operating during heating cycles of the pump below 32° F., and including means forcing air through said exchanger to effect heat exchange therewith, defrost means to temporarily raise the temperature of said exchanger and melt frost therefrom during the heating cycles, and control means for said defrost means comprising two thermally responsive elements, one subjected to the temperature of the walls of the exchanger and the second subjected to the temperature of air adjacent to said exchanger, said elements arranged to oppose one another so that upon substantially



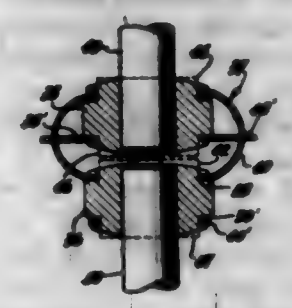
like changes in temperatures of the walls of said exchanger and said air said control means remains ineffective to cause a defrost cycle but upon a substantial reduction in temperature of the walls of said exchanger below the temperature of said air said control means is operative to activate said defrost means to produce defrosting of said exchanger, and means limiting the opposing effect of said second element at temperatures above approximately 40° F. whereby during operation of said exchanger at temperatures in excess of 40° F. the first mentioned element is operative to maintain said defrost means ineffective to initiate a defrost cycle.

2,968,168
FREEZING APPARATUS
Holland S. Lippincott, Riverton, N.J., assignor to Philco Corporation, Philadelphia, Pa., a corporation of Pennsylvania
Filed June 29, 1959, Ser. No. 823,695
10 Claims. (Cl. 62—344)



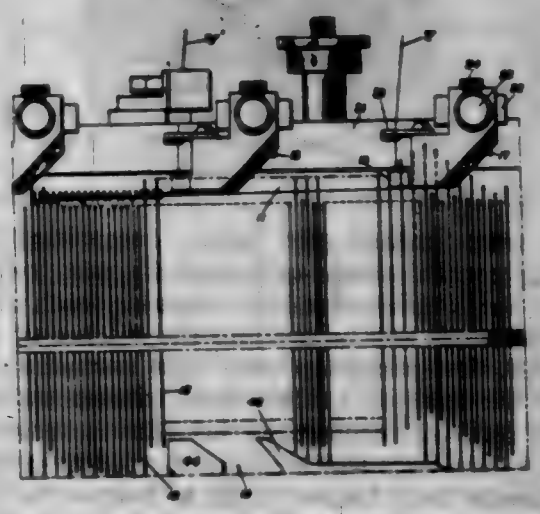
1. In apparatus for freezing and harvesting ice blocks; a rotatable mold unit adapted to make, while disposed in predetermined positions, an ice block having laterally extending ice connectors thereon, and to thermally-gravitationally release the ice block when the unit has been rotated to other positions; drying rack means for intercepting said ice connectors upon said release of the ice block; and means for removing the ice block and connectors from the drying rack means.

2,968,169
STRAP COUPLING
Manuel J. Davis, Los Angeles, Calif.
Filed Apr. 1, 1959, Ser. No. 803,433
6 Claims. (Cl. 64—15)



2. A flexible coupling comprising: a pair of hubs adapted to be mounted on the facing ends of a pair of shafts, each hub having a body portion and a reduced diameter portion at one end; and an integral member of resilient thin material having a central portion with arms of equal length projecting therefrom, said central portion having a centrally located hole adapted to receive the reduced diameter portion of one hub, and said projecting arms each having a hole adapted to receive the reduced diameter portion of the other hub, said reduced portions of the hubs being secured over the resilient member fitted thereon.

2,968,170
KNITTING MACHINE
Frederick C. Wiesinger, Feasterville, Pa., assignor to Wildman Jacquard Co., Norristown, Pa., a corporation of Pennsylvania
Continuation of application Ser. No. 665,252, June 12, 1957. This application Dec. 1, 1959, Ser. No. 856,524
6 Claims. (Cl. 66—20)



1. In a knitting machine for knitting a rib cuff and interlock fabric in continuation of said cuff, the combination of a needle cylinder, a dial and needles operably carried by said cylinder and dial, cams for actuating said cylinder and dial needles, relatively fixed yarn feeding means at each of a plurality of feeding stations, and means for causing those yarns fed at two consecutively effective feeding stations to be taken at their respective stations, but knitted together at the second of said stations which comprises certain movable cams individual to said feeding stations for causing needles to take yarn at a feed and to hold that yarn in tuck position until said needles take a yarn at a next following feed, and then to knit thereat.

3. A method of knitting in a rib knitting machine having a cylinder, a dial, latch needles operatively main-

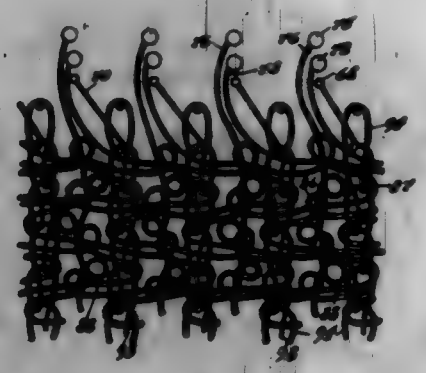
tained in said cylinder and dial and yarn feeding stations adjacent to and between which and said needles there is relative movement to form a rib cuff and an interlock fabric in continuation of said cuff which comprises the steps of continuously feeding a yarn to the needles at each of a plurality of feeding stations, and during such feeding, knitting the rib cuff by taking the yarn by the needles at at least one of the feeding stations and retaining it in the hooks of said needles the latches of which are cleared but which are drawn down to only a tuck level, maintaining such needles at said level until they are affected at the next following station, and at that station controlling needles to take a yarn fed thereat in their hooks along with that previously taken and to knit both yarns, and when knitting of said cuff has been terminated, altering the selection of needles to take yarn and draw knitted stitches thereof by alternate rib and cylinder needles at one feed and then intermediate ones of said needles at the next to form interlock fabric.

2,968,171

WARP KNITTING WITH PILE CONTRIBUTING TO LAY-IN WEFT BIND

Rex S. MacCaffray, Jr., Boiling Springs, Pa., assignor to C. H. Masland and Sons, Carlisle, Pa., a corporation of Pennsylvania

Filed Sept. 25, 1958, Ser. No. 763,283
21 Claims. (Cl. 66—191)



1. A warp knitted pile fabric, comprising walewise extending parallel chains of knitted stitches, in-laid backing weft yarns ends extending walewise, each undulating sinuously across and bound into the stitches of the knitted chains, first pile warp yarn ends extending walewise between the rows of knitted chain stitches and rising at intervals into pile projections in walewise rows, second pile warp yarn ends which at various points in the fabric extend across from knitted chain to knitted chain, in-laid in the stitches of the chains and forming binding weft stretches between lines of chains over the base legs of the pile projections of the first pile warp yarns ends and which at other points in the fabric rise as pile projections with base legs bound in the stitches of the knitted chains.

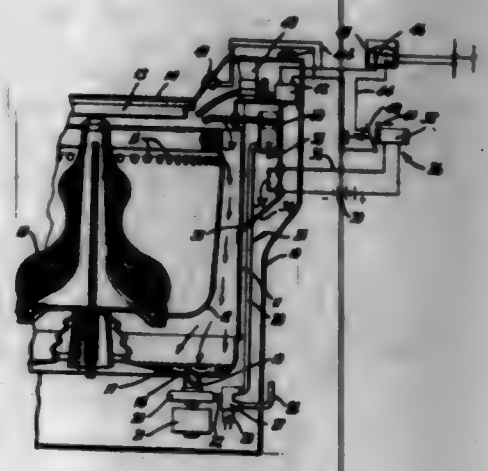
2,968,172

DETECTING SYSTEM

Harold D. Johnson, Largo, Fla., assignor to Philco Corporation, Philadelphia, Pa., a corporation of Pennsylvania

Filed Feb. 10, 1958, Ser. No. 714,372
11 Claims. (Cl. 68—17)

1. A system for detecting the detergency of a liquid the surface tension of which varies in accordance with its detergent content, comprising passage means adapted to discharge liquid in drops at a rate affected by the surface tension of the liquid, and means including an electric circuit, a portion of which is interposed in the path of the drops and is controlled by said drops to



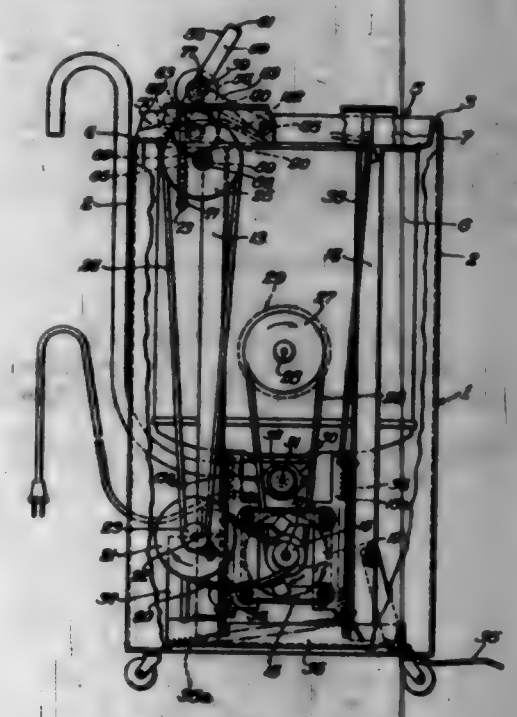
generate electrical impulses at a rate commensurate with the discharge rate of said drops.

2,968,173

WRINGER WASHING MACHINE COMBINATION

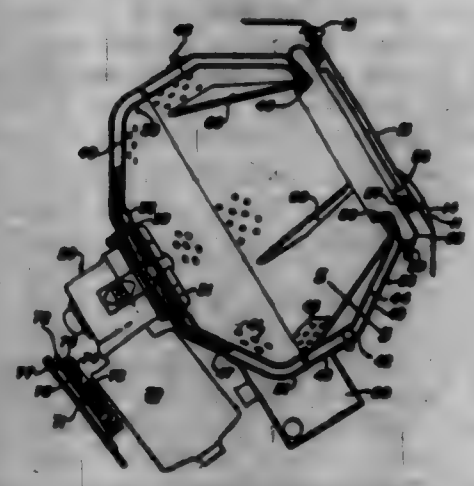
George M. Gibson, % G. M. Gibson Corporation, Bellevue, Iowa

Filed July 8, 1955, Ser. No. 520,791
21 Claims. (Cl. 68—22)



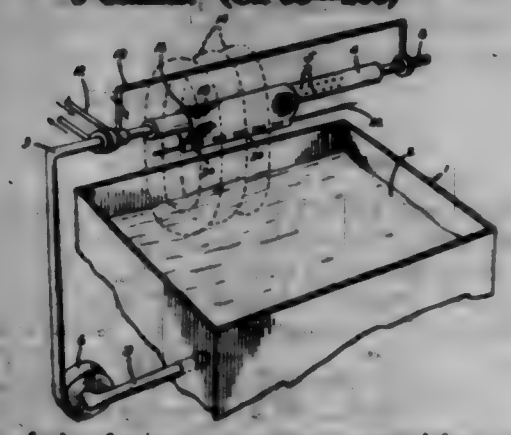
1. In a washing machine, in combination, a tub, a closure unit on said tub comprising a first section having working and drain surfaces surrounding an opening in said section arranged for communication with the tub, bearing means provided upon said section in given relation with respect to said tub opening in said section, and a wringer mechanism carried by said first section through said bearing means, said closure unit having a second section disposed adjacent said wringer mechanism providing working and drain surfaces for said wringer coextensive with the working and drain surfaces of said first section to establish a drain board area for said wringer mechanism to direct wringer expressed water toward the opening in said first section.

2,968,174
WASHING MACHINES
William Charlton Bell, Uxbridge, Harold George Dunn, Harrow Weald, Edward Kershaw Hayden, Greenford, Dennis John William Flint, Ealing, W.13, and Walter William Ralph Searle, Uxbridge, England, assignors to The Hoover Company, North Canton, Ohio, a corporation of Ohio
Filed Nov. 4, 1957, Ser. No. 694,288
Claims priority, application Great Britain Nov. 6, 1956
7 Claims. (Cl. 68—24)



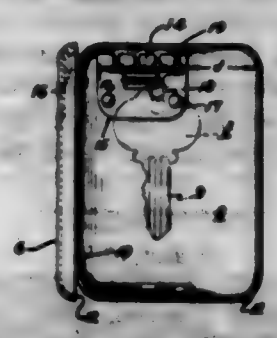
3. A clothes washing machine comprising a container for clothes and water, a charging opening for inserting clothes in said container, means mounting said container for rotation about its axis, a disclike impeller within said container and supported on a wall opposite said charging opening and having its major area arranged along said wall, means mounting said impeller for rotation on an axis coaxial with said container, means supporting said container and impeller upon an oblique axis, and drive means for rotating said impeller and container simultaneously and continuously in opposite directions for washing clothes.

2,968,175
ATOMIZER SLEEVE FOR SKEIN DYEING
Leslie L. Walmsley, Swarthmore, Pa., assignor to American Viscose Corporation, Philadelphia, Pa., a corporation of Delaware
Filed Mar. 4, 1958, Ser. No. 719,814
3 Claims. (Cl. 68—206)



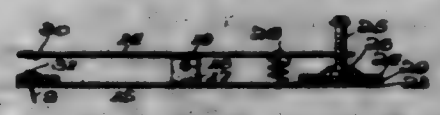
1. Yarn skein dyeing apparatus comprising an open-topped tank adapted to contain a dye liquor, a perforated pipe extending horizontally above said tank, a conduit leading from said tank and discharging into said pipe, pump means in said conduit for pumping dye liquor from said tank and forcing it through the perforations in said pipe in the form of small jet streams, means for rotating skeins of yarn looped over said pipe about said pipe, a substantially rectangular small-mesh fabric draped over said pipe and in contact therewith, and relatively heavy securing means securing opposite edges of said fabric together to form a sleeve, said securing means also serving to hold said fabric in contact with the upper portion of said pipe, said fabric serving to break up the jet streams of dye liquor issuing from the perforations in said pipe whereby the dye liquor will contact the skeins in the form of a fine soft spray.

2,968,176
KEY CASES
Dana B. Collings, Springfield, Mass., assignor to Buxton, Incorporated, Agawam, Mass., a corporation of Massachusetts
Filed Dec. 5, 1958, Ser. No. 778,465
1 Claim. (Cl. 70—456)



A key case comprising first and second substantially rigid tray members hinged together along one side edge for swinging movement toward and away from each other to provide a key confining chamber therebetween when in case closing relation, elongated key hanger supports secured transversely of each of said members perpendicular to the hinge of said case, said supports extending co-linearly across the top of said case when said members are disposed in case closing relation, each of said supports including means for removably receiving and supporting key hangers in downwardly depending relation therefrom, said supports being secured to the respective walls of said tray members so that when the case is closed the supports are disposed in contiguous end-to-end relation providing hanger supporting means extending substantially the full width of the case.

2,968,177
TRANSVERSE SHRINKAGE TESTER
Charles W. Mann, Framingham, and Charles P. Merhib, Worcester, Mass., assignors to the United States of America as represented by the Secretary of the Army
Filed Feb. 8, 1956, Ser. No. 564,330
2 Claims. (Cl. 73—15)
(Granted under Title 35, U.S. Code (1952), sec. 266)

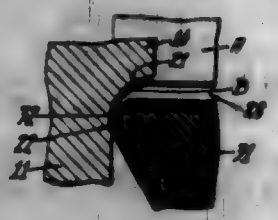


1. A shrinkage tester comprising a container, a pair of clamping plates, plate-supporting members pivotally connected intermediate their ends within the container, means for securing the plates to the respective adjacent ends of the supporting members, electric contacts on the opposite ends of the supporting members, a spring associated with said members to urge the clamping plates toward each other and maintain the contacts in spaced-apart relationship, an electric signal associated with said contacts, means for heating the container, and a thermometer for indicating the temperature of the contents of the container.

2,968,178
CAN TESTING HEAD
Stellan Birkland, San Francisco, Calif., assignor to American Can Company, New York, N.Y., a corporation of New Jersey
Filed Oct. 5, 1956, Ser. No. 614,314
6 Claims. (Cl. 73—40)

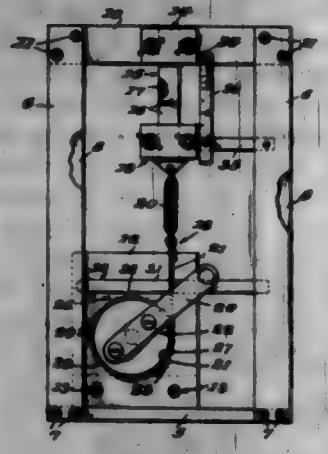
1. Means for sealing the outwardly flared flanged open end of a metal can to be tested for leaks, comprising

a sealing pad formed of hard nonresilient material provided with an integral peripheral curved recess constituting a rigid seat for receiving the open flanged end of said can, a resilient sealing gasket surrounding said



can, and means for moving the open flanged end of said can into engagement with said seat while moving said gasket into sealing engagement with the outer peripheral portion of said can flange and the outer peripheral edge of said seat.

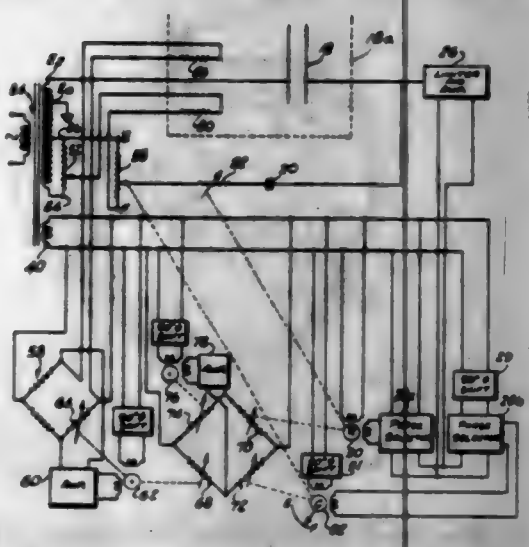
2,968,179
STATIC LOAD TESTER
Gus Scarvelis, Mount Vernon, Ohio, assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Oct. 21, 1955, Ser. No. 542,020
3 Claims. (Cl. 73—95)



1. A static load tester comprising a frame including a base, pairs of upwardly converging legs extending upwardly from said base, a crown bar extending between upper ends of said legs, a fixed sample gripping member carried by said crown bar, a ratchet wheel carried by said frame within the general confines of said frame and above said base in alignment with said fixed sample gripping member, a movable work gripping member disposed below said fixed work gripping member and cooperable therewith to tension a sample extending between said work gripping members, means connecting said ratchet wheel to said movable work gripping member, said means including a flexible pull member and a calibrated spring, said ratchet wheel having circumferentially spaced teeth and a pawl cooperating with said teeth to prevent retrograde movement of said ratchet wheel when the desired testing load has been imposed on a test sample, means for indicating the amount of movement of said flexible pull member to generally indicate the amount of the testing load, and means for indicating the degree of creeping of the sample under a maintained predetermined load application.

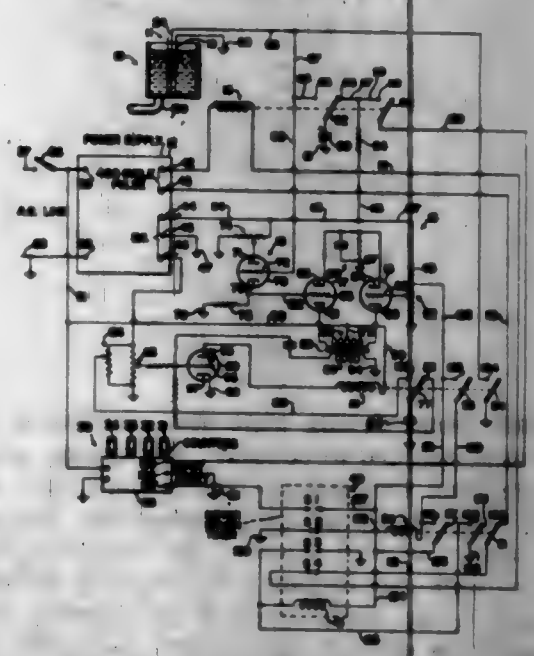
2,968,180
ALTERNATING CURRENT BRIDGES
Curtiss R. Schafer, Clarks Summit, Pa.
(R.F.D. 1, Newtown, Conn.)
Filed May 4, 1956, Ser. No. 582,866
26 Claims. (Cl. 73—304)

9. A capacitor-type liquid level gaging and dissipation factor indicating system, including an alternating-current potential bridge having alternating current input terminals and unbalance detection terminals, said bridge further having in one arm thereof a pair of spaced plates adapted to be disposed vertically in a liquid container and to be variably filled with liquid in the container to serve as a gaging and dissipation factor measuring capacitor, a variable resistor and a high-Q capacitor in an adjoining arm of the potential bridge, adjustable means forming part of said bridge for establishing balance of the bridge with respect to capacitive reactances in said arms, means for automatically establishing balance including separate



devices coupled to said adjustable resistor and to said capacitive reactance balancing means, said adjustable means including a liquid-level indicator, and a dissipation factor indicator including means coupled to and operated conjointly with said adjustable resistor, means coupled to and operated conjointly with said adjustable means and variable as a representation of the liquid-filled part of said plates, and means operable in dependence on both said conjointly operated means for resolving the dissipation factor.

2,968,181
LIQUID QUANTITY MEASURING APPARATUS
Eugene Mittelmann, Chicago, Ill., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed May 28, 1956, Ser. No. 587,718
14 Claims. (Cl. 73—304)



11. Liquid quantity measuring apparatus comprising, capacitance type liquid quantity sensing means, reference capacitance means, a source of direct current voltage, switch means having a first and a second position, means controlled by said switch means in said first position connecting said reference means to said direct current

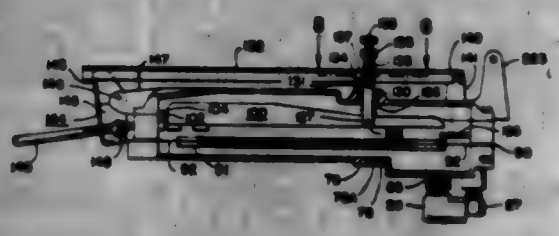
source of voltage to apply an electrical charge thereto, means controlled by said switch means in said second position disconnecting said reference means from said direct current source of voltage and connecting said reference means to said sensing means to discharge said reference means into said sensing means, the voltage on said sensing means being indicative of the capacitance value of said sensing means and of the total charge transferred thereto from said reference means; a pair of electron discharge devices each having an anode, a cathode, and a control electrode; a transformer having a tapped primary winding and having a secondary winding, a source of alternating current voltage, means connecting the tap of said primary winding to said source of alternating current voltage, means connecting the end terminals of said primary winding to the anodes of said pair of discharge devices to thereby apply an alternating current voltage to each of the anodes to render said discharge devices simultaneously conductive in accordance with the voltage applied to their control electrodes, means connecting the control electrode of one of said discharge devices to a substantially constant source of voltage to thereby cause a substantially constant magnitude of current to flow between its anode and cathode, means connecting the control electrode of the other of said discharge devices to said sensing means to thereby control the current flow between its anode and cathode in accordance with the voltage on said sensing means, said transformer secondary winding having a voltage induced therein whenever the magnitude of current flow through said other discharge does not bear a predetermined relationship to the magnitude of current flow through said one discharge device; a further electron discharge device having a cathode, an anode and a control electrode; means connecting the secondary of said transformer to the control electrode of said further discharge device to vary the bias thereon and thereby render said further discharge device nonconductive when a voltage of a predetermined magnitude is induced in the secondary of said transformer, a relay having a winding and switch means controlled thereby, means connecting said relay winding to the anode of said further discharge device to cause said relay winding to be energized upon said further discharge device being rendered conductive, means controlled by said relay switch means to discontinue operation of said cycling switch means upon said relay winding being energized, and further means controlled by said relay switch means to discharge said sensing means upon said relay winding being energized.

2,968,182

INSTRUMENT ASSEMBLY HAVING DIAPHRAGM RELAY WITH INTERIOR ZERO SETTING BEAM

Llewellyn Young, Croydon, and Philip Maurice Taylor and Donald Alan Breckman, Shirley, England, assignors to Bailey Meter Company, Cleveland, Ohio, a corporation of Delaware

Filed May 9, 1956, Ser. No. 583,652
8 Claims. (Cl. 73—408)



1. An instrument assembly for mounting in an aperture of an instrument panel comprising, a housing mounted on the panel and having an open end in alignment with the aperture, a front cover including a window and a scale enclosing said open end, a sealed instrument casing fixed to said housing, a flexible diaphragm mounted in said casing and movable in response to variations in a pressure condition to be indicated, an indicating pointer having one end thereof cooperable with said scale and having the other end thereof operatively connected to said diaphragm for actuating said indicating pointer relative to scale upon variations in said condition, a movable support within said casing, a biasing spring mounted on said support and connected to said diaphragm for exerting a biasing force thereon, and an elongated rotatable shaft having one end operatively connected to said movable support and the other end thereof extending into an opening in said cover to be manually rotated from the front of said panel, said rotatable shaft being operative upon rotation thereof from the front of said panel to move said support relative to said casing and housing to vary the position of said diaphragm and said indicating pointer.

2,968,183

SAMPLING SYSTEM

Bruce A. Hannaford, Oak Ridge, Tenn., Richard Rosenberg, Pittsburgh, Pa., and Charles L. Segnser and Clegie L. Terry, Oak Ridge, Tenn., assignors to the United States of America as represented by the United States Atomic Energy Commission

Filed Oct. 30, 1956, Ser. No. 619,369
4 Claims. (Cl. 73—421)



1. A sample system for radioactive liquids maintained under pressure comprising a shielded enclosure, a loading tube extending into the enclosure, an isolation chamber for receiving a predetermined sample of the liquid disposed within the enclosure, a sample holder, and means for alternately bringing the sample holder into registration with the isolation chamber and the loading tube to permit removal of samples from the enclosure.

2,968,184

SAMPLING TUBE

James R. Archer and William H. Banks, East Point, Ga., assignors to International Minerals & Chemical Corporation, a corporation of New York

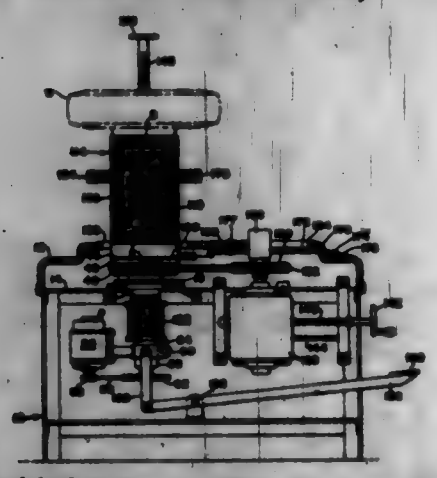
Filed May 29, 1958, Ser. No. 736,706
3 Claims. (Cl. 73—425.2)

2. A sampling tube comprising a generally tubular hand grip member adapted to be grasped and firmly held by the hand of the user, an elongated tubular receiving member secured at one end to said hand grip member and extending therefrom, said tubular receiving member having an elongated opening in the wall of the tube so that material to be sampled may pass into the interior of said tubular receiving member, said elongated opening extending from adjacent said hand grip member to adjacent the other end of said tubular receiving mem-

ber, an elongated cover member slidably engaged with the interior of said hand grip member and slidable along the surface of said tubular receiving member in a direction parallel to the longitudinal axis of said tubular receiving member to a closed position wherein said cover member overlies the entire opening in the wall of said tubular receiving member so as to prevent material to be sampled from entering said tubular receiving member and slidable to an open position wherein said cover member is removed from the overlying position so as to permit material to be sampled to enter said tubular receiving member through said opening, a slot in said tubular receiving member extending from said opening in the wall of said tubular receiving member to adjacent said hand grip member, said cover member being in contact with the exterior of said tubular receiving member in both said open position and said closed position, said cover member being of dimension so as to overlap said opening in the wall of the tubular receiving member when said cover member is in the closed position and having a stop means adjacent an end thereof and positioned on said cover member so as to slide within said slot when said cover member is in open position.

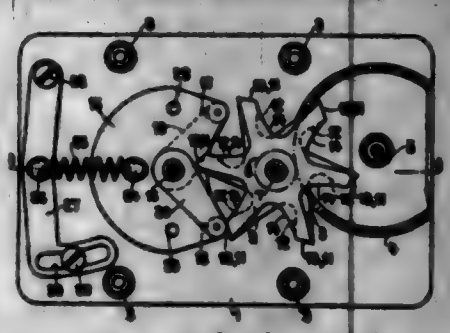


2,968,185
WHEEL BALANCING MACHINE
Le Roy V. Jacobsen, Durant, Iowa, assignor to Bee Line Company, Bettendorf, Iowa
Filed Nov. 29, 1957, Ser. No. 699,799
18 Claims. (Cl. 73—459)



9. In a wheel-balancing machine: support means on a vertical axis and including coaxial bearing means affording a virtual support point on said axis; a wheel mounting member coaxially journaled on the bearing means and tiltable about said point relative to the support means; means on the member for coaxially fixing thereon a wheel to be tested for dynamic balance or unbalance; selectively connectible and disconnectible power means for rotating the member and wheel in unison at a relatively high speed so that dynamic unbalance in the wheel tilts the member and causes the common axis of the wheel and member to travel in a cone having its apex at said point; means rotatable on the support means and selectively engageable with the tilted member for securing the tilted position of the member relative to the support means while rotating and to retain said tilted position when the power means is disconnected so that the tilted member and wheel may be subsequently rotated at a relatively lower speed; gage means for determining the dynamic unbalance, including a follower selectively engageable with and disengageable from the member; means for selectively changing the follower between engaged and disengaged positions; and means responsive to the position of the follower for preventing connection of the power means when the follower is engaged with the member.

2,968,186
ESCAPEMENT FOR RETARDING DEVICE
Henri Jeanneret, Tete-de-Ran 15, La Chaux-de-Fonds, Switzerland
Filed Dec. 8, 1959, Ser. No. 858,274
Claims priority, application Switzerland Feb. 25, 1959
5 Claims. (Cl. 74—1.5)

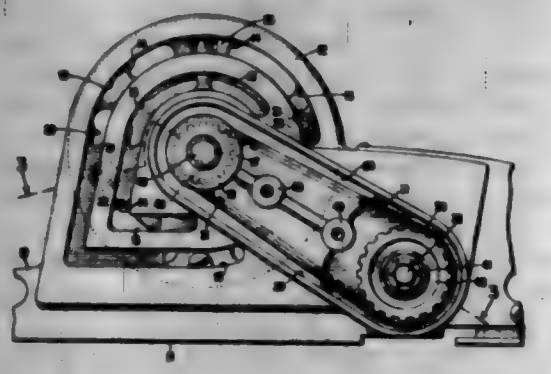


1. In an escapement mechanism of the type comprising a pivotally mounted escape member including two axially spaced toothed wheels disposed in generally parallel planes and adapted to be rotatively driven in one direction, a regulating member pivotally mounted on an axis parallel to the pivot axis of said escape member and generally disposed in a plane intermediate the planes of said toothed wheels, said regulating member having a pair of angularly spaced impulse means cooperative with said escape member, and resilient means biasing said regulating member toward a neutral position with its impulse means spaced on opposite sides of the plane common to the axes of said escape and regulating members but permitting oscillatory movement of said regulating member upon rotation of said escape member and cooperation therewith of said pair of impulse means, the improvement wherein said impulse means comprises a pair of rollers pivotally mounted on axes parallel with the pivot axis of said regulating member and respectively disposed on opposite sides of said regulating member and in the planes of said toothed wheels and within the path of the teeth of said wheels, and the teeth of said wheels each having an impulse surface on the outer ends thereof and disposed at angles to the radii of the teeth with the leading portion thereof closer to the axis of said wheels, whereby to drive the respective rollers to swing said regulating member in opposition to said resilient means, said teeth being spaced to alternately engage their respective rollers and oscillate said regulating member, the leading edges of said teeth having faces engageable with their respective rollers during the oscillation of said regulating member in the direction opposite the direction of drive thereof by the respective teeth said faces being constituted by segments of circles having axes coincident with the pivotal axis of the regulating member when the respective faces are engaged with their corresponding roller to avoid oscillatory movement of said escape member and permit the regulating member to oscillate without resistance.

2,968,187
PORTABLE BELT-DRIVEN TOOLS WITH DETACHABLE MOTORS
Reynold Happe, Princeton, N.J., assignor to The Singer Manufacturing Company, Elizabeth, N.J., a corporation of New Jersey
Filed Sept. 10, 1957, Ser. No. 683,166
9 Claims. (Cl. 74—216.5)

1. In a belt-driven portable tool having a body portion, an electric motor detachably secured to the body

portion, a shaft for the motor, a belt-engaged normally unsupported motor pulley loosely captive in the body portion in belt-engaged condition and formed with an internal bore having a configuration for receiving the

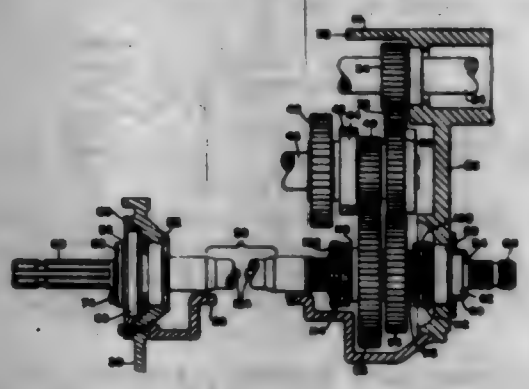


motor shaft in driving connection by relative axial movement of shaft and pulley, and means for limiting the axial movement of said pulley on said shaft relatively to the body portion effective responsively to the securement of said motor to said body portion.

2,968,188
MULTI-SPEED DRIVE FOR POWER TAKE-OFFS AND THE LIKE

Wallace H. Du Shane and Roger L. Jachlin, Waterloo, Iowa, assignors to Deere & Company, Moline, Ill., a corporation of Delaware

Filed Sept. 22, 1958, Ser. No. 762,588
12 Claims. (Cl. 74—375)

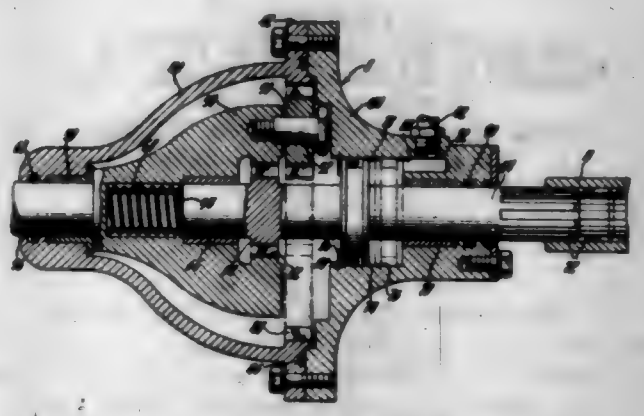


1. Speed-change means for power take-off mechanisms and the like, having drive means, comprising: a fore-and-aft shaft having a rear opening, an axial bore communicating with and extending forwardly from said opening and forward axially elongated radial slot means intersecting the bore; dual-speed means for selectively driving the shaft at either of two speeds from the drive means and including a rear clutch member coaxially rotatable with the shaft and axially shiftable forwardly from a disengaged position to an engaged position and having a portion entering said slot means, and a front clutch member coaxially rotatable with the shaft and mounted on the shaft independently of the rear clutch so as to be axially shiftable rearwardly from a disengaged position to an engaged position and having a portion entering said slot means in axially spaced relation to the rear clutch member portion; a shifting element axially slidable in the bore and having a rear portion exposed at said rear opening of the shaft and a front end engaging the rear clutch member portion so that forward shifting of said element in response to forward force applied thereto incurs forward shifting of the rear clutch member; interconnecting means in the bore between the clutch member portions and including a spring-loaded lost-motion device enabling limited forward shifting of the rear clutch relative to the front clutch and operative to shift the front clutch member forwardly upon forward shifting of the rear clutch member; and biasing means in the bore ahead of and acting on the front clutch member portion to be loaded upon forward shifting of said clutch members and operative to act on the front clutch member and via said interconnecting means on the rear clutch member to shift both clutch members and said element rearwardly when forward force on said element is removed.

2,968,189
POWER STEERING HAVING AUXILIARY STEERING CONTROL

John A. Walko, Cleveland, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Continuation of application Ser. No. 761,017, Sept. 15, 1958. This application July 13, 1959, Ser. No. 826,695
11 Claims. (Cl. 74—388)

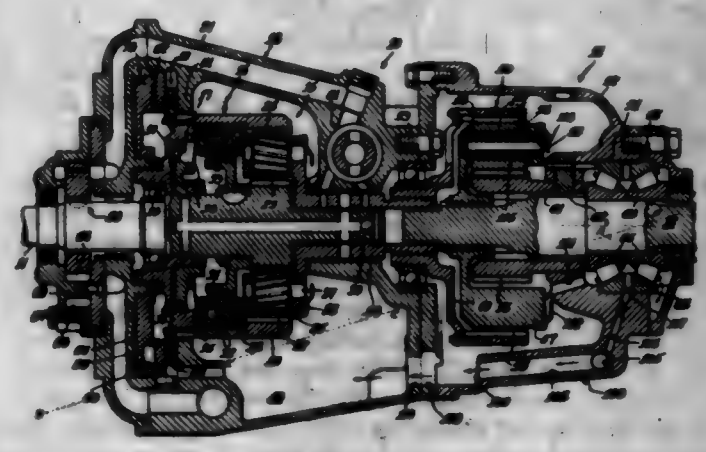


7. An auxiliary steering mechanism forming an operative drive connection between a rotatable steering shaft and a steering gear means, said steering mechanism comprising first and second drive means respectively operable to conduct drive between said shaft and said steering gear means in a first ratio and a second ratio providing a different torque multiplication than said first ratio, said drive means including a driving gear fixed to said steering shaft, and means including a fluid pressure system normally maintaining one of said drive means operable to conduct drive between said shaft and said steering gear means and operable automatically upon loss of pressure in said system to select the other of said drive means to conduct drive between said shaft and said steering gear means.

2,968,190
TRANSMISSION MECHANISM

Palmer Orr, Muncie, Ind., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois

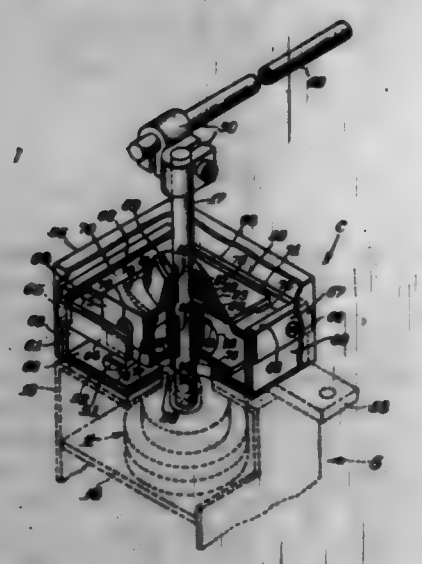
Filed Feb. 17, 1958, Ser. No. 715,723
8 Claims. (Cl. 74—467)



6. In a transmission mechanism, the combination of a drive shaft, a driven shaft, a forward transmission unit driven by said drive shaft and enclosed within a forward transmission housing, a rear transmission unit driven by said forward transmission unit and adapted

to drive said driven shaft and enclosed within a rear transmission housing, said rear transmission unit and housing being disposed in an operating position at a lower elevation with respect to a horizontal plane than said forward transmission unit and housing, said housings being separated by a common partition having an aperture formed therethrough, a source of fluid pressure, and fluid circulating means including a fluid ejector or nozzle connected to said fluid source to be supplied with fluid therefrom and having a fluid outlet separated from and directed toward the aperture formed in said partition whereby fluid supplied from said source to said ejector flows from said ejector and through said aperture so as to maintain a predetermined fluid level within said rear transmission housing for thereby preventing the overheating of said rear transmission unit.

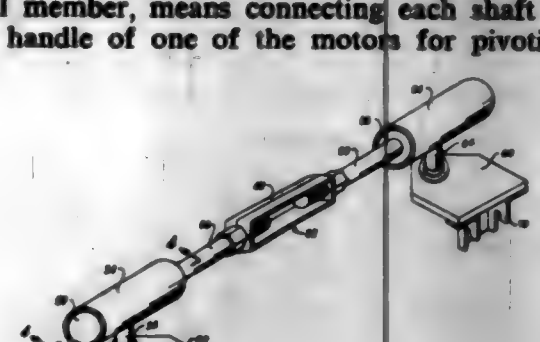
2,968,191
SENSITIVITY CONTROL DEVICE
Frederick O. Johnson, 9653 Hamlin Ave., Evergreen Park, Ill.
Filed Apr. 30, 1958, Ser. No. 732,059
14 Claims. (Cl. 74—469)



1. A sensitivity control device for a projecting universally movable switch actuating shaft of a safety control switch, comprising a support adapted to be mounted in fixed relation to said switch adjacent said shaft, a pair of members having mating cam surfaces, one of said members being mounted on said support for movement in all directions in a plane transverse to said shaft and the other member being mounted on said shaft for movement rotatively therewith and longitudinally thereof, and spring means tending to hold said members with their cam surfaces in mating engagement, said cam surfaces being shaped to effect relative movement of said members out of mating engagement on movements of said shaft in certain directions, and said members remaining in mating engagement on movements of said shaft in other than said certain directions.

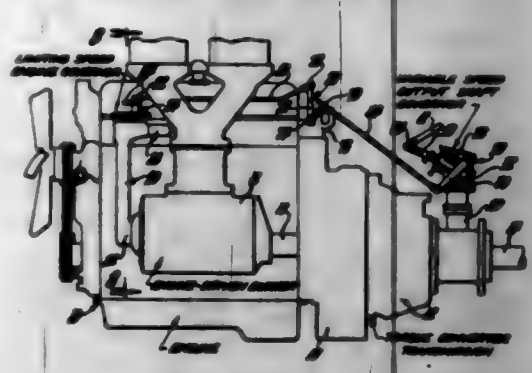
2,968,192
COUPLING DEVICE FOR TWIN OUTBOARD MOTORS
Albert C. Fletcher, 10th and Missouri Sts., Oklahoma City, Okla.
Filed Sept. 2, 1959, Ser. No. 837,626
7 Claims. (Cl. 74—471)

1. A device for coupling twin outboard motors fitted with carrying handles to provide joint steering movement and allow independent tilting movement of the motors, comprising elongated rod means, a socket member slidingly carried at each of the opposite ends of the rod for movement lengthwise with respect to the rod means, elastic means carried at each end of the rod means yieldably retarding movement of the respective socket member lengthwise with respect to the rod means, a ball member journaled in each socket member, a shaft secured to each ball member, means connecting each shaft to the carrying handle of one of the motors for pivoting the



respective ball member in the respective socket member and moving the respective socket member against the action of said elastic means upon tilting movement of the motor, and steering means for moving the rod means lengthwise to simultaneously pivot the motors laterally.

2,968,193
POWER PLANT GOVERNOR CONTROL SYSTEM
Charles H. Frick, Pontiac, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed June 4, 1959, Ser. No. 818,094
4 Claims. (Cl. 74—472)



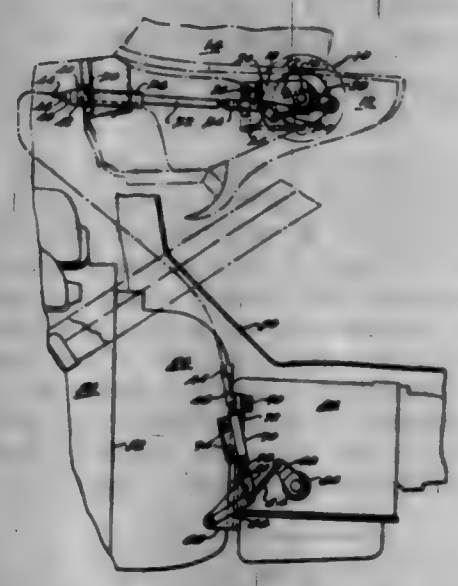
4. In a power plant including an engine and a power transmitting mechanism drivingly connected thereto having an output shaft connectable to drive a variable load and having operating characteristics whereby the rate of operation of the output shaft tends to decrease with the application of load more rapidly than the rate of operation of said engine, a control mechanism comprising, in combination, fuel supply means operable to supply variable amounts of fuel to the engine and including a control member movable between a fuel off position in which it conditions said supply means to shut off the supply of fuel to said engine, a minimum fuel supply position in which it conditions said fuel supply means to supply fuel to said engine at a restricted rate permitting engine operation at a low idling speed, and a full fuel supply position in which it conditions said fuel supply means to supply fuel to said engine sufficient to permit engine operation under maximum speed and load conditions, a first spring means biasing said control member toward its full fuel supply position, means responsive to the rate of operation of the engine and operably connected to said control member to move said member in a fuel decreasing direction in opposition to said first spring means to establish and maintain minimum and maximum engine speed limits, a first lever means connected to and operable to move said control member between said minimum and full fuel supply positions, a second lever means engageable with and operable to carry said first lever means in a decreasing fuel direction, a second spring means interposed between said first and second lever means and

tending to bias said first lever means into engagement with said second lever means whereby said first lever means tends to follow movement of said second lever means in an increasing fuel direction, means responsive to the speed of said output shaft and connected to and operable to move said second lever means in accordance with the speed of said output shaft to control movement of said control member between a position intermediate its minimum and full fuel supply positions wherein the fuel supply means is conditioned to supply fuel to said engine at a rate in excess of that permitting engine idle speed operation and its full fuel supply position, said output shaft speed responsive means including a control element movable through an operating zone to vary the speed responsive setting of said output shaft speed responsive means whereby the operative position of said second lever means is controlled in accordance with variations in the speed of said output shaft from said speed setting as determined by the position of said control element in said operating zone, a third lever means engageable with said first lever means to carry said first lever means in a decreasing fuel direction independently of the operative position of said second lever means and operable through said first lever means to carry said control member from said intermediate position to its minimum fuel supply control position, a third spring means normally biasing said third lever means to carry said first lever means toward its minimum fuel control position, independent manually operable means for selectively actuating said control element and said third lever means to control the desired output shaft operating characteristic, and a fourth lever means operable to carry said fuel control member to its fuel off position independently of the operative position of said second and third lever means.

2,968,194
REMOTE CONTROL FOR MULTIPLE SPEED TRANSMISSION

Lindsay L. A. Thompson, Detroit, and Gordon R. Jewell, Plymouth, Mich., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Filed May 22, 1957, Ser. No. 660,952
7 Claims. (Cl. 74—473)

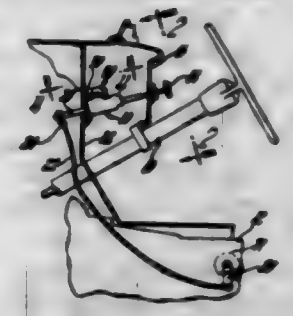


1. In a remote control for a multiple speed, power transmission mechanism comprising a manually operable selector wheel, means for mounting said wheel for rotation about its geometric axis, said transmission mechanism including a manually operable range selector control element, means for accommodating a limited shifting movement of said wheel in the direction of its geometric axis from one plane of rotation to another, a gate mechanism including a first portion connected to said wheel and a second portion cooperating with said first portion to inhibit rotary movement of said wheel outside certain limiting angular positions during rotation thereof in said one plane of rotation and for inhibiting rotation of said wheel outside certain other limiting positions durng rotation thereof in said other plane of rotation, and motion transmitting means interconnecting said wheel and said control element for translating the rotary motion of said wheel into movement of said control element.

2,968,195
CONTROL MECHANISM

William C. Edgley, Davison, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Apr. 2, 1959, Ser. No. 803,672
10 Claims. (Cl. 74—473)



1. In a control mechanism, the combination of a selector element arranged both for rotary and longitudinally shiftable movements to a plurality of settings, an output, and means for transferring the movements of the selector element to the output, the movements transferring means including means for restricting the selector element to rotary movement when revolved and to shiftable movement when shifted longitudinally so as to cause the output to be always revolved during the longitudinally shiftable and rotary movements of the selector element to positions corresponding to the plurality of selector element settings.

2,968,196
FLUSH PANEL CONSTRUCTION

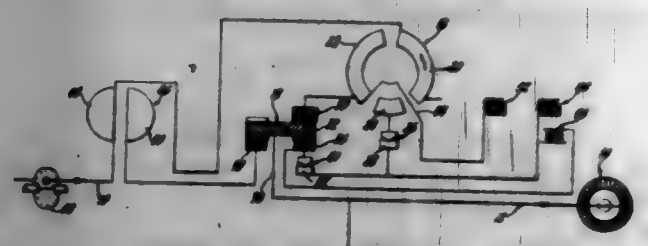
Julius Young, 19328 Birwood, Detroit, and Benjamin W. Colman, Berkley, Mich. (8616 Nadine Ave., Huntington Woods, Mich.)

Original application Nov. 10, 1954, Ser. No. 468,044, now Patent No. 2,841,031, dated July 1, 1958. Divided and this application Apr. 17, 1958, Ser. No. 753,388
1 Claim. (Cl. 74—594)



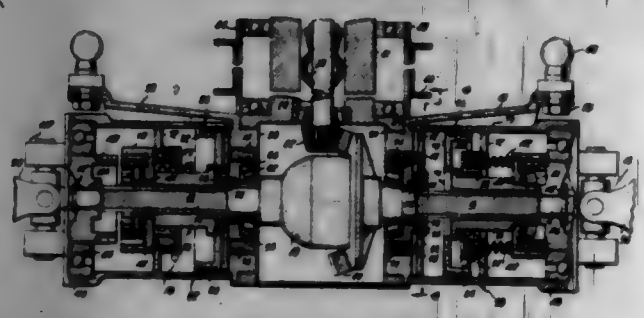
In a device having manually or digitally operated controls, an outer panel having an opening, an operating control knob mounted for rotative movement on a shaft and having its digital end terminating in said opening in the plane of said outer panel and having a flange at its proximal end associatedly conjoined thereto, a protecting and finishing panel movably mounted in said opening around said digital end and shiftable inwardly to permit manual manipulation of said control knob, said protecting and finishing panel being provided with an aperture therethrough conforming to the peripheral configuration of said knob, and resilient means bearing at one end on said knob flange and at its opposite end bearing on said protecting panel and urging said protecting panel toward flush alignment with said outer panel.

2,968,197
TRANSMISSION
John Z. De Lorean, Birmingham, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Mar. 14, 1958, Ser. No. 721,455
13 Claims. (Cl. 74—688)



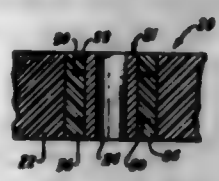
1. In a transmission, the combination of an input, an output, a first hydrodynamic torque transmitting mechanism adapted to be connected to the input, planetary gearing including a driving element revolvable by the first torque transmitting mechanism, a driven element revolvable with the output, and a reaction element, forward brake means for holding the reaction element so as to condition the gearing for low speed forward drive, a second hydrodynamic torque transmitting mechanism interposed between the input and one of the planetary gearing elements and arranged, when filled with fluid, to cause the gearing to be conditioned for a relatively high speed forward drive with both of the torque transmitting mechanisms supplying drive thereto, the second hydrodynamic torque transmitting device also being arranged to brake the impact so as to afford overrun braking, a one-way device between the forward brake means and the reaction element adapted to allow free forward rotation thereof when the second torque transmitting mechanism is filled, and reverse brake means cooperating with the first torque transmitting mechanism to hold the driving element stationary and thereby cause the reaction element to be revolved backwards for reverse drive with the forward brake means released and the second torque transmitting mechanism empty.

2,968,198
FRONT WHEEL DRIVE AND STEERING UNIT
Clifford M. Marsh, 15 Leeckerman Ave., Poughkeepsie, N.Y.
Filed June 26, 1958, Ser. No. 744,738
12 Claims. (Cl. 74—710.5)



1. In a drive axle assembly having axle housing means, differential gear drive means carried by said housing means, at least two differentially driven output shafts extending from said gear driven means, traction means on opposite sides of said gear drive means comprising a driven axle shaft and a ground engaging wheel mounted on said driven axle shaft for rotation therewith, means operatively connecting said output shafts with respective ones of said traction means, said connecting means comprises motor driven means mounted on each of said output shafts free for axial movement with respect thereto and having an associated braking face and an associated clutching face opposite said braking face, at least two brake members non-rotatably mounted in said housing means on each side of said gear drive means for operative engagement with respective ones of said associated braking faces, a clutch member drive connected to each of said driven axles for operative engagement with respective ones of said associated clutching faces and motor drive means for axially moving said motor driven means in a predetermined direction; and means for controlling the torque divided between said shafts and simultaneously disengaging a selected one of said traction means from its associated one of said shafts to provide for free rotation thereof.

2,968,199
MOUNTING OF DRILL JIG BUSHINGS
Warner T. Bracken, Glenview, Ill., assignor to Acme Industrial Company, Chicago, Ill., a corporation of Illinois
Filed July 1, 1958, Ser. No. 745,928
3 Claims. (Cl. 77—62)



1. In the method of firmly mounting an annular, hard steel, drill bushing in a jig of soft material by embedding the tops, sides and bottoms of radial projections from the bushing in the sides of a hole formed in the jig, the step of press fitting an annular retainer made of easily worked material and having a plurality of radially extending arms about the periphery of a standard cylindrical drill bushing so as to form a bushing having radial projections.

2,968,200
SMALL-SIZED DRILL AND METHOD FOR PRODUCING SAME
Henri Latour, Geneva, Switzerland, assignor to Marie-Louise Klein, Geneva, Switzerland
Filed Oct. 2, 1957, Ser. No. 687,652
Claims priority, application Switzerland Oct. 4, 1956
2 Claims. (Cl. 77—67)

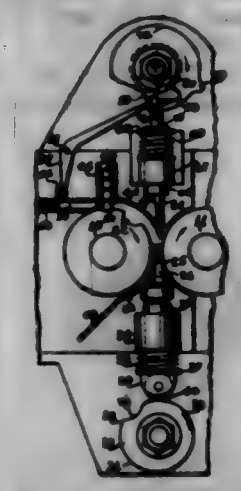


1. A small boring tool adapted to be fitted over the end of a machine-tool spindle, comprising a body of revolution of synthetic plastic material, the rear end of which matches said end of the machine-tool spindle, said body being provided with an inner recess forming a small chamber near its front end, and a short wire element, the length of which is a small multiple of the diameter of said body of revolution, embedded inside said body of revolution coaxially therewith, extending through the chamber formed in the latter and projecting axially by a small extent beyond the front end of said body.

2,968,201
TWO ROLL, CYLINDRICAL DIE MACHINE FOR THREAD ROLLING
Arthur Bradford Reed and George W. Lyman, Holden, Mass., assignors to Reed Rolled Thread Die Company, Holden, Mass., a corporation of Massachusetts
Filed Mar. 31, 1954, Ser. No. 420,068
6 Claims. (Cl. 80—6)

1. A thread rolling machine comprising two rotatable die rolls having matched threads for rolling a work piece therebetween, means for mounting the rolls on fixed axes in peripheral opposition during the rolling operation, a

work rest for removably supporting the work in the thread rolling zone, driving mechanism for rotating the rolls in synchronism and continuously in the same peripheral direction and rolling the work thread, one roll only being peripherally recessed and providing a feeding notch station shaped and arranged for receiving a work piece and transporting it to the rest and a discharge notch station closely in advance of the other for subsequently receiving the finished work and removing it from the rolling zone, the other roll having a substantially uninterrupted periphery provided with work rolling threads,



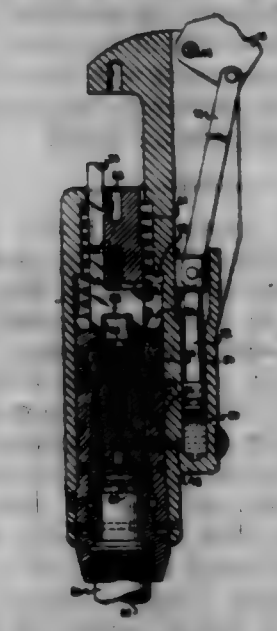
means operating in timed relation with said rolls which provides for the delivery of work pieces in sequence to the work receiving notch station when the receiving notch is positioned therefor, said work feeding and work discharging stations being in an axially parallel closely juxtaposed arrangement but separated sufficiently to insure discharge of a work piece from the rest immediately prior to a new piece being fed thereto, the remainder and major portion of the recessed roll periphery having a work rolling thread thereon and means for moving the work rest away from its initial work supporting position in a timed relation with the die roll rotation.

2,968,202

HYDRAULIC CRIMPING TOOL FOR CRIMPING T-TAP CONNECTORS

William R. Evans, Hershey, and Herbert C. Stoltz, Palmyra, Pa., assignors to AMP Incorporated, Harrisburg, Pa.

Filed Apr. 11, 1958, Ser. No. 727,910
2 Claims. (Cl. 81—15)



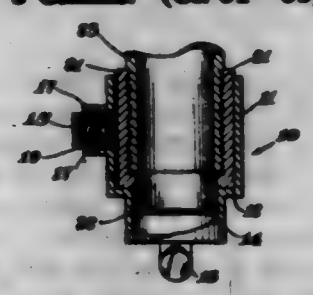
1. A hand tool for crimping electrical connectors including a body member having a head on one end thereof, a fixed die located in said head, a pair of movable dies slidable in said body member, hydraulic means for actuating said movable dies, said hydraulic means including a reservoir containing operating fluid, means for actuating said fluid, a first chamber including a first piston and cylinder means for operating said dies simultaneously, a second chamber including a second piston and cylinder means for operating one of said dies only, and valve means operable from a closed position wherein it prevents flow of fluid from said first chamber to said second chamber to a second position wherein it permits flow of fluid from said first chamber to said second chamber, said valve means including a valve seat in said first piston, a valve body urged toward said valve seat and slidable in said tool body, and means for limiting travel of said valve body, whereby after the first piston has moved a distance equal to the length of travel of the valve body, further movement of the first piston opens the valve seat to permit fluid to flow into said second chamber.

2,968,203

SPINNERETTE WRENCH

Joseph C. Crafford, Newport News, Va., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed June 12, 1959, Ser. No. 819,869
6 Claims. (Cl. 81—53)



1. A spinnerette wrench comprising a hollow cylinder having an internal shoulder toward one end, means for turning said cylinder; the cylinder wall defining at least one opening; pivot supports appended to said cylinder adjacent to said opening affixed radially and outwardly extending therefrom, said supports being so constructed and arranged as to provide a pivot axis substantially parallel to the axis of said cylinder; and a pivoted cam supported by said pivot supports, said cam being substantially smaller in diameter than the internal diameter of said cylinder and said cam being adapted to pivotally move in and out of the space encompassed by the inner surface of said cylinder.

2,968,284

ELECTROMAGNETIC PICKUP FOR LUTE-TYPE MUSICAL INSTRUMENT

Clarence L. Fender, 2212 E. Revere, Fullerton, Calif.

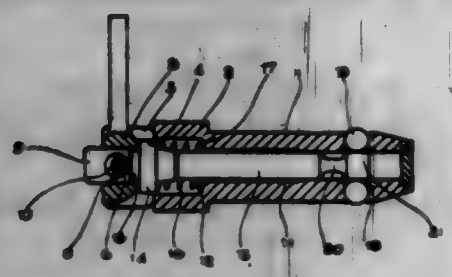
Filed Aug. 13, 1957, Ser. No. 677,896
12 Claims. (Cl. 84—1.16)



1. An electrical musical instrument of the string type, including a plurality of electromagnetic type pick-ups

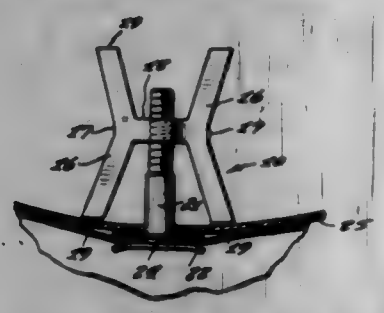
operatively associated with the strings of said instrument, said pick-ups lying in a plane spaced from the common plane of said strings, each of said strings being disposed in a plane extending through a space between two adjacent ones of said pick-ups.

2,968,205
BALL DETENT FASTENER WITH CAM LEVER ACTUATING MEANS
Maurice Stanley Springate, Oaklands, England, assignor to Aviation Developments Limited, Welwyn Garden City, Herts, England
Filed Mar. 2, 1953, Ser. No. 339,534
Claims priority, application Great Britain Mar. 3, 1952
6 Claims. (Cl. 85—5)



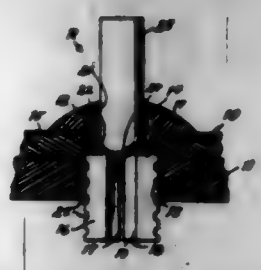
1. A quick-release fastener comprising a headed tube carrying radially movable locking members near one end thereof, a locking plunger mounted within said tube and being operable to move said locking members into and out of a locking position, a spring urging said plunger into the locking position, a cam pivotally mounted on the head of said tube and engaging the end of said plunger, said cam being manually operable from a first position in which said plunger is in locking position to a second position in which said plunger is operated by said cam into unlocking position, said cam being provided with a bore in the camming surface thereof to receive the end of said plunger when said cam is in said first position, whereby said plunger locks said cam against movement to said second position, and a manually operable push-button slidably mounted in said bore and engaging the end of said plunger for pushing said plunger out of said bore.

2,968,206
INNER TUBE VALVE HOLDER
Bunnosuke Omote, Los Angeles, Calif.
(150 Orange Blossom Ave., La Puente, Calif.)
Filed July 23, 1957, Ser. No. 673,713
1 Claim. (Cl. 85—32)



An inner tube valve positioning tool comprising, in combination, a substantially rigid cylindrical main base member having a central longitudinal and internally threaded bore extending axially longitudinally therethrough, a pair of generally V-shaped members each integral with diametrically opposite sides of said cylindrical main base member, each said V-shaped member being symmetrically arranged with respect to said rigid base member and with the other one of said V-shaped members, each one of said V-shaped members including a pair of inwardly converging arms defining a central apex portion at said diametrically opposite sides of said cylindrical main base member, the apex portion of each one of said members being connected to said main base member in facing engagement with each other, the outer free ends of each pair of arms defining plane surfaces lying in parallel spaced apart planes, and said plane surfaces of said arms being parallel to said main base member and perpendicular to the axis of the bore in said main base member.

2,968,207
BLIND RIVET WHICH PERMITS COLD FLOW OF SHANK MATERIAL
Howard A. Flogaus, 14 Possum Hollow Road, Wallingford, Pa.
Filed Nov. 25, 1957, Ser. No. 698,731
2 Claims. (Cl. 85—40)

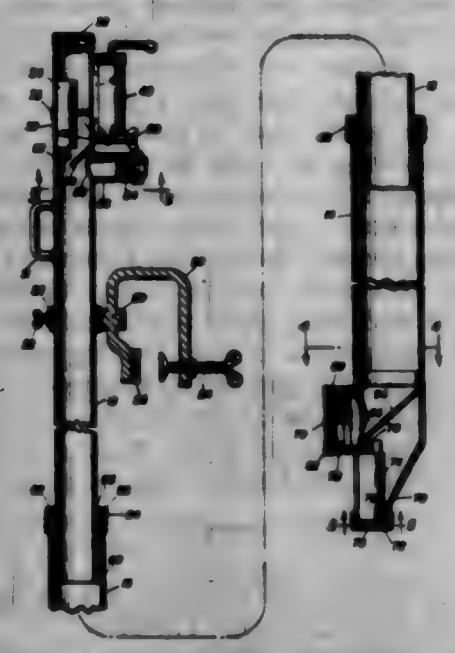


1. The combination including a plurality of plates having openings therethrough, and a blind rivet comprising a head, a shank having a substantially cylindrical outer surface of a diameter slightly less than said openings and of a length greater than the combined thickness of said plates extending integrally from said head for insertion through said openings, said shank being split by cross slits extending inward from the free end of said shank terminating short of and adjacent to said head by an amount less than the thickness of the topmost plate for location of the slit termini within the plates to be riveted, said shank being formed with a cylindrical recess of uniform diameter extending longitudinally inward from the free shank end and terminating approximate to the termini of said slits, there being a cylindrical counterbore in said head in alignment with and extending to the terminus of said recess, said counterbore being of greater diameter than said recess to define at the juncture thereof an internal shoulder facing generally outward through said counterbore, and a cylindrical insert pin fitting in said counterbore having an inner end adjacent to and formed to originally engage said shoulder and having an outer end protruding beyond said head, whereby an inward driving force on said pin deforms the shoulder and causes the metal to coldflow outwardly of the shank to expand the same into binding engagement with the surface of each of the plate openings and outwardly bend the portion of the shank which extends beyond the plates.

2,968,208
UNDERWATER VIEWING DEVICE
John O. Shaw, 1017 W. Broadway, Elk City, Okla.
Filed Apr. 29, 1959, Ser. No. 809,778
4 Claims. (Cl. 88—1)

1. A viewing device for viewing areas beneath the surface of a body of water, said viewing device comprising a plurality of hollow extensibly connected tubes, seals at the connections between said tubes for excluding water from the hollow tubes and also for generating friction between tubes so that when the tubes are extended or retracted they are maintained in selected positions by the force of friction between tubes, an optical system in said tubes and including an ocular carried by the upper tube together with a lens carried by a lower tube, light reflective surface members in said tubes and opposing said ocular and said lens respectively and oriented to direct the line of vision from the ocular through said tubes and said lens, a first source of illumination in said upper tube

and arranged to direct light rays through said lens after reflection from one of said members, a manually operated pump secured directly to one of said tubes in order to inflate said hollow tubes with air under pressure and thereby extend said hollow tubes, said upper tube having a port connected therewith, an outlet valve operatively



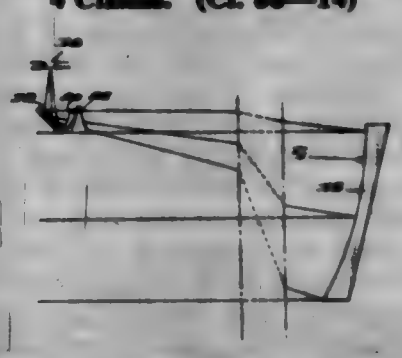
connected with said port through which air from within the tubes may be discharged, said lower tube having an opening, a second source of illumination in said lower tube, and a closure detachably connected with the opening in covering relationship thereto so that said closure may be removed for access to said second source of illumination.

2,968,209

ARRANGEMENT IN OPTICAL MEASURING APPARATUS FOR WIND TUNNELS

Evert Anlin, Lidingo, Sweden, assignor to Svenska Aktiebolaget Gasaccumulator, Lidingo, Sweden, a corporation of Sweden

Filed Aug. 24, 1956, Ser. No. 606,036
Claims priority, application Sweden July 20, 1956
4 Claims. (Cl. 88—14)



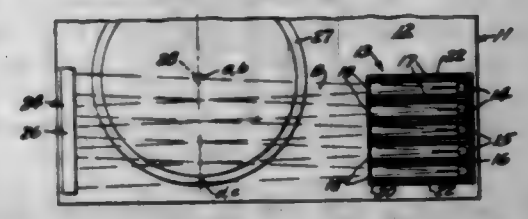
1. An optical system for studying the air flow pattern in a wind tunnel having first and second opposing windows in two sides thereof, comprising first means mounted outside the first window for producing a beam of light extending through and in a path substantially perpendicular to the planes of the first and second windows and including a light source mounted to one side of the path for the beam and a first spherical mirror mounted to collimate light rays from the source into the beam, second means mounted outside the second window for studying the beam of light and including an observation point disposed to one side of the path for the beam and a second spherical mirror mounted to receive the beam and concentrate the rays thereof on the observation point, means mounted within at least one of the first and second means and for correcting for spherical aberration caused by the spherical mirror within said one means to a predetermined value of error, said correcting means comprising a positive lens and a negative lens, both said lenses being so cooperatively arranged transverse the rays that axial and lateral spherical aberration are, respectively and conjointly, corrected for to said predetermined value of error.

2,968,210

ELECTRO-OPTICAL APPARATUS FOR MEASURING VOLUMES OF SOLIDS

Joseph R. Perrozzi, Minneapolis, and Jack N. Krueger, St. Paul, Minn., assignors to The Pillsbury Company, a corporation of Delaware

Filed Aug. 8, 1957, Ser. No. 677,855
4 Claims. (Cl. 88—14)



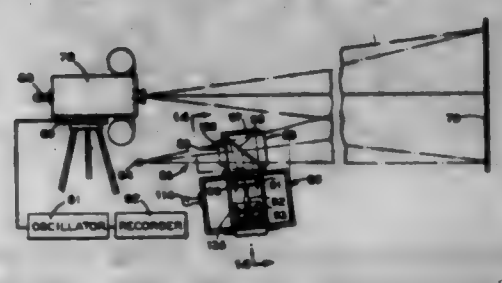
1. Apparatus for determining the relative value of volume of a geometric solid such as a cake, comprising a supporting structure, a rotary table on the supporting structure for supporting and rotating the geometric solid and having a rotation axis extending upwardly through the table, means rotating the table, a stationary source of directional light on the structure at one side of the table and a stationary photocell means on the structure at the other side of the table and in alignment with the source of directional light, said source of directional light including means producing a plurality of uniformly sized and narrow beams of light each diverging slightly from the source, the centers of the beams being substantially parallel and each beam intersecting with adjacent beams in a stationary plane of continuous and uniform intensity light lying normal to the beams and extending along said axis and radially outwardly therefrom and also extending upwardly from the table to permit positioning of the geometric solid such that the side and top surfaces thereof intersect the plane and cause a silhouette to be formed on the photocell means, circuit means connected with said photocell means and producing signals which vary with the quantity of light impinging upon said photocell means and said circuit means including means integrating said signals as the support table is revolved whereby to produce an indicium of the relative value of volume of the geometric solid.

2,968,211

IMAGE REPRODUCTION AND CONTROL

Newhall Douglas, 517 Sherwood Road, Hoboken, N.J.

Original application Aug. 1, 1951, Ser. No. 239,728, now Patent No. 2,822,720, dated Feb. 11, 1958. Divided and this application July 3, 1957, Ser. No. 669,885
7 Claims. (Cl. 88—16)



1. The method of determining the movement followed by a motion picture camera during the taking of a relatively stationary object on a film, which comprises, projecting said film by a movable projector as a succession of motion picture images on a screen, moving

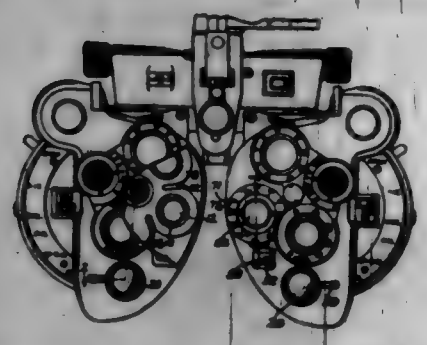
said projector so as to cause said stationary object to appear to be stationary in the projected images, and recording the movements of said projector.

2,968,212
PHOTOCHROMATIC ASTIGMATIC SLIDE
Joseph A. Marasa, San Diego, Calif.
(664 Manchester Terrace, Inglewood, Calif.)
Filed Aug. 12, 1957, Ser. No. 677,666
2 Claims. (Cl. 88—24)



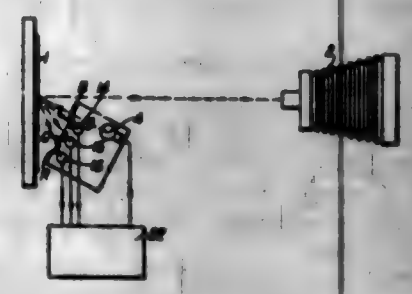
1. An apparatus for use in determining the axis of astigmatism of a viewer comprising a body member having a front face of a uniform color constituting a background and having a straight solid line superimposed thereon and composed of alternate sections of uniform size and of two different colors, the colored sections constituting said line being complementary to one another, and means mounting said body for rotation about a center point thereof whereby the colors of which said line is composed will appear as a single solid color different from the color of either of the sections of the line when said line is in alignment with the axis of astigmatism of the viewer, said body having a second solid line superimposed on the background thereof at an angle to the first mentioned line, said second line being composed of sections of uniform sizes and of alternate colors different from one another and at least one of which is different from the colors of the sections of the first mentioned line, and which colored sections of the second line are capable of appearing to a viewer having a color distinguishing deficiency as a solid colored line of a color different from either of the colors of the sections of said lines when said second line is in alignment with the axis of astigmatism of the viewer.

2,968,213
REFRACTOR HAVING CYLINDRICAL LENS CARRIERS AND DRIVE MEANS
John R. Wright, Eggertsville, and George F. Schenk, Buffalo, N.Y., assignors to American Optical Company, Southbridge, Mass., a voluntary association of Massachusetts
Filed July 1, 1957, Ser. No. 669,873
1 Claim. (Cl. 88—22)



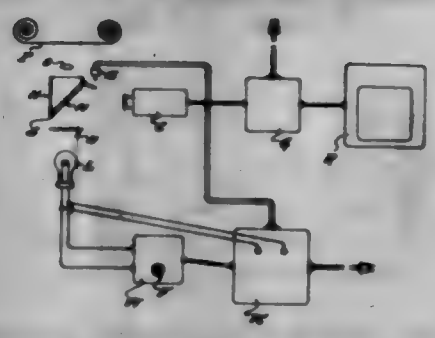
The combination in an eye testing instrument of a housing, superimposed carriers for cylindrical lenses mounted in said housing for rotation about a common axis, a plurality of lens cells rotatably mounted in each of said carriers, said lens cells having rim portions formed as gears, a gear rotatable about the common axis of said carriers and meshing with said rim portions of the cells mounted in said superimposed carriers, means for driving said last mentioned gear to adjust simultaneously the axes of the cylindrical lenses on said superimposed carriers, each of said carriers having a radial slot between each pair of adjacent rotatable lens cells, and a driver mounted in said housing for rotation about an axis parallel to and offset from said first axis, a locking plate secured to said driver for rotation therewith, said driver and locking plate being in overlapping relation with said superimposed carriers and on opposite sides thereof, said driver having a long pin and a plurality of relatively short pins, the radial slots in the carrier next adjacent said driver receiving said pins in succession to provide a driving connection for continuously advancing said carrier, the radial slots in the more remote carrier receiving only said long pin and having fixed thereto a star wheel cooperating with said locking plate, whereby arcuate movement of said long pin intermittently advances said carrier and engagement of said locking plate with said star wheel locks said carrier in position between such intermittent advances, said driver having arcuately spaced notches and spring biased detent means on the housing engageable within the notches for indexing the driver.

2,968,214
MODIFICATION OF THE LIGHT RESPONSE FROM A COLOURED ORIGINAL
Arthur Roy Kilminster, Birmingham, England, assignor to Hunter-Penrose Limited, London, England, a British company
Filed Nov. 4, 1955, Ser. No. 545,100
Claims priority, application Great Britain Nov. 18, 1954
14 Claims. (Cl. 88—24)



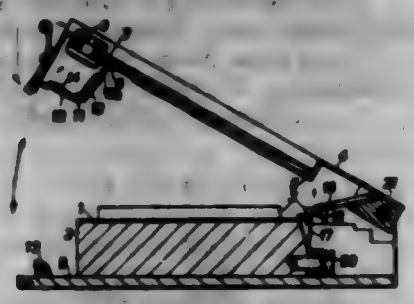
14. Apparatus for the preparation of a colour separation photographic negative for use in photo-mechanical reproduction processes, comprising a scanning means including a projection lens arranged to direct an intensity corrected spot of substantially white light onto an original, means to move the lens relative to the original to effect sequential scanning of the original, an auxiliary lens movable with the projection lens and disposed to direct a pilot scanning spot of light onto the original slightly in advance of said intensity corrected scanning spot, three photo-electric devices respectively having associated therewith a blue, a green, and a red filter, and which are responsive to light transmitted by the original from the pilot scanning spot to produce electrical primary colour signals representative of the primary colour components of light transmitted from the original, and control means connecting the photo-electric devices to the scanning means, said control means including a colour analysing device arranged to eliminate from said primary colour signal components representative of tones of grey in the original and to produce process colour signals from components of said primary colour signals representative only of the spectral colours of the original, and correction means operable under control of one of said process colour signals from which the components representative of gray tones have been eliminated and of said primary colour signals to produce a modulating signal for application to the scanning means to modulate the intensity of the intensity corrected scanning spot.

2,968,215
ELECTRONIC VIDEO EXPOSURE CONTROL SYSTEM FOR PHOTOGRAPHIC PRINTER
Albert Goodman, 1121 Liberty Ave., Union, N.J.
Filed Aug. 7, 1957, Ser. No. 676,863
8 Claims. (Cl. 88—24)



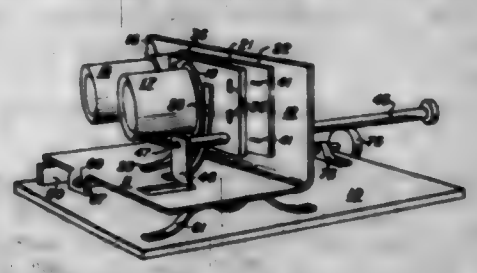
1. In an exposure control system for a photographic printer having an electric lamp for projecting printing light through a negative to photographic paper, a video densitometer comprising a television camera, a camera control-sync generator and a television receiver, said camera, generator and receiver being in closed circuit connection, a shutter having an open position and a closed position, said shutter being operative in the closed position to intercept light of the lamp transmitted through the negative and including means to reflect the intercepted light to the video densitometer for display of a corresponding entire positive image on the screen of the television receiver, a viewing light circuit including the lamp and a variable transformer manipulatable to vary the intensity of the lamp projected light, whereby to obtain a positive image display on the television receiver screen of selected tone and density, said shutter in the open position permitting light from the electric lamp which passes through the negative to pass on to the photographic paper, a printing light circuit that parallels the viewing light circuit, whereby to activate the lamp for projection of printing light at maximum brilliance, a switch means adapted to be actuated by the shutter, when said shutter is in open position, to open the viewing light circuit and close the printing light circuit, and means cooperative with said printing light circuit to predetermine duration of printing light projection in accordance with selected adjustment of the variable transformer of said viewing light circuit, whereby to produce a positive print from the negative corresponding in tone and density to the positive image obtained on the television screen of the video densitometer.

2,968,216
MASKING FRAME
Hans Westendorp, Opladen, Germany, assignor to Agfa Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
Filed Sept. 18, 1957, Ser. No. 684,787
Claims priority, application Germany Sept. 29, 1956
8 Claims. (Cl. 88—24)



1. A masking device comprising means defining a paper supporting surface, a masking frame movable in and out of masking contact with a paper supported on said surface, paper guide means positioned for guiding abutment with two adjacent edges of a paper positioned on said paper supporting surface, said masking frame having two adjacent fixed masking sides positioned to overlap the edges of a paper abutting said guide means a predetermined distance when said masking frame is in masking engagement, the two other adjacent sides of said masking frame defining masking edges movable toward and away from the opposing masking sides, stop means connected to each of said masking edges at a predetermined distance from the inner terminal edge thereof for engagement with the edges of a paper maintained on said support surface when said frame is in masking engagement and means for resiliently forcing said edges and stops toward the opposite sides of said frame when said mask is moved into masking engagement and when said stops are in position for engagement with the edges of a paper on said surface, whereby when said masking frame is moved to said masking engagement position with a piece of paper on said surface, said stop means engage the edges of said paper forcing the same in abutment with said guide means automatically correctly positioning said paper and said masking frame with respect to each other.

2,968,217
LENS ADJUSTING MEANS FOR STEREO PROJECTORS
William P. Ewald, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Apr. 9, 1957, Ser. No. 651,668
1 Claim. (Cl. 88—26)

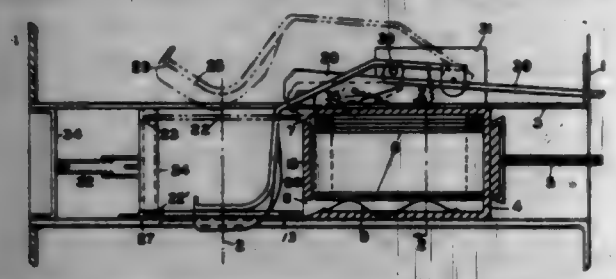


Lens adjusting means for a stereo projector comprising a pair of substantially parallel lenses with their axes horizontal, a vertical plate support for both lenses orthogonal to said axes, means attaching one of the lenses rigidly to said plate support, a first movable plate and a second movable plate both parallel to said plate support coupling the other lens to said plate support, means for attaching said other lens rigidly to said first plate, means for constraining the first movable plate to move only in one azimuth relative to the second movable plate, means for constraining the second movable plate to move relative to said plate support only in an azimuth approximately at right angles to first azimuth, said constraining means consisting of ball bearings between the two plates and between the second plate and said plate support, each ball engaging a round hole in one plate and a linear slot in the adjacent plate, a toggle rod extending through large apertures in the second movable plate and the plate support and through a closely fitting aperture in the first movable plate, and means rigidly attached to said plate support for universally pivotally supporting said toggle rod at a distance from the first movable plate.

2,968,218
SLIDE BOX MAGAZINE MEANS
Henry J. Walter, Bethpage, N.Y., assignor to Viewlex, Inc., Long Island City, N.Y., a corporation of New York
Filed Jan. 31, 1958, Ser. No. 710,278
1 Claim. (Cl. 88—28)

In a slide device having a work axis and a track perpendicular to said axis to accommodate a sliding magazine box: a magazine box on said track, the side of said

box adjacent said work axis having input and output slots for slides adjacent the rear and front sides respectively of said box, said box having interior walls shaped and adapted to contain a plurality of slides parallel to and in angled position relative the direction of travel of said box, said angled position of said slides being an upward tilt of the lower corners of said slides adjacent said work axis, an off center slot in the front side of said box parallel to said track, pawl means in said device adapted to enter said off center slot to remove a slide from said box as said box is moved away from said work axis, said off center pawl means and said interior walls rotating from



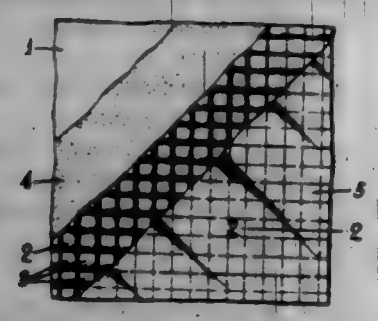
said tilted position said slide being removed from said box as said box is pulled out, pusher means rotatably mounted in said device to position said slide in work position, said box being adapted to pick up said slide on its next inward travel, and means to prevent interference between said slides, including means to impart rotational movement to said slide being moved relative said stack, said last means including cam means in said device to rotate said slide being inserted in said box, the interior walls of said box being adapted to cooperate with said cam to rotate said incoming slide as said box is pushed in.

2,968,219

MOTION PICTURE PROJECTION SCREEN OF THE FRONT PROJECTION TYPE

Samuel N. Saila, 447 Richmond Ave., Buffalo 22, N.Y.

Filed Oct. 14, 1957, Ser. No. 690,884
3 Claims. (Cl. 88—28.9)



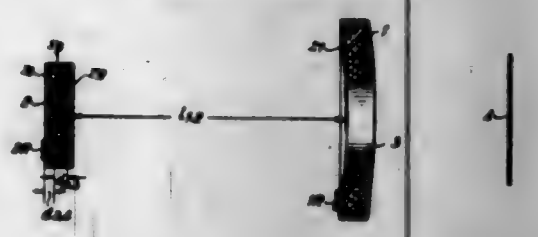
1. A motion picture projection screen of the front projection type, comprising in combination: a base of grainless wood board composed entirely of wood fibers thoroughly felted and compactly compressed into board form, the base being rust-proof and warp resistant, an element composed of stainless steel foil having a thickness of the order of .002 to .004 inch, coextensive in area with the base, having a specular exposed face and embossed throughout its area with a pattern of relatively minute lenticles, a layer of cement between and in contact with the base and the metal foil and which rigidly bonds the metal foil to the base in a laminated structure, and a thin film-like coating of an acrylic resin applied to the specular face of the stainless steel foil, the acrylic resin throughout its extent carrying in suspension minute inert particles of white opaque pigment which act upon the direct and reflected rays of light in the substantial manner of reflecting prisms, thereby to cause the light rays from the source to travel through various paths to the specular face of the stainless steel foil and to direct the rays reflected by such specular face through like paths into the viewing area.

2,968,220

CASSEGRAIN MIRROR LENS OBJECTIVE

Kurt Steglich, Berlin-Spandau, Germany, assignor to Askania-Werke A.G., Berlin-Friedenau, Germany, a corporation of Germany

Filed Mar. 28, 1958, Ser. No. 724,640
Claims priority, application Germany Apr. 11, 1957
1 Claim. (Cl. 88—57)



A telescope objective substantially consisting of a primary plain mirror and a secondary cemented lens mirror; the primary mirror having a central aperture surrounded by a spherically ground reflector surface which forms a plain first surface mirror; the secondary mirror having first and second, spherically ground lens elements which jointly provide negative focal power adapted to transmit an image formed by the primary mirror through the central aperture, said lens elements being cemented together and being mirrorized at that surface thereof which is most remote from the primary mirror; the objective having the following numerical data:

[F=1:8 f=1.00]

Glass			Radius	Thickness or Separation
N_e	V_e	V_x'		
mirrorized			r_1=−1.016	$l_{1,2}$=.267
1.5319	51.64	.5411	r_2=− .837	$d_{2,3}$=.015
1.5131	60.23	.5432	r_3=− .108	$d_{3,4}$=.010
mirrorized			r_4=+2.444	

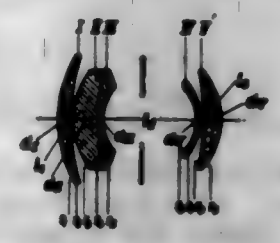
wherein F is the relative aperture, f is the focal length of the objective, N_e is the refraction index, V_e is the dispersion number, V_x' is the relative partial dispersion r_1, r_2, r_3 and r_4 are the radii of curvature, respectively, of said surface of the primary mirror, front surface of first lens element, common surface of first and second lens element and back surface of second lens element and $l_{1,2}$, $d_{2,3}$, and $d_{3,4}$ are the axial distances between the surfaces having respectively, radii r_1 and r_2, radii r_2 and r_3 and radii r_3 and r_4, each radius being designated as positive when being convex to the light incident thereon and as negative when concave thereto, and the concave surface of radius r_1 facing the concave surfaces of radii r_2 and r_3.

2,968,221

PHOTOGRAPHIC FIVE-ELEMENT LENSES OF THE MODIFIED GAUSS TYPE

Harry Zollner, Jena, Germany, assignor to VEB Carl Zeiss Jena, Jena, Germany

Filed Mar. 17, 1959, Ser. No. 800,055
2 Claims. (Cl. 88—57)



1. A photographic five-element lens having between two convergent and outwardly convex menisci and at

either side of a diaphragm a dispersive meniscus the concave surface of which is conjugate to said diaphragm, the front of said two dispersive menisci consisting of two cemented elements and the rear of said dispersive menisci consisting of a single element whose axial thickness, compared to the focal length of said lens, is smaller by 0.0265 fold and the radius of whose concave surface is smaller by 0.2 fold, the quotient

$$\left(\frac{f}{f_{\mathrm{I}} \cdot \nu_{\mathrm{I}}}\right)$$

of the objective focal length (f) and the product of the focal length (f_{I}) and the Abbe figure (ν_{I}) of said front convergent meniscus (I) being between the magnitudes 0.017 and 0.022, the sum of the respective quotients

$$\left(\frac{f}{f_{\mathrm{II}} \cdot \nu_{\mathrm{II}}} + \frac{f}{f_{\mathrm{III}} \cdot \nu_{\mathrm{III}}}\right)$$

of the said two cemented elements (II and III) being between the magnitudes −0.049 and −0.060, the sum of the respective quotients of the said two elements (IV and V) in the rear of said diaphragm being between 0 and 0.003, the radius (r_4) of the cemented surface of said pair of cemented elements (II and III) having a positive magnitude at least equal to the objective focal length (f), and the difference of the refractive indices of the front element (II) and the rear element (III) of said pair having a positive magnitude not greater than 0.1, characterized by the following magnitudes of the radii of curvature r of the surfaces, the thicknesses d, the distances apart l, the refractive indices n_d, the Abbe figures and the focal lengths of said five elements I to V referring to a focal length f=100, a ratio of aperture 1:2.8 and an image angle of 55°;

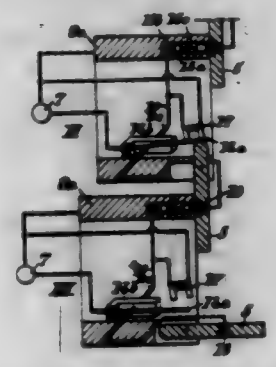
r_1=+45.8	d_{I} =5.5	$n_{d_{\mathrm{I}}}$ =1.6668	ν_{I} =33.1	f_{I} =+144.69
r_2= +88.0	l_1 = 0.12			
r_3=+ 20.6	d_{II} = 2.8	$n_{d_{\mathrm{II}}}$ =1.6935	ν_{II} =53.5	f_{II} =+ 58.32
r_4=+109.2	d_{III}= 2.1	$n_{d_{\mathrm{III}}}$=1.6889	ν_{III}=31.1	f_{III}=− 55.45
r_5=+ 19.8	l_2 =10.4			
r_6=− 18.3	d_{IV}= 2.4	$n_{d_{\mathrm{IV}}}$=1.7283	ν_{IV}=28.3	f_{IV}=−122.40
r_7=− 24.3	l_3 = 0.12			
r_8=−123.0	d_{V} = 7.8	$n_{d_{\mathrm{V}}}$ =1.6204	ν_{V} =60.3	f_{V} =+ 58.65
r_9=− 28.0				

2,968,222
ROCKETS CARRIED IN CLUSTERS BY A LAUNCHING MACHINE AND IN PARTICULAR BY AN AIRCRAFT

Claude Meier, Geneva, Switzerland, assignor to Brevets Aero-Mecaniques S.A., Geneva, Switzerland, a Swiss society

Filed Aug. 20, 1958, Ser. No. 756,160
Claims priority, application Switzerland Aug. 27, 1957
10 Claims. (Cl. 89—1.7)

1. For use in connection with a support, the combination of at least two rockets, a supporting one and a supported one, holding means carried by said support for detachably connecting said supporting rocket with said support, holding means carried by said supporting rocket for detachably connecting said supported rocket with said supporting rocket, holding means carried by said supported rocket and capable of connecting still another rocket with said supported rocket, a member movably carried by said support, a member movably carried by each of said two first mentioned rockets, each of said three members being arranged to occupy either an active position when a rocket is actually connected through the holding means corresponding to said member or a retracted position when no rocket is being connected through said last mentioned holding means, a source of electric current carried by said support, an electric igniting device carried by each of said two first mentioned rockets, each of said devices including a primer operable by electric current caused to flow therethrough, an insulated contact carried by each of said two first mentioned rockets, electrical circuit means for connecting one terminal of said source in parallel with one terminal of each of said primers, electrical circuit means for connecting the other terminal of said source in series with said insulated contact of said supporting rocket and thence with said insulated contact of said supported

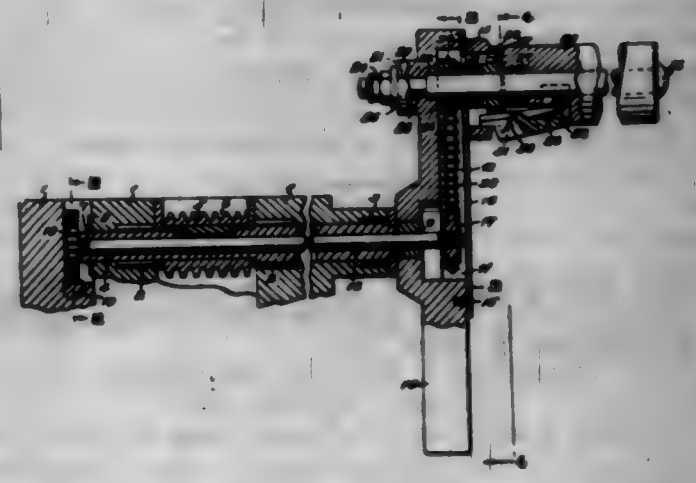


rocket, a control switch carried by said support inserted in one of said circuit means, switch means operatively connected with each of said members for holding the other terminal of the corresponding primer electrically connected with said first mentioned circuit means as long as said member is in active position and for shifting said last mentioned terminal from electric connection with said first mentioned circuit means into electric connection with said insulated contact of the corresponding rocket in response to a displacement of said member into retracted position, and means for preventing the operation of said switch means in immediate automatic response to said displacement of said corresponding member into retracted position.

2,968,223
GUN TRAINING AND TRIGGER MECHANISM

John Weibel, Jr., Dayton, Ohio, assignor, by direct and mesne assignments, to the United States of America as represented by the Secretary of the Army

Filed Dec. 1, 1959, Ser. No. 856,630
5 Claims. (Cl. 89—41)



1. The combination of a gun training and triggering mechanism comprising: a first shaft, a crank mechanism connected to said shaft, a trigger mounted on said crank mechanism, rotatable means located interiorly of said first shaft and said crank mechanism and independently movable therefrom, said crank mechanism having a handle portion, said handle portion being rotatable about its own longitudinal axis, said rotatable means engage-

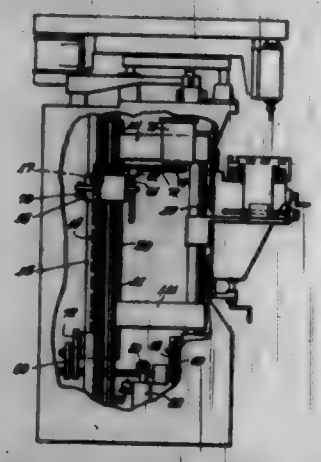
able with said trigger and operably connected thereby to said rotatable portion when said trigger is depressed for firing.

2,968,224

PROFILE-MILLING AND ENGRAVING MACHINE

Willy Bredbeck, Calmbach (Enz), Germany, assignor to Alfred Gaulhier G.m.b.H., Calmbach (Enz), Germany, a corporation of Germany

Filed Sept. 2, 1958, Ser. No. 758,457
Claims priority, application Germany Sept. 11, 1957
9 Claims. (Cl. 90—13)



1. A milling machine comprising a base; workpiece mounting means and tool mounting means carried by the base, at least one of said means being movable on the base for enabling relative shifting multi-directional movements to be had between a tool and workpiece in directions corresponding to axes of a multiple coordinate system to perform operations on the workpiece; program means for shifting said mounting means along several axes according to a predetermined work-performing plan, said program means including an elongate control cam for effecting movement along one such axis, said cam being movable laterally and being connected with said one mounting means, and said program means further including an unyielding cam actuator movable longitudinally of said cam to traverse the same in engagement therewith, thereby to effect predetermined lateral movements of the cam as determined by the contour thereof; means actuated when the cam actuator completes its traversal of the said cam, for shifting the latter to a retracted position wherein it is removed from normal engagement with said actuator; means releasably locking the cam in said retracted position; rapid-acting means for quickly returning the cam actuator to initial starting position, preparatory to a subsequent traversal of the cam; and release means rendering inoperative said locking means as the cam actuator attains the said starting position, thereby to reset the said cam for a subsequent traversal.

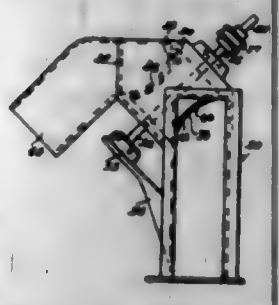
2,968,225

SHAPER

James Ernest Carter, % R. P. Langford, 610 Bassett Tower, El Paso, Tex., assignor of one-fourth to Richard P. Langford, El Paso, Tex.

Filed Aug. 1, 1957, Ser. No. 675,651
1 Claim. (Cl. 90—18)

A shaper comprising a hollow housing having an entrance end and an outlet end, said housing including a horizontally disposed bottom wall and vertically disposed side walls, a compartment arranged adjacent the upper end of said housing, said compartment being partially defined by spaced parallel wall members intersecting said housing walls, one of said wall members terminating in the uppermost horizontally disposed compartment wall portion, a bracket extending upwardly and outwardly from said housing and secured thereto, a bearing supported on said bracket, a shaft extending through said compartment and having one end engaging said bearing, a shaft extension coupled to said shaft, said shaft extension adapted to be connected to a power source, a cutter mounted on said shaft, said housing further including a flaring end portion adjacent the entrance end thereof so as to facilitate the insertion or guiding of the work into the interior of the housing; apertured lugs extending outwardly from said housing and adapted to be secured to a supporting structure, a chute extending from said compartment, a baffle arranged adjacent said chute, a plate positioned adjacent said compartment and having a plurality of slots therein for the passage therethrough of



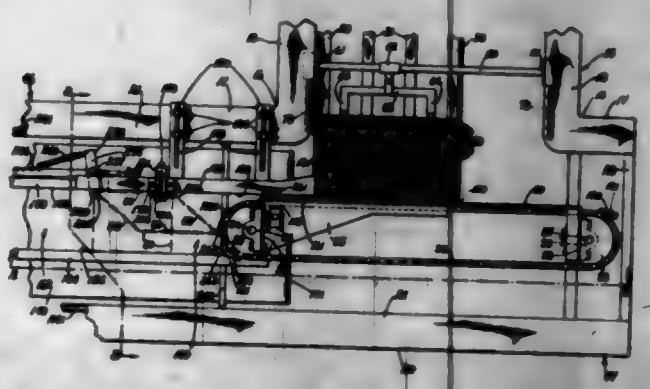
air, and a guide apron connected to the entrance end of said housing, said guide apron including a horizontally disposed portion and a vertically disposed portion, the air adapted to enter the compartment and pass around the baffle so that the air will be able to carry away the dust, shavings or the like which result from the cutting operation and whereby these shavings, dust or the like will be discharged out through the chute, the rotation of the cutter serving to create a vacuum whereby the air will be drawn or sucked inwardly through the slots so that such foreign matter will not interfere with the use of the shaper.

2,968,226

CARTON OPENING MACHINE

Edward J. Derderian, 2514 N. Wilson, Fresno, Calif.

Filed Sept. 23, 1958, Ser. No. 762,781
12 Claims. (Cl. 93—53)



1. In a machine for opening a box of foldable sheet material having opposite side and end walls interconnected in rectangular relation along fold lines defining corners of the box and having upper and lower side and end flaps respectively connected to the side and end walls but not connected to each other, the box being initially in flat condition folded along the fold lines of diagonally related corners but being unfoldable into open substantially rectangular condition; a support frame; means mounted on the frame defining an elongated substantially horizontally extended box passageway having forward and rearward end portions, a narrow vertically disposed inlet of substantially the same width as a box in folded condition adapted to receive boxes slidably therein with such diagonally related corners disposed forwardly and rearwardly in the passageway, and a wider outlet communicating with the inlet substantially equal in width to that of a box in open condition and adapted slidably to receive such an open box therein, said passageway defining means including a pair of spaced vertically aligned

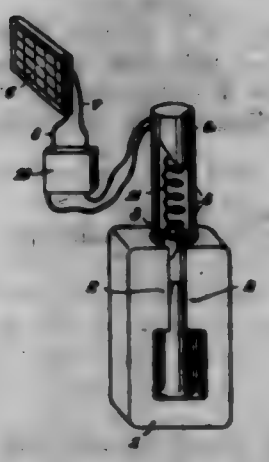
substantially horizontal side rails extended longitudinally and alongside of the passageway; spaced upper and lower substantially vertically aligned wedges supported by the frame and extended into the outlet of the passageway substantially in the plane of the inlet and respectively above and below the rails, the wedges being spaced farther apart than the height of the side and end walls of the box; a box impeding member supported by the frame for movement between a position extended into the passageway on the opposite side of the wedges from the inlet and a position retracted out of the passageway; means connected to the impeding member yieldably urging it into said extended position; box feeding means mounted in the frame for movement in a circuitous path longitudinally of the passageway through the inlet into said outlet, thence a predetermined distance longitudinally and transversely of said outlet, and return, said feeding means engaging the rearwardly disposed corner of a folded box in said inlet and sliding it into said outlet between the rails and wedges whereby the wedges slide inside of the box between the end and side flaps and into engagement with the side wall which is against the rails, said feeding means sliding the forwardly disposed corner of the box into engagement with said impeding member temporarily to impede forward movement of said forwardly disposed corner, said feeding means during its movement transversely of the passageway urging the rearwardly disposed corner toward the forwardly disposed corner of the box partially to unfold the box; and box pushing means mounted in the frame for movement from a position rearwardly of point of maximum longitudinal entry of the box feeding me ns into the outlet longitudinally forwardly in the outlet of the passageway for engaging the rearwardly disposed corner of the box in said partially unfolded condition and moving it toward said forwardly disposed corner fully to open the box and thereafter sliding the open box forwardly in the outlet past the impeding member and out of engagement with the wedges.

2,968,227

PHOTOELECTRIC EXPOSURE METER

Heinz Melle, Braunschweig, Germany, assignor to Voigtländer A.G., Braunschweig, Germany, a corporation of Germany

Filed Mar. 6, 1956, Ser. No. 569,880
Claims priority, application Germany Mar. 9, 1955
14 Claims. (Cl. 95—10)



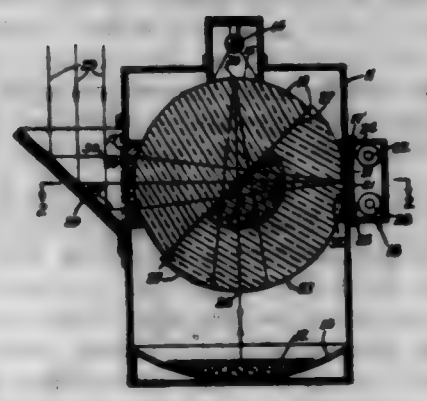
1. In a photoelectric exposure meter: a relatively elongated generally U-shape magnetic structure having poles of like polarity at the outer ends of the legs of the U and formed with facing pole faces defining part of the periphery of a tubular passage extending substantially parallel to said legs, and a relatively elongated central pole extending from the bight of the U between said pole faces and having its surface in uniformly spaced relation to said pole faces to define therewith a relatively narrow annular passage of substantially uniform width, at least that portion of the central pole longitudinally coextensive with said pole faces having a polarity opposite to that of the latter; a relatively elongated tubular coil carrier of non-magnetic material embracing said central pole and movable longitudinally thereof between said pole faces, said carrier having bearing engagement on said central pole and said central pole constituting the sole support for said carrier; said carrier having its outer portion projecting substantially beyond said central pole in said pole faces; a coil winding on said carrier; a photo cell having its output connected to said coil winding for energization of the latter for magnetic interaction with the magnetic field between said poles to displace said carrier in one direction along said central pole in accordance with the value of the photo cell output current; means biasing said carrier in the opposite direction along said central pole; whereby the position of the outer end of said carrier relative to said magnetic structure indicates the value of the light incident on said photo cell; automatic exposure condition adjusting means for a camera; and scanning elements included in said exposure condition adjusting means and movably mounted adjacent said carrier; said scanning elements being selectively engageable with the outer portion of said carrier to control said exposure condition adjusting means in accordance with the value of the instant light on said photocell.

2,968,228

ZENITH AND LEVEL RECORDING CAMERA AND LEVEL

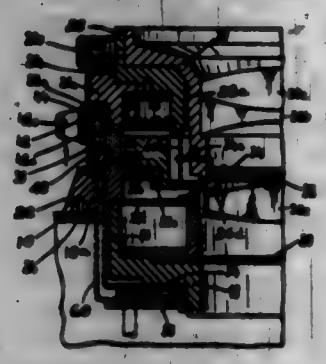
Everett L. Merritt, Falls Church, Va., assignor to Photogrammetry, Inc., Silver Spring, Md., a corporation of Delaware

Filed Dec. 2, 1955, Ser. No. 550,519
8 Claims. (Cl. 95—11)



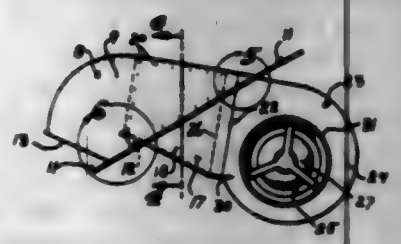
1. An optical instrument comprising a casing, a spherical lens mounted therein and having a median semi-silvered surface at a 45° angle to the lateral axial plane of the instrument and perpendicular to the vertical axial plane thereof, said casing having an aperture to admit rays to the front of the lens, said lens having an image surface centered on the optical axis at the rear side of the lens at the focus of infinite rays entering the front of the lens, the bottom of said casing having a dished portion spaced from the bottom of the lens, a quantity of liquid in said dished portion to provide a level reflecting surface, an area source of light at the top of the lens, said lens having an opaque mask on its lower surface with an axial pinhole at the bottom, whereby the ray from said source area which passes through said pinhole and is directed normally to said level reflecting surface, will be reflected thereby back through said pinhole and by said semi-silvered surface to the image surface at a deflected level on the image surface opposite to that of the image of any infinite object in the horizontal plane in response to any slight tilt of the optical axis of said instrument from horizontal, said casing having an aligned opening at the image surface.

2,968,229
PHOTOGRAPHIC CAMERA SETTING MEANS
Kurt Gebele, Munich, Germany, assignor to Compur-Werk Friedrich Deckel O.H.G., Munich, Germany, a firm of Germany
Filed Mar. 31, 1958, Ser. No. 724,945
Claims priority, application Germany Apr. 12, 1957
1 Claim. (Cl. 95—64)



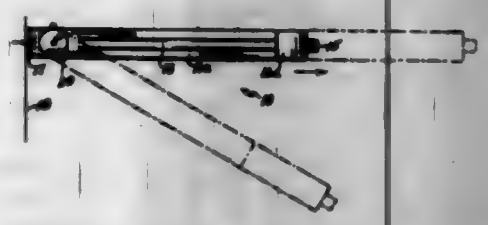
A photographic camera including a shutter assembly having an optical axis and a shutter speed setting ring and a diaphragm aperture setting ring both mounted externally on said assembly for rotation about said optical axis as a center, and disengageable coupling means for coupling one of said rings to the other for conjoint rotation, both of said rings having substantially smooth cylindrical outer surfaces, and one of said rings being of larger diameter than the other and partially overlying the forward edge thereof and being mounted for axial movement, axial movement thereof in one direction serving to disengage said coupling means so that said one of said rings may be rotated independently of the other to change an exposure value represented by the position of relative orientation of the two rings with respect to each other, axial movement of said one of said rings in the opposite direction serving to engage said coupling means so that both rings will rotate in unison without change of exposure value, characterized by the fact that said ring of larger diameter has grasping means projecting outwardly from the cylindrical surface thereof for easy grasping by fingers of an operator and by the fact that the ring of smaller diameter has no grasping means thereon and cannot be manually grasped except by its substantially smooth cylindrical surface, a mounting ring having a larger diameter than that of the ring of smaller diameter and partially overlying the rear edge thereof, the exposed portion of the ring of smaller diameter being relatively narrow so as to be substantially inaccessible for manual grasping and adjustment and further characterized by the fact that said shutter assembly includes a first part having bayonet connection lugs and a second detachable and interchangeable part having bayonet connection lugs connected to or disconnected from those of said first part by relative rotation about said optical axis through a fraction of a revolution, said two rings both being mounted on said first part and remaining therewith when said second part is removed, an internal diaphragm adjusting member rotatably mounted on said second part and remaining therewith when said second part is removed from said first part, an arm on said internal adjusting member, a spring tending to turn said internal adjusting member in the same direction in which said second part is turned when engaging its bayonet lugs with those of said first part, and an arm on said diaphragm aperture setting ring for engaging said arm on said internal adjusting member to determine the rotary position assumed by said internal adjusting member under the influence of said spring, the rotary range of movement of said second part when engaging its bayonet lugs with or disengaging them from the bayonet lugs of said first part being greater than the maximum rotary range of movement of said internal adjusting member and being so oriented with respect to said last mentioned range that during a disengaging rotary movement of said second part said arm on said internal adjusting member will always be shifted to a position out of contact with said arm on said diaphragm aperture adjusting ring regardless of the adjusted position of the latter.

2,968,230
ATTIC VENTILATING APPARATUS
Josef L. Karol, 14200 Aetna St., Van Nuys, Calif.
Filed Jan. 5, 1959, Ser. No. 785,031
1 Claim. (Cl. 98—43)



An attic ventilating apparatus, comprising: a flat rectangular frame adapted to be mounted on a sloping roof, and having a central rectangular opening therein adapted to register with a hole in said roof; a cross wall projecting outwardly from the roof at the lower margin of said opening; a hood projecting outwardly from the upper side of said opening and arching over and beyond said cross wall in spaced relation, said hood having side walls bordering the side margins of said rectangular opening; a channel-shaped member extending through said rectangular opening, and including side walls adapted to fit within the side walls of said hood and a bottom wall extending outwardly through said rectangular opening, and terminating in hook means adapted to hook over said cross wall; said channel-shaped member having an inner end below said roof forming, with the region of said hood adjacent the upper margin of the opening in said rectangular frame a rectangular inlet opening in angular relation to the inlet opening in said rectangular frame; a hook means secured to the region of said hood forming the upper margin of said inlet opening; and a blower having a rectangular discharge opening adapted to fit within said inlet opening and a hook element engageable with said hook means to secure said blower relative to said inlet opening.

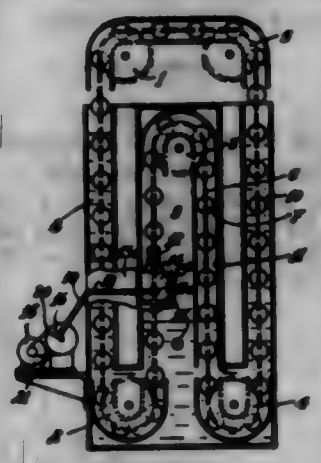
2,968,231
ADJUSTABLE HOOD DEVICES
William J. Tygard, P.O. Box 185, Lawndale, Calif.
Filed Nov. 3, 1958, Ser. No. 771,625
1 Claim. (Cl. 98—115)



In an adjustable hood device, the combination of bracket means adapted to be secured to a wall, horizontal pivot means provided on said bracket means, a primary hood member carried by said pivot means and swingable in a vertical plane, resilient means disposed at and cooperating with said pivot means for urging said primary hood member upwardly against the effect of gravity, manually releasable locking means provided at said pivot means for locking said primary hood member in a pre-adjusted position, said primary hood member including a pair of side flanges provided with guideways, a secondary hood member having side flanges provided with guides slidably

telescoped in said guideways whereby the secondary hood member may be selectively extended and retracted relative to the primary hood member to vary the effective span of the hood device, and a handle provided on said secondary hood member.

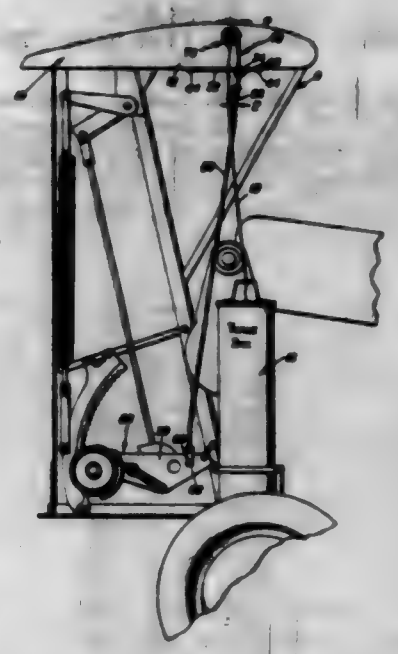
2,968,232
APPARATUS FOR THE HEAT TREATMENT OF PRODUCTS IN SEALED CONTAINERS
Pierre Carvalle, 22bis Rue Marbeau, Paris, France
Filed Sept. 14, 1955, Ser. No. 534,364
Claims priority, application France Sept. 28, 1954
1 Claim. (Cl. 99—360)



In an apparatus for the thermal treatment of products contained in sealed containers, one chain conveyor comprising one pair of parallelly disposed chains, transport means for said sealed containers, securing means between said chains and said transport means, at least one pair of nearly vertical stationary guide-means for at least a part of each of said chains of said chain conveyor, at least a movable clevis disposed astride one of said chains in the path determined by one of said guide-means, said clevis being disposed in a corresponding recess formed in said guide-means, a motor, a connecting rod mechanism actuated in alternative motion by said motor, a crank actuated by said connecting rod mechanism, said crank being connected to an oscillating shaft, a fluid-tight journal for said shaft and an arm integral with said shaft, said arm being attached to said clevis, whereby the motion of said clevis is transmitted to said corresponding chain, to said transport means and to said sealed containers herein disposed.

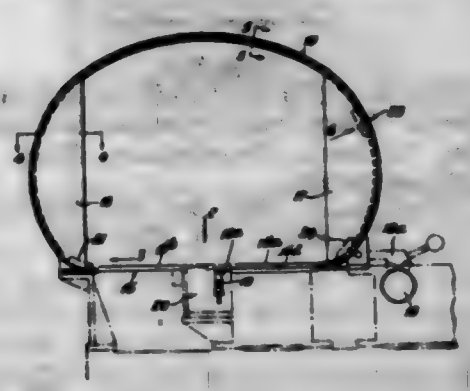
2,968,233
TWINE TENSION RELIEF DEVICE FOR BALERS
Hugh D. Bolton, R.F.D. 2, Creston, Iowa
Filed Jan. 23, 1958, Ser. No. 710,678
4 Claims. (Cl. 100—5)

1. For use in effectuating limited slack and consequently relieving excessive tension in bale wrapping twine between a baler twine holding and supply box and the associated twine wrapping mechanism provided on a hay baler: a slack producing twine-tension-relieving attachment for the deck of the baler adapted to occupy an operating position between the twine supply box and an apertured portion of a vertical apron on the baler deck; said attachment comprising a bellcrank, support means adapted to be secured to the deck apron for operatively locating and supporting the bellcrank in proper relation in respect to the apron and twine supply box respectively, a median portion of the bellcrank being pivotally connected with said support means, said bellcrank having upper and lower limbs, an anti-friction roller mounted for free rotation on a freely swingable end portion of said upper limb and disposed to rotate on an axis at right angles to the plane of said upper limb, a portion of the twine being adapted to be trained for movement over a peripheral surface of the roller, a twine guiding clip also mounted on said upper end portion and having twine guide openings located adjacent to the periphery of the roller, one opening being located below the center of rotation of the roller and outwardly of said roller, the other opening being located above the axis of rotation



of the roller and adjacent the peripheral surface of the roller so that the twine which is threaded through said openings from the twine box toward the deck is thus trained over the peripheral surface of the roller, and a reciprocable motion transmitting arm of an arm assembly located on a portion of the baler below the bellcrank.

2,968,234
APPARATUS FOR LOOPING FLEXIBLE BINDING MATERIAL AROUND PACKAGES AND THE LIKE
Frederick William Mosey, Oswald Victor Longford, and Jack Wild, London, England, assignors to Seal-Lon Strapping Limited, London, England, a corporation of Great Britain
Filed June 27, 1957, Ser. No. 668,410
Claims priority, application Great Britain July 4, 1956
8 Claims. (Cl. 100—26)



1. In an apparatus for looping packages with a flexible material, a looping guideway open toward one side and defining a shelf sufficiently wide to receive and independently support said flexible material while permitting free movement of said material toward said open side, means adjacent said open side at one end of said looping guideway for urging said material into said shelf and away from the open side of said guideway, a reversible feed means for feeding material into said guideway and adapted to apply tension to said material after it has been fed onto said guideway, and means for positioning said material in a plane removed from said shelf and adjacent said open side before it enters and after it leaves said guideway, said deflector means adapted to permit

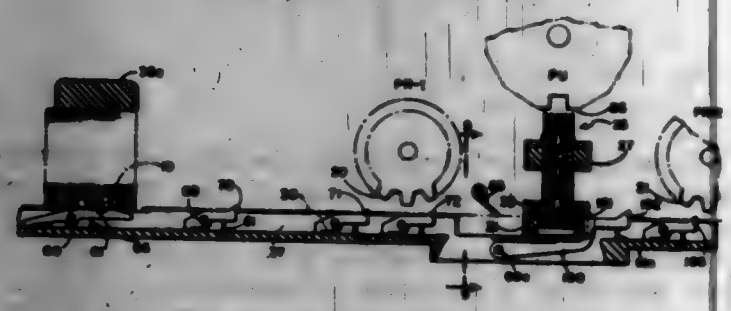
the lateral movement of said material out of said shelf toward the open side of said guideway and into the plane of said positioning means when said material is placed under tension whereby said material is released from said guideway.

2,968,235
DISPOSAL APPARATUS FOR CRUSHABLE ARTICLES
John Marica, Middletown, Conn., assignor, by mesne assignments, to D. J. Alexander Corporation, Philadelphia, Pa., a corporation of Pennsylvania
Filed Sept. 30, 1958, Ser. No. 764,446
6 Claims. (Cl. 100—218)



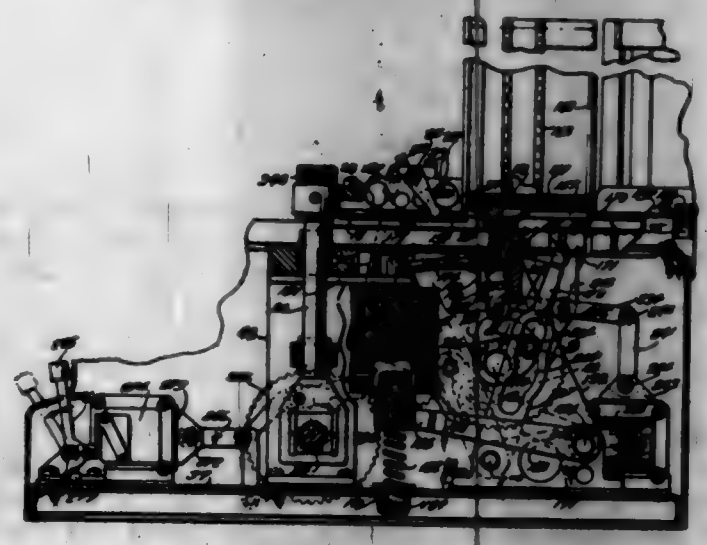
1. A crushing mechanism for a disposal unit, comprising a support bar, male and female crushing jaws pivotally mounted to said support bar, said male crushing jaw having a convex surface thereon, said female crushing jaw having a mating concave surface thereon, kicker means mounted on one of the crushing jaws to assist in dislodging crushed articles therefrom, said kicker means comprising a plate, a rod mounted to said plate, means mounting said rod and plate for sliding movement in said crushing jaw, spring means mounted on the rod biasing said plate against said jaw, and lever means mounted on the support bar coacting with said rod imparting movement to said plate to dislodge articles adhering to said plate.

2,968,236
PRINTING AND PUNCHING MACHINE
Alan M. Swett, Milton, Mass., assignor to Dennison Manufacturing Company, Framingham, Mass., a corporation of Massachusetts
Filed Jan. 2, 1958, Ser. No. 706,719
17 Claims. (Cl. 101—19)



1. In a printing and punching machine for multiple-section ticket material of which at least one section of each ticket is a full-length section adapted to receive both printing and punching, another section of the ticket being of shorter length, the machine including punching means adapted to punch a ticket section at one station and printing means adapted to print on a ticket section at another station, said two stations being so positioned relative to each other that a full-length ticket section being printed occupies a position distant by an integral of its length from the position in which a full-length ticket section is punched, whereby ticket material so long as to span the two stations may be accommodated, and means for advancing the ticket material from the first station to the second station, said last named advancing means including means operative at said first station for advancing a ticket from its position where its last full-length section is operated on at the first station through a fractional step, corresponding to a fraction of the length of said full-length section, and subsequent feeding means for imparting to the ticket a step of advance which substantially equals the length of a full-length section minus the length of said fractional step.

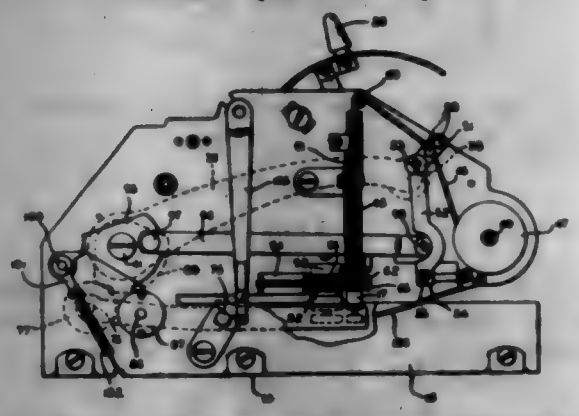
2,968,237
TAG PRINTING MACHINE
Abe A. Katz, Dallas, Tex., assignor to Automatic Tag Machines, Inc., Dallas, Tex., a corporation of Texas
Filed Apr. 5, 1957, Ser. No. 650,928
5 Claims. (Cl. 101—66)



5. In a tag printing machine, the combination which comprises a housing, a plurality of concentric code printing rings mounted to slide in the upper part of the housing, said rings haivng printing indicia on upper surfaces thereof and spaced notches in lower surfaces, a pawl mounted in the housing and positioned to engage notches in the lower surfaces of the rings, means for shifting the position of the pawl to a selected ring, means for adjusting the position of the pawl for advancing and returning the rings, mechanical means for actuating the pawl, a plurality of price printing wheels rotatably mounted in the housing, means for manually adjusting the positions of the price printing wheels, spaced vertically disposed posts mounted for vertical travel in the housing, a bar extended between upper ends of the posts, the posts being positioned whereby a platen carried by the bar is actuated to urge a ticket against type of the code printing rings and price printing wheels, a shaft rotatably mounted in the housing cams mounted on the shaft and operatively connected to lower ends of the posts for actuating the platen through the posts, means for holding the cams stationary, manual means for releasing the cam actuating means, a plurality of ticket storage chutes mounted on the housing, a vacuum cup positioned to withdraw a ticket from one of the chutes, a bellows, means for connecting the bellows to the vacuum cup, means for actuating the bellows to create vacuum in the vacuum cup, means for raising and lowering the vacuum cup, means for feeding a ticket from the vacuum cup to a printing position between the code printing rings and price wheels, means for actuating the platen for urging the tickets against type of the code printing rings and price printing wheels, an inking ribbon, means for feeding

the inking ribbon between the ticket and type of the code printing rings and price printing wheels, and means for ejecting a ticket printed by the code printing rings and price printing wheels.

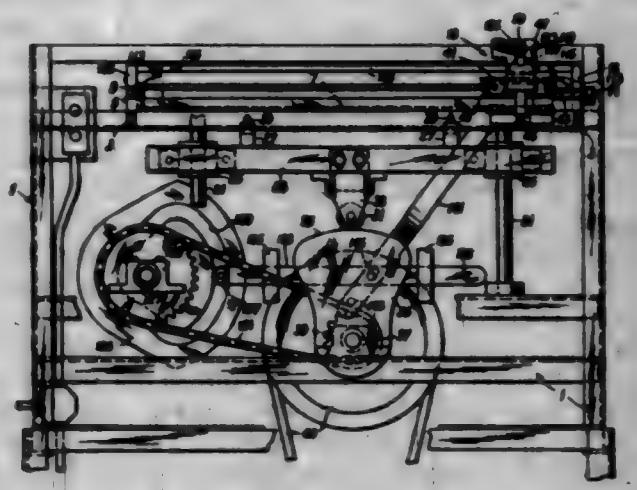
2,968,238
INKING MECHANISM FOR CHECK WRITERS
William W. Maloney and John F. Maloney, Chicago, Ill., assignors to Checkwriter Sales Company, Chicago, Ill., a copartnership
Filed Feb. 27, 1957, Ser. No. 642,832
2 Claims. (Cl. 101—96)



1. In a check writer, a main frame provided with side walls, transverse wall supporting means, a pair of ribbon reels vertically mounted upon the forward ends of the side walls and parallel therewith, an inking ribbon traveling between said reels transversely of said frame, said ribbon passing over rotatably mounted spools assembleds on the outer ends of horizontally mounted shafts journalled in brackets secured to the opposite sides of the machine and midway between the ends of the machine, the inner ends of said shafts rotatably and longitudinally movable in the journals of said brackets, ribbon-feeding means, selectively set type mounted adjacent and above said ribbon, a movable platen, manually operable platen actuating mechanism for causing the platen to travel toward and away from said ribbon adjacent said type, said manually operable mechanism including a crank secured to one end of an operating shaft, said shaft journalled in the sides of said frame and at the rear end thereof, said ribbon-feeding means including a key-stone shaped cam means secured upon each end of said shaft, said key-stone cam means have a relative large convex smooth surface at one end and a relatively small toothed surface at the opposite end thereof, horizontally and forwardly extending arms connected with the smooth end portion of said keystone cam means, and the forward ends of said arms connected with means to move said ribbon a desired amount at each operation of the check writer, and a safety device preventing the return of said crank when operated by the user before its complete downward and forwardly stroke is terminated, said safety device comprising a rotatable member mounted adjacent to each of said key-stone cam means, said members each embodying an arm resiliently retained in a downward position relative to the base of the machine, each of said members provided with a laterally extending dog positioned to engage said toothed end surface of said key-stone cam means adjacent thereto, and means to trip said dogs on said members when said crank reaches its lowermost position.

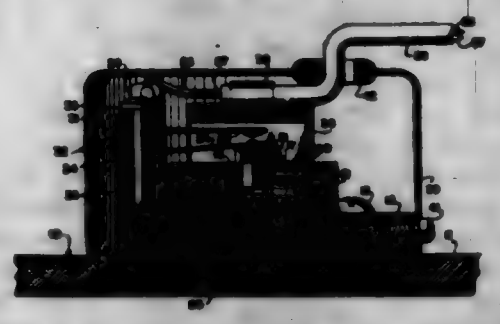
2,968,239
SCREEN PRINTING MACHINE
Stanley C. Zumbahl, Greendale, Mo., assignor, by direct and mesne assignments, to Tri-Angle Tool and Die Company, St. Louis, Mo., a corporation of Missouri
Filed Feb. 14, 1958, Ser. No. 715,422
14 Claims. (Cl. 101—123)

1. A paint screening machine comprising a paint screen adapted to hold paint, a carriage movable back and forth above the screen, means for moving the carriage back and forth through a predetermined stroke, a shaft carried by the carriage extending transversely thereof and mounted for rotation on its axis and for vertical movement in a vertical plane transverse to the carriage, a squeegee carried by the shaft for sweeping over the screen and being swingable and vertically movable with the shaft,



means operable to raise and then lower the shaft and the squeegee as the carriage nears one end or the other of its stroke, means operable as the shaft descends to cause it to rotate to swing the squeegee from one angled position to an oppositely angled position, and means for lifting the shaft and holding it lifted operable independently of the stated shaft raising and lowering means.

2,968,240
INERTIA SWITCH AND MEANS CONTROLLED THEREBY
Seth W. Booth, Hyattsville, Md.
Filed Apr. 28, 1943, Ser. No. 484,854
9 Claims. (Cl. 102—16)
(Granted under Title 35, U.S. Code (1952), sec. 266)

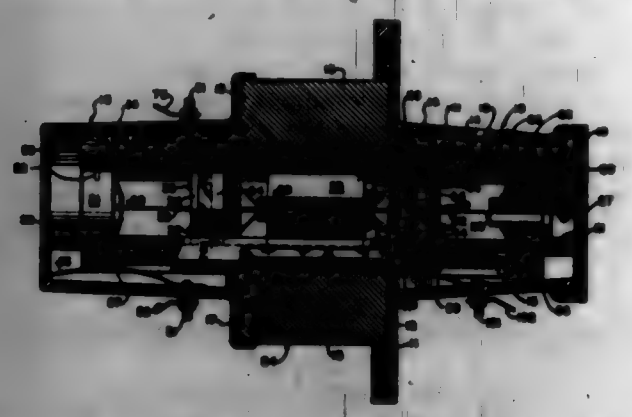


1. An inertia switch for a mine comprising a support, a unitary mass slideably arranged within said support, stop means integral with said mass and engageable with said support for limiting the extent of movement of said mass, a plurality of switching elements disposed adjacent said mass and adapted to be momentarily operated thereby to make and break in a substantially simultaneous sequence in response to a countermine impulse received by said support, and an insulating member secured to the mass and positioned between one of said elements and said mass, said one of said elements being tensioned against the insulating element.

2,968,241
SELECTIVE RELAY FOR MINE FIRING SYSTEM
Donald Q. Brumbaugh, 4108 Rennoke Road, Hyattsville, Md.
Filed Jan. 6, 1950, Ser. No. 137,232
9 Claims. (Cl. 102—18)
(Granted under Title 35, U.S. Code (1952), sec. 266)

3. In a submarine induction mine of the character disclosed adapted to be launched within a body of water, the combination of a pick-up coil adapted to generate

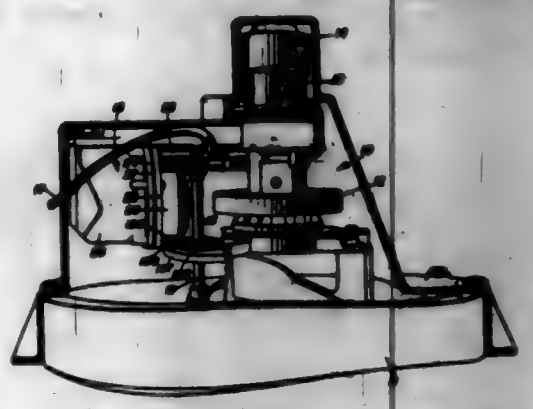
electrical signals of opposite polarity selectively in response to changes in the magnetic field of the coil as a vessel passes within the vicinity thereof, galvanometer connected to the pick-up coil and adapted to be operated by said signals, said galvanometer having a frame, a moving coil enclosed within the frame, delicate torsion suspension wires secured to the frame and to the coil, support members forming a connection between said torsion wires and said coil, a solid mass of sublimatable material formed between said frame and said support members for initially locking the coil support members to the galvanometer frame thereby to prevent movement of said coil and damage to the torsion wires in response to shocks received by the mine during the launching operations thereof, an electroresponsive heating element arranged within said mass of material in heat transfer relation therewith and adapted to transform the material into a gas when the element is energized, a source of electrical energy, a hydrostatically controlled clock mechanism adapted to be set in operation as the mine descends within the water, a first circuit controlling device operated by said clock mechanism, means including said device for operatively connecting said heating element to said electrical source for an interval sufficient to com-



pletely sublime said mass of material at the termination of a first predetermined interval measured by the clock mechanism, a contact element carried by said galvanometer coil for movement therewith, a pair of spaced contacts adapted to be engaged selectively by said movable contact as the galvanometer coil moves from an initial unoperated position in response to signal currents of opposite polarity received from said pick-up coil, a firing circuit including a rotary selector switch adapted to be stepped ahead from an initial unoperated position through one complete rotation thereof as the movable contact engages one of said spaced contacts, a second circuit controlling device operated by said clock mechanism, means including said second device for operatively connecting said firing circuit to said electrical source a predetermined interval after said heating element has been de-energized, means controlled by said switch for rendering said firing circuit effective to fire the mine during a predetermined interval of time when the switch has stepped ahead a predetermined number of steps beyond said initial position, and means controlled by said galvanometer and said switch for firing the mine when the galvanometer responds to a second signal corresponding to a second change in the magnetic field caused by movement of said vessel within the vicinity of the mine during said last named predetermined interval of time.

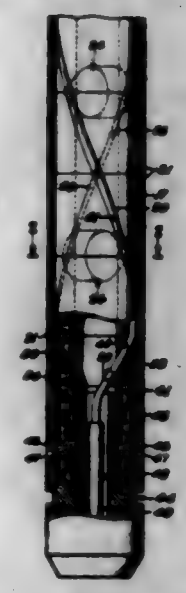
2,968,242
TORPEDO EXPLODING MECHANISM
Wilbur Gess, Silver Spring, Md., and Charles Erwood Bock and Joseph Erwood, Chicago, Ill., assignors to the United States of America as represented by the Secretary of the Navy
Filed June 20, 1946, Ser. No. 678,032
7 Claims. (Cl. 102—18)

5. A torpedo exploder, comprising a housing, a cylinder within the said housing, a piston in the said cylinder, a primer behind the said piston, a firing ring adjacent to the said piston, and means for detonating the said primer



to urge the said piston into engagement with the said firing ring to explode the exploder.

2,968,243
TUBING GUN
George F. Turechek, Los Angeles, Calif., assignor, by mesne assignments, to Borg-Warner Corporation, Vernon, Calif., a corporation of Illinois
Filed July 9, 1956, Ser. No. 596,722
8 Claims. (Cl. 102—20)

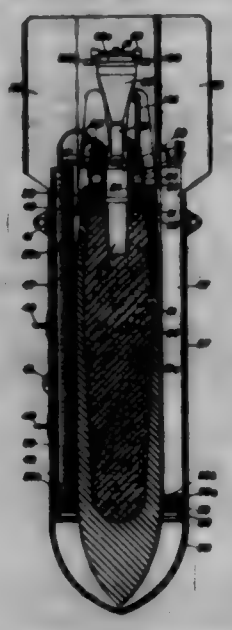


1. In combination, a self-destructible tubing gun comprising, a plurality of elongated, frangible outwardly cylindrical, tubular spacer elements arranged in end to end abutting relation, said spacer elements having equal diameters and having mating recesses at selected abutting ends thereof formed to embrace a shaped charge explosive unit, a shaped charge explosive unit having a detonator held captive in each of said recesses, said elements providing a pair of opposed, substantially helical grooves encircling said elements and opening into the outward cylindrical surfaces thereof, an explosive detonator cord extending along one of said grooves and closely associated with the detonator of each of said explosive units, electric igniter means extending along the other of said grooves and connected at one end with means for initiating detonation of said cord, said cord and igniter means cooperating to hold said frangible elements in assembled, end-to-end position.

2,968,244
JET ACCELERATED MISSILE
Leo Mans, Jr., 758 S. Ardmore, Los Angeles, Calif., and Warren D. Brown, 13420 Pembroke Ave., Detroit, Mich.
Filed May 7, 1948, Ser. No. 25,772
4 Claims. (Cl. 102—49)
(Granted under Title 35, U.S. Code (1952), sec. 266)

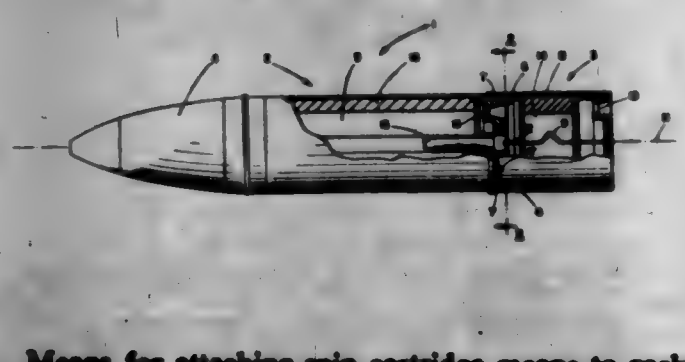
1. A rocket accelerated missile comprising a projectile having a tapered rear portion, a base plug mounted in the

rear end of said projectile and having a rearwardly extending threaded boss, a casing surrounding said projectile, an annular forward spacing member mounted on the interior of said casing, a rear spacing member fixed to said casing and having a rearwardly flanged central opening adapted to fit tightly on said tapered portion of the projectile, a plurality of rocket motors mounted between



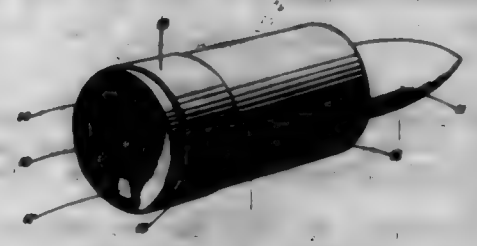
said projectile and said casing and supported by said spacing members, a retaining washer positioned on said boss and having a forwardly extending flange fitting over said first-mentioned flange, and a lock nut positioned on said boss, whereby said nut retains said casing and said rocket motors against rearward movement with respect to said projectile.

2,968,245
SPINNING ROCKET
George P. Sutton, Downey, Philip Albanese, Long Beach, John R. Conyers, Reseda, Neal W. Pion, Los Angeles, and Herbert H. Isaacs, Rivera, Calif., assignors to North American Aviation, Inc.
Filed Aug. 28, 1953, Ser. No. 377,982
5 Claims. (Cl. 102—51)



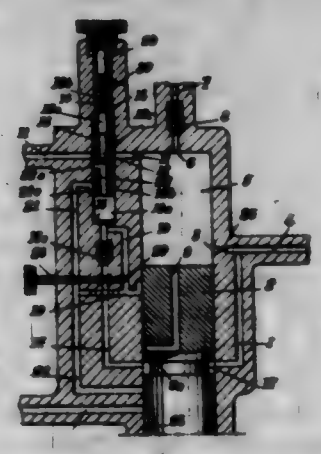
1. Means for attaching spin cartridge means to rocket means launchable from a launching tube comprising an annular ring upon the after end of said rocket means, an annular ring upon the forward end of said spin cartridge means, U clamps for holding said rings in connection adapted to fly off when said spin cartridge means leaves said launching tube, and a plurality of balls symmetrically circumferentially disposed about the longitudinal axis of said rocket means together with sockets upon the after end of said rocket means and the forward end of said spin cartridge means adapted to engage said balls to carry torque from said spin cartridge means to said rocket means.

2,968,246
PROJECTILE
Henry F. Dunlap and Charles E. Habluetzel, Albuquerque, N. Mex., assignors, by direct and mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed June 30, 1944, Ser. No. 543,007
1 Claim. (Cl. 102—93)



In a sabot projectile having a subcaliber projectile core and a turning band, a single sleeve-like sabot-bourrelet unit of plastic material mounted on the core and extending continuously from adjacent the nose portion of the core to a point near the rear end of the core, said unit projecting radially from the core a substantial distance for supporting the core in a gun barrel and having a longitudinal slot to provide a weakened zone, the unit supporting the turning band on the sabot portion of the unit and being releasable from the core during flight of the projectile, and a gas sealing plug having a tongue portion fitted closely in the rear end of said slot and having a face portion seated against the rear end of the core.

2,968,247
SELF-REGULATING RECIPROCATING ACTION FUEL INJECTION PUMP
Pierre Etienne Beniere, 55 Blvd. du Commandant Charcot, Neuilly-sur-Seine, France
Filed Dec. 3, 1957, Ser. No. 700,426
Claims priority, application France Dec. 13, 1956
12 Claims. (Cl. 103—37)



1. A reciprocating action liquid pump which comprises, in combination, means including a fixed part and a movable part having a reciprocating displacement with respect to said fixed part for forming a varying volume space, a delivery conduit leading from said space, a fuel discharge conduit leading from said space, a reciprocating valve member associated with and movable across said fuel discharge conduit between a first end position and a second end position, said valve member being arranged to clear said fuel discharge conduit for the portion of its reciprocating movement ending in, and starting back from, said first end position and to close said fuel discharge conduit for the remainder of said reciprocating movement, resilient means operatively associated with said valve member for urging said valve member toward said second end position thereof, means operatively connected to said movable part and said valve member operative in response to the movement of said movable part for moving said valve member to its first end posi-

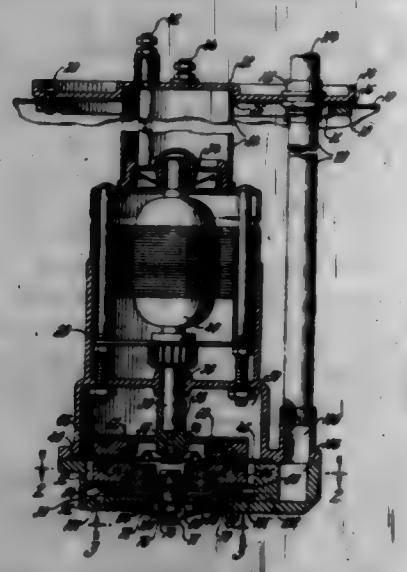
tion on every cycle of the pump, said last mentioned means being arranged to cease to act on said valve member at least approximately when said movable part starts on its movement which reduces the volume of said variable volume space, and means operatively associated with said value member for braking the movement of said valve member from said first end position thereof toward said second end position.

2,968,248

MAGNETIC DRIVE IMPELLER PUMP

Robert L. Carter, Flint, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Dec. 16, 1957, Ser. No. 703,142
1 Claim. (Cl. 103—87)



A pump including a casing, an imperforate nonmagnetic diaphragm dividing the interior of said casing into a motor drive compartment and a pumping chamber, first annular magnetic means rotatively supported to rotate in said motor drive compartment in a plane parallel with and adjacent to said diaphragm as a pump driving means, a driven pump impeller having other annular magnetic means carried on a support member and arranged to rotate in said pumping chamber by virtue of the magnetic attraction set up between the said first and other magnetic means, bearing means including radial and axial bearing portions spaced from said diaphragm, said axial bearing portion comprising a plate lying in the plane of said other magnetic means and parallel with said diaphragm and fixed to said casing and antifriction means bearing against opposite faces of said plate and enclosed by said support member and said impeller for retaining said impeller against axial displacement, said radial bearing portion comprising means arranged to retain said impeller against radial displacement and lying in substantially the same plane as said impeller, radial vanes on said impeller facing away from said diaphragm, an outlet in said casing near and leading from the periphery of said pumping chamber and extending from the outer ends of said vanes, and an inlet in said casing near the axis of said bearing means and leading to that zone of the pumping chamber in which the inner ends of said vanes are located.

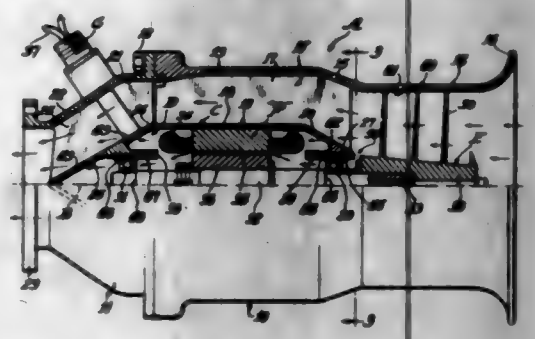
2,968,249

AXIAL FLOW APPARATUS

Gerard H. Caine, Mayfield Village, and John F. Di Stefano, Lyndhurst, Ohio, assignors to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois

Filed Sept. 4, 1958, Ser. No. 759,097
1 Claim. (Cl. 103—87)

An axial flow fluid apparatus comprising a pair of outer hollow housing members each having an inner, substantially centrally disposed axis; a set of spaced vanes formed integrally with each housing member and projecting inwardly therefrom; one of said outer housing members having a first portion and a second portion, said first portion being formed integrally with the set of vanes thereof; a motor main frame having a section thereof formed integrally with each set of vanes and being spaced from the respective housing member; each main frame section having at least a portion thereof angularly disposed with respect to the axis of the respective outer housing member; means defining passage means in said angularly disposed portions of said sections; means to align said housing members together whereby said housing members are disposed co-axially with respect to each other and said sections are disposed in aligned relation-



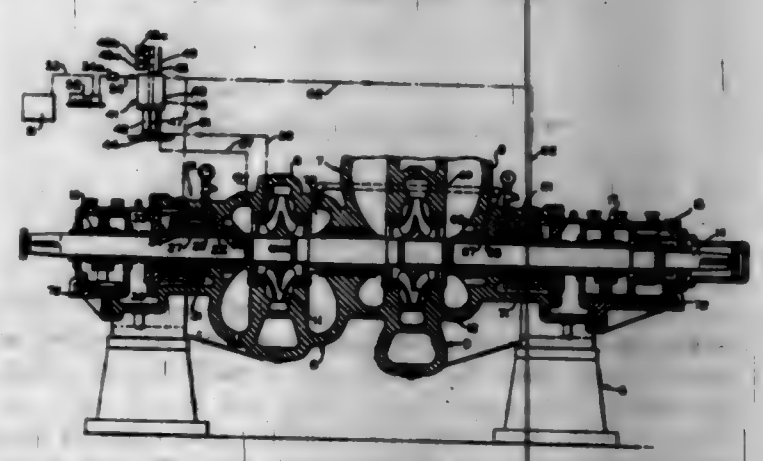
ship to form a motor main frame; electric motor means disposed in said motor main frame and including a shaft which projects beyond said motor main frame and into said second portion of said one of said outer housing members; each of said sections having bearing means to rotatably support said shaft whereby said shaft has an axis of rotation coincident with said axis of said outer housing members; and a rotor carried by said shaft and being disposed within said second portion of said one outer member, said rotor being spaced from the adjacent section of said motor main frame to define therewith an annular opening, said rotor when driven causing fluid flow between said motor frame and said outer housing members, and through said passage means and aid annular opening to cool said motor means and said bearings.

2,968,250

PUMP

Val S. Lobanoff, Oakland, Calif., and Sydney S. Smith, New York, N.Y., assignors to United Centrifugal Pumps, a corporation of California

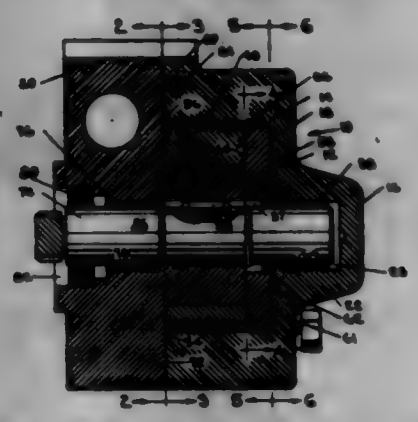
Filed Dec. 5, 1956, Ser. No. 626,379
3 Claims. (Cl. 103—111)



1. In a centrifugal pump having inlet and outlet sides for pumping a fluid, a pump casing, a shaft mounted for rotation within said casing, packing on said shaft to confine fluid within said casing, a substantially closed chamber adjacent said packing into which fluid leaking past said packing may enter, means for applying a fluid pressure within said chamber from a system substantially

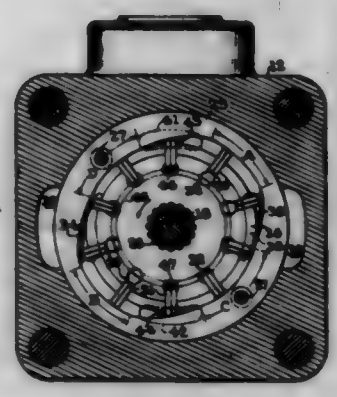
separate from that of said fluid within said casing, said separate system comprising: a differential cylinder assembly comprising two adjacent internally connected cylinders of different diameters, pistons in each of said cylinders connected by a rod whereby said two pistons move together, a confined space above the larger of the two pistons, a first line leading from the inlet side of the pump to the larger of the said cylinders and connected thereto at a point on that end of the larger cylinder adjacent the smaller cylinder to apply pressure to the bottom of the larger of the two pistons, a second line leading from the outlet side of the pump to the smaller of the said cylinders and connected thereto at a point on that end of said smaller cylinder farthest removed from the said larger cylinder to apply pressure to the bottom of the smaller piston, and a line leading from said confined space to said chamber whereby there is applied to said chamber a fluid pressure which is maintained at a substantially constant excess over the inlet pressure of said pump.

2,968,251
INTERNAL GEAR PUMP
Walter R. Eames, Jr., Hazel Park, and Eugene S. Witchger, Grosse Pointe, Mich., assignors to Eaton Manufacturing Company, Cleveland, Ohio, a corporation of Ohio
Filed July 15, 1953, Ser. No. 368,157
9 Claims. (Cl. 103—126)



1. In a rotary pump, in combination, a housing having a pump pocket therein and first and second end faces at the axial opposite ends of the pump pocket, a shaft rotatably mounted in said housing in perpendicular relation with respect to said faces, an end plate within said pump pocket in said housing having a central opening therein and to receive said shaft having a first flat end face arranged in parallel and opposed relation to the first face of said housing and a second flat end face on the end thereof opposite said first end face thereof, a pair of inner and outer rotary pumping elements disposed one within the other and eccentrically with respect to each other and having a suction side and a discharge side arranged in said pump pocket, axially intermediate the second end face of the housing and the second flat face of the end plate within said pumping chamber, with the opposite end faces of each of said pumping elements arranged in parallel and opposed relation respectively with the second end face of the housing and the second flat face of said end plate, said second face of the housing being provided with a pair of ports therein one registering with the suction side of said pumping elements and the other registering with the discharge side of said pumping elements, said end plate having an aperture therethrough providing communication between the discharge side of said pumping elements and a pressure loading chamber intermediate said first flat end face of said plate and said first face of said housing, and an annular sealing means surrounding the axes of said pumping elements and being offset toward said suction side and disposed in sealing arrangement axially between said first end face of said plate and said first face of the housing intermediate the axis of said plate and the outer periphery thereof so as to provide an outer and inner chamber arrangement of said pressure loading chamber, said aperture being communicable with said discharge chamber and said outer chamber so as to subject a greater portion of said first end face of said plate to the discharge pressure from said pumping means, and said seal so disposed as to circumferentially exclude communication of said outer chamber with said inner chamber whereby said end plate is substantially pressure balanced.

2,968,252
ENGINE
James C. Henning and Charles A. L. Ruhl, Kalamazoo, Mich., assignors to The New York Air Brake Company, a corporation of New Jersey
Filed Mar. 16, 1959, Ser. No. 799,738
2 Claims. (Cl. 103—136)

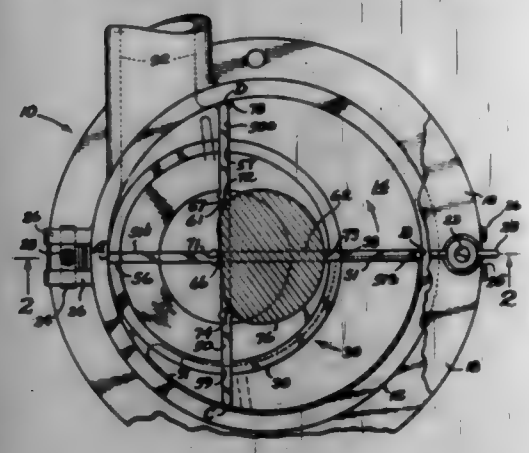


1. In a rotary engine of the vane type including a rotor having a plurality of vane slots spaced around its periphery, a vane reciprocable in each slot, the opposite side faces of each vane being in sliding and sealing engagement with two spaced parallel walls and the outer end of each vane being in sliding contact with a cam ring along two spaced lines which extend between the said two parallel walls, and at least one high and one low pressure port formed in one of said walls, the improvement which comprises a balance chamber formed in the outer end of each vane between the spaced lines of contact, the chambers and the low pressure port being so located relatively to each other that they are isolated from one another at all times by the lines of contact and by the running seals between the walls and the opposite side faces of the vanes; means forming a continuously open flow path between the high pressure port and the spaces in the vane slots beneath the vanes; and means defining a closed conduit connecting the space beneath each vane with the balance chamber at the outer end of that vane.

2,968,253
ROTARY PUMP
Paul Autio, Rte. 4, Box 480, Astoria, Oreg.
Filed Oct. 3, 1958, Ser. No. 765,086
2 Claims. (Cl. 103—138)

1. In a rotary pump, a housing having a substantially cylindrical boundary wall and oppositely disposed end walls defining the side and radially outer limits of a cylindrical pump chamber, a mounting hub rotatably mounted within said pump chamber for rotation about a rotation axis parallel to and offset radially from the center axis of said pump chamber, said hub having a cylindrical hub wall concentric with said rotation axis and defining the radially inner limits of said pump chamber, said hub wall along one side thereof being positioned snugly adjacent one side of said cylindrical boundary

wall, means defining inlet and outlet ports communicating with said pump chamber at locations disposed on each side of where the hub and boundary walls are snugly adjacent, said ports being connected within the housing by a converging portion of the pump chamber that is defined by converging hub and boundary walls, said hub during operation of the pump rotating in a direction wherein the wall of the hub moves from said inlet to said outlet port in said converging portion of the pump chamber, plural crossed impeller blade elements mounted on said hub with opposite end portions extending radially outwardly from said rotation axis and rotatable with said hub, said hub being provided with slot means accommodating radial shifting of the blade elements on the hub, the end portions of said blade elements being regularly angularly spaced on the hub and the spacing between successive end portions being less than the angular spacing of the inlet and outlet ports in said converging portion of the pump chamber, and means positively



for shifting the blade elements radially to and fro, said means comprising opposed and radially inwardly facing abutment shoulders integral with each blade element, and a stationary noncircular cam element occupying a plane extending transversely of said rotation axis and projecting between the abutment shoulders of each blade element, said cam element having a curved surface constructed to bear against an abutment shoulder of a blade element so as to force an end portion thereof snugly adjacent said boundary wall throughout all but final movement of the end portion from said inlet to said outlet port and during final movement to bear against an abutment shoulder so as to shift the end portion away from said boundary wall, said final movement starting at substantially the time the next following end portion starts beyond said inlet port, such movement of the blade elements in the converging portion of the pump chamber resulting in a flow of fluid over the end portions of the blade elements during their such final movement.

2,968,254

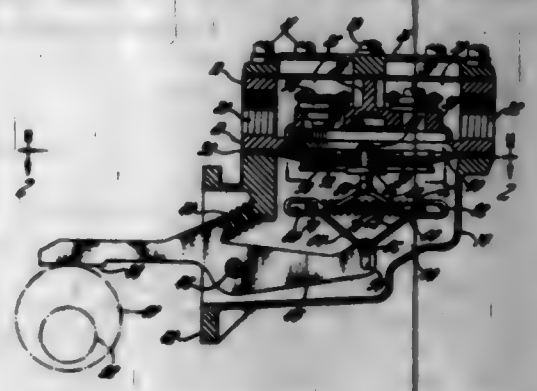
SNAP ACTION DIAPHRAGM TYPE LIQUID PUMP

Earl M. Brohl, Flint, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Apr. 15, 1957, Ser. No. 652,997

3 Claims. (Cl. 103—150)

1. A liquid pump including a pump housing comprising a support portion and a pump portion, a diaphragm interposed between said portions and cooperating with said pump portion in defining a pumping chamber, pressure actuated intake and discharge valves associated with said pumping chamber, a rocker arm pivoted with respect to said support portion and having one end extending into the latter, an over-center pin lying in a plae parallel with the plane of said diaphragm, a toggle mechanism including spring means and connecting said pin to a central portion of said diaphragm, two pins linked to said over-center pin and urged toward each other by said spring means as parts of said toggle mechanism and



movable in planes parallel with said diaphragm, and said one end of said rocker arm having a slot through which said over-center pin extends.

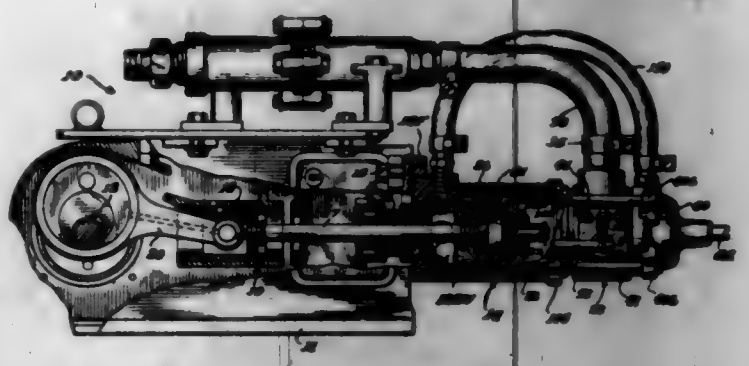
2,968,255

PUMPS

Herman M. Loeber, Beatrice, Nebr., assignor to Dempster Mill Mfg. Co., a corporation of Nebraska

Filed Jan. 31, 1958, Ser. No. 712,360

3 Claims. (Cl. 103—178)



2. In a liquid metering apparatus volumetrically measuring high pressure liquefied gas and discharging the same to a zone of lower preasure, means defining an expansible chamber pump having an inlet check valve and including a cylinder having a cylinder head, said head for said chamber having an axial outlet port formed therein with a valve seat formed in said port at the end thereof that is remote from said chamber and facing away from said chamber and having a lateral discharge passage extending from said port, a valve for and in opposed relation to said port and having an axial valve stem, a diaphragm secured on said stem beyond said remote end of said port, a spring housing clamping the border of said diaphragm against said cylinder head, means in said housing guiding said stem for sliding valve-opening and closing movements, a valve closing spring in said housing and acting on said stem to close the valve, said head having a lateral clearance passage therein extending in the general plane of and opening into the lateral discharge passage, a bearing plate closing the end of the clearance passage, and manual valve opening means including an operating shaft extending through said plate and through said clearance passage into said lateral discharge passage and being rotatable for applying valve opening movement to said valve, and a low pressure seal in said bearing plate surrounding said shaft.

2,968,256

PUMP ADAPTER

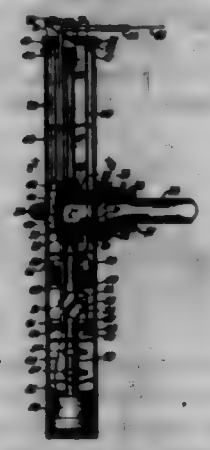
Clifford C. Williams, 20 Henderson Ave., Joliet, Ill.

Filed Apr. 29, 1957, Ser. No. 655,830

12 Claims. (Cl. 103—262)

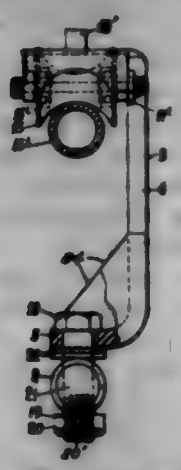
1. In a well, a casing having a discharge outlet intermediate its length, an adapter having a passage, a conduit

depending from said adapter and communicating with said passage and with a pumping unit, and wedge means in said casing alongside said adapter for anchoring said adapter in engagement with said casing with the discharge mouth of its passage communicating with said outlet, said



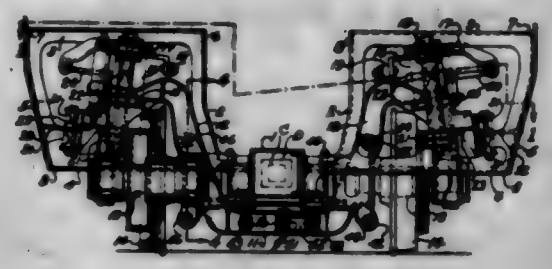
adapter having a vertical tapered rib diametrically opposite the discharge mouth of said adapter passage and having its greatest width at its upper end, said wedging means engaging said rib and said casing and including means for urging it upwardly against said rib to urge said adapter laterally.

2,968,257
CONVEYOR TROLLEY
Kenneth D. Schreyer, Snyder, N.Y., assignor to Columbus McKinnon Chain Corporation, Tonawanda, N.Y.
Filed Jan. 11, 1957, Ser. No. 633,643
2 Claims. (Cl. 105—150)



1. A conveyor trolley comprising, a carriage, an arm normally depending therefrom, pivot means connecting said carriage to said arm adjacent the upper end thereof for pivotal movement relative thereto about a normally generally horizontal first axis, a pair of wheels adapted to engage a conveyor rail journaled in said carriage on opposite sides of said first axis, a transverse flange part extending from said arm beneath said carriage, said flange part being adapted for pivotal attachment to a load member for movement relative thereto about a generally vertical second axis, gusset plate means extending across the juncture between said arm and said flange part, said gusset plate means having an upper surface inclining upwardly from said flange part to said arm and adapted to bear against the undersurface of an associated conveyor rail to cam said trolley outwardly therefrom upon predetermined upward movement of said trolley relative to such rail, and stop means carried by said carriage on opposite sides of said arm for abutting the latter to limt relative pivoting between said carriage and said arm, said top means being positioned so that upon pivoting of said arm in either direction about said first axis said stop means will cause said carriage to move therewith and lift one wheel off such rail before said gusset plate means cams said trolley away therefrom.

2,968,258
RAILWAY VEHICLE MOUNTING
Richard L. Lich, St. Louis, Mo., assignor to General Steel Castings Corporation, Granite City, Ill., a corporation of Delaware
Filed June 6, 1955, Ser. No. 513,234
17 Claims. (Cl. 105—169)



1. In a truck for mounting a railway vehicle body, a truck frame, wheels journaled in said frame at opposite sides of the truck and having a common axis in fixed relation to the frame, a spring unit outboard of each wheel and supported from the frame and positioned above the level of the wheel axes, hangers at the sides of the truck pivotally suspended from said spring units, elements carried by swinging portions of said hangers and constructed and arranged for supporting connection to the sides of a vehicle body and mechanism for swiveling the truck about a central vertical axis upon the vehicle body comprising lever structure extending generally diagonally across the truck and fore and aft of the wheel axis and having elements for pivotal connection to the vehicle body, there being parallel anchors extending lengthwise of the truck near opposite sides of the truck and each connected at its opposite ends respectively to the adjacent side of the truck frame and to the adjacent end portion of said lever structure.

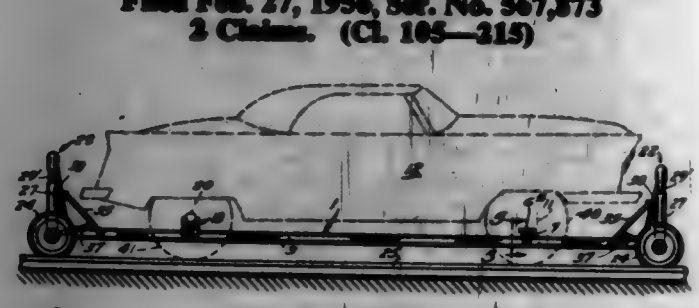
2,968,259
FOUR WHEEL TRUCK
Richard L. Lich, St. Louis, Mo., assignor to General Steel Castings Corporation, Granite City, Ill., a corporation of Delaware
Filed Dec. 10, 1956, Ser. No. 627,411
3 Claims. (Cl. 105—198)



1. A railway truck having spaced wheeled axles, rigid side frames extending between and spring supported on said axles outboard of the wheels, each comprising an upper member and a lower member and a pair of uprights between said members forming a window intermediate the ends of the frame, there being a narrow pivot element projecting upwardly from the bottom of the window intermediate its sides with its axis extending transversely of the truck, a transverse transom extending between the side frames and through said window and seated directly on said pivot elements to tilt thereon lengthwise of the truck, inverted U-shaped hangers straddling the end portions of the transom in said windows, each having a cross bar extending transversely of and journaled on the upper portion of the transom and having legs at the sides of the transom and depending fore and aft of the corresponding pivot element, a bolster of inverted U-shaped cross section straddling the transom and having a load-carrying center plate intermediate its ends and having its end portions pivotally connected to the lower

ends of the swing hanger legs fore and aft of the transom to provide movement of the bolster transversely of the truck relative to the side frames.

2,968,260
RAIL GUIDE CARRIAGE FOR VEHICLES
Alfred H. Scheidrup, Minneapolis, Minn.
(Box 4493, Carmel, Calif.)
Filed Feb. 27, 1956, Ser. No. 567,873
2 Claims. (Cl. 105—215)



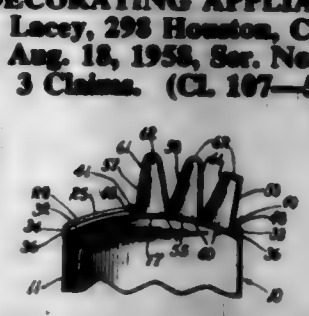
1. In a device of the class described, an elongated frame comprising a pair of spaced substantially parallel side frame members, a plurality of cross frame members interconnecting said side frame members, a vehicle supporting platform mounted adjacent one end of said elongated frame and longitudinally adjustable thereon, said platform having spaced apart upwardly faced seats thereon adapted to receive the front wheel mounting mechanism of an automotive vehicle, a pair of vehicle axle housing supporting elements, one on each side rail, adjacent the other end of said elongated frame and adjustably mounted thereon, each said supporting element having an upwardly facing notch for the reception of the rear axle housing of the automotive vehicle, a pair of railroad rail engaging flanged wheels adjacent each end of said elongated frame and beyond the ends thereof, an inverted U-shaped member interconnecting each pair of said wheels, link means movably and removably connecting a pair of said wheels to each end of said elongated frame, said link means including lifting means comprising an upwardly directed hydraulic cylinder and piston connected to each of said wheel interconnecting means, a first link attached to each said piston and to said frame, a second link attached to said first link intermediate the ends thereof and to the frame inwardly of the point of attachment of said first link, and a third link attached to said wheel interconnecting means and to said second link.

2,968,261
PIE CRUST AND OTHER DOUGH STOCK TEMPLETS
Albert Tonkin, 1709 Hamline Ave. N., St. Paul, Minn.
Filed Jan. 24, 1958, Ser. No. 710,941
3 Claims. (Cl. 107—46)



1. A dough rolling and trimming templet, comprising a one piece, resilient, sheet material bottom member of a pre-selected shape and area, having an upstanding surrounding rim secured thereto along the outer edges thereof, said rim having a height equal to the desired thickness of the finished dough form to be rolled out in the enclosed space of said templet, and whereby dough in excess thereof will be severed by the rolling action of the rolling pin over said rim, said bottom member being uniformly thick throughout its extent and having a slight convex contour coextensive with its upper or dough contacting surface so as to provide a downwardly facing coextensive concave surface, whereupon when dough is rolled out upon said templet, said bottom member will be pressed downwardly by the pressure of the rolling pin on the dough and will spring upwardly with the removal of the rolling pin to thereby release the bond between the dough piece and the upper surface of the templet.

2,968,262
DECORATING APPLIANCE
George T. Lacey, 298 Houston, Coalinga, Calif.
Filed Aug. 18, 1958, Ser. No. 755,502
3 Claims. (Cl. 107—52)

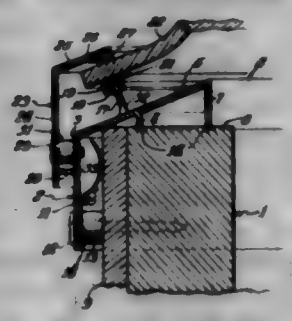


1. A cake decorating appliance comprising a receptacle adapted to contain semi-solid-cake decorating icing and having an elongated generally cylindrical side wall, a closed lower end, and an upper flexible wall circumscribed by a substantially circular rim transversely connected to the side wall, the upper wall providing an aperture concentrically thereof through which such icing is adapted to be ejected upon application of pressure against the icing and directed toward the aperture; a pair of elongated, chordally extended, resiliently flexible flanges having side portions integrally upstanding from the upper wall and laterally spaced from each other substantially equidistantly from and on opposite sides of the aperture, the flanges also having top portions inwardly extended toward each other from their respective side portions and terminating in parallel side edges substantially equidistantly laterally spaced from and on opposite sides of the aperture, the flanges and upper wall providing an elongated channel having a longitudinal center line extended substantially diametrically of the upper wall through the aperture, the flanges having opposite end edges terminating at the rim of the upper wall; stops upwardly extended from the rim of the upper wall and between the flanges; and a decorating head including an elongated flexible substantially rectangular slide plate having a width greater than the spacing between said side edges but less than the spacing between said side portions, the plate being removable from and longitudinally slidably fitted in the channel and having a plurality of openings individually adapted for registration with the aperture incident to longitudinal slidable movement of the plate in the channel, the plate being engageable with the stops to preclude removal of the head from opposite ends of the channel, the head also including a plurality of decorator nozzles having bases individually connected to the plate in individually circumscribing relation to the openings, upwardly extended from the openings, and terminating in tips circumscribing outlet orifices of individual design.

2,968,263
SKYLIGHT
Sanford K. Huston, 7400 S. Constance Ave., and Thomas L. Anderton, 8118 S. Woodlawn Ave., both of Chicago, Ill.
Filed Mar. 9, 1955, Ser. No. 493,233
11 Claims. (Cl. 50—116)

1. In a skylight, the combination of a curb anchor frame adapted to be mounted on the top of a skylight curb comprising an outer side face and an inner side face, said curb anchor frame including an inclined top portion adapted to be mounted on the top face of said skylight curb an inclined downwardly and outwardly to provide a steep pitched surface for draining condensate in an outward direction, a peripheral outer flange integrally formed with the inclined top portion at the outer peripheral edge thereof and laterally spaced outwardly from the aforesaid outer side face of said skylight curb,

downwardly depending and laterally disposed walls integrally formed with the top portion, one of said walls formed at the inner periphery of said top portion, the other of said walls intermediate said peripheral outer flange and said wall of the inner periphery of said top portion, said downwardly depending walls provided with knife edges whereby the knife edges when the curb anchor frame is placed upon the skylight curb provide a seal between the curb anchor frame and skylight curb, said curb anchor frame also including a peripherally shaped outwardly directed longitudinally extending upright integrally formed with said inclined top portion, a peripherally shaped platform integrally formed with said upright and having a top face extending parallel to the top face of the top portion of the curb anchor frame, an outwardly extending flange integrally formed with and adjacent the outer edge of said platform, a sealing strip mounted on said platform adjacent said flange, a complementally formed clamp member cooperable with said curb anchor frame and including members complementally formed to the peripheral outer flange, each of said members comprising a downwardly extending side wall adapted to extend parallel to the peripheral outer flange of said curb anchor frame and a laterally and inwardly extending flange integrally



formed with and extending from the upper edge of said peripheral outer flange and extending parallel to the top face of the top portion of the curb anchor frame in opposition to said peripherally shaped platform, said laterally and inwardly extending flange including a peripherally shaped rib on the inner face thereof positioned opposite the outwardly extending flange carried by said peripherally shaped platform, a sealing strip positioned adjacent said rib in opposed relation to the sealing strip on said peripherally shaped platform, a dome member supported on said peripherally shaped platform with the peripheral edge portion of the dome interposed between said sealing strips, and means for spacing and securing said clamp member to said curb anchor frame including an inwardly extending flange integrally formed at the lower edge of said downwardly extending members of said annular clamp member providing a fulcrum about which the annular clamp member is pivoted for affixing the dome member in position between said sealing strips, means for discharging any condensate which may be formed including weep holes provided in said longitudinally extending upright contiguous to said upper face of said top portion at its juncture with said longitudinally extending upright and additional weep holes provided in said inwardly extending flange providing a fulcrum so that the accumulated condensate is drained from the inclined top portion exteriorly of the curb anchor frame.

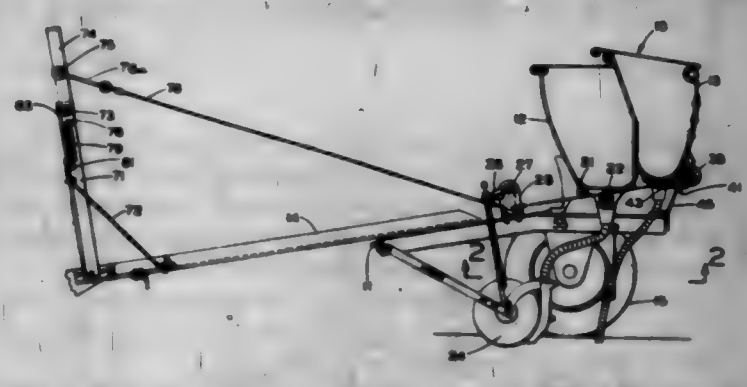
2,968,264

SLIDE CONTROL MECHANISM FOR FERTILIZER DISTRIBUTOR

Ernst E. Schnell, West Bend, Wis., assignor, by mesne assignments, to Deere & Company, a corporation of Delaware

Filed Sept. 17, 1956, Ser. No. 610,143
11 Claims. (Cl. 111—67)

1. In a material dispenser, a mobile frame, a hopper thereon, furrow opener means movably connected with the frame and adapted to be raised and lowered, means including a rockshaft carried by said frame and connected with said furrow opener means to raise and lower the latter, a flow controlling cut-off means carried by the hopper to control the flow therefrom, means connecting said cut-off means with said rockshaft, whereby movement of the latter into a raised position acts to move said cut-off means into a closed position, said connecting means including a part having a one way connection with



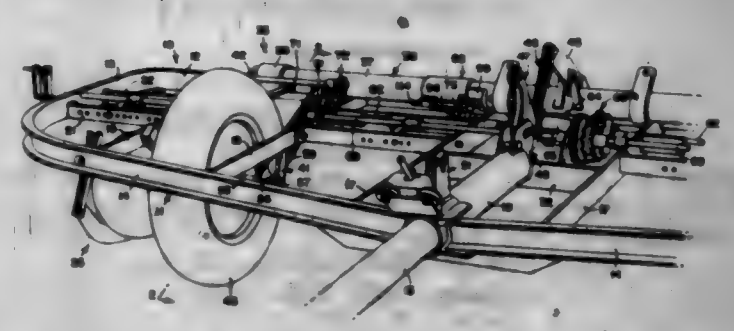
said rockshaft, spring means connected with said cut-off means to open the latter when said furrow opener means is moved into a lowered position, manually operated latch means connected with said part to move the latter in a direction to close said cut-off means against the action of said spring means and thus retain said cut-off means in a closed position, and said latch means including means connected with said part and responsive to a subsequent movement of said part toward a raised position to release said latch means.

2,968,265

CLUTCH CONTROL MECHANISM

Arthur J. Immesoete, Moline, Ill., assignor, by mesne assignments, to Deere & Company, a corporation of Delaware

Filed Mar. 27, 1957, Ser. No. 648,887
14 Claims. (Cl. 111—67)



1. In an agricultural implement, a main frame, a wheel frame swingably connected with said main frame and including rockshaft means journaled on said main frame, means connected with said wheel frame to rock said rockshaft, a drive shaft journaled on said main frame adjacent said rockshaft, means connected with said drive shaft to drive the latter, a disconnect clutch carried by said drive shaft, a member slidably mounted on said rockshaft and said drive shaft, means on said rockshaft for shifting said slidable member in one direction when the wheel frame and said rockshaft is rocked in one direction, and means connecting said slidable member with said clutch.

2,968,266

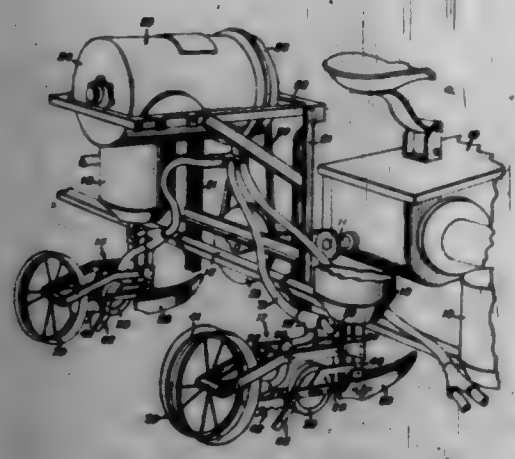
APPARATUS FOR TREATING SOIL DURING PLANTING

August W. Gustafson, Baldwin and Navigation Blvds., Corpus Christi, Tex.

Filed Jan. 23, 1958, Ser. No. 710,769
5 Claims. (Cl. 111—80)

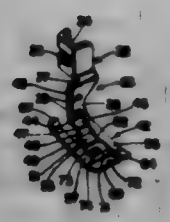
1. Apparatus for treating seed and soil with chemical material during the planting of the seed comprising, a

planter having means thereon providing a trench in soil during forward movement thereof, a U-shaped tubular member having an upper leg and a lower leg, means carried by the planter supporting said tubular member with the lower leg in a substantially horizontal position longitudinally over said trench, said lower leg being of larger cross section than the upper leg, a guide tube carried by said planter for delivering seed into the trench forwardly of said tubular member, a fan, means supplying chemical material to said fan, conduit means guiding the flow of chemical material and air delivered by



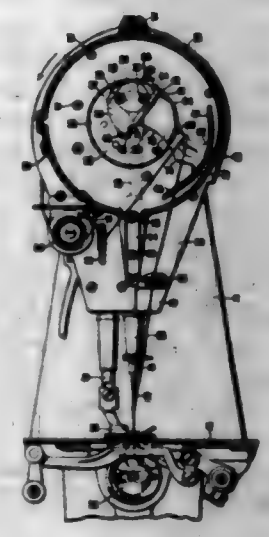
said fan into said guide tube and into the upper leg of said tubular member, the lower leg of said tubular member having an opening in a lower forward portion thereof for distributing some of the chemical material to the soil at the bottom of the trench, means moving soil at the sides of the trench thereinto over the seed, said lower leg having an opening for directing some of the chemical material onto the soil as it is being moved into the trench, and said lower leg having an additional opening for delivery of some of the chemical material onto the soil after it has been moved into the trench.

2,968,267
GENERAL PURPOSE PRESSER-FOOT FOR SEWING MACHINES
Ralph E. Johnson, Mountainside, N.J., assignor to The Singer Manufacturing Company, Elizabeth, N.J., a corporation of New Jersey
Filed Feb. 21, 1957, Ser. No. 641,726
6 Claims. (Cl. 112—235)



1. In a general purpose presser-foot, a shank and a thin flexible foot, said foot comprising at least one elongated sole-plate having a toe disposed in one direction, a heel disposed in the other direction, and a main sole-plate portion connecting said toe and heel; a flexible bridge elevated above and integrally attached to said main sole-plate portion at a location between said toe and heel and in such a manner that the said toe and heel extend freely in opposite directions beyond the location where said elevated bridge is attached to the main sole-plate portion; and means attaching said bridge to said shank.

2,968,268
ROTARY TAKE-UPS FOR SEWING MACHINES
Arthur S. Meloy, Jr., Stratford, and William C. Van Ness, Devon, Conn., assignors to The Singer Manufacturing Company, Elizabeth, N.J., a corporation of New Jersey
Filed Mar. 21, 1958, Ser. No. 722,989
8 Claims. (Cl. 112—248)

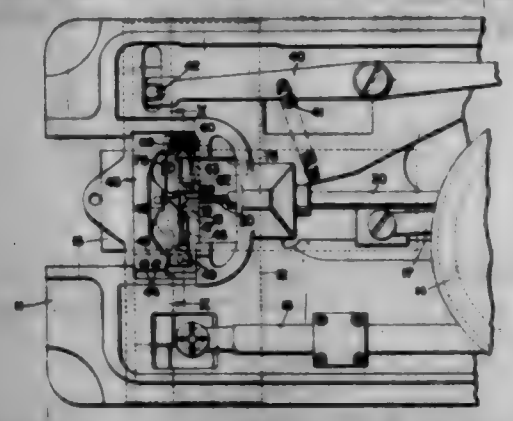


1. A rotary take-up for a sewing machine having a pair of thread guides, said take-up adapted to act on a thread extending between said thread guides and comprising, a rotary take-up member, means for rotating said take-up member continuously in one direction about a predetermined axis of rotation, said take-up member including a base portion and an arm extending outwardly with respect to the axis of rotation of said take-up member from said base portion, said arm providing a leading edge facing in the direction of rotation of the take-up member along which leading edge the thread can slide as it is being drawn up by the take-up, and a trailing edge facing in the direction opposite that of the direction of rotation of the take-up member along which trailing edge the thread can slide as it is being given up by the take-up, means at the free extremity of said arm defining concave outer thread confining throats on the leading and trailing edges of said arm, means at the juncture of said arm and said base portion defining concave inner thread confining throats on the leading and trailing edges of said arm, convex thread detaining means formed on only the inner half of the leading edge between said inner and outer throats, and convex thread detaining means formed on only the outer half of the trailing edge between said inner and outer throats.

2,968,269
THREAD CUTTING MECHANISMS FOR SEWING MACHINES
Darwin G. Smith, Bridgeport, and Stanley J. Ketterer, Stratford, Conn., assignors to The Singer Manufacturing Company, Elizabeth, N.J., a corporation of New Jersey
Filed June 24, 1959, Ser. No. 822,577
13 Claims. (Cl. 112—252)

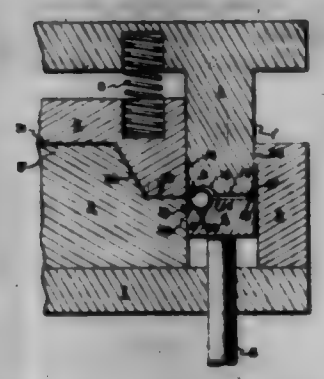
1. A sewing machine thread cutting and nipping device comprising opposed thread manipulating instrumentalities, a thread cutting blade carried by one of said instrumentalities, one of said instrumentalities including an abutment element, a thread nipping finger disposed contiguous to said abutment element, and means for biasing said thread nipping finger against said abutment element, the opposing instrumentality including a thread carrying finger, means for supporting said instrumentalities in retracted positions on opposite sides of the thread to be nipped and severed, means for reciprocating one of said opposed thread manipulating instrumentalities back and

forth relatively to the other, and means for directing said thread carrying finger between the nipping finger and the abutment element during relative movement of said in-



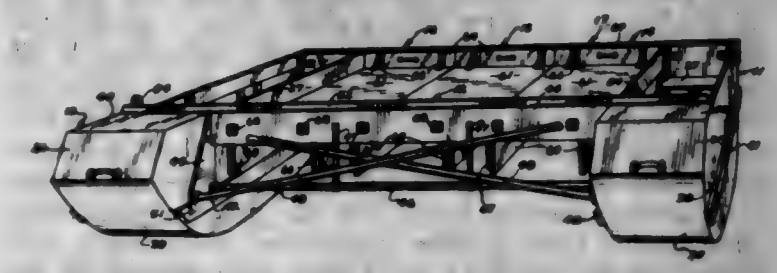
strumentalities in one direction, and to one side of both said nipping finger and said abutment element during relative movement of said instrumentalities in the opposite direction.

2,968,270
APPARATUS FOR FORMING RECEPTACLES
Vernon A. McChesney, Evanston, Ill., assignor to Kaiser Aluminum & Chemical Corporation, Oakland, Calif., a corporation of Delaware
Filed Aug. 5, 1955, Ser. No. 526,633
5 Claims. (Cl. 113—43)



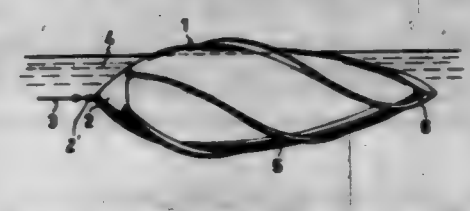
1. An apparatus for making thin metallic foil receptacles comprising the combination of a base member and a punch member movable toward and away from said base member, a stationary die disposed on said base member and a die movably mounted on said movable punch member, said dies having cooperating surfaces for forming and drawing a receptacle having a closed bottom, side wall and an integrally formed peripheral flange, a draw ring slidably mounted about said stationary die in opposed relationship to said punch member, said draw ring including a planar face provided with recessed and outer shoulder portions and a semi-circular groove disposed intermediate the recessed portion and the innermost edge of said draw ring so as to be located closely adjacent said stationary die, the portion of said punch member opposed to said draw ring having a cooperating planar face engageable with the planar face on the draw ring, the planar face on the punch member also having recessed and shoulder portions and a groove, the groove of which is adapted to register in part with the groove on said draw ring, the innermost wall of the groove on the planar face of the punch member having a downwardly projecting curved peripheral lip which acts to wipe the peripheral flange of the receptacle being formed so as to remove the wrinkles produced thereon by the normal action of said dies and means for moving said draw ring and punch member relative to said dies so as to effect a curling and beading of the outer portion of said peripheral flange normally disposed in the opening formed by the cooperating grooves of said punch member and draw ring after the wiping of said flange.

2,968,271
CATAMARAN
Chester A. Bruvold, 4006 26th Ave. S., Minneapolis, Minn.
Filed May 7, 1958, Ser. No. 733,565
9 Claims. (Cl. 114—61)



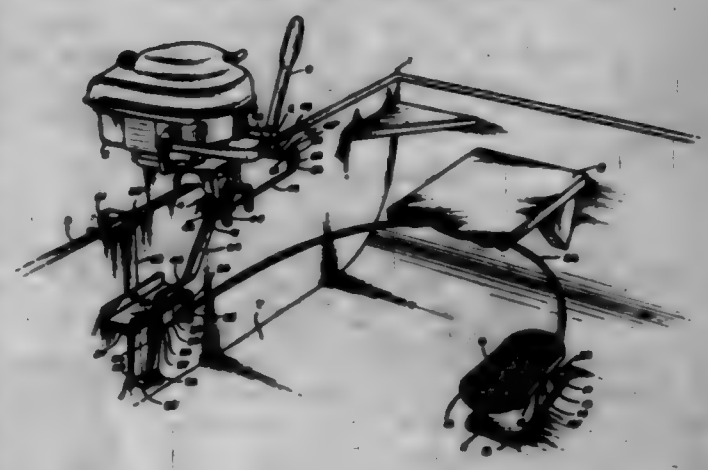
1. In a catamaran, a pair of elongated hulls arranged in spaced side by side relation, a beam frame transversely interconnecting the corresponding end portions of the two hulls, said frame comprising an elongated beam having its end portions connected to the respective hulls, a pair of side plates spaced longitudinally of the beam and connected one to each hull, and a pair of rigid stress bars connected to opposite side plates and extending inwardly in diagonal intercrossing relation for connection to the beam.

2,968,272
FLEXIBLE BARGE
Ulf Erik Anders Bergland, Almnas egendom, Hjo, Sweden
Filed Apr. 10, 1958, Ser. No. 727,730
Claims priority, application Sweden Apr. 11, 1957
2 Claims. (Cl. 114—74)



1. For transporting liquids by sea, a cargo container consisting essentially of a collapsible bag which in the expanded position has a modified teardrop-shape and is pointed on both ends, and fins on said bag extending helically along the surface of said bag for causing it to rotate when it is moved through the sea.

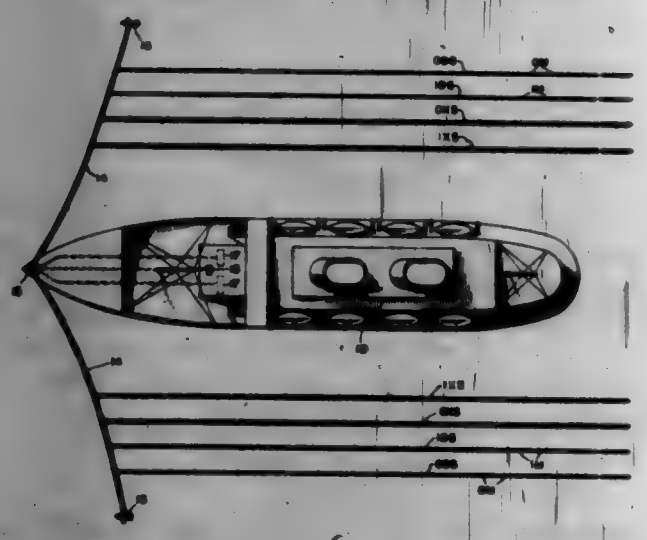
2,968,273
FOOT STEERING APPARATUS FOR OUTBOARD MOTOR BOATS
Phillip H. Corbett and James Brace, Prairie Village, Kans., assignors to Brace & Corbett, Inc., Prairie Village, Kans., a corporation of Kansas
Filed Jan. 19, 1959, Ser. No. 787,462
3 Claims. (Cl. 114—153)



1. Foot steering apparatus for an outboard motor boat having an outboard motor mounted thereon to turn about

a vertical axis comprising, a bracket, clamp means on the upper end of the bracket for removably mounting said bracket on a boat in laterally spaced relation to the outboard motor, a lever arm, means pivotally mounting the lever arm on the bracket whereby the lever arm is swingable thereon, a link, means pivotally connecting one end of the link to the lever arm, a plate clamped on the outboard motor and extending forwardly therefrom, a pin portion on the other end of said link pivotally connected to said plate, spring means between the link and plate and urging the link in disconnected relation thereto, a keeper removably mounted on the link pin portion to hold same in operative position relative to the plate, a pedal base plate having a flat bottom surface for resting on a supporting surface in the boat, a foot plate pivoted on the pedal base plate whereby the foot plate has rocking movement relative thereto, and a flexible connection from the foot plate to the lever arm in spaced relation to the pivotal mounting thereof whereby the operator of the boat may steer it by rocking the foot plate on the base plate and transmitting the movement through the flexible connection, the lever arms and link to the outboard motor to turn same on its vertical axis.

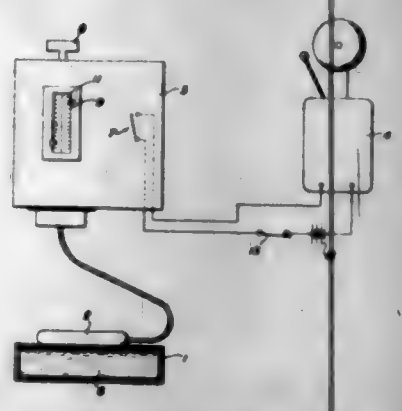
2,968,274
ANTI-TORPEDO SYSTEM
Nelson N. Estes, Austin, Tex., and Howard L. Daniels, Mount Rainier, Md.
Filed Apr. 28, 1944, Ser. No. 533,200
44 Claims. (Cl. 114—240)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. In a system of the character disclosed, the combination of means for destroying an automotive device and arranged within the path of travel thereof, means for generating different signals in accordance with the movement of the automotive device with respect to the destroying means, means for combining said signals to provide a resultant signal therefrom, and means controlled by said resultant signal for operating said destroying means when the automotive device moves adjacent thereto.

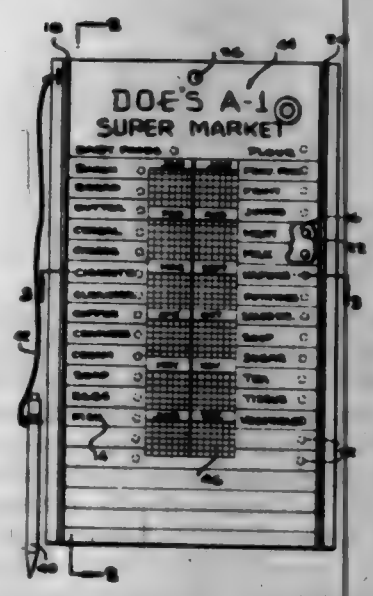
2,968,275
REFRIGERATION ALARM SYSTEM
Phillip Spiro, 765 Post Ave., Staten Island 10, N.Y.
Filed Jan. 15, 1959, Ser. No. 787,005
4 Claims. (Cl. 116—102)

1. A refrigerated compartment intended to be periodically defrosted, an alarm system insensitive to increases in temperature attributable only to intentional defrosting of the compartment, said alarm system comprising a heat responsive means disposed in said compartment, alarm means, temperature sensing means operably associated with said heat responsive means and said alarm means, said sensing means actuating said alarm means in response to a rise in temperature of said heat responsive means above its freezing point, said heat responsive means having a freezing point above the normal temperature of the refrigerated compartment and below the final defrost tem-



perature of said compartment, said heat responsive means having a mass and latent heat of fusion such that the time required for said heat responsive means to absorb its total latent heat of fusion is greater than the normal defrosting interval of said compartment.

2,968,276
REMINDER APPLIANCE
Thomas Bradley Betterton, 368 East View Drive, Chattanooga, Tenn.
Filed Jan. 15, 1960, Ser. No. 2,684
4 Claims. (Cl. 116—130)

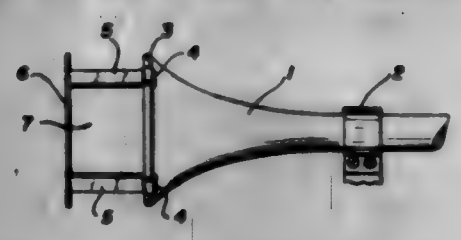


1. In a reminder appliance, a rigid backing member including opposed side edges, a plurality of embossing elements projecting from one face of said member, said embossing elements being arranged in a row along and inwardly of and adjacent one of the side edges of said backing member, and a deformable sheet being provided on one face with a list of reminders, said sheet being arranged so as to overlie the one face of said backing member with the part of the sheet to a side of the list adjacent the row of embossing elements, said sheet part being embossed upon application of a pressing force to said part in the direction of an adjacent embossing element.

2,968,277
HORN SHIELD
Charles R. Brown, P.O. Box 56, Freedom, Pa.
Filed Mar. 18, 1959, Ser. No. 806,129
1 Claim. (Cl. 116—137)

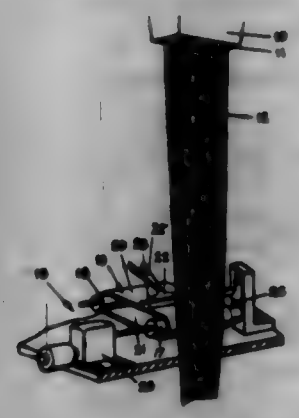
In combination with the bell of an automobile horn, a substantially flat disc having an area at least as great

as that of the horn bell, said disc being spaced from said bell, and a plurality of arms interconnecting said



disc and said bell, the arms being of small substantially uniform cross-sectional dimension.

2,968,278
METHOD AND APPARATUS FOR COATING CONTINUOUS FIBERS
Homer L. Wolfe, Parkersburg, W. Va., assignor, by mesne assignments, to Johns-Manville Fiber Glass Inc., Cleveland, Ohio, a corporation of Delaware
Filed July 7, 1955, Ser. No. 520,523
2 Claims. (Cl. 118—257)

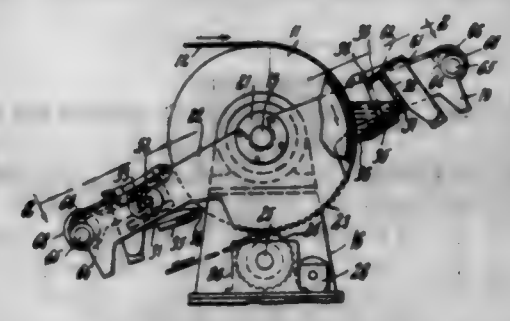




1. Apparatus for applying a liquid material to the surface of a continuous fiber comprising: a base; a plurality of spaced rotatable pulleys; a continuous belt carried by said pulleys, said pulleys being positioned to support said continuous belt to provide a horizontal upper flight; means for rotating at least one of said pulleys to move said belt in a unilateral direction; a distributor positioned in contacting relationship with and across the upper surface of said upper flight; means for supplying a stream of liquid material to said upper surface in front of said distributor in a manner whereby said material is brought into contact with said distributor by the movement of said belt and is spread over the surface thereof as a uniform film by said distributor, and means for positioning said belt to tangentially contact the fiber with said uniform film during movement of said belt.

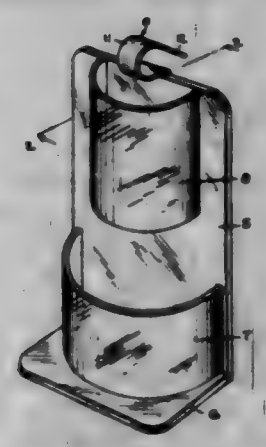
2,968,279
PAPER COATING MACHINE
Philip A. Peterson, 350 Salisbury St., Worcester, Mass.
Filed Feb. 26, 1959, Ser. No. 795,804
3 Claims. (Cl. 118—407)

1. A machine for coating webs of paper and the like comprising a backing roll mounted for rotation in a selected direction which depends upon the side of the web it is desired to coat, means to lead the web around the roll in said selected direction, a pair of coating heads disposed astride said roll in diametric opposition to one another, each of said heads including a reservoir exposing coating liquid to the surface of the web and a blade to level the coating liquid as the web emerges therefrom, a single support means for said coating heads adapted for angular movement about the axis of said roll, said heads being constrained to move in concert with said support means and said heads movably



mounted on said support means, means to move said support means to a selected angular position which depends upon the direction of rotation of said roll, means selectively to move said heads toward and away from said roll while said support means remains stationary, thereby to enable one of said heads to cooperate with said roll and to disable the other of said heads, and means to produce rotation of said roll in said selected direction.

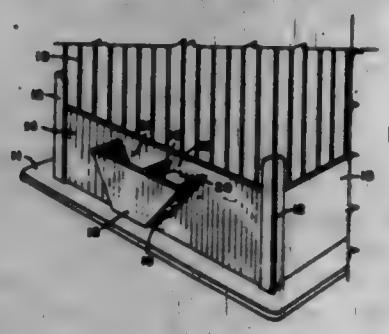
2,968,280
FISH FEEDING DEVICE FOR AQUARIUMS
Rudy Gutstein, 1035 9th St., Miami Beach, Fla.
Filed Sept. 29, 1959, Ser. No. 843,109
1 Claim. (Cl. 119—5)



A fish feeding station for aquariums that is adapted to be submerged in water in the aquarium to a point where an upper end of the station projects slightly above the water, the stations embodying a back plate having a forwardly extending horizontal shelf at its lower end, a frame supported upon the shelf and having its lower edges and its ends united with the shelf and the back plate, the frame being upwardly opening and constituting a receptacle, a second frame arranged above the first frame in spaced apart relation and having its marginal ends united with the back plate, the second frame being relatively smaller than the first frame and with the second frame being open at top and bottom and defining a vertical tube into which fish food is inserted to enter the water of the aquarium, certain particles of food sinking downwardly through the water to be disposed in the receptacle, the spacing of the frame being such that fish may freely enter the receptacle to feed or to enter the open lower end of the tube to reach particles of food that may float upon the water adjacent the upper end of the tube, a self adjusting suspension device carried by the back plate at its upper end, the entire station being

formed of transparent plastics, the upper and lower frames being semi-cylindrical in top plan and with the frames being concentric, the suspension hook being in the form of an open rearwardly facing socket and with the socket terminating in a rearwardly and downwardly angled tongue and with the socket and the tongue being formed of transparent plastics and flexible whereby to override and conform to the marginal edge of the aquarium whereby to maintain the back plate substantially parallel to the adjacent wall of the aquarium throughout its height.

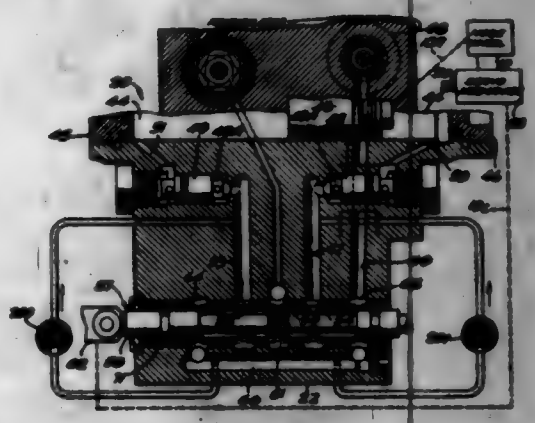
2,968,281
FEEDING AND WATERING DEVICES FOR BIRD CAGES
James F. McCauley, 1213 Clarkson St., Denver, Colo.
Filed Aug. 19, 1959, Ser. No. 834,871
1 Claim. (Cl. 119—18)



A feeding device to replace a conventional splash guard on a bird cage comprising: a flat back plate; means for securing said back plate vertically and externally against a side of said cage; an imperforate front wall member positioned in parallel spaced relation to said back plate and having a relatively wide horizontal upper edge and a relatively narrow horizontal lower edge and two side edges which incline uniformly inward toward each other as said bottom edge is approached; two imperforate side walls joining the side edges of said front wall member to said back plate; a bottom wall joining the lower edge of said front wall member to said back plate and joining the lower extremities of said side walls to form a relatively flat, truncated-V-shaped, open-topped box; a partition plate joined to and extending between said front wall member and said back plate between said side plates and extending downwardly in substantially parallel relation to one of said side plates to form an open-topped, inclined feeding compartment of uniform width and an open-topped, hopper-shaped reservoir compartment, said partition plate terminating above said bottom plate to provide communication between the bottom portions of said compartments; and an open window formed through said back plate into said feeding compartment.

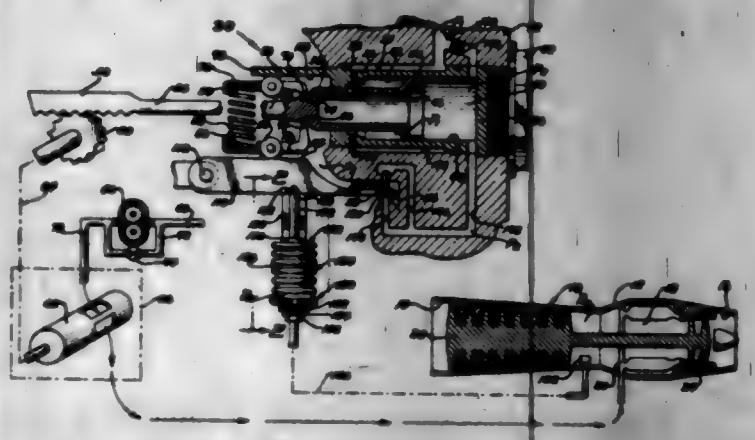
2,968,282
HYDRAULIC CONTROL SYSTEM WITH SAFETY MEANS
Richard L. Hayman, Don W. Driskel, and David C. Hill, Pasadena, Calif., assignors to Haskel Engineering Associates, Glendale, Calif., a copartnership
Filed Apr. 8, 1958, Ser. No. 727,762
4 Claims. (Cl. 121—38)

1. In a hydraulic control system of the character described comprising, a cylinder, a double acting piston in said cylinder, a control valve having a high pressure port, a first and a second port, a first and second fluid channel intercommunicating respectively said first and second ports with corresponding opposite sides of said piston, a check valve with a restricted opening therein each one of said channels, said control valve having a third and a fourth port with a common channel interconnecting the same, said control valve having a three position movable valve element cooperating with each one of said ports, said valve element in a first position thereof closing said high pressure port and interconnecting on the one hand said second and fourth ports, a check



valve with a restricted opening therein continuously communicating said first channel with said common channel, and a check valve with a restricted opening therethrough continuously interconnecting said second channel with said common channel.

2,968,283
FORCE BALANCE SYSTEM
Eugene B. Hilker and Warren H. Cowles, Detroit, George B. Stroh, Grosse Pointe Woods, and Robert S. Fleming, Detroit, Mich., assignors to Holley Carburetor Company, Van Dyke, Mich., a corporation of Michigan
Filed Nov. 19, 1958, Ser. No. 774,936
10 Claims. (Cl. 121—41)

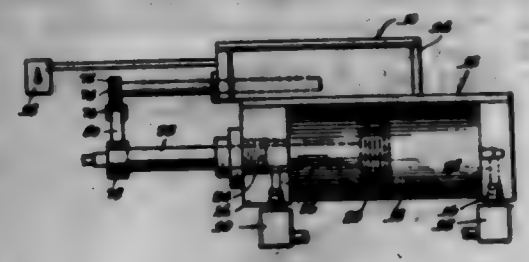


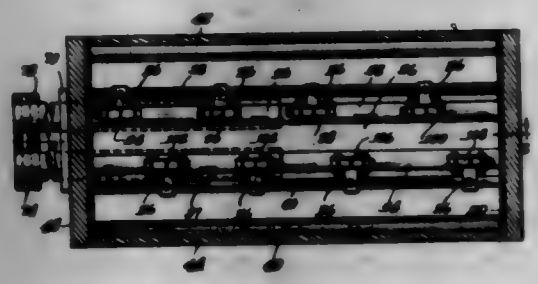
1. In a closed loop moment balance system, pressure responsive means adapted to be influenced by at least two distinct fluid pressures, a pivotally supported moment arm, means connected to said pressure responsive means for resiliently creating and sequentially applying an artificial reference force at various points along said moment arm, valve means secured to the free end of said moment arm for varying the magnitude of at least one of said distinct fluid pressures, and means for directing a force input to said moment arm for actuating said valve means.

2,968,284
ELECTROMECHANICAL CONTROL DEVICE
John T. Ellis, Jr., Maine Township, Ill., assignor to Hanna Engineering Works, Chicago, Ill., a corporation of Illinois
Filed June 10, 1959, Ser. No. 819,400
12 Claims. (Cl. 121—41)

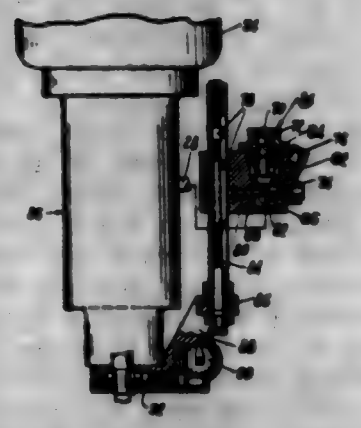
1. In an operating device having a cylinder with a rod movably mounted in said cylinder and a pair of solenoid valves regulating the flow of operating fluid into said cylinder, the improvement comprising: a position control device having a frame mounted on the cylinder, a pair of cams reciprocally mounted in the frame, said cams coo-

nected to each other and the rod, each of said cams having an actuating portion, a plurality of electrical switches mounted on said frame in engagement with the respective cams, a plurality of said switches being normally biased opened, the remainder of said switches being normally biased closed switches, said switches being mounted on the frame in pairs, each pair including a normally biased open and a normally biased closed switch, a plurality of said switches being positioned for actuation by the actuating portion of one of said cams, the remainder of the switches being positioned for actuation by the actuating portion of the other of said cams, all of the normally open switches being capable of being electrically connected to one of the solenoid valves, all of the normally closed switches being capable of being electrically connected to the other of said solenoid valves, and a selector for connecting a selected pair of switches with their respective solenoid valves, whereby the rod is moved in the cylinder to respond to the position of the cams.



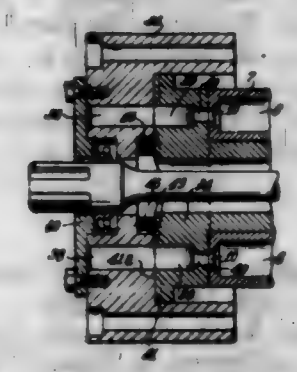


2,968,285
VALVE
Theodore M. Lowe, Detroit, Mich., assignor to The Bendix Corporation, a corporation of Delaware
Filed Aug. 30, 1956, Ser. No. 607,239
3 Claims. (Cl. 121—45)



1. In a machine tool having a source of relatively low fluid pressure and a source of relatively high fluid pressure, a cylinder, a conduit connected to said cylinder, a fluid pressure responsive valve in said conduit, a bypass connected to said conduit on either side of said valve, a piston in said cylinder movable in one direction under the influence of high pressure fluid, means for connecting said conduit to said high pressure source, means actuated by said piston for positively opening said valve against the force of high pressure fluid acting thereon during a predetermined portion of the piston travel, means actuable by movement of said piston to a predetermined position for connecting said conduit to said lower pressure source, and a spring in said cylinder effective to move said piston in a direction opposite to said one direction when said conduit is connected to said lower pressure source, said valve being opened by the fluid expelled from said cylinder when said piston is moved by said spring.

2,968,286
HYDRAULIC AXIAL-PISTON MACHINE
Georg Wiggermann, Spitzgartenweg 10, Kressbronn, Germany, assignor of one-half to Walter Reiners, M. Gladbach, Germany
Filed May 23, 1957, Ser. No. 661,128
Claims priority, application Germany May 29, 1956
2 Claims. (Cl. 121—62)

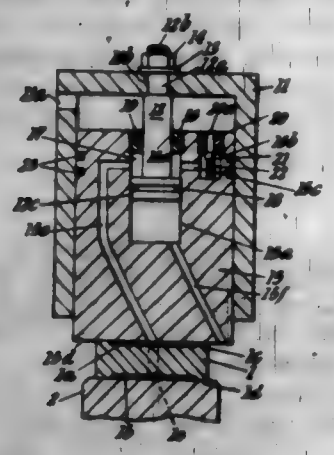


1. A hydraulic machine of the axial-piston type, comprising a shaft, a stationary housing structure around said shaft, two axially spaced head members mounted on said housing structure, said head members having respective planar valve surfaces facing each other, two multi-cylinder drums surrounding the axis of said shaft and rotatable on said respective valve surfaces, each drum having peripherally distributed cylinder bores parallel to the drum axis, said bores in at least one of said drums having respective ports at the adjacent valve surface to coact therewith, pistons reciprocable in said respective bores, a rotatable disc coaxially connected with said shaft and located in said housing structure between said two cylinder drums, hollow ball-joint means joining said respective pistons of both said drums with said disc, said disc having a hole between each two axially adjacent ones of said ball-joint means, and said cylinders communicating with each other in pairs through said respective holes and hollow joint means, said head member adjacent to said one drum having two arcuate control grooves angularly spaced from each other in said valve surface for hydraulic communication with said cylinder ports, and hydraulic circulation ducts in communication with said respective grooves to pass hydraulic medium through the machine, whereby the cylinder bores of said one drum are directly supplied with hydraulic medium through said grooves, whereas the cylinder bores of the other drum receive said medium through said hollow joint means and through said holes in said disc.

2,968,287
HYDROSTATIC TRANSMISSIONS
John Purcell Creighton, Castle Bromwich, near Birmingham, England, assignor to Ford Motor Company Limited, London, England
Filed Apr. 20, 1959, Ser. No. 807,668
Claims priority, application Great Britain Apr. 25, 1958
4 Claims. (Cl. 121—120)

1. In a hydrostatic transmission of the type described the combination of an hydraulic cylinder, a piston operat-

ing in the cylinder and having an arcuate end face and an interior passage leading thereto, an eccentric cam, a slipper in slidable contact on one face with the eccentric cam and on the other face with the arcuate end face of the piston and having interconnected recessed portions



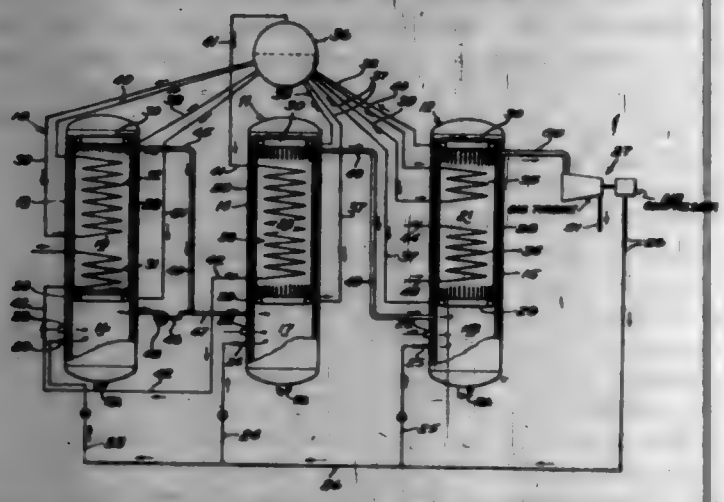
on said two faces, means mounted in the piston for introducing hydraulic fluid into the interior passage of the piston during one stroke thereof in the cylinder and co-operating means on the piston and cylinder for forcing the thus introduced fluid into the recessed portions of the slipper on the reverse stroke of the piston in the cylinder.

2,968,288

METHOD OF BURNING SLAG FORMING FUEL IN FURNACES

Robert J. Zoschak, Rutherford, and Ernest L. Daman, Westfield, N.J., assignors to Foster Wheeler Corporation, New York, N.Y., a corporation of New York

Filed Mar. 18, 1959, Ser. No. 800,214
8 Claims. (Cl. 122—240)



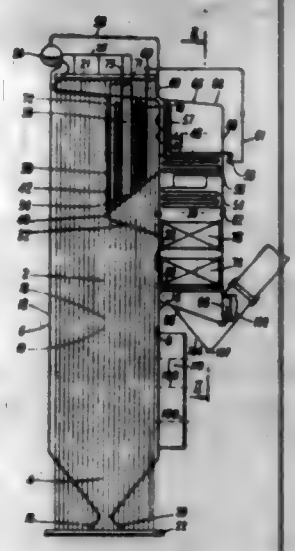
1. In a supercharged vapor generating plant having a plurality of combustion zones, the method of firing a slag forming fuel comprising the steps of burning a slag forming fuel in a first combustion zone to produce a first combustion gas, passing said combustion gas into indirect heat exchange relationship with heat transfer elements whereby heat is absorbed from said gas, recirculating a portion of said first combustion gas after it is cooled into the first combustion zone and into admixture with the combustion gas generated in said first combustion zone by the burning of slag forming fuel, burning a slag forming fuel in a second combustion zone to produce a second combustion gas, passing the other portion of the cooled first combustion gas into said second combustion zone and into admixture with said second combustion gas, passing the admixed first and second combustion gases into indirect heat exchange relationship with heat transfer elements whereby heat is absorbed from said gases, burning a slag forming fuel in a third combustion zone to produce a third combustion gas, flowing the cooled first and second combustion gas admixture into said third combustion zone and into admixture with said third combustion gas, passing the first, second and third combustion gas admixture in indirect heat exchange relationship with heat transfer elements whereby heat is absorbed from said combustion gas admixture and thereafter passing the cooled first, second and third combustion gas admixture to a place of use.

2,968,289

VAPOR GENERATING UNIT

Ronald Ernest Zeller, London, England, assignor to Babcock & Wilcox Limited, London, England, a corporation of Great Britain

Filed Oct. 29, 1958, Ser. No. 770,428
4 Claims. (Cl. 122—480)



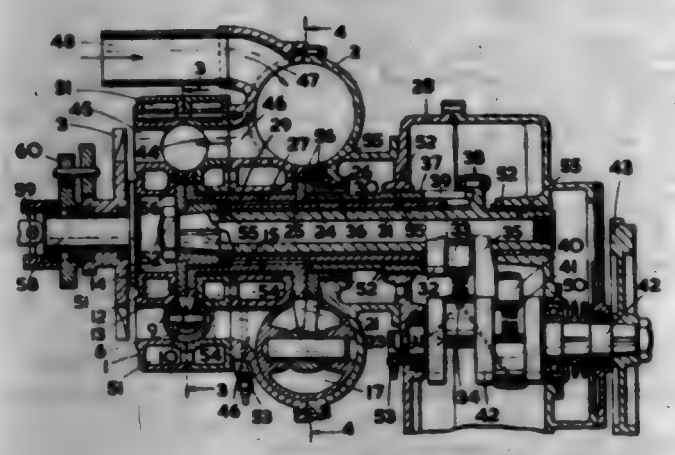
1. A vapor generating unit comprising walls defining an upright furnace chamber having a heating gas outlet, wall means forming an upright main gas pass laterally adjacent said furnace chamber and defined in part by a vertical planar wall portion of one of the walls of said furnace, said main gas pass having an inlet at its upper end communicating with said gas outlet and a gas exit at its lower end, vapor heating surface disposed in said main gas pass, wall means forming an upright damper-controlled gas by-pass disposed laterally adjacent said furnace chamber and to one side of said main gas pass and defined in part by said vertical planar wall portion of said one wall of the furnace chamber, said gas by-pass having an inlet at its upper end at substantially the same level as the gas inlet of the main gas pass communicating with said gas outlet and a gas exit at its lower end at about the same level as the gas exit of the main gas pass, and burner means disposed in said vertical planar wall portion of said one wall of the furnace chamber and directly below said main gas pass and firing the furnace with a fuel resulting in solid particles in suspension in the furnace gases, the lower portion of the wall means of the main gas pass including gas-swept bottom wall means and being so proportioned and arranged as to insure under all normal operating conditions of the unit a gas velocity over the surface of the bottom adequate to sweep depositing solids therefrom and through the gas exit of the main gas pass, said bottom wall means of the main gas pass overlying said burner means and being swept only by the gases flowing through said main gas pass, said gas by-pass having its lower portion formed with a hopper ahead of the gas exit of the by-pass, with the lower portion of the wall means of the gas by-pass being so proportioned as to insure under all normal operating conditions of the unit a gas velocity low enough to cause solids in the gases flowing through the lower portion of the gas by-pass to separate from the gases and deposit in said hopper, said hopper collecting solids only from the gases flowing through said by-pass.

2,968,290

GAS GENERATORS

Granville Eastwood Bradshaw, Leatherhead, England, assignor to Bremaga Limited, London, England, a British company

Filed May 22, 1957, Ser. No. 660,922
Claims priority, application Great Britain May 22, 1956
4 Claims. (Cl. 123—18)



1. A gas generator comprising a first toroidal compression cylinder having a circular cross-section having first inlet ports for introducing air to the cylinder and first outlet ports, four first pistons having a cross-section for compressional engagement with the interior of said first cylinder and oscillatably disposed therein, a first member oscillatable about the axis of the toroidal cylinder, means connecting one pair of opposite pistons to said first member, a second member oscillatable about the axis of the toroidal cylinder, means connecting the other pair of opposite pistons to said second member, a second toroidal motor cylinder having second inlet and second outlet ports, there being passageways connecting the second inlet ports to the first outlet ports and the second outlet ports supplying the gas that is generated, four further pistons oscillatably disposed in the second cylinder, a third member oscillatable about the axis of the second toroidal cylinder, means connecting one pair of opposite further pistons to said third member, a fourth member oscillatable about the axis of the second toroidal cylinder, means connecting the other pair of opposite further pistons to said fourth member, connections for causing the third member to rock the first member and the fourth member to rock the second member, and four fuel injectors for injecting fuel one into each of the four combustion chambers formed in the second toroidal cylinder between adjacent ones of the four further pistons therein, said first toroidal cylinder having a toroidal circumference greater than the toroidal circumference of said second toroidal cylinder and said first pistons and toroidal cylinder having a compression capacity several times greater than the compression capacity of said further pistons and said second cylinder, and said first and second toroidal cylinders being coaxial with each other and the plane of said first toroidal cylinder is spaced from the plane of said second toroidal cylinder.

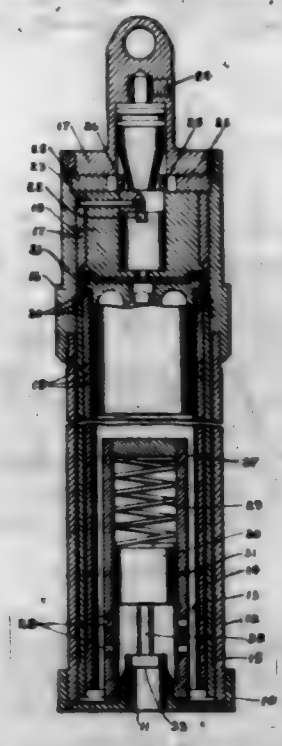
2,968,291

CONTROLLED ACCELERATION PERSONNEL ESCAPE THRUSTER

Manuel Weinstock, Philadelphia, Pa., assignor to the United States of America as represented by the Secretary of the Army

Filed Jan. 2, 1958, Ser. No. 706,882
2 Claims. (Cl. 123—24)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. In a thruster designed to operate under a wide range of ambient temperature conditions, the combination of a casing, a hollow thrust exerting member movable in and communicating with said casing, means for generating in said member a gas under a pressure in excess of that required to exert a predetermined thrust on said member under all of said temperature conditions, a tube forming an opening through a wall of said casing and extending into said member, a piston movable in said



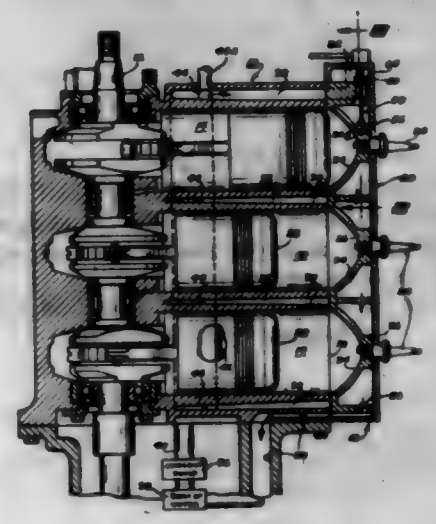
tube, a valve seat fixed to said piston and movable thereby to open and close said opening, and a spring arranged between said closed end and said piston to apply thereto a force such that said seat is moved to uncover said opening only when the pressure within said member exceeds said required pressure.

2,968,292

MARINE ENGINE COOLING SYSTEMS

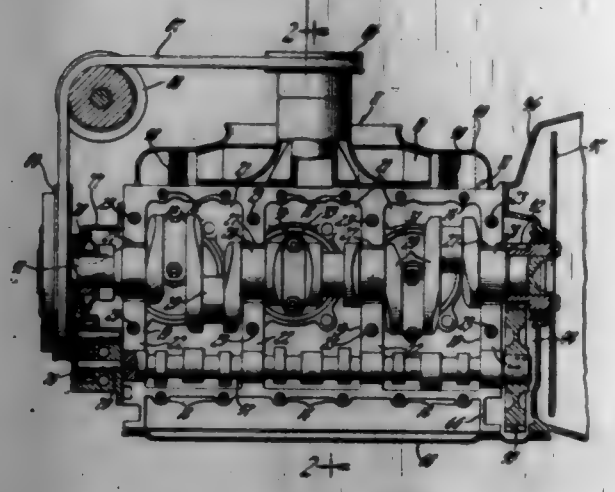
Douglas E. Kelly, Minneapolis, Minn., assignor to McCulloch Corporation, Minneapolis, Minn., a corporation of Minnesota

Filed May 9, 1960, Ser. No. 27,686
11 Claims. (Cl. 123—41.08)



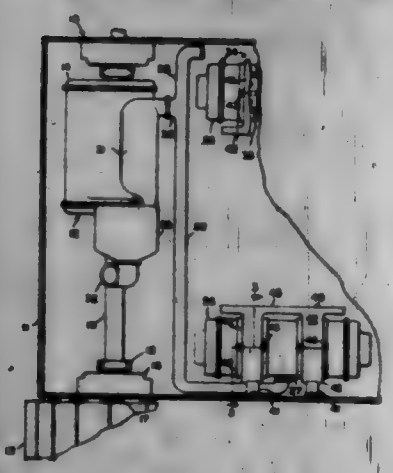
1. For use in an internal-combustion marine engine having a non-recirculating cooling system, a cylinder head member having recessed wall portions adapted to form the head of each engine cylinder and a coolant chamber for carrying coolant between an inlet means and an outlet means for cooling the wall portions, the improvement comprising a temperature sensing and valve actuating element inverted into one of the wall portions, a valve member disposed in one of the means and operatively connected to the element for unblocking the one means in response thereto, and means yieldably urging the valve member to close said one means.

2,968,293
INTERNAL COMBUSTION ENGINE
Adelbert E. Kolbe, Berkley, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Dec. 31, 1958, Ser. No. 784,317
8 Claims. (Cl. 123—41.69)



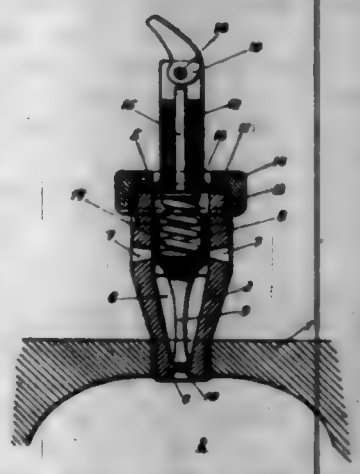
1. An internal combustion engine comprising a crankcase having spaced and oppositely disposed side walls and having transverse walls extending between said side walls, said transverse walls being formed to provide crankshaft and camshaft bearing means extending in parallel relation between said side walls, said crankcase being divided between said side walls and through transverse walls and said crankshaft and camshaft bearing means to provide oppositely disposed crankcase sections, bolts extending through openings in said walls and securing said sections together, said crankcase having oppositely disposed pairs of openings formed in said side walls and having bosses formed around said pairs of openings, oppositely extending pairs of cylinders engaging said crankcase and aligned with and closing said pairs of openings, heads engaging and closing the outer ends of said cylinders, studs having inner and outer ends and being disposed around said cylinders, said inner ends of said studs engaging and being secured in openings formed in said bosses, said outer threaded ends of said studs extending through openings in said heads, and means engaging said outer ends of said studs and said heads and securing said heads to said cylinders and said cylinders to said crankcase sections.

2,968,294
AIR INTAKE MANIFOLD STRUCTURE
Carl F. Bachle, Grosse Pointe, Mich., assignor to Continental Aviation and Engineering Corporation, Detroit, Mich., a corporation of Virginia
Filed Dec. 22, 1955, Ser. No. 554,786
7 Claims. (Cl. 123—46)



1. In a vehicle having a frame structure, an engine air intake manifold structure carried by said frame structure, said manifold structure comprising a pair of spaced apart parallel side walls, a peripheral wall connecting said side walls and having an air intake opening, an air filter disposed in said opening, said parallel side walls having coaxial mounting holes inwardly spaced from said peripheral wall a free piston engine structure removably supported in the mounting holes of said manifold structure and comprising a generally cylindrical casing extending axially through said holes, said cylindrical casing having annularly spaced air inlet openings arranged to be disposed intermediate said manifold structure side walls and substantially in planes extending normal to the axis of said engine structure, said air inlet openings being radially inwardly spaced from the peripheral wall of said manifold structure to provide for free circulation of air within said manifold structure from said intake opening to said inlet opening.

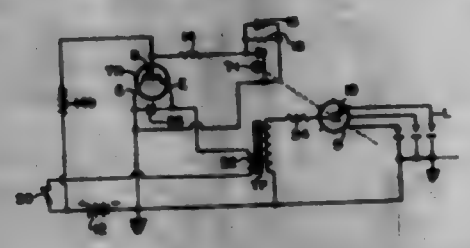
2,968,295
INTERNAL COMBUSTION ENGINE BRAKE
Richard Haller, Brauerstrasse 51, Zurich, Switzerland
Filed Mar. 1, 1957, Ser. No. 643,412
Claims priority, application Switzerland Mar. 2, 1956
5 Claims. (Cl. 123—97)



4. For use with an internal combustion engine having at least one cylinder, a braking device comprising, in combination, a hollow valve casing formed with inlet and outlet means, the former being adapted to communicate with a cylinder of the internal combustion engine; a valve member having a closure portion and a fluid pressure responsive control portion the effective area of which is greater than that of said closure portion, said valve member being arranged in said valve casing for movement between a closed position wherein said closure portion closes said inlet means and an open position wherein said closure portion is spaced from said inlet means; biasing means continuously urging said valve member to its closed position, whereby when said valve member is in its closed position and the gaseous fluid medium in the cylinder of the engine with which said inlet means is in communication exerts upon said closure portion a pressure which is greater than a predetermined minimum pressure, said valve member will be moved to its open position against the action of said biasing means so that the fluid medium will flow into said valve casing and act upon said fluid pressure responsive control portion, thereby maintaining said valve member in its open position against the action of said biasing means until the pressure of the fluid medium falls to a value lower than said predetermined minimum pressure which was required initially to move said valve member to its open position; and quick-acting adjusting means associated with said biasing means for adjusting the force with which said valve member is urged to its closed position, said quick-acting adjusting means being movable between at least two positions in one of which said biasing means exerts a sufficiently great force to maintain said valve member closed under maximum

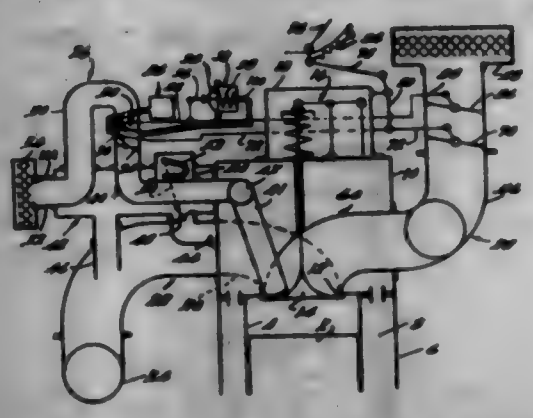
pressure conditions attainable in said cylinder and in the other of which positions said biasing means exerts a force which permits said valve member to be moved to its open position upon the attainment of a pre-selected minimum pressure in said cylinder.

2,968,296
IGNITION SYSTEMS FOR MULTI-CYLINDER ENGINES
Frank J. Kachnal, Cleveland, Ohio, assignor to Economy Engine Company, Youngstown, Ohio, a corporation of Ohio
Filed Mar. 21, 1958, Ser. No. 722,946
21 Claims. (Cl. 123—117)



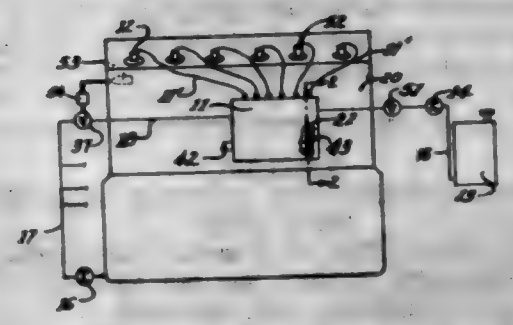
1. In an ignition system for a multi-cylinder engine, a spark distributor for connection to a plural spark plug load and having a controlled rotor frequency dependent on engine rotation, a transistor supply circuit including transistor means with base, emitter and collector electrodes and having a source of direct current and a base bias resistor, and an output transformer coupling the output of said supply circuit to said spark distributor, said transformer including a primary winding coupling said collector and emitter electrodes to said source and operative to supply flux energy to said transformer for delivery of power to the spark distributor, said base bias resistor coupling said base electrode to said emitter electrode and said distributor being included in a load circuit having a resistance common to the plural spark plugs of said load.

2,968,297
INDUCTION SYSTEM
John T. Rosen, 6190 Lodewyck, Detroit, Mich.
Filed Mar. 17, 1958, Ser. No. 721,791
48 Claims. (Cl. 123—119)



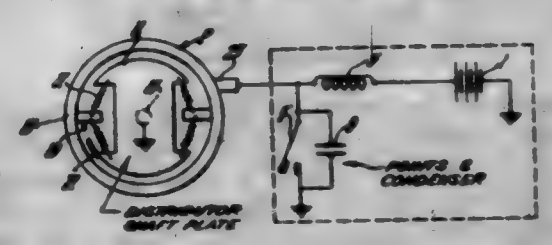
1. In an induction system for a reciprocating piston type internal combustion engine having a cylinder, means defining a first passage for conveying a fuel-air mixture to the cylinder, means defining a second passage for conveying air to the cylinder, means for heating said first passage so as to heat said mixture to a gaseous state, a manually controlled throttle valve in said second passage, an automatically operable valve in each of said passages and means connecting said automaticlly operable valve for simultaneous movement, said automatically operable valves being responsive to induction system vacuum so as to be opened in response to an increase in said vacuum.

2,968,298
INTERNAL COMBUSTION ENGINE
Siegfried Meurer, Heisterstrasse 37, Nurnberg, Germany
Filed Jan. 12, 1959, Ser. No. 786,272
11 Claims. (Cl. 123—139)



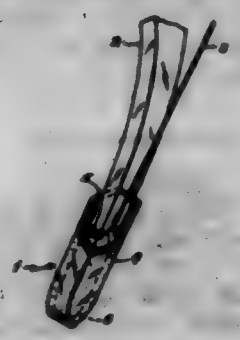
1. In a compression-ignition internal combustion engine having a combustion chamber, means for injecting liquid fuel into said combustion chamber, and a lubricating system through which lubricating oil is circulated; means for withdrawing small quantities of the lubricating oil from said lubricating system and supplying them to said fuel-injection means.

2,968,299
IGNITION CONTROL
Jule Brinn, Oak Park, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Feb. 20, 1959, Ser. No. 794,582
12 Claims. (Cl. 123—198)



1. In an ignition control system for a multi-cylinder internal combustion engine having a crankshaft, a primary ignition circuit including a voltage source, a primary and a secondary ignition winding and a set of breaker points controlled in timed relationship to rotation of the engine crankshaft to connect and disconnect said source and said primary winding to induce a high voltage in the secondary winding, auxiliary means for at times connecting said source to said winding, said means responsive to a predetermined amplitude of torsional oscillation of the engine crankshaft to connect said primary winding and said source to render said breaker points ineffective to disconnect said source and said winding and thereby ineffective to induce the high voltage in said secondary winding.

2,968,300
BOW ATTACHMENT
Wesley M. Allen, Windsor, Mo.
Filed Aug. 28, 1957, Ser. No. 680,853
3 Claims. (Cl. 124—23)



3. In combination, an archer's bow, the tips of the bow each having a notch slightly remote therefrom, the

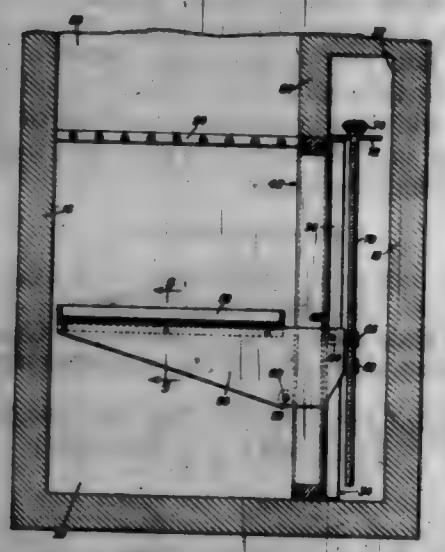
notches adapted to receive and hold a bow string; a guard on the lower tip of the bow, the guard formed of resilient, elastic material, the guard having a chamber therein, the chamber in outline following the outline of the guard, the guard frictionally engaging the lower tip of the said bow, and the length of the guard being such that it extends beyond the aforementioned notch in which the lower end of the bow string is to be attached.

2,968,301

BARBECUE APPARATUS HAVING ADJUSTABLE FIRE LIFT

Robert J. Cowart, 1968 W. Concho, San Angelo, Tex.

Filed Oct. 2, 1957, Ser. No. 687,742
3 Claims. (Cl. 126—25)



1. A barbecue apparatus comprising a barbecue cabinet having a vertically extending partition disposed therein dividing said cabinet into two separate compartments, one of said compartments comprising an oven and fire pit chamber provided with a grill at its upper end and the other comprising an operating mechanism compartment, a supporting frame in said operating mechanism compartment, said frame including a pair of vertically disposed and slightly spaced channel members positioned in said partition providing a vertically extending slot therethrough, a fire pan disposed horizontally in said fire pit for vertical movement relative to said grill, a vertically disposed plate disposed beneath, secured to, and supporting said fire pan, said plate extending through, being slidably disposed and guided in said slot, means carried by said plate disposed on opposite sides of said partition for guidingly engaging the said channel members, and means in said mechanism compartment operatively connected to said plate for vertically moving said plate relative to said grill, through said slot, each of said channel members comprising a generally U-shaped member having a pair of parallel flanges interconnected by means of a web portion, said channel members being disposed in said partition with said webs in juxtaposed parallel spaced relation, the remote surfaces of said parallel flanges of each channel member being disposed on opposite sides of said partition, said guiding means including a pair of rollers journaled on said plate on each side of said partition with each pair of rollers engaging the flanges of said channel members on an opposite side of said partition.

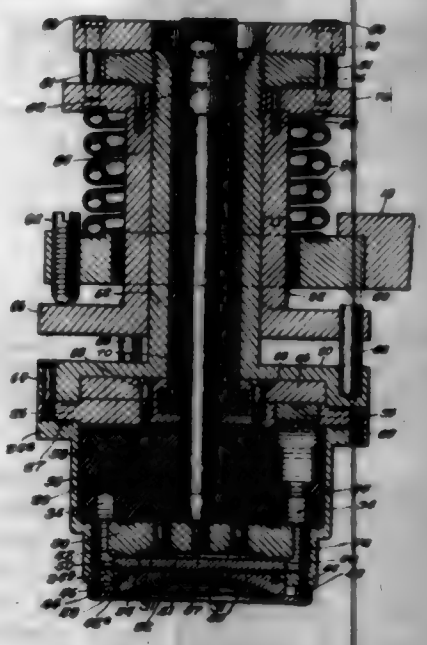
2,968,302

MULTIBEAM FOCUSING IRRADIATOR

William J. Fry and Frank J. Fry, Champaign, Ill., assignors to University of Illinois Foundation

Filed July 20, 1956, Ser. No. 599,054
8 Claims. (Cl. 128—24)

1. A focusing ultrasonic irradiator comprising a support, a housing carried by said support, a vibrating element in said housing for producing a beam of ultrasonic radiation, connections for supplying electric power to said vibrating element, a lens adjacent to said element for focusing the beam radiated therefrom, an axially adjustable sleeve supported from said housing for carrying said vibrating element and said lens, means for adjusting said housing and sleeve relative to each other longitudinally with respect to said support in a direction



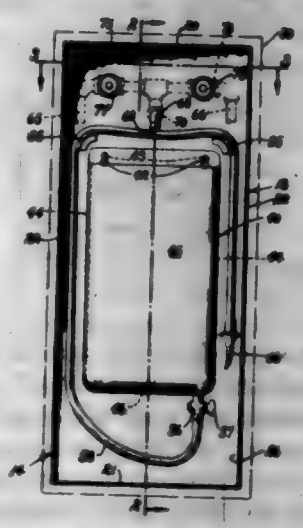
along the axis of the beam for relative phase adjustment of the beam with respect to an arbitrary reference, means for also adjusting said housing angularly within said support with respect to said axis for adjusting said beam in a direction perpendicular to the beam axis and a second sleeve surrounding said first sleeve, both sleeves being adjustable angularly within said support, said angularly adjusting means operating upon said second sleeve to produce said angular adjustment.

2,968,303

DOUCHING APPARATUS

Katherine M. Tenecher, Fresno, Calif., assignor of sixty percent to Katherine M. Tenecher and Robert Phillip Tenecher, as joint tenants, and forty percent to Inez M. Marcel and Edmond L. Marcel, as joint tenants, all of Fresno, Calif.

Filed May 5, 1958, Ser. No. 732,988
2 Claims. (Cl. 128—227)



1. In an upright wall having an opening therein; a body douching apparatus comprising a cabinet fitted in the opening in the wall, supported thereby, and including a rear panel, top, bottom and side panels forwardly extended from the rear panel, and an opaque front door mounted on one of the side panels for movement between

a closed position in parallel relation to the rear panel and an outwardly extended open position; a substantially rectangular tank having a back wall mounted on the rear panel of the cabinet, side and bottom walls forwardly extended from the back wall and a transparent front wall interconnecting the side and bottom walls in spaced relation to the back wall, the front, side, and back walls circumscribing an upwardly disposed open top, the bottom wall having an outlet port therein; a spout mounted in the rear panel above the tank having a forward downwardly disposed outlet directly above the open top of the tank; hot and cold main supply conduits having ends connected to the spout and opposite ends adapted for connection to a source of hot and cold fluid under pressure; supply valves individually connected in the main conduits and mounted in the rear panel of the cabinet having forwardly extended valve control handles; an outlet valve connected to the port in the tank; an elongated flexible hose having an end connected to the outlet valve and an opposite discharge end; an elongated douche administering pipe connected to the discharge end of the hose; and a pair of hooks secured to the rear panel of the cabinet individually above the side walls of the tank for receiving the hose in draped condition over the tank.

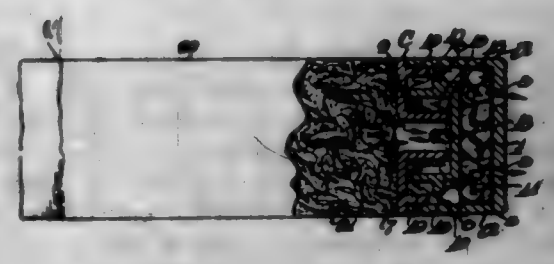
2,968,304
SANITARY PAD AND METHOD OF MAKING
Irvin S. De Woskin, St. Louis, Mo., assignor to Beltx Corporation, St. Louis, Mo., a corporation of Missouri
Filed Oct. 4, 1956, Ser. No. 613,849
9 Claims. (Cl. 128—290)



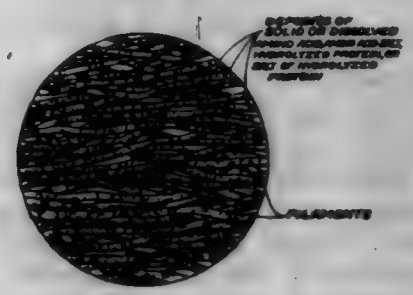
1. A pad comprising an absorbent body having at each of its ends an integral projecting stem narrower than the width of the body and an integral head on the end of the stem, said pad being formed of a material comprising fibers bonded together into a coherent mass by means of a thermoplastic resin binder, the material in the body of the pad being of such density as to be absorbent, the material in the stems and heads being compressed and being held compressed by means of fused thermoplastic resin therein so as to be of less thickness, higher density and greater stiffness than the body of the pad, said pad having scores in at least one face thereof formed by compressed portions of the material, the thermoplastic resin in these portions being fused to hold them compressed.

2,968,305
FILTER CIGARETTE
José Mazur Barnett, Buenos Aires, Argentina, assignor to Filtex S.A., Montevideo, Uruguay, a corporation of Uruguay
Filed Aug. 12, 1957, Ser. No. 677,463
3 Claims. (Cl. 131—10)

1. In a filter cigarette, a chambered filter composed of a plurality of interfitting capsule-like parts configured to form a labyrinthine path effecting changes of direction and speed of smoke passing therethrough and filtering material disposed in a chamber of said filter and over which the smoke passes as it leaves the filter, said capsule-like parts including an outer capsule element having an end provided with openings and a wall with depressions in its inner surface, an inner capsule element having an imperforate end and a wall with openings therein and with an external annular shouldered projection inwardly spaced from the wall of the outer capsule element and a cap member having a hollow boss projecting into said inner capsule element and having openings therein, the boss being inwardly spaced from the wall of the inner capsule element, said cap member having a second boss provided with projections thereon for reception in the wall depressions of the outer capsule element, said second boss being spaced from the wall and from the external projection of the inner capsule element, the filtering material being located between the imperforate end of the inner capsule element and the opening-provided end of the outer capsule element the smoke passing inwardly through the openings of the cap member and downwardly within the space between the inner cap member and the inner capsule element through the openings in the inner capsule element radially outwardly and upwardly around the projection and within the space between the inner capsule element and the outer capsule element through the filtering material and emitting through the apertures in the end wall of the outer capsule element.

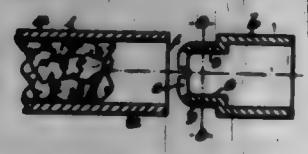


2,968,306
TOBACCO SMOKE FILTER CAPABLE OF SELECTIVE REMOVAL OF ALDEHYDES
George P. Touey, John E. Kiefer, and John R. Caldwell, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Feb. 29, 1956, Ser. No. 568,574
5 Claims. (Cl. 131—208)



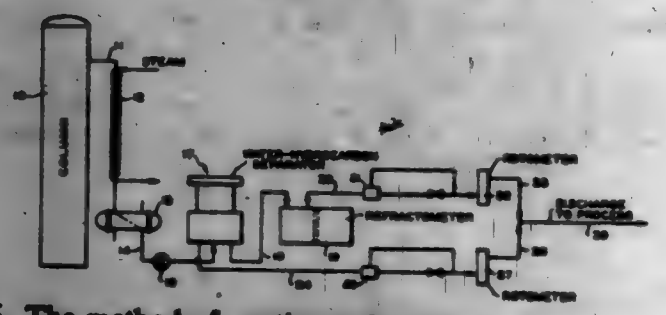
1. A tobacco smoke filter adapted to remove aldehyde impurities from tobacco smoke, said filter being comprised of a bundle of crimped, continuous filaments, the number of filaments in the bundle being greater than 4,000, the denier per filament being less than 16, the crimp being greater than 4 crimps per inch, substantially all the filaments being generally aligned longitudinally of the filter, a wrapper enclosing the periphery of the bundle, the filter being further characterized in that (*a*) the filaments contain a plasticizer and (*b*) the filaments carry on their surface particles of an amino acid material which is a nontoxic, nonvolatile, substantially nonodorous solid and which amino acid solid is a chemical compound having more than one carbon atom but not more than six carbon atoms and which has at least one free amino group in its molecular structure whereby said solid amino acid material not only is present to remove aldehydes, but as a solid is available on the filter to assist the filter in removing tar particles from the tobacco smoke stream.

2,968,307
CIGARETTE OR CIGAR HOLDER
José Mazur Barnett, Buenos Aires, Argentina, assignor to Filtex S.A., Montevideo, Uruguay, a corporation of Uruguay
Filed Dec. 21, 1955, Ser. No. 554,518
1 Claim. (Cl. 131—225)



In a cigarette or cigar holder having a long filter tube tapering at one end to a mouthpiece with an opening therethrough and having a cylindrical opposite end and a sealing cap for said opposite end, the construction wherein the sealing cap has a cylindrical body portion equal in diameter to the cylindrical end of the tube and forming a flush continuation thereof and a reduced capsular portion disposed within and sealed to the cylindrical tube end and having a closed end provided with an opening communicating with the interior of the tube and external longitudinal grooves for the reception of sealing solvent, the annular step thus formed at the juncture of the reduced capsular portion and the cylindrical body portion abutting the cylindrical tube end.

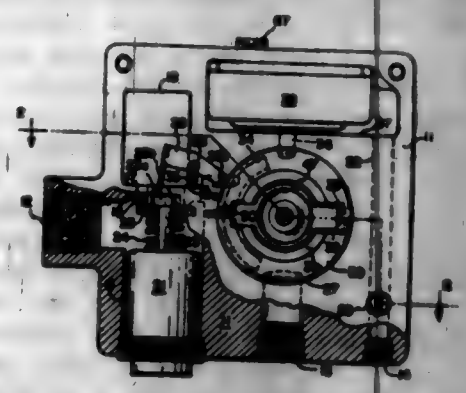
2,968,308
CONTINUOUS ANALYSIS OF PROCESS STREAMS
Dale E. Lupfer and Robert D. Coughenour, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware
Filed Mar. 28, 1957, Ser. No. 649,100
8 Claims. (Cl. 137—1)



6. The method of continuously analyzing a component from a dispersion sample having a first component dispersed in a second component, said first and second components being capable of phase separation which comprises passing said sample through an inert permeable coalescing medium thereby coalescing said first component, separating said first component phase from said second component leaving said second component substantially free of dispersed first component, passing at least a portion of one of said components to an analytical instrument, continuously analyzing said component portion, maintaining a substantially constant rate of flow of the component portion through said analytical instrument, continuously by-passing said analytical instrument with the balance of said components from said separation zone, and maintaining a substantially constant rate of flow of components by-passing said instrument.

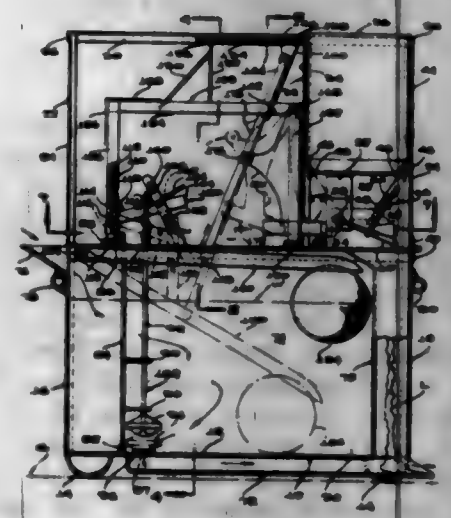
2,968,309
COMBINATION VALVE
Charles D. Coffey, Inglewood, Calif., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed Dec. 30, 1958, Ser. No. 783,937
4 Claims. (Cl. 137—66)

1. A valve comprising a valve body having an inlet and an outlet and a flow passage therebetween, a valve seat in said passage between said inlet and said outlet, a safety valve normally biased into seating engagement with said seat, condition responsive means for holding said valve open, a rotary plug valve in said passage and positioned between said valve seat and said outlet and being movable between "off" and "on" positions, a lever pivoted on said body and having one end positioned to engage and open the safety valve and the other end extending toward said plug valve, a handle having an axially



slidable and non-rotatable connection with said plug valve, said connection having an arm thereon normally biased away from said lever so as to be rotatably clear of said lever but axially movable in the "off" position of said plug valve to position it in registration with said lever so that rotary movement thereof toward but short of its open position opens said safety valve.

2,968,310
LIME FEEDING APPARATUS
Harold D. Letts, Zelienople, Pa., assignor to Tuna Coal Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Sept. 27, 1957, Ser. No. 686,676
15 Claims. (Cl. 137—101.27)



1. Apparatus for intermixing a comminuted material with a liquid, comprising: a structure including a hopper assembly for said material, a tank for said liquid, and a discharge channel arranged for flow of said material and liquid thereinto from the hopper assembly and tank respectively, for intermixing of the material and liquid in the channel to form a slurry; valve means within the tank arranged to control the flow of liquid from the tank into the channel; valve operating means responding to rising of the liquid level in the tank for unseating the valve means on rising of the level to a predetermined height; and a striker mechanism connected with and actuated by the valve operating means to strike the hopper assembly at least not subsequent to the operation of the valve means, for agitating said material and shaking from the hopper assembly a charge of the material to be mixed in the channel with the liquid, said striker mechanism including a hammer assembly mounted upon said structure for movement between one position spaced from the hopper assembly and another position in engagement

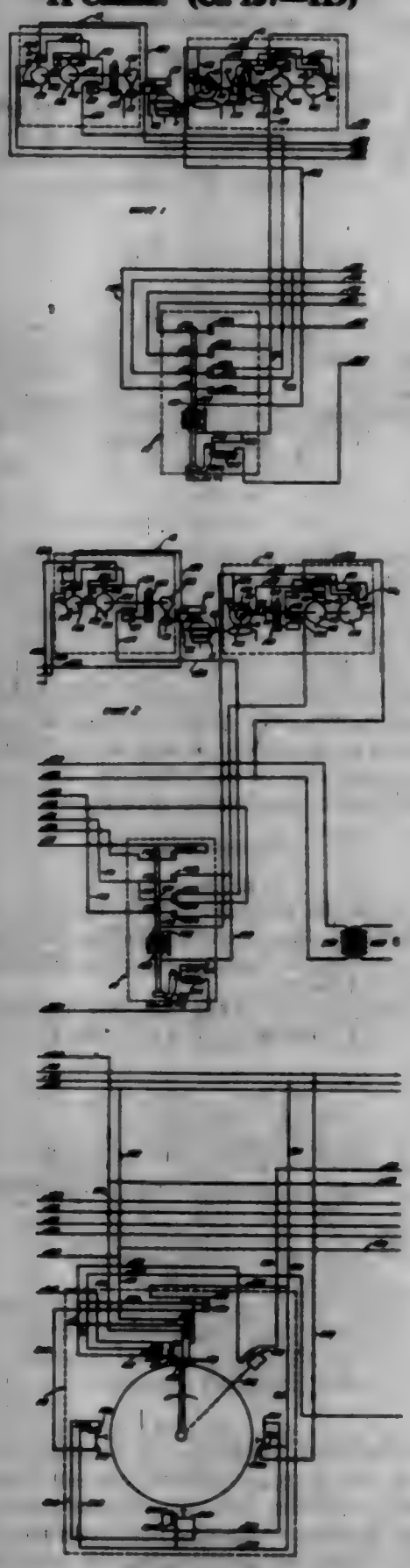
with said hopper assembly, said hammer assembly being under bias continuously tending to drive the same forcibly from said one to said other position against the hopper assembly, said valve operating means being mounted to effect biasing of the hammer assembly, before unseating of the valve means, to said one position and thereafter free the hammer assembly for travel to said other position.

2,968,311

CONTROL SYSTEM FOR WATER TREATING APPARATUS

Robert A. Whitlock, Jr., Rockford, Ill., assignor to Aquamatic Inc., a corporation of Illinois

Filed Dec. 1, 1953, Ser. No. 395,449
11 Claims. (Cl. 137—119)



2. A control system for a battery of flow control units each including a multiport valve having a ported valve body, a distributor cooperable with said body and movable through an operational cycle in which the distributor is moved between different rotative settings at preselected time intervals to establish various different flows of fluid, fluid pressure responsive valve operating means on each valve for lifting, turning and reseating the distributor on the valve body, pilot valve means individual to each unit for controlling the respective valve operating means to effect lifting, turning and reseating of the distributor in response to movement of the pilot valve means from a first position to a second position and back, a limit switch individual to each unit actuatable in response to lifting of the respective valve distributor to a predetermined position, a motor individual to each unit for operating the respective pilot valve means between said first and second positions, a branch circuit in each unit including a normally open switch means, means in each unit for initiating an operational cycle in that unit independent of the other units, means in each unit actuated by the cycle initiating means of that unit for closing the normally open switch means in the respective branch circuit, a single cycle timer operable upon energization to complete a timing cycle, timer controlled means common to each of said units and connected to the several branch circuits for simultaneously applying power to each of the branch circuits at selected time intervals during the timing cycle, a first motor operating circuit means in each unit connected to the respective branch circuit for energizing the motor in that unit when the respective normally open switch means is closed to operate the respective pilot valve means from its first position to its second position, means responsive to actuation of one switch closing means for disabling the other switch closing means and for energizing the timer, and a second motor operating circuit means in each unit including said limit switch for energizing the motor of that unit to operate the respective pilot valve means from said second position to said first position when said limit switch is actuated.

2,968,312

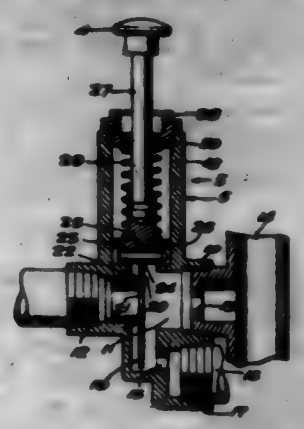
WITHDRAWN

2,968,313

AUTOMATIC DIVERTER VALVE

Alfred L. Camp, Brea, Calif., assignor to Repcal Brass Mfg. Co., Los Angeles, Calif., a corporation of New Jersey

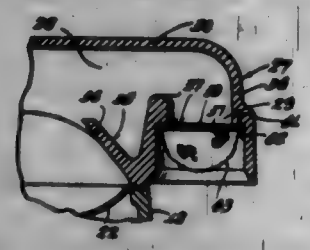
Filed Aug. 11, 1958, Ser. No. 754,399
8 Claims. (Cl. 137—467)



1. In a diverter valve, a vertically extending valve housing having a relatively unobstructed lower chamber and an upper chamber connected with the lower chamber, said lower chamber having an inlet and a pair of outlets, a stem slidably mounted for vertical, longitudinal movement in said upper chamber, a flat diverter plate within the housing, and means connecting said plate with said stem to move said plate longitudinally in said chambers

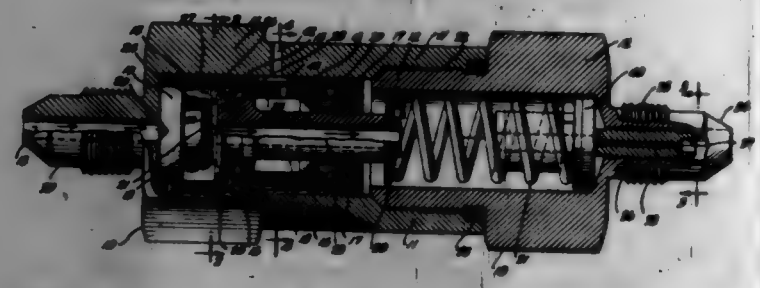
and to move freely toward and away from one of said outlets, the plate having an aperture permitting flow from the inlet through said one outlet and having an imperforate section obstructing flow through said one outlet, said stem being operable for moving said plate to a diverting position to obstruct said one outlet, diverting the flow from the inlet through the the other of said outlets.

2,968,314
DOME CONSTRUCTION FOR PRESSURE REGULATING DEVICE
Fairchild Whitworth, Fairfield, Conn., assignor to The Sprague Meter Company, Bridgeport, Conn., a corporation of Connecticut
Filed June 18, 1958, Ser. No. 742,903
4 Claims. (Cl. 137—493.9)



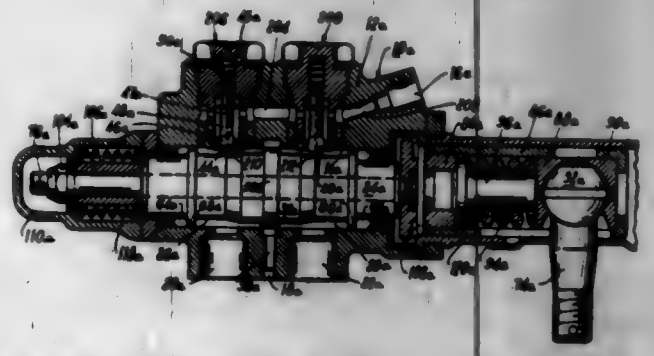
4. A cover dome structure for venting and dampening harmonic pulsations inherent in the operation of a regulator and adapted to be mounted on top of and close a venting chamber of a pressure regulating device forming a part of a meter casing with the dome lying within the area defined by the walls of the meter casing, said cover dome comprising a body portion having an integral conduit projecting from the edge of the body and having a pair of juxtaposed downwardly facing vent openings therein, trap means formed integral with said cover dome adjacent said vent openings to trap water entering said conduit, whereby deterioration is prevented, and a flat flexible membrane being formed with an aperture and having a plurality of slits extending radially outwardly therefrom to form a variable opening therein disposed within each of said vent openings for controlling fluid flow therethrough.

2,968,315
PREDETERMINED PRESSURE SHUT-OFF VALVE
Robert M. Fisher, 220 35th St., Manhattan Beach, Calif.
Filed Feb. 5, 1958, Ser. No. 713,471
3 Claims. (Cl. 137—517)



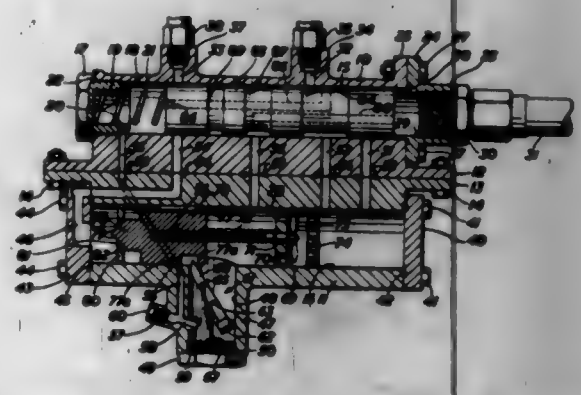
1. An automatic in-line, predetermined-pressure shut-off valve comprising the combination of a generally hollow valve body, having an inlet portion and an outlet portion in axial alinement, said inlet portion having a coaxial sleeve therein, said sleeve having an internal diameter nearest the inlet of one dimension, and an internal diameter farthest from the inlet of another dimension smaller than said one dimension; said inlet and outlet portions each, respectively, having an externally threaded nozzle, respectively, for coupling in a flow line between a source and a receiver of fluid under pressure; a generally cylindrical axially movable closure piston assembly having a diameter at its inlet end corresponding with said one diameter of said sleeve, and a diameter at its outlet end corresponding with said other diameter of said sleeve, said piston being concentrically disposed in said sleeve and adapted to have a first position within said sleeve to permit the flow of fluid therethrough, and a second position in axial relation to said first position, wherein the flow of fluid is cut off; a compression spring disposed within said outlet portion of said valve body, abutting and in axial engagement with said piston to apply a resilient urge against said piston to said first position thereof; and an adjustment screw abutting said compression spring for adjusting the resilient urge of said spring against said piston to a predetermined pressure, whereby when the pressure of fluid applied to said inlet portion equals and exceeds said predetermined pressure said piston is moved to said second position to cut off said fluid flow.

2,968,316
POWER STEERING VALVE
Harold B. Schultz, South Bend, Ind., assignor to The Bendix Corporation, a corporation of Delaware
Filed Mar. 5, 1956, Ser. No. 569,383
7 Claims. (Cl. 137—622)



1. A closed center control valve comprising a housing member having a bore therein, a valve member slidable in opposite directions from a normally neutral position within said bore, an inlet port, an outlet port two working ports, two poppet valves between said inlet port and the bore of said housing, a central land formed on said said valve member, and cam surfaces formed on said valve member on each side of said central land, said cam surfaces opening one or the other of said poppet valves upon movement of said valve member.

2,968,317
DEVICE FOR INTERMITTENT FLOW OF FLUID
Kenneth William Jay, Beverley Hills, Ontario, Canada, assignor to Orenda Engines Limited, Malton, Ontario, Canada, a corporation
Filed May 29, 1958, Ser. No. 738,720
11 Claims. (Cl. 137—624.14)

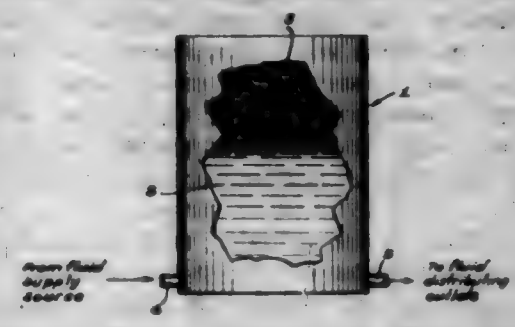


1. A cycling valve, comprising a housing; first and second bores in the housing; a fluid inlet and first and second fluid outlets in the housing and opening into the first bore; a bleed passage extending between the first and second bores; a valve member having opposed ends in the first bore, the valve member being arranged within the bore to be slidable therein and so that in all positions of

the valve member one end thereof is in communication with the inlet and the other end of the valve member is in communication with the bleed passage; first, second and third annular recesses in the valve member; a first passage in the valve member extending from said other end thereof to said first recess; a restriction in the first passage to restrict fluid flow therethrough; a second passage in the valve member extending from said one end to said second recess; a bleed valve associated with the bleed passage and having open and closed positions in which fluid flow through the bleed passage is respectively permitted and prevented; a control member in the second bore associated with the bleed valve and reversibly movable under the influence of fluid entering the second bore to open and close the bleed valve; means to control the speed of movement of the control member; a first inlet conduit extending between the first and second bores and opening into the second bore between one end thereof and the control member; a second inlet conduit extending between the first and second bores and opening into the second bore between the other end thereof and the control member; a first outlet conduit extending between the first and second bores and opening into the second bore between said one end thereof and the control member; a second outlet conduit extending between the first and second bores; and spring means urging the valve member to a first position in which the first recess communicates with the first outlet and the valve member seals the first inlet conduit, opens the second inlet conduit to the second recess, opens the first outlet conduit to the first recess and seals the second outlet conduit; the valve member being slidable along the first bore under the influence of fluid pressure in the inlet when the bleed valve is closed to a second position in which the first recess communicates with the first outlet and the third recess communicates with the second outlet and in which the valve member opens the first inlet conduit to the inlet, seals the second inlet conduit, seals the first outlet conduit and opens the second outlet conduit to the third recess; whereby, when the valve member is in its second position, fluid flows from the inlet through the first inlet conduit, the second bore, the second outlet conduit, and the third recess to the second outlet and causes the control member to move to open the bleed valve, the opening of the bleed valve allowing fluid to flow along the bleed passage from the second bore to the other end of the valve member along the first passage and through the first recess to the first outlet; the spring means and the pressure generated by said restriction returning the valve member to the first position; whereas, when the valve member is in the first position, fluid flows from the inlet along the second passage, through the second recess and the second inlet conduit into the second bore to move the control member to close the bleed valve, fluid in the second bore displaced during said movement of the control member flowing through the first outlet conduit to the first outlet; the closing of the bleed valve causing the valve member to move to the second position under the influence of fluid pressure in the inlet.

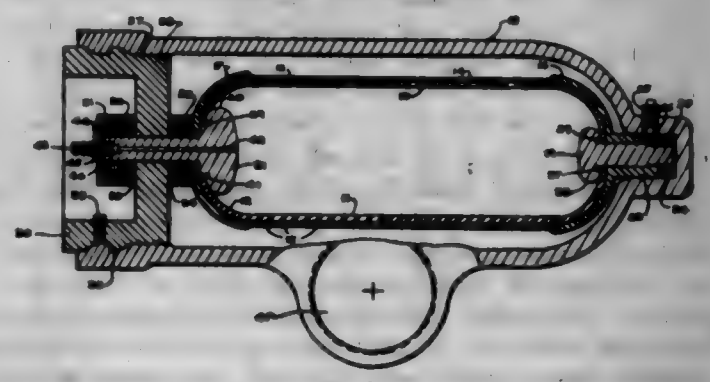
2,968,318
PRESSURING MEANS FOR FLUID DISTRIBUTING SYSTEMS
William C. Bauman, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Oct. 8, 1956, Ser. No. 614,638
3 Claims. (Cl. 138—26)

1. In combination with a surge tank in a fluid distributing system, a pressuring cushion packed in said tank consisting of a yieldably resilient mass of a plurality of individual and separate, closed-cell, cellular, expanded foam, elastomeric polymeric particles that are impervious to the fluid intended for employment in said system; the enclosed volume and dimensions of said tank being greatly larger than the individual volume and dimensions of any



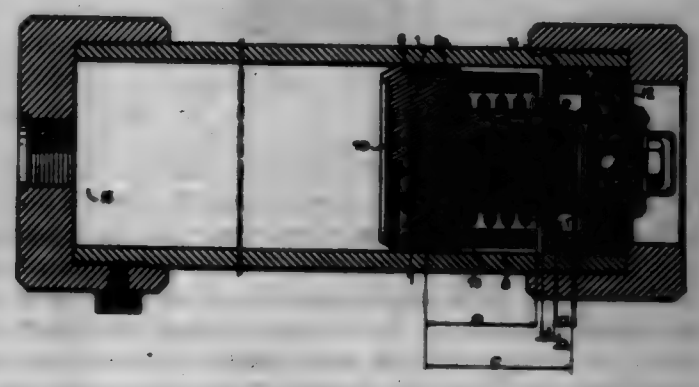
of the cellular particles in said mass and the uncompressed pressure within said elastomeric polymeric particles being at a lower pressure than the operating pressure anticipated for said system.

2,968,319
PULSATION DAMPENER
Melvin A. Ball, 5216 Leveiside St., Lakewood, Calif.
Filed Oct. 21, 1957, Ser. No. 691,467
6 Claims. (Cl. 138—30)



1. A bladder assembly removably insertable in the housing of a pulsation dampener comprising a cylinder with rounded ends and perforated on one side, a collapsible bladder fitting the inside contour of the cylinder while in an uncharged condition and secured to each end of the cylinder with end members, and adapted to be pre-charged with gas when placed inside the cylinder, valve means permitting pre-charging of the bladder with gas before insertion of the bladder assembly in the housing, and means removably mounting the cylinder with the bladder as a unit pre-charged with gas in the housing.

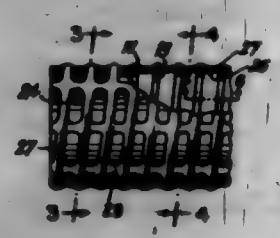
2,968,320
HYDROPNEUMATIC ACCUMULATORS
Jean Louis Gratzmuller, 30 Ave. Georges Mandel, Paris, France
Filed Aug. 6, 1956, Ser. No. 602,329
Claims priority, application France Aug. 18, 1955
4 Claims. (Cl. 138—31)



1. A hydropneumatic accumulator the type including a cylinder having an internal cylindrical surface and opposite ends, a cylinder head closing one end of the cylin-

der, means closing the other end of the cylinder and having an opening therethrough through which liquid under pressure can be introduced, a free piston within the cylinder and separating the interior thereof into a space between the piston and cylinder head that is adapted to be filled with compressed gas and a liquid receiving space between the piston and said closing means, said piston including a cylindrical surface portion coaxial with but spaced inwardly of the internal surface of the cylinder and an annular shoulder extending radially from such cylindrical surface portion toward the internal surface of the cylinder, said shoulder and cylindrical surface portion of the piston defining with said internal surface of the cylinder an annular space, a piston-sealing ring means of deformable material located in said annular space, a seal-compressing ring means for compressing said piston-sealing ring means against said shoulder, a washer between said seal-compressing ring means and said cylinder head, a spring between and in pressure contact with said washer and said seal-compressing means, said washer being mounted on said piston and including an internal marginal portion bearing against said piston, a tubular stop member surrounding said spring and connected to one of said seal compressing ring means and said washer and spaced from the other, said tubular stop member being adapted to exert a thrust on said washer over a portion thereof closer to said internal surface of the cylinder than to said piston, said cylinder head having a surface contactable by one end face of said piston, an annular stop member connected to one of said washer and cylinder head and spaced from the other, said annular stop member being in line with at least a major portion of the transverse extent of said tubular stop member and having an axial extent greater than the distance between that face of the washer directed toward the cylinder head and said one end face of the piston so that when thrust is applied to the other end face of the piston by liquid under pressure thus causing the piston to move toward said cylinder head, the movement of said washer towards the cylinder head being arrested by said annular stop member before said end face of the piston contacts the cylinder head and before axial thrust can exert undue deformation pressure on said washer via said tubular stop member.

2,968,321
REINFORCED FLEXIBLE HOSE
Marvin M. Kahn, Trenton, N.J., assignor to The Acme-Hamilton Manufacturing Corp., New York, N.Y., a corporation of Delaware
Filed Apr. 2, 1958, Ser. No. 725,833
14 Claims. (Cl. 138—56)



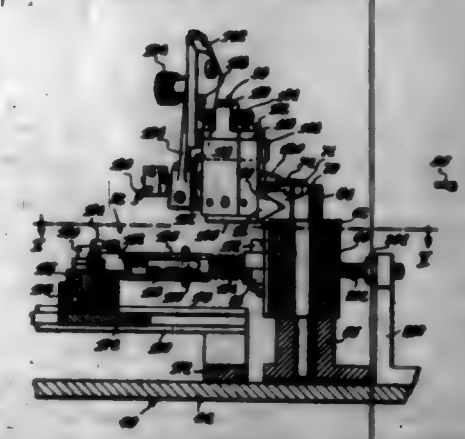
1. A flexible conduit comprising a helical coiled reinforcing member having axially spaced convolutions, a tubular member of organic plastic material having spaced wall portions thereof engaging the convolutions of said reinforcing member, and a plurality of reinforcing strands in spaced relation to each other disposed between said tubular member and said coiled reinforcing member and extending angularly of the convolutions of said coiled member, said tubular member having other wall portions thereof radially and inwardly depressed between successive convolutions of said coiled reinforcing member and adjacent reinforcing strands, said coiled member and reinforcing strands being exposed on the inner surface of said conduit.

2,968,322
LOOM PICKER
William W. Downs, East Hempfield Township, Lancaster County, Pa., assignor to Armstrong Cork Company, Lancaster, Pa., a corporation of Pennsylvania
Filed Apr. 30, 1958, Ser. No. 731,967
2 Claims. (Cl. 139—159)



1. In a loom picker, the combination with a picker stick of a shuttle picker comprising a body and loop portion of resilient material for attachment to the picker stick, said body having a recess disposed in the forward end of said body and separated from the open end of said loop portion by a base wall, said recess having side walls continuous with and imperforate immediately adjacent said base wall, and a replaceable molded shuttle point engaging insert frictionally fitted into said recess and held therein by the resiliency of said body material, said base wall having an orifice therein connecting said recess with said open end of said loop portion for the application of fluid under pressure to said insert to remove the same from within said recess for replacement when worn.

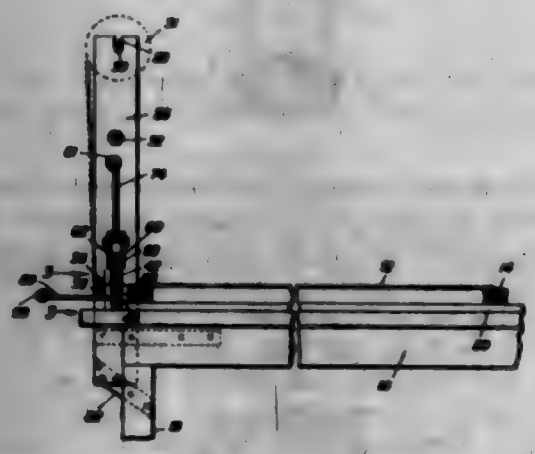
2,968,323
BENDING CHISEL HEAD FOR A COIL BENDING MACHINE
Tobia Wolf, Bloomfield, N.J., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Jan. 24, 1955, Ser. No. 483,618
6 Claims. (Cl. 140—71.5)



1. In a machine for bending a continuous coil into a multi-section lamp filament, an improved bending chisel assembly having support means pivotably mounted to oscillate about an axis, mounting means slidable in said support means, a bending chisel secured on said mounting means, means on said support means connected to said mounting means and operable to laterally position an operating end of said bending chisel with respect to the axis of said support means, means operatively connected to said bending chisel and operable to cause movement of said bending chisel along its longitudinal axis to radially position the operating end of said bending chisel with respect to the axis of said support means, means operatively associated with said bending chisel and operable to cause rotary movement of said bending chisel

about its longitudinal axis to position the operating end of said bending chisel at a desired angle with respect to the axis of said support means, and means connected to said support means for causing oscillating movement of the latter.

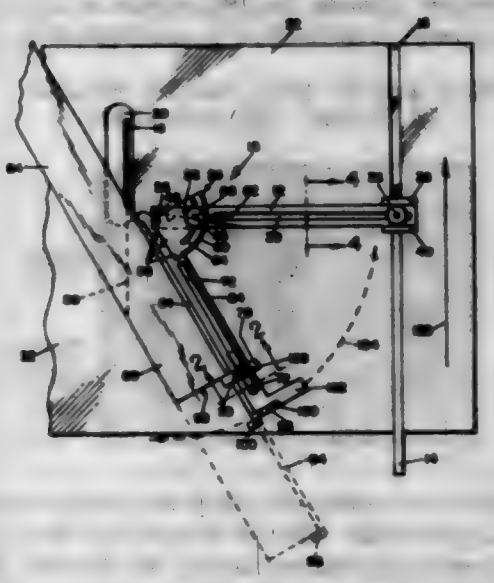
2,968,324
SCREEN WIRE STRETCHER
John D. Leal, Rte. 1, 9/10 Mile Teege Road, Harlingen, Tex.
Filed Oct. 16, 1958, Ser. No. 767,616
2 Claims. (Cl. 140—109)



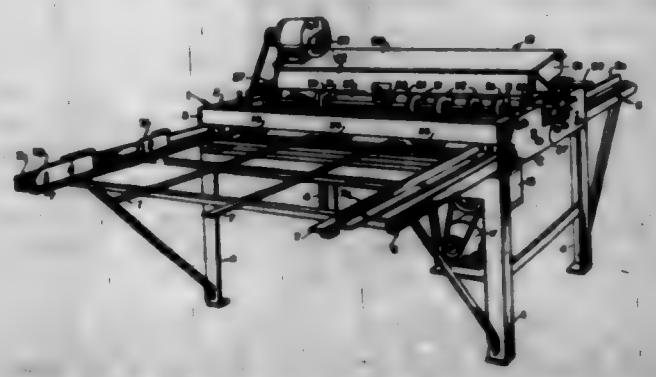
1. In a device for mounting screen on a frame, the combination of a frame supporting table, a pair of transversely spaced uprights secured to one edge of said table and extending upwardly therefrom, a screen roll supporting rod extending transversely between upper ends of said uprights, a transverse guide rod extending between lower end portions of the uprights substantially at the level of a frame positioned on said table whereby screen from said roll may be passed under said guide rod and over the stated frame, a transversely elongated lower jaw extending between and secured to said uprights adjacent said guide rod, a pair of spaced juxtaposed guide bars extending between and secured to said uprights above said lower jaw, a transversely elongated upper jaw slidable vertically in the space between said guide bars toward and away from said lower jaw for clamping therebetween screen anchored to a side of the frame remote from said jaws, a pair of transversely spaced levers pivoted to said guide bars above the upper jaw and cammingly engaging the upper jaw for sliding the same toward the lower jaw, a link-shaped handle pivoted at its opposite ends to the respective levers for simultaneously actuating the same, a second pair of transversely spaced levers pivotally mounted below said lower jaw for swinging movement in a plane parallel to said table and adapted to cammingly engage a side of the frame adjacent said jaws for sliding the frame on said table away from the jaws to stretch the screen over the frame, and a second link-shaped handle pivoted at its opposite ends to the respective levers in the second pair for simultaneously actuating the same.

2,968,325
TABLE SAW GAUGE FRAME
Theodore S. Wandvik, 3007 W. Broadway, Council Bluffs, Iowa
Filed Dec. 31, 1957, Ser. No. 706,583
3 Claims. (Cl. 143—169)

1. In a table saw gauge the combination which comprises a saw table having a saw extended through a slot therein and also having a groove parallel to the saw in the upper surface, an elongated tongue slidable in the groove, a stud having a nut on the upper end extended from the tongue, an elongated arm having a longitudinally disposed slot therein positioned on the tongue with the stud extended through the slot of the arm, means for retaining the arm normal to the tongue, an elongated guide bar having a longitudinally disposed slot therein pivotally mounted on the extended end of the arm, a graduated indexing head mounted on the guide bar and positioned whereby graduations thereof are in registering relation with a point on the arm providing means for setting the guide bar at desired angles in relation to the arm, a stud extended from the arm through an arcuate slot in the indexing head, said slot of the indexing head being on a radius from the center of the pivotal mounting of the guide bar, a clamp having a stud therein slidably mounted on the guide bar and positioned with the stud extended through the longitudinally disposed slot thereof, an extension rail slidably mounted in the guide bar, and an extension projecting from the guide bar and positioned to engage the arm in a movement of the guide bar toward the arm.



2,968,326
SCORING MACHINE FOR PLYWOOD
Aaron G. Myers, Box 7013, Fort Worth, Tex.
Filed June 30, 1958, Ser. No. 745,739
4 Claims. (Cl. 144—136)



1. In a machine for use in cutting parallel grooves in the surfaces of sheet materials, such as plywood, for the purpose of ornamentation, the combination of a frame, two pairs of feed rolls carried by the frame, the rolls of each pair being positioned one above the other and one of the rolls of each pair being driven, a third driven roll carried by the frame and positioned between the driven rolls of the two pairs, a motor carried by the frame and operatively connected to the driven rolls, a sub-frame supported above the frame and pivotally connected adjacent one end to a shaft arranged transversely with respect to the frame, whereby its opposite end may be raised and lowered, a shaft carried by the sub-frame and positioned above the third driven roll, in alignment therewith, a plurality of rollers rotatably mounted on the last mentioned shaft, and capable of turning freely relative thereto, for use in conjunction with the third

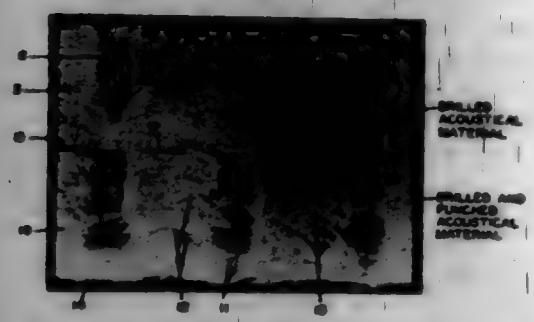
driven roll as feed rollers, a plurality of rotary cutters connected to the last mentioned shaft and capable of turning therewith, and a motor carried by the sub-frame and operatively connected to the last mentioned shaft.

2,968,327

METHOD OF IMPROVING THE SOUND ABSORPTION EFFICIENCY OF PERFORATED POROUS ACOUSTICAL MATERIALS

Thomas Mariner, Mount Joy, Pa., assignor to Armstrong Cork Company, Lancaster, Pa., a corporation of Pennsylvania

Filed June 18, 1957, Ser. No. 666,368
11 Claims. (Cl. 144—322)



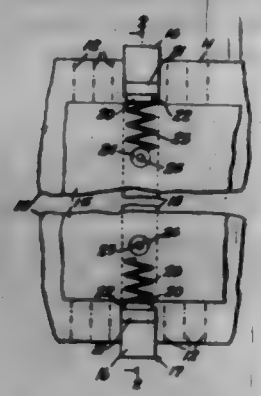
8. A method of improving the sound absorption efficiency of a perforated fibrous acoustical material comprising mechanically delaminating the fibrous structure of said material in areas between the perforations to provide openings extending laterally from the perforations for air flow to reduce the air flow resistance of the material significantly and thereby enhance its sound absorption efficiency.

2,968,328

WING ASSEMBLY FOR WALLETS AND THE LIKE

Morton Suben, Mount Vernon, N.Y., assignor to Jack Besien, Fair Lawn, N.J.

Filed Feb. 9, 1959, Ser. No. 791,877
7 Claims. (Cl. 150—39)



1. A coupling device for a wing assembly of the character described, said device comprising an elongated bar having a flat surface and a rounded surface, inwardly turned end portions on the bar forming, at said end portions, channels, the inwardly turned portions terminating in projecting tabs, yieldable means coupled with the tabs and extending longitudinally of the bar in spaced relation thereto, and said bar, inwardly of the tabs, having key parts projecting from the flat surface of said bar.

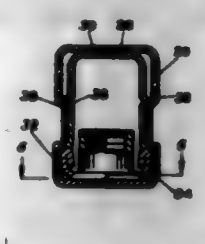
2,968,329

GANG NUT RETAINER AND SHROUD ASSEMBLY THEREFOR

Kenneth Reiner, Box 2001, Terminal Annex, Los Angeles, Calif.

Filed June 19, 1957, Ser. No. 666,561
6 Claims. (Cl. 151—41.71)

3. A gang nut and retainer assembly comprising a channel having a web and side flanges extending upwardly therefrom; said flanges each comprising a side wall portion the free end of which is bent inwardly and downwardly and has an edge terminating so as to leave a space between said edge and said web, a plurality of nuts seated in said channel with each of said nuts having a base extending into said space; the side wall portions of said flanges being pierced at spaced opposed locations between said nuts to form inwardly extending tabs operative to restrain longitudinal movement of said nuts in said channel and to form complementary openings in the



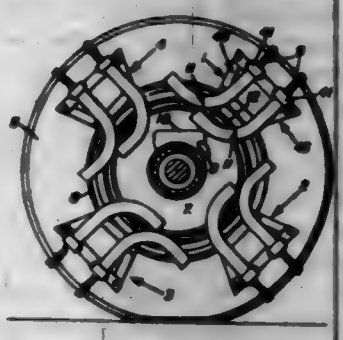
side flanges of said channel, said flanges being bent laterally inwardly at said spaced opposed locations to present a wave-like appearance in the plan view, clip means comprising main body portions and downwardly extending lugs, said lugs being engageable in said openings to support said main body portions in a position above and overlying said channel, and shroud means supported on said clip means entirely above said channel, whereby a minimum of shroud material is required to overlie and enclose said channel and the nuts therein.

2,968,330

ANTI-SKID CHAIN DEVICES FOR AUTOMOBILE TIRES

Donald T. Brown, 1610 1st St., Rensselaer, N.Y.

Filed Oct. 12, 1959, Ser. No. 845,967
5 Claims. (Cl. 152—216)



1. An anti-skid chain device comprising a pair of laterally spaced tubular housings, bracket means for attaching said housings to an automobile wheel at one side thereof, a pair of anti-skid chains in said housings slidably extensible out of the same from a retracted inoperative position into an advanced operative position across a tire on said wheel, handle forming means terminally connecting said chains outwardly of said housings for pulling on and extending the chains, and spring means in said housings opposing extension of said chains and retracting the same from extended position, guide means in said housings for said chains spacing said chains from said housings.

2,968,331

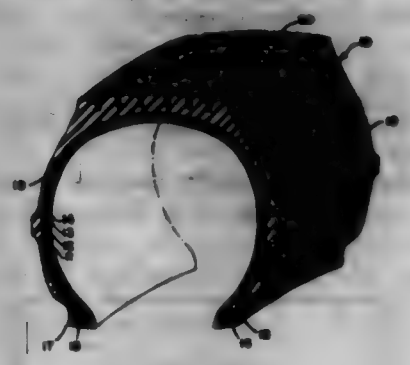
TIRE CONSTRUCTION

Arthur W. Bull, Grosse Pointe, Mich., assignor to United States Rubber Company, New York, N.Y., a corporation of New Jersey

Filed Nov. 4, 1959, Ser. No. 850,876
4 Claims. (Cl. 152—356)

1. A pneumatic tire having a body consisting of four plies of essentially weftless cord fabric, the cords of the first and fourth plies being disposed substantially parallel to one another, and the cords of the second and third plies being disposed substantially parallel to one an-

other and extending in a direction opposite to that of the first and fourth plies, whereby the cords of adjacent



plies extend in opposite directions at two interfaces of the plies and parallel at another interface of the plies.

2,968,332
FLUID TIGHT RIM ASSEMBLY
Jose Aguirre González, Nicolas San Juan 817—6, Mexico City 12, Mexico
Filed June 22, 1959, Ser. No. 821,893
3 Claims. (Cl. 152—405)



1. A rim assembly construction to be used in combination with a tubeless tire or with a conventional tire and inner tube, comprising a drop center type rim for mounting said tire, said tire being of the open belly type, said rim having in the radially and axially outer portion a detachable flange forming a part of the bead seat for the tire and having a form which is complementary to the remaining portion of said rim, so that when it is separated therefrom leaves a cylindrical surface which permits free passage of the tire beads into the rim without any obstruction whatsoever; an integral flange integrally built with said detachable flange, located radially inwardly thereof and having holes for the passage of clamping bolts; and a center part comprising said drop center and the other seat for the other tire bead, said center part being provided in its portion axially outwardly of the vehicle and radially outwardly thereof with a ring having a central circumferential groove, in which the clamping bolts are provided to be introduced in the integral flange holes with the detachable flange and also having a ring packing, generally of plastic or elastic material, within said circumferential and central groove, said packing having holes for the passage of said bolts and being of such a size in its cross section that when the integral flange of the detachable flange is introduced into said bolts of said ring, and the corresponding nuts are fastened, it is expanded to form a tight and air leak proof seal therebetween; the rim tire bead seats being formed in such a way that the cross section thereof forms a concave gutter axially inwardly of the rim, for accommodating a tubeless tire having a groove for receiving the side ridge of said rim gutter, and a pair of parallel circumferential ridges which, together with said groove, provide a complementary form to said rim gutter, so that a perfectly tight seal is formed thereby providing a higher safety from accidental slippage or said tire in relation to said rim.

2,968,333
VALVE STEM FOR TUBELESS TIRES
Barrows H. Ayres, Arlington Heights, Ill., assignor to The Dill Manufacturing Company, Cleveland, Ohio, a corporation of Ohio
Filed Aug. 8, 1958, Ser. No. 753,896
2 Claims. (Cl. 152—427)

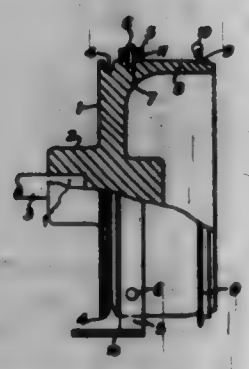


1. A snap-in valve stem interchangeably usable with different tubeless tire rims having respectively different size rim openings for a valve stem; said stem comprising an elastic body having at one end an enlarged base of a diameter greater than the diameter of any maximum size rim opening in which the valve stem would be mounted, said body having a bore therein extending a substantial distance from the other end of the body toward said base and communicating with a counterbore in the body, said body having a first portion extending from said other end thereof toward said base and of a diameter smaller than any rim opening in which the valve stem would be mounted, said body having a conical portion merging with said first portion and the large end of which is toward said base, said body having a first cylindrical portion surrounding said counterbore and adjoining the large end of said conical portion and of less diameter than said large end, said body at the end of said first cylindrical portion having an annular substantially planar shoulder facing toward the large end of said conical portion and of a diameter greater than the diameter of said first cylindrical portion and the large end of said conical portion, said body intermediate said shoulder and said base having a second cylindrical portion of greater diameter than said first cylindrical portion but less than the diameter of said shoulder and said base, and a rigid insert for a valve core extending from beyond said other end of the said body and into the bore and counterbore therein and bonded to said body throughout the length of said bore but free from connection to said body within said counterbore whereby longitudinal force applied to said insert in a direction away from said base attenuates said body intermediate its ends to reduce the external diameter thereof and allow the valve stem to be inserted through rim openings of different size until one or the other of the cylindrical portions of the body is in a rim opening and thereafter upon termination of said force said attenuated body will tend to resume its normal dimensions intermediate its ends and one or the other of said cylindrical portions thereof will be tightly fitted in the rim opening with either said shoulder or said base of the body in engagement with the inner side of the rim.

2,968,334
PROCESS AND APPARATUS FOR PRODUCING SHEETS OF THERMOPLASTIC MATERIAL
Bent Hojberg Pedersen, 15 Norske Alle, Holte, Denmark
Filed May 9, 1957, Ser. No. 658,169
Claims priority, application Norway May 18, 1956
13 Claims. (Cl. 154—1.3)

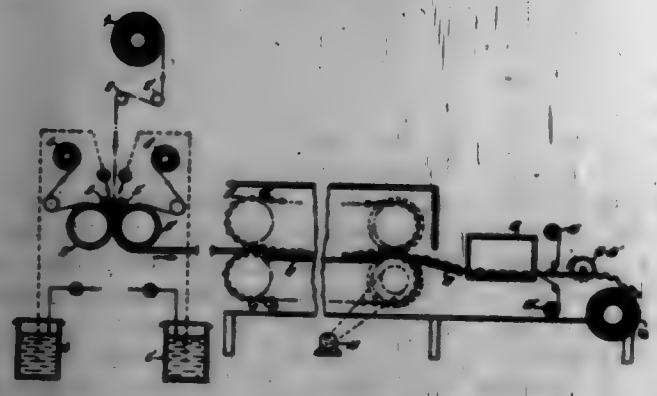
5. An apparatus for forming sheet material comprising a drum of relatively short axial length, means for

mounting said drum for rotation about an axis leaving one end of said drum free, a stop member spaced apart axially from said free end of said drum and adjacent to the periphery of said drum, an annular member slidably mounted and rotatable with said drum near the free end thereof in light frictional engagement with the surface of said drum and in axially spaced relation to said stop member, means for removably securing the leading end of a continuous flexible filament to said annular member, means for rotating said drum so that when filament is fed thereto the filament is wound around said drum between said annular member and said stop member to form a



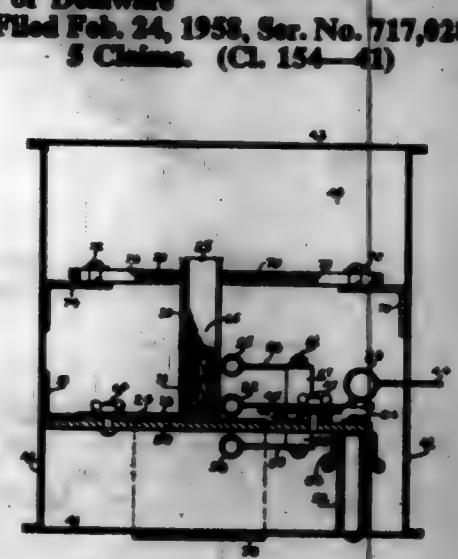
tube, said stop member having an exposed camming surface engageable with the filament wound on said drum to axially displace the filament tube formed on said drum and thereby to cause said tube to axially shift said annular member toward the free end of said drum, and said drum being formed with an unobstructed peripheral surface between the free end thereof and said annular member to provide for the displacement of said annular member off the free end of said drum, and means for applying adhesive to said filaments so that adjacent convolutions of the filaments wound on said drum adhere together to form the tube.

2,968,335
PROCESS FOR THE CONTINUOUS PRODUCTION OF CORRUGATED LAMINATES
Ugo Mosseo, Olginte Olona, and Piero Zanaboni, Milan, Italy, assignors to Montecatini, Societa Generale per l'Industria Mineraria e Chimica, Milan, Italy, a corporation of Italy
Filed Apr. 6, 1955, Ser. No. 499,644
Claims priority, application Italy Sept. 28, 1954
8 Claims. (Cl. 154—33.05)



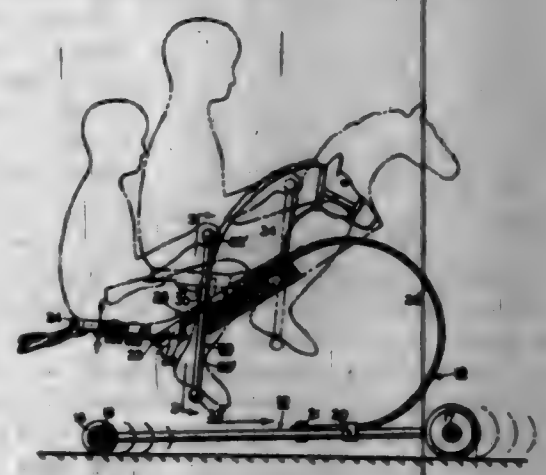
1. The process of producing a corrugated fiber-resin laminate, comprising moving a continuous fibrous mat into an impregnating position, impregnating said mat from one side with a cold-catalyst catalyzed portion of a polyester resin containing substantially no accelerator and from the other side with an accelerator containing portion of said polyester resin containing substantially no polymerization catalyst, subjecting said mat to a squeezing action to intermingle said two portions of the resin within the mat, then setting the intermingled resin in the cold while subjecting it to corrugation, and thereafter curing it.

2,968,336
DIELECTRIC HEAT SETTING OF A BOOK BINDING ADHESIVE
Kenneth Payne Martin, Concord, Mass., and Richard J. Nadasksy, Middlesex, N.J.; said Martin assignor to The Colonial Press, Inc., Clinton, Mass., a corporation of Massachusetts, and said Nadasksy, assignor to National Starch Products Inc., New York, N.Y., a corporation of Delaware
Filed Feb. 24, 1958, Ser. No. 717,028
5 Claims. (Cl. 154—41)



1. The method of binding the sheets of a book comprising the steps of assembling a set of separate paper sheets as an unbound book, coating the back edge portion of each sheet of the book with a fluid film of a dielectrically stable thermoplastic resinous adhesive which penetrates the pores of the edge portion of each sheet and is capable of forming a flexible strongly cohesive and adhesive union between the edge portions of the book sheets and a backing, applying a permeable and flexible backing to the adhesive on the book, subjecting the adhesive film on the book to a rapidly oscillating dielectric heating field of high frequency and progressively drying and heat softening the adhesive film, while controlling the heat input of the electric field to dry the film and avoid disruption of the film substance, and thereafter cooling and hardening the film.

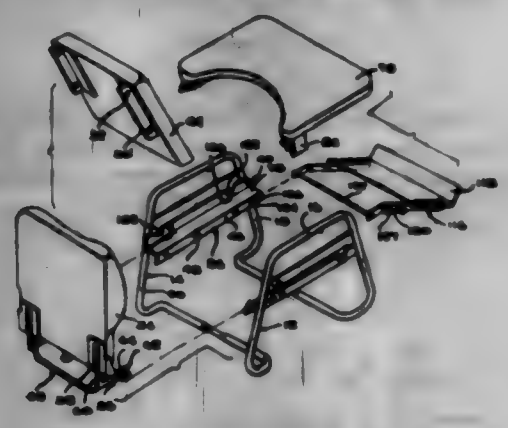
2,968,337
CHILD'S ADJUSTABLE EXERCISER
George H. Bartlett, P.O. Box 7, Ridgefield, Wash.
Filed Feb. 11, 1959, Ser. No. 792,530
2 Claims. (Cl. 155—18)



1. An adjustable exerciser including a base, wheels supporting said base, a curved spring riding member located in a substantially vertical plane, said member having a bottom end secured on said base, a main curved spring portion extending forwardly and upwardly from said base and then rearwardly, and a substantially straight free end extending rearwardly and downwardly from said main curved portion and terminating a short distance above

said base, a seat carried on said free end, support means adjustably positioning said seat on said free end, said support means including a seat-carrying bar having a main part slidably mounted on said free end, a rearwardly extending arm on said bar forming an obtuse angle with said main part and thus with said free end, means for clamping said bar in place on said free end, and means for securing said seat on said arm, whereby said seat will be held in proper seating position, and whereby said seat can be arranged at a desired distance above the floor and at a location on said free end of said spring member suitable for the weight imposed on said seat.

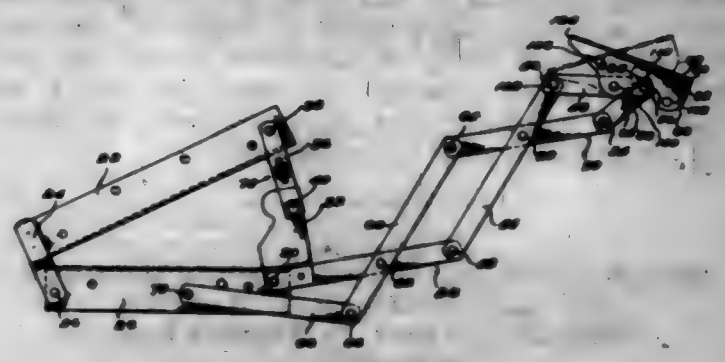
2,968,338
CHILD'S CONVERTIBLE FURNITURE ARTICLE
Frank P. Reese, Hampton, Va.
(4040 S. State St., Salt Lake City 15, Utah)
Filed Apr. 3, 1959, Ser. No. 803,966
5 Claims. (Cl. 155—43)



1. In a child's convertible article of manufacture, a pair of upstanding leg members arranged in lateral spaced relation, each of said members having a horizontal top portion, a front portion sloping downwardly and outwardly from the forward end of said top portion, a rear portion sloping downwardly and outwardly from the rear end of said top portion, a concavely curved portion having one end merging with the lower end of each of said front and rear portions, the other ends of said curved portions extending toward and spaced from each other, and a horizontal portion arranged perpendicularly with respect to each of said curved portions and having one end merging into the other end of the curved portion, a fixed ledge carried by and extending from the front portion to the rear portion of each leg member between the top portion and the horizontal portion, said ledges facing toward each other, means detachably connecting each of the adjacent perpendicular horizontal portions of said leg members together, a platform member positioned between said leg members so that the underface of said platform rests upon said ledges, and releasable cooperating fastening elements on said platform member and said ledges for holding said platform member in position on said ledges.

2,968,339
RECLINING CHAIR WITH ADJUSTABLE OTTOMAN BRACKET
Frank D. Hoffman, Jr., High Point, N.C., assignor to General Steel Products Company, Inc., High Point, N.C., a corporation of North Carolina
Filed Sept. 18, 1957, Ser. No. 684,791
3 Claims. (Cl. 155—106)

1. In a reclining chair having a reclining member supported by a stationary framework and linkage means connected to said reclining member and said framework for moving an ottoman between extended and retracted positions; an adjustable ottoman comprising an ottoman supporting link manipulated by said linkage means, an ottoman supporting bracket pivotally mounted upon said supporting link, a pair of spaced stops on said ottoman supporting bracket engageable with said linkage means to prevent pivotal movement of said bracket upon said supporting link when said ottoman is fully retracted, and



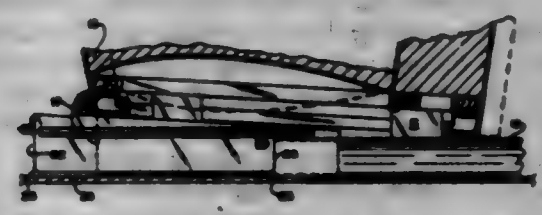
means engageable between said bracket and said supporting link to permit limited pivotal movement of said bracket on said link when said ottoman is at least partially extended from said retracted position.

2,968,340
EXPANDED METAL SPRING STRUCTURE AND SEAT
Robert B. Metzner, Wheeling, W. Va., assignor to Wheeling Steel Corporation, Wheeling, W. Va., a corporation of Delaware
Continuation of application Ser. No. 664,608, June 10, 1957. This application Apr. 17, 1958, Ser. No. 729,196
2 Claims. (Cl. 155—179)



1. A seat of diamond mesh expanded metal comprising strands connected together by bonds both in the direction of the long dimensions of the diamonds and in the direction of the short dimensions of the diamonds generally throughout the diamond mesh expanded metal, a free edge of the seat past which the limbs of persons sitting on the seat are adapted to project extending transversely of the long dimensions of the diamonds of the expanded metal, the seat having adjacent said edge a generally horizontally oriented but upwardly slightly convex top, the top merging in the region of said edge in a downwardly and reversely inclined portion bent generally in the direction of the long dimensions of the diamonds so that when the seat is sat upon the expanded metal flexes generally in the direction of the long dimensions of the diamonds.

2,968,341
UNDERSEAT COMPARTMENT
Robert D. Welles, Sycamore Township, Hamilton County, Ohio, assignor, by mesne assignments, to Textron, Inc., Providence, R.I., a corporation of Rhode Island
Filed Sept. 11, 1958, Ser. No. 760,507
6 Claims. (Cl. 155—188)



1. In an automobile the combination comprising a floor, a seat frame member spaced therefrom, a cover

hooked over said seat frame member from one side and abutting the opposite side so as to be disengageable therefrom only after tilting of the cover through a predetermined angle, and a drawer co-operatively engaging and removably supported by said cover in close spaced relation to said floor and adapted to cooperate with said floor to preclude tilting of said cover through the predetermined angle necessary to disengagement of the cover from said seat frame member whereby an underseat compartment may be provided.

2,968,342

DECORATIVE HAND GRIP CONNECTORS FOR DOUBLE TUBULAR ARM RESTS

Bertrand R. Lesser, 24 Stonewall Lane, Mamaroneck, N.Y.

Filed Mar. 24, 1960, Ser. No. 17,394
2 Claims. (Cl. 155—198)



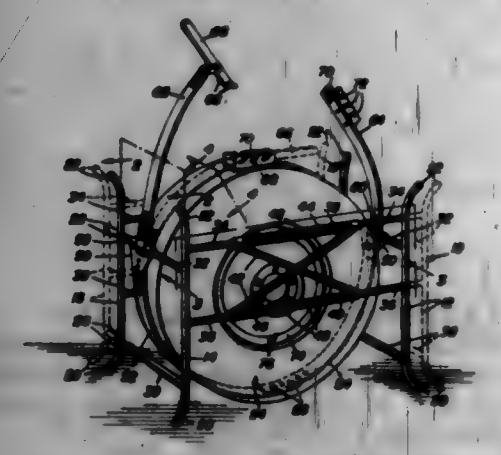
1. A chair arm comprising arm forming tubes having open ends spaced apart in horizontal side by side relation, an end cap covering and closing the open ends of said arm forming tubes, said end cap being of hollow hand rest forming construction and proportions and having tubular projections within the same of a size and spaced to enter said open ends of the arm forming tubes, said end cap having tapered tongues extending from the top and bottom of the same and projecting into the space between the arm forming tubes and means fastening said tongues together in said relation and including means securing said connected tongues to at least one of said arm forming tubes.

2,968,343

APPARATUS FOR MOUNTING TUBELESS TIRES

Howard S. McConkie, Fort Bragg, N.C.

Filed Jan. 22, 1958, Ser. No. 710,545
3 Claims. (Cl. 157—1.21)



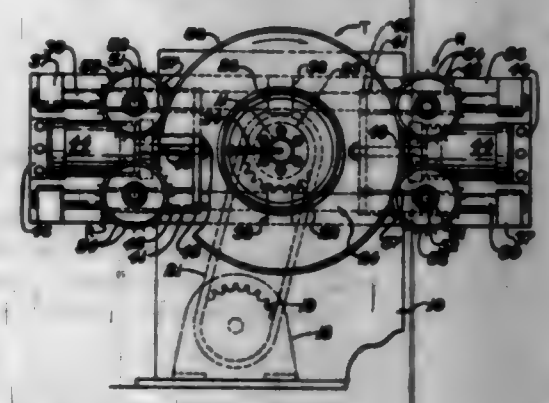
1. An adjustable device for supporting a tubeless tire and assisting in seating the tire beads in air sealing contact with rim flanges, comprising a frame for supporting the rim mounted tire to be inflated, means carried by the frame for engaging about the entire periphery of the tire and exerting radial pressure thereon to squeeze the tire about its entire periphery so as to spread the tire beads into relative air sealing contact with the channel walls of a drop center rim and with the aid of inserted air pressure to further spread the beads against the flanges of the rim, said frame comprising upright posts connected by horizontal members, said means for engaging and squeezing the tire comprising a lower loop member connected at its ends to horizontal frame members which are parallel to the axis of a tire disposed in said frame for supporting the underside of the tire, a pair of flexible loop sections connected at their remote ends respectively to said horizontal frame members to which the lower loop member is connected, and means upon the pair of loop sections for releasably interconnecting said sections upon the exterior of the tire and to shorten the portions of said sections which are interconnected so that constricting pressure will be applied substantially to the entire central periphery of the tire through said lower loop member and said pair of flexible loop sections, said frame being extensible and retractable in a direction normal to the axis of the tire to assure the application of pressure about the entire periphery of the tire whereby there is an even distribution of force on said tire in the radial direction.

2,968,344

LACERATING TIRE TREADS FOR TRACTION

Mathew Kuta, Akron, and Claude Mullender, Barberton, Ohio, assignors to The B. F. Goodrich Company, New York, N.Y., a corporation of New York

Filed Sept. 9, 1958, Ser. No. 759,978
4 Claims. (Cl. 157—13)



1. Apparatus for treating the tread of a tire to improve its traction comprising a frame, a shaft rotatably mounted in said frame and projecting therefrom, a wheel and tire mounting rim mounted on said shaft projection, means to rotate said shaft, a pair of diametrically opposed carriages, means for mounting said carriages for motion toward the axis of said shaft along a substantially straight line passing through and perpendicular to said axis, a pair of circumferentially spaced spiked tire tread lacerating rollers on each carriage, said rollers being symmetrically disposed on opposite sides of their line of motion with their axes parallel to the axis of said shaft, and means to simultaneously advance said carriages toward said shaft axis to press said rollers with equal pressure against the tread of a tire mounted on said rim.

2,968,345

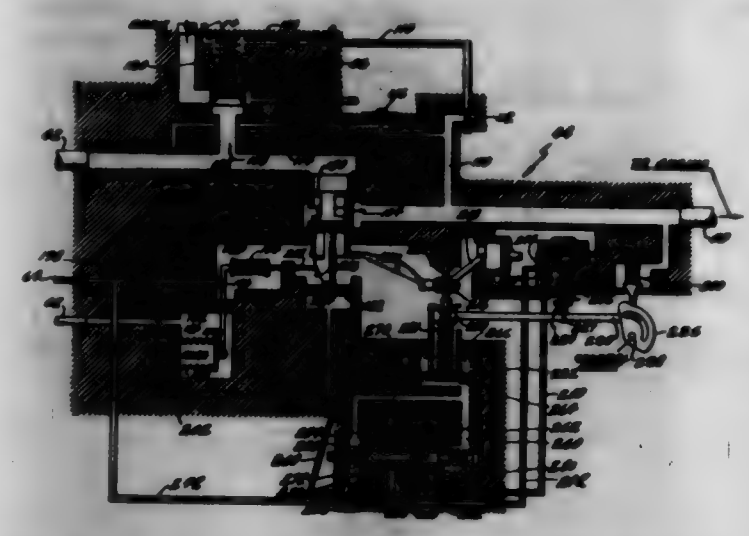
SPEED TOPPING CONTROL

Richard F. Gamble, Granby, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed Sept. 21, 1956, Ser. No. 611,108
1 Claim. (Cl. 158—36)

In a power plant having a combustion chamber, a source of fuel under pressure, means defining a fluid passage directing fluid flow from said source to said chamber including a main throttle valve, means responsive to a variable of power plant operation for moving said throttle valve, a pressure regulating valve operatively connected to said passage, said regulating valve having a separate fluid chamber including first and second fluid

passages, said first passage connected with the upstream side of said throttle valve and having a variable restriction, said second passageway connected with the downstream side of said throttle valve and having a fixed restriction, said fixed restriction being connected in series with said variable restriction and having a predetermined



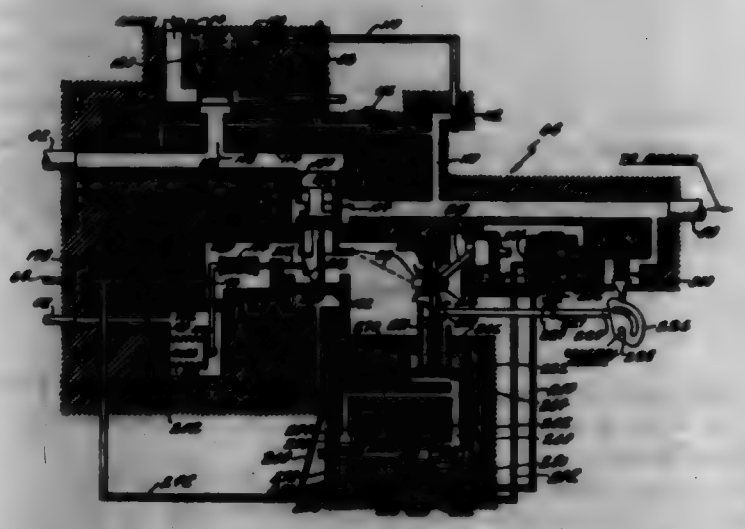
area ratio for establishing a pressure in said fluid chamber for normally maintaining constant the value of the pressure drop across the throttle valve, means responsive to a speed of rotation of the power plant for controlling said variable orifice, said variable orifice upon an overspeed moving to vary the pressure in said chamber and reduce the pressure drop across said throttle valve.

2,968,346

MAXIMUM FLOW ADJUSTER

Robert D. Porter, Windsor, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed Sept. 21, 1956, Ser. No. 611,109
2 Claims. (Cl. 158—36)



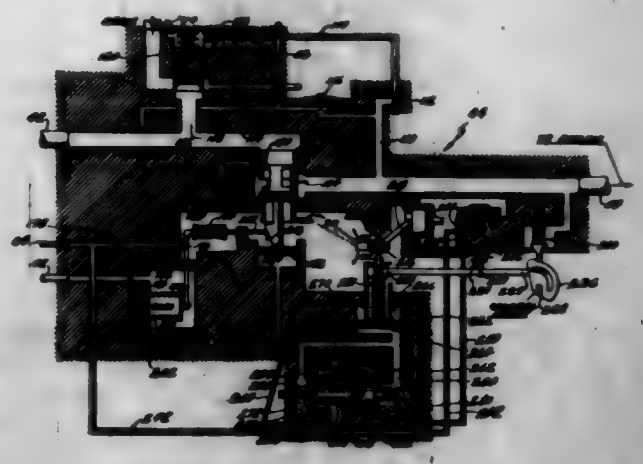
1. In a fuel control for a power plant having a combustion chamber: a source of fuel under pressure, means for regulating the flow of fuel from said source to said combustion chamber, means for adjusting the minimum flow of fuel through said regulating means, a servo motor for moving at least a part of said regulating means to vary the flow of fuel therethrough and an adjustably variable linkage between said servo motor and said part of said regulating means for varying the maximum flow through said regulating means independently of said minimum flow adjustment, said linkage including a pair of members each having a cooperating slot, a pin in said slots, and means for adjusting the relative position of said pin.

2,968,347

FUEL CONTROL

Thomas P. Farkas, Bloomfield, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed Sept. 21, 1956, Ser. No. 611,337
4 Claims. (Cl. 158—36)



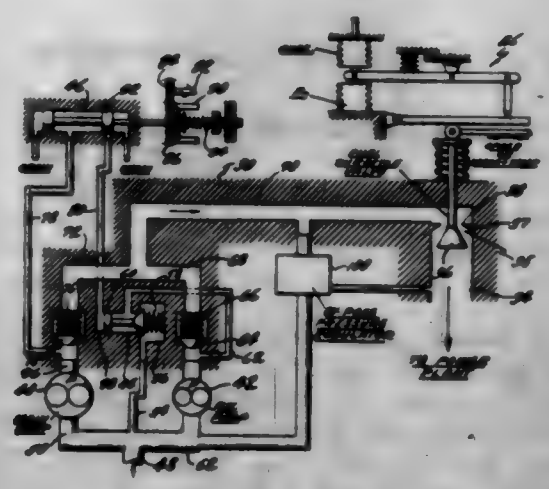
1. In a fuel control for a turbine type power plant, said control having a fuel regulating means, a power lever, means responsive to a pressure of the gases in the power plant and the setting of said lever for generating signals which is a function of the value of said pressure and said setting, a servo device for transmitting each of said signals, means for receiving said signals and controlling said regulating means, and means for modifying the effect of the signal which is a function to said setting including a time delay device for varying the speed of operation of the associated servo device.

2,968,348

MULTI-PUMP SYSTEM HAVING SPEED AND PRESSURE RISE RESPONSIVE BY-PASS MEANS

William E. Fortmann, Farmington, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed Oct. 3, 1957, Ser. No. 688,016
3 Claims. (Cl. 158—36.4)



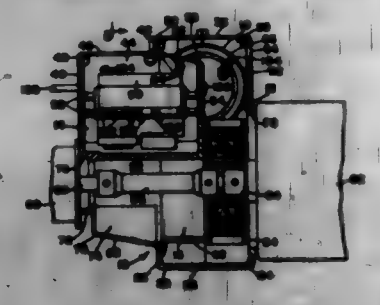
1. In a powerplant fluid supply system, a main and an auxiliary fluid pump in parallel, a by-pass piston type valve for said auxiliary pump which by-pass valve is spring biased toward closed, said by-pass valve being actuated by the pressure rise across said main pump by being subjected to main pump inlet pressure on one piston side and main pump discharge pressure on the anti-spring side of said piston, and a servo valve shiftable in response to powerplant speed to interrupt the admission of main pump discharge pressure to said by-pass valve to permit said spring to close said by-pass valve.

2,968,349

OIL BURNER CONSTRUCTION

Charles A. Reichelderfer, Rock Island, Ill., assignor to No-Way Corporation, Rock Island, Ill., a corporation of Illinois

Filed Oct. 27, 1958, Ser. No. 769,741
7 Claims. (Cl. 158—76)



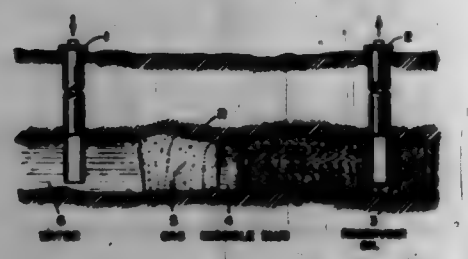
4. A fuel burner housing, comprising: an upper box-like part including walls defining an upper compartment having an open top, and a lower part having portions integral with the upper part and including opposite side walls, front and rear walls and a bottom defining a second compartment, one of the upper part walls being integral with both parts and serving as a partition between and separating said compartments, said side walls having openings coaxial on an axis below the upper compartment, one of said side walls being offset to one side of the upper compartment to provide the second compartment with an L-shape partly embracing the upper compartment and including a laterally offset compartment portion having an open top alongside the open top of the upper compartment, and said front wall being laterally extended to overlap said offset compartment portion and having an opening therein at least in part in communication with said offset compartment portion.

2,968,350

MISCIBLE SLUG FOLLOWED BY GAS AND WATER

Robert L. Slobod and Howard A. Koch, Jr., Dallas, Tex., assignors to The Atlantic Refining Company, Philadelphia, Pa., a corporation of Pennsylvania

Filed Oct. 15, 1954, Ser. No. 462,591
6 Claims. (Cl. 166—9)



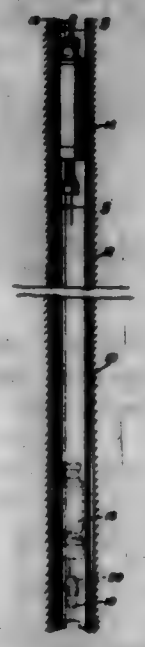
1. A method of increasing the recovery of oil from a subterranean oil reservoir having in communication therewith at least one injection well and one production well comprising the steps of injecting into said reservoir through said injection well, in an amount equal to between 0.01 percent and 5 percent of a hydrocarbon pore volume, a slug of a first fluid which is miscible with the reservoir oil at reservoir temperature and at a predetermined pressure, thereafter injecting into said reservoir through said injection well in an amount equal to between 20 percent and 40 percent of a hydrocarbon pore volume, a slug of a second fluid comprising normally gaseous hydrocarbons which is miscible with said first fluid at reservoir temperature and at said predetermined pressure, and thereafter injecting water into said reservoir through said injection well whereby to force said first fluid and said second fluid through said reservoir, said first fluid being maintained in contact with the reservoir oil, simultaneously with said injecting steps maintaining said predetermined pressure on the reservoir, said predetermined pressure being at least as high as the pressure necessary to maintain miscibility between the first fluid and the reservoir oil and between the first fluid and the second fluid, and withdrawing reservoir oil from said reservoir through said production well.

2,968,351

FLUID PRESSURE OPERATED CHEMICAL FEEDER

Edward N. Jones, P.O. Box 107, Pettus, Tex.

Filed Aug. 7, 1956, Ser. No. 602,621
11 Claims. (Cl. 166—162)



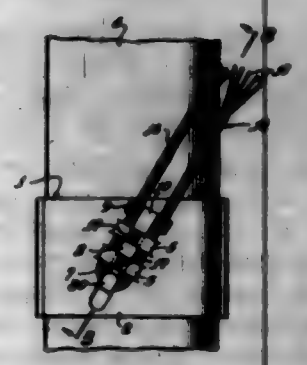
1. An automatic dispenser for releasing chemicals into a well comprising a receptacle insertable into a flow tubing, said receptacle having a storage chamber and an injection chamber therein, a member reciprocable in both of said chambers, means operable upon reciprocation of said member for effecting by positive displacement and pressure the transfer of chemical from the storage chamber to the injection chamber and from the injection chamber to the exterior of the receptacle, means including said receptacle and said reciprocable member responsive to variations in the rate of flow of well fluid in the well for causing reciprocation of said member and discharge of chemical from said receptacle into the flowing fluid in said well.

2,968,352

WALL SCRATCHER

Lennart A. Hone, South Gate, Calif., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois

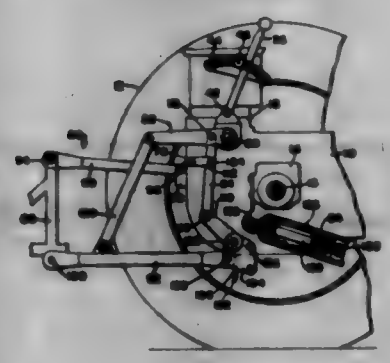
Filed Dec. 11, 1956. Ser. No. 627,613
20 Claims. (Cl. 166—173)



1. A wall scratcher of the class described adapted to be mounted on oil well pipe or casing, comprising an

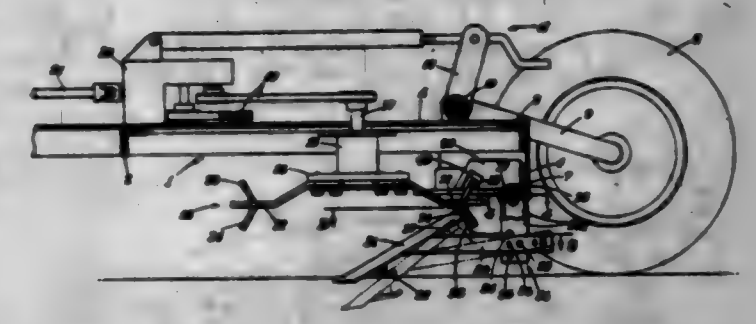
annular collar, a plurality of flexible scratcher fingers having mounting portions and free scratching portions, means securing said mounting portions on said collar with said mounting portions lying along the side of said collar and extending generally axially thereof and with said free portions projecting outwardly from said collar and axially past an end thereof, said securing means including a resilient member mounted on said collar adjacent the end of said collar past which said free scratching portions project and having a portion thereof underlying said scratcher fingers at the juncture of the mounting portions and free scratching portions of said fingers and flexing the free scratching portions outwardly.

2,968,353
TRACTOR-IMPLEMENT HITCH AND CONTROL SYSTEM
John H. Edman, Waterloo, Iowa, assignor, by mesne assignments, to Deere & Company, a corporation of Delaware
Filed Nov. 15, 1956, Ser. No. 622,299
16 Claims. (Cl. 172—7)



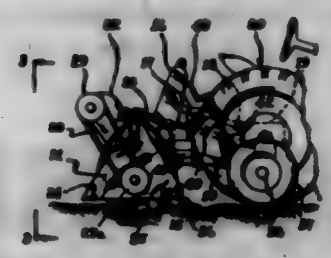
1. For a tractor and associated implement wherein the tractor includes a power-operated lift arm, an actuator for starting and stopping said arm and a draft-control signal-receiving means for controlling the actuator, the improvement comprising: hitch linkage including upper and lower fore-and-aft hitch links between the tractor and implement and having rear ends pivotally connected to the implement on transverse axes and having front ends adjacent to the tractor; upper means pivotally connecting the upper link front end to the tractor on a transverse axis; lower means connecting the lower link front end to the tractor and including a rockable signal output member pivoted to the tractor on a transverse axis and pivoted also to the lower link front end on a transverse axis whereby the linkage is vertically swingable and whereby the lower link is shiftable fore-and-aft in response to variations in draft load so as to rock the signal output member; biasing means optionally connectible or disconnectible between the tractor and the signal output member and operative when connected to yieldingly oppose rocking of said member in at least one direction; a lift connection between at least one of the links and the lift arm for incurring vertical swinging of the links and implement by movement of said arm; and signal transfer means optionally connectible between the signal output member and the signal-receiving means, when the biasing means is connected, for controlling the actuator according to draft loads, or between the signal output member and the lift arm independently of the signal-receiving means when the biasing means is disconnected and serving as a direct mechanical force-transmitting element for converting rocking of said member into a lifting force on the hitch linkage via the lift arm and lift connection.

2,968,354
LIFTER AND BREAKER PLATE ASSEMBLY FOR BRUSH CUTTING MACHINES
Thomas H. Berry, 747 S. 99 Highway, Modesto, Calif.
Filed Sept. 29, 1958, Ser. No. 764,091
9 Claims. (Cl. 172—28)



1. In a brush cutting machine which includes an above-ground frame, the frame having a rear cross member, and a driven vertical axis rotary cutting blade unit frame-supported above ground ahead of the rear cross member; a brush lifting device comprising a longitudinally extending brush lifting bar, said bar being positioned at an upward and rearward incline from the ground to an upper end termination adjacent but clear of the path of rotation of the rotary cutting blade unit, a longitudinal supporting arm fixed to and projecting rearwardly from the lifting bar intermediate the ends of the latter, a bracket comprising transversely spaced legs secured to and depending from the rear cross member, the supporting arm extending between such legs, a transverse connecting pivot projecting through said legs and arm, and stop elements spanning between the bracket legs arranged relative to the pivot and arm to engage the arm on opposite sides of the pivot and allowing of limited vertical floating motion of the arm about the pivot.

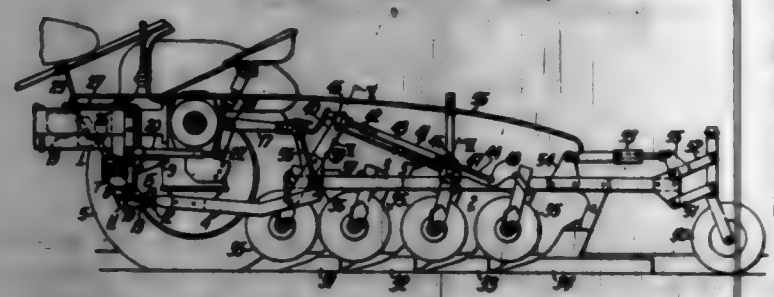
2,968,355
MULCHING MACHINE
Phil E. Davis, 922 W. 4th Ave., Mesa, Ariz.
Filed June 24, 1957, Ser. No. 667,631
3 Claims. (Cl. 172—63)



1. A mulching machine comprising a power driven vehicle having transversely aligned support wheels, a frame, means carried by said power driven vehicle for pivotally supporting said frame rearwardly thereon for relative vertical movement to and from the ground surface, a transverse horizontal scraper blade fixed on the front of said frame, a horizontally disposed mulching cylinder journaled at each end to rotate about a fixed horizontal transverse axis on said frame, a series of helically arranged radially outwardly extending ground engaging pegs fixed to the periphery of said mulching cylinder, a power transmission mounted on said frame driven from the power take-off of said vehicle and connected to each end of said cylinder to revolve said cylinder with the outer ends of said pegs engaging the ground surface at a greater peripheral speed than the forward travel of said vehicle to flick soil rearwardly of said cylinder, ground contacting wheels journaled on said frame and mounted for vertical relative movement of said frame located substantially transversely aligned with said support wheels and in front of said scraper blade

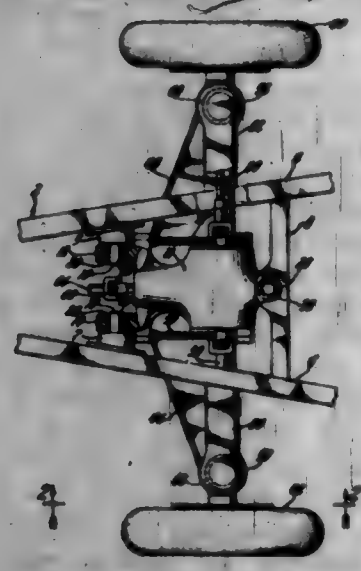
and means acting between said frame and said wheels for adjustably positioning said ground contacting wheels relative to said frame.

2,968,356
TELESCOPIC BEAMING DEVICE
John W. Mydels, La Crosse, Wis., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed July 11, 1955, Ser. No. 520,983
7 Claims. (Cl. 172—395)



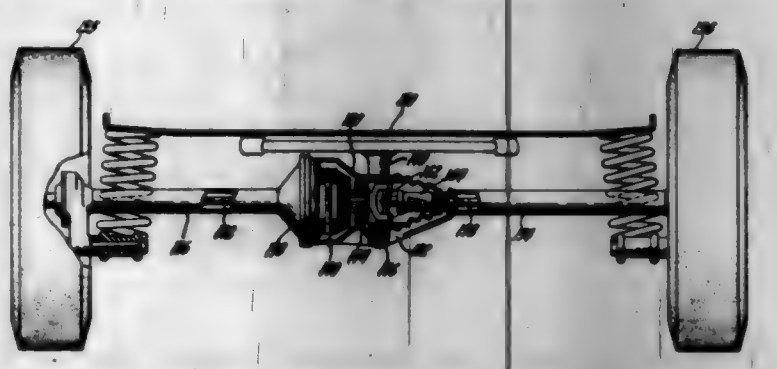
1. A tractor propelled plow comprising, in combination, a rigid plow supporting frame comprising a transverse lift bar presenting opposite ends adapted for connection with a pair of laterally spaced tractor carried lift arms, and laterally spaced forward beam portions secured to said lift bar, a draft pole having a forward end adapted for connection with a tractor and a rear portion secured for lateral adjustment to said lift bar with said lift bar providing a transverse pivot axis for vertical swinging movement of said draft pole, a part rigid with said draft pole and forming a beaming tower, a first pivot member supported in said beaming tower, a second pivot member supported in said plow frame rearwardly of said first pivot member, a longitudinally adjustable member having ends supported in said pivot members, said member preventing movement of said pivot members toward each other to rigidly unite said draft pole and said frame against upward swinging movement of one relative to the other when said plow is in ground engaging position, one end of said longitudinal member being longitudinally slidable in one of said pivot members to permit said implement frame and draft pole to freely pivot in a downward swinging movement relative to one another as said plow is raised from ground engaging position and for any laterally adjusted position of said frame relative to said draft pole.

2,968,357
ANTI-SQUAT SWING AXLE SUSPENSION
Albert E. Roller, Birmingham, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Nov. 29, 1957, Ser. No. 699,815
3 Claims. (Cl. 180—73)



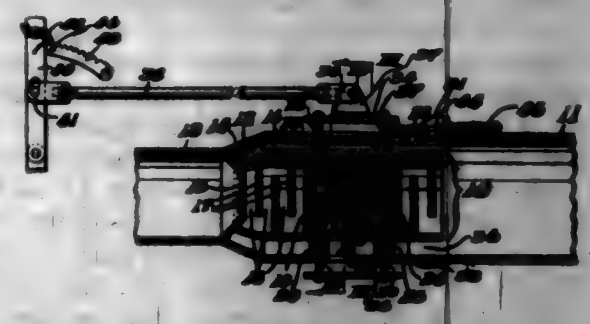
1. Independent suspension for the traction wheels of a vehicle comprising, a frame, a power transmitting member having a longitudinally directed driven element and laterally directed driving elements, traction wheels connected to said driving elements, means hinging said member to said frame on a fixed transverse axis spaced longitudinally forwardly from said driving elements for swinging movement about said axis, a downwardly facing abutment pad on said frame engaged by said member to define the normal angular position thereof, resilient means urging said member into engagement with said pad, wheel guiding arms hinged to said power transmitting member on axes fixed with respect to said member, said axes being caused to change angularly from said normal horizontal position to a downwardly and rearwardly inclined position responsive to corresponding change in angular inclination of said member induced by acceleration torque reaction thereof.

2,968,358
SWING AXLE SUSPENSION FOR VEHICLE DRIVING WHEELS
John Z. De Lorean, Birmingham, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Dec. 30, 1957, Ser. No. 706,192
16 Claims. (Cl. 180—73)



2. In a device of the class described, power transmission means including a housing, a wheel, a wheel control arm pivoted on said housing laterally inboard of said wheel on an axis spaced vertically from said wheel axis, drive means operatively connecting said power transmission means and wheel, and axially telescoping means associated with said drive means, said telescoping means including structure adapted to resist axial telescoping in either direction respectively responsive to torque application in either direction, respectively.

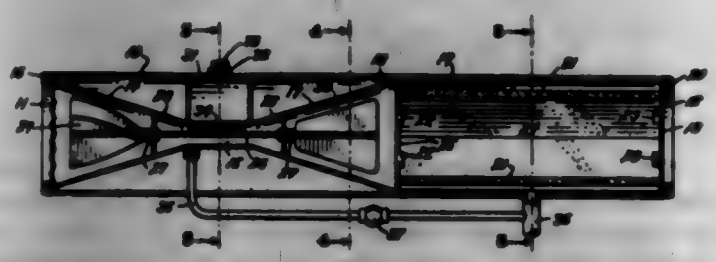
2,968,359
MUFFLER CONSTRUCTION
John Cocker III, Gastonia, N.C., assignor to Cocker Machine & Foundry Company, Gastonia, N.C., a corporation of North Carolina
Filed Dec. 4, 1958, Ser. No. 778,156
7 Claims. (Cl. 181—36)



1. A muffler apparatus for the exhaust pipe of an internal combustion engine comprising a housing having an inlet connected to receive the exhaust from said pipe, muffling means shiftably mounted in said housing for movement toward and away from said inlet, said muffling means having an inlet which is constructed and arranged

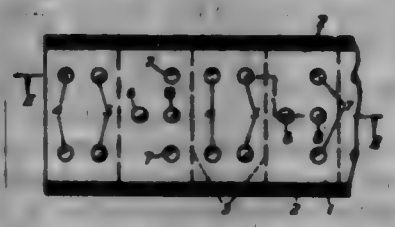
to connect with the inlet of said housing, means forming a by-pass between said muffling means and the walls of said housing which communicates with said inlet and by-passes said muffling means when said muffling means is shifted away from said inlet, and moving means attached to said muffling means and extending through the walls of said housing for shifting said muffling means toward and away from said inlet.

2,968,360
DEVICES FOR REMOVING MOISTURE FROM THE FLOW OF GASES
Lee Jean Goldsmith, 1373 Elevation Road, San Diego, Calif.
Filed June 1, 1959, Ser. No. 817,179
6 Claims. (Cl. 183—36)



1. A device for removing moisture from moving gases comprising: an elongated housing open at both extremities; an intake funnel within the forward extremity of said housing having a larger extremity directed forwardly to receive the gases entering said housing and a smaller extremity directed rearwardly to axially compress the gases; an elongated cylindrical compression tube corresponding in diameter to said smaller extremity axially positioned in said housing and sealed to said smaller extremity and arranged to direct the compressed gases axially rearward in said housing; an expansion funnel positioned within said housing and having a small extremity connected and sealed to the rear extremity of said compression tube to receive the compressed gases therefrom and a large extremity directed rearwardly to allow expansion of said gases; an elongated absorption chamber within the rear extremity of said housing sealed to and receiving the expanded gases from the larger extremity of said expansion funnel; and a porous wall surrounding said absorption chamber within the confines of the wall of said housing, said intake funnel, said compression tube, said expansion funnel and said absorption chamber being axially aligned within said housing.

2,968,361
FILTERS FOR GASES
Kenneth Ernest Buckman, Redbridge, England, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed May 11, 1959, Ser. No. 812,376
Claims priority, application Great Britain May 12, 1958
3 Claims. (Cl. 183—71)



1. In an air filter comprising an upper shell, a lower shell secured to said upper shell and defining a chamber therebetween, an annular pleated filter element disposed in said chamber and spaced from the ends thereof, a depression formed in said lower shell and extending into said chamber and into said filter element, a shoulder formed on said lower shell and around said depression, a gasket on said shoulder and engaging the inner peripheral portion of said filter element, a plate having a depression formed therein disposed in said chamber, said last named depression extending into said filter element, said plate having a shoulder formed thereon and around said depression, a gasket disposed between said shoulder and the inner peripheral portion of the upper end of said filter element, spring means between said upper shell and said plate to sealingly engage said gaskets and said shoulders and said filter element when said upper and lower shells are joined, and means for securing said upper and lower shells together.

2,968,362
WHEEL BEARING GREASER
Oliver B. Elliott, 150 Hillsdale, Wichita, Kans.
Filed Jan. 27, 1959, Ser. No. 789,389
1 Claim. (Cl. 184—1)

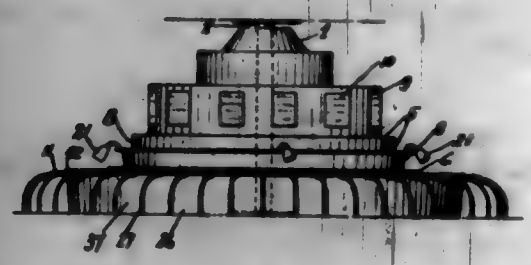


In apparatus for dispensing grease, an elongated, hollow cylinder adapted to receive within a length thereof adjacent one of its ends either a quantity of grease in bulk or a grease-filled cartridge having a cylindrical wall of lesser inner diameter than said cylinder; means for closing said one end of said cylinder; an elongated, grease delivery tube extending from within said cylinder out the other end of said cylinder; means mounting said tube for axial reciprocatory movement relative to said cylinder; a tubular piston within said cylinder and mounted on said tube adjacent the end of the latter within said cylinder for reciprocation with said tube; a resilient O-ring; and means for cooperating with said O-ring to provide a similar seal between said piston and either said cylinder or said wall, said means comprising a pair of circumferential, annular grooves in said piston of different radial depths and each adapted to receive said O-ring.

2,968,363
DISPENSING MERCHANDISE BY INDIVIDUAL SELF SERVICE
Walter A. Kimbrell, 884 Old Orchard Road, Cincinnati, Ohio
Filed Jan. 29, 1958, Ser. No. 711,922
3 Claims. (Cl. 186—1)

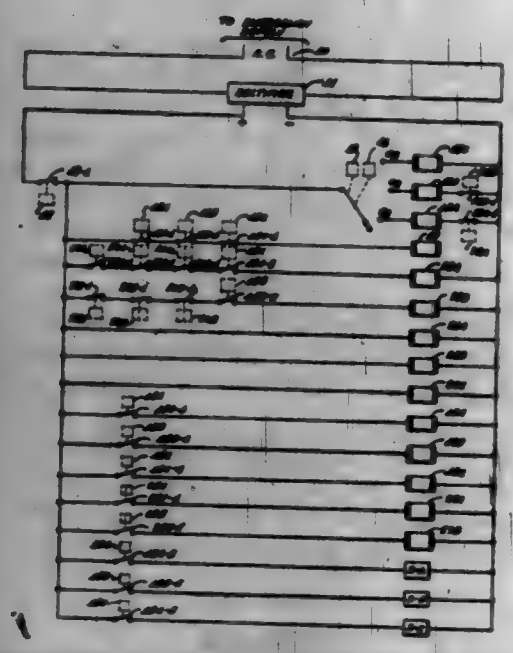
1. A cafeteria serving apparatus adapted to convey dished foods to a plurality of standing customers comprising, a series of circular counters mounted for rotation about a common perpendicular axis in horizontal planes one above the other and having successively reduced diameters, said counters being adapted to convey the dished foods, means on said counters dividing the same into a plurality of segments for segregating the dished foods, power means connected in common to said counters

for rotating the same at a rate adapting the standing customers to remove the dished foods from said segments, a stationary circular support counter mounted in a horizontal plane common to said lowermost counter and concentric therewith, a partition dividing said stationary counter into a customer area and a kitchen area, said customer area being exposed to the plurality of standing customers for removal of the dished foods from the rotating counters to the stationary counter, a plurality of stall elements in



said customer area, said stall elements disposed about the edge of the stationary counter along lines radiating from said perpendicular axis of rotation and spaced apart from one another whereby each stall element is adapted to admit at least one customer to the stationary counter, and said customer is inhibited from tangential movement with said rotating counter, and a plurality of radiant heating elements mounted upon one of said upper counters and adapted to direct heat rays downwardly into certain of the segments of said lower counters to heat the dished foods therein.

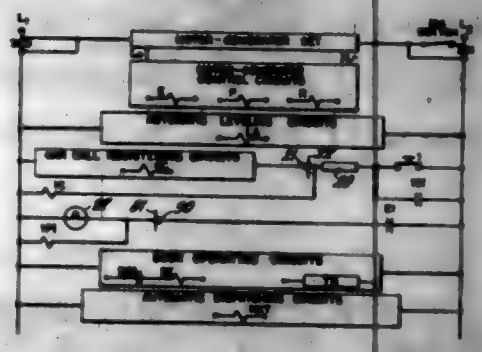
2,968,364
EMERGENCY ELEVATOR CIRCUIT
Harry R. Robertson, 2022 N. Bronson, Los Angeles, Calif.
Filed Jan. 29, 1960, Ser. No. 5,510
6 Claims. (Cl. 187—29)



1. In a control system for a plurality of elevators having a normal power supply, in combination, an emergency power supply, means responsive to failure of the normal power supply for connecting the elevators to the emergency power supply, sequencing control means for connecting the elevators individually in order, to the emergency power supply for returning each elevator to a predetermined parking position and disconnecting each elevator from the emergency power supply after having been returned to that position, and means embodied in said sequencing means for maintaining the emergency power on the last elevator in the sequence to maintain it in service until restoration of the normal power supply.

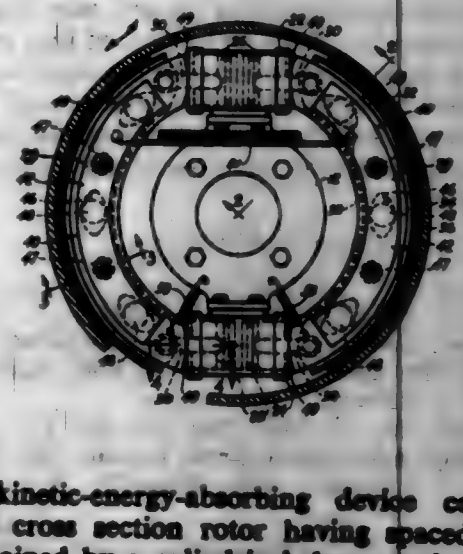
2,968,365
WITHDRAWN

2,968,366
ELEVATOR CAR DOOR CONTROL SYSTEM
John J. Drexler, Louisville, Ky., assignor to K. M. White Company, Louisville, Ky., a corporation of Kentucky
Filed Jan. 6, 1959, Ser. No. 785,268
14 Claims. (Cl. 187—29)



14. In an elevator car control system wherein more than one car may be parked at a dispatching floor awaiting dispatching and wherein the door of an empty car normally remains closed upon arrival at the dispatching floor until the car is selected for dispatching, load weighing means responsive to the presence of a passenger in a car, means responsive to the arrival of the car at the dispatching floor, and door control means responsive to the load weighing means and the dispatching floor arrival means to open the car door upon arrival at the dispatching floor only if at least one passenger is detected by the load weighing means.

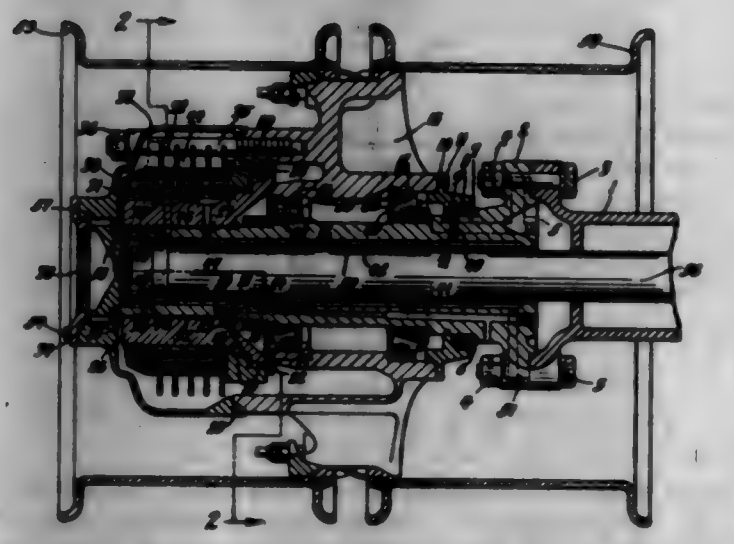
2,968,367
COMBINATION SHOE AND DISK BRAKE
Richard T. Burnett, South Bend, Ind., assignor to The Bendix Corporation, a corporation of Delaware
Filed June 17, 1955, Ser. No. 516,149
14 Claims. (Cl. 188—70)



1. A kinetic-energy-absorbing device comprising a U-shaped cross section rotor having spaced apart disk surfaces joined by a cylindrical drum surface, a pair of brake units each inclusive of a first friction element having a lined rim engageable with the cylindrical drum surface of said rotor, a web formed transversely to said rim, oppositely-acting second friction elements located on either side of said web and engageable with the disk surfaces of said rotor, camming devices arranged to impart axially directed applying force on said second friction elements upon relative circumferential movement of said first and second friction elements, a fluid motor associated with each of said units for initially applying the first friction element thereof, means interconnecting said fluid motors and said first friction elements whereby actuation of said motors produce application of said first friction elements

against the cylindrical surface of said rotor, and anchoring means associated with the ends of each of the second friction elements and which provide fixed abutments upon which said brake units are arranged to pivot.

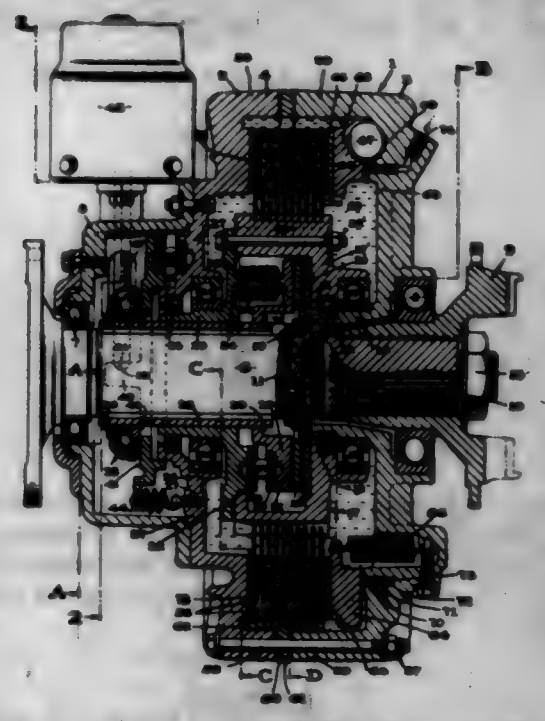
2,968,368
FLUID-COOLED VEHICLE DISC BRAKE
Hans O. Schjolin, Birmingham, and Donald K. Isbell, Pontiac, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Feb. 12, 1958, Ser. No. 714,774
5 Claims. (Cl. 188—72)



1. A brake comprising, in combination, a wheel, a bearing chamber forming a passage within the hub section of said wheel, a rotating brake housing member connected to said wheel, one or more rotating brake discs carried by the brake housing member, a stator member within said housing member, one or more stationary brake discs mounted on the stator member, grooves on one or more of said discs, a shaft housing member connected to said stator member, cooling fluid inlet passage means including fluid passage means within the walls of said shaft housing, said bearing chamber in said wheel, passage means from the outboard side of said bearing chamber to the outer periphery of said brake, return passage means including passage means from the inner periphery of said brake discs to the inner periphery of said shaft housing, an internal sleeve mounted within said shaft housing member with the end portions closely fitting the shaft housing and the center portion of said sleeve in spaced relation to said housing thereby providing a fluid passage means between said shaft housing and internal sleeve, means for circulating cooling medium through said passage means and said grooves on said discs, and thereby providing cooling of said brake discs.

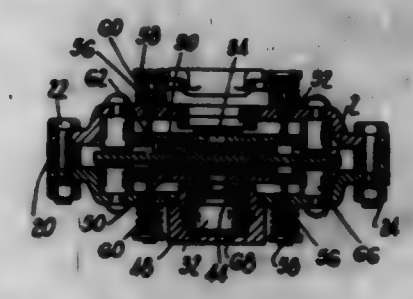
2,968,369
COMBINED RETARDER AND AUXILIARY BRAKE
Dent Parrett, St. Joseph, Mich., assignor, by mesne assignments, to Lambert Brake Corporation, St. Joseph, Mich., a corporation of Michigan
Filed Aug. 6, 1959, Ser. No. 832,655
16 Claims. (Cl. 188—72)

1. A combined retarder and auxiliary brake assembly of the class described, comprising a hollow stationary housing, a rotary drive member journaled within said housing, relatively rotatable inter-engageable brake friction discs within said housing, at least one of said friction discs having means for operative connection with the rotary member and constituting a brake rotor disc, said means including friction clutch means operatively and radially interposed between the brake rotor disc and the rotary drive member, clutch operator means to selectively engage and disengage the clutch means to effect rotation and non-rotation respectively of the brake rotor disc with the rotary member aforesaid, and separate brake operator



means independent of the clutch operator means for effecting inter-engagement and disengagement of the brake friction discs.

2,968,370
DISK BRAKES
Jean Ruet, Lisieux Brevannes, France, assignor to The Bendix Corporation, a corporation of Delaware
Filed Aug. 10, 1956, Ser. No. 603,303
9 Claims. (Cl. 188—73)

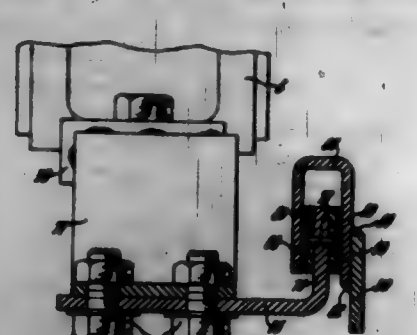


1. A disk brake including a rotor, a stator, a fluid pressure operated cylinder, a piston in said cylinder, a wear pad operatively connected to said piston, a ball and socket means located between said piston and wear pad to form said connection, said ball and socket means being fixedly connected to said wear pad and movably connected to said piston for permitting lateral movement of said wear pad with respect to the axis of said piston.

2,968,371
BRAKE RIGGING STABILIZER
William F. Holin, Riverside, Ill., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Original application Nov. 4, 1954, Ser. No. 466,854, now Patent No. 2,911,073, dated Nov. 3, 1959. Divided and this application Mar. 19, 1959, Ser. No. 800,479
2 Claims. (Cl. 188—196)

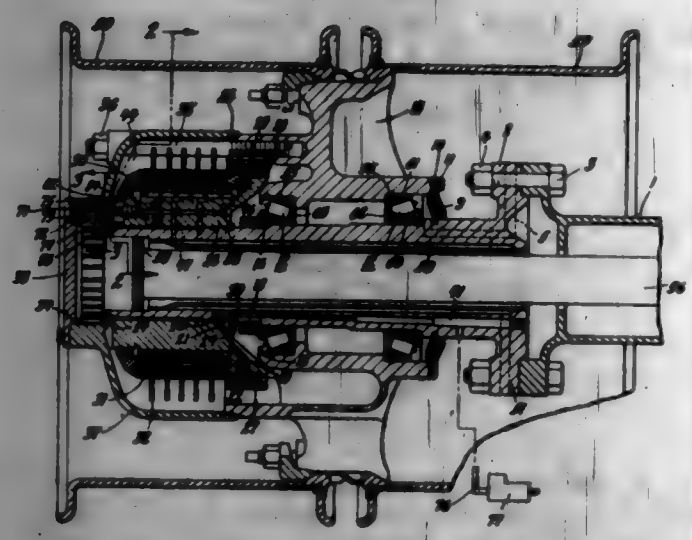
1. In a railway vehicle truck including a side frame having oppositely disposed downwardly depending pedestals between which one end of an axle having a wheel thereon is journaled and a brake rigging including brake levers before and behind the wheel having their lower ends linked together by a horizontal bar on one side of the wheel, guide means attached to said pedestals com-

prising a member attached to one of said pedestals and having an upstanding portion, a U-shaped member secured to said bar the legs of which embrace said upstanding member and are guided thereby, a second member attached to the other of said pedestal assemblies and



having an upstanding portion, a second U-shaped member longitudinally spaced from said first U-shaped member and secured to said bar, the legs of said second U-shaped member embracing the upstanding portion of said second member.

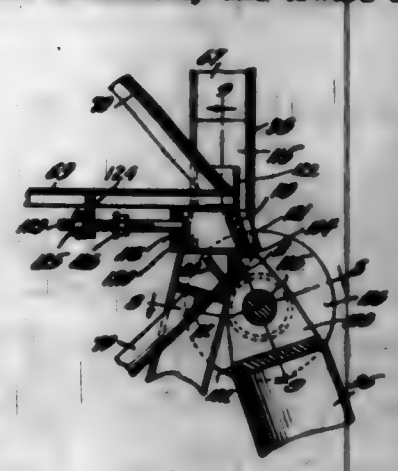
2,968,372
INTERNAL BLEEDER FOR VEHICLE BRAKE
Luther N. Kern, Berkley, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Feb. 12, 1958, Ser. No. 714,773
6 Claims. (Cl. 188—264)



1. A hydraulic brake including a bleeder device and comprising in combination; a brake assembly, fluid passage means within said brake assembly for brake-operating fluid, fluid passage means within said brake assembly for brake-cooling fluid, a bleeder screw with a valve portion on its forward end within said brake assembly, a valve seat cooperating with said valve portion, fluid passage means connecting the forward end of said valve seat with said operating-fluid passage means, fluid passage means connecting said cooling-fluid passage means with the rearward end of said valve seat, means for opening and closing said valve to provide a fluid connection from the operating-fluid passage means to the cooling-fluid passage means.

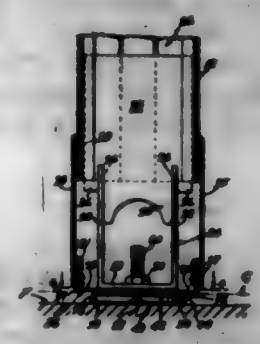
2,968,373
DERRICK STRUCTURE
Emil A. Bender, P.O. Box 52, Bakersfield, Calif.
Filed Feb. 3, 1954, Ser. No. 407,893
5 Claims. (Cl. 189—15)

1. A derrick structure comprising a base, a derrick body, means pivotally connecting said body to said base for swinging movement between a substantially horizontal inoperative position and a substantially vertical operative position, elongated lifting means pivotally mounted adjacent one end on said base and slidably engageable adjacent the opposite end with said body for raising and lowering the latter, and automatic latch means for positively retaining said body in operative position comprising a first latch member fixedly secured to said body, generally inclined upwardly and toward said lifting means, a second latch member fixedly secured to said lifting means adjacent the slidable end thereof, generally inclined downwardly and toward said body, said



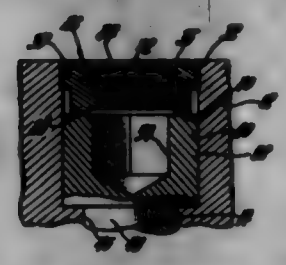
latch members engaging when said body reaches erect, operative position, a wedge shaped locking member, mounted in said body above said first latch member when said derrick body is in vertical operative position, for limited linear movement transversely of said body, spring means operatively associated with said body and said locking member and resiliently urging the latter into extended locking position when said latch members are in latched position, an operating shaft attached to said element, and means having mechanical connection with said shaft and with said body for positively moving said element in both directions whereby said latch members may be positively locked in engaged position.

2,968,374
WALL-PANEL BASES AND PANEL SUPPORTS
John A. Bohnsack, Pottsville, Pa., assignor to Aetna Steel Products Corporation, New York, N.Y., a corporation of New York
Filed July 5, 1957, Ser. No. 670,230
10 Claims. (Cl. 189—34)



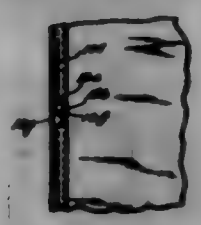
4. Support means for a partition wall comprised of adjacent wall panel assemblies, comprising a longitudinal channel member having a bottom and opposite sides and provided with longitudinally extending inner recesses at said opposite sides, respectively, adjacent the bottom of the channel member, a base plate mounted adjacent the bottom of said channel member and releasably engaged therewith in said recesses and disengageable from said recesses by turning of the base plate in its own plane, and means mounted on said base plate for supporting the ends of the adjacent wall panel assemblies.

2,968,375
MACHINE RAIL STEEL PLUG
Dallas B. Avery, Sr., Pontiac, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed July 23, 1958, Ser. No. 750,341
3 Claims. (Cl. 189—36)



3. In a machine, a hardened rail secured to a base member by a plurality of screws seated in counterbored holes and below the surface of said rail, a plug for each of said counterbored holes including a cylindrical body, the external surface of said body retaining said plug in said counterbored hole, an internal threaded bore axially extending into said plug, a thin wall between the exposed surface of said plug and the end of said internal bore and flush with the surface of said hardened rail, said wall being adapted to be broken out for access to said threaded bore for removal of said plug when access to said screws is required, and an annular machined surface at the opposite end of said plug from said exposed surface to properly seat said plug on said screw, said exposed surface of said plug providing a smooth surface for said hardened rail.

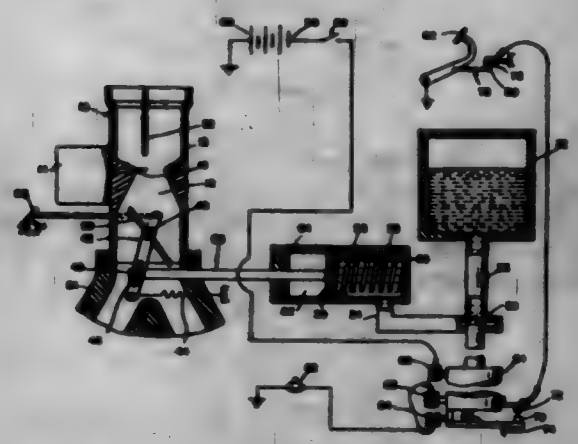
2,968,376
JOINT LOCK FOR SHEET METAL PARTS
Almon J. Chapin, Oberlin, Ohio, assignor to The Johnson Furnace Company, Cleveland, Ohio, a corporation of Ohio
Filed Dec. 19, 1958, Ser. No. 781,615
3 Claims. (Cl. 189—36)



1. A fastening construction for two members, comprising one of said members having a U-shaped channel with an opening through said one member contiguous to the bend formed by said U-shape, the other of said members having a generally planar sheet element extending into said channel with a portion of said element aligned with said opening, said opening being generally in line with the plane of said sheet extended, and said portion being twisted laterally into alignment with opposite edges of said opening in both legs of said U-shape to prevent pull out of said other member from said channel.

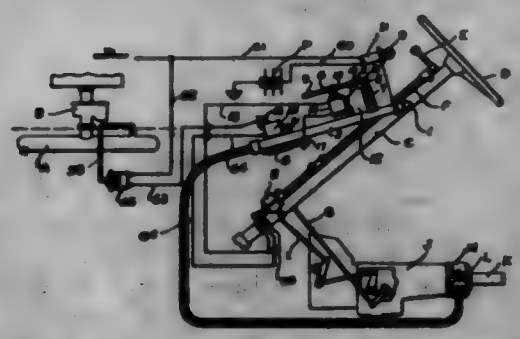
2,968,377
CARBURETOR MEANS FOR MAINTAINING ANY SELECTED VEHICLE SPEED
Ralph R. Griffen, Roseville, Mich., assignor to Holley Carburetor Company, Van Dyke, Mich., a corporation of Michigan
Filed Feb. 17, 1958, Ser. No. 715,623
21 Claims. (Cl. 192—3)

3. A throttle positioning system for an automotive vehicle having a brake pedal, an internal combustion engine having a throttle valve provided with a spring effective to move said throttle valve to closed position, an accelerator pedal, and means providing a throttle opening connection between said accelerator pedal and throttle valve; said system comprising an expansible hydraulic chamber having a movable wall, positive mechanical connecting means between said wall and throttle valve adapted to move said wall in the direction to decrease the volume of said chamber upon throttle closing movement,



means for supplying hydraulic fluid to said chamber comprising a passage, an operator controlled valve member effective to close said passage to prevent discharge of fluid from said chamber to thereby prevent closing movement of the throttle valve from the position occupied upon closing of said valve member, and means actuated by the brake pedal of the vehicle to open said valve member to permit closure of the throttle valve by its spring.

2,968,378
ELECTRICALLY CONTROLLED AUTOMATIC HAND BRAKE RELEASE
John D. Yanda, Maple Lane, Bethlehem, Wheeling, W. Va.
Filed Mar. 5, 1957, Ser. No. 644,098
2 Claims. (Cl. 192—4)



1. An automatic brake releasing system for vehicles having an engine intake manifold, a gear shift selector, a parking brake and a switch operated electrical ignition system comprising a tube fixedly mounted on said vehicles having elongated slots therein and a side opening, a hand brake control rod operatively connected to said parking brake and being slideably mounted in said tube, said rod having a series of teeth positioned for movement beneath said tube side opening, fingers extending laterally of said rod through said tube slots, one of said fingers being resiliently connected to said tube drawing said rod to its brake releasing position, a solenoid operable pawl slideably positioned through said tube side opening for being withdrawn upon operation of said solenoid, resilient means tending to move said pawl for engaging said rod teeth retaining said rod in its braking position, an electrical switch mounted on said tube including a switch actuating plunger positioned in the path of the other of said finger for being moved to circuit opening position upon release of said rod, resilient means tending to return said plunger to circuit closing position, a vacuum operated electrical switch connected to said en-

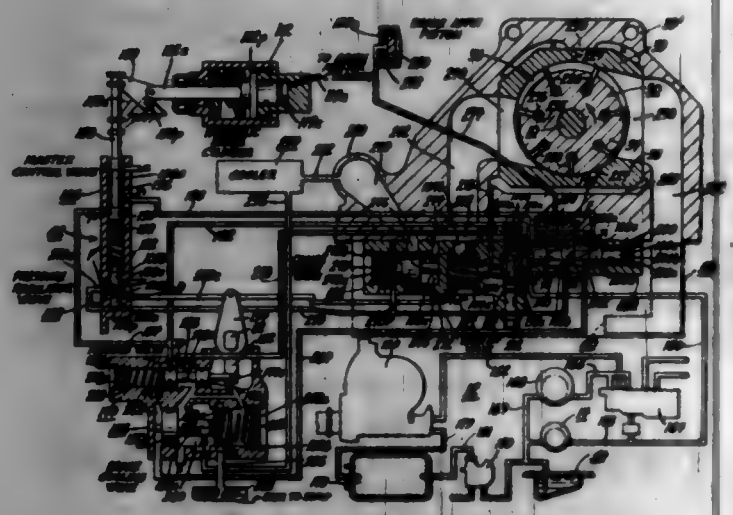
gine intake manifold for being closed upon operation of the engine, resilient means tending to retain said second switch open, an electrical circuit connecting the engine ignition system to said vacuum operated switch and said vacuum operated switch to said first mentioned switch, and means operable by said gear shift selector for electrically connecting said first switch to said solenoid only when said selector is moved to an in-gear position, the closing of said switches and the operation of said last-mentioned means thereby releasing said rod.

2,968,379

VEHICLE BRAKE AND TRANSMISSION FLUID ACTUATING AND COOLING SYSTEM

Oliver K. Kelley, Bloomfield Hills, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Jan. 9, 1958, Ser. No. 708,034
9 Claims. (Cl. 192—4)



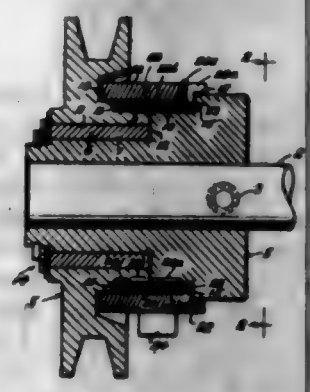
1. In combination with a hydro-kinetic automatic transmission having at least one pump on a motor vehicle also having a braking means including passage-forming conduit means as well as an adjoining brake cooling chamber that communicates therewith in predetermined locations and provided for application of driving as well as braking force, respectively, upon a vehicle torque-transmitting propeller shaft, a system for controlling braking means application and cooling, comprising, a source of transmission fluid medium, a pumping means including a rotor as well as a slider member that is cooperable with the rotor thereof carried by the propeller shaft and capable of being actuated by use of transmission fluid medium supplied under pressure from one pump of the transmission, a dispatch valve to govern passage of the transmission fluid medium for supply thereof by conduit means from said source under pressure due to the one transmission pump to a location adjacent to the slider member of said pumping means for urging the member into cooperation with the rotor of said pumping means, a master control valve actuated concurrently upon brake actuation and provided to control connection of passage-forming conduit means to establish communication from said source through said dispatch valve to the chamber for brake cooling, a cooler and a cooler supply valve connected in series with suitable passage-forming conduit means to join said pumping means and the brake cooling chamber for circulation of transmission fluid medium used for transfer of heat from the braking means, said cooler serving to dissipate heat from transmission fluid medium used for cooling the braking means, and a pressure regulating valve means provided adjacent to said master control valve for dispatching transmission fluid medium under pressure from the one transmission fluid pump by the way of further passage-forming conduit means from said pumping means for regulating fluid pressure on one end of said cooler supply valve opened for circulation of transmission fluid medium as well as to govern fluid pressure for said braking means application.

2,968,380

SPRING CLUTCH MECHANISMS

Columbus R. Sacchini, Willoughby, and Donald R. Tomko, Cleveland, Ohio, assignors to Curtiss-Wright Corporation, New York, N.Y., a corporation of Delaware

Filed Jan. 30, 1957, Ser. No. 637,239
3 Claims. (Cl. 192—81)



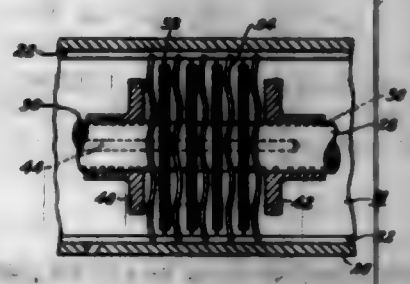
1. A friction coil clutch mechanism for coupling a continuously rotating drive to an intermittently operated load, said mechanism comprising an approximately cylindrical input clutch drum, an approximately cylindrical output clutch drum coaxial therewith, a full-floating type helical clutch spring having coils elastically preloaded radially against approximately cylindrical surface portions of respective drums, annular axial shoulders on respective drums facing respective end coil portions of the spring, a clutch release member and means supporting the release member for rotation relative to the drums about their common axis and in a predetermined axial position in the mechanism, said release member being connected to an input-drum-associated end coil of the spring, for rotation integrally with the spring, means operable to stop rotation of the release member hence rotation of the spring to disengage the clutch mechanism, said release member having a portion interposed between such input-drum-associated free end coil of the spring and the axial shoulder of the input drum.

2,968,381

FRICTION PLATE

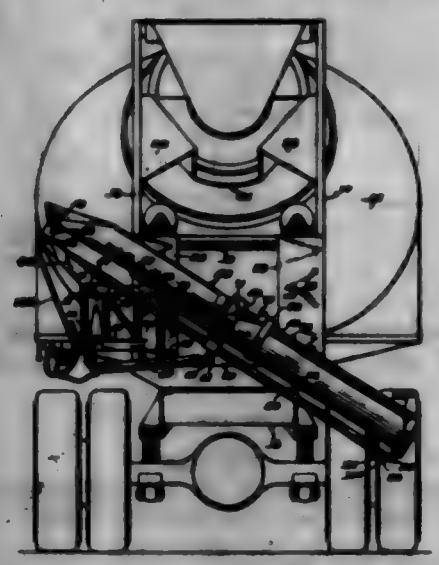
Edward J. Vosler, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Sept. 27, 1957, Ser. No. 686,742
8 Claims. (Cl. 192—107)



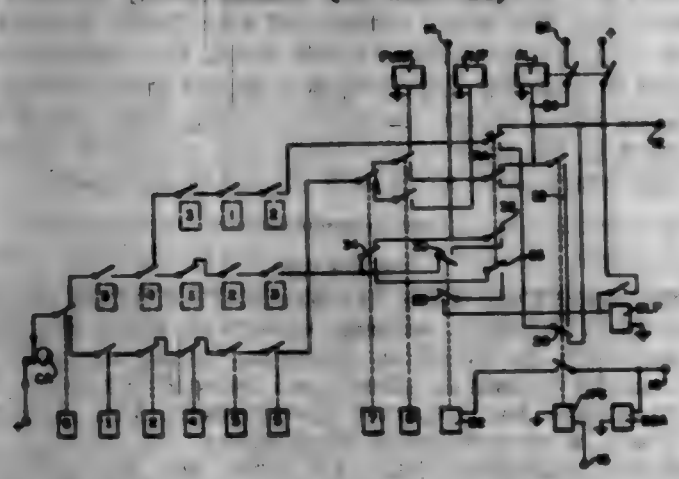
1. A friction plate comprising an annulus of sheet metal, a plurality of driving lugs equally spaced at one periphery thereof, said plate having its surface undulated in a sine wave pattern of at least three full peripheral waves, wherein the number of said driving lugs is not in excess of the number of full waves on the plate and wherein the driving lugs are positioned on the same side of the several waves so that their radial centers are at the intersection of the waves and their abscissae.

2,968,382
TELESCOPIC CHUTE
John Foster Oury, 230 W. North Ave., Northlake, Ill.
Filed Dec. 2, 1957, Ser. No. 700,172
2 Claims. (Cl. 193—10)



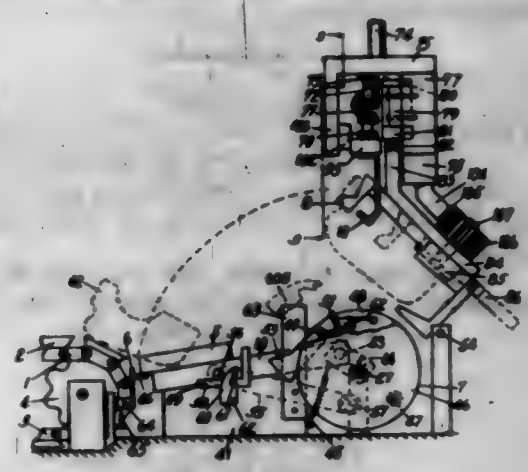
1. In combination with a concrete transit mixer, a laterally movable pivotally mounted support block, a frame on said block detachably connected with the transit mixer whereby the support block is held in fixed position, a chute pivot shaft mounted on said support block, a primary chute section, a yoke on said primary chute section intermediate its ends, an arm on said chute pivot to which the primary chute section is pivotally connected for vertical movement of the said chute section, a hydraulic ram secured to the lower end of the chute pivot at one of its ends and to the said yoke at its other end, a plurality of secondary chute sections telescopically connected with each other and with the primary section and a hydraulic ram connected to the arm supporting one end of the primary chute to the free end of the end secondary chute whereby the said chute is extended and contracted and a resilient wiper member secured to the discharge end of the primary chute for engagement with the inner surface of the adjacent chute as the chute is contracted.

2,968,383
METHOD AND APPARATUS FOR TYPE COMPOSITION
René A. Higonnet, Cambridge, Mass., and René A. Grea, Chatou, France, assignors to Graphic Arts Research Foundation, Inc., Cambridge, Mass., a corporation of Delaware
Filed Oct. 8, 1959, Ser. No. 845,237
Claims priority, application France Oct. 17, 1958
18 Claims. (Cl. 197—20)



1. The method of composing justified lines which consists in selecting the characters and spaces at a keyboard while causing coded information corresponding to a plurality of lines thereof to be entered in a register, transferring the register to a typesetting machine, and operating said machine by reading said coded information while measuring the difference between the space occupied by a succession of said characters and the justified line length, terminating the reading of said information when a space code is read after said difference has been reduced to a predetermined level, and composing the characters read before said termination in a justified line.

2,968,384
AUTOMATIC LOADER AND UNLOADER FOR CONVEYORS
Robert J. Van Schie, 236 Jean St., Grand Rapids, Mich.
Filed Nov. 20, 1958, Ser. No. 775,153
11 Claims. (Cl. 198—20)

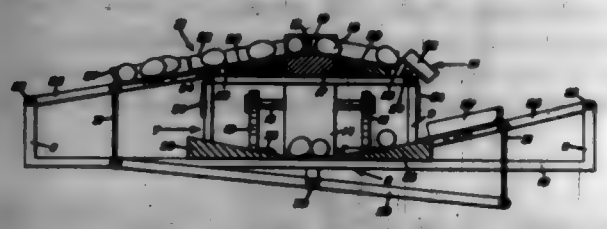


1. A conveyor system for stamped sheet metal articles comprising a first flat bed conveyor for advancing the articles, a swingably mounted transfer tray positioned to swing from a receiving position at the end of said first conveyor to an elevated position, a catch on said tray supporting the article in elevated position, drive means connected to raise said tray, means biasing said tray to receiving position, a latch releasably engageable with said catch, a striker positioned to release said latch in the elevated position of said tray, a second conveyor driven in timed relation to said drive means, a transfer carriage supported alongside said second conveyor and opposite said tray, a catch on said carriage engageable by a projection on said second conveyor, a latch on said carriage engageable with a fixed stop in the advanced position of the carriage to release said catch from said projection, means connected to said carriage to retract the same, a bar transversely slidably supported in an inclined position on said carriage and having a hook on its upper end positioned opposite said tray in the retracted position of said carriage to receive an article from said tray, means including first rack teeth fixed alongside the path of movement of said carriage and second rack teeth on said transfer bar and drivingly connected pinions on said carriage coacting with said rack teeth to retract said transfer bar downwardly upon advancing motion of said carriage, and a hook on said second conveyor positioned to be alongside said bar and below and behind said hook when said projection on said second conveyor engages said catch on said carriage.

2,968,385
EGG COLLECTING APPARATUS
Theodore Griffith Harkey, Rte. 3, Paris, Ark.
Filed Dec. 30, 1958, Ser. No. 783,795
9 Claims. (Cl. 198—26)

1. An egg collecting apparatus comprising: a conveyor including an endless belt having upper and lower runs, chutes on opposite sides of the upper run for receiving eggs therefrom, vertically swingable buckets on opposite

sides of the conveyor for receiving the eggs by gravity from the chutes, stops operable by the buckets for controlling the discharge of the eggs from the chutes, means for receiving the eggs by gravity from the buckets and



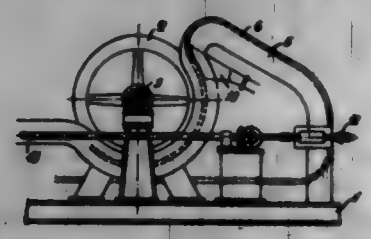
depositing said eggs on the lower run of the belt, means connecting the buckets to the conveyor for actuation thereby, and means connecting the buckets to each other for operation in unison.

2,968,386

DEVICE FOR INSERTING MATCH SPLINTS IN MATCH SPLINT HOLDER

Edwin Zilver, The Hague, Netherlands, assignor to N.V. Inland, Rotterdam, Netherlands, a corporation of the Netherlands

Filed June 22, 1956, Ser. No. 593,263
Claims priority, application Netherlands June 29, 1955
6 Claims. (Cl. 198—33)



1. In combination with a match splint holding means provided with a plurality of holes, each of which is adapted to hold one match splint, a device for inserting match splints in the match splint holding means, said device comprising a rotatably arranged cylindrical splint container having a circumferential wall formed with a plurality of holes through which the splints may pass, each of said cylindrical splint container holes being of a cross section to receive a plurality of match splints and being aligned with a plurality of said individual match splint holes at one time, said holes of the container being formed by a plurality of partition walls extending crosswise and longitudinally of said container, said partition walls defining separate spaces in which the match splints assume a position substantially parallel to each other and to the partition walls, a guide path for the match splint holding means being arranged at least along a part of the circumferential wall of said container and in close proximity to said container, and driving means for driving the match splint holding means and the container at the same speed.

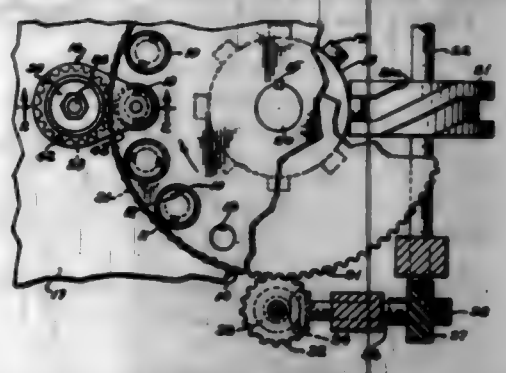
2,968,387

ARTICLE ORIENTING APPARATUS

Karl R. Lagler, Indianapolis, Ind., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Filed Aug. 26, 1959, Ser. No. 836,209
5 Claims. (Cl. 198—33)

1. An orienting apparatus which comprises a support for an article having a plurality of apertures formed therein, a resiliently mounted head, means for mounting said head for rotative and axial movement, means for axially moving said head into engagement with an article on said support, a plurality of locating pins slidably mounted in said support and adapted to move through said apertures, a lever for engaging said pins, means for pivoting the lever to advance said pins against said article whereby the article is lifted from the support against the



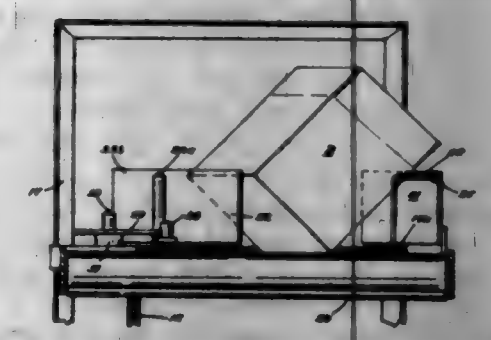
action of said resilient mounted head, and means for rotating said head to cause said pins to pass through said apertures.

2,968,388

ALTERNATE DELIVERY ATTACHMENT FOR BOX SETTING UP MACHINES

Reinhold A. Pearson, E. 608 19th Ave., and Benny Weremiczyk, E. 707 29th Ave., both of Spokane, Wash.

Filed Sept. 29, 1959, Ser. No. 843,113
4 Claims. (Cl. 198—33)



2. An alternate delivery attachment for box setting up machines comprising conveyor means located adjacent to the box outlet at the rear of the machine and extending rearwardly from the machine, a support frame for the machine, first and second vertical pivot means positioned on said support frame on each side of the conveyor means, first and second guide means pivoted upon said first and second pivot means respectively, rigid horizontal spacing means pivotally connecting said first and second guide means and spaced from said first and second pivot means respectively, cam follower means positioned on said first guide means, horizontal cam means rotatably mounted upon said support frame for sliding engagement with said cam follower means, drive means operatively connected to said cam means, said cam means being designed to periodically pivot said first and second guide means in a first direction, and biasing means attached between said first guide means and said frame adapted to urge said first and second guide means in a direction opposite to said first direction, said second guide means including tilting means comprising a diagonally placed rod located in the path of the boxes and extending upwardly and rearwardly along said second guide means.

2,968,389

PREPRESSING AND DIVIDING PARTICLE MATS

Harold E. Erickson, Auburn, Robert W. Riley, Puyallup, and Dale L. Schubert, Tacoma, Wash., assignors of one-half to said Schubert, and one-half, by mesne assignments, to Industrial Development Co., Tacoma, Wash., a corporation of Washington

Original application May 17, 1956, Ser. No. 585,462. Divided and this application May 3, 1957, Ser. No. 660,733
9 Claims. (Cl. 198—218)

1. A conveyor for a plurality of caul plates releasably interlocked end to end, comprising support means

for the caul plates, engaging means for alternately engaging and releasing the leading caul plate, drive means connected to the engaging means for reciprocating the latter between a first station where it engages the leading caul plate and a second station where it releases the



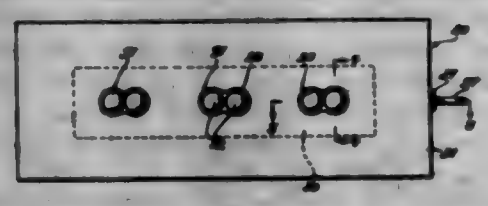
same, means for disengaging the leading caul plate from the next following caul plate after the engaging means has reached the second station, and conveyor means for moving the disengaged leading caul plate from the second station.

2,968,390
FEED DEVICE
James D. Andersen, Stamford, Conn., assignor to Barnby Corporation, Norwalk, Conn., a corporation of New York
Filed Mar. 18, 1957, Ser. No. 646,742
8 Claims. (Cl. 198—221)



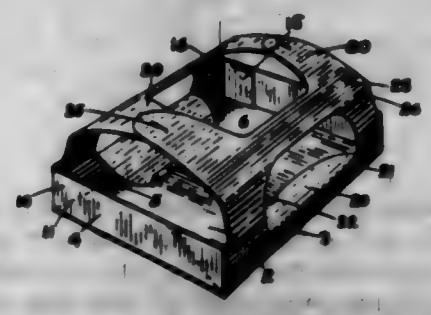
1. A feed device for intermittently advancing material along a given axis comprising a feeder having a cam follower associated therewith, a double acting cam for operating the cam follower and feeder, a feed finger connected to the feeder for engaging the material to be fed, frictional means for controlling the sliding action of the feeder, said feeder being freely rotatable about an axis parallel to said given axis while under the control of said frictional means to cause the feed finger to engage and disengage the material, and said feeder being contained in a bearing block provided with a lateral opening through which the cam follower extends.

2,968,391
TEAR-STRIP PILL PACKAGE
George C. Sparks, Sparks Corporation, Shurs Lane and Peckin St., Philadelphia, Pa.
Filed June 19, 1958, Ser. No. 743,188
8 Claims. (Cl. 206—42)



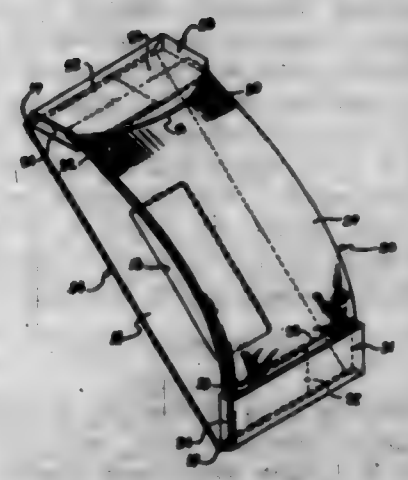
1. A dispensing container comprising a relatively thin plastic inner sheet formed with at least one depression spaced inward from the peripheral edge of said inner sheet and defining a recess opening toward one side of said inner sheet, said depression projecting on the other side of said inner sheet and being configured to contain a predetermined quantity of articles, a tear strip on said one side of said inner sheet arranged across and of a width less than said recess and having one end extending beyond the adjacent edge portion of said inner sheet, a first coplanar cardboard outer sheet arranged in facing engagement with said one side of said inner sheet in closing relation with said recess overlying said tear strip and having its peripheral portion extending beyond the peripheral edge of said inner sheet and terminating short of said one tear-strip end, said first outer sheet having a weakened portion extending along said tear strip overlying and of a width greater than said recess, and a second substantially coplanar outer sheet arranged on the other side of said inner sheet overlying and having its peripheral portion extending beyond the peripheral edge of said inner sheet terminating short of said one tear-strip end and adhesively secured directly to and in facing engagement with the peripheral portion of said first outer sheet, whereby said one tear-strip end extends beyond said outer sheets for manual grasping and a pull exerted on said tear strip effects severance of said weakened first outer sheet portion to completely open said recess.

2,968,392
CARTON
Robert K. Schwebs, Appleton, Wis., assignor to American Box Board Company, Grand Rapids, Mich., a corporation of Michigan
Filed Dec. 11, 1958, Ser. No. 779,721
11 Claims. (Cl. 206—45.14)



1. A tray having a bottom and an upstanding peripheral rim, inwardly and downwardly inclined braces anchored to opposite sides of said rim and to said bottom, an upwardly projecting finger on opposite sides of said rim, said fingers being adapted to be overlapped and secured together.

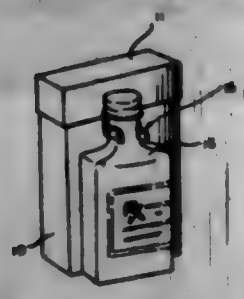
2,968,393
HOSIERY PACKAGE
Floyd L. Phillips, Jr., Graham, N.C., assignor to Old Dominion Box Company, Inc., Charlotte, N.C., a corporation of North Carolina
Filed Nov. 13, 1958, Ser. No. 773,747
5 Claims. (Cl. 206—46)



5. A hosiery package comprising an elongate body portion having a reduced end portion, a pair of flaps hingedly connected to opposite ends of said body portion along transverse fold lines and being folded to overlie said body portion, said flaps each being of a different width and corresponding substantially to the width of the corresponding end of the body portion to which con-

nected, tabs extending from opposite sides of said flaps transversely of said body portion, the ends of said tabs being overlapped and positioned between said flaps and body portion, means securing said overlapped tabs together to define with said corresponding flaps a pair of opposed different size pockets on opposite ends of said body portion movable about corresponding transverse fold lines for movement away from the surface of said body portion to aid in packaging of hosiery therein, and a pair of folded hose having a reduced end portion and insert stiffening means therein overlying said body portion, the opposite ends of said folded hose being received in said pockets with said reduced end portion of the hose being received in the smaller size pocket.

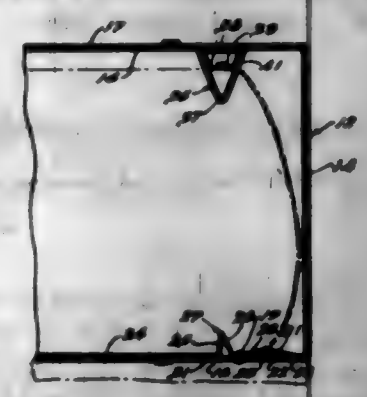
2,968,394
CONTAINER STRUCTURE
Edna Appelt, 2226A E. Oklahoma Ave., Milwaukee, Wis.
Filed Mar. 10, 1958, Ser. No. 720,175
1 Claim. (Cl. 206—47)



In combination with a container structure having side and end walls and a bottom wall together defining an open-top compartment and having also a removable cover for closing said open-top, one of said side walls being provided with a pair of substantially parallel slots open at their upper ends and extending downwardly therefrom to define a tongue therebetween, a clamp having spaced apart spring legs respectively receivable within said slots and slidable longitudinally therealong, said legs at one of their corresponding ends being formed integrally with each other to define a generally flat and enlarged head thereat selectively contiguous between said legs with either the inner or outer surface of said tongue for guiding movement of said legs along said slots and for constraining lateral displacement of said clamp in one direction relative to said tongue as well as for stabilizing said clamp relative to said container, each of said legs being bowed outwardly adjacent said head but spaced therefrom to define with said head a restricted neck providing a recess slidably receiving a marginal edge of the associated slot therein to prevent lateral displacement of said clamp in the other direction, and the other ends of said spring legs being spaced apart for releasably receiving the neck of a bottle therebetween to anchor such bottle to said container, said clamp being adapted to be selectively and interchangeably positioned within said slots for bottle-holding disposition either within or exteriorly of said container and being slidable along said slots to adjust the position of said clamp in accordance with the height of such bottle.

2,968,395
WINDSHIELD SHIPPING CARTON
Ernest W. Glabel, Monroe, Mich., assignor, by mesne assignments, to Union Bag-Camp Paper Corporation, New York, N.Y., a corporation of Virginia
Filed Jan. 28, 1959, Ser. No. 789,566
14 Claims. (Cl. 206—62)

1. A container for supporting a wrap-around windshield, at least four reinforcing elements having slots extending inwardly from the facing side of one edge to a web disposed transversely across the interior, a windshield having bottom and top edges extending into a slot in each of said reinforcing elements and retained in substantially vertical position, and bands engaging said elements and resting upon the webs thereof and extending through apertures in and along the exterior of the container and binding the reinforcing elements to the windshields in firm fixed relation within the container.



2,968,396
ARTICLE SEPARATING PACKAGES FOR FLAT ARTICLES SUCH AS SURGICAL SUPPLIES
Robert H. Pratt, Milwaukee, Wis., assignor to Lankhuff-Pratt Mfg. Corp., Milwaukee, Wis., a corporation of Wisconsin
Filed Dec. 7, 1959, Ser. No. 857,842
5 Claims. (Cl. 206—63.2)

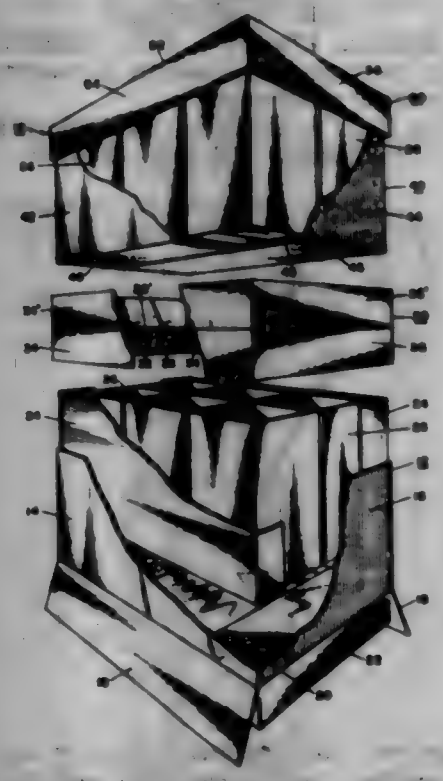


1. In a relatively flat sanitary package having a bottom panel of paper, a first top panel portion folded from one edge of said bottom panel and closing part only of the top of the package and having a top transversely extending tearing flap intermediate the depth of the package, a pleat projecting inwardly from and disposed above the opposite edge of the bottom panel and providing lower and upper fold portions, said upper fold portion having a top side extending toward said first mentioned top portion and providing a second top panel portion closing the rest of the top of the package and having a flap connected to said tearing flap, said flaps being normally in parallelism with and against said second top panel portion, a flat article in the package having part accommodated in and protected on both sides by said lower fold portion, and another flat article in said package having part accommodated in and protected on both sides by said upper fold portion whereby with the index finger of one hand inserted in said pleat and with other fingers of the same hand engaging the outside of said fold portions the articles are individually gripped in the fingers while the tearing flap is being pulled by the other hand to open the top of the package.

2,968,397
CONTAINER
Claude J. Cantrell, Sr., Baytown, Tex., assignor, by mesne assignments, to Esso Research and Engineering Company, Elizabeth, N.J., a corporation of Delaware
Filed Feb. 24, 1958, Ser. No. 717,195
2 Claims. (Cl. 206—65)

1. A self-consolidating paperboard shipping container comprising a lower rectangular, open-topped box member, a plurality of rectangular open-topped lower tubular bale holders of predetermined volume loosely positioned within said lower box member, a lower stack of corre-

spondingly rectangular bales of a rubbery unvulcanized polymer subject to cold flow within each of said bale holders, each of said lower stacks having a volume substantially equal to the volume of the corresponding lower bale holder and an initially smaller cross-section whereby the top of each of said lower stacks initially extends above the top of the corresponding lower bale holder, a partition member having a lower flange adapted to telescopically snugly engage the side walls of said lower box member and an upper flange defining an upper support section, said partition member being initially positioned on the tops of said lower stacks, an upper box member telescopically seated in said upper flange of said partition member, a plurality of rectangular open-topped upper bale holders loosely fitted within said upper box member,



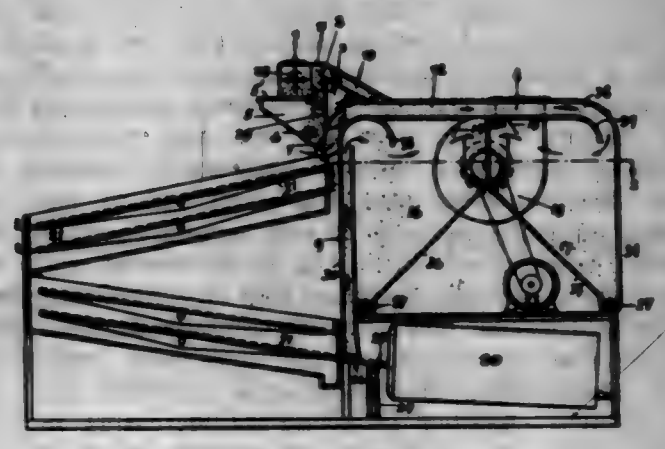
an upper stack of correspondingly rectangular bales of a rubbery unvulcanized polymer subject to cold flow within each of said upper bale holders, each of said upper stacks having a volume substantially equal to the volume of the corresponding upper bale holder and an initially smaller cross-section whereby the top of each of said upper stacks initially extends above the top of the corresponding upper bale holder, and a downwardly flanged cover member telescopically fitted on the top of said upper box member, whereby on cold flow of said unvulcanized polymer during storage, said stacks of bales of rubbery polymer will fill said bale holders and settle to consolidate said shipping containers and to seat said partition member on said lower box member, each of said bales weighing from about 40 to 80 pounds.

2,968,398
DESK DRAWER DIVIDER
Carl W. Jarvi, Glenshaw, Pa., assignor to Haskell Manufacturing Company, a corporation of Pennsylvania
Filed Oct. 29, 1959, Ser. No. 849,528
3 Claims. (Cl. 206—73)

1. A divider for the inside of a drawer having rows of holes through its opposite sides near their upper edges, the divider comprising a partitioned panel and two retaining buttons, the buttons having outer ends for insertion in a selected aligned pair of drawer holes and having bifurcated inner ends for gripping marginal areas of the ends of said panel to hold it in place in the drawer, the height of the panel being great enough to permit it to be inclined in the drawer, the ends of the panel being provided with projections directly above the buttons for engagement therewith to limit downward movement of the panel through the buttons, and said panel being slidable upward through said buttons when they are in said holes to remove it from the drawer.

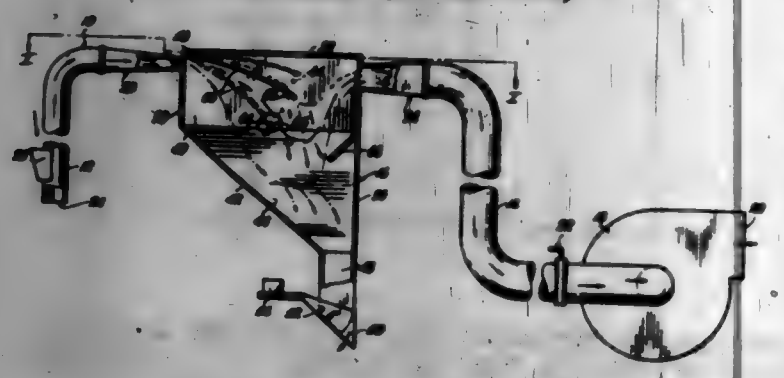


2,968,399
MACHINE FOR CLEANING GRAIN, SEED AND THE LIKE
Ingmar Karl Linus Andrén, Lindesberg, Sweden, assignor to Aktiebolaget Lindo Maskiner, Lindesberg, Sweden, a corporation of Sweden
Filed June 24, 1957, Ser. No. 667,337
Claims priority, application Sweden Oct. 31, 1956
9 Claims. (Cl. 209—30)



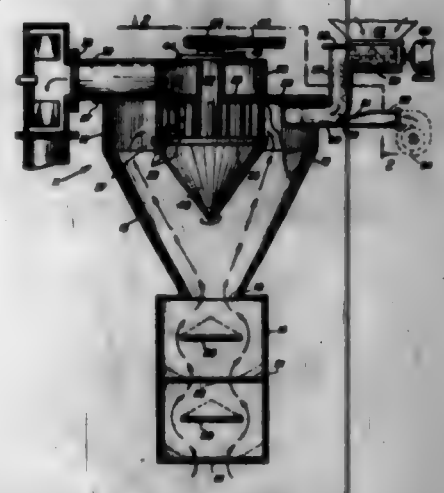
3. In a machine for cleaning grain, seed, or the like material, a casing, means within the casing and including a generally vertical partition defining two immediately adjacent aspiration chambers, separate exhausting means communicating with each chamber, inlet channel means communicating with the respective chambers including one channel means having an inlet adjacent one wall of the casing and extending past one chamber and terminating in communication with the other chamber and another channel means communicating with said one chamber and having an inlet also adjacent said one wall of the casing whereby the inlets for both channel means are located on the same side of said one chamber, said inlets being vertically displaced with respect to one another, means for feeding material to be cleaned to pass immediately adjacent the first-mentioned inlet whereby some of the fed material can be drawn into said first-mentioned inlet and into said other chamber for treatment therein, screening means disposed below said first-mentioned inlet for receiving material that has not been drawn into said first-mentioned inlet, said screening means including a portion passing in proximity to said second-mentioned inlet wherein material remaining on said another portion of the screening means can be drawn into the second-mentioned inlet and conveyed to said one chamber for treatment therein.

2,968,400
MATERIAL COLLECTOR
Francis H. Cluts, Rocky Ford, Colo., assignor to The Cluts Corporation, Rocky Ford, Colo., a corporation of Colorado
Filed Nov. 12, 1957, Ser. No. 695,726
1 Claim. (Cl. 209—143)



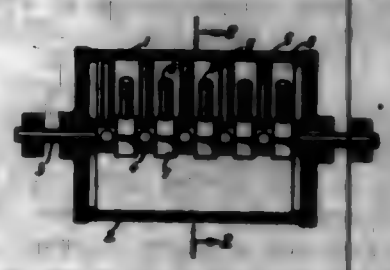
Separating apparatus for comminuted material having particles of different specific gravities, said apparatus comprising a hollow body having a plurality of structural members, said members including an upright first end wall and a second end wall spaced from said first end wall and having an upper portion disposed substantially in parallelism with said first end wall and an inclined lower portion converging with the first end wall, each of said end walls being provided with an elongated, longitudinally horizontal opening proximal the upper edge thereof; an inlet conduit having an uppermost end spaced from said opening in said second end wall and including a vertical stretch having an air inlet opening at the lowermost end thereof, said stretch being provided with a material inlet means intermediate the ends thereof; an outlet conduit having an uppermost end spaced from said opening in said first end wall and provided with an outlet opening; a hollow, horizontally disposed diffuser interconnecting said uppermost end of said inlet conduit and said opening in said second end wall, said diffuser progressively increasing in horizontal width and decreasing in vertical height as said last-mentioned opening is approached; a hollow, horizontally disposed plenum chamber interconnecting said uppermost end of said outlet conduit and said opening in said first end wall, said plenum chamber progressively increasing in horizontal width and decreasing in vertical height as said last-mentioned opening is approached; means interposed in said outlet conduit intermediate the ends thereof for creating artificial currents of air and forcing the same through the conduits and the body from said air inlet opening to said outlet opening, said material inlet means being disposed for gravitational feeding of said material into the stream of air flowing upwardly through said stretch from said air inlet opening to said body; a baffle within said body between the opening of said end walls, said baffle being swingable at the uppermost edge thereof directly above and substantially parallel with the longitudinal axis of said opening in said second end wall, the baffle having a lowermost edge between the end walls, parallel with the axis of swinging movement of the baffle, said baffle spanning more than half the distance between said end walls and having a concave lowermost face to maintain substantially laminar flow of the air stream issuing from said opening in said second wall as the air stream is being deflected downwardly by said baffle, whereby particles of said material having lower specific gravities are separated from particles having higher specific gravities by remaining in said air stream after deflection thereby as the heavier particles gravitate downwardly; a fixed, flat baffle inclined downwardly to said first end wall and having an uppermost edge secured to the innermost face thereof at a position spaced directly below and substantially parallel with the longitudinal axis of said opening therein, the lowermost ends of said fixed baffle and said swingable baffle presenting an orifice for the passage of said air stream therethrough upon movement of the swingable baffle; lever means mounted on said body and exterior thereto, said lever means being operably coupled to said swingable baffle at said uppermost edge of the latter for selectively swinging said swingable baffle downwardly into and upwardly out of said air stream; and collector means connected with the body at the lowermost edges of the end walls, whereby heavier particles of said material are collected therein after being deflected downwardly in said air stream by said swingable baffle and flow thereto under gravitational action, after being removed from said air stream.

2,968,401
AIR CLASSIFIER
William M. Sheldon, Elizabeth, N.J., assignor, by mesne assignments, to American-Marietta Company, Chicago, Ill., a corporation of Illinois
Filed Sept. 5, 1956, Ser. No. 608,125
9 Claims. (Cl. 209—144)



1. An improved solid-material particle size classifier comprising rotating vane means for rejecting particles above a predetermined size, means for directing particles to be classified toward said rotating vane means in a tangential manner, means for causing air to flow radially through said vane means at a predetermined velocity in order to carry particles equal to and less than the predetermined size through the vane means, separating means located on the rejection side of said vane means for separating out acceptable sized particles and returning them again to the vane means and an enclosure surrounding said vane means and connecting the separating means with the vane means.

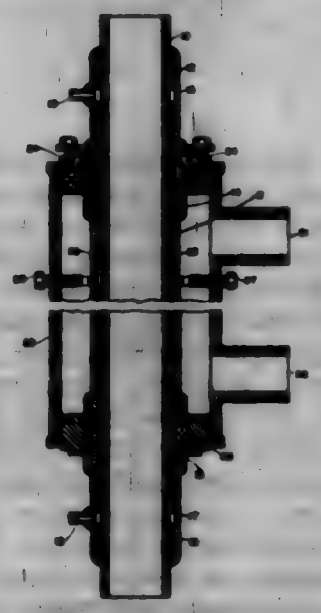
2,968,402
MAGNETIC SEPARATOR
Heinrich Spodig, Nottebergs 84, Bork, Westphalia, Germany
Filed Sept. 29, 1958, Ser. No. 763,893
Claims priority, application Germany Oct. 6, 1949
3 Claims. (Cl. 209—219)



1. A part-magnetic separator comprising, in combination, a non-magnetic drum; an axial mounting member for the drum and extending therethrough; a group of

permanent magnet units carried by said axial member axially spaced from one another, each unit of the group having a hub portion with a plurality of permanent magnet rods extending radially therefrom toward said drum in a plane transversal of said axial member with the outer ends of the magnet rods representing poles of like polarity; and a group of complementary magnet units of ferro-magnetic material carried by said axial member and arranged to alternate in axial direction with the permanent magnet units so that the magnetic circuit is closed through the permanent magnet units and the complementary magnet units, each complementary magnet unit having a ferro-magnetic hub portion assuming from the adjoining permanent magnet units the polarity of the opposite sign, and a plurality of ferro-magnetic rods extending radially from said hub portion in a plane transversely of said axial member and angularly staggered with respect to the permanent magnet rods.

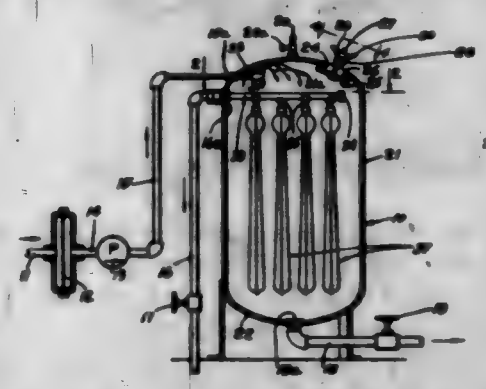
2,968,403
SEPARATION OF ISOTOPES BY THERMAL DIFFUSION
Philip H. Abelson, Washington, D.C.
Filed Dec. 14, 1943, Ser. No. 514,259
4 Claims. (Cl. 210—72)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A method of separating isotopes which comprises establishing an isotopic mixture consisting of a single liquid compound in the space between two closely spaced vertical walls, maintaining the walls at different temperatures such that the isotope which is lighter concentrates toward the top and the isotope which is heavier concentrates toward the bottom of the space, the lower temperature wall being above the melting point but below the vaporizing temperature of the compound at the operating pressure to maintain the compound liquid adjacent said wall and the hotter wall being above the critical temperature of the compound, and removing liquid enriched in lighter isotope from between the upper portion of said walls.

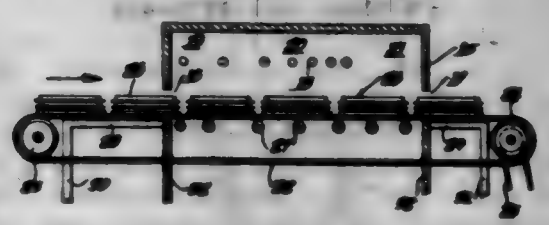
2,968,404
FILTER
Lee F. Hotz, 1706 N. Catalina, Burbank, Calif.
Filed May 5, 1958, Ser. No. 733,871
2 Claims. (Cl. 210—334)

1. A swimming pool filter comprising: a totally enclosed tank having an access port therein; closure means for closing said access port; an inlet through said tank adapted to receive water for introduction into the tank; a distributor in said tank adjacent the top thereof which is connected to the inlet and discharges water to be filtered into said tank, the distributor being located near and directed toward the top of the tank; an outlet and a drain through said tank; a plurality of filter bags in said tank, each filter bag having two dimensions greater than the greatest dimension of the access port, each filter bag comprising a flexible porous spacer layer and a cloth layer enclosing said spacer layer, each filter bag being sufficiently flexible that it can be bent to dimensions small enough to pass through the access port; a manifold connected to said outlet, and to the spacer layer of each filter bag, the manifold serving to freely suspend the filter bags in the tank beneath the distributor so that the hanging



ends of the bags are free to move, and the bags are free to bend; a pump for forcing water into the inlet; and a shut-off valve in the outlet and in the drain; whereby with the drain closed and the outlet opened, water to be filtered may be pumped into the tank to maintain the water level above the filter bags, water being filtered by the cloth layers and flowing out the outlet, solids being collected on the filter bags, and whereby with the outlet closed and the drain opened, water pumped into the inlet serves to buffet and wash down the outsides of the filter bags so as to flush the solids off the bags and out the drain.

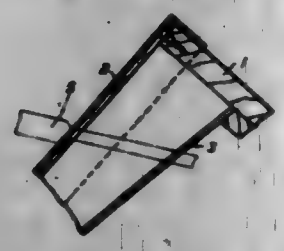
2,968,405
SINTERED METAL FILTER AND METHOD OF MAKING
Edward W. Veres, Arlington Heights, Ill., assignor to Arrow Tools, Inc., Chicago, Ill., a corporation of Illinois
Filed Jan. 21, 1959, Ser. No. 790,788
8 Claims. (Cl. 210—496)



1. In the fabrication of a sintered metal filter, the steps of providing a plurality of separator sheets that are resistive to the adherance of metal thereto at sintering temperatures and supporting a wire screen upon each such separator sheet, placing a pair of metal rods on each of said wire screens along opposite edges thereof, sustantially filling the space defined along each of said wire screens between the pair of rods supported thereon with a plurality of metal particles but to an elevation that does not subetantially exceed at any point therealong the uppermost elevation defined by said rods, stacking said separator sheets such that the rods positioned along the screen of one separator sheet support the separator sheet disposed thereabove with the result that substantially no compressive forces are exerted against the metal particles, passing the resulting stack through a furnace to subject the stack to sintering temperatures whereupon the wire screen, rods and metal particles supported by each separator sheet are bonded one-to-the-other, removing said stack from such furnace, thereafter forming

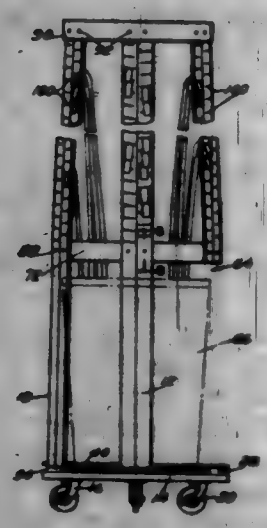
each unitary screen, rod and particle structure into a hollow filter unit, and securing the rods of each filter unit together so as to prevent the flow of filterable fluid between said rods.

2,968,406
RACKS FOR SUPPORTING ARTICLES
Lionel Maxwell Joachim Balfour, The Folly, Chevenage Lane, Tetbury, England
Filed Mar. 21, 1958, Ser. No. 722,935
Claims priority, application Great Britain Mar. 25, 1957
1 Claim. (Cl. 211—60)



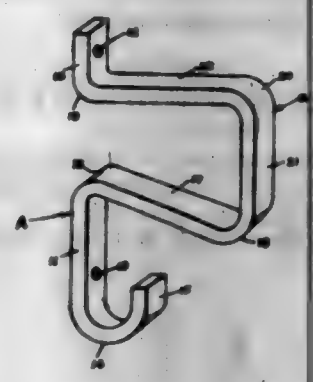
A holder for elongated tools comprising two relatively spaced front and rear grids of multiperforated sheet material having similar pluralities of perforations, means supporting said grids in substantially parallel vertically inclined planes, each perforation of said front grid having downwardly converging rectilinear side edges defining a downwardly directed apex, each perforation of said rear grid having upwardly converging side edges defining an upwardly directed apex in a common vertical plane with and at approximately the horizontal level of an apex of the front grid, said plane extending normally to said front grid, each said perforation being of substantially larger size than the cross section of the tool portion to be received therein.

2,968,407
STORAGE FILE FOR UNFOLDED CODED TAPE
Jasper Gilbert Dresser, Boynton Beach, Fla., assignor to Dresser Products Incorporated, a corporation of Rhode Island
Filed June 25, 1958, Ser. No. 744,392
4 Claims. (Cl. 211—61)



4. A storage file for unfolded coded tape comprising a frame, said frame including a plurality of circumferentially spaced bars adapted to be substantially vertically disposed with the frame in its upright position, each of said bars being formed of a strip of angular cross section and a pair of said bars being joined in back-to-back relationship, each of said bars having a plurality of slot formations therein, said slot formations opening out at front and rear surfaces of each bar and being elongated and opening out at a side edge of each bar so as to receive an end portion of a strip of tape, said slot formations being inclined downwardly from the rear to front surfaces of each bar so as to hold such tape end portion down, and each of said slot formations extending in from said one side edge and being inclined downwardly toward the other side edge.

2,968,408
SUPPORT FOR GARMENT HANGERS
Alvin L. Weidt, Minneapolis, Minn., assignor to Store Equippers, Inc., Minneapolis, Minn., a corporation of Minnesota
Filed Nov. 23, 1959, Ser. No. 854,868
1 Claim. (Cl. 211—87)

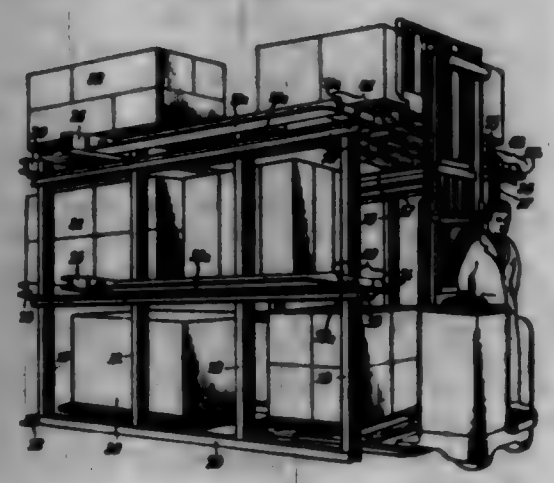


A support for garment hangers of the type having a downwardly opening hanger hook, said support consisting of a single piece of material of bar-like formation including therein an upper mounting reach constituted in one end portion of the piece, and a lower mounting reach adjacent the other end portion of the piece, said mounting reaches occupying a common plane and adapted to be backed against a supporting structure, each of said mounting reaches having an aperture therein for the reception of a fastening element adapted to be applied to the supporting structure, said last said portion of the piece having a bend therein forming an upwardly opening hook extending forwardly from said lower mounting reach for the reception of a hanger hook or hooks of a garment hanger or hangers, said piece having relatively spaced bends therein between said mounting reaches defining in the piece a rail in continuation of the lower mounting reach, and a truss member extending from the rail to the upper mounting reach, the rail being adapted to receive the hanger hook or hooks of a garment hanger or hangers, said rail superimposing and forwardly overreaching said upwardly opening hook of the support, said rail sloping forwardly downward and adapted to induce forward gravitational sliding movement of a garment hanger hung thereon, said truss member including an element rising from the forepart of said rail and constituting a stop to arrest the forward sliding movement of garment hangers hung on said rail.

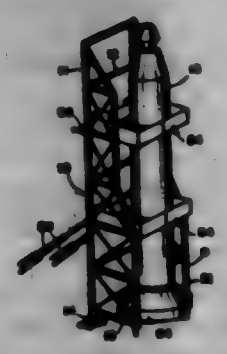
2,968,409
DRIVE-IN PALLET RACK
John Jurechko, 12 Sycamore Road, Levittown, Pa.
Filed Mar. 14, 1956, Ser. No. 571,553
6 Claims. (Cl. 211—134)

1. A drive-in pallet rack comprising a partially enclosed shelving structure formed of rigidly connected structural members, a forwardly extending structural frame rigidly attached at its rear to said partially enclosed shelving structure and substantially horizontal flanged shelf means rigidly attached to said frame and rigidly attached at the rear thereof to said partially enclosed shelving structure, said structural frame having a base

portion, the edge of said flanged shelf means being spaced horizontally from said frame, said base portion underlying the other portions of the frame and being disposed within the limits thereof.



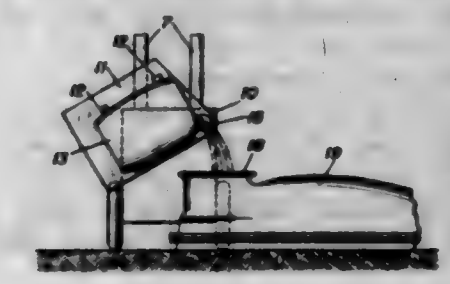
2,968,410
TOWERS
Wallace Hamilton, Bentleyville, and Jack Lovell, Chagrin Falls, Ohio, assignors to Cleveland Pneumatic Industries, Inc., a corporation of Ohio
Filed Nov. 28, 1956, Ser. No. 624,938
4 Claims. (Cl. 214—1)



1. A mechanism for rotating an elongated load from a horizontal to a vertical position comprising a tower rotatable between a horizontal and a vertical position, power means connected to said tower operable to move said tower between said horizontal and vertical positions, means on said tower for supporting said load including a load receiving flexible sling wherein the load is supported uniformly along a substantial portion of its surface, gage means on said tower adapted to engage the load when it is in a predetermined position in said tower, and adjusting means for moving said sling and in turn said load relative to said tower in any direction whereby said load can be moved into said predetermined position against said gage means.

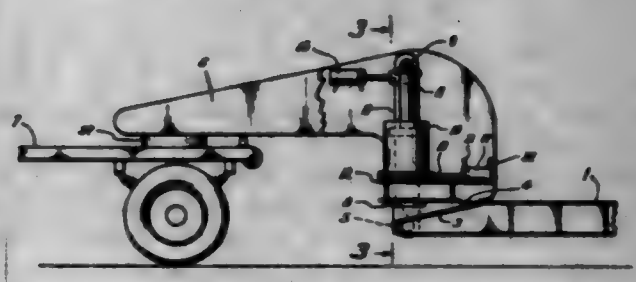
2,968,411
APPARATUS FOR DISCHARGING THE CONTENTS OF CONTAINERS
Max Jegge, Menziken, Switzerland, assignor to Ciba Limited, Basel, Switzerland
Filed Oct. 31, 1958, Ser. No. 771,044
Claims priority, application Switzerland Nov. 1, 1957
2 Claims. (Cl. 214—315)

1. Apparatus for discharging the contents of containers, especially for use with fork lift trucks, which comprises a main frame, holding means on said main frame for a container with an opening having a discharge lip, elevating means on said main frame for effecting a linear vertical movement of the holding means relative to the main frame, tilting means on said main frame for effecting a tilting movement of said holding means, said tilting means comprising two plate-like members one of which is rotatable relatively to the other and carries the container holding means and a driving mechanism comprising a take-up wheel non-rotatably fixed to one of the plate-like members and, mounted on the other plate-like member, a double-acting working cylinder, a pair of pulleys connected to the piston of the cylinder, and a chain or cable which passes round and is fixed between its ends to the take-up wheel, and of which one of the



two end portions passes round one of the said pulleys and the other end portion round the other pulley and then each end is fixed to the last mentioned plate-like member, the holding means being positioned relative to the tilting axis of said tilting means so that the tilting axis passes through a point at which the discharge lip of the container is positioned when it is held in said holding means.

2,968,412
TRAILER-TRACTOR
George L. Hill, Houston, Tex.
Filed Sept. 24, 1957, Ser. No. 685,993
4 Claims. (Cl. 214—505)

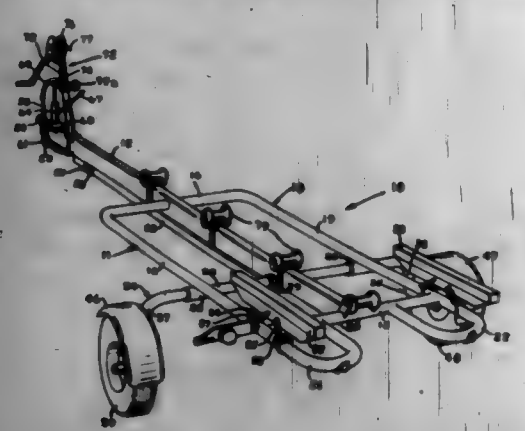


1. In a tractor-trailer, a trailer having wheels at one end and downwardly sloped vehicle tracks at the other end, a yoke rest between said vehicle tracks and a trailer bar extending between said vehicle tracks, a hydraulic jack mounted in said yoke having a lifting arm extending vertically therefrom, a pair of connecting arm guides in said yoke, a connecting arm bar having its respective ends mounted in said guides, connecting arms pivotally mounted on said bar, said lifting bar being movable into contact with said connecting arm bar, and said connecting arms having means for receiving said trailer bar on the extended ends thereof.

2,968,413
BOAT TRAILER
Donald R. Heckman, St. Joseph, Mich., assignor to F.A. Long Company, Benton Harbor, Mich., a corporation of Michigan
Filed July 16, 1958, Ser. No. 748,985
1 Claim. (Cl. 214—505)

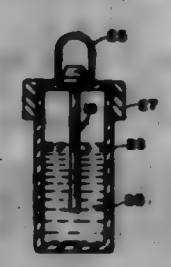
A boat trailer comprising: a rigid, boat support frame including an enlongated central beam structure having an elongated central member, and a pair of elongated side elements spaced from and extending lengthwise of said beam structure and disposed substantially in the same plane therewith, said side elements being connected with said beam structure near the rearward end thereof and between the ends thereof; hitch means secured to the forward end of said beam structure; a plurality of spaced, coaxial sleeves secured to the beam structure and

said side elements near the rearward end of said beam structure, the common axis of said sleeves extending perpendicularly to the lengthwise extent of said beam structure; a shaft extending through said sleeves and rotatably mounted therein, said shaft having similar wheel support members at the opposite ends thereof and extending downwardly and rearwardly therefrom; a wheel rotatably mounted on each of said support members adjacent the rearward end thereof, the wheels being rotatable about a common axis parallel with and normally spaced downwardly and rearwardly of said shaft; an arm secured to said shaft approximately midway between the ends thereof and extending downwardly therefrom, said arm being movable between two positions circumferentially spaced from each other around said shaft; an upstanding winch post rigidly secured upon the beam structure near the front end thereof and a winch on the



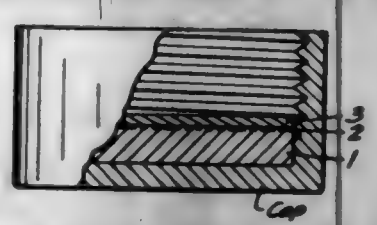
upper end of said post; a hydraulic jack mounted on said beam structure and adjacent to said winch post, said jack including a piston; linkage means connected to said piston and movable with respect to said beam structure in response to movement of said piston; control means for said jack located adjacent to said winch post and manually engageable at a point near said winch; an elongated, rigid link member extending substantially parallel with and directly beneath said elongated beam structure and closely adjacent thereto, said link member being connected at one end thereof with said linkage means for longitudinal movement of said link member with respect to said beam structure, said link member being pivotally connected at the other end thereof to said arm whereby said arm is moved between its two positions, said shaft is pivoted and said wheels are positively moved upwardly and downwardly with respect to the frame.

2,968,414
NIP-ALL
William R. Thomas, 109 Lynbrook Road, Paoli, Pa.
Filed July 28, 1958, Ser. No. 751,467
4 Claims. (Cl. 215—11)



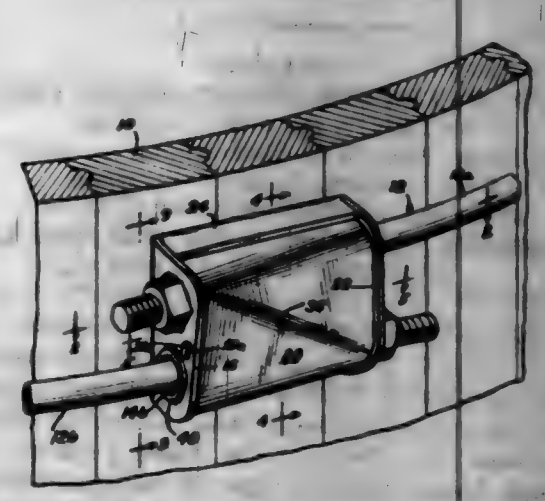
3. In combination, a nursing bottle provided with a cylindrical open end portion at one end and embodying external threads thereon, and a flexible hollow-nipple with flanged portions at its open end removably secured to said open end of said bottle by a removable retainer ring, said retainer ring having internal threads formed therewith to be received by said external threads on said bottle, said nipple having virtually cylindrical elongated side walls and with an arcuate substantially closed end wall having a small discharge aperture therein opposite its open end, a feeding tube adapter comprising a head portion having a circular base, cylindrical side walls terminating in an inwardly tapered circular end portion forming a hollow chamber with said base, and a central longitudinal cylindrical bore in said base, a substantially rigid cylindrical tube having a longitudinal bore provided with means at one end extending through said bore, the external diameter of the tube being substantially the same diameter as said bore in the base to keep said tube normal to said circular base, said means on said tube arranged in said chamber and adjacent the inside of said base and releasably augmenting the securing of said tube with said base, whereby liquid in said bottle will be drawn therefrom into said nipple and outwardly through said discharge aperture upon application of suction to the substantially closed end of the nipple by the user.

2,968,415
CONTAINER CLOSURES AND LINERS THEREFOR
Gordon C. Brown, St. Paul, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed Apr. 8, 1959, Ser. No. 804,951
5 Claims. (Cl. 215—40)



1. In a container closure which comprises a cap having a sealing liner therein, the improvement which comprises a liner consisting essentially of a disc of paperboard having a basic weight of from about 60 to about 175 pounds per 1,000 square feet and a thickness greater than about 0.02 inch, the sealing surface of which contains an organophobic and hydrophobic non-film-forming compound having a fluorocarbon "tail" and a coating of a film-forming material capable of being applied to said sealing surface in liquid form and of producing thereon a self-sustaining, substantially vapor impervious coating.

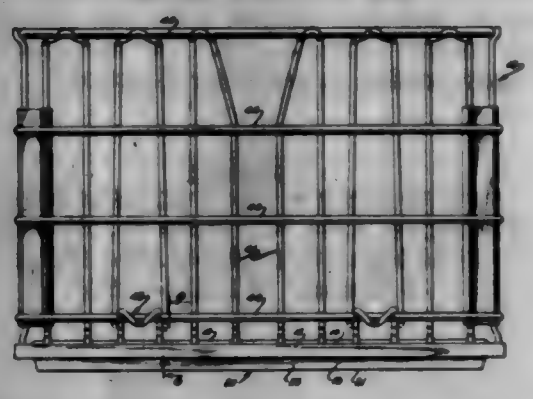
2,968,416
SILO LUG
Walter Rutten, deceased, late of Plainfield, Ill., by Marion Rutten and Lester Quinn (% Lester Quinn, Rafloc Company Inc.), Plainfield, and Joseph J. Regan, Chicago, Ill., executors
Filed Sept. 19, 1958, Ser. No. 762,118
4 Claims. (Cl. 217—95)



2. A silo lug comprising an open-ended housing and a cap which, when assembled together, comprise a com-

pletely enclosed rectangularly shaped housing, said open-ended housing formed of sheet metal and having a flat base, a pair of transverse end walls and shorter transverse side walls, said side walls separated from said end walls and forming parallel braces between said end walls, each of said end walls having a pair of openings formed therein for receiving a silo encircling tie rod therethrough, the peripheral edges of said openings each having an outwardly projecting annulus formed by a coining process, said cap being U-shaped and being positioned between the end walls of said housing and having its legs fastened within and against the transverse side walls of said housing, the end edges of said cap having medial fingers extending outwardly therefrom and the end walls of said housing having finger-receiving openings therein between each pair of circular openings.

2,968,417
MILK CRATE
Houston Rohrig, Los Angeles, Calif., assignor to Rohrig Pacific Company, Los Angeles, Calif., a corporation of California
Filed May 16, 1958, Ser. No. 735,827
2 Claims. (Cl. 220—19)



1. A sheet metal bottom for a milk crate or the like comprising a substantially planar central sheet defining a receptacle-supporting upper surface, a downturned peripheral flange lying substantially normal to said upper surface, and an inturned terminal flange attached to said upper surface through said downturned flange and lying substantially parallel to said upper surface, and a plurality of separate stacking rail elements having lower medial support surfaces substantially parallel to said upper surface, outwardly directed flanges in extended surface engagement with and overlying said terminal sheet flange and inturned flanges abutting the under surface of said sheet inwardly of said peripheral flanges, ears on each end of each of said rail elements, the ears of each element being offset vertically to accommodate extended surface engagement between the ears of adjacent elements, and means securing together those ears in surface engagement.

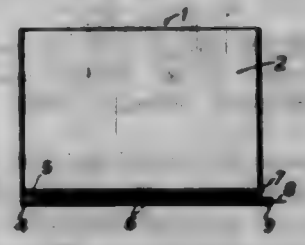
2,968,418
WIRE MILK CRATE
Craig Stoddard, 2030 Elmwood Ave., Wilmette, Ill.
Filed May 26, 1958, Ser. No. 737,764
2 Claims. (Cl. 220—19)

2. A carrying case comprising side walls including upper and lower perimetric frame members surrounding the case in vertically spaced relation, a stacking ring disposed below the lower perimetric frame member and underlying the case, the transverse dimensions of the stacking ring being less than the corresponding transverse dimensions of said upper and lower perimetric frame members, a plurality of perimetrically spaced side rods disposed within and extending between, and connected to the inner surfaces of the upper and lower perimetric frame members and having lower terminal portions engaged with and secured to the stacking ring along the contacting surfaces thereof in position to maintain the stacking ring in downwardly and inwardly spaced relation to the lower perimetric frame member, plural spaced bottom-supporting rods extending transversely between and secured at opposite terminal portions thereof to opposite transverse portions of the stacking ring, case bottom means supported by said bottom-supporting rods and including generally parallel spaced rod members supported upon and extending transversely of said bottom-supporting rods and plural spaced article-supporting rods supported upon and secured to the upper surfaces of said spaced rod members, said article-supporting rods being provided with generally flat upper surfaces jointly defining the article-supporting surface of said case bottom, the plane of said article-supporting surface being disposed above the plane of said lower perimetric frame member, the respective perimetrically spaced rod members be-



ing provided with laterally offset portions extending outwardly of the planes of the respective sides of the case from points above the plane of the article-supporting surface of the case bottom downwardly to points substantially within the plane of the article-supporting surface of the case bottom, the lower terminal portions of the perimetrically spaced side rods being inclined inwardly and downwardly from the lower extremities of said outwardly offset portions thereof in a direction to dispose all portions thereof which lie above the plane of the article-supporting surface of the bottom of the case outwardly of the lines of intersection between the planes of the sides of the case and the plane of the article-supporting surface of the case bottom whereby to maintain the interior of the case in the region of juncture between the sides and bottom thereof free of objectionable side wall protuberances.

2,968,419
WORK TRAYS FOR CIGARETTE FACTORIES
Derek Henry Youngmann, Deptford, London, England, assignor to Molins Machine Company Limited, a British company
Filed May 21, 1959, Ser. No. 814,724
Claims priority, application Great Britain June 6, 1958
3 Claims. (Cl. 220—24)



1. A cigarette tray of the kind referred to wherein the bottom wall is formed by a band of flexible material, one end of which is fixed to an end wall of the tray, the lower part of the tray having slotted guides extending along the length of the front and back walls, and a roller having a spindle supported in the slots of the guides and around which the band is passed, said band being of a length somewhat in excess of twice the length of a tray so that

after passing around the roller, when the latter is located at the end remote from the fixed end of the band, the remainder of the band can be brought back to said end to lie beneath the first portion and extend beyond the tray to provide a portion which may be grasped, whereby said band may be peeled from the tray bottom as the roller runs lengthwise of the tray in the guides to permit discharge of cigarettes from the tray bottom without damage to the cigarettes.

2,968,420

FABRIC TYPE SEAL FOR FLOATING ROOF TANK

Arthur W. Harris and Lyle V. Larsen, Oaklawn, Ill., assignors to Chicago Bridge & Iron Company, a corporation of Illinois

Filed June 13, 1957, Ser. No. 665,382
5 Claims. (Cl. 220—26)



1. In a floating roof storage tank, a flexible seal located in the annular space between the floating roof and the tank shell comprising, a fabric pocket between said floating roof and said shell, means for supporting said fabric pocket from the floating roof, said means comprising, an upper annular ring support fixedly carried by said roof and to which the upper end of said pocket is secured, a lower annular supporting ring to which the lower end of said pocket is secured, parallel inclined bars pivotally connected at one end to said roof, a horizontal bar pivotally connected to the other ends of said inclined bars, and means for supporting said lower ring from said horizontal bar whereby said lower ring may move laterally with respect to said roof, and a fluid within said pocket and in direct contact therewith to maintain the sides of said pocket in sealing relationship to the roof and shell.

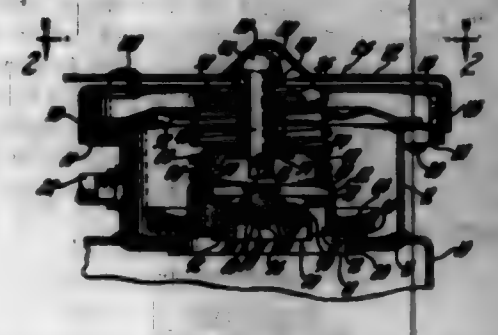
2,968,421

SAFETY RELEASE CLOSURES

Jesse E. Eshbaugh, Flint, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Apr. 21, 1958, Ser. No. 729,753
5 Claims. (Cl. 220—40)

1. A closure for a pressurized container with a filler neck having a slot and also a vent interposed between two coaxial and spaced annular shoulders facing outwardly, said closure comprising a main body portion, a sealing disc fixed to said body portion and adapted to engage one of said annular shoulders, cam means for holding said body portion in sealing position on said neck, said cam means being effective upon rotation of said body portion in one direction relative to said neck to seal the latter with said disc, sealing means mounted on said body portion and adapted to engage the other of said annular shoulders, a passage leading through said sealing means and adapted to communicate with said vent by way of said neck, a valve resiliently controlling said passage, a plunger slidably mounted in and extending through said main body with one end facing said valve, a spring urging said plunger away from said valve, a cover slidably fixed to said main body and having a tongue



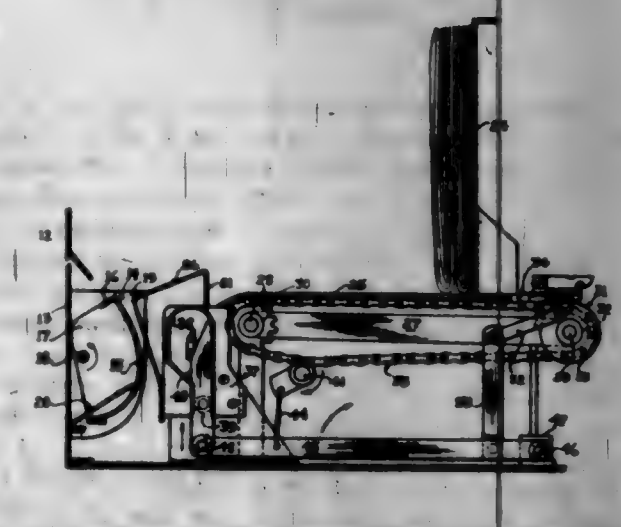
adapted to register with said filler neck slot when said main body and disc are in sealing positions, a cam surface on said cover engaging the other end of said plunger, and the arrangement being such that sliding of said cover will open said valve by actuating said valve through engagement of said cam surface with said plunger and release said tongue from said slot for subsequent rotation of said body portion in the other direction.

2,968,422

NEWSPAPER VENDING MACHINE

Lee S. Watlington, 1204 N. Linden St., Bloomington, Ill.

Filed Mar. 18, 1960, Ser. No. 15,923
3 Claims. (Cl. 221—194)



1. A vending machine comprising a housing adapted to receive vertically related horizontally extending stacked papers to be vended, said housing having a discharge opening formed in one vertical wall thereof, a pivotal door for said opening, a paper magazine in said housing including paper supporting tracks terminating at one end into a raised retaining wall extending in a longitudinal parallel direction with respect to said door and providing a discharge chute downwardly inclined with respect to said opening, a movable follower adapted to be moved over said tracks in one direction so as to press in supporting relation against said retaining wall the papers to be vended, means for movably supporting said follower within said housing, means for moving said follower in said one direction over said tracks, a rocker shaft operatively connected to said door so as to be rotated in one direction when said door is pivoted to expose said opening in said housing, means for operatively connecting said shaft to said door, a pivotal member connected to said rocker shaft and pivoted in an opposite direction with respect to the direction of rotation of said rocker shaft when said rocker shaft is rotated in said one direction,

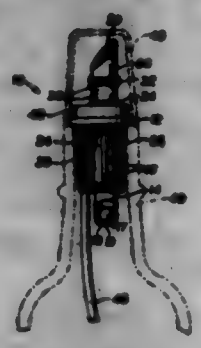
means carried by one end of said pivotal member and movable into engagement with a folded edge of a paper to be vended and for raising the same over and above said retaining wall for gravitation down said chute and out of said exposed opening, and a retracting mechanism for moving said follower a limited distance away from paper pressing relation with said retaining wall, said retracting mechanism including a rotatable ratchet wheel and pawl operatively connected together for moving said follower in a retracting direction with respect to said follower moving means upon pivotal movement of said pivotal member in said opposite direction with respect to the direction of rotation of said rocker shaft so as to release the papers in said magazine from pressed condition against said retaining walls as said paper engaging means are caused to be actuated so as to vend a paper from said machine.

2,968,423

ADJUSTABLE POURING SPOUT

Benjamin Mahler, Roosevelt, and John Powazi, Ridgewood, N.Y., assignors to Marveleye Plastics, Inc., New York, N.Y., a corporation of New York

Filed Oct. 30, 1959, Ser. No. 849,847
4 Claims. (Cl. 222—49)



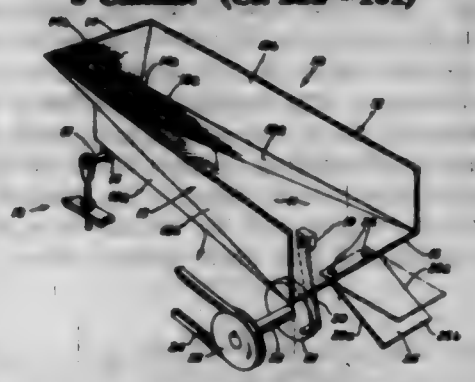
1. A dispensing device for fluids comprising, in combination, a duct piece, mounting means for supporting one inlet end of said duct piece within the interior of a fluid storage container with the opposite outlet end thereof projecting outwardly therefrom, valve means carried by said mounting means and said duct piece controlling the flow of fluid outwardly through said duct piece from said inlet end to said outlet end thereof, and manual adjustment means for said valve means accessible from the exterior of said container for varying the quantity of fluid flow through said duct piece, said mounting means comprising a closure having one inner side facing toward said inlet end of said duct piece and an opposite outer side facing toward said outlet end of said duct piece, a housing depending from said inner side of said closure and opening outwardly through said outer side of said closure, said duct piece being mounted within said housing and projecting outwardly through said outer side of said closure, and ports in said housing providing communication between said duct piece and the interior of the container, said housing being closed at one end spaced from said closure, said ports in said housing extending through said housing adjacent to said inner side of said closure, said opposite end of said duct piece defining a valve seat facing toward said closed end of said housing, and said valve means comprising a detent within said housing movable between said closed end of said housing and said valve seat, said manual adjustment means comprising guide means acting between said duct piece and said mounting means controlling the size of said ports and the distance between said valve seat and said closed end of said housing, said guide means comprising a cam and follower each mounted upon one of said duct piece and said housing members, said cam and follower effecting relative longitudinal movement between said duct piece and said ports in said housing in response to rotation of said duct piece to control the size of the opening therethrough.

2,968,424

FEEDING MECHANISM FOR INTERLOCKING OBJECTS

John J. Lawson, Toronto, Ontario, Canada, assignor to Salem Engineering Limited, Toronto, Ontario, Canada, a corporation of Canada

Filed June 30, 1958, Ser. No. 745,582
3 Claims. (Cl. 222—161)



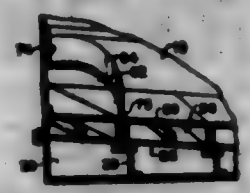
1. A vibratory dispensing device comprising a bottom wall, two side walls and one end wall defining a pan open at one end and closed at the other, a pivot mount for the pan adjacent its closed end so that the pan may pivot about a horizontal axis, an eccentric beneath the open end of the pan and connected to the pan by a link pivotally secured to the bottom of the pan, means to drive the eccentric so that the open end of the pan may be reciprocated in a vertical direction about the pivot mount, and a substantially flat resilient plate secured to the bottom wall at the open end of the pan, said plate extending forwardly of the open end of the pan in cantilever fashion substantially parallel to the bottom wall and capable of being set in vibration with an amplitude greater than that of the open end of the pan as a result of the reciprocation of the open end of the pan by the eccentric.

2,968,425

DISCHARGEABLE BIN WITH SLOPABLE FLOOR

Hamilton Neil King Paton, North Vancouver, British Columbia, Canada, assignor, by mesne assignments, to Mervan & Co., Vancouver, British Columbia, Canada

Filed Dec. 7, 1956, Ser. No. 626,974
15 Claims. (Cl. 222—195)



1. A dischargeable bin having a slopable bottom for materials in small particle form, comprising a holding chamber for small particle material, a gas-pervious fluidizing bottom for the chamber raisable to an inclined position, a discharge outlet for the chamber at the bottom thereof to which the bottom slopes when raised, a gas chamber beneath the bottom inflatable to raise said bottom to its inclined position, and means for supplying gas to the holding chamber through the pervious bottom to fluidize small particle material therein.

2,968,426

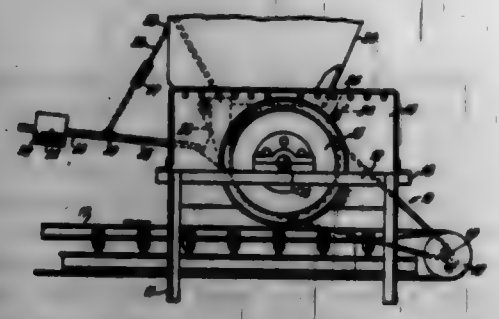
ROTARY FEEDERS FOR CONVEYOR SYSTEMS

Joseph A. Borella, Yaphank Road, Corum, N.Y.

Filed July 10, 1958, Ser. No. 747,794
1 Claim. (Cl. 222—313)

A rotary feeder for a conveyor belt comprising an upright frame having a front end and a rear end and in-

cluding two opposed sides having the upper portions thereof consisting of opposed walls, a shaft rotatably mounted between said sides, a ribbed rotor rigid on the shaft and having at least the upper portion thereof positioned between said walls, the conveyor belt being adapted to be positioned under said rotor, a door having a width substantially equal to the distance between said walls pivotally suspended on a horizontal axis passing through said walls near the top thereof in the forward portion of the frame and having its lower edge normally positioned by gravity against the surface of the rotor which faces toward said front end, a wiper supported between said walls near the top of the walls and in the rear portion of the frame, the wiper having its lower edge positioned closely adjacent the rotor surface, a hopper having its discharge end positioned between said walls and between said door and said wiper, and means for opening the door to varying degrees by swinging the door on its axis to move said lower edge thereof outward from said rotor surface and for maintaining the door in the degree to which it has been opened during operation



of the feeder in discharging material from the hopper to the conveyor belt, said door being arcuate in cross-section with the concave side thereof facing rearwardly toward the rotor and having vertical side edges provided with rearwardly extending flanges at right angles to the door, said flanges having substantially the outline of a triangle and diminishing gradually in width from the top edges thereof to the bottom edges thereof and meeting the bottom edge of the door, the top edge of each flange constituting one side of the triangle, the vertical side edge of the door constituting another side of the triangle and the rearwardmost edge of the flange constituting the third side of the triangle, the top edges of both flanges lying in a common horizontal plane with the top edge of the door, the rearwardmost edges of the flanges lying in a common plane at right angles to said first-named plane, said door and said flanges together constituting a trough which faces the rotor and whose depth measured horizontally diminishes from a maximum at the top of the door to zero at the bottom of the door, and gaskets mounted on the outer surfaces of said flanges in slidable engagement with said walls.

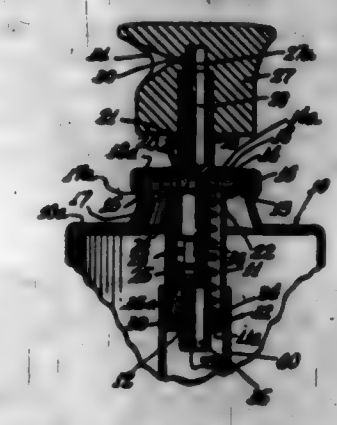
2,968,427

VALVE FOR AEROSOL CONTAINER

Phillip Meshberg, 290 Euclid Ave., Fairfield, Conn.

Filed June 28, 1955, Ser. No. 518,535
13 Claims. (Cl. 222—394)

1. Valve means for controlling the discharge of a measured amount of fluid under pressure from a container comprising a tubular valve housing having a transverse apertured wall extending thereacross to form one end of a measuring chamber, and having a laterally projecting flange at the other end provided with a peripheral wall; an outwardly dished resilient valve disk having a central bore therein disposed within the peripheral wall; means mounting the housing on the container including an outwardly domed portion extending over the valve disk and having an indented portion clamping the disk to the flange adajcent the periphery thereof whereby the center is free to flex; a valve stem mounted in said housing for movement between a normal sealing position and a normal discharge position and having a portion at the outer end thereof extending through said bore in the valve disk and the domed portion extending thereover and projecting beyond the container, said stem having a sealing portion cooperating with the disk in normal sealing position to prevent passage of the fluid from the container and a portion at the inner end passing through the apertured wall of the housing to guide the stem



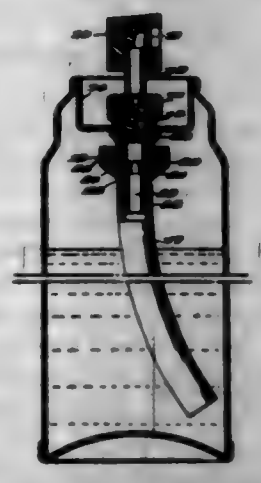
against tilting; and spring means on the housing urging the stem into sealing relation with the disk, manual movement of said stem inwardly against the spring means a predetermined distance from normal sealing position to normal discharge position causing the valve disk to flex inwardly and out of sealing relation with the stem to permit passage of fluid from said housing, said domed wall providing space for permissive swelling of the valve disk and said flexed valve disk aiding the return of the stem to sealing relation.

2,968,428

GRAVITY ACTUATED VALVES FOR PRESSURIZED DISPENSERS

Arthur J. Samuel, Pittsburgh, Pa., assignor to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

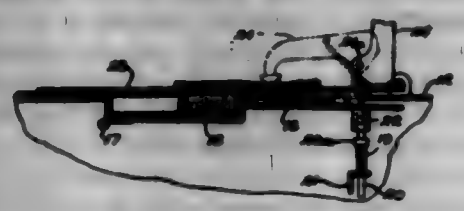
Filed Feb. 26, 1959, Ser. No. 795,758
11 Claims. (Cl. 222—394)



1. A gravity actuated valve for pressurized dispensers which permits the dispenser to be discharged without wasteful loss of gas in its upright as well as inverted positions through an eduction passageway which has both a lower inlet at its end adjacent the bottom of the dispenser and a valve controlled inlet adjacent the top of the dispenser, the valve controlling the inlet adjacent the top of the dispenser comprising a fixed tubular part of the eduction passageway which is formed with an upwardly facing horizontal surface, said fixed part formed with a branch of said eduction passageway terminating in an orifice at said horizontal surface, said valve also comprising a slidable member encircling said fixed part

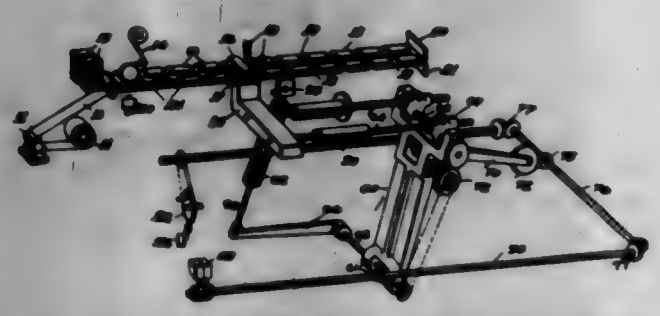
and guided in movement thereon to seat by gravity on the upwardly facing horizontal surface of said fixed part, thereby sealing the orifice of the branch passageway when the dispenser is upright, said slidable member falling away from said orifice to uncover the same when the dispenser is inverted and the orifice is submerged.

2,968,429
DEPRESSIBLE SURFACE FOR FOLDING TABLES
Edmund N. Neckel, North College Hill, Ohio, assignor, by mesne assignments, to McGraw-Edison Company, a corporation of Delaware
Filed June 30, 1958, Ser. No. 745,613
7 Claims. (Cl. 223—37)



1. Folding means of the character described for the folding of articles of non-uniform thickness, said folding means comprising a garment folding table having a fixed working surface, a portion of said surface being cut away, a supporting member movably maintained below and in registry with said working surface and adapted to receive thereon a thicker part of said article, and means for resiliently and continuously biasing said supporting member upwardly towards the plane of said working surface.

2,968,430
ELECTRONICALLY CONTROLLED BOOK CASE STRIP FEED MECHANISM
Kenneth Payne Martin, Concord, and Walter Paul Rowland, Clinton, Mass., assignors to The Colonial Press, Inc., Clinton, Mass., a corporation of Massachusetts
Filed Dec. 13, 1956, Ser. No. 628,047
3 Claims. (Cl. 226—32)



1. Apparatus for manufacturing book cases from a continuous book case strip having a series of cover boards applied in spaced relationship thereon, said apparatus comprising in combination a frame; a carriage reciprocably connected to said frame; constant-speed means for reciprocating said carriage relative to said frame; means on said carriage engaging said strip to move the same intermittently in one direction parallel to the axis of reciprocation of said carriage, said means for reciprocating said carriage comprising an oscillatory rock shaft pivotally connected to said frame, power-driven crank means for oscillating said rock shaft, said crank means including a crank member, connecting rod means connecting said rock shaft to said carriage, said connecting rod means including at least one connecting rod member, and adjustable eccentric means connecting at least one of said members to said rock shaft, and means for automatically adjusting said eccentric means to vary the stroke of reciprocation of said carriage as a function of the linear speed of travel of the strip comprising a fluid pressure motor means connected to turn said eccentric means, electrically-controlled valve means controlling the direction in which fluid is admitted to said motor means, means operating said valve means to admit fluid to said motor means to operate the same from an initial position in a direction to adjust said eccentric means to shorten the stroke of reciprocation of said carriage, electronic scanning means secured to said frame for scanning said strip as it is fed thereby to detect uniformly-spaced reference marks thereon and for producing a voltage impulse upon the presence of each reference mark, comparison circuit means having an input connected to said scanning means and an output connected to said valve operating means and including means for producing an intermittent reference signal in synchronism with said power-driven crank means, said circuit means being operable when said voltage impulses are out of synchronism with the reference signal to operate said valve means to shorten the stroke of reciprocation of said carriage, and means for periodically resetting said motor means to its initial position.

2,968,431
CARTON FOR DISPENSING PAPER OR LIKE PRODUCTS
Ernest C. Pellaton, Larkspur, Calif., assignor to Fibreboard Paper Products Corporation, San Francisco, Calif., a corporation of Delaware
Filed June 9, 1958, Ser. No. 740,631
3 Claims. (Cl. 229—17)

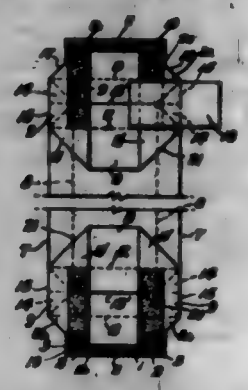


1. In a blank to be set up to form a rectangular carton which includes a front panel to bend up from the bottom of the carton and a front panel to bend down from the top of the carton to overlie the bottom front panel, side panels to bend up from the bottom, side panels to bend down from the top and overlie the bottom side panels, and a continuous tear line across the top parallel to the front edge thereof and extending downwardly to a mid-point and forwardly of the top side panels to their forward edges to permit separation of a closure member which hinges midway of the top front panel while the bottom front panel remains in its set up position.

2,968,432
GUSSETED PASTED VALVE BAGS
Prevost Craighead, West Monroe, La., assignor to Bancroft Bag Factory, Inc., West Monroe, La., a corporation of Louisiana
Filed Dec. 24, 1958, Ser. No. 782,783
3 Claims. (Cl. 229—62.5)

1. A valve bag of the character described, formed from a gusseted, multi-ply bag tube having an outer ply and at least one inner ply, said tube, when expanded, being of rectangular cross-section and having rectangular-shaped side and end panels, each of said plies having a pair of parallel, longitudinal slits at each end of one side panel of the tube, the slits in the inner ply being inwardly spaced from and shorter than the slits in the outer ply; an integral, sift-proof, pasted closure assembly at each end of the tube, comprising a pair of oppositely disposed, inwardly folded rectangular-shaped end flaps, an isosceles trapezoidal-shaped first side flap having reentrant, triangular-shaped portions adjoining the end flaps, the said first side flap, at one end of the tube, being

folded inwardly along a base fold line, the triangular-shaped portions thereof being adhesively secured to the subjacent surfaces of the end flaps; and a second side flap, embodying a pair of stepped, re-entrant, trapezoidal-shaped portions and a contiguous overlying stepped, rectangular-shaped portion, folded inwardly in overlapping relation with the first side flap, the stepped, re-entrant trapezoidal portions and overlying the stepped, rectangular shaped portion of said second side flap being adhesively secured to the exposed, subjacent surfaces of the



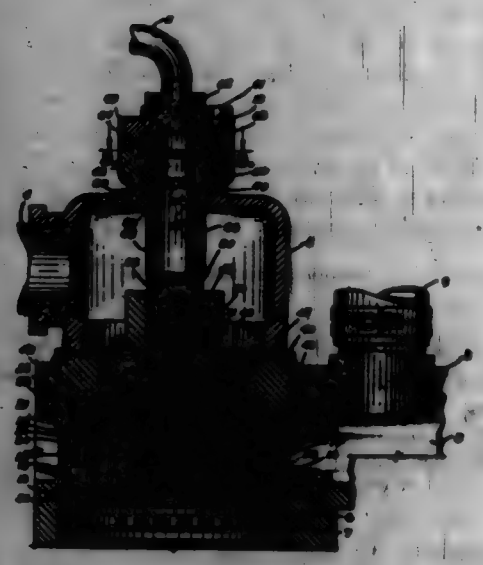
end flaps and the first side flap; a preformed flexible filling sleeve adhesively secured to one of the end flaps at the opposite end of the tube, the first side flap at said opposite end of the tube being folded inwardly into overlapping relation with the end flaps and adhesively secured to the subjacent surfaces of the filling sleeve and the opposite end flap, the second side flap being folded inwardly into over-lapping relation with the first side flap, and adhesively secured to the exposed subjacent surfaces of the first side flap, the filling sleeve, and the end flap opposite the sleeve.

2,968,433

AIR COMPRESSOR UNLOADER

William Ortega, Jr., Kansas City, and Paul E. Webb, Avondale, Mo., assignors to General Supply Company, Kansas City, Mo., a corporation of Missouri

Filed Apr. 14, 1958, Ser. No. 728,411
1 Claims. (Cl. 230—30)



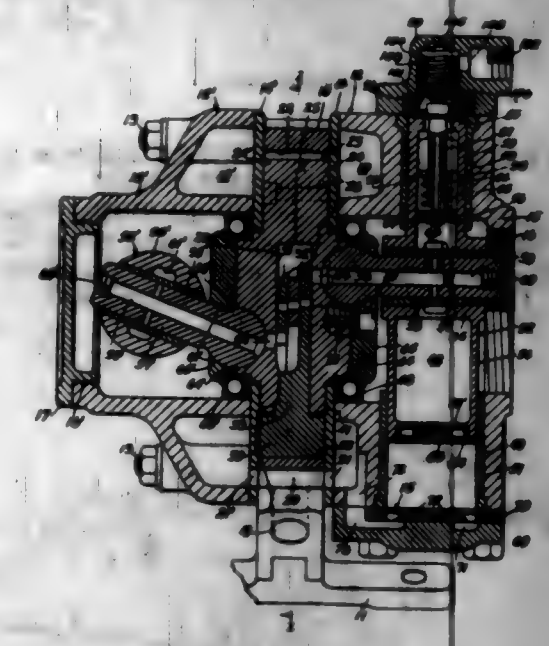
In an unloader for opening an intake valve of an air compressor having an intake housing with walls defining a flow passage therein and an intake valve assembly between the intake housing and a compressor cylinder to control communication between the cylinder and flow passage with a spider movable in said valve assembly and having fingers engageable with the intake valve for holding same open and a spring biasing said spider away from said valve whereby the spider fingers engage and hold the intake valve open only when the spring is overcome; comprising a center portion formed on said valve assembly having an axial bore therein, the upper end of said center portion bore terminating in a threaded section, an unloader cylinder comprising an elongate body member having a through axial bore therein and positioned in the intake housing whereby said body member bore is coaxial with said center portion bore, said elongate body member extending through the intake housing wall and having one end thereof threaded externally and engaged in said center portion threaded section and the other end thereof terminating in an enlarged head portion exteriorly of said intake housing wall, an unloader spring slidable in said bores and having one end thereof engaged with the spider, a piston slidably mounted in said body member bore with one end thereof engaged with the other end of said unloader spring, said piston having a circumferential groove intermediate the ends thereof, a packing ring in said circumferential groove and engaging the sides of said body member bore to provide a resilient seal therebetween, and a cap removably mounted on said enlarged head and closing the other end of said body member bore whereby said elongate body member with said piston and unloader spring may be removed from said air compressor without interrupting the operation thereof.

2,968,434

HYDRAULICALLY ACTUATED AIR COMPRESSOR

Charles M. Turnky, 542 Broad Ave., Palisades Park, N.J.

Filed Jan. 28, 1958, Ser. No. 711,706
17 Claims. (Cl. 230—57)



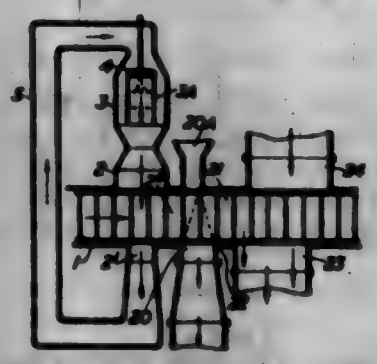
1. A hydraulically actuated air compressor apparatus of the class described, comprising a rotor cylinder, a pair of similar air compressing cylinder units arranged one upon each of opposed sides of the rotor cylinder, said units having housing portions and head ends, each unit including a piston assemblage comprising large and small diameter pistons operating in large and small diameters cylinders, a rotor eccentrically operating in said rotor cylinder, a plurality of blades mounted in said rotor, said rotor cylinder having an admission port for introduction of a hydraulic medium under pressure and a discharge port spaced greater than 180° from said admission port, crankpins movably coupled directly in opposed surfaces of said rotor and operatively engaging the piston assemblages for driving said assemblages in rotation of said rotor, said crankpins operating in the housing portions of said units, said units outwardly and around the housing portions having air passages, ports for placing said air passages in communication with head ends of the cylinder units, in which the large diameter pistons operate, check valves in said last named heads for controlling suction of air into the large diameter cylinders, check valves

in the head ends of the large diameter pistons for transmission of air into the small diameter pistons and into the cylinders in which the small diameter pistons operate, check valves in the head ends of the small diameter pistons for controlling pressure discharge of air through said small diameter pistons, and spring seated valves in the heads of the small diameter cylinders for controlling pressure discharge of air to a source of supply by pressure actuation of said small diameter pistons.

2,968,435
PRESSURE EXCHANGERS

George Jendrassik, London, England; Andre G. T. Boszormenyi and Clara Jendrassik, executors of said George Jendrassik, deceased, assignors, by mesne assignments, to Jendrassik Developments Limited, London, England

Filed June 20, 1952, Ser. No. 294,757
Claims priority, application Great Britain June 25, 1951
25 Claims. (Cl. 230—69)

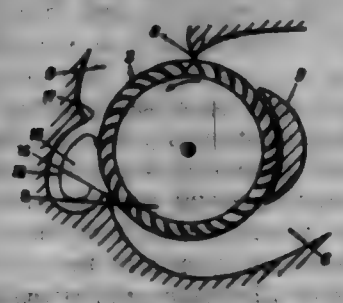


1. A rotary pressure exchanger comprising a ring of cells for the compression and expansion of gas, heat input and heat rejection stages for the cells, structure adjacent said cell ring mounted coaxially therewith, said structure including an end-plate for the ring of cells and ports through said end-plate, ducting connected to said ports to lead gas to and from the cells at heat input and heat rejection stages, and means for effecting relative rotation between the ring of cells on one hand and the structure and the ducting on the other hand, characterised in that the ducting at the heat input stage comprises an inlet branch to lead gas into the cells, an outlet branch to lead gas from the cells, the inlet and outlet branches being so positioned that during relative rotation each cell communicates with the inlet branch before communicating with the outlet branch, and an interconnection between the said branches, externally of the cells, to form a ducting system which is closed.

2,968,436
TURBO MACHINE

Robert Coester, Zurich, Switzerland, assignor to Maschinenfabrik Bennis-er A.-G., Uzwil, Switzerland

Filed Oct. 9, 1958, Ser. No. 766,229
Claims priority, application Switzerland Oct. 10, 1957
3 Claims. (Cl. 230—125)

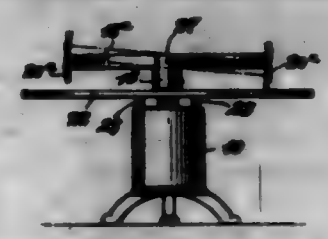


1. A transverse flow blower, comprising a rotor, a housing around said rotor and extending along the periphery of the rotor, said rotor having a plurality of blades spaced around the periphery thereof and having a hollow annular center into which the spaces between the blades open, said rotor being mounted in said housing for rotation in one direction, a low pressure inlet opening into said rotor housing along one portion of the periphery of said rotor, and a high pressure outlet opening out of said rotor housing from another portion of the periphery of said rotor, the rotor separating said inlet and outlet, and said housing having a swirl chamber therein opening into said rotor housing along the periphery of said rotor from a point immediately preceding the point where the blades of said rotor enter said high pressure outlet and back along the periphery of said rotor toward said low pressure inlet, the swirl chamber having a wall defining the chamber which has a shape of a portion of a spiral extending outwardly away from said rotor and back along the periphery of said rotor in a direction opposite to the direction of rotation of said rotor with the portion of the smaller radius of curvature being toward said high pressure outlet, said wall intersecting said housing along the periphery of said rotor adjacent said point immediately preceding the point where the blades of said rotor enter the high pressure outlet to form a first cut-off point, and intersecting the wall of said housing along the periphery of the rotor adjacent the inlet to form a second cut-off point, whereby fluid being drawn into said inlet is deflected inwardly through the blades of said rotor by said second cut-off point, thereby causing a reduced pressure in said swirl chamber which causes the fluid to be moved outwardly between the blades of the rotor into said swirl chamber, so that fluid is moved through the spaces between the blades as the blades enter the outlet.

2,968,437
METHOD AND MEANS FOR CIRCULATING AIR UNDER PRESSURE OF RADIALLY PROPELLED HORIZONTAL JETS

William R. Mobley, P.O. Box 2311, Miami, Fla.

Filed Oct. 31, 1955, Ser. No. 543,847
5 Claims. (Cl. 230—259)



1. An air circulating ventilating jet fan, comprising a vertical rotatable shaft extending upwardly through and surrounded by a flat imperforate horizontal disc, said shaft having a pair of diametrically opposed radially extending arms pivotally connected thereto for vertical tilting movement of said arms, the outer terminal portions of said arms being curved rearwardly relative to the direction of rotation of said shaft, the trailing ends of said rearwardly curved arm portions haivng vanes fixed thereto and also extending rearwardly therefrom, said vanes being disposed substantially normal to the axis of said arms to centrifugally project jets of air horizontally in all directions along and outwardly from the upper surface of said disc and at angles to the radii of said shaft, thereby creating high pressure zones in advance of said vanes and low pressure zones rearwardly thereof to effect cyclonic movement of the surrounding air circumferentially of said fan.

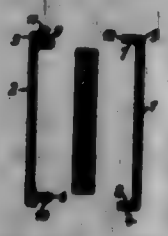
2,968,438
SLIDE RULES

Harald Bechmann, Stein, near Nurnberg, and Heinrich Tegtmeyer, Geroldsgrun, Germany, assignors to A. W. Faber-Castell, Stein, Germany, a firm of Germany

Filed Aug. 9, 1956, Ser. No. 602,967
Claims priority, application Germany Sept. 2, 1955
9 Claims. (Cl. 235—70)

1. In a double slide rule provided with a slide rule body, a slide member embracing said slide rule body

transversely thereof including two U-shaped channel members having longitudinal flange portions disposed in interengaging and overlapping position with respect to each other, said flange portions lying adjacent one another defining opposite pairs of respective contact and guiding faces, at least one projection on one flange portion of one of said channel members and at least one longi-



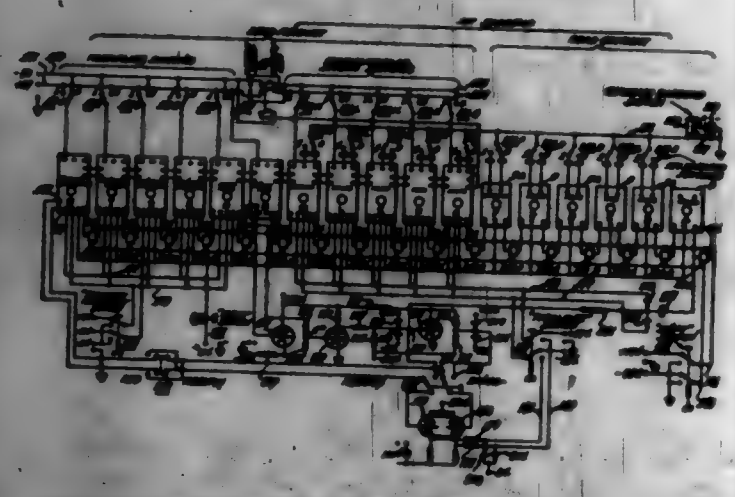
tudinal groove at the corresponding opposite flange portion of the other channel member engageable with each other to interlock at least one of said opposite pairs of contact and guiding faces, and connecting and adjusting means between said flange portions of said U-shaped channel members at least at one narrow side of said slide rule for securing said U-shaped channel members in their adjusted position to each other.

2,968,439

ELECTRONIC DIGITAL BINARY COMPUTER

Jan A. Rajchman, Princeton, N.J., and George W. Brown, Pacific Palisades, Calif., assignors to Radio Corporation of America, a corporation of Delaware

Filed Feb. 15, 1949, Ser. No. 76,624
23 Claims. (Cl. 235—175)



1. In apparatus having a plurality of devices each conditionable to one or the other of two predetermined conditions and arranged in a sequence representative of the places of a binary number, the combination of shift means operative at will to set each device to a condition determined by the condition of the device which precedes it in said sequence, said shift means including a pair of leads connected by switch means either to sources of voltage of opposite potential or to a common point of intermediate potential, and a shifter for each stage comprising a pair of uni-directional conducting elements serially connected in opposition between said pair of leads, the mid-points of each pair of elements being capacity-coupled to respective succeeding stages and also connected to points in respective preceding stages which develop a voltage indicative of the condition of that stage.

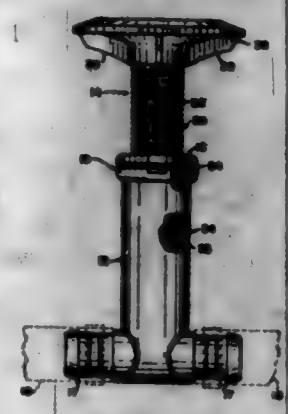
2,968,440

SPRINKLER DEVICE

Irwin C. Cone, Denver, Colo., assignor to The Gates Rubber Company, Denver, Colo., a corporation of Colorado

Filed Jan. 16, 1958, Ser. No. 709,396
10 Claims. (Cl. 239—203)

10. In a sprinkler head wherein there is provided a tubular fitting member and a tubular riser member each defining a conduit for the flow of liquid therethrough, one of said members being proportioned for extension into one end of the other of said members, said one member having an enlarged seal adjacent the outer end thereof and an exterior threaded portion, the combination of a radially expandable and contractible adapter for dispo-



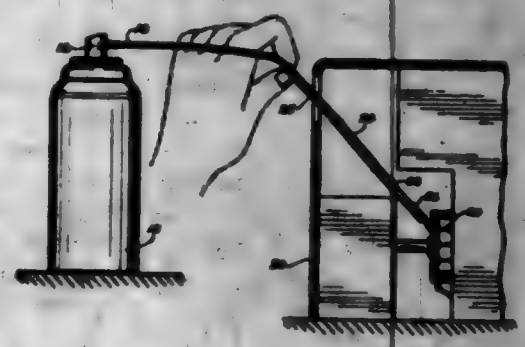
sition over said seal and being threaded internally for engagement with said threaded portion, and means at the one end of said other member for holding said adapter against said threaded portion so that said one member is adjustable inwardly and outwardly with respect to said adapter.

2,968,441

SPRAY NOZZLE ASSEMBLY FOR USE WITH AEROSOL CAN

Doyle D. Holcomb, 320 E. 4th St., Grand Rapids, Minn.

Filed Aug. 15, 1958, Ser. No. 756,269
6 Claims. (Cl. 239—337)

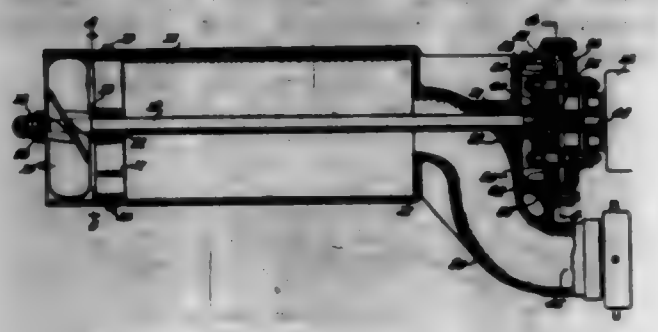


1. The combination with an aerosol can containing fluid under pressure and a discharge valve actuating liquid discharge conduit, of: a spray nozzle assembly including a valve actuating spray nozzle positioned on said discharge conduit and having an opening therethrough in communication with an open outer end of the conduit, a flexible, hollow tubing having a first end thereof in surrounding sealing relationship to said nozzle opening, a remote spray nozzle positioned in a second end of said tubing and having a spray orifice therethrough in communication with the interior of said tubing, a stiff-walled pipe in surrounding relationship to said flexible tubing, said remote nozzle including an outwardly extending flange of dimension to prevent passage of said pipe over said remote spray nozzle, an end portion of said pipe adjacent said remote spray nozzle being provided with a circular opening of diameter approximating the outer diameter of said flexible tubing at a position spaced from the end of said pipe and being provided with a slot between said circular opening and the end of said pipe, the width of said slot being less than the diameter of said circular opening.

2,968,442
TURBINE TYPE FOAM OR WATER NOZZLE FOR FIRE FIGHTING

John D. Grabski, Springfield, Va., assignor to The United States of America as represented by the Secretary of the Army

Filed Feb. 4, 1959, Ser. No. 791,239
1 Claim. (Cl. 239—381)
(Granted under Title 35, U.S. Code (1952), sec. 266)

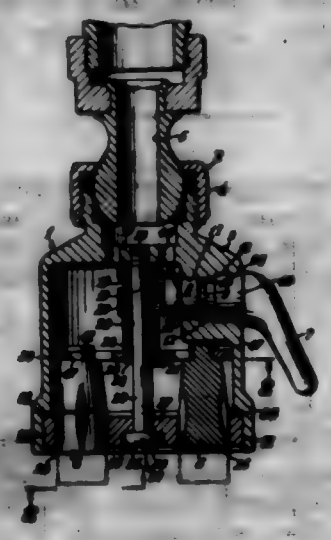


A nozzle comprising a chamber having an inlet and discharge opening, coupling means on said inlet for connecting a pressurized fluid supply to said chamber, impeller means rotatably mounted in said discharge opening, electrical generator means carried externally by said chamber, geared coupling means connected to the rotor of said generator means, shaft means connected between said geared coupling means and said impeller means and a variable resistive load connected to the output of said generator whereby adjustment of the load on said generator controls the rotational velocity of said impeller to vary the stream pattern discharged from said nozzle between the limits of a wide angle fog pattern to a substantially straight stream pattern.

2,968,443
SHOWERHEAD

Oscar Manning, 13524 Hartland St., Van Nuys, Calif.

Filed Feb. 20, 1959, Ser. No. 794,598
10 Claims. (Cl. 239—460)

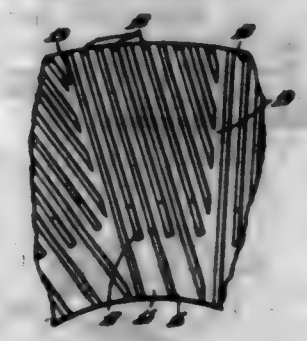


7. A showerhead comprising a casing having an inlet and an outlet having a port plate and plug valves, a header for said valves, said header having an array of radial slots for said plug valves, a stem having one end fixed to said header, said stem having an axial bore, said stem having an opposite end having a recess, an operating handle having a rotary bearing support in a side wall of said casing, said handle having a crank pin fitting said recess, and a central post in said casing, said post having opposite ends mounted respectively in a central opening in said port plate and fixed to said casing, said axial bore of said stem slidingly fitting said post.

2,968,444
REFINING DISCS

Dwight E. Jones, Pittsfield, Mass., assignor, by mesne assignments, to E. D. Jones Corporation, Pittsfield, Mass., a corporation of Delaware

Filed Nov. 7, 1956, Ser. No. 620,967
3 Claims. (Cl. 241—163)



1. In a refining machine, two sets of cooperating refining discs, each set comprising a pair of coaxial discs, one of which rotates relatively to the other, one of said disc sets having stock flow between the two discs outwardly from center to periphery and the other set having stock flow inwardly from periphery to center, said discs having working faces provided with blades arranged in groups providing circumferential segments, opposite edges of the segments and extensions thereof inwardly converging tangential to a circle having the disc center at its center, the blades in each segment being arranged substantially parallel to one edge of said segment, the segment edges of the disc set having outward stock flow being tangential to said circle such that the inner ends of said edges lead the outer ends in the direction of rotation of the more rapidly rotating propelling disc, the blades of the rotating disc in this disc set being substantially parallel to the trailing edge of the segments while the blades of the other disc in the same disc set are substantially parallel to the leading edge of its segments in the direction of rotation of said propelling disc, and the segment edges of the disc set having inward flow converging tangentially such that the outer ends of said edges lead inner ends thereof in the direction of rotation of the more rapidly rotating propelling disc, the blades of the rotating disc of this inward flow set being substantially parallel to the leading edge of the segments while the blades of the other disc of this disc set are substantially parallel to the trailing edge of the segments in the direction of rotation of the more rapidly moving propelling disc, all of the blades on the discs of each set intersecting at an angle greater than zero degrees at all rotational positions, the outer ends of alternate blades of the discs having inward flow from periphery to center being beveled inwardly at their outer ends to assist in entry of the pulp stock, certain blades of each segment of each disc having inner ends terminating outwardly of the inner ends of blades on opposite sides thereof providing transporting spaces at inner portions of said segments, whereby fiber stock is propelled in the desired direction and refined between the blades.

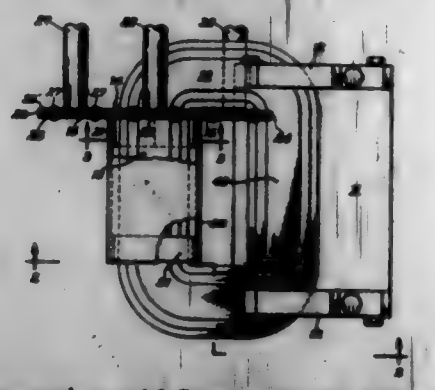
2,968,445
METHOD OF WINDING COILS ON CLOSED MAGNETIC CORES

James G. Everhart, Sherman, Tex., and Dennis Franklin Davidson, Zanesville, Ohio, assignors to McGraw-Edison Company, a corporation of Delaware

Filed Nov. 16, 1956, Ser. No. 622,686
3 Claims. (Cl. 242—6)

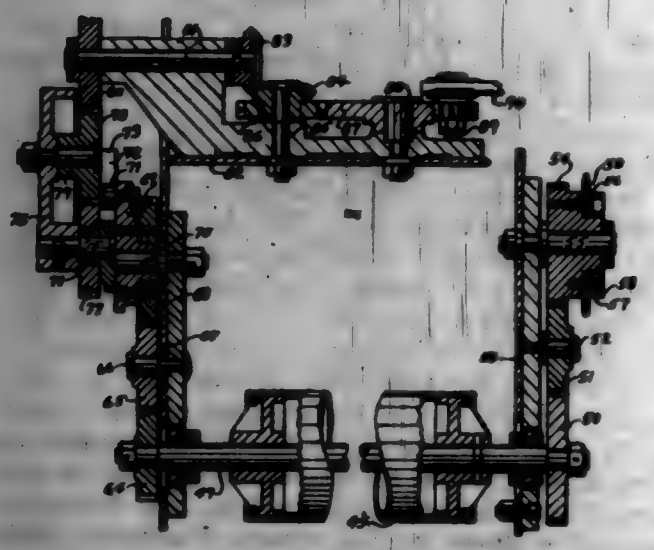
1. The method of winding an electrical coil on a closed magnetic core having a plurality of straight winding leg portions connected by yoke portions, said method comprising the steps of winding strip material around one straight leg portion to form a bearing surface, placing an insulat-

ing shell having a length substantially equal to the distance between said yoke portions around said straight portion so that one end of said shell is supported on said bearing surface closely adjacent one of said yoke portions, encircling said core with a single split flange and engaging said flange with the opposite end of said shell,



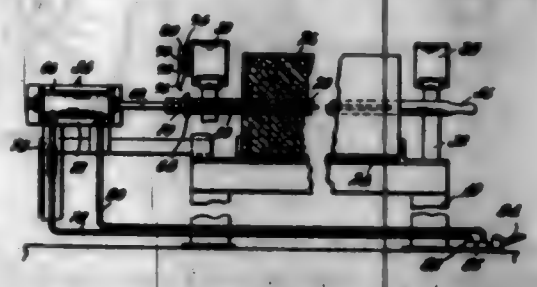
revolubly supporting said flange closely adjacent the other of said yoke portions, anchoring the end of an electrical wire in fixed relation to said shell, rotating said flange and winding said wire into an electrical coil in at least one helical layer on said shell while rotating said flange, and removing the flange after the coil has been wound.

2,968,446
BALLER HEAD
Jack H. Selby, Twinsburg, Ohio, assignor to The Warner & Swasey Company, Cleveland, Ohio, a corporation of Ohio
Filed Nov. 19, 1956, Ser. No. 623,284
7 Claims. (Cl. 242—54.4)



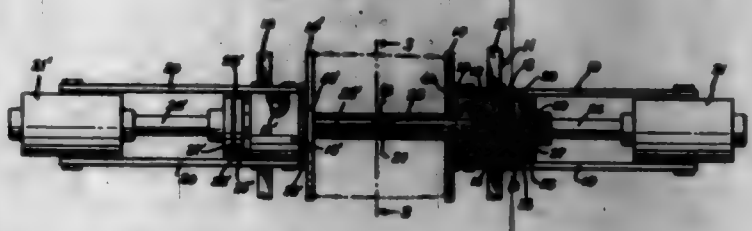
1. In a balling head mechanism for winding a sliver of fibers into a ball-like package, a rotatable drum adapted to frictionally drive the spool upon which the sliver is being wound, power operated means for rotating said drum at a predetermined speed, feeding means for directing the sliver between the drum and the spool to be wound upon the latter and for reciprocating the sliver transversely of its length and axially of the drum and spool and including means supported for reciprocating movement axially of the drum and through which the sliver extends, and operative connections between said drum and said last named means for reciprocating the latter with a fast reversal of direction at the ends of the movement in each direction and at a substantially uniform rate intermediate the ends of the movement in each direction, said operative connections comprising a first gear train driven in timed relationship with said drum a second gear train, a drive train operatively connected with said second gear train and said means supported for reciprocating movement axially of the drum, a driving crank arm driven by said first gear train and mounting a follower roller, a driven crank arm provided with a forked portion straddling said roller and rotatable on an axis parallel to but displaced radially of the axis of the driving crank arm, and means operatively connecting said driven crank arm and said second gear train.

2,968,447
LAP PIN EJECTOR
Herbert H. Neuman, Manchester, N.H., assignor to Blackstone, Inc., Manchester, N.H., a corporation of Delaware
Filed Sept. 7, 1955, Ser. No. 532,884
2 Claims. (Cl. 242—55.1)



1. The combination with a picker lap machine having winding rolls, a lap pin, and loggerheads arranged yieldingly to resist vertical movement of the lap pin as the lap is wound thereon, said lap pin having an axial bore extending part way through it from one end and a handle at its opposite end, and a lap rod mounted within the bore with its inner end adjacent the inner end of the bore, and its outer end projecting from the one end of the lap pin, of a gravity actuated latch carried by one of the loggerheads and spaced axially from the projecting end of the lap pin by at least the length of the projecting end of the lap rod and normally hanging downwardly opposite the end of the lap rod for holding the lap rod within the lap pin throughout vertical movement of the lap pin as the lap is wound thereon, said latch being vertically movable to permit placing the lap rod within the lap pin, a device mounted at a level corresponding to the level that the lap pin will have when the lap is fully wound, and means for effecting operation of the device to apply a jarring force to the lap pin to dislodge it to facilitate withdrawing the lap pin from the lap leaving the lap rod therein.

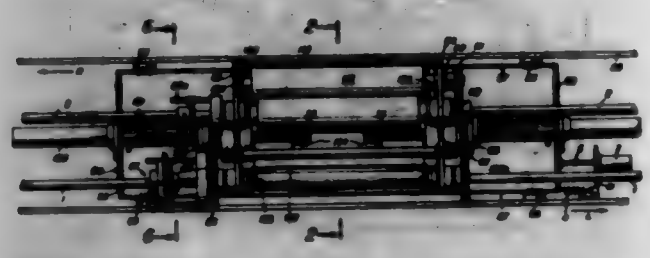
2,968,448
PINLESS LAP WINDER
David A. Drum, P.O. Box 133, Dallas, N.C.
Filed Oct. 29, 1957, Ser. No. 693,053
3 Claims. (Cl. 242—55.1)



2. In a lap winding machine, a frame, a pair of spaced parallel opposing support members adapted to receive a lap roll therebetween, respective sleeve members rotatably mounted on said support members in axial alignment, respective shaft elements slidably mounted in said sleeve members and being of sufficient length to be movable into endwise abutting relation, whereby to at times define a supporting shaft for a lap roll, one of said shaft elements being formed with a recess in its inner end, a boss on the inner end of the other shaft element rotatably receivable in said recess, and respective fluid pressure-operated means rotatably connected to

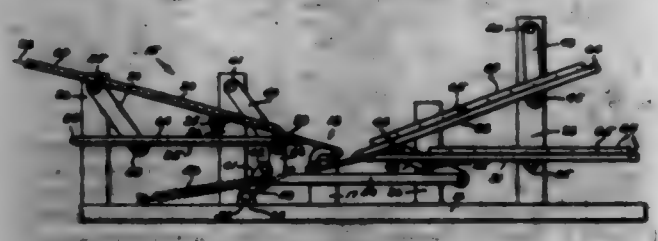
the outer ends of said shaft elements and being formed and arranged to at times axially retract said shaft elements, whereby to release the lap roll.

2,968,449
MACHINE FOR ROLLING TOWELS
Eugene Hajos, Fort Lee, N.J., assignor to Premier Laundry, Inc., New York, N.Y., a corporation of New York
Filed June 9, 1954, Ser. No. 435,649
13 Claims. (Cl. 242—57.1)



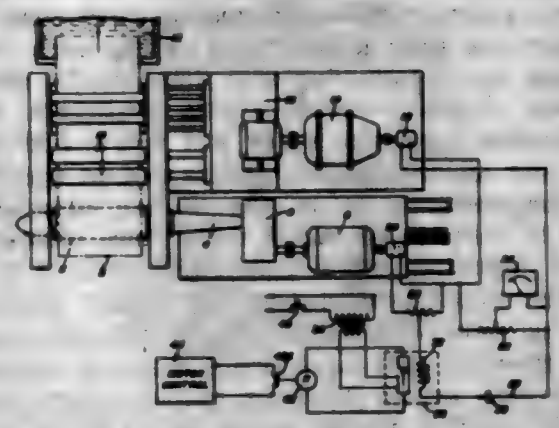
7. An automatic machine for rolling up towels and the like comprising a frame, a carriage mounted thereon for lateral movement, a pair of opposed hollow spindles having a common axis carried by the carriage, pneumatic means to project the two spindles toward each other to a distance less than the width of the desired towel roll so that they form a mandrel on which the towel may be rolled up, said means also being adapted to retract the spindles, pins in the spindles adapted to protrude radially from the spindles to engage the leading end of a towel, in combination with cam means associated with the spindles and the pneumatic projecting means adapted to push the pins radially out only after the spindles are fully projected toward each other and to retract them into the spindles before the latter are moved apart out of the core of the towel roll, and means adapted to rotate the spindles while in their operating position and during retraction.

2,968,450
MACHINE FOR CENTER-WINDING CAPACITORS
Dale R. Clemons, Riverside, Ill., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Oct. 7, 1959, Ser. No. 845,017
4 Claims. (Cl. 242—67.1)



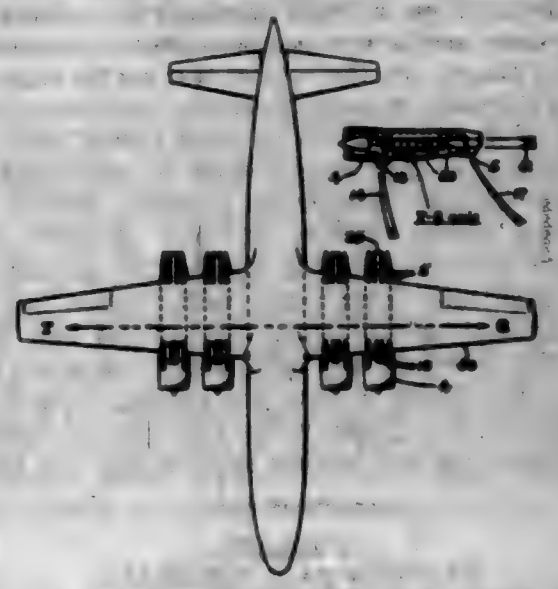
1. In a capacitor-winding machine, a slotted arbor, mounting means for supporting the arbor for rotation about a horizontal axis, a first pair of trays supported on said mounting means in vertically spaced relation to each other on one side of a vertical plane through the axis of said arbor and converging toward said arbor for supporting strip material thereon in substantial alignment with said arbor, a second pair of trays supported on said mounting means in vertically spaced relation to each other on the other side of said plane and converging toward said arbor for supporting strip material thereon in substantial alignment with said arbor, means for moving the upper one of one pair and the lower one of the other pair of said trays simultaneously toward and away from said arbor, whereby a strip of dielectric material may be supported on one tray of each pair of trays with the center portion of the strip in the slotted arbor and sections of a foil strip may be supported on the movable trays and advanced into engagement with the arbor, and means for rotating the arbor to wind the dielectric strip and the sections of foil strip thereon into a capacitor.

2,968,451
CONTROL FOR AN UNCOILER
Edward J. Schneider, Pittsburgh, Pa., assignor to United States Steel Corporation, a corporation of New Jersey
Filed Mar. 28, 1958, Ser. No. 724,637
4 Claims. (Cl. 242—75.51)



1. Apparatus for slowing down the speed at which material is pulled from an uncoiler comprising a device providing a drag on said uncoiler, a first means for pulling strip from the uncoiler, a second means for generating a voltage proportional to the linear speed of the material leaving the uncoiler, a third means for generating a voltage proportional to the angular velocity of the uncoiler, means for comparing the voltages generated by the second and third means, and means for slowing down the speed of said first means when the voltage generated by the third means exceeds the voltage generated by the second means by a predetermined amount, said last named means maintaining said first means at the slowed down speed until the strip on the uncoiler is exhausted.

2,968,452
JET-STREAM AVIATING SYSTEM FOR AIRCRAFT
Alexander Wellington Cook, Coventry, R.I.
Filed Aug. 28, 1957, Ser. No. 680,794
4 Claims. (Cl. 244—12)



1. A jet-stream aviating system for aircraft comprising two or more elongated streamline nacelle propulsion units spaced parallel along longitudinal axes and mounted upon the wings near the sides of the aircraft body; each said nacelle propulsion unit consists primarily of an axial flow multistage compressor type ducted fan having a large annular intake opening in front and occupying the entire

front end of its nacelle and driven through reduction gears by a turboshaft gas engine, the rear face outlet of said ducted fan couples directly onto the annular shaped front face inlet of a diffusion chamber which is a wedge shaped cavity that changes rapidly into rectangular cross sectioned outlets so proportioned in size that the area of the annular inlet is several times greater than the area of the outlets, said diffusion chamber has five specific outlets, three rearward and two directly downward, the upper rear outlet of said chamber couples onto the intake of said turboshaft engine, and the other two rear outlets couple onto separate rectangular section wind tunnel pipes lying above the wing longitudinally along each side of said engine and terminating into directionally movable rectangular shaped variable nozzle jet-stream elevon orifices located each side of or just below said engine tailpipe, and all said elevon orifices are so specifically located longitudinally aft of the trailing edge of said wings as to react along vector thrust lines substantially aft of the transverse lateral gravitational axis of the aircraft, when said elevon orifices are turned downward, and the two downward outlets of said diffusion chamber connect separately onto directionally movable rectangular shaped variable nozzle jet-stream cuspal orifices through rectangular crescent shaped cuspid valves in the bottom side of said diffusion chamber, and all said cuspal orifices are so specifically located longitudinally forward of the wings as to react along vector thrust lines substantially forward of the transverse lateral gravitational axis of the aircraft; each said variable nozzle elevon orifice consists of two rectilinear shaped flaps spaced apart to form the throat of said orifice and hinged into the upper and lower walls respectively of its wind tunnel pipe on parallel axis shafts so linked together by lever arms and a push rod, that said flaps can be moved in parallel unison up or down between the extended side walls of said wind tunnel pipe to form the aforesaid elevon orifice; each said variable nozzle cuspal orifice consists of a rectilinear shaped flap in front of a rectangular crescent shaped cuspid valve spaced apart to form the throat of said orifice and hinged into the bottom wall of said diffusion chamber on parallel lateral axis shafts so linked together by lever arms and a push rod, that said flap and said valve can be moved in parallel unison between parallel vertical longitudinal fins extending down from the bottom side of said diffusion chamber to form the aforesaid cuspal orifice; each said crescent shaped cuspid valve being mounted on a shaft through the middle of its crescent faces, serves also as a progressively selective two-way valve hinged into the bottom rear corner edge of said diffusion chamber, to proportionately and inversely divide the size of the openings to its wind tunnel pipe and its cuspal orifice as said cuspid valve is positioned up or down; and all said directonally movable variable nozzle cuspal and elevon orifices in each aforesaid nacelle propulsion unit are so linked together by suitable cables, pulleys, push rods, lever arms, rocker beams and eccentric differential co-ordinating mechanisms and in such manner that when the aforesaid cuspid valves are opened upward, said cuspal orifices are opened, turned downward and become larger while said elevon orifices are turned downward and become smaller and vice versa.

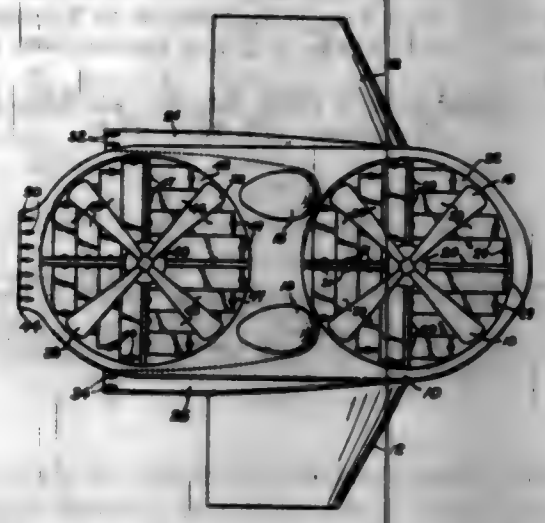
2,968,453

DUCTED FAN AIRCRAFT

Clyde E. Bright, P.O. Box 143, Roy, Wash., assignor of forty-five percent to Edward F. Golding, Roy, Wash.

Filed Jan. 13, 1958, Ser. No. 708,410
4 Claims. (Cl. 244—12)

3. In an aircraft, a body, a vertical duct through the body communicating with the atmosphere at both its ends and having a forward and rearward portion, a motor driven rotor mounted in the duct on a vertical axis for generating a downwardly moving air stream therein, a pair of longitudinal ducts communicating with the rearward portion of the vertical duct, longitudinally disposed adjustable shutter means mounted in the downstream end of the vertical duct for controlling the flow of air through



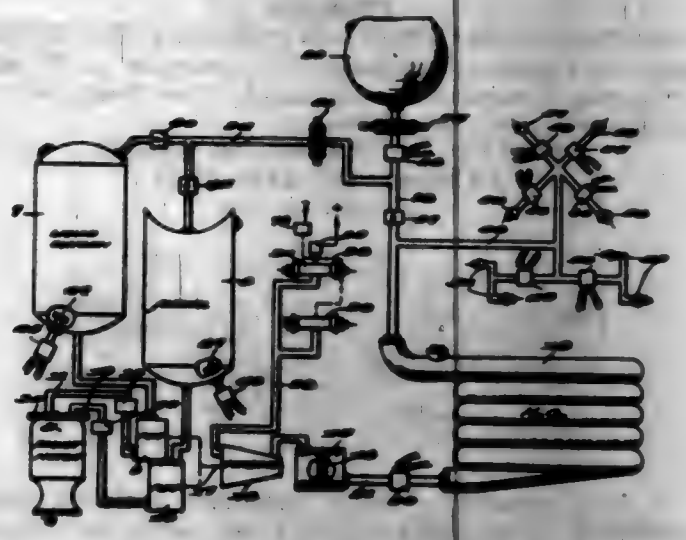
a portion of the duct to assist in elevating and steering the aircraft, and transversely disposed adjustable shutter means mounted in the downstream end of the vertical duct for controlling the flow of air through the remaining portion of the vertical duct and the longitudinal ducts to assist in elevating and propelling the aircraft.

2,968,454

ROCKET CONTROL SYSTEM

Howard W. Merrill, Towson, Md., Robertson Youngquist, Morristown, N.J., and Irwin R. Barr, Kingsville, Md., assignors to The Martin Company, Middle River, Md., a corporation of Maryland

Filed Oct. 29, 1951, Ser. No. 253,658
8 Claims. (Cl. 244—14)



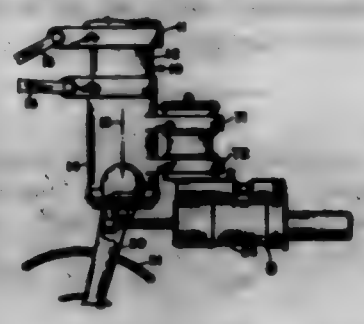
1. A rocket comprising a housing, means for propelling said rocket including a power plant carried within said housing and operable to accelerate the rocket for a predetermined period and to cease operation thereafter, a fuel system for said power plant including gas pressure supply means for pressurizing the fuel for said power plant, a plurality of jet openings formed in said housing and communicating with said gas supply means, normally closed valves interposed between said jet openings and said gas supply means for controlling the flow of gas through said openings, and means automatically rendered operative upon cessation of the operation of said power plant for selectively actuating said valves whereby to tap the residual gas pressure in said supply means and use the same to produce reaction forces for guiding said rocket.

2,968,455

LANDING GEAR DAMPER

Ira D. Smith, Bedford, Ohio, assignor to Cleveland Pneumatic Industries, Inc., Cleveland, Ohio, a corporation of Ohio

Filed May 16, 1957, Ser. No. 659,566
7 Claims. (Cl. 244—103)



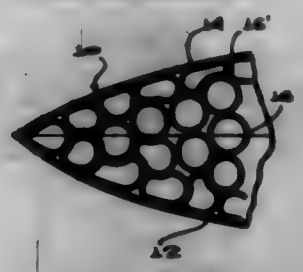
1. A landing gear comprising a strut including upper and lower telescoping members axially movable and rotationally fixed relative to each other, said upper member being adapted to be mounted on the frame of an aircraft, a wheel support journaled on the said lower member for rotation relative thereto about a first axis, and a damper consisting of co-operating cylinder and piston elements movable relative to each other and damping means resisting such relative movement, a pivot on the bottom of said lower member, one of said elements being journaled on said pivot for rotation relative thereto about a second axis spaced from and parallel to said first axis, and the other of said elements being journaled on said wheel support for rotation relative thereto about a third axis spaced from and parallel to the other of said axes.

2,968,456

AIRFOIL CONSTRUCTION

Lavern W. Hanson, Rio, Ill.

Filed Feb. 7, 1958, Ser. No. 713,932
3 Claims. (Cl. 244—123)



1. An airfoil comprising a hollow skin body having two ends, a plurality of cylindrical bendable tubes all of the same cross sectional area positioned within said body and extending longitudinally from one end to the other end thereof and fixedly secured to each other and to the inner face of said body, said tubes wholly filling the hollow space in said body and being piled in contacting engagement with each other with the tubes in contacting engagement with the inner face of said body being distorted so as to provide contacting surfaces conforming to the adjacent portions of the body inner face.

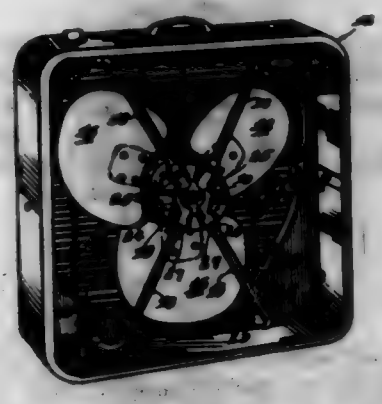
2,968,457

MOTOR BRACKET ASSEMBLY FOR FANS

Carl Kruse, % Lakewood Engineering & Mfg. Co., 212 N. Carpenter St., Chicago 7, Ill.

Filed Nov. 18, 1957, Ser. No. 697,198
2 Claims. (Cl. 248—15)

1. A motor bracket assembly adapted to be affixed to stud bolts projecting from the rear of a motor and for mounting said motor upon an encompassing support in an enclosure, said bracket assembly comprising two pairs of relatively narrow bracket arms and a connecting link for each pair of arms with said arms and links being substantially semi-tubular in cross section through the greater portion of their length and the inner end of each arm provided with a flattened end portion of increased width, each said connecting link having an arcuate central portion and angularly projecting ends of increased width with said last mentioned ends each having a channel to conformably receive the adjacent inner flattened end portion of an arm and each link being joined at each end in overlapping rela-



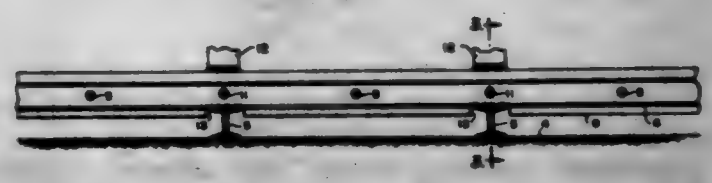
tion to the inner end of an arm whereby each link and its two connected arms provide a substantially V-shaped mounting bracket, the overlapping ends of said arms and said links having aligned openings to receive said stud bolts and anchor said arms and links to the rear of the motor, each of said arms being curved laterally and forwardly adjacent its outer end toward the encompassing support with each outer end having an inturned, flattened anchoring flange, and means for securing the inturned anchoring flange of each arm to the support.

2,968,458

SHOCK RESISTANT FOUNDATION

Kurt G. F. Moeller, Annapolis, Md., assignor to the United States of America as represented by the Secretary of the Navy

Filed June 23, 1959, Ser. No. 822,400
7 Claims. (Cl. 248—19)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A shock resistant foundation for the mounting of heavy equipment comprising a plurality of spaced base support members, a pair of channels secured to said base support members in parallel spaced relationship with each other, the longitudinal axis of said channels being transverse to the longitudinal axis of said base support members, an I-beam positioned with its web between said channels and in frictional engagement therewith; fastening means rigidly connecting said I-beam and said channels only at points spaced substantially midway only between each two said spaced base support members, and an equipment mount secured to said I-beam at a point directly opposite each said base support member.

2,968,459

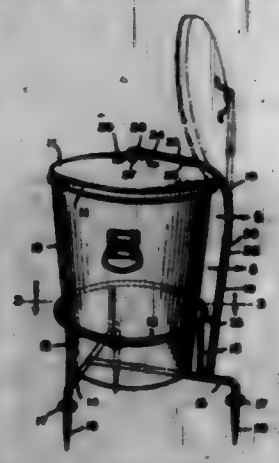
CAN SUPPORT AND LID

Roy M. Timmons, P.O. Box 503, Oklahoma City, Okla.

Filed Jan. 16, 1959, Ser. No. 787,150
2 Claims. (Cl. 248—146)

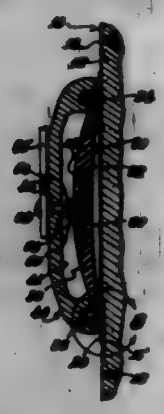
1. A garbage can and lid holder comprising a stand for receivably supporting a garbage can, said stand including horizontally disposed members on which said can is adapted to rest and a horizontal ring supported from and

above said members in fixed relation thereto, downwardly extending supports connected to said members in spaced relation about the outer portion of the stand, a lid for said can, an elongated lid retaining attachment having one end attached to said stand and the other end attached



to said lid and with a flexible conduit portion along its length bendable to permit application and removal of the lid and of a character to retain said lid in a definite position regardless of whether raised to permit access to said can or in a position forming a closure for said can.

2,968,460
VACUUM MOUNTING DEVICE
Laurence W. Van Dusen, P.O. Box 1067, Escondido, Calif.
Filed May 18, 1959, Ser. No. 813,924
5 Claims. (Cl. 248—206)



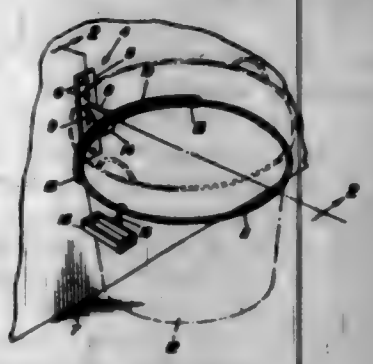
1. A vacuum actuated mounting assembly capable of being mounted substantially permanently on an air-permeable mounting surface, said assembly comprising the combination of a circular resilient suction member having an air-impermeable working face, an air-impermeable membrane, a layer of pressure sensitive adhesive material for adhering one face of the membrane to the mounting surface, the other face of the membrane being adapted to receive the working face of the suction member and form therewith a peripheral seal.

2,968,461
AWNING HEAD ROD CLAMP
Errol P. D'Azzo, Brooklyn, N.Y.
(152 Bleecker St., New York, N.Y.)
Filed Oct. 21, 1957, Ser. No. 691,319
18 Claims. (Cl. 248—273)



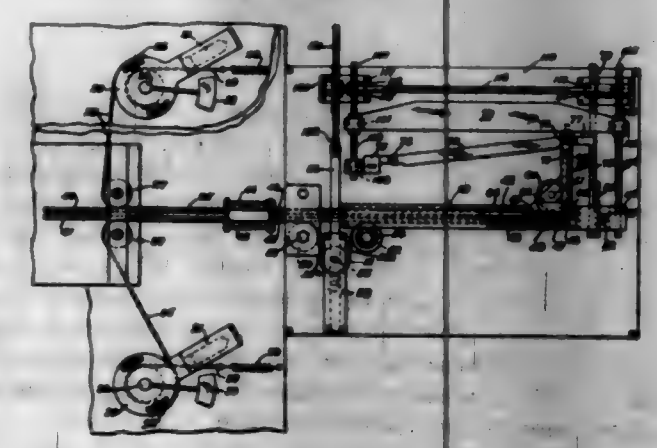
9. An awning head rod holder, comprising a helical coil spring having spaced turns, and a bracket, said bracket including a flat plate, a first portion of the plate being bent forwardly to form a first means for supporting said head rod, another portion of the plate being bent forwardly to form a second means for supporting the spring thereon, said second means extending between adjacent spaced turns of the spring to permit lateral non-rotational disengaging movement of the spring therefrom, said second means permitting the spring to be rotated to advance the spring axially thereon.

2,968,462
LAUNDRY BASKET HOLDER
Samuel F. Jones, Toronto, Ontario, Canada
(36 Fenwood Heights, Scarborough, Ontario, Canada)
Filed Aug. 10, 1959, Ser. No. 832,796
1 Claim. (Cl. 248—293)



A laundry basket holder comprising a bracket for mounting on a support, a ring, for receiving and supporting a basket, pivotally mounted for vertical swinging movement on said bracket, a slidably adjustable hook pivotally suspended on the ring and engageable by a basket to be disposed therein for frictional retention thereby in adjusted position, and a clothespin tray removably mounted on said hook and adapted to rest by gravity against the basket in a manner to be supported thereby in a horizontal position on the hook.

2,968,463
BATCHING DEVICE
Bert Noble, P.O. Box 152, Paso Robles, Calif.
Filed Feb. 27, 1959, Ser. No. 795,968
14 Claims. (Cl. 249—14)



1. A moisture-compensating device for a scale for a moist aggregate, to add weight thereto corresponding to the moisture content, said scale having weight-setting means operated by pull on a tape, including in combination: horizontally movable means having means for guiding said tape from a horizontal to a vertical position; means for moving said horizontally movable means a distance corresponding to an uncompensated weight setting; vertically movable means connected to the end of said tape and supported for horizontal movement with said horizontally movable means while movable verti-

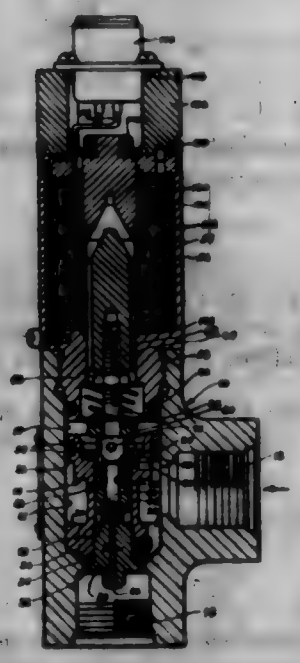
cally relatively to said horizontally movable means; a generally horizontally extending arm along which said vertically movable means moves; and means to incline said arm to an angle corresponding to an observed moisture content of the material being weighed, so as to move said vertically movable means vertically an amount proportional both to said moisture content and to the horizontal travel of said horizontally movable means.

2,968,464

PRESSURE OPERATED VALVE WITH MAGNETICALLY ACTUATED PILOT

Delwyn L. Olsen, Lake Mohawk, N.J., assignor to Maretta Valve Corporation, Boonton, N.J., a corporation of New Jersey

Filed Dec. 20, 1955, Ser. No. 554,186
8 Claims. (Cl. 251—30)



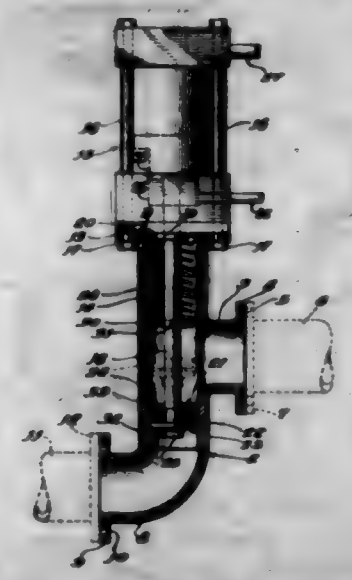
5. A pilot-controlled valve including a one-piece valve housing enclosing a cylindrical chamber having an outlet passage at one end, an annular shoulder in the chamber around the upstream end of the outlet passage, an inlet opening through a side wall of the cylindrical chamber intermediate the ends of the chamber, a main valve element located in the chamber and having forward and rearward portions of one-piece construction located in the chamber forward and rearward, respectively, of the inlet opening and fitting the chamber with a running fit for movement therein toward and from the annular shoulder, the valve element having a body with an axial bore therein from the rearward end and a bleed outlet of smaller cross section than the bore at the front end of the valve element and through which the bore communicates with the outlet passage, the rearward portion of the valve element operating within the cylindrical chamber as a piston, a pilot valve that slides back and forth in the bore between forward and rearward positions, and in the forward position of which it closes the bleed outlet through the front of the valve element, the pilot valve having a rearward face exposed to the pressure from behind the rearward portion of the valve element and being held in its forward closed position by said pressure whereby increase in pressure on the back of the valve element holds the pilot valve in closed position with greater force, the valve element having a port opening through one side thereof and into the chamber at a location between the forward and rearward portions of the valve element whereby one end of said port opening is subject to the direct pressure from said inlet opening, the port communicating with the bore at a location which is uncovered by the pilot valve when the pilot valve is in its forward position and which is covered by the pilot valve when said pilot valve is in its rearward position, and operator-controlled means for moving the pilot valve into its rearward position in the bore to cover said port and stop the flow of gas at inlet pressure into the bore and the chamber space rearward of the valve element, said pilot valve in said rearward position leaving the bleed outlet in the front of the valve element open for the escape of fluid from the bore to the outlet of the valve chamber.

2,968,465

QUICK ACTING VALVE FOR FLUID SERVICE

Francis S. Flick, Oak Park, and Roy G. Wilkes, Chicago, Ill., assignors to Flick-Reedy Corporation, a corporation of Illinois

Filed Dec. 31, 1956, Ser. No. 631,613
4 Claims. (Cl. 251—48)



1. A valve for fluid service comprising in combination: a valve housing having a flow passage including an elongated cylindrical section and enlarged inlet and outlet means at opposite ends of the section; a fluid pressure responsive piston and cylinder device mounted upon the housing and having a piston rod extending into said valve housing for movement into and out of said cylindrical section; means for introducing operating pressure fluid into one end of said piston and cylinder device; cooperating means on said piston and on said cylinder for dissipating inertia of said piston and piston rod; a valve closure assembly mounted on said rod and including sealing means slidable against said cylindrical section in sealing relation therewith when said closure assembly is moved to a position within said cylindrical section; means yieldingly urging the piston rod and assembly toward said elongated section to close the valve; and said piston and cylinder device being adapted to withdraw the assembly from said section in opposition to said yielding means so that said yielding means may quickly close the valve upon release of said opposition, said cylindrical section having a length greater than that of the closure in the direction of said piston rod movement to maintain said sealing relation of the closure therewith during sliding movement of the closure in said section while said piston and cylinder device dissipate inertia of the moving parts.

2,968,466

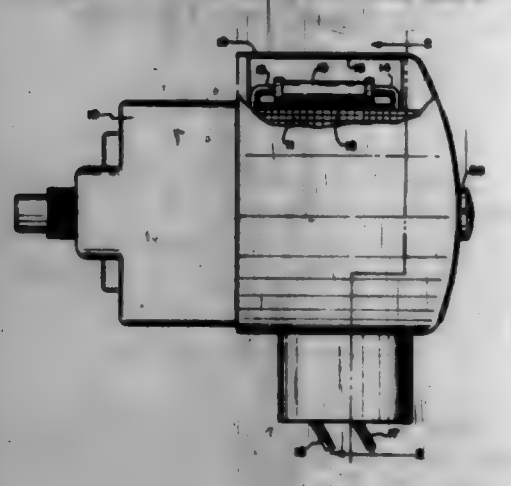
VALVE AND CONTROL SYSTEM

William J. McGoldrick, Minneapolis, Minn., assignor to Minneapolis-Honeywell Regulator Company, New York, N.Y., a corporation of Delaware

Original application N.v. 2, 1950, Ser. No. 193,713. Divided and this application Oct. 10, 1955, Ser. No. 542,610
2 Claims. (Cl. 251—129)

1. A delayed action fuel valve for use in a system where the delivery of fuel is not desired immediately

upon energization of the valve motor comprising in combination a valve normally in fuel flow interrupting position, an electric solenoid motor for actuating said valve to a second position in which fuel flow may take place, said motor comprising a solenoid coil therein, a resistor having a negative temperature coefficient of resistance connected in series with said coil and being positioned adjacent to said coil, said resistor being of such resistance value at ambient temperature that upon a current supply of normal voltage being applied to said solenoid coil and resistor the current flowing to said solenoid coil is insufficient to cause said solenoid motor to actuate said valve from its normal fuel flow interrupting position but after a predetermined time during which current is flowing through said coil and resistor said resistor will



become heated to such a temperature above ambient that its resistance will be lowered to a value which permits the coil to be sufficiently energized by the current supply as to cause actuation of said valve to said second position by said motor so that fuel flow may take place, a heat insulating member interposed between said resistor and said coil so as to reduce the tendency of the resister to be maintained heated by residual heat in said coil upon de-energization of said resistor and coil and so that the resistor will more quickly reassume a condition in which it delays actuation of said valve by said motor, and a housing enclosing said coil and being of greater volume than said coil so as to accommodate said resistor with the resistor located between said coil and the wall of said housing.

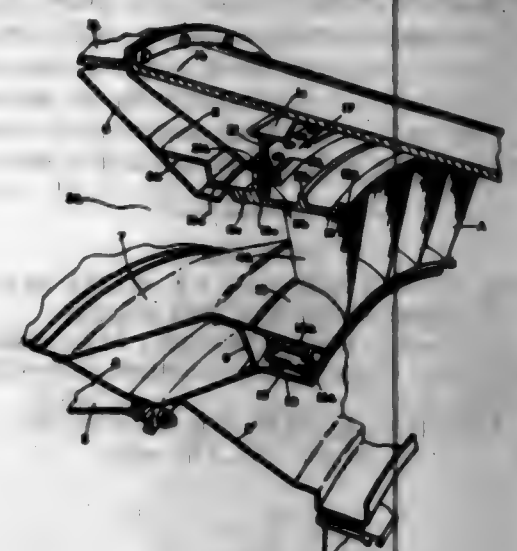
2,968,467

CONNECTING MEANS, ESPECIALLY FOR SECURING ANNULAR STATOR ELEMENTS BETWEEN SUPPORTS WHOSE POSITIONS ARE FIXED

John Cameron McGregor, Oakville, Ontario, Canada, assignor to Orenda Engines Limited, Malton, Ontario, Canada, a corporation

Filed Nov. 14, 1956, Ser. No. 622,227
4 Claims. (Cl. 253—78)

1. For a gas turbine engine, the combination of an annular stator element made up of bladed segments, an annular inner support for the segments, an annular outer support for the segments, means fixing the relative positions of the inner and outer supports, and means connecting the segments to the inner and outer supports comprising segment locating means of the annular inner support fixing the positions of the segments in their circumferential direction on the inner support, the outer support and the segments each having a circumferential row of holes, all the holes having axes lying in a common radial plane, the holes of the outer support being spaced apart at equal angular intervals in the row, the holes of each segment being spaced apart at equal angular intervals of slightly different magnitude than the first mentioned intervals whereby all of said holes cannot be simultaneously aligned and whereby at least one of the holes of each segment is substantially in alignment with one of the holes of the outer support, and radial pins



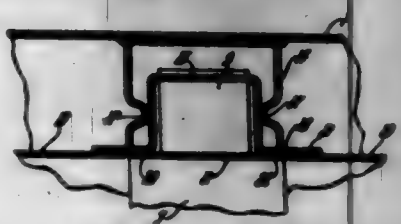
in only the substantially aligned holes and connecting the segments with the outer support.

2,968,468

SHEET METAL COMPRESSOR CASING

Harvey W. Welsh, Indianapolis, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Aug. 13, 1957, Ser. No. 677,934
4 Claims. (Cl. 253—78)



1. An axial flow turbo-machine having an axially extending outer cylindrical casing, a channel shaped stiffener ring having a depth formed by two side portions and a width formed by a connecting bottom portion, said bottom portion being circumferentially secured to the inside of said outer casing, a stator vane assembly including a plurality of vanes secured to a second channel shaped ring of smaller depth and smaller width than the first ring, said second ring being located substantially within said first ring, first means carried by the side portions of one of the rings in engagement with the side portions of said other ring to prevent axial movement but allow radial movement of said second ring and the vanes relative to the first ring and outer casing, and additional means independent of said first means carried by one of said rings in engagement with the other ring to limit outward radial movement but allow axial movement of said second ring and vanes relative to said first ring and outer casing.

2,968,469

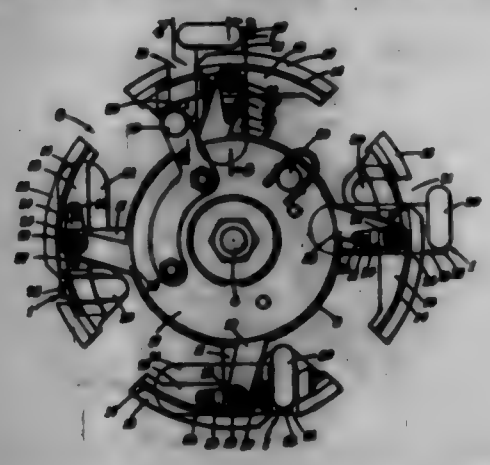
AUXILIARY SHOE UNIT FOR A CHUCK-TYPE TIRE SPREADER

Merrill K. Eriksen, Lodi, Calif., assignor to Super Mold Corporation of California, Lodi, Calif., a corporation of California

Filed July 20, 1959, Ser. No. 828,390
9 Claims. (Cl. 254—50.3)

1. In a tire spreader which includes axially alined and separable, expandable, tire supporting chucks individually embodying a plurality of circumferentially spaced segmental chuck jaws, each thereof having a tire bead seat;

auxiliary shoe units, for related chuck jaws, each comprising a shoe adapted for pressing engagement against a sidewall portion of the tire from interiorly of the latter,



and means between the chuck jaw and the shoe mounting the latter for movement between a working position spaced radially outwardly of said seat and a non-working position radially inwardly of the seat.

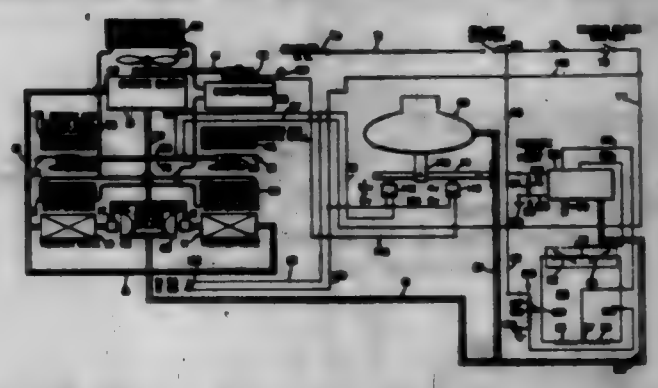
2,968,470
TENSION OR STRETCHER BAND FOR FENCE POSTS AND THE LIKE
Charles Pellerito, 19923 Beech Road, and Edward E. Welland, 8901 Greenview, both of Detroit, Mich.
Filed May 25, 1959, Ser. No. 815,730
1 Claim. (Cl. 256—47)



A tension band for fence posts and the like, comprising a metallic bend formed to provide a post encircling portion adapted to fit around a post or other member with which the band is to be used and having free end portions arranged in side by side relation extending radially from said encircling portion, one of said free end portions having an inwardly extending flange at its outer end provided with a notch in one edge surface thereof, the outer end of said flange having a tapered edge surface, the other of said free end portions having a portion extending toward said first named end portion, and a flange extending toward said encircling portion, said last named flange having a notch in one edge thereof for receiving said first named notch, the notches being interengaging by pressing said free end portions toward each other with the tapered edge surface warping said free end portions for notch in notch engagement.

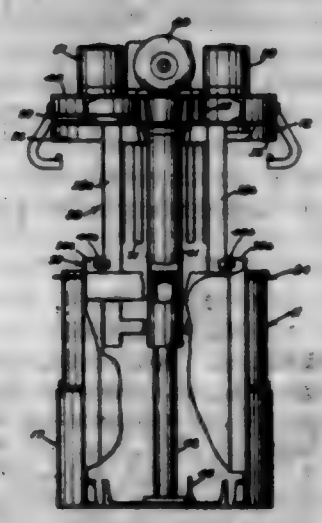
2,968,471
AUTOMOBILE AIR CONDITIONING CONTROL APPARATUS
Albert E. Stone, Western Springs, Ill., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed Mar. 31, 1958, Ser. No. 725,225
8 Claims. (Cl. 257—287)

1. An automotive air conditioning control apparatus comprising, a source of heating medium, a heat exchanger, means connecting the source of heating medium to said heat exchanger including valve means, means including an interconnected compressor condenser and evaporator means for supplying a source of cooling medium, clutch means adapted to connect said compressor to a source of motive power to operate said compressor and supply said cooling medium, a first vacuum operator means controlling the operation of said valve means supplying heat to said heat exchanger in proportion to the vacuum applied in the same, a second vacuum operator, a pair of switches operated by said second vacuum operator, circuit means including one of said switches controlling the energization and operation of said clutch means, means including a blower means for circulating air over said heat exchanger and said evaporator means to provide air conditioning through circulation and discharge of conditioned air to an automotive space, circuit means including a second of said switches operated by said second vacuum operator for controlling the energization of said circulating means, a space discharge stat positioned in the discharge of conditioned air to the space



and including a bi-metallic blade cooperating with a nozzle, a source of vacuum including conduit means connected to said nozzle, said vacuum operators for said valves and said second vacuum operator, said bi-metallic blade cooperating with said nozzle to vary the magnitude of said vacuum to control said valves and said second vacuum operator, a first heater mounted in heat exchange relationship on said bi-metal, circuit means including an adjustable source of power for controlling the energization of said heater and providing a setting for said stat, a second heater positioned in heat exchange relationship on said bi-metal, and a rate discharge means positioned to respond to said conditioned air and connected to said second heater to control the energization of the same.

2,968,472
MIXER
Donald K. Barnett, Anderson, Ind., assignor to Winkel Machine Company, Inc., Watervliet, Mich., a corporation of Michigan
Filed Apr. 23, 1958, Ser. No. 730,438
9 Claims. (Cl. 259—2)



1. A machine for mixing battery paste, which includes: a container having an open upper end and adapted for holding the paste ingredients; a hood loosely received over the open end of said container and means for moving said container and said hood with respect to each other so that paste ingredients may be loaded into said container when said hood is spaced therefrom; means within

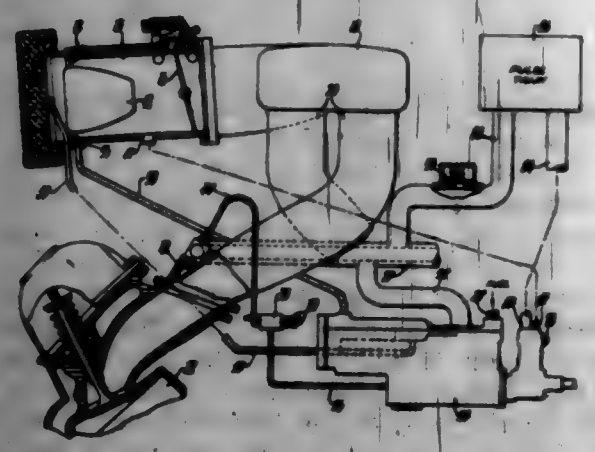
said container for agitating and mixing the ingredients therewithin; a first fan having an inlet opening communicating with the ambient atmosphere and an outlet opening extending through the hood and communicating with the interior of said container whereby air may be moved from the ambient atmosphere into the interior of said container; a second fan having an inlet opening extending through the hood and communicating with the interior of said container and an outlet opening communicating to a point externally of said container, said second fan being adapted for exhausting air and particulate materials entrained in such air from within said container the pressure within said container being less than the ambient pressure.

2,968,473

PRESSURIZED FUEL INJECTION SYSTEM

Stanley H. Mick, St. Clair Shores, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Mar. 5, 1958, Ser. No. 719,439
5 Claims. (Cl. 261—23)



1. A charge forming device for an internal combustion engine comprising an air intake passage, a throttle valve in said passage, a plurality of induction passages communicating said intake passage with the individual cylinders of the engine, a fuel nozzle in each of said induction passages, a fuel metering mechanism for supplying metered quantities of fuel to each of said nozzles, said metering mechanism including a fuel reservoir, each of said nozzles comprising a fuel metering orifice, an air metering orifice axially spaced from said fuel metering orifice, an air chamber intermediate said orifices, a common air manifold communicating the respective nozzle air chambers, a source of air under superatmospheric pressure, conduit means communicating said air pressure source, said air manifold and said fuel reservoir whereby said nozzle air chambers and said reservoir are maintained under superatmospheric pressure.

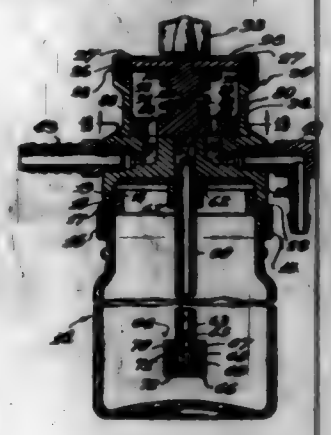
2,968,474

VAPORIZER

Francis J. Eichelman, Brookfield, and Norman C. Gruenke, Lyons, Ill., assignors to Chemetron Corporation, Chicago, Ill., a corporation of Delaware

Filed Sept. 25, 1957, Ser. No. 686,885
9 Claims. (Cl. 261—46)

1. Apparatus for vaporizing liquids comprising, a container for liquid and a body member, said member having an inlet for gaseous fluids and being provided with at least one outlet, means extendible into said container for diffusing gaseous fluids through liquid in the container, means including a valve member, said member being movable relative to said body member to cooperate with said inlet and outlet to pass portions of said gaseous fluids and diffused gaseous fluids to the outlet, and pressure relief means including a spring adapted to exert a predetermined bias on said valve member, said bias being sufficient to provide a substantial gas seal between said valve member and said body member, but insufficient to pre-



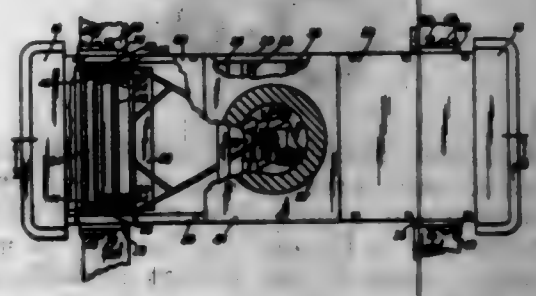
vent said valve member from being raised from its position relative to said body member to relieve any excessive pressures developing in said container.

2,968,475

SCALE MECHANISM

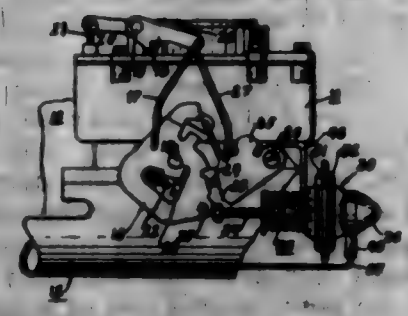
Robert G. Beach, Cottage Grove, Oreg., Nell Brown, administrator of said Robert G. Beach, deceased, assignor to Beach Gauge Company, Cottage Grove, Oreg., a corporation of Oregon

Filed May 18, 1956, Ser. No. 585,780
8 Claims. (Cl. 265—71)



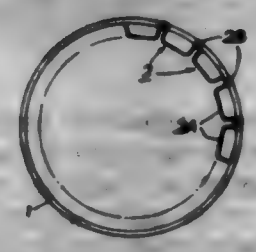
1. A scale mechanism for weighing loads under conditions in which a load receiving platform of said mechanism is subjected to large lateral forces in addition to forces due to the weight of said load, said mechanism comprising a load receiving platform having depending side members rigidly secured thereto, a supporting base for said platform, supporting structures extending upwardly from said base adjacent each end of said platform and rigidly supported on said base and vertically overlapping said depending side members, a pair of scale arms beneath said platform each having an inner end adjacent the center of said platform and outer ends spaced from each other and positioned under opposite ends of said platform, a pair of elongated fulcrum members for each of said arms, one pair of such fulcrum members being positioned adjacent each end of said platform and the fulcrum members of each pair extending laterally of said platform and being spaced longitudinally of said platform, one of said fulcrum members of each pair being secured to and forming part of one of said upstanding supporting structures and the other of said fulcrum members of each pair supporting said depending side members of said platform, force sensing means between said inner ends of said arms and said platform, and means including bearing members positioned below said platform between said upstanding supporting structures and said depending side members for independently of said arms directly transmitting said lateral forces from said platform to said supporting structures in a direction laterally of said platform.

2,968,476
THROTTLE VALVE CONTROL MECHANISM
Donald D. Stoltman, Rochester, N.Y., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Apr. 7, 1955, Ser. No. 499,871
7 Claims. (Cl. 267—1)



1. A retarder for use with a source of vacuum including, a housing, a flexible diaphragm disposed in said housing and dividing it into an air chamber and a vacuum chamber, said air chamber openly communicating with atmosphere, resilient means for urging said diaphragm in a direction exhausting air from said air chamber, means connecting said vacuum chamber with the source of vacuum, and means operatively connected to the diaphragm for controlling the rate of diaphragm movement in a direction opposing said resilient means so that as vacuum moves said diaphragm between first and second predetermined positions its movement is substantially unretarded, while such movement between said second and a third predetermined position of said diaphragm is substantially retarded.

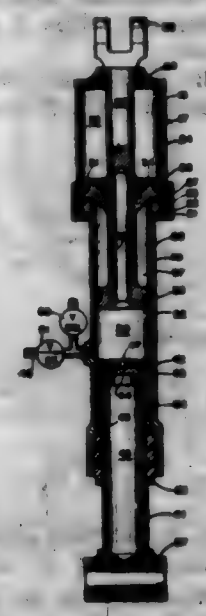
2,968,477
MECHANICAL, RESILIENT PRESSURE-APPLYING DEVICES
Samuel Clifford Walter Wilkinson, Cookham Village, England, assignor to Crane Packing Limited, Buckinghamshire, England, a British company
Filed Nov. 3, 1958, Ser. No. 771,334
Claims priority, application Great Britain Nov. 7, 1957
6 Claims. (Cl. 267—1)



1. A mechanical resilient pressure-applying device comprising a flat carrier of closed frame form made of wire and a length of wire formed into spring elements constituted by a series of loops extending out at opposite sides of said carrier in positions non-perpendicular to the plane containing said carrier and of coiled portions interposed between and joining together adjacent loops, each coiled portion comprising at least one convolution embracing the wire forming said carrier, the perimetral extent to the loops extending on one side of said carrier being substantially equal to that of the loops extending on the other side of the carrier.

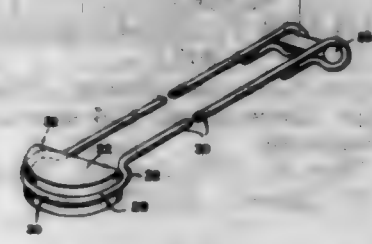
2,968,478
CENTERING AND SNUBBING DEVICE
Erwin H. Hartel, Cleveland, Ohio, assignor to Cleveland Pneumatic Industries, Inc., a corporation of Ohio
Filed Aug. 10, 1956, Ser. No. 603,431
4 Claims. (Cl. 267—64)

1. A fluid spring comprising a cylinder body formed with a first bore and a co-axial smaller diameter second bore joined at the adjacent ends by a shoulder, a differential member formed with a first head portion slidable in said first bore and a second head portion slidable in said second bore, a separate piston slidable in said second bore, said first bore and first head portion co-operating to define a portion of a first chamber, said second head portion and said piston co-operating to define a second chamber within said second bore, passage



means providing fluid communication between said chambers, and fluid under pressure filling both of said chambers, said first head portion having a larger effective area than said second head portion whereby said differential member is urged in a direction which tends to move said first head portion toward said shoulder and said piston is urged in a direction away from said shoulder.

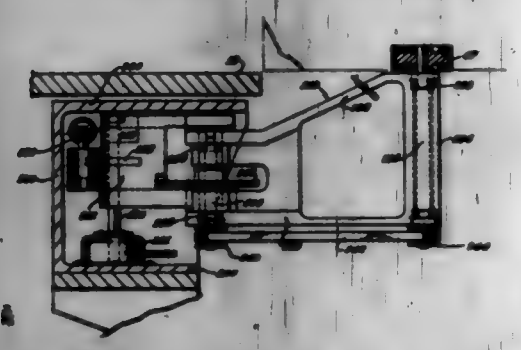
2,968,479
HOLDING MEANS FOR SUPPORT-WIRE INSERTING DEVICE
Carl Lenz, Packanack, and Norman G. Johnston, Pequannock, N.J., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Jan. 20, 1959, Ser. No. 788,013
5 Claims. (Cl. 269—189)



1. A conveyor finger for transporting a plurality of support wires from a support-wire-receiving position to a support-wire-dispensing position, said conveyor finger comprising an anvil normally disposing in spaced relation from the support wires while the latter are in the support-wire-receiving position, a holding block for clamping said support wires between said anvil and said holding block and provided with member-receiving means on a portion of its periphery, a member in said member-receiving means for supporting said holding block in spaced relation from said support wires and said anvil while permitting limited relative movement between said holding block and said member, and drive means for providing relative movement between said member and said anvil to move said anvil and said holding block into wire-clamping engagement with said support wires, said holding block and said member having limited relative movement therebetween as said holding block moves into wire-clamping engagement with said support wires

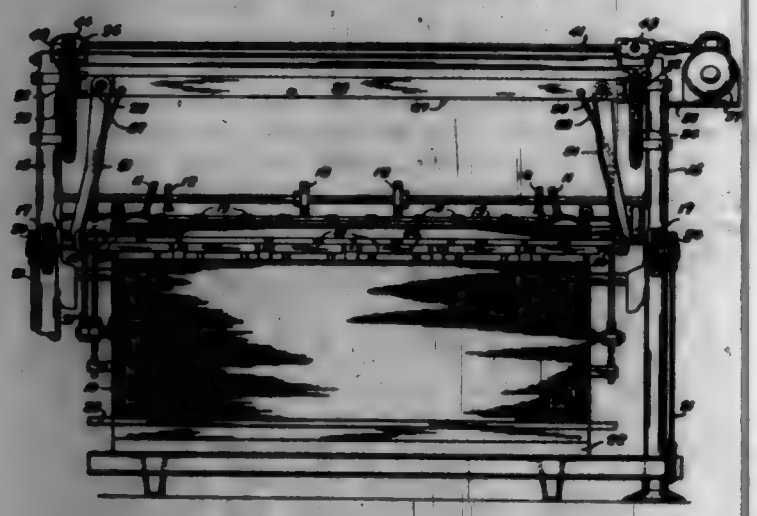
so that said holding block may position itself with respect to said support wires and clamp said support wires against said anvil regardless of any variation in the diameters of such support wires.

2,968,480
CARD PROCESSING APPARATUS
Emanuel A. Knefel, Manhattan Beach, Calif., assignor to The Magnavox Company, Los Angeles, Calif., a corporation of Delaware
Filed Apr. 24, 1959, Ser. No. 808,824
12 Claims. (Cl. 271—39)



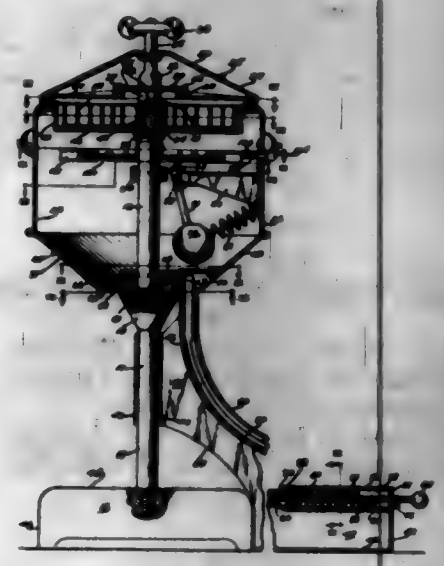
1. In apparatus for processing data on a plurality of information storage cards and in which the cards are held in a stacked relationship in at least one removable magazine, the combination of: transport means for the cards, a structure disposed to define a supporting surface for the magazine and along which the magazine may be moved on a particular path between a first position displaced from the transport means and a second position in the vicinity of the transport means, drive members supported on opposite sides of the paths of the magazine, a control mechanism mechanically coupled to the drive members for moving the drive members with respect to the path of the magazine between a disengaged first position and a second position in which the drive members engages the magazine to obtain a drive by the member of the magazine along the particular path, and means coupled to the drive members for introducing motion to the drive members to obtain a drive by the members of the magazine in the engaged position of the members.

2,968,481
APPARATUS FOR FEEDING SHEETS FROM A PILE
Norman W. Taylor, Cleveland Heights, Ohio, assignor to Harris-Intertype Corporation, Cleveland, Ohio, a corporation of Delaware
Filed May 15, 1958, Ser. No. 735,446
21 Claims. (Cl. 271—62)



1. An apparatus for forwarding sheets from the top of a pile including stationary upright frame members, a pile hoist for supporting a pallet having a pile of sheets thereon which are to be fed, said hoist being operable to maintain the top of the pile at a feeding level and comprising a movable frame supported by said stationary frame members for vertical movement and a pair of opposed arms supported on said movable frame and having pallet-engaging portions adapted to engage the opposite sides of said pallet to support the pallet and pile on said movable frame in a feeding position, means connecting each of said arms to said movable frame for selective movement with respect thereto to move said pallet-engaging portions laterally toward or away from engagement with said pallet, and operating means operatively connected to said arms for selectively moving said arms and said pallet-engaging portions thereof laterally in the same direction whereby said arms are selectively movable to laterally shift the position of a pile of sheets supported by said arms.

2,968,482
TOY
Anton C. Gjertsen, 650 E. Williams St., San Jose, Calif.
Filed July 30, 1957, Ser. No. 675,145
4 Claims. (Cl. 272—31)

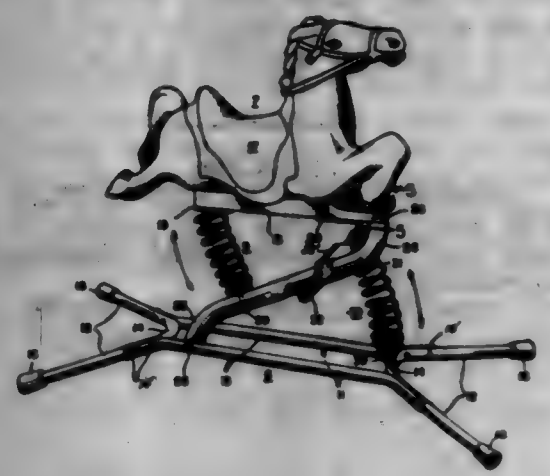


4. In a toy airplane apparatus having a base, a stationary shaft mounted vertically on said base, a housing rotatably mounted on said shaft, a support rod extending radially from said housing, a toy airplane mounted on said support rod, spring means in said housing for rotating said housing and driving said toy airplane about said shaft, a disk fixedly secured to said shaft within said housing, a plurality of sound springs secured in radially extending, angularly spaced relationship around said disk and a manually operable pin pivotally attached to said housing for striking said sound springs and effecting a sound simulating the operation of an airplane.

2,968,483
ROCKING HORSE
Adrain M. Dodson, 424 6th Ave., Columbus, Miss.
Filed June 19, 1959, Ser. No. 821,550
2 Claims. (Cl. 272—52)

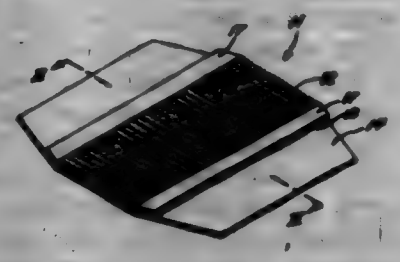
1. A child's toy rocking-horse comprising, a simulated-horse seat-member having a forked forward end, a floor-support formed of a pair of spaced parallel bars mounting oppositely-extending and outwardly-downwardly-disposed pairs of legs spacing the parallel bars above the floor, a rocker-arm hinged at its upper end to and within the forked end of the seat member and hinged at its lower end to and between the parallel bars adjacently forward of the pair of rear legs, and a pair of coiled com-

pression springs interposed between the rocker arm and the seat-member and the floor-support respectively, one extremity of one spring being secured to the rocker arm at a point intermediate its hinged connection to the seat-member and the transverse median of the rocker arm, the other extremity of the one spring being secured to



the forward end of the floor-support, one extremity of the other spring being secured to the rear end of the seat-member and the other extremity of the other spring being secured to the rocker arm intermediate its hinged connection to the floor-support and the transverse median of the rocker arm.

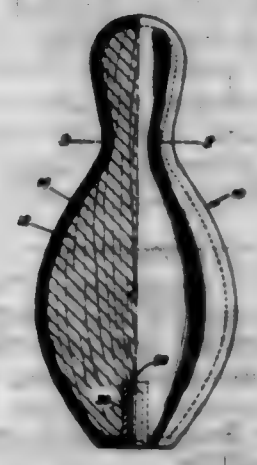
2,968,484
BOWLING BALL GRIP INSERT
Paul N. Vincent, 317 Highland Ave., East Lansing, Mich.
Filed Mar. 28, 1958, Ser. No. 724,704
2 Claims. (Cl. 273—63)



1. In a bowling ball insert structure, the combination including: a lattice-like grid member having openings therethrough and configured to form an insert patch for bowling balls, said grid member coated entirely by an abrasive material so as to impart a positive control surface to said grid member; an adhesive layer applied to one side of said grid member, said adhesive layer adapted to selectively mount said grid member in a bowling ball hole; and a removable backing member provided on the exposed face of said adhesive layer.

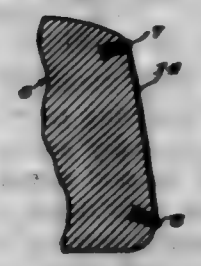
2,968,485
BOWLING PIN
Richard P. Alex, 1605 Chilton St., Baltimore, Md.
Filed Nov. 19, 1958, Ser. No. 774,957
5 Claims. (Cl. 273—82)

1. A bowling pin comprising a core including an elongated main body having a base portion at one end, a neck portion at the other end, and an intermediate body portion of circular cross-sectional area for receiving impact from a bowling ball, a layer of resilient material completely enclosing and engaging said core and a shell of rigid plastic material completely enclosing and engaging said layer of resilient material, said resilient material and rigid shell cushioning impact received by the shell and distributing the forces produced by impact received on the shell throughout the area of the shell and resilient material thereby eliminating force concentration at any



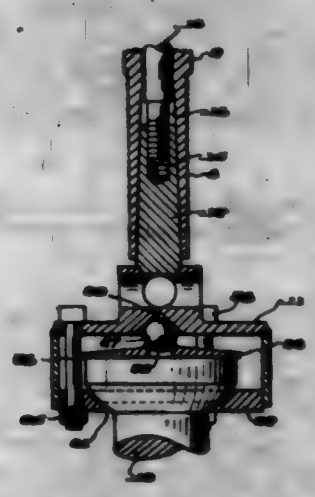
one point on the pin and eliminating damage to the pin caused by such concentration.

2,968,486
GOLF CLUBS
Jackson Walton, Toronto, Ontario, Canada (Box 81, 1499 Lakeshore Road E., Lakeview, Port Credit, Ontario, Canada)
Filed July 30, 1959, Ser. No. 830,581
2 Claims. (Cl. 273—173)



1. A golf club of the "woods" type having a striker plate attached to the driving face of the club, and narrow resilient strips projecting out over the striker plate on the top and bottom thereof, the exposed face of the resilient strips being rounded.

2,968,487
STIRRING APPARATUS FOR MOLTEN GLASS
Theodore W. Glynn, Kingsport, Tenn., assignor, by mesne assignments, to American-Saint Gobain Corporation, Wilmington, Del., a corporation of Delaware
Filed May 21, 1958, Ser. No. 736,816
2 Claims. (Cl. 279—16)



1. In stirring apparatus for molten glass, a downwardly opening chuck adapted to be rigidly connected to the lower end of a vertical drive shaft, the inside of the chuck having a recess in the center of its upper wall, a vertical stirrer shank having an enlarged upper end disposed in the chuck

and provided with a transverse upper surface, a plate resting on said surface, a ball secured to the top of the center of the plate and seated in said recess, said enlarged end being provided with a lower spherical surface concentric with said ball, a seat encircling said shank in engagement with said spherical surface and formed in arcuate sections, and bolts connecting the seat sections to the chuck to support said shank and immovably clamp the ball against the chuck, whereby the lower end of the shank can be held in alignment with the drive shaft.

2,968,488

TOOL-DRIVING SHAFT ASSEMBLY FOR HOUSEHOLD APPLIANCES

Manfred Kübel, Ottersweier, Baden, and Harry Preiss, Buhl, Baden, Germany, assignors, by mesne assignments, to Robert Bosch G.m.b.H., Stuttgart, Germany, a German corporation

Filed Apr. 20, 1959, Ser. No. 807,547
2 Claims. (Cl. 279—24)



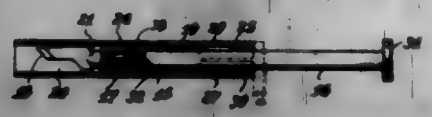
1. A tool-driving shaft assembly for household appliances, comprising a driving member having a bearing sleeve, a tool shaft coaxially seated in said sleeve and slidable longitudinally in said sleeve for assembling and disassembling purposes, said sleeve and said shaft having respective clutch elements integral with said sleeve and shaft and engageable with each other by longitudinal sliding motion of said shaft into assembled engagement with said sleeve, said shaft when assembled having an extreme end protruding out of said sleeve and in axial abutment with said driving member, said shaft having at said end an annular coaxial groove, and an elongated elastic retainer extending substantially in a direction tangential to said shaft and being longer in said direction than the outer diameter of said sleeve, said retainer having its two ends seated on said driving member and having a bendingly deflectable middle portion in engagement with said groove to removably secure said shaft in said sleeve.

2,968,489

CUTTING TOOLS

Sundel Doniger, New York, N.Y. (X-Acto Inc., 48—41 Van Dam St., Long Island City 1, N.Y.)

Filed Mar. 3, 1959, Ser. No. 796,971
4 Claims. (Cl. 279—48)



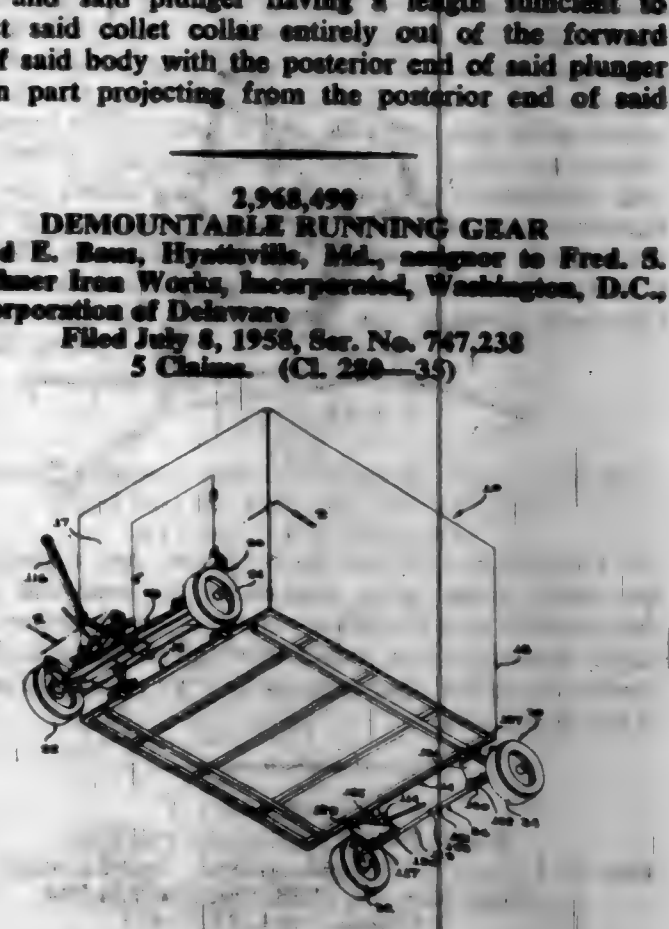
1. A tool holder comprising an elongated hollow body having forward and posterior ends, a plunger of greater length than said body longitudinally slidable in the hollow of said body and always projecting in part from said posterior end of said body, a tool chuck at the forward end of said plunger, said chuck having a shank threaded into the end of said plunger and having tool-engaging jaws and a collet collar located in its entirety beyond the forward end of said plunger and adapted to be engaged and slid forwardly by said end of the plunger, thereby advancing the collet further onto the jaws as the threaded shank of the chuck is screwed further into said plunger for thereby squeezing said jaws together for gripping a tool, said hollow of said body having a greater diameter than both said plunger and collet collar from the forward end of said body inwardly to a greater depth than the length of said collet collar admitting said collet collar to be retracted entirely within said hollow body, and said plunger having a length sufficient to project said collet collar entirely out of the forward end of said body with the posterior end of said plunger still in part projecting from the posterior end of said body.

2,968,490

DEMOUNTABLE RUNNING GEAR

Donald E. Bass, Hyattsville, Md., assignor to Fred. S. Gichner Iron Works, Incorporated, Washington, D.C., a corporation of Delaware

Filed July 8, 1958, Ser. No. 747,238
5 Claims. (Cl. 280—35)



1. A demountable running gear for use with a body unit to be transported over a ground surface, said running gear including a pair of spaced wheels and an axle rotatably supported by said wheels, a pair of spaced supports mounted on said axle for pivotal movement toward and away from a ground surface about the axis of said axle and having end portions projecting laterally from said axle in the same direction, an upstanding support arm positioned adjacent the free end of said projecting end portions of each of said supports and having its lower end pivotally connected to the adjacent end portion of said supports, a ledge projecting from the lower end portion of said supports and adapted to receive and support a body unit, a hydraulic jack extending between each of said supports and the corresponding one of said support arms with one end pivotally connected to the upper end of the corresponding one of said support arms and having its other end pivotally connected to the corresponding one of said supports, a positioning pin projecting from each of said support arms and adapted to be received in sockets provided in a body unit, fasteners carried by said support arms and adapted to be connected to complemental means provided on a body unit, and locking means on each support and connected to the corresponding one of each of said support arms for maintaining said supports and said support arms in a selected position.

2,968,491

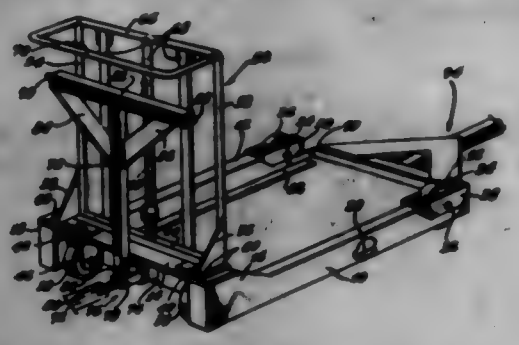
WAREHOUSE PALLET DOLLY

James D. Wilson, Long Beach, Calif., assignor to Banner Metals, Inc., Los Angeles, Calif., a corporation of California

Filed Feb. 26, 1959, Ser. No. 795,766
2 Claims. (Cl. 280—47.34)

1. A wheeled dolly truck for use in a warehouse and the like, for transporting warehouse pallets, said dolly

truck including: a first elongated side member having a top and a bottom and a particular heighth, a second elongated side member having a top and a bottom and a particular heighth, an elongated transverse member affixed to said first side member and to said second side member and extending between said side members at the rear end of said dolly truck, said transverse member supporting said side members in spaced and parallel relationship to define a rigid structure open at the front end of said dolly truck so as to enable said dolly truck to receive a pallet to be transported thereby, a first flange secured to said first side member adjacent the bottom thereof and extending along the length thereof, said first flange extending inwardly towards said second side member substantially at right angles to said first side member to support one side of the pallet to be transported by said dolly truck, a second flange secured to said second side member adjacent the bottom thereof and extending along the length thereof, said second flange extending inwardly towards said first side member substantially at right angles to said second side member to support the



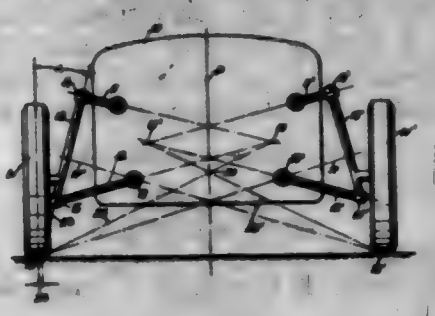
other side of the pallet to be transported by said dolly truck, a first wheel rotatably mounted at the front end of said first side member for rotation about a fixed axis of rotation displaced upwardly from said first and second flanges, a second wheel rotatably mounted at the front end of said second side member for rotation about a fixed axis of rotation displaced upwardly from said first and second flanges, at least one further wheel swivelly mounted at the rear end of said dolly truck for rotation about an axis displaced upwardly from said first and second flanges, an elongated hitch member coupled at one end to said transverse member at the rear end of said dolly truck for pivotal movement with respect to said transverse member about a horizontal axis and a vertical axis, a transverse hitch member affixed to the other end of said elongated hitch member at an intermediate point on said transverse hitch member, and first and second hitch receptacles respectively mounted on said first and second side members at the front end of said wheeled dolly truck to receive the extremities of the transverse hitch member of a similar wheeled dolly truck.

2,968,492
PIVOTAL LINK WHEEL SUSPENSION FOR MOTOR VEHICLES

Friedrich K. H. Nallinger, Stuttgart, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Untertürkheim, Germany

Filed Mar. 11, 1958, Ser. No. 720,670
Claims priority, application Germany Mar. 15, 1957
7 Claims. (Cl. 280—124)

1. In a vehicle, the combination comprising a frame, a pair of opposite wheels having tires, and two sets of wheel-suspending means one for each wheel, each set comprising a wheel carrier for one of said wheels, a pair of superimposed links extending transversely of the vehicle, each link having its outer end pivotally connected to said wheel carrier and its inner end pivotally connected to said frame, the outer end of the upper one of said links being disposed at a level at least as high as the highest point of the tire of said one of said wheels, the axial lines of said links extending through said ends in a transverse plane of said vehicle intersecting at a point disposed above a straight line extending through the place of contact of said lastmentioned one of said wheels with the ground and through the inner end of the lower one of the

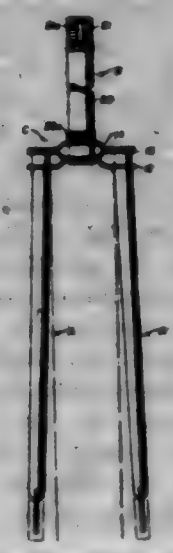


pair of links forming part of said set associated with the other one of said wheels and a helical spring disposed in substantially upright position above and braced against said lower link, said frame being formed with spring supports resting on the upper ends of said springs and disposed below the upper ones of said links.

2,968,493
BRAZED TUBULAR BICYCLE STEERING FORK ASSEMBLY

Alvin P. Douglas, Nashville, Tenn., assignor to The Murray Ohio Manufacturing Company, Nashville, Tenn., a corporation of Ohio

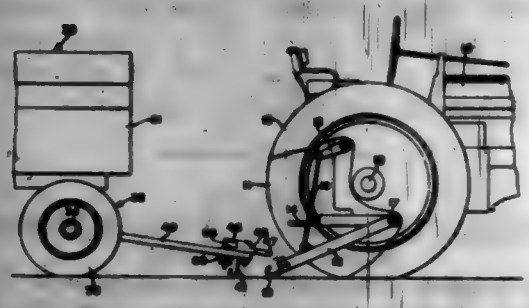
Filed Feb. 14, 1958, Ser. No. 715,369
6 Claims. (Cl. 280—280)



1. In a bicycle steering fork, the improvement comprising: a crown including three elongated superposed plates having identical external form and identical round central apertures for receiving the lower end of a stem, each plate having the centrally apertured middle portion offset through sloping connecting portions from coplanar end portions, a lower pair of said plates being disposed with the end portions vertically spaced and middle portions abutting flatwise, the end portions in said pair having apertures identically shaped and located in alignment for receiving the upper ends of a pair of fork arms, and a third of said plates being disposed on the uppermost of said lower pair of plates in aligned relation with the end portions of the uppermost and third plate abutting flatwise and with the middle portions thereof spaced; a pair of tubular fork arms with upper ends press-fitted respectively into the aligned apertures in the end portions of the lower pair of said plates and abutting endwise against the third plate, said arms being symmetrically disposed and spaced on opposite sides of a vertical plane bisecting the crown; a cylindrically tubular stem having a lower end reduced to form a shoulder and press-fitted

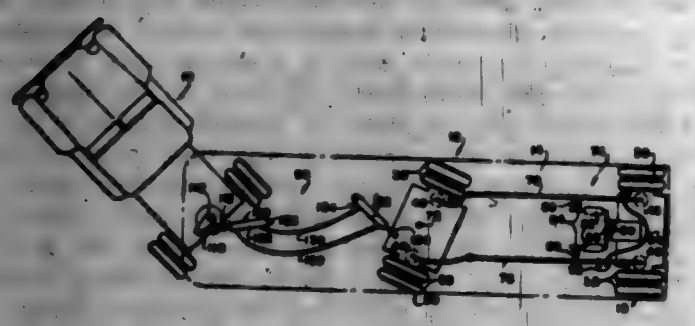
into the aligned central apertures of said plates to project slightly beyond the lowermost of said plates and with said shoulder abutting against the third plate; said stem at the lower end being provided with a tubular internal reinforcing element of substantially uniform wall thickness fitted slightly beyond its full length therein to form an internal shoulder; and capillarily distributed brazing material joining the abutting portions of said plates to each other, and the tubular stem and arms to the plates in the respective regions of press-fitted insertion and abutment.

2,968,494
HITCH DEVICE
Alvin E. Klouda, Ames, Iowa, assignor, by mesne assignments, to Deere & Company, a corporation of Delaware
Filed Feb. 24, 1958, Ser. No. 717,168
2 Claims. (Cl. 280—415)



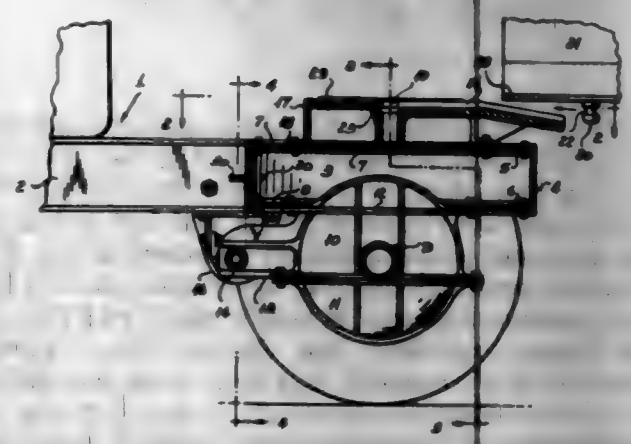
1. A hitch assembly for a trailing implement operative to selectively connect the implement to various types of tractor drawbars, one type of which may be a drawbar fixed against vertical movement and suitable for a clevis connection and another type of which may be a vertically movable drawbar with a hook thereon, said hitch assembly comprising: an elongated rigid hitch element with a hitch connection at one end in the form of a ring for mounting on a hook of a vertically movable drawbar and a hitch connection at the opposite end in the form of a clevis adapted for mounting on the fixed drawbar; structure defining a pivot for mounting said hitch element proximate the forward end of the implement for permitting swinging of the element on the pivot to selectively position the hitch connections forwardly, said pivot being equally spaced from the opening in the ring and the clevis opening; and a locking pin on the implement rearward of the pivot adapted for contact with the hitch connection rearward of the pivot and effective to prevent swinging of the hitch element about the pivot.

2,968,495
MECHANISM FOR STEERING TANDEM WHEELS OF A TRACTOR TRAILER ASSEMBLY
Charles T. Hutchens, P.O. Box 1355, Springfield, Mo.
Original application Oct. 21, 1955, Ser. No. 541,951, now Patent No. 2,907,576, dated Oct. 6, 1959. Divided and this application May 18, 1959, Ser. No. 813,948
2 Claims. (Cl. 280—426)



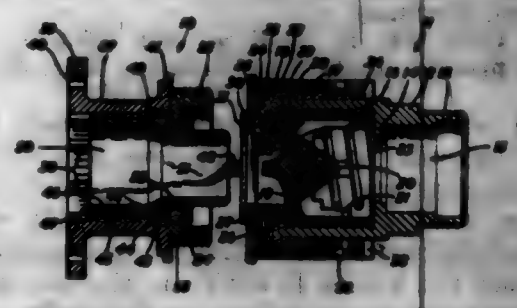
1. In a trailer for use with a tractor having a fifth wheel, a load bearing platform, a rear axle assembly fixedly secured to the rear end of said platform, a steerable axle assembly mounted beneath said platform intermediate the front and rear ends thereof, a king pin pivotally mounted on the front end of said platform for fixedly engaging the tractor fifth wheel, and means connected between said steerable axle assembly and said king pin for transmitting the pivotal movement of the latter occasioned by relative horizontal angular movement between said platform and the tractor to said steerable axle assembly so that the latter will move angularly in accordance with the relative angular movement between said platform and the tractor, said last-mentioned means comprising an arm on said king pin, a first double acting fluid ram operatively connected between said arm and said platform, a second double acting fluid ram operatively connected between said steerable axle assembly and said platform, and closed conduit means interconnecting said first and second rams, said closed conduit means including a first conduit connected to one end of one of said double acting fluid rams and to one end of the other fluid ram and a second conduit connected to the other end of one fluid ram and the other end of the other fluid ram.

2,968,496
PNEUMATIC SUSPENSION FOR TRACTORS
Rene Goutrand, 210 W. 88th St., New York, N.Y.
Filed Oct. 22, 1958, Ser. No. 768,963
6 Claims. (Cl. 280—439)



1. A tractor comprising: a chassis frame, a pneumatic cushion mounted on said frame and provided at both its top and bottom with flexible diaphragms, a running gear positioned below the chassis frame and secured to the lower diaphragm independently of the frame, and the lower platform of a fifth wheel assembly secured to the upper diaphragm independently of the frame.

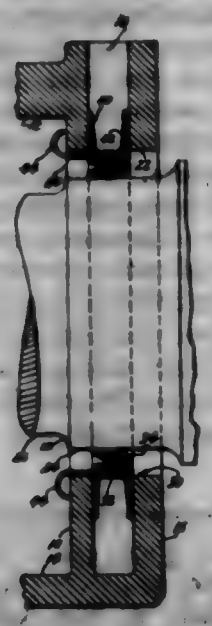
2,968,497
SELF-SEALING COUPLING
Lionel Mervyn Treleaven, Toronto, Ontario, Canada, assignor to Avro Aircraft Limited, Malton, Ontario, Canada, a corporation of Canada
Filed Feb. 5, 1958, Ser. No. 713,407
1 Claim. (Cl. 284—19)



A coupling for a fluid flow system comprising a tubular valve housing, a valve in the housing, means for holding

the valve normally closed, a tubular body coaxial with the tubular housing and axially spaced therefrom, a tubular actuator coaxial with the tubular body and slidable therein so as to be extensible from the tubular body towards the housing while retaining a fluid tight seal with the tubular body, means to prevent relative rotation between the actuator and the body, co-operating sealing means engageable together to provide a fluid tight seal between the tubular actuator and the tubular housing when the actuator is extended from the tubular body, whereby a fluid tight connection is made through the tubular actuator from the tubular body to the tubular housing without the necessity of relative axial movement of the tubular body and housing, means on the actuator for forcing the valve to open as the actuator becomes fully extended from the tubular body, threaded connecting means for extending the tubular actuator from the tubular body and for making a releasable connection between the tubular body and the housing, the threaded connecting means comprising an actuator coupling portion having an external thread and secured to the tubular actuator and an internally threaded coupling element surrounding the tubular housing, the coupling element being both rotatable and axially movable relative to the housing to extend beyond the housing towards the body, cooperating external and internal flanges on the body and the coupling element respectively engageable to limit movement of the coupling element towards the body so that appropriate rotation of the coupling element subsequent to engagement of said flanges draws the actuator towards the housing, and engageable abutments on the actuator and the housing to limit the movement of the actuator towards the housing.

2,968,498
DUST GUARD
Robert G. Saunders, Alton, Va.
Filed Apr. 23, 1957, Ser. No. 654,589
2 Claims. (Cl. 286—6)



1. A dust guard seal for railway car journal boxes comprising a circuflar metallic reinforcing band having an inside diameter larger than the diameter of a railway car axle and an outside diameter less than the diameter of the axle openings in a journal box dust guard well, a resilient member of flexible plastic material surrounding said band to form with said band a solid unitary annular body, said resilient member including a single annular projection of reduced cross section extending inwardly away from said band and toward one edge of said body, the extreme inner surface of said projection having a diameter smaller than the diameter of a railway car axle, said member additionally including a pair of spaced annular flanges of reduced cross section projecting outwardly from said member and having an outer diameter larger than the axle openings in a journal box well, said flanges in normal position including portions spaced apart a distance greater than the width of a dust guard well of a railway car journal box, whereby said annular body may be inserted about a journal axle in a dust guard well through an axle opening in the well by means of flexure of said resilient member, said annular metal reinforcing band being imbedded in said resilient member, and handles secured to said reinforcing band and extending outwardly from said body substantially parallel to the axis of said annular body.

2,968,499
SHAFT SEAL FOR HYDROGEN-COOLED GENERATOR
Lloyd P. Grobel, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York
Filed July 16, 1957, Ser. No. 672,298
4 Claims. (Cl. 286—9)

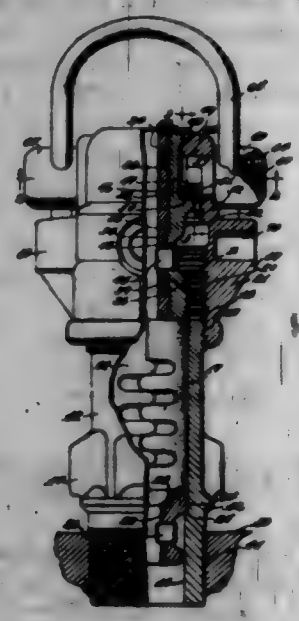


1. In a machine having an enclosed gas-filled casing and a rotatable shaft extending through said casing, a shaft seal assembly for preventing gas leakage from said casing including a housing defining an annular chamber opening onto said shaft, sealing ring means located in said annular chamber about said shaft and defining a clearance therewith, means including first conduit means defined by said ring means for supplying sealing liquid under a pressure higher than the casing pressure to said clearance to prevent the leakage of gas from said casing, means including a second conduit means defined by said ring means opening into said clearance and located between said first conduit means and the interior of the casing and at a pressure intermediate of the gas pressure and the sealing liquid supply pressure for draining off liquid flowing toward said casing through said clearance, and means for maintaining the liquid in said second conduit means in contact with the shaft at a pressure intermediate a desired chamber pressure and a desired gas casing pressure, whereby the flow of liquid into the casing is substantially reduced.

2,968,500
WIRE LINE OIL SAVER FOR USE WITH CYLINDRICAL PACKING
Domer Scaramucci, Box 4446, Oklahoma City, Okla.
Filed May 3, 1957, Ser. No. 656,784
8 Claims. (Cl. 286—16)

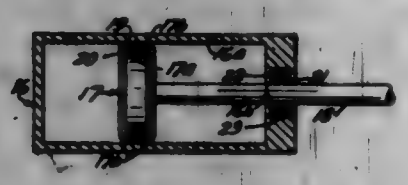
1. A wire line oil saver including in combination a tubular body adapted for connection to the upper end of a well head tubing; a wire guide bushing in the connection end of said body; a resilient packing substantially filling the remainder of the body and arranged to wipe a line passing therethrough; an enlarged bonnet threaded exteriorly over the upper end of said body and having a concentric bore through its upper end; a second wire guide bushing having a lower end engaging the upper end of said packing, sized to slide in said body to compress the packing, having an upper end sized to slide in said concentric bore and having an intermediate flange with a follower surface facing the upper end of said bonnet; a pair of cams journalled in and rotatable about a transverse axis in said bonnet and positioned to bear on said follower surface diametrically opposite each

other, said cams having sufficient eccentricity to release compression applied to the packing through them and



the second bushing by threaded adjustment of the bonnet and single means to simultaneously rotate said cams about their axis to apply or release compression.

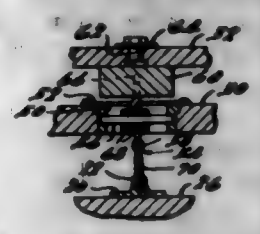
2,968,501
FLUID SEAL
Richard E. Tisch, Minneapolis, Minn., assignor to A-P-D Co., Minneapolis, Minn., a corporation of Minnesota
Filed Apr. 18, 1957, Ser. No. 653,643
5 Claims. (Cl. 286—26)



1. A sealing device comprising a continuously formed ring-like member made of a resilient flowable material throughout and adapted to be fitted into a sealing groove of ring-like configuration to cooperatively form a seal in conjunction with a sealing ring of generally U-shaped cross-sectional configuration, said member having an inner peripheral surface and an outer peripheral surface, one of said surfaces being axially shorter than the other and adapted to bear against the portion of such a sealing ring between the legs of its U-shaped form when such a sealing ring and said member are installed within such a sealing groove, and the other of said peripheral surfaces in its free form being concavely shaped and adapted to bear against the bottom of the groove when said member and the sealing ring are so installed to permit the flowable material from which said member is formed to completely fill the space between said surface and the bottom of the groove to form a substantially flat surface along the bottom of the groove when fluid pressure is alternately applied to the sealing device from opposite axial directions whereby scuffing of the portions of said ring-like member engaging the bottom of the groove is substantially reduced.

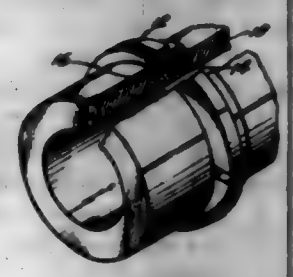
2,968,502
SECURED STUD AND METHOD OF ATTACHING
David Tanz, 333 Covington Drive, Detroit, Mich.
Filed June 10, 1957, Ser. No. 664,637
3 Claims. (Cl. 287—20)

1. In an article made of readily deformable material containing a boss having an aperture therein for receiving one end of a threaded stud from which portions of the thread have been partially removed, portions of the boss being deformed to extend into the adjacent thread and



against the removed portions thereof without deforming the stud, whereby the threaded stud is rigidly secured to the article.

2,968,503
SNAP RING ASSEMBLY
Joseph R. Ferraro, Agawam, Mass., and Douglas C. Glazier, Sr., Stafford Springs, Conn., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Oct. 29, 1958, Ser. No. 770,437
7 Claims. (Cl. 287—52)



1. In combination, a snap ring, a cylindrical member having a groove receiving said ring, an element surrounding said member in substantially close relation and adapted to be held against movement with respect to said member, said cylindrical member having a longitudinal axis, said element including a wall extending transversely of said axis, said groove having a straight side and an opposing side, said sides being closer together at the top of the groove than they are at the bottom of the groove, said ring being open ended and greater in depth than said groove so as to protrude a substantial distance outside of the top of said groove to engage said wall of said element on the side nearest said straight side of said groove, said ring preventing relative movement along said axis of said member with respect to said element, said ring being wider at its inner circumference than at its outer circumference to conform substantially with at least one side of said groove, said ring at its outer circumference being narrower than said groove at its top, and a backing member smaller in depth than said groove and located between said straight side and said ring in the assembled position.

2,968,504
RETAINING SPRING FASTENER
Wray C. Hansen, 5810 W. 38th Ave., Denver, Colo.
Filed Apr. 3, 1957, Ser. No. 650,362
8 Claims. (Cl. 287—53)



1. A resilient spring for securing an operating knob or the like to a shaft comprising a hollow substantially symmetrical body of substantial tubular configuration and of spring metal, said body being adapted to be inserted in a socket of the knob and being formed with means for retaining the body within the socket, and means for fric-

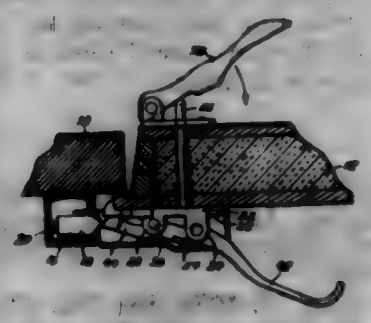
tionally attaching the body to the shaft received therewithin comprising at least one leaf forming inwardly projecting means in said body, said leaf being located intermediate the ends of the body and being curved to extend downwardly within the body to engage and provide a varying frictional effect to the shaft as the latter enters the socket, the furthest downwardly extending portion of the leaf being substantially located in a plane transverse to the longitudinal axis of the body at the midway point of the axis.

2,968,505
LONG LIFE CYLINDRICAL PACKING FOR OIL SAVERS AND LIKE DEVICES
Donner Scaramucci, P.O. Box 4446, Oklahoma City, Okla.
Original application May 3, 1957, Ser. No. 656,784. Divided and this application Mar. 24, 1958, Ser. No. 723,332
8 Claims. (Cl. 288—13)



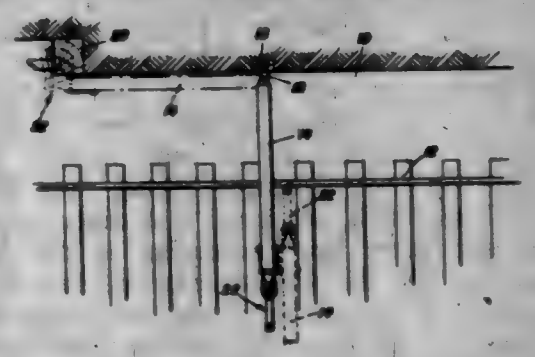
1. A packing for wire lines, polish rods and the like comprising a thick walled circular tube of elastomer having a bluntly pointed end, a circular axial bore sized to closely receive a wire line or the like, the wall of said tube having a generally longitudinal separation from end to end whereby it may be applied to or removed from a wire etc. without threading thereover, said separation adjacent one end being a longitudinal cut through the tube wall in a plane substantially axial to the bore, each edge of the separation of the intermediate portion of the tube wall having axially spaced fingers projecting circumferentially therefrom, each finger having flat side walls lying in parallel planes normal to the bore axis and a connecting tip, said fingers being spaced apart axially of the packing a distance substantially that of their own axial lengths and disposed on each edge of the separation opposite the spaces similarly formed by finger spacing on the other edge for close interfitting, the finger tips and space bottoms on each separation edge being substantially aligned in separate planes substantially radiating from said axis and angularly displaced to provide sector-like voids between the tips of the fingers and the space bottoms on each separation edge, said voids being tightly closed at the bore surface.

2,968,506
LATCH MECHANISM
Karl H. Lade, Bristol, Pa., assignor to John M. Deem, Philadelphia, Pa.
Filed Sept. 18, 1958, Ser. No. 761,859
2 Claims. (Cl. 292—21)



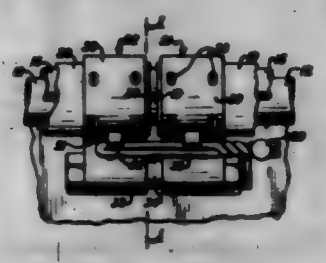
1. A latch releasing mechanism for a latch carried by the jamb of a door, said latch releasing mechanism comprising a horizontally disposed tongue carried by the vertical frame which defines the door opening, means biasing said tongue to a first position in which it overlaps the adjacent edge of said door to prevent opening of said door and actuating means for moving said tongue to a second position in which it is out of engagement with and permits the opening of said door, said actuating mechanism including a pivot carried by said door near said edge, a horizontally disposed lever carried by said pivot with one end thereof engageable with said tongue and operable upon rotation on said pivot to move said tongue to its second position, a handle having one end thereof carried by said pivot with a portion of said handle located between the other end of said lever and said door, whereby rotation of said handle in one direction about said pivot engages said portion of said handle with said other end of said lever to rotate said lever in a direction to move said tongue to its second position, and means operable from the other side of said door for rotating said lever in said direction independently of said handle.

2,968,507
MINE DOOR LATCH
Dennis F. Montgomery, P.O. Box 135, Divernon, Ill.
Filed Mar. 31, 1959, Ser. No. 803,278
7 Claims. (Cl. 292—246)



5. A mine door assembly comprising a mine door, a slam post for limiting the opening movement of said mine door, and cooperating latch means on said mine door and said slam post for temporarily retaining said mine door adjacent said slam post, said latch means including a latch bar on said slam post, a hinge pin mounted at a free end of said mine door, a latch yoke pivotally mounted on said hinge pin and biased to a normal position in alignment with said mine door.

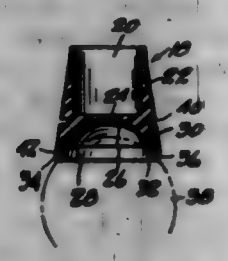
2,968,508
BARREL CLAMPING RING AND LUG ELEMENT
Andrew H. Campbell, Elizabeth, and James T. Kane, Westfield, N.J., assignors to Container Ring Company, Inc., Bound Brook, N.J., a corporation of New Jersey
Filed July 10, 1959, Ser. No. 826,201
3 Claims. (Cl. 292—256.67)



3. A lug for attachment to an opposed end of a radially slit clamping ring of a fully removable drum head clamping member including a convex top, an intermediate concave lock crotch, an intermediate convex lock strap formed outwardly of and substantially opposed to said crotch, and a bottom bolt receiving socket; said lug being made of strip metal with said strap being defined by the metal cut from the central portion of said crotch and

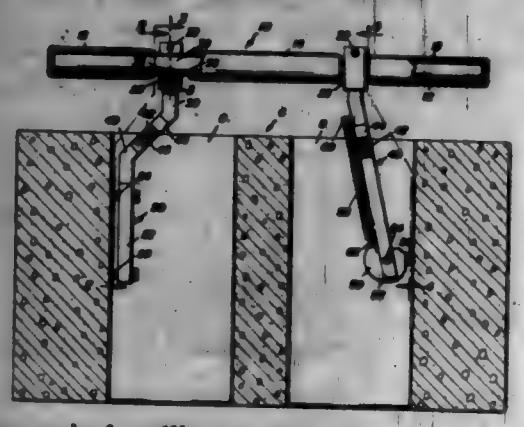
bent to form a convex member, said bending being accomplished without stretching the metal whereby to maintain the same metal thickness between outer and inner surfaces of said strap.

2,968,509
BALL RETRIEVER
John E. Borah, 1002 Prospect Drive, Mishawaka, Ind.
Filed Oct. 25, 1957, Ser. No. 692,375
6 Claims. (Cl. 294—19)



1. A retriever for a ball having an irregular surface, comprising a body formed of rubber-like material and having a longitudinal axis and a circular, transverse cross-section, said body having an imperforate recessed end portion which is of a diameter less than the diameter of said ball, said recessed end portion having a concentric circular groove therein to separate concentric inner and outer annular lip portions, said inner lip portion having a substantially cylindrical outer surface, the inner surface of said outer lip and the marginal portion of the inner surface of said inner lip both having a concave curvature on all radii thereof, both of said concave lip inner surfaces having radii less than the radius of said ball, the inner and outer surfaces of said inner and outer lips converging at the edges of said respective lips, the annular edge of said inner lip being parallel and concentric to and inset relative to the annular edge of said outer lip whereby said inner and outer lips substantially simultaneously initially engage said ball and frictionally grip said ball and conform to the irregular surface thereof when pressed thereagainst, said recess being of a depth to receive a portion of said ball with clearance while gripped therein, and means at the other end of said body for mounting said body on a support.

2,968,510
LIFTING TOOL FOR BUILDING BLOCKS
Clayton J. Ellis, 1 Green Mountain Place, Middlebury, Vt., and Frederick C. McLaughlin, Poultney, Vt.
Filed Dec. 31, 1957, Ser. No. 706,392
2 Claims. (Cl. 294—62)



1. For use in handling and carrying a concrete building block, a manually usable lifting tool comprising a rigid elongated handle straight from end to end, a primary hand-grip for balanced single-handed use mounted on said handle midway between the respective ends of the handle, auxiliary hand-grips mounted on the respective end portions of said handle and adapted to be simultaneously gripped when both hands of the user are needed in satisfactorily catching hold of and using the handle, a first leg having a lower end portion disposed at right angles and transversely to the axis of said handle, pointed block engaging and lifting members fixed to and projecting outwardly from said lower end portion of the first leg, a median portion of said leg slanting upwardly and inwardly from the lower end portion of the first leg, the upper end portion of said first leg being disposed at an approximate right angle to the axis of the handle and being provided with a collar embracing and removably clamped on a portion of said handle at the inner end of an adjacent auxiliary hand-grip and an adjacent end portion of said primary hand-grip, a second leg of a length corresponding to the length of said first leg and disposed transversely of the axis of said handle in spaced relation from the first leg, the upper end portion of said second leg being secured to the handle between the inner end of the other auxiliary hand-grip and the adjacent end of the primary hand-grip, the major portion of said second leg extending downwardly and outwardly from said handle, a spring-biased member pivotally mounted on the lower end of said second leg, and an outwardly projecting pointed gripping pin provided on said spring-biased member and adapted to engage a cooperating surface of the block to be lifted, portions of said first and second legs below said handle being provided with correspondingly constructed cross heads the portions of which are at right angles to the lengthwise axes of said legs, said cross heads having outstanding portions constituting stops adapted to rest atop the block and to limit the descent of the lower end portions of the legs into the openings provided therefor in said block.

2,968,511
BOAT LOADING DEVICE
Duffield B. Noblette, 1477 Elmore Ave., Columbus 24, Ohio
Filed Oct. 21, 1959, Ser. No. 847,719
3 Claims. (Cl. 294—82)

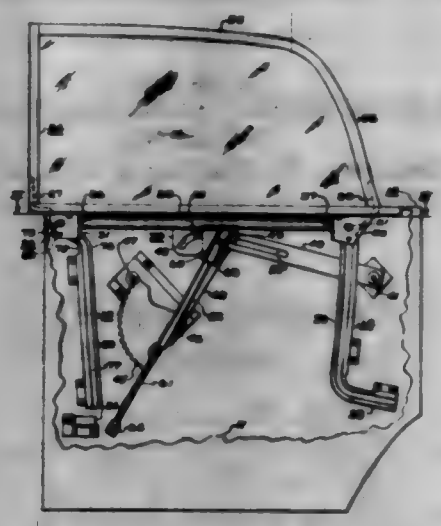


1. A boat manipulating hook comprising a tongue having at one end thereof arms which extend in diverging directions from a vertex in a common plane for engaging the bow of a boat, a hook disposed at the said vertex and extending over the vertex between said arms for engaging an eye on the bow of a boat which is in a vertical plane and opens laterally, said hook being disposed at the axis of the tongue and having an outer end portion extending in a direction opposite to the directions in which said arms extend in the plane of the axis of the tongue which is normal to the plane of the arms and is spaced outwardly from the plane of the arms and a laterally curved offset portion extending laterally outwardly from said plane of said axis and connecting said tongue and said outer end portion of the hook, said curved portion extending over the vertex between said arms.

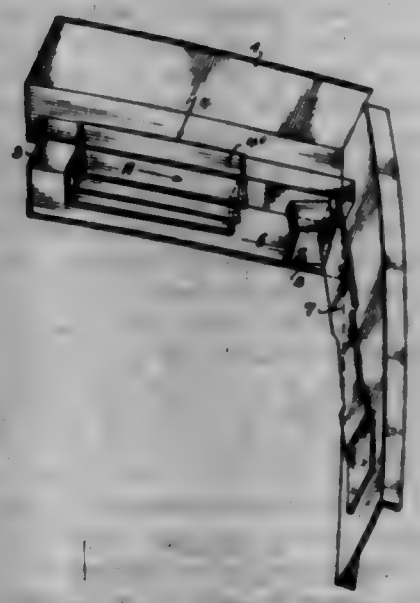
2,968,512
VEHICLE WINDOW REGULATOR
Edward F. Wagner, Lakeville, Ind., assignor to Studebaker-Packard Corporation, Detroit, Mich., a corporation of Michigan
Filed Mar. 15, 1956, Ser. No. 571,667
11 Claims. (Cl. 296—44)

1. A car door and window assembly comprising a lower door structure, a window, guide means positioned

in a generally vertical plane and operably attached to said door structure for guiding said window from a raised position wherein the lower edge of said window is horizontal to a lowered position, a frame member surrounding said window, an elongated torsion bar spring member positioned below and in generally parallel relation to the lower edge of said window and attached to said frame for resiliently resisting lateral movement of said frame relative to said door structure, and anchoring means for attaching said torsion member to said door structure to effect a torsional stress in said torsion member when a force is applied laterally to said window or said frame.

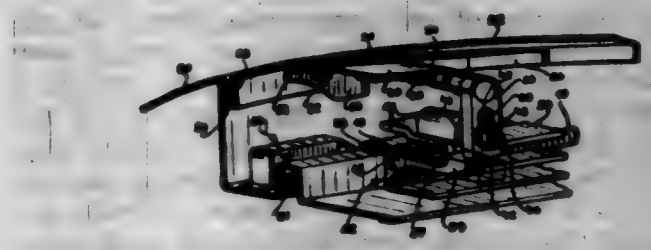


2,968,513
GUIDE MECHANISM
Johannes Werner, Wilhelm-Leuschner-Strasse 33, Offenbach (Main), Germany
Filed July 19, 1957, Ser. No. 672,892
Claims priority, application Germany Feb. 21, 1957
5 Claims. (Cl. 296—137)



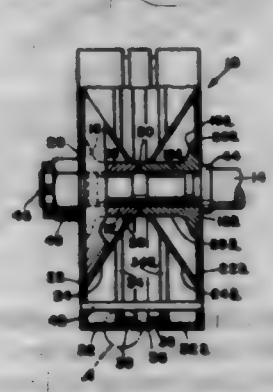
1. A device for fastening a guiding rail for a slidable roof on a support carried by a vehicle, the rail having a determinable path of insertion into said vehicle, comprising an engaging member including two mutually perpendicular flanges for engaging the rail on two sides thereof, a flexible lever connected to said engaging member and extending substantially transversely of said rail, a cross member carried by the vehicle supporting said flexible lever for pivotal movement about a pivotal axis spaced substantially from said engaging member, said flexible lever positioning said engaging member normally at a position spaced from said support for engaging said rail, and means on said lever normally in the path of said rail for displacement of the lever, the flexibility of said flexible lever enabling said means and thereby the engaging member to move with the rail, the position of said lever restricting the movement of the engaging member to an arc approaching the support whereby the engaging member locks the rail against the support.

2,968,514
SLIDING ROOF HAVING A RIGID SLIDING COVER
Hans Golde, Hanauerlandstr. 338, Frankfurt am Main, Germany
Filed Feb. 10, 1959, Ser. No. 792,395
Claims priority, application Germany Feb. 15, 1958
6 Claims. (Cl. 296—137)



1. In a vehicle having a roof defining an opening and a rigid sliding cover in the opening; apparatus for controlling the position of the cover in the opening comprising a guide connected to the roof, a shoe slidable along said guide, first pivot means connected to the cover, second pivot means connected to the shoe, and adjustable connecting means connecting said first and said second pivot means; said adjustable connecting means comprising a bar having an end rigidly connected with said first pivot means, the rod being provided with a longitudinal slot, the second pivot means being provided with a threaded bore parallel to the longitudinal slot, a bolt rotatable but restricted against axial movement in said bar and parallel to the longitudinal slot, said bolt including an outer threaded portion engaging the bore of said second pivot means so that a rotation of the bolt effects a shifting of said second pivot means along said slot.

2,968,515
PRESTRESSED PISTON
Charles E. Blank, Painted Post, N.Y., assignor to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey
Filed Oct. 7, 1959, Ser. No. 844,911
7 Claims. (Cl. 309—14)



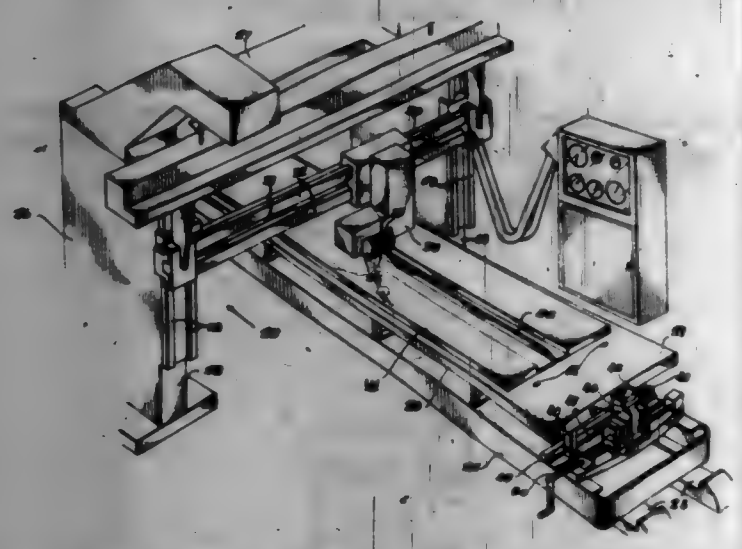
1. A piston comprising, a piston rod, a pair of hub collars encircling said rod and in spaced relation to each other, one of said collars being movable towards the other of said pair, an end plate attached to each collar, a stiffening member attached to each collar and respective end plate, and means for urging the collars towards each other to stress said stiffening members to increase the rigidity thereof.

2,968,516
PACKING RINGS FOR USE ON DOUBLE ACTING PISTONS
Jack Stanley Jarvis, Hampton, England, assignor to Hall & Hall Limited, Hampton, England
Filed Nov. 16, 1959, Ser. No. 853,100
Claims priority, application Great Britain July 22, 1959
3 Claims. (Cl. 309—23)



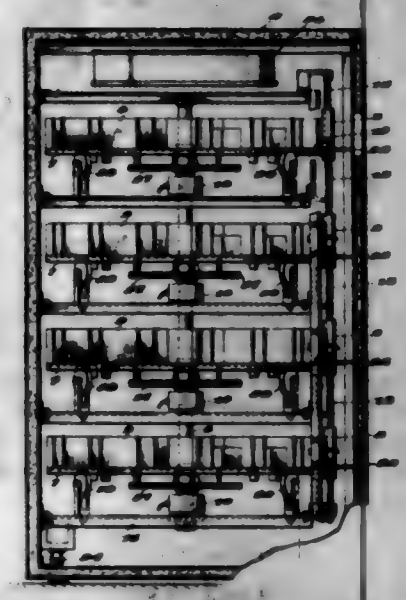
1. A packing ring of unit construction formed of rubber-like material and consisting of two annular outer body members of channel cross-section each providing a flat pressure face subjectable to fluid pressure and two outwardly divergent side walls, said body members being axially opposed with their side wall edges directed towards each other and an annular filling member, formed of a more readily deformable material than said body members, disposed between said body members and occupying the whole of the space between and bounded by the side walls of the two body members, the whole being bonded together to form the unit construction.

2,968,517
TILTING AND INDEXING CHUCK FOR MACHINE TOOLS
Jesse Dougherty, Fond du Lac, and Alex A. Durand, Milwaukee, Wis., and Leonard G. Wheeler and Charles F. Coffill, Massapequa, Joseph Shattes, Jr., Huntington, and Angelo L. Galgano, Babylon, N.Y., assignors, by direct and mesne assignments, of one-half to Giddings & Lewis Machine Tool Company, Fond du Lac, Wis., a corporation of Wisconsin, and one-half to said Wheeler, said Coffill, said Shattes, Jr., and said Galgano
Filed Mar. 28, 1955, Ser. No. 497,364
11 Claims. (Cl. 311—38)



3. A tilting table structure for a machine tool including a base and a table supported in spaced relation thereto, supporting means intervening the base and the center of said table including a ball and socket swivel, power means carried by the base and engaging the table at a plurality of points in spaced relation to said central ball and socket swivel for effecting tilting of the table with respect to the base about two axes intersecting at said swivel and lying in a plane parallel to said base, and means attached to said table along one of said axes and spaced from said swivel for preventing rotary movement of said table about an axis perpendicular to said plane, said means including a swivel joint having interfitting parts, one of which is secured to the table and the other comprising a member guided on said base for movement in a vertical plane including an axis through said swivel normal to said intersecting axes, and means for maintaining the interfitting parts of the swivel joint in close interfitting engagement one with the other including means carried by the table and reacting on said member.

2,968,518
MULTIPLE MERCHANDISING VENDING MACHINE
Heinz Brauneberg, 856 Burlington Ave., Bristol, Conn.
Filed Aug. 13, 1956, Ser. No. 603,727
3 Claims. (Cl. 312—97.1)

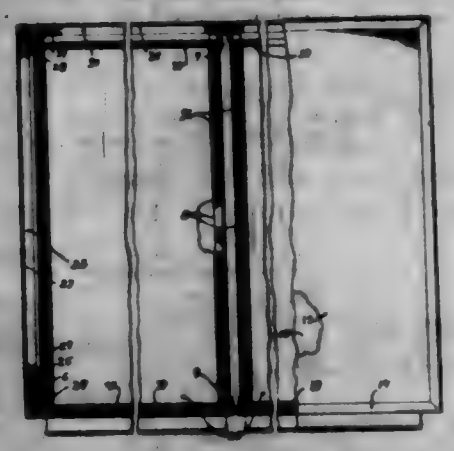


1. A vending machine comprising a cabinet, a post mounted vertically in the cabinet, a series of horizontally disposed trays each mounted for rotation about the post, means dividing each tray into a plurality of circumferentially spaced compartments oriented radially about the post and having open outer peripheral ends, individual electric motor power means for driving each rotatable tray, said cabinet having an opening at the level of each tray adapted in size to expose a single compartment, means for activating the electric motor power driving means for the tray, electrical deactivating means associated with said driving means, and means on each tray engageable with said electrical deactivating means for stopping the tray when each consecutive compartment thereon lies radially opposite the opening, a door mounted to slide in a vertical plane between each opening and the compartment opposite it, a U-shaped lug mounted on each door and extending inwardly of the cabinet, and means disposed on each tray in the spaces between compartments and engageable by the lug when the door is opened to lock the tray against rotation.

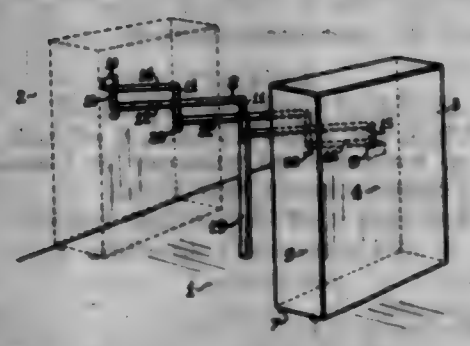
2,968,519
DRAWER COUNTER
Karl F. Weber, Grand Rapids, Mich., assignor to Weber Showcase & Fixture Co., Inc., Grand Rapids, Mich., a corporation of Delaware
Filed June 19, 1958, Ser. No. 743,193
4 Claims. (Cl. 312—284)

2. An article of furniture, compriaing: a panel and drawer-supporting framework; a plurality of drawers slidable therein and having drawer fronts with acutely disposed side and bottom edges; a cover plate for the front of each drawer having marginal lips acutely folded over the bottom and side margins of said drawer front; a handle bar extending across the top of each drawer to secure said cover plate on said drawer front; said framework including upright corner posts having acute-

ly disposed edges; a cover strip adapted to be wrapped about said post and having marginal interlocking means including acutely folded lips fitting said edges; panel frames for covering sides of said framework and having acutely disposed edges; and cover plates having marginal lips acutely folded over the acutely disposed edges of said panel frames; said cover plates and strips covering said drawer fronts, panel frames, and corner posts having mutually confronting margins to form a substantially continuous coplanar outer surface for each side of said article of furniture.



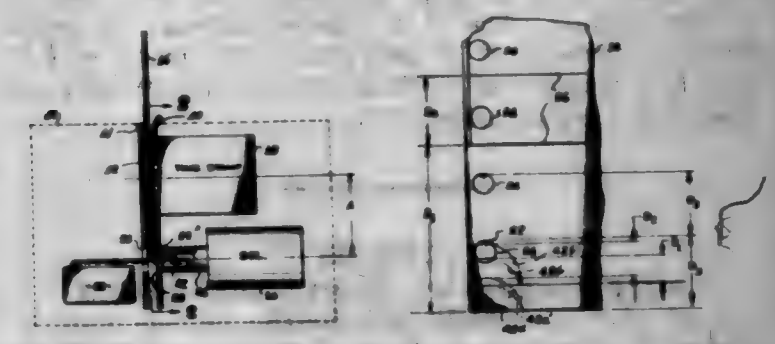
2,968,520
GARMENT CABINET
Leonis H. Ahrens, 5 Day Ave., Suffield, Conn.
Filed Mar. 25, 1958, Ser. No. 723,747
3 Claims. (Cl. 312—246)



1. In combination with a floor and an adjoining wall; a cabinet having an open back directed toward said wall and a front plate opposite said open back, said cabinet being movable on said floor between its contracted position, in which said open back is adjacent to said wall, and its extended position, in which said open back is at a distance from said wall; an extensible linkage interconnecting said wall and the front plate of said cabinet, and comprising pairs of cross links pivotally connected forming lazy tongs, a pair of end links pivotally connecting one end of said lazy tongs to said wall for permanent support, and another pair of end links pivotally connecting the other end of said lazy tongs to the interior surface of said front plate; garment carrying elements secured to said extensible linkage.

2,968,521
TIME RECORDER
Arthur G. Gross, 23104 Hawthorne Ave., Torrance, Calif.
Filed Oct. 14, 1957, Ser. No. 690,025
3 Claims. (Cl. 346—85)

1. In combination, a rectangular time card and a time clock having a guideway open at one end which is proportioned to slidably receive the time card by endwise insertion of one end of the card through the open end of the guideway, said time clock including a time stamp adjacent the open end of the guideway, a cylindrical punch adjacent the other end and one side of the guideway having its axis perpendicular to the guideway, and means including a trigger extending into the guideway approximately on said axis for simultaneously operating said time stamp to imprint a time mark on the card and axially moving said punch to notch said card along one side in response to endwise insertion of the card through the guideway into engagement with said trigger, said time stamp imprinting the card a predetermined distance lengthwise of the guideway from said punch axis, said card having a plurality of transverse grid lines equally spaced lengthwise of the card, the spacing between said one end of the card and the adjacent grid line being less than said predetermined distance by a predetermined amount less than the grid line spacing whereby the first time mark is imprinted a given distance above the latter grid line during the first insertion of the card into the clock, the notch made in the card by said punch during each insertion of the card into the clock defining a shoulder edge facing said one end of the card for engaging the trigger during the next insertion of the card whereby successive time marks are imprinted on the card one above the other in a row extending lengthwise of the



card and at a relatively uniform spacing approximately equal to the radial distance from said trigger to the cutting edge of the punch, the spacing between grid lines on the card having a predetermined relationship to said radial spacing such that successive time marks are imprinted between the grid lines, said time card also having a row of preformed perforations along said one side thereof which are located to be aligned with the trigger when the card is in the guideway and define second shoulder edges facing said one end of the card, the spacing lengthwise of the card between each second shoulder edge and said one end of the card being approximately equal to N times said radial spacing where N is any whole number and each perforation extending a distance toward said one end of the card from its respective second shoulder edge whereby each perforation is intersected by a notch produced in the card during a given insertion of the card into the clock and the second shoulder edge of the respective perforation engages said trigger during the following insertion of the card, and each second shoulder edge being spaced lengthwise of the card from a given grid line a distance which differs from said predetermined distance by a predetermined fraction of the grid line spacing whereby the grid lines on the time card are accurately aligned with the time stamp for accurate imprinting of the time marks between the grid lines during each actuation of the trigger by a second shoulder edge.

2,968,522
PROCESS FOR PRODUCING SHAPED ARTICLES OF TETRAFLUOROETHYLENE POLYMERS

James Rushton White, Chadds Ford, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Dec. 12, 1957, Ser. No. 702,223
14 Claims. (Cl. 18—54)

1. The process of forming shaped articles of tetrafluoroethylene polymers comprising the steps of providing a mixture comprising from about 45% to about 85% by weight of dispersed particles of a tetrafluoroethylene polymer, from about 2% to about 20% by weight of a dispersing agent, less than about 45% by weight of a water soluble organic thickener comprising one of the group consisting of polyalcohols, monoethers of water soluble polyalcohols, and monoesters of water soluble polyalcohols, each having at least two free hydroxy groups, hydroxyalkyl amines, polyhydroxyalkyl amines, carbohydrates and bis(omega-amino-alkyl) amines, said mixture being characterized by a total organic material content of at least about 70%, the remaining proportion being water, and extruding this mixture under shear at least as high as the shear exerted on the mixture when it is extruded through an orifice having a diameter of 15 mils and a shaft length of 0.25 inch at a pressure of 1000 pounds per square inch and a polymer temperature of 50° C.

2,968,523
PREPARATION OF SODIUM-POTASSIUM BOROHYDRIDE

George L. Cunningham, John M. Bryant, and Emily M. Gause, San Antonio, Tex., assignors to Callery Chemical Company, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed Sept. 21, 1954, Ser. No. 457,367
2 Claims. (Cl. 23—14)

1. A method of preparing the double borohydride salt of sodium and potassium ($NaBH_4 \cdot KBH_4$) which comprises adding sodium borohydride to an alcoholic solution of potassium hydroxide in a molar ratio of hydroxide to borohydride of more than 2:1 and recovering the double salt $NaBH_4 \cdot KBH_4$ which precipitates.

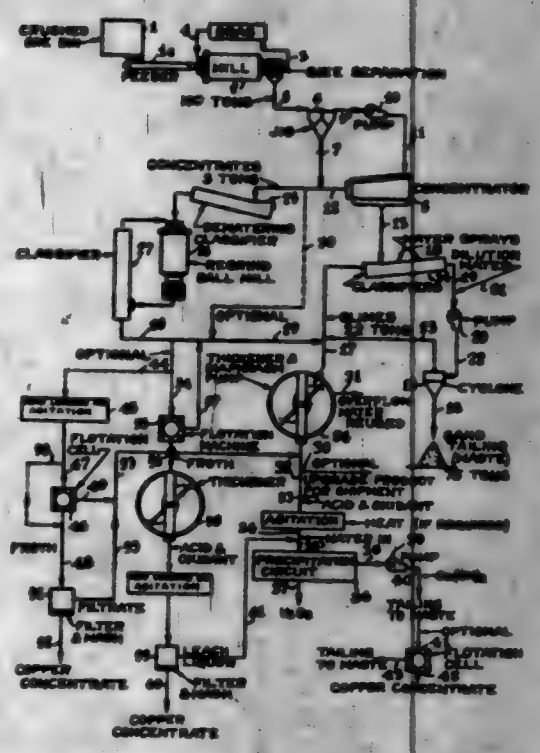
2. A new composition of matter, the double salt $NaBH_4 \cdot KBH_4$.

2,968,524
TREATMENT OF URANIUM ORE OF THE SHINARUMP TYPE

Frank A. Seeton, Denver, Colo., assignor to Cog Minerals Corporation, Denver, Colo., a corporation of Delaware

Filed Oct. 1, 1956, Ser. No. 613,185
5 Claims. (Cl. 23—14.5)

1. In a process of treating ores of the Shinarump type which contain uranium and copper, the steps comprising grinding the ore to substantially sand grain size, desliming uranium and copper-containing slimes from the ground ore, gravity separating from the ground ore a heavy mineral concentrate containing uranium and copper, said gravity separation and desliming providing sands of uranium and copper content substantially less than the ore, said heavy mineral concentrate and slimes being enriched in uranium and copper, leaching said slimes to recover uranium values, recovering copper values from said heavy mineral concentrate while dissolving contained

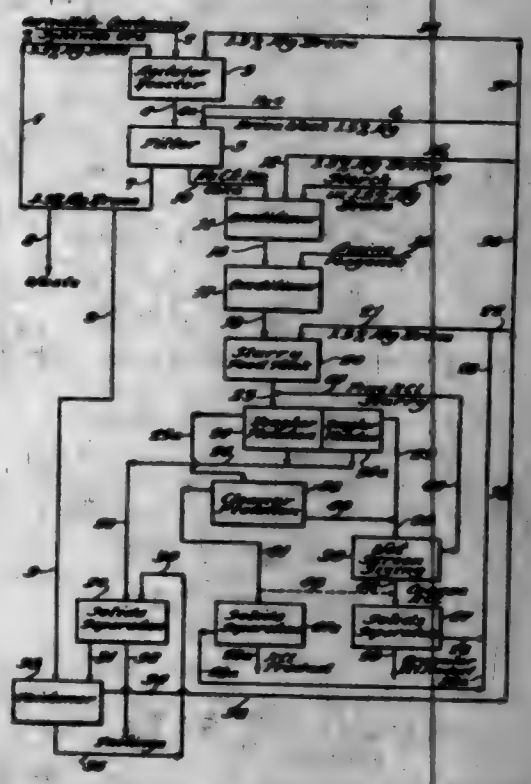


uranium values, and passing the dissolved uranium values to said leaching step to effect their recovery.

2,968,525
POTASH ORE TREATMENT

Howard P. Clark and Albert Adams, Carlsbad, N. Mex., assignors to International Minerals & Chemical Corporation, a corporation of New York

Filed June 9, 1958, Ser. No. 740,963
7 Claims. (Cl. 23—38)



1. A process of beneficiating substantially liberated sylvinite ore containing carnallite, said carnallite being present in an amount of not more than 12% by weight, which comprises substantially completely removing the magnesium chloride content of said carnallite by leach-

ing said ore with a magnesium chloride-containing brine substantially saturated with respect to sodium chloride and potassium chloride but at least sufficiently unsaturated with respect to magnesium chloride to obtain a viscosity below about 6.0 centipoises measured at 15° C. after said leaching, and subjecting the solids resultant from said leaching to froth flotation in a magnesium chloride-containing brine substantially saturated with respect to sodium chloride and potassium chloride but at least sufficiently unsaturated with respect to magnesium chloride to obtain a viscosity of less than 4.5 centipoises measured at 15° C. and lower than the viscosity of the brine from said leaching, and recovering a sylvite concentrate.

2,968,526

MANUFACTURE OF ANHYDROUS LITHIUM HALIDE BY DIRECT HALOGENATION OF LITHIUM HYDROXIDE

Ralph G. Verdieck, Havertown, and Justo B. Bravo, Malvern, Pa., assignors to Foote Mineral Company, Berwyn, Pa., a corporation of Pennsylvania

No Drawing. Filed Apr. 17, 1958, Ser. No. 729,078
12 Claims. (Cl. 23—89)

1. Process for the production of an anhyrous lithium halide selected from the class consisting of lithium chloride and lithium bromide, said lithium halide being substantially free of oxyhalides, which comprises contacting lithium hydroxide with a halogen selected from the class consisting of chlorine and bromine at a temperature above about 150° C. and below the melting point of the reaction mixture, and maintaining said lithium hydroxde in contact with said halogen at said temperature until said lithium hydroxide has been substantially completely converted to lithium halide, said temperature being maintained at at least about 200° C. at least after the lithium halide content of the reaction mixture has exceeded the eutectic composition.

2,968,527

METHOD OF RECOVERING TUNGSTIC ACID VALUES FROM AQUEOUS MEDIA

Paul H. Baker, Barberton, Ohio, assignor to Columbia-Southern Chemical Corporation, a corporation of Delaware

No Drawing. Filed Oct. 3, 1957, Ser. No. 688,094
7 Claims. (Cl. 23—140)

1. A method of recovering tungstic acid values from aqueous media containing the same which comprises removing tungstic acid values from the media by contacting it with an ion-exchange resin, eluting the ion-exchange resin by contact with an aqueous solution of an alkali metal chloride and thereafter precipitating the tungstic acid values from the aqueous alkali metal chloride solution.

2,968,528

PROCESS FOR PRODUCING CLARIFIED PHOSPHORIC ACID

Raymond E. Tuttle, William W. Harwood, and Donald J. Smalter, Lakeland, Fla., assignors to International Minerals & Chemical Corporation, a corporation of New York

No Drawing. Filed July 1, 1957, Ser. No. 668,862
5 Claims. (Cl. 23—165)

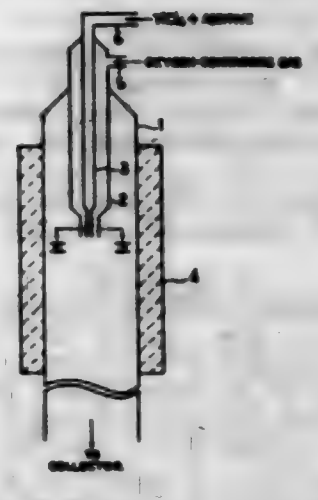
1. The method of clarifying concentrated acidic phosphorus-bearing solution selected from the group consisting of wet process phosphoric acid and solutions of mixtures of monocalcium phosphate and wet process phosphoric acid predominated by phosphoric acid which comprises mixing into said acidic solution successively with agitation, from about 0.5% to about 2.0% by weight of an oxidizing agent selected from the group consisting of nitric acid, potassium permanganate, potassium dichromate, hypochlorous acid, and mixtures thereof, agitating the mixture for a period of from about 3 minutes to about 10 minutes, subsequently adding from about 0.08 pound to about 0.3 pound per ton of said acidic solution of a flocculating agent stable in strong acid solution selected from the group consisting of water-soluble high molecular weight synthetic polyacrylamide resin, water-soluble high molecular weight hydrolyzed synthetic polyacrylonitrile resin, and the potassium and sodium salts thereof, and mixtures thereof, holding the mixture at a temperature of between about 180° F. and about 200° F., and separately recovering a clear acidic fraction and a solids carrying fraction.

2,968,529

PRODUCTION OF METAL OXIDE PIGMENTS

William L. Wilson, Barberton, Ohio, assignor to Columbia-Southern Chemical Corporation, Allegheny County, Pa., a corporation of Delaware

Filed Nov. 15, 1957, Ser. No. 696,743
5 Claims. (Cl. 23—202)



1. In a method of preparing titanium dioxide by reacting titanium tetrachloride in vapor state with an oxygen-containing gas, the improvement which comprises conducting the reaction while introducing into contact with the reacting titanium tetrachloride controlled added amounts of an aromatic organic compound, and recovering the resulting titanium dioxide pigment, the quantity of the aromatic organic compound contacting the reacting titanium tetrachloride being at least about 0.01 mole percent, based upon the titanium tetrachloride undergoing reaction.

2,968,530

SILICON-OXYGEN-NITROGEN COMPOSITION OF MATTER

William Daniel Forgeng and Russell W. Gerby, Niagara Falls, N.Y., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Mar. 20, 1957, Ser. No. 647,209
3 Claims. (Cl. 23—203)

3. The novel composition of matter disilico oxymononitride having the empirical formula Si_2ON having an X-ray diffraction pattern exhibiting prominent lines at 3.38 A., 4.44 A. and 4.69 A. for diffracted beams having relative intensities of 100, 95 and 55 respectively.

2,968,531

PREPARATION OF DIBORANE

Roy M. Adams, Darlington, and Richard K. Pearson, State College, Pa., assignors to Callery Chemical Company, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed Mar. 11, 1954, Ser. No. 415,690
13 Claims. (Cl. 23—204)

1. A method of preparing diborane which comprises mixing an alkali metal hydride, MH, where M is an

alkali metal, and boron halide, BX_3, where X is a halogen, in the presence of an ether having the formula $R(C_2H_4O)_nOR'$, where n is an integer from one to four and R and R′ are alkyl hydrocarbon radicals selected from the group consisting of CH_3 and C_2H_5, and collecting the diborane thus formed.

2,968,532

PREPARATION OF POTASSIUM BOROHYDRIDE

George L. Cunningham, Cleveland, Ohio, and John M. Bryant and Emily M. Gause, San Antonio, Tex., assignors to Callery Chemical Company, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed Dec. 1, 1954, Ser. No. 472,534
7 Claims. (Cl. 23—204)

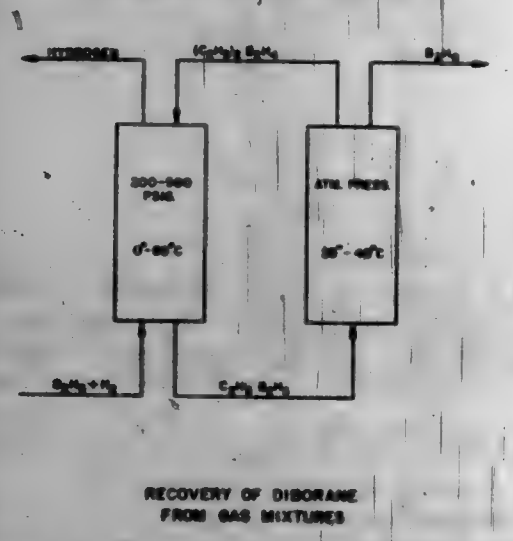
1. A method of preparing potassium borohydride which comprises reacting sodium borohydride with potassium thiocyanate in a lower alkyl nitrile and recovering the potassium borohydride which precipitates.

2,968,533

RECOVERY OF DIBORANE FROM MIXTURES OF OTHER GASES

Myrl Lichtenwalter, Austin, Tex., assignor to Callery Chemical Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Sept. 16, 1955, Ser. No. 534,732
9 Claims. (Cl. 23—204)



1. A method of recovering diborane from a gas stream mixture containing it which comprises intimately contacting said gas stream with a liquid alkyldiborane having the general formula $R_nB_2H_{6-n}$, where R is a lower alkyl radical and n is an integer from 2 to 4, at superatmospheric pressure to form another alkyldiborane having the general formula $R_mB_2H_{6-m}$, where R is a lower alkyl radical and m is an integer and is less than n, subjecting the alkyldiborane thus formed to a lower pressure and releasing the diborane therefrom and recovering the released diborane.

2,968,534

METHOD FOR PREPARATION OF DECABORANE

Gerard F. Judd, Austin, Tex., assignor to Callery Chemical Company, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed Feb. 20, 1956, Ser. No. 566,336
8 Claims. (Cl. 23—204)

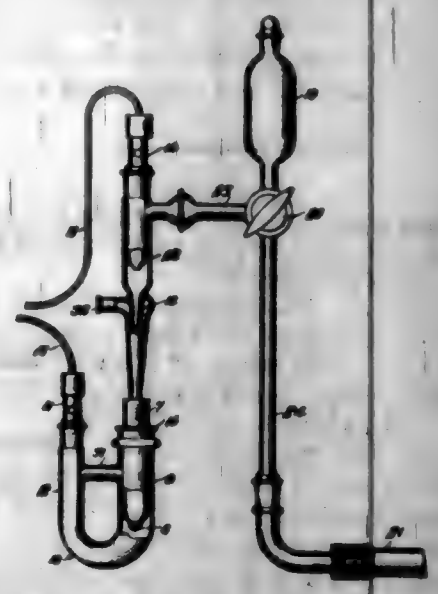
1. A method of preparing decaborane which comprises heating a mixture consisting essentially of substantially pure diborane and substantially pure tetraborane under the combined pressure of the two reactants, removing the hydrogen evolved and recovering the decaborane from the reaction products.

2,968,535

ULTRAMICRO ELECTRODE TITRATION ASSEMBLY

Edwin P. Arthur, Fullerton, Calif., and Roger Gilmont, Brooklyn, N.Y., assignors to Beckman Instruments, Inc., Fullerton, Calif., a corporation of California, and Manostat Corporation, New York, N.Y., a corporation of New York

Filed Apr. 3, 1958, Ser. No. 726,100
12 Claims. (Cl. 23—253)



1. Titration assembly comprising the combination of a holder containing reference solution, a first reference electrode entered in the reference solution contained in said holder, a glass electrode sample holder entered in the reference solution in said first mentioned reference solution holder spaced from said first reference electrode and comprising a tubular holder containing a sample for titration, said sample holder having a pH sensitive glass membrane sealed in and forming the bottom of the same and immersed in the reference solution in said reference solution holder, a buret entered in said glass electrode sample holder and extending down through the sample contained in said holder into close relation with the inner face of said glass membrane forming the bottom of said holder, means for supplying titrant down through said buret and through the sample to the inner face of said glass membrane and a second reference electrode insulated from the first reference electrode and entered in the titrant supplied to said buret.

2,968,536

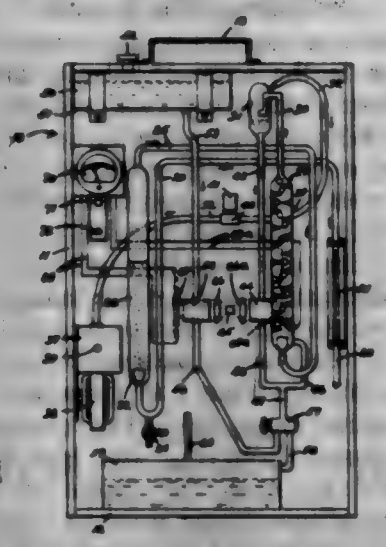
COLORIMETRIC GAS SAMPLER-ANALYZER

Frederick R. Smith, Nitro, W. Va., assignor to American Viscose Corporation, Philadelphia, Pa., a corporation of Delaware

Filed Feb. 6, 1957, Ser. No. 638,619
4 Claims. (Cl. 23—254)

1. A portable testing device comprising a case, a carrying handle on said case, apparatus mounted within said case for facilitating the batch-wise analysis of the amount of a gaseous impurity in the air, said apparatus comprising a reservoir containing a supply of an indicator liquid which changes color in the presence of the gaseous impurity, said reservoir being mounted in the upper portion of said case so that the liquid may flow therefrom by gravity, a vertical reaction chamber, a first liquid transmission line extending parallel to said reaction chamber, said transmission line having an enlarged upper chamber, a small bore tube connecting the upper end of said reaction chamber to the enlarged upper chamber of said transmission line, a lower line interconnecting the lower end of said transmission line and the lower end of said reaction chamber, a second liquid transmission line extending from said reservoir to said lower line,

valve means between said second liquid transmission line and said lower line, said valve means being operable to connect said second liquid transmission line to said lower line and to disconnect it therefrom whereby said reaction chamber and said first liquid transmission line may be filled with fresh indicator liquid and then disconnected from the reservoir supply, a conduit opening into the lower end of said reaction chamber for feeding the air to be tested for the gaseous impurity into said reaction chamber wherein the gaseous impurity is reacted with the indicator liquid as the air passes upward through said chamber, said indicator liquid being moved upward in



said small bore tube by the air and discharged into the enlarged upper chamber of said first liquid transmission line, means for withdrawing the air from said enlarged upper chamber whereby continued introduction of air into the lower end of said reaction chamber causes the indicator liquid to circulate through the reaction chamber and the first liquid transmission line and gradually change color as it is reacted with more and more of the gaseous impurity, and a photoelectric comparison system mounted in said case, said system including an optical absorption cell in each of said transmission lines and means for comparing the color intensities of the liquid in said cells.

2,968,537
MANUFACTURE OF ACTIVATED REFRACTORY INORGANIC OXIDES
William G. Nixon, Westchester, Ill., assignor, by mesne assignments, to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
No Drawing. Filed Sept. 12, 1958, Ser. No. 760,546
2 Claims. (Cl. 23—293)

1. In a process for manufacturing alumina, in which process the alumina is subjected to calcination in the presence of a free oxygen-containing gaseous material, the improvement which comprises contacting the alumina, at a temperature within the range of from about 100° C. to about 600° C., with carbon monoxide prior to the calcination thereof in the presence of said free oxygen-containing gaseous material.

2,968,538
DELUSTERING OF FILM
Aurelius Franklin Chapman, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Nov. 15, 1956, Ser. No. 622,479
8 Claims. (Cl. 41—41)

1. A process for delustering the surface of shaped structures of polyethylene terephthalate which comprises the steps, in sequence, of treating the surface with a solution containing 2–35% by weight of an alkali metal hydroxide and 2–5% by weight of an anionic wetting agent in a volatile solvent; heating the treated structure to drive



off the solvent; and thereafter washing the alkali metal hydroxide from the surface of the shaped structure.

2,968,539
MONOFUELS
Arthur E. Wharton, Jr., 215 Isabel St., San Antonio, Tex.
No Drawing. Filed Aug. 31, 1950, Ser. No. 182,643
2 Claims. (Cl. 52—5)

1. A propellant consisting of a volatilizable liquid combustant from the class consisting of propyl alcohol, isopropyl alcohol, amyl alcohol, amyl acetate, benzene, ethyl ether, ethyl alcohol, methyl alcohol, acetone, ethyl acetate, and oleic acid; perchloric acid in an amount sufficient to substantially completely oxidize the combustant; and phosphoric acid in an amount ranging from about 5 percent to about 10 percent by weight of the combustant as a stabilizer for the combustant-oxidant mixture.

2,968,540
LIQUID BORON CONTAINING PRODUCTS
George F. Huff, Fox Chapel, and James D. Kilcher, Marr, Pa., assignors to Callery Chemical Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
No Drawing. Filed Oct. 24, 1957, Ser. No. 692,030
4 Claims. (Cl. 52—5)

1. A method of increasing the boron content of a liquid consisting essentially of at least one lower alkyl diborane which comprises mixing and reacting a lower alkyl diborane and a member selected from the group consisting of tetraborane, pentaborane-11 and mixtures thereof, and recovering the resulting liquid reaction product.

2,968,541
NITROSTARCH COMPOSITION AND METHOD OF MAKING THE SAME
Paul E. Wilt III and Richard G. Nelson, Tamaqua, Pa., assignors to Atlas Powder Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed May 7, 1957, Ser. No. 657,499
9 Claims. (Cl. 52—5)

4. A method of inhibiting dusting of nitrostarch which comprises treating an aqueous slurry of nitrostarch with an emulsion comprising from about .75% to about 1.25% based on the dry weight of the nitrostarch of polybutene having a viscosity of about 135 SSU (210° F.) to about 620 SSU (210° F.), a hydrocarbon having a viscosity of about 2.5 SSU (100° F.) to about 85 SSU (210° F.) and an emulsifier selected from the group consisting of polyoxyethylene ethers of higher fatty amines and thereafter drying said treated nitrostarch which composition is essentially non-dusting and free flowing.

2,968,542
ILLUMINANTS
Jean A. M. Brock, St. Louis, Mo., assignor to Olin Mathieson Chemical Corporation, East Alton, Ill., a corporation of Virginia
No Drawing. Filed July 15, 1958, Ser. No. 749,577
3 Claims. (Cl. 52—24)

3. An improved oxygen balanced illuminant consisting essentially of between about 40% and about 60% mag-

nesium, between about 1% and about 5% magnesium oxide, between about 4% and about 10% of a flammable plastic binder selected from the group consisting of polyvinyl acetate, polyester resins, epoxy resins and phenolic resins, and the balance an inorganic oxidizing agent selected from the group consisting of barium nitrate, sodium nitrate, potassium nitrate, ammonium perchlorate and potassium perchlorate.

2,968,543

PROCESS FOR THE PREPARATION OF COMPOSITE FERTILIZERS CONTAINING PHOSPHATE

Hugo Nees, Cologne-Bruck, Walter Buettgens, Cologne-Vingst, and Karl Geiersberger, Cologne-Deutz, Germany, assignors to Chemische Fabrik Kalk G.m.b.H.

No Drawing. Filed Nov. 30, 1955, Ser. No. 550,210
Claims priority, application Germany Dec. 1, 1954
12 Claims. (Cl. 71—37)

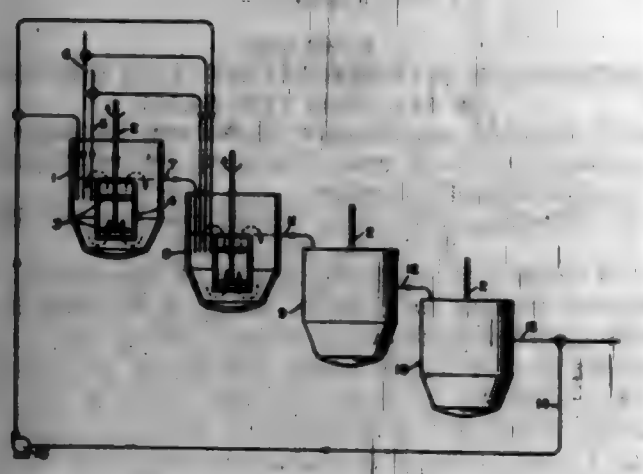
1. The process of producing phosphate-containing fertilizers in which the ratio of calcium other than sulphate, to the phosphorus pentoxide present is from 1.5 to 2.4, which consists in decomposing crude phosphates with a mixed acid containing nitric acid and at least one acid from the group consisting of sulphuric and phosphoric acids, ammoniating the resultant mixture and during the ammoniation when the pH is between 2.5 and 6.4, adding a soluble compound of a stabilizing metal selected from the group consisting of magnesium, aluminum, and cobalt in such quantity that it amounts to from 4 to 8 gram-molecules of said stabilizing metal ions to 100 gram-molecules of the total quantity of phosphorus pentoxide present and continuing ammoniation to complete neutralization.

2,968,544

METHOD AND MEANS FOR DISSOLVING CRUDE PHOSPHATES WITH ACIDS

Will Zeitz, Koln-Deutz, and Hugo Nees, Koln-Bruck, Germany, assignors to Chemische Fabrik Kalk, G.m.b.H., Cologne-Kalk, Germany

Filed July 12, 1956, Ser. No. 597,553
Claims priority, application Germany July 19, 1955
10 Claims. (Cl. 71—37)



1. A process of dissolving uncalcined crude phosphate, comprising mixing the crude phosphate with strong inorganic acid selected from the group consisting of nitric acid, sulphuric acid, phosphoric acid and mixtures thereof in one of the first two vessels of a series of interconnected mixing vessels through which the reaction mixture flows successively, conducting a portion of the reaction product back from the last vessel of the series to one of the first two vessels of the series and in maintaining the reaction mixture in at least one of the first two vessels of the series a continuous circulation from the bottom to the top in the central zone of the vessel and from the top to the bottom in the zone adjacent the wall of the vessel beside the rotation of the reaction mixture around the center of the mixing vessel.

2,968,545

PROCESS FOR PRODUCING PHOSPHATE-CONTAINING FERTILIZERS

Hugo Nees, Koln-Bruck, and Martin Schmidt, Koln-Kalk, Germany, assignors to Chemische Fabrik Kalk, G.m.b.H., Koln-Kalk, Germany

No Drawing. Filed July 8, 1957, Ser. No. 670,384
9 Claims. (Cl. 71—39)

1. The process of producing a complex fertilizer containing nitrogen in the form of nitrates and nitrogen in ammoniated form and phosphoric acid in the form of phosphates soluble in ammonium citrate which comprises treating phosphate rock with nitric acid in an amount sufficient to render water soluble practically all the phosphate initially contained in said phosphate rock, introducing into the disintegration mixture ammonia in an amount sufficient to render the mass to a pH not substantially less than pH 7 and during the ammoniation when the pH of the mass is between 2.5 and 6.7, adding to the reaction-mixture from 1 to 5 g-atoms of stabilizing metal ions selected from the group consisting of magnesium-, aluminum-, iron(II)-, and iron (III)-ions and mixtures thereof per each 100 moles of P_2O_5 present, adding to the reaction-mixture prior to the completion of the ammoniation sufficient ammonium salts selected from the group consisting of ammonium phosphate, ammonium sulphate and mixtures thereof to adjust the mole-ratio of CaO to P_2O_5 within the range of from 1.5 to 2.1, exclusive of such calcium which is present as calcium sulphate and calcium fluoride in the initial rock.

2,968,546

PROCESS FOR PRODUCING PHOSPHATE-CONTAINING FERTILIZERS

Hugo Nees, Koln-Bruck, and Karl Geiersberger, Koln-Deutz, Germany, assignors to Chemische Fabrik Kalk, G.m.b.H., Koln-Kalk, Germany

No Drawing. Filed July 8, 1957, Ser. No. 670,385
9 Claims. (Cl. 71—39)

1. The process of producing a complex fertilizer containing nitrogen in the form of nitrates and nitrogen in ammoniated form and phosphoric acid in the form of phosphates soluble in ammonium citrate which comprises treating phosphate rock with nitric acid to render water soluble practically all the phosphate initially contained in said phosphate rock, cooling the disintegration mixture and crystallizing and separating calcium nitrate tetrahydrate from said mixture to adjust in the mother liquor a mole ratio of CaO to P_2O_5 within the range from about 1.5 to 2.1, not including such CaO present in the form of insoluble calcium fluoride initially contained in said phosphate rock, so that the quantity of soluble CaO present in the mother liquor is no larger than that required to form dicalcium phosphate with the P_2O_5 initially present in said phosphate rock, during the following ammoniation of the mother liquor, introducing ammonia to render the mass to a pH not substantially less than pH 7, and during the ammoniation when the pH of the mass is between 2.5 and 6.7, adding to the mass stabilizing metal ions selected from the group consisting of magnesium-, aluminum-, iron(II)- and iron-(III)-ions in an amount corresponding to the proportion from about 1 to about 5 moles of stabilizing metal selected from said group per each 100 moles of P_2O_5 present in the mass, said stabilizing metal ions acting in said mass

to prevent reversion of said dicalcium phosphate during the ammoniation to a form which is insoluble in ammonium-citrate.

2,968,547

PRODUCTION OF PLUTONIUM METAL

Ward L. Lyon and Raymond H. Moore, Richland, Wash., assignors to the United States of America as represented by the United States Atomic Energy Commission

No Drawing. Filed Dec. 18, 1959, Ser. No. 860,613
14 Claims. (Cl. 75—84.1)

1. A process of producing plutonium metal comprising dissolving plutonium chloride in molten alkali metal chloride; adding magnesium metal to the chloride mixture; maintaining a temperature of between 700 and 800° C., whereby a plutonium-containing metal phase and a magnesium-chloride-containing salt phase are formed, said alkali metal chloride being used in at least the same molar quantity as that of the magnesium chloride formed; and separating said metal phase from said salt phase.

2,968,548

TEMPERATURE COMPENSATING IRON-NICKEL-COPPER ALLOYS

Charles Alfred Clark, Edgbaston, Birmingham, England, assignor to The International Nickel Company, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 15, 1958, Ser. No. 780,237
Claims priority, application Great Britain Jan. 13, 1958
7 Claims. (Cl. 75—125)

1. A temperature responsive compensator element for use in magnetic indicating instruments subjected in service to changes in temperature over a relatively wide range of temperatures, said element being formed of a temperature compensating alloy containing 23% to 28% nickel, not more than 0.03% carbon, not more than 0.03% silicon, from 6% to 11% copper, and the balance essentially iron.

7. A method for producing a magnetic iron-nickel-copper temperature compensation alloy having a specified and pre-required Curie temperature which comprises the steps of establishing a reference alloy composition substantially free of carbon and silicon and containing 23% to 28% nickel, up to 11% copper, and the balance essentially iron by the same method and with the same raw materials as to be employed in preparing the temperature compensation alloy, the amounts of nickel and copper in said reference alloy composition being within their respective ranges such that the relationship expressed by the following equation:

$$A_1 = \theta_c - 70 \times \text{percent nickel} - 40 \times \text{percent copper}$$

is satisfied, θ_c being the Curie temperature of said reference alloy composition and A_1 being a constant; and thereafter producing the magnetic iron-nickel-copper temperature compensation alloy by the same method and with the same raw materials as employed in producing the reference alloy, said temperature compensation alloy being characterized in that it is substantially free of carbon and silicon and contains 23% to 28% nickel and from 6% to 11% copper and being further characterized in that the amounts of nickel and copper are within their respective ranges such that the relationship expressed by the equation above is satisfied, θ_c being the desired Curie temperature and A_2 being the constant, whereby there is provided a magnetic iron-nickel-copper temperature compensation alloy having a specified and pre-required Curie temperature.

2,968,549

HIGH STRENGTH ALLOY FOR USE AT ELEVATED TEMPERATURES

Richard R. Brady, Monroeville Borough, and Edward J. Dulis, Mount Lebanon Township, Allegheny County, Pa., assignors to United States Steel Corporation, a corporation of New Jersey

No Drawing. Filed June 10, 1959, Ser. No. 819,211
4 Claims. (Cl. 75—126)

1. A steel alloy characterized by high creep-rupture properties at 1100° F., and said steel containing

	Percent
Carbon	0.05 to 0.30
Manganese	0.25 to 0.75
Phosphorus	0.04 max.
Sulphur	0.03 max.
Silicon	0.15 to 1.0
Chromium	1.0 to 5.0
Nickel	Up to 0.75
Molybdenum	0.50 to 3.50
Vanadium	0.15 to 1.0
Columbium	0.15 to 0.75

and an element selected from the group consisting of titanium and tungsten, said element being present in an amont between 0.15 and 0.75 when said element is titanium and between 0.15 and 1.0 when said element is tungsten.

Balance iron and residual amounts of other elements.

2,968,550

GALL RESISTANT NICKEL-COPPER ALLOY

John T. Eash, Westfield, N.J., assignor to The International Nickel Company, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Apr. 22, 1959, Ser. No. 808,015
5 Claims. (Cl. 75—171)

1. A nickel-base alloy characterized by a high resistance to galling and by an improved combination of mechanical properties and containing about 0.5% to 4.5% silicon, about 3% to about 12% chromium, about 0.02% to about 0.75% carbon, up to about 1.5% manganese, up to about 10% iron, up to about 4% molybdenum and the balance essentially nickel and copper wherein the nickel to copper ratio is about 1.5:1 to about 2.5:1.

2,968,551

METHOD OF SINTERING COMPACTS

Edward D. North, Waterloo, Ill., and James A. Rode, Crestwood, and Gervaise W. Tompkin, Crystal Lake, Mo., assignors to Mallinckrodt Chemical Works, St. Louis, Mo., a corporation of Missouri

Filed Sept. 18, 1958, Ser. No. 761,798
4 Claims. (Cl. 75—223)



1. The method which comprises adding free-flowing granules of refractory material having dispersed therein unsintered compacts of at least one powdered metal sub-

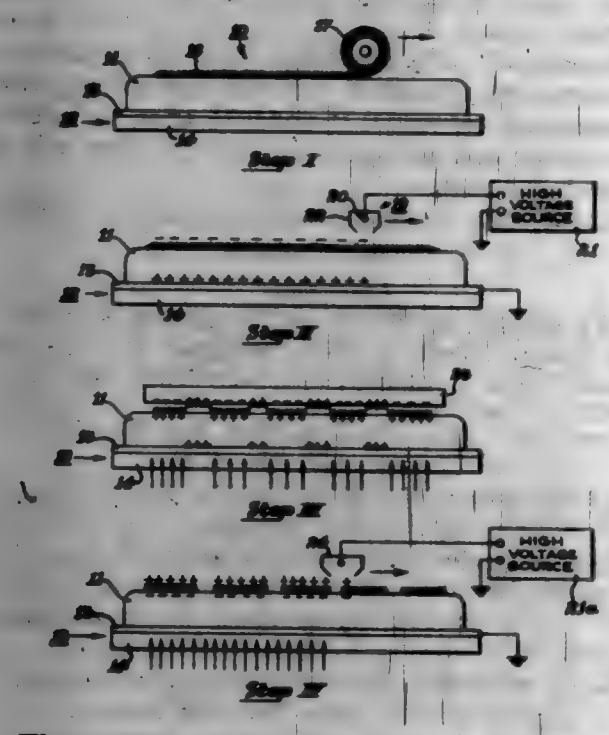
stance selected from the group consisting of metallic oxides and metals, which compacts sinter substantially below the sintering temperature of the refractory granules, to the top of a vertical, substantially tubular furnace filled with the mixture, only the upper portion of the furnace being heated; removing the mixture of compacts and granules from the lower end of the furnace at a controlled rate so that the mixture slowly gravitates through the furnace and is thereby gradually heated to a temperature sufficient to sinter the compacts but insufficient to sinter the refractory granules and then gradually cooled; and thereafter separating the sintered compacts from the refractory granules.

2,968,552

XEROGRAPHIC APPARATUS AND METHOD

Robert W. Gundlach, Spencerport, N.Y., assignor to Haloid Xerox Inc., a corporation of New York

Filed Oct. 1, 1956, Ser. No. 613,333
17 Claims. (Cl. 96—1)



1. The method of forming a xerographic print on a transfer member comprising forming a uniformly electrostatic charged layer of developer powder on the surface of a photoconductive insulating layer, then exposing the photoconductive insulating layer to an image pattern of light and shadow to be reproduced and placing the transfer member in contact with the charged developer powder to transfer a powder image to said transfer member, said transfer member being characterized by its ability to laterally conduct electricity.

2,968,553

XEROGRAPHIC APPARATUS AND METHOD

Robert W. Gundlach, Spencerport, N.Y., assignor to Haloid Xerox Inc., a corporation of New York

Filed Mar. 3, 1958, Ser. No. 718,693
7 Claims. (Cl. 96—1)



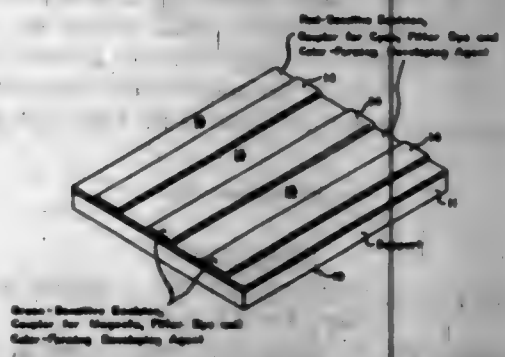
1. The method of forming a xerographic reversal print comprising depositing a layer of developer powder on the surface of a photoconductive insulating layer, uniformly charging said layer of developer powder to a first polarity, subsequently exposing the photoconductive insulating layer to an image pattern of light and shadow, and thereafter bringing a transfer web into contact with said powder layer while simultaneously applying an electric field in the same direction as that resulting from the charge on the powder layer between said transfer web and said powder layer, said field being sufficiently intense to electrically break down the gap between said transfer web and said powder layer as said transfer web is brought to said powder layer in areas of said layer corresponding to shadow areas of said image pattern.

2,968,554

PHOTOGRAPHIC TRANSFER PROCESSES FOR FORMING MULTICOLOR DYE IMAGES AND PHOTOGRAPHIC PRODUCTS FOR CARRYING OUT THE SAME

Edwin H. Land, Cambridge, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware

Filed Aug. 9, 1954, Ser. No. 448,441
32 Claims. (Cl. 96—3)



1. A photographic process for forming a multicolor transfer image containing a plurality of images in dyes, comprising exposing a photosensitive screen element which comprises a first set of photosensitive portions, each portion including a first reagent and photosensitive silver halide having a peak sensitivity within a first portion of the visible spectrum, and at least a second set of photosensitive portions, each portion including a second and different reagent and photosensitive silver halide having a peak sensitivity within a second and different portion of the visible spectrum, each of said reagents being capable of reacting with a member of the group consisting of (*a*) exposed silver halide and (*b*) a product of the development of exposed silver halide, and also providing a mobile dye-providing constituent selected from the group consisting of dyes and dye intermediates, said photosensitive portions being mounted in contiguous arrangement wherein the individual portions of each set are interspersed with respect to each other in a screen pattern with the respective exposure faces of said portions being in side-by-side relation to form, in the aggregate, a surface through which said element is exposable; applying to the exposure surface of said photosensitive element a processing liquid and substantially concurrently permeating the applied processing liquid into each said photosensitive portion, each said photosensitive portion, where permeated by said processing liquid, containing a silver halide developing agent, thereby developing said exposed photosensitive element and immobilizing each said reagent in exposed areas as a function of said development and providing, in undeveloped areas, an imagewise distribution of said dye-providing constituent mobile in said processing liquid; transferring said mobile dye-providing constituents by diffusion from said undeveloped aras through said exposure face of said photosensitive element and said processing liquid to a single print-receiving layer located in superposed relation to said photosensitive element, depositing said mobile dye-providing constituents on surface areas of said print-receiving layer which are located generally opposite said photosensitive portions and which areas are in overlapping relation to each other and are each larger than the exposure face of the respective photosensitive portion to which each said surface area is opposite; and forming,

by means of said transferred mobile dye-providing constituents, a plurality of dye images, the color characteristics of the dye of each of said dye images being predetermined by the chemical structure of its respective mobile dye-providing constituent and each said dye so provided possessing a predominant spectral absorption within the region of the visible spectrum to which the photosensitive portion from which said mobile dye-providing constituent is diffused is sensitive.

2,968,555

TREATMENT OF METAL SURFACES

Harry M. Beadler, East Lansing, Carl E. Biell, Clawson, Theodore W. Hertzog, Detroit, Mitchell A. La Boda, East Detroit, and Manuel Ben, Oak Park, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Jan. 13, 1958, Ser. No. 708,514
1 Claim. (Cl. 96—38)



A process for selectively etching a multiplicity of small pits in a chromium coating of a plated bearing surface to provide in said coating a multiplicity of geometrically arranged, small pits capable of containing lubricant, said process comprising cleaning and removing foreign matter from said surface, activating said surface by treating the same with a hydrochloric acid solution, rinsing said solution from said surface, drying said surface, spraying said surface with a coating of a light-sensitive composition comprising a polymer capable of being rendered insoluble in developing solvent and etching solution by light exposure, heating said coating to dry the same and improve its adherence to the bearing surface, placing in intimate contact with said surface a half tone negative having a multiplicity of areas through which light can be passed, said negative having about 30 to 300 lines per linear inch, exposing said coating of said light-sensitive material to a source of light through said negative to thereby insolubilize said material at said areas, subsequently developing said light-sensitive material by dissolving the areas of said material which have been masked by said negative, heating said layer to substantially complete the insolubilizing of said coating, thereafter immersing said adhering developed layer in a substantially concentrated hydrochloric acid solution to etch a multiplicity of pits entirely within said chromium coating to a depth of about 0.0002 inch to 0.002 inch at the areas where the light-sensitive layers have been dissolved, then rinsing the hydrochloric acid solution from said surface and removing said layer from said chromium plated surface by dissolving said layer in a suitable organic solvent.

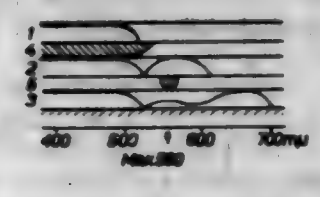
2,968,556

MULTI LAYER PHOTOGRAPHIC MATERIALS CONTAINING DYES HAVING SHARP GREEN ABSORPTION

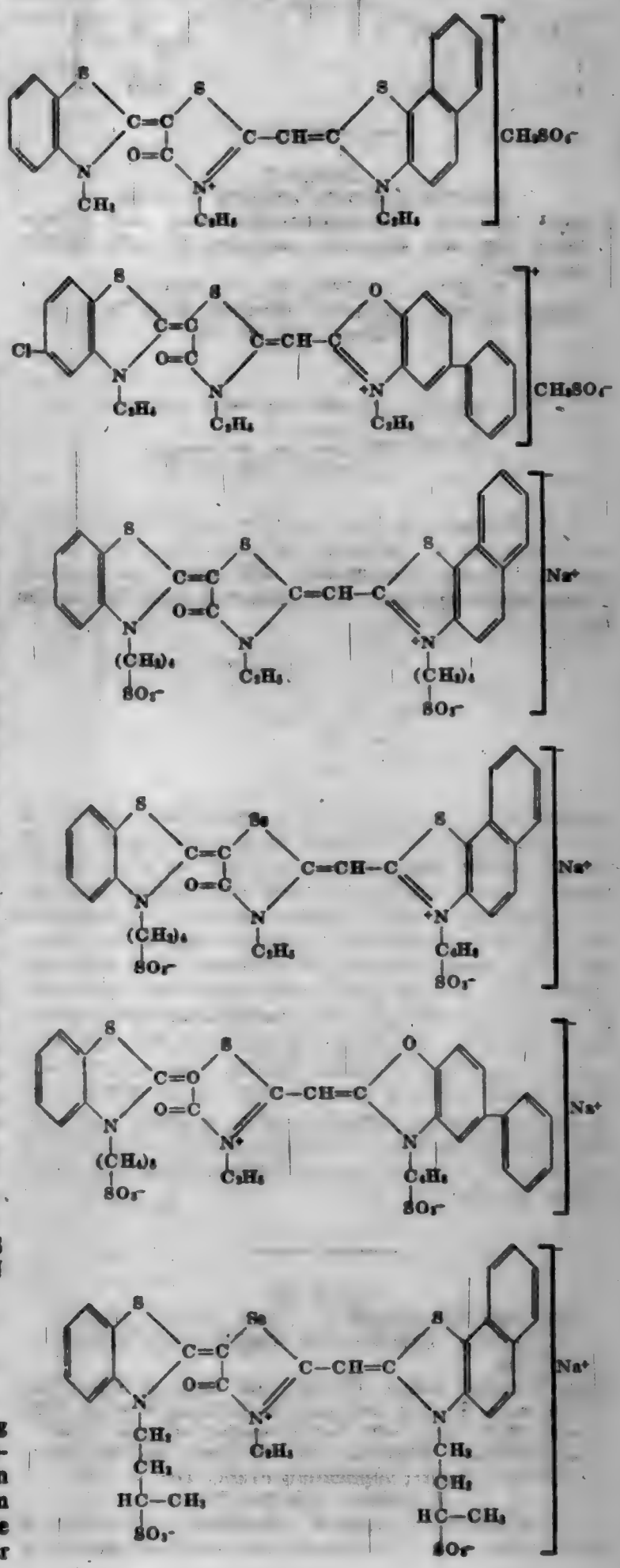
Oskar Riester, Leverkusen, Germany, assignor to Agfa Aktiengesellschaft

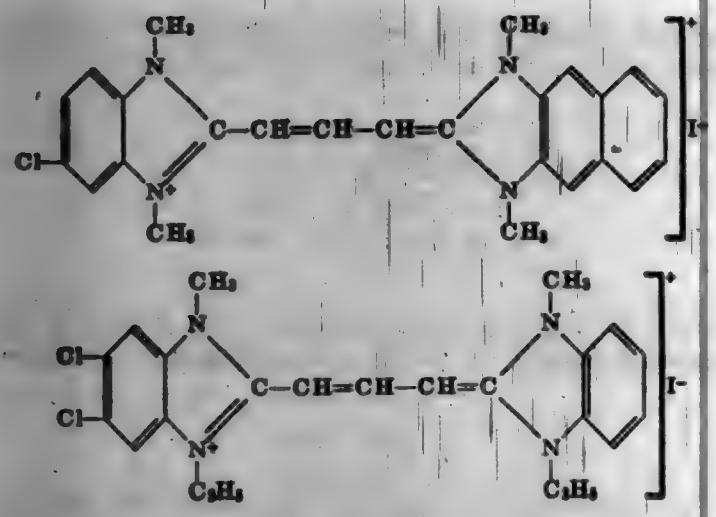
Filed June 12, 1956, Ser. No. 590,960
Claims priority, application Germany June 15, 1955
2 Claims. (Cl. 96—69)

1. A multi-layer emulsion combination for making multi-color photographs, said combination having a support, a layer of red-sensitive silver halide emulsion on said support, a filter layer having sharp green absorption over said emulsion, a layer of green-sensitive silver halide emulsion over the green filter layer, a yellow filter layer over said layer of green-sensitive emulsion, and a layer of blue-sensitive silver halide emulsion over the yellow filter

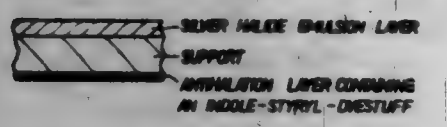


layer, said sharp green absorption being producted by dyestuff selected from the class consisting of the formulae

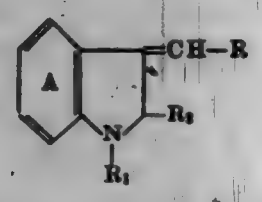




2,968,557
PHOTOGRAPHIC FILTER LAYER
Lothar Burgardt, Leverkusen-Bayerwerk, and Ottmar Wahl, Opladen, Germany, assignors to Agfa Aktiengesellschaft
Filed Nov. 23, 1956, Ser. No. 624,123
Claims priority, application Germany Dec. 23, 1955
11 Claims. (Cl. 96—84)



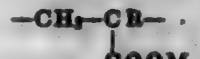
1. A photographic light sensitive material comprising in combination a support, a light sensitive silver halide emulsion layer on said support, said support also carrying a light absorbing layer of an indole dyestuff having the formula:



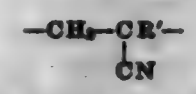
wherein R is a member having a nitrogen atom connected by a conjugate double bond chain of carbon atoms to the nitrogen of the indole moiety, said member being selected from the group consisting of amino-aryl radicals and radicals containing a cyclic nitrogen atom in a heterocyclic ring also having from 4 to 5 carbon atoms, R_1 is a member of the group consisting of hydrogen, alkyl, alkyl substituted by a carboxyl group, alkyl substituted by a nitrile group and alkyl substituted by an esterified carboxyl group, R_2 is a member of the group consisting of alkyl, aryl, carboxyl, esterified carboxyl, and the benzene nucleus A of the indole radical is selected from the group consisting of an unsubstituted benzene nucleus, a benzene nucleus substituted by an alkyl, a benzene nucleus substituted by a halogen atom and a benzene nucleus condensed with a further benzene ring.

2,968,558
THERMO-REVERSIBLE GELS AND PHOTOGRAPHIC EMULSIONS PREPARED THEREWITH
Alain Charles André Clavier and Jacques Pouradier, Vincennes, France, assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Filed Oct. 19, 1955, Ser. No. 541,547
Claims priority, application France Dec. 8, 1954
3 Claims. (Cl. 96—114)

1. A photographic material comprising a dispersion of silver halide in a thermoreversible water solution of a polymer essentially consisting of the following recurring units:



and

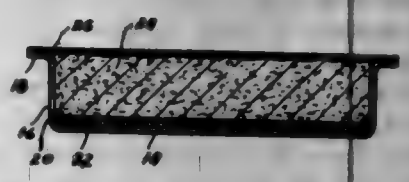


wherein R and R′ are each a substituent selected from the group consisting of hydrogen, halogen and lower alkyl and M is a substituent selected from the group consisting of alkali metal and ammonium, the ratio of the second recurring unit to the first recurring unit being within the range of 1:1 to 6:1 said polymer being essentially the sole gel-forming ingredient and binder for the silver halide.

2,968,559
FEED PRODUCT AND METHOD OF PRODUCING SAME
Benjamin H. Thurman, New York, N.Y., assignor to Benjamin Clayton, doing business as Refining, Incorporated
Filed Dec. 30, 1958, Ser. No. 784,843
18 Claims. (Cl. 99—2)

1. A process for producing an animal feed product, which process includes the steps of: mixing with a glyceride oil containing free fatty acids and gums an amount of soda ash sufficient to precipitate said gums and to react with at least some of said free fatty acids to form soap, said amount of soda ash being no more than about three times that theoretically required to neutralize said fatty acids; separating from the mixture a soapstock containing said soap and said gums, said soapstock being substantially completely soluble in petroleum ether; and mixing a minor portion of said soapstock with a major portion of a glyceride oil meal.

2,968,560
INFUSION PACKAGE FOR PRODUCING A COFFEE BEVERAGE
Nathan Gores, New York, N.Y., assignor to Sealpak Corporation, Bronx, N.Y., a corporation of New York
Filed Feb. 6, 1959, Ser. No. 791,621
5 Claims. (Cl. 99—77.1)



4. An infuser for the production of a coffee beverage by passing hot water therethrough comprising a frangible body portion having a bottom wall, a porous separator, said separator dividing said body portion into a first and second compartment, ground coffee stored in said first compartment, a dehydrated dairy product stored in said second compartment, said body portion contacting the periphery of said separator to cause the liquid flow from said first compartment to pass through said separator and into said second compartment, and a frangible closure member to retain said stored product with said infuser.

2,968,561
METHOD OF MANUFACTURING AN EDIBLE FOOD CONTAINER
Cecil H. Birnkrant, Beverly Hills, Calif., assignor to Birnkrant Frozen Confection Co., Los Angeles, Calif., a limited partnership
No Drawing. Continuation of application Ser. No. 225,670, May 16, 1951. This application June 2, 1955, Ser. No. 512,870
13 Claims. (Cl. 99—89)

1. The method of manufacturing an edible container comprising forming a batter of raw unbaked ingredients

having a mealy consistency and being flowable under heat and pressure, placing the batter in a hot pressure mold to cause the batter to flow and assume the shape of the mold, promptly removing the formed batter from the mold prior to baking and baking it in the naked state.

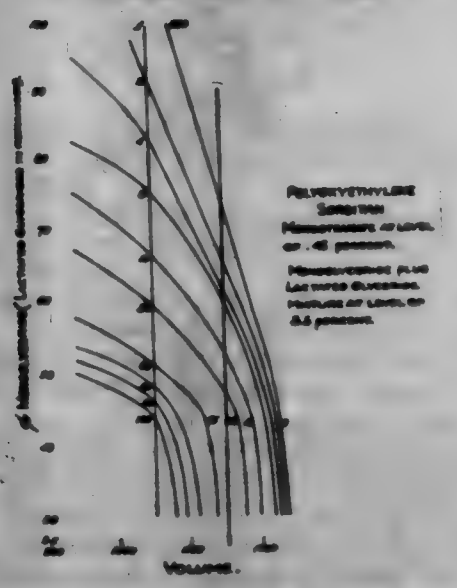
2,968,562
SHORTENING
Charles Jack Houser, Champaign, Ill., assignor to National Dairy Products Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Jan. 21, 1958, Ser. No. 710,175
3 Claims. (Cl. 99—118)

1. The combination as a liquid shortening of an edible liquid oil, a surface active agent comprising at least one compound selected from the group consisting of partial esters of the fatty acids with hexahydric alcohols or their anhydrides, polyoxalkylene derivatives of the partial esters of fatty acids with hexahydric alcohols or their anhydrides, and ester-ethers resulting from the reaction of fatty acids with alkylene oxides, and a reaction product, the sum of percentages of said surface active agent and said reaction product being between about 2 and about 8 percent by weight of said shortening; said oil having an iodine value in excess of about 85 and being substantially free of tri-saturated components, said surface active agent being present in an amount between about .1 and about 2.0 percent, said reaction product consisting essentially of glycerine combined with substantially saturated fatty acid radicals having carbon chains in excess of 12 and an iodine value no higher than 35 and with a water soluble acid having the general formula:

$$R(OH)_n(COOH)_n$$

wherein R is a hydrocarbon group having from 1 to 5 carbon atoms and n is 1 or 2, said water soluble acid to fatty acid ratio in the preparation of said reaction product being from 0.4:1 to 2.5:1 and the total acid to glycerine ratio being from 1.5:1 to 3.0:1, said reaction product being formed by mixing said fatty acid and said water-soluble acid together with said glycerine and reacting the mixture at elevated temperature, said reaction product being present in an amount from about 2 percent to about 6 percent by weight.

2,968,563
LIQUID SHORTENING
Charles Jack Houser, Champaign, Ill., assignor to National Dairy Products Corporation, New York, N.Y., a corporation of Delaware
Filed Jan. 21, 1958, Ser. No. 710,368
4 Claims. (Cl. 99—118)

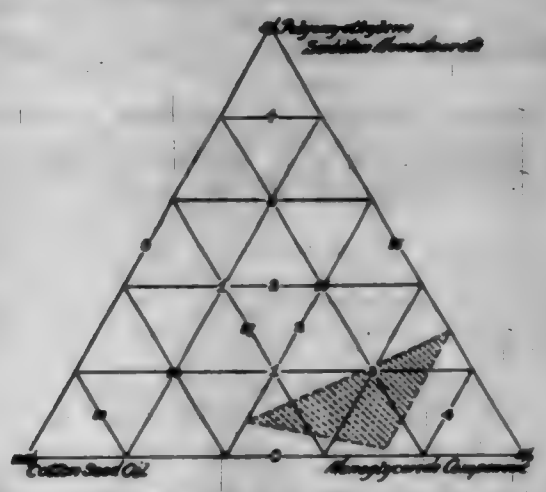


1. The combination as a liquid shortening, for improvements in baking, of an edible liquid oil, a surface active agent comprising at least one compound selected from the group consisting of partial esters of fatty acids with hexahydric alcohols or anhydrides thereof, polyoxyalkylene derivatives of the partial esters of fatty acids with hexahydric alcohols or anhydrides thereof, and ester-ethers resulting from the reaction of fatty acids with alkylene oxides, an edible mono-glyceride component, and a reaction product; said liquid oil having an iodine value in excess of about 85 and being substantially free of tri-saturated components, said surface active agent being present in an amount between about .1 and about 2 percent, said mono-glyceride component comprising at least 35 percent of mono-glycerides having more than about 14 carbon atoms in the fatty acid radicals, said mono-glyceride component being present in an amount in excess of about .8 percent, the sum of the reaction product and the mono-glyceride component being less than about 3.5 percent, said reaction product consisting essentially of glycerine combined with substantially saturated fatty acid radicals having an iodine value no greater than 35 and having carbon chains in excess of 12 and a water soluble acid having the general formula:

$$R(OH)_n(COOH)_n$$

wherein R is a hydrocarbon group having from 1 to 5 carbon atoms and n is 1 or 2, said water-soluble acid to fatty acid ratio in the preparation of said reaction product being from 0.4:1 to 2.5:1 and the total acid to glycerine ratio being in the range of 1.5:1 to 3.0:1, said reaction product being formed by mixing said fatty acid and said water-soluble acid, together with said glycerine and reacting the mixture at elevated temperature, the sum of percentages of reaction product, surface active agent and mono-glyceride component being from about 1 percent to about 6 percent.

2,968,564
SHORTENING
William Frederick Schroeder, Memphis, Tenn., and Charles Jack Houser, Champaign, Ill., assignors to National Dairy Products Corporation, New York, N.Y., a corporation of Delaware
Filed Jan. 21, 1958, Ser. No. 710,359
7 Claims. (Cl. 99—118)



1. The combination of an edible liquid oil, a surface active agent comprising at least one compound selected from the group consisting of partial esters of fatty acids with hexahydric alcohols or anhydrides thereof, polyoxyalkylene derivatives of the partial esters of fatty acids with hexahydric alcohols or anhydrides thereof and ester-ethers resulting from the reaction of fatty acids with alkylene oxides, and a mono-glyceride component; said oil having an iodine value in excess of about 85 and being substantially free of tri-saturated components, said surface active agent being present in an amount between about .1 and about 2.0 percent, said mono-glyceride component having an iodine value of less than 40, the mono-glycerides in said mono-glyceride component primarily comprising fatty acid radicals having more than 14 carbon atoms, said mono-glycerides being present in an amount of at least about .8 percent and not more than about 2.5 percent.

2,968,565
CHOCOLATE CHIFFON
William A. Mitchell, Lincoln Park, N.J., and William C. Seidel, Monsey, N.Y., assignors to General Foods Corporation, White Plains, N.Y., a corporation of Delaware
No Drawing. Filed Nov. 18, 1958, Ser. No. 774,579
10 Claims. (Cl. 99—139)

1. A composition for preparing chocolate chiffon which comprises cocoa powder, partially degraded soy protein, phosphated gelatin, and sugar.

2,968,566
COMPOSITION USEFUL WITH COMESTIBLES
James C. Munch, Lansdowne, Pa., assignor to Pharmacodynamics, Inc., Philadelphia, Pa.
No Drawing. Filed Jan. 7, 1959, Ser. No. 785,336
7 Claims. (Cl. 99—143)

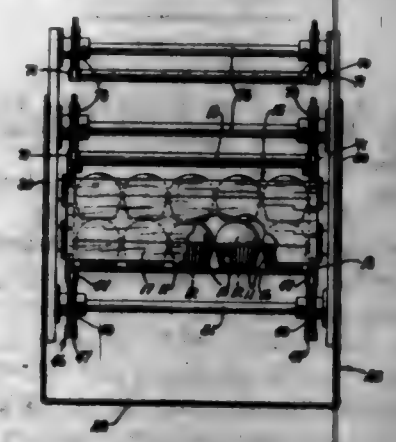
1. A palatable and substantially sodium-free composition effective as a substitute for table salt and comprising from about forty-five to about ninety parts of potassium chloride, from about four and one-half to about twenty-three and one-half parts of potassium gluconate, from about four and one-half to about twenty-one and one-half parts calculated as calcium gluconate of a member of the class consisting of calcium gluconate and gluconic acid, from about five to about sixteen parts of potassium citrate, from about four to about fifteen parts calculated as calcium ascorbate of a member of the class consisting of calcium ascorbate and ascorbic acid, and a sweetening agent member of the class consisting of (*a*) from about 0.001 to about 0.02 percent calculated as calcium cyclamate of any of the calcium cyclamate, magnesium cyclamate, potassium cyclamate and sodium cyclamate, (*b*) from about 0.01 to about 0.2 percent of saccharin, and (*c*) from about 0.0001 to about 0.002 percent of saccharin soluble; from none to about one-quarter of a percent of a non-toxic thiamin salt; and from none to about nine and one-quarter parts of a member of the class consisting of calcium glutamate and glutamic acid.

2,968,567
METHOD OF FORMING A FROZEN FOOD PRODUCT
John A. Hooker, Kearny, N.J., assignor to Mary Bova, Borough of Deal, Monmouth County, N.J.
Filed Aug. 16, 1954, Ser. No. 450,018
2 Claims. (Cl. 99—193)



1. The method of forming a deep freeze fruit product of a fruit having a hard outer rind and a soft continuous inner meat body portion completely encircled by said rind, said method comprising the steps of first cutting the fruit into a slice transversely of the longitudinal axis of said fruit, positioning the slice on a support in parallel contact with said support, then moving blades defining an open triangular outline downwardly through the slice to cut the same into a finished piece of conforming outline, inserting a handle into the said finished piece, inserting said finished piece through the open end of a bag of greater length than the finished piece, evacuating the air in said bag through said open end, closing said open end of the bag, and placing said bag containing said piece in a deep freezer to deep freeze said piece in said bag.

2,968,568
METHOD FOR THE TREATMENT OF PRODUCE
Charles Preuss, 8690 Minnewawa, Clovis, Calif.
Filed Oct. 29, 1956, Ser. No. 618,947
6 Claims. (Cl. 99—193)

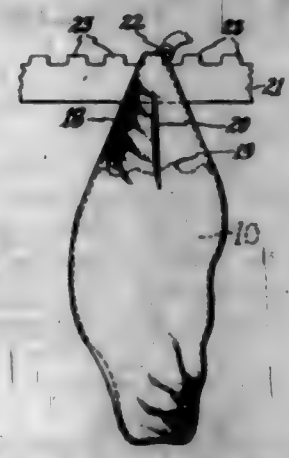


1. A process for maintaining the fresh qualities of peaches having stem ends comprising chilling the peaches by immersing them in chilled water, and thereafter storing the peaches under refrigeration with the stem ends thereof immersed in chilled water and the remainder thereof extended from the chilled water.

2,968,569
CHICKEN CONCENTRATE AND METHOD OF MAKING SAME
Murray M. Scharf, Chicago, Ill., assignor to Louis Milani Foods, Inc., Los Angeles, Calif., a corporation of Illinois
No Drawing. Filed Aug. 18, 1958, Ser. No. 755,416
9 Claims. (Cl. 99—208)

1. A process of making chicken concentrate comprising contacting chicken on the bone with a phosphoric acid in amounts equal to at least about 5% by weight of the raw chicken to disintegrate essentially completely the chicken meat and bone, and then neutralizing the phosphoric acid with a base which forms therewith an edible phosphate.

2,968,570
METHOD OF PREPARING HAMS
John G. Pinto and Lawrence G. Eisen, Chicago, Ill., assignors to Reliable Packing Company, Chicago, Ill., a corporation of Illinois
Filed Sept. 5, 1957, Ser. No. 682,250
3 Claims. (Cl. 99—229)



1. In a process of preparing easily sliceable and carvable hams having the femur and aitch bones removed therefrom, the method comprising curing the hams having the bones therein for approximately five days; then softening said hams by soaking in water of from 65° F. to 75° F. for approximately 2 hours; then cutting a hole adjacent the joint of the femur and shank bones and cutting the cartilage and tendons about said joint to thereby loosen said joint; then cutting out and removing the

femur and aitch bone; thence mounting said hams in stockinette bags with the shank end portion of the ham against the bottom portion of the stockinette bags suspending the side portions of the stockinette bags to cause inward pressing of parts of the ham into the cavities thereof; then manually pressing the upper butt end portion of the suspended hams while the same are within said stockinette bags to flatten the butt faces and to press parts of the meat mass into the interior cavities formed by removal of said bones, and then smoking said hams for periods of from 16 to 18 hours while the same are suspended in said stockinette bags.

2,968,571

LOW GASSING ZINC DUST PAINT

Willard J. Lantz, Nixon, N.J., assignor to American Smelting and Refining Company, New York, N.Y., a corporation of New Jersey

Filed Aug. 13, 1959, Ser. No. 833,640
10 Claims. (Cl. 106—14)

1. A paint composition comprising zinc dust, a vehicle selected from the class consisting of vegetable drying oil paints, phenolic resin paints and alkyd resin paints, tetraethyl orthosilicate in an amount of from about 1.25 to 8.0 percent based on the vehicle and a neutralizer in an amount of substantially reduce the acid number of the vehicle.

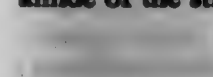
2,968,572

CHEMICAL COMPOSITION AND PROCESS FOR SOIL STABILIZATION

Cletus E. Peeler, Jr., Painesville, Ohio, assignor to Diamond Alkali Company, Cleveland, Ohio, a corporation of Delaware

No Drawing. Filed July 21, 1958, Ser. No. 749,631
6 Claims. (Cl. 106—74)

1. The method of treating soil which comprises contacting said soil with a single liquid composition of matter consisting essentially of an aqueous alkali metal silicate having an alkali metal oxide:silicon dioxide ratio of about 1:3.0 to 1:4.0 and containing about 35% to 45% solids, water and about 2% to 30% by volume of an amide of the structure



wherein R is selected from the group consisting of H, lower alkyl, —$CONH_2$ and lower alkyl-substituted amido groups.

2,968,573

METHODS OF MAKING A LIGNOCELLULOSE PRODUCT AND PRODUCTS RESULTING THEREFROM

William T. Glab, Dubuque, Iowa, assignor, by mesne assignments, to Durel Incorporated, Dubuque, Iowa, a corporation of Iowa

No Drawing. Filed Sept. 25, 1958, Ser. No. 763,192
2 Claims. (Cl. 106—163)

1. The method of making a moldable and extrudable composition, consisting essentially of: intimately mixing finely-divided essentially dry lignocellulose with a member of the class consisting of anhydrous ammonia and ammonium hydroxide equivalent to 1.0–20.0% by weight of the lignocellulose of 26° Bé. ammonium hydroxide; and heating the resulting composition in the presence of steam at a temperature of about 300–550° F. in a confined atmosphere at a gauge pressure of between about 100–1000 pounds per square inch for between about 4–60 minutes to combine chemically a major portion of the ammonium hydroxide and the lignocellulose.

2,968,574

METHODS OF MAKING A LIGNOCELLULOSE PRODUCT AND PRODUCTS RESULTING THEREFROM

William T. Glab, Dubuque, Iowa, assignor, by mesne assignments, to Durel Incorporated, Dubuque, Iowa, a corporation of Iowa

No Drawing. Filed Oct. 6, 1958, Ser. No. 765,335
2 Claims. (Cl. 106—163)

1. The method of making a moldable and extrudable composition, consisting essentially of: intimately mixing finely-divided essentially dry lignocellulose with about 2–30% lignin by weight of the lignocellulose; and heating the resulting composition in the presence of steam at a temperature of about 300–550° F. in a confined atmosphere at a gauge pressure of between about 100–1000 pounds per square inch for a time between about 4–60 minutes.

2,968,575

STABLE POLYURETHANE LATEX AND PROCESS OF MAKING SAME

James E. Mallonee, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed May 21, 1954, Ser. No. 431,617
13 Claims. (Cl. 106—287)

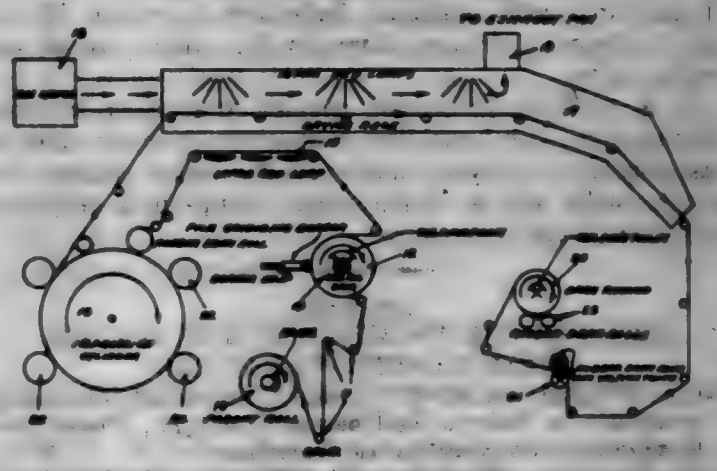
1. In the process for the manufacture of stable elastomeric latices in the form of high molecular weight reaction products of organic diisocyanates, the step of effecting chain extension of an initial addition product by emulsifying said product in an aqueous medium with agitation in the presence of an emulsifying agent, said agent being one which will give oil-in-water emulsions, said initial addition product having been obtained by reaction of an organic diisocyanate with an organic compound, the molar ratio of diisocyanate to organic compound being between about 1.2:1 to 10:1, said organic compound containing at least two active hydrogen atoms which display activity according to the Zerewitinoff test, having a molecular weight of at least 750 and being selected from the group consisting of polyalkyleneether glycols, poly(alkyleneether-alkylenethioether) glycols, alkyd resins, esters of polyhydric alcohols and hydroxy fatty acids and polyesteramide resins.

2,968,576

PROCESS OF COATING A POLYETHYLENE SUBSTRATE WITH A VINYLIDENE COATING AND RESULTANT ARTICLE

Theodore W. Keller and Charles W. Garvin, Council Bluffs, Iowa, and John G. McMillan, Omaha, Nebr., assignors, by direct and mesne assignments, to Howard Plastics, Inc., Council Bluffs, Iowa, a corporation of Iowa

Filed July 19, 1955, Ser. No. 523,024
12 Claims. (Cl. 117—47)



1. A strip for making a substantially gas impermeable polyethylene container having a modified surface and a vinylidene chloride polymer directly integrated with said modified surface of said polyethylene, whereby said polyethylene is rendered substantially impermeable to air,

nitrogen, oxygen and carbon dioxide, said strip comprising a polyethylene base having a modified surface and a vinylidene chloride polymer directly integrated with the modified surface of said polyethylene.

2,968,577
METHOD AND APPARATUS FOR POLISHING METALS
Werner Helling, Grevenbroich, and Heinrich Neuszig, Glindorf, near Grevenbroich, Germany, assignors to Vereinigte Aluminium-Werke Aktiengesellschaft, Bonn, Germany
Filed July 3, 1956, Ser. No. 595,792
Claims priority, application Germany July 8, 1955
17 Claims. (Cl. 117—49)

1. In a method of forming a glossy surface on a smooth body of a substance belonging to the group consisting of aluminum and aluminum alloys, in the indicated sequence, the steps of treating said body with a pickling solution to remove surface oxide; and wet mechanically polishing said body while the same is substantially free of said surface oxide, whereby a glossy surface is formed thereon.

2,968,578
CHEMICAL NICKEL PLATING ON CERAMIC MATERIAL
John M. Mochel, Painted Post, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York
No Drawing. Filed Apr. 18, 1958, Ser. No. 729,245
10 Claims. (Cl. 117—54)

1. In a method of chemically depositing nickel or cobalt on the surface of a silicate glass by chemically etching it, washing it, activating the etched surface by alternately immersing it in an aqueous solution of a catalytic metal selected from the class consisting of Ni, Co and Pd, and then in a solution of a reducing agent, washing it with water and thereafter treating the activated surface with a conventional plating bath containing a salt of the metal to be deposited, hypophosphite ions and a salt of a carboxylic acid, the step in which a submicroporous siliceous film is formed on the chemically etched surface of the glass by exposing the surface of the glass to HF vapor for 5–10 minutes, the temperature of the glass being high enough to prevent condensation of moisture thereon.

2,968,579
MEANS FOR PROTECTION AGAINST VESICANTS
Ralph H. Ballard, Geneva, N.Y., and Alan R. Graff and A. Vera McIntosh, Jr., Cleveland, Ohio, assignors to The Lake Erie Chemical Company, Cleveland, Ohio, a corporation of Ohio
No Drawing. Filed June 19, 1948, Ser. No. 341,387
7 Claims. (Cl. 117—121)

5. A vesicant protection means comprising a fabric impregnated with benzidine derivatives in which chlorine has displaced hydrogen atoms in the amino groups and in the nuclei.

6. A vesicant protection means comprising a fabric impregnated with benzidine derivatives in which chlorine has displaced hydrogen atoms in the amino groups and in the nuclei and in which acetyl groups have displaced two amino-hydrogen atoms.

2,968,580
PROCESS FOR INCREASING THE WATER-RESISTANCE OF LEATHER
Jurgen Plapper and Rudi Heyden, Duesseldorf, Germany, assignors to Bohme Fettchemie G.m.b.H., Duesseldorf, Germany, a corporation of Germany
No Drawing. Filed June 25, 1958, Ser. No. 744,341
14 Claims. (Cl. 117—135.5)

1. The method of water-proofing leather which comprises impregnating tanned leather with a water-miscible derivative selected from the group consisting of esters, amides and acids of a polybasic acid selected from the group consisting of dibasic and higher polybasic organic acids and tribasic and higher polybasic inorganic acids, said derivative containing at least one hydrophobic radical and at least two salt-forming radicals capable of forming complexes and thereafter impregnating said tanned leather with a water-miscible, cationic-active, organic, complex salt of a polyvalent metal containing a ratio of at least 2.5 mols of an alcohol-soluble, basic salt of a polyvalent metal, with one mol of an acid ester of phosphoric acid esterified with an alcohol containing a hydrophobic radical, said alcohol having about 6 to about 18 carbon atoms, and having coordinated with said basic salt and said acid ester a lower molecular weight alcohol.

2,968,581
METHOD OF INSOLUBILIZING POLYMERIC HYDROXYL-BEARING COMPOUNDS
Bernard H. Kress, Lafayette Hill, Pa., assignor to Quaker Chemical Products Corporation, Conshohocken, Pa., a corporation of Pennsylvania
No Drawing. Filed Jan. 15, 1957, Ser. No. 634,169
15 Claims. (Cl. 117—139.5)

9. The method of stiffening textile materials which comprises applying to said textile materials an aqueous composition containing a hydroxyl-bearing material selected from the group consisting of starches, modified starches, dextrines, polyvinyl esters, ethers and alcohols, water-soluble cellulose derivatives, natural gums, and dextran, an acidic catalyst and a preformed polymeric acetal, said polymeric acetal having at least two alkylidene radicals derived from at least one aldehyde having up to 10 carbon atoms and at least two alkylene radicals containing 2 to 4 carbon atoms in a straight chain derived from a compound selected from the group consisting of monoalkylene glycols, polyalkylene glycols and alkylene oxides, and drying the treated textile materials at elevated temperature until the textile materials are stiffened.

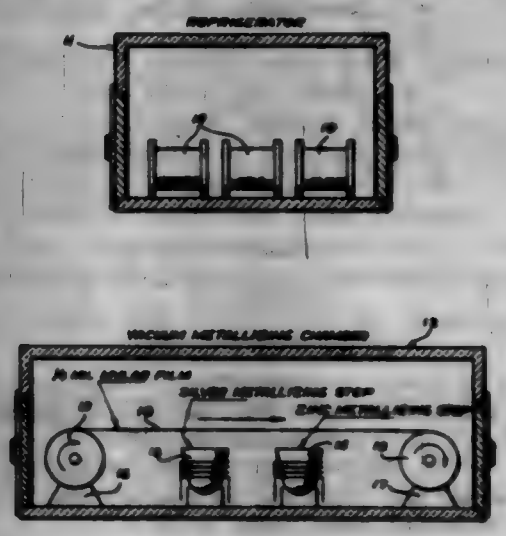
2,968,582
FILM PRODUCTS HAVING PECTIN LAYERS
Wilbo M. Salminen and Walter J. Weyerts, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Sept. 22, 1958, Ser. No. 762,389
5 Claims. (Cl. 117—144)

4. As a new article of manufacture a film support which carries on its surface a layer essentially comprised of gelatin, which gelatin contains low methoxyl pectin, said low methoxyl pectin being characterized in that the pectic acid units thereof contain from 2.5% to not more than 7% methoxyls per pectic acid unit.

2,968,583
CAPACITOR SECTIONS AND METHODS OF MAKING THE SAME
Eugene I. Barth, Morris Plains, N.J., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Apr. 25, 1957, Ser. No. 655,012
2 Claims. (Cl. 117—213)

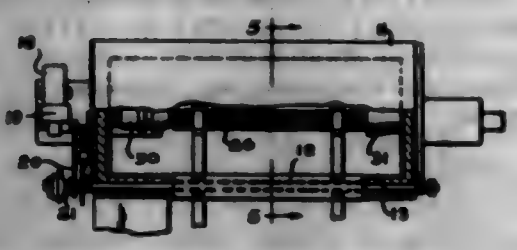
1. The method of making capacitor sections, which comprises the steps of precooling a roll of polyethylene terephthalate film having a thickness of approximately 0.00025 inch to a temperature of approximately —40° F. in a refrigerating unit, removing the precooled roll from the refrigerating unit and inserting the same in a metallizing unit which normally operates at an absolute pressure of approximately 75 microns of mercury, unrolling the film in the metallizing unit at a speed of the order of 2500 feet per minute, condensing a minute quantity of silver vapor on a surface of the film to form a molecular layer of crystal forming nuclei thereon, condensing zinc vapor on the silvered surface to form a zinc layer

thereon having a thickness of approximately 0.000003 to 0.000005 inch, rewinding the metallized film into a roll,



and then removing the rewound roll from the metallizing unit.

2,968,584
GLASS TUBE CLEANING
Clyde W. Dickey, Elmira, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed Oct. 31, 1956, Ser. No. 619,514
3 Claims. (Cl. 134—1)



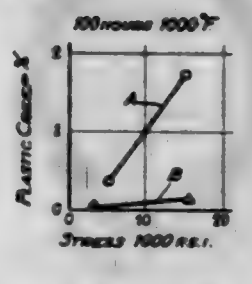
1. The method of cleaning a tubular body which comprises enclosing the same in a sound proof chamber, and directing a stream of air through the bore and along the outer surface of such body while subjecting such body to high intensity sound.

3. A tubular body cleaning system which comprises a sound insulated housing, a tubular body support within said housing, a transducer arranged to direct high intensity sound in air through and along the exterior surface of a supported tubular body to dislodge particles from its surfaces, means for rapidly moving such air through the bore of such body to remove the dislodged particles therefrom and means for periodically automatically modifying the intensity of sound produced by said transducer to enhance its effectiveness.

2,968,585
REMOVAL OF COMBUSTION CHAMBER DEPOSITS
John J. Giammarin, Woodbury, N.J., assignor to Socony Mobil Oil Company, Inc., a corporation of New York
No Drawing. Filed Sept. 22, 1955, Ser. No. 536,019
3 Claims. (Cl. 134—22)

1. The method of removing combustion deposits from the metal parts of an internal combustion engine which comprises applying hexamethylphosphoramide to the deposits and then removing the loosened deposits.

2,968,586
WROUGHT TITANIUM BASE ALPHA-BETA ALLOYS OF HIGH CREEP STRENGTH AND PROCESSING THEREOF
Milton B. Vordahl, Beaver, Pa., assignor to Crucible Steel Company of America, Pittsburgh, Pa., a corporation of New Jersey
Filed Sept. 15, 1958, Ser. No. 761,007
12 Claims. (Cl. 148—133)



7. A wrought and heat treated titanium-base alloy consisting essentially of about: 2 to 15 atomic percent of at least one beta promoter selected from the group consisting of molybdenum, vanadium, columbium, tantalum, chromium, manganese and iron, 1 to 23% by weight of at least one alpha promoter selected from the group consisting of tin, antimony and aluminum, but not to exceed about 18% antimony and 10% aluminum, up to 5% by weight of other beta promoters, up to 0.3% carbon, up to 0.2% oxygen, and up to 0.1% nitrogen, each by weight, balance substantially titanium, characterized by an equilibrated Widmanstatten microstructure and by good hot creep strength at temperatures up to about 1000° F., and in having a minimum room temperature tensile elongation of about 2%.

2,968,587
ADHESION OF RUBBERY POLYMERS TO FIBROUS MATERIALS
Francis P. Baldwin, Colonia, and Samuel B. Robison, Roselle, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
Filed Dec. 19, 1955, Ser. No. 553,829
15 Claims. (Cl. 154—139)



10. A laminated structure comprising a textile fibrous material, said fibrous material being coated with a first layer of a resorcinol-formaldehyde type resin and a second layer of a butyl rubber isoolefin-multiolefin copolymer modified to contain at least about 0.5 wt. percent chlorine but not more than about one combined atom of chlorine per double bond in the polymer, and at least one layer of an unmodified butyl rubber isoolefin-multiolefin copolymer adhesively united thereto.

2,968,588
ADHESION OF RUBBERY POLYMERS TO TIRE CORDS
Francis P. Baldwin, Colonia, and Samuel B. Robison, Roselle, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
Filed Dec. 19, 1955, Ser. No. 553,830
14 Claims. (Cl. 154—139)

10. A laminated structure comprising a textile fibrous material, said fibrous material being coated with a first

layer of a resorcinol-formaldehyde resin and a second layer of a multiolefin-isoolefin butyl rubber copolymer modified to contain at least about 0.5 wt. percent bromine but not more than about three combined atoms



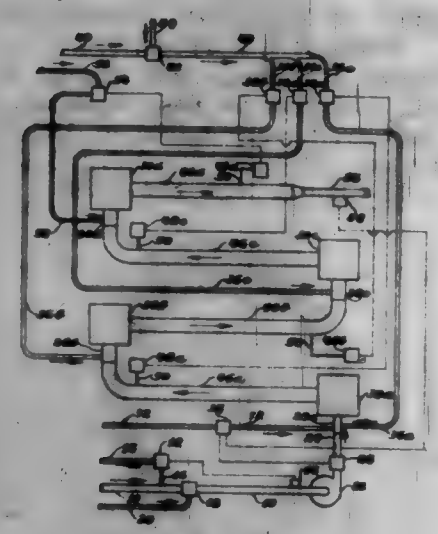
of bromine per double bond in the copolymer, and at least one layer of an unmodified isoolefin-multiolefin butyl rubber copolymer adhesively united to the coated surface of the fibrous material.

2,968,589

CONTINUOUS PULP BLEACHING METHOD

George H. Saunders, Appleton, and Harold S. Hedberg, Menasha, Wis., assignors to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware

Filed Mar. 17, 1958, Ser. No. 721,967
2 Claims. (Cl. 162—19)



1. A continuous pulp bleaching method comprising the steps of adjusting the consistency of a stream of an aqueous suspension of cellulose fibers to between about 2 to 8 percent, adjusting the temperature of the suspension to about 45 to 70° C., injecting hypochlorite into the suspension, alternately agitating and calming the suspension while flowing the suspension through a plurality of bleaching zones in sequence, said bleaching zones comprising in sequence an agitation zone and a calming zone, injecting sufficient alkali into the suspension prior to its entry into each bleaching zone to maintain the pH of the suspension between about 9.5–10.5 through each agitation zone and succeeding calming zone, injecting antichlor and acid into the suspension prior to the suspension's entry into a final agitation zone in quantity sufficient to destroy the excess hypochlorite and acidify the suspension to a terminal pH of about 4–7, and agitating and calming the resultant suspension.

2,968,590

SYNERGISTIC BORIC ACID FUNGICIDAL COMPOSITIONS

Jean Ploquin, Surgeres, France, assignor to Etablissements Sergent Laboratoires Prolac, Surgeres, France, a French company

No Drawing. Filed June 19, 1956, Ser. No. 592,244
4 Claims. (Cl. 167—14)

1. An anti-fungal product comprising, in synergistic combination, boric acid and an organic compound, in an amount of from about 0.2 to about 5.0 mols per mol of boric acid, selected from the group consisting of lactic acid, salicylic acid and propylene glycol; combined with water and sufficient base to provide a pH of between about 9 and 11.

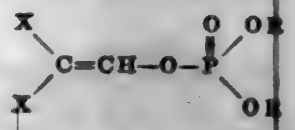
2,968,591

CONTROL OF CIGARETTE BEETLES WITH VAPOR OF DDVP

Ralph L. Tracy, Miller Place, N.Y., assignor to Norda Essential Oil and Chemical Company, New York, N.Y., a corporation of New York

No Drawing. Filed May 8, 1957, Ser. No. 657,733
6 Claims. (Cl. 167—22)

1. A process for the control of the cigarette beetle *Lasioderma serricorne* L., which comprises subjecting the beetle to an atmosphere comprising a lethal concentration of the vapor of a dialkyl halovinyl phosphate of the formula



wherein each X is halogen, and each R is an alkyl radical having from one to three carbon atoms.

2,968,592

POLYVINYLPYRROLIDONE PENICILLIN TREATMENT OF BOVINE MASTITIS

Clifton Robert Curtis, Hamilton, N.Y., assignor to Hamilton Pharmacal Company, Inc., Hamilton, N.Y.

No Drawing. Filed May 8, 1957, Ser. No. 657,735
8 Claims. (Cl. 167—53.2)

1. The treatment of bovine mastitis and udder infection which comprises periodic intramammary injection of dosages comprising a vehicle containing penicillin and polyvinylpyrrolidone.

ERRATUM

For Class 165—55 see Patent No. 2,968,158

2,968,593

PREPARATION OF ANORGANIC BONE

Edward Raplin, Evanston, Ill., assignor to Armour and Company, Chicago, Ill., a corporation of Illinois

No Drawing. Filed Dec. 9, 1957, Ser. No. 701,355
3 Claims. (Cl. 167—74)

3. The method of preparing anorganic bone comprising the steps of boiling bone in successive changes of water, drying the bone, substantially defatting the bone with a fat extracting solvent, and removing by extracting with ethylenediamine the organic matrix from the defatted bone to obtain the inorganic matrix.

2,968,594

AMINO ACID AND PROCESS

Robert C. Nubel, Levittown, N.Y., assignor to Chas. Pfizer & Co., Inc., Brooklyn, N.Y., a corporation of Delaware

No Drawing. Filed Feb. 3, 1958, Ser. No. 712,632
5 Claims. (Cl. 195—47)

1. A process for the production of diaminopimelic acid which process comprises cultivating *E. coli*, ATCC–13024,

under submerged, aerobic conditions at a pH of from about 6.0 to about 8.0 in an aqueous nutrient medium comprising a carbohydrate source selected from the group consisting of glucose, sucrose and sugar cane molasses, a source of nitrogen, a source of magnesium and various trace metals in the presence of an initial concentration of about 0.1 to about 0.5 gram of L-lysine and from about 0.1 to about 0.2 gram of pyridoxine per liter of nutrient medium together with the decarbohydrated portion of from about 60 to about 80 gram of beet molasses per liter of nutrient medium.

2,968,595

OXYGENATION OF STEROIDS BY RHIZOCTONIA AND SCLEROTIUM

George Greenspan, New Brunswick, and Carl P. Schaffner, Somerville, N.J., assignors to Rutgers Research and Educational Foundation, New Brunswick, N.J., a non-profit corporation of New Jersey

No Drawing. Filed June 19, 1957, Ser. No. 666,759
21 Claims. (Cl. 195—51)

1. A process for the oxygenation of steroids, which comprises dispersing a steroid, containing at least one member selected from the group consisting of 1-methylene, 2-methylene, and 11-methylene groups, in an aqueous nutrient medium containing assimilable nitrogen and carbohydrate, and subjecting such dispersed steriod to the oxygenating action produced by growing a species of fungus selected from the group consisting of the genera Rhizoctonia and Sclerotium in said medium under agitated aerobic fermentation conditions, so as to introduce an oxygen function which, when said oxygen function is —OH, is introduced into at least one of the positions selected from the group consisting of the 1, 2β, and 11α and 11β positions, and when said oxygen function is =O, then at the 11 position, and isolating the thus produced further oxygenated product.

2,968,596

PROCESS FOR THE PRODUCTION OF DIGITOXIGENIN AND INTERMEDIATES

Peter D. Meister, Kalamazoo Township, Kalamazoo County, and Herbert C. Murray, Hickory Corners, Mich., assignors to The Upjohn Company, Kalamazoo, Mich., a corporation of Michigan

No Drawing. Original application June 7, 1955, Ser. No. 513,900. Divided and this application Nov. 17, 1958, Ser. No. 774,117
4 Claims. (Cl. 195—51)

1. A process for the production of 3β,14β-dihydroxy-20(22)-cardenolide which comprises: pyrolyzing 15-acyloxyprogesterone, wherein the acyl radical is of a carboxylic acid containing from one to eight carbon atoms, inclusive, at a temperature between about 275 to about 400 degrees centigrade to give 4,14-pregnadiene-3,20-dione; subjecting 4,14-pregnadiene-3,20-dione to aerobic fermentation by *Ophiobolus herpotrichus* and recovering from the fermentation mixture 21-hydroxy-4,14-pregnadiene-3,20-dione; hydrogenating 21-hydroxy-4,14-pregnadiene-3,20-dione with hydrogen in the presence of a palladium catalyst in a basic medium to obtain 21-hydroxy-14-pregnene-3,20-dione; acylating 21-hydroxy-14-pregnene-3,20-dione with an acylating agent selected from the group consisting of carboxylic acid anhydride and carboxylic acid chlorides and bromides, wherein the carboxylic acid contains from one to eight carbon atoms, inclusive, to obtain the corresponding 21-acyloxy-14-pregnene-3,20-dione; reducing the thus obtained 21-acyloxy-14-pregnene-3,20-dione with an alkali metal borohydride to give 21-acyloxy-3α-hydroxy-14-pregnen-20-one; esterifying the 3α-hydroxy group of 21-acyloxy-3α-hydroxy-group of 21-acyloxy-3α-hydroxy-14-pregnen-20-one with an arylsulfonyl halide wherein the halide has an atomic weight between 34 and 81, to obtain the corresponding 21-acyloxy-3α-arylsulfonyloxy-14-pregnen-20-one; heating the 21-acyloxy-3α-arylsulfonyloxy-14-pregnen-20-one, dissolved in a carboxylic acid containing from one to eight carbon atoms, inclusive, and having a melting point below fifty degrees centigrade, with an alkali-metal salt of the same acid to obtain the corresponding 3β,21-diacyloxy-14-pregnen-20-one; treating the thus-obtained 3β,21-diacyloxy-14-pregnen-20-one with a hypohalous acid wherein the halogen is defined as above, to yield the corresponding 3β,21-diacyloxy-15β-hydroxy-14α-halopregnen-20-one; treating the thus-produced 3β,21-diacyloxy-15β-hydroxy-14α-halopregnen-20-one with ethyl bromoacetate in the presence of zinc to produce the corresponding 3β-acyloxy-15β-hydroxy-14α-halo-14α-card-20(22)-enolide; treating the thus obtained 3β-acyloxy-15β-hydroxy-14α-halo-14α-card-20(22)-enolide with a base to produce 3β-acyloxy-14(15)-oxido-20(22)-cardenolide; hydrolyzing the thus obtained 3β-acyloxy-14(15)-oxido-20(22)-cardenolide by means of fermentation under anaerobic conditions with a fungus of the genus Rhizopus to obtain 3β-hydroxy-14(15)-oxido-20(22)-cardenolide; and reducing the thus obtained 3β-hydroxy-14(15)-oxido-20(22)-cardenolide with an alkali metal borohydride to obtain 3β,14β-dihydroxy-20(22)-cardenolide.

2,968,597

METHOD AND COMPOSITION FOR DETECTING *CANDIDA ALBICANS*

Joseph F. Pagano, Bound Brook, and Joseph D. Levin, Highland Park, N.J., assignors to Olin Mathieson Chemical Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed Oct. 1, 1957, Ser. No. 687,362
9 Claims. (Cl. 195—103.5)

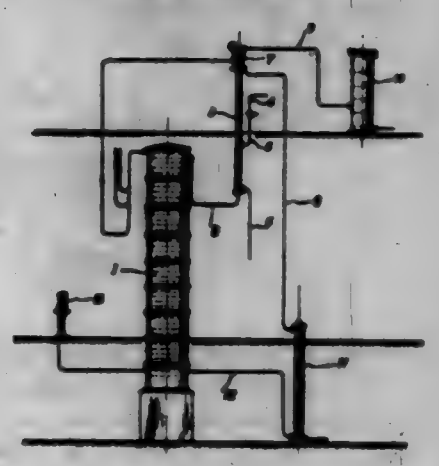
8. A method for the detection of *Candida albicans* which essentially comprises inoculating the surface of a culture medium with a sample of the organism in question, the culture medium essentially comprising a source of carbon and energy, a source of nitrogen, a broad spectrum antibacterial antibiotic and a monotetrazolium indicator in a concentration of not more than about 0.2 mg./ml. of medium.

2,968,598

METHOD FOR OBTAINING ETHYL ALCOHOL OF HIGH QUALITY

Victor Dossin, Paris, France, assignor to Lepage, Urbain & Cie, Paris, France, a corporation of France

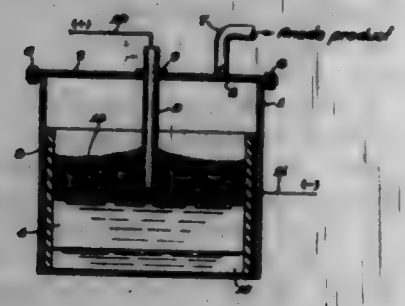
Filed Nov. 21, 1955, Ser. No. 548,224
Claims priority, application France Dec. 29, 1954
1 Claim. (Cl. 202—72)



Method for obtaining high grade ethyl-alcohol by reducing or eliminating impurities such as ethers and aldehydes from previously rectified ethyl alcohol which consists in passing the ethyl-alcohol through a heat exchanger, the walls of which are externally heated by steam to a temperature of about 130° to 140° C. said alcohol traveling

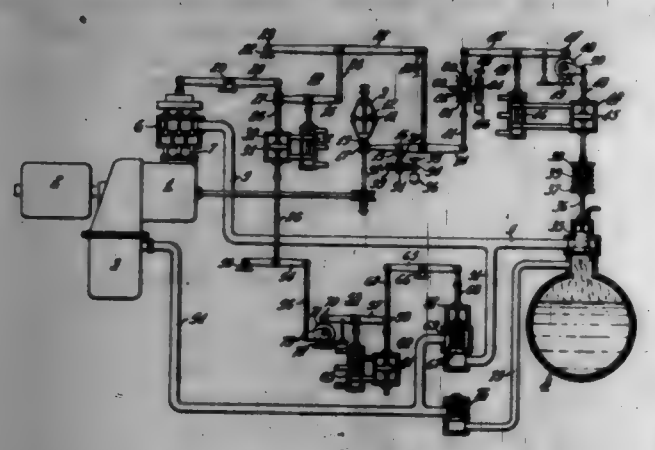
through said heat exchanger at a sufficient rate to obtain a mixed liquid-vapor phase and separating the liquid alcohol from the alcohol in vapor phase which carries away the impurities.

2,968,599
PREPARATION OF SILICON TETRAFLUORIDE
Franciszek Olstowski, Freeport, Tex., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Sept. 2, 1958, Ser. No. 758,436
9 Claims. (Cl. 204—61)



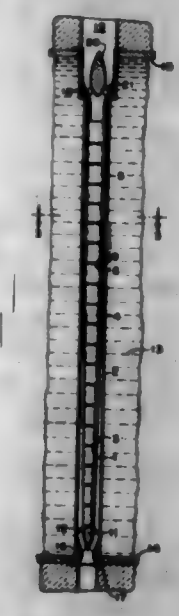
1. A process for the preparation of silicon tetrafluoride which comprises passing an electric current through an electrolyte between a porous carbon anode and an insoluble cathode at a temperature sufficient to melt the electrolyte to obtain an anode product containing silicon tetrafluoride, said electrolyte consisting essentially of a mixture containing at least one metal fluoride which is non-volatile and stable at the electrolysis temperature selected from the group consisting of alkali metal fluorides, alkaline earth metal fluorides, and earth metal fluorides and a compound selected from the group consisting of metal silicates which are non-volatile and stable at the electrolysis temperature and silica, and recovering the silicon tetrafluoride from the anode product.

2,968,600
CONTROL FOR A BOILING TYPE REACTOR SUPPLYING A STEAM TURBINE
Robert C. Allen, Wauwatosa, Wis., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Mar. 11, 1955, Ser. No. 493,783
10 Claims. (Cl. 204—193.2)



1. In a power plant including a steam turbine supplying power to a variable load at a substantially constant predetermined speed, a boiling type reactor for generating steam to operate said turbine and means for conducting steam from said reactor to said turbine, a control system comprising: a first valve assembly for controlling admission of steam to said turbine, a second valve assembly for controlling pressure within said reactor, and a governor responsive to the speed of said turbine, said governor being connected to said first and second valve assemblies, said governor being operative in response to turbine speed greater than said predetermined speed to adjust said first valve assembly to reduce the flow of steam to said turbine and to adjust said second valve assembly to decrease pressure within said reactor to reduce heat output of said reactor, and said governor being vice versa operative in response to turbine speed less than said predetermined speed to adjust said first valve assembly to increase the steam flow to said turbine and to adjust said second valve assembly to increase pressure within said reactor to increase heat output of said reactor to thereby operate said turbine at said predetermined speed and match the heat output of said reactor to the variable heat input requirements of said turbine for variable loads.

2,968,601
FUEL ELEMENT FOR NEUTRONIC REACTORS
Thomas C. Evans, Grundy Center, Iowa, and Ermer G. Beasley, Jr., Arlington, Va., assignors to the United States of America as represented by the United States Atomic Energy Commission
Filed Dec. 18, 1957, Ser. No. 701,947
2 Claims. (Cl. 204—193.2)

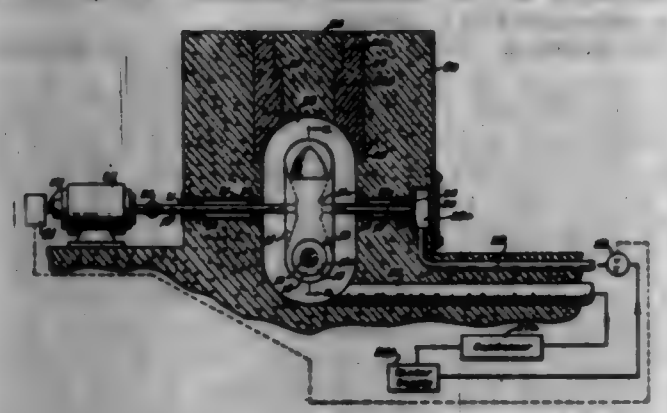


1. A fuel element section comprising a fissionable clad fuel-bearing plate disposed in the form of a multiturn spiral, the first turn of which is radially spaced from a longitudinal axis and the remaining turns of which are relatively closely wound about said first turn, the ends of said plate thus being linearly disposed substantially parallel to said axis and the edges of said plate thus being spirally disposed in planes substantially perpendicular to said axis, each of said spirally-disposed edges being provided with a centrally apertured cover plate affixed in fluid tight relationship, thus providing said fuel element with the approximate form of a hollow cylinder and with a spirally-formed fluid passageway between the axial aperture thus defined and the exterior of said fuel element.

2,968,602
REACTOR-FLASH BOILER-FLYWHEEL POWER PLANT
Ernest Loeb, Silver Spring, Md., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed Dec. 3, 1959, Ser. No. 857,240
2 Claims. (Cl. 204—193.2)

1. A device for generating rotational power comprising an impeller in the form of a round disc including a central hub which houses four cylindrical reactors located in four cylindrical bores having their axes extending in a common plane from the periphery of the disc at an angle of less than 90° with the periphery to an annular cavity located about the hub of the impeller, a solid

shaft and a hollow shaft coaxial therewith extending in opposite directions from the hub of the impeller, said hollow shaft being in communication with the annular cavity, said cylindrical reactors each comprising a core consisting of parallel elongated fuel elements defining a plurality of fluid passages therebetween, a hollow cylindrical reflector of beryllium enclosing the fuel elements, and a nozzle plate on the portion of the reactor nearest the impeller periphery, said fuel elements being constructed of enriched uranium alloyed with approxi-



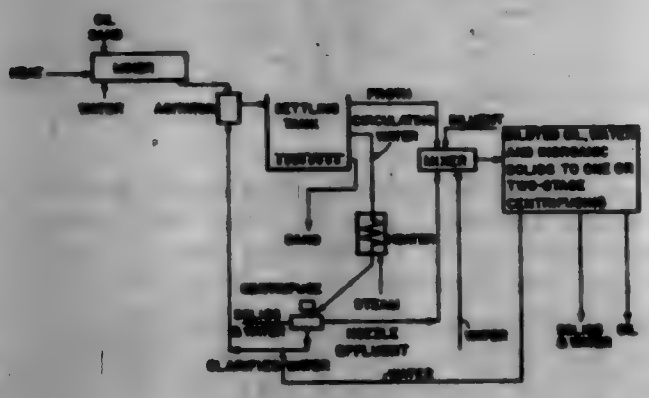
mately 17 times its weight of beryllium, said reactor being subcritical in the absence of steam-forming liquid, means for supplying steam-forming liquid under pressure through said shaft to said impeller, and means for controlling the rate of ingress of steam-forming liquid, whereby the entrance of water to said reactors causes them to attain criticality and steam to be produced by the concomitant nuclear reaction, thereby generating a thrust with a tangential component resulting in rotation of the impeller, upon the escape of said steam through the nozzle plate of each reactor.

2,968,603

HOT WATER PROCESS FOR THE EXTRACTION OF OIL FROM BITUMINOUS SANDS AND LIKE OIL BEARING MATERIAL

Gordon R. Coulson, Calgary, Alberta, Canada, assignor to Can-Amera Oil Sands Development Ltd., Calgary, Alberta, Canada

Filed Mar. 28, 1957, Ser. No. 647,384
2 Claims. (Cl. 208—11)



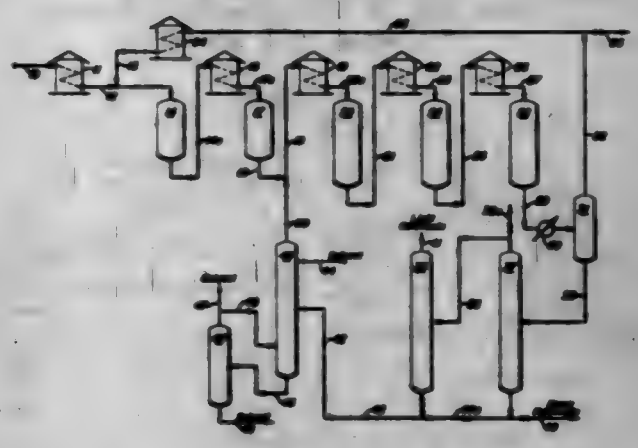
1. A continuous process for separating oil substantially free of water and solids from oil sands, which comprises forming a substantially uniform slurry of an oil-bearing sand with hot water, introducing the slurry into a body of hot water in a quiescent settling zone to form a three layer system, continuously withdrawing a top layer of froth comprising a major proportion of hot undiluted oil and minor but substantial proportions of water and suspended solids, continuously withdrawing an intermediate layer which is principally water but contains a minor proportion of suspended fine solids and oil, and continuously withdrawing and discarding a bottoms layer of water and substantially oil free sand, subjecting the intermediate layer to centrifugal action in a continuous separation zone to produce a stream of oil-free solids in water, a substantially oil- and solids-free water stream and a stream consisting of oil containing some solids and water, discarding the first stream, recycling the second stream to the settling zone, mixing the third stream with the said withdrawn top layer of froth from the settling zone, and with a diluent miscible with said oil, said diluent being substantially nonvaporizable at the processing temperature, the proportions of said diluent being such as to reduce the specific gravity of said oil to about 0.79 to about 0.95, adjusting the amount of water in said mixture to provide a water barrier between the oil layer and the sand layer in a subsequent centrifuging step of at least about one inch, subjecting the diluted mixture to a continuous centrifuging step, recovering an oil product stream substantially free of solids and water, recovering a stream of water substantially free of oil and solids, and removing and discarding a stream of a water slurry of substantially oil-free fine solids.

2,968,604

PROCESS FOR PRODUCTION OF HIGH OCTANE BLENDING STOCKS

Walker F. Johnston, Jr., La Marque, Tex., assignor to The American Oil Company, Texas City, Tex., a corporation of Texas

Filed Nov. 13, 1956, Ser. No. 621,764
2 Claims. (Cl. 208—65)



1. A process for producing ultra-high octane gasoline blending stocks from low octane hydrocarbons, which process comprises charging to a dehydrogenation stage a mixture of at least a portion of a hereinafter described hydrogen-rich recycle gas and a low octane hydrocarbon naphtha, said stage comprising at least one dehydrogenation zone and being characterized by a temperature drop across each zone of said stage in the range of between about 60° F. to about 150° F., and being further characterized by the conversion of naphthenes to aromatics, said stage being maintained at an average temperature in the range of between about 750° F. to about 900° F., forming a mixture consisting of the effluent from said stage and at least a portion of a hereinafter described paraffin-rich raffinate, heating and charging said mixture to a subsequent dehydrocyclization stage comprising a series of dehydrocyclization zones, heating and charging the effluent from the first dehydrocyclization zone to a second dehydrocyclization zone in said dehydrocyclization stage, said dehydrocyclization stage being characterized by a temperature drop across each zone of said stage of less than about 50° F., and being further characterized by conversion of paraffins to aromatics, said dehydrocyclization stage being maintained at an average temperature within the range of between about 900° F. to 1000° F., each of said stages containing platinum-alumina catalyst and being maintained at a combination of conditions comprising, in addition to said temperatures, pressures in the range of between about 100 to 500 p.s.i.g.,

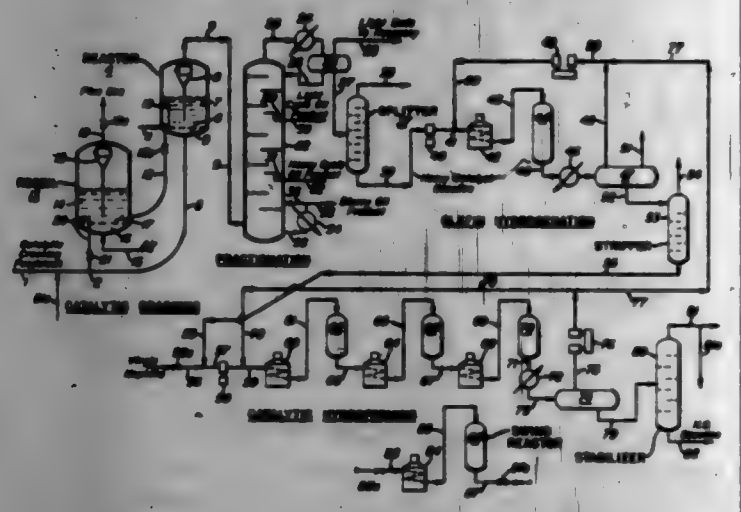
recycle gas rates in the range of between about 2,000 to 10,000 s.c.f./b. and weight hourly space velocities in the range of between about 0.1 to 3, providing thereby a severity sufficient to produce from the dehydrocyclization stage effluent a reformate having a C_5+ octane number of at least about 95 CFR–R (clear), separating from the dehydrocyclization stage effluent a hydrogen-rich recycle gas, and a liquid reformate, fractionating said liquid reformate into a light fraction boiling below about 150° F., a middle fraction boiling within the range of between 150° F. to about 280° F., and a heavy fraction, said heavy fraction boiling above said middle fraction and boiling within the range of between an initial boiling point of about 225 to 280° F. to the end point of said reformate and containing at least about 85 volume percent aromatics and having an octane number of at least about 100 CFR–R (clear), separating from said middle fraction by solvent extraction a paraffin-rich raffinate and an aromatic-rich extract, and obtaining an ultra-high octane number gasoline blending stock by combining said extract with said heavy fraction.

2,968,605

PREPARATION OF HIGH OCTANE NUMBER MOTOR FUEL BLENDING STOCKS

Eugene S. Coddon, Jr., Houston, and Walker F. Johnston, Jr., La Marque, Tex., and David J. Bellman, Ponce, Puerto Rico, assignors to The American Oil Company, Texas City, Tex., a corporation of Texas

Filed July 28, 1958, Ser. No. 751,469
5 Claims. (Cl. 208—70)



1. A process for producing high octane motor fuel blending stocks which comprises: catalytically cracking a gas oil in the presence of a fluidized particulate solid cracking catalyst and at a temperature within the range of about 750° F. to about 900° F. to produce a debutanized catalytically cracked gasoline having an octane number within the range of about 84–94 research clear; separating a catalytically cracked gasoline from the reaction products; splitting said catalytically cracked gasoline to obtain a light high octane blending stock fraction and a heavy fraction boiling chiefly within the range of 200–400° F.; recovering said light high octane blending stock fraction; subjecting said heavy fraction to catalytic hydrogenation in the presence of hydrogen gas and a catalyst effective to selectively hydrogenate olefinic constituents; subjecting the hydrogenated heavy fraction to catalytic hydroforming in the presence of hydrogen gas and a platinum hydroforming catalyst at a temperature of from about 800° F. to 1000° F., a pressure of from about 10 p.s.i.g. to about 1000 p.s.i.g., a space velocity of from about 1.0 to 10.0, and a hydrogen recycle rate of from 3,000 to 10,000 standard cubic feet per barrel to produce a debutanized reformate having an octane number within the range of about 98–110 research clear, at least a portion of the excess hydrogen from the hydroforming step being supplied to the olefin hydrogenation step; and recovering the reformate fraction as a second high octane blending stock fraction.

2,968,606

TWO-STAGE HYDROCARBON REFORMING PROCESS

Harold Beuther, Penn Hills, Robert E. Kline, Verona, and Robert C. Zabor, Glenshaw, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Filed Apr. 27, 1959, Ser. No. 808,885
3 Claims. (Cl. 208—70)

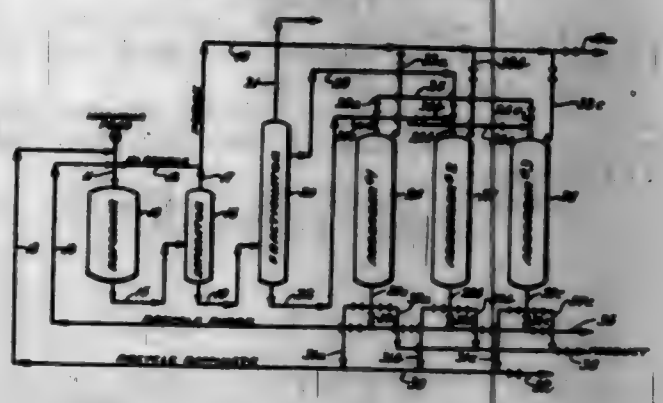
1. The process which comprises fractionally distilling a catalytically cracked gasoline to obtain a heavy fraction thereof having an initial boiling point in the range of 340° to 360° F., said heavy fraction consisting essentially of compounds containing at least 10 carbon atoms in the molecule and comprising substantially all of the C_{10} and heavier hydrocarbons of said catalytically cracked gasoline, contacting said heavy fraction with a reforming-hydrocracking catalyst under severe reforming conditions including a temperature of 900° to 1100° F., a liquid-hourly space velocity of 0.5 to 4.0 vol./vol./hr., a pressure of 100 to 1,000 p.s.i.g. and in the presence of hydrogen in a concentration of at least 2,000 s.c.f./bbl., and recovering a reforming product comprising high octane gasoline and naphthalene in a yield of at least 4 weight percent based on the heavy fraction charged.

2,968,607

PROCESS FOR PRODUCTION OF HIGH OCTANE HYDROCARBONS

Willard S. Higley, Hammond, Ind., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana

Filed Oct. 15, 1956, Ser. No. 616,107
3 Claims. (Cl. 208—95)



1. A process for producing high octane gasoline blending stocks from low octane naphthas, which process comprises contacting in a reforming zone a naphtha feed admixed with a hydrogen-rich recycle gas with a platinum-alumina reforming catalyst under a combination of reforming conditions, said conditions comprising a temperature in the range of between about 900° F. to 1000° F., a pressure in the range of between about 150 to 400 p.s.i.g., a recycle gas rate in the range of about 2,000 to 10,000 s.c.f. per barrel of naphtha and a weight hourly basis velocity in the range of about 0.5 to 5, producing thereby a reformate having a C_5+ octane number of at least about 95 CFR–R (clear), separating the effluent from said reforming zone into a hydrogen-rich recycle gas and a liquid reformate, fractionating said liquid reformate into a light fraction boiling below about 150° F., a middle fraction boiling within the range of about 150° F. to 280° F. and a heavy fraction, said heavy fraction boiling above said middle fraction and in the range of between an initial boiling point of about 220° F. to 280° F. to the end point of said reformate, and containing at least about 85 volume percent aromatics, charging

said middle fraction in the liquid phase to a first adsorber comprising a bed of silica gel in particle form, withdrawing a dearomatized raffinate from said adsorber, continuing to charge said middle fraction to said first adsorber until said silica gel becomes substantially saturated with aromatics adsorbed from said middle fraction, thereafter charging said middle fraction to a second adsorber comprising a bed of silica gel in particle form, desorbing said first adsorber by a process which comprises purging liquid from said first adsorber by passing thereunto at least a portion of said recycle gas, passing through said first adsorber at least a portion of a said heavy fraction at a temperature in the range of about 140° F. to 650° F. until desorption of aromatics previously adsorbed from said middle fraction is substantially completed, and again purging liquid from said first adsorber by passing thereinto at least a portion of said recycle gas, thereafter charging said middle fraction to the desorbed first adsorber, desorbing said second adsorber, repeating the adsorption-desorption cycle, and obtaining a high-octane gasoline blending stock by blending any remainder of said heavy fraction with the effluent removed from said adsorbers while passing thereunto at least a portion of said heavy fraction.

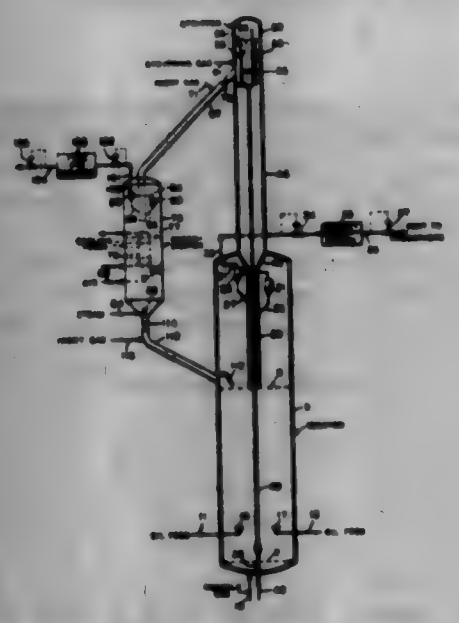
2,968,608

RESTRICTING PRODUCT RECOVERY SYSTEM TO MINIMIZE PRESSURE SURGES

Joseph W. Jewell, Summit, N.J., assignor to The M. W. Kellogg Company, Jersey City, N.J., a corporation of Delaware

Original application July 1, 1953, Ser. No. 365,435, now Patent No. 2,891,907, dated July 23, 1959. Divided and this application Sept. 22, 1958, Ser. No. 762,539

3 Claims. (Cl. 208—95)



1. A process which comprises contacting a reactant material with a mass of finely divided contact material in a reaction zone, separately withdrawing a portion of reaction product and a portion of said contact material from said reaction zone, passing the product thus withdrawn through a first transfer zone into a product recovery system, variably constricting said first transfer zone at a point between said reaction zone and said product recovery system to impose a pressure drop upon the system, withdrawing products from said recovery system through a second transfer zone, variably constricting said second transfer zone at a point between said product recovery system and the point of product withdrawal from said second transfer zone to impose a pressure drop upon the system greater than that imposed by the constriction of said first transfer zone whereby the adverse effect of pressure surges is significantly minimized, passing the aforementioned mass of finely divided contact material withdrawn from said reaction zone to a stripping zone, in said stripping zone removing reactant materials from said contact material, withdrawing a mass of finely divided contact material free from reactant materials from said stripping zone through a third transfer zone, injecting an inert gas into the upper part of said third transfer zone to provide a flow velocity of about 3 to 20 feet per second, passing the mass of contact material from said third transfer zone to a regeneration zone, withdrawing a portion of contact material from said regeneration zone through a fourth transfer zone, injecting an inert gas into the upper part of said fourth transfer zone, passing the mass of contact material from said fourth transfer zone to said reaction zone, and variably constricting said third and fourth transfer zones to impose a pressure drop upon the system which is greater in the fourth transfer zone than that imposed by the constriction of said third transfer zone whereby the adverse effect of pressure surges is significantly minimized.

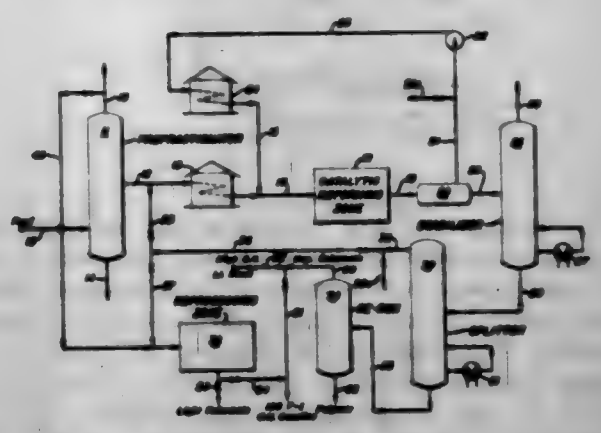
2,968,609

PROCESS FOR FRACTIONATING AND BLENDING A REFORMATE TO OBTAIN A HIGH OCTANE GASOLINE

Irvin H. Lutz, Texas City, Tex., assignor to The American Oil Company, Texas City, Tex., a corporation of Texas

Filed Dec. 30, 1955, Ser. No. 556,498

5 Claims. (Cl. 208—100)



1. In the production of high octane premium gasoline and a second gasoline of lower octane number from gasoline forming and gasoline blending components of a common refinery gasoline pool, a process for producing 100 octane and higher octane full boiling range premium gasoline from low octane naphthas, which process comprises charging a heavy naphtha charge boiling within the range of C_7 hydrocarbons to about a 400° F. end point to a catalytic reforming zone containing a platinum-alumina reforming catalyst, subjecting said charge in said reforming zone to a combination of conditions, including a temperature in the range of about 875° to 1000° F., a pressure in the range of about 100 to 500 p.s.i.g., a hydrogen recycle gas ratio in the range of about 2000 to 10,000 cubic feet of gas per barrel of charge and a space velocity in the range of about 0.1 to 5.0 weight ratio charge per hour to weight of catalyst in said reforming zone, providing thereby a severity sufficient to produce a reformate having a C_5+ octane number of at least about 93 F–1 (clear), charging said reformate to a fractionating zone, splitting said reformate in said fractionating zone at a cut point within the range of between a maximum of about 300° F. and a minimum of about 225° F. according to the relationship wherein said cut point is near said maximum of 300° F. when the C_5+ octane number of said reformate is about 93 F–1 (clear) and said cut point is decreased within said range, thereby increasing the yield of the hereinafter designated heavy fraction above a minimum of at least about 40

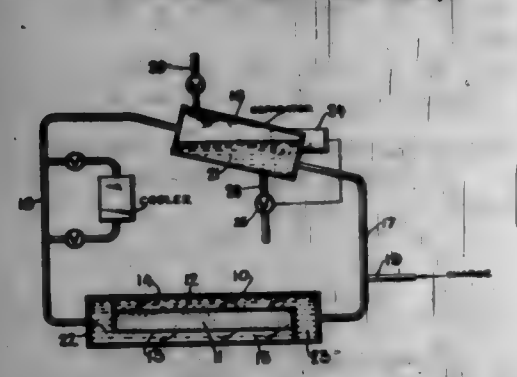
volume percent of the total C_5+ reformate, towards said minimum cut point of about 225° F. as the severity of reforming is increased to provide a reformate having a C_5+ octane number of at least about 100 F–1 (clear), whereby two fractions are recovered constituting a light fraction boiling below said cut point and a heavy fraction boiling in the range of said cut point to the end point of said reformate, and whereby said heavy fraction comprises at least about 40 volume percent of the total C_5+ reformate and contains at least about 80 volume percent aromatics and has an octane number of at least about 100 F–1 (clear), and thereafter blending said heavy fraction with an extraneous light fraction of high blending octane number in proportions sufficient to produce a full boiling range premium gasoline of at least about 100 F–1 octane number.

2,968,610

RECYCLE CATALYTIC CONVERSION OF LIQUID REACTANTS

Eric V. Bergstrom, Byram, Conn., assignor to Socony Mobil Oil Company, Inc., a corporation of New York

Filed Sept. 22, 1958, Ser. No. 762,591
5 Claims. (Cl. 208—100)



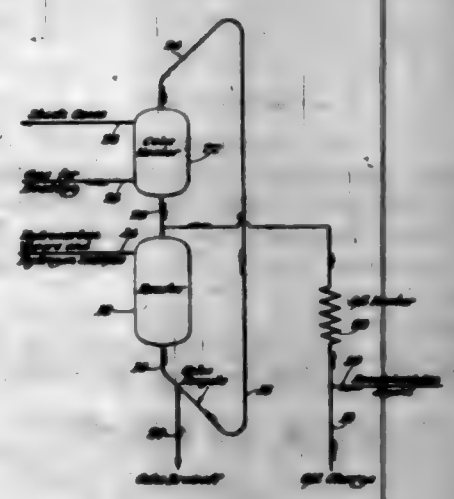
3. A process for the hydrocracking of high boiling liquid hydrocarbons to lower boiling gaseous products, which comprises: maintaining a fixed, compact reaction bed of solid hydrocracking catalyst within a confined conversion zone; passing a mixture of recycle hydrocarbons, fresh hydrocarbon charge and hydrogen through said bed in said conversion zone to effect the conversion to gaseous products; maintaining a confined cooling zone above said reaction zone; flowing the hydrocarbon-hydrogen mixture upwardly as a laterally confined column from said conversion zone into said cooling zone; cooling said mixture in said cooling zone to a temperature level sufficient to condense hydrocarbons which it is desired to recycle to said conversion zone but not substantially below said temperature level; removing hydrogen and gaseous material from the upper section of said cooling zone; accumulating a body of liquid recycle hydrocarbons in the lower portion of said cooling zone and passing liquid recycle from said body downwardly as a laterally confined column into said conversion zone; passing cool, fresh hydrocarbon charge into said cooling zone in indirect heat exchange relationship with the material from said conversion zone to supply the above-indicated cooling of said material and thereby heat said charge; supplying additional heat to said charge to raise its temperature to a temperature such that when mixed with hydrogen and recycle hydrocarbons, the mixture will be at the desired conversion zone inlet temperature; mixing the heated fresh charge, recycle and hydrogen immediately prior to the entry point to said conversion zone; converting sufficient liquid hydrocarbons to gaseous material in the conversion zone at all times, that the density of the hydrogen-hydrocarbon mixture flowing upwardly is sufficiently below the density of the recycle hydrocarbons flowing downwardly that the hydrostatic head at the lower end of the column of upwardly flowing hydrogen-hydrocarbon mixture is from 3 to 15 p.s.i. less than the hydrostatic head at the lower end of said column of recycle hydrocarbons, sufficient to force said recycle hydrocarbons into and through said reaction zone and the products of said hydrocracking into said cooling zone by hydrostatic pressure; and controlling the rate at which recycle flows into said conversion zone by controlling the rate of conversion to gaseous products and thereby controlling the density of the reactor effluent.

2,968,611

PROCESS FOR THE SIMULTANEOUS DESULFURIZATION AND COKING OF A RESIDUAL PETROLEUM FRACTION

August H. Schutte, Hastings on Hudson, N.Y., assignor to The Lummus Company, New York, N.Y., a corporation of Delaware

Filed Dec. 12, 1955, Ser. No. 552,657
5 Claims. (Cl. 208—126)



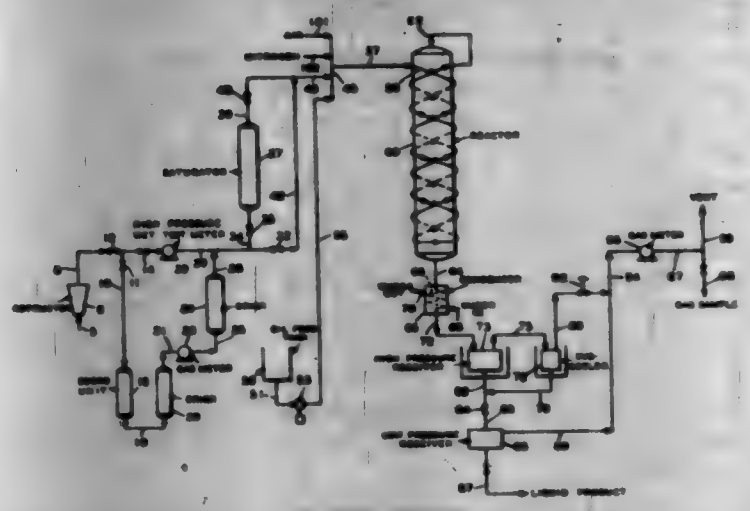
1. A continuous process for simultaneously coking and desulfurizing hydrocarbon residual oils having a high sulfur content in the presence of a moving gravity packed bed of heated coke particles which comprises: mixing aluminum hydrate as a desulfurizing agent with a stream of liquid hydrocarbon residual oils to be desulfurized and coked; heating said stream of liquid hydrocarbon residual oils including said desulfurizing agent to a temperature of from about 700 to 900° F.; introducing said heated stream of liquid hydrocarbon residual oils and desulfurizing agent into a moving gravity packed column of relatively hot coke particles whereby the particles of said column are substantially uniformly coated with said desulfurizing agent and said liquid hydrocarbon residual oils, said coke particles in said column being heated to a temperature of from about 850 to 1100° F.; passing the coated coke particles of said column as a gravity packed bed downwardly through a conversion zone without the introduction of hydrogen thereto; maintaining said coated coke particles in the conversion zone at the coking temperatures established by said heated particles and at a pressure of from 2 to 60 p.s.i.g. for a period sufficient to coke said liquid hydrocarbon residual oils thereby to form light hydrocarbon vapors and a dry coke deposit on said particles, and to desulfurize said liquid hydrocarbon residual oils by converting sulfur therein to hydrogen sulfide; withdrawing coke particles having a substantially dry coke and spent aluminum hydrate deposit thereon from the lower portion of said conversion zone, a portion of said withdrawn coke particles constituting product coke and the remaining portion of said withdrawn coke particles being reheated and returned to said moving gravity packed column; and removing said light hydrocarbon vapors and said hydrogen sulfide from the upper portion of said conversion zone.

2,968,612

PRETREATMENT OF MOLYBDENUM OXIDE CATALYST EMPLOYED IN THE REFORMING OF HYDROCARBONS

Robert T. Loughran, Jersey City, and William P. Burton, Little Silver, N.J., assignors to The M. W. Kellogg Company, Jersey City, N.J., a corporation of Delaware

Filed Aug. 2, 1952, Ser. No. 302,351
8 Claims. (Cl. 208—136)



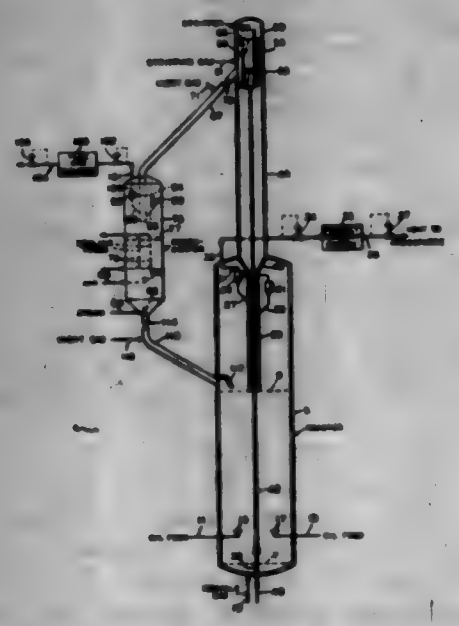
8. A process for reforming a light hydrocarbon oil which comprises treating a molybdenum oxide catalyst which has previously been treated with an oxygen-containing gas with a hydrogen-containing gas substantially free of water under static conditions at an elevated pressure to convert the catalyst to a reduced form and then contacting the reduced catalyst with a light hydrocarbon oil under suitable reforming conditions in the presence of dioxidized hydrogen and in the presence of added water in the amount of about 0.1 to about 10 mol percent.

2,968,613

SCRUBBING FLUE GAS WITH MINIMUM PRESSURE SURGES

Joseph W. Jewell, Summit, N.J., assignor to The M. W. Kellogg Company, Jersey City, N.J., a corporation of Delaware

Original application July 1, 1953, Ser. No. 365,435, now Patent No. 2,891,907, dated June 23, 1959. Divided and this application Sept. 22, 1958, Ser. No. 762,538
6 Claims. (Cl. 208—162)



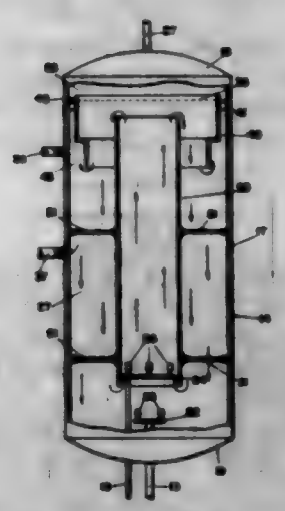
1. A process which comprises withdrawing a flue gas product from a regeneration zone maintained at a temperature between about 800° F. and about 1200° F., passing the product thus withdrawn through a first transfer zone into a scrubbing zone, variably constricting said first transfer zone at a point between said regeneration zone and said scrubbing zone to impose a pressure drop upon the system, withdrawing scrubbed flue gas from said scrubbing zone at superatmospheric pressure through a second transfer zone, and variably constricting said second transfer zone at a point between said scrubbing zone and the point of flue gas withdrawal from said second transfer zone to impose a pressure drop upon the system greater than that imposed by the constriction of said first transfer zone to reduce the pressure from an operating level to atmospheric pressure whereby the adverse effect of pressure surges is significantly minimized.

2,968,614

LIQUID PHASE HYDROGENATION OF PETROLEUM FRACTIONS

Charles H. Brooks and Charles L. Thomas, Swarthmore, Pa., assignors to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

Filed July 3, 1957, Ser. No. 669,721
3 Claims. (Cl. 208—264)



1. An apparatus for contacting liquids with gases which comprises a shell, upper and lower closure plates, a vertical, open-ended draft tube disposed centrally in the shell, a liquid inlet line passing through the lower closure plate, a liquid eduction nozzle associated with said liquid inlet line, said eduction nozzle being located below said draft tube, a gas inlet line passing through the lower closure plate, a gas eduction nozzle associated with said gas inlet line, said gas eduction nozzle being located within said draft tube, a gas outlet line passing through the upper closure plate, an inwardly and downwardly extending baffle associated with the inner wall of said shell, the bottom of said baffle lying below the top of the draft tube, a first product outlet line passing through the shell adjacent said baffle, and a second product line passing through the shell at a point spaced from said baffle and below the top of the draft tube, and valve means associated with each of said product lines for controlling flow therethrough.

2,968,615

SOLVENT EXTRACTION OF AROMATIC FROM ALIPHATIC HYDROCARBONS USING BETA HYDROXY ETHYL-M-TOLYL SULFIDE OR BETA HYDROXY ETHYL PHENYL SULFIDE

Charles O. Petty, Tyler, Tex., assignor of one-half to The La Gloria Oil and Gas Company, Tyler, Tex., a corporation of Delaware

No Drawing. Original application Oct. 29, 1957, Ser. No. 693,040. Divided and this application Apr. 28, 1959, Ser. No. 809,338
3 Claims. (Cl. 208—322)

1. The method of separating aromatic from aliphatic hydrocarbon contained in a hydrocarbon naphtha mixture

comprising extracting the aromatic hydrocarbon components with a compound selected from the group consisting of beta hydroxy ethyl phenyl sulfide and beta hydroxy ethyl m-tolyl sulfide.

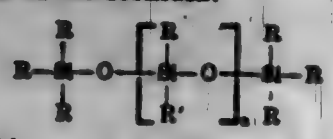
2,968,616

METHOD OF INHIBITING SCALE FORMATION BY NON-HYDROLYZING ORGANOPOLYSILOXANE

George G. Bernard, Crystal Lake, Ill., assignor to The Pure Oil Company, Chicago, Ill., a corporation of Ohio

No Drawing. Filed Nov. 17, 1955, Ser. No. 547,557
4 Claims. (Cl. 210—58)

1. The method of inhibiting formation of scale on a metallic surface in contact with frequent changes of hot water containing cations from the group consisting of calcium and magnesium comprising adding to said water prior to contact with said surface between 0.001 and 1% by weight of a substantially non-hydrolyzing organopolysiloxane resin of the formula:



wherein R and R' are selected from the group consisting of substituted and unsubstituted alkyl, aryl, arylalkyl, and cycloalkyl radicals, and *n* is any whole number, said resin having a consistency ranging from that of lubricating oils to that of soft waxes.

2,968,617

FRICTION CONTROLLING POWDER FOR FRICTIONAL DEVICES

Charles Reykjalin, Melrose Park, Ill., assignor to Koren Research & Engineering Company, Chicago, Ill., a corporation of Illinois

Filed Oct. 20, 1958, Ser. No. 768,281
9 Claims. (Cl. 252—30)

1. A substantially dry composition of matter for producing a predetermined, substantially constant coefficient of friction between two frictionally engaged relatively slidable surfaces consisting essentially of by weight between 24 and 30 percent graphite, 8 and 24 percent expanded exfoliated vermiculite, 5 and 7 percent carbon black, and 25 and 75 percent of a metal oxide from the group consisting of tin oxide, aluminum oxide, iron oxide and zirconium oxide, all in fine comminuted form.

2,968,618

STABILIZED HYDROCARBON OIL

Ralph B. Thompson, Hinsdale, Ill., assignor, by mesne assignments, to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed Sept. 29, 1958, Ser. No. 763,845
10 Claims. (Cl. 252—32.5)

1. Hydrocarbon oil normally tending to deteriorate containing from about 0.0001% to about 5% by weight of the condensation product, formed at a temperature of from about ambient to about 100° C., of a beta-lactone containing from about 3 to about 6 carbon atoms per molecule and a polyamine containing from about 8 to about 70 carbon atoms per molecule, said lactone reacting with from about 10% to about 100% of the nitrogen in said amine.

2,968,619

LUBRICANT COMPOSITION

Allan A. Mantoufel and William D. Glisson, Crystal Lake, Ill., assignors to The Pure Oil Company, Chicago, Ill., a corporation of Ohio

No Drawing. Filed Aug. 28, 1956, Ser. No. 606,585
6 Claims. (Cl. 252—33.3)

1. A lubricant composition characterized by initially high antiweld properties and decreasing corrosivity with extended use at elevated temperatures, consisting essentially of a petroleum lubricating oil, sufficient amount of a sulfurized-phosphorized fatty material, in the range from about 5–20 percent wt. of the composition to enhance the load-carrying properties of the oil, said sulfurized-phosphorized fatty material being prepared by heating at least one ester of a non-drying high-molecular-weight fatty acid with 5–10 percent wt. of sulfur at 325°–340° F. until a tan copper strip end-point is obtained after one minute immersion of a copper strip at 300° F., then heating the sulfurized ester with 0.4–5 percent wt. of phosphorus sesquisulfide at 220°–230° F. until a tan copper strip end-point is obtained after one minute immersion of a copper strip at 220° F., an amount of elemental sulfur in the range from about 1–50 percent wt. of the sulfurized-phosphorized fatty material sufficient to enhance the antiweld properties of the composition but not in excess of that amount which can react with the sulfurized-phosphorized fatty material to the extent necessary to convert the sulfur to a substantially non-corrosive form upon extended use, and an amount of a naphthenate salt, in the range from about 0.1–5 percent wt. of the composition, sufficient to accelerate the reaction of the sulfur with the sulfurized-phosphorized fatty material.

2,968,620

INHIBITED SOLUBLE-OIL

Thomas H. Cafcas, Chicago, and Albert W. Lindert, Homewood, Ill., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana

No Drawing. Filed Oct. 28, 1957, Ser. No. 692,586
6 Claims. (Cl. 252—33.4)

1. A water-miscible concentrate adapted to inhibit the formation of odor-producing bacteria in emulsifiable soluble-oil compositions used as lubricants and coolants in ferrous metal-working operations, consisting essentially of from about 15% to 30% beta naphthol, from about 15% to 30% sodium ortho-phenyl phenate, from about 4% to 25% water and from about 35% to 60% of an alkyl alcohol of from 1 to 4 carbon atoms, said concentrate being adapted to be incorporated in a soluble-oil emulsion in amounts sufficient to provide in said emulsion from about 0.05% to about 0.1% of said beta naphthol and of said sodium ortho-phenyl phenate.

2,968,621

ACID-TOLERATING SOLUBLE OIL COMPOSITION

Ford C. Teeter, Chicago, and Vern R. Kahler, South Holland, Ill., assignors to Sinclair Refining Company, New York, N.Y., a corporation of Maine

No Drawing. Filed June 28, 1955, Ser. No. 518,647
9 Claims. (Cl. 252—49.5)

1. A new composition of matter which is an acid-tolerating soluble oil characterized by being capable of forming stable oil-in-water emulsions consisting essentially of about 2 to 5 weight percent of a cationic surface active polyoxyethylene derivative of an aliphatic primary amine having 10 to 30 carbon atoms per molecule and about 2 to 10 mols of ethyleneoxide per mol of amine, about 2 to 5 weight percent of a non-ionic surface active polyoxyethylene derivative of hexitol anhydride partial long chain fatty acid ester containing about 2 to 25 mols of ethylene oxide per mol of ester, about 0.5 to 2.5 weight percent of a non-ionic long chain fatty acid partial ester of hexitol anhydride, wherein the fatty acid portion of said partial esters contains 12 to 24 carbon atoms per molecule, a minor amount up to about 8 weight percent of a mixture of non-ionic lower alkyl benzene polyether alcohols having relatively long and short polyethoxy radicals within the range of 5 to 25 ether groups, about 0 to 5 weight percent of a mutual

solvent for the surface active agents with substantially the balance mineral oil.

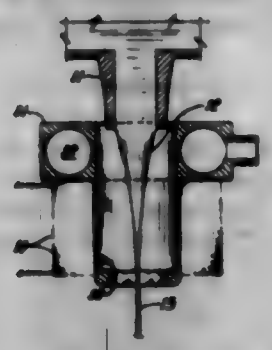
2. An oil-in-water emulsion consisting essentially of water and the composition of claim 1.

2,968,622

MAGNETIC CERAMIC FIBERS AND METHOD OF MAKING SAME

Harry B. Whitehurst, Newark, Ohio, assignor to Owens-Corning Fiberglas Corporation, a corporation of Delaware

Filed Dec. 30, 1958, Ser. No. 783,814
14 Claims. (Cl. 252—62.5)



1. A continuous flexible fiber made of ferromagnetic ceramic material.

9. A method for making a thin flexible fiber having magnetic properties of crystallizable fiber-forming material in which the magnetic moments are capable of alignment comprising mechanically attenuating from a molten stream a fiber of such magnetically alignable material, cooling said fiber, reheating said fiber to at least the devitrification temperature of such material and again cooling said fiber to effect a crystallization thereof, and aligning the magnetic moments of said material as crystallization occurs.

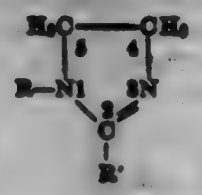
2,968,623

FLUID POWER TRANSMISSION

Samuel M. Darling, Lyndhurst, Ohio, assignor to The Standard Oil Company, Cleveland, Ohio, a corporation of Ohio

Filed July 25, 1956, Ser. No. 600,020
3 Claims. (Cl. 252—75)

1. In a process for fluid power transmission the improvement which comprises transmitting power by means of a fluid having a viscosity of from 75 to 1000 SSU at 100° F. and from 50 to 750 SSU at 210° F., and having an ASTM slope below about 0.3, consisting essentially of a mineral lubricating oil having a viscosity of from about 50 to 330 SSU to 100° F. and from 25 to 565 SSU at 210° F., a silica aerogel in an amount within the range from about 1% to about 3% imparting an increased viscosity and a decreased ASTM slope to the oil, from about 1% to about 60% by weight of the silica aerogel of an aliphatic amine selected from the group consisting of primary and secondary amines, the primary amines having one and the secondary amines having two aliphatic hydrocarbon radicals of from eight to twenty carbon atoms, and from about 1% to about 20% by weight of the silica aerogel of an aliphatic imidazoline having the following formula:



where R is selected from the group consisting of hydrogen, alkyl and hydroxyalkyl radicals having from one to eighteen carbon atoms and R' is selected from the group consisting of alkyl and alkylene radicals having from eight to twenty carbon atoms, the amine and imidazoline imparting a further increase in viscosity and a further decrease in ASTM slope, supplementing the effect of the silica aerogel.

2,968,624

FLUID POWER TRANSMISSION

Franklin Veatch, Cleveland, and Ernest C. Milberger, Maple Heights, Ohio, assignors to The Standard Oil Company, Cleveland, Ohio, a corporation of Ohio

Filed July 25, 1956, Ser. No. 600,023
3 Claims. (Cl. 252—75)

1. In a process for fluid power transmission, the improvement which comprises transmitting power by means of a fluid having a viscosity within the range from 75 to 1000 SSU at 100° F. and from 50 to 750 SSU at 210° F., and having an ASTM slope below about 0.3, consisting essentially of a mineral lubricating oil having a viscosity within the range from 50 to 300 SSU at 100° F. and from 25 to 55 SSU at 210° F., a silica aerogel in an amount within the range from 1 to 3% imparting an increased viscosity and a decreased ASTM slope to the oil and an aliphatic amine having from about 8 to about 20 carbon atoms in an amount within the range from about 1 to about 60% by weight of the silica aerogel, imparting a further increase in viscosity and a further decrease in ASTM slope supplementing the effect of the silica aerogel.

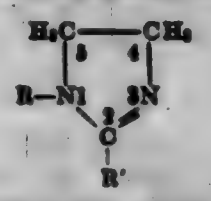
2,968,625

FLUID POWER TRANSMISSION

Ernest C. Milberger, Maple Heights, and Samuel M. Darling, Lyndhurst, Ohio, assignors to The Standard Oil Company, Cleveland, Ohio, a corporation of Ohio

Filed July 25, 1956, Ser. No. 600,024
2 Claims. (Cl. 252—75)

1 In a process for fluid power transmission the improvement which comprises transmitting power by means of a fluid having a viscosity within the range from 75 to 1000 SSU at 100° F., and from 50 to 750 SSU at 210° F., and having an ASTM slope below about 0.3, consisting essentially of a mineral lubricating oil having a viscosity within the range from 50 to 300 SSU at 100° F. and from 25 to 55 SSU at 210° F., a silica aerogel in an amount within the range from about 1% to about 3% imparting an increased viscosity and a decreased ASTM slope to the oil, and from about 1% to about 20% by weight of the silica aerogel of an aliphatic imidazoline having the following formula:



where R is selected from the group consisting of hydrogen, alkyl and hydroxyalkyl radicals having from one to eighteen carbon atoms and R' is selected from the group consisting of alkyl and alkylene radicals having from eight to twenty carbon atoms, the imidazoline imparting a further increase in viscosity and a further decrease in ASTM slope, supplementing the effect of the silica aerogel.

2,968,626

GREEN HALOPHOSPHATE PHOSPHOR

Henry W. Rinsbach, Bloomfield, N.J., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Apr. 18, 1956, Ser. No. 577,373
8 Claims. (Cl. 252—301.4)

1. A strontium halophosphate phosphor material activated by antimony and manganese and having as es-

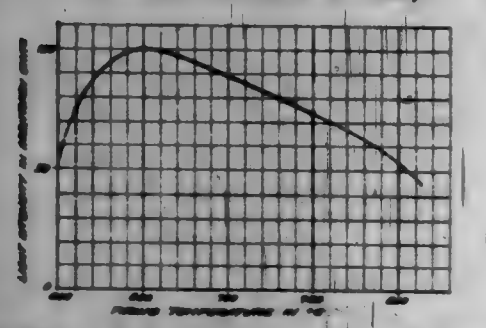
sential elements Sr, P, O, Mn, Sb and one of the group consisting of F and F plus Cl and consisting of the fired reaction product of: strontium- and phosphorous- and oxygen-containing material which can form $Sr_3(PO_4)_2$ with an excess of P_2O_5 and which material is free from non-volatile constituents other than said essential elements, one of the group consisting of strontium- and fluorine-containing material and strontium- and fluorine- and chlorine-containing material which can respectively form SrF_2 and mixtures of SrF_2 and $SrCl_2$ and which material is free from non-volatile constituents other than said essential elements, manganese-containing material consisting of manganese compounds which are free from non-volatile constituents other than said essential elements and antimony-containing material consisting of antimony compounds which are free from non-volatile constituents other than said essential elements; said essential element-containing materials being present in the following stated proportions: said $Sr_3(PO_4)_2$ and excess P_2O_5-forming material being present in amounts sufficient to form 3 moles $Sr_3(PO_4)_2$ with an excess of from 0.10 to 0.35 mole P_2O_5, said strontium halide-forming material being present in amounts sufficient to form from 1 to 1.25 moles of total strontium halide with the molar ratio of SrF_2 to $SrCl_2$ being from 2:1 to all SrF_2, said manganese-containing compound being present in amounts to provide from 1.0% to 1.4% by weight of Mn expressed as a percent by weight of the phosphor, said antimony-containing compound being present in amounts to provide from 1.0% to 3.0% by weight of Sb expressed as a percent by weight of the phosphor; the phosphor having been made by mixing together the foregoing raw-mix components; and firing said mixed raw-mix components at from about 1220° C. to about 1280° C.

2,968,627

ELECTROLUMINESCENT PHOSPHOR AND METHOD

Anselm Wachtel, Parlin, N.J., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Feb. 12, 1958, Ser. No. 714,868
8 Claims. (Cl. 252—301.6)



2. The method of changing from green to yellowish the electroluminescent emission of cuprous-sulfide-solvent unwashed, finely-divided, copper-activated zinc sulfide phosphor containing copper in amount of from 0.45 to 1.1 gram-atom percent of the zinc sulfide and at least one of the group consisting of chlorine, bromine, iodine and aluminum in amount of from 0.11 to 0.65 gram-atom percent of the zinc sulfide, which method comprises: admixing with said phosphor from about 5 to about 19 molar percent of the zinc sulfide of finely-divided cadmium sulfide; and firing said admixture in an inert atmosphere at from 610° C. to 750° C. for at least ⅓ hour; thereafter washing said fired admixture in a solution which is a solvent for cuprous sulfide but which is not a solvent for zinc and cadmium sulfides.

5. A yellow-emitting copper-activated zinc-cadmium sulfide electroluminescent phosphor comprising, finely-divided zinc-cadmium sulfide the individual particles of which are interiorly predominately zinc sulfide and exteriorly rich in cadmium sulfide, the molor percent of cadmium sulfide to zinc sulfide being from about 5 to about 19 and said phosphor containing copper in amount of from 0.45 to 1.1 gram-atom percent of the zinc sulfide and at least one of the group consisting of chlorine, bromine, iodine and aluminum in amount of from 0.11 to 0.65 gram-atom percent of the zinc sulfide.

2,968,628

PROPELLANT COMPOSITION

Winston H. Reed, Trumbull, Conn., assignor to Shulton, Inc., Clifton, N.J., a corporation of New Jersey

No Drawing. Filed Oct. 17, 1958, Ser. No. 767,758
8 Claims. (Cl. 252—305)

1. A propellant composition comprising about 25 to about 33% of isobutane and the remainder octafluorocyclobutane.

2,968,629

METHOD OF INHIBITING CORROSION

Ralph B. Thompson, Hinsdale, Ill., assignor, by mesne assignments, to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed Sept. 29, 1958, Ser. No. 763,846
10 Claims. (Cl. 252—389)

1. A method of inhibiting corrosion of a metal surface upon contact with water, which comprises effecting said contact in the presence of a corrosion inhibiting concentration of the condensation product, formed at a temperature of from about ambient to about 100° C., of a beta-lactone containing from about 3 to about 6 carbon atoms per molecule and a polyamine containing from about 8 to about 70 carbon atoms per molecule, said lactone reacting with from aobut 10% to about 100% of the nitrogen in said amine.

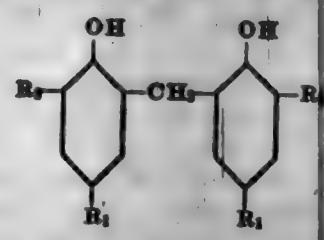
2,968,630

RUBBER ANTIOXIDANT AND METHOD OF PREPARATION

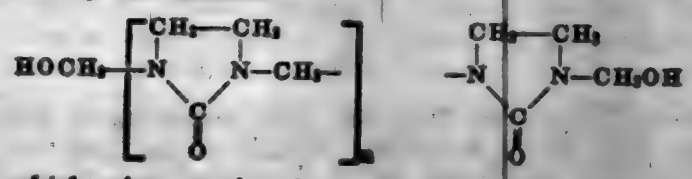
Dante A. Pillon, New Brunswick, and Earl Kaplan, North Plainfield, N.J., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Dec. 26, 1957, Ser. No. 705,112
3 Claims. (Cl. 252—403)

1. In preparing a 2,2′-methylene-bisdialkylphenol of the formula



in which R_1 is an alkyl radical of 1–3 carbon atoms and R_2 is a tertiary alkyl radical of 4–8 carbon atoms, by a known process in which a dialkylphenol is reacted with formaldehyde at an elevated temperature in the presence of an acid catalyst; the method of imparting to said product bis-dialkylphenol the ability to form highly-fluid dispersions which retain their fluidity for extended periods of time which method comprises: conducting said reaction in the presence of a sufficient amount of dimethylolethyleneurea to form in situ a self-condensation product thereof in amount of from at least about 0.5 to about 5.0 weight percent of said product bis-dialkylphenol, said self-condensation product having a molecular weight in the range from about 200 to about 1000 and being represented by the formula

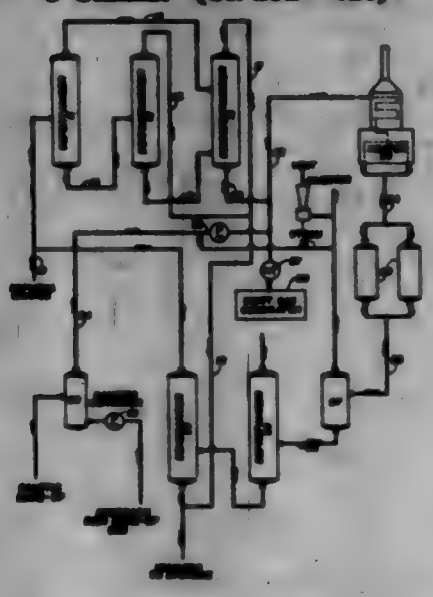


in which *n* is a number from above 1 to about 10.

2,968,631
REGENERATION OF ISOMERIZATION CATALYSTS

Norman L. Carr, Crystal Lake, and Vincent Brenzwald, Mundelein, Ill., assignors to The Pure Oil Company, Chicago, Ill., a corporation of Ohio

Filed Oct. 31, 1956, Ser. No. 619,611
5 Claims. (Cl. 252—416)



1. A process for regenerating a catalyst consisting essentially of a silica-alumina hydrocarbon cracking catalyst support containing 2 to 8% w. of nickel which has been activated by sequential reduction at an elevated temperature, oxidation at 650°–850° F., and reduction with substantially pure hydrogen at 650°–850° F. for a time sufficient to substantially completely reduce the hydrogenating agent thereon, said catalyst being used in the reduced, activated form in the isomerization of isomerizable n-paraffins at temperatures of 600°–750° F., in admixture with hydrogen at a pressure of 50–1000 p.s.i. until the catalyst has become degenerated from extended use; said regenerating process comprising purging the reaction zone containing said catalyst in the reduced, degenerated form with an inert gas, free of H_2O, CO, and H_2S, at about 600°–700° F. and 0–15 p.s.i.g. to strip the reaction zone substantially free of isomerization reactants and reaction effluent, reducing the pressure in the reaction zone to atmospheric pressure while maintaining said temperature, contacting said catalyst with an oxygen-containing gas at a temperature of about 800°–1000° F. until all oxidizable constituents of the catalyst are substantially completely oxidized, purging said catalyst with a dry inert gas at a temperature of 975°–1050° F. until the catalyst is dehydrated, and thereafter reducing the oxidized catalyst with a hydrogen-containing gas at a temperature of 700°–775° F. until all reducible catalyst constituents are substantially completely reduced and all by-product water is removed.

2,968,632
ISOMERIZATION CATALYST

Hillis O. Folkins, Crystal Lake, Elmer L. Miller, Cary, and Kenneth E. Lucas, Crystal Lake, Ill., assignors to The Pure Oil Company, Chicago, Ill., a corporation of Ohio

Filed July 14, 1958, Ser. No. 748,378
9 Claims. (Cl. 252—455)

1. A method of preparing a highly active isomerization catalyst which comprises impregnating a precalcined silica-alumina support, containing at least 50 wt. percent silica, with a sufficient amount of a solution of a reducible palladium compound to produce a palladium concentration of 0.01–1.0 wt. percent on the support, drying the impregnated catalyst, and activating the catalyst by reduction with hydrogen at a temperature of about 750°–800° F.

2,968,633
ADSORPTIVE POROUS MINERAL MASS AND METHOD OF MAKING SAME

James V. Weir, Milltown, N.J., assignor to Minerals & Chemicals Philipp Corporation, a corporation of Maryland

No Drawing. Filed May 27, 1958, Ser. No. 738,092
7 Claims. (Cl. 252—455)

4. A method of adjusting the porosity of a mass of a mineral selected from the group consisting of attapulgite and sepiolite comprising the steps of adjusting the volatile matter content of said mass within the range of about 10 percent to about 34 percent, and then subjecting said mass to a compressive force of from about 10 to about 30 tons per square inch.

2,968,634
HYDROCARBON CONVERSION CATALYSTS

Paul G. Nahin, Brea, Calif., assignor to Union Oil Company of California, Los Angeles, Calif., a corporation of California

No Drawing. Original application Sept. 24, 1951, Ser. No. 248,897, now Patent No. 2,867,581, dated Jan. 6, 1959. Divided and this application Sept. 22, 1958, Ser. No. 762,261
8 Claims. (Cl. 252—465)

1. A hydrocarbon conversion catalyst consisting essentially of between about 8%–20% by weight of molybdenum oxide calculated as MoO_3, and a finite amount, less than 2% by weight of an oxide of a group VIII metal selected from the class consisting of cobalt and nickel, the remainder of said catalyst consisting of a refractory oxide carrier selected from the class consisting of alumina and alumina-silica mixtures, said catalyst being prepared by the alternate impregnation of said carrier in aqueous solutions of salts of said metals and calcining of the impregnated carrier to convert said salts to the corresponding oxides.

2,968,635
ACTIVATED ALUMINA AND THE USE THEREOF

William G. Nixon, Westchester, Ill., assignor, by mesne assignments, to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed Sept. 19, 1958, Ser. No. 761,949
3 Claims. (Cl. 252—466)

1. A method of preparing alumina of improved surface-area characteristics which comprises contacting alumina hydrogel with gaseous ammonia at a temperature in excess of 25° C. and thereafter calcining the alumina.

3. A method for manufacturing an alumina hydrogel platinum catalyst which comprises preparing alumina hydrogel, contacting said alumina with gaseous ammonia at a temperature of from about 100° C. to about 600° C., removing said ammonia from the alumina and subjecting the latter to a calcining treatment at elevated temperatures, compositing platinum with said calcined alumina and thereafter drying and calcining the resulting alumina-platinum composite.

2,968,636
METHOD OF PRODUCING AN IRON OXIDE-CHROMIUM OXIDE COMPLEX

Clement Scialline and Roger Carles, Marseille, France, assignors to Société des Couleurs de Provence, La Barasse, par Saint-Marcel, France, a corporation of France

No Drawing. Filed Nov. 19, 1957, Ser. No. 697,323
Claims priority, application France Dec. 5, 1956
10 Claims. (Cl. 252—470)

1. A method of preparing complex iron-chromium mixtures consisting essentially of suspending monohydrous ferric oxide in an aqueous ferrous salt solution, adding metallic iron and a soluble chromium salt to the solution, maintaining the pH of the solution between about 3–4

and the temperature of the solution between about 55–65° C., and oxidizing the solution to deposit the chromium on the monohydrous ferric oxide.

2,968,637

CURABLE DISPERSIONS OF ETHYLENE POLYMERS AND PROCESS OF CURING SAME

George H. Bowers III, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed July 20, 1953, Ser. No. 369,244
10 Claims. (Cl. 260—4)

1. A process for producing a cured chlorosulfonated polymonoolefin which comprises forming an aqueous latex of a chlorosulfonated polymonoolefin having an average particle size of less than 4 microns, making that latex basic to a pH of about 8 to about 11.5, adding to the resulting basic latex a dispersion of a polyvalent metal oxide which is a curing agent for the chlorosulfonated polymonoolefin, evaporating the water from the basic latex, and thereafter curing the chlorosulfonated polymonoolefin by heating it at a temperature of 100° C. to about 150° C.

2,968,638

PAINT RECLAIMING

Joseph G. Mechler, 4030 Colony Road, South Euclid, Ohio

No Drawing. Filed Feb. 18, 1959, Ser. No. 793,964
19 Claims. (Cl. 260—21)

1. A method of reclaiming a resin-containing paint substantially insoluble in a normally used paint vehicle comprising the steps of interreacting a fatty acid component having a 13 to 17 carbon chain attached to the carboxyl group, a polyhydric alcohol having from 2 to 6 carbon atoms, and an acid anhydride selected from the class consisting of maleic anhydride, succinic anhydride, and phthalic anhydride to a liquid polymeric state compatible with the resin-containing point; admixing the liquid polymer with such paint; and then adding such normally used paint vehicle to the admixture, such liquid polymer serving as a bridging agent between such resin-containing paint and such paint vehicle to render such paint and vehicle mutually compatible.

2,968,639

PROCESS OF INCORPORATING CHLORINATED DIPHENYL INTO CRYSTALLINE POLYESTERS AND PRODUCTS THEREFROM

John R. Caldwell and Russell Gilkey, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed July 30, 1956, Ser. No. 600,678
7 Claims. (Cl. 260—33.8)

1. The process of rendering difficultly moldable high melting linear crystalline polyesters more readily moldable, said polyesters being prepared from an acid component selected from the group consisting of terephthalic, 4,4′-sulfonyldibenzoic, 4,4′-diphenic, 4,4′-dicarboxybenzophenone, 1,2-di(p-carboxyphenyl)ethane, 1,2-di(p-carboxyphenoxy)ethane, 4,4′-dicarboxydiphenylether and 2,5-dichloroterephthalic acid and a glycol component selected from the group consisting of ethylene, trimethylene, tetramethylene, pentamethylene, hexamethylene, octamethylene, decamethylene glycols, 2,2-dimethyl-1,3-propanediol, 2-methyl-1,4-butanediol, 3-methyl-1,5-pentanediol, diethylene glycol, triethylene glycol, 4,4′-dihydroxydibutylether and 1,4-cyclohexane dimethanol, which comprises incorporating into said difficultly moldable polyester 8–40% of a chlorinated diphenyl which chlorinated diphenyl contains from at least 30% nuclear chlorine up to 60% nuclear chlorine said incorporation of the chlorinated diphenyl being accomplished after the preparation of the polyester in the fully polymerized state and prior to the molding thereof.

2,968,640

COMPOSITION COMPRISING STYRENE-BUTADIENE ELASTOMER, CARBON BLACK, AN AMINOTHIAZOLE DISULFIDE AND A CADMIUM COMPOUND AND METHOD FOR CURING SAME

Earl C. Gregg, Jr., Cuyahoga Falls, Ohio, assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York

No Drawing. Filed Jan. 19, 1959, Ser. No. 787,371
8 Claims. (Cl. 260—41.5)

1. The composition comprising a mixture of 100 parts by weight of a styrene-butadiene rubber, from about 20 to 60 parts by weight of carbon black, from about 0.5 to about 10 parts by weight of an aminothiazole disulfide conforming to the structure



wherein R represents a thiazole radical having from 3 to 14 carbon atoms and R_1 and R_2 are selected from the class consisting of aliphatic radicals having from 1 to 4 carbon atoms, cycloaliphatic radicals having from 5 to 6 carbon atoms, aralkyl radicals having from 7 to 10 carbon atoms, and aliphatic radicals having from 2 to 5 carbon atoms wherein R_1 and R_2 are joined to form a single ring through a chalcogen atom having an atomic weight less than 33 and from about 0.1 to about 3 moles of a cadmium compound selected from the group consisting of cadmium carbonate, cadmium hydroxide, cadmium oxide, cadmium salicylate and a cadmium halide per mole of said aminothiazole disulfide.

2,968,641

STABILIZED POLYPROPYLENE WITH AN A-STAGE PARA-TERTIARYALKYLPHENOL-FORMALDEHYDE RESIN

John S. Roberts and Julius K. Rose, South Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed May 14, 1958, Ser. No. 735,103
6 Claims. (Cl. 260—43)

1. A polypropylene composition comprising a normally solid polypropylene and containing an A-stage para-tertiaryalkylphenol-formaldehyde resin in a small amount sufficient to stabilize said polypropylene against oxidative degradation, wherein the tertiaryalkyl group of the para-tertiaryalkylphenol contains from 4 to about 20 carbon atoms.

2,968,642

STABILIZERS FOR POLYMERIC COMPOSITIONS

William M. Le Suer, Cleveland, Ohio, assignor to The Lubrizol Corporation, Wickliffe, Ohio, a corporation of Ohio

No Drawing. Filed Jan. 17, 1957, Ser. No. 634,628
9 Claims. (Cl. 260—45.75)

1. A thermally stable composition containing a vinyl chloride polymer and a minor proportion of a product prepared by the process which comprises preparing a mixture of

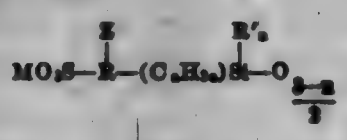
(*a*) an alkylated monohydroxy aromatic compound,
(*b*) an oil-soluble, metal-free, non-tautomeric organic polar compound having at least 12 aliphatic carbon atoms and selected from the class consisting of sulfoxides, alcohols, esters and amines, present in an amount greater than that of (*a*) on a weight basis, and
(*c*) at least two equivalents of a basic barium compound per equivalent of (*a*)

and heating said mixture to drive off substantially all free

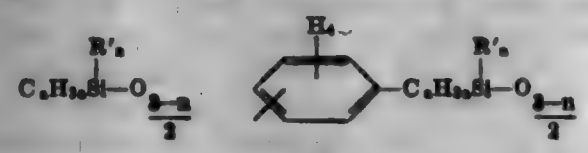
water which may be present and then treating said water-free mixture with an acidic gas having an ionization constant greater than that of (*a*) until the titratable basicity of the mixture has been substantially reduced.

2,968,643
SULFO-ARALKYLSILOXANES AND SALTS THEREOF
Donald L. Bailey, Snyder, N.Y., assignor to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Dec. 31, 1958, Ser. No. 784,635
17 Claims. (Cl. 260—46.5)

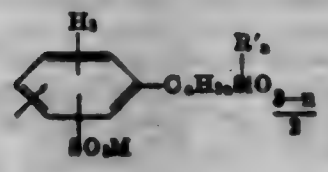
1. As a new composition of matter an organo-functional organosilicon compound containing at least one unit of the formula:



wherein Z is selected from the class consisting of hydrogen, alkyl groups, aryl groups and groups having the formula:



and



interconnected to R through carbon to carbon linkage, R is an aryl group containing up to and including 10 carbon atoms, R′ is an alkyl group, (*a*) is an integer of from 2 through 4, (*n*) is an integer of from 0 through 2, M is a member of the class consisting of hydrogen, alkali metal groups, and ammonium groups, and the aryl group represented by R is interconnected to silicon through at least 2 carbon atoms.

2,968,644
METHOD OF PRODUCING PHENOLIC RESINS SOLUBLE IN TRI-CHLOR-ETHYLENE
Lars Sten Robert Norrbode, Alvangen, Sweden
(% Dyfoam Corporation, New Castle, Pa.)
No Drawing. Filed May 2, 1957, Ser. No. 656,519
11 Claims. (Cl. 260—57)

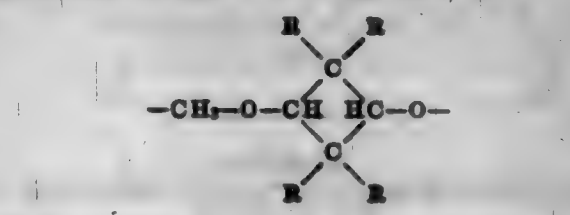
1. A method of producing phenolic resins soluble in tri-chlor-ethylene which comprises the steps of: admixing a phenolic compound selected from the group consisting of phenol, mono- and di-methyl substituted phenols and mixtures thereof, with an aqueous solution of formaldehyde, the mole ratio of phenolic compound to formaldehyde ranging between about 0.4 to 1.0 and 0.9 to 1.0, together with a catalytic amount of ammonia, permitting the ensuing condensation reaction to continue exothermically until the temperature of the reactants rises to a temperature not exceeding 40° C. thereupon adding to the reactant mixture tri-chlor-ethylene, the mole ratio of tri-chlor-ethylene to phenolic compound being larger than 0.4 to 1.0, and thereafter continuing the reaction until the condensation product has a refractive index between about 1.4650 and 1.5250.

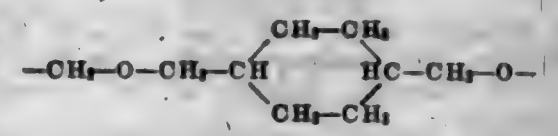
2,968,645
SYNTHETIC RUBBER EMULSION POLYMERIZATIONS IN THE PRESENCE OF ALPHA OR BETA CONIDENDROL
George B. Sterling, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Aug. 25, 1958, Ser. No. 757,083
5 Claims. (Cl. 260—63)

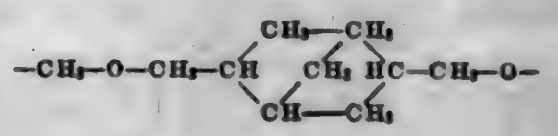
1. In the process of polymerizing an aqueous emulsion of polymerizable synthetic rubber-forming monomers selected from the groups consisting of butadienes-1,3 and mixtures of butadienes-1,3 with compounds which contain a single $CH_2{=}C<$ group and are copolymerizable with butadiene-1,3, and containing an organic peroxide catalyst, an iron salt and an alkali salt of ethylene diamine tetraacetic acid, the step of carrying out the polymerization in the presence of from 0.01 to 5 percent by weight of conidendrol, based on the weight of the polymerizable monomers.

2,968,646
POLYFORMALS OF CYCLIC DIOLS
John R. Caldwell and Winston J. Jackson, Jr., Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Filed Sept. 30, 1958, Ser. No. 764,240
11 Claims. (Cl. 260—67)

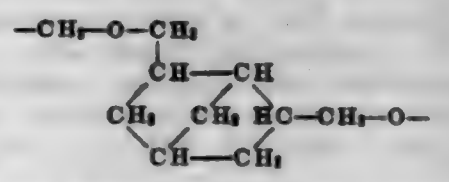
1. A normally solid linear polyformal having an average molecular weight of at least about 10,000 and consisting essentially of a recurring structural unit having a formula selected from the group consisting of







and



wherein R is an alkyl radical having 1 to 4 carbon atoms.

2,968,647
DRYING OILS CURED WITH DIISOCYANATES
Donald F. Kooiecke and Anthony H. Gleason, Westfield, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Apr. 1, 1957, Ser. No. 649,646
7 Claims. (Cl. 260—77.5)

1. A method for improving the hardness and chemical resistance of a liquid polymeric drying oil selected from the group consisting of homopolymers of butadiene-1,3 and copolymers of butadiene-1,3 with up to 40% styrene having viscosities at 25° C. between 400 and 10,000 poises at 100% concentration, which comprises mixing 100 parts by weight of the polymeric drying oil with 0.5 to 6.0 parts by weight of an organic diisocyanate, and curing the mixture at a temperature between room temperature and 160° C.

2,968,648
CURING AIR-BLOWN OILS WITH BLOCKED ISOCYANATES
Merlyn A. Tucker, Cranford, and Ober C. Slotterbeck, Clark Township, Union County, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Aug. 29, 1957, Ser. No. 681,126
7 Claims. (Cl. 260—77.5)

1. A coating composition comprising: (1) a liquid polymer drying oil chosen from the group consisting of homopolybutadiene and copolymers of butadiene and styrene containing 5 to 40% by weight of styrene and 60 to 95 wt. % of butadiene which polymer drying oil has been blown with air until the polymer contains at least 10% by weight of oxygen and (2) the reaction product of 1 mole of trimethylolpropane and 3 moles of 2,4-tolylene diisocyanate, the amount of said reaction product being such that between 0.0038 and 0.0394 equivalent of unreacted NCO groups in the 2,4-tolylene diisocyanate per 5 grams of oxidized oil is present.

2,968,649
ELASTOMERIC TERPOLYMERS
John R. Pailthorp, Wilmington, Del., and Herman Elbert Schroeder, Kennett Square, Pa., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Dec. 4, 1958, Ser. No. 778,068
2 Claims. (Cl. 260—80.5)

1. An elastomeric terpolymer consisting of 3 to 35% by weight of tetrafluoroethylene units and 97 to 65% by weight of vinylidene fluoride and hexafluoropropene units, said vinylidene fluoride and hexafluoropropene units being present in a weight ratio within the range of 2.33:1.0 to 0.667:1.0.

2,968,650
INTERPOLYMERIZATIONS OF ETHYLENE AND BUTADIENE
Warren Nesmith Baxter and Ivan Maxwell Robinson, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Oct. 15, 1954, Ser. No. 462,608
7 Claims. (Cl. 260—85.3)

1. A process for the preparation of ethylene-butadiene interpolymers which comprises contacting ethylene and butadiene in the presence of an inert, liquid hydrocarbon medium with from 0.001 to 10%, on the basis of the monomer, of a catalyst containing titanium at a valence state of two obtained by contacting reducible titanium having a valence above two with sufficient quantity of a reducing agent to reduce the titanium to a valence state of two.

2,968,651
PROCESS FOR PREPARING NORMALLY CRYSTALLINE VINYLIDENE CHLORIDE POLYMERS
Louis C. Friedrich, Jr., James W. Peters, and Marion R. Rector, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Feb. 8, 1957, Ser. No. 638,917
2 Claims. (Cl. 260—87.7)

1. A process for polymerizing a monomeric material consisting of from 70 to 100 percent by weight of vinylidene chloride and from 30 to 0 percent by weight of a comonomer in which (1) said monomeric material is placed in a closed vessel together with from 0.1 to 1.0 percent by weight of a free radical polymerization catalyst soluble in the monomer and (2) said monomeric material and catalyst is dispersed in from 1 to 4 parts by weight based on the weight of said monomeric material of an aqueous phase containing from 0.01 to 0.06 percent by weight of a water soluble methyl hydroxypropyl cellulose of a viscosity grade of from 100 to 1500 centipoises, all percentages being based on the weight of said monomeric material, and (3) the dispersion of the polymerizing particles is maintained with agitation at a temperature of from 35 to 75° C. until polymerization is complete.

2,968,652
POLYMERIZATION PROCESS WITH A CATALYST PREPARED BY SUBJECTING $TiCl_3$ TO ULTRASONIC VIBRATIONS AND ADDING AN ALUMINUM ALKYL
Thomas S. Mertes, Wilmington, Del., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey
No Drawing. Filed Nov. 27, 1957, Ser. No. 699,196
1 Claim. Cl. 260—93.7)

A process for preparing predominantly crystalline polypropylene which comprises dispersing titanium trichloride particles in an inert liquid hydrocarbon, subjecting the inert liquid containing the titanium trichloride particles to ultrasonic waves having a frequency of from 20,000 to 500,000 cycles per second and an intensity of from 4 to 20 watts per square centimeter, whereby the titanium trichloride particles are reduced in size to from about 0.1 to about 5.0 microns, and thereafter introducing the inert liquid hydrocarbon containing the titanium trichloride particles into a reaction mixture comprising an inert liquid reaction medium, propylene and an alkyl aluminum compound, said reaction mixture being maintained at a temperature of from 0° C. to 250° C. and a pressure of from atmospheric to 10,000 p.s.i.g. in the absence of ultrasonic vibration, whereby polymerization of the propylene to a predominantly crystalline polymer takes place, separating the propylene polymer from the reaction mixture, deactivating and washing out the catalyst from the polymer, and recovering predominantly crystalline polypropylene containing less than 50 p.p.m. of titanium.

2,968,653
PROCESS FOR PREPARING A WATER-SOLUBLE COBALT SALT AND SOLUBLE STARCH
Lyell J. Klotz, Cincinnati, Ohio, assignor to Lloyd Brothers, Inc., Cincinnati, Ohio, a corporation of Ohio
No Drawing. Filed July 16, 1957, Ser. No. 672,125
3 Claims. (Cl. 260—233.3)

1. The process which comprises preparing an aqueous solution of a water-soluble cobalt salt and soluble starch, the amount of salt and starch being such as to provide about 1 part by weight of cobalt to at least about 18 parts by weight of soluble starch, adding an alkali hydroxide to the cobalt salt-soluble starch solution to provide the resulting reaction mixture at a temperature between 0° C. and 100° C. with a pH of about 11 while maintaining the reaction mixture between 0° and 100° C., and recovering the resulting cobalt-soluble starch compound as a precipitate by adding a water-miscible organic liquid selected from the class consisting of lower aliphatic alcohols and acetone to the aqueous alkaline reaction mixture.

2,968,654
ALLO PREGNANE COMPOUNDS AND PROCESS
Carl Djerassi, Birmingham, Mich., and George Rosenkranz, Mexico City, Mexico, assignors, by mesne assignments, to Syntex S.A., Mexico City, Mexico, a corporation of Mexico
No Drawing. Original application Sept. 3, 1952, Ser. No. 307,722, now Patent No. 2,773,879, dated Dec. 4, 1956. Divided and this application Oct. 3, 1956, Ser. No. 616,904
Claims priority, application Mexico Sept. 20, 1951
8 Claims. (Cl. 260—239.55)

6. A new compound consisting of $\Delta^{20(22)}$-allofurostene-3β,11α,26-triol triacetate.

2,968,655

11-OXYGENATED-6-METHYL PROGESTERONE AND INTERMEDIATES THEREFOR

George B. Spero and John L. Thompson, both of Kalamazoo Township, Kalamazoo County, Mich., assignors to The Upjohn Company, Kalamazoo, Mich., a corporation of Michigan

No Drawing. Filed Nov. 23, 1956, Ser. No. 623,821
8 Claims. (Cl. 260—239.55)

1. 11 - oxygenated - 6 - methylprogesterone selected from the group consisting of 6α-methyl-11-ketoprogesterone and 6α-methyl-11β-hydroxyprogesterone.

3. Compounds selected from the group consisting of 5α,11α - dihydroxy - 6β - methylallopregnane-3,20-dione and 5α - hydroxy - 6β-methyl-11α-acyloxyallopregnane-3,20-diones wherein the acyl radical is of a hydrocarbon carboxylic acid containing from one to eight carbon atoms, inclusive.

5. Compounds selected from the group consisting of 5α,11α - dihydroxy - 6β - methylallopregnane-3,20-dione 3,20-bis-(ethylene ketal) and 5α - hydroxy-6β-methyl-11α-acyloxyallopregnane-3,20-dione 3,20 - bis-(ethylene ketal) wherein the acyl radical is of a hydrocarbon carboxylic acid containing from one to eight carbon atoms, inclusive.

7. Compounds selected from the group consisting of 5α,6α - oxido-11α - hydroxyallopregnane-3,20-dione 3,20-bis-(ethylene ketal) and 5α,6α-oxido-11α-acyloxyallopregnane-3,20-dione 3,20-bis-(ethylene ketal) wherein the acyl radical is of a hydrocarbon carboxylic acid containing from one to eight carbon atoms, inclusive.

2,968,656

14α,15α-EPOXIDO-Δ⁴-PREGNEN-21-OL-3,20-DIONE AND ESTERS THEREOF

Howard J. Ringold, Franz Sondheimer, and George Rosenkranz, Mexico City, Mexico, assignors to Syntex S.A., Mexico City, Mexico, a corporation of Mexico

No Drawing. Original application Dec. 17, 1954, Ser. No. 476,873. Divided and this application Mar. 2, 1959, Ser. No. 799,398
Claims priority, application Mexico Dec. 23, 1953
2 Claims. (Cl. 260—239.55)

1. A new compound selected from the group consisting of 14α,15α-epoxido-Δ⁴-pregnen-21-ol-3,20-dione and esters of hydrocarbon carboxylic acids of less than 10 carbon atoms thereof.

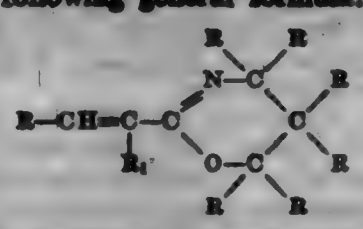
2,968,657

PROCESS FOR PREPARING ALKENYL OXAZINES

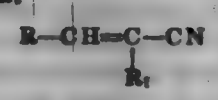
Milton A. Perry, Longview, Tex., Joseph B. Dickey, Kingsport, Tenn., and Alfred G. Robinson III, Longview, Tex., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed May 22, 1959, Ser. No. 814,958
6 Claims. (Cl. 260—244)

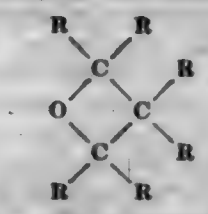
1. A process for preparing an alkenyl oxazine represented by the following general formula:



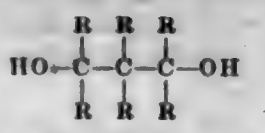
wherein each R represents a member selected from the group consisting of an atom of hydrogen and a methyl group and R_1 represents a member selected from the group consisting of an atom of hydrogen, an atom of chlorine, a methyl group, and a cyano group, which comprises contacting approximately equimolar quantities of (1) an α,β-unsaturated nitrile represented by the following general formula:



wherein R and R_1 are as above defined, with (2) a compound selected from the group consisting of (*a*) an oxetane represented by the following general formula:



wherein each R is as above defined, and (*b*) an alkanediol represented by the following general formula:



wherein each R is as above defined, at from 5–40° C., in the presence of concentrated sulfuric acid, and separating the said alkenyl oxazine which forms from the reaction mixture.

2,968,658

PRODUCTION OF SYMMETRICAL N,N DICHLOR-BIS (2,4,6, TRICHLORPHENYL) UREA

Robert Pfanstiel, Cleveland, Ohio, Frederick M. Pralatowski, Buffalo, N.Y., and Herbert A. Scruton, Edgewood Arsenal, Md.

No Drawing. Original application Jan. 18, 1933, Ser. No. 652,432. Divided and this application Nov. 3, 1958, Ser. No. 195,896
4 Claims. (Cl. 260—553)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. In a process for producing symmetrical N,N dichlorbis(2,4,6 trichlorphenyl) urea by chlorinating symmetrical bis(2,4,6 trichlorphenyl) urea, the steps which comprise reacting symmetrical bis(2,4,6 trichlorphenyl) urea with a chlorinating agent comprising a member of the group consisting of sodium hypochorite and calcium hypochlorite at a temperature of about 60 to 70° C. and under a pressure of 10 to 45 lbs. gauge and in the presence of glacial acetic acid.

2,968,659

SULFUR-CONTAINING DERIVATIVES OF PERHALOOLEFINS

Calvin J. Benning, Mahwah, N.J., assignor, by mesne assignments, to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

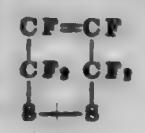
No Drawing. Filed Mar. 21, 1958, Ser. No. 722,837
5 Claims. (Cl. 260—327)

2. A chemical compound of the structure



in which X is a saturated, aliphatic, perfluorinated alkylene radical consisting of from 1 to 4 carbon atoms.

3. A chemical compound of the structure



4. A process for producing a perfluorinated heterocyclic disulfide which comprises reacting sulfur with a perfluorodiolefin consisting of a straight chain of from 4 to 8 carbon atoms, each of said carbon atoms having at least one fluorine substituent, said reaction being conducted at a temperature above 200° C. and below the decomposition temperatures of the diolefin reactant and the disulfide product.

2,968,660

EPOXY PATCHOULANES AND METHOD FOR PREPARING PATCHOULIONE THEREWITH

George Hermann Buchi, Cambridge, Mass., Robert E. Erickson, Metuchen, N.J., Nobel Wakabayashi, Berkeley, Calif., and Habib-Emile Eschinazi, Montclair, N.J., assignors to The Givaudan Corporation, New York, N.Y., a corporation of New Jersey

No Drawing. Filed Apr. 14, 1958, Ser. No. 728,681
4 Claims. (Cl. 260—348)

2. A liquid comprising a major portion β-epoxy patchoulane and a minor portion of unreacted patchoulenes, boiling at 93°–96° C. under a pressure of 1.2 mm. of mercury, having an index of refraction of 1.5015 and optical rotation of −12°.

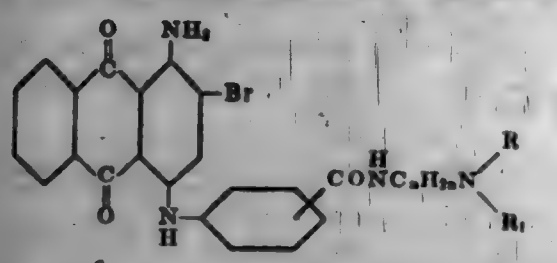
2,968,661

1-AMINO-2-BROMO-4-ARYLAMINOANTHRAQUINONE COMPOUNDS

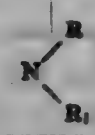
James M. Straley and Ralph R. Giles, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Aug. 28, 1958, Ser. No. 757,688
8 Claims. (Cl. 260—377)

1. The anthraquinone compounds having the formula:



wherein R and R_1 each represents a member selected from the group consisting of an alkyl group having 1 to 4 carbon atoms, a hydroxyalkyl group having 1 to 4 carbon atoms, a β-methoxyethyl group and a β-ethoxyethyl group, *n* represents a whole number selected from 2, 3 and 4 and wherein



taken together also represent a member selected from the group consisting of a morpholinyl group and a piperidyl group.

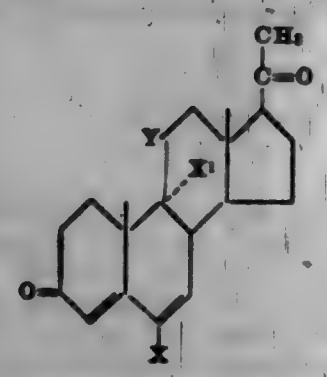
2,968,662

6-HALO-6-DEHYDRO DERIVATIVES OF 11-OXYGENATED-9α-HALOPROGESTERONES

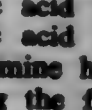
Howard J. Ringold, Carl Djerassi, Albert Bowers, and Mercedes Velasco, all of Mexico City, Mexico, assignors to Syntex S.A., Mexico City, Mexico, a corporation of Mexico

No Drawing. Filed Dec. 30, 1959, Ser. No. 862,797
Claims priority, application Mexico Mar. 4, 1959
13 Claims. (Cl. 260—397.3)

1. A compound corresponding to the general formula:



wherein X is selected from the group consisting of fluorine, chlorine and bromine, X′ is selected from the group consisting of fluorine, chlorine and bromine, and Y is selected from the group consisting of =O and



2,968,663

$\Delta^{1,4}$-PREGNADIENE-19,21-DIOL-3,20-DIONE AND ESTERS THEREOF

Alejandro Zaffaroni, Mexico City, Mexico, assignor to Syntex S.A., Mexico City, Mexico, a corporation of Mexico

No Drawing. Original application Feb. 16, 1956, Ser. No. 565,783. Divided and this application Feb. 27, 1959, Ser. No. 799,397
Claims priority, application Mexico Feb. 25, 1955
2 Claims. (Cl. 260—397.47)

1. A new compound selected from the group consisting of $\Delta^{1,4}$-pregnadiene-19,21-diol-3,20-dione and the 19,21-diesters of hydrocarbon carboxylic acids of up to 10 carbon atoms thereof.

2,968,664

FATTY ACID ESTERS OF HYDROXYALKANESULFONIC ACID AMINE SALTS

Arthur R. Sexton and Edgar C. Britton, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Mar. 3, 1958, Ser. No. 718,412
17 Claims. (Cl. 260—401)

1. A method of making fatty acid esters of hydroxyalkanesulfonic acid amine salts which comprises mixing approximately stoichiometric amounts of a fatty acid halide having from eight to twenty carbon atoms and a vic-hydroxyalkanesulfonic acid amine salt wherein the vic-hydroxyalkanesulfonic acid has from two to four carbon atoms and the amine has from one to twenty carbon atoms, by adding the fatty acid halide to the vic-hydroxyalkanesulfonic acid amine salt incrementally as required by the ensuing esterification reaction and heating the resulting mixture at temperatures of from 70° to 135° C. under an absolute pressure not greater than 200 mm. of mercury while removing the evolved hydrogen halide as formed from the reaction mixture.

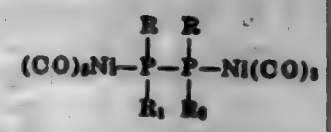
2,968,665

POLYFLUOROALKYLBIPHOSPHINE-BIS-(NICKEL TRICARBONYL) COMPOUNDS

Walter Mahler, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Mar. 12, 1959, Ser. No. 798,858
17 Claims. (Cl. 260—439)

1. A polyfluoroalkylbiphosphine-bis(nickel tricarbonyl) compound corresponding to the formula



wherein each R group is a member independently selected from the class of monovalent radicals consisting of C_nF_{2n+1}, $C_nF_{2n}H$, and $C_nF_{2n}Cl$, wherein *n* is an integer from one through five; and wherein each R_1 and R_2 is a member independently selected from the group of monovalent radicals consisting of R, hydrogen and halogen.

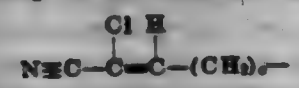
2,968,666

CHLOROCYANOALKENYLSILICON COMPOUNDS

Enrico J. Pepe, Kenmore, N.Y., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Aug. 3, 1959, Ser. No. 831,048
10 Claims. (Cl. 260—448.2)

1. As a novel composition of matter an organosilicon compound having at least one silicon-bonded chlorocyanoalkenyl group of the formula:



wherein (*c*) is an integer of from 0 through 4, said organosilicon compound is selected from the class consisting of (1) organosilanes having at least one valence of silicon, other than the valences satisfied by the chlorocyanoalkenyl group, satisfied by a member of the group consisting of, chlorine, fluorine and alkoxy groups, the remaining valences of silicon being satisfied by methyl and phenyl groups and (2) organosiloxanes having all the valences of the silicon atom containing said chlorocyanoalkenyl group, other than the valences satisfied by said chlorocyanoalkenyl group and siloxane linkages, satisfied by a member selected from the class consisting of methyl and phenyl groups and all remaining valences of silicon of said organosiloxane being satisfied by monovalent hydrocarbon groups.

2,968,667

BIS(PERFLUOROALKYLMETHYL)SULFITES AND THEIR PREPARATION

Francis E. Lawler, Wyndmoor, Pa., assignor to Pennsalt Chemicals Corporation, a corporation of Pennsylvania

No Drawing. Filed Dec. 10, 1956, Ser. No. 627,140
6 Claims. (Cl. 260—456)

1. A bis(perfluoroalkylmethyl) sulfite having the structural formula $(R_fCH_2O)_2SO$ in which R_f is a perfluoroalkyl group with from 1 to 12 carbon atoms.

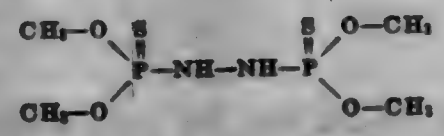
2,968,668

ORGANIC COMPOUNDS CONTAINING PHOSPHORUS AND SULPHUR

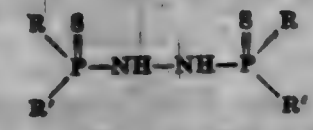
Henry Tollmith, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Oct. 27, 1958, Ser. No. 769,581
10 Claims. (Cl. 260—461)

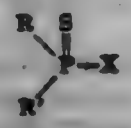
4. 1,2-bis(dimethoxyphosphinothioyl)hydrazine having the formula:



9. A method for the preparation of 1,2-bis(alkoxyalkylaminophosphinothioyl)hydrazines having the formula:



wherein R is a lower alkoxy radical and R′ is a monolower alkylamino radical, the steps of which comprise providing a solution of an alkoxyaminophosphinohalide having the formula:



wherein R is a lower alkoxy radical and R′ is a monolower alkylamino radical, and X is a halogen having an atomic number between 8 and 54, in a solvent which is essentially non-reactive under the conditions of the reaction, adding hydrazine while maintaining the temperature of the reaction mixture between 0 and 50° C. and recovering therefrom 1,2 - bis(alkoxyalkylaminophosphinothioyl)hydrazine.

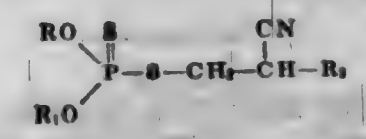
2,968,669

DIALKYL S(2-CYANOALKYL)PHOSPHOROTHIOLOTHIONATES

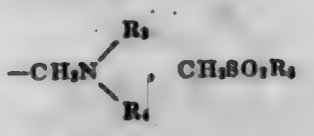
Marvin A. McCall and Harry W. Coover, Jr., Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Feb. 24, 1959, Ser. No. 794,798
15 Claims. (Cl. 260—461)

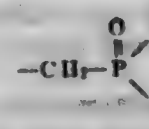
1. Organophosphorus compounds having the structural formula:



wherein R and R_1 are selected from the group consisting of lower alkyl, lower chloroalkyl and lower alkoxy-lower alkyl and R_2 is selected from the group consisting of di-lower alkylamino, N-piperidyl and radicals having the formulas:



and



wherein R_3 and R_4 are selected from the group consisting of hydrogen, lower alkyl, acetyl, carbamyl, and lower alkylsulfonyl, R_5 is selected from the group consisting of lower alkoxy, amino, and di-lower alkylamino, and R_6 and R_7 are selected from the group consisting of lower alkoxy and di-lower alkylamino.

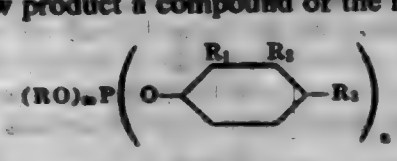
2,968,670

ALIPHATIC ARYL PHOSPHITES

William P. Boyer, Richmond, Va., Jesse Roger Maughan, Baton Rouge, La., and Thomas Mason Melton, Richmond, Va., assignors to Virginia-Carolina Chemical Corporation, Richmond, Va., a corporation of Virginia

No Drawing. Application Aug. 14, 1958, Ser. No. 758,641, which is a division of application Ser. No. 579,777, Apr. 23, 1956. Divided and this application Sept. 15, 1959, Ser. No. 840,000
9 Claims. (Cl. 260—461)

1. As a new product a compound of the formula



in which R is a member of the group consisting of octyl, allyl, oleyl and 3-cyclohexen-1-ylmethyl, R_1 and R_2 are members of the group consisting of hydrogen and methyl, R_3 is a member of the group consisting of hydrogen and an alkyl having from 1 to 9 carbon atoms, not more than one of R_1, R_2 and R_3 is an alkyl group and *m* and *n* are integers the sum of which is 3.

2,968,671

VINYL 2-ETHYLHEXYL CHLORENDATE

David Rubinstein, Brookline, and Elmer K. Whip, Cambridge, Mass., assignors to W. R. Grace & Co., Cambridge, Mass., a corporation of Connecticut

No Drawing. Filed Dec. 31, 1958, Ser. No. 784,046
1 Claim. (Cl. 260—468)

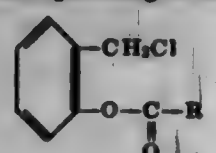
Vinyl 2-ethylhexyl chlorendate.

2,968,672
POLYISOCYANATES CONTAINING TERTIARY AMINE STRUCTURE
Solim N. Ephraim, Forest Hills, N.Y., assignor to Reichhold Chemicals, Inc., Detroit, Mich.
No Drawing. Filed Mar. 19, 1957, Ser. No. 646,972
4 Claims. (Cl. 260—472)

1. A polyisocyanate containing tertiary amine structure consisting essentially of the reaction product of: (A) an organic diisocyanate selected from a group consisting of hexamethylene diisocyanate, toluylene diisocyanate and phenylene diisocyanate, and (B) tetra (2 hydroxypropyl) ethylene diamine, the mol ratio of isocyanate groups to hydroxyl groups being within the range of about 1.81 to 6.24.

2,968,673
CHLOROTOLYL ESTERS
Laurence A. Pursglove, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Nov. 10, 1958, Ser. No. 772,764
2 Claims. (Cl. 260—479)

1. A compound corresponding to the formula



wherein R is a polychloro lower alkyl radical containing from 1 to 4 carbon atoms and from 2 to 3 chlorine atoms.

2,968,674
PROCESS FOR HYDROLYZING DIBASIC ACID ESTERS WHILE INHIBITING THE FORMATION OF COLOR MATERIALS
Norman W. Franke, Penn Township, Allegheny County, Pa., and Edgar I. Crowley, Baltimore, Md., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware
No Drawing. Filed Sept. 25, 1957, Ser. No. 686,042
4 Claims. (Cl. 260—533)

1. In a process wherein a saturated aliphatic hydrocarbon is oxidized with a gas containing free oxygen to obtain a product having a saponification number from about 100 to 450 and said product is thereafter subjected to further oxidation at an elevated temperature with nitric acid having a concentration above about 50 percent to obtain dibasic acids having 3 to 12 carbon atoms, said dibasic acids are reacted with an aliphatic monohydric alcohol having one to 20 carbon atoms to obtain the corresponding esters and said esters are thereafter hydrolyzed to obtain the corresponding dibasic acids, said hydrolysis being accompanied by the formation of undesirable color materials, the improvement which comprises conducting said hydrolysis in an inert atmosphere, whereby the formation of said undesirable color materials is inhibited.

2,968,675
HALOGENATED ORGANIC NITROGEN COMPOUNDS AND METHOD OF PREPARATION
Ralph H. Ballard, Geneva, N.Y., and Alan R. Graff and A. Vern McIntosh, Jr., Cleveland, Ohio, assignors to The Lake Erie Chemical Company, Cleveland, Ohio, a corporation of Ohio
No Drawing. Filed June 19, 1940, Ser. No. 341,386
1 Claim. (Cl. 260—562)

The method of preparing hexachloro-diacetyl benzidine which consists in treating benzidine with glacial acetic acid and acetic anhydride, suspending the product in acetic acid, heating and introducing chlorine, to form a precipitate, treating the precipitate in a suspension in water and sodium acetate with gaseous chlorine at between 10° and 100° C.

2,968,676
PREPARATION OF DPA OVER FLUORIDE IMPREGNATED CATALYST
Allen G. Potter, Jr., Somerville, and Robert G. Weyker, North Plainfield, N.J., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine
No Drawing. Filed Oct. 6, 1958, Ser. No. 765,328
3 Claims. (Cl. 260—576)

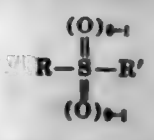
1. In a process for the manufacture of diphenylamine from aniline wherein aniline vapor under superatmospheric pressure is contacted with an alumina catalyst at a temperature above 400° C., whereby an effluent vapor mixture, containing product diphenylamine is obtained; the improvement which comprises using as said catalyst an activated alumina prepared by a process which comprises contacting said alumina in particulate form with an aqueous solution containing a concentration of from about 0.5 to about 10 weight percent of a water soluble inorganic fluoride, separating so-treated particulate alumina from residual aqueous solution and drying the so-separated impregnated particles, said fluoride being selected from the group consisting of the alkali metal, ammonium and hydrogen fluorides.

2,968,677
PURIFICATION OF ISOPHORONE
Maurice William Fewlass, Hull, England, assignor to The Distillers Company Limited, Edinburgh, Scotland, a British company
No Drawing. Filed Oct. 24, 1958, Ser. No. 769,282
Claims priority, application Great Britain Nov. 12, 1957
5 Claims. (Cl. 260—586)

1. A process of decolorizing colored isophorone which comprises mixing colored isophorone with an aromatic sulphonic acid selected from the group consisting of toluene para-sulphonic acid and sulphanilic acid, and distilling isophorone from the mixture.

2,968,678
PREPARATION OF INDANYL-SULFIDES, SULFOXIDES AND SULFONES
Alexis A. Oswald, Sarnia, Ontario, Canada, assignor to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Dec. 3, 1958, Ser. No. 777,861
7 Claims. (Cl. 260—607)

1. A composition of matter represented by the formula



wherein R is selected from the group consisting of the 2-indanyl radical and alkyl substituted 2-indanyl radicals wherein at least one hydrogen atom of the 2-indanyl radical is replaced by a C_1 to C_8 alkyl radical and R′ is a C_6 to C_{14} aromatic radical selected from the group consisting of phenyl, tolyl, xylyl, naphthyl and anthracyl hydrocarbon radicals and monochlorinated derivatives thereof wherein a hydrogen atom is replaced by a chlorine atom.

7. A noncatalytic process for preparing a composition of matter represented by the formula

R—S—R′

wherein R is selected from the group consisting of the 2-indanyl radical and alkyl substituted 2-indanyl radicals wherein at least one hydrogen atom of the 2-indanyl radical is replaced by a C_1 to C_8 alkyl radical and R′ is a C_6 to C_{14} aromatic hydrocarbon radical selected from the group consisting of phenyl, tolyl, xylyl, naphthyl and anthracyl hydrocarbon radicals and monochlorinated derivatives thereof wherein a hydrogen atom is replaced by a

chlorine atom which comprises reacting a mercaptan represented by the formula

H—S—R'

wherein R' is an aromatic radical as aforedefined with a hydrocarbon compound selected from the group consisting of indene and alkyl substituted indenes wherein at least one hydrogen atom of indene is replaced by a C_1 to C_8 alkyl radical at a temperature in the range of —25° C. to 150° C. and a pressure in the range of 0.2 to 50.0 atmospheres.

2,968,679
POLYALLYLATION OF PHENOL
David Aelony, Minneapolis, Minn., assignor to General Mills, Inc., a corporation of Delaware
No Drawing. Filed Jan. 17, 1958, Ser. No. 709,463
6 Claims. (Cl. 260—612)

4. Process of preparing polyallylated phenolic compounds which comprises reacting sodium phenoxide with from 2 to 4 mols of allyl chloride under anhydrous conditions in the presence of a suspension of solid sodium hydroxide in an aromatic non-polar solvent at a temperature in the range of 80–140° C. to introduce at least two allyl groups onto the phenolic nucleus.

5. Process according to claim 4 in which the allyl phenol is converted to the allyl ether of allyl phenol by a further reaction with allyl chloride in the presence of a polar solvent.

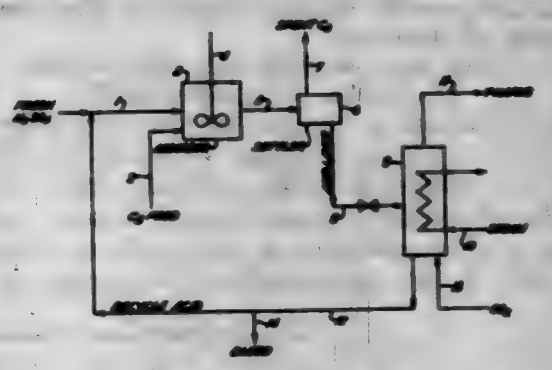
2,968,680
HYDROGENATION OF CARBOHYDRATES
Lee Kaufhagen, West Chester, Pa., assignor to Atlas Powder Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Dec. 4, 1958, Ser. No. 778,057
6 Claims. (Cl. 260—635)

1. The process which comprises catalytically hydrogenating a saccharidic composition containing both reducing sugars and polysaccharides hydrolyzable to reducing monosaccharides wherein the ratio of available to potential reducing groups is at least about 2 to 3 in substantially neutral solution under hydrogen pressure of from 1000 to 3000 pounds per square inch; and at a temperature of from 125° C. to 160° C. until the bulk of the available reducing groups are hydrogenated, adding from 0.05% to 1.0% by weight, based on the weight of original saccharides, of a strong mineral acid, and subjecting the acidified solution-catalyst mixture to hydrogen pressure of from 1000 to 3000 pounds per square inch at a temperature of from 200° C. to 220° C. whereby hydrolysis of the said polysaccharide ensues and the resulting monosaccharide is hydrogenated substantially as rapidly as it is formed, continuing the concurrent hydrolysis and hydrogenation until the total sugar content is less than 0.7%, and separating the catalyst from the resulting monomeric polyhydric alcohol solution.

2,968,681
METHOD OF PREPARING HYDROGENATED BINAPHTHYLS
George L. O'Connor and Henry E. Fritz, South Charleston, and Marion A. Eccles, Nitro, W. Va., assignors to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Feb. 17, 1959, Ser. No. 793,676
10 Claims. (Cl. 260—667)

1. A process for the production of 1,2,3,4-tetrahydrobinaphthyl and 1,1',2,2',3,3',4,4'-octahydrobinaphthyl which comprises hydrogenating naphthalene at a temperature of at least about 150° C., under a hydrogen pressure of at least about 500 p.s.i.g., in the presence of at least about 0.03 percent by weight of metallic potassium based upon the weight of naphthalene, and recovering the 1,2,3,4-tetrahydrobinaphthyl and 1,1',2,2',3,3',4,4'-octahydrobinaphthyl thereby formed from the crude reaction product.

2,968,682
PROCESS FOR SULFURIC ACID EXTRACTION OF TERTIARY OLEFINS
Benjamin F. Crouse, Jr., East Alton, Ill., and Arthur C. Whitaker, Pittsburgh, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware
Filed July 29, 1958, Ser. No. 751,748
8 Claims. (Cl. 260—677)



1. A process for the recovery of the tertiary olefinic content of a mixture containing at least one tertiary olefin containing 4 to 6 carbon atoms and at least one close boiling other hydrocarbon, consisting essentially of contacting the mixture with sulfuric acid having an H_2SO_4 concentration below 65 percent under conditions including a temperature not exceeding 40° C. such that substantially only the tertiary olefinic content of the mixture is absorbed in the acid, separating the resulting acid from the unabsorbed other hydrocarbon content, heating without dilution the acid containing the absorbed tertiary olefinic content with indirect heat at the rate of between 1° to 20° C. per minute to a temperature above 40° C. but not above about 70° C., and recovering the resulting tertiary olefinic content of the mixture and an acid having substantially the same H_2SO_4 concentration as the original acid.

2,968,683
PROCESS FOR HEATING BEDS OF SOLID PARTICLES SPOUTED WITH GAS
Konrad H. Kossmann, Columbus, Ohio, assignor to Shawinigan Chemicals Limited, Montreal, Quebec, Canada, a corporation of Canada
Filed Mar. 25, 1960, Ser. No. 17,557
12 Claims. (Cl. 260—683)

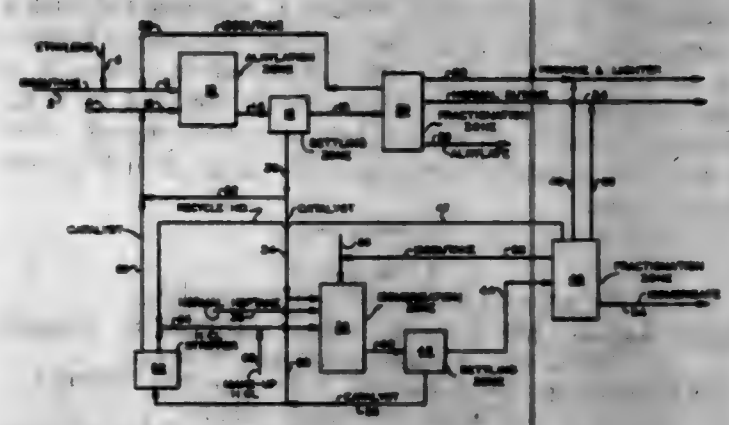


4. A process for preparing olefins from a hydrocarbon gas which process comprises directing a jet of the said gas up through a bed of conductive granular carbon to form a spouted bed, passing an electric current through the spouted bed between a single central electrode which

makes contact with the dilute suspension of said granules in the spout of said bed and at least one other electrode which makes contact with the annular loosely packed moving body of particles surrounding the said spout, said electric current having sufficient power to maintain the spouted bed at an elevated temperature sufficient to crack the said hydrocarbon gases to olefins, and recovering olefins from the effluent gases.

2,968,684
COMBINATION ALKYLATION-ISOMERIZATION PROCESS
Harold J. Hepp and Lewis E. Drehman, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware
Filed June 16, 1958, Ser. No. 742,257
12 Claims. (Cl. 260—683.57)

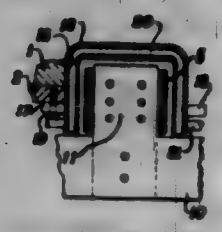
1. A combination process for the alkylation of isobutane with ethylene in a first zone and the isomerization of at least one alkane selected from the group consisting of normal pentane, normal hexane, and normal heptane at a temperature in the range of about 30 to about 150° F. in the presence of isobutane in a separate zone which comprises carrying out the process utilizing a common aluminum halide-hydrocarbon complex catalyst in which the aluminum halide is selected from the group consisting of aluminum chloride and aluminum



bromide and providing a concentration of isobutane in the feed to the isomerization reaction of at least 1.1 to 1 mols per mol of alkane, catalyst being increased in activity by said isomerization and passed from the isomerization to the alkylation zone.

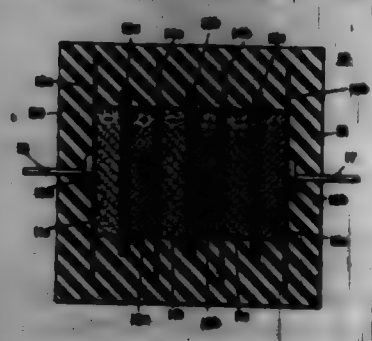
ELECTRICAL

2,968,685
APPARATUS FOR ELECTRO-MAGNETIC STIRRING
Johannes Tostmann, Duisburg, Germany, assignor to Demag-Elektrometallurgie G.m.b.H., Duisburg, Germany, a corporation of Germany
Filed Feb. 6, 1959, Ser. No. 791,702
9 Claims. (Cl. 13—26)



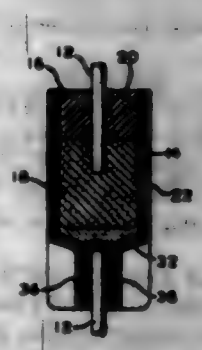
1. In a furnace having a heat insulating lining constructed and arranged to hold a molten charge of metal, an exterior recess formed in the lower surface of the refractory lining, an induction coil supported within said recess in inductive coupling to said molten charge, and a non-magnetic jacket lining said recess to support the lining and shield the coil from the molten charge without interfering with the inductive coupling of the coil to the molten charge.

2,968,686
SEALED BATTERIES
Joseph C. Duddy, Trevose, Pa., assignor to The Electric Storage Battery Company, a corporation of New Jersey
Filed July 24, 1957, Ser. No. 673,206
10 Claims. (Cl. 136—6)



1. A rechargeable storage battery of the alkaline type comprising positive and negative electrodes for a silver-zinc system, separator means disposed between the positive and negative electrodes and including an element consisting of a polyelectrolyte in continuous phase throughout a porous carrier and at least one additional element having one surface in contact with a surface of said polyelectrolyte carrier and made of a porous and resiliently compressible insulating material, the assembly including said electrodes and said separator means being porous and including in the pores thereof an alkaline electrolyte, and an encapsulating container for said assembly, said container consisting of a polymerized epoxy resin which exhibits substantial shrinkage upon hardening thereof, said resin having its internal surface in contact with all external surfaces of the assembly thereby to exclude all air and to seal the assembly in the absence of any gas space external to the assembly, the polymerization of said resin forming an encapsulating wall whose internal surface is compressively urged against all external surfaces of said assembly.

2,968,687
BATTERY CELL AND METHOD OF MANUFACTURE
Stanley D. Hatt and Donald M. Smyth, Williamstown, and Matthew F. Stefanski, Adams, Mass., assignors to Sprague Electric Company, North Adams, Mass., a corporation of Massachusetts
Filed June 17, 1958, Ser. No. 742,555
15 Claims. (Cl. 136—87)



1. A series-connected array of battery cells comprising cup-shaped anodes, a solid barrier-electrolyte coating disposed upon said cup-shaped anodes, cathode material disposed within said cup-shaped anodes, a sealing means disposed within the open end of said cup-shaped anodes

for confining said cathode material therewithin, a longitudinal indentation in the bases of said cup-shaped anodes, conductive leads extending through said sealing means into said cathode material, said conductive lead of a following cell being inserted within said longitudinal indentation of a preceding cell, the sides of said cup-shaped anodes adjacent said base being deformed radially inwardly towards each other at spaced intervals to form spaced radial indentations extending inwardly towards said inserted conductive lead, the portions of said cup-shaped anodes in line with said spaced radial indentations forcefully engaging said lead to securely anchor it therewithin, and said coating being squeezed out from between engaging portions of said anodes and said lead to provide good electrical contact therebetween.

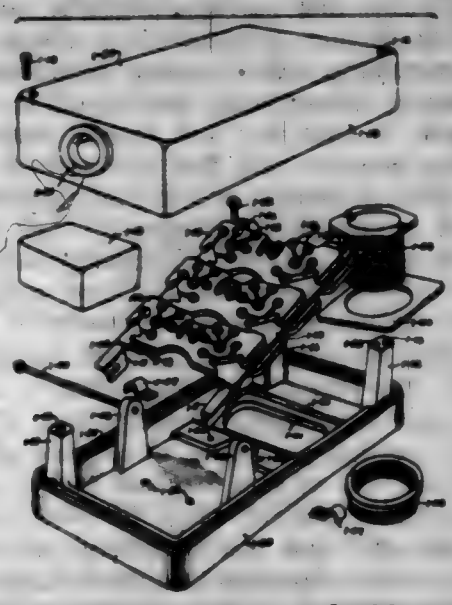
2,968,688
RAIN SENSOR
Kenneth R. Skinner, Anderson, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Apr. 16, 1958, Ser. No. 727,732
4 Claims. (Cl. 136—90)



1. A rain sensor comprising, a first metallic member having a spherically shaped upper surface, a second metallic member having a depression therein provided with a base wall and a side wall, said first member being located within said depression with said surface facing outwardly thereof and with the edge of said first member located in adjacent spaced relationship to said side wall of said depression whereby at least one drop of water falling on said surface of said first member will move to a position between said edge and side wall to bridge said first and second members, an insulating member located between said metallic members, the metallic material of each of said metallic members belonging to the group of metals known as the electromotive series, with the metallic materials being spaced from each other in this series so as to generate a voltage therebetween when the metallic members are bridged by said at least one drop of water.

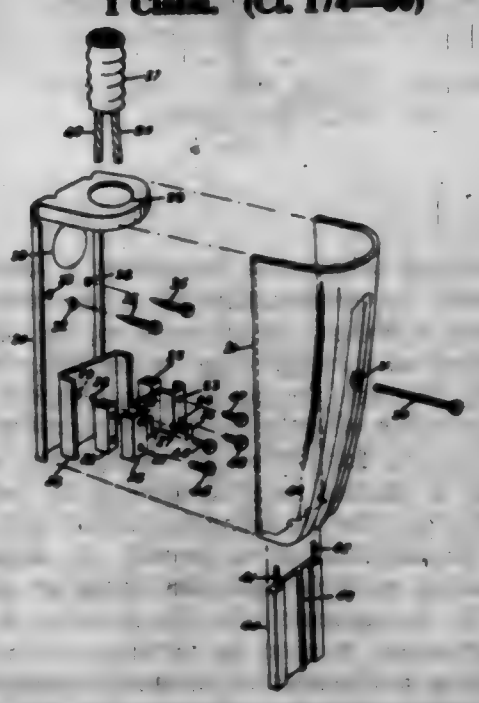
2,968,689
TELEPHONE SERVICE FITTING FOR FLOOR DISTRIBUTION SYSTEMS
Robert Johnson, Edgeworth, Pa., assignor, by mesne assignments, to H. K. Porter Company Inc., Pittsburgh, Pa., a corporation of Delaware
Filed Jan. 6, 1958, Ser. No. 707,330
8 Claims. (Cl. 174—48)

1. A service fitting comprising in combination a rectangular base having an opening therein, a pair of mounting posts affixed to said base and disposed opposite one another on each of the longer sides of said base, said posts having cylindrical openings in the upper portions thereof with a center line therethrough perpendicular to the longer sides of said base, a first removable threaded bolt insertable through said post openings, a second pair of mounting posts disposed in adjacent corners of a short side of said base and having threaded holes in the upper surfaces thereof, a rectangular plate having each of the longer edges thereof at one end of said plate terminating in slotted depending pieces adaptable to be rotatably accommodated by said first threaded bolt, said plate having the shorter edge at the other end thereof recessed to provide clearance for passage of conductors around the edge of the plate, and said other end having its side portions with opening therein so disposed that when said depending slotted edges are mounted on said threaded



bolt and said plate is rotated to a fixable position, the side portions of said other end of said plate will rest on said second mounting posts and position the openings in the side portions of said plate over the openings in said second mounting posts, second removable bolts for fastening said plate to said second posts when said plate is rotated to its said fixable position, said first bolt cooperating with the slotted depending portions at one end of said plate to enable rotation of said plate away from its said fixable position when said second bolts are removed, said plate being removable from said base when said first and second bolts are removed.

2,968,690
END FEED-IN DEVICE
Louis W. Higgins, Detroit, Mich., assignor, by mesne assignments, to I-T-E Circuit Breaker Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed May 4, 1956, Ser. No. 582,685
1 Claim. (Cl. 174—60)



An end feed-in device for electrical energy; said device comprising a base plate, a cover, a first and second tubular

terminal open at both ends, a first and second insulating means and a single fastening means; said first and second terminals being positioned adjacent to said base plate; said first and second terminals being insulated from said base plate by said first insulating means; said second insulating means being constructed to surround an exposed outer area of each of said first and second terminals extending from said first insulating means and thereby positioning said first and second terminals with respect to one another; said first and second terminals being provided with connecting means for connecting electrical conductors to said first and second terminals; said connecting means being further constructed to fasten said second insulating means to said first and second terminals; said single fastening means being constructed to fasten a portion of each of said first and second insulating means intermediate between said first and second terminals to said base plate to thereby position and maintain said first and second terminals with respect to said base plate in side by side spaced parallel relationship; said cover being fastenable to said base plate, said base plate being provided with mounting means for mounting said device; said base plate including a first portion having an opening into which said single fastening means is entered; said base plate also including a second portion at right angles to said first portion positioned at one end of said cover; a knockout in each of said first and said second portions for introducing electrical cable to said terminals said cover at the other end thereof having an elongated depression to receive a portion of a continuous outlet cable; said cover also having a first and a second notch extending in the same direction, communicating with said depression at opposite ends thereof, and adapted to receive conductor encompassing portions of a continuous outlet cable whose conductors are inserted into the tubular conductors; said cover further having another notch communicating with said depression positioned between said previously recited notches, and extending in the same direction; said last recited notch being constructed and operatively positioned to receive a continuous outlet cable polarizing rib.

2,968,691

ELECTRICAL CONDUCTORS AND CONNECTORS THEREFOR

Earl L. Caufield, Book Hill Road, Essex, Conn.

Filed Apr. 9, 1957, Ser. No. 651,694
3 Claims. (Cl. 174—75)



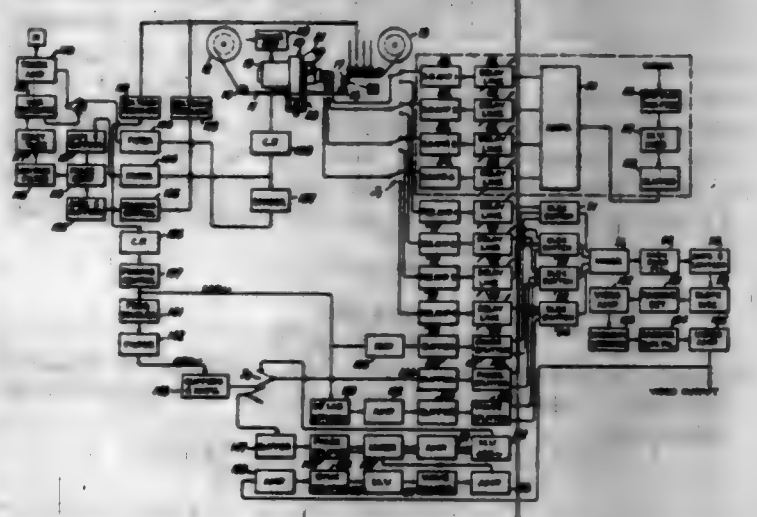
1. An electrical connection comprising a conductor, a terminal having an opening therein, a lug connected to said conductor, a hollow pin fastened to said lug at one end and having an inturned edge at the other end, said pin extending through the opening and locked to said terminal, a plurality of sharp pointed projections bordering on said opening for embedded engagement with said pin as the pin is inserted into the opening for locking the terminal to the lug, the pin being formed of such a material and so dimensioned as to provide an annular outwardly extending multiple thickness flange at said other end thereof in engagement with the terminal as the pin is axially compressed to rivet the terminal to the lug, and means including a plurality of mutually spaced contact elements on the lug in engagement with said conductor for establishing an electrical connection therebetween.

2,968,692

ELECTRONIC SWITCHING SYSTEM FOR MAGNETIC RECORDER AND/OR REPRODUCER

Charles P. Ginsburg, Los Altos, and Ray M. Dolby, Cupertino, Calif., assignors to Ampex Corporation, Redwood City, Calif., a corporation of California

Filed Oct. 8, 1956, Ser. No. 614,420
20 Claims. (Cl. 178—6.6)



6. An apparatus for reproducing signals recorded magnetically upon a magnetic tape, wherein the signals are recorded on a plurality of track portions which overlap in point of time and which may be reproduced and combined to form a substantially continuous signal, means comprising a plurality of separate transducer units adapted to sweep over said track portions successively, means forming input channels separately connected to said transducer units to thereby receive current variations corresponding to said track portions, a common output means, and a plurality of electronic switching means interposed between each of the input channels and said output means, each switching means being responsive to coincident application of a preliminary gating pulse and a switching pulse of like polarity, and means independent of operation of said switching means for producing preliminary gating and switching pulses for application to said electronic switching means whereby said switching means electronically connects said channels successively to said output means.

2,968,693

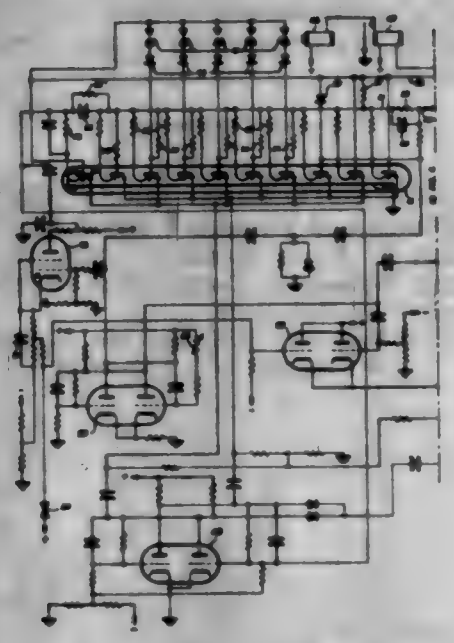
SIMULTANEOUS-TO-SERIAL PERMUTATION CODE CONVERTER

Francis J. Gaffney, Westport, Charles A. Wesley, Ridgefield, and Charles P. Bukowski, Cos Cob, Conn., assignors to The Teleregister Corporation, Stamford, Conn., a corporation of Delaware

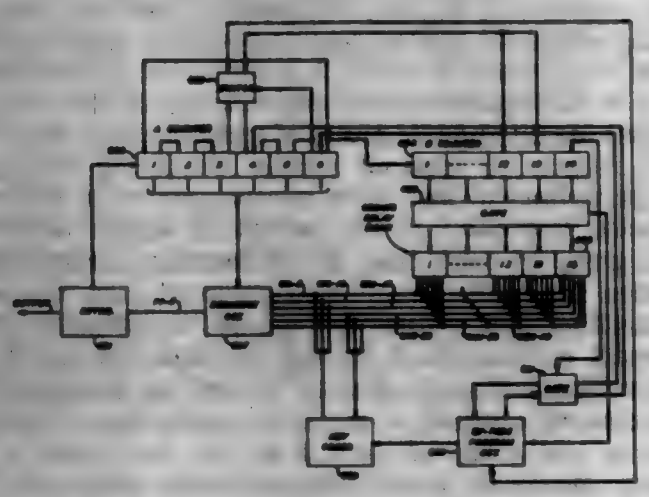
Filed May 7, 1956, Ser. No. 583,283
3 Claims. (Cl. 178—53.1)

1. Apparatus for converting a simultaneous permutation-type code signal to a corresponding serial permutation-type code signal for transmission over telegraph lines and the like, comprising, in combination: a magnetron beam switching tube having a cathode and a plurality of count positions each including a control grid and a target adapted to establish a beam of current with said cathode; pulse-generating means coupled to said control grids to apply thereto a series of sequential pulses for advancing the beam of said tube along said count positions; a plurality of two-terminal switch means, one for each of said beam tube count positions, with said switch means being operable into any permuted combination of conducting or non-conducting condition in accordance with a particular code signal to be transmitted; first circuit means connecting one terminal of each switch means to a respective one of said beam tube targets, second circuit means connecting the other switch means terminals together to form a common output circuit; a source of

potential for producing current flow through any of said beam tube count positions; a load element connected between said common switch means output circuit and said source of potential to develop a flow of current through said load element whenever the beam of said switching tube has been advanced by said pulse-generating means to a count position where the corresponding one of said switches is conditioned to conduct current, thereby to produce a change in voltage drop across said load element when said beam reaches such a count position; and voltage-responsive relay means connected to said common load element to produce an output pulse corresponding to each such change in voltage drop across said load element, and thus to develop, as the beam of said switching tube advances along said count positions, a serial permutation-type output signal corresponding to the particular permutation code established by the setting of said two-terminal switch means.

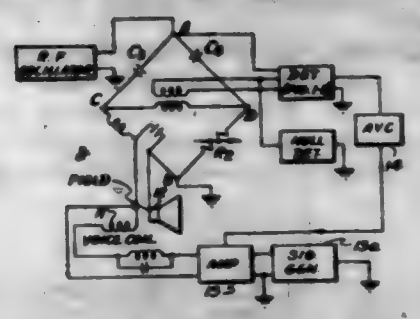


2,968,694
CODE SIGNAL PROGRAMMER
George E. Schwender, Huntington, and Richard A. Vanderlippe, Bloomfield, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed June 25, 1957, Ser. No. 667,871
8 Claims. (Cl. 178—53.1)



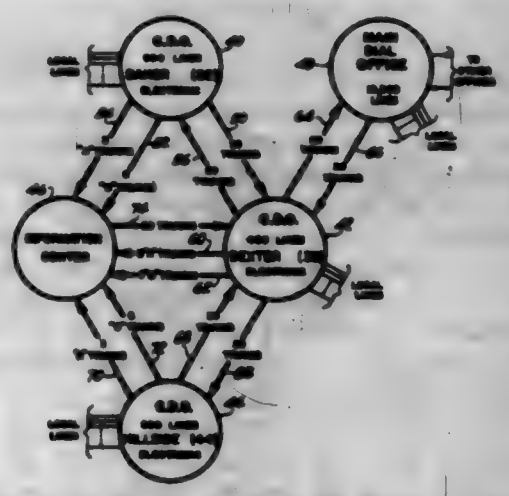
1. In a coding system, a pulse source, a plurality of series of relays operable by pulses from said source, means for transferring successive pulses to successive relays throughout each of said series, means operatively interconnecting the operating path of a particular one of the relays of one series to the operating circuit of a succeeding series to cause the pulsing of said succeeding series simultaneously with the pulsing of said particular relay in said one series, and means controllable by relays of said succeeding series for transferring successive pulses applied to said one series to nonsuccessive relays of said one series.

2,968,695
SYSTEM FOR MONITORING AND CONTROLLING THE MOTION OF A SOUND SOURCE
Edith L. R. Corliss, Washington, D.C., and Mahlon D. Burkhard, Kensington, and Walter Koidan, Hyattsville, Md., assignors to the United States of America as represented by the Secretary of Commerce
Filed Sept. 8, 1955, Ser. No. 533,262
1 Claim. (Cl. 179—1)



In a measuring circuit, modulating means including a variable reactance comprising a movable voice coil and a field magnet of a sound source, the value of reactance of said variable reactance being dependent upon the position of said voice coil relative to said field magnet, a source of electrical signals comprising an amplifier connected to a signal generator having a selected frequency range, means for applying the output of said source of electrical signals across said voice coil so that the movable voice coil is responsive to the output of said source of electrical signals, a source of carrier signals having a frequency range outside said selected frequency range, means connecting the output of said source of carrier signals across said modulating means in such a manner that the output of said modulating means is dependent upon the displacement of said voice coil, a detector connected to the output of said modulating means, and means for applying the output of said detector to said amplifier as a control signal.

2,968,696
ELECTRONIC TELEPHONE SYSTEM
Robert B. Tresedale, Webster, N.Y., assignor to General Dynamics Corporation, Rochester, N.Y., a corporation of Delaware
Filed June 1, 1956, Ser. No. 588,835
27 Claims. (Cl. 179—18)



15. In an automatic telephone system, a plurality of lines, said lines being divided into at least two groups having different classes of service available thereto,

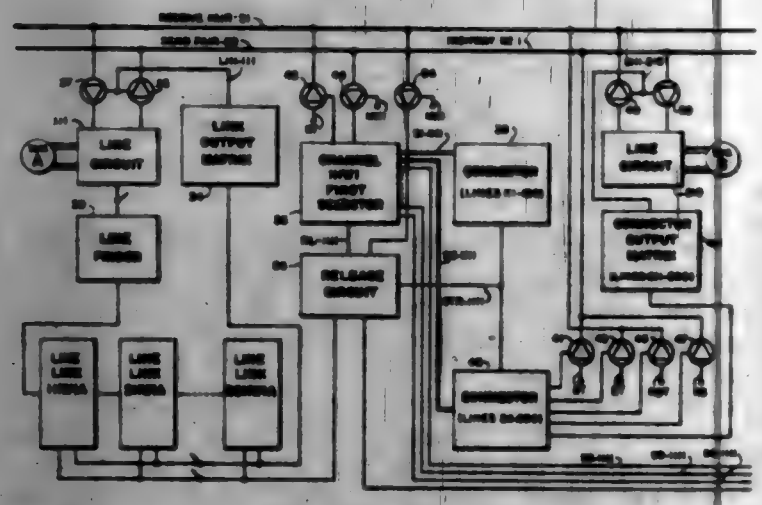
means responsive to the initiation of a call on one of said lines for developing pulses in one of a number of time positions which recur in repetitive time position frames, means for determining the service group in which said calling line is included, means for modulating said developed pulses in accordance with dial impulses transmitted over said calling line, and means jointly responsive to the transmission of a predetermined digit of dial impulses over said calling line and said service group determining means for providing a predetermined class of service for said calling line.

2,968,697

ELECTRONIC SWITCHING TELEPHONE SYSTEM

Donald M. Roger, Jr., Buffalo, N.Y., assignor to General Dynamics Corporation, Rochester, N.Y., a corporation of Delaware

Filed Sept. 15, 1958, Ser. No. 760,903
40 Claims. (Cl. 179—18)



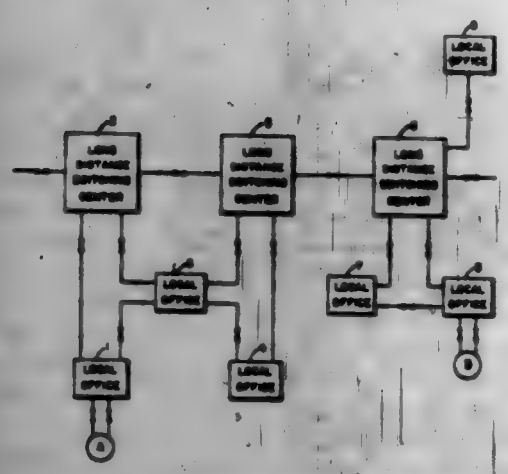
1. In a telephone system, a plurality of lines, a plurality of connectors each including means for registering digital information supplied thereto relative to called lines of the system, an interrogating matrix common to said connectors, allotter means for sequentially allotting said connectors to said common interrogating matrix, and means including said interrogating matrix for determining the idle or busy condition of any called line registered in said connectors.

2,968,698

ELECTRONIC SWITCHING TELEPHONE SYSTEM

Barrie Brightman and Theodor Frankel, Rochester, N.Y., assignors to General Dynamics Corporation, Rochester, N.Y., a corporation of Delaware

Filed May 21, 1959, Ser. No. 814,924
24 Claims. (Cl. 179—18)



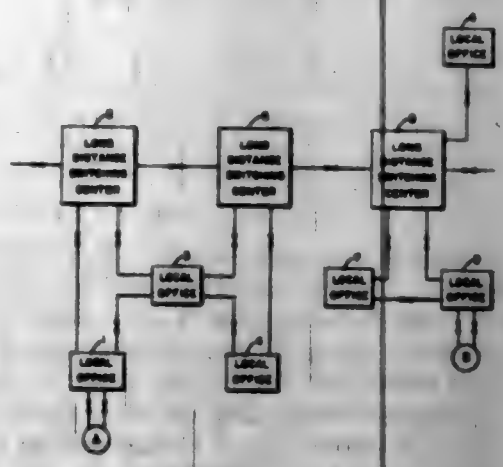
1. In a telephone system, a plurality of lines terminating at a switching center, a multichannel transmission network interconnecting said lines within said center, means for individually assigning the channels of said network to said lines, means for transmitting supervisory signals over the channels assigned to calling and called ones of said lines, means for marking the channels assigned to calling and called ones of said lines as busy within said center, means in said center for performing a primary busy test of a called line by determining if the channel assigned to said called line is marked as busy within said exchange, and means in said center for performing a secondary busy test on said called line by connecting to the channel assigned to said called line and testing for the presence of a supervisory signal on said called line.

2,968,699

ELECTRONIC SWITCHING TELEPHONE SYSTEM

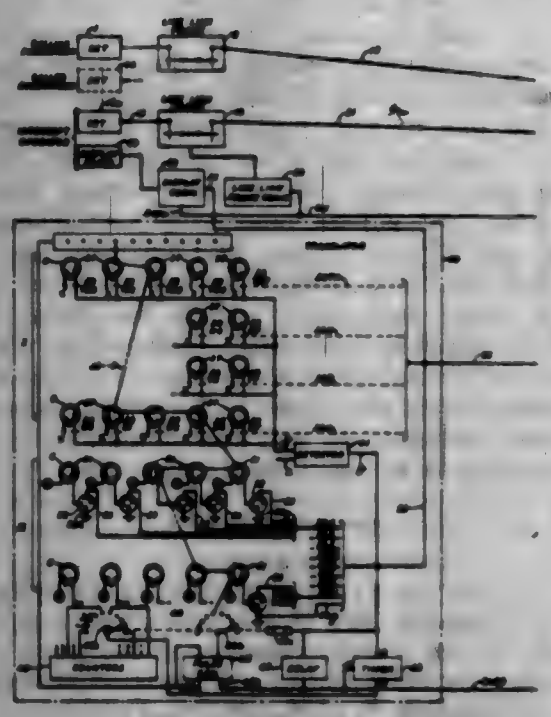
Barrie Brightman and Theodor Frankel, Rochester, N.Y., and Robert K. Kaye, Medford Lakes, N.J., assignors to General Dynamics Corporation, Rochester, N.Y., a corporation of Delaware

Filed May 21, 1959, Ser. No. 814,925
4 Claims. (Cl. 179—18)



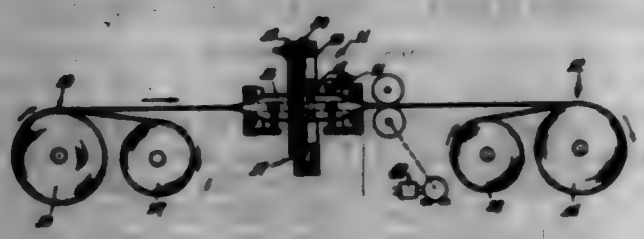
1. In a telephone system, a plurality of lines including a group of trunk lines, a busy signal generating circuit, a plurality of terminating units individually terminating said lines and said busy signal generating circuit, a register, a route selector, and a link circuit, a multichannel transmission network interconnecting said units with said register and said link circuit, means for individually assigning the channels of said network to said units, means responsive to the initiation of a call on any one of said lines for controlling said register to connect to the channel assigned to the unit terminating that line, means in said register for registering line selecting signals received over the channel to which it is connected, means responsive to the registration in said register of line selecting signals identifying said group of trunk lines for controlling said register to transmit signals identifying said group of trunk lines to said route selector, means in said route selector responsive to the receipt of signals identifying said group of trunk lines for performing a searching operation for an idle line in said group of lines, means for controlling said register to read out the identity of the channel to which said register is connected, means for controlling said route selector to read out the identity of the channel assigned to the unit terminating the selected line in said group of lines if an idle line exists in said group, means for controlling said route selector to read out the identity of the channel assigned to the unit terminating said busy signal generating circuit if all lines in said group of lines are busy, means for controlling said link circuit to read in the channel identities read out of said register and said route selector, and means in said link circuit for completing a communication connection between channels when the identities of those channels are read into said link circuit.

2,968,700
TELEPHONE INTERCEPT SYSTEM
Oscar Myers, Mount Vernon, N.Y., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Nov. 25, 1959, Ser. No. 855,437
22 Claims. (Cl. 179—27)



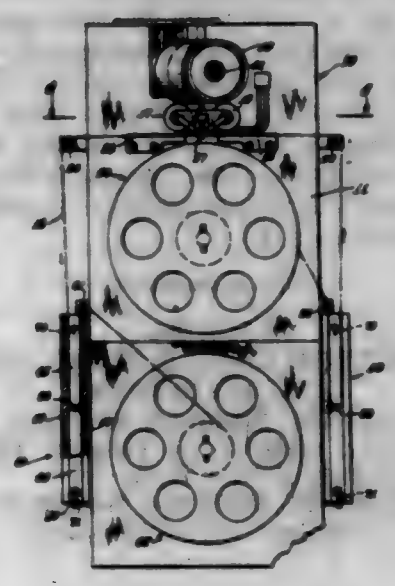
1. In a telephone switching system the combination comprising a common switch controlling marker having a register for storing dialed directory numbers, first circuit means coupled to said register for initiating intercept switching connections in said marker in response to predetermined ones of said dialed numbers, a translator having an input and an output, second circuit means coupled to said first circuit means and responsive to the initiation of said intercept connections for transferring said predetermined numbers to said translator input, display means, and third circuit means controlled by said marker intercept switching connections for connecting said translator output to said display means.

2,968,701
TRANSVERSE RECORDING DEVICE USING A TUBULAR TAPE MEDIUM
James P. Fry, Norwalk, Conn., assignor to The Teletrak Corporation, Wilmington, Del., a corporation of Delaware
Filed June 26, 1956, Ser. No. 593,919
13 Claims. (Cl. 179—100.2)



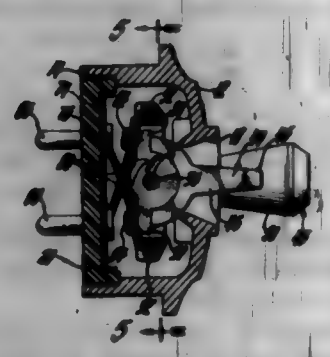
1. In a recording device, a reel having a continuous, flattened, tubular, flexible member wound thereon, said member having a magnetizable material on the outer surface; a spacer strip disposed between the turns of the tubular member wound on the reel and spaced inwardly from the edges thereof; means feeding the tubular member from the reel past a recording station; expanding means at the recording station disposed within the member and having longitudinally spaced member engaging portions located in recording position and engaging and expanding said tubular member into a cylinder while passing through the recording position at said station; means mounting a recording device, including a head, in recording position for rotation about the axis of the tubular member to produce a spiral magnetized track on the magnetizable surface in accordance with the energization of said recording device; said recording device including means for regulating the pressure of said head on the tubular member, the portion of the tube extending between said spaced engaging portions being yieldably supported thereby to prevent undue pressure thereon during recording; means monitoring said track on the tubular tape; means actuated by said monitoring means for controlling the relative movement of the tape and recording device to properly space the track thereon; a take-up reel for winding up the flat tubular member after said member passes the recording device; and a supply of spacer strip adjacent the take-up reel to be fed onto the reel and be disposed between the turns of the tubular member as the member is wound thereon.

2,968,702
TRANSPORT MEANS FOR A MAGNET RECORDER-REPRODUCER
James P. Fry, Norwalk, Conn., assignor to The Teletrak Corporation, Wilmington, Del., a corporation of Delaware
Filed Dec. 2, 1957, Ser. No. 699,958
20 Claims. (Cl. 179—100.2)



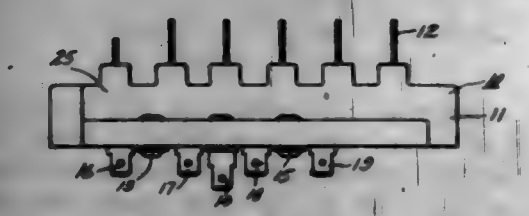
1. An apparatus for recording and/or reproducing signals on a record tape comprising a drum having at least one record-reproducing head disposed therein, means for rotating the drum at a constant speed, feed means on one side of the said drum for feeding a tape relative to said drum at a speed less than the peripheral speed of the drum with the tape disposed in a helix around the drum and overlying the path of movement of the head, and driven cinch roll means engaging the tape on the other side of the drum, said drum being rotated in a predetermined direction in which the traction of the drum on the tape wrapped therearound tends to move the tape away from the cinch roll means, said cinch roll means being driven at a surface speed different than the feed means to cause the tape to be moved at a rate tending to increase the wrap-tension around the drum and including means for slip feeding the tape to control and maintain the tape at a predetermined wrap-tension around the drum.

2,968,703
CIRCUIT CONTROLLER
Berthold F. Meyer, Tecumseh, Ontario, Canada, and Nicholas Terzik, Melvindale, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Original application Mar. 13, 1958, Ser. No. 721,206, now Patent No. 2,916,566, dated Dec. 8, 1959. Divided and this application Apr. 16, 1959, Ser. No. 806,939
2 Claims. (Cl. 200—6)



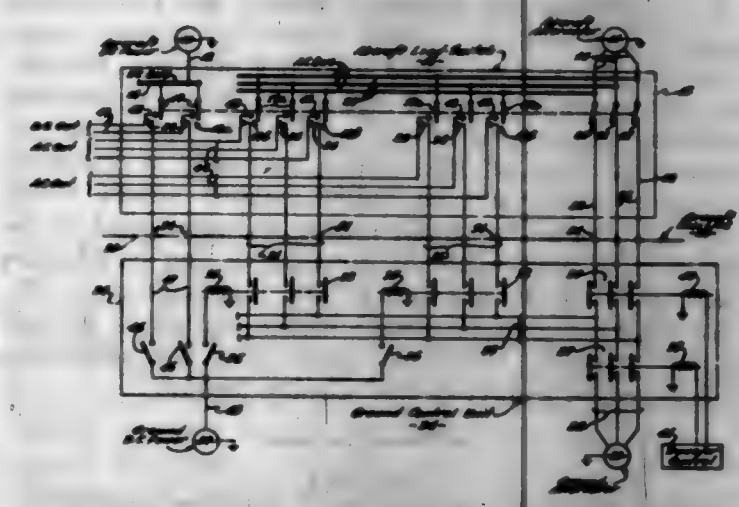
1. In a circuit controller, the combination comprising, a switch base, a stationary switch contact secured to said base, a pair of upper and lower switch plate members secured to said base, each member including a complementary integral bent spring arm, the lower of said plate members being of stainless steel, and the upper of said plate members being of beryllium copper, a movable switch contact secured to the arm of said stainless steel plate member and being in sliding electrical contact with the complementary arm of said beryllium copper plate member, said movable switch contact being normally held in spaced relationship to said fixed contact by said arm of said stainless steel plate member, and a source of electrical energy connected to said stainless steel plate member and to said beryllium copper plate member, the main current path from said source of electrical energy to said movable switch contact being through said beryllium copper plate member and the spring arm thereof in sliding electrical contact with said movable switch contact.

2,968,704
PUSHBUTTON SWITCH WITH SPRING LOADED SLIDER
Stewart A. Woodward, Stratford, and Sam M. Golden, Fairfield, Conn., assignors to General Electric Company, a corporation of New York
Filed June 27, 1958, Ser. No. 744,979
3 Claims. (Cl. 200—18)



1. In a multiple pushbutton switch comprising a housing, a plurality of elongated longitudinally extending sliders assembled in the housing in side-by-side relation for sliding movement therein, one edge of several of the sliders being undercut to form cam surfaces, a plurality of movable contact blades engageable with the cam surfaces of the sliders, each blade being fixed at one end to the housing and free to move at its opposite end to make and break contact with a fixed contact of the switch, a plurality of manually depressible pushbuttons into said housing thrpugh a wall thereof, each of said pushbuttons having an outermost normal position and a depressed actuating position, each slider having inclined surfaces which cooperate with at least one of said pushbuttons, the inclined surfaces being arranged on the different sliders so that only one button may be fully depressed at one time; the improvement comprising a spring bearing against the end of at least one additional slider, and an actuating recess fromed in said one slider and arranged to cooperate with at least one of said pushbuttons, said spring braced against an internal end wall of the housing so that the depression of said one pushbutton will cause the cooperation of said pushbutton with said actuating recess to move said slider against the spring, said recess including on one side thereof an inclined edge extending generally outwardly toward said one of said pushbuttons and toward said end wall of said housing, a curved inner edge continuous from said inclined edge, and a vertical edge continuous from said curved inner edge and disposed on the other side of said recess, said inclined edge cooperating with said one pushbutton upon the depression thereof to move said slider against the force of said spring, said same inclined edge cooperating with said one pushbutton when manual pressure is released therefrom to return said one slider to its original position in response to the force of said spring thereby to return said pushbutton to its outer normal position.

2,968,705
ELECTRICAL LOAD TRANSFER SYSTEM
Wayne E. Monheck, San Pedro, and Charles B. Martz, Redondo Beach, Calif., assignors to Northrop Corporation, Beverly Hills, Calif., a corporation of California
Filed Dec. 9, 1958, Ser. No. 779,241
10 Claims. (Cl. 200—18)

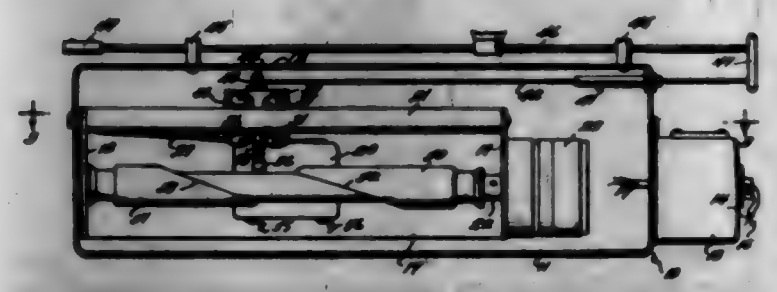


1. In an electrical load transfer system, make-before-break switching means comprising a rotatable bus bar, a fixed contact, and a movable contact having a spring-loaded contact with said fixed contact, said switching means having a first position where said fixed and movable contacts are closed and said bus bar is open, and a second position where said bus bar is rotated and closed with said movable contact to leave said fixed contact open.

2,968,706
TIME CONTROLLED APPARATUS
George S. Wilkinson, 2317 Trenton Ave., Hopewell, Va.
Filed July 2, 1959, Ser. No. 824,664
3 Claims. (Cl. 200—33)

1. A time controlled apparatus comprising a frame, a casing for said frame, an elongated cam shaft journalled in said frame, a synchronous electric motor mounted on said frame in driving relation to said cam shaft for rotating said cam shaft, a pair of spaced parallel rods rigidly secured in said frame in parallel relation to said cam shaft, a carriage comprising a block of insulating material, said block being of generally rectangular shape in cross section, and having the corners thereof cut away, two opposed pairs of rollers mounted on said cutaway

corners, each pair of rollers being inclined toward one of said parallel rods, and contacting the upper and lower inner surfaces thereof for longitudinal movement of said carriage on said rods, means comprising a pair of vertically spaced parallel rods one inside and the other outside said casing, means connecting the end of said one rod to said carriage, means exteriorly of said carriage connecting the end of said one rod to one end of said



other rod, and means mounting said other rod on the outside of said casing for sliding movement for moving said carriage longitudinally of said rods, an elongated cam member mounted on each end of said cam shaft in longitudinally spaced apart relation, an electric switch in said carriage, and a cam follower mounted on said carriage for engagement with said cams, said cam follower actuating said switch upon rotary movement of said cams.

2,968,707

CONTROL MEANS FOR OIL WELL PUMPS

Eugene J. Martin and William H. F. Kaiser, Fort Wayne, Ind., assignors to Perfect Circle Corporation, Hagerstown, Ind., a corporation of Indiana

Filed Nov. 28, 1956, Ser. No. 623,348
4 Claims. (Cl. 200—83)



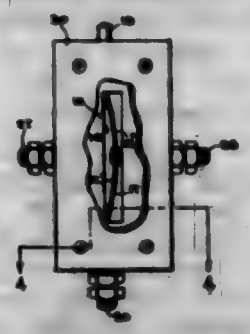
1. A device for measuring fluid pressure in an oil well or the like, comprising an elongated housing, close clearance piston and cylinder means intermediate the ends of said housing, spring means yieldably urging the piston toward one end of said housing, fluid inlet means adjacent said one end of the housing for admitting external fluid under pressure into the housing, flexible sealing means interposed between said fluid inlet means and the piston for sealing the piston from contact with external fluid but providing fluid pressure communication from the external fluid to the piston for urging the latter toward the opposite end of said housing, switch means mounted in said housing between said piston and cylinder means and the opposite end of said housing, means including a rotary cam element journaled in said housing at one side thereof for actuating said switch means for opening and closing a circuit, an elongated member rigidly coacting at one end thereof with said piston for movement in unison with the latter and extending at its opposite end to a point adjacent said cam element, lever means cooperable at one end thereof with said cam element for rotating the latter and extending at its opposite end into operating relation with the opposite end of said elongated member, and a pair of spaced abutments on said elongated member for engaging the opposite end of said lever and thereby effecting rotary movement of said cam element in opposite positions of the piston corresponding to selected maximum and minimum fluid pressures.

2,968,786

ARTICLE FOR USE IN AN ELECTRICAL SWITCH DEVICE OR IN A THERMOSTATICALLY-CONTROLLED MECHANISM

Charles Sagona, 73 Bay 34th St., Brooklyn, N.Y.

Filed Nov. 28, 1956, Ser. No. 624,901
1 Claim. (Cl. 200—113)



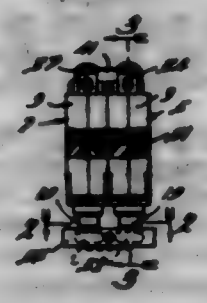
In an article for use in an electrical switch device or in a thermostatically controlled mechanism of the character described, the combination of a frame, a stop member thereon, a blade spring of a dielectric material held at its ends on said frame; said blade spring being in bowed condition before being mounted on the frame; said blade spring being positioned in straight condition with its initially convex surface against such stop member whereby said blade spring is in flexed condition; said stop member maintaining the major portion of said blade spring against movement in the direction towards said stop member; said spring being free to bend away from said stop member and then back again to be against said stop member means to impart a force to at least one end of said blade spring in a direction substantially along the line between said ends to shorten the distance between said ends, whereupon the blade spring will automatically bend away from said stop member, a first electrically conductive element carried on said blade spring and a pair of spaced electrically conductive elements carried on the frame and electrically insulated from each other, whereby said pair of elements are in contact with said first element only at one position of the blade spring.

2,968,709

ELECTRIC SWITCH INCORPORATING CIRCUIT BREAKER

Richard C. Ingwersen, Jackson, Mich., assignor, by mesne assignments, to Mechanical Products, Inc., a corporation of Michigan

Filed Mar. 18, 1957, Ser. No. 646,730
3 Claims. (Cl. 200—116)



1. An electrical circuit breaker unit comprising a plurality of electric circuit breakers secured together in an

adjacent relationship, each of said circuit breakers including a housing, relatively moveable contact means in each housing moveable into and out of engagement so as to be capable of opening or closing a circuit through said unit, trip means in each housing responsive to a predetermined current overload so as to automatically move said contact means out of engagement, each of said circuit breaker housings having walls of electrical insulating material which separate the contact means in one housing from the contact means of the adjacent housing so as to provide an electrical barrier which will prevent arcing between the contact means of said circuit breakers, each of said circuit breakers having a pair of terminals electrically connected with the contact means thereof, conduit means electrically interconnecting certain of said terminals of said unit so that said circuit breakers are electrically connected in series relationship, at least two of said terminals of said unit being connectible in an electrical circuit, and means mechanically interconnecting said circuit breakers so that actuation of any one of said trip means is operative to trip all of said circuit breakers.

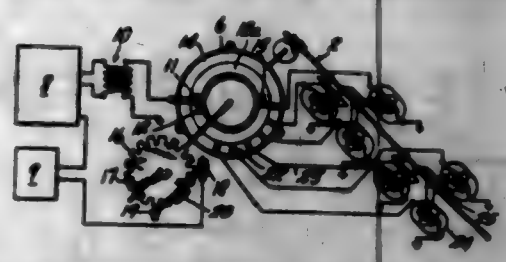
2,968,710
LINEAR CONTROL UNITS
Charles Horberg, Jr., Chicago, Ill., assignor, by mesne assignments, to Paramount Textile Machinery Co., Kankakee, Ill., a corporation of Illinois
Filed Nov. 7, 1958, Ser. No. 772,548
7 Claims. (Cl. 200—168)



4. A standardized linear control unit, utilizing rectangular metal bars formed as multiple adjustable cams, one end of each cam being made into a U-clamp and provided with a tightening screw which holds it clamped to the actuator tube; the other end of said cams being bevelled on the leading side to provide an inclined surface for depressing the actuator spring as the cam is moved; said cams being mounted on a singular actuator tube, constructed preferably of metal, for the purpose of pre-determining and pre-setting switch operating positions.

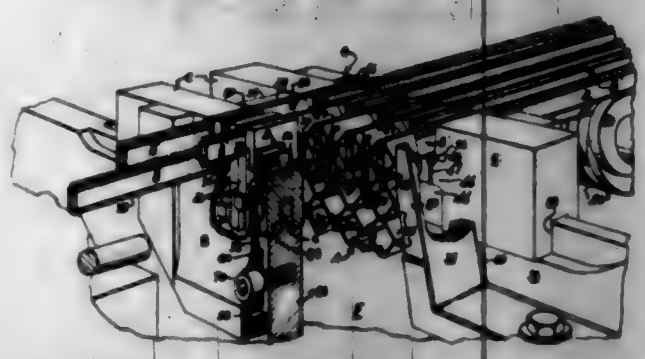
2,968,711
HEATING A PORTION OF A PROFILE
Guido Zeppiroli, Milan, Italy, assignor to Innocenti Soc. Generale per Findustria Metallurgica e Meccanica, Milan, Italy
Filed Apr. 1, 1959, Ser. No. 803,390
Claims priority, application Italy May 27, 1958
1 Claim. (Cl. 219—10.61)

In the device of the type specified, the means for energizing the inductors in synchronism with the displacement of the workpiece comprising a high-frequency current generator; a rotary commutator including a rotary distributor brush operatively connected to the output of the generator and a circular series of stationary contacts successively engaged by the brush on rotation of the latter, the successive contacts being electrically connected to the successive inductors whereby the latter are successively energized on rotation of the brush; means sensitive to the speed of the workpiece controlling the rotary movement of the brush thereby to energize the successive inductors in synchronism with the displacement of the



workpiece; and control means associated with the generator for blocking the latter every instant in which the brush is about to leave a contact, the said control means comprising a photoelectric cell-controlled modulator operatively connected to the generator, an energizing source of light for the cell, and a rotary screen rotating in unison with the brush interposed between the source of light and cell thereby to periodically obscure the cell in synchronism with the rotation of the brush.

2,968,712
PNEUMATIC HOLD DOWN DEVICE
Raymond B. Runkle, Berkeley, Calif., assignor to Hexcel Products Inc., Oakland, Calif., a corporation of California
Filed Aug. 7, 1959, Ser. No. 832,406
14 Claims. (Cl. 219—92)

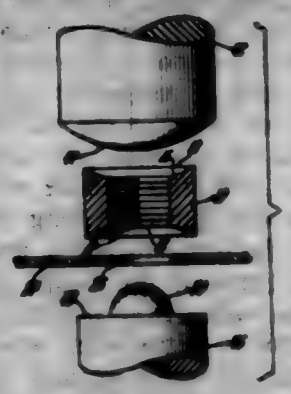


3. A welding machine for welding corrugated metal webs to form a cellular honeycomb structure comprising a vacuum chamber formed to accommodate said structure as it is fabricated, and means for connecting the cellular area between an unwelded web and said structure and the vacuum chamber to withdraw sufficient air from the said cellular area into the vacuum chamber to cause the atmospheric pressure on the outside surface of the unwelded web to force the unwelded web against the cellular honeycomb structure.

2,968,713
WELD ASSEMBLY
Ernest V. Harper, Utica, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Continuation of application Ser. No. 415,925, Mar. 12, 1954. This application Oct. 20, 1958, Ser. No. 768,438
6 Claims. (Cl. 219—93)

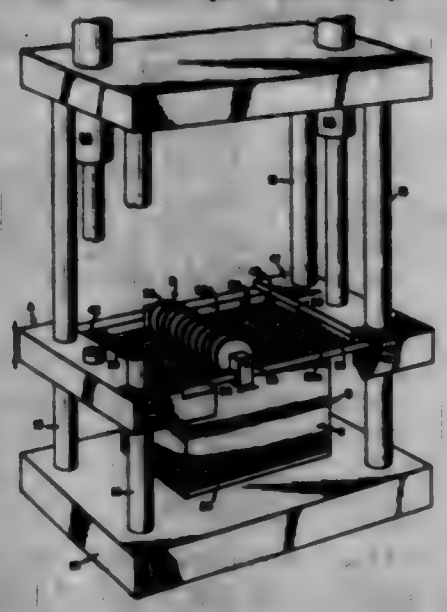
1. A welding assembly comprising a cylindrical nut having an axial threaded bore for receiving a threaded fastener, said nut having the opposite ends thereof concavely formed from the outer peripheral edges thereof to said axial bore, a supporting panel having an opening therethrough and adapted to have said nut welded thereon in alignment with said opening, a first electrode having a shoulder thereon for receiving and retaining said supporting panel, a second electrode reciprocable with re-

spect to said first electrode and axially aligned therewith, said second electrode having a tip formed convexly and complementary to said concave ends of said nut, one of said concave ends of said nut providing a continuous



welding projection at the outer periphery thereof, and the other of said concave ends of said nut receiving said convex electrode tip when said tip is reciprocated to the welded position to weld said nut to said supporting panel.

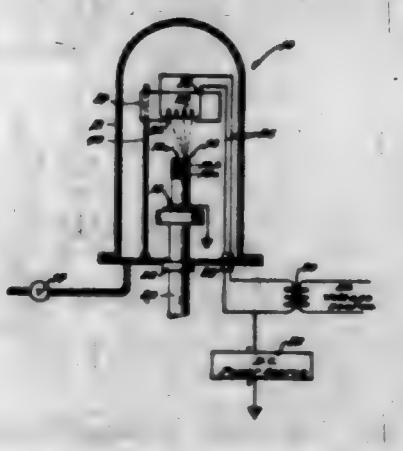
2,968,714
EXPANDABLE WELDED HONEYCOMB
Rowland S. Carter, Los Angeles, Calif., assignor to Hexcel Products Inc., Berkeley, Calif., a corporation of California
Filed June 12, 1958, Ser. No. 741,540
16 Claims. (Cl. 219—117)



1. A method of sequentially welding superposed sheets of foil to form an integral honeycomb structure comprising the steps of: forming electrical insulation along spaced parallel stripe on one face of each sheet; placing a first and second said sheet together with the insulation sandwiched between the two sheets; electrically welding the two sheets together to form seams positioned and arranged between the coated stripe sandwiched between the two sheets; placing a third sheet on the second sheet with one coated face sandwiched between the third and second sheet; and electrically welding said third sheet to said second sheet to form seams directly over the stripe between said first and second sheets.

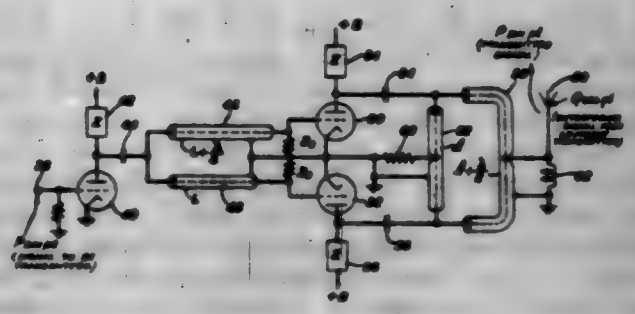
2,968,715
FUSION WELDING METHOD AND APPARATUS
Walter L. Wyman and William I. Steinkamp, Richland, Wash., assignors to the United States of America as represented by the United States Atomic Energy Commission
Filed Jan. 27, 1959, Ser. No. 789,457
5 Claims. (Cl. 219—117)

1. A method for fusion welding comprising subjecting the joint to be welded to a spot-focused electron beam in an evacuated atmosphere of an order of magnitude of at least 1×10^{-4} mm. of mercury, said electron beam being subjected to a potential of at least 1,000 volts until



the metal at said joint is melted and the metal vapor emanating therefrom is ionized to establish an arc discharge, the current in said arc being at least of the order of magnitude of 100 milliamperes.

2,968,716
REDUCTION OF CROSS-MODULATION BETWEEN THE OUTPUT STAGES OF ADJACENT TRANSMITTERS
Paul J. Bearer, Summit, and Frederick B. Llewellyn, Short Hills, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 31, 1956, Ser. No. 631,755
4 Claims. (Cl. 250—17)

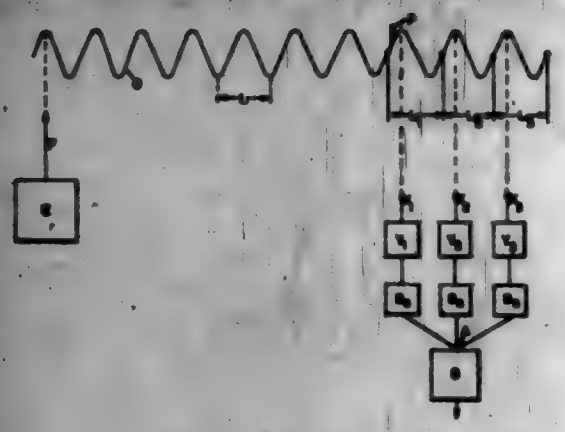


1. In a radio transmitter for transmitting a given signal comprising a modulated carrier, means for reducing third-order cross modulation distortion caused by other transmitters operating at different carrier frequencies and in close proximity thereto comprising an output stage having two tubes each of which includes at least anode, cathode and control grid elements, an antenna, means comprising a hybrid circuit interconnecting the antenna and the anodes of said tubes, and means for applying the same modulated carrier signal to the control grids of the two tubes in phase quadrature.

2,968,717
COUPLING NETWORK FOR SPLIT TRANSDUCERS
Walter K. Volkers, 519 Glen Ave., Scotia, N.Y.
Filed Aug. 1, 1956, Ser. No. 601,560
6 Claims. (Cl. 250—20)

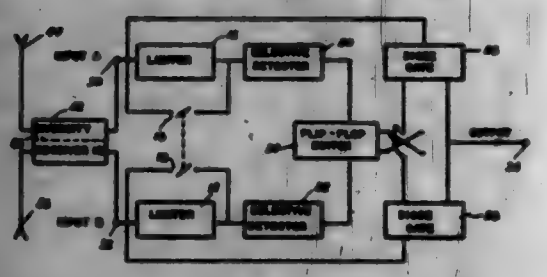
1. In a diversity transducer system having a plurality of co-transducers for receiving the same signal wave, a common signal output point, means including an instantaneously acting non-linear continuous function output device coupled between each of said co-transducers and

said output point for decreasing individual co-transducer signal contributions with increasing deviation of the con-



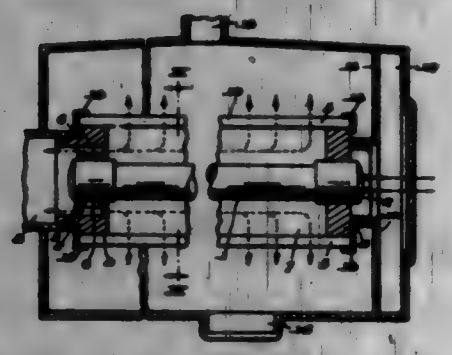
tribution of said individual co-transducers towards said common signal point.

2,968,718
SIGNAL SELECTOR
Lewis James McKesson, Garden City, N.Y., assignor to Crosby Laboratories, Inc., Hicksville, Long Island, N.Y., a corporation of New York
Filed Jan. 28, 1957, Ser. No. 636,617
18 Claims. (Cl. 250—20)



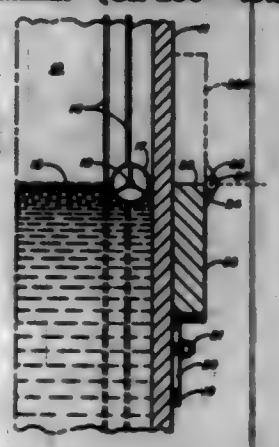
1. Apparatus for selecting from two audio frequency signals, the signal having the greater or lesser signal-to-noise ratio, said apparatus comprising a diversity receiver to provide the signals, limiters receiving the signals from the diversity receiver, selective detectors receiving the signals delivered by the limiters, said selective detectors being tuned to a limited portion which is the maximum energy portion of the complete audio spectrum, and means connected to said selective detectors for selecting the desired signal in response to a control potential obtained from the said selective detectors.

2,968,719
APPARATUS FOR REMOVAL OF NITRIC OXIDE FROM GASES
Albert Hilberie, Essen-Werden, and Günter Hachtstein, Essen, Germany, assignors, by mesne assignments, to Koppers Company, Inc., Pittsburgh, Pa., a corporation of Delaware
Filed Jan. 24, 1958, Ser. No. 710,901
3 Claims. (Cl. 250—43)



1. In apparatus for chemical treatment of gases, which comprises: a gas treating chamber with gas inlet means for inflow of gas to be treated, and gas outlet means for outflow of treated gas therefrom, and an ultraviolet ray burner arranged in the gas treating chamber in the path of flow of gas between the gas inlet and the gas outlet, the improvement comprising: a jacket in spaced surrounding relation with the burner, which jacket is transparent to ultraviolet rays and is provided with numerous passages through which a protective gas may flow outwardly from the space between the burner and jacket at a velocity to prevent the gas that is to be irradiated from coming into contact with the outside of the jacket and with the outside of the burner during its flow past the burner, and means for introducing a flow of protective gas into the space between the jacket and the burner, said protective jacket comprising parallel, triangular rods which are transparent to ultraviolet rays and which are arranged in an annular series around the burner, with an apex of each of said rods pointed radially outward and the oppositely disposed base surface thereof spaced from the base surface of the next adjacent rod in the series thereof so as to leave a comparatively small slit therebetween through which the protective gas may flow outwardly from the space between the burner and the jacket.

2,968,720
METHOD AND APPARATUS FOR LIQUID LEVEL CONTROL AND INDICATION
Donald E. Hall, Berkeley, Calif., assignor to The California Research Corporation, San Francisco, Calif., a corporation of Delaware
Filed Nov. 30, 1954, Ser. No. 472,079
3 Claims. (Cl. 250—43.5)

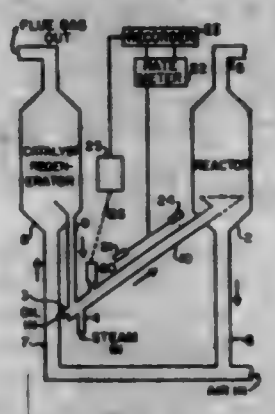


3. In a liquid level responsive system, the combination comprising a vertically moving source of radioactivity, a downwardly extending shield for radioactivity having a single effective horizontal boundary at its upper edge, a detector of radioactivity positioned to be coplanar with said boundary and on the opposite side of said shield from said source, there being substantially no liquid between said shield and said source at all positions of the latter, and means responsive to the change in output of said detector due to both upward and downward movement of said source with respect to the shielded and unshielded sides of said boundary.

2,968,721
METHODS OF FLOW RATE MEASUREMENT
Edward Shapiro, Newton Highlands, Mass., and Jerome Kohl, Berkeley, and Richard L. Nevachseck, Concord, Calif., assignors to Tracerlab, Inc., Boston, Mass., a corporation of Massachusetts
Original application Sept. 27, 1954, Ser. No. 458,574. Divided and this application July 12, 1955, Ser. No. 521,468
3 Claims. (Cl. 250—43.5)

1. The method of determining the rate of flow of catalyst in a catalytic cracker of the circulating fluid bed type having a predetermined recycling period that comprises storing a long-lived parent radioisotope and a short-lived daughter radioisotope having a half-life which is short

relative to said predetermined recycling period in secular equilibrium, periodically separating a discrete amount of the daughter isotope and injecting it into said fluid catalyst at a first point in the catalytic cracker, detecting the peak of emissions from said daughter isotope at a second point in said cracker displaced from said first point in the direction of flow of said catalyst, and measuring the time between the injection of said isotope and the detection of



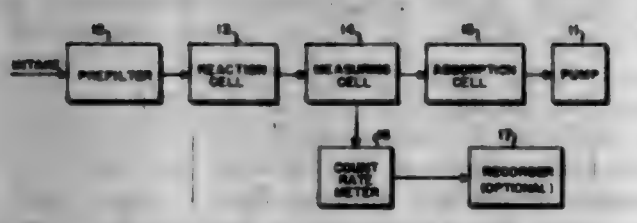
the peak of emissions therefrom at said second point, the activity of said injected isotope decaying sufficiently and being diluted by mixing with the catalyst while circulating through the cracker such that the emissions therefrom are of such low intensity when said discrete amount returns to said second point as not to interfere with the detection of emission peaks of subsequent injections of said short-lived isotope.

2,968,722

GAS MONITORING TECHNIQUES

David J. Chleck, West Newton, and Charles A. Ziegler, Saxonville, Mass., assignors to Tracerlab, Inc., Waltham, Mass., a corporation of Massachusetts

Filed May 6, 1957, Ser. No. 657,152
9 Claims. (Cl. 250—43.5)



1. A method of testing for the presence of sulfur dioxide in a gaseous medium which comprises the steps of passing said gaseous medium over a chlorate compounded with radioactive chlorine thereby deriving a test gas, and sensing the radioactivity of said test gas.

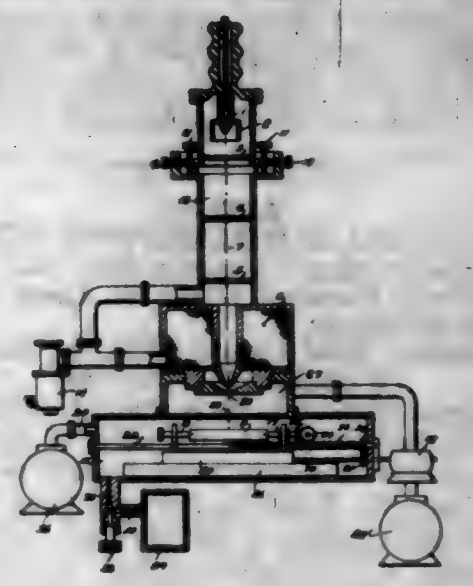
2,968,723

MEANS FOR CONTROLLING CRYSTAL STRUCTURE OF MATERIALS

Karl Heinz Steigerwald, Heidenheim, Germany, assignor to Carl Zeiss, Oberkochen, Wurttemberg, Germany, a corporation of Germany

Filed Apr. 11, 1957, Ser. No. 652,239
10 Claims. (Cl. 250—49.5)

1. The method of controlling the crystalline structure of a material; said method comprising the steps of positioning the material to have its crystalline structure controlled in a predetermined position, directing a beam of charged partcles at said material and focusing said beam of charged particles on a predetermined cross-sectional area portion of said material as defined by the cross-sectional area of said beam of charged particles bringing the said predetermined portion of said material to a predetermined temperature, and thereafter controllably affecting the application of said focused beam of charged particles to said predetermined portion of said material to allow a predetermined controlled decrease in the temperature of said heated predetermined portion



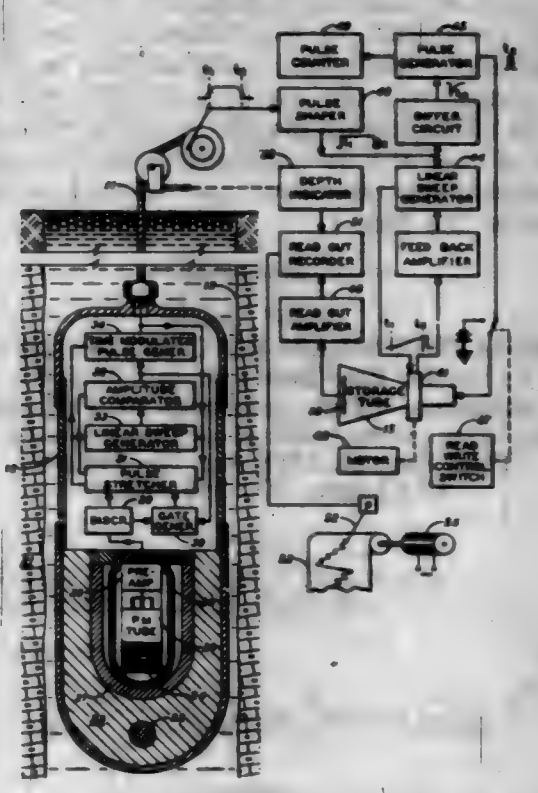
to control the recrystallization of said predetermined portion in a predetermined manner.

2,968,724

PULSE HEIGHT ANALYZER

Calvin M. Clark, Fullerton, Calif., assignor to California Research Corporation, San Francisco, Calif., a corporation of Delaware

Filed June 28, 1957, Ser. No. 668,781
10 Claims. (Cl. 250—71.5)



1. The method of recording at the earth's surface the magnitude of a plurality of quantities measured along a well bore as an indication of the values of a plurality of measurable characteristics of the earth formations traversed by said well bore, comprising the steps of detecting a plurality of measurable characteristics of said earth formation within said well bore, developing within said well bore a plurality of signals each of which represents one of said plurality of measurable characteristics of said earth formation, generating within said well bore an independent discrete pulse for each of said signals and having a time duration dependent upon said signals, gating an information storage device at the earth's surface in accordance with each of said discrete pulses, electromagnetically positioning information on said storage de-

vice in accordance with said discrete pulses, selectively detecting the position and relative strength of said stored information after a predetermined time interval, generating another electrical signal modulated in accordance with said selectively detected information, and recording said modulated signal in accordance with the depth along said well bore where said characteristics have been measured.

2,968,725

X-RAY IMAGE INTENSIFYING SCREEN

Michel Ter-Pogossian, University City, Mo., assignor to Mallinckrodt Chemical Works, St. Louis, Mo., a corporation of Missouri

No Drawing. Filed June 20, 1956, Ser. No. 592,479
6 Claims. (Cl. 250—80)

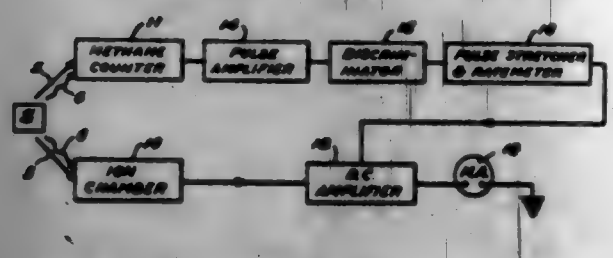
1. A screen adapted to be positioned against a photographic film for intensifying the effect of X-rays on the film by emission of a substantial portion of the energy absorbed from the X-rays as radiation lying in the blue-violet-ultraviolet region of the spectrum, without excessive diffusion of said radiation such as would cause a blurred or distorted image on the film, said screen comprising a sheet of substantially X-ray transparent supporting material which is opaque to visible light, and a fluorescent coating on one side of said sheet, said coating being of a substantially uniform thickness in the order of 0.006 to 0.01 inch, and said coating comprising a fluorophor which has an absorption peak for X-radiation lying within the range of approximately 30–70 kev. and which emits a substantial portion of the energy so absorbed as radiation lying in the blue-violet-ultraviolet region of the spectrum, said fluorophor consisting of an alkali metal iodide activated with a thallium compound, and a binder for said fluorophor, said binder being substantially transparent to X-radiation and to blue-violet-ultraviolet light, said screen being adapted to be pressed in close contact with the photographic film with a coated side of the screen toward the film, whereby distortion and diffusion of rays of blue-violet-ultraviolet light traversing the fluorophor are minimized and an accurate image is produced on the film.

2,968,726

RADIATION MEASURING INSTRUMENT

Richard L. Bersin, East Braintree, and Joris M. Brinkerhoff, Arlington, Mass., assignors to Tracerlab, Inc., Boston, Mass., a corporation of Massachusetts

Filed Dec. 27, 1955, Ser. No. 555,603
17 Claims. (Cl. 250—83.1)



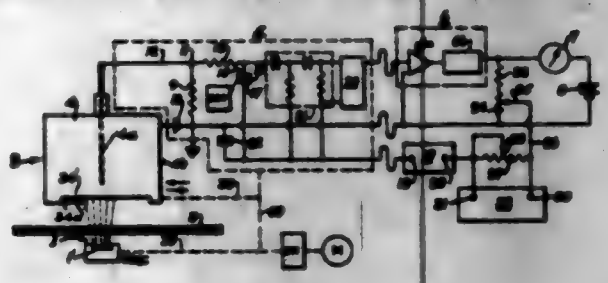
1. A radiation detection system adapted to respond in a biologically equivalent manner to a mixed radiation flux which may include slow neutrons, fast neutrons and gamma rays comprising, in combination, an ionization chamber formed with means adapted to undergo a neutron alpha reaction in response to an incident thermal neutron flux, means to thermalize fast neutrons below a predetermined energy and containing hydrogen at high pressure and operative to produce a current in response to an incident flux of neutrons and gamma rays, means including a methane-filled radiation counter operative to produce a signal in response to an incident flux of fast neutrons, means for combining the current from said ionization chamber and the signal from said last-mentioned means, and an indicator connected to said combining means.

2,968,727

RADIATION MEASURING APPARATUS HAVING MEANS FOR COMPENSATING ERRORS DUE TO ATMOSPHERIC CONDITIONS

Arthur N. Otis, Jr., New York, N.Y., assignor to Curtiss-Wright Corporation, a corporation of Delaware

Filed Apr. 23, 1957, Ser. No. 654,544
6 Claims. (Cl. 250—83.3)



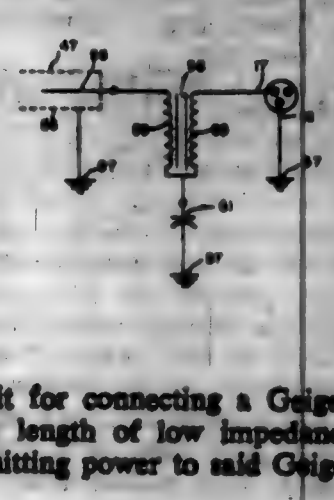
2. Apparatus for measuring the thickness or density of continuously produced strip material comprising a source of penetrative radiation disposed so as to direct a radiant beam at said strip, a radiation detector disposed for reception of radiation unabsorbed by said material and by the medium in the effective gap between said source and detector, first circuit means connected in circuit with said detector for producing a first electrical signal in accordance with the detected radiation, said signal being variable according to a first predetermined relation with changes in said material thickness or density and according to a second predetermined relation with changes in an atmospheric condition in said effective gap reflected as change in mass of said medium, second circuit means for producing a second electrical signal variable in accordance with changes in said atmospheric condition in said effective gap including a transducer element having an impedance variable with said atmospheric condition changes according to a third predetermined relation dissimilar to said second relation, said second circuit means further including a second impedance effective to match the net relation of said second signal with said second relation, means for amplifying the difference of said first and second signals and producing in turn an electrical signal representative substantially solely of the thickness or density of said material, means for utilizing the last mentioned electrical signal, and a degenerative feedback loop connected from the output to the input of said amplifying means and including said second circuit means.

2,968,728

UNDERGROUND EXPLORATION APPARATUS

Howard C. Eberline, Santa Fe, N. Mex., assignor to Eberline Instrument Division of Reynolds Electrical and Engineering Co., Inc., Santa Fe, N. Mex.

Filed Nov. 18, 1955, Ser. No. 547,002
7 Claims. (Cl. 250—83.6)



1. In a circuit for connecting a Geiger counter tube to a substantial length of low impedance transmission cable for transmitting power to said Geiger counter tube

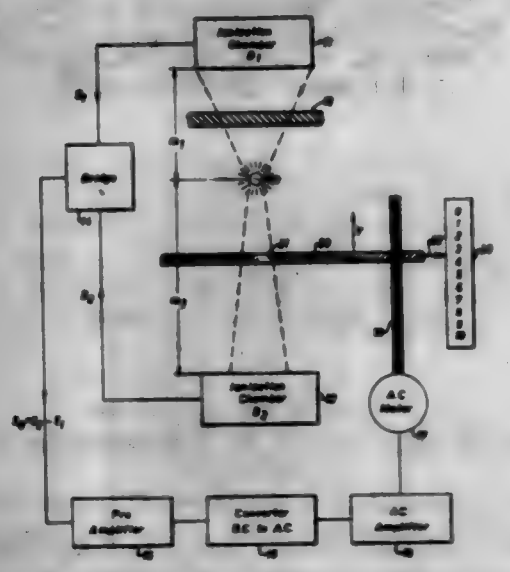
and for transmitting a signal from said Geiger counter tube, said cable containing a shield and a conductor, a transformer having a primary winding with its high side connected to said conductor and a secondary winding with its high side connected to said Geiger counter tube, the low sides of both the secondary and primary coils of said transformer being commonly connected, a suitable capacitor connected between said connection and ground which is common to the ground connection of said Geiger counter tube and the shield of said cable, said transformer offering a proper low impedance to said cable and a proper high impedance to said Geiger counter tube, the direct current for energizing said Geiger counter tube passing freely through said transformer.

2,968,729

APPARATUS FOR DIRECT MEASUREMENT OF MASS PER UNIT AREA

Thomas Peter Pepper, Tonawanda, and Andrew John Pressesky, Snyder, N.Y., assignors to Canadian Curtiss-Wright Limited, Oakville, Ontario, Canada

Filed Feb. 19, 1957, Ser. No. 641,090
Claims priority, application Canada Feb. 26, 1956
1 Claim. (Cl. 250—83.6)



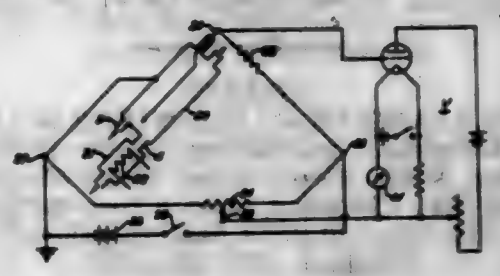
Apparatus for measuring the mass per unit area of a subject material, comprising in combination: a single source member emitting radiation in two different directions; a detector disposed at a distance from said source member in the path of radiation proceeding in one direction therefrom and adapted to generate an electrical signal responsive to emergent radiation from a subject material disposed between said detector and said member; a second detector disposed at a distance from said source member in the path of radiation emitted in the other direction therefrom and adapted to generate a second electrical signal responsive to radiation received therefrom; radiation iris means between said second detector and said source, being reversibly movable in translation along the latter path and provided with a radiation opening through which the radiation emitted in said other direction passes, for variably controlling the radiation received by said second detector and consequently said second signal; means for generating an iris positioning control signal responsive to the difference in electrical signals generated by said detectors; and electromechanical means for moving said iris means responsive to said control signal along said latter path to reduce said control signal effectively to zero and to provide an indication of a function of the mass per unit area of the subject material.

2,968,730

METHOD AND APPARATUS FOR DETECTING MINUTE CONCENTRATIONS OF GASES AND VAPORS

Robert A. Morriz, Forest Hills, Pa., and Robert von Heine-Geldern, Upper Montclair, N.J., assignors to Mine Safety Appliances Company of Pittsburgh, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Dec. 5, 1957, Ser. No. 700,844
15 Claims. (Cl. 250—83.6)



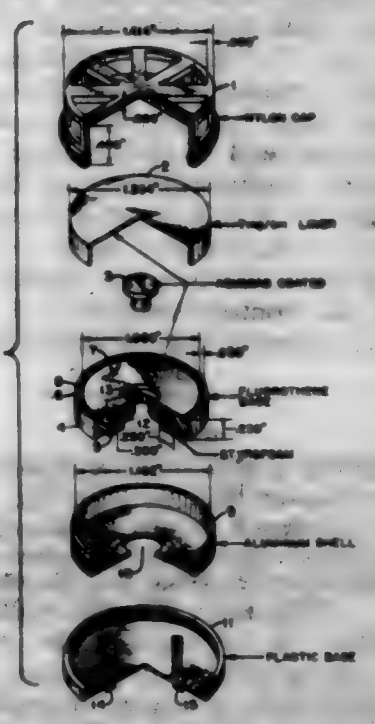
6. Apparatus for detecting a trace constituent of a gaseous mixture for use with an ionization chamber through which the mixture is passed and ionized in the presence of an electrical field to produce an ionization current; said apparatus comprising means for exposing the mixture as it enters the chamber to a specific reagent that will react with the constituent to be detected to form nascent particulate matter; and means for measuring the ionization current in the chamber before and after the mixture is exposed to the reagent.

2,968,731

BETA-GAMMA PERSONNEL DOSIMETER

Doyle M. Davis, Corryton, Edwin D. Gupton, Oak Ridge, and James C. Hart, Lenoir City, Tenn., and Andrew P. Hull, Kingston, N.J., assignors to the United States of America as represented by the United States Atomic Energy Commission

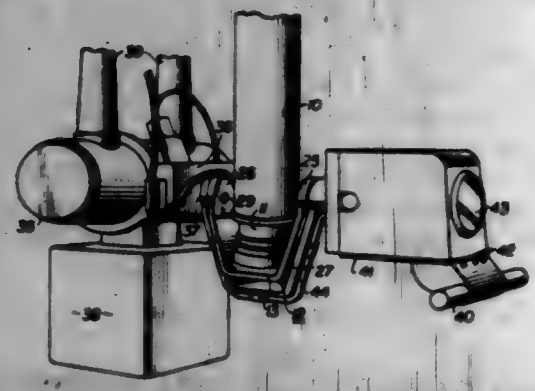
Filed July 1, 1959, Ser. No. 824,442
5 Claims. (Cl. 250—83.6)



2. A dosimeter sensitive to both gamma and soft beta radiation and in the shape of a small pill box, comprising a metallic shell, a first electrically conducting flat electrode insulatingly supported on said shell, means connected to said first electrode for placing a charge thereon, a plastic cup-shaped cap, means for affixing said shell to and within said cap, said cap having its top and sides partially cut away to provide a known percentage of void area, a second electrode comprising an electrically conducting plastic liner fitted within said cap, the thickness of said liner being substantially 7 milligrams per square

centimeter, said liner being grounded to said shell and mounted in spaced relation to said first electrode to define an ionization chamber and to maintain a potential impressed therebetween, and a plastic base threadably fitted to said cap, said base being provided with means for attachment of a wrist strap thereto, the dose received by said dosimeter being receivable from all directions within a hemisphere, and the dose actually received being at most the gamma dose plus the beta dose indicated by discharge of said dosimeter divided by said known percentage.

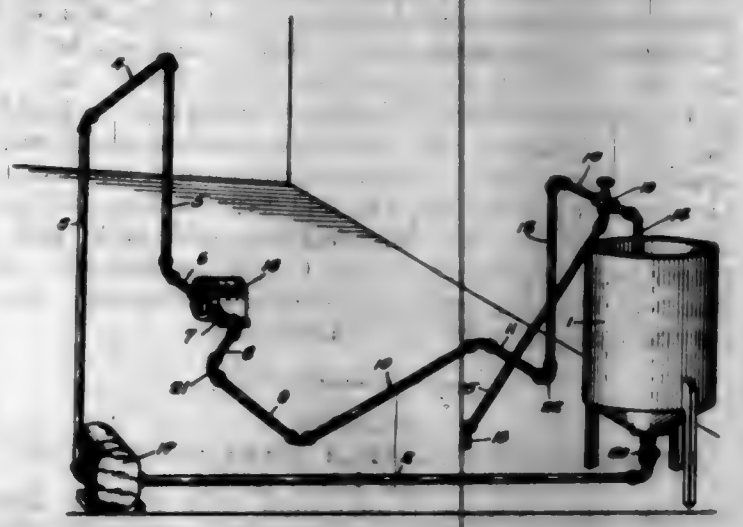
2,968,732
TUBE STAND HEAD COUNTERBALANCE
Anthony J. Fodorare, Middleburg Heights, Ohio, assignor to Picker X-Ray Corporation, Waite Manufacturing Division, Inc., Cleveland, Ohio, a corporation of Ohio
Filed Apr. 30, 1959, Ser. No. 810,015
9 Claims. (Cl. 250—91)



1. An X-ray mechanism for mounting on a ceiling tube stand or the like comprising, an inner bracket having a central portion and first and second upstanding arms, the central portion including means for rotational mounting of the bracket on a tube stand, the arms each having a first end connected to the central portion and a second end, journal means carried by each of the arms at the second ends, an outer bracket having a central portion and first and second upstanding arms, the outer bracket being symmetrically disposed about said inner bracket, said outer bracket arms having upper ends, means connecting said second ends to said upper ends and permitting relative rotation of the brackets about an axis transverse to the arms, an X-ray head mounted on said outer bracket first arm, a control member mounted on the outer bracket second arm, a housing mounted on the control member, and a counterweight carried by said member and disposed within said housing.

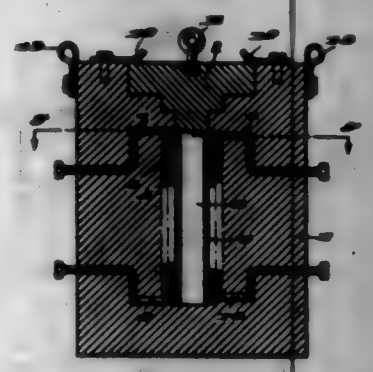
2,968,733
METHOD OF CONTAMINATION DETECTION
Vladimir Dvorkovitz, Kansas City, Mo., and Neil Berst, Evanston, and Susan Krauss, Chicago, Ill., assignors to The Diversey Corporation, a corporation of Illinois
Filed Dec. 5, 1955, Ser. No. 551,021
7 Claims. (Cl. 250—106)

2. A method of determining the presence of contamination and selectively determining the location of contamination which promotes bacterial activity in a system comprising: contacting the surfaces of the system that are being examined with a tracer solution containing a salting-out agent and a gamma ray-emitting radioactive isotope that is salted-out on and selectively retained by contamination and at the same time emits a detectable and effective amount of gamma radiation, while controlling the concentration and radiation energy of said isotope to provide a selective amount of gamma radiation of a selective level of radiation energy for point determination of the focus of contamination, removing undesired gamma ray-emitting isotope material from the system, selectively determining the location of contamination from detecting positions outside the system when contamination is detected in said system, and re-



moving undesired detected contamination from the system.

2,968,734
DEVICE FOR THE EXPOSURE OF FLUID TO RADIATION
Clive M. Yeomans, Baltimore County, Md., assignor to The Martin Company, a corporation of Maryland
Filed Jan. 6, 1956, Ser. No. 557,671
4 Claims. (Cl. 250—106)

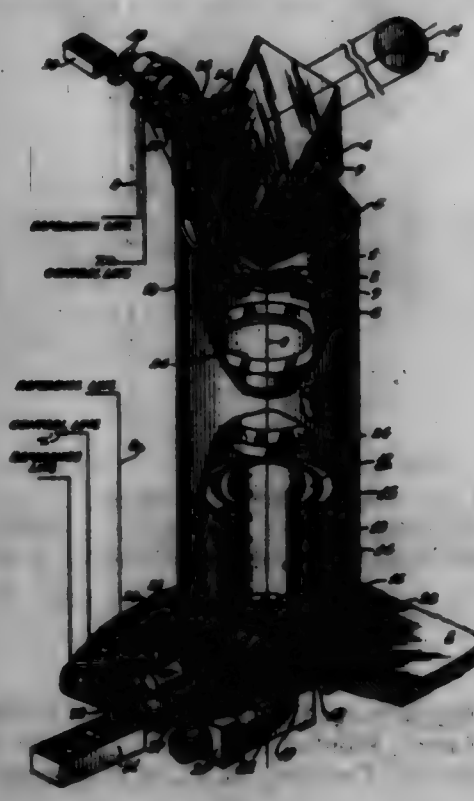


1. An irradiation device comprising a hollow member having an opening therein, said member being composed of a material emitting atomic radiation, a container of shielding material defining a chamber about said member, said chamber having an opening adapted to provide access to the interior of said member, a removable closure of shielding material for said opening in said chamber, and two tubes for carrying fluids to be irradiated by said atomic radiation, said tubes being positioned in said chamber adjacent said member and extending in a tortuous manner from said chamber to the exterior of said container.

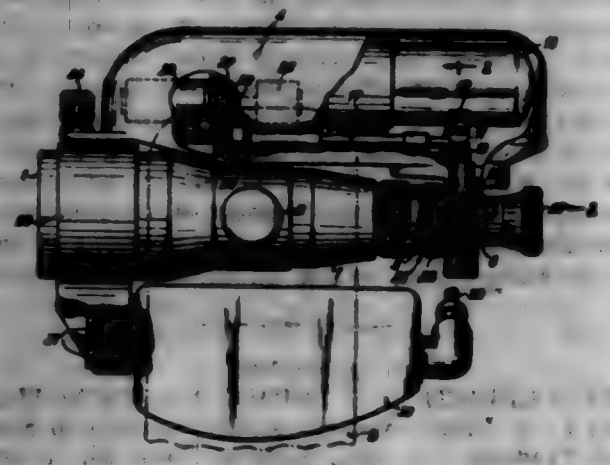
2,968,735
FAN SCANNER CELESTIAL DETECTOR SYSTEM
Leroy Kanfold, Santa Barbara, and Clyde H. Getz, Torrance, Calif., assignors to Northrop Corporation, a corporation of California
Filed Aug. 17, 1953, Ser. No. 374,706
13 Claims. (Cl. 250—203)

1. A finite light source detector system comprising a scanner disc, a power source for rotating said scanner disc, means for focusing a finite light image onto said scanner disc, a photo-sensing device, a band pass filter connected to said photo-sensing device, an automatic gain control amplifier connected to said band pass filter, a first frequency detector connected to said automatic gain control amplifier, a connection from said first frequency detector to each of two identical control circuits each of which include a first frequency demodulator, a

delay circuit connected to said first frequency demodulator, a second frequency modulator connected to said delay circuit, an amplifier connected to said second frequency modulator, an output from said amplifier, a connection from each of said two identical control circuits from said amplifier to an adder circuit, an automatic gain control rectifier connected to said adder circuit, an automatic cutoff circuit, connected to said automatic gain control rectifier, a connection from said automatic cutoff circuit to a contact between said photo-sensing device and said band pass filter.

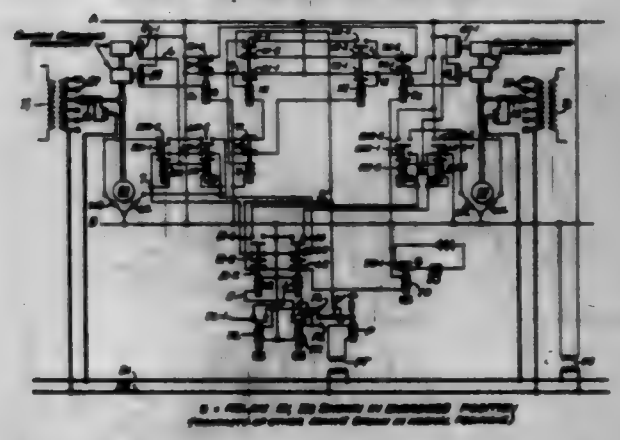


2,968,736
CYCLING MECHANISM FOR PHOTOELECTRICAL DEVICES
Heinz Dobberstein, Berlin-Neukoelln, Germany, assignor to Askania-Werke A.G., Berlin-Friedenau, Germany, a corporation of Germany
Filed July 1, 1958, Ser. No. 745,978
Claims priority, application Germany July 2, 1957
4 Claims. (Cl. 250—233)



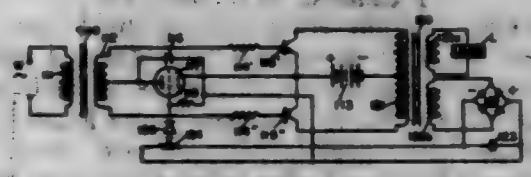
1. In a photometric device, a photosensitive element; means for directing different light beams onto said element for photo-electrical comparison of such light beams, a shaft having its axis transverse to said light beams, means to rotate said shaft continuously during operation of the device, and a light shutter on said shaft and in the path of said light beams, said shutter being comprised of an opaque cylindrical sector co-axial with said shaft and having radial boundary surfaces so dimensioned and angularly spaced for successively stopping either and both of said different light beams ahead of said photosensitive element during shutter rotation about said axis.

2,968,737
CONTROL SYSTEM FOR PARALLELED TAP-CHANGE TRANSFORMERS
Jack Cosar, 2346 Dunlevy, Victoria, British Columbia, Canada
Filed Sept. 15, 1958, Ser. No. 761,029
10 Claims. (Cl. 307—51)



1. A control system for at least two paralleled power transformers connected together on at least one side thereof, each having a tap-changer including a motor and associated motor energizing system actuable to move each said tap-changer; said control system comprising, in combination with said tap-changers, a control means responsive to a deviation in the power voltage at said connection to supply an actuation signal for the energizing syetems of said motors, said energizing systems including means energizing said motors to turn by an amount limited to a single tap-change step in response to said actuation signal, separate switch means individual to the tap-changers and operable thereby in response to movement of the respective tap-changers from any position to any next adjacent position, said switch means having contacts which are in one condition at all tap positions of their respective tap-changers and in the opposite condition during movement of the tap-changer from any tap position to the next adjacent tap position; said switch means contacts being together serially connected with said control means and operable thereby to interrupt said signal supply of the latter in response to positioning of either of such contacts in said opposite condition.

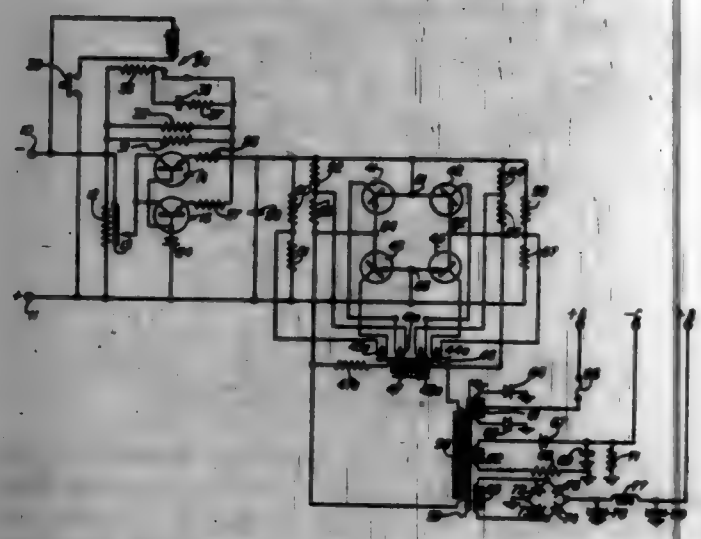
2,968,738
REGULATED SOURCE OF ALTERNATING OR DIRECT CURRENT
Robert H. Platell, New York, N.Y., assignor, by mesne assignments, to Intron International, Inc., Bronx, N.Y.
Filed May 28, 1958, Ser. No. 738,538
8 Claims. (Cl. 307—150)



8. In combination, an amplifier and a regulator for said amplifier, said amplifier having a direct-current output circuit and a transmission path of variable impedance determining the magnitude of a continuous voltage developed across said output circuit, an adjustable impedance element in said transmission path provided with a control terminal, and circuit means connecting said output circuit to said control terminal for degeneratively applying

thereto at least a portion of said continuous voltage, said circuit means including a diode connected normally to present a high resistance to said continuous voltage and adapted to break down in response to a rise of said continuous voltage above a predetermined value.

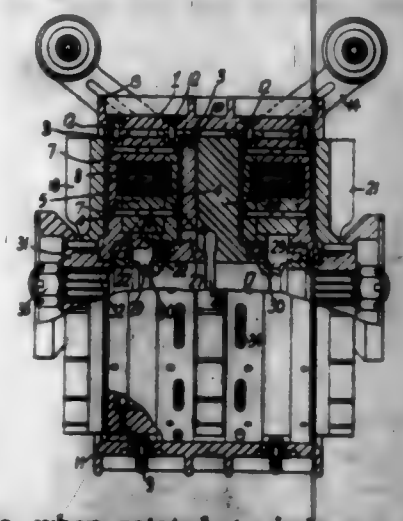
2,968,739
TRANSISTOR POWER SUPPLY
Robert D. Mohler, Glen Ellyn, Ill., assignor to Motorola, Inc., Chicago, Ill., a corporation of Illinois
Filed Aug. 1, 1958, Ser. No. 752,514
11 Claims. (Cl. 307—150)



2. A power supply for converting a primary direct current varying between about 64 and about 85 volts to a plurality of regulated direct current potential sources adapted to the operation of two-way radio equipment including in combination, a voltage regulator for connection to the source of direct current potential which varies within the range specified, said regulator adapted to provide a regulated direct current output of about 58 volts, a transistor bridge oscillator including four alloy junction transistors and a feedback transformer, means connecting the output of said voltage regulator connected to said bridge so that any transistor in cutoff condition during oscillation of said bridge has a voltage impressed upon it no greater than the output of said regulator, said oscillator providing a pulsating direct current output, a power transformer having its primary winding connected to the output of said oscillator and having a plurality of secondary windings and rectifying means connected to each of said secondary windings.

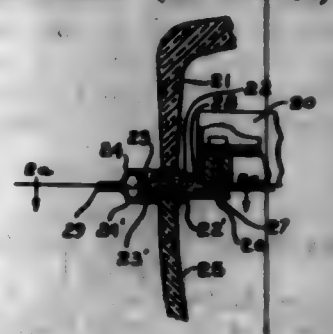
2,968,740
MAGNETIC BRAKES
Reginald Thornton Coe, Rugby, and Leonard Griffiths, Coventry, England, assignors to The British Thomson-Houston Company Limited, a company of Great Britain
Filed July 21, 1958, Ser. No. 749,830
Claims priority, application Great Britain Dec. 19, 1957
7 Claims. (Cl. 310—93)

1. An eddy current brake comprising a rotor consisting of two pairs of spaced co-axial discs, a stator constituted by two magnetic-field-producing members, said magnetic-field-producing members being located between the faces of the respective pairs of rotor discs, each of said magnetic-field-producing members having concentric poles which, when magnetised, are of opposite polarity and cause magnetic fluxes to enter and leave said pair of rotor discs with which it is associated whereby on rotation of the rotor discs to generate eddy currents therein, said magnetic-field-producing members being provided with radial slots which form salient poles and permit entry of cooling air into the space between said member and said rotor discs, adjacent thereto by way of apertures in the inner periphery of said rotor discs, one of said rotor discs in one of said pairs being located in proximity to a rotor disc in the other of said pairs, the inner faces of the proximate rotor discs being



so shaped as, when rotated, to induce a current of air between them for cooling purposes and for cooling said magnetic-field-producing members by way of the apertures in the inner periphery of said rotor discs.

2,968,741
CATHODE-RAY TUBE MANUFACTURE
John F. Frazier, Painted Post, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed Oct. 2, 1953, Ser. No. 383,803
14 Claims. (Cl. 313—64)



1. An article comprising two glass parts, at least one of which is hollow, such parts having endless sealing surfaces facing one another, and an assembly interposed between such sealing surfaces and comprising a pair of endless metal strip elements, each such element comprising a relatively thick portion and an associated relatively thin portion extending outwardly therefrom, the relatively thick portion of one of said elements being butt-sealed to the sealing surface of one of said glass parts and the relatively thick portion of the other of said elements being butt-sealed to the sealing surface of the other glass part, one of the portions of one of the elements having an inwardly extending projection for the support of a member thereon within the article, the relatively thin portions of the two elements being joined to one another in sealing relation.

2,968,742
HIGH EFFICIENCY TRIODE VACUUM TUBE
Robert C. A. Eland, Arcadia, Calif., assignor to Standard Coil Products Co., Inc., Melrose Park, Ill., a corporation of Illinois
Filed July 25, 1958, Ser. No. 750,956
5 Claims. (Cl. 313—293)

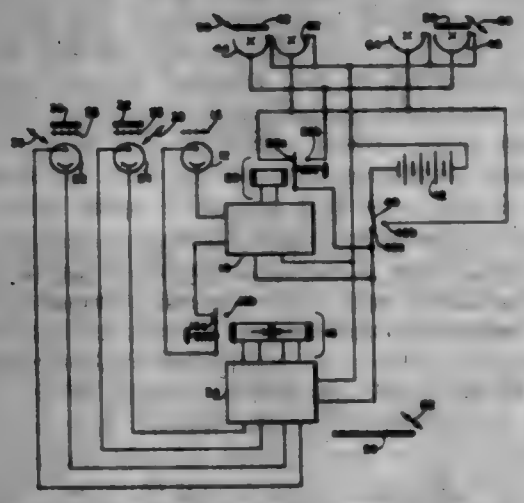
1. A vacuum tube operable in the V.H.F. signal range with dynamic characteristics comparable to a triode comprising a cathode electrode extending longitudinally of the tube, a control grid electrode composed of a wire grid spaced from and substantially surrounding said cathode electrode, a plate structure having an active anode portion supported opposite said wire grid and an

inactive plate section extending from each longitudinal edge of said active anode portion, said inactive plate sections being more remotely spaced from the wire grid than the active anode portion spacing, and a shield member interposed between each of said inactive plate sections and said grid electrode, each shield member



having an edge region substantially coplanar with said active anode portion and positioned close to a respective longitudinal edge of the active anode portion for effectively inhibiting capacitance between said grid electrode and the inactive plate sections.

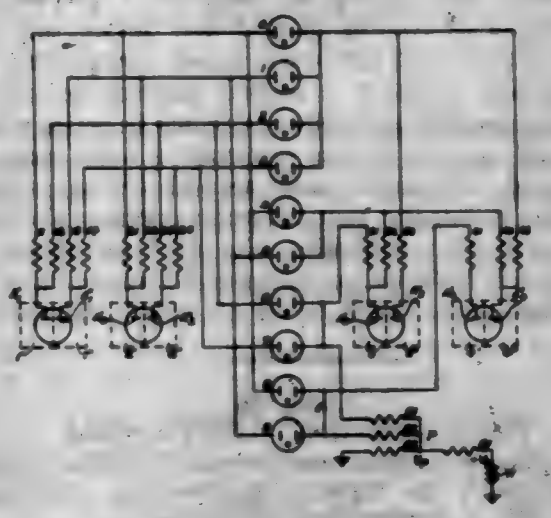
2,968,743
HEADLIGHT CONTROL SYSTEM FOR AUTOMOTIVE VEHICLES
Harold O. Buzzell, Wollaston, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
Filed Aug. 7, 1959, Ser. No. 832,294
15 Claims. (Cl. 315—83)



15. In a headlight control system for automotive vehicles, in combination in a given vehicle equipped under said system, light-projecting means comprising means providing an up-beam and a down-beam, means for actuating said beam providing means to obtain said up-beam and said down-beam, light-polarizing means substantially fixedly positioned in the path of at least said up-beam, a source of electrical energy, photoelectric cell means mounted to receive light rays from a source external of said vehicle and constituting a component of an electrical circuit for operating said actuating means, and substantially uniformly polarizing and fixedly positioned light-polarizing means contiguous said photoelectric cell means and positioned in the path of at least part of any light rays which may be directed toward said photoelectric cell means from said external source, said actuating means being energized by one of electric current changes and a termination of current flow instigated by said photoelectric cell means in response to changes in external light conditions.

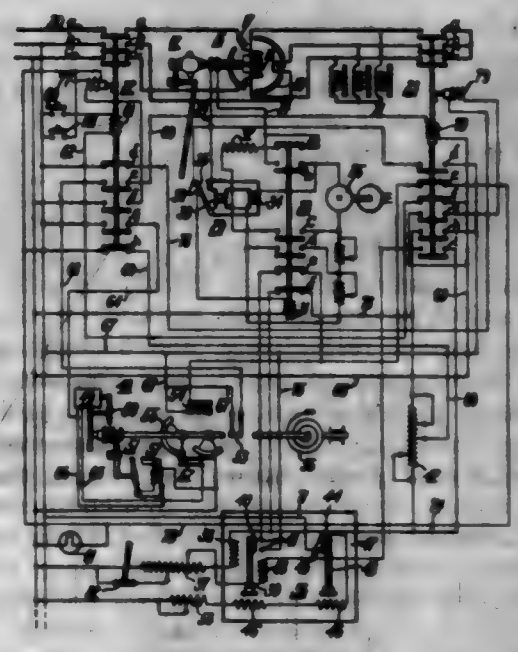
2,968,744
CIRCUIT ARRANGEMENT FOR THE GLOW-DISCHARGE TUBE INDICATION OF A DECIMAL TUBE COUNTER
Věnceslav Kroupa, Prague, Czechoslovakia, assignor to Tesla, narodni podnik, Prague, Czechoslovakia
Filed Oct. 22, 1957, Ser. No. 691,661
2 Claims. (Cl. 315—84.5)

1. A visual indicating arrangement for showing the state of a decimal counter of the type including first, second, third and fourth bistable flip-flop circuits each having electron tubes with anodes that are alternatively in conducting and non-conducting states during operation of the counter; said visual indicating arrangement comprising a first group of six glow-discharge tubes each having two electrodes, a second group of four glow-discharge tubes each having two electrodes, means connecting one of said electrodes of each of said glow-discharge tubes in said first and second group to anodes of two electron tubes in said first and second flip-flop circuits, respectively, and having an individual resistor interposed in each connection to each anode, means connecting the



other of said electrodes of each of said glow-discharge tubes in said first group to anodes of two electron tubes in said third and fourth flip-flop circuits of the counter and also having an individual resistor in each connection to each anode, a source of potential equal to the potential at one of said anodes in one of said states of the latter, and means connecting the other of said electrodes of each of said glow-discharge tubes in said second group to both said source of potential and the anode of an electron tube in one of said third and fourth flip-flop circuits and also having a resistor in each connection to said source of potential and to each anode.

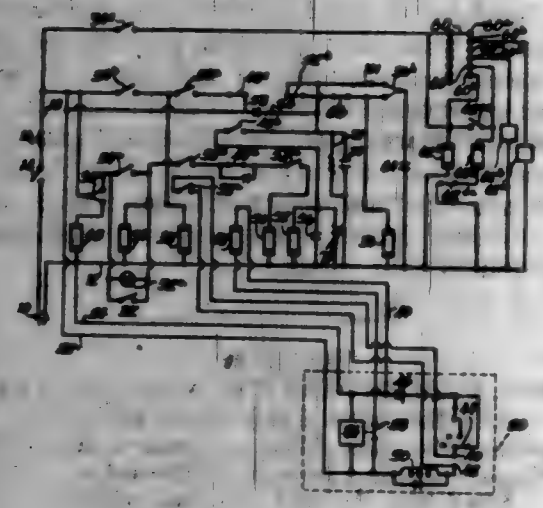
2,968,745
CONTROL SYSTEM FOR THE AMBIENT TEMPERATURE OF A THERMAL RELAY
John Bande, Milwaukee, Wis., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed May 7, 1957, Ser. No. 657,605
6 Claims. (Cl. 317—13)



1. In combination, a circuit breaker connected to a source of electric power, a first thermal device electrically

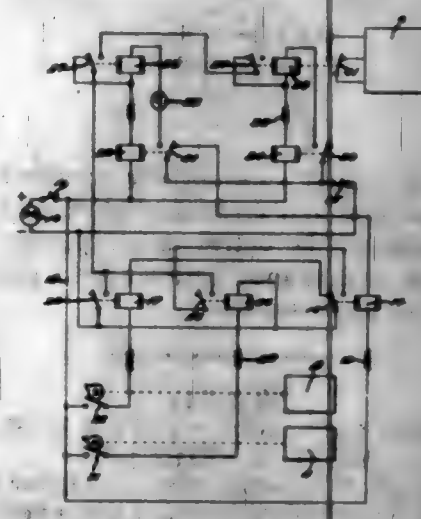
connected to said breaker, means for enclosing said first device, means for closing said breaker to cause a first current to flow from said source through said breaker to said first device, means for changing the resistance of said first device for sequentially causing a second lower current to flow through said first device, means for opening said breaker, said first device upon reaching a predetermined temperature actuating said opening means to open said breaker, means actuated by said breaker upon movement to open position for connecting said first device to said source to cause a third lower current to flow through said first device to retard to a predetermined value the rate of cooling of said first device, and means mounted within said enclosure means comprising a pair of cooperating contacts, a second thermal device and a resistance element electrically connected in series with said source, said second device controlling said contacts to connect and disconnect said second device with said source, said resistance element upon opening and closing of said contacts controlling the ambient temperature around said first device to increase the accuracy of operation of said first device under all operating conditions.

2,968,746
PROGRAMMING MECHANISM
Anthony Flan, Evanston, and Harold N. Miller, Glencoe, Ill., assignors to Oakton Engineering Corporation, Skokie, Ill., a corporation of Illinois
Filed Mar. 13, 1957, Ser. No. 645,714
6 Claims. (Cl. 317—139)



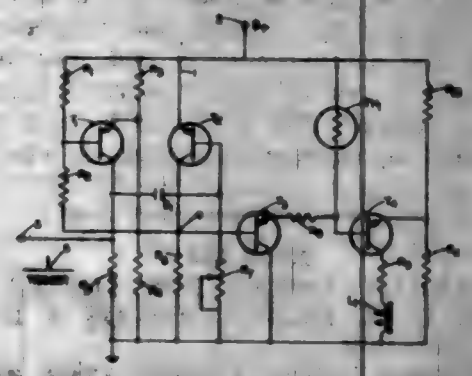
1. A programming mechanism for use in sequentially energizing a group of devices in response to a momentary voltage condition across predetermined terminals as determined by the action of a reproducing device, and to de-energize the reproducing device upon termination of a prolonged period of said voltage condition, the programming mechanism comprising: means operable when energized to apply operating energy to the reproducing device; means defining a hold-in circuit for said means; a stepping switch having contacts operable to energize said group of devices, respectively, and a stepping member movable step-by-step to engage said contacts in succession; circuit means operable to actuate said stepping switch one step upon the event of a momentary voltage condition at said predetermined terminals, whereby the stepping switch is advanced step-by-step in response to the momentary voltage conditions; circuit means operative to break said seal-in of said first means in response to a prolonged existence of said voltage condition; means operable in response to said voltage condition to define an alternate seal-in circuit for said first means; and means operable to break said alternate circuit when said prolonged voltage condition comes to an end.

2,968,747
SEQUENCE COUNTING AND LOCKING CIRCUIT
Harry R. Shillington, Glen Ellyn, Ill., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Jan. 6, 1959, Ser. No. 785,292
4 Claims. (Cl. 317—139)



1. A circuit for controlling external instrumentalities in accordance with the sequential operation of utilization devices, which circuit comprises electromagnetic means having a normally open contact, said normally open contact being connected to said external instrumentalities to control the operation thereof, a power supply, a first normally open relay circuit shunting said power supply, switch means controlled by one of said utilization devices for closing said first normally open relay circuit to accomplish the energization thereof, a locking circuit shunting said power supply and having a normally open contact of said first normally open relay circuit connected in series therewith, said locking circuit being energized upon actuation of said switch means and the energization of said first normally open relay circuit, a circuit connected to said electromagnetic means and conditioned for operation by the energization of said locking circuit, a second normally open relay circuit shunting said power supply, and switch means controlled by another of said utilization devices to concomitantly energize said conditioned circuit and said electromagnetic means to close said normally open contact and render said external instrumentalities effective.

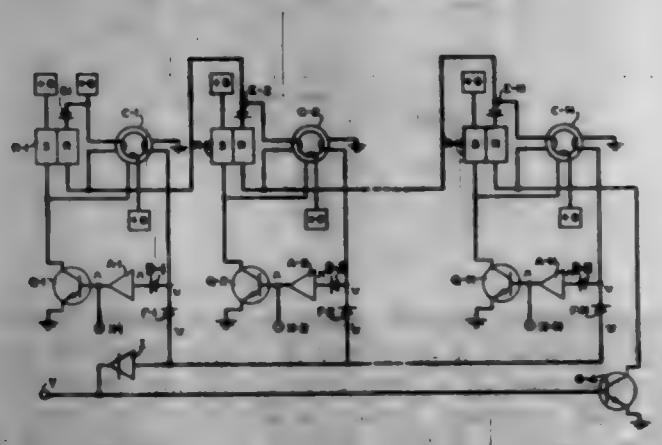
2,968,748
MONOSTABLE MULTIVIBRATOR AND AMPLIFIER CIRCUIT
Arthur Bruce Davenport, Owings Mills, Md., assignor to The Bendix Corporation, a corporation of Delaware
Filed Mar. 21, 1957, Ser. No. 647,556
2 Claims. (Cl. 317—148.5)



1. A monostable multivibrator comprising a pair of transistors and each having base, emitter and collector electrodes, means forming a regenerative feed back coupling between the base of a first of said transistors to the collector of the second transistor, means capaci-

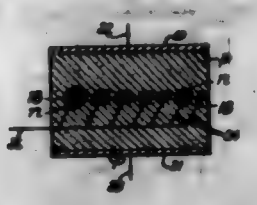
tively coupling the collector of said first transistor to the base of the second, a source of supply voltage, means directly connecting the emitter of said second transistor to said source, means normally biasing said multivibrator to its astable state whereby said first transistor is cut-off and said second transistor is conducting, and means applying triggering voltage to said multivibrator of such polarity and magnitude to bias said multivibrator to its astable state whereby the conductivity of said transistors is reversed for a predetermined interval; a third and a fourth transistor each having base, emitter and collector electrodes, means normally biasing said third transistor to cut-off during said stable state of said multivibrator, the base of said third transistor during cut-off being inherently subject to a forward bias voltage condition resulting from thermally generated leakage current, means including a positive coefficient resistor and a negative coefficient resistor connecting the emitter and collector of said third transistor across said voltage supply, said positive and negative resistors forming a junction therebetween, means of negligible impedance directly connecting the base of said third resistor to the collector of said second transistor of said multivibrator during the stable state to provide a low impedance path for said thermally generated leakage current whereby said inherent forward bias condition is prevented, means connecting the base of said fourth transistor to said junction, means including an inductance connecting the collector of said fourth transistor to said source, and voltage divider means connecting the emitter of said fourth transistor across said voltage supply.

2,968,749
MAGNETIC RELAY RESET SYSTEM
James Gordon Pearce, Rochester, Gunter Sager, Fairport, and Anthony E. Sowers, Rochester, N.Y., assignors to General Dynamics Corporation, Rochester, N.Y., a corporation of Delaware
Filed Mar. 12, 1959, Ser. No. 799,009
5 Claims. (Cl. 317—148)



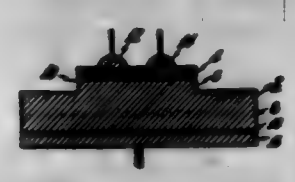
1. In a switching device, a plurality of electromagnetically operated switching units, individual means for each said unit for transmitting setting pulses, a means common to all said units for transmitting resetting pulses, each said unit having a setting coil and a resetting coil and an individual bistable square loop magnetic memory element associated therewith, a first coil interlinked with said memory element and connected to said setting coil, a second coil interlinked with said memory element and connected to said resetting coil and a third coil interlinked with said memory element and responsive to both said individual setting pulse and said common resetting pulse for fortifying and maintaining the said setting and the said resetting pulses transmitted to said setting and said reseting coils and their connected memory element coils through transformer cooperative relationship between said third memory element coil and said first and said second memory element coils respectively.

2,968,750
TRANSISTOR STRUCTURE AND METHOD OF MAKING THE SAME
Robert N. Noyce, Los Altos, Calif., assignor, by mesne assignments, to Clevite Corporation, Cleveland, Ohio, a corporation of Ohio
Filed Mar. 28, 1957, Ser. No. 647,236
2 Claims. (Cl. 317—235)



1. A transistor structure including first regions of one conductivity type, grid-like elements disposed in said regions, said grid-like elements entirely comprising a eutectic mixture of a semiconductive material and a metal, and seimconductive material of opposite conductivity type completely encircling said first regions and said grid-like elements and forming junctions with said first regions, current carrying leads connected to opposite sides of said material of opposite c ductivity type and additional leads connected to said first regions.

2,968,751
SWITCHING TRANSISTOR
Charles W. Mueller and Loy E. Barton, Princeton, N.J., assignors to Radio Corporation of America, a corporation of Delaware
Filed Aug. 9, 1957, Ser. No. 677,295
9 Claims. (Cl. 317—235)

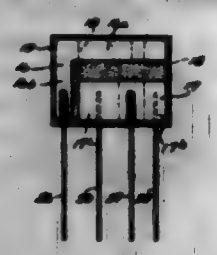


1. A semiconductor device comprising a base region of one type conductivity crystalline semiconducting material, an emitter electrode in rectifying contact with one portion of said base region, a collector region of conductivity type opposite that of said base region in rectifying contact with another portion of said base region, and electrode means in contact with said collector region, said electrode means being responsive to predetermined low collector currents to collect charge carriers which are minority carriers with respect to said base region, and responsive to collector currents higher than said low currents to inject charge carriers which are majority charge carriers with respect to said base region, into said collector region; said means comprising a solder including a minor proportion of a material which when present in small quantities in said semiconductor produces therein said one type conductivity, and a major proportion of materials which when present in small quantities in said semiconductor do not produce a particular type conductivity.

2,968,752
MULTIPLE CAPACITOR
Harry W. Rubinstein, Sidney B. Williams, and John E. Dornfeld, Milwaukee, Wis., assignors to Sprague Electric Company, North Adams, Mass., a corporation of Massachusetts
Filed Jan. 24, 1957, Ser. No. 636,042
6 Claims. (Cl. 317—242)

1. In a multi-capacitor unit for electric units, a ceramic dielectric of rectangular plate-like form, two conductive coatings on each of two opposite sides of the dielectric, one coating on each side of the dielectric having two legs and being substantially L-shaped with one leg along

a side and the other leg across the width of the dielectric and the other coating on each side of the dielectric being substantially rectangular, each coating on one side partially overlapping both coatings on the other side, and the overlapping areas providing one area with capacitance of given value and other areas with capacitance in



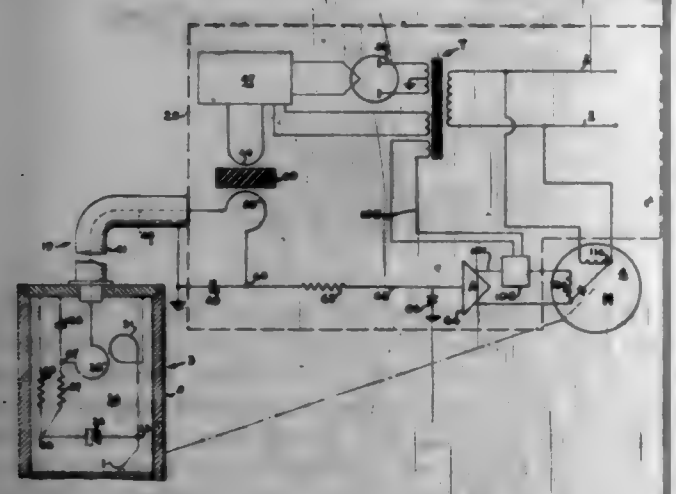
multiples of the given value ranging from 1 to 8, and leads electrically connected severally with each coating whereby use as terminals of any two such leads produces different capacitance values equal in number to the number of two-terminal combinations obtainable of all of the leads.

2,968,753

ELECTRONIC LEVEL SENSING SERVOSYSTEM

Theodore J. Mesh, Easthampton, Mass., assignor to Gilbert & Barker Manufacturing Company, West Springfield, Mass., a corporation of Massachusetts

Filed Mar. 17, 1958, Ser. No. 722,002
7 Claims. (Cl. 318—31)



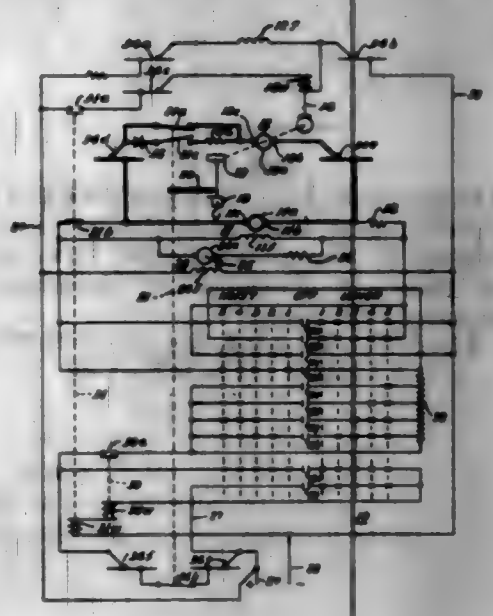
6. Electronic liquid level sensing apparatus comprising a sensing element having a conductive body and normally having a predetermined contactual relationship with liquid in a storage tank, a control unit disposed at the base of said tank and comprising means for restoring said relationship and a signal generator producing a first modulated signal of a relatively high frequency, said restoring means comprising a servo-motor and a mechanical connection with said sensing element, said servo-motor being operative to raise and lower said sensing element as the level of the liquid changes, a coaxial cable comprising a single length of inner conductor wire and a coaxial shield providing an outer conductor concentrically surrounding said wire substantially throughout its length, said coaxial shield being fixed to and electrically connected to the control unit, said cable extending upwardly of said tank and having a take-up loop formed therein and then extending into said tank for connection with said sensing element, the coaxial shield thereof being electrically connected to the body of the sensing element and the inner conductor wire of said cable extending into said control unit and being coupled at one end with said signal generator and at its other end with said sensing element, impedance means electrically interconnecting said coaxial shield and each end of said inner conductor wire and passing said first signal to provide a first circuit over said cable, said sensing element having means for developing from the first signal a second modulated signal having an amplitude proportional to the extent of contact of said element with the liquid, said sensing element also having a detector connected with said second signal developing means and passing a return signal which is a relatively low frequency component of said second signal, means connecting said detector to said other end of said inner conductor and means connecting said one end of said inner conductor to said restoring means, the said impedance means blocking said return signal from said shield to establish a second circuit over said cable from said sensing element to said control unit for said return signal, said restoring means being operative in response to amplitude changes of said return signal to rotate said servo motor in a proper direction to bring said sensing element into said predetermined relationship with said liquid whenever the level of the liquid in the tank changes.

2,968,754

ADJUSTABLE VOLTAGE CONTROL SYSTEM

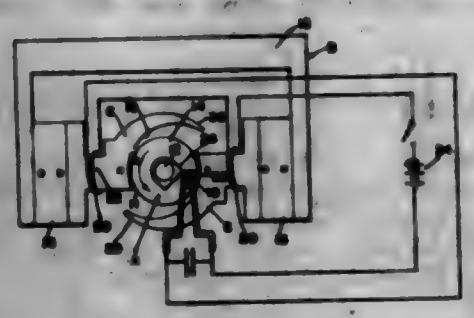
Charles Covell Gould, Solon, and Gerhardt H. Piethe, South Russell, Ohio, assignors to Square D Company, Detroit, Mich., a corporation of Michigan

Filed Nov. 29, 1957, Ser. No. 699,611
3 Claims. (Cl. 318—151)



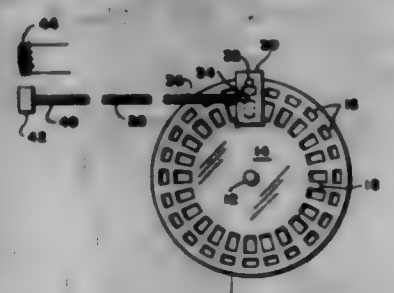
1. A control system comprising a motor having a motor armature, a generator having a generator armature connected in a loop circuit with the motor armature, said generator having a field winding, means including a source of field current for energizing the field winding and for controlling the polarity of the generator, thereby to determine the direction of rotation of the motor armature, a switch having first and second sets of normally closed contacts, and adapted to be tripped to open the first and second sets of contacts, said first set of contacts being interposed in said loop circuit between the motor and generator armatures, said second set of contacts being interposed in series with said generator field and between the generator field and the source of field current to deenergize said generator field when said switch is tripped and said second set of contacts are thus opened, rectifier means connected in shunt with said first set of contacts with the rectifier poled to permit dynamic braking current to flow from said motor armature through said generator armature when said switch is tripped and said first set of contacts are thus opened, and means in cooperation with the field of the generator to control the reduction of strength of the generator field and thereby the magnitude of the braking current.

2,968,755
MAGNETIC MOTOR
Max Beermann, Bensberg Wulfshof, Koln (Rhine), Germany
Filed July 28, 1958, Ser. No. 751,313
4 Claims. (Cl. 318—254)



1. A magnetic motor comprising a rotary armature having at least a pair of oppositely polarized magnetic poles which face directly outward from the periphery of the armature and are polarized in the respective directions in which they face, and a stator comprising a magnetically permeable flux bridge, first magnetic means at opposite ends of said flux bridge producing opposite polarity magnet poles thereat, pole pieces respectively disposed completely between said last-mentioned opposite polarity poles and the periphery of the armature, said pole pieces extending into close proximity to the periphery of the armature at spaced locations therearound, said pole pieces normally assuming the respective polarities of said last-mentioned poles, and second magnetic means coupled to said pole pieces and operable when energized to reverse the respective magnetic polarities of the pole pieces.

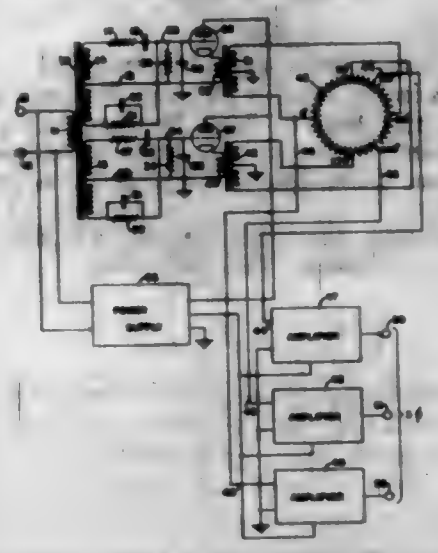
2,968,756
MOTOR
Lee Devol, Dayton, Ohio, assignor to The Hamilton Watch Company, Lancaster, Pa., a corporation of Pennsylvania
Filed Oct. 30, 1958, Ser. No. 770,855
10 Claims. (Cl. 318—254)



1. A motor system comprising a motor, a plate member driven by said motor, a source of energy radiation opposite one side of said plate member, said plate member having portions thereof having different abilities to transmit said radiation, some of said portions transmitting said radiation better than other portions, vibrating means, means controlled by said vibrating means for periodically permitting said radiation to reach said portions of said plate member of better energy transmittability, and pick-up means opposite the other side of said plate member sensitive to radiation passing through said portions of said plate member of better transmittability for controlling the energization of said vibrating means and said motor.

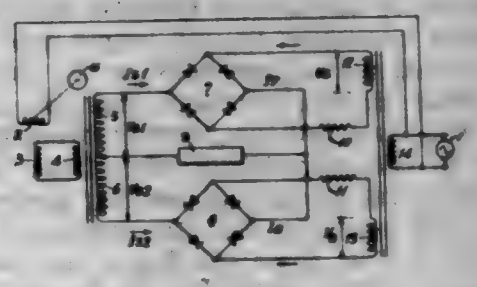
2,968,757
SINGLE PHASE TO THREE PHASE CONVERTER
John Leon, Trumbull, Conn., assignor, by mesne assignments, to Sorensen & Company, Incorporated, South Norwalk, Conn., a corporation of Delaware
Filed Feb. 20, 1959, Ser. No. 794,616
8 Claims. (Cl. 321—58)

1. A phase converter circuit comprising, a coupling means connected to a single phase source of electric power having a first and second pair of output terminals, said first pair of terminals connected to a first phase shifting network, said second pair of terminals connected to a second phase shifting network which produces an alternating current voltage in quadrature with the voltage of the first network; said quadrature voltage having a phase angle which is independent of the applied frequency over a wide range of values; a closed loop impedance having a first pair of diametrically opposite points coupled



to the first of said networks and a second pair of diametrically opposite points coupled to the second of said networks, said first and second pairs of points arranged in quadrature relationship for producing a rotating voltage in said loop; a plurality of conductors connected to selected points on said loop impedance for producing polyphase voltages therebetween; and amplifier means connected to said conductors for producing polyphase alternating current power.

2,968,758
LOW FREQUENCY ELECTRICAL GENERATORS
Leslie Carter Ludbrook, Cawston, near Rugby, England, assignor to The British Thomson-Houston Company Limited, London, England, a British company
Filed Mar. 25, 1958, Ser. No. 723,855
Claims priority, application Great Britain Mar. 27, 1957
4 Claims. (Cl. 321—68)



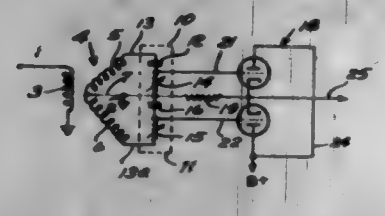
2. A low frequency A.C. voltage generator comprising an induction regulator having a rotor and a stator, means for rotating said rotor at a required speed, means for supplying a single phase A.C. voltage to said rotor, said stator having at least one phase winding, a transformer associated with said stator phase winding and having a primary winding connected to said stator phase winding, a secondary winding for said transformer, two bridge rectifier circuits associated with said transformer, each of said bridge rectifier circuits having an input and an output junction with two branch circuits connected therebetween and having an intermediate junction in each branch circuit, said input junctions being connected respectively to the opposite ends of said transformer secondary winding, means for supplying an A.C. biasing voltage across the two intermediate junctions of each of said bridge rectifier circuits so as to control the cur-

rent flow through said circuits, and a load circuit connected between the output junctions of said bridge rectifier circuits and the center point of the associated secondary winding so that said load circuit is supplied with a voltage which corresponds at any given moment in magnitude and polarity with the instantaneous angular position of said induction regulator rotor relative to the associated stator phase winding.

2,968,759
PHASE ROTATION CIRCUIT

Henry F. McKenney, Valley Stream, William F. Weber, Huntington, and John P. Jagy, Syosset, N.Y., assignors to Sperry-Rand Corporation, Ford Instrument Company Division, Long Island City, N.Y., a corporation of Delaware

Filed Apr. 12, 1956, Ser. No. 577,875
1 Claim. (Cl. 323—36)



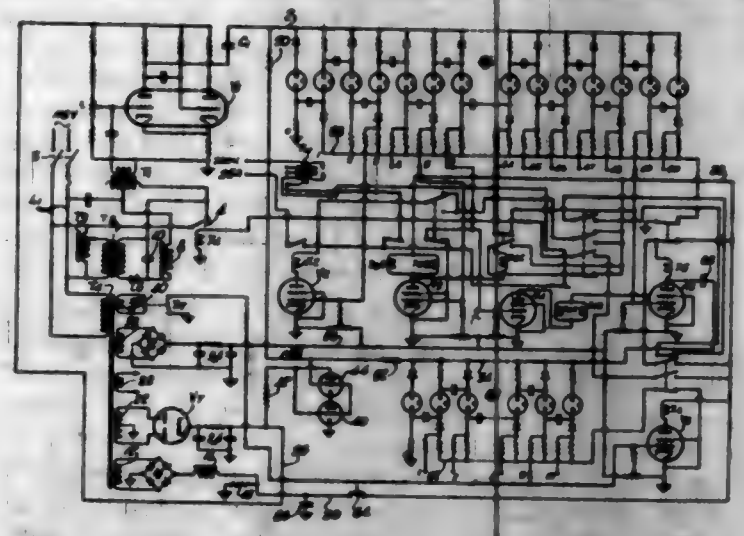
A resolver system comprising a rotor winding adapted to receive an impressed voltage having a given amplitude E and phase ϕ and a rotor orientable to a preselected mechanical angle θ and having a pair of windings adapted to yield sine and cosine functions of the angle θ and the impressed voltage E to a dual output, a phase shifting network adapted to produce an output voltage which leads the phase of its input voltage, a second phase shifting network adapted to produce a voltage which lags the phase of its input voltage, each of said networks comprising a capacitor and a variable resistor in series connection, one side of each of said stator windings being connected separately to one side of each of said capacitor-resistor combinations, the other side of said capacitor-resistor combinations being connected to the other side of each of said stator windings and to a common output lead, said other side of the stator windings being grounded, and a dual cathode follower having a pair of grid elements with each of said grid elements being separately connected to the capacitor-resistor junction of one of said networks and having cathode elements connected to said output lead, a resistor disposed in said output lead between the grounded sides of said phase shifting networks and the cathode elements of said dual cathode follower, whereby the voltage phase on said output lead differs from the phase of the impressed voltage on said resolver system as determined by said networks and the preselected setting of said resolver and its phase will lag or lead the phase of the impressed voltage according to the setting of said rotor and said variable resistor.

2,968,760
WELDING CONTROL CIRCUIT

John R. Cater, Nutley, N.J., assignor to Tung-Sol Electric Inc., a corporation of Delaware

Filed Sept. 17, 1957, Ser. No. 684,588
6 Claims. (Cl. 323—58)

1. A welding control system comprising an alternating current source of welding power, switch means for coupling said source to the work to be welded, means for creating a series of voltage pulses of the frequency of said source, pulse counting means, and means responsive to said pulse counting means for operating said switch means to apply welding power to the work after a preselected number of pulses and to remove welding power from the work after another preselected number of pulses, said switch means including three switches, the first of which when open cuts off welding power from the system, each of the other two of which, when the first switch is closed, connects the source of welding power to the work, said means responsive to said pulse counting means operating to successively close said first and second

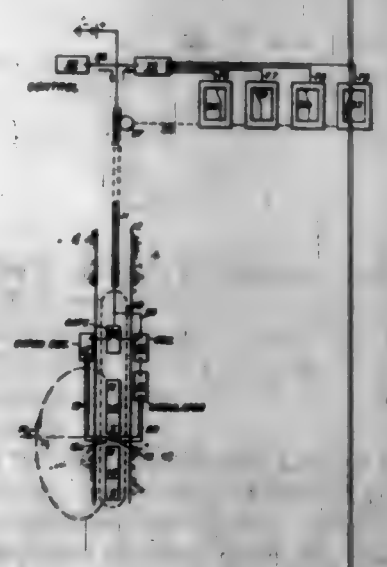


switches, after a preselected number of pulses to open said first switch and to open and lock out said second switch, after another preselected number of pulses to successively close said first and third switches and after another preselected number of pulses to open said first and third switches, whereby the first and succeeding welds may be effected at different predetermined heats.

2,968,761
NUCLEAR RELAXATION TIME RATIO MEASUREMENTS

John R. Zimmerman and John O. Ely, Dallas, Tex., assignors, by mesne assignments, to Socony Mobil Oil Company, Inc., New York, N.Y., a corporation of New York

Filed May 20, 1954, Ser. No. 431,204
8 Claims. (Cl. 324—5)



1. The method of logging earth formations penetrated by a bore hole which comprises polarizing protons with respect to a steady magnetic field in earth formations successively at each of a plurality of points spaced along said bore hole, at each of said points applying to said formation repeated pairs of radio-frequency magnetic pulses at predetermined spaced periods for perturbing said protons with said repeated pairs of radio-frequency magnetic pulses, said pulses having a time interval between each pair sufficient to allow the protons to substantially attain gyromagnetic relaxation equilibrium and where the period between the two pulses of each pair is predetermined and different than the period between the

pulses of the next succeeding pairs, detecting two free decay gyromagnetic relaxation signals and two spin echo signals produced by said pairs of pulses, and separately recording the amplitudes of said detected signals as a function of the depths of said points.

2,968,762
MAGNETIC RESONANCE METHODS AND APPARATUS

Nick A. Schuster, Ridgefield, Conn., assignor, by mesne assignments, to Schlumberger Well Surveying Corporation, Houston, Tex., a corporation of Texas

Filed Oct. 21, 1954, Ser. No. 463,776
30 Claims. (Cl. 324—.5)

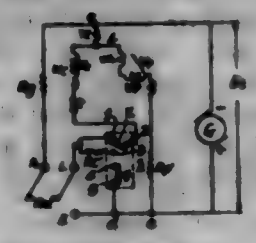


19. A method for obtaining signals representative of magnetic resonance phenomena in particles exhibiting paramagnetic properties wherein a substantially constant magnetic field is applied to said particles, comprising the steps of applying to said particles magnetic fields effectively rotating at the resonant precessional frequency of said particles in said constant field in successive alternate directions during an interval short with respect to the relaxation time associated with the macroscopic moment of said particles correspondingly to produce an apparent nutation of said macroscopic moment associated with said particles in alternate directions.

2,968,763
COMBINED INSULATION AND CONTINUITY TESTERS

Hiroshi Yasui and Tetsuo Enomoto, Hitachi City, Japan, assignors to Hitachi Limited, Tokyo, Japan

Filed Mar. 18, 1958, Ser. No. 722,340
3 Claims. (Cl. 324—62)

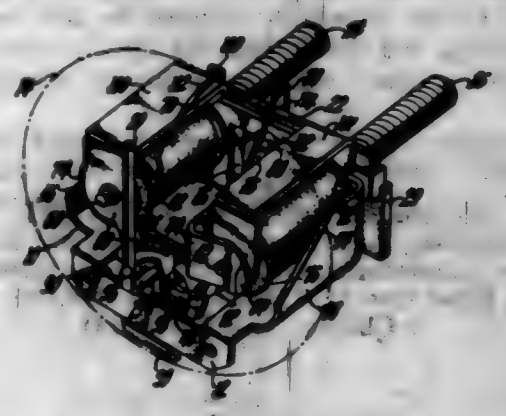


1. A tester comprising a voltage source having first and second poles; ground, line and auxiliary terminals; said ground and auxiliary terminals being connected respectively to said first and second poles; a pressure coil connected between said poles; a drive coil connected to said second pole; a switch connected to said drive coil, and a resistance connected to said switch and line terminal, continuity being tested between said line and auxiliary terminals and insulation being tested between said line and ground terminals, said switch for insulation testing connecting said drive coil via said resistance to said line terminal and for continuity testing connecting said drive coil directly to said line terminal and via said resistance to said ground terminal, said coils being angularly disposed with an air gap therebetween and creating a magnetic field in said gap, the field having an axis about which its flux density distribution is substantially symmetrical.

2,968,764
ELECTROMAGNETIC INDICATORS

Harold H. Greenley, Grand Blanc, and Lucian B. Smith, Flint, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Aug. 19, 1957, Ser. No. 679,019
3 Claims. (Cl. 324—140)

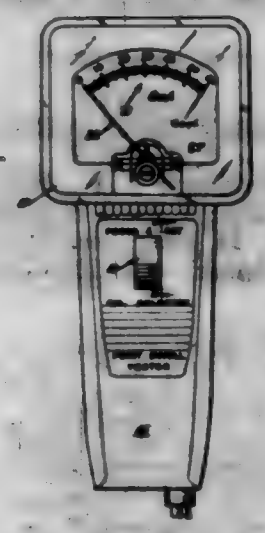


1. An instrument including a nonmagnetic frame, a dial on said frame, means pivoted on said frame for rotation about an axis and including a flat armature of magnetic material and a pointer in registry with said dial, two parallel and magnetic cores arcuately spaced about said axis and each having one end fixed to said frame, an electromagnetic coil on each of said cores, a flat magnetic pole piece fixed to the other end of each of said cores and cooperating with said armature in defining an air gap, a magnetic field piece fixed to said frame and in contact with said one end of each of said cores, three projections on said field piece being adjustably positioned, one of said projections forming an air gap with said armature, and each of the other projections extending along one of said coils and terminating close to the corresponding pole piece to form another air gap.

2,968,765
DISTRIBUTOR CONTACT POINT GAP TESTER

Lee W. Parmater, 10131 Riverview Drive, Kalamazoo, Mich., and Robert M. Cain, 3932 Canterbury Drive, Kalamazoo, Mich.

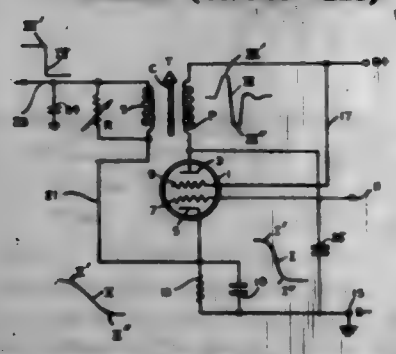
Filed May 29, 1958, Ser. No. 738,675
1 Claim. (Cl. 324—156)



A test instrument comprising a hand-portable casing with a hand grip portion containing an exposed thumb wheel, circuit elements including a meter within said casing, a switch having a spring blade arranged to bias said thumb wheel outwardly of the casing, a first contact of said switch normally establishing the instrument circuit for the testing in conjunction with said blade, a second contact of said switch established with said blade upon movement of said thumb wheel thereagainst connecting an internal battery to the meter circuit for calibration

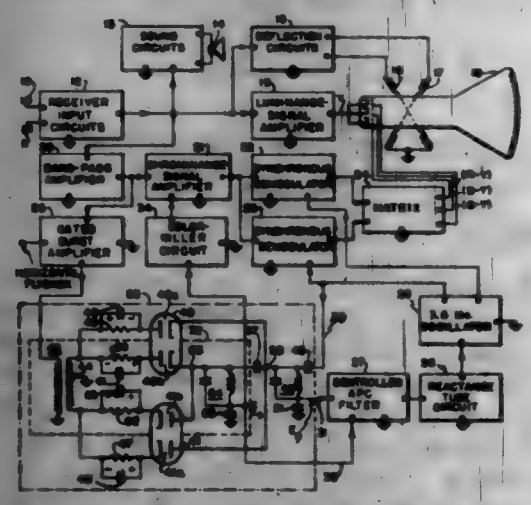
setting of the meter, a pivoted rod rotatably carrying said thumb wheel, said switch blade pressing against said rod to bias said thumb wheel outwardly of the casing, a first disc coupled to said thumb wheel, a second disc disposed adjacent said first disc and engaging said first disc upon inward displacement of said thumb wheel against the bias of said switch blade, and a rheostat in the meter circuit adjustably coupled to said second disc for calibrating the meter and the circuit upon rotation of said thumb wheel while in its inward displaced position.

2,968,766
PULSE-SHARPENING CIRCUIT
Irving Horowitz, Eatontown, N.J., assignor to Blonder Tongue Laboratories, Westfield, N.J., a partnership
Filed Oct. 31, 1956, Ser. No. 619,475
7 Claims. (Cl. 328—223)



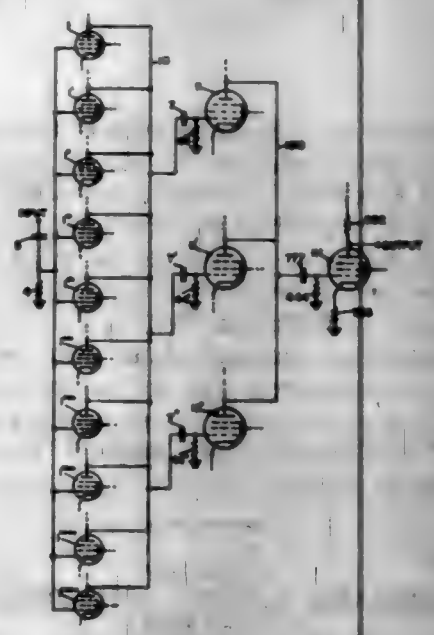
7. An electric system having, in combination, an electron device provided with an input circuit having a cathode load, and an output circuit, means for applying an input voltage of relatively sloping characteristic to the input circuit, a first winding disposed in the output circuit for producing oscillations in response to the application of the said input voltage to the input circuit, a load circuit, a second winding coupled to the first winding and having no complete-circuit electrical connection to the electron device and thus maintained at potential that may vary with respect to the said output circuit for generating further oscillations corresponding to the first-named oscillations, and means for connecting the second winding in series with the load circuit and in circuit with a point of the said cathode load at which a voltage similar to the said input voltage is developed, thereby to combine the said similar voltage and the further oscillations to produce a resultant voltage of relatively steep characteristic.

2,968,767
BALANCED CIRCUITS HAVING IMPROVED BALANCE
John R. White, Westbury, N.Y., assignor to Hazeltine Research, Inc., Chicago, Ill., a corporation of Illinois
Filed Feb. 25, 1957, Ser. No. 642,133
4 Claims. (Cl. 329—112)



1. In electronics equipment in which at least one balanced circuit is required to operate at relatively high frequencies where variations in tube construction can have an appreciable effect on the balance of the circuit, the improvement comprising: a first multi-unit tube envelope including two unconnected tube units of the same type but which are of different internal construction; a second multi-unit tube envelope identical to the first tube envelope; circuit means for interconnecting one of the dual units of the first envelope with a matching one of the dual units of the second envelope to form the desired balanced circuit with an improved degree of balance; and additional circuit means connected to the other of the dual units in the first and second envelopes for utilization thereof.

2,968,768
NOISE SEPARATOR TO IMPROVE SIGNAL-TO-NOISE RATIO
Walter K. Volkers, 519 Glen Ave., Scotia, N.Y.
Filed Aug. 1, 1956, Ser. No. 601,559
1 Claim. (Cl. 330—124)

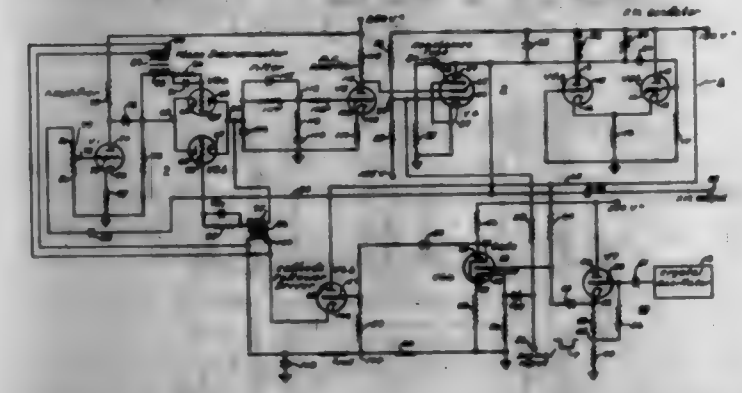


In a signal amplifying system having a plurality of cascaded amplifying stages, each of said stages comprising a plurality of substantially identical low-noise, low-level amplifiers connected in parallel for continuous simultaneous operation, each of said amplifying stages having a greater number of said amplifiers than the next succeeding stage with the output of each stage being coupled to the input of the next succeeding stage, an input circuit for continuously coupling substantially identical signals to the amplifiers in the first of said amplifying stages, and a single signal output being taken from the last of said amplifying stages.

2,968,769
FREQUENCY MODULATED OSCILLATOR SYSTEM
Lee C. Johnson, Fort Wayne, and Eugene S. McVey, Lafayette, Ind., assignors to International Telephone and Telegraph Corporation
Filed Sept. 4, 1958, Ser. No. 759,995
9 Claims. (Cl. 331—14)

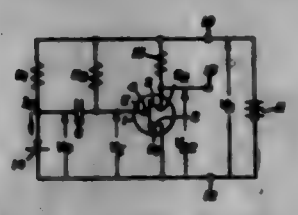
1. An oscillator system adapted to be frequency modulated during definite intervals comprising: frequency modulated oscillator means including means for varying the frequency thereof; a modulating signal input circuit coupled to said frequency varying means; reference oscillator means having a stable fixed frequency output; means for comparing the frequency outputs of said frequency modulated oscillator means and said reference oscillator means and for deriving a signal responsive thereto, said comparing means being coupled to said frequency varying means for controlling the frequency of said frequency modulated oscillator responsive to the

frequency of said reference oscillator during the intervals intermediate said definite intervals; and means responsive to said modulating signal for disabling said com-



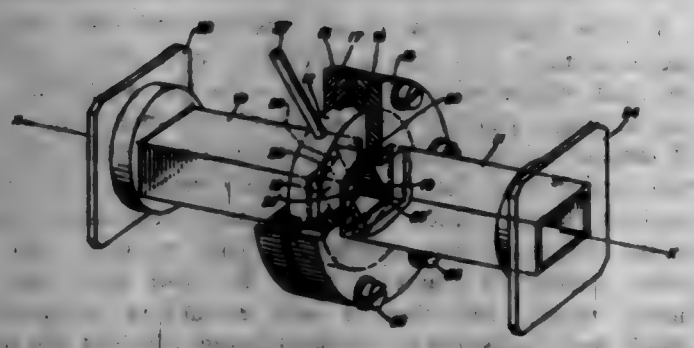
paring means whereby the frequency of said frequency modulated oscillator is controlled solely responsive to said modulating signal during said definite intervals.

2,968,770
UNIJUNCTION TRANSISTOR CIRCUIT
Tage Peter Sylvan, Syracuse, N.Y., assignor to General Electric Company, a corporation of New York
Filed Nov. 19, 1958, Ser. No. 778,553
7 Claims. (Cl. 331—111)



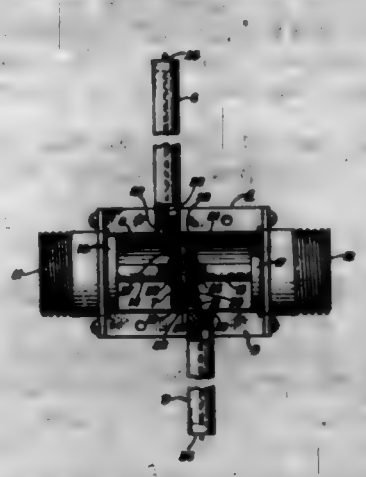
1. A wave generating circuit comprising a unijunction transistor having a first base electrode, a second base electrode and an emitter electrode, a first impedance connected in circuit between said emitter and said second base electrode, a capacitor and a unilaterally conducting device connected in series circuit between said emitter and said first base electrode with like polarity electrodes common and said capacitor connected to said emitter, and a second impedance having one end connected to the connection common to said unilaterally conducting device and said capacitance and the other end connected to the end of said first impedance remote from said emitter.

2,968,771
STEP-TWIST JUNCTION WAVEGUIDE FILTER
Bernard C. De Loach, Jr., Little Silver, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 31, 1957, Ser. No. 706,331
9 Claims. (Cl. 333—73)



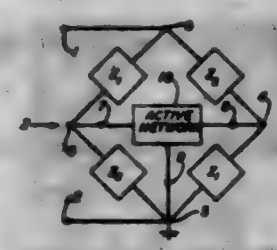
1. A variable resonant cavity filter having a given frequency-bandwidth characteristic comprising a tuned section of rectangular waveguide bounded by a pair of apertures lying in planes transverse to the longitudinal axis of said guide, said apertures being formed by said guide abutting upon the cofacing ends of a pair of fixed sections of rectangular waveguide, means for rotating said tuned guide about said axis relative to said fixed guides and electromagnetic wave discontinuities extending into each of said apertures for controlling the frequency-bandwidth characteristic of said filter as a function of said rotation.

2,968,772
WAVE FILTER
George B. Thomas, Jr., Summit, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Nov. 14, 1958, Ser. No. 773,873
3 Claims. (Cl. 333—73)



1. A wave filter comprising a main section of coaxial transmission line, a stub section of coaxial transmission line branching therefrom with no direct connection between the inner conductors of the stub section and the main section, and a multiple capacitor, the inner conductor of the main section being divided into two portions at the branching point, and the capacitor being located between the two portions and comprising a dielectric layer, an electrode on one side thereof connected to one of the portions, an electrode on the opposite side thereof coupled to the other portion, and an additional electrode on one side thereof connected to the inner conductor of the stub section, whereby the capacitor provides a capacitance in series with the main section and a capacitance coupling the inner conductor of the stub section to the inner conductor of the main section.

2,968,773
ACTIVE ONE-PORT NETWORK
Irwin W. Sandberg, Springfield, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 17, 1959, Ser. No. 860,258
9 Claims. (Cl. 333—80)



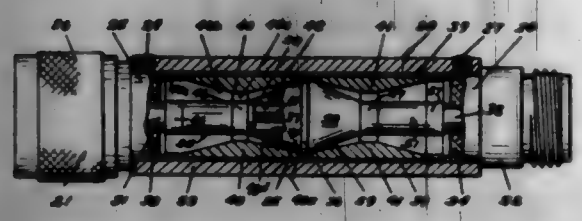
1. An active, one-port network comprising a pair of branches each of impedance Z_1, a pair of branches each of impedance Z_2, and an active, three-terminal, two-port network, the branches being alternately arranged to form a bridge having four corners at the respective junction points, the terminals of the two-port network being connected, respectively, to three corners of the bridge, the intermediate one of which may be grounded for alternating-current signals, the two-port network, with its

input terminals open-circuited, having zero output admittance and unity reverse voltage transmission and, with its output terminals short-circuited, having zero input impedance and a current transfer function equal to the ratio of two impedances Z_3 and Z_4, the driving-point impedance between the intermediate corner and the diagonally opposite corner of the bridge being equal to

$$\frac{Z_4 - Z_3}{\frac{Z_4}{Z_1} - \frac{Z_3}{Z_2}}$$

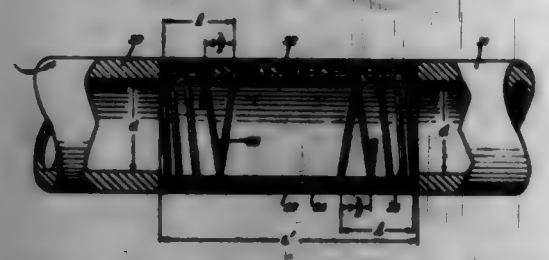
and the impedances Z_1, Z_2, Z_3, and Z_4 requiring no inductors for their realization.

2,968,774
MICROWAVE ATTENUATION UNITS
Michael J. Rodriguez, Bayside, N.Y., assignor to Empire Devices, Inc., Bayside, N.Y., a corporation of New York
Filed Oct. 22, 1956, Ser. No. 617,551
12 Claims. (Cl. 333—81)



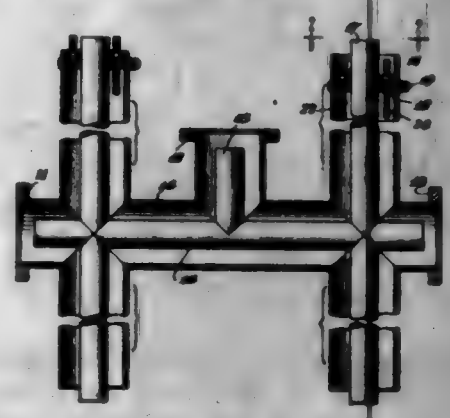
1. A high frequency tubular attenuation unit comprising a shunt resistor with a solid core of homogeneous low-loss dielectric material having an outer conical surface, and a uniform film of resistance material across the outer conical surface thereof, the conical core being supported longitudinally of the unit in coaxial relation therewith, and the resistance material thereon extending over a substantial axial path along the unit at a predetermined inclination thereto as a conical envelope tapered from the axial region of the unit transversely across the tubular interior thereof to constitute a shunting impedance contiguous with the homogeneous dielectric core therein for progressively intercepting microwave signal energy passing through the unit with relatively low VSWR over a wide frequency range.

2,968,775
ELECTROMAGNETIC WAVE ATTENUATOR
Charles F. P. Rose, West Allenhurst, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 20, 1957, Ser. No. 704,133
6 Claims. (Cl. 333—81)



1. Means for coupling TE_{01} mode circular electric wave energy between transmission media having different transmission characteristics comprising at least one section of transmission line having a first transmission constant for said TE_{01} mode wave energy, a second section of transmission line having a second transmission constant for said TE_{01} mode wave energy and means for coupling said lines comprising at least one elongated member of conductive material wound within said second line in a substantially helical form of continuously varying pitch.

2,968,776
COAXIAL STUB TUNER
Eric G. Book, Mokena, Ill., assignor to Andrew Corporation, a corporation of Illinois
Filed Aug. 10, 1956, Ser. No. 603,437
4 Claims. (Cl. 333—82)



1. A tunable coaxial stub filter comprising a coaxial line having spaced inner and outer coaxial conductors and a coaxial half-wavelength stub having inner and outer conductors forming a longitudinally uniform annulus and terminating at one end on the inner and outer conductors of the line, respectively, the other end having an annular conducting plate extending between the inner and outer conductors, and longitudinally slideable in the coaxial cavity thus formed, a plurality of conducting rods of transverse dimension equal to at least ¼ the thickness of the annulus carried by said plate and extending perpendicularly through said plate approximately midway between the conductors and parallel therewith and adjustable in longitudinal position in the plate, the annulus being otherwise free of conducting elements, means for locking the longitudinal position of the plate for coarse tuning of the stub, and means for locking the longitudinal position of the rod in the plate for fine tuning of the stub, so that the half-wave resonant frequency of the stub is increased in the first portion of the insertion of the rods.

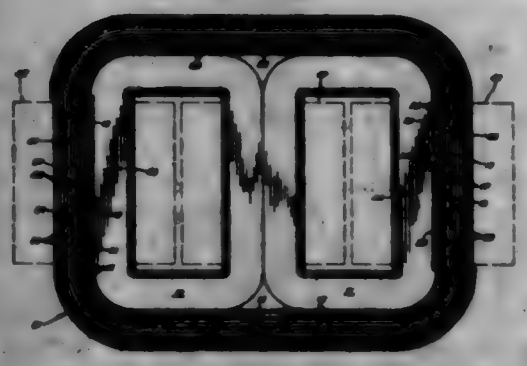
2,968,777
WIRE RETAINING MEANS FOR AN IGNITION COIL UNIT
Russell E. Phelon, % R. E. Phelon Company Inc., Longmeadow, Mass.
Filed Sept. 3, 1957, Ser. No. 681,555
6 Claims. (Cl. 336—107)



1. The combination of an ignition coil unit comprising a primary coil and a secondary coil and a conducting tack electrically connected with the secondary coil and having a pointed end, said coil unit including a body of insulating material molded around said coils and said tack which body has a substantially vertical wire receiving hole therein which is open at the bottom and is closed at the top and into which said tack projects with the point thereof at the center of the hole and near the closed upper end thereof and extending downwardly which body also has an integral ledge adjacent the lower open end of the hole and extending transversely thereof, a conducting wire comprising a stranded central core and relatively soft insulation surrounding said core, said wire being entered in and fitting the hole in the body and said wire having its stranded core engaged with the

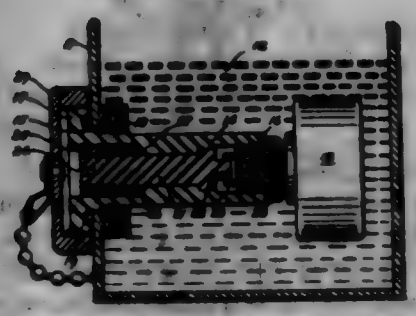
pointed end of the tack, and a wire retaining clip engaged with and held by the ledge on the insulating body and also engaged with the insulation of the wire to prevent longitudinal movement of said wire out of said hole in said insulating body.

2,968,778
THREE-LEGGED MAGNETIC CORE
Alwin G. Steinmayer, Milwaukee, Wis., assignor to McGraw-Edison Company, Milwaukee, Wis., a corporation of Delaware
Filed Oct. 29, 1959, Ser. No. 849,548
2 Claims. (Cl. 336—213)



1. A three-legged magnetic core comprising, in combination, first and second inner, wound, closed loops of magnetic strip material in back-to-back relation, first and second groups of interconnecting magnetic strip laminations having their respective ends in abutting relation surrounding the back-to-back inner loops and each of said groups encompassing a fraction of the outer periphery of the back-to-back inner loops, one of said groups and the outer convolution of each of said inner loops being wrapped around a fraction of the outer periphery of the other inner loop and the ends of the laminations of the other group abutting against the end of said outer convolution and also against the ends of those laminations of said one group radially inward from the outer lamination thereof, the abutting ends of the laminations of said groups and said convolutions being interfitted to provide a smooth external periphery and the radially outer laminations of said first and second groups being spirally wound in multiple in a plurality of turns around said smooth external periphery to form an outer core loop surrounding said first and second inner loops.

2,968,779
POTENTIOMETER INSULATING DEVICE
Kenneth E. Goode and Robert P. Lamberd, Indianapolis, and David P. Zimmerman, Cicero, Ind., assignors to the United States of America as represented by the Secretary of the Navy
Filed June 30, 1959, Ser. No. 824,158
8 Claims. (Cl. 338—166)
(Granted under Title 35, U.S. Code (1952), sec. 266)



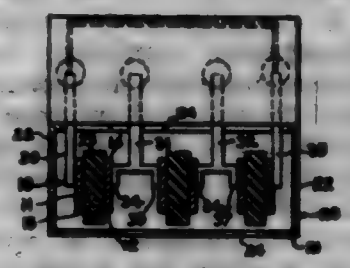
1. A device for mounting a variable resistor comprising: an insulator body having internal threads on one end for attaching to a shaft-type variable resistor and external threads on the opposite end for attaching to an external structure, said insulator body having a tapered surface on the inner periphery thereof, a shaft of insulating material journaled within said insulator body and having means for engaging a shaft on said variable resistor, a seal of resilient material on said shaft of insulating material and in engagement with said tapered surface on the inner periphery of said insulator body, and means for compressing said seal against said tapered surface whereby said seal provides a lock and fluid seal between said shaft of insulating material and said insulator body.

2,968,780
SOLDERLESS CONNECTOR
Kenneth E. Roswell, Fairfield, Conn., assignor to Edwards Company Inc., a corporation of New York
Filed Jan. 20, 1959, Ser. No. 787,991
7 Claims. (Cl. 339—17)



1. The combination which comprises a panel member with a flat electrical conductor in place thereon and a connector in the general form of a U shaped clip of electrically conductive spring metal the legs of which are engaged with opposite sides of said panel member, one of said legs being in contact with the said flat electrical conductor to form an electrical connection therewith without use of solder, said panel member having a wire receiving hole therein, each of the legs of said generally U shaped clip also having a wire receiving hole therein, which holes in the legs are positioned in alignment with the wire receiving hole in the panel member, the hole in one of said legs being formed with at least one resilient spring finger, the free end portion of which overlies the hole with the end edge of such spring finger being held in position to engage a separate wire conductor when inserted through such hole whereby the said separate wire conductor is gripped between the spring finger and an edge of the hole in such leg and is thereby conductively connected to the clip and to said flat conductor on the panel member and whereby the clip is locked in place on the panel member by means of the separate wire conductor without solder.

2,968,781
ELECTRICAL DISTRIBUTION SYSTEM
Walter Stankowski, 19197 Sherwood Ave., Detroit, Mich.
Filed June 4, 1956, Ser. No. 589,139
2 Claims. (Cl. 339—22)



2. In an electrical distribution system of the plug in bus bar type, a group of six bus bars, each bar being a wide, thin strap, the six bars being arranged with their faces parallel and a plug connector having four contactors, the first contactor engaging a face of the first bus bar, the second contactor engaging faces of the second and third bus bars, the third contactor engaging faces of the fourth and fifth bus bars, and the fourth contactor

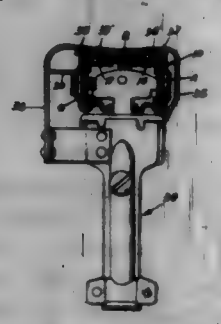
engaging a face of the sixth bus bar, the first and fourth contactors being interconnected inside the connector with the construction being one wherein the faces of the bus bars that are engaged are the outer faces of the first and sixth bus bars and the facing faces of the second and third, and fourth and fifth bars respectively, the construction including means connecting the first and sixth bus bars to one leg of a three phase system, and the second and third bus bars to a second leg of a three phase system, and the fourth and fifth bus bars to a third leg of a three phase system, with the spacing between the second and third bars, and the fourth and fifth bars, being greater than that between the first and second, third and fourth, and fifth and sixth bars respectively.

2,968,782

POLARIZED DUCT SYSTEM

John A. Herrmann, Grosse Pointe Farms, and George H. Farnsworth and Russell S. Davis, Detroit, Mich., assignors, by mesne assignments, to I-T-E Circuit Breaker Company, Philadelphia, Pa., a corporation of Pennsylvania

Filed May 11, 1956, Ser. No. 584,342
1 Claim. (Cl. 339—22)



A trolley duct assembly comprising a trolley duct section and a tap-off unit; said trolley duct section being comprised of a housing and at least two conductors; said conductors being carried by said housing and insulated from each other and from said housing; said tap-off unit adapted for removable locking to said housing at any one of many locations along the length thereof; said tap-off unit being comprised of a first and a second bracket and a molding containing at least two contacts; at least one of said contacts operatively positioned to engage said conductors only when said tap-off unit is locked to said housing; said housing including a longitudinally extending opening through which said contacts are entered into and withdrawn from said housing; said brackets each having a fastening portion to lock said tap-off unit to said housing; each of said fastening portions having a leg; said legs being spaced unequal distances, measured in a single plane, from a first center line of said molding; each of said fastening portions also having a foot; said feet being spaced unequal distances, measured in said plane from a second center line of said molding; said housing having a protrusion to prevent said legs from straddling said housing in any other than a single predetermined position; said protrusion comprising the furthest extension of said housing, measured in a horizontal plane, from the center line of the width of said housing opening; said fastening portions operatively constructed to prevent locking of said tap-off unit to said housing unless said legs first straddle said housing in said predetermined manner; said legs operatively positioned to prevent rotation of said tap-off unit in other than a predetermined manner when said legs straddle said housing; said feet operatively positioned to prevent locking of said tap-off unit to said housing unless said tap-off unit is first rotated in said predetermined manner; said molding having recesses of unequal depths to receive respective extensions of unequal lengths from said brackets to thereby prevent said brackets from being connected to said molding in other than predetermined positions.

2,968,783

ELECTRIC LIGHT SOCKET FOR REFRIGERATOR PANELS

William J. Puetz, Chicago, Ill., assignor to Holwin Corporation, Chicago, Ill., a corporation of Delaware

Filed Aug. 25, 1958, Ser. No. 756,897
2 Claims. (Cl. 339—59)



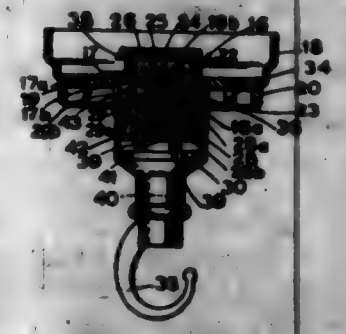
1. An electric light socket for refrigerator panels comprising a body member of resilient molded rubber having a front opening adapted to receive an electric light bulb, a rear end portion, and opposite flanges spaced by a groove extending around the outside of said body member to form an oval separating the front opening of the body member from its rear end portion, said socket adapted to be installed without the use of tools in a single oval shaped opening in a refrigerator panel corresponding in shape to the oval groove formed between said flanges, a pair of spaced metal terminals housed in the rear end portion of said body member to provide an electrical connection with the front opening, said rear end portion hollowed out to provide slots around said metal terminals, said end portion having a closure portion at the outer end of the slots, said closure having a pair of spaced holes communicating with the slots, and a pair of spaced slits extending across the holes, said slits normally in closed position, but adapted to be forced open to permit a pair of electrical connectors to be inserted therethrough into engagement with said metal terminals, said connectors extending entirely within the slots and insulated by the rear end portion and closure of said body member, the slits of which after insertion have returned to normal closed position, said connectors having insulated wires attached thereto extending through the spaced holes in said closure to an electrical source of supply to provide power for the electric light bulb.

2,968,784

IMPROVEMENTS IN ELECTRICAL CONNECTORS FOR CEILING AND WALL FITTINGS

Oscar Mason, Cliffords Inn, Fleet St., London, England

Filed Dec. 10, 1956, Ser. No. 627,359
Claims priority, application Great Britain Dec. 22, 1955
3 Claims. (Cl. 339—197)



1. An electrical connector for ceiling and wall fittings comprising a fixed part adapted to be mounted on a supporting surface and having an exposed face surface and a side wall, said fixed part face surface having a groove formed therein, said groove having a recessed surface disposed parallel to said face surface, a pair of inwardly diverging side surfaces recessed behind said face surface, one end of said groove opening through said side wall and the other end of said groove terminating short of said side wall, said side surfaces converging from said groove

open end to said groove closed wall, a detachable part including a plate portion adapted to close said groove in said face surface, a hollow fixture supporting portion projecting from said plate portion, a pair of support flanges projecting from said edges of said plate portion remote from said fixture supporting portion, said support flanges diverging away from said plate portion and converging from one end to another, said flanges being complementary to said side surfaces whereby as said flanges are slid into said groove, said plate portion is drawn into the plane of said face surface, an end flange secured to said flanges at said one end for closing the open end of said groove, a first insulated fitting in said fixed part and opening through said recessed surface into said groove, a second insulated fitting seated in said second part and opening through said plate portion between said flanges, one of said insulated fittings having a plurality of fixed contacts disposed therein, said fixed contacts having exposed recessed ends, the other of said insulated fittings having a like number and arrangement of projecting contacts with ends complemental to said fixed contact ends to form interlocks therewith, said projecting contacts being mounted for limited movement and being spring loaded whereby said projecting contacts snap into said fixed contacts as said detachable part is snapped into said fixed part with the interlock between said contacts releasably holding said detachable part relative to said fixed part.

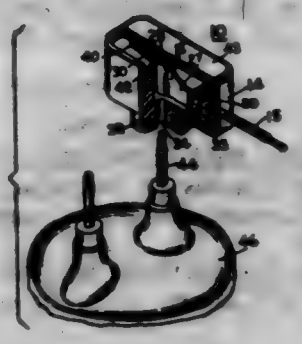
2,968,785
MULTIPLE CONNECTOR
Frank P. Kallenborn, 9240 S. 73rd Ave., Oak Lawn, Ill.
Filed Jan. 18, 1960, Ser. No. 2,914
2 Claims. (Cl. 339—206)



1. A multiple electrical extension connector, comprising a junction box having four laterally extending arms projecting symmetrically from a central point, three spaced terminals disposed centrally along the top face of one of the arms, said terminals being electrically connected to corresponding terminals similarly disposed on each of the remaining arms, an extension terminal box having different terminals located on one face adapted for engagement with the terminals disposed on one of the arms, said engagement being possible in only one terminal relationship, and a threaded sleeve adapted to mesh with threads formed on the lower side of said arm and the upper side of said terminal box to retain said arm and said terminal box in an engaged relationship.

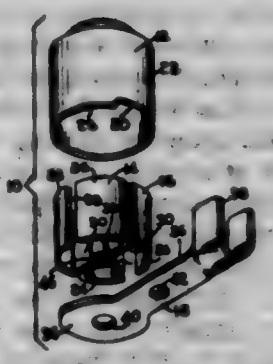
2,968,786
ELECTRICAL ASSEMBLY
William C. Wootton, Fremont, Calif., assignor to United-Carr Fastener Corporation, Cambridge, Mass., a corporation of Delaware
Filed Dec. 5, 1957, Ser. No. 700,817
1 Claim. (Cl. 339—289)

A connector assembly comprising, in combination, a body shell of insulating material in the form of an open faced hollow box and a cap closing the open face of said box, a strip of yieldable conductive material in the shape of a generally closed triangle providing a female contact located within said shell and held in place by said cap, said contact having overlapping ends at one end of the triangle with an aligned aperture in each of said ends, an aperture in said shell in alignment with said aligned apertures of said overlapping ends to permit passage of a conductor wire into engagement in said aligned aperture, a conductor wire passing through said aperture in said shell and engaged in said aligned apertures in said overlapping ends of opposed portions of



said strip, said contact having parti-cylindrical walls therein intermediate the ends of the female contact and a second aperture in said shell for passage of a male contact prong into engagement with said parti-cylindrical portions of said female contact.

2,968,787
TUBE CONNECTOR
William C. Wootton, Fremont, Calif., assignor to United-Carr Fastener Corporation, Cambridge, Mass., a corporation of Delaware
Filed Dec. 5, 1957, Ser. No. 700,884
2 Claims. (Cl. 339—213)



1. An electrical connector comprising a domed housing having C-shaped resilient spring contact members disposed therein, base portions of said contact members lying in abutting relationship with the curvilinear portions following the inner contour of said housing, medial sections of said base portion being deformed to provide a cylindrical prong receiving opening and an apertured bottom member assembled with said housing at one end having means thereon to maintain electrical continuity to an external source.

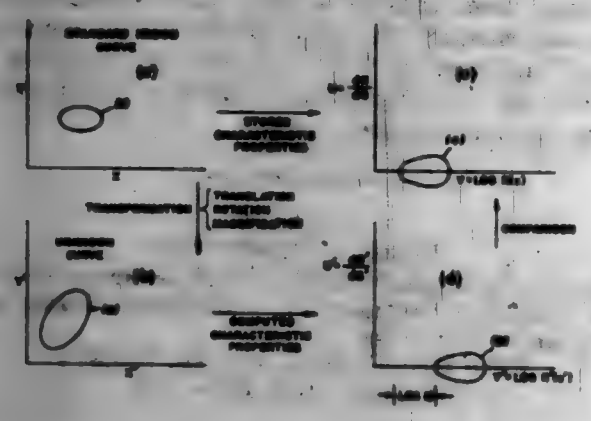
2,968,788
ELECTRIC TERMINAL
Adolph C. Nenderlund, Mount Vernon, N.Y., and Alan E. Aune, South Norwalk, Conn., assignors to Burndy Corporation, a corporation of New York
Filed Oct. 17, 1956, Ser. No. 616,559
1 Claim. (Cl. 339—277)



A terminal for a wire or the like formed from tubular metal stock comprising a body portion for receiving the end of the wire; an end portion of flattened tubular stock

including two layers of tube wall in juxtaposed area contact to form a tongue; a hole in said tongue; and a transitional portion between said end and body portions and integral therewith, having in a tube wall a compound curved outer surface concave relative to said body portion and arcuate in the plane of said end portion, the center of said arc lying in the direction of said end portion, and at least a part of said arc being concentric with said hole.

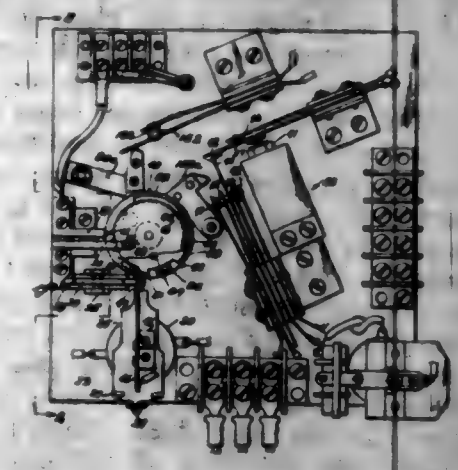
2,968,789
FORM RECOGNITION SYSTEM
Paul Weiss and Charles W. Johnson, Syracuse, N.Y., assignors to General Electric Company, a corporation of New York
Filed Oct. 26, 1956, Ser. No. 618,606
17 Claims. (Cl. 340—149)



1. Apparatus for recognizing an unknown curve independently of its registration with a known curve comprising means for selecting at least one known curve, means for computing values of at least one property of said known curve, said property having values which are invariant to within at most a constant additive term when the transformations of at least translation, rotation and magnification are applied to said known curve, means for storing said values of said property for said known curve, means for deriving at least one voltage having at least one characteristic the value of which varies in a manner determined by the shape of an unknown curve desired to be recognized, means for computing from said voltage values of the same said property of said unknown curve as was used in computing values for said known curve, means for comparing said last computed values with said stored values, and means for indicating a recognition when said last computed values for said unknown curve and said stored values for said known curve have a predetermined relationship to each other.

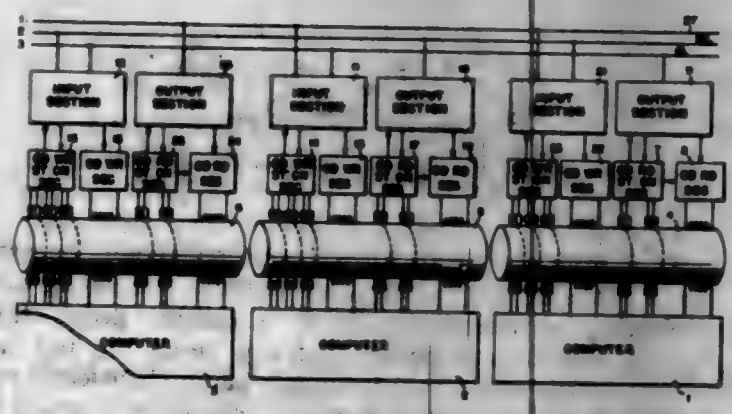
2,968,790
ELECTRIC LOCK
Victor E. Carbonara, Manhasset, N.Y., assignor to Kollsman Instrument Corporation, Elmhurst, N.Y., a corporation of New York
Filed Nov. 18, 1957, Ser. No. 697,927
9 Claims. (Cl. 340—164)

1. In a system for effecting control of a load device in response to a series of time spaced signals, a signal responsive code following means for testing the timing of a series of signals, motivation means for effecting a complete cyclic movement of said code following means as signals are fed thereto, control means actuatable at termination of a cycle of said code following means for effecting control of said load device, said code following means comprising a defeater device actuatable during the course of a cycle of movement in response to an incorrectly timed signal for preventing the energization of said load device at the end of said cycle in the event that an incorrectly timed signal has been received during said cycle, and latch means normally latching said code following means and being unlatched by a plurality of spaced electrical impulses for effecting the start of move-



ment of said code following means at the beginning of a cycle and effecting latching of movement of said code following means at the end of a cycle.

2,968,791
BUFFER STORAGE SYSTEM
Ellsworth L. Johnson, Billerica, Mass., and Pasquale W. Rocco, Poughkeepsie, and Dan C. Ross, Wappingers Falls, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed May 21, 1956, Ser. No. 586,247
6 Claims. (Cl. 340—172.5)

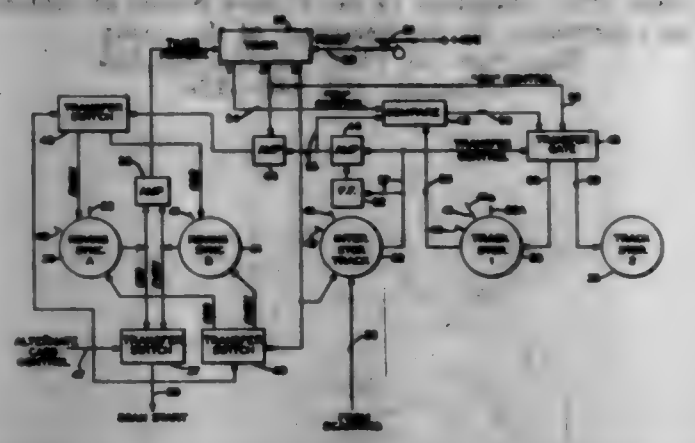


1. A buffer storage system comprising a cyclic storage medium having a plurality of signal storage registers, means to produce signals which indicate the full or empty status of each of said registers, means responsive to said status signals for storing signals in an empty register, error checking means responsive to said status signals for checking the signals stored in a full register and means responsive to said checking means for changing the status of any register from full to empty when said checking means detects a failure to check.

2,968,792
COMPACTED WORD STORAGE SYSTEM
Francis V. Adams, Endicott, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Nov. 24, 1954, Ser. No. 470,882
19 Claims. (Cl. 340—172.5)

4. A system for storing messages of random length comprising, message storage means having finite storage capacity, means for translating successive messages to said storage means in such manner that the information content at the end of one message forms a continuation of the information content beginning a succeeding message, and

means included in said translating means for pre-establishing prior to the translation of each message that the



message will not cause said storage means to exceed said finite capacity.

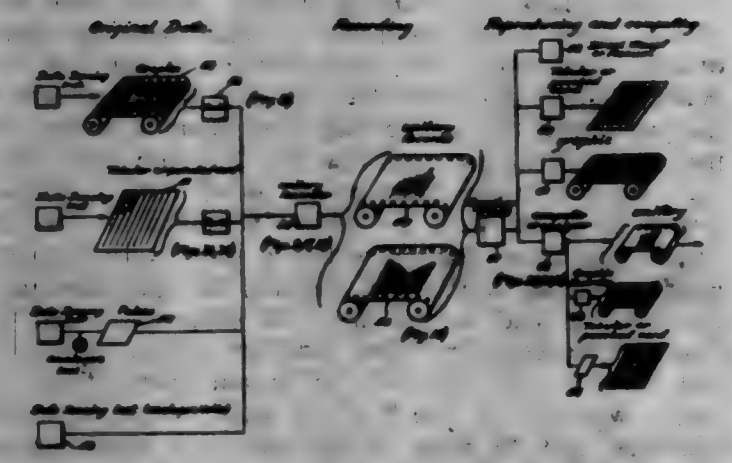
2,968,793

SYSTEM, METHOD AND APPARATUS FOR PROCESSING DATA OR INFORMATION

John C. Bellamy, Barrington, Ill., assignor, by mesne assignments, to Cook Electric Company, Chicago, Ill., a corporation of Delaware

Continuation of application Ser. No. 278,038, Mar. 22, 1952. This application Apr. 24, 1958, Ser. No. 731,585

15 Claims. (Cl. 340—172.5)



1. Apparatus for recording specific values of data on a photographic film comprising, a first mask having a series of uniformly spaced and substantially identical openings therein and being disposed to overlie said film; a source of light for illuminating all of said openings; a further mask having a series of uniformly spaced and substantially identical openings therein and being disposed to overlie said film alongside said first mask, the openings in said further mask being disposed to expose the spaces between the openings in said first mask; the total number of openings in said further mask corresponding to a certain maximum value of such data and there being a linear relationship between values of such data and the number of said openings corresponding thereto; light spot means for scanning the openings in said further mask beginning at the same side of said mask for each scan; means for sensing each data value as an integral number of units, each unit corresponding to one of said openings, means controlled by said sensing means for actuating said light spot means to scan, for each value of data, a number of the openings in said further mask equal to the difference between the total number of openings in said further mask and the number of openings equal to the integral number of units corresponding to the particular piece of data; and means for relatively moving said film and said further mask along a line transverse to the line of the openings in said further mask and in the same direction for each scan.

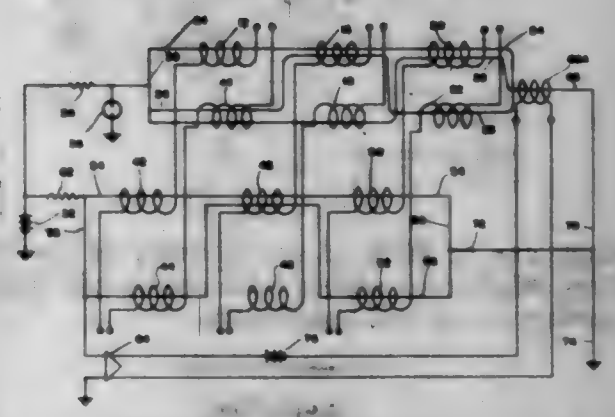
2,968,794

APPARATUS FOR MODIFYING THE INFORMATION STORED IN A PREWIRED CRYOTRON MEMORY

Albert E. Slade, Cochituate, Mass., assignor to Arthur D. Little, Inc., Cambridge, Mass.

Filed May 8, 1957, Ser. No. 657,851

10 Claims. (Cl. 340—173.1)



10. A prewired cryotron memory comprising, in combination, a resistance unit comprising a plurality of gate conductors connected in parallel with each other, said gate conductors being superconductive at the temperature of operation of said memory in the absence of an applied magnetic field and adapted to transfer to a resistive state upon the application of a quenching field thereto, a plurality of control conductors, said control conductors forming quenching crossovers with different combinations of said gate conductors, the gate conductor and control conductor at each quenching crossover being so disposed with respect to each other that a quenching current through the control conductor develops a quenching field for the gate conductor at the crossover, a quenching current in a control conductor being strong enough to quench only the gate conductors forming quenching crossovers with the control conductor, each gate conductor forming quenching crossovers with a unique combination of control conductors, storage or non-storage in said memory of a series of characters corresponding to a combination of control conductors through which quenching currents are passed is represented by the presence or absence of a superconductive gate conductor, means for indicating the conductive state of said resistance unit to determine the presence or absence of a superconductive gate conductor therein, means for nullifying the effect of one of said gate conductors, said nullifying means comprising a modification control conductor in close proximity to said memory, whereby a quenching current through said modification control conductor may give rise to a magnetic field imposing a resistive state on said memory, and means for passing a quenching current through said modification control conductor whenever quenching currents are passed through the combination of control conductors which form quenching crossovers only with gate conductors other than said one gate conductor.

2,968,795

MAGNETIC SYSTEMS

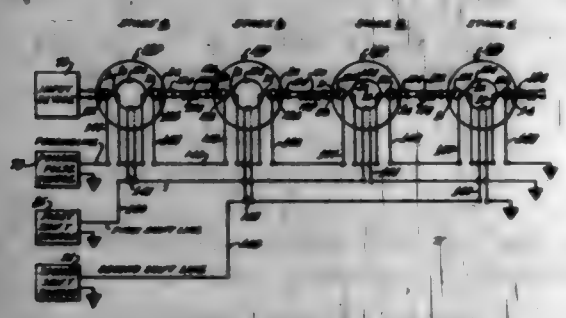
George R. Briggs, Princeton, and Arthur W. Lo, Ferdi, N.J., assignors to Radio Corporation of America, a corporation of Delaware

Filed May 1, 1957, Ser. No. 656,827

20 Claims. (Cl. 340—174)

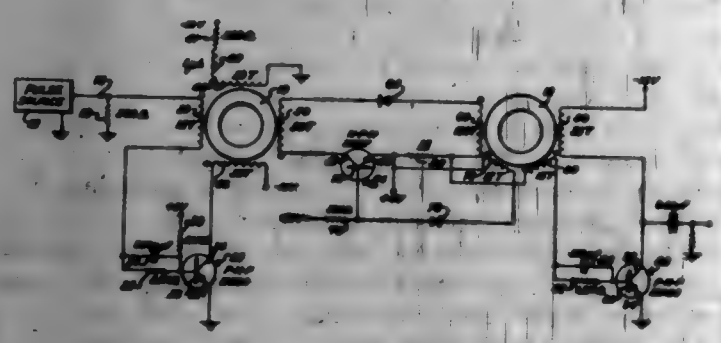
1. A magnetic shift register comprising a plurality of transfluxors each having a plurality of apertures including a first aperture and a second aperture, a plurality of transfer circuits connecting said transfluxors in a shifting sequence, each said transfer circuit coupling one said transfluxor through its said first aperture to another succeeding transfluxor through its said second aperture, a priming means linking each of said trans-

fluxors through one or more of said plurality of apertures, and shift means linking each of said transfluxors



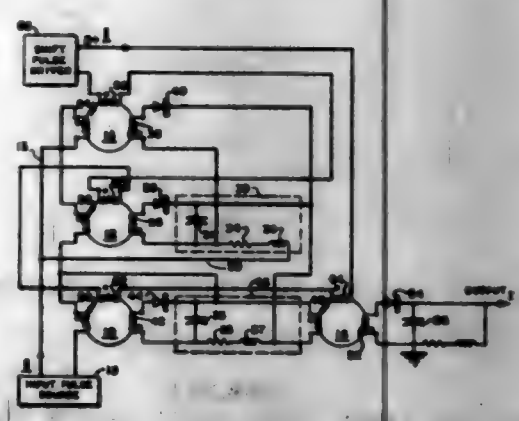
through one or more of said plurality of apertures for shifting information signals from one of said transfluxors to another one of said transfluxors.

2,968,796
TRANSFER CIRCUIT
John H. Lane, Altadena, and Victor M. Walker, South Pasadena, Calif., assignors to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Jan. 30, 1958, Ser. No. 712,182
3 Claims. (Cl. 340—174)



1. In combination, a first magnetic core having an input winding and an output winding coupled to the core, said input winding including a pair of windings coupled to said core in a positive feedback arrangement and serially connected by means of a switching element, a source of pulses coupled to the input winding whereby the pulses switch the magnetic state of said core, a second magnetic core having an input winding and a reset winding, said reset winding including a pair of windings coupled to the second core in a positive feedback arrangement and serially connected by means of a switching element, a unilateral transfer loop coupled between the output winding of the first magnetic core and the input winding of the second core arranged to deliver only pulses of a preselected polarity to the second core, the output winding of the first core is defined to provide pulses for changing the magnetic condition of the second core along its hysteresis characteristic from one magnetic remanent point to the other remanent point, and circuit means including a switching winding coupled to the second core switchable between two conductive conditions and coupled to the transfer loop to control the conductivity thereof and arranged in one conductive condition to deliver pulses from the first core to the second core, said switching winding is arranged to be responsive to the switching of the second core from said other remanent point to said one remanent point for changing its conductive condition during this switching interval whereby the feedback arrangement of said reset winding maintains this changed conductive condition for a preselected interval after the termination of the pulse effective to switch the second core from the said other remanent point to said one remanent point.

2,968,797
MAGNETIC CORE BINARY COUNTER SYSTEM
Eugene W. Sard, Flushing, N.Y., and Harvey Saltz, Belleville, N.J., assignors to the United States of America as represented by the Secretary of the Army
Filed Nov. 20, 1959, Ser. No. 854,524
7 Claims. (Cl. 340—174)

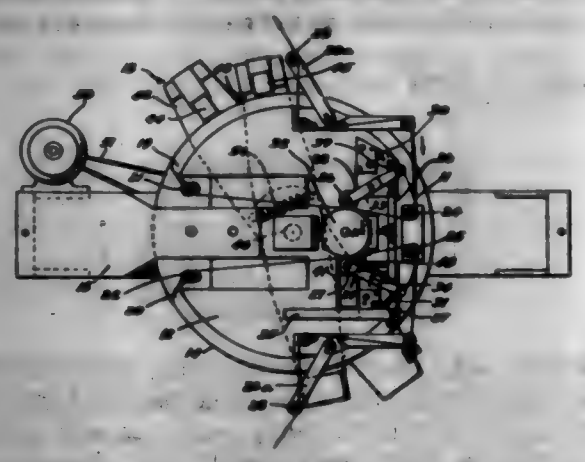


1. A binary counter comprising, at least four magnetic cores, each of said cores being capable of assuming either of two stable states of magnetic remanence, a source of input pulses, each of said magnetic cores being linked by a different one of a plurality of input windings and a different one of a plurality of output windings, the input windings respectively linking a first, second and third of said cores being connected in series with the output of said input source, the input winding of said first core being linked to its respective core in a sense opposite to the sense that the second and third input windings link their respective cores such that the first core input winding responds to the input pulses as an inhibit winding, means in circuit with the output windings of said first and second cores and connected in series with the input winding linking said fourth core and the respective input windings of said second and first cores such that the sense of the respective input windings linking said fourth and second cores responds to output pulses from the output windings of said first and second cores as inhibit windings, and the sense of the respective input winding linking said first core is opposite to the sense of the inhibit windings associated with said fourth and second cores, and means connecting the output winding linking said third core and the input winding linking said fourth core whereby when a pulse derived from the output winding of the third core is applied to the input winding linking said fourth core, said fourth core assumes a state of magnetic remanence opposite to that caused by the inhibit action of said input winding linking said fourth core.

2,968,798
MAGNETIC TRANSDUCING METHOD AND SYSTEM
Donald L. Drukey, Manhattan Beach, Calif., assignor, by mesne assignments, to Thompson Ramo Wooldridge Inc., Cleveland, Ohio, a corporation of Ohio
Filed Sept. 4, 1957, Ser. No. 681,975
3 Claims. (Cl. 340—174.1)

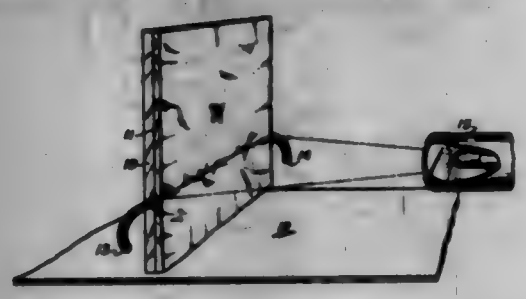
3. Magnetic transducing apparatus comprising: means positioned to support magnetic tape in an arcuate path; transducing means mounted for continuous rotation in a circular path around and including a portion of said arcuate path and positioned to effect contact scansion of said tape, said transducing means including a pair of transducing heads mounted for simultaneous scansion of different portions of said arcuate path and for movement with respect to each other in directions along said circular path; and means connected between said heads to

periodically, exponentially change the displacement of said heads with respect to each other in said directions;



whereby said apparatus is adapted to provide different combinations of correlation between signals.

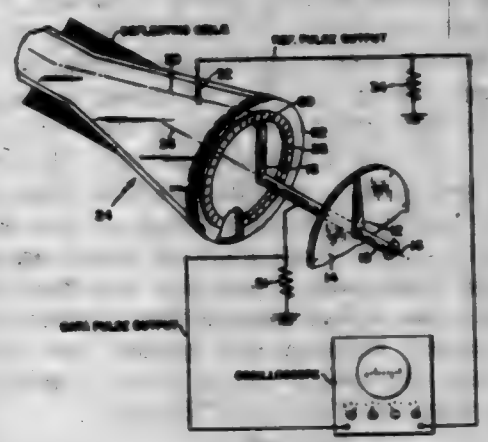
2,968,799
MAGNETIC TRANSDUCER
James T. Smith, San Jose, Calif., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Oct. 24, 1957, Ser. No. 692,123
9 Claims. (Cl. 340—174.1)



1. A transducer for generating signals in response to magnetic fields emanating from a magnetic recording surface comprising a semiconductor surface disposed adjacent and parallel to said recording surface, means for illuminating said semiconductor surface with a slit of light disposed at right angles said fields, and means for moving said surface relative to said slit of light for providing a scan of said surface thereby, whereby photomagneticelectric signals appear across said semiconductor according to the magnetization of portions of said surface determined by the dimensions of said slit of light.

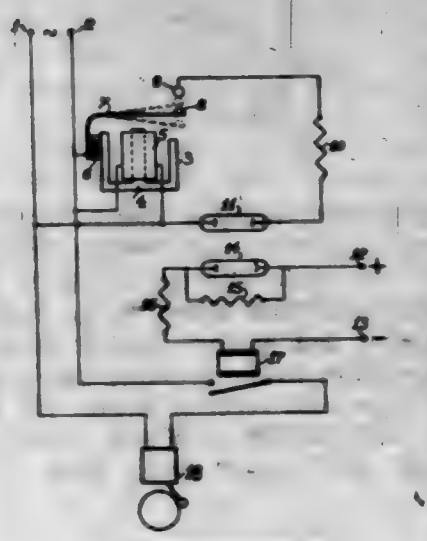
2,968,800
SHAFT POSITION INDICATOR
Fritz A. Guerth, 50 Lori Road, Camarillo, Calif.
Filed Oct. 19, 1959, Ser. No. 847,439
6 Claims. (Cl. 340—203)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. Apparatus for determining the instantaneous angular position of a member rotatable about an axis, said apparatus comprising: a cathode-ray tube positioned coaxially with said rotatable member; a ring-shaped commutator electrode in the form of a plurality of electrically-conductive segments embedded in the face of said cathode-ray tube, each of said segments being electrically insulated from the remaining segments, with each segment extending through the wall of said tube so as to possess both inner and outer conductive surfaces, said ring-shaped commutator electrode being symmetrical about the tube axis; means for developing a beam of electrons within said cathode-ray tube; means for circularly deflecting said developed electron beam so as to scan the inner surface of said ring-shaped commutator electrode and thus successively impinge the conductive segments of which said electrode is composed; a further electrode rigidly secured to said rotatable member and electrically coupled at any instant of time to the outer surface of only one of said conductive segments, the particular segment so coupled being dependent upon the rotational status of said member; means for developing a reference pulse at the same point in each circular scan of said cathode-ray beam; means for developing a data pulse



each time that said circularly-scanning cathode-ray beam impinges that particular one of said conductive commutator segments which is coupled to the electrode secured to said rotatable member; and means for measuring the time displacement between said reference pulse and said data pulse during each scanning cycle of the cathode-ray beam to determine the instantaneous angular position of said rotatable member.

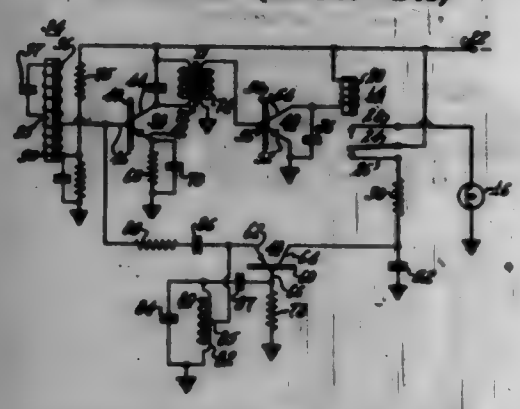
2,968,801
AIR RAID ALARM DEVICE
Michael De Fee, 128 Dewitt St., New Haven, Conn.
Filed Mar. 17, 1959, Ser. No. 799,911
1 Claim. (Cl. 340—216)



An alarm device comprising, an alternating current electric supply of normal frequency, having terminals; a solenoid operatively connected to said alternating current electric supply; an iron core interrupted by an air space, forming a magnetic circuit surrounded and magnetized by said solenoid; a vibrator arm, of resilient magnetic material, disposed in said air space of said magnetic circuit, and having a stationary end connected to one of the terminals of the alternating current electric supply, and a free end provided with a contact, said arm having a natural frequency of vibration equal to a predetermined alarm frequency and is constructed to assume a predetermined maximum amplitude of vibration when exposed to the impulses of said magnetic circuit at alarm frequency for a predetermined length of time; a stationary contact

so located as to be impacted by the contact of the free end of said vibrator arm at said maximum amplitude of vibration, permitting the flow of alternating current through said vibrator arm into said stationary contact; a neon light bulb connected to said stationary contact and to the other terminal of the alternating current electric supply, producing light when receiving a predetermined amount of electrical energy through said vibrator arm; a direct current electric supply, having terminals; a photo-electric element, connected to one of thet terminals of said direct current supply, and located adjacent to said neon bulb, permitting the flow of direct current when exposed to the light produced by said neon bulb; a relay comprising a solenoid connected to said photo-electric element and to the other terminal of said direct current supply, and a switch connected to one of the terminals of the alternating current supply, said switch assuming a closed position when said solenoid is energized and an open position when said solenoid is deenergized; an alarm element connected between said switch and the other terminal of said alternating current supply, producing an alarm signal when said switch is closed.

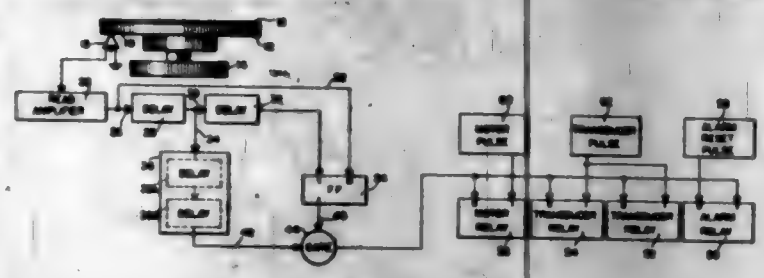
2,968,802
RADIO SIGNAL RECEIVING SYSTEM
Leslie E. Flory and Winthrop S. Pike, Princeton, N.J., assignors to Radio Corporation of America, a corporation of Delaware
Continuation of abandoned application Ser. No. 472,279, Dec. 1, 1954. This application Apr. 26, 1957, Ser. No. 655,440
12 Claims. (Cl. 340—245)



10. In combination, receiver means tuned to a predetermined operating frequency, means coupled to said receiver means for indicating the reception of a signal at said frequency, oscillator means for generating a signal at said frequency, and means coupled to said receiver means and responsive to the presence and absence of an output signal from said receiver means for periodically applying said oscillator signal to said receiver means in the absence of said output signal from said receiver means.

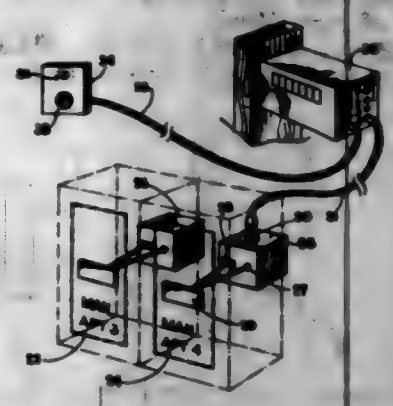
2,968,803
FIXED-PERIODICITY MONITORING AND CONTROL SYSTEM
Peter L. Lindley, Berwyn, Pa., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Jan. 31, 1957, Ser. No. 637,499
9 Claims. (Cl. 340—271)

8. A device for detecting signals which have a preferred period of generation and a tolerable deviation period therefrom comprising a source of signals, an electronic gate, first circuitry means connecting said source to said gate to close said gate in response to a signal from said source, first signal delay means connected to said source to delay a signal for a period of time equal to said preferred period plus X% of said tolerable deviation period, second signal delay means connected through said first signal delay means to said signal source, said second signal delay means to delay a signal applied thereto for a period of time equal to (100–X) percent of said tolerable deviation period, second circuitry means coupling the output from said second signal delay means to open said



gate so that said gate remains open for a period of time equal to said tolerable deviation, and third circuitry means connecting said first signal delay output to said electronic gate for passage therethrough when said electronic gate is open.

2,968,804
MAIL BOX INDICATOR
Raymond F. Burlington, 1205 Harkness St., Manhattan Beach, Calif.
Filed Mar. 19, 1957, Ser. No. 647,143
2 Claims. (Cl. 340—281)

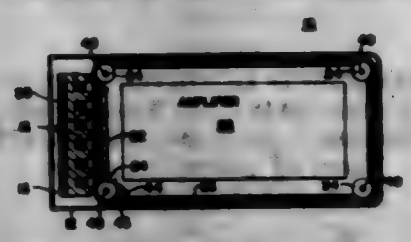


1. An apparatus for detecting the presence or absence of mail comprising, in combination: a substantially light proof box structure having a door means providing access to said box for inserting mail; an artifical light source mounted to a first interior portion of said box structure in a position to pass a beam of light, upon energization, from said first interior portion of said box to a second interior portion such that said beam is interrupted if mail is present in said box; a photoelectric cell positioned at said second interior portion to receive said beam of light and provide a control signal only in the absence of any mail; a source of electrical energy; a switch disposed exteriorly of said box for connecting said source of electrical energy to energize said light source upon closing; an indicating means connected to said source and switch to be energized simultaneously with said light source in response to closing of said switch; and a control means connected to said photo-electric cell and said indicating means and responsive to said control signal from said photo-electric cell to de-energize said indicating means, whereby said indicating means is energized and remains energized if mail is present in said box and is momentarily energized and then de-energized if mail is absent from said box.

2,968,805
ELECTRICALLY OPERATED INDICATING DEVICES
Daniel J. Sikorra, Champlin, Minn., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed Aug. 1, 1955, Ser. No. 523,512
6 Claims. (Cl. 340—316)

1. In indicating apparatus; a support; a magnetic thruster mounted on said support; means for energizing

said thruster so that said thruster produces a moving magnetic field; magnetic return means positioned adjacent to said thruster; a flexible tape movably mounted on said support and with a portion thereof positioned between said thruster and said magnetic return means, said tape comprising an insulative base, an indicia on



said base, a thin metallic foil on said base, an insulative member on said foil on the opposite side thereof from said base, and a resistive member on said insulative member; sliding contact means connected to said foil and said resistive material; means including said resistive member for controlling the energization of said thruster; and means for viewing said indicia.

2,968,806

METHOD AND DEVICE FOR IMPROVING THE RATIO BETWEEN THE USEFUL SIGNAL AND THE INTERFERING SIGNAL WHICH ARE PICKED UP BY WIRELESS RECEIVING SETS

Alphonse Y. Capert, 94 rue de Trèves, Brussels, Belgium

Filed Aug. 13, 1957, Ser. No. 678,011
Claims priority, application Belgium July 2, 1957
5 Claims. (Cl. 343—708)



1. A device for improving the ratio between the useful signal and the interfering signal received by wireless receiving sets comprising an antenna and means above said antenna for ionizing a volume of air above and separate from said antenna to protect said antenna from interfering signals.

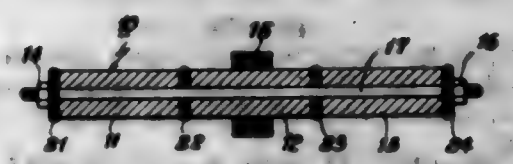
2,968,807

FERRO-MAGNETIC CORE ANTENNA

Albert Troost and Gunter Zieben, Ulm (Danube), Germany, assignors to Telefunken G.m.b.H., Berlin, Germany

Filed May 2, 1958, Ser. No. 732,638
Claims priority, application Germany May 4, 1957
1 Claim. (Cl. 343—787)

An elongated rod-type antenna having a ferro-magnetic core, said antenna comprising, in combination: a series of ferro-magnetic tubular cores having axially aligned bores; a plurality of thin resilient spacer rings interposed between and covering substantially the entire surface of the end faces of adjacent cores; and clamping means extending through said central bores of said cores and through the centers of said spacer rings for clamping



together said series of cores and the interposed spacer rings to form a single rod-type antenna, whereby said antenna possesses an inherent elasticity afforded by the resiliency of said spacer rings between adjacent cores, thereby avoiding breakage of the antenna when the same is subjected to mechanical stresses.

2,968,808

STEERABLE ANTENNA ARRAY

Lindsay Russell, Needham, Mass., assignor to Andrew Alford, Boston, Mass.

Filed Aug. 24, 1954, Ser. No. 451,754
10 Claims. (Cl. 343—854)



1. An electromagnetic radiating system for operation over a relatively wide frequency range centered about a mean frequency comprising, a plurality of high frequency antenna elements, a like plurality of lumped parameter delay lines each forming an unbalanced transmission line for coupling a respective one of said antenna elements to common means exchanging high frequency energy with said elements, each of said delay lines comprising a plurality of cascaded sections with each section including a main inductance in series with the main inductance of adjacent sections, a main capacitance formed by parallel rotor and stator plates with one of said plates coupled to the junction between series main inductances of adjacent sections by an auxiliary inductance section and the other connected to a common line of said delay line, auxiliary capacitance elements connected between said one plate of adjacent sections, and means for displacing said rotor with respect to said stator to alter said main inductance and main capacitance while maintaining the ratio therebetween unchanged to vary the delay furnished by said delay line without altering its characteristic impedance.

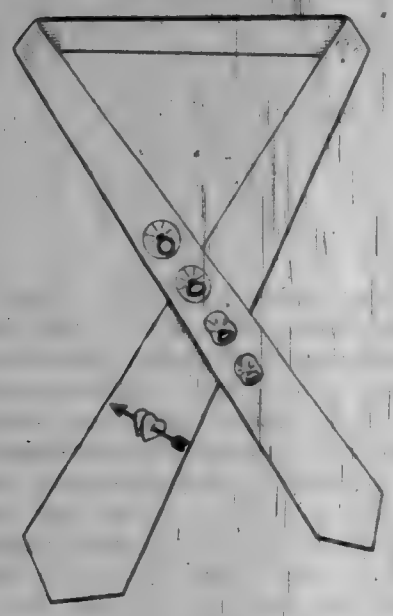
DESIGNS

JANUARY 17, 1961

189,608
LIQUID DISPENSING CONTAINER
Jasper Gibbons Grinling, London, England, assignor to W. & A. Gilbey Limited, London, England, a British company
Filed May 11, 1959, Ser. No. 55,875
Claims priority, application Great Britain Nov. 26, 1958
Term of patent 7 years
(Cl. D2—3)



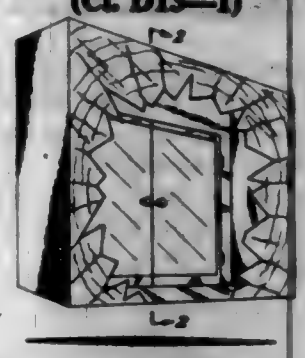
189,609
NECKTIE
Roger W. D. Beecher, 1510 Southridge Lane, Cincinnati, Ohio
Filed Nov. 17, 1959, Ser. No. 58,372
Term of patent 14 years
(Cl. D3—16)



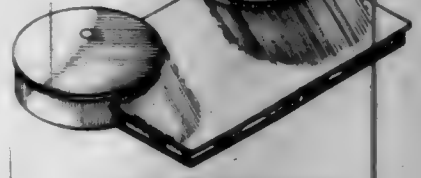
189,610
DOOR LATCH OPERATING UNIT
Charles M. Flynn, Jr., Dearborn, Mich., assignor to C. M. Flynn Mfg. Co., Inkster, Mich., a corporation of Michigan
Filed May 7, 1959, Ser. No. 55,820
Term of patent 14 years
(Cl. D10—8)



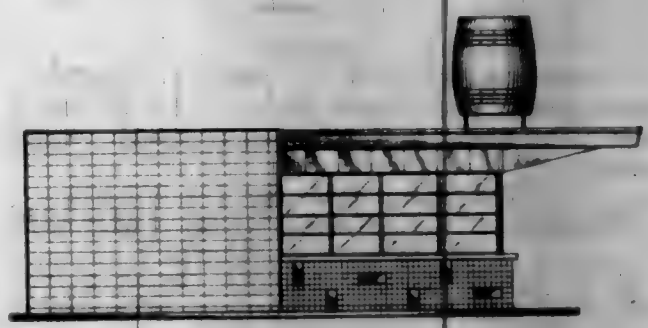
189,611
RECESSED DOORWAY UNIT
Gordon Daline, 2446 Park, Minneapolis, Minn.
Filed Jan. 7, 1957, Ser. No. 44,429
Term of patent 14 years
(Cl. D13—1)



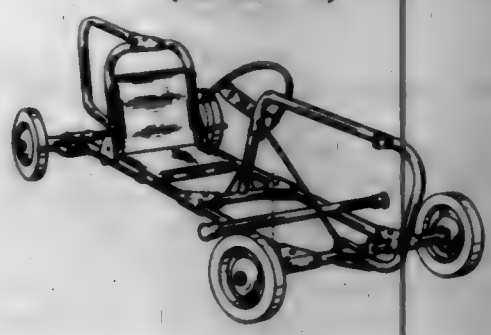
189,612
BUILDING
James E. Wheeler, 2256 Kent Blvd. NE., Grand Rapids, Mich.
Filed Mar. 20, 1959, Ser. No. 55,080
Term of patent 14 years
(Cl. D13—1)



189,613
COMBINED FOOD AND BEVERAGE VENDING BUILDING
Palmer G. Murphy, 666 Oak St., Biloxi, Miss.
Filed May 21, 1959, Ser. No. 56,009
Term of patent 14 years
(Cl. D13—1)



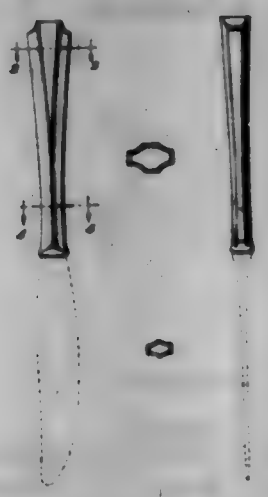
189,614
PUSHMOBILE
Dorr D. Beale, 5225 Duncraig Road, Minneapolis, Minn.
Filed Sept. 29, 1958, Ser. No. 52,791
Term of patent 14 years
(Cl. D14—3)



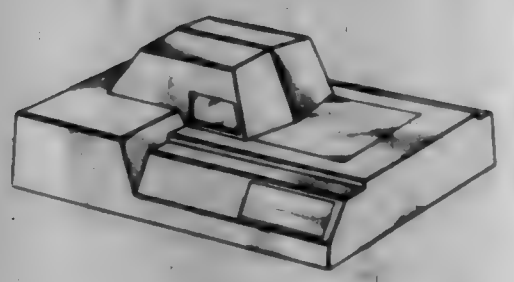
189,615
POWER-DRIVEN CAN OPENER
Dominic J. De Fano, River Grove, Ill., assignor to McGraw-Edison Company, Milwaukee, Wis., a corporation of Delaware
Filed Jan. 25, 1960, Ser. No. 59,151
Term of patent 14 years
(Cl. D22—2)



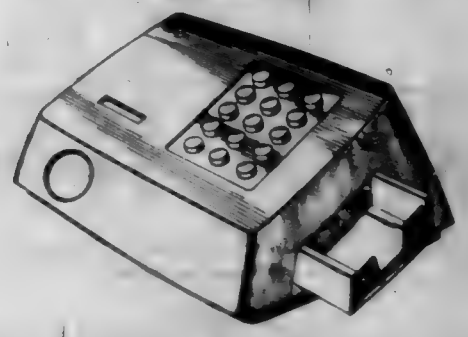
189,616
TABLE KNIFE OR SIMILAR ARTICLE OF FLATWARE
John P. Young, Bronxville, N.Y., and Charles A. Arnold, Providence, R.I., assignors to Lyon Incorporated, Detroit, Mich., a corporation of Delaware
Filed Oct. 21, 1959, Ser. No. 58,015
Term of patent 14 years
(Cl. D22—3)



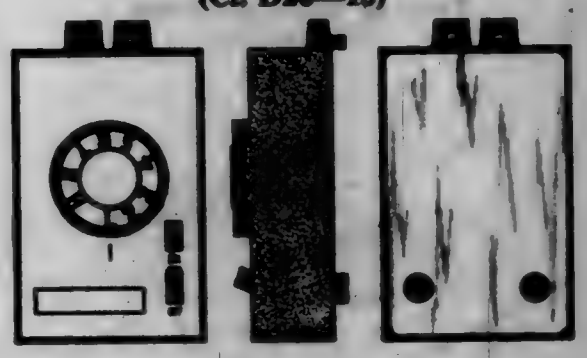
189,617
COVER FOR A DATA TYPING MACHINE OR THE LIKE
Frederick K. Storm, Jr., 1425 Allen, Glendale, Calif.
Filed Aug. 10, 1959, Ser. No. 57,134
Term of patent 14 years
(Cl. D26—5)



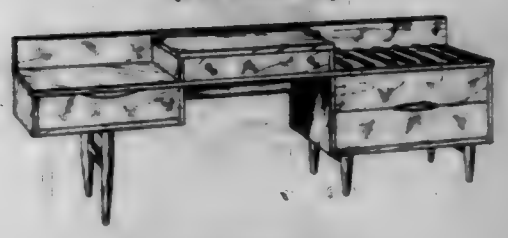
189,618
DATA TRANSMITTER HOUSING OR SIMILAR ARTICLE
Eliot F. Noyes, New Canaan, Conn., and Rae F. Tankard, Johnson City, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Mar. 23, 1960, Ser. No. 59,850
Term of patent 14 years
(Cl. D26—5)



189,619
ELECTRIC CONTROL UNIT
George Barradas, Glenville, Conn., assignor to Bobrick Products Corp., New York, N.Y., a corporation of New Jersey
Filed May 18, 1959, Ser. No. 55,939
Term of patent 14 years
(Cl. D26—13)



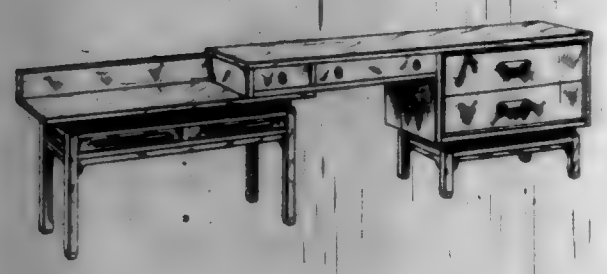
189,620
COMBINED BENCH, VANITY DESK AND CHEST UNIT
Merton L. Gershun, Miami Beach, Fla., assignor to American Furniture Co., Inc., Martinsville, Va., a corporation of Virginia
Filed May 13, 1960, Ser. No. 60,577
Term of patent 7 years
(Cl. D33—7)



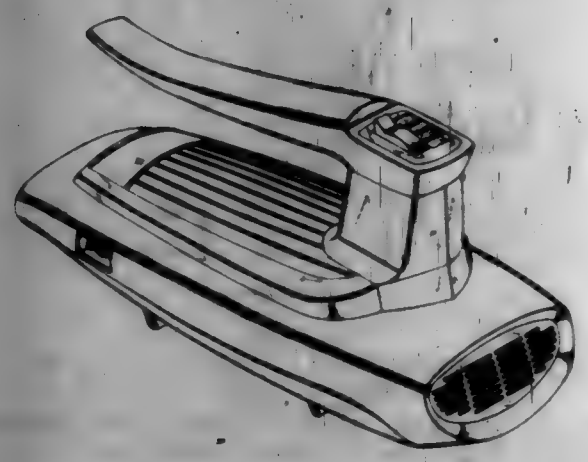
189,621
COMBINED BENCH, VANITY DESK AND CHEST UNIT
Merton L. Gershun, Miami Beach, Fla., assignor to American Furniture Co., Inc., Martinsville, Va., a corporation of Virginia
Filed May 13, 1960, Ser. No. 60,578
Term of patent 7 years
(Cl. D33—7)



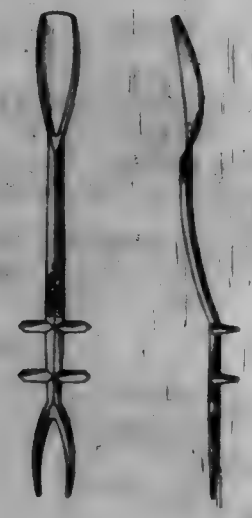
189,622
COMBINED BENCH, VANITY DESK AND CHEST UNIT
Merton L. Gershun, Miami Beach, Fla., assignor to American Furniture Co., Inc., Martinsville, Va., a corporation of Virginia
Filed May 13, 1960, Ser. No. 68,579
Term of patent 7 years
(Cl. D33—7)



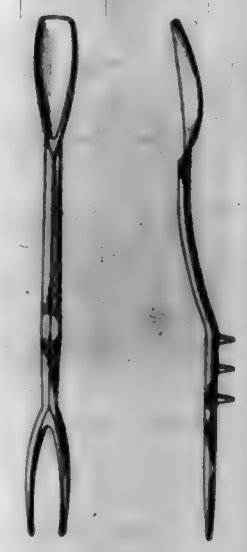
189,623
PORTABLE MIXER
Paul O. Rawson, Jr., Trumbull, Conn., and Roger L. Funk, Liverpool, N.Y., assignors to General Electric Company, a corporation of New York
Filed Sept. 6, 1960, Ser. No. 62,019
Term of patent 14 years
(Cl. D44—1)



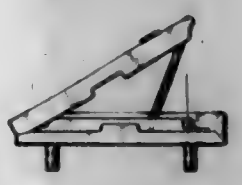
189,624
COMBINED SPOON AND FORK
John I. McClelland, 3240 Lake Shore Drive, Chicago, Ill.
Filed Aug. 11, 1960, Ser. No. 61,696
Term of patent 14 years
(Cl. 44—29)



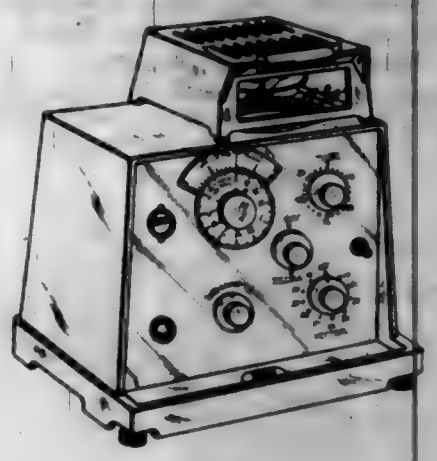
189,625
COMBINED FORK AND SPOON
John I. McClelland, 3240 Lake Shore Drive, Chicago, Ill.
Filed Aug. 11, 1960, Ser. No. 61,697
Term of patent 14 years
(Cl. D44—29)



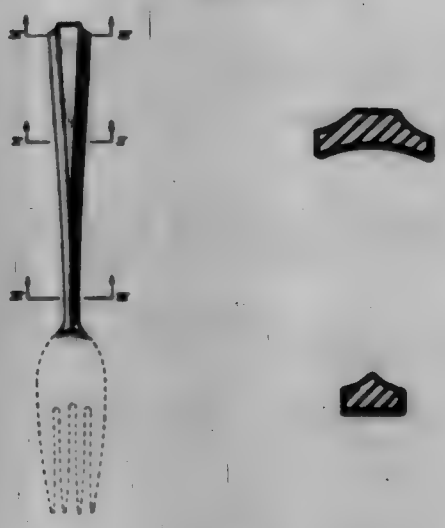
189,626
LUGGAGE LOCK
Abraham Levine, Mendham, N.J., assignor to Sardis Luggage Company, Sardis, Miss., a corporation of Mississippi
Filed Nov. 3, 1959, Ser. No. 58,202
Term of patent 14 years
(Cl. D50—7)



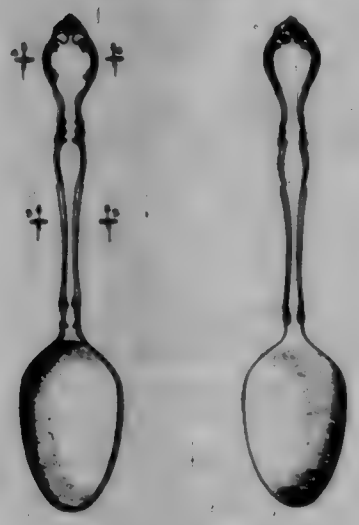
189,627
MOISTURE DETERMINATION BALANCE
Robert E. Ohaus, Westfield, N.J., assignor to Ohaus Scale Corporation, Union, N.J., a corporation of New Jersey
Filed Oct. 21, 1959, Ser. No. 58,012
Term of patent 14 years
(Cl. D52—1)



189,628
TABLE FORK OR SIMILAR ARTICLE OF FLATWARE
John P. Young, Bronxville, N.Y., and Charles A. Arnold, Providence, R.I., assignors to Lyon Incorporated, Detroit, Mich., a corporation of Delaware
Filed Oct. 21, 1959, Ser. No. 58,016
Term of patent 14 years
(Cl. D54—12)



189,629
SPOON OR SIMILAR ARTICLE
Ellen Manderfield, Syracuse, N.Y., assignor to Oneida Ltd., Oneida, N.Y., a corporation of New York
Filed Sept. 6, 1960, Ser. No. 52,017
Term of patent 14 years
(Cl. D54—12)



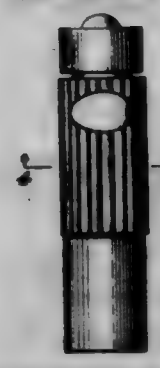
189,630
OPTICAL SIGHT UNIT
Carl F. Brown, Jr., Huntingdon, Pa., assignor to Wald Industries, Inc., Huntingdon, Pa., a corporation of Pennsylvania
Filed June 15, 1960, Ser. No. 56,979
Term of patent 14 years
(Cl. D57—1)



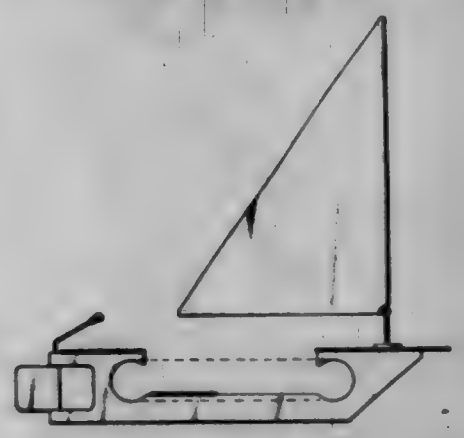
189,631
COMBINED FLEXIBLE BOTTLE AND CAP
Harold J. Vanderhyde, North Merrick, N.Y., assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio
Filed June 2, 1960, Ser. No. 56,830
Term of patent 14 years
(Cl. D58—6)



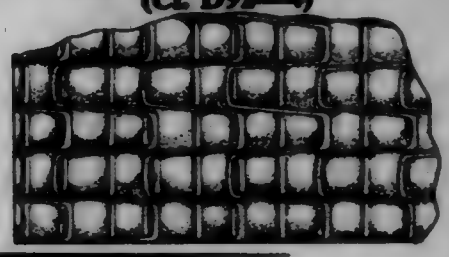
189,632
COMBINED DISPENSING BOTTLE AND CAP
Itaru Mita, Ashiya, Japan, assignor to Santen Pharmaceutical Manufacturing Company, Limited, Osaka, Japan
Filed Oct. 7, 1959, Ser. No. 57,843
Term of patent 14 years
(Cl. D58—8)



189,633
BOAT
James Wesley Ambrose, Portland, Oreg., assignor to Earl O. Williams, Arcata, Calif.
Filed May 9, 1960, Ser. No. 60,487
Term of patent 14 years
(Cl. D71—1)



189,634
RUG CUSHIONING MATERIAL
Irving R. Roth, Los Angeles, and Stanley V. Baxter, Compton, Calif., assignors to Orcco Industries, Inc., Los Angeles, Calif., a corporation of California
Filed Sept. 24, 1957, Ser. No. 47,839
Term of patent 14 years
(Cl. D92—4)



LIST OF REISSUE PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 17TH DAY OF JANUARY, 1961

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

Container Corp. of America: *See*—
Fisher, John V. Re. 24,925.

Druz, Walter S., and E. M. Roschke, to Zenith Radio Corp. Subscription color television system. Re. 24,926, 1–17–61, Cl. 178—5.1.

Fisher, Constance M.: *See*—
Fisher, John V. Re. 24,925.

Fisher, John V., deceased, by C. M. Fisher, administratrix, to Container Corp. of America. Carton package. Re. 24,925, 1–17–61, Cl. 206—65.

Hoff, Wilbur L., to Western Electric Co., Inc. Color coding apparatus. Re. 24,923, 1–17–61, Cl. 118—314.

Roschke, Erwin M.: *See*—
Druz, Walter S., and Roschke. Re. 24,926.

Star Cutter Co.: *See*—
Willingham, John R. Re. 24,924.

Western Electric Co., Inc.: *See*—
Hoff, Wilbur L. Re. 24,923.

Willingham, John R., to Star Cutter Co. Gun drilling tool. Re. 24,924, 1–17–61, Cl. 77—68.

Zenith Radio Corp.: *See*—
Druz, Walter S., and Roschke. Re. 24,926.

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Klehm, Carl G. Peony plant. 2,011, 1–17–61, Cl. 47—60.

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Ambrose, James W., to E. O. Williams. Boat. 189,633, 1–17–61, Cl. D71—1.

American Furniture Co., Inc.: *See*—
Gershun, Merton L. 189,620.
Gershun, Merton L. 189,621.
Gershun, Merton L. 189,622.

Arnold, Charles A.: *See*—
Young, John P., and Arnold. 189,616.
Young, John P., and Arnold. 189,628.

Barradas, George, to Bobrich Products Corp. Electric control unit. 189,619, 1–17–61, Cl. D26—18.

Baxter, Stanley V.: *See*—
Roth, Irving R., and Baxter. 189,634.

Beale, Dorr D. Pushmobile. 189,614, 1–17–61, Cl. D14—3.

Beecher, Roger W. D. Necktie. 189,609, 1–17–61, Cl. D3—16.

Bobrich Products Corp.: *See*—
Barradas, George. 189,619.

Brown, Carl F., Jr., to Wald Industries, Inc. Optical sight unit. 189,630, 1–17–61, Cl. D57—1.

Daline, Gordon. Recessed doorway unit. 189,611, 1–17–61, Cl. D13—1.

De Fano, Dominic J., to McGraw-Edison Co. Power-driven can opener. 189,615, 1–17–61, Cl. D22—2.

Flynn, C. M., Mfg. Co.: *See*—
Flynn, Charles M., Jr. 189,610.

Flynn, Charles M., Jr., to C. M. Flynn Mfg. Co. Door latch operating unit. 189,610, 1–17–61, Cl. D10—3.

Funk, Roger L.: *See*—
Rawson, Paul O., Jr., and Funk. 189,623.

General Electric Co.: *See*—
Rawson, Paul O., Jr., and Funk. 189,623.

Gershun, Merton L., to American Furniture Co., Inc. Combined bench, vanity desk and chest unit. 189,620, 1–17–61, Cl. D33—7.

Gershun, Merton L., to American Furniture Co., Inc. Combined bench, vanity desk and chest unit. 189,621, 1–17–61, Cl. D33—7.

Gershun, Merton L., to American Furniture Co., Inc. Combined bench, vanity desk and chest unit. 189,622, 1–17–61, Cl. D33—7.

Gilbey, W. & A., Ltd.: *See*—
Grinling, Jasper G. 189,606.

Grinling, Jasper G., to W. & A. Gilbey Ltd. Liquid dispensing container. 189,606, 1–17–61, Cl. D2—3.

International Business Machines Corp.: *See*—
Noyes, Eliot F., and Tankard. 189,618.

Levine, Abraham, to Sardis Luggage Co. Luggage lock. 189,626, 1–17–61, Cl. D50—7.

Lyon Inc.: *See*—
Young, John P., and Arnold. 189,616.
Young, John P., and Arnold. 189,628.

Manderfield, Ellen, to Oneida Ltd. Spoon or similar article. 189,629, 1–17–61, Cl. D54—12.

McClelland, John I. Combined spoon and fork. 189,624, 1–17–61, Cl. D44—29.

McClelland, John I. Combined fork and spoon. 189,625, 1–17–61, Cl. D44—29.

McGraw-Edison Co.: *See*—
De Fano, Dominic J. 189,615.

Mita, Itaru, to Santen Pharmaceutical Mfg. Co., Ltd. Combined dispensing bottle and cap. 189,632, 1–17–61, Cl. D58—8.

Murphy, Palmer G. Combined food and beverage vending building. 189,613, 1–17–61, Cl. D13—1.

Noyes, Eliot F., and R. F. Tankard, to International Business Machines Corp. Data transmitter housing or similar article. 189,618, 1–17–61, Cl. D26—5.

Ohaus, Robert E., to Ohaus Scale Corp. Moisture determination balance. 189,627, 1–17–61, Cl. D52—1.

Ohaus Scale Corp.: *See*—
Ohaus, Robert E. 189,627.

Oneida Ltd.: *See*—
Manderfield, Ellen. 189,629.

Orcco Industries, Inc.: *See*—
Roth, Irving R., and Baxter. 189,634.

Procter & Gamble Co., The: *See*—
Vanderhyde, Harold J. 189,631.

Rawson, Paul O., Jr., and R. L. Funk, to General Electric Co. Portable mixer. 189,623, 1–17–61, Cl. D44—1.

Roth, Irving R., and S. V. Baxter, to Orcco Industries, Inc. Rug cushioning material. 189,634, 1–17–61, Cl. D92—4.

Santen Pharmaceutical Mfg. Co., Ltd.: *See*—
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Sardis Luggage Co.: *See*—
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Storm, Frederick K., Jr. Cover for a data typing machine or the like. 189,617, 1–17–61, Cl. D26—5.

Tankard, Rae F.: *See*—
Noyes, Eliot F., and Tankard. 189,618.

Vanderhyde, Harold J., to The Procter & Gamble Co. Combined flexible bottle and cap. 189,631, 1–17–61, Cl. D58—6.

Wald Industries, Inc.: *See*—
Brown, Carl F., Jr. 189,630.

Wheeler, James E. Building. 189,612, 1–17–61, Cl. D13—1.

Williams, Earl O.: *See*—
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Young, John P., and C. A. Arnold, to Lyon Inc. Table knife or similar article of flatware. 189,616, 1–17–61, Cl. D22—3.

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LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 17TH DAY OF JANUARY, 1961

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

AMP Inc.: *See*—
Demler, Henry W. 2,968,042.
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A-P-D Co.: *See*—
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Abelson, Philip H., to United States of America, Navy. Separation of isotopes by thermal diffusion. 2,968,402, 1-17-61, Cl. 210—72.

Abrading Systems Co.: *See*—
Boettcher, Stephen A., and Page. 2,968,135.

Abraham, Frank J., J. R. Anderson, and R. W. Teel, to Boeing Airplane Co. Acceleration rate control for gas turbines. 2,968,151, 1-17-61, Cl. 60—39.28.

Acme-Hamilton Mfg. Corp., The: *See*—
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Acme Industrial Co.: *See*—
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Acomb, Byron H., to Union Carbide Corp. Automatic changeover manifold. 2,968,162, 1-17-61, Cl. 62—50.

Adams, Albert: *See*—
Clark, Howard P., and Adams. 2,968,525.

Adams, Francis V., to International Business Machines Corp. Compacted word storage system. 2,968,792, 1-17-61, Cl. 340—172.5.

Adams, Roy M., and R. K. Pearson, to Callery Chemical Co. Preparation of diborane. 2,968,531, 1-17-61, Cl. 23—204.

Aelony, David, to General Mills, Inc. Polyallylation of phenol. 2,968,679, 1-17-61, Cl. 260—612.

Aetna Steel Products Corp.: *See*—
Bohanack, John A. 2,968,374.

Agfa Aktiengesellschaft: *See*—
Burgardt, Lothar, and Wahl. 2,968,557.
Riester, Oskar. 2,968,556.
Westendorp, Hans. 2,968,216.

Aguirre Gonzalez, Jose. Fluid tight rim assembly. 2,968,332, 1-17-61, Cl. 152—405.

Ahrens, Loomis H. Garment cabinet. 2,968,520, 1-17-61, Cl. 312—246.

Air Products Inc.: *See*—
Schilling, Clarence J., and McKinley. 2,968,160.

Aktiebolaget Linde Maskiner: *See*—
Andren, Ingmar K. L. 2,968,269.

Albanese, Philip: *See*—
Sutton, George P., Albanese, Conyers, Pion, and Isaacs. 2,968,245.

Alex, Richard P. Bowling pin. 2,968,486, 1-17-61, Cl. 273—32.

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Marica, John. 2,968,226.

Alford, Andrew: *See*—
Russell, Lindsay. 2,968,806.

Allen, Robert C., to Allis-Chalmers Mfg. Co. Control for a boiling type reactor supplying a steam turbine. 2,968,600, 1-17-61, Cl. 204—193.2.

Allen, Wesley M. Bow attachment. 2,968,300, 1-17-61, Cl. 124—23.

Allis-Chalmers Mfg. Co.: *See*—
Allen, Robert C. 2,968,600.
Baude, John. 2,968,748.
Mydels, John W. 2,968,356.

Alweg-Forschung Gesellschaft mit beschrankter Haftung: *See*—
Schütze, Georg, Barthelmess, and Hehl. 2,968,982.

American Box Board Co.: *See*—
Schwebs, Robert K. 2,968,392.

American Can Co.: *See*—
Birkland, Stellan. 2,968,173.
Schoenfeld, William H., Jr. 2,968,091.

American Cyanamid Co.: *See*—
Pillon, Dante A., and Kaplan. 2,968,630.
Potter, Allen G., Jr., and Weyher. 2,968,674.

American Home Shelters: *See*—
Bassham, Willard. 2,968,130.

American-Marietta Co.: *See*—
Sheldon, William M. 2,968,401.

American Oil Co., The: *See*—
Cadden, Eugene S., Jr., Johnston, and Bellman. 2,968,605.
Johnston, Walker F., Jr. 2,968,606.
Lantz, Irvin H. 2,968,609.

American Optical Co.: *See*—
Wright, John R., and Schenk. 2,968,213.

American-Saint Gobain Corp.: *See*—
Glynn, Theodore W. 2,968,487.

American Smelting and Refining Co.: *See*—
Lantz, Willard J. 2,968,571.

American Viscose Corp.: *See*—
Smith, Frederick R. 2,968,536.
Walmsley, Leslie L. 2,968,175.

Amica-Produkter, Kommanditbolaget Erik Linderoth & Co.: *See*—
Linderoth, Erik T. 2,968,055.

Ampex Corp.: *See*—
Ginsburg, Charles P., and Dolby. 2,968,692.

Anderson, James D., to Burndy Corp. Feed device. 2,968,-200, 1-17-61, Cl. 198—221.

Anderson, John R.: *See*—
Abraham, Frank J., Anderson, and Teel. 2,968,151.

Anderton, Thomas L.: *See*—
Huston, Sanford K., and Anderton. 2,968,268.

Andren, Ingmar K. L., to Aktiebolaget Linde Maskiner. Machine for cleaning grain, seed and the like. 2,968,269, 1-17-61, Cl. 209—30.

Andrew Corp.: *See*—
Beck, Eric G. 2,968,776.

Appelt, Edna. Container structure. 2,968,394, 1-17-61, Cl. 206—47.

Aquamatic Inc.: *See*—
Whitlock, Robert A., Jr. 2,968,811.

Archer, James R., and W. H. Banks, to International Minerals & Chemical Corp. Sampling tube. 2,968,184, 1-17-61, Cl. 73—425.2.

Arenson, Herbert. Furniture glide shoe. 2,968,116, 1-17-61, Cl. 45—137.

Armour and Co.: *See*—
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Armstrong Cork Co.: *See*—
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Arrow Tools, Inc.: *See*—
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Arthur, Edwin P., and R. Gilmont, to Beckman Instruments, Inc., and Manostat Corp. Ultramicro electrode titration assembly. 2,968,585, 1-17-61, Cl. 23—253.

Askania-Werke A.G.: *See*—
Dobberstein, Heinz. 2,968,736.
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Atlantic Refining Co., The: *See*—
Slobod, Robert L., and Koch. 2,968,350.

Atlas Powder Co.: *See*—
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Wilt, Paul E., III, and Nelson. 2,968,541.

Aulin, Evert, to Svenska Aktiebolaget Gasaccumulator. Arrangement in optical measuring apparatus for wind tunnels. 2,968,209, 1-17-61, Cl. 88—14.

Aumuller, Walter: *See*—
Ruschig, Heinrich, Aumuller, Kerger, Wagner, Scheit, and Bander. 2,968,158.

Aune, Alan E.: *See*—
Neaderland, Adolph C., and Aune. 2,968,788.

Autio, Paul. Rotary pump. 2,968,253, 1-17-61, Cl. 103—138.

Automatic Tag Machines, Inc.: *See*—
Katz, Abe A. 2,968,237.

Aveni, Anthony. Enameled insulation stripper for wires. 2,968,056, 1-17-61, Cl. 15—J24.

Avery, Dallas B., Sr., to General Motors Corp. Machine rail steel plug. 2,968,875, 1-17-61, Cl. 189—36.

Aviation Developments Ltd.: *See*—
Springate, Maurice E. 2,968,205.

Avro Aircraft Ltd.: *See*—
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Ayres, Barrows H., to The Dill Mfg. Co. Valve stem for tubeless tires. 2,968,333, 1-17-61, Cl. 152—427.

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Bachle, Carl F., to Continental Aviation and Engineering Corp. Air intake manifold structure. 2,968,294, 1-17-61, Cl. 123—46.

Bachmann, Harald, and H. Tegtmeyer, to A. W. Faber-Castell. Slide rules. 2,968,438, 1-17-61, Cl. 235—70.

Baermann, Max. Magnetic motor. 2,968,756, 1-17-61, Cl. 318—254.

Bailey, Donald L., to Union Carbide Corp. Sulfo-aralkylsiloxanes and salts thereof. 2,968,643, 1-17-61, Cl. 260—46.5.

Bailey Meter Co.: *See*—
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Baker, Clyde F., G. P. Kennedy, and V. M. Kunert, to Borg-Warner Corp. Ice cube machines. 2,968,166, 1-17-61, Cl. 62—135.

Baker, Paul H., to Columbia-Southern Chemical Corp. Method of recovering tungstic acid values from aqueous media. 2,968,527, 1-17-61, Cl. 23—140.

Baldwin, Francis P., and S. B. Robinson, to Esso Research and Engineering Co. Adhesion of rubbery polymers to fibrous materials. 2,968,587, 1-17-61, Cl. 154—139.

Baldwin, Francis P., and S. B. Robinson, to Esso Research and Engineering Co. Adhesion of rubbery polymers to tire cords. 2,968,588, 1-17-61, Cl. 154—139.

Balfour, Lionel M. J. Racks for supporting articles. 2,968,406, 1-17-61, Cl. 211—60.

Ball, Melvin A. Pulsation dampener. 2,968,319, 1-17-61, Cl. 138—30.

Ballast, Donald E., R. M. Wiley, and S. I. Bates, to The Dow Chemical Co. Formation of solid beads by congelation of suspended liquid droplets. 2,968,066, 1-17-61, Cl. 18—48.

Bancroft Bag Factory, Inc.: *See*—
Craighead, Prevost. 2,968,432.

Bander, Alfred: *See*—
Ruschig, Heinrich, Aumuller, Korger, Wagner, Scholz, and Bander. 2,968,158.

Banks, William H.: *See*—
Archer, James R., and Banks. 2,968,184.

Banner Metals, Inc.: *See*—
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Barabas, John J., to Castro Convertible Corp. Convertible bed. 2,968,049, 1–17–61, Cl. 5—55.

Barnett, Donald K., to Winkel Machine Co., Inc. Mixer. 2,968,472, 1–17–61, Cl. 259—2.

Barr, Irwin R.: *See*—
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Barth, Eugene I., to Western Electric Co., Inc. Capacitor sections and methods of making the same. 2,968,583, 1–17–61, Cl. 117—213.

Bartheimess, Hermann: *See*—
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Bartlett, George H. Child's adjustable exerciser. 2,968,237, 1–17–61, Cl. 155—18.

Barton, Loy E.: *See*—
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Bascom, Willard, to American Home Shelters. Protective underground shelter. 2,968,120, 1–17–61, Cl. 50—119.

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Ballast, Donald E., Wiley, and Bates. 2,968,066.

Baude, John, to Allis-Chalmers Mfg. Co. Control system for the ambient temperature of a thermal relay. 2,968,745, 1–17–61, Cl. 317—13.

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Baus, Donald E., to Fred S. Gichner Iron Works, Inc. Demountable running gear. 2,968,490, 1–17–61, Cl. 280—35.

Baxter, Warren N., and I. M. Robinson, to E. I. du Pont de Nemours and Co. Interpolymerizations of ethylene and butadiene. 2,968,650, 1–17–61, Cl. 260—85.3.

Beach Gauge Co.: *See*—
Beach, Robert G. 2,968,475.

Beach, Robert G., deceased: N. Brown, administrator, to Beach Gauge Co. Scale mechanism. 2,968,475, 1–17–61, Cl. 235—71.

Bearer, Paul J., and F. B. Llewellyn, to Bell Telephone Laboratories, Inc. Reduction of cross-modulation between the output stages of adjacent transmitters. 2,968,716, 1–17–61, Cl. 250—17.

Beasley, Ermer G., Jr.: *See*—
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Beckman, John H., to Union Carbide Corp. Apparatus for storing and dispensing liquefied gases. 2,968,162, 1–17–61, Cl. 62—51.

Bedford Gear and Machine Products, Inc.: *See*—
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Behlen, George D., to The United States Electrical Tool Co. Grinding machine assemblies. 2,968,136, 1–17–61, Cl. 51—134.5.

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Myers, Oscar. 2,968,700.
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Sandberg, Irwin W. 2,968,773.
Schwender, George E., and Vanderlippe. 2,968,804.
Thomas, George B., Jr. 2,968,772.

Bell, William C., H. G. Dunn, E. K. Haydon, D. J. W. Flint, and W. W. R. Searle, to The Hoover Co. Washing machines. 2,968,174, 1–17–61, Cl. 68—24.

Bellamy, John C., to Cook Electric Co. System, method and apparatus for processing data or information. 2,968,793, 1–17–61, Cl. 340—172.5.

Bellman, David J.: *See*—
Coddon, Eugene S., Jr., Johnston, and Bellman. 2,968,-605.

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Ben, Manuel: *See*—
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Bendler, Harry M., C. E. Biell, T. W. Hertzog, M. A. La Boda, and M. Ben, to General Motors Corp. Treatment of metal surfaces. 2,968,555, 1–17–61, Cl. 96—38.

Benning, Calvin J., to Minnesota Mining and Mfg. Co. Sulfur-containing derivatives of perhalocolefins. 2,968,659, 1–17–61, Cl. 260—327.

Bergland, Ulf E. A. Flexible barge. 2,968,272, 1–17–61, Cl. 114—74.

Bergstrom, Eric V., to Socony Mobil Oil Co., Inc. Recycle catalytic conversion of liquid reactants. 2,968,610, 1–17–61, Cl. 208—100.

Bernard, George G., to The Pure Oil Co. Method of inhibiting scale formation by non-hydrolyzing organopolysiloxane. 2,968,616, 1–17–61, Cl. 210—58.

Berry, Thomas H. Lifter and breaker plate assembly for brush cutting machines. 2,968,354, 1–17–61, Cl. 172—28.

Bersin, Richard L., and J. M. Brinkerhoff, to Tracerlab, Inc. Radiation measuring instrument. 2,968,726, 1–17–61, Cl. 250—83.1.

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Besniere, Pierre E. Self-regulating reciprocating action fuel injection pump. 2,968,247, 1–17–61, Cl. 103—37.

Betterton, Thomas B. Reminder appliance. 2,968,276, 1–17–61, Cl. 116—130.

Beuther, Harold, R. E. Kline, and R. C. Zabor, to Gulf Research & Development Co. Two-stage hydrocarbon reforming process. 2,968,606, 1–17–61, Cl. 208—70.

Birkland, Stellan, to American Can Co. Can testing head. 2,968,178, 1–17–61, Cl. 73—40.

Birnkrant, Cecil H., to Birnkrant Frozen Confection Co. Method of manufacturing an edible food container. 2,968,-561, 1–17–61, Cl. 99—89.

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Bliss, Lyman A., to Union Carbide Corp. Bulk helium transportation. 2,968,161, 1–17–61, Cl. 62—45.

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Bohnsack, John A., to Aetna Steel Products Corp. Wall-panel bases and panel supports. 2,968,374, 1–17–61, Cl. 189—84.

Bolton, Hugh D. Twine tension relief device for balers. 2,968,233, 1–17–61, Cl. 100—5.

Bonifaci, Leonard P.: *See*—
Truly, Richard H., Jr., Bonifaci, and Beckelman. 2,968,-147.

Bonito, Vincent, and V. P. Feriauti. Wire stripping tool. 2,968,096, 1–17–61, Cl. 30—91.

Book, Eric G., to Andrew Corp. Coaxial stub tuner. 2,968,-776, 1–17–61, Cl. 333—82.

Booth, Seth W. Inertia switch and means controlled thereby. 2,968,240, 1–17–61, Cl. 102—16.

Borah, John E. Ball retriever. 2,968,500, 1–17–61, Cl. 294—19.

Borella, Joseph A. Rotary feeders for conveyer systems. 2,968,426, 1–17–61, Cl. 222—318.

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Bowers, Albert: *See*—
Ringold, Howard J., Djerassi, Bowers, and Velasco. 2,968,662.

Bowers, George H., to E. I. du Pont de Nemours and Co. Curable dispersions of ethylene polymers and process of curing same. 2,968,637, 1–17–61, Cl. 260—4.

Boyer, William P., J. R. Mangham, and T. M. Melton, to Virginia-Carolina Chemical Corp. Aliphatic aryl phosphites. 2,968,670, 1–17–61, Cl. 260—461.

Brace & Corbett, Inc.: *See*—
Corbett, Philip H., and Brace. 2,968,273.

Brace, James: *See*—
Corbett, Philip H., and Brace. 2,968,273.

Bracken, Warner T., to Acme Industrial Co. Mounting of drill jig bushings. 2,968,199, 1–17–61, Cl. 77—62.

Bradshaw, Granville E., to Bromsgo Ltd. Gas generators. 2,968,290, 1–17–61, Cl. 123—18.

Brady, Richard R., and E. J. Dulis, to United States Steel Corp. High strength alloy for use at elevated temperatures. 2,968,549, 1–17–61, Cl. 75—126.

Brannsberg, Heins. Multiple merchandising vending machine. 2,968,518, 1–17–61, Cl. 312—97.1.

Brave, Juste B.: *See*—
Verdieck, Ralph G., and Brave. 2,968,524.

Brevets Aero-Mecaniques S.A.: *See*—
Meier, Claude. 2,968,222.

Brewer, Claire N.: *See*—
Randolph, Woodruff, Brewer, and Goss. 2,968,115.

Brigan, George E., and A. W. Lo, to Radio Corp. of America. Magnetic systems. 2,968,795, 1–17–61, Cl. 340—174.

Bright, Clyde E., 45% to E. F. Golding. Ducted fan aircraft. 2,968,453, 1–17–61, Cl. 244—12.

Bright, Thomas J. R. Draught excluding strips, beadings, mouldings or the like. 2,968,072, 1–17–61, Cl. 20—69.

Brightman, Barrie, and T. Frankel, to General Dynamics Corp. Electronic switching telephone system. 2,968,698, 1–17–61, Cl. 179—18.

Brightman, Barrie, T. Frankel, and R. K. Kaye, to General Dynamics Corp. Electronic switching telephone system. 2,968,699, 1–17–61, Cl. 179—18.

Brinkerhoff, Joris M.: *See*—
Bersin, Richard L., and Brinkerhoff. 2,968,726.

Brinn, Jule, to General Motors Corp. Ignition control. 2,968,290, 1–17–61, Cl. 123—196.

British Thomson-Houston Co. Ltd., The: *See*—
Coe, Reginald T., and Griffiths. 2,968,740.
Ludbrook, Leslie C. 2,968,758.

Britton, Edgar C.: *See*—
Sexton, Arthur R., and Britton. 2,968,664.

Brock, Jean A. M., to Olin Mathieson Chemical Corp. Illuminants. 2,968,542, 1–17–61, Cl. 52—24.

Brockman, Donald A.: *See*—
Young, Llewellyn, Taylor, and Brockman. 2,968,182.

Brodbeck, Willy, to Alfred Gauthier G.m.b.H. Profile-milling and engraving machine. 2,968,226, 1–17–61, Cl. 90—13.

Brohl, Earl M., to General Motors Corp. Snap action diaphragm type liquid pump. 2,968,264, 1–17–61, Cl. 103—150.

Bromega Ltd.: *See*—
Bradshaw, Granville E. 2,968,290.

Brooks, Charles H., and C. L. Thomas, to Sun Oil Co. Liquid phase hydrogenation of petroleum fractions. 2,968,214, 1–17–61, Cl. 208—264.

Brown, Alexander M., to Talon, Inc. Lock slider for slide fasteners. 2,968,079, 1–17–61, Cl. 24—205.14.

Brown, Charles R. Horn shield. 2,968,277, 1–17–61, Cl. 116—137.

Brown, Donald T. Anti-skid chain devices for automobile tires. 2,968,330, 1–17–61, Cl. 152—216.

Brown, George W.: *See*—
Rajchman, Jan A., and Brown. 2,968,489.

Brown, Gordon C., to Minnesota Mining and Mfg. Co. Container closures and liners therefor. 2,968,415, 1–17–61, Cl. 215—40.

Brown, Judd A. Method and apparatus for making felts and batts from fibrous material. 2,968,068, 1–17–61, Cl. 19—155.

Brown, Neil: *See*—
Beach, Robert G. 2,968,475.

Brown, Richard L.: *See*—
Gegolick, Roland M., Finney, and Brown. 2,968,068.

Brown, Warren D.: *See*—
Maas, Leo, Jr., and Brown. 2,968,244.

Brozowski, Vincent: *See*—
Carr, Norman L., and Brozowski. 2,968,631.

Brumbaugh, Donald Q. Sensitive relay for mine firing system. 2,968,241, 1–17–61, Cl. 102—18.

Bruvold, Chester A. Catamaran. 2,968,271, 1–17–61, Cl. 114—61.

Bryant, John M.: *See*—
Cunningham, George L., Bryant, and Gause. 2,968,523.
Cunningham, George L., Bryant, and Gause. 2,968,532.

Buchi, George H., R. E. Erickson, N. Wakabayashi, and H.-R. Eschinazi, to The Givaudan Corp. Epoxy patchoulanes and method for preparing patchoulione therewith. 2,968,660, 1–17–61, Cl. 260—348.

Buckman, Kenneth E., to General Motors Corp. Filters for gases. 2,968,361, 1–17–61, Cl. 183—71.

Buettgens, Walter: *See*—
Nees, Hugo, Buettgens, and Gelersberger. 2,968,543.

Buffington, Raymond F. Mail box indicator. 2,968,804, 1–17–61, Cl. 340—281.

Bukowski, Charles P.: *See*—
Gaffney, Francis J., Wesley, and Bukowski. 2,968,693.

Bull, Arthur W., to United States Rubber Co. Tire construction. 2,968,331, 1–17–61, Cl. 152—356.

Bullard, Ralph H., A. R. Graff, and A. V. McIntosh, Jr., to The Lake Erie Chemical Co. Means for protection against vesicants. 2,968,579, 1–17–61, Cl. 117—121.

Bullard, Ralph H., A. R. Graff, and A. V. McIntosh, Jr., to The Lake Erie Chemical Co. Halogenated organic nitrogen compounds and method of preparation. 2,968,675, 1–17–61, Cl. 260—562.

Burgardt, Lothar, and O. Wahl, to Agfa Aktiengesellschaft. Photographic filter layer. 2,968,557, 1–17–61, Cl. 96—84.

Burkhard, Mahlon D.: *See*—
Corliss, Edith L. R., Burkhard, and Koidan. 2,968,696.

Burndy Corp.: *See*—
Anderson, James D. 2,968,890.
Neanderland, Adolph C., and Auna. 2,968,788.

Burnett, Richard T., to The Bendix Corp. Combination shoe and disk brake. 2,968,367, 1–17–61, Cl. 188—70.

Burroughs Corp.: *See*—
Lane, John H., and Walker. 2,968,796.
Lindley, Peter L. 2,968,808.

Burton, William P.: *See*—
Loughran, Robert T., and Burton. 2,968,612.

Buxton Inc.: *See*—
Collings, Dana B. 2,968,176.

Bussell, Harold O., to Polaroid Corp. Headlight control system for automotive vehicles. 2,968,743, 1–17–61, Cl. 315—83.

Cafcas, Thomas H., and A. W. Lindert, to Standard Oil Co. Inhibited soluble-oil. 2,968,620, 1–17–61, Cl. 252—33.4.

Cain, Robert M.: *See*—
Parmater, Lee W., and Cain. 2,968,765.

Caine, Gerard H., and J. F. Di Stefano, to Borg-Warner Corp. Axial flow apparatus. 2,968,249, 1–17–61, Cl. 103—87.

Caldwell, John R.: *See*—
Toney, George P., Kiefer, and Caldwell. 2,968,306.

Caldwell, John R., and R. Gilkey, to Eastman Kodak Co. Process of incorporating chlorinated diphenyl into crystalline polyesters and products therefrom. 2,968,639, 1–17–61, Cl. 260—33.8.

Caldwell, John R., and W. J. Jackson, Jr., to Eastman Kodak Co. Polyformals of cyclic diols. 2,968,646, 1–17–61, Cl. 260—67.

California Research Corp.: *See*—
Clark, Calvin M. 2,968,724.
Hull, Donald E. 2,968,720.

Callery Chemical Co.: *See*—
Adams, Roy M., and Pearson. 2,968,531.
Cunningham, George L., Bryant, and Gause. 2,968,523.
Cunningham, George L., Bryant, and Gause. 2,968,532.
Huff, George F., and Klicker. 2,968,540.
Judd, Gerard F. 2,968,534.
Liebenwalter, Myrl. 2,968,538.

Camp, Alfred L., to Repcal Brass Mfg. Co. Automatic diverter valve. 2,968,313, 1–17–61, Cl. 137—467.

Campbell, Andrew H., and J. T. Kane, to Container Ring Co., Inc. Barrel clamping ring and lug element. 2,968,506, 1–17–61, Cl. 292—256.67.

Canadian Curtiss-Wright Ltd.: *See*—
Pepper, Thomas P., and Presseky. 2,968,729.

Can-Amera Oil Sands Development Ltd.: *See*—
Coulson, Gordon R. 2,968,603.

Canfield, Earl L. Electrical conductors and connectors therefor. 2,968,691, 1–17–61, Cl. 174—75.

Cantrell, Claude J., Sr., to Esso Research and Engineering Co. Container. 2,968,397, 1–17–61, Cl. 206—65.

Capart, Alphonse Y. Method and device for improving the ratio between the useful signal and the interfering signal which are picked up by wireless receiving sets. 2,968,806, 1–17–61, Cl. 343—700.

Carbonara, Victor E., to Kollsman Instrument Corp. Electric lock. 2,968,790, 1–17–61, Cl. 340—164.

Carles, Roger: *See*—
Sciallano, Clement, and Carles. 2,968,636.

Carr, Norman L., and V. Brozowski, to The Pure Oil Co. Regeneration of isomerization catalysts. 2,968,631, 1–17–61, Cl. 252—416.

Carter, James E., ¼ to R. P. Langford. Shaper. 2,968,225, 1–17–61, Cl. 90—18.

Carter, Robert L., to General Motors Corp. Magnetic drive impeller pump. 2,968,248, 1–17–61, Cl. 103—87.

Carter, Rowland S., to Hexcel Products Inc. Expandable welded honeycomb. 2,968,714, 1–17–61, Cl. 219—117.

Carvallo, Pierre. Apparatus for the heat treatment of products in sealed containers. 2,968,232, 1–17–61, Cl. 99—360.

Castro Convertible Corp.: *See*—
Barabas, John J. 2,968,049.

Cater, John R., to Tung-Sol Electric Inc. Welding control circuit. 2,968,760, 1–17–61, Cl. 323—58.

Chance Vought Aircraft, Inc.: *See*—
Graham, Harry M., and Murty. 2,968,149.

Chanko, Mortimer L. Holder means for spectacles. 2,968,076, 1–17–61, Cl. 24—3.

Chapin, Almon J., to Johnson Furnace Co. Joint lock for sheet metal parts. 2,968,376, 1–17–61, Cl. 189—36.

Chapman, Aurelius F., to E. I. du Pont de Nemours and Co. Delustering of film. 2,968,538, 1–17–61, Cl. 41—41.

Checkwriter Sales Co.: *See*—
Maloney, William W. and J. F. 2,968,238.

Chemetron Corp.: *See*—
Eichelman, Francis J., and Graunke. 2,968,474.

Chemische Fabrik Kalk G.m.b.H.: *See*—
Nees, Hugo, Buettgens, and Gelersberger. 2,968,543.
Nees, Hugo, and Gelersberger. 2,968,546.
Nees, Hugo, and Schmidt. 2,968,545.
Zeitz, Willi, and Nees. 2,968,544.

Chicago Bridge & Iron Co.: *See*—
Harris, Arthur W., and Larsen. 2,968,420.

Chleck, David J., and C. A. Ziegler, to Tracerlab, Inc. Gas monitoring techniques. 2,968,722, 1–17–61, Cl. 250—43.5.

Clampa, Joseph F., to Standard Box Spring Co. Interlocked spring assembly for padded box springs. 2,968,052, 1–17–61, Cl. 5—248.

Ciba Ltd.: *See*—
Jegge, Max. 2,968,411.

Clark, Calvin M., to California Research Corp. Pulse height analyzer. 2,968,724, 1–17–61, Cl. 250—71.5.

Clark, Charles A., to The International Nickel Co., Inc. Temperature compensating iron - nickel - copper alloys. 2,968,548, 1–17–61, Cl. 75—125.

Clark, Howard P., and A. Adams, to International Minerals & Chemical Corp. Potash ore treatment. 2,968,525, 1–17–61, Cl. 23—88.

Clark, J. R., Co., The: *See*—
Munson, Donald J. 2,968,059.

Clavier, Alain C. A., and J. Pouradier, to Eastman Kodak Co. Thermo-reversible gels and photographic emulsions prepared therewith. 2,968,558, 1–17–61, Cl. 96—114.

Clayton, Benjamin: *See*—
Thurman, Benjamin H. 2,968,559.

Clemons, Dale R., to Western Electric Co., Inc. Machine for center-winding capacitors. 2,968,450, 1–17–61, Cl. 242—67.1.

Cleveland Pneumatic Industries, Inc.: *See*—
Hamilton, Wallace, and J. Lovell. 2,968,410.
Hartel, Erwin H. 2,968,478.
Smith, Ira D. 2,968,455.

Clevite Corp.: *See*—
Noyce, Robert N. 2,968,750.

Clute Corp., The: *See*—
Clute, Francis H. 2,968,400.

Clute, Francis H., to The Clute Corp. Material collector. 2,968,400, 1–17–61, Cl. 209—143.

Cocker, John, III, to Cocker Machine & Foundry Co. Muffler construction. 2,968,359, 1–17–61, Cl. 181—38.

Cocker Machine & Foundry Co.: *See*—
Cocker, John, III. 2,968,369.

Coddou, Eugene S., Jr., W. F. Johnston, Jr., and D. J. Bellman, to The American Oil Co. Preparation of high octane number motor fuel blending stocks. 2,968,605, 1–17–61, Cl. 208—70.

Coe, Reginald T., and L. Griffiths, to The British Thomson-Houston Co. Ltd. Magnetic brakes. 2,968,740, 1–17–61, Cl. 310—93.

Coester, Robert, to Maschinenfabrik Benninger A.-G. Turbo machine. 2,968,436, 1–17–61, Cl. 23—125.

Coffey, Charles D., to Minneapolis-Honeywell Regulator Co. Combination valve. 2,968,309, 1–17–61, Cl. 137—66.

Coffill, Charles F.: *See*—
Daugherty, Jesse, Durand, Wheeler, Coffill, Shattes, and Galgano. 2,968,517.

Cog Minerals Corp.: *See*—
Seeton, Frank A. 2,968,524.

Cohrs, Fred R., and W. R. Smith, to The Upjohn Co. Turret type article handling machine. 2,968,090, 1–17–61, Cl. 29—240.

Collin, Jean-Yves. Divider for carpenters. 2,968,098, 1–17–61, Cl. 33—11.

Collings, Dana B., to Buxton Inc. Key cases. 2,968,176, 1–17–61, Cl. 70—456.

Colman, Benjamin W.: *See*—
Young, Julius, and Colman. 2,968,196.

Colonial Press, Inc., The: *See*—
Martin, Kenneth P., and Nadaskay. 2,968,336.
Martin, Kenneth P., and Rowland. 2,968,430.

Columbia-Southern Chemical Corp.: *See*—
Baker, Paul H. 2,968,527.
Wilson, William L. 2,968,529.

Columbus McKinnon Chain Corp.: *See*—
Schreyer, Kenneth D. 2,968,257.

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Cone, Irwin C., to The Gates Rubber Co. Sprinkler device. 2,968,440, 1–17–61, Cl. 239—203.

Container Ring Co., Inc.: *See*—
Campbell, Andrew H., and Kane. 2,968,508.

Continental Aviation and Engineering Corp.: *See*—
Bachle, Carl F. 2,968,294.

Continental Can Co., Inc.: *See*—
Scarvelis, Gus. 2,968,179.

Conyers, John R.: *See*—
Sutton, George P., Albanese, Conyers, Pion, and Isaacs. 2,968,245.

Cook, Alexander W. Jet-stream aviating system for aircraft. 2,968,452, 1–17–61, Cl. 244—12.

Cook Electric Co.: *See*—
Bellamy, John C. 2,968,793.
Miller, William H., and Hollen. 2,968,077.

Coover, Harry W., Jr.: *See*—
McCall, Marvin A., and Coover. 2,968,669.

Coplen, Milo G. Plant container. 2,968,124, 1–17–61, Cl. 47—37.

Corbett, Philip H., and J. Brace, to Brace & Corbett, Inc. Foot steering apparatus for outboard motor boats. 2,968,273, 1–17–61, Cl. 114—153.

Corliss, Edith L. R., M. D. Burkhard, and W. Keidan, to United States of America, Commerce. System for monitoring and controlling the motion of a sound source. 2,968,695, 1–17–61, Cl. 179—1.

Corning Glass Works: *See*—
Dickey, Clyde W. 2,968,584.
Frazier, John F. 2,968,741.
Mochel, John M. 2,968,578.

Cosar, Jack. Control system for paralleled tap-change transformer. 2,968,737, 1–17–61, Cl. 307—51.

Coughenour, Robert D.: *See*—
Lupfer, Dale E., and Coughenour. 2,968,308.

Coulson, Gordon R., to Can-Amera Oil Sands Development Ltd. Hot water process for the extraction of oil from bituminus sands and like oil bearing material. 2,968,603, 1–17–61, Cl. 208—11.

Cowart, Robert J. Barbecue apparatus having adjustable fire lift. 2,968,301, 1–17–61, Cl. 126—25.

Cowles, Warren H.: *See*—
Hilker, Eugene B., Cowles, Stroh, and Fleming. 2,968,283.

Cowley, Charles H., H. N. Dean, and E. C. Montgomery, to Libbey-Owens-Ford Glass Co. Apparatus for producing a multiple sheet glazing unit. 2,968,125, 1–17–61, Cl. 49—1.

Crafford, Joseph C., to The Dow Chemical Co. Spinnerette wrench. 2,968,203, 1–17–61, Cl. 81—53.

Craighead, Prevost, to Bancroft Bag Factory, Inc. Gusseted pasted valve bags. 2,968,432, 1–17–61, Cl. 229—62.5.

Crane Packing Ltd.: *See*—
Wilkinson, Samuel C. W. 2,968,477.

Crapuchettes, Paul W., to United States of America, Army. Apparatus for joining workpiece elements. 2,968,039, 1–17–61, Cl. 1—1.

Creighton, John P., to Ford Motor Co. Ltd. Hydrostatic transmissions. 2,968,287, 1–17–61, Cl. 121—120.

Crockford, Joseph R., ¼ to Harry Radzinsky. Padding for laundry rolls. 2,968,107, 1–17–61, Cl. 38—66.

Cronan, Walter I. Closed circuit steam turbine marine motor. 2,968,157, 1–17–61, Cl. 60—106.

Crosby Laboratories, Inc.: *See*—
McKesson, Lewis J. 2,968,718.

Crouse, Benjamin F., Jr., and A. C. Whitaker, to Gulf Research & Development Co. Process for sulfuric acid extraction of tertiary olefins. 2,968,682, 1–17–61, Cl. 260—677.

Crowley, Edgar I.: *See*—
Franke, Norman W., and Crowley. 2,968,674.

Crucible Steel Co. of America: *See*—
Vordahl, Milton B. 2,968,586.

Cunningham, George L., J. M. Bryant, and E. M. Gause, to Callery Chemical Co. Preparation of sodium-potassium borohydride. 2,968,523, 1–17–61, Cl. 23—14.

Cunningham, George L., J. M. Bryant, and E. M. Gause, to Callery Chemical Co. Preparation of potassium borohydride. 2,968,532, 1–17–61, Cl. 23—204.

Curtis, Clifton R., to Hamilton Pharmacal Co., Inc. Polyvinylpyrrolidone penicillin treatment of bovine mastitis. 2,968,592, 1–17–61, Cl. 167—43.2.

Curtiss-Wright Corp.: *See*—
Otis, Arthur N., Jr. 2,968,727.
Sacchini, Columbus R., and Tomko. 2,968,380.

Daimler-Benz Aktiengesellschaft: *See*—
Nallinger, Friedrich K. H. 2,968,492.

Daman, Ernest L.: *See*—
Zoschak, Robert J., and Daman. 2,968,288.

Daniels, Howard L.: *See*—
Estes, Nelson N., and Daniels. 2,968,274.

Darling, Samuel M.: *See*—
Milberger, Ernest C., and Darling. 2,968,625.

Darling, Samuel M., to The Standard Oil Co. Fluid power transmission. 2,968,623, 1–17–61, Cl. 252—75.

Daugherty, Jesse, A. A. Durand, L. G. Wheeler, C. F. Coffill, J. Shattes, Jr., and A. L. Galgano, ½ to Giddings & Lewis Machine Tool Co., and ½ to said Wheeler, said Coffill, said Shattes, and said Galgano. Tilting and indexing chuck for machine tools. 2,968,517, 1–17–61, Cl. 311—38.

Davenport, Arthur B., to The Bendix Corp. Monostable multivibrator and amplifier circuit. 2,968,748, 1–17–61, Cl. 317—148.5.

Davidson, Dennis F.: *See*—
Everhart, James G., and Davidson. 2,968,445.

Davis, Doyle M., E. D. Gupton, J. C. Hart, and A. P. Hull, to United States of America, Atomic Energy Commission. Beta-gamma personnel dosimeter. 2,968,731, 1–17–61, Cl. 250—83.6.

Davis, Manuel J. Strap coupling. 2,968,169, 1–17–61, Cl. 64—15.

Davis, Phil E. Mulching machine. 2,968,355, 1–17–61, Cl. 172—63.

Davis, Russell S.: *See*—
Herrmann, John A., Farnsworth, and Davis. 2,968,782.

D'Azzo, Errol P. Awning head rod clamp. 2,968,461, 1–17–61, Cl. 248—273.

Dean, Harry N.: *See*—
Cowley, Charles H., Dean, and Montgomery. 2,968,125.

Deere & Co.: *See*—
Du Shane, Wallace H., and Jacklin. 2,968,188.
Edman, John H. 2,968,353.
Immesoete, Arthur J. 2,968,265.
Klouda, Alvin E. 2,968,494.
Schnell, Ernst E. 2,968,264.

De Feo, Michael. Air raid alarm device. 2,968,801, 1–17–61, Cl. 340—216.

Delman Co., The: *See*—
Neufeld, Leonard C. 2,968,058.

De Loach, Bernard C., Jr., to Bell Telephone Laboratories, Inc. Step-twist junction waveguide filter. 2,968,771, 1–17–61, Cl. 333—73.

De Lorean, John Z., to General Motors Corp. Transmission. 2,968,197, 1–17–61, Cl. 74—688.

De Lorean, John Z., to General Motors Corp. Swing axle suspension for vehicle driving wheels. 2,968,358, 1–17–61, Cl. 180—73.

Demag-Elektrometallurgie G.m.b.H.: *See*—
Tostmann, Johannes. 2,968,685.

De Mallie, Howard R., to Eastman Kodak Co. Method and apparatus for forming connected boxes. 2,968,137, 1–17–61, Cl. 53—14.

Demler, Henry W., to AMP Inc. Hand tool for crimping electrical connectors onto conductors. 2,968,043, 1–17–61, Cl. 1—215.

Dempster Mill Mfg. Co.: *See*—
Loeber, Herman M. 2,968,255.

Dennison Mfg. Co.: *See*—
Swett, Alan M. 2,968,236.

Derby, Ralph F., Sr. Portable device for making rubber printing plates. 2,968,063, 1–17–61, Cl. 18—5.

Derderian, Edward J. Carton opening machine. 2,968,226, 1–17–61, Cl. 93—53.

Devol, Lee, to The Hamilton Watch Co. Motor. 2,968,756, 1–17–61, Cl. 318—254.

De Woskin, Irvin S. Orthodontic appliances. 2,968,097, 1–17–61, Cl. 32—14.

De Woskin, Irvin S., to Beltex Corp. Sanitary pad and method of making. 2,968,304, 1–17–61, Cl. 128—290.

Diamond Alkali Co.: *See*—
Peeler, Cletus E., Jr. 2,968,572.

Dickey, Clyde W., to Corning Glass Works. Glass tube cleaning. 2,968,584, 1–17–61, Cl. 134—1.

Dickey, Joseph B.: *See*—
Perry, Milton A., Dickey, and Robinson. 2,968,657.

Dill Mfg. Co., The: *See*—
Ayres, Barrows H. 2,968,333.

Di Perna, Mario S. Windshield cleaner. 2,968,071, 1–17–61, Cl. 20—40.5.

Di Stefano, John F.: *See*—
Caine, Gerard H., and Di Stefano. 2,968,249.

Distillers Co. Ltd., The: *See*—
Fewlass, Maurice W. 2,968,677.

Diversey Corp., The: *See*—
Dvorkovitz, Vladimir, Berst, and Krause. 2,968,733.

Djerassi, Carl: *See*—
Ringold, Howard J., Djerassi, Bowers, and Velasco. 2,968,662.

Djerassi, Carl, and G. Rosenkranz, to Syntex S.A. Allo pregnane compounds and process. 2,968,654, 1–17–61, Cl. 260—239.55.

Dobberstein, Heinz, to Askania-Werke A.G. Cycling mechanism for photoelectrical devices. 2,968,736, 1–17–61, Cl. 250—233.

Dodson, Adrain M. Rocking horse. 2,968,483, 1–17–61, Cl. 272—52.

Doess, John M.: *See*—
Lade, Karl H. 2,968,506.

Dolby, Ray M.: *See*—
Ginsburg, Charles P., and Dolby. 2,968,692.

Dolenic, George: *See*—
Flickinger, William E., Sr., and Dolenic. 2,968,075.

Doniger, Sundel. Cutting tools. 2,968,489, 1–17–61, Cl. 279—48.

Dornfeld, John E.: *See*—
Rubinstein, Harry W., Williams, and Dornfeld. 2,968,752.

Dossin, Victor, to Lepage, Urbain & Cie. Method for obtaining ethyl alcohol of high quality. 2,968,598, 1–17–61, Cl. 202—72.

Douglas, Alvin P., to The Murray Ohio Mfg. Co. Brazed tubular bicycle steering fork assembly. 2,968,493, 1–17–61, Cl. 280—280.

Douglas, Newhall. Image reproduction and control. 2,968,211, 1–17–61, Cl. 88—16.

Dow Chemical Co., The: *See*—
Ballast, Donald E., Wiley, and Bates. 2,968,066.
Bauman, William C. 2,968,318.
Crafford, Joseph C. 2,968,203.
Friedrich, Louis C., Jr., Peters, and Rector. 2,968,651.
Olstowski, Franciszek. 2,968,599.
Pursglove, Laurence A. 2,968,673.
Sexton, Arthur R., and Britton. 2,968,664.
Sterling, George B. 2,968,645.
Tolkmith, Henry. 2,968,668.

Downs, William W., to Armstrong Cork Co. Loom picker. 2,968,322, 1–17–61, Cl. 139—159.

Drehman, Lewis E.: *See*—
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Dresser, Jasper G., to Dresser Products Inc. Storage file for unfolded coded tape. 2,968,407, 1–17–61, Cl. 211—61.

Dresser Products Inc.: *See*—
Dresser, Jasper G. 2,968,407.

Drexler, John J., to K. M. White Co. Elevator car door control system. 2,968,366, 1–17–61, Cl. 187—29.

Driskel, Don W.: *See*—
Hayman, Richard L., Driskel, and Hill. 2,968,282.

Drukey, Donald L., to Thompson Ramo Wooldridge Inc. Magnetic transducing method and system. 2,968,798, 1–17–61, Cl. 340—174.1.

Drum, David A. Pinless lap winder. 2,968,448, 1–17–61, Cl. 242—55.1.

Duddy, Joseph C., to The Electric Storage Battery Co. Sealed batteries. 2,968,686, 1–17–61, Cl. 136—6.

Dudley, Bettye S. Sleeping garment for infants. 2,968,044, 1–17–61, Cl. 2—69.5.

Duke, William A. Suction evacuated urinal. 2,968,046, 1–17–61, Cl. 4—110.

Dulis, Edward J.: *See*—
Brady, Richard R., and Dulis. 2,968,549.

Dunlap, Henry F., and C. E. Hablutzel, to United States of America, Navy. Projectile. 2,968,246, 1–17–61, Cl. 102—93.

Dunn, Harold G.: *See*—
Bell, William C., Dunn, Haydon, Plint, and Searle. 2,968,174.

Du Pont de Nemours, E. I., and Co.: *See*—
Baxter, Warren N., and Robinson. 2,968,650.
Bowers, George H., III. 2,968,637.
Chapman, Aurelius F. 2,968,536.
Gronholz, Le Roy F. 2,968,065.
Lewis, Thomas G. 2,968,134.
Long, Cecil L. 2,968,067.
Mahler, Walter. 2,968,665.
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Pailthorp, John R., and Schroeder. 2,968,649.
White, James R. 2,968,522.

Durand, Alex A.: *See*—
Daugherty, Jesse, Durand, Wheeler, Cofill, Shattes, and Galgano. 2,968,517.

Durel Inc.: *See*—
Glab, William T. 2,968,573.
Glab, William T. 2,968,574.

Du Shane, Wallace H., and R. L. Jacklin, to Deere & Co. Multi-speed drive for power take-offs and the like. 2,968,188, 1–17–61, Cl. 74—378.

Dvorkovitz, Vladimir, N. Berst, and S. Krause, to The Diversey Corp. Method of contamination detection. 2,968,733, 1–17–61, Cl. 250—106.

Eames, Walter R., Jr., and E. S. Witchger, to Eaton Mfg. Co. Internal gear pump. 2,968,251, 1–17–61, Cl. 103—126.

Eash, John T., to The International Nickel Co., Inc. Gall resistant nickel-copper alloy. 2,968,550, 1–17–61, Cl. 75—171.

Eastman Kodak Co.: *See*—
Caldwell, John R., and Gilkey. 2,968,639.
Caldwell, John R., and Jackson. 2,968,646.
Clavier, Alain C. A., and Pouradier. 2,968,558.
De Mallie, Howard R. 2,968,137.
Ewald, William P. 2,968,217.
McCall, Marvin A., and Coover. 2,968,669.
Perry, Milton A., Dickey, and Robinson. 2,968,657.
Salminen, Wilho M., and Weyerts. 2,968,582.
Straley, James M., and Giles. 2,968,661.
Touey, George P., Kiefer, and Caldwell. 2,968,906.

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Eames, Walter R., Jr., and Witchger. 2,968,251.

Ebauches S.A.: *See*—
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O'Connor, George L., Fritz, and Eccles. 2,968,681.

Economy Engine Co.: *See*—
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Edman, John H., to Deere & Co. Tractor-implement hitch and control system. 2,968,353, 1–17–61, Cl. 172—7.

Edmund, Everett W. Combined air tank and weight carrier. 2,968,159, 1–17–61, Cl. 61—69.

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Eguchi, Naoki: *See*—
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Eichelman, Francis J., and N. C. Graunke, to Chemetron Corp. Vaporizer. 2,968,474, 1–17–61, Cl. 261—46.

Eisen, Lawrence G.: *See*—
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Eland, Robert C. A., to Standard Coil Products Co., Inc. High efficiency triode vacuum tube. 2,968,742, 1–17–61, Cl. 313—293.

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Elliott, Oliver B. Wheel bearing greaser. 2,968,362, 1–17–61, Cl. 184—1.

Ellis, Clayton J., and F. C. McLaughlin. Lifting tool for building blocks. 2,968,510, 1–17–61, Cl. 294—62.

Ellis, John T., Jr., to Hanna Engineering Works. Electromechanical control device. 2,968,284, 1–17–61, Cl. 121—41.

Ely, John O.: *See*—
Zimmerman, John R., and Ely. 2,968,761.

Emhart Mfg. Co.: *See*—
Richey, David M. 2,968,154.

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Enomoto, Totaro: *See*—
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Ephraim, Salim N., to Reichhold Chemicals, Inc. Polyisocyanates containing tertiary amine structure. 2,968,672, 1–17–61, Cl. 260—472.

Erickson, Harold E., R. W. Riley, and D. L. Schubert, ⅓ to said Schubert, and ⅓ to Industrial Development Co. Pressing and dividing particle mats. 2,968,389, 1–17–61, Cl. 198—218.

Erickson, Robert E.: *See*—
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Eriksen, Merrill K., to Super Mold Corp. of California. Auxiliary shoe unit for a chuck-type tire spreader. 2,968,469, 1–17–61, Cl. 254—503.

Erwood, Joseph: *See*—
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Buchi, George H., Erickson, Wakabayashi, and Eschinazi. 2,968,660.

Eshbaugh, Jesse E., to General Motors Corp. Safety release closures. 2,968,421, 1–17–61, Cl. 220—40.

Esso Research and Engineering Co.: *See*—
Baldwin, Francis P., and Robinson. 2,968,587.
Baldwin, Francis P., and Robinson. 2,968,588.
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Koenecke, Donald F., and Gleason. 2,968,647.
Oswald, Alexis A. 2,968,678.
Tucker, Merilyn A., and Slotterbeck. 2,968,648.

Estes, Nelson N., and H. L. Daniels. Anti-torpedo system. 2,968,274, 1–17–61, Cl. 114—240.

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Ploquin, Jean. 2,968,590.

Etchell, Howard L., to Bedford Gear and Machine Products, Inc. Checking gauge. 2,968,100, 1–17–61, Cl. 33—147.

Eubanks, William F. Tool for opening bellies of fish. 2,968,060, 1–17–61, Cl. 17—7.

Eubanks, William F. Process for opening bellies of fish. 2,968,061, 1–17–61, Cl. 17—45.

Evans, Thomas C., and E. G. Beasley, Jr., to United States of America, Atomic Energy Commission. Fuel element for neutronic reactors. 2,968,601, 1–17–61, Cl. 204—193.2.

Evans, William R., and H. C. Stoltz, to AMP Inc. Hydraulic crimping tool for crimping T-tap connectors. 2,968,202, 1–17–61, Cl. 81—15.

Everhart, James G., and D. F. Davidson, to McGraw-Edison Co. Method of winding coils on closed magnetic cores. 2,968,445, 1–17–61, Cl. 242—6.

Ewald, William P., to Eastman Kodak Co. Lens adjusting means for stereo projectors. 2,968,217, 1–17–61, Cl. 88—26.

Faber-Castell, A. W.: *See*—
Bachmann, Harald, and Tegtmeyer. 2,968,438.

Famatex G.m.b.H.: *See*—
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Farkas, Thomas P., to United Aircraft Corp. Fuel control. 2,968,347, 1–17–61, Cl. 158—36.

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Fay, James P., to The Teletrak Corp. Transverse recording device using a tubular tape medium. 2,968,701, 1–17–61, Cl. 179—100.2.

Fay, James P., to The Teletrak Corp. Transport means for a magnet recorder-reproducer. 2,968,702, 1–17–61, Cl. 179—100.2.

Federal-Mogul-Bower Bearings, Inc.: *See*—
Probst, Robert L., Karp, Sayre, and Beebe. 2,968,062.

Fender, Clarence L. Electromagnetic pickup for lute-type musical instrument. 2,968,204, 1-17-61, Cl. 84—1.16.
Fenon, Henri F., to Societe AGRAF. Stapling machines. 2,968,040, 1-17-61, Cl. 1—3.
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Ferrara, Joseph R., and D. C. Glazier, Sr., to United Aircraft Corp. Snap ring assembly. 2,968,503, 1-17-61, Cl. 287—52.
Fewlass, Maurice W., to The Distillers Co. Ltd. Purification of isophorone. 2,968,677, 1-17-61, Cl. 260—586.
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Pellaton, Ernest C. 2,968,431.
Fike, Russell R., to Borg-Warner Corp. Bronze to aluminum bond and the method of making it. 2,968,089, 1-17-61, Cl. 29—183.5.
Filtox S.A.: *See*—
Mazar Barnett, José. 2,968,305.
Mazar Barnett, José. 2,968,307.
Finkeldey, William H.: *See*—
Lentz, George F., and Finkeldey. 2,968,083.
Finney, William J.: *See*—
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Matthews, Russell R. 2,968,085.
Fisher, Robert M. Predetermined pressure shut-off valve. 2,968,315, 1-17-61, Cl. 137—517.
Flan, Anthony, and H. N. Miller, to Oakton Engineering Corp. Programming mechanism. 2,968,746, 1-17-61, Cl. 317—139.
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Hilker, Eugene B., Cowles, Stroh, and Fleming. 2,968,283.
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Flick, Francis S., and R. G. Wilkes, to Flick-Reedy Corp. Quick acting valve for fluid service. 2,968,485, 1-17-61, Cl. 251—48.
Flick-Reedy Corp.: *See*—
Flick, Francis S., and Wilkes. 2,968,485.
Flickinger, William E., Sr., and G. Dolenic. Hot metal valve. 2,968,075, 1-17-61, Cl. 22—84.
Flogaus, Howard A. Blind rivet which permits cold flow of shank material. 2,968,207, 1-17-61, Cl. 85—40.
Flory, Leslie E., and W. S. Pike, to Radio Corp. of America. Radio signal receiving system. 2,968,802, 1-17-61, Cl. 340—248.
Foderaro, Anthony J., to Picker X-Ray Corp., Waite Mfg. Division, Inc. Tube stand head counterbalance. 2,968,732, 1-17-61, Cl. 250—91.
Folkins, Hillis O., E. L. Miller, and K. E. Lucas, to The Pure Oil Co. Isomerization catalyst. 2,968,632, 1-17-61, Cl. 252—455.
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Verdieck, Ralph G., and Brave. 2,968,526.
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Ford Motor Co. Ltd.: *See*—
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Fortmann, William E., to United Aircraft Corp. Multi-pump system having speed and pressure rise responsive by-pass means. 2,968,348, 1-17-61, Cl. 158—36.4.
Foster Wheeler Corp.: *See*—
Koschak, Robert J., and Daman. 2,968,288.
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Frankel, Theodor: *See*—
Brightman, Barrie, and Frankel. 2,968,698.
Brightman, Barrie, Frankel, and Kaye. 2,968,699.
Frazier, John F., to Corning Glass Works. Cathode-ray tube manufacture. 2,968,741, 1-17-61, Cl. 313—64.
Frick, Charles H., to General Motors Corp. Power plant governor control system. 2,968,193, 1-17-61, Cl. 74—472.
Friedrich, Louis C., Jr., J. W. Peters, and M. R. Rector, to The Dow Chemical Co. Process for preparing normally crystalline vinylidene chloride polymers. 2,968,651, 1-17-61, Cl. 260—87.7.
Fritz, Henry E.: *See*—
O'Connor, George L., Fritz, and Eccles. 2,968,681.
Fry, Frank J.: *See*—
Fry, William J., and F. J. 2,968,302.
Fry, William J., and F. J., to University of Illinois Foundation. Multibeam focusing irradiator. 2,968,302, 1-17-61, Cl. 128—24.
Fuchs, Henry O., to Metal Improvement Equipment Co. Peening shot nozzle reciprocating apparatus. 2,968,066, 1-17-61, Cl. 29—90.
Gaffney, Francis J., C. A. Wesley, and C. P. Bukowski, to The Teleregister Corp. Simultaneous-to-serial permutation code converter. 2,968,693, 1-17-61, Cl. 178—53.1.
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Gamble, Richard F., to United Aircraft Corp. Speed topping control. 2,968,345, 1-17-61, Cl. 158—36.
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Cunningham, George L., Bryant, and Gause. 2,968,523.
Cunningham, George L., Bryant, and Gause. 2,968,532.
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Nees, Hugo, and Gelersberger. 2,968,546.
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Brightman, Barrie, Frankel, and Kaye. 2,968,699.
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Weiss, Paul, and Johnson. 2,968,789.
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General Motors Corp.: *See*—
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Gibson, George M. Wringer washing machine combination. 2,968,178, 1-17-61, Cl. 68—22.
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Straley, James M., and Giles. 2,968,661.
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Arthur, Edwin P., and Gilmont. 2,968,585.
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Glab, William T., to Durel Inc. Methods of making a lignocellulose product and products resulting therefrom. 2,968,574, 1-17-61, Cl. 106—163.
Glass, Marvin I.: *See*—
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Goebel, Kenneth W., and L. G. Pierce, to Rohr Aircraft Corp. Jet engine exhaust sound suppressor and thrust reverser. 2,968,150, 1–17–61, Cl. 60—35.55.
Gogolick, Roland M., W. J. Finney, and R. L. Brown, to United States of America, Navy. Buoyancy control. 2,968,053, 1–17–61, Cl. 9—8.
Golde, Hans. Sliding roof having a rigid sliding cover. 2,968,514, 1–17–61, Cl. 296—137.
Golden, Sam M.: *See*—
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Goldsmith, Lee J. Devices for removing moisture from the flow of gases. 2,968,260, 1–17–61, Cl. 183—36.
Goode, Kenneth E., R. P. Lannerd, and D. P. Zimmerman, to United States of America, Navy. Potentiometer insulating device. 2,968,779, 1–17–61, Cl. 338—196.
Goodman, Albert. Electronic video exposure control system for photographic printer. 2,968,215, 1–17–61, Cl. 88—24.
Goodrich, B. F., Co., The: *See*—
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Goss, Wilbur, C. E. Beck, and J. Erwood, to United States of America, Navy. Torpedo exploding mechanism. 2,968,242, 1–17–61, Cl. 102—18.
Gouirand, Rene. Pneumatic suspension for tractors. 2,968,496, 1–17–61, Cl. 280—439.
Gould, Charles C., and G. H. Piethe, to Square D Co. Adjustable voltage control system. 2,968,754, 1–17–61, Cl. 318—151.
Grabski, John D., to United States of America, Army. Turbine type foam or water nozzle for fire fighting. 2,968,442, 1–17–61, Cl. 239—381.
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Bullard, Ralph H., Graf, and McIntosh. 2,968,675.
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Gratzmuller, Jean L. Hydropneumatic accumulators. 2,968,320, 1–17–61, Cl. 138—31.
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Eichelman, Francis J., and Graunke. 2,968,474.
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Great Western Toy Co.: *See*—
Trombly, Ray G. 2,968,117.
Greenley, Harold H., and L. B. Smith, to General Motors Corp. Electromagnetic indicators. 2,968,764, 1–17–61, Cl. 324—140.
Greenspan, George, and C. P. Schaffner, to Rutgers Research and Educational Foundation. Oxygenation of steroids by rhisoctonia and sclerotium. 2,968,595, 1–17–61, Cl. 195—51.
Gresty, Earl C., Jr., to The B. F. Goodrich Co. Composition comprising styrene-butadiene elastomer, carbon black, an amino-thiazole disulfide and a cadmium compound and method for curing same. 2,968,640, 1–17–61, Cl. 260—41.5.
Griffen, Ralph R., to Holley Carburetor Co. Carburetor means for maintaining any selected vehicle speed. 2,968,377, 1–17–61, Cl. 192—8.
Griffiths, Leonard: *See*—
Coe, Reginald T., and Griffiths. 2,968,740.
Grobel, Lloyd P., to General Electric Co. Shaft seal for hydrogen-cooled generator. 2,968,490, 1–17–61, Cl. 286—9.
Gronholz, Le Roy F., to E. I. du Pont de Nemours and Co. Process for biaxially elongating thermoplastic polymeric films. 2,968,065, 1–17–61, Cl. 18—48.
Gross, Arthur G. Time recorder. 2,968,521, 1–17–61, Cl. 346—35.
Grove Research and Development Co., The: *See*—
Toennies, Owe M. 2,968,138.
Guerth, Fritz A. Shaft position indicator. 2,968,800, 1–17–61, Cl. 340—203.
Gulf Research & Development Co.: *See*—
Beuther, Harold, Kline, and Zabor. 2,968,606.
Crouse, Benjamin F., Jr., and Whitaker. 2,968,662.
Franke, Norman W., and Crowley. 2,968,674.
Rocchini, Albert G., and Trautman. 2,968,148.
Samuel, Arthur J. 2,968,426.
Gundlach, Robert W., to Haloid Xerox Inc. Xerographic apparatus and method. 2,968,552, 1–17–61, Cl. 96—1.
Gundlach, Robert W., to Haloid Xerox Inc. Xerographic apparatus and method. 2,968,553, 1–17–61, Cl. 96—1.
Gupton, Edwin D.: *See*—
Davis, Doyle M., Gupton, Hart, and Hull. 2,968,731.
Gustafson, August W. Apparatus for treating soil during planting. 2,968,206, 1–17–61, Cl. 111—80.
Gutstein, Rudy. Fish feeding device for aquariums. 2,968,280, 1–17–61, Cl. 119—5.
Haberle, Albert, and G. Hackstein, to Koppers Co., Inc. Apparatus for removal of nitric oxide from gases. 2,968,719, 1–17–61, Cl. 250—43.
Habiutzel, Charles E.: *See*—
Dunlap, Henry F., and Habiutzel. 2,968,246.
Hackett, Norman H. Hydraulic brake system. 2,968,158, 1–17–61, Cl. 60—54.5.
Hackstein, Gunter: *See*—
Haberle, Albert, and Hackstein. 2,968,719.
Hadden, Stanley E. Ricochet sound producing toy. 2,968,122, 1–17–61, Cl. 46—232.
Hajos, Eugene, to Premier Laundry, Inc. Machine for rolling towels. 2,968,449, 1–17–61, Cl. 242—57.1.
Hall & Hall Ltd.: *See*—
Jarvis, Jack S. 2,968,516.
Haller, Richard. Internal combustion engine brake. 2,968,295, 1–17–61, Cl. 123—97.
Haloid Xerox Inc.: *See*—
Gundlach, Robert W. 2,968,552.
Gundlach, Robert W. 2,968,553.
Hamilton Pharmacal Co., Inc.: *See*—
Curtis, Clifton R. 2,968,592.
Hamilton, Wallace, and J. Lovell, to Cleveland Pneumatic Industries, Inc. Towers. 2,968,410, 1–17–61, Cl. 214—1.
Hamilton Watch Co., The: *See*—
Devol, Lee. 2,968,756.
Hanna Engineering Works: *See*—
Ellis, John T., Jr. 2,968,284.
Hannaford, Bruce A., R. Rosenberg, C. L. Segnser, and C. L. Terry, to United States of America, Atomic Energy Commission. Sampling system. 2,968,183, 1–17–61, Cl. 73—421.
Hansen, Wray C. Retaining spring fastener. 2,968,504, 1–17–61, Cl. 287—53.
Hanson, Alden W. Method of generating snow. 2,968,164, 1–17–61, Cl. 62—74.
Hanson, Lavern W. Airfoil construction. 2,968,456, 1–17–61, Cl. 244—123.
Happe, Reynold, to The Singer Mfg. Co. Portable belt-driven tools with detachable motors. 2,968,187, 1–17–61, Cl. 74—216.5.
Harkey, Theodore G. Egg collecting apparatus. 2,968,385, 1–17–61, Cl. 198—26.
Harper, Ernest V., to General Motors Corp. Weld assembly. 2,968,713, 1–17–61, Cl. 219—93.
Harris, Arthur W., and L. V. Larsen, to Chicago Bridge & Iron Co. Fabric type seal for floating roof tank. 2,968,420, 1–17–61, Cl. 220—26.
Harris-Intertype Corp.: *See*—
Taylor, Norman W. 2,968,481.
Hart, James C.: *See*—
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Hartel, Erwin H., to Cleveland Pneumatic Industries, Inc. Centering and snubbing device. 2,968,478, 1–17–61, Cl. 267—64.
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Tuttle, Raymond E., Harwood, and Smalter. 2,968,528.
Haskel Engineering Associates: *See*—
Hayman, Richard L., Driskel, and Hill. 2,968,282.
Haskell Mfg. Co.: *See*—
Jarvi, Carl W. 2,968,898.
Haumann, Ernst, and W. Lorenz, to Schuhmaschinen-Gesellschaft Hanke & Co. m.b.H. Shoe cementing press. 2,968,054, 1–17–61, Cl. 12—33.
Hautau, Charles F.: *See*—
Hautau, Llewellyn A. and C. F. 2,968,068.
Hautau, Llewellyn A. and C. F., to Paragon Electric Co. Method of forming timing motor shading rings. 2,968,068, 1–17–61, Cl. 29—155.57.
Haydon, Edward K.: *See*—
Bell, William C., Dunn, Haydon, Flint, and Searle. 2,968,174.
Hayman, Richard L., D. W. Driskel, and D. C. Hill, to Haskel Engineering Associates. Hydraulic control system with safety means. 2,968,282, 1–17–61, Cl. 121—68.
Haseltine Research, Inc.: *See*—
White, John R. 2,968,767.
Haselton, Richard L., to Omni American Engineering Co. Magnetostrictive grinding machine. 2,968,182, 1–17–61, Cl. 51—34.
Heckman, Donald R., to F. A. Long Co. Boat trailer. 2,968,413, 1–17–61, Cl. 214—505.
Hedberg, Harold S.: *See*—
Saunders, George H., and Hedberg. 2,968,559.
Hehl, Anton: *See*—
Schutze, Georg, Bartheimess, and Hehl. 2,968,062.
Helling, Werner, and H. Neunzig, to Vereinigte Aluminium-Werke Aktiengesellschaft. Method and apparatus for polishing metals. 2,968,577, 1–17–61, Cl. 117—49.
Hene, Lennart A., to Borg-Warner Corp. Wall scratcher. 2,968,352, 1–17–61, Cl. 166—173.
Henning, James C., and C. A. L. Ruhl, to The New York Air Brake Co. Engine. 2,968,252, 1–17–61, Cl. 103—186.
Hepp, Harold J., and L. E. Drehman, to Phillips Petroleum Co. Combination alkylation-isomerization process. 2,968,684, 1–17–61, Cl. 260—683.57.
Herman Pneumatic Machine Co.: *See*—
McWithey, Ernest N. 2,968,073.
Herrmann, John A., G. H. Farnsworth, and R. S. Davis, to I-T-E Circuit Breaker Co. Polarized duct system. 2,968,782, 1–17–61, Cl. 339—22.
Hertzog, Theodore W.: *See*—
Bendler, Harry M., Bleil, Hertzog, La Roda, and Ben. 2,968,555.
Hexcel Products Inc.: *See*—
Carter, Rowland S. 2,968,714.
Runkle, Raymond B. 2,968,712.
Heyden, Rudi: *See*—
Plapper, Jurgen, and Heyden. 2,968,580.
Higgins, Louis W., to I-T-E Circuit Breaker Co. End feed-in device. 2,968,690, 1–17–61, Cl. 174—80.
Higley, Willard S., to Standard Oil Co. Process for production of high octane hydrocarbons. 2,968,607, 1–17–61, Cl. 208—95.
Higonnet, Rene A., and R. A. Grea, to Graphic Arts Research Foundation, Inc. Method and apparatus for type composition. 2,968,383, 1–17–61, Cl. 197—20.
Hilker, Eugene B., W. H. Cowles, G. B. Stroh, and R. S. Fleming, to Holley Carburetor Co. Force balance system. 2,968,283, 1–17–61, Cl. 121—41.
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Hayman, Richard L., Driskel, and Hill. 2,968,282.

Hill, George L. Trailer-tractor. 2,968,412, 1–17–61, Cl. 214—505.

Hitachi Ltd.: *See*—
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Hoffman, Frank D., Jr., to General Steel Products Co., Inc. Reclining chair with adjustable ottoman bracket. 2,968,339, 1–17–61, Cl. 155—106.

Holcomb, Doyle D. Spray nozzle assembly for use with aerosol can. 2,968,441, 1–17–61, Cl. 239—337.

Holin, William F., to General Motors Corp. Brake rigging stabilizer. 2,968,371, 1–17–61, Cl. 188—190.

Hollen, Harry F.: *See*—
Miller, William H., and Hollen. 2,968,077.

Holley Carburetor Co.: *See*—
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Hilker, Eugene B., Cowles, Stroh, and Fleming. 2,968,283.

Holwin Corp.: *See*—
Puetz, William J. 2,968,782.

Hooker, John A., to M. Bova. Method of forming a frozen food product. 2,968,567, 1–17–61, Cl. 99—193.

Hoover Co., The: *See*—
Bell, William C., Dunn, Haydon, Flint, and Searle. 2,968,174.

Horberg, Charles, Jr., to Paramount Textile Machinery Co. Linear control units. 2,968,710, 1–17–61, Cl. 200—168.

Horowitz, Irving, to Blonder Tongue Laboratories. Pulse-sharpening circuit. 2,968,766, 1–17–61, Cl. 328—223.

Hotz, Leo F. Filter. 2,968,404, 1–17–61, Cl. 210—334.

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Schroeder, William F., and Houser. 2,968,564.

Houser, Charles J., to National Dairy Products Corp. Shortening. 2,968,562, 1–17–61, Cl. 99—118.

Houser, Charles J., to National Dairy Products Corp. Liquid shortening. 2,968,563, 1–17–61, Cl. 99—118.

Howard Plastics, Inc.: *See*—
Keller, Theodore W., Garvin, and McMillan. 2,968,576.

Howell, Alun R., and C. E. Moss., to Power Jets (Research and Development) Ltd. Convertible turbo-rocket and ram jet engine. 2,968,146, 1–17–61, Cl. 60—35.6.

Howell, George H., to General Motors Corp. Clamping frame for vacuum forming parts. 2,968,064, 1–17–61, Cl. 18—19.

Huelster, Otto J., to Scovill Mfg. Co. Sheet metal slider. 2,968,078, 1–17–61, Cl. 24—205.14.

Huff, George F., and J. D. Klicker, to Callery Chemical Corp. Liquid boron containing products. 2,968,540, 1–17–61, Cl. 52—5.

Hull, Andrew P.: *See*—
Davis, Doyle M., Gupton, Hart, and Hull. 2,968,731.

Hull, Donald E., to California Research Corp. Method and apparatus for liquid level control and indication. 2,968,720, 1–17–61, Cl. 250—43.5.

Hunter-Penrose Ltd.: *See*—
Kilminster, Arthur R. 2,968,214.

Huston, Sanford K., and T. L. Anderton. Skylight. 2,968,263, 1–17–61, Cl. 108—16.

Hutchens, Charles T. Mechanism for steering tandem wheels of a tractor trailer assembly. 2,968,495, 1–17–61, Cl. 280—426.

Hutt, Stanley D., D. M. Smyth, and M. F. Stefanski, to Sprague Electric Co. Battery cell and method of manufacture. 2,968,687, 1–17–61, Cl. 136—87.

I-T-E Circuit Breaker Co.: *See*—
Herrmann, John A., Farnsworth, and Davis. 2,968,782.
Higgins, Louis W. 2,968,690.

Imber, David: *See*—
Imber, Sol J., and D. 2,968,051.

Imber, Sol J., and D. Bed frame and clamping means therefor. 2,968,051, 1–17–61, Cl. 5—181.

Immenoote, Arthur J., to Deere & Co. Clutch control mechanism. 2,968,265, 1–17–61, Cl. 111—67.

Industrial Development Co.: *See*—
Erickson, Harold E., Riley, and Schubert. 2,968,380.

Ingersoll-Rand Co.: *See*—
Blank, Charles E. 2,968,515.

Ingwersen, Richard C., to Mechanical Products, Inc. Electric switch incorporating circuit breaker. 2,968,709, 1–17–61, Cl. 200—116.

Innocenti Soc. Generale Per l'Industria: *See*—
Zuppiroli, Guido. 2,968,711.

International Business Machines Corp.: *See*—
Adams, Francis V. 2,968,792.
Johnson, Ellsworth L., Rocco, and Ross. 2,968,791.
Smith, James T. 2,968,799.

International Minerals & Chemical Corp.: *See*—
Archer, James R., and Banks. 2,968,184.
Clark, Howard P., and Adams. 2,968,526.
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International Nickel Co., Inc., The: *See*—
Clark, Charles A. 2,968,548.
Eash, John T. 2,968,550.

International Telephone and Telegraph Corp.: *See*—
Johnson, Lee C., and McVey. 2,968,769.

International Typographical Union of North America: *See*—
Randolph, Woodruff, Brewer, and Goss. 2,968,115.

Intron International, Inc.: *See*—
Pintell, Robert H. 2,968,738.

Isaacs, Herbert H.: *See*—
Sutton, George P., Albanese, Conyers, Pion, and Isaacs. 2,968,245.

Isbell, Donald K.: *See*—
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Ishizaki Keizo: *See*—
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Ito, Yonezo. Head model with hairs. 2,968,104, 1–17–61, Cl. 35—59.

Jacklin, Roger L.: *See*—
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Jackson Winston J., Jr.: *See*—
Caldwell, John R., and Jackson. 2,968,646.

Jacobsen, Le Roy V., to Bee Line Co. Wheel balancing machine. 2,968,185, 1–17–61, Cl. 73—459.

Jagy, John P.: *See*—
McKenney, Henry F., Weber, and Jagy. 2,968,750.

Jarvi, Carl W., to Haskell Mfg. Co. Desk drawer divider. 2,968,398, 1–17–61, Cl. 206—73.

Jarvis, Jack S., to Hall & Hall Ltd. Packing rings for use on double acting pistons. 2,968,516, 1–17–61, Cl. 309—23.

Jay, Kenneth W., to Orenda Engines Ltd. Device for intermittent flow of fluid. 2,968,317, 1–17–61, Cl. 137—624.14.

Jeanneret, Henri. Escapement for retarding device. 2,968,186, 1–17–61, Cl. 74—1.5.

Jegge, Max, to Ciba Ltd. Apparatus for discharging the contents of containers. 2,968,411, 1–17–61, Cl. 214—515.

Jendrassik, Clara: *See*—
Jendrassik, George. 2,968,435.

Jendrassik Developments Ltd.: *See*—
Jendrassik, George. 2,968,435.

Jendrassik, George, deceased; A. G. T. Bosnormenyi, and C. Jendrassik, executors, to Jendrassik Developments Ltd. Pressure exchangers. 2,968,435, 1–17–61, Cl. 230—69.

Jewell, Gordon R.: *See*—
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Jewell, Joseph W., to The M. W. Kellogg Co. Restricting product recovery system to minimize pressure surges. 2,968,608, 1–17–61, Cl. 208—93.

Jewell, Joseph W., to The M. W. Kellogg Co. Scrubbing flue gas with minimum pressure surges. 2,968,613, 1–17–61, Cl. 208—162.

Johns-Manville Corp.: *See*—
Powell, Edward R. 2,968,069.

Johns-Manville Fiber Glass Inc.: *See*—
Wolfe, Homer L. 2,968,278.

Johnson, Charles W.: *See*—
Weiss, Paul, and Johnson. 2,968,789.

Johnson, Ellsworth L., P. W. Rocco, and D. C. Ross, to International Business Machines Corp. Buffer storage system. 2,968,791, 1–17–61, Cl. 340—172.5.

Johnson, Frederick O. Sensitivity control device. 2,968,191, 1–17–61, Cl. 74—469.

Johnson Furnace Co.: *See*—
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Johnson, Harold D., to Philco Corp. Detecting system. 2,968,172, 1–17–61, Cl. 68—17.

Johnson, Lee C., and E. S. McVey, to International Telephone and Telegraph Corp. Frequency modulated oscillator system. 2,968,769, 1–17–61, Cl. 331—14.

Johnson, Ralph E., to The Singer Mfg. Co. General purpose presser-foot for sewing machines. 2,968,267, 1–17–61, Cl. 112—235.

Johnson, Robert, to H. K. Porter Co. Inc. Telephone service fitting for floor distribution systems. 2,968,689, 1–17–61, Cl. 174—48.

Johnson, Robert L. Simulated pocket handkerchief. 2,968,045, 1–17–61, Cl. 2—279.

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Johnston, Walker F., Jr.: *See*—
Coddou, Eugene S., Jr., Johnston, and Bellman. 2,968,605.

Johnston, Walter F., Jr., to The American Oil Co. Process for production of high octane blending stocks. 2,968,604. 1–17–61. Cl. 208—65.

Joiner, Edgar E., and J. P. Szumski, to Fred W. Mears Heel Co., Inc. Lightweight heels. 2,968,106, 1–17–61, Cl. 36—34.

Jones, Dwight E., to E. D. Jones Corp. Refining discs. 2,968,444, 1–17–61. Cl. 241—163.

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Jones, Dwight E. 2,968,444.

Jones, Edward N. Fluid pressure operated chemical feeder. 2,968,351, 1–17–61, Cl. 166—162.

Jones, Samuel F. Laundry basket holder. 2,968,462. 1–17–61, Cl. 248—293.

Judd, Gerard F., to Callery Chemical Co. Method for preparation of decaborane. 2,968,534, 1–17–61, Cl. 23—204.

Jurechko, John. Drive-in pallet rack. 2,968,409, 1–17–61, Cl. 211—134.

Kaehni, Frank J., to Economy Engine Co. Ignition systems for multi-cylinder engines. 2,968,296, 1–17–61, Cl. 123—117.

Kahler, Vern R.: *See*—
Teeter, Ford C., and Kahler. 2,968,621.

Kahn, Marvin M., to The Acme-Hamilton Mfg. Corp. Reinforced flexible hose. 2,968,321, 1–17–61, Cl. 138—56.

Kaiser Aluminum & Chemical Corp.: *See*—
McCheaney, Vernon A. 2,968,270.

Kaiser, William H. F.: *See*—
Martin, Eugene J., and Kaiser. 2,968,707.

Kallenborn, Frank P. Multiple connector. 2,968,785, 1–17–61, Cl. 339—208.

Kanarek, Irving A., to North American Aviation, Inc. Monopropellent for use in rocket motors. 2,968,145. 1–17–61 Cl. 60—35.4.

Kane, James T.: *See*—
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Karol, Josef L. Attic ventilating apparatus. 2,968,230. 1–17–61, Cl. 98—43.

Karp, Philip L.: *See*—
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Kasehagen, Leo, to Atlas Powder Co. Hydrogenation of carbohydrates. 2,968,680. 1–17–61. Cl. 260—635.

Katz, Abe A., to Automatic Tag Machines, Inc. Tag printing machine. 2,968,237, 1–17–61, Cl. 101—66.

Kaufold, Leroy, and C. H. Getz, to Northron Corp. Fan scanner celestial detector system. 2,968,735, 1–17–61. Cl. 250—203.

Kaye, Robert K.: *See*—
Brightman, Barrie, Frankel, and Kaye. 2,968,699.

Keener, John, 33⅓% to George M. Clarkson, and 33⅓% to Gibson C. Holliday. Trailer hitch for a piggy-back railroad flat car. 2,967,492, 1–17–61, Cl. 105—368.

Keller, Theodore W., C. W. Garvin, and J. G. McMillan, to Howard Plastics, Inc. Process of coating a polyethylene substrate with a vinylidene coating and resultant article. 2,968,576, 1–17–61, Cl. 117—47.

Kelley, Oliver K., to General Motors Corp. Vehicle brake and transmission fluid actuating and cooling system. 2,968,379, 1–17–61, Cl. 192—4.

Kellogg, George E., and R. H. Bauman, to General Motors Corp. Power brake booster unit. 2,968,155, 1–17–61, Cl. 60—54.6.

Kellogg, M. W., Co., The: *See*—
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Jewell, Joseph W. 2,968,613.
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Kern, Luther N., to General Motors Corp. Internal bleeder for vehicle brake. 2,968,372, 1–17–61, Cl. 188—264.

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Saunders, George H., and Hedberg. 2,968,589.

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Kline, Robert E.: *See*—
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Klotz, Lyell J., to Lloyd Brothers, Inc. Process for preparing a water-soluble cobalt salt and soluble starch. 2,968,653, 1–17–61, Cl. 260—233.3.

Klouda, Alvin E., to Deere & Co. Hitch device. 2,968,494, 1–17–61, Cl. 280—415.

Knefel, Emanuel A., to The Magnavox Co. Card processing apparatus. 2,968,480, 1–17–61, Cl. 271—39.

Knox, David M. Picture display devices. 2,968,108, 1–17–61, Cl. 40—152.

Koch, Howard A., Jr.: *See*—
Slobod, Robert L., and Koch. 2,968,350.

Koenecke, Donald F., and A. H. Gleason, to Esso Research and Engineering Co. Drying oils cured with diisocyanates. 2,968,647, 1–17–61, Cl. 260—77.5.

Kohl, Jerome: *See*—
Shapiro, Edward, Kohl, and Newacheck. 2,968,721.

Koidan, Walter: *See*—
Corliss, Edith L. R., Burkhard, and Koidan. 2,968,695.

Koibe, Adelbert E., to General Motors Corp. Internal combustion engine. 2,968,293, 1–17–61, Cl. 123—41.69.

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Koppers Co., Inc.: *See*—
Haberle, Albert, and Hackstein. 2,968,719.

Koren Research & Engineering Co.: *See*—
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Korger, Gerhard: *See*—
Ruschig, Heinrich, Aumuller, Korger, Wagner, Scholz, and Bander. 2,968,158.

Kossmann, Konrad H., to Shawinigan Chemicals Ltd. Process for heating beds of solid particles spouted with gas. 2,968,683, 1–17–61, Cl. 260—683.

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Krause, Carl. Motor bracket assembly for fans. 2,968,457, 1–17–61, Cl. 248—15.

Kress, Bernard H., to Quaker Chemical Products Corp. Method of insolubilising polymeric hydroxyl-bearing compounds. 2,968,581, 1–17–61, Cl. 117—139.5.

Kripak, Leonid: *See*—
Glass, Marvin I., and Kripak. 2,968,119.

Kroupa, Věnceslav, to Tesla, narodni podnik. Circuit arrangement for the glow-discharge tube indication of a decimal tube counter. 2,968,744, 1–17–61, Cl. 315—84.5.

Krueger, Jack N.: *See*—
Perrozzi, Joseph R., and Krueger. 2,968,210.

Kubel, Manfred, and H. Preiss, to Robert Bosch, G.m.b.H. Tool-driving shaft assembly for household appliances. 2,968,488, 1–17–61, Cl. 279—24.

Kurent, Valentine M.: *See*—
Baker, Clyde F., Kennedy, and Kurent. 2,968,166.

Kuts, Mathew, and C. Mullender, to The B. F. Goodrich Co. Lacerating tire treads for traction. 2,968,344, 1–17–61, Cl. 157—13.

La Boda, Mitchell A.: *See*—
Bendler, Harry M., Biedl, Hertzog, La Boda, and Bea. 2,968,555.

Lacey, George T. Decorating appliance. 2,968,262, 1–17–61, Cl. 107—52.

Lade, Karl H., to J. M. Doess. Latch mechanism. 2,968,506, 1–17–61, Cl. 292—21.

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La Gloria Oil and Gas Co.: *See*—
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Bullard, Ralph H., Graff, and McIntosh. 2,968,675.

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Langford, Richard P.: *See*—
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Leal, John D. Screen wire stretcher. 2,968,324, 1–17–61, Cl. 140—109.

Lentz, George F., and W. H. Finkeldey. Hot patching of refractory structures. 2,968,083, 1–17–61, Cl. 25—155.5.

Lenz, Carl, and N. G. Johnston, to Westinghouse Electric Corp. Holding means for support-wire inserting device. 2,968,479, 1–17–61, Cl. 269—189.

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Linderoth, Erik T., to Amica-Produkter, Kommanditbolaget Erik Linderoth & Co. Rotatable brush rollers for brushing apparatus or suction-cleaner nozzles. 2,968,055, 1–17–61, Cl. 15—41.

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Lo, Arthur W.: *See*—
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Lobanoff, Val S., and S. S. Smith, to United Centrifugal Pumps. Pump. 2,968,250, 1–17–61, Cl. 103—111.

Loeb, Ernest, to United States of America, Atomic Energy Commission. Reactor-flash boiler-flywheel power plant. 2,968,602, 1–17–61, Cl. 204—193.2.

Loeber, Herman M., to Dempster Mill Mfg. Co. Pumps. 2,968,255, 1–17–61, Cl. 103—178.

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Tenecher, Katherine M. 2,968,303.
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Martin, Kenneth P., and W. P. Rowland, to The Colonial Press, Inc. Electronically controlled book case strip feed mechanism. 2,968,430, 1–17–61, Cl. 226—32.
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Mason, Oscar. Improvements in electrical connectors for ceiling and wall fittings. 2,968,784, 1–17–61, Cl. 339—197.
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McCauley, James F. Feeding and watering devices for bird cages. 2,968,281, 1–17–61, Cl. 119—18.
McChesney, Vernon A., to Kaiser Aluminum & Chemical Corp. Apparatus for forming receptacles. 2,968,270, 1–17–61, Cl. 113—43.
McClure, Robert E. Fish line retriever with cutting blade. 2,968,112, 1–17–61, Cl. 43—17.2.
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Bullard, Ralph H., Graff, and McIntosh. 2,968,675.
McKenney, Henry F., W. F. Weber, and J. P. Jagy, to Sperry-Rand Corp., Ford Instrument Co. Division. Phase rotation circuit. 2,968,759, 1–17–61, Cl. 323—36.
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Mehlhorn, Carl E., and F. B. Roberts, to Package Machinery Co. Gum wrapping machine. 2,968,139, 1–17–61, Cl. 53—223.
Meier, Claude, to Brevets Aero-Mecaniques S.A. Rockets carried in clusters by a launching machine and in particular by an aircraft. 2,968,222, 1–17–61, Cl. 89—1.7.
Meister, Peter D., and H. C. Murray, to The Upjohn Co. Process for the production of digitoxigenin and intermediates. 2,968,596, 1–17–61, Cl. 195—51.
Melle, Heinz, to Voigtlander A.G. Photoelectric exposure meter. 2,968,227, 1–17–61, Cl. 95—10.
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Mertes, Thomas S., to Sun Oil Co. Polymerization process with a catalyst prepared by subjecting $TiCl_3$ to ultrasonic vibrations and adding an aluminum alkyl. 2,968,652, 1–17–61, Cl. 260—93.7.
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Meyer, Barthold F., and N. Toruk, to General Motors Corp. Circuit controller. 2,968,703, 1–17–61, Cl. 200—6.
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Mittelmann, Eugene, to Minneapolis-Honeywell Regulator Co. Liquid quantity measuring apparatus. 2,968,181, 1–17–61, Cl. 73—304.

Mobley, William R. Method and means for circulating air under pressure of radially propelled horizontal jets. 2,968,437, 1–17–61, Cl. 230—250.

Mochel, John M., to Corning Glass Works. Chemical nickel plating on ceramic material. 2,968,578, 1–17–61, Cl. 117—54.

Moeller, Kurt G. F., to United States of America, Navy. Shock resistant foundation. 2,968,458, 1–17–61, Cl. 248—19.

Mohler, Robert D., to Motorola, Inc. Transistor power supply. 2,968,739, 1–17–61, Cl. 307—150.

Möhring, Gustav, to Famatex G.m.b.H. Combined feeler gripper and pin-set chain link. 2,968,064, 1–17–61, Cl. 26—62.

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Monbeck, Wayne E., and C. B. Martz, to Northrop Corp. Electrical load transfer system. 2,968,705, 1–17–61, Cl. 200—18.

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Munch, James C., to Pharmacodynamics, Inc. Composition useful with comestibles. 2,968,586, 1–17–61, Cl. 99—148.

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Myers, Aaron G. Scoring machine for plywood. 2,968,326, 1–17–61, Cl. 144—136.

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Neckel, Edmund N., to McGraw-Edison Co. Depressible surface for folding tables. 2,968,429, 1–17–61, Cl. 223—37.

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Nees, Hugo, and M. Schmidt, to Chemische Fabrik Kalk G.m.b.H. Process for producing phosphate-containing fertilisers. 2,968,545, 1–17–61, Cl. 71—39.

Nees, Hugo, and K. Gelersberger, to Chemische Fabrik Kalk G.m.b.H. Process for producing phosphate-containing fertilizers. 2,968,546, 1–17–61, Cl. 71—39.

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Nixon, William G., to Universal Oil Products Co. Activated alumina and the use thereof. 2,968,635, 1–17–61, Cl. 252—466.

Noble, Bert. Batching device. 2,968,463, 1–17–61, Cl. 249—14.

Noblette, Duffield G. Boat loading device. 2,968,511, 1–17–61, Cl. 294—82.

Norbäck, Per Gunnar. Air conditioning method and apparatus. 2,968,165, 1–17–61, Cl. 62—94.

Norda Essential Oil and Chemical Co.: *See*—
Tracy, Ralph L. 2,968,591.

Norrhede, Lars S. R. Method of producing phenolic resins soluble in tri-chlor-ethylene. 2,968,644, 1–17–61, Cl. 260—57.

North American Aviation, Inc.: *See*—
Kanarek, Irving A. 2,968,145.
Sutton, George P., Albanese, Conyers, Pion, and Isaacs. 2,968,245.

North, Edward D., J. A. Rode, and G. W. Tompkin, to Mallinckrodt Chemical Works. Method of sintering compacts. 2,968,551, 1–17–61, Cl. 75—223.

Northrop Corp.: *See*—
Kaufold, Leroy, and Getz. 2,968,735.
Monbeck, Wayne E., and Martz. 2,968,705.

Novelty Tool Co., Inc.: *See*—
Yankee, Deane K. 2,968,042.

Noyce, Robert N., to Clevite Corp. Transistor structure and method of making the same. 2,968,750, 1–17–61, Cl. 317—235.

Nubel, Robert C., to Chas. Pfizer & Co., Inc. Amino acid and process. 2,968,594, 1–17–61, Cl. 195—47.

Nu-Way Corp.: *See*—
Reichelderfer, Charles A. 2,968,349.

Oakton Engineering Corp.: *See*—
Flan, Anthony, and Miller. 2,968,746.

O'Connor, George L., H. E. Fritz, and M. A. Eccles, to Union Carbide Corp. Method of preparing hydrogenated binaphthyls. 2,968,681, 1–17–61, Cl. 260—667.

Ohtake, Tadashi, K. Ishizaki, and N. Eguchi, to Yawata Iron and Steel Co., Ltd. Process of working steel for preventing surface defects thereof. 2,968,092, 1–17–61, Cl. 29—528.

Old Dominion Box Co., Inc.: *See*—
Phillips, Floyd L., Jr. 2,968,393.

Olin Mathieson Chemical Corp.: *See*—
Brock, Jean A. M. 2,968,542.
Pagano, Joseph F., and Levin. 2,968,597.

Olson, Delwyn L., to Marotta Valve Corp. Pressure operated valve with magnetically actuated pilot. 2,968,464, 1–17–61, Cl. 251—30.

Olstowski, Franciszek, to The Dow Chemical Co. Preparation of silicon tetrafluoride. 2,968,599, 1–17–61, Cl. 204—61.

Omni American Engineering Co.: *See*—
Hazelton, Richard L. 2,968,132.

Omoto, Bunnosuke. Inner tube valve holder. 2,968,206, 1–17–61, Cl. 85—32.

Orenda Engines Ltd.: *See*—
Jay, Kenneth W. 2,968,317.
McGregor, John C. 2,968,467.

Orr, Palmer, to Borg-Warner Corp. Transmission mechanism. 2,968,190, 1–17–61, Cl. 74—467.

Ortega, William, Jr., and P. E. Webb, to General Supply Co. Air compressor unloader. 2,968,433, 1–17–61, Cl. 230—30.

Oswald, Alexis A., to Esso Research and Engineering Co. Preparation of indanyl-sulfides, sulfoxides and sulfones. 2,968,678, 1–17–61, Cl. 260—607.

Otis, Arthur N., Jr., to Curtiss-Wright Corp. Radiation measuring apparatus having means for compensating errors due to atmospheric conditions. 2,968,727, 1–17–61, Cl. 252—83.3.

Oury, John F. Telescopic chute. 2,968,382, 1–17–61, Cl. 193—10.

Owens-Corning Fiberglas Corp.: *See*—
Whitehurst, Harry B. 2,968,622.

Pacault, Pierre H., and J. F. Tillequin, to Babcock & Wilcox Ltd. Power plant. 2,968,156, 1–17–61, Cl. 60—73.

Package Machinery Co.: *See*—
Mehlhorn, Carl E., and Roberts. 2,968,139.

Pagano, Joseph F., and J. D. Levin, to Olin Mathieson Chemical Corp. Method and composition for detecting candida albicans. 2,968,597, 1–17–61, Cl. 195—103.5.

Page, Jack C.: *See*—
Boettcher, Stephen A., and Page. 2,968,135.

Pailthorp, John R., and H. E. Schroeder, to E. I. du Pont de Nemours and Co. Elastomeric terpolymers. 2,968,649, 1–17–61, Cl. 260—80.5.

Paragon Electric Co.: *See*—
Hautau, Llewellyn A. and C. F. 2,968,088.

Paramount Textile Machinery Co.: *See*—
Horberg, Charles, Jr. 2,968,710.

Parmater, Lee W., and R. M. Cain. Distributor contact point gap tester. 2,968,765, 1-17-61, Cl. 324—156.

Parrett, Dent, to Lambert Brake Corp. Combined retarder and auxiliary brake. 2,968,389, 1-17-61, Cl. 188—72.

Paton, Hamilton N. K., to Mervan & Co. Dischargeable bin with slopable floor. 2,968,425, 1-17-61, Cl. 222—195.

Paulson, Nils L., to Halsam Products Co. Toy building blocks. 2,968,118, 1-17-61, Cl. 46—19.

Pearce, James G., G. Sager, and A. E. Sowers, to General Dynamics Corp. Magnetic relay reset system. 2,968,749, 1-17-61, Cl. 317—148.

Pearson, Charles, Jr., and M. I. Glass; said Pearson assor. to said Glass. Toy. 2,968,121, 1-17-61, Cl. 46—118.

Pearson, Reinhold A., and B. Weremiczyk. Alternate delivery attachment for box setting up machines. 2,968,388, 1-17-61, Cl. 198—33.

Pearson, Richard K.: *See*—
Adams, Roy M., and Pearson. 2,968,531.

Pedersen, Bent H. Process and apparatus for producing sheets of thermoplastic material. 2,968,334, 1-17-61, Cl. 154—1.3.

Peeler, Cletus E., Jr., to Diamond Alkali Co. Chemical composition and process for soil stabilization. 2,968,572, 1-17-61, Cl. 106—74.

Pelican, Thomas. Finishing strip for roof edge. 2,968,128, 1-17-61, Cl. 50—67.

Pellaton, Ernest C., to Fibreboard Paper Products Corp. Carton for dispensing paper or like products. 2,968,431, 1-17-61, Cl. 229—17.

Pellerito, Charles, and E. E. Weiland. Tension or stretcher band for fence posts and the like. 2,968,470, 1-17-61, Cl. 256—47.

Pennsalt Chemicals Corp.: *See*—
Lawlor, Francis E. 2,968,667.

Pepe, Enrico J., to Union Carbide Corp. Chlorocyanoalkenylsilicon compounds. 2,968,666, 1-17-61, Cl. 260—448.2.

Pepper, Thomas P., and A. J. Pressesky, to Canadian Curtiss-Wright Ltd. Method and apparatus for direct measurement of mass per unit area. 2,968,729, 1-17-61, Cl. 250—83.6.

Perfect Circle Corp.: *See*—
Martin, Eugene J., and Kaiser. 2,968,707.

Perrossi, Joseph R., and J. N. Krueger, to The Pillsbury Co. Electro-optical apparatus for measuring volumes of solids. 2,968,210, 1-17-61, Cl. 88—14.

Perry, Milton A., J. B. Dickey, and A. G. Robinson, III, to Eastman Kodak Co. Process for preparing alkenyl oxazines. 2,968,657, 1-17-61, Cl. 260—244.

Peters, James W.: *See*—
Friedrich, Louis C., Jr., Peters, and Rector. 2,968,651.

Peters, Robert E., Jr. Telescopic sight protector. 2,968,099, 1-17-61, Cl. 33—50.

Peterson, Philip A. Paper coating machine. 2,968,279, 1-17-61, Cl. 118—407.

Petty, Charles O., ½ to La Gloria Oil and Gas Co. Solvent extraction of aromatic from aliphatic hydrocarbons using beta hydroxy ethyl-m-tolyl sulfide or beta hydroxy ethyl phenyl sulfide. 2,968,615, 1-17-61, Cl. 208—322.

Pfanstiel, Robert, F. M. Pralatowski, and H. A. Scruton. Urea production of symmetrical N,N dichlorbis (2,4,6, trichlorphenyl). 2,968,656, 1-17-61, Cl. 260—258.

Pfizer, Chas., & Co., Inc.: *See*—
Nubel, Robert C. 2,968,594.

Pharmacodynamics, Inc.: *See*—
Munch, James C. 2,968,566.

Phelon, Russell E. Wire retaining means for an ignition coil unit. 2,968,777, 1-17-61, Cl. 336—107.

Philco Corp.: *See*—
Johnson, Harold D. 2,968,172.
Lippincott, Holland S. 2,968,166.

Phillips, Floyd L., Jr., to Old Dominion Box Co., Inc. Hosiery package. 2,968,393, 1-17-61, Cl. 206—46.

Phillips Petroleum Co.: *See*—
Hepp, Harold J., and Drehman. 2,968,684.
Lapter, Dale E., and Coughenour. 2,968,306.

Photogrammetry, Inc.: *See*—
Merritt, Everett L. 2,968,228.

Picker X-Ray Corp., Waite Mfg. Division, Inc.: *See*—
Federaro, Anthony J. 2,968,732.

Pierce, Lanvin G.: *See*—
Geebel, Kenneth W., and Pierce. 2,968,150.

Piethe, Gerhardt H.: *See*—
Gould, Charles C., and Piethe. 2,968,754.

Pike, Winthrop S.: *See*—
Fiory, Leslie E., and Pike. 2,968,802.

Pillon, Dante A., and E. Kaplan, to American Cyanamid Co. Rubber antioxidant and method of preparation. 2,968,680, 1-17-61, Cl. 252—403.

Pillsbury Co., The: *See*—
Perrossi, Joseph R., and Krueger. 2,968,210.

Pinta, John G., and L. G. Eisen, to Reliable Packing Co. Method of preparing hams. 2,968,570, 1-17-61, Cl. 99—229.

Pintell, Robert H., to Intron International, Inc. Regulated source of alternating or direct current. 2,968,788, 1-17-61, Cl. 307—150.

Pion, Noel W.: *See*—
Sutton, George P., Albanese, Conyers, Pion, and Isaacs. 2,968,245.

Pittsburgh Plate Glass Co.: *See*—
Richardson, Ronald E. 2,968,126.

Plapper, Jurgen, and R. Heyden, to Bohme Fettchemie G.m.b.H. Process for increasing the water-resistance of leather. 2,968,580, 1-17-61, Cl. 117—135.5.

Plasti-Con Pipe Co.: *See*—
Williamson, Gilbert D., McNeill, and Tunsen. 2,968,081.

Plint, Dennis J. W.: *See*—
Bell, William C., Dunn, Hayden, Plint, and Searle. 2,968,174.

Ploquin, Jean, to Etablissements Sergent Laboratoires Prolac. Synergistic boric acid fungicidal compositions. 2,968,590, 1-17-61, Cl. 167—14.

Polaroid Corp.: *See*—
Buxsell, Harold O. 2,968,743.
Land, Edwin H. 2,968,554.

Poly Choke Co., Inc., The: *See*—
Steane, Herbert W. 2,968,111.

Porter, H. K., Co. Inc.: *See*—
Johnson, Robert. 2,968,669.

Porter, Robert D., to United Aircraft Corp. Maximum flow adjuster. 2,968,846, 1-17-61, Cl. 158—36.

Potter, Allen G., Jr., and R. G. Weyker, to American Cyanamid Co. Preparation of DPA over fluoride impregnated catalyst. 2,968,676, 1-17-61, Cl. 260—576.

Pouradier, Jacques: *See*—
Clavier, Alain C. A., and Pouradier. 2,968,568.

Powasi, Joseph: *See*—
Mahler, Benjamin, and Powasi. 2,968,423.

Powell, Edward R., to Johns-Manville Corp. Method and apparatus for cleaning and felting fibrous material. 2,968,069, 1-17-61, Cl. 19—156.

Power Jets (Research and Development) Ltd.: *See*—
Howell, Alun R., and Moss. 2,968,148.

Pralatowski, Frederick M.: *See*—
Pfanstiel, Robert, Pralatowski, and Scruton. 2,968,656.

Pratt, Robert H., to Laukhuff-Pratt Mfg. Corp. Article separating packages for flat articles such as surgical supplies. 2,968,396, 1-17-61, Cl. 206—63.2.

Pratt, William J., ½ to J. P. Malone. Adjustable contour knife. 2,968,057, 1-17-61, Cl. 15—236.

Preiss, Harry: *See*—
Kubel, Manfred, and Preiss. 2,968,488.

Prejean, Roger, to Societe Anonyme Defim. Improvement in reciprocating cutters for dry shavers and clippers. 2,968,095, 1-17-61, Cl. 30—43.

Premier Laundry, Inc.: *See*—
Hajos, Eugene. 2,968,449.

Pressesky, Andrew J.: *See*—
Pepper, Thomas P., and Pressesky. 2,968,729.

Preuss, Charles. Method for the treatment of produce. 2,968,568, 1-17-61, Cl. 99—193.

Probst, Robert L., P. I. Karp, C. H. Sayre, and A. H. Beebe, Jr., to Federal-Mogul-Bower Bearings, Inc. Atomizing nozzle and pouring cup assembly for the manufacture of metal powders. 2,968,062, 1-17-61, Cl. 18—2.5.

Puetz, William J., to Holwin Corp. Electric light socket for refrigerator panels. 2,968,783, 1-17-61, Cl. 339—59.

Pure Oil Co., The: *See*—
Bernard, George G. 2,968,616.
Carr, Norman L., and Brosowski. 2,968,631.
Folkins, Hillis O., Miller, and Lucas. 2,968,682.
Manteuffel, Allan A., and Gilson. 2,968,619.

Pursglove, Laurence A., to The Dow Chemical Co. Chloroteloyl esters. 2,968,673, 1-17-61, Cl. 260—479.

Quaker Chemical Products Corp.: *See*—
Kress, Bernard H. 2,968,581.

Quarnstrom, John E. Telephone supporting index device. 2,968,110, 1-17-61, Cl. 40—336.

Quinn, Lester: *See*—
Rutten, Walter. 2,968,416.

Radio Corp. of America: *See*—
Briggs, George R., and Lo. 2,968,795.
Fiory, Leslie E., and Pike. 2,968,802.
Mueller, Charles W., and Barton. 2,968,751.
Rajchman, Jan A., and Brown. 2,968,439.

Radzinsky, Harry: *See*—
Crockford, Joseph R. 2,968,107.

Rager, Donald M., Jr., to General Dynamics Corp. Electronic switching telephone system. 2,968,697, 1-17-61, Cl. 179—18.

Raifsnider, Harold S. Indicating dial bore gages. 2,968,102, 1-17-61, Cl. 33—178.

Rajchman, Jan A., and G. W. Brown, to Radio Corp. of America. Electronic digital binary computer. 2,968,439, 1-17-61, Cl. 235—175.

Ranco Inc.: *See*—
Raney, Estel C. 2,968,167.

Randolph, Woodruff, C. N. Brewer, and C. O. Goss, to International Typographical Union of North America. Line-up table having an angularly adjustable work surface. 2,968,115, 1-17-61, Cl. 45—131.

Raney, Estel C., to Ranco Inc. Defroster control. 2,968,167, 1-17-61, Cl. 62—156.

Rapkin, Edward, to Armour and Co. Preparation of anorganic bone. 2,968,593, 1-17-61, Cl. 167—74.

Rasen, John T. Induction system. 2,968,297, 1-17-61, Cl. 123—119.

Rasdow, Adolph. Apparatus for and method of controlling or inspecting of members or mechanical parts. 2,968,074, 1-17-61, Cl. 22—57.

Rector, Marion R.: *See*—
Friedrich, Louis C., Jr., Peters, and Rector. 2,968,651.

Reed, Arthur B., and G. W. Lyman, to Reed Rolled Thread Die Co. Two roll, cylindrical die machine for thread rolling. 2,968,201, 1-17-61, Cl. 80—6.

Reed, Bayard C., to M. I. Glass. Toy. 2,968,120, 1-17-61, Cl. 46—91.

Reed Rolled Thread Die Co.: *See*—
Reed, Arthur B., and Lyman. 2,968,201.

Reed, Winston H., to Shulton, Inc. Propellant composition. 2,968,628, 1-17-61, Cl. 252—305.

Reese, Frank P. Child's convertible furniture article. 2,968,338, 1-17-61, Cl. 155—43.

Refining, Inc.: *See*—
Thurman, Benjamin H. 2,968,559.

Regan, Joseph J.: *See*—
Rutten, Walter. 2,968,416.

Rehrig, Houston, to Rehrig Pacific Co. Milk crate. 2,968,417, 1-17-61, Cl. 220—19.

Rehrig Pacific Co.: *See*—
Rehrig, Houston. 2,968,417.

Reichardt, Mayo M., to General Motors Corp. Involute generating device and indexing mechanism therefor. 2,968,133, 1–17–61, Cl. 51—123.

Reichelderfer, Charles A., to Nu-Way Corp. Oil burner construction. 2,968,349, 1–17–61, Cl. 158—76.

Reichhold Chemicals, Inc.: *See*—
Ephraim, Salim N. 2,968,672.

Reiner, Kenneth. Gang nut retainer and shroud assembly therefor. 2,968,329, 1–17–61, Cl. 151—41.71.

Reiners, Walter: *See*—
Wiggermann, Georg. 2,968,296.

Reliable Packing Co.: *See*—
Pinta, John G., and Eisen. 2,968,570.

Repeal Brass Mfg. Co.: *See*—
Camp, Alfred L. 2,968,313.

Reykjalin, Charles, to Koren Research & Engineering Co. Friction controlling powder for frictional devices. 2,968,617, 1–17–61, Cl. 252—30.

Richardson, Ronald E., to Pittsburgh Plate Glass Co. Blowing frame for tempering glass sheets. 2,968,126, 1–17–61, Cl. 49—45.

Richey, David M., to Emhart Mfg. Co. Hydraulic system for a boom structure. 2,968,154, 1–17–61, Cl. 60—54.5.

Reister, Oskar, to Agfa Aktiengesellschaft. Multi layer photographic materials containing dyes having sharp green absorption. 2,968,556, 1–17–61, Cl. 96—69.

Riley, Robert W.: *See*—
Erickson, Harold E., Riley, and Schubert. 2,968,389.

Rimbach, Henry W., to Westinghouse Electric Corp. Green halophosphate phosphor. 2,968,626, 1–17–61, Cl. 252—301.4.

Ringold, Howard J., F. Sondheimer, and G. Rosenkranz, to Syntex S.A. 14α,15α-epoxido-Δ⁴-pregnen-21-ol-3,20-dione and esters thereof. 2,968,656, 1–17–61, Cl. 260—239.55.

Ringold, Howard J., C. Djerassi, A. Bowers, and M. Velasco, to Syntex S.A. 6-halo-6-dehydro derivatives of 11-oxygenated-9α-haloprogesterones. 2,968,662, 1–17–61, Cl. 260—397.3.

Rizzo, Olympio C. Pneumatic jump boot construction. 2,968,105, 1–17–61, Cl. 36—2.5.

Roberge, Guy. Hoist for beds. 2,968,048, 1–17–61, Cl. 5—10.

Roberts, Franklin B.: *See*—
Mehlhorn, Carl E., and Roberts. 2,968,139.

Roberts, John S., and J. K. Rose, to Union Carbide Corp. Stabilized polypropylene with an A-stage paratertiaryalkylphenol-formaldehyde resin. 2,968,641, 1–17–61, Cl. 260—43.

Robertson, Harry R. Emergency elevator circuit. 2,968,364, 1–17–61, Cl. 187—29.

Robinson, Alfred G.: *See*—
Perry, Milton A., Dickey, and Robinson. 2,968,657.

Robinson, Ivan M.: *See*—
Baxter, Warren N., and Robinson. 2,968,650.

Robinson, Samuel B.: *See*—
Baldwin, Francis P., and Robinson. 2,968,587.
Baldwin, Francis P., and Robinson. 2,968,588.

Rocchini, Albert G., and C. E. Trautman, to Gulf Research & Development Co. Vanadium-containing residual fuels modified with zinc and alkali metal compounds. 2,968,148, 1–17–61, Cl. 60—35.6.

Rocco, Pasquale W.: *See*—
Johnson, Ellsworth L., Rocco, and Ross. 2,968,791.

Rode, James A.: *See*—
North, Edward D., Rode, and Tompkin. 2,968,551.

Rodriguez, Michael J., to Empire Devices, Inc. Microwave attenuation units. 2,968,774, 1–17–61, Cl. 333—81.

Rohr Aircraft Corp.: *See*—
Goebel, Kenneth W., and Pierce. 2,968,150.

Roller, Albert E., to General Motors Corp. Anti-squat swing axle suspension. 2,968,357, 1–17–61, Cl. 180—73.

Rose, Charles F. P., to Bell Telephone Laboratories, Inc. Electromagnetic wave attenuator. 2,968,775, 1–17–61, Cl. 333—81.

Rose, Julian K.: *See*—
Roberts, John S., and Rose. 2,968,641.

Rosenberg, Richard: *See*—
Hannaford, Bruce A., Rosenberg, Segaser, and Terry. 2,968,183.

Rosenkranz, George: *See*—
Djerassi, Carl, and Rosenkranz. 2,968,654.
Ringold, Howard J., Sondheimer, and Rosenkranz. 2,968,656.

Ross, Dan C.: *See*—
Johnson, Ellsworth L., Rocco, and Ross. 2,968,791.

Roswell, Kenneth E., to Edwards Co. Inc. Solderless connector. 2,968,780, 1–17–61, Cl. 339—17.

Rowland, Walter P.: *See*—
Martin, Kenneth P., and Rowland. 2,968,430.

Royle, Joseph K., and A. Williams, to National Research Development Corp. Servo controlled drive mechanism. 2,968,144, 1–17–61, Cl. 60—6.

Rubinstein, David, and E. K. Wilip, to W. R. Grace & Co. Vinyl 2-ethylhexyl chlorendate. 2,968,671, 1–17–61, Cl. 260—468.

Rubinstein, Harry W., S. B. Williams, and J. E. Dornfeld, to Sprague Electric Co. Multiple capacitor. 2,968,752, 1–17–61, Cl. 317—242.

Ruet, Jean, to The Bendix Corp. Disk brakes. 2,968,370. 1–17–61, Cl. 188—73.

Ruhl, Charles A. L.: *See*—
Henning, James C., and Ruhl. 2,968,232.

Runkle, Raymond B., to Hexcel Products Inc. Pneumatic hold down device. 2,968,712, 1–17–61, Cl. 219—82.

Ruschig, Heinrich, W. Aumuller, G. Korger, H. Wagner, J. Scholz, and A. Bander, to The Upjohn Co. New benzene sulfonyl ureas; composition and process for lowering blood sugar therewith. 2,968,153, 1–17–61, Cl. 167—55.

Russell, Lindsay, to Andrew Alford. Steerable antenna array. 2,968,808, 1–17–61, Cl. 343—854.

Rutgers Research and Educational Foundation: *See*—
Greenspan, George, and Schaffner. 2,968,595.

Rutten, Marion: *See*—
Rutten, Walter. 2,968,416.

Rutten, Walter, deceased (M. Rutten, L. Quinn, and J. J. Regan, executors). Silo lug. 2,968,416, 1–17–61, Cl. 217—96.

Sacchini, Columbus R., and D. R. Tomko, to Curtiss-Wright Corp. Spring clutch mechanism. 2,968,380, 1–17–61, Cl. 192—81.

Sachs, Henry. Power can opener. 2,968,094, 1–17–61, Cl. 30—4.

Sager, Gunter: *See*—
Pearce, James G., Sager, and Sowers. 2,968,749.

Sagoma, Charles. Article for use in an electrical switch device or in a thermostatically-controlled mechanism. 2,968,708, 1–17–61, Cl. 200—113.

Salla, Samuel N. Motion picture projection screen of the front projection type. 2,968,219, 1–17–61, Cl. 88—26.9.

Salem Engineering Ltd.: *See*—
Lawson, John J. 2,968,424.

Salminen, Wilho M., and W. J. Weyerts, to Eastman Kodak Co. Film products having pectin layers. 2,968,582, 1–17–61, Cl. 117—144.

Salz, Harvey: *See*—
Sard, Eugene W., and Salz. 2,968,797.

Samuel, Arthur J., to Gulf Research & Development Co. Gravity actuated valves for pressurized dispensers. 2,968,428, 1–17–61, Cl. 222—394.

Sandberg, Irwin W., to Bell Telephone Laboratories, Inc. Active one-port network. 2,968,773, 1–17–61, Cl. 333—80.

Sard, Eugene W., and H. Salz, to United States of America, Army. Magnetic core binary counter system. 2,968,797, 1–17–61, Cl. 340—174.

Saunders, George H., and H. S. Hedberg, to Kimberly-Clark Corp. Continuous pulp bleaching method. 2,968,589, 1–17–61, Cl. 162—19.

Saunders, Robert G. Dust guard. 2,968,498, 1–17–61, Cl. 286—6.

Sayre, Charles H.: *See*—
Probst, Robert L., Karp, Sayre, and Beebe. 2,968,062.

Scaramucci, Domer. Wire line oil saver for use with cylindrical packing. 2,968,500, 1–17–61, Cl. 286—16.

Scaramucci, Domer. Long life cylindrical packing for oil savers and like devices. 2,968,505, 1–17–61, Cl. 288—13.

Scarvelis, Gus, to Continental Can Co., Inc. Static load tester. 2,968,179, 1–17–61, Cl. 73—95.

Schafer, Curtiss R. Alternating current bridges. 2,968,180, 1–17–61, Cl. 73—304.

Schaffner, Carl P.: *See*—
Greenspan, George, and Schaffner. 2,968,595.

Scharf, Murray M., to Louis Milani Foods, Inc. Chicken concentrate and method of making same. 2,968,569, 1–17–61, Cl. 99—208.

Scheldrup, Alfred H. Rail guide carriage for vehicles. 2,968,260, 1–17–61, Cl. 105—215.

Schenk, George F.: *See*—
Wright, John R., and Schenk. 2,968,213.

Schilling, Clarence J., and C. McKinley, to Air Products Inc. Method and apparatus for separating gaseous mixtures including high boiling point impurities. 2,968,160, 1–17–61, Cl. 62—14.

Schjolin, Hans O., and D. K. Isbell, to General Motors Corp. Fluid-cooled vehicle disc brake. 2,968,368, 1–17–61, Cl. 188—72.

Schlumberger Well Surveying Corp.: *See*—
Schuster, Nick A. 2,968,762.

Schmidt, Martin: *See*—
Nees, Hugo, and Schmidt. 2,968,545.

Schneider, Edward J., to United States Steel Corp. Control for an uncoiler. 2,968,451, 1–17–61, Cl. 242—75.51.

Schnell, Ernst E., to Deere & Co. Slide control mechanism for fertilizer distributor. 2,968,264, 1–17–61, Cl. 111—67.

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Schutte, August H., to The Lummus Co. Process for the simultaneous desulfurization and coking of a residual petroleum fraction. 2,968,611, 1–17–61, Cl. 208—126.

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Scialiano, Clement, and R. Carles, to Societe des Couleurs de Provence. Method of producing an iron oxide chromium oxide complex. 2,968,638, 1–17–61, Cl. 252—470.

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TRADEMARKS

NOTICES

Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 338,738 (DONNATAL), A. H. Robins Company, Inc., Medicinal preparation used in the treatment of gastro-intestinal disturbances, filed Dec. 5, 1960, D.C., E.D. Pa. (Philadelphia), Doc. 28/933, *A. H. Robins Company, Inc.* v. *David Rosen et al.* Same filed same, *A. H. Robins Co., Inc.* v. *Samuel L. Magner et al.*

Reg. No. 340,485 (SCOTT'S AND DESIGN), The O. M. Scott & Sons Company, Field, garden and grass seeds; Reg. No. 341,000, same; Reg. No. 562,464 (SCOTTS), O. M. Scott & Sons Company, Fertilizers for the farm, golf courses and lawns; Reg. No. 562,454, same, Hand operated mechanical wheeled spreaders for seeding, weeding and feeding; Reg. No. 562,900, same, Chemical preparation designed for controlling land destroying weeds; Reg. No. 562,499 (SCOTT), same, Lawn spreaders; Reg. No. 562,249 (SCOTTS), same, Electric lawn mowers and cord handler reels, filed Nov. 28, 1960, D.C., E.D. Mich. (Detroit), Doc. 20/692, *The O. M. Scott & Sons Company* v. *Morton Surowitz, doing business as Morton's Nursery et al.*

Reg. No. 341,000. (See Reg. No. 340,485.)

Reg. No. 342,491 (CHESTER BARRIE AND DESIGN), Simon Ackerman Clothes, Inc., Men's and young men's suits, overcoats, tuxedos, dress suits, morning coats, sport suits and topcoats, filed Jan. 17, 1956, D.C., S.D.N.Y., Doc. 106/215, *Chester Barrie, Ltd.* v. *The Chester Laurie, Ltd. et al., doing business as Dependable Clothing Company.* Defendants enjoined Dec. 5, 1960.

Reg. No. 522,754 (CHRISTIAN DIOR), Societe a Responsabilite Limitee, Comptoir de l'Industrie Cotonniere, Junior misses', misses' and ladies' coats, dresses, etc.; Reg. No. 537,346, same, Umbrellas; Reg. No. 540,975, same, Dressmaker's forms; Reg. No. 541,002, same, Gloves; Reg. No. 541,012, same, Textile fabrics; Reg. No. 542,994, same, Bags and belts; Reg. No. 557,977, same, Leather belts for personal wear; Reg. No. 559,033, same, Ladies' stockings; Reg. No. 559,207, same, Jewelry for personal wear, not including watches; Reg. No. 562,998 (DIOR) same, Junior misses', misses' and ladies' coats, dresses, etc.; Reg. No. 562,225 (CHRISTIAN DIOR), Comptoir de l'Industrie Cotonniere, Etablissements Boussac, Societe a Responsabilite Limitee, Men's and boys' coats, suits, jackets, etc.; Reg. No. 612,236 (DIOR), same; Reg. No. 637,000 (CHRISTIAN DIOR), same, Neckties, cravats and bow ties; Reg. No. 639,714, same, Beach wear and swim suits for men and women; Reg. No. 658,550 (DIOR), same, filed Nov. 23, 1960, D.C., S.D.N.Y., Doc. 60/4639, *Societe Comptoir de l'Industrie Cotonniere Etablissements Boussac, Christian Dior, Societe a Responsabilite Limitee, Paris et al.* v. *Alexander's Department Stores, Inc.*

Reg. No. 537,346. (See Reg. No. 522,754.)

Reg. No. 540,975. (See Reg. No. 522,754.)

Reg. No. 541,002. (See Reg. No. 522,754.)

Reg. No. 541,012. (See Reg. No. 522,754.)

Reg. No. 542,994. (See Reg. No. 522,754.)

Reg. No. 562,464. (See Reg. No. 340,485.)

Reg. No. 562,454. (See Reg. No. 340,485.)

CONDITION OF TRADEMARK APPLICATIONS AS OF NOVEMBER 30, 1960

Total number of applications awaiting action [excluding renewals and Sec. 12 (c)]	11,901
Date of oldest new application	June 3, 1960
Date of oldest amended application	June 1, 1960

J. H. MERCHANT, Director, Trademark Examining Operation

TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application: New	Oldest Application: Amended
(I) C. M. WENDT, Classes 2, 3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 39, 40, 41, 42, 43, 44, 50	6-17-60	7-4-60
(II) H. E. KASCHUB (Acting), Classes 1, 6, 18, 22, 37, 38, 45, 46, 47, 48, 49, 51, 52; Service Mark Classes 100, 101, 102, 103, 104, 105, 106, 107; Collective Membership Marks, Class 200; Certification Marks, Classes A and B	6-9-60	6-1-60
Renewals (All Classes)	11-19-60	11-29-60
Sec. 12 (c) Publications (All Classes)	11-1-60	11-29-60

Applications filed during the month of November 1960—1833

Registrations Issued	297—No. 709,784 to No. 710,080
Renewals Issued	60

The TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington 25, D. C., to whom all subscriptions should be made payable and all communications addressed; subscription price, $10.00 per annum, foreign mailing $3.75 additional; single copies, 20 cents each.

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Reg. No. 562,960. (See Reg. No. 340,485.)

Reg. No. 567,077. (See Reg. No. 523,754.)

Reg. No. 569,668. (See Reg. No. 523,754.)

Reg. No. 571,798 (ROQUEFORT), The Community of Roquefort, Cheese, filed Sept. 1, 1960, D.C., S.D. Calif. (Los Angeles), Doc. 1013/60–WM, *Community of Roquefort et al. v. The Retreat, Inc.* Consent judgment; defendant restrained Nov. 30, 1960.

Reg. No. 580,207. (See Reg. No. 523,754.)

Reg. No. 582,206. (See Reg. No. 523,754.)

Reg. No. 591,225. (See Reg. No. 523,754.)

Reg. No. 613,206. (See Reg. No. 523,754.)

Reg. No. 627,909. (See Reg. No. 523,754.)

Reg. No. 638,714. (See Reg. No. 523,754.)

Reg. No. 658,550. (See Reg. No. 523,754.)

Reg. No. 662,420. (See Reg. No. 340,485.)

Reg. No. 668,248. (See Reg. No. 340,485.)

MARKS PUBLISHED FOR OPPOSITION

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Notice of opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.
As provided by section 31 of said act, a fee of twenty-five dollars must accompany each notice of opposition.

Class 1—Raw or Partly Prepared Materials

SN 87,553. Forté-Fairbairn Inc., Needham Heights, Mass. Filed Dec. 18, 1959.

Forté

Owner of Reg. No. 401,297.
For Non-Synthetic Fibers.
First use June 6, 1955.

SN 88,403. Los Angeles Felt Co., Inc., Los Angeles, Calif. Filed Jan. 4, 1960.

FOAMSPUN

For Batting.
First use in or about August 1952.

SN 91,357. The Dow Chemical Company, Midland, Mich. Filed Feb. 23, 1960.

DERASPAN

For Solid Masses of Synthetic Resinous Foam; Expansible Synthetic Resins in Granular Form; and Liquid Thermosettable Synthetic Resins.
First use Apr. 13, 1959.

SN 91,989. Arbor Acres Farm, Inc., Glastonbury, Conn. Filed Mar. 2, 1960.



The representation of the chicken is disclaimed apart from the mark shown. Owner of Reg. No. 604,668.
For Live Poultry, Baby Chicks, and Hatching Eggs.
First use Feb. 28, 1957; Mar. 15, 1952, as to "Arbor Acres."

SN 97,200. The General Tire & Rubber Company, Akron, Ohio. Filed May 16, 1960.

ACRI-FLO

For Synthetic Latices.
First use February 1958.

SN 98,226. Lakeland Nurseries Sales Corporation, New York, N.Y. Filed June 1, 1960.

BEAUTILITY

For Rose Plants.
First use May 24, 1960.

SN 102,234. William Greiner Company, Chicago, Ill. Filed Aug. 8, 1960.

GOBI

For Leather.
First use June 1959.

SN 102,296. Armour and Company, Chicago, Ill. Filed Aug. 9, 1960.

BORDEAUX

For Upper Leather.
First use June 27, 1960.

SN 102,383. The Firestone Tire & Rubber Company, Akron, Ohio. Filed Aug. 10, 1960.

DIENE H

For Composition of Synthetic Rubber or Rubber-Like Materials in Dry Form.
First use July 1, 1960.

SN 102,600. Aerojet-General Corporation, Azusa, Calif. Filed Aug. 15, 1960.

Aero REZ

For Synthetic Resins.
First use in about October 1957.

SN 102,613. Beagle Manufacturing Co., Inc., Pasadena, Calif. Filed Aug. 15, 1960.

Ideal

For Florist Clay.
First use June 29, 1960.

SN 102,646. Fouke Fur Company, St. Louis, Mo. Filed Aug. 15, 1960.

LAKODA

For Seal Skins.
First use Aug. 8, 1960.

Class 2—Receptacles

SN 99,293. Burn-Strauss, Inc., d.b.a. Woodpecker Woodware, Los Angeles, Calif. Filed June 20, 1960.

WW

For Canister Sets, Trays, Bread Boxes, Cookie Jars, Paper Dispensers, Spice Jars, Cutting Boards, Salt and Pepper Shakers, Knife Racks, Hamburger Presses, Recipe Card Files, Cigarette and Soap Dispensers, Napkin Holders, Bread Trays, Condiment Holding Sets, Carving Boards, Serving Sets, Hors d'Oeuvres Holders, Ice Buckets, Nut Bowls, Candy Bowls, Dip Bowls, Salad Bowls, Serving Bowls, Match Holders and Tissue Dispensers.
First use Feb. 1, 1956.

SN 99,815. Elgin Metal Casket Company, Elgin, Ill. Filed June 20, 1960.

ELGIN

For Burial Caskets and Parts and Equipment Therefor.
First use Oct. 1, 1925.

SN 103,070. Formed Container Corporation, Orangeburg, N.Y. Filed Aug. 15, 1960.

FCC

For Plastic Bags, Cups, Trays, Cartons, Boxes, Bowls, and Dishes.
First use on or about May 4, 1960.

SN 103,876. Roberts, Sanford & Taylor Company, Sherman, Tex. Filed Sept. 2, 1960.

TEXOMA

Owner of Reg. Nos. 79,007, 433,200, and 435,477.
For Water Cans and Coolers.
First use on or about Jan. 1, 1951.

Class 4—Abrasives and Polishing Materials

SN 84,926. McAleer Manufacturing Corp., Detroit, Mich. Filed Nov. 9, 1959.

SPEEDIE RUB

Owner of Reg. No. 372,543.
For Polishing and Cleaning Compound for Enamel and Lacquer Surfaces.
First use June 1, 1929.

SN 100,361. The Globe Steel Abrasive Company, Mansfield, Ohio. Filed July 6, 1960.

GLOBITE

For Abrasive Shot and Grit Used in Cleaning Both Ferrous and Non-Ferrous Castings, Steel Sheets and Strip, and Steel Forgings and the Like.
First use Feb. 2, 1960.

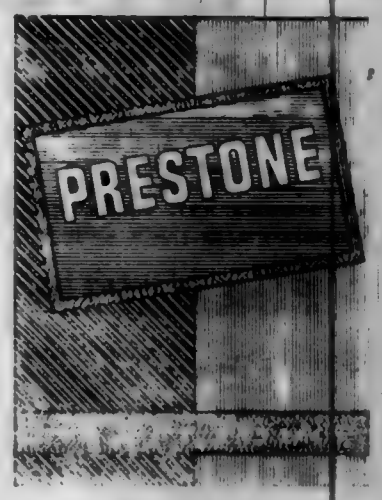
SN 100,545. Shoe-Sheen Products Corporation, New York, N.Y. Filed July 8, 1960.

SHOE*SHEEN

Owner of Reg. No. 684,595.
For Shoe Shine Kits Comprising a Container, Shoe Polish, and Shoe Brush and Buffer Combination.
First use May 3, 1958.

Class 6—Chemicals and Chemical Compositions

SN 73,633. Union Carbide Corporation, New York, N.Y. Filed May 13, 1959.



The drawing is lined to indicate the colors blue, red and silver, the said colors being part of the mark. Owner of Reg. Nos. 181,657, 590,696, and 590,708.
For Anti-Freeze.
First use in October 1953; on or about Nov. 5, 1923, as to "Prestone."

SN 77,265. Carnegies of Welwyn Limited, Welwyn Garden City, England. Filed July 8, 1959.



TREE OF LIFE

Priority claimed under Sec. 44(d) on British Reg. No. 787,996, dated Mar. 3, 1959.
For Chemicals for Use in the Manufacture of Pharmaceutical Preparations.

SN 81,259. The Dow Chemical Company, Midland, Mich. Filed Sept. 14, 1959.

VIDDEN

For Soil Fumigant.
First use July 20, 1959.

SN 81,260. The Dow Chemical Company, Midland, Mich. Filed Sept. 14, 1959.

CUBIDOW

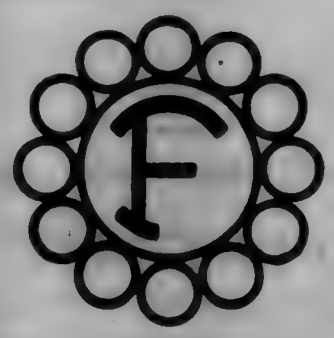
For Compacted Salt Comprising Either or Both Calcium Chloride and Sodium Chloride.
First use July 20, 1959.

SN 81,261. The Dow Chemical Company, Midland, Mich. Filed Sept. 14, 1959.

TIPPON

For Herbicide.
First use July 20, 1959.

SN 82,419. Fisher Scientific Company, Pittsburgh, Pa. Filed Sept. 30, 1959.



Owner of Reg. Nos. 402,841 and 588,093.
For Reagent Chemicals for Laboratory Use.
First use Sept. 1, 1936.

SN 89,850. Fuld Brothers, Inc., d.b.a. Just Distributors, Inc., Baltimore, Md. Filed Jan. 20, 1960.

DDI

For Deodorant-Disinfectant-Insecticide Composition.
First use Nov. 2, 1959.

SN 90,667. R. T. Vanderbilt Company, Inc., New York, N.Y. Filed Feb. 9, 1960.

CUVAN

For Dry Bordeaux Mixture.
First use Jan. 8, 1960.

SN 90,968. Well Completions, Incorporated, Denver, Colo. Filed Feb. 15, 1960.

WELL-FOAM

For Foaming Agent for Air and Gas Drilling.
First use on or about Dec. 1, 1959.

SN 90,969. Well Completions, Incorporated, Denver, Colo. Filed Feb. 15, 1960.

WELL-PARCH

For Drying Agent for Air and Gas Drilling.
First use on or about Dec. 1, 1959.

SN 91,327. Emily E. Armbruster, d.b.a. Emily Armbruster Associates, Arlington, N.J. Filed Feb. 23, 1960.

ELUDE

For Room or Household Deodorant—Namely, a Liquid Sachet To Be Sprayed on Absorbent Surfaces Particularly Wood and the Like.
First use July 24, 1958.

SN 91,746. Baxter Laboratories, Inc., d.b.a. Wallerstein Company, Morton Grove, Ill. Filed Feb. 29, 1960.

P-1-X

For Agent for Protection Against Moth and Mildew Damage to Fabrics.
First use Jan. 11, 1960.

SN 92,706. Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, assignee of Carbic-Hoechst Corporation, New York, N.Y. Filed Mar. 14, 1960.

HOSTAFIL

For Dyestuffs.
First use February 1959; in commerce February 1959.

SN 94,530. Vereinigte Ultramarinfabriken Aktiengesellschaft vormals Leverkus, Zeltner & Consorten, Marienberg, near Bensheim (Bergstrasse), Germany. Filed Apr. 6, 1960.



Priority claimed under Sec. 44(d) on German application filed Oct. 8, 1959; Reg. No. 734,580, dated Mar. 10, 1960.
For Dyes, Dyestuffs, Pigments; Bleaching Agents; Disinfectants and Fungicides.

SN 94,531. Vereinigte Ultramarinfabriken Aktiengesellschaft vormals Leverkus, Zeltner & Consorten, Marienberg, near Bensheim (Bergstrasse), Germany. Filed Apr. 6, 1960.



Priority claimed under Sec. 44(d) on German application filed Oct. 8, 1959; Reg. No. 734,579, dated Mar. 10, 1960.
For Dyes, Dyestuffs, Pigments; Bleaching Agents; Disinfectants and Fungicides.

SN 95,267. General Development Corporation, Miami, Fla. Filed Apr. 18, 1960.

DURAMIR

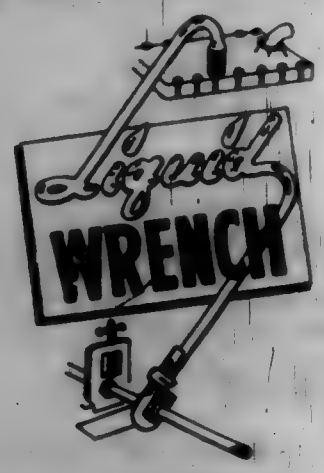
For Chemicals Used in Pretreating Base Metal Surfaces Preparatory to Chromium Plating and in Plating Chromium on Base Metal Surfaces.
First use Feb. 19, 1960.

SN 96,982. Farmers Elevator Service Company, Fort Dodge, Iowa. Filed June 14, 1960.

FELCO

Owner of Reg. No. 600,806.
For Seed Inoculants, Soil and Grain Fumigants, Fungicides, Insecticides, Herbicides, and Anthelmintics.
First use April 1950.

SN 99,657. Radiator Specialty Company, Charlotte, N.C. Filed June 24, 1960.



Owner of Reg. Nos. 395,837 and 593,495.
For Chemical Preparation in Liquid Form for Removing Aluminum Cylinder Heads, Loosening Stuck Valve Guides, Frozen Kingpins, Loosening Nuts and Bolts or Other Parts Held Fast by Rust or Carbon.
First use Aug. 18, 1941.

SN 99,721. Colgate-Palmolive Company, New York, N.Y. Filed June 27, 1960.

COLGATE

Owner of Reg. Nos. 346,512 and 358,659.
For Disinfectant.
First use Feb. 8, 1960.

SN 100,256. Hyland Laboratories, Los Angeles, Calif. Filed July 5, 1960.

TA-TEST

Owner of Reg. Nos. 689,810 and 691,476.
For Diagnostic Reagent for Laboratory Use To Determine Thyroglobulin Autoprecipitin in Blood.
First use Mar. 21, 1960.

SN 100,355. E. I. du Pont de Nemours and Company, Wilmington, Del. Filed July 6, 1960.

ZONYL

Owner of Reg. No. 703,428.
For Fluoroalkyl Esters.
First use Feb. 18, 1960.

Class 12 — Construction Materials

SN 57,778. Abram Finkel, d.b.a. Keystone Shower Door Co., Southampton, Pa. Filed Aug. 25, 1958.



For Shower Doors.
First use June 6, 1958.

SN 80,456. Tibbals Flooring Company, Oneida, Tenn. Filed Aug. 28, 1959.

DURA-TEST

Owner of Reg. No. 665,593.
For Finish Applied to Wood Tile Flooring at the Source of Manufacture.
First use at least as early as July 1959.

SN 95,915. Monostructure, Inc., Sarasota, Fla. Filed Apr. 27, 1960.

PLASTICOMB

For Synthetic Resinous Panels, Doors and Skylights.
First use November 1956.

SN 98,283. Holt Hardwood Company, Oconto, Wis. Filed June 2, 1960.

HOLT END TO END

Owner of Reg. No. 600,508.
For Wood Strips Arranged for Inter-Engagement With One Another Along Their Longitudinal Edges To Form Flooring Units.
First use Feb. 10, 1953.

SN 100,776. Green Bag Cement Company, Pittsburgh, Pa. Filed July 13, 1960.



Owner of Reg. No. 590,479.
For Cement and Mortar.
First use May 18, 1960.

SN 103,009. The Biddle Company, St. Louis, Mo. Filed Aug. 19, 1960.

PERMA BED

For Bedding Adhesives and Sealers.
First use on or about May 8, 1956.

SN 103,036. Monarch Tile Manufacturing Inc., San Angelo, Tex. Filed Aug. 19, 1960.

MULTI-SET

For Ceramic Building Tile.
First use on or about June 1, 1958.

SN 103,046. Plibrico Company, Chicago, Ill. Filed Aug. 19, 1960.

ERO-ZIST

For Castable Refractory Material.
First use Aug. 3, 1960.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

SN 87,310. Blaw-Knox Company, Pittsburgh, Pa. Filed Dec. 14, 1959.

COPES VULCAN

Owner of Reg. No. 174,511.
For Boiler Control and Equipment—Namely, Pressure Alarms and Steam and Hot Water Control Valves, Regulators for Flow, Level, and Pressure.
First use on or about Mar. 15, 1954.

SN 95,430. Grayson-Lint & Co., Secaucus, N.J. Filed Apr. 20, 1960.

HI-TROL

For Fasteners, Such as Machine Screws, Nuts, Bolts, and Washers.
First use on or before Mar. 1, 1960.

SN 98,599. Sterling Bolt Company, Chicago, Ill. Filed June 7, 1960.

DISPENS-O-BOX

For Boxes Sold Filled With Bolts, Nuts, Screws, Rivets, and Metallic Washers.
First use Apr. 12, 1960.

SN 98,802. Joe Lowe Corporation, New York, N.Y. Filed June 10, 1960.

SICLE

Owner of Reg. Nos. 528,330, 706,062, and others.
For Brass Flower Planters.
First use during the month of January 1957.

SN 100,548. Superior Valve and Fittings Company, Pittsburgh, Pa. Filed July 8, 1960.

Tapzall

For Line Piercing Valves, i.e., Valves Designed To Be Clamped to an Existing Pipe Line and Which, Upon the First Turning of the Valve Member to Closed Position, Pierces a Hole in the Pipe Which May Thereafter Be Opened or Closed by Turning the Valve Member in One Direction or the Other.
First use on or about Feb. 1, 1960.

SN 100,603. H & H Enterprises, River Falls, Wis. Filed July 11, 1960.

SANI-GUIDE

For Pipeline Insert for Straining Foreign Particles From a Liquid Flowing in a Pipeline.
First use Feb. 23, 1960.

SN 100,646. Speakman Company, Wilmington, Del. Filed July 11, 1960.

EYEFRESHNER

For Fountain for Washing Human Eyes.
First use June 24, 1960.

SN 100,752. Edward W. Bonslett, d.b.a. Material Handling Specialties Co., Chicago, Ill. Filed July 13, 1960.

KA-SAVER

For Skid Members.
First use on or about Apr. 22, 1959.

SN 100,780. The Imperial Brass Manufacturing Company, Chicago, Ill. Filed July 13, 1960.

HYTRON

For Fittings and Couplings.
First use Mar. 3, 1960.

Class 14—Metals and Metal Castings and Forgings

SN 83,346. Atlantic Steel Corp., New York, N.Y. Filed Oct. 16, 1959.

ATLANTIC

For Tool Steel Bars.
First use in September 1929.

SN 86,288. Kaiser Aluminum & Chemical Corporation, Oakland, Calif. Filed Nov. 30, 1959.

KALCOLOR

For Oxide Coated Fabricated Aluminum and Aluminum Alloy Products Including Sheet and Extruded Shapes.
First use on or about Oct. 30, 1959.

SN 97,508. The Morgan Sign Machine Co., Chicago, Ill. Filed May 19, 1960.

BON-AIR

Owner of Reg. No. 688,691.
For Printing Type.
First use June 30, 1958.

SN 98,470. Martin Golden & Son, Inc., Providence, R.I. Filed June 6, 1960.

GOLDENCAST

For Casting and Stamping Alloys.
First use on or about May 20, 1960.

SN 98,491. Kaiser Aluminum & Chemical Corporation, Oakland, Calif. Filed June 6, 1960.

MICRO-CHIP

For Metal Rods, Bars and Wire, All Used as Screw Machine Stock.
First use on or about Mar. 16, 1960.

SN 98,578. Fromson Orban Company, Inc., New York, N.Y. Filed June 7, 1960.

FACETTE

For Aluminum Having a Distinctive Surface Finish.
First use on or about May 4, 1960.

SN 99,879. Universal Marketing Association, Inc., New York, N.Y. Filed June 20, 1960.

UNIVERSAL

For Aluminum Foil.
First use Jan. 4, 1960.

SN 99,976. Waterbury Rolling Mills, Inc., Waterbury, Conn. Filed June 29, 1960.



The drawing is lined to indicate the color green.
For Copper-Nickel Alloy Shields To Protect Wooden Piles, Telephone Poles, Etc. To Render Them Watertight and Protect Them From Infestation of Worms.
First use on or about June 1, 1960.

Class 15—Oils and Greases

SN 94,023. Societe des Huiles Labo, Societe Anonyme, Paris, France. Filed Mar. 30, 1960.

LABO

Owner of French Reg. No. 469,803, dated Jan. 24, 1958 (Paris); Natl. Inst. No. 101,772; and U.S. Reg. No. 609,415.
For Lubricating Oils, Lubricating Greases, Cutting Oils, Oils for Motors and Power-Driven Industrial Machines.

SN 94,024. Societe des Huiles Labo, Societe Anonyme, Paris, France. Filed Mar. 30, 1960.

LABO MAJOR

Owner of French Reg. No. 470,322, dated Feb. 13, 1958 (Paris); Natl. Inst. No. 103,004; and U.S. Reg. No. 609,415.
For Lubricating Oils, Lubricating Greases, Cutting Oils, Oils for Motors and Power-Driven Industrial Machines.

SN 97,178. Dearborn Chemical Company, Chicago, Ill. Filed May 16, 1960.

d

For Fuel Oil Sludge Dispersants—Namely, an Additive for Petroleum Products Used as Fuels To Prevent Moisture and Insoluble Material Contained Therein From Forming Sludges Which Stop Up Fuel Lines.
First use Feb. 5, 1960.

SN 102,051. J. A. Postell, Atlanta, Ga. Filed Aug. 4, 1960.

SUPER-MOLY

For Lubricant Having Molybdenum Disulphide.
First use May 27, 1960.

Class 16—Protective and Decorative Coatings

SN 97,179. Dearborn Chemical Company, Chicago, Ill. Filed May 16, 1960.

d

For Rust Preventative Protective Coatings.
First use Apr. 1, 1960.

SN 99,676. Sun Chemical Corporation, New York, N.Y. Filed June 24, 1960.

TREADSURE

For Slip-Resistant Coating.
First use 1949.

SN 99,777. Perry-Austen Manufacturing Company, Inc., Staten Island, N.Y. Filed June 27, 1960.

COTAREX

For Industrial Maintenance Coating.
First use Jan. 4, 1960.

SN 99,993. Robert H. Allgood, d.b.a. Glastint Coating Co., North Hollywood, Calif. Filed June 30, 1960.

GLASTINT

For Protective Plastic Coating for Glass and Other Surfaces.
First use Sept. 25, 1959.

Class 17—Tobacco Products

SN 85,330. General Cigar Co., Inc., New York, N.Y. Filed Nov. 16, 1959.

Corina

Owner of Reg. Nos. 198,179 and 685,015.
For Cigars.
First use Feb. 27, 1959.

SN 97,783. Rembrandt Tobacco Corporation (Overseas) Limited, Stellenbosch, Union of South Africa. Filed May 24, 1960.

RENAISSANCE

Priority claimed under Sec. 44(d) on Union of South Africa Reg. No. 60/333, dated Jan. 29, 1960.
For Cigarettes, Tobacco, and Cigars.

SN 104,688. R. J. Reynolds Tobacco Company, Winston-Salem, N.C. Filed Sept. 16, 1960.

RJR

For Smoking Tobacco.
First use on or about Sept. 1, 1893.

Class 18—Medicines and Pharmaceutical Preparations

SN 99,311. American Cyanamid Company, New York, N.Y. Filed Mar. 11, 1959.

SEKAPS

For Vitamin Preparation.
First use Dec. 2, 1958.

SN 77,263. Carnegies of Welwyn Limited, Welwyn Garden City, England. Filed July 8, 1959.



Priority claimed under Sec. 44(d) on British Reg. No. 788,001, dated Mar. 3, 1959.
For Pharmaceutical Preparations.

SN 77,264. Carnegies of Welwyn Limited, Welwyn Garden City, England. Filed July 8, 1959.



TREE OF LIFE

Priority claimed under Sec. 44(d) on British Reg. No. 788,003, dated Mar. 3, 1959.
For Pharmaceutical Preparations.

SN 91,044. Koninklijke Nederlandsche Gist-en Spiritusfabriek N.V., d.b.a. Royal Netherlands Distilleries, Delft, Netherlands. Filed Jan. 8, 1960.

DELFUCIN

Owner of Dutch Reg. No. 131,081, dated June 7, 1958.
For Pharmaceutical Preparations—Namely, Antibiotical Preparations for Pharmaceutical Purposes, Fungicidal Compounds and Antiseptics, but Excluding Vaginal Preparations.

SN 92,830. Tri-Kem Corporation, Washington, D.C. Filed Mar. 14, 1960.

QUICK-O-VER

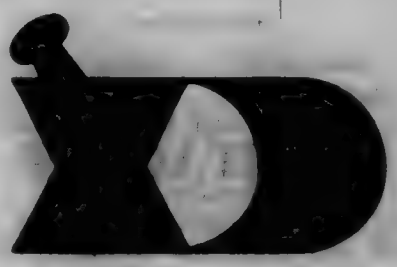
For Pharmaceutical Preparation—Namely, a Hangover Preparation.
First use Feb. 25, 1960.

SN 93,103. Sterling Drug Inc., d.b.a. Winthrop Laboratories, New York, N.Y. Filed Mar. 17, 1960.

ALVODINE

Owner of Reg. Nos. 201,160, 390,483, and 401,437.
For Analgesic Preparation.
First use Mar. 3, 1960.

SN 93,187. Johnson & Johnson, New Brunswick, N.J. Filed Mar. 18, 1960.



For Antiseptic Preparations.
First use Aug. 19, 1959.

SN 100,070. Stiefel Laboratories, Inc., Oak Hill, N.Y. Filed June 30, 1960.

ZEASORB

For Pharmaceutical Preparation Consisting of Absorbent Deodorizing Dusting Powder for the Relief of Skin Irritation and Prevention of Athlete's Foot.
First use Sept. 4, 1959.

SN 100,634. Parke, Davis & Company, Detroit, Mich. Filed July 11, 1960.

FERRO-DESICOL

Owner of Reg. Nos. 362,008 and 381,929.
For Preparation for Prevention and Treatment of Anemia, Containing Bile and an Iron Compound.
First use Feb. 5, 1940.

SN 100,764. Melvin Charles Dugger, Indianapolis, Ind. Filed July 13, 1960.

PERFLEX

For Ointment for Toughening Horses' Feet Which Also May Be Used for Nail Wounds, Foot Rot, Etc.
First use Sept. 15, 1959.

SN 102,297. Baxter Laboratories, Inc., Morton Grove, Ill. Filed Aug. 9, 1960.

SETROL

For Anticholinergic Drug.
First use June 30, 1960.

SN 103,190. Parke, Davis & Company, Detroit, Mich. Filed Aug. 22, 1960.

HUMACORT

Owner of Reg. No. 665,305.
For Antibiotic Steroid Combination.
First use July 18, 1960.

SN 103,191. Parke, Davis & Company, Detroit, Mich. Filed Aug. 22, 1960.

P-D

Owner of Reg. No. 593,791.
For Encapsulated Anticonvulsant Preparation.
First use May 20, 1960.

SN 103,264. C. H. Boehringer Sohn, Ingelheim (Rhine), Germany. Filed Aug. 23, 1960.

INGALDRIN

Owner of German Reg. No. 661,017, dated Aug. 5, 1954.
For Broncholytic Agent and Cardiac Drug.

SN 103,587. Nelson-Boyer Company, Inc., Glendale, Calif. Filed Aug. 29, 1960.

CORTACAPS

For Adrenal Cortex Preparation Used in the Treatment of Hypoadrenia and Borderline Adrenocortical Deficiencies, Such as Asthenia, Adynamia, Anorexia, the Fatigue Syndrome, Stress, and Convalescence After Infectious Diseases.
First use in October 1954.

SN 103,628. University Drug Company, St. Louis, Mo. Filed Aug. 29, 1960.

UNIVIMS

For Nutritional Supplement Containing Vitamins and Minerals.
First use September 1958.

SN 104,516. Max Derfler, d.b.a. Nutrition Control Products, New York, N.Y. Filed Sept. 15, 1960.

PROGIATRIC

For Vitamin and Mineral Preparation Used as a Dietary Supplement.
First use on or before June 1, 1960.

SN 104,625. Merck & Co., Inc., Rahway, N.J. Filed Sept. 16, 1960.

STETHOTRAN

Owner of Reg. No. 696,675.
For Medicinal Preparations for Use in the Treatment of Coronary-Vascular Diseases.
First use July 15, 1960.

SN 104,671. American Cyanamid Company, New York, N.Y. Filed Sept. 19, 1960.

ARISTOSPRAY

Owner of Reg. Nos. 653,318, 701,681, and others.
For Topical Steroid Preparation.
First use Sept. 7, 1960.

SN 104,672. American Cyanamid Company, New York, N.Y. Filed Sept. 19, 1960.

NEO-ARISTOMOL

Owner of Reg. Nos. 674,485, 699,300, and others.
For Antibiotic Steroid Ophthalmic Preparation.
First use Sept. 8, 1960.

SN 104,763. Julius Schmid, Inc., New York, N.Y. Filed Sept. 19, 1960.

CANDEPTIN

For Vaginal Ointment.
First use on or about Sept. 6, 1960.

SN 104,877. American Home Products Corporation, d.b.a. Ayerst Laboratories, New York, N.Y. Filed Sept. 21, 1960.

FLUOETHER

Owner of Reg. No. 687,115.
For Inhalation Anesthetic.
First use Sept. 9, 1960.

SN 105,040. Aktiebolaget Ferrosan, Malmö, Sweden. Filed Sept. 23, 1960.

REHIBIN

Owner of Swedish Reg. No. 72,034, dated May 30, 1952.
For Pharmaceutical Preparation Used as an Enzyme Inhibitor.

SN 105,075. Hoffmann-La Roche Inc., Nutley, N.J. Filed Sept. 23, 1960.

TIGACOL

For Antiemetic Preparation.
First use Aug. 25, 1960.

SN 105,078. Hoffmann-La Roche Inc., Nutley, N.J. Filed Sept. 23, 1960.

RYTHMOL

For Preparation for Treating Heart Conditions.
First use Aug. 25, 1960.

SN 105,079. Hoffmann-La Roche Inc., Nutley, N.J. Filed Sept. 23, 1960.

AQUAPALM

For Vitamin A Preparations.
First use Aug. 1, 1960.

SN 105,088. Meyer Laboratories, Inc., Detroit, Mich. Filed Sept. 23, 1960.

METRANIL

For Coronary Vasodilator.
First use Sept. 2, 1960.

SN 105,089. Meyer Laboratories, Inc., Detroit, Mich. Filed Sept. 23, 1960.

LEVAMINE

For Anti-Spasmodic, Anti-Cholinergic Sedative.
First use Sept. 2, 1960.

SN 105,401. The Warren-Teed Products Company, Columbus, Ohio. Filed Sept. 28, 1960.

KAON

For Pharmaceutical Composition for Replacement of Potassium Losses Induced by Chronic Vomiting, Diarrhea, and the Use of Diuretics and Steroids.
First use Aug. 31, 1954.

SN 105,594. Armour and Company, Chicago, Ill. Filed Oct. 3, 1960.

HUNTARIA

For Tranquilizer Preparation.
First use Sept. 1, 1960.

SN 105,669. Pritchard Pharmaceutical Products, Inc., Kansas City, Mo. Filed Oct. 3, 1960.

CONVIZOL

For Analeptic Vasodilator Stimulant.
First use Sept. 19, 1960.

SN 105,790. Bristol-Myers Company, New York, N.Y. Filed Oct. 5, 1960.

ANESTOMIST

For Pharmaceutical Product for Therapeutic Treatment of Simple Sore Throats.
First use July 5, 1960.

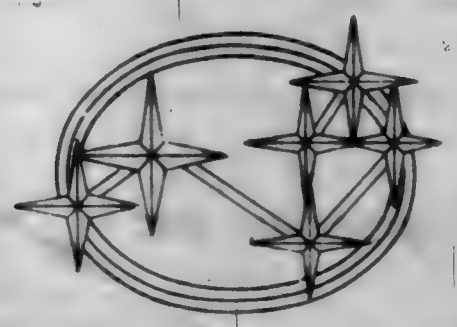
SN 106,045. Carter Products, Inc., New York, N.Y. Filed Oct. 10, 1960.



Owner of Reg. Nos. 422,555 and 656,242.
For Pharmaceutical Preparation for Use in the Treatment of Tension, as a Muscular Relaxant and as an Anti-Convulsant.
First use Nov. 1, 1955.

Class 19—Vehicles

SN 58,522. Fuji Jyukogyo Kabushiki Kaisha, d.b.a. Fuji Heavy Industries Ltd., Chiyoda-ku, Tokyo, Japan. Filed Sept. 8, 1958.



Priority claimed under Sec. 44(d) on Japanese application filed May 16, 1958; Reg. No. 556,871, dated Sept. 28, 1960.
For Motor Scooters, Motor Cars, Motor Buses, Auto-Trucks, Delivery-Trucks and Parts Thereof.

SN 84,590. Bölkow-Entwicklungen Kommanditgesellschaft, Ottobrunn, near Munich, Germany. Filed Nov. 4, 1959.

HELI-TRAINER

Owner of German Reg. No. 732,338, dated Dec. 22, 1959.
For Helicopters in Particular for Training Student Pilots.

SN 87,335. Delaware Mercantile Company Inc., Stamford, N.Y. Filed Dec. 15, 1959.

SWIFT

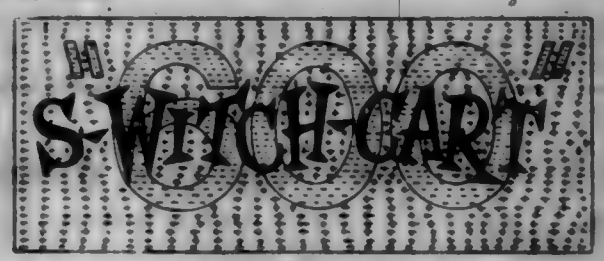
For Bicycle Pedals, Bicycle Wheel Hubs, Bicycle Coaster Brakes, Bicycle Saddles and Bicycle Saddle Bags.
First use Aug. 29, 1959.

SN 88,536. I. Goldberg Marine World, Inc., Philadelphia, Pa. Filed Jan. 6, 1960.

SHIP-SHAPE

For Boats.
First use on or about Jan. 16, 1959.

SN 96,268. SI Handling Systems, Inc., Easton, Pa. Filed May 2, 1960.



The drawing is lined for red, yellow and gray.
For Towline Vehicles for Towline Systems.
First use Nov. 29, 1959.

SN 97,705. Ray Industries, Inc., Oxford, Mich. Filed May 23, 1960.

SEA RAY

For Boats.
First use Feb. 16, 1960.

SN 99,317. F.A.B. Manufacturing Company Incorporated, Oakland, Calif. Filed June 20, 1960.

HUSTLER

For Truck Tractors of the Fifth Wheel Type.
First use May 3, 1960.

SN 99,318. F.A.B. Manufacturing Company Incorporated, Oakland, Calif. Filed June 20, 1960.

YARD HUSTLER

For Truck Tractors of the Fifth Wheel Type.
First use May 3, 1960.

SN 103,317. Astroquip, Inc., Burbank, Calif. Filed Aug. 24, 1960.

ASTROQUIP, INC.

For Aircraft and Parts Thereof.
First use June 18, 1958.

SN 103,331. C. E. Erickson Co., Inc., Des Moines, Iowa. Filed Aug. 24, 1960.

CUBCAT

For Self-Propelled Vehicle of Cart Type.
First use June 6, 1960.

Class 20 — Linoleum and Oiled Cloth

SN 100,412. American Mat Corporation, Toledo, Ohio. Filed July 7, 1960.

NYRACORD

For Floor Tile Fabricated From Reinforced Rubber, Rubber Substitutes and Similar Materials.
First use Apr. 22, 1959.

Class 21 — Electrical Apparatus, Machines, and Supplies

SN 92,690. American Electronics Laboratories, Inc., Union City, N.J. Filed Mar. 14, 1960.

AMLAB

For Tungsten and Molybdenum Lead-In Wires for Power and Transmitting Electron Tubes, Tungsten and Molybdenum Formed, Welded and Machined into Parts and Components for Electron Tubes, and Heater and Filament Coils made of Tungsten and Molybdenum Wires.
First use on or about Nov. 20, 1951.

SN 97,691. Orbitec Corporation, New York, N.Y. Filed May 23, 1960.

POLETRON

For Voltage and Current-Responsive Switching Devices.
First use May 5, 1960.

SN 98,255. AMP Incorporated, Harrisburg, Pa. Filed June 1, 1960.

AMPLI-NYL

Owner of Reg. Nos. 405,714, 693,115, and others.
For Electrical Connectors.
First use May 17, 1960.

SN 99,033. Amphenol-Borg Electronics Corporation, Broadview, Ill. Filed June 15, 1960.

MIN RAC 17

For Electrical Connectors.
First use Apr. 29, 1960.

SN 99,759. Lear, Incorporated, Santa Monica, Calif. Filed June 27, 1960.

MILLIMIN

For Subminiaturized Electronic Circuitry Assemblies.
First use June 2, 1960.

SN 100,382. Whirlpool Corporation, St. Joseph, Mich. Filed July 5, 1960.

For Electrical Apparatus, Machines and Supplies—Namely, Dishwashers, Floor Scrubbers and Polishers, Food Waste Disposers, Vacuum Cleaners and Parts Thereof.
First use May 11, 1960.

SN 101,543. Connector Seals Corporation, Pasadena, Calif. Filed July 27, 1960.

MINIKAY

For Miniature Pin and Socket Electrical Connectors.
First use June 27, 1960.

SN 101,634. Metalcraft Products Company, Inc., Philadelphia, Pa. Filed July 28, 1960.

THE VEGA

For Fluorescent Lighting Fixtures.
First use July 22, 1960.

SN 101,635. Metalcraft Products Company, Inc., Philadelphia, Pa. Filed July 28, 1960.

FPL

For Fluorescent Lighting Fixtures.
First use Apr. 11, 1960.

SN 101,688. Lewis Engineering Company, Naugatuck, Conn. Filed July 29, 1960.

EXFLEX

For Electrical Wires and Cables.
First use in March 1955.

SN 102,138. The Pyle-National Company, Chicago, Ill. Filed Aug. 5, 1960.

FLORALITE

For Electric Lighting Fixtures, Including Lamp Holders, Standards and Shades, and Electrical Circuit Components.
First use on or about June 10, 1946.

SN 102,252. Magnasync Corporation, North Hollywood, Calif. Filed Aug. 8, 1960.

NOMAD

For Magnetic Film Sound Recorders, Reproducers, and Amplifying Devices.
First use Apr. 27, 1959.

SN 102,502. Penn-Union Electric Corporation, Erie, Pa. Filed Aug. 11, 1960.

PENN-SPECIAL

For Electrical Cords and Cables.
First use Mar. 1, 1960.

SN 102,504. Penn-Union Electric Corporation, Erie, Pa. Filed Aug. 11, 1960.

PENN-STANDARD

For Electrical Cords and Cables.
First use Mar. 1, 1960.

SN 102,515. Slumberest Company, Georgetown, Ky. Filed Aug. 11, 1960.

VALIANT

For Electric Blankets.
First use July 5, 1960.

SN 102,761. Greylock Electronics Supply Co., Inc., New York, N.Y. Filed Aug. 16, 1960.

Silverline

For Television Tubes.
First use on or about June 1, 1959.

SN 102,832. Dextrex Chemical Industries, Inc., Detroit, Mich. Filed Aug. 17, 1960.

ULTRA-FI

For Transducers for Ultrasonic Radio Frequency Generators.
First use Oct. 6, 1959.

SN 102,888. Bowers Manufacturing Co. Inc., Los Angeles, Calif. Filed Aug. 18, 1960.

BMC

For Electrical Outlet Boxes, Electrical Face Plates, Low Voltage Partition Plates for Outlet Boxes, Extension Rings, Plaster Hangers for Outlet Boxes, Conduit Seals, Reducing Washers, Snap-In Seals and Pipe Straps.
First use in 1941.

SN 103,103. The CME Manufacturing Company, Inc., San Diego, Calif. Filed Aug. 22, 1960.

CME

For Antennas.
First use June 23, 1960.

SN 103,183. Nic-L-Silver Battery Co., Santa Ana, Calif. Filed Aug. 22, 1960.

SILVER POWER

For Storage Batteries.
First use in 1951.

Class 22 — Games, Toys, and Sporting Goods

SN 67,713. Sifo Company, St. Paul, Minn. Filed Feb. 13, 1959.

RAINBOW

For Toy Wagon and Block Cargo.
First use Mar. 5, 1957.

SN 89,484. Georg Köhler, Nurnberg, Germany. Filed Jan. 21, 1960.

GK
KÖHLER
GERMANY

The word feature "Germany" is hereby disclaimed apart from the mark. Owner of German Reg. No. 723,787, dated Apr. 8, 1959.
For Children's Toys—Namely, Animal Toys, Novelty Toys, Musical Toys, Mechanical Toys, Children's Musical Instruments, Plastic and Metallic Toys, Toys Adapted To Be Assembled and Disassembled and Sound-Producing Devices Imitating Animal Sounds, Especially for Toys.

SN 93,755. Bayshore Industries, Incorporated, Elkton, Md. Filed Mar. 28, 1960.

TRAMBOUNCER

For Children's Bouncers, Consisting of a Resilient Take-Off Surface Supported by a Rigid Framework.
First use at least as early as July 15, 1959.

SN 97,282. The Behrens Drug Company, Waco, Tex. Filed May 17, 1960.

SONNY'S FAVORITE

For Artificial Fish Baits.
First use Apr. 28, 1960.

SN 99,165. Werner E. Muller, Southampton, Pa. Filed June 16, 1960.

Dutch Blitz

For Equipment (or Apparatus) Sold as a Unit for Playing a Card Game.
First use Apr. 6, 1960.

SN 100,170. Sidney A. Tarreon Co., Chicago, Ill. Filed July 1, 1960.

ZINGO

For Toys—Namely, Pop Guns and Pop Gun Balls.
First use June 1, 1960.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

SN 74,023. The W. E. Bassett Company, Derby, Conn. Filed May 19, 1959.

POCKET PRINCE

For Combined Tool.
First use Mar. 20, 1959.

SN 87,241. Link-Belt Company, Chicago, Ill. Filed Dec. 14, 1959.

UNIFLEX

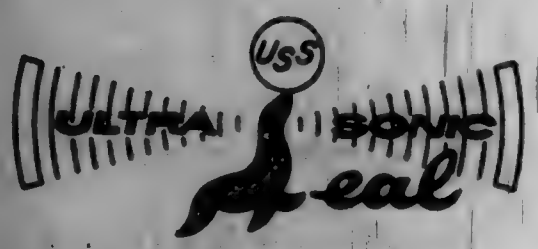
Owner of Reg. Nos. 660,753 and 696,021.
For Belt Conveyor Idlers, Including Idler Frames, Idler Roll Assemblies, and Accessories Therefor.
First use Oct. 26, 1959.

SN 87,551. Ensign Carburetor Company, Fullerton, Calif. Filed Dec. 18, 1959.

ENSIGN

For Carburetors, Vaporiser-Regulators, Regulators, Vacuum Valves, for Internal Combustion Engines.
First use in 1911.

SN 89,478. Ultra Sonic Seal, Inc., New York, N.Y. Filed Jan. 21, 1960.



For Plastic Sheet Forming, Cutting, and Processing Machinery.
First use June 15, 1959.

SN 94,009. Mayhew Machine Company, Inc., Dallas, Tex. Filed Mar. 30, 1960.



No registration rights are claimed for the words "Dallas" and "Texas," apart from the mark shown, but applicant waives none of its common law rights in the mark shown or any feature thereof.
For Earth Drilling Units, Components Thereof, and Accessories and Tools Therefor.
First use at least as early as Jan. 1, 1948, on earth drilling units.

SN 95,066. Foremost Machine Builders, Inc., Livingston, N.J. Filed Apr. 14, 1960.

GBL

For Plastic Handling Apparatus—Namely, Pneumatic Conveying, Loading and Blending Equipment, and Grinding or Comminuting Apparatus.
First use Dec. 2, 1959.

SN 95,405. Soc. Graziano & C., Tortona, Alessandria, Italy. Filed Apr. 15, 1960.

SAG

Owner of Italian Reg. No. 132,442, dated May 20, 1957.
For Machine Tools.

SN 96,066. Advance Muffler Service, Inc., Gardena, Calif. Filed Apr. 29, 1960.

ADVANCE

For Mufflers, Tailpipes and Exhaust Pipes for Automotive Vehicles.
First use July 1, 1939.

SN 96,750. The Servco Company, Long Beach, Calif. Filed May 9, 1960.

SERVCO

For Oil Well Drilling and Servicing Tools Including Drill Collars, Stabilizers, Hole Openers, Under Reamers, Rotary Shoes, Shale Bits, Key Seat Cutters, Core Tools, and Various Milling Cutters Including Whipstock Mills, Liner Mills, Liner Hanger Mills, Section Mills, Junk Mills and Tubing Mills.
First use October 1946.

SN 96,751. The Servco Company, Long Beach, Calif. Filed May 9, 1960.



The drawing is lined for red, but coloring is not essential.
For Oil Well Drilling and Servicing Tools Including Drill Collars, Stabilizers, Hole Openers, Under Reamers, Rotary Shoes, Shale Bits, Key Seat Cutters, Core Tools, and Various Milling Cutters Including Whipstock Mills, Liner Mills, Liner Hanger Mills, Section Mills, Junk Mills and Tubing Mills.
First use June 1946.

SN 96,753. The Servco Company, Long Beach, Calif. Filed May 9, 1960.



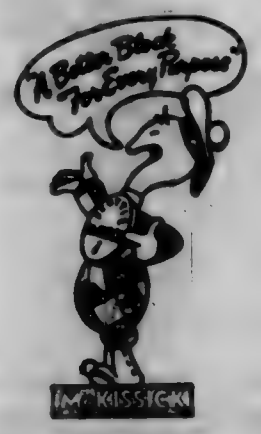
The drawing is lined for red, but coloring is not essential.
For Tools, Including Oil Well Drilling and Servicing Tools, Having Specially Treated Cutting Surfaces and Also Tool Dressing Materials Including Welding Rods and Other Items for Applying Hard or Cutting Surfaces to Tools.
First use Jan. 18, 1955.

SN 99,132. William J. Faso, d.b.a. Beaver Tool Company, Huntington Station, N.Y. Filed June 16, 1960.

TOUCH 'N' HOLD

For Finger-Tip Wrenches—Namely, a Tool Designed to Fit Over the User's Finger for Starting Nuts, Bolts, Etc.
First use October 1959.

SN 99,478. American Hoist & Derrick Company, St. Paul, Minn. Filed June 22, 1960.



The drawing is lined for red.
For Material Handling Equipment—Namely, Blocks, Pulleys, Sheaves, Hooks, Rod Line Weights, Tubing, Casters, and Load Binders.
First use on or before Dec. 31, 1950.

SN 99,725. Diamond Chain Company, Inc., Indianapolis, Ind. Filed June 27, 1960.

TUF-FLEX

For Roller Chains.
First use June 2, 1960.

SN 99,809. The Lockformer Company, Chicago, Ill. Filed June 27, 1960.

CLEATFORMER

For Machines for Forming Sheet Metal.
First use on or about Jan. 17, 1949.

SN 99,829. Wilmot Engineering Company, White Haven, Pa. Filed June 27, 1960.



For Rivetless Chain.
First use in 1909.

SN 99,839. C-L Sling Ring Co., Inc., Brooklyn, N.Y. Filed June 28, 1960.

C/L SLING RING

For Covers for Centrifuges.
First use in December 1958.

SN 99,951. Mueller Brass Co., Port Huron, Mich. Filed June 29, 1960.



For Tools for Sizing and Flaring Piping and Fittings.
First use Jan. 8, 1960.

SN 100,286. Precision Chemical Pump Corporation, Waltham, Mass. Filed July 5, 1960.



The figure shown is an interweave of designs representing the capital letters "PCP."
For Chemical Pumps, Accessories and Parts Thereof.
First use February 1958.

SN 100,461. Outboard Marine Corporation, Waukegan, Ill. Filed July 7, 1960.

PLEASURE CHECKED

For Used Outboard Motors.
First use Aug. 1, 1958.

SN 100,524. Saul Kron, d.b.a. Hydraulic Jack Packing & Tool Co., Bloomfield, N.J. Filed July 8, 1960.

jackmaster

For Hydraulic Jack Repair Kits.
First use Apr. 11, 1960.

SN 100,690. Murray G. Clay, d.b.a. Clay Engineering & Manufacturing Co., Chicago, Ill. Filed July 12, 1960.

SPRINGENERATOR

For Automatic Machines for Forming Wire Into Springs and Other Articles.
First use Aug. 18, 1959.

SN 100,960. West Bend Aluminum Co., West Bend, Wis. Filed July 15, 1960.

SHARK

For Outboard Motors.
First use Feb. 4, 1959.

SN 101,017. Lupear Products, Inc., Farmington, Mich. Filed July 18, 1960.

PORTOMAG

For Portable Magnetic Drill Presses.
First use Mar. 3, 1955.

SN 103,910. The DoAll Company, Des Plaines, Ill. Filed Sept. 6, 1960.

Dart Claw Tooth

The descriptive word "Tooth" is disclaimed apart from the mark as shown. Owner of Reg. Nos. 429,595 and 589,069.
For Saw Bands.
First use on or before Mar. 1, 1960.

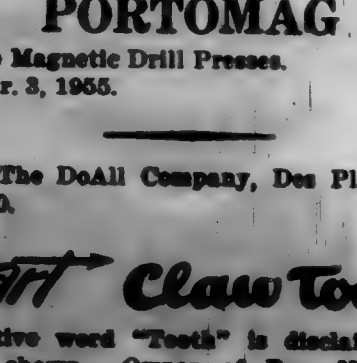
Class 26—Measuring and Scientific Appliances

SN 62,838. Cormac Photocopy Corporation, New York, N.Y. Filed Nov. 20, 1958.

POLYCOPY

For Photocopying Machines, Photographic Developer and Photographic Copying Paper.
First use at least as early as Oct. 20, 1958.

SN 68,179. Techne (Cambridge) Limited, Duxford, England. Filed Feb. 20, 1959.



Owner of British Reg. No. 728,497, dated Mar. 26, 1954.
For Scientific Instruments—Namely, a Laboratory Water-Bath Temperature Control Device, Viscometers, Gelation Timers, and Goniometers for Use in Industrial Laboratories.

SN 70,404. Tejax Engineering Corporation, Pawtucket, R.I. Filed Mar. 27, 1959.

TEJAX

For Valve and Damper Position Gauges, Indicators, and Measuring Devices.
First use in August 1934.

SN 83,842. Voigtlander A.G., Braunschweig, Germany. Filed Oct. 22, 1959.

HELIAR

For Cameras, Photographic Lenses, and Telescopes and Binoculars.
First use June 24, 1902; in commerce June 24, 1902.

SN 90,902. Cubic Corporation, San Diego, Calif. Filed Feb. 15, 1960.

VOCAMETER

For Electronic Audio Readout Attachment for a Digital Voltmeter, Parts and Accessories Therefor.
First use Mar. 11, 1959.

SN 94,848. Space Electronics Corporation, Glendale, Calif. Filed Apr. 11, 1960.



For Air and Space Navigational Guidance Equipment; Air and Space Vehicle Tracking Equipment; Communications Equipment Including Transmitters, Receivers, Satellite Relay Apparatus, Telemetry and Data Transmission Apparatus, and Sub-Surface Electromagnetic Wave Links; Computing Equipment Including Analog-To-Digital Converters, Digital-To-Analog Converters, and Switching Networks; Ground Checkout Equipment Including Electronic Consoles and Trailers for Missile Checkout, Data Reduction Apparatus, and Apparatus for Checking Out Airborne Telemetry Systems; Remote Control Equipment Including Autopilots and Radio Command Link Apparatus; and Instrumentation Equipment Including Missile Trajectory Simulators, Geophysical Surveying Apparatus and Optical Correlators.
First use Mar. 2, 1959.

SN 94,979. Ferrania S.P.A., Milan, Italy. Filed Apr. 13, 1960.

ZEFIR

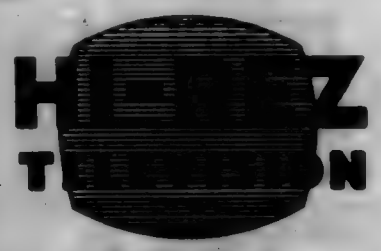
Priority claimed under Sec. 44(d) on Italian application filed Mar. 15, 1960; Reg. No. 148,976, dated June 27, 1960.
For Photographic Apparatus—Namely, Motion Picture Cameras, Projectors, Synchronisers; Television Cameras; Still Cameras; Exposure Meters; Distance Meters; View Finders; Developing and Enlarging Apparatus; Filters; Photographic Films and Plates; Shutters and Shutter Releases; Photographic Diaphragms and Lenses.

SN 97,211. Jetronic Industries, Inc., Philadelphia, Pa. Filed May 16, 1960.

WINTRONIX

For Electrical Marine Depthmeters.
First use August 1959.

SN 98,788. General Precision, Inc., Pleasantville, N.Y. Filed June 10, 1960.



The word "Television" is disclaimed apart from the mark as shown. The drawing is lined for shading purposes only.
For Television Monitors.
First use Apr. 14, 1960.

SN 99,156. McGraw-Edison Company, West Orange, N.J. Filed June 16, 1960.

RAPIDIAL

For Electronic Equipment for Recording Telephone Numbers.
First use Jan. 22, 1959.

SN 99,802. John Tatone, d.b.a. Tatone Products, San Francisco, Calif. Filed June 27, 1960.

Tatone
"D-T TICK OFF"

For Timing Devices—Namely, a Timing Device for Operating Model Airplane Controls While in Flight After a Lapsed Time Period.
First use July 10, 1958.

SN 102,158. Agfa Aktiengesellschaft, Leverkusen-Bayerwerk, Germany. Filed Aug. 8, 1960.

AGFACHROME

Owner of German Reg. No. 731,842, dated Dec. 10, 1959, and U.S. Reg. No. 520,362.
For Unexposed Photographic Films and Plates.

SN 103,925. H. A. Hadley, Inc., Winooski, Vt. Filed Sept. 6, 1960.

MASTERGRAM

For Weighing Scales, Analytical Balances, and Weights for Said Scales and Balances.
First use in or about July 1959.

Class 27—Horological Instruments

SN 103,380. Wyler Watch Corporation, New York, N.Y. Filed Aug. 24, 1960.

DURACLAD

For Watches, Watch Cases, and Watch Parts.
First use July 25, 1960.

SN 104,340. Walter R. Thomas, Incorporated, Atlanta, Ga. Filed Sept. 12, 1960.

MARLEX

For Watches.
First use on or about Aug. 24, 1960.

SN 104,391. Jefferson Electric Company, Bellwood, Ill. Filed Sept. 13, 1960.

EXCITING HOUR

For Electric Clocks.
First use Aug. 12, 1960.

SN 105,494. Jacob Braun, d.b.a. Villereuse Watch Co., New York, N.Y. Filed Sept. 30, 1960.

VILLEREUSE

For Watches.
First use in 1950.

Class 28—Jewelry and Precious-Metal Ware

SN 85,937. Biggs/Tuttle, Inc., Stamford, Conn., assignee of Wallace Silversmiths, Inc., Wallingford, Conn. Filed Nov. 28, 1959.

TUTTLE

For Sterling Silver Table Hollowware and Flatware.
First use in 1913.

SN 103,719. Gorham Manufacturing Company, Providence, R.I. Filed Aug. 31, 1960.

BATEAU

For Sterling Silver and Silver-Plated Hollowware, Flatware and Table Cutlery.
First use Mar. 23, 1960.

Class 29—Brooms, Brushes, and Dusters

SN 69,774. Wilbert Products Co., Inc., New York, N.Y. Filed Mar. 17, 1959.

SPONGEE

For Cellulosic Sponges.
First use Jan. 17, 1958.

Class 30—Crockery, Earthenware, and Porcelain

SN 101,244. Stetson China Company, Lincoln, Ill. Filed July 22, 1960.

WONDERWARE

For Dinner Sets of Earthenware.
First use June 9, 1960.

Class 31—Filters and Refrigerators

SN 85,104. Construction Machinery Company, Waterloo, Iowa. Filed Nov. 12, 1959.

COLDMASTER

For Refrigeration Units for Highway Trucks and Trailers.
First use May 20, 1958.

SN 99,723. Council Manufacturing Corporation, d.b.a. Council Mfg. Co., Fort Smith, Ark. Filed June 27, 1960.

HANDY DAN'S

For Ice Storing and Vending Machines.
First use Mar. 4, 1960.

SN 99,827. Charles C. Whitmer, Cleveland, Ohio. Filed June 27, 1960.

VISUAL VACUUM

For Swimming Pool Water Filtration Apparatus.
First use May 1, 1954.

Class 32—Furniture and Upholstery

SN 41,461. Warren Lloyd, Inc., Paterson, N.J. Filed Nov. 27, 1957.

By All Means

For Upholstered Living Room, Dining Room and Bedroom Furniture.
First use Sept. 10, 1953.

SN 96,223. Alfred Imhof Limited, London, England. Filed May 2, 1960.

IMSLIDE

Priority claimed under Sec. 44(d) on British Reg. No. 797,255, dated Oct. 30, 1959.
For Racks and Cabinets, All Made of Metal and Sold Empty and Used for Containing Gramophone Records, Electrical and Electronic Instruments and Apparatus, and Parts and Fittings Therefor.

SN 98,741. Premium Pillow Co., Inc., Brooklyn, N.Y. Filed June 9, 1960.

POLYDAC

For Pillows and Cushions.
First use August 1958.

SN 98,877. Dayco Corporation, Dayton, Ohio. Filed June 13, 1960.

PORTA-PAD

For Cushioning Pad for Indoors or Outdoors, Camping, Picnics, Lawn, Beach or Poolside, or Station Wagons.
First use Apr. 14, 1960.

SN 100,693. Duo-Bed Corporation, Los Angeles, Calif. Filed July 12, 1960.

SPACE-KING

For Sofa Beds and Combined Sofa Bed and Table Units.
First use June 27, 1960.

SN 103,147. Cecil Greenwold, Inc., d.b.a. Spectrafoam Corp., Los Angeles, Calif. Filed Aug. 22, 1960.

SPECTRAFOAM

For Pillows and Mattress Pads.
First use July 8, 1960.

SN 103,275. Graco Metal Products, Inc., Elverson, Pa. Filed Aug. 23, 1960.

LULLAMATIC

For Baby Cradles.
First use Feb. 29, 1958.

SN 103,929. Hodgman Rubber Company, Framingham, Mass. Filed Sept. 6, 1960.

PUMPLITE

For Pneumatic Mattresses.
First use May 1, 1960.

SN 104,237. Curtis Companies, Incorporated, Clinton, Iowa. Filed Sept. 12, 1960.

FASHION FLAIR

For Store Fixtures, Self-Service Show-Room Cases and Display Cases.
First use Aug. 1, 1960.

SN 104,324. Simmons Company, New York, N.Y. Filed Sept. 12, 1960.

SILVER LABEL

For Mattresses and Bed Springs.
First use Aug. 15, 1925.

Class 35—Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 83,395. H. K. Porter Company, Inc., Pittsburgh, Pa. Filed Oct. 16, 1959.

COLEDGE

For Type of Internal Reinforcement in Rubber Conveyor Belting, Said Reinforcement Being Sold as an Integral Part of Said Belting.
First use Mar. 21, 1958.

SN 92,701. British Belting & Asbestos Limited, Cleckheaton, England. Filed Mar. 14, 1960.

SCANDURA-GOLD LINE

Owner of U.S. Reg. No. 535,026.
For Belting.
First use in or about July 1956; in commerce July 1956.

SN 92,702. British Belting & Asbestos Limited, Cleckheaton, England. Filed Mar. 14, 1960.

SCANDURA-THIN LINE

Owner of U.S. Reg. No. 535,026.
For Belting.
First use in or about July 1956; in commerce July 1956.

SN 100,781. The Imperial Brass Manufacturing Company, Chicago, Ill. Filed July 13, 1960.

HYTRON

For Hose.
First use Mar. 18, 1960.

SN 102,740. Dayco Corporation, Dayton, Ohio. Filed Aug. 16, 1960.

MICROFLEX

For Hose.
First use July 28, 1960.

SN 102,742. Dayco Corporation, Dayton, Ohio. Filed Aug. 16, 1960.

DYNAFLEX

For Hose.
First use May 2, 1960.

SN 103,384. Associated Rubber Company, Inc., Tallapoosa, Ga. Filed Aug. 25, 1960.

ARc

For Processed Tread Rubber.
First use Sept. 24, 1958.

SN 103,385. Associated Rubber Company, Inc., Tallapoosa, Ga. Filed Aug. 25, 1960.

ARc

For Processed Tread Rubber.
First use Sept. 24, 1958.

Class 36 — Musical Instruments and Supplies

SN 96,792. Decca Records, Inc., New York, N.Y. Filed May 10, 1960.

DECCA

The drawing is lined to show the various colors of the rainbow. Owner of Reg. Nos. 115,901, 694,911, and others.
For Mechanically Grooved Phonograph Records.
First use Jan. 6, 1960.

SN 98,364. Mary Jane Keane, d.b.a. Keane Records, Hollywood, Calif. Filed June 3, 1960.

STEN-O-DISC

For Discs for Making Recordings.
First use Apr. 29, 1960.

Class 37 — Paper and Stationery

SN 87,004. Trayco, Inc., New York, N.Y. Filed Dec. 9, 1959.

TRAYCO

For Ashtray-Coasters, Place Mats, Napkins and Bibs, Made Substantially From Paper.
First use about September 1940, on ashtray-coasters.

Class 38 — Prints and Publications

SN 84,658. Esquire, Inc., New York, N.Y. Filed Nov. 5, 1959.

FILMSET

For Motion Pictures.
First use Aug. 1, 1959.

SN 86,461. Velvetone Advertising Displays, Inc., d.b.a. Velvetone Company, San Francisco, Calif. Filed Dec. 1, 1959.

VELVETONE

For Greeting Cards, Charts, Tickets and Tags.
First use approximately May 1955, on greeting cards.

SN 88,230. The Governor and Company of Adventurers of England, Trading Into Hudson's Bay, d.b.a. Hudson's Bay Company, London, England and Winnipeg, Manitoba, Canada. Filed Dec. 30, 1959.

The Beaver

For Periodical Magazine.
First use September 1933; in commerce September 1933.

SN 88,936. National Comics Publications, Inc., New York, N.Y. Filed Jan. 13, 1960.

SPACEMAN

For Comic Book Issued Periodically and Cartoons Published in a Series.
First use Dec. 15, 1959.

SN 88,992. Leticia Jay, New York, N.Y. Filed Jan. 14, 1960.

JNOTATION

For Printed Matter and Publications on Dance Notation and of Notated Dances.
First use on or about July 25, 1958, on dance notations.

SN 96,386. American Chemical Society, Washington, D.C. Filed May 4, 1960.

Chemical Titles

For Periodical.
First use April 1960.

SN 98,986. Fox River Paper Corporation, Appleton, Wis. Filed June 14, 1960.

TEMPLA-SHEET

For Printed Forms Used in the Printing Trades.
First use Nov. 14, 1949.

SN 99,795. Robert M. Stilgenbauer, Los Angeles, Calif. Filed June 27, 1960.

THINGS ORIGINAL

For Books of Mathematical Tables, Books of Information Tables, Books of Unusual and Unique Ideas, Puzzles and Charts.
First use May 4, 1960.

Class 39 — Clothing

SN 58,316. Norwich Mills Inc., Norwich, N.Y. Filed Sept. 8, 1958.

TAPER-T

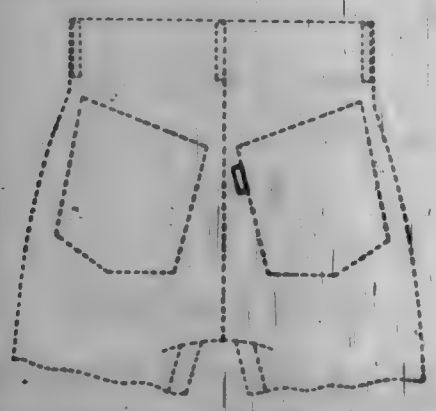
For Men's and Boys' T Shirts.
First use Aug. 4, 1958.

SN 58,929. Joyce, Inc., Cincinnati, Ohio. Filed Sept. 15, 1958.

Alert

For Footwear—Namely, Shoes, Slippers and Sandals Made of Leather, Fabric, Rubber, or Cork, and/or Combinations of Said Materials.
First use Mar. 1, 1942.

SN 74,095. Levi Strauss & Company, San Francisco, Calif. Filed May 7, 1959.



The mark consists of a small white marker or tab affixed to the garments. Owner of Reg. Nos. 356,701 and 577,490.
For Juvenile Overalls.
First use Oct. 9, 1957.

SN 82,116. Imperial Chemical Industries Limited, London, England. Filed Sept. 25, 1959.

CRIMPLENE

Priority claimed under Sec. 44(d) on British Reg. No. 791,006, dated May 15, 1959.
For Ladies' and Children's Garments—Namely, Sweaters, Cardigans, Dresses, Coats, Suits, Vests, Panties, Swimwear, Stoles, Pullovers, Socks, Lingerie and Skirts; Men's and Children's Garments—Namely, Pullovers, Sweaters, Shirts, Under Vests, Under Pants, Trousers, Socks, Coats and Suits.

SN 84,139. B. W. Harris Manufacturing Co., St. Paul, Minn. Filed Oct. 28, 1959.

PREFERRED STOCK

For Men's, Women's, and Children's Jackets.
First use Sept. 1, 1959.

SN 85,327. Pam Foster, Inc., Seattle, Wash. Filed Nov. 16, 1959.

PAMELA FOSTER

The mark "Pamela Foster" is the name of a living individual whose consent is of record.
For Ladies', Sub-Teens', Juniors', and Children's Sportswear, Specifically Tops, Skirts, Pants, Shorts, and Pedal Pushers.
First use on or about Sept. 15, 1959.

SN 92,939. Triumph Textile- und Bekleidungswerke Aktiengesellschaft, d.b.a. Textile and Clothing Factory, Munich, Germany. Filed Mar. 15, 1960.

AMO

Owner of German Reg. No. 727,496, dated July 30, 1959.
For Clothing Apparel of All Types, Underwear, Jumpers, Bodice Garments Such as Bodices, Corsets, Corselettes, Girdles, Foundations, Garter Belts, Dancing Girdles and Brassieres.

SN 94,199. Stephen Slesinger, Inc., New York, N.Y. Filed Apr. 1, 1960.

WINNIE-THE-POOH CHRISTOPHER ROBIN

For Wearing Apparel—Namely, Sweaters, Coats, Underwear, Pajamas, Outer Shirts, Shoes of Fabric, Hosiery, Slacks, and Hats for Children and Teen-Agers.
First use Jan. 20, 1930.

SN 97,785. Saks & Company, New York, N.Y. Filed May 24, 1960.

Protégée

For Maternity Wear—Namely, Dresses, Coats, Suits, Bathing Suits, Play Suits, Sleeveless Sun Tops, Short Sleeve Blouses, Jerkins, Jumpers, Tunics, Shorts (Jamaica and Short), Jackets, Slacks, Slack Suits (With Blouse), Sweaters, Culottes, Pedal Pushers, Capri Pants, Petticoats, Slips, Sleepcoats, Nightgowns, Pajamas, Peignoirs, Robes, Girdles, Brassieres, Garter Belts, Separates (Tops, Blouses, Skirts, Shorts, Slacks).
First use May 13, 1960.

SN 97,985. Byer-Rolnick Hat Corporation, Garland, Tex. Filed May 27, 1960.

LOWELL HALL

For Men's Hats.
First use May 10, 1960.

SN 99,107. Varsity Pajamas, Incorporated, d.b.a. Varsity Underwear Corporation, New York, N.Y. Filed June 15, 1960.



Owner of Reg. Nos. 81,813, 606,765, and others.
For Men's, Women's, Boys', Girls', and Children's Pajamas, Pajama and Slipper Sets, Nightshirts, Sleeping Garments of That Type Commercially and Commonly Known as Sleepers, Bedjackets, Night-Robes, Running Pants, T Shirts, Knitted and Textile Underwear Comprising Undershirts, Shorts, Stretch Nylon Briefs, Drawers and Union Suits for Men, Women and Children.
First use in May 1907; Dec. 1, 1899 as to "Varsity."

SN 99,397. Legettes Inc., Boise, Idaho. Filed May 23, 1960.

TROUT MASTER

For Fishing Vests.
First use Nov. 10, 1959.

SN 99,509. G., H. & E. Freydberg, Inc., New York, N.Y. Filed June 22, 1960.

PENNY WALKER

For Children's Dresses.
First use Nov. 1, 1958.

SN 99,663. H. E. Schniewind, Haan, Germany. Filed June 24, 1960.

SIL-KOK

Owner of U.S. Reg. No. 591,978.
For Men's Neckties, Bow Ties, Cravats; and Silk and Rayon Fabrics Made Up Into Ladies' Dresses and Suits.
First use Apr. 22, 1953; in commerce Apr. 22, 1953.

SN 99,687. Worcester Underwear Co., Inc., Worcester, Mass. Filed June 24, 1960.

YOUTH CHARM

For Ladies' Pajamas, Gowns and Other Sleepwear.
First use in February 1950.

SN 99,734. Fortuna Foundations, Inc., New York, N.Y. Filed June 27, 1960.

STANCE

For Men's Girdles.
First use June 13, 1960.

SN 100,021. Good Luck Glove Company, Carbondale, Ill. Filed June 30, 1960.



For Work Gloves.
First use June 8, 1960.

SN 100,077. The United States Shoe Corporation, Cincinnati, Ohio. Filed June 30, 1960.

PILLO-FLEX

For Ladies' Shoes.
First use July 15, 1952.

SN 100,163. Earl R. Shaw d.b.a. Tie Rite Neckwear Company, Asheboro, N.C. Filed July 1, 1960.

MANSON

For Men's and Boys' Ties.
First use June 17, 1960.

SN 100,200. Wembley, Inc., New Orleans, La. Filed July 1, 1960.

APPLE SKIN

For Neckties.
First use Apr. 1, 1960.

SN 100,354. Joseph H. Cohen & Sons, Inc., New York, N.Y. Filed July 6, 1960.

FIBE-R-LIFE

For Fabrics for Use in Men's and Boys' Outer Garments—Namely, Coats, Suits, Sport Coats, Jackets, Top Coats, Overcoats, Slacks, Trousers, and Vests.
First use May 12, 1960.

SN 100,575. Boulevard, Inc., Middlesex, N.J. Filed July 11, 1960.

MICKEY LEE

For Girls' Dresses, Skirts, Blouses, Shorts, Pedal Pushers, Slacks and Jackets.
First use May 13, 1960.

SN 100,663. United Sheeplined Clothing Company, Inc., New York, N.Y. Filed July 11, 1960.

TABARD

For Jackets for Men, Women, Boys and Girls.
First use May 11, 1960.

SN 100,673. Dorothy Nugent Wieand, Philadelphia, Pa. Filed July 11, 1960.

Fiesta Hats

No claim is made to the word "Hats" apart from the mark as shown.
For Women's, Misses', and Children's Hats.
First use May 16, 1960.

SN 100,772. J. Freezer & Son, Inc., New York, N.Y. Filed July 18, 1960.

Vanita
the Key to Loveliness

For Ladies' Tailored Shirts.
First use July 10, 1958.

SN 100,809. Seagull Imports, Inc., New York, N.Y. Filed July 13, 1960.

TAHR-BET



For Men's Overcoats.
First use Apr. 21, 1960.

SN 100,862. Robert Reis & Co., New York, N.Y. Filed July 14, 1960.

PLEAT-O-SEAT

For Men's and Boys' Underwear—Namely, Shorts and Trunks.
First use Oct. 5, 1938.

SN 100,904. Grey Hosiery Mills, d.b.a. Mary Grey Hosiery Mills, Bristol, Va. Filed July 15, 1960.

Miss Mary Grey

"Mary Grey" is the name of a living individual whose consent is of record. Owner of Reg. No. 565,274.
For Hosiery for Women.
First use June 17, 1960; Feb. 11, 1937, as to "Mary Grey."

SN 101,259. The H. W. Gossard Co., Chicago, Ill. Filed July 21, 1960.

TAMMY

For Girdles and Panty Girdles.
First use July 5, 1960.

SN 102,298. Bear Brand Hosiery Co., Chicago, Ill. Filed Aug. 9, 1960.

TYROL

Owner of Reg. No. 387,249.
For Hosiery.
First use Feb. 8, 1940.

SN 102,602. Alpha Mills Corporation, Schuylkill Haven, Pa. Filed Aug. 15, 1960.

COMET

For Sleeping Garments.
First use Aug. 5, 1960.

SN 103,162. S. H. Kress and Company, New York, N.Y. Filed Aug. 22, 1960.



The drawing is lined for blue and red, but color is not claimed as an integral feature of the mark. Owner of Reg. Nos. 682,555, 695,396, and others.
For Hair Nets.
First use January 1959.

Class 40—Fancy Goods, Furnishings, and Notions

SN 92,663. Taylor-Bell Co., Inc., New York, N.Y. Filed Mar. 11, 1960.

Pink Cloud
PUFF

For Non-Electrical Hair Curlers.
First use Jan. 4, 1960; Mar. 11, 1956, as to "Pink Cloud," in block letters.

SN 98,406. The Union Pin Company, Winsted, Conn. Filed June 3, 1960.

CHROMONIC

For Common Pins.
First use May 13, 1960.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 79,764. Chicopee Manufacturing Corporation, New Brunswick, N.J. Filed Aug. 18, 1959.

DURAMIDE

For Resinous Finish Applied to Cotton Piece Goods in Order to Improve it by Providing it With a Waterproof Finish, Making it Abrasion-Resistant and Providing it With Related Other Desirable Properties.
First use June 10, 1959.

SN 88,623. Travis C. Rothlein, d.b.a. Travic C. Rothlein, New York, N.Y. Filed Jan. 7, 1960.

AROLON

For Knitted Fabrics of Cotton, Wool, Silk and Synthetic Fibres Containing Elastic Threads, for Use in Belting, Girdles and Brassieres.
First use Nov. 1, 1957.

SN 97,316. Milbank-Hardy Inc., New York, N.Y. Filed May 17, 1960.

HARDILITE

Owner of Reg. No. 585,912.
For Piece Goods Made of Wool.
First use Mar. 1, 1957.

SN 97,317. Milbank-Hardy Inc., New York, N.Y. Filed May 17, 1960.

HARDILUX

Owner of Reg. No. 585,912.
For Piece Goods Made of Wool.
First use Jan. 1, 1955.

SN 100,941. Southern Bedding Accessories, Inc., New York, N.Y. Filed July 15, 1960.

SANI-GARD

For Ticking in the Piece Used for Mattress and Pillow Coverings.
First use June 27, 1960.

SN 102,931. M. Lowenstein & Sons, Inc., New York, N.Y. Filed Aug. 18, 1960.

FASHIONSET

For Textile Piece Goods of Cotton and Synthetic Fibres and Mixtures Thereof for Making Articles of Wearing Apparel, Including Blouses, Dresses, Shirts, Skirts and the Like.
First use July 7, 1960.

SN 102,960. United Cotton Goods Company, Inc., Griffin, Ga. Filed Aug. 18, 1960.

DURASORB

For Towels.
First use in or about 1952.

SN 103,055. Shapiro & Son Curtain Corporation, New York, N.Y. Filed Aug. 19, 1960.



For Bedspreads and Drapes.
First use July 11, 1960.

SN 103,066. United Merchants and Manufacturers, Inc., New York, N.Y. Filed Aug. 19, 1960.

FORT-A-CLOUD

Owner of Reg. Nos. 505,467, 696,905, and others.
For Fabrics Made of or Containing Rayon, Which Have Been Treated With Applicant's Exclusive Process to Impart Water Repellence, Stain Resistance and Abrasion Resistance.
First use on or about Apr. 29, 1960.

SN 103,216. J. P. Stevens & Co., Inc., New York, N.Y. Filed Aug. 22, 1960.

BROECKTEN

For Woolen Fabrics in the Piece.
First use June 3, 1960.

SN 103,218. J. P. Stevens & Co., Inc., New York, N.Y. Filed Aug. 22, 1960.

SOFT-TRIQUE

For Nylon Tricot in the Piece.
First use July 14, 1960.

Class 43 — Thread and Yarn

SN 73,428. Owens-Corning Fiberglas Corporation, Toledo, Ohio. Filed May 11, 1959.

CORO-DYED

For Yarn, Especially Yarn Made of Glass Fibers.
First use June 9, 1958.

SN 102,825. Celanese Corporation of America, New York, N.Y. Filed Aug. 17, 1960.

CELACRIMP

For Yarn.
First use Aug. 8, 1960.

Class 44 — Dental, Medical, and Surgical Appliances

SN 54,219. Dura-Design Plastics Limited, Toronto, Ontario, Canada. Filed Nov. 7, 1960.

DURA-FOAM

Owner of Canadian Reg. No. 113,245, dated Feb. 13, 1959.
For Medical, Surgical, and Veterinarian Appliances—Namely, Casts, Rest Splints, Serial Spinal Jackets, and Orthopaedic Rehabilitation Aids and Appliances, Such as Self-Help Devices, Cuffs, Pilons, Cervical Collars and Foot Plates.
First use on or about Apr. 1, 1958; in commerce during the month of October 1958.

SN 62,077. Simmons Company, New York, N.Y., assignee, by mesne assignments, of Ray K. Hausted, d.b.a. Hausted Manufacturing Company, Medina, Ohio. Filed Nov. 7, 1958.

TRACTIONAID

For Machine Having an Intermittently Retractable Harness That Is Adapted To Be Received on the Extremities of Injured Patients for the Purpose of Treating Neck, Back and Cervical Injuries by the Application of Intermittent Traction.
First use on or about Sept. 1, 1957.

SN 72,456. Martha Sparks, Seattle, Wash. Filed Apr. 28, 1959.

CREATOR KIT

The word "Kit" is disclaimed.
For Kit for Use in Home Care of the Hair, and Containing an Instruction Booklet, Shampoo, Herb Tonic, Scalp Pomade, Hair-Set Dressing, Razor, Comb, and Wave Clips.
First use on or about Dec. 1, 1958.

SN 76,980. Relax-A-Tron Products, Inc., Flint, Mich. Filed July 2, 1959.

RELAX-A-TRON

For Electrically Actuated Massage and Therapeutic Table.
First use July 1955.

SN 77,891. Profile, Inc., Northvale, N.J. Filed July 9, 1959.

VIBRAPOOL

For Electrical Therapeutical Vibrating and Massaging Machines.
First use Sept. 1, 1958.

SN 77,631. Willoslim, Inc., Beverly Hills, Calif. Filed July 13, 1959.

facialift

For Electrically Operated Cosmetic Devices for Exercising the Facial Muscles and Stimulating the Circulation.
First use June 1, 1959.

SN 86,149. Hi-G, Inc., Long Island City, N.Y. Filed Nov. 27, 1959.

TEENETTE

For Panties With Sanitary Pantie Combination for Use With Sanitary Napkins.
First use Aug. 5, 1958.

SN 87,316. John J. Houghtaling, d.b.a. Magic Fingers Massage Company, Glen Rock, N.J. Filed Dec. 14, 1959.

MAGIC FINGERS

For Electric Vibratory Units for Human Massage.
First use February 1959.

SN 88,630. Afco Products, Inc., New York, N.Y. Filed Jan. 8, 1960.

PROTOCOL

For Dental Impression Materials Formed of a Silicon Plastic Having a Rubber Base.
First use Nov. 18, 1959.

SN 94,049. Chirana Praha, Narodni Podnik, Praha, Czechoslovakia. Filed Mar. 31, 1960.

Owner of Czechoslovakian Reg. No. 150,071, dated Mar. 3, 1950.
For Surgical, Medical, Dental, Orthopedic, Therapeutic, Diagnostic, Sterilizing and Veterinarian Tools, Instruments, Apparatus and Supplies; Automatic Temperature Regulators for Medical, Therapeutic and Veterinarian Use; Incubators; Appliances and Utensils for Breeding Domesticated Animals; X-Ray Tubes and Apparatus for Medical, Dental, Diagnostic and Therapeutic Purposes; and Parts of Said Goods.

SN 96,990. Sierra Engineering Co., Sierra Madre, Calif. Filed May 12, 1960.

QUIK-DON

For Breathing Masks.
First use Mar. 24, 1960.

SN 98,800. Joe Lowe Corporation, New York, N.Y. Filed June 10, 1960.

SICLE

Owner of Reg. Nos. 528,830, 706,062, and others.
For Manicure Sets.
First use during the month of January 1957.

SN 99,419. William R. Daniel, Westville, N.J. Filed June 21, 1960.

DR. FIXZIT

For Repair Kit for Repairing Dentures.
First use Apr. 4, 1960.

SN 103,713. Electra Industries, Inc., Seattle, Wash. Filed Aug. 31, 1960.

SCULPTOUR

For Orbital Action Massage Machines.
First use May 5, 1959.

Class 46 — Foods and Ingredients of Foods

SN 66,015. Joe Cangemi & Son, Ontario, Calif. Filed Jan. 19, 1959.

FIOR DI CUCAMONGA

The English translation of "Fior di Cucamonga" is "flower of Cucamonga."
For Fresh Juice Grapes.
First use Sept. 12, 1958.

SN 76,420. Olivarera Peninsular S.A., Malaga, Spain. Filed June 24, 1959.

LUIS LOZANO

Consent of Luis Lozano, associated with the applicant, is of record. Owner of Spanish Reg. No. 3,375,055, dated July 14, 1941.
For Edible Olive Oil.
First use 1955; in commerce 1955.

SN 76,943. Geriatric Foods, Ltd., Lakeland, Fla. Filed July 2, 1959.

BON VIV

For Canned Foods—Namely, Blended Vegetable Juices, Blended Fruit Juices, Mixed Fruits for Salad, and Dehydrated Acerola Juice.
First use May 14, 1959.

SN 79,101. Dick Coffee Co., Inc., New York, N.Y. Filed Aug. 6, 1959.

DICKSEE

For Tea, Cocoa Mix, and Coffee.
First use Sept. 1, 1925, on tea and cocoa mix.

SN 81,071. Amy Joy Donuts, Inc., Boston, Mass. Filed Sept. 9, 1959.



For Doughnuts.
First use July 25, 1957.

SN 81,073. Amy Joy Donuts, Inc., Boston, Mass. Filed Sept. 9, 1959.

AMY JOY

For Doughnuts.
First use July 25, 1957.

SN 82,623. Armour and Company, Chicago, Ill. Filed Oct. 5, 1959.

YILDIZ

The mark means "Star" in the Turkish language.
For Salami Sausage.
First use Mar. 2, 1953.

SN 85,991. Rock City Box Sales Company, Norcross, Ga., assignee of Rite Pack Company, Hapeville, Ga. Filed Nov. 24, 1959.

RITE-PACK

Owner of Reg. No. 585,172.
For Ice Cream Sandwiches.
First use Jan. 11, 1951.

SN 88,495. Rudolph Foods Company, Lima, Ohio. Filed Jan. 5, 1960.

Cheese Twirl-ees

Applicant disclaims the word "Cheese."
For Baked, Puffed, Cheese Flavored Corn Meal Product.
First use Dec. 19, 1958.

SN 90,034. E. F. Drew & Co., Inc., New York, N.Y. Filed Feb. 1, 1960.

RISOL

For Cooking Oils of Vegetable Origin.
First use on or about Jan. 31, 1955.

SN 90,139. Paul F. Beich Company, Bloomington, Ill. Filed Feb. 2, 1960.

KRUMBLE KRUNCH

Applicant makes no claim to the word "Krunch" which is the name of the goods. Owner of Reg. No. 111,626.
For Candy.
First use Jan. 11, 1960.

SN 90,140. Paul F. Beich Company, Bloomington, Ill. Filed Feb. 2, 1960.

KATY'S PARTY NUTS

Applicant makes no claim to the word "Nuts" which is the name of the goods.
For Glazed Nuts.
First use Jan. 18, 1960.

SN 90,170. Krey Packing Company, St. Louis, Mo. Filed Feb. 2, 1960.

KREY
Gourmet
HAM

Applicant claims no exclusive rights in the word "Ham" as the name of the goods.
For Hams, Fresh and Canned.
First use on or about Aug. 15, 1959; 1882 as to "Krey."

SN 90,847. Krey Packing Company, St. Louis, Mo. Filed Feb. 12, 1960.

KREY
SMOKETTES

Owner of Reg. No. 594,811.
For Pork Sausages, Canned and Fresh.
First use Oct. 25, 1951; 1882 as to "Krey" on meat products.

SN 93,359. Reuther's Sea Food Company, Inc., New Orleans, La. Filed Mar. 21, 1960.

GOLDEN R SUPREME

For Canned and Frozen Shell Fish.
First use Jan. 26, 1960.

SN 96,413. Haddon House Food Products, Inc., Camden, N.J. Filed May 4, 1960.

HADDON HOUSE

For Olives, Jelly, Honey, Cherries (Maraschino), Spaghetti Sauce, Canned Fruits and Pickles.
First use Apr. 4, 1960.

SN 97,606. Anheuser-Busch, Incorporated, St. Louis, Mo. Filed May 23, 1960.

HI-FI

For Corn Syrup for Food Purposes.
First use Sept. 3, 1959.

SN 97,951. John Morrell & Co., Ottumwa, Iowa. Filed May 26, 1960.

EFFIE'S

For Hot Dog Sauce.
First use Apr. 4, 1960.

SN 97,952. John Morrell & Co., Ottumwa, Iowa. Filed May 26, 1960.



For Hot Dog Sauce.
First use Apr. 4, 1960.

SN 98,900. Fred G. Hilvert Company, Inc., Glendale, Ariz. Filed June 13, 1960.

HARQUAHALA

"Harquahala" is an Indian word meaning "running or healing water."
For Fresh Lettuce.
First use Apr. 10, 1955.

SN 98,942. Southern State Canning Co., Fort Valley, Ga. Filed June 13, 1960.

PRIDE OF GEORGIA

For Canned Fruits.
First use in 1942.

SN 99,057. Halco Products, Inc., Orlando, Fla. Filed June 15, 1960.



For Fresh Orange Juice.
First use May 28, 1960.

SN 99,071. R C McAteer Company, Ripley, N.Y. Filed June 15, 1960.

RED ROSE

For Maraschino Cherries.
First use in the year 1951.

SN 99,158. Mead Johnson & Company, Evansville, Ind. Filed June 16, 1960.

NUTRAMENT

Owner of Reg. Nos. 397,676 and 509,558.
For Nutritionally Complete Food Consisting Principally of Milk Solids, Maltose-Dextrins, Soy Flour, Sucrose, and Vegetable Oils.
First use Apr. 11, 1960.

SN 99,193. Arnold Bakers, Inc., Port Chester, N.Y. Filed June 17, 1960.



Applicant makes no claim of exclusive right in the words "All Butter Recipe" apart from the mark as shown. Owner of Reg. Nos. 414,962, 653,851, and others.
For Rolls and Crumpets.
First use June 2, 1960, on rolls.

SN 102,397. Kellogg Company, Battle Creek, Mich. Filed Aug. 10, 1960.



Owner of Reg. No. 605,890.
For Ready-To-Eat Cereal Foods.
First use Oct. 25, 1957.

SN 102,795. Safeway Stores, Incorporated, Oakland, Calif. Filed Aug. 16, 1960.

SWEETWOOD

Owner of Reg. No. 521,841.
For Bacon.
First use July 14, 1951.

SN 102,801. Geo. F. Stuhmer & Company, Brooklyn, N.Y. Filed Aug. 16, 1960.



Owner of Reg. Nos. 532,708 and 553,488.
For Bread (Rye Bread and Pumpernickel).
First use about November 1910.

SN 102,802. Geo. F. Stuhmer & Company, Brooklyn, N.Y. Filed Aug. 16, 1960.

STUHMER'S

Owner of Reg. Nos. 532,708 and 553,488.
For Bread (Rye Bread and Pumpernickel).
First use about 1884.

SN 102,803. Geo. F. Stuhmer & Company, Brooklyn, N.Y. Filed Aug. 16, 1960.

STUHMER'S

Owner of Reg. Nos. 532,708 and 553,488.
For Bread (Rye Bread and Pumpernickel).
First use about June 23, 1930.

Class 47 — Wines

SN 97,643. Fransia Brothers Winery, d.b.a. Old Chateau Wine Co., Ripon, Calif. Filed May 23, 1960.

Old Chateau

For Wines.
First use Nov. 15, 1935.

Class 49 — Distilled Alcoholic Liquors

SN 97,753. D. Cameron & Company Limited, d.b.a. Andrew Laing & Co., Inverness, Scotland. Filed May 24, 1960.

SHOOTING LODGE

For Scotch Whisky.
First use 1910; in commerce Apr. 18, 1960.

Class 50 — Merchandise Not Otherwise Classified

SN 87,972. Alfred L. Lind, d.b.a. Alfred L. Lind Company, Minneapolis, Minn. Filed Dec. 24, 1959.

PEG-TUBE

For Perforated Tubular Merchandise Advertising and Display Devices.
First use Dec. 15, 1958.

SN 99,739. Harrison Home Products, Inc., Harrison, N.J. Filed June 27, 1960.

ADJUST-O-MATIC

For Adjustable Dress Forms.
First use Apr. 6, 1960.

SN 100,899. Evans Specialty Company, Inc., Richmond, Va. Filed July 15, 1960.

DECOR-MAT

For Under Mat of Transparent Acrylic Plastic for Chairs.
First use Jan. 15, 1959.

SN 100,989. General Plastics Corporation, Marion, Ind. Filed July 18, 1960.

JEROME THE GNOME

For Christmas Ornaments.
First use June 1, 1960.

SN 101,036. Dwight E. Reynolds, El Monte, Calif. Filed July 18, 1960.

WIFE SAVER

For Garment Hanger.
First use May 4, 1960.

SN 101,040. Schenley Industries, Inc., New York, N.Y. Filed July 18, 1960.

BEND-A-SCORE

For Advertising Displays.
First use Mar. 31, 1960.

SN 101,552. Holi-Gay Mfg. Co., Chicago, Ill. Filed July 27, 1960.

HOLI-GAY

For Metal Christmas Trees and Metal Garland.
First use July 1, 1959.

SN 101,787. Richard V. Joiner, d.b.a. Dick Joiner & Associates, Lemont, Il. Filed Aug. 1, 1960.

MAGNESIGN

For Visual Display Kit Which Includes a Support Panel and Characters of Indicia Adapted To Be Selectively Mounted on the Panel, and Sold as Such.
First use in May 1959.

Class 51 — Cosmetics and Toilet Preparations

SN 63,862. Erwin J. Merar, d.b.a. Merit Products Co., Milwaukee, Wis. Filed Dec. 8, 1958.

Mar

For After Shave Lotion, After Shave Powder, and Hair Grooming Oil.
First use July 1, 1955.

SN 72,078. Hans Schwarzkopf, Hamburg-Altona, Germany. Filed Apr. 22, 1959.

SERAIL

The expression "Serial" is a French word which in English means "seraglio." Owner of German Reg. No. 699,567, dated Jan. 30, 1957.
For Hair Waving Preparations.

SN 74,622. Viviane Woodard Corporation, Panorama City, Calif., by change of name from Viviane Woodard Cosmetics, Panorama City, Calif. Filed May 27, 1959.

SoRARE

For Lipstick, Liquid Make-Up, Translucent Face Powder, Perfume and Lipstick Brushes.
First use Jan. 24, 1959.

SN 80,877. Richard Hudnut, Morris Plains, N.J. Filed Sept. 4, 1959.

NAIL QUICK

For Nail Polish.
First use Aug. 13, 1959.

SN 81,496. Les Parfums Robert Piguet, Paris, France. Filed Sept. 16, 1959.

LONGCILS

The term "Longcils" is a French word meaning "long eyelashes." Owner of French Reg. No. 481,524, dated July 3, 1959 (Seine); Natl. Inst. No. 128,601.
For Cosmetic Product for Beautifying the Eyelashes.

SN 82,564. Elizabeth of Sweden, Paterson, N.J. Filed Oct. 2, 1959.



"Fjord" is the Scandinavian word for inlets of the sea along the Scandinavian coast line.
For Perfume, Face Powders, Talcum Powders, Rouges, Toilet Waters, Brilliantines, Face Lotions, Cold Creams, Skin Creams, and Bath Salts.
First use Jan. 1, 1959; in commerce Jan. 1, 1959.

SN 84,165. John Robert Powers Products Co. Inc., New York, N.Y. Filed Oct. 28, 1959.



The trademark consists of the letters "JRP."
For Face Powders; Colognes; Cosmetic Skin Creams and Lotions; Perfumes, Rouges; Cosmetic Oils; Eye Shadow and Lipstick.
First use Nov. 14, 1951, on cosmetic skin cream.

SN 88,656. Eversharp, Inc., New York, N.Y. Filed Jan. 8, 1960.

RATHER

For Shaving Cream.
First use Dec. 24, 1959.

SN 92,592. Clairol Incorporated, New York, N.Y. Filed Mar. 11, 1960.

GOOD BYE GRAY

Applicant disclaims the word "Gray" apart from the mark as shown.
For Hair Tinting, Dyeing and Coloring Preparations.
First use Nov. 24, 1959.

SN 95,632. Revlon, Inc., New York, N.Y. Filed Apr. 22, 1960.

HAPPY TALK

For Mouth Rinse Useful as a Breath Freshener and Gargle.
First use Mar. 7, 1960.

SN 96,832. Colgate-Palmolive Company, New York, N.Y. Filed May 11, 1960.

SILKEN LEGS

For Shaving Cream for Women.
First use Aug. 5, 1959.

SN 97,403. Lehn & Fink Products Corporation, d.b.a. Tussy Cosmetics, Bloomfield, N.J. Filed May 18, 1960.

SHADO-RAMA

No claim is made to the exclusive right to the use of the notation "Shado" apart from the mark as shown.
For Miniature Eye Shadows or Color Accents.
First use Apr. 12, 1960.

SN 98,135. Jon Pierre Cosmetics, Inc., New York, N.Y. Filed May 31, 1960.

NEUTRA-TONE

For Cosmetic Foundation Liquid.
First use Jan. 1, 1960.

SN 98,136. Jon Pierre Cosmetics, Inc., New York, N.Y. Filed May 31, 1960.

NOUVELLE VIE

The mark comprises the French words for "New Life."
For Skin Conditioning Cream.
First use Feb. 8, 1960.

SN 99,892. E. F. Young, Jr. Mfg. Co., Meridian, Miss. Filed June 20, 1960.

FORMULA 88

The word "Formula" is disclaimed apart from the mark as shown.
For Hair Preparations—Namely, Hair Creams, Shampoos, and Hair Sprays.
First use Aug. 25, 1958.

SN 99,496. Colonial Dames Company, Ltd., Montebello, Calif. Filed June 22, 1960.

ULTRA CLASIQUE

For Cosmetic Skin Creams.
First use Sept. 28, 1959.

Class 52—Detergents and Soaps

SN 95,905. Last-O-Lon, Inc., Boston, Mass. Filed Apr. 27, 1960.

woolana

For Combined Cold Water Wash and Insecticide.
First use Mar. 14, 1960.

SN 100,388. Polycell Products Limited, London, England. Filed July 6, 1960.

POLYSTRIPPA

Owner of British Reg. No. 774,151, dated Feb. 10, 1958.
For Preparations for Removing Paint.

SN 101,336. Patek & Co., San Francisco, Calif. Filed July 22, 1960.

ORTHON

For Anhydrous Soap Builder for Commercial and Institutional Type Laundries.
First use 1945.

SERVICE MARKS

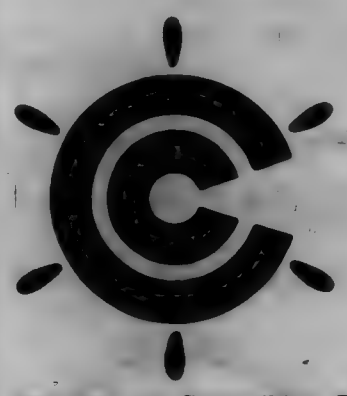
Class 100—Miscellaneous

SN 65,238. Captains Club, Inc., New York, N.Y. Filed Jan. 2, 1959.

CAPTAINS CLUB

For Services Rendered to Subscribing Boat Owners and Yachtsmen as Follows: Disseminating Information About Waterways and Ports, Port Facilities and Facilities Adjacent Said Ports, Informing Subscribers About Gasoline Tax Refunds, Yacht Financing, Insurance and Boat and Boating Equipment for Sale, Arranging for the Issuance of Credit Cards and Other Credit Conveniences, and Arranging for Subscribers to Apply as a Group for Hull and Protection Insurance; and Other Services of Practical Interest to Boatmen.
First use on or about Aug. 1, 1958.

SN 65,239. Captains Club, Inc., New York, N.Y. Filed Jan. 2, 1959.



For Services Rendered to Subscribing Boat Owners and Yachtsmen as Follows: Disseminating Information About Waterways and Ports, Port Facilities and Facilities Adjacent Said Ports, Informing Subscribers About Gasoline Tax Refunds, Yacht Financing, Insurance and Boat and Boating Equipment for Sale, Arranging for the Issuance of Credit Cards and Other Credit Conveniences, and Arranging for Subscribers to Apply as a Group for Hull and Protection Insurance; and Other Services of Practical Interest to Boatmen.
First use on or about Aug. 1, 1958.

Class 101—Advertising and Business

SN 77,055. Arizona Land Corporation, Phoenix, Ariz. Filed July 6, 1959.

ARIZONA RANCHEROS

"Rancheros" is a Spanish word which connotes a piece of property in the country. "Arizona" is disclaimed apart from the mark.
For Performing Real Estate Brokerage Services.
First use May 24, 1959.

SN 80,080. Farmers Educational and Cooperative Union of America, d.b.a. National Farmers Union, Denver, Colo. Filed Aug. 24, 1959.



The word "Insurances" is hereby disclaimed apart from the mark as shown. Owner of Reg. Nos. 557,013, 647,507, and others.
For Underwriting of Insurance by Wholly Owned Corporate Subsidiaries of Applicant.
First use on about July 1, 1956.

SN 86,660. Harris Trust and Savings Bank, Chicago, Ill. Filed Dec. 4, 1959.

GOAL GETTER

For Banking and Savings Services.
First use in or about November 1959.

SN 96,368. State Farm Mutual Automobile Insurance Company, Bloomington, Ill. Filed May 3, 1960.



The words "Auto," "Life," "Fire," and "Insurance" are disclaimed apart from the mark shown. Owner of Reg. Nos. 632,863, 632,864, and 645,890.
For Underwriting Fire and Casualty Insurance.
First use Mar. 17, 1960.

Class 103—Construction and Repair

SN 88,751. R. A. Hanson Co., Inc., Palouse, Wash. Filed Jan. 11, 1960.

EXTRUDA-CAST

For Casting Concrete Pipe Lines in Place.
First use Sept. 21, 1959.

Class 105 — Transportation and Storage

SN 59,488. Quaker Storage Company, Inc., Philadelphia, Pa. Filed Sept. 24, 1958.

QUAKER

For Storage and Moving by Truck of Machinery, Furniture and Personal Effects.
First use Jan. 1, 1930.

SN 86,009. Americans Abroad, Incorporated, Minneapolis, Minn. Filed Nov. 25, 1959.

AMERICAN YOUTH ABROAD

For Travel Services—Namely, Arranging Trips for Others Including Contracting With Hotels, Restaurants, Buses, and the Like in Europe and Elsewhere.
First use at least as early as April 1949.

Class 106 — Material Treatment

SN 89,692. May Research, Inc., Minneapolis, Minn. Filed Jan. 26, 1960.

MAY-O-RIM

For Application of a Metal Coating to the Edge of Glass, Such as Ophthalmic Glass and the Lenses of Cameras and Other Instruments and the Like.
First use Nov. 13, 1959.

COLLECTIVE MEMBERSHIP MARKS

Class 200

SN 100,147. National Ski Patrol System, Inc., Denver, Colo. Filed July 1, 1960.

SKI PATROL

For Indicating Membership in an Association of Individuals Designed for the Purpose of Promoting Greater Safety and Thus Greater Enjoyment in the Sport of Skiing.
First use in September 1938.

CERTIFICATION MARKS

Class A — Goods

SN 87,906. The Professional Golfers' Association of America, Dunedin, Fla. Filed Dec. 23, 1959.

Ryder Cup

PGA PROFESSIONAL GOLFERS' ASSN

The mark certifies the quality of the article to which it is applied meets standards established by applicant.
For Golf Clubs.
First use Aug. 1, 1959.

SN 96,970. Mrs. America, Inc., New York, N.Y. Filed May 12, 1960.



The mark certifies that the quality of the goods meets standards established by applicant. Owner of Reg. Nos. 575,274 and 705,565.
For Goods.
First use Apr. 27, 1960.

TRADEMARK REGISTRATIONS ISSUED

PRINCIPAL REGISTER

Class 1—Raw or Partly Prepared Materials

709,784. METALBRITE. Cee Bee Mfg. Co. Inc., d.b.a. The Cee-Bee Manufacturing Company, Inc. SN 52,099. Pub. 11–1–60. Filed 5–22–58.

709,785. AT. Arnold-Thomas Seed Service. SN 71,717. Pub. 11–1–60. Filed 4–17–59.

709,786. WILCARBO AND DESIGN. Wilson Petrolcoke & Carbon Corporation. SN 83,850. Pub. 11–1–60. Filed 10–22–59.

709,787. P AND S ETC. AND DESIGN. Pittsburg and Shawmut Coal Company. SN 93,542. Pub. 11–1–60. Filed 3–23–60.

709,788. AQUA CELASTIC. Wasco Products, Inc. SN 95,462. Pub. 11–1–60. Filed 4–20–60.

709,789. ASGROW AND DESIGN. The Asgrow Seed Company. SN 96,825. Pub. 11–1–60. Filed 5–11–60.

709,790. MOLECULOY. Belding Corticelli Industries, Inc. SN 97,809. Pub. 11–1–60. Filed 5–25–60.

709,791. ENSLITE. Vulcan Materials Company. SN 98,183. Pub. 11–1–60. Filed 5–31–60.

709,792. BELLA. Armour and Company. SN 98,196. Pub. 11–1–60. Filed 6–1–60.

Class 2—Receptacles

709,793. LADY ARNOLD. A. C. Martinelli Rogers Plastic Corporation. SN 73,714. Pub. 11–1–60. Filed 5–14–59.

709,794. REPRESENTATION OF AN OCTOPUS. Quikey Manufacturing Co., Inc., assignee of Quikey Sales Company. SN 84,245. Pub. 11–1–60. Filed 10–29–59.

709,795. BUDDY. The Maryland Cup Co. SN 97,078. Pub. 11–1–60. Filed 5–13–60.

709,796. POKY. The Maryland Cup Co. SN 97,079. Pub. 11–1–60. Filed 5–13–60.

709,797. 3B AND DESIGN. Reynolds Metals Company. SN 97,095. Pub. 11–1–60. Filed 5–13–60.

709,798. FIESTA. Production Tooling Co. SN 97,518. Pub. 11–1–60. Filed 5–19–60.

709,799. QUIK-KEG. West Virginia Pulp and Paper Company. SN 97,594. Pub. 11–1–60. Filed 5–20–60.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

709,800. JO-O-KAY. John H. Simpler, d.b.a. Corral Sportswear Co. SN 89,875. Pub. 11–1–60. Filed 1–28–60.

Class 4—Abrasives and Polishing Materials

709,801. DESIGN OF RED TRIANGLE. American-Marietta Company. SN 36,552. Pub. 11–1–60. Filed 9–3–57.

709,802. NIFDA AND DESIGN OF MAP AND CHEF. National Institutional Food Distributors Association, Inc., d.b.a. National Institutional Food Distributor Associates, Inc. SN 80,906. Pub. 11–1–60. Filed 9–4–59.

709,803. NIFDA AND DESIGN. National Institutional Food Distributors Association, Inc., d.b.a. National Institutional Food Distributor Associates, Inc. SN 80,909. Pub. 11–1–60. Filed 9–4–59.

Class 5—Adhesives

709,804. PROTEX. Mask-Off Company, Inc. SN 89,594. Pub. 11–1–60. Filed 1–25–60.

709,805. PUNCTURE GARD. Warshawsky and Company, Inc. SN 90,872. Pub. 11–1–60. Filed 2–12–60.

Class 6—Chemicals and Chemical Compositions

709,806. MILDARE. Metro-Atlantic, Inc. SN 61,832. Pub. 11–1–60. Filed 11–3–58.

709,807. MARAN. Dehydag Deutsche Hydrierwerke GmbH. SN 68,880. Pub. 11–1–60. Filed 3–4–59.

709,808. COMET. Comet Rice Mills. SN 74,990. Pub. 11–1–60. Filed 6–3–59.

709,809. VIZ-THIN. Crown Zellerbach Corporation. SN 80,064. Pub. 11–1–60. Filed 8–24–59.

709,810. RESLABS. Reslabs, Inc. SN 84,172. Pub. 11–1–60. Filed 10–28–59.

709,811. V/+ BUILT! AND DESIGN. Vita+Plus Corporation. SN 91,977. Pub. 11–1–60. Filed 3–1–60.

709,812. WEAR. Intrusion-Prepakt, Inc. SN 93,316. Pub. 11–1–60. Filed 3–21–60.

709,813. VAPONA. Shell Oil Company. SN 94,429. Pub. 11–1–60. Filed 4–5–60.

709,814. MOON AND STARS DESIGN. The Procter & Gamble Company. SN 94,518. Pub. 11–1–60. Filed 4–6–60.

709,815. DOZONE. Metro-Atlantic, Inc. SN 98,381. Pub. 11–1–60. Filed 6–3–60.

Class 8—Smokers' Articles, Not Including Tobacco Products

709,816. TNT-FILTER. Joseph A. Curtis, Jr., d.b.a. Curtis Products Company. SN 82,087. Pub. 11–1–60. Filed 9–25–59.

709,817. MEMOSMOKE. Ebauches S.A. SN 99,924. Pub. 11–1–60. Filed 6–29–60.

709,818. KREISLER. Jacques Kreisler Manufacturing Corporation. SN 100,792. Pub. 11–1–60. Filed 7–13–60.

Class 9—Explosives, Firearms, Equipments, and Projectiles

709,819. HUSQVARNA. Husqvarna Vapenfabriks Aktiebolag. SN 44,185. Pub. 11–1–60. Filed 1–17–58.

Class 11—Inks and Inking Materials

709,820. VELVATEX. General Printing Ink Co., Inc., by change of name from Bensing Brothers and Deeney Incorporated in Pennsylvania. SN 57,753. Pub. 11–1–60. Filed 8–25–58.

709,821. TRILON. Standard Products Corporation. SN 85,525. Pub. 11–1–60. Filed 11–17–59.

709,822. DUALPLY. Standard Products Corporation. SN 85,527. Pub. 11–1–60. Filed 11–17–59.

709,823. BUFFALO. Continental Ribbon and Carbon Company. SN 93,729. Pub. 11–1–60. Filed 3–14–60.

Class 12—Construction Materials

709,824. WELTONE. United States Plywood Corporation, assignee of Welsh Panel Co. SN 97,001. Pub. 10–4–60. Filed 5–12–60.

709,825. WELTONE AND DESIGN. United States Plywood Corporation, assignee of Welsh Panel Co. SN 97,002. Pub. 10–4–60. Filed 5–12–60.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

709,826. VICEROY. Viceroy Manufacturing Company Limited. SN 76,904. Pub. 11–1–60. Filed 7–1–59.

709,827. ROLSTRIP. Johnson & Johnson. SN 90,762. Pub. 11–1–60. Filed 2–11–60.

709,828. 4 AND REPRESENTATION OF SEAL. C. B. Crawford Company. SN 93,420. Pub. 11–1–60. Filed 3–22–60.

709,829. BEAUTY LINK AND DESIGN. American Fence Company, Inc. SN 96,175. Pub. 11–1–60. Filed 5–2–60.

709,830. CHIC. Coats & Clark Inc. SN 96,199. Pub. 11–1–60. Filed 5–2–60.

709,831. MIL PAC TWINS. Wrought Washer Mfg. Co. SN 96,303. Pub. 11–1–60. Filed 5–2–60.

709,832. HI-DX. Hardware Designers, Inc. SN 96,414. Pub. 11–1–60. Filed 5–4–60.

709,833. TRIUMPH. Faultless Caster Corporation. SN 96,587. Pub. 11–1–60. Filed 5–6–60.

Class 14—Metals and Metal Castings and Forgings

709,834. ARCHER ALUMINUM AND DESIGN. R. J. Reynolds Tobacco Company. SN 81,505. Pub. 11–1–60. Filed 9–16–59.

709,835. MTI AND DESIGN. Markin Tubing, Inc. SN 95,608. Pub. 11–1–60. Filed 4–22–60.

Class 15—Oils and Greases

709,836. ACTIV 8 AND DESIGN. Luscon Industries Corporation. SN 76,330. Pub. 11–1–60. Filed 6–23–59.

709,837. PATIO PETE. Mac's Super Gloss Co., Inc. SN 91,404. Pub. 11–1–60. Filed 2–23–60.

709,838. KARTANE. Kartane, Inc. SN 99,748. Pub. 11–1–60. Filed 6–27–60.

Class 16—Protective and Decorative Coatings

709,839. TNEME-TAR. Tnemec Company, Inc. SN 97,265. Pub. 11–1–60. Filed 5–16–60.

709,840. TNEME-CRYL. Tnemec Company, Inc. SN 97,266. Pub. 11–1–60. Filed 5–16–60.

709,841. SQUIRT 'N' BRUSH. The Parks Company. SN 97,414. Pub. 11–1–60. Filed 5–18–60.

709,842. BLIX. The Foy Paint Company, Inc. SN 97,476. Pub. 11–1–60. Filed 5–19–60.

Class 17—Tobacco Products

709,843. GOLDEN NUGGET. Havatampa Cigar Company, assignee of Roy O. Keiger. SN 86,502. Pub. 6–14–60. Filed 12–2–59.

709,844. PATRIOT. Allen & Fisher, Inc. SN 102,001. Pub. 11–1–60. Filed 8–4–60.

709,845. COMPEER. George W. Helme Company. SN 102,387. Pub. 11–1–60. Filed 8–10–60.

709,846. SUAVITY. George W. Helme Company. SN 102,388. Pub. 11–1–60. Filed 8–10–60.

Class 18—Medicines and Pharmaceutical Preparations

709,847. TEX-JOY. Vitamin Distributors, Inc. SN 70,764. Pub. 11–1–60. Filed 4–2–59.

709,848. MICHAEL J. WALSH ETC. Michael J. Walsh. SN 71,921. Pub. 11–1–60. Filed 4–20–59.

709,849. ACELS. The Upjohn Company. SN 79,363. Pub. 11–1–60. Filed 8–11–59.

709,850. ACTAPAN. The Purdue Frederick Company. SN 79,807. Pub. 4–5–60. Filed 8–18–59.

709,851. COVATES. The Upjohn Company. SN 80,022. Pub. 11–1–60. Filed 8–21–59.

709,852. MICROLES. The Upjohn Company. SN 80,023. Pub. 11–1–60. Filed 8–21–59.

709,853. ENCAPS. The Upjohn Company. SN 80,460. Pub. 11–1–60. Filed 8–28–59.

709,854. 3 FOR 5. National Laboratories. SN 81,583. Pub. 11–1–60. Filed 9–17–59.

709,855. BI-SYNE. The Nevama Products Co., Inc. SN 85,035. Pub. 11–1–60. Filed 11–10–59.

709,856. SYNCHRONS. Forest Laboratories, Inc. SN 78,867. Pub. 11–8–60. Filed 8–3–59.

709,857. STAPHLACILLIN. Bristol-Myers Company. SN 99,408. Pub. 11–8–60. Filed 6–21–60.

709,858. ATHLECIN. The Mennon Company. SN 86,045. Pub. 11–1–60. Filed 11–25–59.

709,859. STERI-SPRAY. The Mennen Company. SN 86,178. Pub. 11–1–60. Filed 11–27–59.

709,860. ANTI-STRON. Nysco Laboratories, Inc. SN 87,576. Pub. 5–17–60. Filed 12–18–59.

709,861. TOCOSAMINE. Trent Pharmaceuticals, Inc. SN 88,628. Pub. 9–13–60. Filed 1–7–60.

709,862. SERENATRAN. Irwin, Neisler & Co. SN 89,272. Pub. 11–1–60. Filed 1–19–60.

709,863. MECHLORAL. The Purdue Frederick Company. SN 89,794. Pub. 5–17–60. Filed 1–27–60.

709,864. V/+ BUILT! AND DESIGN. Vita+Plus Corporation. SN 91,975. Pub. 11–1–60. Filed 3–1–60.

709,865. RUMALON. Robapharm AG. SN 92,646. Pub. 11–1–60. Filed 3–11–60.

709,866. PAMPRIN. The Chattanooga Medicine Company, d.b.a. Chattem Laboratories. SN 92,711. Pub. 7–26–60. Filed 3–14–60.

709,867. DAWE'S. Dawe's Laboratories, Inc. SN 92,728. Pub. 11–1–60. Filed 3–14–60.

709,868. PIRMAZIN. Cilag-Chemie Aktiengesellschaft. SN 93,153. Pub. 11–1–60. Filed 3–18–60.

709,869. CILAG-CHEMIE. Cilag-Chemie Aktiengesellschaft. SN 93,154. Pub. 11–1–60. Filed 3–18–60.

709,870. CANDID. Potter Drug & Chemical Corporation, d.b.a. Cuticura Laboratories. SN 93,709. Pub. 11–1–60. Filed 3–25–60.

709,871. PET-VET AND DESIGN. Paul William Howard, Jr., d.b.a. Pacific Coast Scent Co. SN 95,169. Pub. 11–1–60. Filed 4–15–60.

709,872. CHOICEMAKER. Eastern States Farmers' Exchange, Incorporated. SN 95,988. Pub. 11–1–60. Filed 4–28–60.

709,873. BLANCO AND DESIGN. Eli Lilly and Company. SN 96,509. Pub. 11–1–60. Filed 5–5–60.

709,874. NORMACOL. Pharmaco, Inc. SN 96,616. Pub. 11–1–60. Filed 5–6–60.

709,875. PAN-U.R.I. The Purdue Frederick Company. SN 96,987. Pub. 11–1–60. Filed 5–12–60.

709,876. MODIRAYD. American Home Products Corporation, d.b.a. Fort Dodge Laboratories. SN 97,017. Pub. 11–1–60. Filed 5–13–60.

709,877. GRISACTIN. American Home Products Corporation, d.b.a. Ayerst Laboratories. SN 97,359. Pub. 11–1–60. Filed 5–18–60.

709,878. DIAMETIC. The William A. Webster Company. SN 98,407. Pub. 11–1–60. Filed 6–3–60.

709,879. MODITEN. Olin Mathieson Chemical Corporation. SN 98,925. Pub. 11–1–60. Filed 6–13–60.

709,880. SLEEPAWAY. American Home Products Corporation, d.b.a. Fort Dodge Laboratories. SN 99,029. Pub. 11–1–60. Filed 6–15–60.

709,881. COLCHEK. Creomulsion Company. SN 99,299. Pub. 11–1–60. Filed 6–20–60.

709,882. DOWZENE. The Dow Chemical Company. SN 100,183. Pub. 11–1–60. Filed 7–1–60.

709,883. 'QUINIDATE.' M. R. Thompson, Inc. SN 100,191. Pub. 11–1–60. Filed 7–1–60.

709,884. ORGANON AND DESIGN. Organon Inc. SN 100,583. Pub. 11–1–60. Filed 7–8–60.

Class 19—Vehicles

709,885. CENTURY SPEED CART. Century Speed Kart Company, Inc. SN 87,932. Pub. 11–1–60. Filed 12–24–59.

709,886. RUNWELL. Beacon Cycle and Supply Co. SN 90,483. Pub. 11–1–60. Filed 2–8–60.

709,887. HI-BOY. Renault, Inc. SN 95,627. Pub. 11–1–60. Filed 4–22–60.

709,888. LECTRA HAUL. Unit Rig & Equipment Co. SN 97,789. Pub. 11–1–60. Filed 5–24–60.

709,889. JET AIR BREEZE AND DESIGN. Breeze Corporations, Inc. SN 97,920. Pub. 11–1–60. Filed 5–26–60.

Class 21—Electrical Apparatus, Machines, and Supplies

709,890. MOZART. Pye Limited. SN 67,824. Pub. 11–1–60. Filed 2–16–59.

709,891. RADIANT QUEEN. Radiant Queen Corporation. SN 91,841. Pub. 11–1–60. Filed 2–29–60.

709,892. ELECTRIKMOP. The Regina Corporation. SN 95,764. Pub. 11–1–60. Filed 4–25–60.

709,893. UNIDIAL. Polarad Electronics Corporation. SN 96,030. Pub. 11–1–60. Filed 4–28–60.

709,894. CIRTUF. Circle Wire and Cable Corporation. SN 96,194. Pub. 11–1–60. Filed 5–2–60.

709,895. CIRTUBE. Circle Wire and Cable Corporation. SN 96,197. Pub. 11–1–60. Filed 5–2–60.

709,896. VINYLTHERM. Circle Wire and Cable Corporation. SN 96,198. Pub. 11–1–60. Filed 5–2–60.

709,897. CHEMINAX. Raychem Corporation. SN 96,624. Pub. 11–1–60. Filed 5–6–60.

Class 22—Games, Toys, and Sporting Goods

709,898. JACK BUILT TOYS AND DESIGN. Albin Enterprises, Inc., d.b.a. Jack Built Toy Manufacturing Co. SN 83,433. Pub. 11–1–60. Filed 10–19–59.

709,899. FLEXAGONS. Ferde Corporation. SN 86,128. Pub. 11–1–60. Filed 11–27–59.

709,900. MATH MAGIC. Cadaco-Ellis, Inc. SN 91,286. Pub. 11–1–60. Filed 2–18–60.

709,901. FLASH-SPOT. Franklin Veatch, d.b.a. Veatch Industries. SN 91,637. Pub. 11–1–60. Filed 2–25–60.

709,902. MAGNE-LITE. Waldrop-Jones, Inc. SN 94,532. Pub. 11–1–60. Filed 4–6–60.

709,903. MATT ANDREWS. Zayre Corp. SN 96,382. Pub. 11–1–60. Filed 5–3–60.

709,904. "PARTICULAR PETE." Roger Bruce Harris, Jr. SN 97,052. Pub. 11–1–60. Filed 5–13–60.

709,905. VANADIUM. Lester M. Davis, d.b.a. Les Davis Fishing Tackle Co. SN 97,177. Pub. 11–1–60. Filed 5–16–60.

709,906. FORM-A-SKI AND DESIGN. Form-A-Ski Manufacturing Co., Inc. SN 97,193. Pub. 11–1–60. Filed 5–16–60.

709,907. BUTSKI. Form-A-Ski Manufacturing Co., Inc. SN 97,194. Pub. 11–1–60. Filed 5–16–60.

709,908. PLAY-PAK. Toy Distributors, Inc. SN 97,342. Pub. 11–1–60. Filed 5–17–60.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

709,909. DO NUT DANDEE. Wynne Kaufman, d.b.a. Wynne Kaufman Company. SN 58,796. Pub. 11–1–60. Filed 9–11–58.

709,910. ROYAL VALUES. Hardware Wholesalers, Inc. SN 79,574. Pub. 11–1–60. Filed 8–14–59.

709,911. SUPREME. Supreme Products Corporation. SN 80,205. Pub. 11–1–60. Filed 8–25–59.

709,912. FIRE WAGON SERVICE. Power Parts Company. SN 85,041. Pub. 11–1–60. Filed 11–10–59.

709,913. MODEL S. The Weldon Tool Company. SN 86,465. Pub. 11–1–60. Filed 12–1–59.

709,914. GMPCO GENERAL AND DESIGN. General Machine Products Company, Inc. SN 86,771. Pub. 11–1–60. Filed 12–7–59.

709,915. ARTISAN. H. D. Hudson Manufacturing Company. SN 86,966. Pub. 11–1–60. Filed 12–9–59.

709,916. TRU-FEED. Gardner-Denver Company. SN 87,487. Pub. 11–1–60. Filed 12–17–59.

709,917. EQUIPCO. H. J. Zoubek Co. SN 87,927. Pub. 11–1–60. Filed 12–23–59.

709,918. HY-DRAULIC AND DESIGN. Rockford Machine Tool Co. SN 88,177. Pub. 11–1–60. Filed 12–29–59.

709,919. EVDEL. Evdel Industries, Inc. SN 91,931. Pub. 11–1–60. Filed 3–1–60.

709,920. CORNWELL SKIDMORE. The Cornwell Quality Tools Company. SN 92,716. Pub. 11–1–60. Filed 3–14–60.

709,921. GROTESQUE REPRESENTATION OF A MAN. Robinair Manufacturing Corporation. SN 95,118. Pub. 11–1–60. Filed 4–14–60.

709,922. UNISLIDE. Tropel, Inc. SN 95,332. Pub. 11–1–60. Filed 4–18–60.

709,923. VIKING. Cooperative Marketing, Inc. SN 96,100. Pub. 11–1–60. Filed 4–29–60.

709,924. SCRULOX. Pan American Screw Corporation. SN 96,136. Pub. 11–1–60. Filed 4–29–60.

709,925. TORK-GRIP. Parker-Hannifin Corporation. SN 96,423. Pub. 11–1–60. Filed 5–4–60.

709,926. COACH-E-VATOR. Mountain Empire Mfg. Co. SN 97,086. Pub. 11–1–60. Filed 5–13–60.

709,927. PAYLOMATIC. The Frank G. Hough Co. SN 97,397. Pub. 11–1–60. Filed 5–18–60.

709,928. SHELTON. Shelton Products, Inc. SN 97,419. Pub. 11–1–60. Filed 5–18–60.

709,929. CLEVEBLOC. Clevite Harris Products, Inc. SN 99,415. Pub. 11–1–60. Filed 6–21–60.

709,930. AZTEC. Abfreed Export-Import Corporation. SN 99,476. Pub. 11–1–60. Filed 6–22–60.

709,931. COLONIAL TIPT. Gorham Manufacturing Company. SN 99,935. Pub. 11–1–60. Filed 6–29–60.

Class 27 — Horological Instruments

709,932. CLASSIC. Bulova Watch Company, Inc. SN 96,470. Pub. 11–1–60. Filed 5–5–60.

709,933. CORDEAU. Delta Jewelry Corporation. SN 96,490. Pub. 11–1–60. Filed 5–5–60.

709,934. LE CORDEAU. Delta Jewelry Corporation. SN 96,491. Pub. 11–1–60. Filed 5–5–60.

709,935. SEA SKATE. Edward Trauner, Inc. SN 97,144. Pub. 11–1–60. Filed 5–13–60.

709,936. GOLDEN SIXTIES. Benrus Watch Company, Inc. SN 97,283. Pub. 11–1–60. Filed 5–17–60.

709,937. SECRETARY. Croton Watch Co., Inc. SN 97,460. Pub. 11–1–60. Filed 5–19–60.

709,938. CITIZEN. Bulova Watch Company, Inc. SN 97,619. Pub. 11–1–60. Filed 5–23–60.

Class 28 — Jewelry and Precious-Metal Ware

709,939. MAGIC EYE. Coro, Inc. SN 96,787. Pub. 11–1–60. Filed 5–10–60.

709,940. BLUE DANUBE. Coro, Inc. SN 96,790. Pub. 11–1–60. Filed 5–10–60.

709,941. RANDOM ROSE. The International Silver Company. SN 97,062. Pub. 11–1–60. Filed 5–13–60.

Class 31 — Filters and Refrigerators

709,942. FLEX-O-METIC. Borg-Warner Corporation. SN 97,377. Pub. 11–1–60. Filed 5–18–60.

709,943. ARCTIC AIR. Hupp Corporation. SN 97,556. Pub. 11–1–60. Filed 5–20–60.

Class 32 — Furniture and Upholstery

709,944. CABOT COLLECTION. Vanleigh Furniture Co., Inc. SN 82,864. Pub. 11–1–60. Filed 10–7–59.

709,945. OLD 79. Your Furniture House, Inc. SN 95,221. Pub. 11–1–60. Filed 4–15–60.

709,946. CHILD PRUF. Smith Cabinet Manufacturing Company, Inc. SN 95,561. Pub. 11–1–60. Filed 4–22–60.

709,947. VALIANT AND DESIGN. The Englander Company, Inc. SN 95,578. Pub. 11–1–60. Filed 4–22–60.

Class 34 — Heating, Lighting, and Ventilating Apparatus

709,948. GEOMETRICAL DESIGN. Woodside Engineering Co. SN 65,906. Pub. 11–1–60. Filed 1–15–59.

709,949. SAFTI-VENT. H. C. Little Burner Company, Inc., d.b.a. H. C. Little, Inc. SN 85,759. Pub. 11–1–60. Filed 11–20–59.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

709,950. GROTESQUE OF OIL DROP. Humble Oil & Refining Company, by merger from Esso Standard Oil Company. SN 64,161. Pub. 11–1–60. Filed 12–12–58.

709,951. SENIOR. Auto Union G.m.b.H. SN 85,455. Pub. 11–1–60. Filed 11–17–59.

709,952. DAVIS IMPERIAL. Western Auto Supply Company. SN 97,738. Pub. 11–1–60. Filed 5–23–60.

709,953. TIRE CITY. Tire City Corp. SN 98,248. Pub. 11–1–60. Filed 6–1–60.

Class 36 — Musical Instruments and Supplies

709,954. MIAMI AND DESIGN. Carlos Diaz Granados, d.b.a. Miami Records. SN 52,717. Pub. 11–1–60. Filed 6–2–58.

709,955. CONCERTONE. American Electronics, Inc. SN 63,204. Pub. 11–1–60. Filed 11–26–58.

709,956. ARGENTA. Scheri & Roth, Inc. SN 84,099. Pub. 11–1–60. Filed 10–27–59.

709,957. VOICE OF SCRIPTURE. Carl A. Pike, d.b.a. Voice of Scripture. SN 87,075. Pub. 11–1–60. Filed 12–10–59.

709,958. ELEKTRA AND DESIGN. The Elektra Corporation. SN 90,833. Pub. 11–1–60. Filed 2–12–60.

709,959. MICRO CORDER. Kofuku Sangyo Co., Ltd. SN 91,894. Pub. 11–1–60. Filed 2–23–60.

709,960. JANET AND REPRESENTATION OF A GIRL'S HEAD ETC. Acme Enterprises, Inc. SN 92,199. Pub. 11–1–60. Filed 3–7–60.

709,961. AMY. Bell Records, Inc. SN 92,860. Pub. 11–1–60. Filed 3–15–60.

709,962. CHECK IN AN ARC AND REPRESENTATION OF A CHECK MARK. Howard Plummer, d.b.a. Check Records. SN 93,204. Pub. 11–1–60. Filed 3–18–60.

709,963. TICO ETC. AND DESIGN. Roulette Records, Inc. SN 93,551. Pub. 11–1–60. Filed 3–23–60.

709,964. BELLS OF PEACE. Schulmerich Carillons, Inc. SN 93,866. Pub. 11–1–60. Filed 3–28–60.

709,965. HI-FI BUTTER-FLI. Gift Originals, Inc. SN 96,115. Pub. 11–1–60. Filed 4–29–60.

Class 37 — Paper and Stationery

709,966. COMPOSAGRAPH. Noroton Publishing Company, d.b.a. The Composagraph. SN 64,826. Pub. 11–1–60. Filed 12–15–58.

709,967. JUR-NA-ROL. The National Cash Register Company. SN 74,241. Pub. 11–1–60. Filed 5–21–59.

709,968. FIT-TESTED. J. Chester Berry. SN 88,455. Pub. 11–1–60. Filed 1–5–60.

709,969. SIDEWINDER. Southwest Tablet Mfg. Co. SN 89,094. Pub. 11–1–60. Filed 1–15–60.

709,970. BLACKSTONE. Byron Weston Company. SN 92,959. Pub. 11–1–60. Filed 3–16–60.

709,971. THORO-QUIK AND DESIGN. Thoro-Quik Corporation. SN 96,288. Pub. 11–1–60. Filed 5–2–60.

709,972. MAGNA-LOCK. Western Tablet & Stationery Corporation. SN 96,301. Pub. 11–1–60. Filed 5–2–60.

709,973. RITTENHOUSE. Gilbert Paper Company. SN 96,695. Pub. 11–1–60. Filed 5–9–60.

Class 38 — Prints and Publications

709,974. PACE SETTER NEWS. The Hearst Corporation. SN 92,375. Pub. 11–1–60. Filed 3–8–60.

709,975. MARINE NEWS BULLETIN AND DESIGN. Fred C. Campbell, assignee of North Central Marine Association. SN 92,484. Pub. 11–1–60. Filed 3–9–60.

709,976. WHO'S WHO IN THE BIG LEAGUES. Dell Publishing Co., Inc. SN 95,147. Pub. 11–1–60. Filed 4–15–60.

709,977. LANGUAGE OF DANCE. Ann Hutchinson. SN 96,416. Pub. 11–1–60. Filed 5–4–60.

709,978. PETERSEN CLASSIC. Mildred P. Petersen, d.b.a. Louis P. Petersen Championship Bowling Classic. SN 96,522. Pub. 11–1–60. Filed 5–5–60.

709,979. EARTH PEOPLE. General Features Corporation. SN 96,590. Pub. 11–1–60. Filed 5–6–60.

Class 39 — Clothing

709,980. JEAN OF CALIFORNIA. Jean of California. SN 85,565. Pub. 11-1-60. Filed 1-9-59.

709,981. COLOR-GUARD BY ASHEAR. Ashear Bros., Inc. SN 82,562. Pub. 6-14-60. Filed 10-2-59.

709,982. NANCY FROCKS. The Kerr-McFall Garment Company, Inc. SN 83,977. Pub. 11-1-60. Filed 10-26-59.

709,983. COOL SHEEN. Weldon Pajamas, Inc. SN 84,039. Pub. 11-1-60. Filed 10-26-59.

709,984. LIGHT TOUCH. Craddock-Terry Shoe Corporation. SN 87,039. Pub. 11-1-60. Filed 12-10-59.

709,985. COBART. Starlight Trading, Inc. SN 92,821. Pub. 11-1-60. Filed 3-7-60.

709,986. DIAMOND VEIL. Kayser-Roth Corporation. SN 93,699. Pub. 11-1-60. Filed 3-25-60.

709,987. DANDY DUDS. H. Rosenstock & Sons, Inc. SN 93,718. Pub. 11-1-60. Filed 3-25-60.

709,988. VARIHUES. Fashion Park, Inc. SN 94,284. Pub. 11-1-60. Filed 4-4-60.

709,989. ADDY. Haddad & Sons, Inc. SN 97,205. Pub. 11-1-60. Filed 5-16-60.

709,990. LEE. The H. D. Lee Company, Incorporated. SN 97,219. Pub. 11-1-60. Filed 5-16-60.

709,991. MATADOR. Stedman Manufacturing Company, Inc. SN 97,337. Pub. 11-1-60. Filed 5-17-60.

709,992. ADELAAR. Adelaar Bros., Inc. SN 97,434. Pub. 11-1-60. Filed 5-19-60.

709,993. LYN-MAID. Lyn-Maid Lingerie Inc. SN 99,591. Pub. 11-1-60. Filed 6-23-60.

709,994. SEA SQUIRE AND DESIGN. Anthony Butera. SN 99,718. Pub. 11-1-60. Filed 6-27-60.

Class 40 — Fancy Goods, Furnishings, and Notions

709,995. LYRIC. Sears, Roebuck and Co. SN 86,343. Pub. 11-1-60. Filed 11-30-59.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

709,996. FIESTA FABRICS. Kronke Co. SN 67,138. Pub. 11-1-60. Filed 2-5-59.

709,997. STARTEX SWEDE-WEAVE. Spartan Mills. SN 85,253. Pub. 11-1-60. Filed 11-13-59.

709,998. AERO-BOCKER AND DESIGN. Aero-Bocker Knitting Mills, Inc. SN 88,581. Pub. 11-1-60. Filed 1-7-60.

709,999. TAPISOM. La Manufacture de Feutres de Mouzon (Anciens Etablissements Roger Sommer et ses Fils). SN 95,505. Pub. 11-1-60. Filed 4-21-60.

710,000. PERMA-CUSHION. Cabin Crafts Inc. SN 98,968. Pub. 11-1-60. Filed 6-14-60.

710,001. THERMO-CEL. Sherman Mills, Inc. SN 99,543. Pub. 11-1-60. Filed 6-22-60.

710,002. CHECKMATE. Morgan-Jones, Inc. SN 99,641. Pub. 11-1-60. Filed 6-24-60.

710,003. RATTAN. Morgan-Jones, Inc. SN 99,642. Pub. 11-1-60. Filed 6-24-60.

710,004. MOSAIC. Morgan-Jones, Inc. SN 99,643. Pub. 11-1-60. Filed 6-24-60.

Class 43 — Thread and Yarn

710,005. COATS & CLARK'S. Coats & Clark Inc. SN 95,878. Pub. 11-1-60. Filed 4-27-60.

710,006. TRU-LOCK. Coats & Clark Inc. SN 99,494. Pub. 11-1-60. Filed 6-22-60.

Class 44 — Dental, Medical, and Surgical Appliances

710,007. THERAPET. Mead Johnson & Company. SN 8,863. Pub. 11-1-60. Filed 5-23-56.

710,008. CYNERVEN. Mead Johnson & Company. SN 8,865. Pub. 11-1-60. Filed 5-23-56.

710,009. "MEDIC." Geo. C. Matteson Co. SN 64,992. Pub. 11-1-60. Filed 12-29-58.

710,010. VITA-FLEX. Howe Sound Company. SN 97,661. Pub. 10-11-60. Filed 5-23-60.

710,011. INPERSOL. Abbott Laboratories. SN 99,900. Pub. 11-1-60. Filed 6-29-60.

710,012. ISOGAUZE. Societe de Recherches Scientifiques et d'Exploitation de Marques "Resex" S.A. SN 101,131. Pub. 11-1-60. Filed 7-19-60.

Class 45 — Soft Drinks and Carbonated Waters

710,013. KLOSTERHAGER. Klosterbrennerei A.G. Erste Badische Wein- und Edelbranntweinbrennerei. SN 78,591. Pub. 11-1-60. Filed 6-15-59.

710,014. KLOSTERJAGER. Klosterbrennerei A.G. Erste Badische Wein- und Edelbranntweinbrennerei. SN 78,593. Pub. 11-1-60. Filed 6-15-59.

710,015. CAN-A-POP. The S. & C. Sales Co. SN 82,714. Pub. 11-1-60. Filed 10-5-59.

Class 46 — Foods and Ingredients of Foods

710,016. MYTI-STRONG. Archer-Daniels-Midland Company. SN 41,219. Pub. 11-1-60. Filed 11-25-57.

710,017. GOLDEN-ROD. Alabama Poultry Enterprise, Inc., d.b.a. Golden-Rod Broilers. SN 42,335. Pub. 8-31-59. Filed 12-13-57.

710,018. POTATO WAVES. The Dan Dee Pretzel and Potato Chip Company. SN 64,536. Pub. 4-5-60. Filed 12-18-58.

710,019. CALEB'S COUNTRY STORE. Stanley Wallach, d.b.a. Caleb's Country Store Cheese Company. SN 72,395. Pub. 11-1-60. Filed 4-27-59.

710,020. THE BEST TO YOU EACH MORNING. Kellogg Company. SN 74,667. Pub. 11-1-60. Filed 5-28-59.

710,021. LIBERTY. Bushman Bros. SN 78,255. Pub. 11-1-60. Filed 7-23-59.

710,022. NIFDA ETC. AND DESIGN. National Institutional Food Distributors Association, Inc., d.b.a. National Institutional Food Distributor Associates, Inc. SN 80,904. Pub. 11-1-60. Filed 9-4-59.

710,023. KEEN. Safeway Stores, Incorporated, d.b.a. Conway Oil Company and as Table Products Company. SN 82,292. Pub. 11-1-60. Filed 9-28-59.

710,024. ELECTROSPRAY. International Foodcraft Corporation. SN 83,521. Pub. 11-1-60. Filed 10-19-59.

710,025. WISPRIDE AND DESIGN. Calumet Cheese Company, Inc., d.b.a. Calumet Cheese Co., Inc. SN 83,776. Pub. 11-1-60. Filed 10-22-59.

710,026. DELICO. United Biscuit Company of America. SN 85,428. Pub. 11-1-60. Filed 11-16-59.

710,027. ALLRED. San Jose Canning Co. SN 86,683. Pub. 11-1-60. Filed 12-4-59.

710,028. TUTTOROSSO. San Jose Canning Co. SN 87,582. Pub. 11-1-60. Filed 12-18-59.

710,029. REPRESENTATION OF WOMAN'S HEAD. Anderson, Clayton & Co. SN 88,200. Pub. 11–1–60. Filed 12–30–59.

710,030. TRI-A-SAK. Idaho Potato Packers Corp. SN 92,018. Pub. 11–1–60. Filed 3–2–60.

710,031. GI GI. Vesta Foods Inc. SN 92,831. Pub. 11–1–60. Filed 3–14–60.

710,032. CAL-YUM AND DESIGN. Naturipe Berry Growers. SN 93,336. Pub. 11–1–60. Filed 3–21–60.

710,033. SWEE-TE-NUF AND DESIGN. Donald P. Steiner, d.b.a. Steiner Ranches. SN 93,377. Pub. 11–1–60. Filed 3–21–60.

710,034. OLD SETTLER. Freund Baking Company. SN 97,798. Pub. 11–1–60. Filed 5–23–60.

710,035. OVASPORT. The Wander Company, d.b.a. Ovaltine Food Products. SN 97,897. Pub. 11–1–60. Filed 5–25–60.

Class 47 — Wines

710,036. KLOSTERHAGER. Klosterbrennerei A.G., Erste Badische Wein- und Edelbranntweinbrennerei. SN 78,589. Pub. 11–1–60. Filed 6–15–59.

710,037. KLOSTERJAGER. Klosterbrennerei A.G., Erste Badische Wein- und Edelbranntweinbrennerei. SN 78,592. Pub. 11–1–60. Filed 6–15–59.

Class 50 — Merchandise Not Otherwise Classified

710,038. SKY LINE PINE. Modern Coatings, Inc. SN 82,520. Pub. 11–1–60. Filed 10–1–59.

710,039. SANDBUOY. Marvin Glassenberg, d.b.a. Marv-O-Lue Mfg. Co. SN 84,303. Pub. 11–1–60. Filed 10–30–59.

Class 51 — Cosmetics and Toilet Preparations

710,040. DORA LEE. Christos J. Alexander, d.b.a. Dora Lee Cosmetics Company. SN 77,492. Pub. 11–1–60. Filed 7–13–59.

710,041. JON PIERRE. Jon Pierre Cosmetics, Inc. SN 80,919. Pub. 11–1–60. Filed 9–4–59.

710,042. VANTAGE. Lucky Tiger Manufacturing Company. SN 81,289. Pub. 11–1–60. Filed 9–14–59.

710,043. DONJON FLEURI. Etablissements Chevallier, d.b.a. Société des Anciens Etablissements Chevallier Père. SN 81,696. Pub. 11–1–60. Filed 9–21–59.

710,044. REGARD. Societe Technique de Parfumerie, F. Millot. SN 83,007. Pub. 11–1–60. Filed 10–9–59.

710,045. CREME PSYCHE. Olympus Company. SN 84,794. Pub. 11–1–60. Filed 11–6–59.

710,046. OUTDORABLE. Outdorable, Inc. SN 86,516. Pub. 11–1–60. Filed 12–2–59.

710,047. RESCUE. Arrivals, Ltd. SN 89,889. Pub. 11–1–60. Filed 1–29–60.

710,048. STAX. King Research, Incorporated. SN 90,641. Pub. 11–1–60. Filed 2–9–60.

710,049. HAIRMASTER. Chesebrough-Pond's Inc. SN 94,145. Pub. 11–1–60. Filed 4–1–60.

710,050. PRIDON. Johann G. W. Opferman & Sohn. SN 94,800. Pub. 11–1–60. Filed 4–11–60.

710,051. FLAME-GLO. Rejuvia Beauty Laboratories, Inc. SN 94,914. Pub. 11–1–60. Filed 4–12–60.

710,052. GARY'S AND DESIGN. Lois A. Sandahl, executrix of the estate of L. R. Sandahl, deceased, d.b.a. Gary's Butch Wax Co. SN 95,203. Pub. 11–1–60. Filed 4–15–60.

710,053. SPOONER. Lustray Laboratories, Inc. SN 95,378. Pub. 11–1–60. Filed 4–19–60.

710,054. NECTAROMA. Tuvache, Inc. SN 95,460. Pub. 11–1–60. Filed 4–20–60.

710,055. DRESS-UP. Revlon, Inc. SN 95,629. Pub. 11–1–60. Filed 4–22–60.

Class 52 — Detergents and Soaps

710,056. SONITIZER. Ultrasonic Industries, Inc. SN 91,478. Pub. 11–1–60. Filed 2–23–60.

Service Marks

Class 100 — Miscellaneous

710,057. HAPPINESS COMES WITH SHARING—BE HAPPY. Santa's Operation Toylift Fund, Inc. SN 51,497. Pub. 11–1–60. Filed 5–12–58.

710,058. ATLANTIC RESEARCH. Atlantic Research Corporation. SN 78,107. Pub. 11–1–60. Filed 7–21–59.

710,059. NPF MESSAGE OF HOPE AND DESIGN. National Parkinson Foundation, Inc. SN 86,896. Pub. 11–1–60. Filed 12–8–59.

710,060. ERCO. Electric Reduction Company of Canada, Ltd. SN 88,462. Pub. 11–1–60. Filed 1–5–60.

Class 101 — Advertising and Business

710,061. AHA ETC. AND DESIGN. Allied Homeowners Association Inc. SN 70,268. Pub. 11–1–60. Filed 3–26–59.

710,062. TIME SAVER. Woodward Wanger Company. SN 76,618. Pub. 11–1–60. Filed 6–26–59.

710,063. GLAMOUR - INTERNATIONAL. Rich - LaCaille. SN 89,802. Pub. 11–1–60. Filed 1–27–60.

710,064. LU-ART. Harry W. Luig, Jr., d.b.a. Harry W. Luig Associates. SN 91,262. Pub. 11–1–60. Filed 2–19–60.

Class 102 — Insurance and Financial

710,065. INSUREPAY PLAN. Barney & Barney. SN 23,602. Pub. 11–1–60. Filed 2–1–57.

710,066. GRAMCO AND DESIGN. The Gramatan Company Incorporated of Bronxville, New York. SN 75,182. Pub. 11–1–60. Filed 6–5–59.

Class 105 — Transportation and Storage

710,067. MASTER MOVERS. C. M. McElhannon, d.b.a. Bonded Warehouse Company. SN 51,921. Pub. 11–1–60. Filed 5–19–58.

710,068. KINNEY SYSTEM AND DESIGN. Kinney System, Inc. SN 51,997. Pub. 11–1–60. Filed 5–20–58.

710,069. REPRESENTATION OF A CAR AND DESIGN. Imported Car Rentals Inc. SN 91,161. Pub. 11–1–60. Filed 2–18–60.

Class 106 — Material Treatment

710,070. VIGNOR. Fred Whitaker Company. SN 90,971. Pub. 11–1–60. Filed 2–15–60.

Class 107 — Education and Entertainment

710,071. U.S. MARSHAL. National Telefilm Associates, Inc. SN 66,781. Pub. 11-1-60. Filed 1-29-59.

710,072. TICKET CORNER. National Theatre Ticket Service, Inc., d.b.a. National Theatre Tickets and National Theatre Tickets, Incorporated. SN 89,448. Pub. 11-1-60. Filed 1-21-60.

710,073. TREETOP HOUSE. WGN, Inc. SN 85,959. Pub. 11-1-60. Filed 4-27-60.

Certification Mark

Class A — Goods

710,074. SPMA APPROVED. Sump Pump Manufacturers Association, Inc. SN 94,622. Pub. 11-1-60. Filed 4-7-60.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

Class 18 — Medicines and Pharmaceutical Preparations

710,075. Murray Horn, d.b.a. Willard Neil Labs., Bergenfield, N.J. SN 105,168. Filed 9-26-60.

Neil's
nopaine

For Analgesic Antiseptic for Surface Pain.
First use October 1952.

Class 37 — Paper and Stationery

710,076. Double Envelope Corporation, Roanoke, Va. SN 62,276. Filed P.R. 11-12-58; Am. S.R. 11-3-60.

a Record Greeting

For Phonograph Record Envelopes.
First use Oct. 1, 1958.

710,077. Bemis Bro. Bag Company, St. Louis, Mo. SN 77,796. Filed P.R. 7-16-59; Am. S.R. 10-31-60.

PANEL PAK

For Paper Bags.
First use Apr. 15, 1959.

710,078. A. J. Siris Products Corp., New York, N.Y. SN 85,251. Filed P.R. 11-13-59; Am. S.R. 11-16-60.

MC DUFF

For Zipper Binders, Loose Leaf Binders, Diaries, Telephone Pads, Autograph Books, Record Carriers, Photo Albums, Scrap Books, Memo Books, Book Covers and Utility Pockets for Loose Leaf Binders.
First use Oct. 29, 1959.

Class 46 — Foods and Ingredients of Foods

710,079. Corn Products Company, New York, N.Y. SN 89,338. Filed 1-20-60.



The drawing is lined for gold and green.
For Table Syrup.
First use at least as early as Sept. 30, 1958.

Service Mark

Class 100 — Miscellaneous

710,080. Kelsey-Hayes Company, d.b.a. Utica Koldweld Division, Detroit, Mich. SN 56,144. Filed P.R. 7-28-58; Am. S.R. 5-25-60.

KOLDWELD

For Services Involving Technical Assistance in Setting Up Pressure Welding Operations in the Plants of Others, Providing Engineers and Engineering Study of Welding Problems of Others and Recommending the Proper Pressure Welding Approach Most Suited to the Needs of Those Requesting Services as Specified by the Customer.
First use Nov. 26, 1957.

TRADEMARK REGISTRATIONS RENEWED

18,673. DIAMOND AND DESIGN. Cl. 35. 12-2-1890.
19,078. FOUR ACE AND DESIGN. Cl. 35. 2-24-1891.
137,285. GEM. Cl. 44. 11-23-20.
137,237. GILBERT. Cl. 21. 11-23-20.
137,461. KENTUCKY COLONEL AND DESIGN. Cl. 17. 11-23-20.
138,128. LOKTITE. Cl. 13. 12-14-20.
138,485. MERCOLAX. Cl. 18. 12-28-20.
139,823. SANITAL. Cl. 35. 2-22-21.
140,417. MADRONA. Cl. 46. 3-15-21.
140,650. MONSANTO CHEMICALS OF QUALITY AND DESIGN. Cl. 6. 3-22-21.
140,773. STANDARD. Cl. 23. 3-29-21.
141,481. FENCE WITH RED TOP PORTION. Cl. 13. 4-26-21.
141,605. BALTIC. Cl. 35. 4-26-21.

142,158. UNCO SIMILE. Cl. 51. 5-3-21.
380,628. TEMPO. Cl. 12. 4-27-40.
380,786. KAY DUNHILL JR. Cl. 39. 5-3-40.
381,889. DURATEX. Cl. 15. 10-15-40.
382,732. RAILOC. Cl. 12. 11-12-40.
382,742. SEVENTH HEAVEN. Cl. 51. 11-12-40.
382,840. CHUCKY TOGS. Cl. 39. 11-12-40.
382,906. WHEN IT'S RED IT'S READING. Cl. 1. 11-19-40.
383,216. LOG CABIN. Cl. 46. 12-3-40.
383,857. DIOCYL. Cl. 18. 12-24-40.
384,091. WAYSIDE AND DESIGN. Cl. 17. 1-7-41.
384,254. TONALITE. Cl. 26. 1-14-41.
384,483. JAMBOREE THE GOOD TIME SHOE. Cl. 39. 1-21-41.
384,516. COMPOMAL. Cl. 18. 1-21-41.
384,517. OL-VITUM. Cl. 18. 1-21-41.
384,580. ALERDEX. Cl. 46. 1-21-41.
384,596. JANE IRWILL. Cl. 39. 1-21-41.
384,675. AXALOY. Cl. 23. 1-28-41.
384,766. FASHIONAIRE. Cl. 39. 2-4-41.
384,795. CASCOPHEN. Cl. 5. 2-4-41.
384,806. LET THERE BE LIGHT AND DESIGN. Cl. 23. 2-4-41.
384,816. TRADEMARK DESIGN. Cl. 46. 2-4-41.
384,825. WESTERN LIGHT. Cl. 46. 2-4-41.
384,837. NUPORALS. Cl. 18. 2-4-41.
384,980. TRADEMARK DESIGN. Cl. 46. 2-11-41.
385,144. DEFENSE. Cl. 51. 2-18-41.
385,160. AEROCARB. Cl. 6. 2-18-41.
385,174. PARTO. Cl. 18. 2-18-41.
385,220. EMBER. Cl. 51. 2-18-41.
385,452. CENTER BALANCE. Cl. 39. 3-4-41.
385,618. RUNNING DELIVERY BOY AND DESIGN. Cl. 2. 3-11-41.
385,951. SPEEDSLINGER. Cl. 23. 3-25-41.
386,072. LUXUREZE. Cl. 39. 3-25-41.
386,642. CO-OP. Cl. 21. 4-22-41.
386,644. CAROL LEE FROCKS AND DESIGN. Cl. 39. 4-22-41.
386,835. MIDWAY. Cl. 39. 4-22-41.
387,063. SANABANS. Cl. 44. 4-29-41.
387,155. MOVIELAND FROM HOLLYWOOD AND DESIGN. Cl. 39. 5-6-41.
387,161. TROYA. Cl. 37. 5-6-41.
387,283. JOY SUDS. Cl. 51. 5-13-41.
387,377. DELISO DEBS AND DESIGN. Cl. 39. 5-13-41.
387,388. VITROLAN. Cl. 6. 5-13-41.
387,391. ARIPEL. Cl. 6. 5-13-41.
387,392. CULOFIX. Cl. 6. 5-13-41.
387,393. TETRANOL. Cl. 6. 5-13-41.
387,402. BEMBERG RAYON ETC. AND DESIGN. Cl. 42. 5-13-41.
387,405. BEMBERG. Cl. 42. 5-13-41.

TRADEMARK REGISTRATIONS CANCELED

Section 7(d)

613,695. SU PIMA. Cl. 1. 10-11-55.

Section 8

118,985. CITY CLUB. Cl. 17. 10-16-17.
269,980. STA-VOL-ENE. Cl. 15. 4-23-30.
281,150. GECO. Cl. 16. 3-10-31.
302,032. NI-TENSYL. Cl. 14. 3-21-33.
418,528. PEERLESS REGISTERED. Cl. 21. 1-1-46.

The following registrations issued Nov. 26, 1954

596,626. BY BURDICK AND DESIGN. Cl. 2.
596,628. CORRO TAINER AND DESIGN. Cl. 2.
596,629. GILCOTAINER. Cl. 2.
596,630. GILCOFAX. Cl. 2.
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635,422. SPREAD-TONE. Cl. 16. 10-9-56.

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112,702. DIXIE. Cl. 22. 9–19–16. Parker Brothers, Inc., Salem Mass. Corrected: In the statement, column 1, line 8, first occurrence, "games" should be deleted and *game* equipment should be inserted.

149,366. CROWN KRAFT. Cl. 2. 12–13–21. Crown Willamette Paper Company. Crown Zellerbach Corporation, San Francisco, Calif. Amended to appear:

CROWN KRAFT

326,775. KENTUCKY KINGS. Cl. 17. 8–6–35. Brown & Williamson Tobacco Corporation, Louisville, Ky. Amended: In the statement, column 1, lines 8 and 9, "and smoking tobacco" is deleted, and drawing is amended to appear:

KENTUCKY KINGS

632,713. REPRESENTATION OF OPEN BIBLE. Cl. 38. 8–14–56. National Council of the Churches of Christ in the United States of America, New York, N.Y. Amended to appear:



703,271. SPORTS DIGEST. Cl. 38. 8–23–60. Barnes Publishing Company, Inc., Cedar Rapids, Iowa. Amended: In the statement, column 2, lines 3 and 4, "under the sponsorship of sports equipment dealers" is deleted.

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Gulf State Advertising Agency, Houston, Tex. 598,739, canc. Cl. 26.
Haddad & Sons, Inc., New York, N.Y. 709,969, pub. 11–1–60. Cl. 39.
Hanlon-Buchanan, Inc., Tulsa, Okla. 269,930, canc. Cl. 15.
Hardware Designers, Inc., Hackensack, N.J. 709,882, pub. 11–1–60. Cl. 13.
Hardware Wholesalers, Inc., Fort Wayne, Ind. 709,910, pub. 11–1–60. Cl. 23.
Harris, Roger B., Jr., Decatur, Ill. 709,904, pub. 11–1–60. Cl. 22.
Hart Schaffner & Marx: *See*—
Decker, Alfred, & Cohn, Inc.
Hav-A-Tampa Cigar Co., Tampa, Fla., from Roy O. Keiger, Winston-Salem, N.C. 709,843, pub. 6–14–60. Cl. 17.
Hearst Corp., The, Wilmington, Del. 709,974, pub. 11–1–60. Cl. 38.
Helme, George W., Co., New York, N.Y. 709,845–6, pub. 11–1–60. Cl. 17.
Heritage Productions Corp., New York, N.Y. 598,778, canc. Cl. 36.
Hilger & Watts Ltd., London, England. 598,724, canc. Cl. 26.
Hippity-Hop Shoe Co., Kansas City, Mo. 598,816, canc. Cl. 39.
Holler, Alfred W., d.b.a. Carolina Leathercraft Co., Durham, N.C. 598,705, canc. Cl. 22.
Holman, A. J., Co., Philadelphia, Pa. 384,806, ren. 1–17–61. Cl. 36.
Horn, Murray, d.b.a. Willard Neil Labs, Bergenfield, N.J. 710,075. Cl. 18.
Hough, Frank G., Co., The, Libertyville, Ill. 709,927, pub. 11–1–60. Cl. 23.

House of Worsted-Tex, Inc.: *See*—
Cohen, Goldman & Co., Inc.
Howard, Paul W., Jr., d.b.a. Pacific Coast Scent Co., Garden Grove, Calif. 709,871, pub. 11–1–60. Cl. 18.
Howe Sound Co., New York, N.Y. 710,010, pub. 10–11–60. Cl. 44.
Hudnut, Richard, New York, N.Y. 598,868, canc. Cl. 51.
Hudnut, Richard, New York, N.Y. 596,871, canc. Cl. 51.
Hudson, H. D., Mfg. Co., Chicago, Ill. 709,915, pub. 11–1–60. Cl. 23.
Hudson Optical Corp., New York, N.Y. 598,733, canc. Cl. 20.
Humble Oil & Refining Co., Houston, Tex., by merger from Esso Standard Oil Co., New York, N.Y. 709,950, pub. 11–1–60. Cl. 35.
Hupp Corp., Cleveland, Ohio. 709,943, pub. 11–1–60. Cl. 31.
Husqvarna Vapenfabriks Aktiebolag, Huskvarna, Sweden. 709,819, pub. 11–1–60. Cl. 9.
Hutchinson, Ann, New York, N.Y. 709,977, pub. 11–1–60. Cl. 38.
Hutson Enterprises, Richmond, Calif. 598,769, canc. Cl. 32.
Hylo Co., Inc. of Houston: *See*—
Hylo Co., Inc.
Hylo Co., Inc., to Hylo Co., Inc. of Houston, Houston, Tex. 387,283, ren. 1–17–61. Cl. 51.
Idaho Potato Packers Corp., New York, N.Y. 710,030, pub. 11–1–60. Cl. 46.
Imperial Belting Co., Chicago, Ill. 139,823, ren. 1–17–61. Cl. 35.
Imported Car Rentals Inc., New York, N.Y. 710,069, pub. 11–1–60. Cl. 105.
International Foodcraft Corp., Brooklyn, N.Y. 710,024, pub. 11–1–60. Cl. 46.
International Nickel Co., Inc., The, New York, N.Y. 302,033, canc. Cl. 14.
International Sash & Door Co., Minneapolis, Minn. 598,654, canc. Cl. 12.
International Silver Co., The, Meriden, Conn. 709,941, pub. 11–1–60. Cl. 28.
International Telephone and Telegraph Corp.: *See*—
Capehart-Farnsworth Corp.
International Vitamin Corp., to American Home Products Corp., New York, N.Y. 384,616–17, ren. 1–17–61. Cl. 18.
Intrusion-Prepakt, Inc., Cleveland, Ohio. 709,812, pub. 11–1–60. Cl. 6.
Irvana, Inc., New York, N.Y. 598,823–8, canc. Cl. 39.
Irwill Knitwear Corp., New York, N.Y. 384,596, ren. 1–17–61. Cl. 39.
Irwin, Neisler & Co., Decatur, Ill. 709,862, pub. 11–1–60. Cl. 18.
Jack Built Toy Mfg. Co.: *See*—
Albin Enterprises, Inc.
Jean of California, Los Angeles, Calif. 709,980, pub. 11–1–60. Cl. 39.
Johns-Manville Corp., New York, N.Y. 598,665, canc. Cl. 12.
Johnson & Johnson, New Brunswick, N.J. 709,827, pub. 11–1–60. Cl. 18.
Kalison, Mack: *See*—
Dunhill, Kay, Inc.
Kartane, Inc., Marshall, Mich. 709,838, pub. 11–1–60. Cl. 15.
Kaufman, Wynne, Co.: *See*—
Kaufman, Wynne.
Kaufman, Wynne, d.b.a. Wynne Kaufman Co., New York, N.Y. 709,909, pub. 11–1–60. Cl. 23.
Kaufman-Lattimer Co., Inc., The, Parkersburg, W. Va. 598,676, canc. Cl. 18.
Kayser-Roth Corp., New York, N.Y. 709,986, pub. 11–1–60. Cl. 39.
Keiger, Roy O.: *See*—
Havatampa Cigar Co.
Kellogg Co., Battle Creek, Mich. 710,020, pub. 11–1–60. Cl. 46.
Kelsey-Hayes Co., d.b.a. Utica Koldweld Division, Detroit, Mich. 710,080. Cl. 100.
Kerr-McFall Garment Co., Inc., The, Iola, Kans. 709,982, pub. 11–1–60. Cl. 39.
Kerrigan Iron Works, Inc., Nashville, Tenn. 598,669, canc. Cl. 12.
Keystone Steel & Wire Co.: *See*—
Anderson, Brooke.
King Research, Inc., Brooklyn, N.Y. 710,046, pub. 11–1–60. Cl. 51.
Kinney System, Inc., Newark, N.J. 710,068, pub. 11–1–60. Cl. 105.
Kiemp, William F., Co., Chicago, Ill. 598,653, canc. Cl. 12.
Klosterbrennerei A.G. Erste Badische Wein- und Edelbranntweinbrennerei, Marktplatz, Germany. 710,014, pub. 11–1–60. Cl. 45.
Klosterbrennerei A.G., Erste Badische Wein- und Edelbranntweinbrennerei, Marktplatz, Germany. 710,036–7, pub. 11–1–60. Cl. 47.
Kobler, Robert, Los Angeles, Calif. 598,756, canc. Cl. 29.
Kofuku Sangyo Co., Ltd., Nakaku, Nagoya, Japan. 709,959, pub. 11–1–60. Cl. 36.
Kreisler, Jacques, Mfg. Corp., North Bergen, N.J. 709,818, pub. 11–1–60. Cl. 8.
Kroake Co., Oakland, Calif. 709,996, pub. 11–1–60. Cl. 42.
La Manufacture de Feutres de Mouson (Anciens Etablissements Roger Sommer et ses Fils), Paris, France. 709,999, pub. 11–1–60. Cl. 42.
Landers, M. F., to Supima Association of America, Berino, N. Mex. 613,695, canc. Cl. 1.
Langley & Michaels Co., San Francisco, Calif., to McKesson & Robbins, Inc., New York, N.Y. 140,417, ren. 1–17–61. Cl. 46.
Leader Electronics, Inc.: *See*—
Leader Products, Inc.
Leader Products, Inc., now by change of name Leader Electronics, Inc., Cleveland, Ohio. 598,691, canc. Cl. 21.
Leaseway Corp., Salinas, Calif. 598,710, canc. Cl. 28.
Lee, H. D., Co., Inc., The, Kansas City, Mo. 709,990, pub. 11–1–60. Cl. 39.
Lewis Bolt & Nut Co.: *See*—
Staples & Seefeld.
Lilly, Eli, and Co., Indianapolis, Ind. 709,873, pub. 11–1–60. Cl. 18.
Lily-Tulip Cup Corp., New York, N.Y. 385,618, ren. 1–17–61. Cl. 2.
Linsk, Joseph, d.b.a. Carol Lee Frocks, to Linsk of Philadelphia Inc., Philadelphia, Pa. 382,840, ren. 1–17–61. Cl. 39.
Linsk, Joseph, to Linsk of Philadelphia Inc., Philadelphia, Pa. 386,644, ren. 1–17–61. Cl. 39.
Linsk of Philadelphia Inc.: *See*—
Linsk, Joseph.
Little, H. C., Burner Co., Inc., d.b.a. H. C. Little, Inc., San Rafael, Calif. 709,949, pub. 11–1–60. Cl. 34.
Lucky Tiger Mfg. Co., Kansas City, Mo. 710,042, pub. 11–1–60. Cl. 51.
Luig, Harry W., Jr., d.b.a. Harry W. Luig Associates, Philadelphia, Pa. 710,064, pub. 11–1–60. Cl. 101.
Luscon Industries Corp., Hamden, Conn. 709,836, pub. 11–1–60. Cl. 15.
Lustray Laboratories, Inc., Brooklyn, N.Y. 710,052, pub. 11–1–60. Cl. 51.
Lyn-Maid Lingerie Inc., Lyndhurst, N.J. 709,993, pub. 11–1–60. Cl. 39.
Mac's Super Gloss Co., Inc., Los Angeles, Calif. 709,837, pub. 11–1–60. Cl. 15.
Magic Seal Industries: *See*—
Moran, Raymond J.
Manning, John A., Paper Co., Inc., Troy, N.Y. 387,161, ren. 1–17–61. Cl. 37.
Marshall Field & Co., Chicago, Ill. 598,788, canc. Cl. 39.
Martinelli, A. C., Rogers Plastic Corp., West Warren, Mass. 709,792, pub. 11–1–60. Cl. 2.
Marv-O-Lus Mfg. Co.: *See*—
Glassenberg, Marvin.
Maryland Cup Co., The, Baltimore, Md. 709,795–6, pub. 11–1–60. Cl. 2.
Mask-Off Co., Inc., Monrovia, Calif. 709,804, pub. 11–1–60. Cl. 5.
Massasoit Co.: *See*—
Massasoit Mfg. Co.
Massasoit Mfg. Co., Fall River, Mass., to Massasoit Co., Laurelton, N.J. 141,605, ren. 1–17–61. Cl. 35.
Matteson, Geo. C., Co., Kansas City, Mo. 710,009, pub. 11–1–60. Cl. 44.
McElhannon, C. M., d.b.a. Bonded Warehouse Co., Fort Worth, Tex. 710,067, pub. 11–1–60. Cl. 105.
McKesson & Robbins, Inc.: *See*—
Langley & Michaels Co.
Mead Johnson & Co., Evansville, Ind. 710,007–8, pub. 11–1–60. Cl. 44.
Mennen Co., The, Morris Township, N.J. 709,858–9, pub. 11–1–60. Cl. 18.
Merrell, Wm. S., Co., The, Cincinnati, Ohio. 383,857, ren. 1–17–61. Cl. 18.
Merrell, William S., Co., The, to The Wm. S. Merrell Co., Cincinnati, Ohio. 138,485, ren. 1–17–61. Cl. 18.
Metro-Atlantic, Inc., Centredale, R.I. 709,806, pub. 11–1–60. Cl. 6.
Metro-Atlantic, Inc., Centredale, R.I. 709,815, pub. 11–1–60. Cl. 6.
Miami Records: *See*—
Granados, Carlos D.
Michelson, L., & Bro., Baltimore, Md. 118,985, canc. Cl. 17.
Mimi Roget Parfums, Short Hills, N.J. 598,826, canc. Cl. 40.
Modern Coatings, Inc., Chicago, Ill. 710,038, pub. 11–1–60. Cl. 50.
Monsanto Chemical Co.: *See*—
Monsanto Chemical Works.
Monsanto Chemical Works, to Monsanto Chemical Co., St. Louis, Mo. 140,650, ren. 1–17–61. Cl. 6.
Moon-Glow Garment Co., to Morse & Morse, Inc., Los Angeles, Calif. 387,155, ren. 1–17–61. Cl. 39.
Moran, Raymond J., d.b.a. Magic Seal Industries, Oakland, Calif. 598,636, canc. Cl. 6.
Morgan-Jones, Inc., New York, N.Y. 710,002–4, pub. 11–1–60. Cl. 42.
Morris, Philip, Inc.: *See*—
Smith & Scott Tobacco Co., Inc.
Morse & Morse, Inc.: *See*—
Moon-Glow Garment Co.
Mountain Empire Mfg. Co., Murray, Utah. 709,926, pub. 11–1–60. Cl. 23.
Muskin Shoe Co., The: *See*—
Schwartz & Benjamin, Inc.
Myer Corp., Cranston, R.I. 598,730, canc. Cl. 26.
National Cash Register Co., The, Dayton, Ohio. 709,967, pub. 11–1–60. Cl. 37.
National Co-Operatives, Inc., Chicago, Ill., and Indianapolis, Ind., to National Cooperatives, Inc., Albert Lea, Minn. 386,642, ren. 1–17–61. Cl. 21.
National Cooperatives, Inc.: *See*—
National Co-Operatives, Inc.
National Council of the Churches of Christ in the United States of America, New York, N.Y. 632,713. Am. 7(d). Cl. 38.
National Institutional Food Distributor Associates, Inc.: *See*—
National Institutional Food Distributors Association, Inc.
National Institutional Food Distributors Association, Inc., d.b.a. National Institutional Food Distributor Associates, Inc., Atlanta, Ga. 709,802–3, pub. 11–1–60. Cl. 4.
National Institutional Food Distributors Association, Inc., d.b.a. National Institutional Food Distributor Associates, Inc., Atlanta, Ga. 710,022, pub. 11–1–60. Cl. 46.
National Laboratories, Salisbury, N.C. 709,854, pub. 11–1–60. Cl. 18.

National Parkinson Foundation, Inc., New York, N.Y. 710,059, pub. 11–1–60. Cl. 100.
National Telefilm Associates, Inc., Los Angeles, Calif. 710,071, pub. 11–1–60. Cl. 107.
National Theatre Tickets, Inc.: *See*—
National Theatre Ticket Service, Inc.
National Theatre Ticket Service, Inc., d.b.a. National Theatre Tickets and National Theatre Tickets, Inc., New York, N.Y. 710,072, pub. 11–1–60. Cl. 107.
Naturipe Berry Growers, San Jose, Calif. 710,032, pub. 11–1–60. Cl. 46.
Neil, Willard, Labs.: *See*—
Horn, Murray.
Nevama Products Co., Inc., The, Pittsburgh, Pa. 709,855, pub. 11–1–60. Cl. 18.
New York Belting and Packing Co., to United States Rubber Co., New York, N.Y. 18,673, ren. 1–17–61. Cl. 35.
Little, H. C., Inc.: *See*—
Little, H. C., Burner Co., Inc.
Noroton Publishing Co., d.b.a. The Compasagraph, Darien, Conn. 709,966, pub. 11–1–60. Cl. 37.
North Central Marine Association: *See*—
Campbell, Fred C.
Noo-Ease Co.: *See*—
D'Orsay.
Luig, Harry W., Associates: *See*—
Luig, Harry W., Jr.
Nysco Laboratories, Inc., Long Island City, N.Y. 709,860, pub. 5–17–60. Cl. 18.
Olin Mathieson Chemical Corp., New York, N.Y. 709,879, pub. 11–1–60. Cl. 18.
Olympus Co., New York, N.Y. 710,045, pub. 11–1–60. Cl. 51.
Opferman, Johann G. W., & Sohn, Bergisch Gladbach, Germany. 710,050, pub. 11–1–60. Cl. 51.
Organon Inc., West Orange, N.J. 709,884, pub. 11–1–60. Cl. 18.
Orient Magaliesberg Tobacco Co.: *See*—
Chapman, John, (Proprietary) Ltd.
Outdorable, Inc., Portland, Oreg. 710,048, pub. 11–1–60. Cl. 51.
Ovaltine Food Products: *See*—
Wander Co., The.
Pacific Coast Scent Co.: *See*—
Howard, Paul W., Jr.
Palomino Sportswear Co., Los Angeles, Calif. 598,799, canc. Cl. 39.
Palter, Dan; New York, N.Y., to Samuels Shoe Co., St. Louis, Mo. 387,377, ren. 1–17–61. Cl. 39.
Pan American Screw Corp., San Juan, Puerto Rico. 709,824, pub. 11–1–60. Cl. 23.
Parke, Davis & Co., Detroit, Mich. 387,083, ren. 1–17–61. Cl. 44.
Parker Brothers, Inc., Salem, Mass. 112,702, cor. Cl. 22.
Parker-Hannifin Corp., Cleveland, Ohio. 709,925, pub. 11–1–60. Cl. 23.
Parks Co., The, Somerset, Mass. 709,841, pub. 11–1–60. Cl. 16.
Partola Products Co., to Dr. Pierre Chemical Co., Chicago, Ill. 386,174, ren. 1–17–61. Cl. 18.
Peerless Electric Co., The, Warren, Ohio. 418,528, canc. Cl. 21.
Petersen, Louis P., Championship Bowling Classic: *See*—
Petersen, Mildred P.
Petersen, Mildred P., d.b.a. Louis P. Petersen Championship Bowling Classic, Oak Park, Ill. 709,978, pub. 11–1–60. Cl. 38.
Pettibone Mulliken Corp.: *See*—
Beardsley & Piper Co., The.
Pharmaco, Inc., Kenilworth, N.J. 709,874, pub. 11–1–60. Cl. 18.
Philadelphia and Reading Coal and Iron Co., The, Philadelphia, to Reading Anthracite Co., Pottsville, Pa. 382,996, ren. 1–17–61. Cl. 1.
Pierre, Jon, Cosmetics, Inc., New York, N.Y. 710,041, pub. 11–1–60. Cl. 51.
Pike, Carl A., d.b.a. Voice of Scripture, Hawthorne, Calif. 709,957, pub. 11–1–60. Cl. 36.
Pittsburg and Shawmut Coal Co., Kittanning, Pa. 709,787, pub. 11–1–60. Cl. 1.
Plummer, Howard, d.b.a. Check Records, New York, N.Y. 709,962, pub. 11–1–60. Cl. 36.
Polarad Electronics Corp., Long Island City, N.Y. 709,893, pub. 11–1–60. Cl. 21.
Potter Drug & Chemical Corp., d.b.a. Cuticura Laboratories, Malden, Mass. 709,870, pub. 11–1–60. Cl. 18.
Power Parts Co., Chicago, Ill. 709,912, pub. 11–1–60. Cl. 23.
Procter & Gamble Co., The, Cincinnati, Ohio. 709,814, pub. 11–1–60. Cl. 6.
Production Tooling Co., Houston, Tex. 709,798, pub. 11–1–60. Cl. 2.
Protective Papers, Inc., Elgin, Ill. 598,667, canc. Cl. 12.
Purdue Frederick Co., The, New York, N.Y. 709,850, pub. 4–5–60. Cl. 18.
Purdue Frederick Co., The, New York, N.Y. 709,863, pub. 5–17–60. Cl. 18.
Purdue Frederick Co., The, New York, N.Y. 709,875, pub. 11–1–60. Cl. 18.
Pye Ltd., Cambridge, England. 709,890, pub. 11–1–60. Cl. 21.
Quikey Mfg. Co., Inc., from Quikey Sales Co., Akron, Ohio. 709,794, pub. 11–1–60. Cl. 2.
Quikey Sales Co.: *See*—
Quikey Mfg. Co., Inc.
RPM Mfg. Co., Lamar, Mo. 598,714, canc. Cl. 23.
Radiant Queen Corp., Bergenfield, N.J. 709,891, pub. 11–1–60. Cl. 21.
Railoc Co., Inc.: *See*—
Railoc Co.
Railoc Co., Osakis, Minn., to Railoc Co., Inc., Plainfield, Ill. 382,732, ren. 1–17–61. Cl. 12.
Raychem Corp., Redwood City, Calif. 709,897, pub. 11–1–60. Cl. 21.
Reading Anthracite Co.: *See*—
Philadelphia and Reading Coal and Iron Co., The.
Regina Corp., The, Rahway, N.J. 709,892, pub. 11–1–60. Cl. 21.
Rejuvia Beauty Laboratories, Inc., New York, N.Y. 710,051, pub. 11–1–60. Cl. 51.
Remington Products Corp., Elizabeth, N.J. 584,882, canc. Cl. 6.
Renault, Inc., New York, N.Y. 709,887, pub. 11–1–60. Cl. 19.
Reslabs, Inc., Chicago, Ill. 709,810, pub. 11–1–60. Cl. 6.
Revere Rubber Co., Boston, Mass., to United States Rubber Co., New York, N.Y. 19,078, ren. 1–17–61. Cl. 35.
Revlon, Inc., New York, N.Y. 710,055, pub. 11–1–60. Cl. 51.
Revro Inc., New York, N.Y. 598,784, canc. Cl. 39.
Reynolds Metals Co., Richmond, Va. 709,797, pub. 11–1–60. Cl. 2.
Reynolds, R. J., Tobacco Co., Winston-Salem, N.C. 709,834, pub. 11–1–60. Cl. 14.
Rich-Coat Enamel & Varnish Corp., Indianapolis, Ind. 635,422, canc. Cl. 16.
Rich-LaCaille, New York, N.Y. 710,063, pub. 11–1–60. Cl. 101.
Robapharm Ag, Basel, Switzerland. 709,865, pub. 11–1–60. Cl. 18.
Robertshaw-Fulton Controls Co., Greensburg, Pa. 598,722–3, canc. Cl. 26.
Robertshaw-Fulton Controls Co., Greensburg, Pa. 598,732, canc. Cl. 26.
Robertshaw-Fulton Controls Co., Greensburg, Pa. 598,749, canc. Cl. 26.
Robinair Mfg. Corp., Montpelier, Ohio. 709,921, pub. 11–1–60. Cl. 23.
Robinson Record Corp., New York, N.Y. 598,781, canc. Cl. 36.
Rockford Machine Tool Co., Rockford, Ill. 709,918, pub. 11–1–60. Cl. 23.
Rockford Wire Stripper Co., Rockford, Ill. 598,717, canc. Cl. 23.
Rockwell-Standard Corp.: *See*—
Timken-Detroit Axle Co., The.
Rosenstock, H., & Sons, Inc., Ellenville, N.Y. 709,967, pub. 11–1–60. Cl. 39.
Roulette Records, Inc., New York, N.Y. 709,963, pub. 11–1–60. Cl. 36.
Royal Master, Inc., Riverdale, N.J. 598,741, canc. Cl. 26.
S. & C. Sales Co., The, Denver, Colo. 710,015, pub. 11–1–60. Cl. 45.
S.M.A. Corp., Chicago, Ill., to American Home Products Corp., New York, N.Y. 384,580, ren. 1–17–61. Cl. 46.
Safeway Stores, Inc., d.b.a. Conway Oil Co. and as Table Products Co., Oakland, Calif. 710,022, pub. 11–1–60. Cl. 46.
Samuels Shoe Co.: *See*—
Palter, Dan.
San Jose Canning Co., San Jose, Calif. 710,027–8, pub. 11–1–60. Cl. 46.
Sandahl, L. R.: *See*—
Sandahl, Lois A.
Sandahl, Lois A., executrix of the estate of L. R. Sandahl, deceased, d.b.a. Gary's Butch Wax Co., Des Moines, Iowa. 710,052, pub. 11–1–60. Cl. 51.
Sandoz Chemical Works, Inc., to Sandoz, Inc., New York, N.Y. 387,388, ren. 1–17–61. Cl. 6.
Sandoz, Inc.: *See*—
Sandoz Chemical Works, Inc.
Santa's Operation Toylift Fund, Inc., North Pole, N.Y. 710,057, pub. 11–1–60. Cl. 100.
Saville Perfumery Ltd., Watford, England. 382,742, ren. 1–17–61. Cl. 51.
Scherl & Roth, Inc., Cleveland, Ohio. 709,956, pub. 11–1–60. Cl. 36.
Schulmerich Carillons, Inc., Sellersville, Pa. 709,964, pub. 11–1–60. Cl. 36.
Schwartz & Benjamin, Inc., New York, N.Y., to The Muskin Shoe Co., Baltimore, Md. 384,483, ren. 1–17–61. Cl. 39.
Sears, Roebuck and Co., Chicago, Ill. 709,995, pub. 11–1–60. Cl. 40.
Shallcross Mfg. Co., Collingdale, Pa. 598,700, canc. Cl. 21.
Shell Oil Co., New York, N.Y. 709,813, pub. 11–1–60. Cl. 6.
Shelton Products, Inc., Shelton, Conn. 709,928, pub. 11–1–60. Cl. 23.
Sherman Mills, Inc., Boston, Mass. 710,001, pub. 11–1–60. Cl. 42.
Simonaz Co., Chicago, Ill. 598,891, canc. Cl. 52.
Simpler, John H., d.b.a. Corral Sportswear Co., Ardmore, Okla. 709,800, pub. 11–1–60. Cl. 3.
Siris, A. J., Products Corp., New York, N.Y. 710,078. Cl. 37.
Smith Cabinet Mfg. Co., Inc., Salem, Ind. 709,946, pub. 11–1–60. Cl. 32.
Smith & Scott Tobacco Co., Inc., Paducah, Ky., to Philip Morris Inc., New York, N.Y. 137,461, ren. 1–17–61. Cl. 17.
Societe de Recherches Scientifiques et d'Exploitation de Marques "Resex" S.A., Geneva, Switzerland. 710,012, pub. 11–1–60. Cl. 44.
Societe des anciens Etablissements Chevallier Pere: *See*—
Etablissements Chevallier.
Societe Technique de Parfumerie, F. Millot, Paris, France. 710,044, pub. 11–1–60. Cl. 51.
Society of Chemical Industry in Basle, Basel, Switzerland, to Ciba Pharmaceutical Products Inc., Summit, N.J. 384,887, ren. 1–17–61. Cl. 18.
Southwest Tablet Mfg. Co., Dallas, Tex. 709,969, pub. 11–1–60. Cl. 37.
Spartan Mills, Spartanburg, S.C. 709,997, pub. 11–1–60. Cl. 42.
Spring Packing Corp., Chicago, Ill. 598,633, canc. Cl. 5.
Standard Products Corp., New York, N.Y. 709,821–2, pub. 11–1–60. Cl. 11.

Staples & Seefeld, to Lewis Bolt & Nut Co., Minneapolis, Minn. 138,128, ren. 1–17–61. Cl. 13.
Starlight Trading, Inc., Jersey City, N.J. 709,985, pub. 11–1–60. Cl. 39.
Stedman Mfg. Co., Inc., Asheboro, N.C. 709,991, pub. 11–1–60. Cl. 39.
Steiner, Donald P., d.b.a. Steiner Ranches, Brawley, Calif. 710,033, pub. 11–1–60. Cl. 46.
Steiner Ranches: *See*—
Steiner, Donald P.
Strauss, Mayer, d.b.a. Admiral Products Co., to Strauss Stores Corp., Maspeth, N.Y. 381,889, ren. 1–17–61. Cl. 15.
Strauss Stores Corp.: *See*—
Strauss, Mayer.
Sump Pump Mfrs. Association, Inc., Washington, D.C. 710,074, pub. 11–1–60. Cl. A.
Supima Association of America: *See*—
Landers, M. F.
Supreme Products Corp., Chicago, Ill. 709,911, pub. 11–1–60. Cl. 23.
Swan-Finch Oil Corp., New York, N.Y. 598,637, canc. Classes 6 and 15.
Table Products Co.: *See*—
Safeway Stores, Inc.
Telex, Inc., St. Paul, Minn. 598,842, canc. Cl. 44.
Thompson, M. R., Inc., New York, N.Y. 709,883, pub. 11–1–60. Cl. 18.
Thoro-Quik Corp., Springfield, Ohio. 709,971, pub. 11–1–60. Cl. 37.
Timken-Detroit Axle Co., The, Detroit, Mich., to Rockwell-Standard Corp., Coraopolis, Pa. 384,675, ren. 1–17–61. Cl. 23.
Tire City Corp., Carle Place, N.Y. 709,953, pub. 11–1–60. Cl. 35.
Tnemec Co., Inc., North Kansas City, Mo. 709,839–40, pub. 11–1–60. Cl. 16.
Toy Distributors, Inc., Framingham, Mass. 709,908, pub. 11–1–60. Cl. 22.
Trauner, Edward, Inc., New York, N.Y. 709,935, pub. 11–1–60. Cl. 27.
Trent Pharmaceuticals, Inc., New York, N.Y. 709,861, pub. 9–13–60. Cl. 18.
Tropel, Inc., Fairport, N.Y. 709,922, pub. 11–1–60. Cl. 23.
Tubing, Markin, Inc., Rochester, N.Y. 709,835, pub. 11–1–60. Cl. 14.
Tuvache, Inc., New York, N.Y. 710,054, pub. 11–1–60. Cl. 51.
Ultrasonic Industries, Inc., Albertson, N.Y. 710,056, pub. 11–1–60. Cl. 52.
Ungerer & Co., New York, N.Y. 142,158, ren. 1–17–61. Cl. 51.
Unit Rig & Equipment Co., Tulsa, Okla. 709,888, pub. 11–1–60. Cl. 19.
United Biscuit Co. of America, Melrose Park, Ill. 710,026, pub. 11–1–60. Cl. 46.
United States Plywood Corp., New York, N.Y., from Welsh Panel Co., Longview, Wash. 709,824–5, pub. 10–4–60. Cl. 12.
United States Rubber Co.: *See*—
New York Belting and Packing Co.
Revere Rubber Co.
Universal Co., High Point, N.C. 598,769, canc. Cl. 32.
Upjohn Co., The, Kalamazoo, Mich. 709,849, pub. 11–1–60. Cl. 18.
Upjohn Co., The, Kalamazoo, Mich. 709,851–3, pub. 11–1–60. Cl. 18.
Utica Koldweld Division: *See*—
Kelsey-Hayes Co.
Vanleigh Furniture Co., Inc., New York, N.Y. 709,944, pub. 11–1–60. Cl. 32.
Veatch, Franklin, d.b.a. Veatch Industries, Cleveland, Ohio. 709,901, pub. 11–1–60. Cl. 22.
Veatch Industries: *See*—
Veatch, Franklin.
Veray Corp., New York, N.Y. 598,680, canc. Cl. 18.
Verkoopkantoor van Pharmaceutische Specialite's en Chemicalien: *See*—
Diets, Erijk C.
Vesta Foods Inc., New York, N.Y. 710,031, pub. 11–1–60. Cl. 46.
Viceroy Mfg. Co. Ltd., Toronto, Ontario, Canada. 709,826, pub. 11–1–60. Cl. 13.
Victor Burglar Alarm Co., Inc., Clifton, N.J. 598,688, canc. Cl. 21.
Vitamin Distributors, Inc., Paris, Tex. 709,847, pub. 11–1–60. Cl. 18.
Vita-Plus Corp., Madison, Wis. 709,811, pub. 11–1–60. Cl. 6.
Vita-Plus Corp., Madison, Wis. 709,864, pub. 11–1–60. Cl. 18.
Voice of Scripture: *See*—
Pike, Carl A.
Vulcan Materials Co., Mountain Brook, Ala. 709,791, pub. 11–1–60. Cl. 1.
WGN, Inc., Chicago, Ill. 710,073, pub. 11–1–60. Cl. 107.
Waldrop-Jones, Inc., Dallas, Tex. 709,902, pub. 11–1–60. Cl. 22.
Wallach, Stanley, d.b.a. Caleb's Country Store Cheese Co., Chestnut Hill, Mass. 710,019, pub. 11–1–60. Cl. 46.
Walsh, Michael J., Beverly Hills, Calif. 709,848, pub. 11–1–60. Cl. 18.
Walter, Louis, & Co., Inc., Kansas City, Mo. 598,821, canc. Cl. 39.
Wander Co., The, d.b.a. Ovaltine Food Products, Chicago, Ill. 710,035, pub. 11–1–60. Cl. 46.
Warshawsky and Co., Inc., Chicago, Ill. 709,805, pub. 11–1–60. Cl. 5.
Wasco Products, Inc., Cambridge, Mass. 709,788, pub. 11–1–60. Cl. 1.
Webster, William A., Co., The, Memphis, Tenn. 709,878, pub. 11–1–60. Cl. 18.
Weldon Pajamas, Inc., New York, N.Y. 709,983, pub. 11–1–60. Cl. 39.
Weldon Tool Co., The, Cleveland, Ohio. 709,913, pub. 11–1–60. Cl. 23.
Weller, Henry, Harold Weller, and Maurice Goldstone, Vancouver, British Columbia, Canada. 598,785, canc. Cl. 39.
Welsh Panel Co.: *See*—
United States Plywood Corp.
West Virginia Pulp and Paper Co., New York, N.Y. 709,799, pub. 11–1–60. Cl. 2.
Western Auto Supply Co., Kansas City, Mo. 709,952, pub. 11–1–60. Cl. 35.
Western Tablet & Stationery Corp., Dayton, Ohio. 709,972, pub. 11–1–60. Cl. 37.
Whitaker, Fred, Co., Philadelphia, Pa. 710,070, pub. 11–1–60. Cl. 106.
Wilshire Hat Co. Inc., New York, N.Y. 598,801, canc. Cl. 39.
Wilson Petrolcoke & Carbon Corp., New York, N.Y. 709,786, pub. 11–1–60. Cl. 1.
Wong, Howard, d.b.a. European Coast Chemical House, New York, N.Y. 598,677, canc. Cl. 18.
Woodside Engineering Co., Franklin Park, Ill. 709,948, pub. 11–1–60. Cl. 34.
Woodward Wanger Co., Philadelphia, Pa. 710,062, pub. 11–1–60. Cl. 101.
Wrought Washer Mfg. Co., Milwaukee, Wis. 709,831, pub. 11–1–60. Cl. 18.
Wyandotte Chemicals Corp., Wyandotte, Mich. 598,646, canc. Cl. 6.
Your Furniture House, Inc., Ashtabula, Ohio. 709,945, pub. 11–1–60. Cl. 32.
Zayre Corp., Boston, Mass. 709,903, pub. 11–1–60. Cl. 22.
Zoubek, H. J., Co., Hillside, N.J. 709,917, pub. 11–1–60. Cl. 23.

U.S. GOVERNMENT PRINTING OFFICE: 0——1961

OFFICIAL GAZETTE • UNITED STATES PATENT OFFICE

January 24, 1961 Volume 762 Number 4

PATENTS

NOTICES

Examination

Pursuant to the provisions of Rule 341(c), an examination for persons seeking registration before the United States Patent Office as patent attorneys or agents will be held on Monday, April 24, 1961.

This examination will be given under the supervision of the Civil Service Commission, and may be taken in any of the cities of the country in which the Civil Service Commission regularly conducts examinations. Applications to take the examination must be directed to the Commissioner of Patents and filed in the Patent Office not later than March 24, 1961.

Application blanks may be obtained from the Clerk of the Patent Office Committee on Enrollment, Room 3718, Department of Commerce Building, Washington 25, D.C.

ARTHUR W. CROCKER,
Jan. 3, 1961. *Chairman, Committee on Enrollment.*

Board of Appeals Decisions Rendered in the Month of December 1960

Examiner affirmed	160
Examiner affirmed in part	24
Examiner reversed	45
Total	229

Erratum

In the OFFICIAL GAZETTE, issue of Dec. 13, 1960, vol. 761, p. 289, under the heading "Patent Suits," first column, lines 30 and 31, for '2,533,272, T. W. G. Lyons, Antivibration attachment for "DOALL" machines,' read *2,533,272, Samuel Perlmutter, Drapery hooks.*

Adverse Decisions in Interferences

In the designated interferences involving the indicated claims of the following patents final decisions have been rendered that the respective patentees were not the first inventors with respect to the claims listed.

Pat. 2,735,011, A. H. Dickinson, Oscillating circuit, decided Dec. 5, 1960, Interference No. 90,598, claim 3.

Pat. 2,762,953, I. Berman, Contact rectifiers and methods, decided Dec. 9, 1960, Interference No. 91,128, claims 1 and 3.

Pat. 2,780,716, M. E. Wasilisin et al., Core manufacture, decided Sept. 28, 1960, Interference No. 88,962, claims 1 and 2.

Pat. 2,782,220, D. W. Ingram, Condensation of di-alkyl succinates, decided Aug. 22, 1960, Interference No. 89,062, claims 1, 3, and 4.

Pat. 2,795,152, R. C. Russell, Torque converter with reversely rotatable turbine member, decided Dec. 9, 1960, Interference No. 91,094, claims 1, 2, and 4.

Pat. 2,802,047, B. C. W. Hagelin, Electric switching device for ciphering apparatus, decided Nov. 30, 1960, Interference No. 89,909, claims 1, 3, 5, and 7.

Pat. 2,871,623, H. R. Marini, Method of bending glass, decided Dec. 8, 1960, Interference No. 90,842, claims 1, 2, and 3.

Patents Available for Licensing or Sale

Eastman Kodak Company announces that, in accordance with its policy, nonexclusive licenses upon reasonable terms are available to domestic applicants (under the circumstances prevailing at the time) under the following U.S. patents:

2,698,765.	Magazine Clip for Transparencies.
2,698,795.	Sulfamyl Couplers in Mixed Packet Photographic Emulsions.
2,698,796.	Resin Salts of Couplers in Mixed Packet Photographic Emulsions.
2,701,197.	Nonpolymeric Sulfonated Hydroquinone Antistain Agents.
2,701,198.	Supersensitised Photographic Emulsions Containing Simple Cyanine Dyes.
2,701,199.	Pressure Prescreened Graphic Arts Film.
2,701,210.	Continuous Process for Preparing a Solution of Constant Composition.
2,701,243.	Reaction Products of Polyvinylsulfonates With C-Amino-Pyridines.
2,701,245.	Bead Polymerization of Methyl Methacrylate.
2,703,282.	Increasing the Exposure Latitude of Photographic Emulsions by Sensitising.
2,703,284.	Subbing Photographic Film.
2,703,290.	Subbing Compositions for Hydrophobic Film Support.
2,703,291.	Cellulose Acetate Compositions Containing 4,7-Methano-Hexahydro-5-Indanone.
2,704,641.	Reel for Strip Material.
2,704,711.	Photographic Color Correction.
2,704,712.	Photographic Copying Process.
2,704,713.	N-Alkylhomogentisamide Antistain Agents for Photographic Materials.
2,704,714.	Supersensitization of Photographic Silver Halide Emulsions.
2,704,715.	Supersensitised Photographic Emulsions Containing Un-ionised Dyes.
2,704,716.	Melonate and Cyamelurate Stabilizers for Photographic Emulsions Sensitised With Alkylene Oxide Polymers.
2,704,717.	Photographic Supersensitising Combinations Comprising Carbocyanine Dyes.
2,704,718.	Photographic Supersensitising Combinations Comprising Alkoxycarbocyanine Dyes.
2,704,719.	Photographic Supersensitising Combinations Comprising Aminocarbocyanine Dyes.
2,704,720.	Photographic Supersensitising Combinations Comprising Thienylcarbocyanine Dyes.

New Applications Received During November 1960

Patents	6,389
Designs	360
Plant Patents	22
Reissues	19
Total	6,790

Issue

Patents	736	No. 2,968,809 to No.	2,969,544, incl.
Designs	25	No. 189,635 to No.	189,659, incl.
Plant Patents	3	No. 2,012 to No.	2,014, incl.
Reissues	3	No. 24,927 to No.	24,929, incl.
Total	767		

2,704,751. Alpha-Ureidomethyl Acrylonitriles and Polymers Thereof.
2,706,193. Merocyanine Dyes and Method of Making Them.
2,706,534. Method for Lubricating Contacting Frictional Surfaces in Equipment Handling a Viscous Solution.
2,706,683. Bis-Pyrazolone for Color Photography.
2,706,684. 1-Hydroxy-2-Naphthamide Colored Couplers.
2,706,685. 3-Acylamino - 5 - (M - Sulfobenzoyloxy)Pyrazole Coupler Compounds.
2,706,686. Method of Lacquering Photographic Emulsions and Products Produced Thereby.
2,706,720. Interpolymers of Acrylonitrile with Amides and Imides of Bicyclo-(2,2,1)-5-Heptene Carboxylic Acids.
2,706,721. Interpolymers of Acrylonitrile and Esters of Bicyclo-(2,2,1)-5-Heptene Carboxylic Acids.
2,706,725. Polymers of Vinyl Benzal Acetophenones.
2,706,728. Alpha-Fluorocyclaminomethyl Acrylonitriles and Polymers Thereof.
2,706,161. Parabanic Acid Stabilizer for Photographic Emulsions Sensitized With Alkylene Oxide Polymers.
2,706,162. Urazole Stabilizer for Emulsions Sensitized With Alkylene Oxide Polymers.
2,706,388. Illuminating Systems for Picture Projectors and Printers.
2,706,507. Spray Nozzles.
2,706,626. Photographic Processes Using Prescreened Material.
2,706,648. Method of Sealing Edges of Wrapping Material.
2,706,665. Preparation of Vinyl Benzal Acetophenone Polymers.
2,706,668. Process of Making Cyanine Dyes and Certain Products.
2,710,800. Black Dyed Interleaving Paper.
2,710,801. Non-Diffusing Polymeric Reducing Agents for Photographic Color Emulsions.
2,710,802. Dialkyl-5 - (Oxanilamido)Isophthalate Couplers for Color Photography.
2,710,803. Color Couplers Containing Hydroxyalkyl Groups.
2,710,815. Method of Quick Setting Liquid Protein Containing Coatings.
2,710,820. Formation of Laminates Using Contact Resins.
2,710,871. Preparation of 5-Pyrazolone Diamides.
2,713,305. Photographic Dye Transfer Process.
2,713,486. Differential Friction Feeder for Discrete Sheets.
2,713,539. Manufacture of High Wet Strength Paper.
2,713,541. Stabilized Photographic Silver Halide Emulsions.
2,713,570. Vinyl Acetophenone-Maleic Anhydride Copolymer.
2,713,575. Process of Reacting Gelatin and Oxidized Casein With Amyl Chloroformate.
2,713,579. Merocyanine Dyes Containing an Aminomethenyl Group.
2,714,745. Apparatus for Manufacturing Sheeting.
2,715,854. Bayonet Lock Construction for Lens Mounts.
2,715,855. Telephoto Objective Zonally Corrected for Spherical Aberration.
2,716,005. Reel Driving Mechanisms for Motion-Picture Projectors.
2,716,012. Adjusting and Holding Device.
2,716,059. Photographic Transfer Process.
2,716,062. 4-Hydroxy-6-Alkyl-1,3,3a,7-Tetrazaindene Stabilizers for Emulsions Sensitized With Alkylene Oxide Polymers.
2,716,097. Polymers of Vinyl Substituted Benzal Acetophenones.
2,716,102. Vinylcinnamalacetophenone Polymers.
2,716,103. Preparation of Polymer of Vinyl Benzal Acetophenone.
2,716,134. N,N,N',N'-Tetrasubstituted Diamines.
2,716,138. Production of Hydroquinone.
2,716,210. Electromechanical Speed Regulator for Motor.
2,716,324. Shutter With Automatic and Setting Releasing Mechanisms.
2,716,948. Ball Type Directional and Over-Running Clutch System.
2,716,965. Apparatus for Sorting Individual Sheets Into Separate Piles.
2,719,086. Photographic Element.
2,719,087. Light-Sensitive Photographic Paper and Composition.
2,719,088. Photographic Element Containing Silver Salt-Forming Bleachable Filter Dyes.
2,719,141. Hydantoin Esters of Maleic Anhydride Copolymers.
2,719,144. Modified Polyacrylonitriles and Polymethacrylonitriles.
2,719,151. Merocyanine Dyes Containing a Chain Pyrryl Group.
2,719,152. Merocyanine Dyes Containing a 2-Thiohydantoin Nucleus and Preparation Thereof.
2,719,162. 5-(3-Hydroxybenzylidene)-3-Phenyl - 2 - Phenylimino-4-Thiazolidone and Process.
2,719,235. Continuous Inspection by Optical Scanning.
2,720,506. Organo-Metallic Aluminum Catalysts for the Preparation of Polyesters.
2,721,506. Film Metering and Double Exposure Prevention Device.
2,721,627. Shock-Absorber for Spring Motors.
2,721,796. Compounds Containing an Isophthalate Group Useful in Photography.
2,721,800. Photographic Elements Containing Antifogging Agents.
2,721,801. Manufacture of Paper for Photographic Purposes.
2,721,852. Interpolymers of Vinylpyridines or Vinylquinolines, Acrylic Esters, Acrylic Amides and Styrenes, and Hydrosols Thereof.
2,725,004. Interlock for Roll-Holding Cameras of Extrusion-Loading Type.
2,725,120. Compensating Device for Spring Motor.
2,725,290. Development of Multi-Layer Color Films With Developers Containing Mercapto Azoles.
2,725,291. Azo Dye Couplers Having Two Coupling Nuclei.
2,725,292. Colored Couplers Containing Solubilizing Groups.
2,725,293. Photographic Emulsion Compositions and Their Preparation.
2,725,294. Hardening of Gelatin With Polyanhydrides.
2,725,295. Hardening of Gelatin With Organic Acid Chlorides.
2,725,296. Two-Layer Integral Negative Positive Photographic Material.
2,725,297. Antistatic Photographic Film.
2,725,298. Transfer Process of Photographic Printing.
2,725,305. Hardening Gelatin Emulsions and Gelatin Solutions.
2,725,368. Preparation of Polyvinylbenzene Sulfonyl Chlorides and Derivatives Thereof.
2,725,371. Cyanopropene Phosphonamides and Polymers Thereof.
2,725,372. Light Sensitive Unsaturated Esters of Polyvinyl Alcohol.
2,725,378. Pyrrole Dyes and Methods of Making Them.
2,725,381. Process of Preparing Methyl 4-Vinylpyridinium P-Toluenesulfonate.
2,725,384. Process for Preparing Substituted Pyrazoles.
2,726,162. Hardening of Gelatin.
2,726,263. Magazine-Shutter Actuating Device for Motion Picture Cameras.
2,726,266. Telephoto Attachment for Photographic Objectives.
2,726,281. Film Metering for Extrusion-Loading Roll-Holding Cameras.
2,726,290. Photographic Reproduction Process, Including Transfer of Azo Dyes.
2,726,658. Benzoyl Acetanilide Couplers for Color Photography.
2,726,659. N-Alkylhydroquinone Antistain Agents.
2,726,660. Salicylic Acid Ester and Amide Photographic Coupler Compounds.
2,726,661. Ascorbic Acid Ester Antistain Agents.
2,726,662. Method of Preparing Photographic Emulsions.
2,726,663. Photographic Emulsions Containing Molecular Compounds of Mercuric Salts With Amines.
2,726,664. Photographic Emulsions Containing Mercury Salts.
2,726,665. Photographic Emulsions Containing Mercuric Compounds having Carbon-Mercury Bond.
2,726,666. Stabilization of Emulsions Sensitized With Alkylene Oxide Polymers.
2,726,667. Molecular Compounds of Mercury Salts With Benzothiazoles as Fog Inhibitors in a Silver Halide Emulsion.
2,726,718. Method of Reconditioning Ferrotyping Surfaces.
2,726,745. N-(p-Cinnamoylphenyl)Urethanes of Hydroxyl-Containing Polymers.
2,726,766. Trinuclear Merocyanine Dyes Containing a Chain Alkoxyl Group.
2,794,388. Method of Preparing a Lithographic Printing Plate.
2,816,481. Adjustable Optical Prism System for Producing Variation in Size of Images in Projectors and Cameras.
2,903,941. Indicia Recording Device.
2,911,884. Photographic Viewing Apparatus.
2,928,672. Stack Weight.
2,933,030. Photographic Printing Apparatus.

Applications for license may be addressed to: Director, Patent Department, Eastman Kodak Company, 343 State St., Rochester 4, N.Y.

CONDITION OF PATENT APPLICATIONS AS OF NOVEMBER 30, 1960

Total number of pending applications (excluding Designs)	189,708
Total number of pending Design applications	5,579
Total number of applications awaiting action (excluding Designs)	87,872
Total number of Design applications awaiting action	1,405
Date of oldest new application	June 17, 1959
Date of oldest amended application	June 18, 1959

M. C. ROSA, Director, Patent Examining Operation

PATENT EXAMINING GROUPS, AND SUPERVISORY EXAMINERS	DIVISIONS
(I) STONE, I. G., CHEMICAL AND RELATED ARTS	6, 21, 26, 42, 45, 59, 60, 80, 82, 84.
(II) EVANS, N. H., COMMUNICATIONS, RADIANT ENERGY AND ELECTRICAL ARTS	16, 36, 37, 41, 42, 44, 48, 51, 84, 85.
(III) YUNG KWAI, B., MECHANICAL MANUFACTURING, MACHINE ELEMENTS AND DESIGNS	2, 12, 13, 14, 21, 26, 57, 60, 61, 81, 82.
(IV) SPINTMAN, S., MATERIAL HANDLING AND TREATING, OPTICS, RAILWAYS AND AMUSEMENT DEVICES.	7, 11, 17, 27, 34, 35, 39, 53, 62.
(V) HULL, J. S., STATIC STRUCTURES AND INSTRUMENTS OF PRECISION	5, 8, 20, 29,32, 36, 49, 52, 66.
(VI) MURPHY, T. F., AGRICULTURE, CALCULATORS, PUMPS AND MOTORS, TRANSPORTATION	1, 4, 9, 10, 18, 22, 23, 28, 45, 47.
(VII) KAUFFMAN, H. E., HEATING AND COOLING, PLASTIC SHAPING AND COATING, SEPARATION AND MIXING, BODY TREATMENT AND CARE.	3, 15, 19, 30, 39, 32, 40, 55, 67.
(CLASS.) GORECKI, G. A., ARTS UNDERGOING RECLASSIFICATION AS LISTED UNDER CLASSIFICATION DIVISIONS.	91, 92, 93, 94, 95.

DIVISIONS, EXAMINERS AND SUBJECTS OF INVENTION (Roman numerals in parentheses indicate Examining Group)	Oldest Application	
	New	Amended
1. (VI) GOLDBERG, A. J., Brakes; Planting; Plant Husbandry; Scattering Unloaders; Earth Working	5-4-60	5-9-60
2. (III) STONE, A., Fishing, Trapping and Vermin Destroying; Presses; Tobacco; Textile Wringers; Buckles, Buttons and Clasps	5-1-60	5-25-60
3. (VII) MARMELSTEIN, N., Metal Founding and Treatment; Metallurgy (Process and Apparatus); Alloys; Electrical Resistors	4-25-60	4-11-60
4. (VI) FALLER, E. A., Hoists; Power Driven Conveyors; Handling Apparatus; Elevators; Pneumatic Dispatch; Store Service; Conveyors, Chutes, Slides, Guides and Ways	3-11-60	3-18-60
5. (V) ROBINSON, C. W., Harvesters; Unearthing Objects; Threshing; Knotters; Animal Husbandry; Bee Culture; Dairy; Butchering; Vegetable and Meat Cutters and Comminutors; Fences; Gates; Music; Signals and Indicators; Acoustics	10-20-59	11-13-59
6. (I) LIDOFF, H. J., Carbon Chemistry (part), e.g., Heterocyclic, General Organic Processes, Amides	12-28-59	3-8-60
7. (IV) ANDERSON, E. G., Optics	3-10-60	3-30-60
8. (V) BREHM, G. L., Beds; Chairs and Seats; Cabinets; Tables; Miscellaneous Furniture; Fire Escapes; Ladders; Deposit and Collection Receptacles; Scaffolds	5-10-60	6-1-60
9. (VI) BRANSON, J. H., Pumps; Fans; Turbines	3-16-60	4-4-60
10. (VI) HORTON, A. M. (acting), Firearms; Ordnance; Ammunition; Explosive Charge Making	4-14-60	4-12-60
11. (IV) BENHAM, E. V., Boots, Shoes and Leggings; Shoe and Leather Manufacture; Button, Eyelet and Rivet Setting; Nailing, Stapling and Clip Clenching; Card, Picture and Sign Exhibiting; Cutlery; Pipes and Tubular Conduits	3-25-60	3-7-60
12. (III) DURHAM, B. G. (acting), Machine Elements; Engine Starters; Interrelated Clutch and Motor Controls	4-5-60	3-25-60
13. (III) BEALL, T. E., Gear Cutting; Electric Lamp and Tube Manufacture; Needle and Pin Making; Metal Working (part), e.g. Special Work, Forging, Plastic Working, Drawing, Sawing, Milling, Planing, Turning	3-9-60	3-14-60
14. (III) WILTZ, W. A., Metal Working (part) e.g. Sheet Metal; Metal Bending, Miscellaneous Processes, Assembly and Disassembly Apparatus; Wire Fabrics	3-1-60	12-21-59
15. (VII) BRINDISI, M. V., Plastics; Plastic Block and Earthenware Apparatus	6-7-60	6-2-60
16. (II) ANDRUS, L. M., Telephony; Recorders (part)	10-9-59	10-15-59
17. (IV) LEIGHEY, R. A., Packaging; Typewriters; Printing; Type Casting and Setting; Sheet Material Associating or Folding; Sheet Feeding or Delivering	4-5-60	4-6-60
18. (VI) BLUM, A., Power Plants; Fluid Transmissions; Servomotor Systems; Jet Motors; Combustion Turbines; Speed or Acceleration	5-1-60	5-27-60
19. (VII) PATRICK, P. L., Stoves and Furnaces; Boilers; Fluid Fuel Burners; Heating Systems; Miscellaneous Heating; Automatic Temperature and Humidity Regulation; Illuminating Burners	3-16-60	3-18-60
20. (V) SEERS, J. D., Miscellaneous Hardware; Closure Fasteners; Locks; Safes; Bank Protection; Bread, Pastry and Confection Making; Tents and Canopies; Umbrellas; Cement; Undertaking; Electrical Connectors	6-8-60	6-8-60
21. (III) MADER, R. C., Textiles	4-13-60	4-13-60
22. (VI) BUCHLER, M. B., Aeronautics; Boats; Buoys; Ships; Marine Propulsion; Propellers; Windmills; Fluid Diaphragms and Bellows	3-23-60	3-9-60
23. (VI) SMILOW, L., Data Processors; Digital and Analog Computers; Calculators; Bookkeeping Machines; Cash and Fare Registers; Voting Machines; Counters	6-17-60	6-13-60
24. (III) HICKEY, T. J., Apparel (except Corsets and Brassieres); Apparel Apparatus; Sewing Machines; Textiles, Ironing or Smoothing; Clutches and Power-Stop Control; Work Holders	4-1-60	4-1-60
25. (VII) NEVIUS, R. D., Coating—Processes, Miscellaneous Products and Apparatus; Distillation; Wood Treating Apparatus; Paper Making	1-13-60	12-21-60
26. (II) RADER, O. L., Electricity—Generation, Motive Power, Transmission Systems, Voltage and Phase Control Systems, Furnaces, Battery Charging and Discharging, Arc Lamps, Prime Mover Dynamo Plants; Elevators (part), e.g. Miscellaneous Electric Control Mechanisms; Inductors; Transformers	2-10-60	1-14-60
27. (IV) JAMES, S., Brushing, Scrubbing and General Cleaning; Brush, Broom and Mop Making; Textiles, Fluid Treating Apparatus; Cleaning and Liquid Contact With Solids	3-30-60	3-11-60
28. (VI) BRAUNER, R. H., Internal Combustion Engines; Expansible Chamber Motors; Fluid Servomotors; Spring, Weight and Animal Powered Motors; Cylinders; Pistons; Drive Shafts; Flexible-Shaft Couplings; Chucks or Sockets; Fluid Current Conveyors; Pressure Modulating Relays; Wheel Substitutes	4-22-60	3-1-60
29. (V) FRITZ, M. M., Tools; Woodworking; Button, Barrel and Wheel Making; Baggage; Cloth, Leather and Rubber Receptacles; Package and Article Carriers; Valved Pipe Couplings; Rod Joints; Tool-Handling Fastenings	3-21-60	3-11-60
30. (VII) O'LEARY, R. A., Comminutors; Refrigeration; Fluid Sprinkling, Spraying and Diffusing, Separating and Assorting Solids (part)	6-7-60	6-8-60

DIVISIONS, EXAMINERS AND SUBJECTS OF INVENTION (Roman numerals in parentheses indicate Examining Group)	Oldest Application	
	New	Amended
21. (I) SULLIVAN, A. M. (acting), Carbon Chemistry (part), e.g., Urea Adducts, Silicon Containing Carbon Compounds, Hydrogenation of Carbon Oxides, Partial Oxidation of Non-Aromatic Hydrocarbon Mixtures, Hydrocarbons, Halogenated Hydrocarbons; Synthetic Resins (part) (e.g., Oil-Modified; Stabilized); Mineral Oils	5-3-60	5-3-60
22. (VII) BERMAN, H., Gas and Liquid Contact Apparatus; Heat Exchange; Agitation; Fire Extinguishers; Centrifugal Bowl Separators; Liquid Separation or Purification (part)	2-25-60	2-26-60
23. (V) MUSHAKE, W. L., Bridges; Hydraulic and Earth Engineering; Roads and Pavements; Building Structures	1-13-60	1-13-60
24. (IV) QUACKENBUSH, L., Railways—Draft Appliances, Switches and Signals, Surface Track, Rolling Stock, Track Sanders; Electricity, Transmission to Vehicles; Dumping Vehicles; Vehicle Fenders; Hand and Hoist Line Implements	1-11-60	1-12-60
25. (IV) DEMBO, L. J., Dispensing; Filling Receptacles; Toilet; Severing by Tearing or Breaking; Coin Controlled Apparatus; Dispensing Cabinets; Article Dispensing; Coin Handling	4-12-60	4-4-60
26. (V) EVANS, R. L., Measuring and Testing (part)	2-22-60	2-5-60
27. (II) LEVY, M. L., Electricity—Switches, Welding, Heating, Photo-Cell Circuits	1-25-60	2-4-60
28. (I) PARKER, C. B., Carbon Chemistry (part), e.g., Azo, Carbocyclic or Acyclic Compounds (part), e.g., Anthrones, Triarylmethanes, Esters, Acids, Ketones, Aldehydes, Ethers, Phenols, Alcohols, Proteins, Amines, Natural Resins	12-14-59	1-11-60
29. (IV) WEIL, L., Fluid-Pressure Regulators; Valves; Fluid Handling (except Pressure Modulating Relays, Float Valves, Diaphragms and Bellows)	4-26-60	4-25-60
40. (V) DRUMMOND, E. J., Receptacles—Metallic, Paper, Wooden, Glass; Special Receptacles and Packages	5-3-60	5-3-60
41. (II) LOVEWELL, N. N., Recorders (part); Sound Recording; Television; Telegraphy (part)	4-21-60	3-21-60
42. (II) REYNOLDS, E. R., Electric Signaling; Telegraphy (part)	3-21-60	3-21-60
43. (I) KNIGHT, W. B. (WOLK, M. O., acting), Medicines, Poisons, Cosmetics; Sugar and Starch; Skins and Leathers; Preserving, Sterilizing and Disinfecting (except Wood Treatment Apparatus); Bleaching, Dyeing, Fluid Treatment of Textiles	11-30-59	10-30-59
44. (II) JUSTUS, C. L., Directive Radio Systems; Nuclear Batteries; Nuclear Resonant Devices; Radar; Sonar; Torpedoes	11-30-59	11-5-60
45. (VI) MANIAN, J. A., Wheels, Tires and Axles; Railway Wheels and Axles; Lubrication; Bearings and Guides; Belt and Sprocket Gearing; Spring Devices; Animal Draft Appliances; Excavating	5-5-60	4-29-60
46. (I) WILES, W. G. (CAMPBELL, R. L., acting), Actinide Series (e.g., Fissionable) Compounds; Sintered Metal Stock; Explosives; Power Plants (part); Metallurgy (part); Radioactive Medicines; Nuclear Reactions; Carbon Chemistry (part)	3-8-60	3-8-60
47. (VI) KANOF, W. J., Mining, Quarrying, and Ice Harvesting; Motor Vehicles; Land Vehicles; Education	5-24-60	5-16-60
48. (II) BERNSTEIN, S., Electricity—Conversion Systems, Protective Systems; Measuring and Testing (except Meters); Switchboards, Relays, Magnets, Condensers, Transistors, Barrier Layer Rectifiers	3-8-60	3-8-60
49. (VII) BENDETT, B., Drying and Gas or Vapor Contact With Solids; Ventilation; Wells; Concentrating Evaporators; Earth Boring	2-29-60	1-8-60
50. (I) ARNOLD, D., Carbon Chemistry (part), e.g., Synthetic Resin Compositions (part), Synthetic Rubber Compositions, Natural Rubber; Synthetic Resins (part) (e.g., Butadiene Polymers and Copolymers, Polyacrylonitriles, Acrylate Polymers and Copolymers)	2-1-60	1-15-60
51. (II) WESTBY, G. N., Modulators; Piezoelectric Devices; Antennas; Oscillators; Miscellaneous Electron Space Discharge Device Systems; Radio Detectors	2-7-60	2-1-60
52. (V) LE ROY, C. A., Supports and Racks; Separating and Assorting Solids (part)	4-1-60	4-7-60
53. (IV) NINAS, G. A., Label Pasting and Paper Hanging; Books and Book Making; Manifolding; Printed Matter; Stationery; Paper Files and Binders; Flexible or Portable Closures or Partitions; Doors, Windows, Awnings, and Shutters; Harness; Whip Apparatus; Food Apparatus; Closure Operators; Illumination	3-31-60	4-15-60
54. (II) NILSON, R. G., Electric Lamps; Electronic Tubes; Miscellaneous Discharge Devices; Lamp, Cathode Ray and Gas Discharge Device Circuits; Ray Energy (e.g., X-Ray, Ultraviolet, Radioactive) Applications; Mass Spectrometers	3-31-60	4-20-60
55. (VII) WHITMORE, H. B. (acting), Surgery; Dentistry; Artificial Body Members	3-7-60	3-23-60
56. (I) SPECK, J. R., Abrading Compositions; Batteries; Coating or Plastic Compositions; Electrical and Wave Energy Chemistry	3-31-60	3-8-60
57. (III) TOMLIN, C. W. (acting) Bolt, Nut, Rivet, Nail, Screw, Chain, and Horseshoe Making; Driven and Screw Fastenings; Nut and Bolt Locks; Jewelry; Pipe Joints or Couplings; Cutting	2-15-60	3-8-60
58. (III) BRONAUGH, F. H., Rolls and Rollers; Making Metal Tools and Implements; Stone Working; Abrading Process and Apparatus; Baths, Closets, Sinks, and Spittoons; Boring and Drilling; Paper Manufactures; Selective Cutting	3-31-60	3-21-60
59. (I) BRINDISI, M. A., Inorganic Chemistry; Fertilizers; Gas, Heating and Illuminating	12-30-59	11-29-60
60. (I) MANGAN, P. E., Carbon Chemistry (part), e.g., Synthetic Resins (part); Miscellaneous Polymers (e.g., Vinyl Polymers); Synthetic Resin Compositions (part), Synthetic Rubber; Photographic Processes and Products	4-4-60	4-1-60
61. (III) STRIZAK, J. P., Winding and Reeling; Pushing and Pulling; Horology; Railway Mail Delivery; Feeding of Indefinite Lengths	5-19-60	5-23-60
62. (IV) LOWE, D. B. (FULLER, E. E., acting), Games; Toys; Amusements and Exercising Devices; Mechanical Guns and Projectors; Photographic Apparatus	4-1-60	4-19-60
63. (I) WINKELSTEIN, A. H., Foods and Beverages; Fermentation; Carbon Chemistry (part), e.g., Lignins, Carbohydrate Derivatives, Fats, Sulfurized Compounds; Heavy Metal Compounds	3-8-60	2-17-60
64. (I) GREENWALD, J., Fuels; Miscellaneous Compositions	2-1-60	4-1-60
65. (II) SAX, E. J., Wave Guides; Electric Meters; Conductors; Insulators; Amplifiers	4-21-60	4-11-60
66. (V) LISANN, L., Geometric Instruments; Measuring and Testing (part)	11-18-59	11-18-59
67. (VII) KRAFFT, C. F., Liquid Separation or Purification (part); Laminated Fabrics	3-8-60	2-13-60
81. (III) MONCURE, J. A., Industrial Arts	5-7-60	5-14-60
82. (III) HUNTER, E. H., Household, Personal and Fine Arts	3-13-60	3-21-60
91. KENT, A. P. (acting), Ornamentation; Glass	5-2-60	4-26-60
92. GAUSS, H., Radio Transmitters, Receivers and Tuners	3-13-60	7-22-60
93. WAHL, R. A., Wire Working	3-27-60	3-21-60
94. BERLOWITZ, W., Gas Separation	5-20-60	5-11-60
95. ANGEL, C. D., Metallic Building Structures; Packed Rod Joints; Joint Packings	4-8-60	3-28-60
M. E. DIV. A (I) GASTON, L. H., Carbon Chemistry (part), e. g., Steroids; Synthetic Resins (part), i. e., Polyethylenes	4-6-60	3-4-60

EXPIRATION OF PATENTS

The patents within the range of numbers indicated below expire during January 1961, except those which may have been extended under the provisions of the Veterans Patent Extension Act (64 Stat. 316 as amended by 66 Stat. 321) and those which may have expired earlier due to shortened terms under the provisions of Public Law 600. A list of Veterans' patents which have been extended appears in the *Annual Index of Patents—1960*.

Patents..... Numbers 2,966,681 to 2,940,282, inclusive
Plant Patents..... Numbers 611 and 613

DECISIONS IN PATENT AND TRADEMARK CASES

In the United States Patent Office
Before the Board of Appeals

EX PARTE GIOVANNI ROSSI

Appeal No. 49-15. Decided March 16, 1959

1. APPLICATION—DISCLOSURE—RULE 71(b).

Upon review of a rejection of appellant's claims, to a process for the hydrolysis of cellulosic material, as based upon an insufficient and therefore defective disclosure, in support of which the Examiner noted that "the specification does not state what product is produced by the hydrolysis and that the specification is fatally defective since it does not comply with Rule 71(b) which requires that the specification describe completely a specific embodiment of the process" and the Examiner stated that "appellant fails to give any of the conditions such as specific pressure, temperature, rate of flow, or extent or duration of hydrolysis in an illustrative example," *Held* that "Nowhere has appellant given any figures as to conditions"; that "There is no specific example and no disclosure of products obtained"; and that "We agree with the Examiner that appellant's disclosure is defective."

2. PATENTABILITY—PARTICULAR SUBJECT MATTER—HYDROLYSIS OF CELLULOSIC MATERIAL.

Claims to a process for the hydrolysis of cellulosic material *Held* unpatentable over the prior patent cited.

APPEAL from the Examiner.

AFFIRMED.

Before WOLFFE and ASP, *Examiners-in-Chief*, and MARMELSTEIN, *Acting Examiner-in-Chief*

MARMELSTEIN, *Acting Examiner-in-Chief:*

This is an appeal from the final rejection of claims 28 to 30, which are all the claims in the case.

Claim 28 is illustrative of the appealed claims and reads as follows:

28. In a process for the hydrolysis of cellulosic material, continuously introducing preacidified cellulosic material in finely divided form at the top of a vertical column, continuously introducing a gaseous current including steam under pressure at the bottom of said column to separate volatile products from the material, the pressure of said gaseous current being sufficient to brake the fall of said cellulosic material by gravity, said pressure being thereby reduced to substantially atmospheric pressure at the top of said column in order to permit the continuous feeding of said cellulosic material thereto, continuously withdrawing treated material at the bottom of said column, and continuously withdrawing said gaseous current and volatile products at the top of said column.

The single reference relied upon is:

Wallace, 2,681,871, June 22, 1954.

The involved invention relates to the hydrolysis of cellulosic material and is adequately described in appellant's brief. It is sufficiently set forth in the copied claim, which is the broadest. Claims 29 and 30 are dependent on claim 28. Claim 29 limits the gaseous current including steam of claim 28 to that comprising superheated steam and claim 30 specifies that the cellulosic material is agitated and stirred during its descent.

The claims stand rejected for lack of invention over Wallace who, as stated by the Examiner, shows the hydrolysis of finely divided cellulose, which is preacidified by the counter-current flow of the cellulose with up-flowing steam. The Examiner points out that, as noted by appellant, the only distinction over Wallace is the fact that appellant uses a varying pressure of steam as it passes upwardly through the cellulose whereas Wallace chooses to maintain a constant pressure. He states that appellant, without supplying proof, contends that his variation of the Wallace process is effective and that the products are uniform. The Examiner has held that this single distinction is not patentable.

The claims have been further rejected as based on an insufficient and therefore defective disclosure. The Examiner notes that the specification does not state what product is produced by the hydrolysis and that the specification is fatally defective since it does not comply with Rule 71(b) which requires that the specification describe completely a specific embodiment of the process. He further states that appellant fails to give any of the conditions such as specific pressure, temperature, rate of flow, or extent or duration of hydrolysis in an illustrative example. The Examiner calls appellant's attention to *Ex parte Yost*, 102 USPQ 462.

[1], [2] We have carefully examined the reference and have considered the Examiner's position together with the arguments presented by appellant in his brief and have come to the conclusion that both the rejections as set forth by the Examiner are sound and therefore we will sustain said rejections.

Appellant states that according to his invention the mass under treatment with steam is subjected to a relative kinematic and dynamic effect which is novel and presents a novel concept in the treatment of cellulosic materials. What is this kinematic and dynamic effect and what is the novel concept? Appellant seems to be silent as to these effects, whatever they may be, we believe that they must also be produced in and be present in the process of the reference. We think that the apparent difference in pressure between the operations of appellant and the reference does not constitute a patentable difference. Appellant, unlike the reference, does not give any specific pressures. In actuality the difference, if any, is only one in degree. Also, we think that there does not seem to be as much difference in the pressure factor as indicated by appellant and the Examiner except that the reference process is operated at higher pressures than those of appellant. It seems to us that there must be some pressure differential from bottom to top in the reference process in view of the condensation of steam as the steam rises upwardly and contacts down-flowing cellulosic material.

Appellant states that his process is simple and effective, that the hydrolysis takes place gradually and slowly, that all the particles of cellulosic material are hydrolized under identical conditions, and that the most suitable conditions of pressure, temperature and speed of descent of particles are secured and maintained constant. Nowhere has appellant given any figures as to the conditions. There is no specific example and no disclosure of products obtained. We agree with the Examiner that appellant's disclosure is defective.

The action of the Examiner is affirmed.

AFFIRMED.

REISSUES

JANUARY 24, 1961

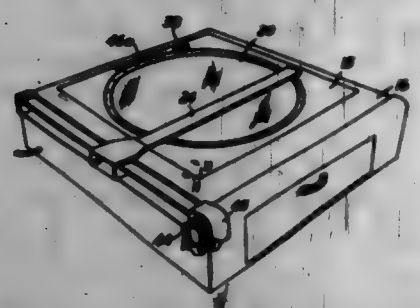
Matter enclosed in heavy brackets [ ] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates additions made by reissue.

24,927
RULING LAYOUT TABLE

Robert S. Shelly, Logan, Utah, assignor to Pack Manufacturing Company, Logan, Utah, a corporation of Utah

Original No. 2,855,721, dated Oct. 14, 1958, Ser. No. 642,844, Feb. 25, 1957. Application for reissue Oct. 26, 1959, Ser. No. 848,883

17 Claims. (Cl. 45—131)



10. A layout table comprising a supporting member, a turn-table member rotatably carried by said supporting member and having a work supporting surface thereon, one of said members having a circular surface having an axis substantially perpendicular to said work supporting surface, the other of said members having a pair of spaced abutments facing said circular surface for engagement therewith to precisely position said turn-table member with respect to said supporting member when said circular surface engages both abutments, and manually operable means on one of said members for forcing said turn-table member in a direction to effect tight engagement of said circular surface with both of said abutments, whereby said turn-table member is precisely positioned and held against rotation with respect to said supporting member, said means also being releasable to permit said turn-table member to be freely rotated with respect to said supporting member.

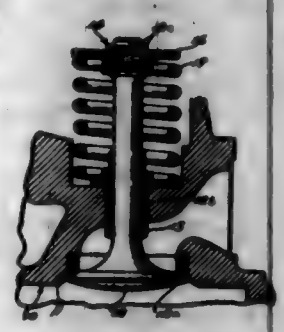
24,928
VALVE RETAINER LOCK AND METHOD OF MAKING SAME

John A. Newton, Gates Mills, Ohio, assignor to Thompson Ramo Wooldridge Inc., a corporation of Ohio

Original No. 2,827,831, dated Mar. 18, 1958, Ser. No. 499,366, Apr. 5, 1955. Application for reissue July 29, 1959, Ser. No. 830,462

12 Claims. (Cl. 123—188)

1. The method of forming a valve retainer lock which comprises providing a relatively flat strip having a plurality of spaced raised ribs on one face thereof, forming relieved areas in parallel relation to said ribs on the opposite face thereof, cutting said strip into relatively small pieces, and coining said pieces under sufficient pressure to cause some of the metal of said pieces to move into said relieved areas.

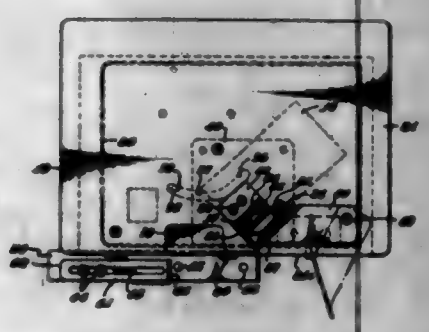


24,929
DRAPERY HOOK DISPENSING AND INSERTING APPARATUS

Morris A. Saltz, 1083 S. Ogden Drive, Los Angeles 19, Calif.

Original No. 2,821,713, dated Feb. 4, 1958, Ser. No. 548,502, Nov. 22, 1955. Application for reissue July 14, 1958, Ser. No. 749,044

28 Claims. (Cl. 1—1)



22. In apparatus for inserting hooks in drapes and the like: a drive member adapted to receive and be coupled to a drapery hook having a pin portion; means operatively connected to said drive member to drive said drive member and hook from a rearward position in which the pin portion is inclined to the drape to enable the pin portion to be forced into the drape, said means then guiding said drive member along a path lengthwise of the drape to a forward position in which the pin portion is substantially fully disposed in the drape; and means for bodily translating said drive member between said rearward and forward positions.

PLANT PATENTS

GRANTED JANUARY 24, 1961

Illustrations for plant patents are usually in color and therefore it is not practicable to reproduce the drawing.

2,012
PEAR TREE
James W. Sweeney, Placerville, Calif.
Filed Mar. 7, 1960, Ser. No. 13,469
1 Claim. (Cl. 47—62)

A new and distinct variety of pear tree, as illustrated and described, having the general growth and vegetative characteristics of the mother-variety Bartlett, and fruit which in exterior color resembles that of the Max-Red Bartlett more than any other, but in comparison to said Bartlett and Max-Red Bartlett being particularly distinguished by white-fleshed fruit having a substantially over-all "Maroon" red exterior color present in picking-ripe fruit and persisting only lighter red in eating-ripe fruit, by carpel margins tinged with red, and by skin dots which are small and much less conspicuous; and, in further comparison to the Bartlett, by young shoots having reddish, reddish-brown, or gray-red bark.

2,013
RASPBERRY PLANT
Edward W. Lowden, Ancaster, Ontario, Canada
Filed Mar. 24, 1960, Ser. No. 17,444
1 Claim. (Cl. 47—62)

A new and distinct variety of black raspberry plant, substantially as herein shown and described, characterized particularly as to novelty by the unique combination of its vigorous and upright canes, a distinctive cane color ranging from Dark Red to Bright Maroon in general color tonality which is particularly outstanding in the dormant stage, attended by a total or almost complete absence of gray bloom on the canes, a habit of bearing the fruit in large drupelets, with the individual berries being purplish red in color until fully ripe and the color changes to dull purplish black overcast with a steel gray bloom, large size, juicy quality and distinctive flavor of the berries, said flavor being characterized by a delectable blend of both black and red raspberry flavor, with the black flavor predominating, exceptionally small fruit seeds, a relatively late ripening habit, superior canning qualities, and exceptionally good resistance to drought.

2,014
PEACH TREE
Samuel F. Molino, Strathmore, Calif., assignor to Kenneth R. Clifford, Strathmore, Calif.
Filed Nov. 27, 1959, Ser. No. 855,952
1 Claim. (Cl. 47—62)

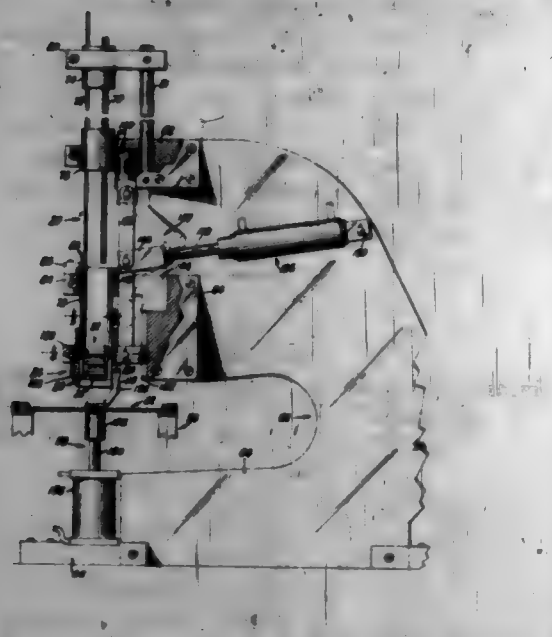
A new and distinct variety of peach tree, as illustrated and described, having general resemblance in tree and fruit to the Heath clingstone peach but distinctively characterized in comparison by freestone fruit; and further characterized by fruit which normally has scant short down but occasionally is nectarine-smooth.

PATENTS

GRANTED JANUARY 24, 1961

GENERAL AND MECHANICAL

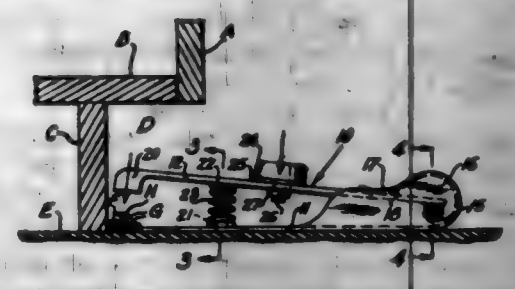
2,968,909
COMPONENT ASSEMBLY APPARATUS
Alexander Foreman, Warren, and Guy M. Grimaldi, North Warren, Pa., assignors to Sylvania Electric Products Inc., a corporation of Delaware
Filed June 1, 1959, Ser. No. 817,184
8 Claims. (Cl. 1—3)



1. In an apparatus for inserting the leads of components into an apertured electrical chassis the combination of a vertical magazine for maintaining a plurality of components in an oriented position relative to the vertical axis of said magazine, component lead inserting means mounted for reciprocating movement along said vertical axis of said magazine from a loading position at said magazine to a component lead inserting position at said chassis, means for releasably retaining the bottommost component in said magazine at said component loading position, means mounted on said magazine adjacent said loading position and operable by said inserting means to restrain the movement of the components in said magazine while said component lead inserting means is raised whereby said bottommost component is passed through and into said component inserting means, means for moving said inserting means, and means for fastening said component leads in said apertures in said chassis operable in synchronism with said inserting means when said component is inserted in said chassis.

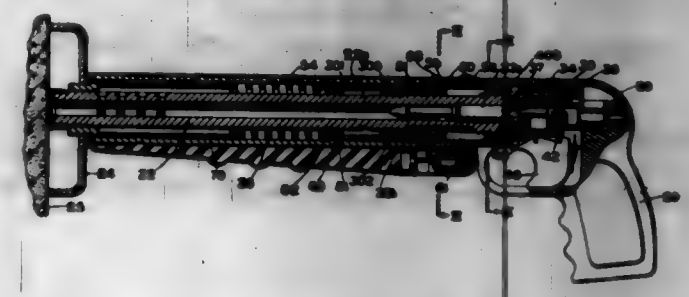
2,968,810
TOE KICK CLEARANCE HAMMER FOR CARPET LAYERS
Raymond L. Young and Wash P. Young, 5204 Nelson St., Sacramento, Calif., assignors of one-third to Irene Becker, Sacramento, Calif.
Filed Sept. 15, 1958, Ser. No. 760,997
1 Claim. (Cl. 1—47)

A hammer assembly of the character described comprising a base, an arm pivotally mounted at one of its ends on one end of said base, the free end of said arm extending beyond the other end of said base, a hammer formed on said free end of said arm, a compression spring positioned between said arm and said base at an intermediate point, and a resilient impact receiving knob on



the side of said arm remote from said base located between said spring and said pivotally mounted one end.

2,968,811
FASTENER DEVICE
Robert W. Henning, Rocky River, and Roger Marsh, Hudson, Ohio, assignors, by mesne assignments, to Olin Mathieson Chemical Corporation, a corporation of Virginia
Filed Jan. 21, 1955, Ser. No. 483,202
6 Claims. (Cl. 1—106)

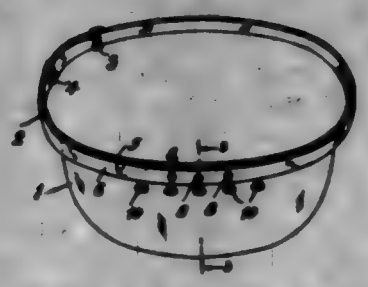


1. An explosively actuated tool for driving a fastener and the like comprising a barrel with a bore for ejecting said fastener and for carrying an explosive power cartridge, a separable tool housing having a front portion and a rear portion carrying a firing means and releasably engageable with said front portion, a breech block for releasable engagement with the breech of said barrel to permit loading and removal of said power cartridge, said block being carried in longitudinal telescoping relationship with said rear portion, said barrel being carried in longitudinal telescoping relationship with said front housing portion movable over said barrel, said housing being movable forwardly with respect to said barrel and block when they are interengaged as a unit for operable coaction of said cartridge and said firing means, said block being abuttable against a surface of said rear portion, shoulder means on said barrel for abutment of said shoulder means with said front housing portion when said engaged barrel and block are in position for engagement with the firing means, whereby recoil forces can be passed from said barrel and block to the front of said housing directly.

2,968,812
EYE-SHIELDS
Michael D. Vivolo, New York, N.Y.
(50 Radcliff Road, Staten Island, N.Y.)
Filed Feb. 24, 1959, Ser. No. 794,884
2 Claims. (Cl. 2—12)

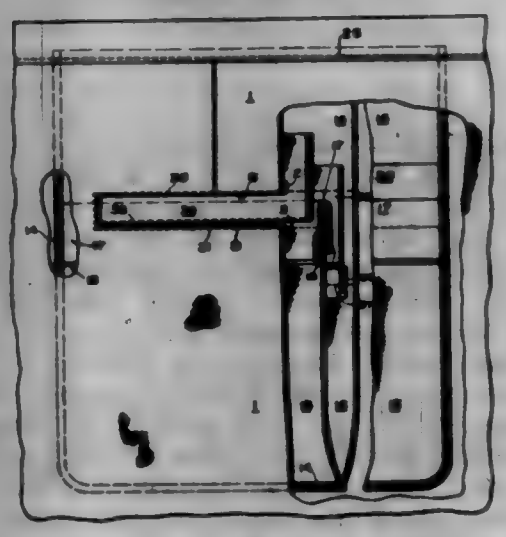
1. An eye-shield comprising a head band, a crescent-shaped vizor pivotally secured at a central point adjacent

to its upper edge to the head band, the head band including a pair of overlying sections of uniform width and between which the upper edge portion of the vizor is extended, spaced lines of stitching extending through



the overlying sections of the head band, said lines of stitching being operative to engage against the opposite ends of the vizor to hold the vizor in selected positions of adjustment.

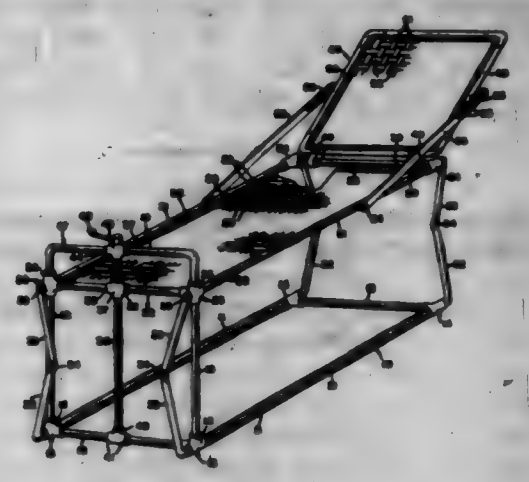
2,968,813
GARMENT POCKET STRUCTURE
Melvin L. Bacharach, San Rafael, Calif., assignor to Levi Strauss and Company, San Francisco, Calif.
Filed Apr. 27, 1959, Ser. No. 809,239
4 Claims. (Cl. 2—248)



1. A pocket structure for a garment comprising: a garment shell provided with an elongated pocket opening having a pair of longitudinally extending elongated margins and a relatively narrow width compared to its length, a welt secured to said shell along the inner side of one of the elongated margins of said opening and having a free end extending toward the other elongated margin, a flap secured to said shell along the inner side of said other margin and extending toward said one margin and outwardly of and in overlying relationship relative to said welt for closing said opening and substantially covering said welt from view from the outer side of said garment, and a pocket secured at one of its sides to said one margin and at its other side to said other margin.

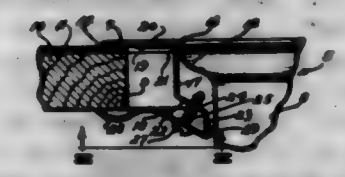
2,968,814
INVALID HANDLING DEVICE FOR BATHTUBS
Edward P. Ashby, Jr., 3544 S St. NW., Washington, D.C.
Filed Apr. 21, 1959, Ser. No. 807,917
2 Claims. (Cl. 4—185)

1. An invalid handling device to be removably mounted in bathtubs comprising, an elongated substantially horizontal base frame comprising transversely spaced longitudinal tubes and transverse elements connecting the ends of the tubes, the base frame being mounted upon and supported by the bottom of bathtub, an invalid supporting platform including a generally horizontal upper frame including transverse spaced sides and transverse elements connecting the ends of said spaced sides, an upstanding frame mounted upon one end only of the lower generally horizontal base frame and including substantially vertical posts, sleeves slidably mounted upon the posts to be raised and lowered with relation thereto and mounted upon the sides of the upper frame, adjustable means connected with the sleeves and connected with the upstanding frame and serving to raise and lower said sleeves and to positively hold then in a selected adjusted positon, two horizontal rock shafts mounted within said longitudinal tubes of the base frame, said rock shafts extending beyond the ends of the longitudinal tubes, cranks rigidly connected with the ends of the rock shafts which ends are adjacent to the upstanding frame, links pivotally connected with the sleeves and pivotally connected with the upper ends



of the cranks, the cranks and links being angularly disposed with relation to each other, the cranks and links serving to turn the rock shafts upon their longitudinal axes and positively hold them in the adjusted position, second cranks rigidly connected with the oppostie ends of the rock shafts to positively move with the rock shafts, links pivotally connected with the end of the upper frame which is adjacent to the second cranks, means pivotally connecting the last named links with the second cranks, the last named links and second cranks being angularly arranged with relation to each other, the second cranks and last named links constituting the sole means for supporting and guiding the end of the upper frame which is adjacent to the second cranks.

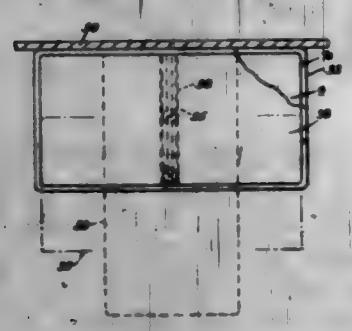
2,968,815
RETAINING STRUCTURE FOR KITCHEN SINKS
Frank J. Horalik, Detroit, Mich., assignor to Lyon Incorporated, Detroit, Mich., a corporation of Delaware
Filed Aug. 16, 1957, Ser. No. 678,708
8 Claims. (Cl. 4—187)



6. In a sink structure including a sink bowl having a lateral rim flange at the top thereof, a bracket member secured to the sink structure immediately under the rim flange and spaced from the free margin thereof to enable engagement of the free margin of the rim flange upon a table top, said bracket member having a portion thereof facing generally downwardly and being located substantially outwardly relative to the sink bowl, said portion being provided at its inner side adjacent to but spaced from the sink bowl with a depending fulcrum portion which provides a downwardly directed fulcrum spaced substantially below the downwardly facing portion, a retaining clip having on one end portion thereof a bearing rockably engaging the fulcrum and including

means to retain the fulcrum and the bearing against lateral displacement, the inner terminus of said one end portion being accommodated in the space between the sink bowl and the depending fulcrum portion, the principal extent of the clip projecting outwardly beyond said bearing, away from the sink bowl and spaced below said downwardly facing bracket portion into underlying relation to said free margin of said lateral rim flange for engaging under the marginal portion of a table top upon which the rim flange free margin rests, and means extending through the space between and connecting said downwardly facing portion of the bracket and said principal portion of the clip and spaced outwardly from said fulcrum and manipulable to draw the clip upwardly pincers-like about said fulcrum to effect a clamping engagement of the clip with the underside of the table top marginal portion interposed between the clip and said free margin of the rim flange.

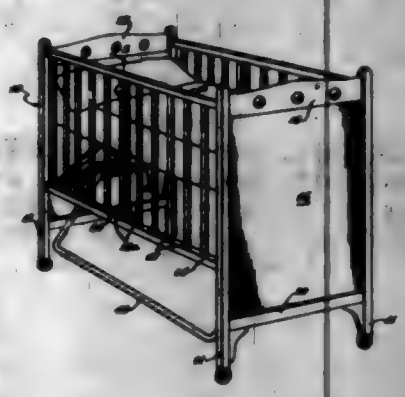
2,968,816
BED WITH NOVEL MATTRESS AND SPRING UNIT
Howard C. Wolf, 1001 Laurelwood Road, Mansfield, Ohio
Filed Feb. 12, 1958, Ser. No. 714,968
2 Claims. (Cl. 5—18)



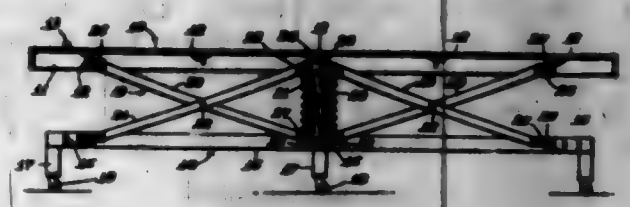
1. The combination comprising a bed frame including a peripheral frame member and a plurality of transversely extending cross bars, means defining a transverse track at substantially the mid point along the length of said frame, said track extending throughout substantially the width of said frame, a combined spring and mattress unit overlying said bed frame, said unit including a relatively rigid base substantially coextensive with said bed frame and spring means mounted on the upper side of said base, and pivot means fixed on the underside of said base substantially at the center thereof and engaging said track, said pivot means being shiftable along substantially the entire length of said track and being rotatable relative to said track at any position of said pivot means along said track, whereby said spring unit is movable bodily relative to said frame and rotatable on said pivot means at any position of said pivot means along said track.

2,968,817
ADJUSTABLE BABY CRIB
Saul B. Jacobs, Los Angeles, and Max L. Siegel, Beverly Hills, Calif., assignors to Baby-Line Furniture Company, Los Angeles, Calif.
Filed Jan. 30, 1958, Ser. No. 712,243
2 Claims. (Cl. 5—63)

1. A baby crib which includes: a main frame having upright sides and ends, said main frame having a vertical slot in one of its sides intermediate said ends; an auxiliary frame adapted to support bedding spanning the interior of said main frame and extending at a right angle to said sides and said ends of said main frame; a linkage means located at each of said ends of said main frame, said linkage means being connected to the ends of said auxiliary frame adjacent to the ends of said main frame and supported upon said ends of said main frame so that said auxiliary frame is capable of being moved from a low level position to any of a series of higher level positions, in all of said positions said auxiliary frame being within said main frame, all of said positions of said auxiliary frame being parallel to one another; treadle means having ends interconnected by a center portion, said ends of said treadle means being located adjacent to said ends of said main frame, the adjacent ends of said treadle means and said main frame being pivotally connected, said treadle means being located beneath said auxiliary frame, said center portion of said treadle means extending beneath said one of said sides containing said slot, each of said ends of said treadle means being operatively connected to one of said linkage means so that said treadle means connects said linkage means for synchronous operation of said linkage means so as to cause said auxiliary frame to be moved upward when said center portion of said treadle means is rotated downwardly away from said one of said sides of said main frame containing said slot; arm means carried by said auxiliary frame so as to extend therefrom into and through said slot; sliding means held by said arm means, said sliding means engaging the portions of said main frame along said slot on the side of said slot remote from the extremity of said arm means; and handle means threaded on the extremity of said arm means, said handle means being capable of engaging portions of said main frame along said slot on the side of said slot adjacent the extremity of said arm means so as to secure said auxiliary frame in any of said positions.



2,968,818
RESILIENT SUPPORTING STRUCTURES
Earl L. Petersen, 203 Hawthorne Blvd., Wheaton, Ill.
Filed Dec. 16, 1958, Ser. No. 780,759
10 Claims. (Cl. 5—246)



6. In a resilient supporting structure, a rectangular lower frame assembly comprising a pair of spaced apart side members and a plurality of cross members secured between said side members in a parallel spaced apart relationship to each other, four legs, each of said legs secured to depend from the end of one of said side members, a rectangular upper frame assembly comprising a rectangular member defining the side and end members of said upper frame assembly, a plurality of cross members secured between the side members of said upper frame assembly in a parallel spaced apart relationship to each other, and a cover member secured over said rectangular member and said cross members of said upper frame

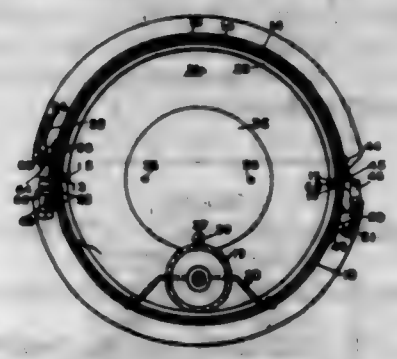
assembly, four lever arrangements, each of said lever arrangements compriaing a pair of levers pivotally interconnected substantially at the longitudinal centers thereof, means pivotally connecting one end of one lever of each of said lever arrangements substantially adjacent to the center of the cross member of said lower frame assembly disposed substantially at the center of said lower frame assembly, means pivotally connecting the other end of each of said one levers substantially to the outer ends of the pair of cross members of said upper frame assembly disposed at the ends of said upper frame assembly, means pivotally connecting one end of the other lever of each of said lever arrangements substantially adjacent the center of the cross member of said upper frame assembly disposed at the center thereof, means pivotally connecting the other end of each of said other levers substantially adjacent to the outer ends of the pair of cross members of said lower frame assembly disposed at the ends of said lower frame assembly, said means pivotally connecting said other ends of both of said levers of each of said lever arrangements being formed to permit limited horizontal movement of said other ends, whereby said upper frame assembly is vertically movable in planes parallel to said lower frame assembly and prevented from any tilting or lateral shifting movement relative to said lower frame assembly, and first and second resilient means carried between the cross members of said upper and lower frame assemblies, said first resilient means operating to resiliency support said upper frame assembly relative to said lower frame assembly for a first range of loading upon said upper frame assembly, said second resilient means operating in cooperation with said first resilient means when any loading upon said upper frame assembly exceeds the maximum of said first range to resiliently support said upper frame assembly relative to said lower frame assembly for a second range of loading upon said upper frame assembly.

2,968,819
EMERGENCY BUOY MARKER
Cecil R. Jensen, 1222 S. Oak, Pecos, Tex.
Filed July 23, 1958, Ser. No. 750,335
3 Claims. (Cl. 9—9)



1. An emergency buoy marker to be dropped in a body of water for use in locating and retrieving submerged articles comprising, in combination, a hollow main housing composed of a bottom closure closed at its base end and a top closure closed at its upper end, the open end of said top closure slidably and frictionally mounted upon the open end of said bottom closure, a cylindrical float vertically arranged within said main housing and provided with a longitudinal central bore extending therethrough from top to bottom, the intermediate portion of said float being of reduced diameter effecting a float top end portion and a float bottom end portion integrally secured together, a shoulder formed between said top end portion and said intermediate portion, a shoulder formed between said bottom end portion and said intermediate portion, said intermediate portion forming a means for supporting a predetermined length of line wound thereon, a sinker supported within said bottom closure beneath said bottom end portion of said float, an eye loop mounted upon the exterior of said sinker, a coil type ejecting spring arranged in compressed form within said bottom closure between said bottom surface of said bottom end of said float and said sinker, one end of said line anchored to said intermediate portion of said float, the adjacent line portion wound upon said intermediate portion, a short longitudinal bore extending through the bottom end portion of said float parallel with and adjacent said central bore thereof, the opposite end portion of said line extending downwardly through said short longitudinal bore and then through said eye loop on said sinker and then upwardly through said central bore where the terminal end of said line is anchored upon the upper surface of said float, a water soluble glue filling said short bore and securing said terminal end portion of said line therewithin to hold said ejecting spring in compressed form, port means within the walls of said housing for admitting water into the interior thereof when it is submerged in water, the dissolving of said glue in said short bore when water enters the interior of said housing releases said line within said short bore and hence said ejecting spring and causing the separation of said bottom closure and said top closure and the ejection of said float from said housing, thereby allowing said float to rise to the surface of the submerging water, and said sinker remaining submerged for maintatining remote control of the position of said float upon the surface of the water acting as a buoyant marker.

2,968,820
STOWAGE FOR AN INFLATABLE RAFT OR LIKE INFLATABLE OBJECT
Gerald Neil Pritty, Leamington Spa, England, assignor of one-half to R.F.D. Company Limited, Godalming, England
Filed July 24, 1956, Ser. No. 599,767
7 Claims. (Cl. 9—11)



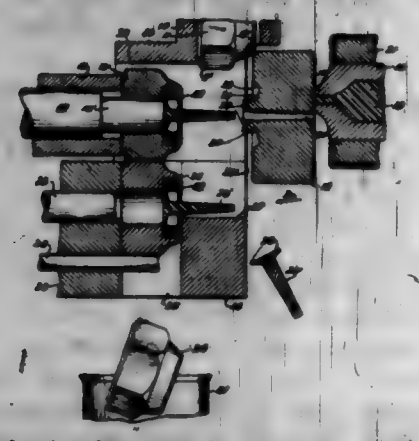
1. A stowage, adapted to contain an inflatable raft or like inflatable object and to be thrown from a carrying vessel into the sea, comprising a rigid casing including at least two parts which are supported to be movable to a position in which the casing is opened, rupturable means including a hook normally attachable thereto and detachable therefrom interconnecting said parts to hold them in closed condition, an inflatable object positioned initially within said casing, a reservoir of highly compressed gas within said casing and for inflating said inflatable object, an outlet from said reservoir and connected to said inflatable object, a control for said outlet and means coupled to said control for operating said control from a remote position for releasing the gas from said reservoir to inflate said inflatable object against the restraint of the casing until sufficient pressure is developed to fracture the rupturable means and thereby allow said parts to be moved to an opened condition for enabling said inflatable object to expand out of said container.

2,968,821

APPARATUS AND METHOD FOR FORMING LOCKNUTS HAVING A WASHER MOLDED IN THE NUT BODY

Louis H. Morin, Bronx, and Otto Gries, New Rochelle, N.Y.; said Gries assignor, by mesne assignments, to Coats & Clark Inc., a corporation of Delaware

Filed Mar. 4, 1958, Ser. No. 719,875
11 Claims. (Cl. 10—72)



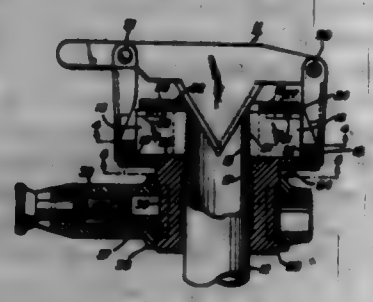
1. The method of producing lock nuts of the character described, which consists in delivering nut blanks, having a bore and an enlarged chamber at one end bordered by a reduced wall portion, to a forming and molding station having a combination forming and molding die, then pressure advancing the nut blank upon said die to form the reduced wall of said chamber to predetermined contour, then moving an insert and die part into the bore of said nut blank with the surface of said insert abutting said die, then pressure injecting heated plastic material through a gate in said forming and molding die into the cavity formed by said chamber, die and surface of said insert to form a plastic washer element in the chamber of the nut blank, then withdrawing the product, thus formed, from the die sufficiently to clear the gate of the product from said die, then removing said insert from the product to allow the product to drop to a trimming station, the trimming station having means to definitely position the product at the station, with the bore of the nut blank in alinement with a trimming punch, then actuating the punch to trim the gate from the molded washer, and then freeing the finished end product for displacement from the trimming station to a suitable receiver.

2,968,822

COMBINATION THREAD-CUTTING TOOL AND REAMER

Sanford E. Coblitz, 567 Knollwood Ave., Ashtabula, Ohio

Filed Oct. 15, 1959, Ser. No. 846,580
3 Claims. (Cl. 10—87)



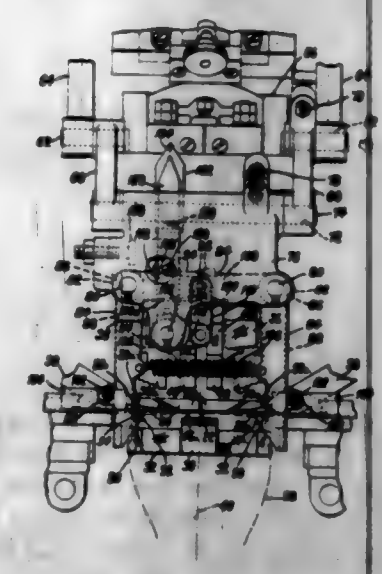
1. A combination thread-cutting tool and reamer for threading a pipe and for reaming the end surface of said pipe, said combination comprising a die head having radially extending slots disposed at annularly spaced intervals thereabout, a thread-cutting element mounted in each of said slots and slidably movable therein in a radial direction between a pipe-cutting position and a non-pipe cutting position, each said thread-cutting element having an inner end provided with thread-cutting teeth and an outer cam rider means disposed for actuation, an annular collar mounted on said die head circumferentially movable between a first and second circumferential position, means to mount said collar on said die head against movement in an axial direction, said collar in said first circumferential position having collar cam surface means engaging said outer cam rider means and holding said thread-cutting elements in said pipe-threading position, said thread cutting teeth in threading said pipe exerting an outward threading force urging said cam rider means of said thread-cutting elements against said collar cam surface means and creating a threading frictional force tending to hold said collar in said first circumferential position, said collar in said second circumferential position having depression means in radial alignment with said outer cam rider means, radial movement of said outer cam rider means into said depression means positioning said thread cutting elements in said non-pipe cutting position, a reamer having a cutting edge disposed to cut the end surface of said pipe, and means to mount the reamer on said collar, said collar moving said reamer axially towards the end surface of the pipe as the die head is turned for cutting threads on the pipe, said reamer upon engaging the end surface of the pipe during the threading operation creating a reaming frictional force tending to actuate said collar in opposition to said thread-frictional force, said reaming frictional force upon becoming larger than said threading frictional force moving said collar to said second circumferential position with said depression means in alignment with said outer cam rider means of said thread-cutting elements, whereby said thread-cutting elements may be moved to said non-pipe cutting position.

2,968,823

HEEL SEAT FITTING MACHINES

Lawrence Mawbey, Leicester, England, assignor to United Shoe Machinery Corporation, Flemington, N.J., a corporation of New Jersey

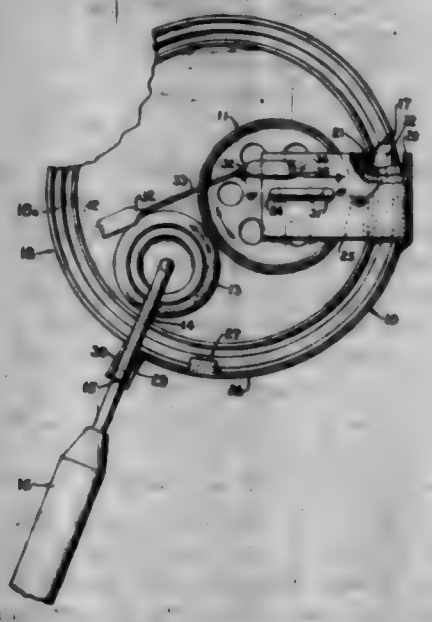
Filed Sept. 17, 1958, Ser. No. 761,534
Claims priority, application Great Britain Nov. 13, 1957
5 Claims. (Cl. 12—31.5)



1. In a heel seat fitting machine, a platen adapted to support the heel seat portion of an attached outsole of a shoe and having an opening which lies approximately in a plane disposed substantially at right angles to a fixed machine reference plane which extends longitudinally of and bisects said opening lengthwise, means adapted to be engaged by the rear end of the shoe for positioning said rear end lengthwise and widthwise, and members which are independently movable toward and away from each other, resilient means for constantly urging said members

toward each other causing them at all times to engage opposite end portions of a feather line of the heel seat of the shoe the rear end of which is in engagement with said first-named means, and visual means operatively connected to said members and adapted to assume recognizable positions when a heightwise median plane of the heel seat of the shoe is coincident with said reference plane.

2,968,824
CLEANING APPARATUS FOR PAINT APPLICATOR ROLLERS AND THE LIKE
James F. Beech, 382 N. Washington Ave., Battle Creek, Mich.
Filed Dec. 3, 1956, Ser. No. 625,988
14 Claims. (Cl. 15—4)



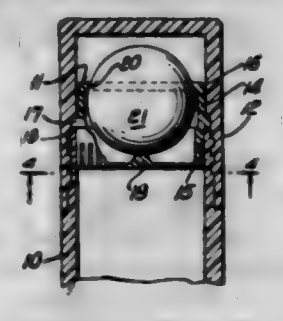
1. A cleaning and fluffing device for the applicator roller of a roller type paint applicator, comprising a cleaning roller against which to press the applicator roller while both rollers are immersed in a paint solvent, supporting means upon which said cleaning roller is mounted, said supporting means having applicator-engaging means to aid in hand holding of the applicator roller against said cleaning roller, fluffing means against which the applicator roller may be pressed while driven by said cleaning roller, and means mounting said fluffing means on said supporting means in laterally spaced relation with said cleaning roller.

2,968,825
GOLF BALL CLEANER
John K. Wetherby, R.F.D., Roberts, Wis.
Filed Nov. 21, 1958, Ser. No. 775,572
5 Claims. (Cl. 15—118)



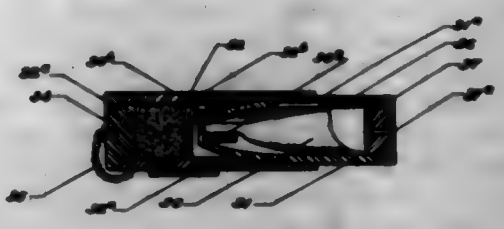
1. A golf ball cleaning attachment for golf bags comprising a tubular member made of water absorbent fabric having a rough exterior finish and having upper and lower end portions, a golf ball washing device detachably secured within the upper end portion of said tubular member and within which a golf ball may be washed, the lower end portion of said tubular member being open to permit the golf ball after being washed to be inserted within the lower end portion of said tubular member for quick and easy drying thereof, and means connected to said tubular member for securing the same to a golf bag.

2,968,826
FLUID DISPENSER WITH BALL APPLICATOR
Joseph Leshin, Bronx, N.Y., assignor to Calmaset Manufacturing Co., Inc., a corporation of New York
Filed Nov. 14, 1957, Ser. No. 696,478
6 Claims. (Cl. 15—132.7)



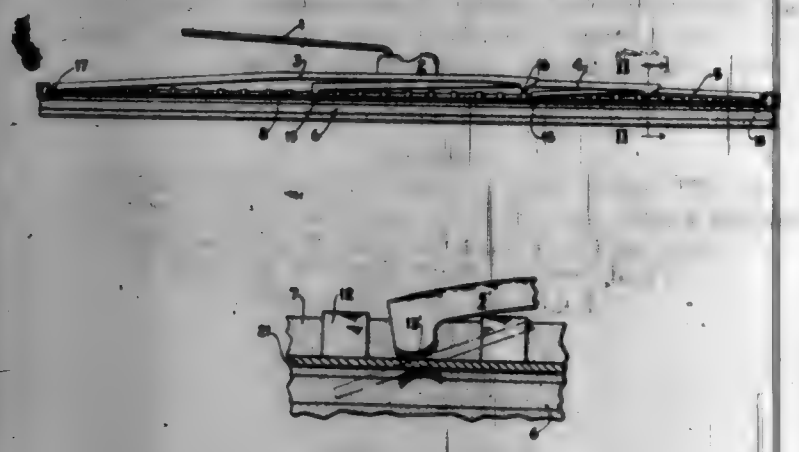
1. A dispensing device comprising a cylindrical shell having a substantially flat, circular, resilient, perforated bottom and a top comprising a constricted rim, and a ball confined between said bottom and said rim and pressed against said rim by the resilience of the bottom, said ball having a portion of its surface exposed above said top, and said resilient bottom having in its central portion and rising above the plane thereof an upwardly protruding member engaging said ball and maintaining the resilient bottom under tension by such engagement.

2,968,827
TOOTH CLEANING AND GUM MASSAGING DEVICE
Leo Lawaine, Box 4982, Cleveland Park Station, Washington, D.C., and Kenneth L. Martin, 29 Tulip Lane, Levittown, Pa.
Filed Jan. 23, 1958, Ser. No. 710,728
1 Claim. (Cl. 15—184)



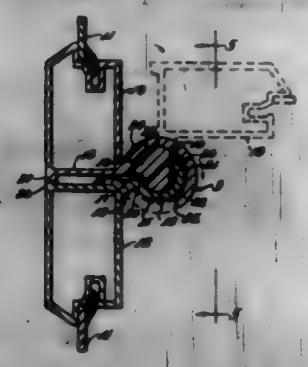
A tooth brushing or gum massaging device comprising a finger cot adapted to be carried on a user's finger and whose interior tapers from an open rear end toward the forward end of said cot, said cot having an aperture at the forward end thereof, a tooth brush element normally occupying a retracted position of storage within said cot and extendable through said aperture to a position of use, a body member integrally connected to the rear of said brush member and slideably received in said cot, means on the rear of said body member adapted to be engaged by a finger end when a user's finger is inserted into the open rear end of said cot to slide said body member forwardly and extend said brush to a position of use, and spring means within said cot acting on said body member to urge it at all times towards a position wherein said brush element occupies its normal retracted position of storage within said cot.

2,968,828
WINDSHIELD WIPER
Erwin C. Herten, 43 Union St., Hamburg, N.Y.
Filed Apr. 8, 1954, Ser. No. 421,738
1 Claim. (Cl. 15—245)



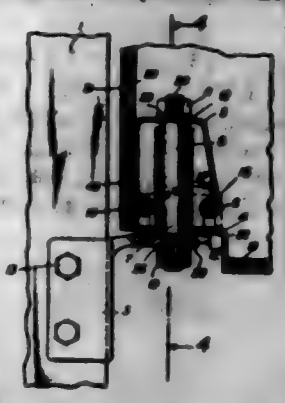
A windshield wiper for automotive vehicles having curved windshields comprising, a squeegee, a flexible backing strip for retaining said squeegee, said backing strip flexing into conformity with the different curvatures of an associated windshield as it moves thereacross, and a pressure distributing superstructure adapted for connection to an actuating arm and to said backing strip, said superstructure having a plurality of opposed transversely arcuate claws for engaging the backing strip, said arcuate claws having their convex surfaces positioned for engagement with the adjacent opposite faces of the backing strip, the radius of curvature of said arcuate claws being the practical minimum usable consistent with the strength and rigidity necessary for proper connection with the backing strip in order to permit the unrestrained flexing of said strip.

2,968,829
HINGE WITH ARCUATE PLASTIC HINGE CONNECTOR
John W. Meddick, Olmsted Falls, Ohio, assignor to Weather-Seal, Inc., Barberton, Ohio, a corporation of Ohio
Filed Apr. 8, 1958, Ser. No. 727,152
6 Claims. (Cl. 16—136)



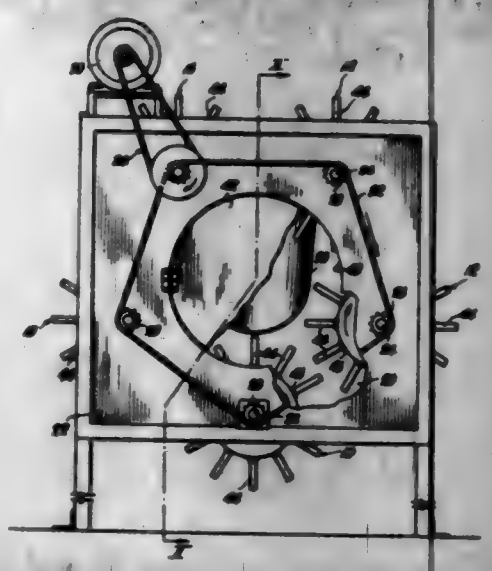
1. In a hinge, one member with a metal hinge socket extending longitudinally thereof, said hinge socket having an arcuate inner surface and a longitudinally extending slot connecting marginal portions of said arcuate surface, a second member having a metal hinge pintle with a semi-cylindrical arcuate outer surface thereon received in said hinge socket, and a plastic hinge member engaged with said plastic hinge member having an arcuate peripheral and carried by said hinge pintle but extending therefrom, section of larger radius than said hinge pintle and extending therefrom to form a substantially cylindrical unit with said semi-cylindrical arcuate surface of said hinge pintle, said peripheral section of said plastic hinge member continually engaging said hinge socket to reduce metal-to-metal bearing contact of said members.

2,968,830
GRAVITY DOOR HINGE ASSEMBLY
Mark A. Urtis, deceased, late of Dallas Township, Luzerne County, Pa., by Maude Handley Urtis, executrix, De Land, Fla., assignor, by mesne assignments, to Robert Partitions, Inc., Wilkes-Barre, Pa., a corporation of Pennsylvania
Filed Feb. 20, 1958, Ser. No. 716,353
4 Claims. (Cl. 16—153)



1. A gravity door hinge assembly for a hollow panel door, having a supporting member inside the panel of the door, an upper cylindrical cam carried by said member and projecting through same from the bottom, locking means associated with said cam to lock it on the supporting member with the cam in the desired rotary position about its vertical axis, said locking means comprising a shoulder on the upper cam adapted to engage the lower side of the supporting member, a kerf in the upper end of the upper cam and a nut threaded on the upper end of the cam above the supporting member to adjust the neutral position of the upper cam with relation to the door, a lower cylindrical cam, a sleeve adapted to keep the two cams axially aligned, said cams having complementary cam surfaces oblique to the vertical, a closure for the edge of the door underlying the cams and having an opening to permit vertical movement of the sleeve and cams through the closure, and a pilaster bracket attached to the lower cam and supporting it; in combination with a similar shoulder, nut and kerf on the lower end of the lower cam with the kerf below the pilaster bracket; whereby the neutral position of the door can be easily adjusted by the kerfs.

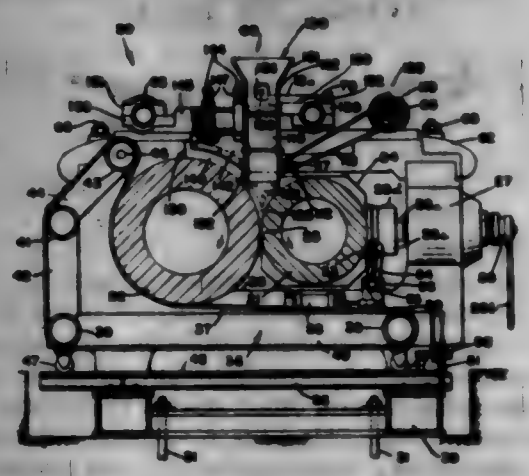
2,968,831
REVOLVING DRUM TYPE POULTRY PLUCKING MACHINE
Ralph S. Zoberis, Hickman Mills, Mo., assignor, by mesne assignments, to Gordon Johnson Company, Kansas City, Mo., a corporation of Missouri
Filed Sept. 6, 1955, Ser. No. 532,478
4 Claims. (Cl. 17—11.1)



1. In a poultry plucking machine of the tumbler type, a number of elongated drums, each provided with a

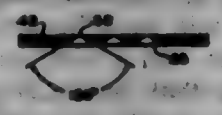
horizontal axis and a plurality of radial, feather plucking fingers, said axes being arranged in a circular pattern whereby to present a space completely surrounded by the drums for receiving poultry to be defeathered; and means mounting said drums for rotation about said axes whereby poultry freely disposed in said space is continuously projected from drum to drum and subjected to the action of the fingers of all the drums, the free ends of the fingers of each drum being closely adjacent the free ends of the fingers of adjacent drums and there being provided means for rotating the drums in the same direction whereby to prevent passage of poultry between the drums from said space.

2,968,832
CONTINUOUS MILL
Andrew Hale, Akron, Boyd A. McClellan, Mogadore, and Robert L. Guggenheim, Cuyahoga Falls, Ohio, assignors, by mesne assignments, to Blaw-Knox Company, Pittsburgh, Pa., a corporation of Delaware
Filed June 5, 1958, Ser. No. 740,047
8 Claims. (Cl. 18—2)



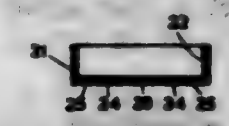
1. Apparatus for milling plastic stock comprising, a base having end housings, mill rolls side-by-side between said end housings, a carriage between said end housings above said rolls, means pivotally mounting said carriage on said end housings laterally of the bite between said rolls, a hopper pivoted on said carriage for discharging raw stock between said rolls, a series of deflector blades on said carriage and normally bearing against one of said rolls to cut and turn strips of stock for repeated passage between the rolls, and means to raise the carriage to lift the blades and hopper from the rolls.

2,968,833
METHOD AND APPARATUS FOR PRILLING AMMONIUM NITRATE
Clark G. De Haven and Richard O. Welty, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware
Filed May 17, 1957, Ser. No. 659,975
10 Claims. (Cl. 18—2.4)



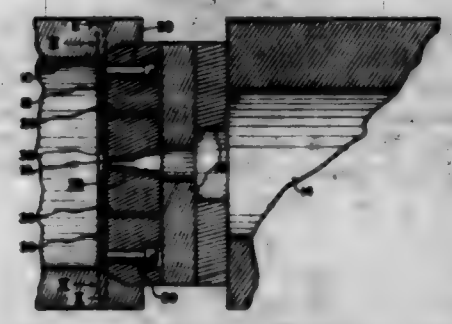
8. In the production of uniformly sized prills from a molten inorganic salt solution, particularly concentrated ammonium nitrate melts, employing a method where said solution is sprayed from a restricting zone through a plurality of knife-edged orifices into direct contact with a liquid-solidifying medium, such as air, the improvement comprising applying to said liquid in said zone vibrations of a predetermined frequency within the range of about 300 to about 1,400 c.p.s., thereby injecting substantially spherical droplets of said liquid from said restricting zone into said solidifying medium.

2,968,834
MANUFACTURE OF VOLUMINOUS YARNS
Denis William Greenbridge, Selwyn George Hawtin, and John Downing, all of Spondon, near Derby, England, assignors to British Celanese Limited, a company of Great Britain
Filed Apr. 22, 1957, Ser. No. 654,791
Claims priority, application Great Britain May 9, 1956
4 Claims. (Cl. 18—8)



1. A multi-hole spinning jet in which some of the spinning orifices are of a first type and some of a second type, the length of the orifices of said first type in a direction at right angles to the face of said jet being greater than the corresponding length of the orifices of said second type and the cross section of the orifices of the second type being less than that of the cross section of the orifices of the first type.

2,968,835
EXTRUSION DIE STRUCTURES
Samuel C. Weston, Jr., Pottsville, and John W. Oswald, Minersville, Pa., assignors to Aluminum Company of America, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Mar. 21, 1958, Ser. No. 723,059
5 Claims. (Cl. 18—12)

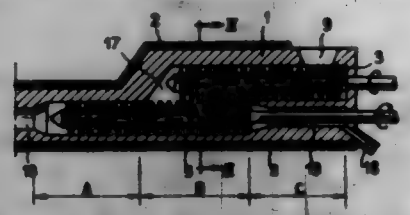


4. An extrusion die structure comprising a die block having a front face and a die aperture extending axially therethrough from the front face, said die block being compressibly deformable and the cross-sectional area of the die aperture reduced in resisting an applied extrusion loading against the front face of the die block, an opening extending axially through the die block from the front face thereof, said opening being located adjacent the die aperture, isolated therefrom and within the front face area of the die block resisting applied extrusion loading, said opening being selected in its cross-sectional area substantially proportional to the reduction in cross-sectional area of the die aperture under extrusion loading of the die block, and a cover overlying the entrance to the opening in the front face of the die block preventing ingress of material under extrusion into the opening.

2,968,836
SCREW PRESS FOR EXTRUDING PLASTIC MATERIALS
Roberto Colombo, Turin, Italy, assignor to S.A.S. Lavorazione Materie Plastiche (L.M.P.) di M. L. Colombo & C., Turin, Italy
Filed Nov. 4, 1958, Ser. No. 771,785
Claims priority, application Italy Nov. 14, 1957
2 Claims. (Cl. 18—12)

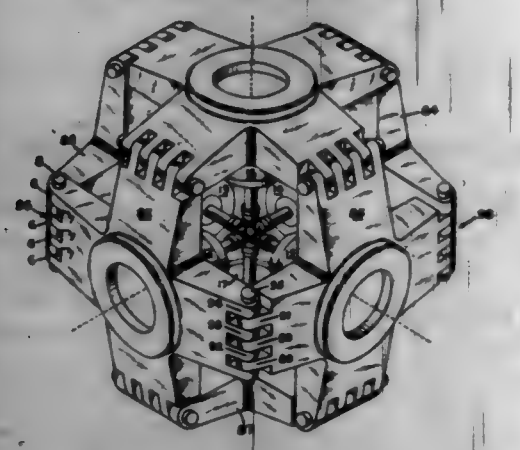
1. A screw press for extruding a homogeneous mass of thermoplastic materials having different characteristics comprising; a rigid casing having a feed inlet at its rear end and an extrusion outlet at its front other end, a pair of parallel screws mounted in said casing adjacent the feed inlet for rotation about their respective

parallel center axes in a direction to carry material from the rear to the front end of said casing, said pair of screws being mounted side by side with their screw threads engaged to compress and thereby break-up, heat and intermix said thermoplastic materials introduced in said feed inlet, a third screw mounted for rotation in said casing parallel to, and partially forward of, said pair of screws, said third screw having a front section adjacent said extrusion outlet and a rear section overlapping the front sections of said pair of screws with the screw



threads of said third screw simultaneously tangent to the screw threads of the overlapped sections of the pair of screws, said overlapping sections providing an area for simultaneously increasing said intermixing and decreasing said compression thereby discontinuing the compressive heating to prevent overheating, evenly distribute the prior heat of compression, homogenize the materials and release gas and vapors formed by the prior heating of said materials, and means for removing said released gas and vapors from said decompression region.

2,968,837
SUPER-HIGH PRESSURE APPARATUS
Alexander Zeitlin, White Plains, N.Y., Harry Herman, Glen Rock, N.J., and Jacob Braymen, Staten Island, N.Y., assignors to Engineering Supervision Company, New York, N.Y., a corporation of New York
Filed Apr. 6, 1959, Ser. No. 804,546
13 Claims. (Cl. 18—16)

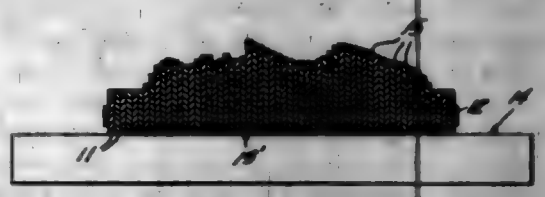


1. In apparatus having a plurality of pressure generating units adapted to exert pressures on a centrally located object, a polyhedral arrangement of crossheads, each crosshead supporting one of said pressure generating units, said crossheads forming an articulated selfaligning polyhedral frame supporting said pressure generating units in mutually spaced relation.

2,968,838
THREE-DIMENSIONAL DIE
Alan A. Hicks, 240 E. 79th St., New York, N.Y.
Filed Jan. 29, 1959, Ser. No. 789,928
7 Claims. (Cl. 18—34)

3. A method for preparing a die adapted to produce a three-dimensional impression on a flat surface comprising binding a plurality of relatively soft wires into a bundle, compressing the bundle to produce contiguous keying surfaces on the wires, shaping one end of the bundle of wires into the desired three-dimensional pattern, and bringing the shaped ends of the wires into coplanar relation.

5. A three-dimensional die comprising a plurality of wires included in a bundle, each having one end shaped with a corresponding portion of an irregular three-dimensional surface, the shape of the end of each wire



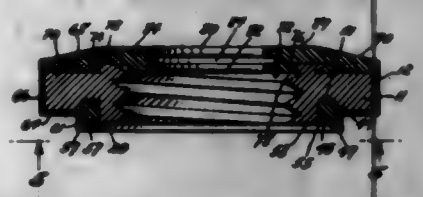
being related to the shape of the ends of the adjacent wires in the bundle in a unique manner so as to produce the impression of an irregular three-dimensional surface, the highest points of all the shaped ends being in coplanar relation.

2,968,839
VALVE STEM ADJUSTER FOR CURING RIM
Elijah T. Nester, P.O. Box 722, Redford, Va.
Filed May 11, 1959, Ser. No. 812,353
4 Claims. (Cl. 18—45)



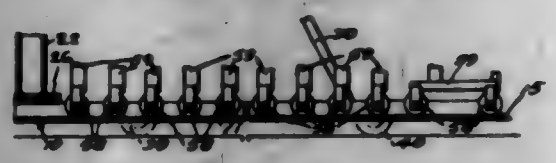
1. A rim construction comprising an arcuate member adapted to be engaged with the surface of an inflatable member having a valve stem projecting therefrom, said member including a longitudinal slot therein, a block movable in said slot, said block having an aperture therein for receiving the valve stem wherein the aperture may be aligned with the valve stem, said block having a plate on the inner surface thereof forming a closure for the slot and engaging the rim member peripherally of the slot.

2,968,840
METHOD OF MOLDING AND BONDING SILICONE RUBBER TO METAL
Milton Morse, Bronx, N.Y.
(252 Hawthorne Ave., Yonkers 3, N.Y.)
Filed Apr. 26, 1957, Ser. No. 655,215
1 Claim. (Cl. 18—59)



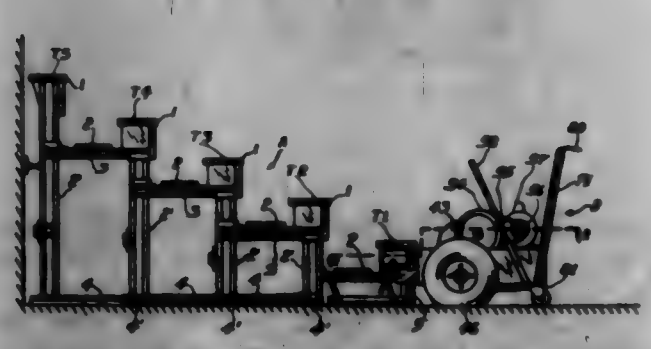
In a method of bonding silicone rubber having therein a substance capable of liberating benzoic acid under curing conditions to the outer surfaces of a metallic sealing device the steps of: (1) forming a groove on the exposed surfaces of said metallic device having a depth of from .01 to 03 inch and a width at the widest portion thereof from .015 to .040 inch; (2) placing said device in a vented injection mold; (3) injecting said silicone rubber into said mold to fill said mold and said groove; (4) curing said silicone rubber for approximately ¼ minute at a temperature ranging from 200 degrees to 260 degrees F. to cause liberated benzoic acid to be vented from the bulk of the silicone rubber, except for that portion thereof disposed in said groove where partial depolymerization is effected, said partial depolymerization forming a tar-like adhesive bonding said last mentioned portion of silicone rubber within said groove to a greater degree than that existing between said metallic device and the remaining portions of said silicone rubber.

2,968,841
MOVABLE FOLDING BLEACHER
Donald E. Vance, Champaign, Ill., assignor to Universal Bleacher Company, Champaign, Ill., a firm composed of Donald E. Vance, Harold C. Vance, C. Marcella Vance, and A. Eleanor Vance
Filed Nov. 19, 1956, Ser. No. 622,943
1 Claim. (Cl. 20—1.126)



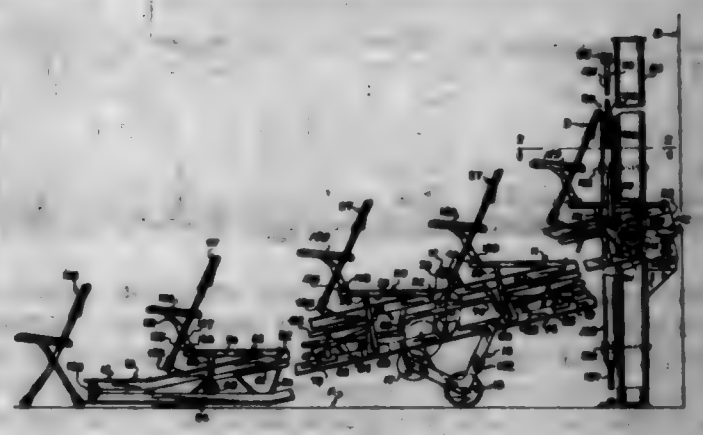
In combination a foldable bleacher of the type having a plurality of uprights and a plurality of wheeled supporting members positioned forwardly therefrom, and a portable support therefor comprising a framework including a plurality of spaced parallel tracks receiving and supporting said wheeled supporting members with said foldable bleacher in folded position, said uprights having their lower ends secured to said tracks at the rear ends thereof, a plurality of caster wheels, and means for elevating said framework and said foldable bleacher in folded position thereon with respect to said caster wheels whereby said framework and said folded bleacher are supported on said caster wheels, said means for elevating said framework comprising a horizontal frame at each end of said framework, a pair of caster wheels supporting each said horizontal frame, a pair of upright parallel cylindrical guides secured to each end of each said frame, guide pins fixed to said framework slidably received in said guides, a transverse plate extending between each pair of guide pins, a hydraulic ram secured at its upper end to each transverse plate, an adjustable screw carried by the othere end of each ram, means mounting each screw on said frame, and an independent hydraulic pump for each pair of rams.

2,968,842
TELESCOPIC BLEACHERS AND MOTORIZED MOVERS THEREFOR
Raymond J. Murphy, Bonne Terre, Mo., assignor to Fred Medart Manufacturing Co., St. Louis, Mo., a corporation of Missouri
Filed May 8, 1957, Ser. No. 657,847
3 Claims. (Cl. 20—1.126)



1. The combination with a telescopic bleacher and a motorized mover adapted to open and close said bleacher, of spaced vertical plates mounted on the bleacher and being provided with aligned vertical slots, a shaft journaled on said bleacher, means for raising and lowering said bleacher operatively connected to said shaft, a ring rigidly mounted on said shaft and extending between the plates, a coupling plate rockably mounted on the mover and being operatively engageable with the ring, a rod rigidly secured to the coupling plate and being slidable within the aligned slots, and means operatively mounted on said mover for rocking said coupling plate whereby to raise and lower the bleacher.

2,968,843
FOLDING BLEACHERS
William G. Fording, 2339 Clague Road, Westlake, Ohio
Filed June 26, 1959, Ser. No. 823,211
4 Claims. (Cl. 20—1.126)



1. In a folding bleacher section adapted to be supported for use on a horizontal floor surface and having a front edge portion adapted to rest on said surface and a rear edge portion adapted to be supported at an elevated position, a first frame having parallel side members and a second frame having parallel side members, hinges on said side members connecting said frames for relative movement thereof between an inclined extended position with the respective side members of said first and scond frames in end-to-end alignment and a folded position with the respective side members in side by side relation, vertical support means having stops for supporting said rear edge portion and including vertically extending guideways, guide roller means on said rear edge portion and cooperatively engaged wth said guideways, biasing means urging said rear edge portion upwardly along said guideways, central support means pivotally connected to said first frame at points spaced from said hinges and including first rollers for engaging said horizontal floor surface beneath said hinges, second rollers on said central support means adapted to engage said second frame at points spaced from said hinges, a plurality of transverse tiers having tread surfaces and extending between the side members of said first and second frames, said tiers being pivotally connected to said frames and forming horizontally extending steps when said frames are in said extended position, said tiers being movable to closed positions lying substantially parallel to said side members when the latter are in said folded position, and tier actuating means for moving said tiers between said horizontal positions and said closed positions in response to said relative movement between said first and second frames about said hinges, said first and second frames adapted when in said folded position to stand vertically adjacent said vertical guide means and supported by said central supporting means with said first and second rollers on said floor surface.

2,968,844
SIDE OPENINGS FOR BOX CARS
Edmund M. Pozmanski, Montreal, Quebec, Canada, assignor to Canadian National Railway Company, Montreal, Quebec, Canada
Filed July 16, 1959, Ser. No. 827,604
Claims priority, application Canada May 29, 1959
9 Claims. (Cl. 20—28)

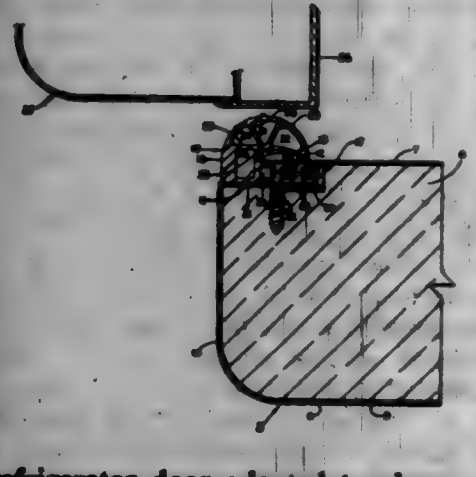
1. In a box car, including a roof and a floor structure and permanent side-wall structures extending from opposite ends for a predetermined distance toward a central side door opening, each permanent side-wall structure including an outer side wall sheeting and an inner lining inwardly spaced from said outer sheeting, said lining terminating short of the inner side margin of the outer sheeting to provide a recess in the inner surface of the

side-wall structure, and a panel pivotally mounted within said recess adjacent the inner side margin of said sheeting of each permanent side-wall structure to swing about a vertical axis, the panel of each side-wall structure being swingable to a position of extension to decrease the side



door opening characterized in that, when both panels on one side of the car are swung to positions of extension, the side door opening is reduced to a standard width, the panel of each side-wall structure also being swingable to lie within said recess to increase the width of the car side door opening.

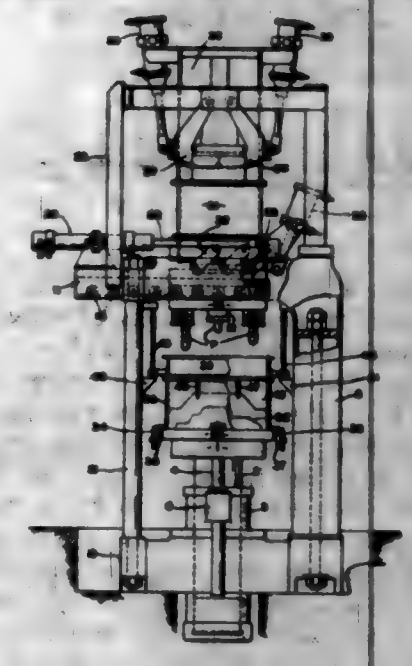
2,968,845
REFRIGERATOR DOOR CONSTRUCTION
Jack R. Dickinson, North Cleveracck, N.Y., assignor to Foster Refrigerator Corporation, Hudson, N.Y., a corporation of New York
Filed May 9, 1958, Ser. No. 734,275
9 Claims. (Cl. 20—35)



1. A refrigerator door adapted to close a door opening in a refrigerator and cooperate with a door frame surrounding the opening to provide a seal comprising an outer shell and an inner liner shaped to form a space therebetween, insulating material in said space, said shell having a flange projecting inwardly from its peripheral edge and said inner liner having a peripheral edge portion overlying the flange on the outer shell, a hollow tubular gasket of a resilient, poor heat-conducting material between the flange on the shell and the inner liner, said hollow tubular gasket having spaced opposed walls engaging the flange of the shell and inner liner, respectively to provide a compressible heat insulating barrier therebetween, and spaced adjustable fastening means acting between the shell and inner liner for holding the parts in assembled relationship and varying the compression of the hollow tubular gasket at different points around the periphery of the door to compensate for any in accuracies between the edge of the door and door frame and insure a seal therebetween.

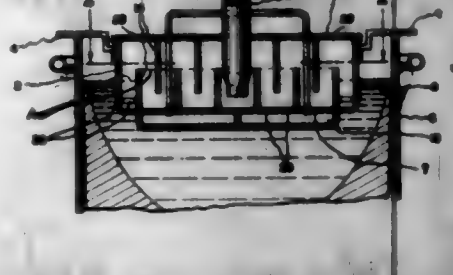
2,968,846
FOUNDRY MOLDING MACHINE
Leon F. Miller, Rocky River, Ohio, assignor to The Osborn Manufacturing Company, Cleveland, Ohio, a corporation of Ohio
Filed Mar. 5, 1958, Ser. No. 719,383
5 Claims. (Cl. 22—42)

1. In a foundry molding machine having a vertically reciprocable squeeze piston, a squeeze head thereabove, a sand filled flask having a pattern positioned therewithin supported on a table carried by said piston, and means operative to reciprocate said piston to elevate said table and flask to squeeze sand in said flask against said squeeze head, said squeeze head comprising a plurality of de-



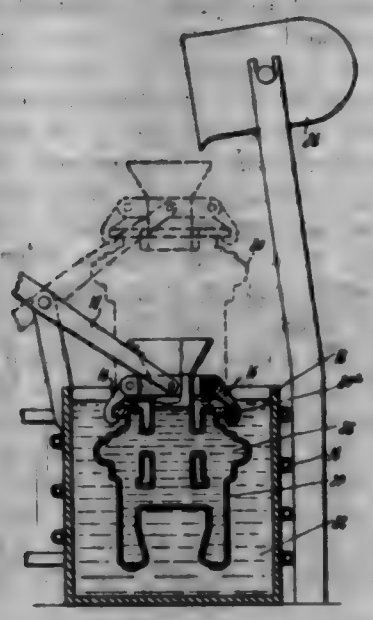
pending squeeze plates, at least one of said squeeze plates having a rigidly internally supported expansible member mounted thereon and adapted to project into said sand filled flask and operative to compact such sand against a selected portion of the pattern face.

2,968,847
SKIMMER APPARATUS FOR FLUXING LIGHT METALS
Werner J. Bergmann, Lower Burrell Township, Westmoreland County, Pa., assignor to Aluminum Company of America, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Jan. 16, 1959, Ser. No. 787,221
6 Claims. (Cl. 22—83)



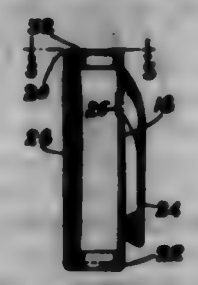
1. A skimmer apparatus for fluxing molten light metals during transfer into a container comprising a skimmer chamber defined by a peripheral wall, floor plate and cover, said peripheral wall having ports in the lower portion thereof spaced from the point of introduction of the metal for discharge of metal after treatment into the container below the surface of the molten metal in the container during operation of the apparatus, said cover having a centrally disposed opening therein for introduction of molten metal; at least one upstanding weir in said chamber spaced between said opening and the said ports in said peripheral wall; means for introducing a fluxing gas into the bottom of said chamber between said opening and said weir through said floor plate; a vent in said top plate for discharge of fluxing gas during operation of the apparatus; and means for supporting said skimmer apparatus in the container during operation thereof.

2,968,848
METHOD OF CASTING REFRACTORY SHELLS
Richard T. Carter, % Hitchiner Manufacturing Co., Milford, N.H.
Filed Jan. 2, 1959, Ser. No. 784,529
4 Claims. (Cl. 22—212)



1. A method of casting of ferrous objects, comprising filling a gas permeable refractory shell mold with molten ferrous metal and while said metal is molten immersing a substantial portion of said filled mold in a bath of molten aluminum below the melting point of the poured ferrous metal.

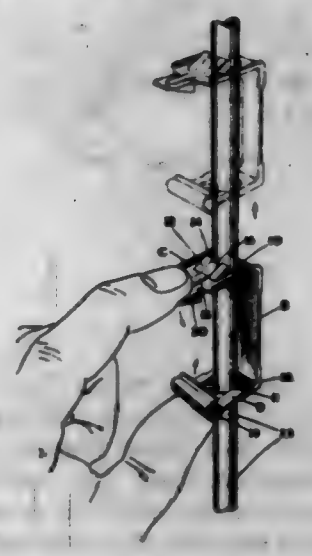
2,968,849
PEN AND PENCIL ATTACHMENT DEVICE
Arthur J. Cain, Rural Rte., New Alexandria, Pa.
Filed June 29, 1956, Ser. No. 594,824
2 Claims. (Cl. 24—11)



1. An attachment device for a writing instrument, such as a pen or pencil, and comprising a sleeve member through which the instrument is adapted to be inserted, said sleeve member having a portion thereof deformed inwardly to an out-of-round shape along a portion of the surface thereof and being of sufficient resiliency to effect frictional engagement between the instrument and the deformed portion of the enclosing sleeve member, a pocket clip carried by said sleeve member, and an out-of-round ring member secured to the upper end of said sleeve member and providing opposed proximate surfaces for additional frictional engagement with an enclosed instrument, and said proximate surfaces of the ring member being circumferentially displaced substantially 90° with respect to the deformed portion of the sleeve member.

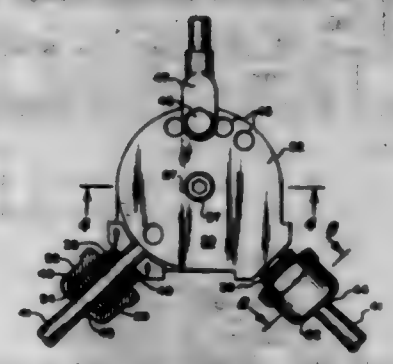
2,968,850
SUPPORTING CLAMPS
George A. Timmerman, 17864 Beach Road, Cleveland 7, Ohio
Filed Mar. 18, 1958, Ser. No. 720,214
2 Claims. (Cl. 24—81)

1. A supporting clamp for securing channel bars on a rod or like element against axial displacement thereon comprising a unit formed from a single piece of spring metal and bent to form a body, and a pair of arms of similar length projecting freely from opposite ends thereof in substantially parallel spaced apart relation to one another, each arm having an orifice therein located adjacent to the body and substantially aligned with one another for passage therethrough of said element, a portion of the metal of each arm bordering a portion of the orifice therein being struck to form adjacent to said orifice a locking lug projecting at an incline outwardly from the arm and in the direction of said body, said lug having a free biting edge, the latter forming one edge of said orifice, said lugs being adapted to engage said



element in biting pressure engagement against axial displacement of said unit on said element, said arms being compressible towards one another for passage of said element through said orifices and releasable to engage said biting edge of said lugs with said element, said arms being normally spaced apart from one another a distance substantially equal to the width of the channel bar to be received thereby, said channel bar when received between and in engagement with said arms forcing said arms to normal position to increase the bite of said lugs on said element, and locking means on the ends of said arms for cooperatively engaging said channel bar therebetween in butting engagement with said element.

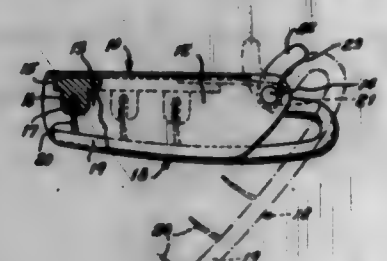
2,968,851
CABLE AND TUBE ANCHOR
Gordon Warren Hardy, 133 K St., Chula Vista, Calif.
Filed Aug. 25, 1958, Ser. No. 757,010
7 Claims. (Cl. 24—135)



1. An anchor for an intermediate section of a cable or tube, comprising two clamping elements forming confronting faces, transversely extending shoulders between the faces and spaced from one another to define with the faces a channel for a cable or tube; a fulcrum on one of the elements for rotatably supporting the other of said elements, the axis of the fulcrum lying perpendicular of the faces, one of said elements having at least one hole, the other of said elements having a plurality

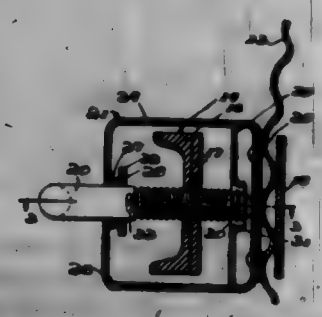
of holes spaced equal distances from the said axis as the hole in the said element and each being registerable with the hole in the said one element for receiving an anchoring pin, each of said elements having an outwardly extending nipple for receiving the cable or tube; and means for drawing the elements toward one another for clamping a cable or tube therebetween.

2,968,852
DIAPER CLIP
Edward R. Moonan, Boonville, N.Y.
Filed Aug. 4, 1958, Ser. No. 753,864
2 Claims. (Cl. 24—160)



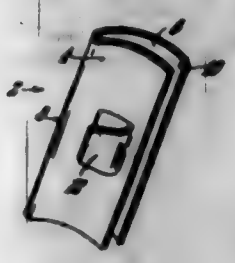
1. A diaper clip comprising an elongated longitudinal shell member having a substantially flat top section and downwardly extending side walls adapted for receiving diaper folds therebetween, said top section having a downwardly extending longitudinal receptacle bar, said bar provided with a plurality of downwardly extending nipples having centrally disposed apertures, a transverse bearing pin at one end of said shell member joining said side walls, a pivotal S-shaped arm member rotatably affixed to said bearing pin and having an elongated longitudinal bottom section movable into said shell member and an upwardly extending lever section disposed above said top section, said bottom arm section having a plurality of upwardly extending pins having a backward curvature, the points of said pins registering with said nipple apertures when said arm is within said shell, whereby said diaper folds are gathered up and firmly retained in said shell by said arm member, and spring means for maintaining said arm within said shell, said side walls having a length and width sufficient to substantially encompass a major portion of said bottom section when said arm is within said shell.

2,968,853
ANCHORING CLAMP
Cornelius J. McKeown, Natick, Mass., assignor to the United States of America as represented by the Secretary of the Army
Filed Apr. 22, 1959, Ser. No. 808,283
2 Claims. (Cl. 24—263)
(Granted under Title 35, U.S. Code (1952), sec. 266)



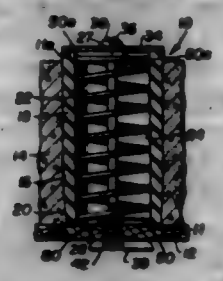
1. Clamping structure comprising elongated rigid legs fixed in opposed spaced relation loosely to receive the part to be clamped therebetween, a pressure pad comprising a substantially rigid body of strap-like metal including at least one pair of opposed generally parallel walls to form the front and rear of said pressure pad, a guide member rigidly fixed to the inner side of the front of said pressure pad, said guide member and the rear of said pressure pad each having an aperture therein of predetermined diameter and the said apertures being axially aligned, a clamping screw including a shank dimensioned to project through said aligned apertures for thereby supporting said pressure pad on said screw and a tip to engage the inner side of the front of said pressure pad, the shank of said screw including a threaded portion threaded through one of the said rigid legs so as to carry the front of said presure pad toward clamping engagement with the part to be clamped upon predetermined rotary movement of said clamping screw, and means detachably mounted on said clamping screw at a point remote from said tip, said means being positioned on said screw to cooperate with the rear of said pressure pad for causing the latter to be retracted when the clamp screw is rotated in the opposite direction and to prevent withdrawal of said screw from aperture in said guide member, the said apertures in said guide member and the rear of said pressure pad being of somewhat larger diameter than the shank of said clamping screw to permit limited universal rocking movement of the pressure pad on said shank during clamping and thereby compensate for irregularities in the surface being clamped.

2,968,854
MEANS FOR AND METHOD OF SECURING THE ENDS OF STRIP MATERIAL TO TUBULAR MEMBERS
Richard L. Panicci, Northampton, Mass., assignor to Hampden Specialty Products, Inc., Easthampton, Mass.
Filed June 27, 1958, Ser. No. 744,981
1 Claim. (Cl. 24—265)



A device for connecting the end of a strip of webbing to a slotted tubular frame member of an article of furniture comprising, an elongated relatively stiff resilient metal clip bent longitudinally on a median line intermediate its opposed longitudinal side edges to form an elongated U in cross section and having resilient, spaced inner and outer leaves capable of receiving and gripping therebetween the end of a strip of webbing, the outer longitudinal edge of the outer leaf extending outwardly beyond and curving inwardly toward the longitudinal edge of the inner leaf to form a lip for impinging and gripping the webbing, the inner leaf having a generally rectangular hook struck up therefrom centrally thereof for insertion in the tubular member to which the webbing is to be connected and extending angularly outwardly away from the longitudinal outer edges of the leaves toward the line of curvature of the leaves, both the inner and outer leaves being concave in transverse cross section, the inner leaf being adapted to embrace the tubular member to which the end of a strip is to be connected with the generally rectangular hook in the slot thereof whereby a strip of webbing having its end clamped between the concave inner and outer leaves may be brought outwardly therefrom around the inwardly extending outer longitudinal lip of the outer leaf in the direction of strain on the strip over the outer leaf so as to be doubled thereby and extend around the tubular member in the direction of the hook.

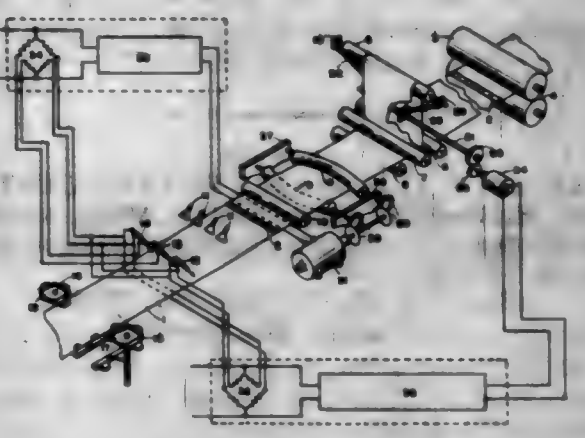
2,968,855
REMOVABLE INSERTS FOR PIPE PASSAGES IN CONCRETE
William J. Stolz, 333 West Ave., Elyria, Ohio
Filed Mar. 24, 1958, Ser. No. 723,306
2 Claims. (Cl. 25—128)



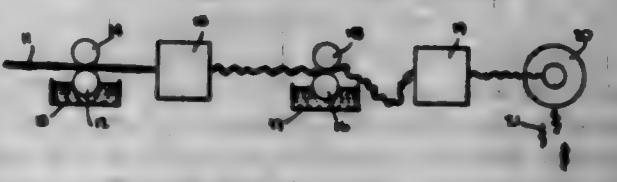
1. A device for forming passages in concrete structure work comprising an elastic sleeve around which concrete may be poured and which thereby forms a passage in the concrete, said sleeve having a first end defined by an annular end wall surface lying in a first plane, said sleeve having a second end defined by an annular end wall surface lying in a second plane, said first and second planes being substantially parallel, a coil spring retaining said sleeve in extended position and fully expanded condition during the pouring and setting of the concrete, said spring having a central longitudinal axis with a spiral configuration therearound defining a cylinder surface corresponding to the interior surface of the sleeve, said spring having first and second end configurations, each end configuration including an outer part disposed in said cylinder surface defined by the spiral configuration, the first end configuration including a first arm part extending generally radially inwardly from the first end outer part and terminating in an end eye loop part circumscribing said axis, the second end configuration including a second arm part extending generally radially inwardly from the second end outer part and terminating in an end eye loop part circumscribing said axis, said first and second end configurations having first and second end wall surfaces respectively, said first end wall surface of said spring first end configuration defining one surface of said first end configuration part and said second end wall surface of said spring second end configuration defining one surface of said second end configuration part such that each of said end wall surfaces of said spring end configuration circumscribes said longitudinal axis, said first end wall surface of said spring first end configuration being disposed in its entirety in the first sleeve end plane, said second end wall surface of said spring second end configuration being disposed in its entirety in the second sleeve end plane, said end configurations serving as an internal expansion end support for the sleeve and as a base for the composite device and means projecting through said end eye loops for expanding the spring against the walls of the sleeve for expanding the sleeve before concrete is poured.

2,968,856
METHOD FOR CONTINUOUSLY STRAIGHTENING SHEET MATERIAL
Eugene M. Allen, Elizabeth, N.J., assignor to American Cyanamid Company, New York, N.Y., a corporation of Maine
Filed Mar. 8, 1957, Ser. No. 644,886
3 Claims. (Cl. 26—51.5)

1. In a method of controlling electrically-operable mechanical means for maintaining the contour of a moving length of web material wherein a plurality of photoelectric detectors are associated with said electrically-operable mechanical means and are adapted to view only a transverse band of said web, the differential output of different photoelectric detectors controlling said electrically-operable mechanical means; the improved method permitting operation when said web carries fluorescent material, said improvement comprising: applying phosphorescent material, other than any luminescent material normally carried by said web, in spaced transverse stripes on said web; illuminating with ultraviolet light substantially only a transverse zone across said web; placing said photoelectric detectors to receive light emitted from any one transverse band containing said phosphorescent material only after said web has been moved through and a predetermined distance beyond said illuminated zone, said predetermined distance being sufficient so that the detectors receive a substantial portion of phosphorescent light emitted from said one transverse stripe which has been but no longer is being illuminated by said ultraviolet light, whereby said photoelectric detectors receive substantially no fluorescent light emitted by said transverse stripe.



2,968,857
HIGH BULK FILAMENTARY MATERIAL AND METHODS OF PRODUCING THE SAME
Jack Swerdloff, Charlotte, N.C., and Ezra B. Larson, Pearisburg, and Adriaan J. Troelenaar, Narrows, Va., assignors to Celanese Corporation of America, New York, N.Y., a corporation of Delaware
Filed July 30, 1957, Ser. No. 675,128
18 Claims. (Cl. 28—72)

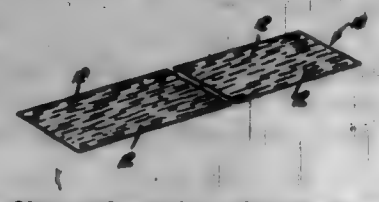


1. The process which comprises subjecting synthetic textile filamentary material of less than about 25 denier to a first crimping operation to impart from about 5 to 8 crimps per inch of an amplitude of 0.5 to 4.0 mm., and subsequently subjecting said material to at least one additional random crimping operation by a stuffing box crimping capable of imparting 5 to 8 crimps per inch of an amplitude of 0.5 to 4.0 mm. to said filamentary material when uncrimped, thereby to impart a three-dimensional random structure of high bulk.

2,968,858
FIBROUS PRODUCTS
Fivel C. Bremner, Highland Park, and Gerald J. Lilein, New Brunswick, N.J., assignors to Johnson & Johnson, a corporation of New Jersey
Filed June 26, 1957, Ser. No. 668,972
6 Claims. (Cl. 28—78)

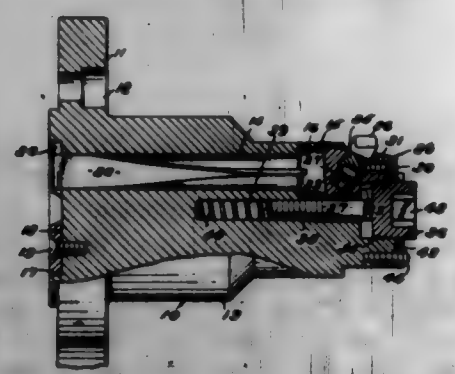
1. As an article of manufacture, a fibrous absorbent product comprising carded, highly crimped staple fibers of regenerated cellulose, said fibers being substantially uniformly arranged in parallelism, the length of said fibers being at least about ½ inch, the denier of said fibers being from about 1 to about 9, and the number of crimps per

inch being greater than 20 times the square root of the reciprocal of the denier, one specific volume of said article



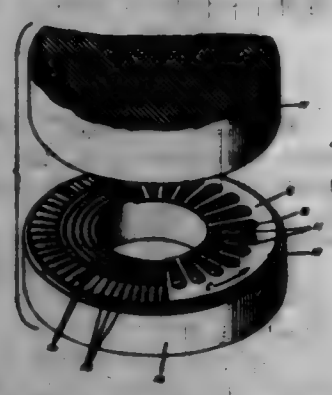
having an interfiber volume in a dry state under a pressure of 0.5 p.s.i. of at least 1.75 cu. in.

2,968,859
RADIALLY ADJUSTABLE ROTARY CUTTER
Donald W. Garnett, Grand Ledge, Mich., assignor to The Olofsson Corporation, Lansing, Mich., a corporation of Michigan
Filed May 26, 1958, Ser. No. 737,863
13 Claims. (Cl. 29—105)



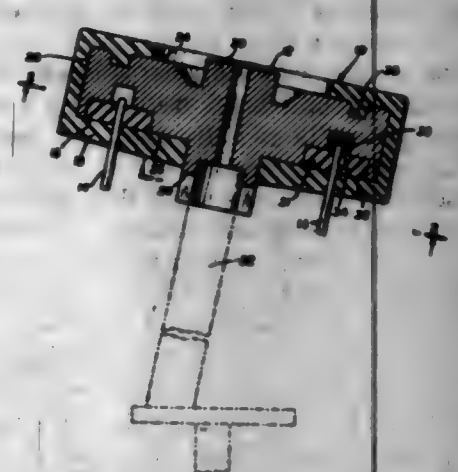
1. An adjustable machine tool cutter comprising an axially disposed body having a cylindrical recess disposed parallel to and radially outwardly of the axis of the body, a tool bit mounting member rotatably mounted in said recess, said mouting member being adapted to have a tool bit secured thereon for adjustment as to its radial distance from the body axis by rotation of said mounting member in said recess, an adjusting actuator threadedly and coaxially engaging said body for axial movement upon rotation of the actuator, said actuator having a conical camming surface concentric with the body axis and said mounting member having a surface in restricted, substantially line contact camming engagement with said actuator surface outwardly of the rotative axis of said member in its recess, and spring means biasing said mounting member in a direction to engage it with said camming surface of said actuator.

2,968,860
METHOD OF OBTAINING SELECTIVE DIRECTIONAL CRITICAL ELONGATION IN SHEET MAGNETIC MATERIAL
Charles E. Morenus, Fort Wayne, Ind., assignor to General Electric Company, a corporation of New York
Filed May 23, 1957, Ser. No. 661,144
2 Claims. (Cl. 29—155.5)



1. The method of obtaining selective directional critical elongation in a sheet of magnetic material having a circumferential yoke portion and radially extending tooth portions comprising the steps of placing the lamination on a support member, moving a die member substantially normal to the plane of said sheet while holding the sheet stationary until said die member engages said sheet with a predetermined compressive force, said die member being formed with a first portion having a substantial plurality of radially extending frustoconical surface segments engaging said circumferential yoke portion of the sheet and being formed with a second portion having a plurality of concentric circumferentially extending surfaces in the form of toroidal segments, said frustoconical surface segments being circumferentially spaced from each other so that said predetermined compressive force causes the underlying part of the circumferential yoke portion between each of said frustoconical surface segments to undergo circumferential critical elongation and said toroidal segments being axially spaced from each other to provide a critical elongation in the underlying part of the tooth portion between each of said toroidal segments when said predetermined compressive force is applied to said sheet.

2,968,861
METHOD OF MANUFACTURING MERCURY COMMUTATION SWITCH
Alfred S. Backus, Passaic, N.J., assignor to Mycalex Corporation of America, Clifton, N.J., a corporation of New York
Filed Aug. 7, 1958, Ser. No. 753,682
3 Claims. (Cl. 29—155.55)



1. The method of manufacturing a mercury commutator, comprising the steps of forming a relatively wide annular groove on a flat surface of a stainless steel plate having two flat surfaces and a peripheral side wall, forming on the inner surface of said relatively wide groove a relatively narrow annular groove, molding an insulating ring of vitreo-micaceous material and having a plurality of equi-spaced contacts with a predetermined spacing therebetween distributed in a circular row with the ends of said contacts extending through said insulating ring so that the ends of said contacts will be exposed beyond opposed surfaces of said insulating ring, said ring being adapted to fill said wide annular groove and said contacts being adapted to extend into said narrow annular groove, disposing said insulating ring in said wide annular groove with said contacts extending into said narrow annular groove, molding vitreo-micaceous material around portions of said flat surfaces and around said peripheral side wall and in surface-to-surface relation with the vitreo-micaceous ring in said wide groove so that the ends of said contacts remain exposed and to secure said insulating ring therein, whereby said insulating ring partially defines an annular channel which is further defined by the portions of said stainless steel plate surrounding said narrow groove, and then introducing and confining a quantity of mercury in said an-

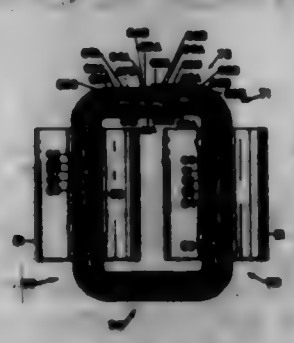
nular channel to have electrical continuity only between said stainless steel plate and said spaced contacts sequentially during movement of said mercury.

2,968,862
METHOD OF MANUFACTURING MAGNETIC CORES

George A. Smith, Pine Bluff, Ark., assignor to Central Transformer Corporation, Pine Bluff, Ark., a corporation of Arkansas

Original application July 25, 1955, Ser. No. 524,849. Divided and this application May 14, 1956, Ser. No. 584,665

2 Claims. (Cl. 29—155.7)



1. A method of fabricating laminated transformer cores to produce cores having overlapped joints in lamination layers and butt joints between adjacent overlapping laminations layers comprising the steps of winding magnetic strip material on a trapezoidal mandrel to form a trapezoidally shaped core winding having a pair of spaced unequal legs joined by a pair of spaced and opposite equal legs in which the length of one of said unequal legs exceeds the length of the other unequal leg in an amount substantially equal to the length of overlap of the respective overlapped joints, annealing said core winding substantially in its wound shape to remove the strains therein, cutting through the longer one of said unequal legs along a line offset to one side of the vertical center line of said longer one of said unequal legs a distance substantially equal to said length of overlap to form a plurality of concentrically stacked discontinuous lamination layers, each having a long free end and a short free end, removing every third lamination layer from said plurality of discontinuous lamination layers, cutting a segment having a length substantially equal to said length of overlap from the long free end of each said third lamination layer, concentrically stacking said discontinuous lamination layers in the same relative position as they were originally stacked and during said stacking reversing a first plurality of alternate said discontinuous lamination layers to form a final core comprising a series of successive pairs of lamination layers respectively having said third laminations interposed between said pairs, each said pair comprising one of a second plurality of said discontinuous lamination layers concentrically stacked with one of said reversed first plurality of discontinuous lamination layers, concurrently with said stacking forming a joint in one of the legs of said core by overlapping the short free ends of said second plurality of discontinuous lamination layers respectively with the long free ends thereof offset to one side of the vertical center line of said one core leg, by overlapping the long free ends of said first plurality of discontinuous lamination layers with the short free ends thereof offset to the other side of the vertical center line of said one core leg, by respectively abutting the short free ends of said first plurality of discontinuous lamination layers with the short free ends of said second plurality of discontinuous lamination layers substantially at the vertical center line of said one core leg, and by respectively abutting one end of said third lamination layers with the long free ends of said first plurality of discontinuous lamination layers and the other end of said third lamination layers with the long free ends of said second plurality of discontinuous lamination layers.

2,968,863
PROCESS OF MAKING PIANO STRING

Robert E. Johnson, 2011 Clybourn Ave., Chicago, Ill.

Original application Mar. 18, 1953, Ser. No. 343,196, now Patent No. 2,746,335, dated May 22, 1956. Divided and this application Jan. 6, 1956, Ser. No. 557,795

4 Claims. (Cl. 29—169.5)



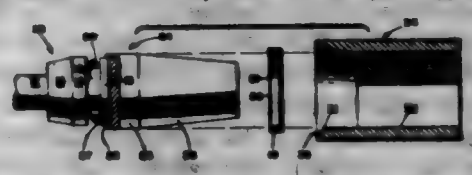
1. The process of forming a piano string which comprises winding a covering wire on a core wire to form a plurality of tightly wound, contiguous turns of said covering wire on said core wire and securing at least one end of said covering wire to said core wire by applying along an end length of said tightly wound covering wire forming a plurality of contiguous turns, forces increasing progressively in pressure to the end thereof to cause the material in said plurality of turns to flow in directions toward said end and to thereby conform said covering wire to said core wire and form a tapered end on said covering wire.

2,968,864
APPARATUS FOR ASSEMBLING RESILIENT SEALS

Luther E. Lee, 6625 Eastern Ave., Takoma Park 12, Md.

Original application Mar. 30, 1956, Ser. No. 575,284, now Patent No. 2,877,970, dated Mar. 10, 1959. Divided and this application Oct. 8, 1958, Ser. No. 766,162

2 Claims. (Cl. 29—235)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. An apparatus for inserting a piston ring composed of polymerized tetra-fluorethylene material into a groove in a piston and for maintaining the piston ring therein for a predetermined period of time, said apparatus comprising a tool member having a tapered piston ring receiving portion and a straight cylindrical piston ring expanding portion at one end of said tapered portion, recess means including a shoulder formed at the terminal end of the cylindrical portion and receiving the piston for supporting the piston, tool member and piston ring in axial alignment, and a tubular tool movable over said tool member and having a tapered bore and a straight cylindrical bore in proximate relation with respect to said straight cylindrical piston ring expanding portion for moving and gradually applying inwardly directed pressure to the piston ring and for maintaining the piston ring within the groove for a predetermined period of time.

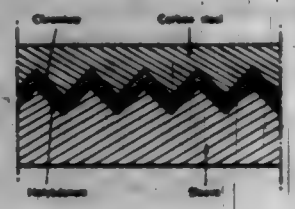
2,968,865
PROCESS FOR BUILDING UP SLEEVES FOR DIESEL AND OTHER ENGINES

Jean Claude Rey, 8 Saint Luce, Lausanne, Switzerland

Filed Mar. 25, 1959, Ser. No. 801,712
Claims priority, application Switzerland May 21, 1958
3 Claims. (Cl. 29—401)

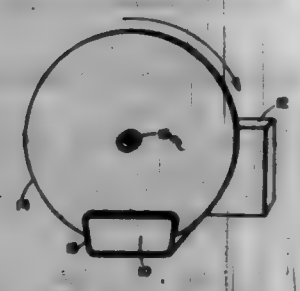
1. A process for building up sleeves for diesel and other internal combustion engines, comprising the steps

of boring out said sleeve, cutting a thread internally of said sleeve, blasting said thread with Carborundum to polish the surface thereof, spraying a first relatively thin layer consisting of molybdenum onto said polished thread, spraying a second relatively thin layer consisting of chromium onto said layer of molybdenum, thereafter



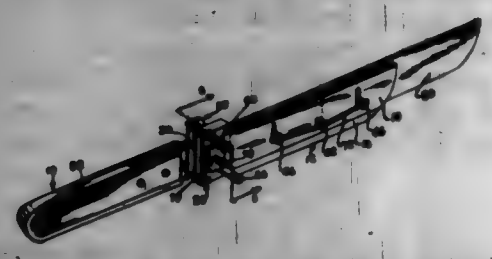
heating the sleeve and said first and second layers to a temperature of approximately 145° C. and spraying a third relatively thick layer consisting of carbon steel onto said layer of chromium whilst said temperature is maintained and to completely fill said thread and build up additional carbon steel for subsequent boring out to a desired diameter.

2,968,866
METHOD OF PRODUCING THIN WAFERS OF SEMICONDUCTOR MATERIALS
Ralph B. Soper, North Weymouth, and James J. Doherty, Dorchester, Mass., assignors, by mesne assignments, to Sylvania Electric Products Inc., Wilmington, Del., a corporation of Delaware
Filed May 21, 1958, Ser. No. 736,911
5 Claims. (Cl. 29—417)



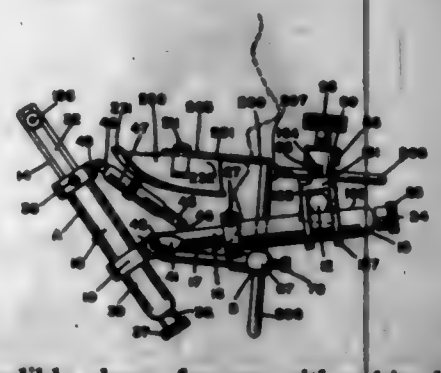
1. The method of producing thin, flat wafers from an ingot of semiconductor material including the steps of coating an ingot with a layer of curable plastic material containing a moisture absorbing constituent, curing said layer of plastic material to a water-insoluble condition in situ on said surface, repeatedly cutting through the coated ingot parallel to an end face of the ingot to separate individual coated wafers from the ingot, exposing the coated wafers to moisture to expand the layer of plastic on each wafer, and subsequently separating the layer of plastic from each wafer.

2,968,867
FOOD SLICING GUIDE DEVICE
Louis B. Wolff, 272 Bradley Ave., Meriden, Conn.
Filed Dec. 21, 1959, Ser. No. 860,906
5 Claims. (Cl. 30—284)



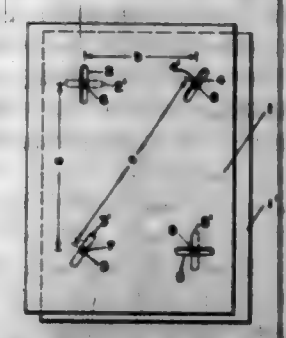
3. A food size-selecting and slicing guide attachment for a kitchen cutting knife having an elongated blade, said attachment comprising a V-shaped sheet metal adapter having means for clamping the adapter to the knife blade, a pair of juxtaposed guide blades, means for holding the blades in juxtaposition as a unit, one of said blades being wider than the other and having one edge normally projecting below the adjacent edge of the other blade, means to allow movement of said wider blade relative to the other blade, means for movably interlocking the blades as a unit to the adapter, and means for moving the blades as a unit toward and away from the blade of the knife.

2,968,868
MANDIBLE CLAMP
Harry L. Page, Valparaiso, Ind., assignor to Transegraph Incorporated, Minneapolis, Minn., a corporation of Minnesota
Filed June 6, 1958, Ser. No. 740,290
10 Claims. (Cl. 32—19)



1. A mandible clamp for use with a bite block having a base plate and a penetrable body attached thereto, said mandible clamp comprising a frame having a portion adapted to contact the body, when the clamp is in use with the bite block having the penetrable body a prong carried by and issuing outwardly from said portion of the frame and adapted to be embedded in the body, and a swinging hook connected to said frame and having another prong adapted to be embedded in the body and forming an angle with said first named prong.

2,968,869
PREPARATION OF MAPS
Marvin B. Scher, Silver Spring, Md., assignor to the United States of America as represented by the Secretary of the Interior
Filed Nov. 30, 1956, Ser. No. 625,557
6 Claims. (Cl. 33—1)
(Granted under Title 35, U.S. Code (1952), sec. 266)

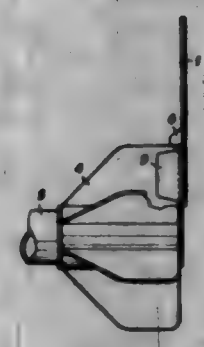


1. A stereotemplet representative of a map area, said stereotemplet consisting of a first templet element having therein a perforation defining a reference point at one corner of the optical model of said area and a plurality of slots defining other reference points including the other corners of said optical model, said slots radially aligned with said perforation, a second templet element having therein a perforation defining a reference point at one of said other corners and a plurality of slots defining the remainder of said reference points, said slots being radially aligned with said perforation, stud means slidably mounted in the said slots for conjoining said first and second elements in superimposed relationship, the superimposed slots intersecting at substantially right angles.

2,968,870
SIGHTING DEVICE FOR RIFLE GRENADES AND THE LIKE

Edgar William Brandt, Geneva, Switzerland, assignor to Anstalt für die Entwicklung von Erfindungen und Gewerblichen Anwendungen Energa, Vaduz, Liechtenstein

Filed Feb. 16, 1959, Ser. No. 793,464
Claims priority, application Switzerland Feb. 20, 1958
5 Claims. (Cl. 33—47)

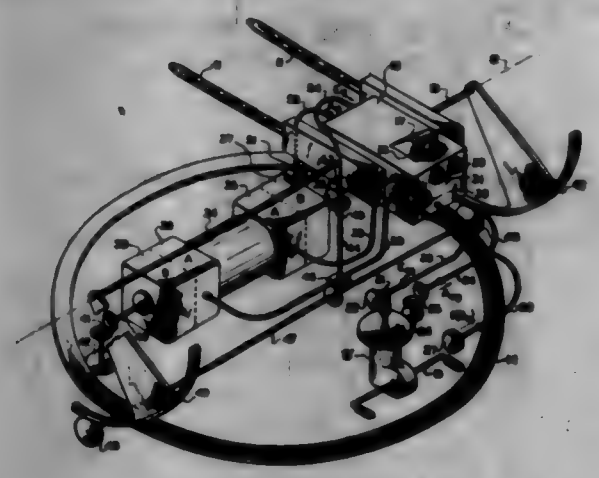


5. A sighting device for a rifle grenade and the like having a recessed tail comprising a sighting member having length and diameter less than the recess of the grenade tail in which it is stored, said member having means for temporary attachment on the rear of the grenade.

2,968,871
STABILIZED COMPUTING GUN SIGHT

Edmund B. Hammond, Jr., Brooklyn, N.Y., assignor to Sperry Rand Corporation, a corporation of Delaware

Filed Mar. 25, 1943, Ser. No. 480,572
12 Claims. (Cl. 33—49)

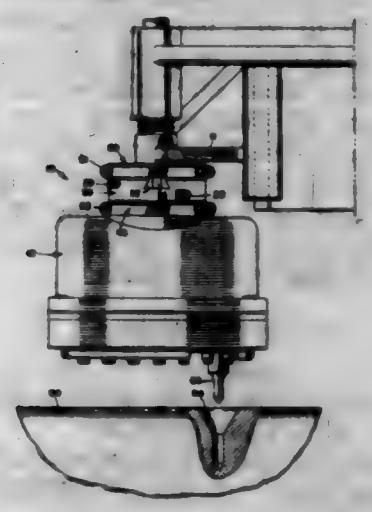


1. A computing gun sight comprising, a sighting device mounted on and adapted to be moved with a gun, said sighting device having an optical axis defining a line of sight to a target, a stabilizing gyroscope, servo follow-up means controlled by said gyroscope for maintaining the orientation of said gun coincident with the spin axis of said gyroscope, adjustable control means for applying precessing torques to said gyroscope to angularly position said spin axis in space at an adjustable rate, means providing a measure of the range to said target, a first computing mechanism controlled by said range means for deriving a measure of the projectile time of flight, a second computing mechanism controlled by the output of said first computing mechanism and the control means for computing the lead angle required between said gun orientation and said optical axis for effective gun fire, means automatically operated by the output of said second computing means for angularly offsetting said optical axis with respect to said gun orientation by an amount corresponding to said lead angle, and means interposed between said second computing mechanism and said offsetting means for automatically delaying the application of said angular offset, said delaying means comprising a variable speed device having a disc, ball carriage and cylinder, an equating differential, the output of which is connected to actuate said ball carriage, one input of which is driven in accordance with said computed lead angle and the other input of which is connected to said cylinder which is also connected operatively to the means for offsetting the optical axis, and means for actuating said disc at a rate corresponding inversely to said time of flight whereby said cylinder is displaced by an amount corresponding to said computed lead angle but delayed in time in accordance with time of flight.

2,968,872
AUTOMATIC ALIGNMENT HEAD

William A. M. Welles, Silver Spring, Md., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Dec. 15, 1958, Ser. No. 780,645
3 Claims. (Cl. 33—180)



1. An alignment head operably connected to a support means in a manner to permit limited radial movement between said head and said support and comprising a first member rigidly secured to said support, a second member rigidly secured to said alignment head, a third member interposed between said first and second members, first means connecting said first member and said third member in a manner to limit the relative movement therebetween to a first direction, second means connecting said second member and said third member in a manner to limit relative movement therebetween to a second direction perpendicular to said first direction, third means restricting said relative movement in said first direction within predetermined limits, fourth means restricting said movement in said second direction within predetermined limits, and fifth means for resiliently opposing said relative movements.

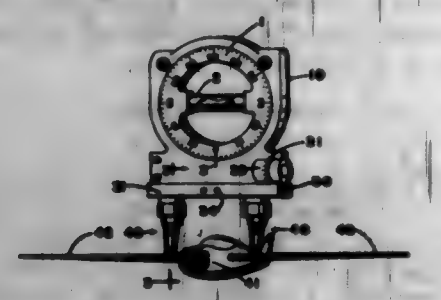
2,968,873
CLINOMETER ASSEMBLY

Oscar C. Holderer, Rte. 3, Box 112, Huntsville, Ala.

Filed July 18, 1958, Ser. No. 749,568
10 Claims. (Cl. 33—207)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A clinometer assembly, adapted for the measurement of inclinations of objects of various shapes, comprising: a composite frame having an upper portion with a flat bottom surface, and an elongated base-rail portion that is detachably fastened to said bottom surface and is shaped to form a downwardly opening recess, extending thruout the length of said base-rail portion, and to form inwardly directed flanges on each side of the bottom of said recess, a surface of said recess being adapted for inclination-measuring contact with a datum entity

of a selective one of said objects, said composite frame further comprising mechanism detachably and adjustably mounted within said recess and on said flanges and means for adjusting said mechanism on and removably attaching it to said base-rail portion; a level-indicating device adjustably mounted on and supported wholly by said upper portion; actuating means mounted on and supported wholly by said upper portion, connected with said level-indicating device, for adjustment of said device into a horizontal position; and means, connected

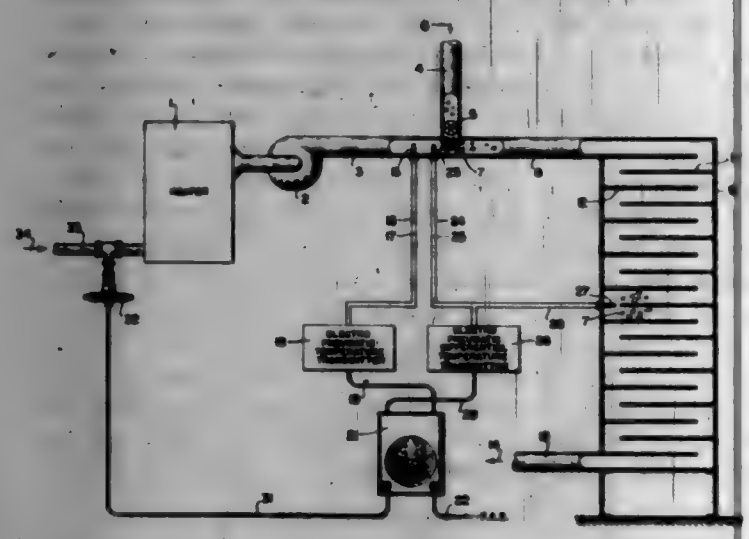


with said actuating means, for indicating inclination after said adjustment of said device; whereby: when said mechanism is fixed to said base-rail portion, the entire assembly may be used to measure inclination on one type of said objects; when said mechanism is detached, the remaining part of said assembly may be used to measure inclination on another type of said objects; and when said base portion is detached from said upper portion, said upper portion, level indicating device and inclination-indicating means may be used to measure inclination on a third type of said objects.

2,968,874
TEMPERATURE CONTROL APPARATUS FOR COTTON DRIERS

Ralph E. Fishburn, Oreland, Pa., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware

Filed Mar. 26, 1957, Ser. No. 648,601
3 Claims. (Cl. 34—48)

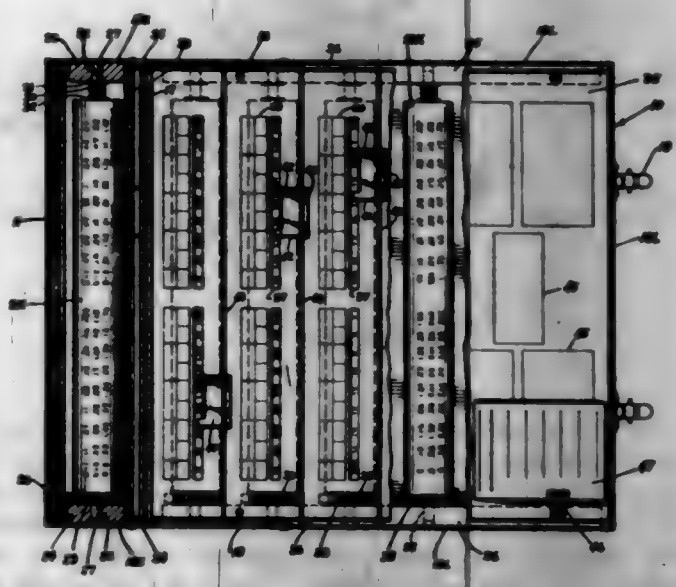


1. In an apparatus for drying seed cotton which comprises, a seed cotton drying tower, an inlet duct communicating with said drying tower, a cotton supply duct communicating with said inlet duct, means for introducing air into said inlet duct upstream of said supply duct, means for heating said air before introduction into said inlet duct, and outlet means for removing air and cotton from said drying tower, the improvement which comprises a control apparatus to vary the temperature of heated air flowing from said heating means into the seed cotton passing through said tower by way of said inlet duct in accordance with the quantity and the moisture content of said seed cotton flowing therethrough, said control apparatus being comprised of a first intermediate temperature responsive means having a first sensing means located within said inlet duct upstream of said cotton supply duct to sense the temperature of the heated air flowing from said air heating means into said inlet duct, said first responsive means being responsive to changes occurring in said temperature being sensed by said first sensing means to produce a first output signal whose magnitude is proportional to this temperature, a second intermediate temperature responsive means having a second and third sensing means respectively located within said inlet duct upstream of said supply duct and within said tower at substantially the mid-point portion thereof to jointly sense the difference between the temperature of said heated air flowing into said inlet duct and the temperature of the cotton passing through said portion located at substantially the mid-point of said tower, said second intermediate responsive means being operably responsive to changes in temperature being sensed by said second and third sensing means to produce a second output control signal that is proportional to the magnitude of the temperature difference that exists between said last two mentioned temperatures, said apparatus further comprising a control means for said heating means responsive to the magnitude of said first output control signal to maintain a predetermined inlet air temperature and reset by said second mentioned output control signal to increase said inlet air temperature in accordance with an increase in said temperature difference, and to decrease said inlet air temperature in accordance with a decrease in said temperature difference.

2,968,875
DEVICE FOR COMPARING DATA WITH STANDARD INFORMATION

James R. McDougall, Minneapolis, Minn., assignor to Nutrena Mills, Inc., Minneapolis, Minn., a corporation of Kansas

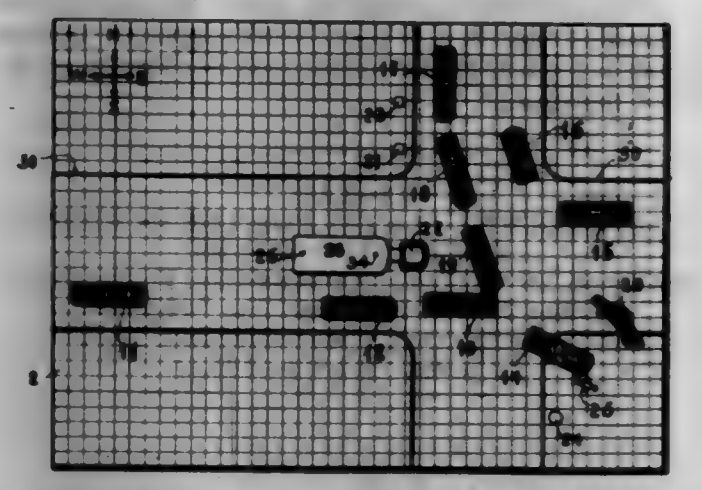
Filed Feb. 28, 1958, Ser. No. 718,289
5 Claims. (Cl. 35—1)



1. A portable manually operable calculator comprising in combination a carrying case having top and bottom sections of substantially equal volume hinged together along one adjacent edge, each of said carrying case sections housings a plurality of rollers journalled for rotation, said rollers being supported with their axes parallel on axial shafts extending beyond the end of said rollers and journalled in parallel mounting bars disposed at opposite ends of said rollers on the inside surfaces of the side walls of said carrying case sections, a manually operable disc on each of said rollers for rotating said rollers independently of one another, said disc being of greater diameter than said rollers and co-axial therewith, friction means for retarding the free rotation of said rollers, in-

formational indicia on the surfaces of said rollers, cover panel means overlying said rollers and supported upon said parallel mounting bars, viewing slots in said panel means adjacent each of said rollers to permit viewing of the indicia thereon, informational headings on the exposed surfaces of said panel means adjacent said slots identifying the indicia viewable through the slots from the rollers below, cursor means provided for at least some of said viewing slots to facilitate viewing of indicia therethrough, each of said cursor means at least partially overlying one of the viewing slots and having an open viewing area of length substantially less than the length of said viewing slots, guide means for said cursor parallel to and spaced from said viewing slots, friction means on said cursors for retarding the free longitudinal movement of said cursors along the guide means adjacent their respective viewing slots, and other slots in said panel means overlying said manually operable discs on each of said rollers whereby a portion of the periphery of said disc extends through said slots.

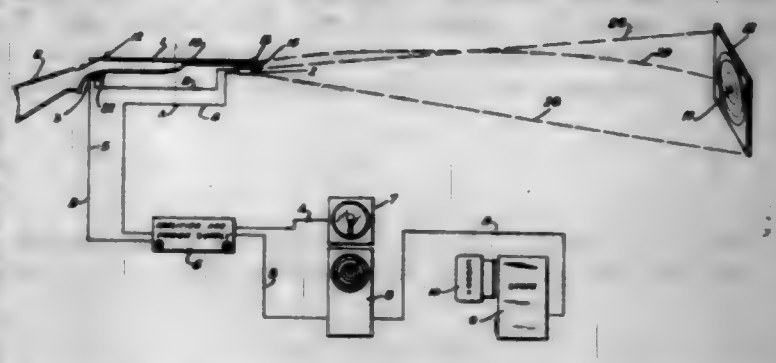
2,968,876
METHOD AND APPARATUS FOR DISPLAYING CONDITIONS OF VEHICLE TRAFFIC AND ACCIDENTS INCIDENTAL THERETO
Joseph J. McIntosh, 30 S. Court House Ave., Carlisle, Pa.
Filed May 2, 1957, Ser. No. 656,620
3 Claims. (Cl. 35—7)



2. A vehicle replica for reproducing in similitude on the surface of a display board of ferrous material the position of a vehicle under conditions of accident, which comprises a vehicle replica in overturned position and terminating in a plane surface adapted to establish surface to surface contact with the surface of the display board, a permanent magnet embedded wholly within the replica and terminating coplanar with the surface thereof and a continuous sketching edge projecting laterally beyond the sides of the replica and extending peripherally of the junction of the edge of the surface of the overturned position of the replica and in magnetic surface contact with the surface of the display board.

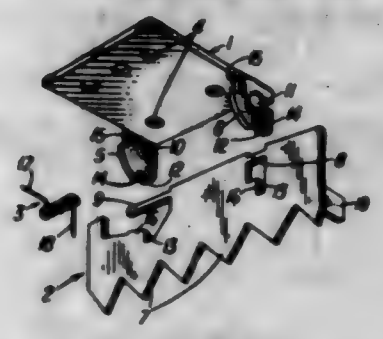
2,968,877
MARKSMANSHIP TRAINER AND RECORDER
Harold Becher, Brooklyn, N.Y., assignor to Strato-Missiles, Inc., New York, N.Y., a corporation of Delaware
Filed July 14, 1955, Ser. No. 521,959
4 Claims. (Cl. 35—25)

1. In a marksmanship trainer and recorder, in combination, a firearm having a barrel, a trigger, a front and rear sight mounted on said barrel, means for indicating the position of penetration of a missile fired from said firearm into a stationary target relative to the bull's eye of said target, said means comprising a television camera tube positioned on said barrel with the axis of said camera tube parallel to the common axis of said front and rear sights, for receiving an image of the bull's eye of said target at the instant of squeezing the trigger of said firearm when said firearm is aimed at said target, means disposed in said camera tube to invert said image by rotation



through one hundred and eighty degrees, a television receiving tube connected electrically to said camera tube to receive said inverted image and show it on the field of view of said receiving tube, said field having marked centrally and on substantially its full area a simulated reproduction of said target.

2,968,878
ANTI-SLIP DEVICE FOR BOOTS AND SHOES
James A. King, 11 East Drive, Watford, England
Filed May 14, 1959, Ser. No. 813,303
Claims priority, application Great Britain May 31, 1958
5 Claims. (Cl. 36—61)

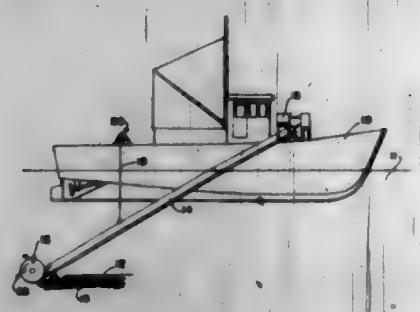


1. An anti-slip device for boots and shoes comprising a base member adapted to be fixed to the footwear at a position in front of the heel thereof, and a spiked plate having spikes or projections at one edge and hinged to said base member adjacent an opposite edge so as to be movable to an operative position in which the spikes or projections will engage the ground or to an inoperative position in which the spikes or projections are received into the free space beneath the instep of the footwear, said spiked plate having cut-out portions so shaped as to form aligned hinge pins out of the material of the plate that engage in bearing holes provided for them in lugs projecting from the base member, the said plate also having shoulders that can be engaged with notches provided for them in the lugs by sliding the plate in the direction of the axis of the hinge pins to lock the plate in the operative position, the sliding movement of the plate being controlled by a spring which constantly tends to move the plate in the direction to engage the shoulders with the notches.

2,968,879
MECHANICAL HARVESTING DEVICE FOR CULTIVATED OR REEF OYSTERS
Edward J. Rusich, 430 Mehle Ave., Arabi, La.
Filed Jan. 26, 1959, Ser. No. 789,022
6 Claims. (Cl. 37—55)

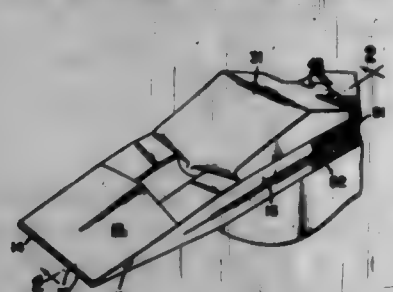
1. An oyster harvester for ready installation on the hull of a vessel comprising an elongated tube having a screw conveyor journaled longitudinally therein, mount-

ing means on said tube for positioning it on the hull of a vessel, power means connected to said screw conveyor for rotating the same about its longitudinal axis, a second elongated tube in angular communicating relation to said first mentioned tube, a second screw conveyor journaled in said second tube and having an axis of rotation in spaced intersecting relation to the longitudinal axis of said first screw conveyor, said screw conveyors being drivingly connected, said second elongated tube including



upwardly opening slot means, a power driven rake journaled on said second elongated tube and drivingly connected to the screw conveyor therein, said rake including radially disposed elongated digging members in spaced parallel relation to the axis of rotation of the screw conveyor in said second tube for depositing material into said slot means in response to simultaneous rotation of the second screw conveyor by the screw conveyor in said first tube.

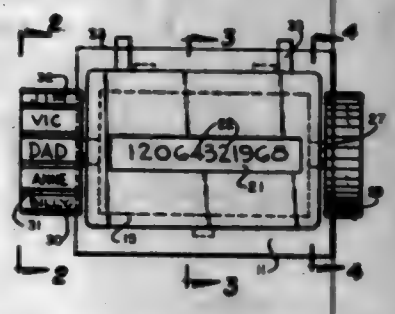
2,968,880
REVERSIBLE TOOTH HAVING RESILIENT RETAINING MEANS
Gerald A. M. Petersen, 406 Kifer Road, Santa Clara, Calif.
Filed Feb. 20, 1959, Ser. No. 794,544
20 Claims. (Cl. 37—142)



1. In combination in an earth-digging tool, a tooth formed of a unitary piece of hard material with a tapered distal portion and a proximal portion having top and bottom faces and formed with a substantially rectangular longitudinal slot extending forwardly from the proximal end of said tooth to divide said proximal portion into two prongs, said slot forming substantially parallel longitudinal walls transverse to said top and bottom faces; and a shank formed with a recess to receive said prongs, said shank having a web extending through said recess, said web being formed with a hole transverse to said walls; and a resilient insert extending through said hole and projecting beyond said hole, said insert being jammed between at least one said wall and said web to frictionally restrain withdrawal of said tooth from said shank.

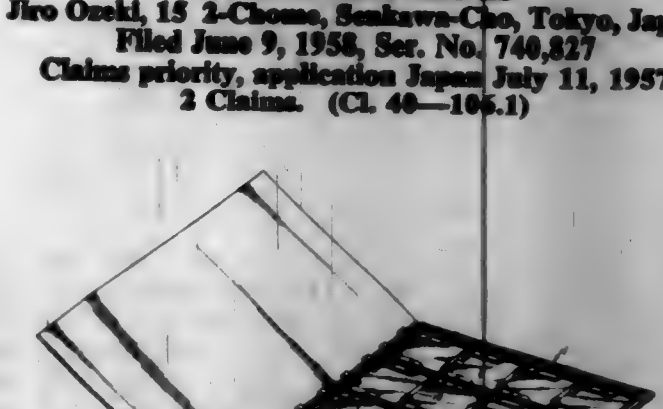
2,968,881
NUMBER FINDER AND TELEPHONE RECEIVER MINDER
George F. Evans, 649 Washington Ave. NE., Warren, Ohio
Filed Jan. 5, 1960, Ser. No. 561
1 Claim. (Cl. 40—68)

A telephone number reference device, comprising, a wall plate for securing to a wall surface, a casing removably secured to the wall plate to project outwardly therefrom, a slot formed longitudinally through a forwardly extending portion of the casing, a drum mounted longitudinally beneath the slot and within the casing and supported on a shaft rotatably mounted in aligned holes formed in each end of the casing, slots formed in each end of the casing communicating with the aligned holes and terminating at said wall plate, said shaft having flattened portions at each end adapted to slidably pass through the slots and into the aligned holes for rotation therewithin, a disc having a series of flattened sections



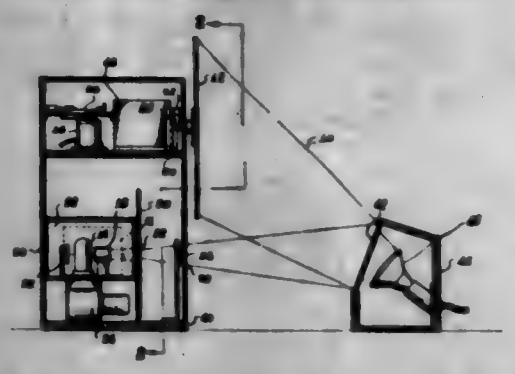
around the periphery for marking with identifications, said disc concentrically mounted on one end of the shaft in a fixed relationship therewith, a knurled disc mounted on the other end of the shaft outwardly of the casing for revolving the drum within the casing, said drum being surrounded by a disposable paper collar adapted for the recording of telephone numbers thereon in alignment with the identifications marked on the flattened sections of the first mentioned disc, said telephone numbers adapted for visual alignment through the slot upon rotation of the drum.

2,968,882
TRANSLUCENT PLATES FOR USE IN FILING COLOR FILM SLIDES
Jiro Ozeki, 15 2-Chome, Senkawa-Cho, Tokyo, Japan
Filed June 9, 1958, Ser. No. 740,827
Claims priority, application Japan July 11, 1957
2 Claims. (Cl. 40—106.1)



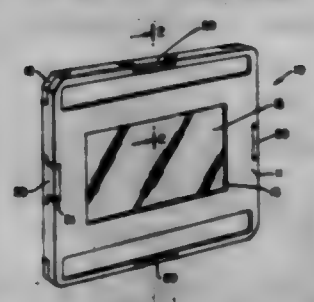
1. A self-supporting unitary plate for holding and viewing photographic slides comprising a sheet of translucent plastic material having a number of rectangular depressions therein spaced apart in lateral and longitudinal relationship, each of said depressions being adapted to hold a photographic slide, each depression having a substantially flat bottom and being surrounded by two side walls and a first and a second end wall, each of said side walls having a projection thereon adjacent the second end wall in parallel spaced relation to said flat bottom, said projections and said second end wall providing a retaining means for a slide, said first end wall being inclined to said flat bottom to facilitate insertion and removal of a slide, and said second end wall being provided with an intermediate opening to allow a fingertip to be inserted therein to remove a slide from the retaining means.

2,968,883
DISPLAY APPARATUS
John T. Jones, 5304 Brittain St., Long Beach, Calif.
Filed Feb. 18, 1957, Ser. No. 640,643
7 Claims. (Cl. 40—130)



1. A display apparatus, comprising: a source of intermittent light; a display pattern; means for rotating said display pattern; means for illuminating substantially said entire display pattern with said intermittent light; means for varying the relationship between the rate of rotation of said display pattern and the rate of occurrence of said intermittent light; and programming means to sequentially vary the mode of operation of said apparatus in a predetermined manner.

2,968,884
FILM MOUNT
Frank J. Anastasio, Brooklyn, N.Y., Bordj C. Kalustyan, Bergenfield, N.J., and Richard H. Rasnecker, Jamaica, N.Y., assignors to Sandak, Inc., New York, N.Y., a corporation of New York
Filed Aug. 25, 1958, Ser. No. 756,780
5 Claims. (Cl. 40—152)



1. A film mount comprising a pair of thin frame members adapted to clamp therebetween a film section, each frame member having a central aperture and a surrounding recessed area, a plurality of bosses spaced about the outer marginal portion of each frame member and extending outwardly therefrom, a plurality of grooves spaced about the outer marginal portions of each frame member with the grooves on one frame alternately spaced from the grooves on said other frame member whereby when the frame members are placed into contacting relationship the bosses on each frame interlock with the grooves on the opposite frame, and wherein said boss and groove portions on each frame member are contiguous around the marginal portion of each frame thereby imparting added rigidity thereto, said frame members and the recessed areas surrounding the central aperture in each frame member being of unequal thicknesses and the bosses on each frame being equal in height to the thickness of the other frame.

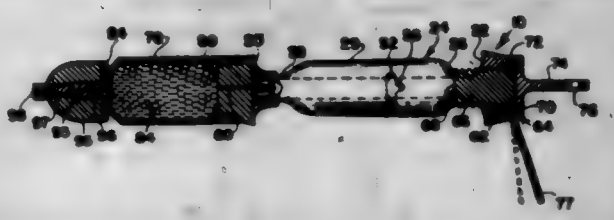
2,968,885
DECORATIVE ARTICLE AND METHOD OF PRODUCING THE SAME
Nora Mae Hebb, 895 S. Orange Ave., Bartow, Fla.
Filed Feb. 11, 1959, Ser. No. 792,510
5 Claims. (Cl. 41—13)

1. A decorative inflated article formed from a dried and reshaped water hyacinth stem, said stem comprising a skin defining an envelope impervious to air having an open end and a mass of air cells contained within said skin, means closing and sealing said open end of the



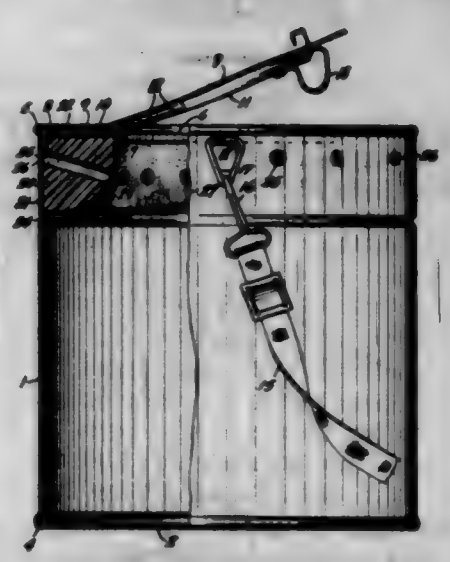
reshaped stem to prevent escape of air from the inflated decorative article, and a coating completely enclosing and sealing said article.

2,968,886
FISHING LURE
Stephen Cotroumpas, 44 Marie Drive, Huntington, N.Y.
Filed Nov. 25, 1957, Ser. No. 698,454
7 Claims. (Cl. 43—42.06)



1. A fishing lure comprising a lure body cooperable to be suspended in the water and having a discharge duct therein and receptacle means united with said lure body having means for communicating with said discharge duct and containing fish chum material and a pressurized fluid which is gaseous under atmospheric pressure arranged so as to cause the discharge of chum material and gas through said discharge duct, and an adjustable valve being provided for said discharge duct whereby the rate of discharge of said fish chum material and gas may be regulated.

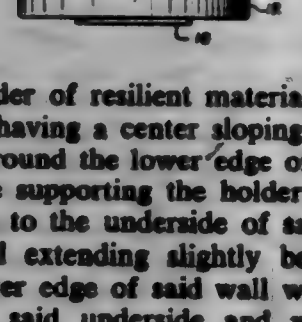
2,968,887
ONE PIECE FLOATING BAIT BUCKET
Richard G. Woolworth, Lancaster, Pa., assignor to Old Pal, Incorporated, Lititz, Pa., a corporation of Pennsylvania
Filed Aug. 14, 1957, Ser. No. 678,071
3 Claims. (Cl. 43—56)



1. A floating bait bucket comprising a substantially cylindrical side wall having an inner face, a top with a lower face and a restricted central opening and a bottom joined to said side wall, a foraminous cover for said opening, a ring of cellular buoyant material surrounding said opening and fixed in position against the

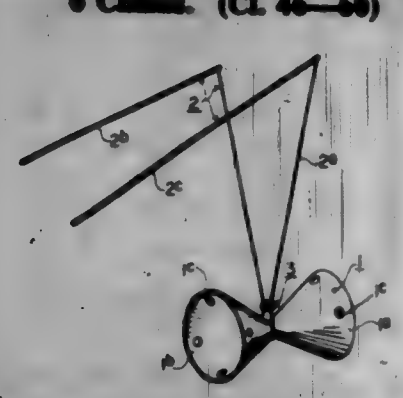
lower face of said top and the inner face of the adjacent portion of said side wall, said ring having a buoyancy slightly greater than the weight of the bucket so that when the bucket is in water and full of water it will float with the top near the water surface, and a plurality of circumferentially spaced passages extending from the interior of the bucket through said ring and the surrounding portion of the side wall and opening to the exterior of the bucket near to but spaced from the top so that the outer ends of said passages are below the water surface when said bucket is floating in water, the bottom and the portion of the side wall below said ring being imperforate and water-tight, said passageways being inclined upwardly and radially outwardly to inhibit water sloshing out through said passages when the bucket is being carried, while permitting the circulation of air into and out of said bucket and the circulation of water into and out of said bucket when said bucket is floating in water.

2,968,888
UTILITY HOLDER
John E. Borah, South Bend Modern Molding, Inc., 815 Mishawaka Ave., Mishawaka, Ind.
Filed Aug. 12, 1957, Ser. No. 677,426
7 Claims. (Cl. 45—28)



1. A utility holder of resilient material, comprising a disc shaped body having a center sloping upper surface, an annular wall around the lower edge of said body for engaging a surface supporting the holder, a suction cup integrally attached to the underside of said body at the center thereof and extending slightly below the plane formed by the lower edge of said wall when in its non-gripping position, said underside and wall defining a chamber on the lower side of said body, an upstanding flange around the upper edge of said body, a plurality of equally spaced posts disposed near said flange, a plurality of relatively small upright fingers on said upper surface arranged in two rows intersecting at right angles at the center of said upper surface, a dome shaped protrusion on the upper surface of said body directly above said suction cup, and a port connecting the lowest point on said upper surface with said chamber.

2,968,889
RETAINING MEANS FOR DIABLO TOY
Raymond R. Polinkoff, 1109 N. 1st St., Boonville, Ind.
Filed July 27, 1959, Ser. No. 829,735
6 Claims. (Cl. 46—60)



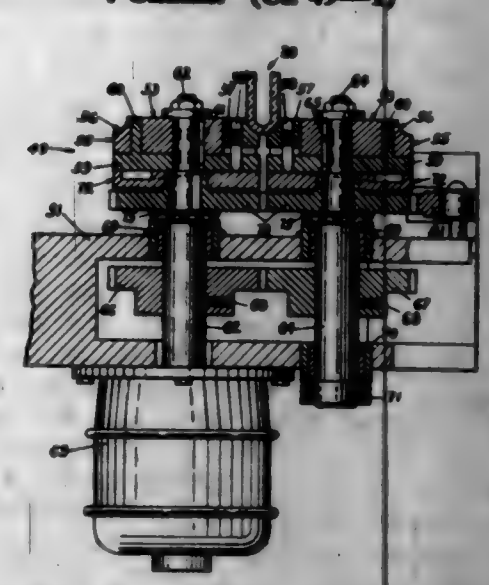
1. The improvement in a diablo toy including a top having an annular groove and including string means for supporting the top at said groove, said improvement comprising retaining means in the form of a closed band surrounding the portions of the string above the top and limiting separation between said portions to a distance no greater than the diameter of the groove.

2,968,890
METHOD OF USING A MUSICAL TOY
Daniele De Nisco, 73 Bleeker St., Brooklyn, N.Y.
Filed Apr. 29, 1958, Ser. No. 731,675
1 Claim. (Cl. 46—179)



The method of using a musical toy including an elongated hollow tube having first and second ends and having first and second openings into but not transversely through the tube for passage of air disposed to permit air entering one of the openings to pass lengthwise of the tube and out the other opening, and air-operated sound producing means disposed within said tube intermediate said openings and in the path of the air passing between said openings which comprises the steps of: 1. Manually grasping said tube nearer one end than the other in such manner as to leave said openings uncovered; 2. Swinging said tube through an arcuate path of motion substantially perpendicular to the principal axis of said tube whereby one of said afore-mentioned ends moves translationally at a greater velocity than the other of said ends, whereby a partial vacuum is created within said tube tending to draw air through the slower moving of said openings past said sound producing means.

2,968,891
APPARATUS FOR SEALING MULTIPLE SHEET GLAZING UNITS
Harry N. Dean, Waterville, Ohio, assignor to Libbey-Owens-Ford Glass Company, Toledo, Ohio, a corporation of Ohio
Filed Oct. 1, 1956, Ser. No. 613,331
4 Claims. (Cl. 49—1)



1. Apparatus for producing all-glass multiple sheet glazing units, comprising means for supporting a pair of glass sheets in fixed spaced face-to-face parallel relation with repect to one another, means for moving said sheet supporting means rectilinearly along a definite path through a sealing furnace, heating means for raising the temperature of the marginal edge portions of said sheets to a pliable condition, means adjacent said rectilinear path for sealing portions of the marginal edge portions of

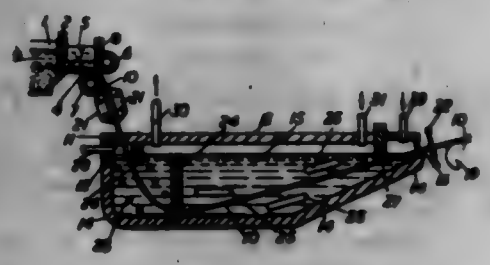
the sheets together as they move along said rectilinear path to form edge walls while leaving other portions of said marginal edge portions unsealed to form an opening, said sealing means including a pair of rotatable forming wheels located in the path of movement of said glass sheets, and means for rotating the forming wheels in the direction of movement of the glass sheets, the peripheries of said forming wheels being disposed relative to one another to provide a restricted passage for receiving the heated marginal edge portions therebetween, the peripheral surfaces of the forming wheels having concavedly shaped portions for engaging the edge portions and shaping them into fusion contact with one another, each forming wheel having a recessed area in said peripheral surface, a segment received in the recess of each forming wheel and having an outer surface forming a sector of said peripheral surface of said forming wheel, means for normally maintaining each segment in its respective recess to complete the periphery of the respective forming wheel, and means actuating the maintaining means to lower the segment in its recess to interrupt the periphery of each forming wheel whereby the marginal edge portions will not be pressed into fusion contact with one another by the interrupted sector of said forming wheel.

2,968,892

MANUFACTURE OF FLAT GLASS IN CONTINUOUS RIBBON FORM

Lionel Alexander Bethune Pilkington, Rainhill, England, assignor to Pilkington Brothers Limited, Liverpool, England, a corporation of Great Britain

Filed Oct. 16, 1956, Ser. No. 616,200
Claims priority, application Great Britain Oct. 18, 1955
4 Claims. (Cl. 49—3)



1. In an apparatus for manufacturing transparent flat glass in continuous ribbon form, the combination with means for preforming a ribbon of glass to definite dimensions of width and thickness, and means for cooling the ribbon to an extent sufficient to make it stiff enough to stabilize its dimensions while it retains sufficient plasticity to allow the ribbon to be bent, of a covered tank structure containing a bath of molten metal and having an inlet to and an exit from the bath, said inlet being disposed in operative relation with the ribbon preforming means and the ribbon cooling means so that the preformed stiffened ribbon may be directed through said inlet to intersect the surface of the bath and be submerged therein until it leaves the bath, means for pulling the ribbon in its bent condition through the bath up and through said exit, the bath having an entry zone for the preformed stiffened ribbon defined by a partition across the tank structure and terminating above the bottom of the tank to permit the bent ribbon to pass thereunder, heaters disposed in said entry zone to maintain the molten metal at a temperature such that it is hot relatively to the entering preformed stiffened ribbon to effect melting of both surfaces of the ribbon as the latter in its submerged condition passes through said entry zone, and thermal regulators in the bath between said partition and said ribbon exit whereby the melted surfaces of the ribbon while it is still submerged are progressively stiffened and a fire finish on both surfaces obtained before the ribbon intersects the surface of the bath in emerging therefrom.

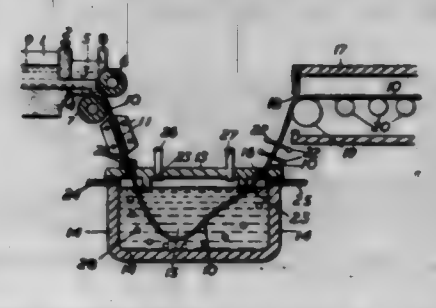
3. A method of manufacturing transparent flat glass in continuous form, which comprises the steps of preforming a ribbon of glass to definite dimensions of width and thickness, cooling the ribbon to an extent sufficient to make it stiff enough to stabilize its dimensions while it retains sufficient pliability to be bent, thereafter continuously directing the preformed stiffened ribbon downwardly into and through an entry zone of a bath of molten metal and then redirecting it upwardly through and out of an exit zone of said bath, maintaining the ribbon completely immersed in the bath from the time it enters the bath until it leaves the bath, maintaining in the entry zone of the bath a temperature which is high relatively to that of the entering preformed stiffened ribbon so as thereby to melt both surfaces of the ribbon as it passes in its immersed condition through said entry zone, maintaining in the exit zone of the bath a temperature gradient such that the ribbon while passing through the exit zone is cooled until the ribbon is stiffened before it leaves the bath to permit passage from the bath to a lehr, and then directing the stiffened ribbon into the lehr where it is annealed.

2,968,893

MANUFACTURE OF FLAT GLASS IN CONTINUOUS RIBBON FORM

Lionel Alexander Bethune Pilkington, Rainhill, England, assignor to Pilkington Brothers Limited, Liverpool, England, a corporation of Great Britain

Filed Oct. 16, 1956, Ser. No. 616,207
Claims priority, application Great Britain Oct. 18, 1955
3 Claims. (Cl. 49—3)



1. In an apparatus for manufacturing transparent flat glass in continuous ribbon form, the combination with means for preforming a ribbon of glass to definite dimensions of width and thickness, means for cooling the ribbon to an extent sufficient to make it stiff enough to stabilize its dimensions while it retains sufficient pliability to be bent, and a lehr wherein said ribbon is annealed, of a covered tank structure containing a bath of molten metal, and including an inlet passageway and an outlet passageway, means for continuously directing the preformed stiffened ribbon through said inlet passageway and downwardly into said bath to completely submerge the ribbon therein and for continuously redirecting the submerged ribbon upwardly and then out through said outlet passageway while maintaining the ribbon after emerging from said bath out of contact with said bath and thermal regulators for the bath whereby the bath is maintained hot relatively to the entering preformed stiffened ribbon, the tank structure being arranged so that the lines of intersection of the ribbon and the bath surfaces are spaced apart to predetermine the period of immersion of a bight of the preformed stiffened ribbon in the bath such that the surfaces only of the submerged bight are melted by the heat in the bath as the ribbon passes through said bath, means for dissipating the heat from the ribbon surfaces by heat exchange with a gaseous medium to sufficiently cool and stiffen at least one melted surface of the ribbon after it has emerged from the bath to permit the ribbon to be advanced therefrom without damage, and means for then directing the cooled ribbon into the lehr in which the flat glass thus produced is annealed.

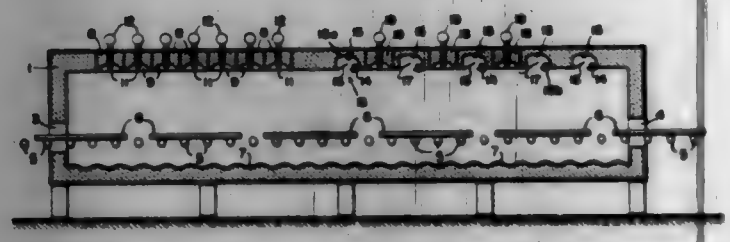
2. A method of manufacturing transparent flat glass in continuous ribbon form, which comprises the steps of preforming a ribbon of glass to definite dimensions of width and thickness, cooling the ribbon to an extent sufficient to make it stiff enough to stabilize its dimensions while it retains sufficient plability to be bent, thereafter directing the preformed stiffened ribbon downwardly into a confined bath of molten metal and then redirecting it upwardly out of said bath by causing the ribbon to intersect the surface of the bath as it enters and leaves the bath, respectively, and thus producing a resilient bend in the ribbon between its lines of intersection with the bath surface, the temperature of the bath and the period of complete immersion of the ribbon in the bath being such that sufficient heat is imparted by the bath to the ribbon to cause a superficial melting of both surfaces thereof, then after the ribbon has emerged from the bath dissipating heat from the ribbon surfaces by radiation and by heat exchange with a gaseous medium to sufficiently cool and stiffen at least one melted surface of the ribbon after it has emerged from the bath to permit the ribbon to be advanced therefrom without damage, and then directing the cooled ribbon to a lehr in which the flat glass thus produced is annealed.

2,968,894

ANNEALING LEHR

Frederic O. Hess, Philadelphia, Pa., assignor to Selas Corporation of America, Philadelphia, Pa., a corporation of Pennsylvania

Filed Mar. 4, 1955, Ser. No. 492,134
4 Claims. (Cl. 49—47)



1. In a furnace, structure forming an elongated chamber having an entrance, an exit and a roof, a conveyor extending through said chamber below said roof and upon which work to be heat treated is carried, heating means in said chamber adjacent to the entrance to heat work on said conveyor, a plurality of tubes in said roof and extending at spaced positions across said chamber adjacent to its exit, each of said tubes adapted to have a cooling fluid flowing through it, and means cooperating with each tube having baffle portions in front of said tubes to protect said tubes from direct radiation of heat from work on said conveyor, and having reflector portions in said roof to direct radiant heat emanating from work on said conveyor to said tubes.

2,968,895

METHOD OF MANUFACTURING A DOUBLE SHEET GLAZING UNIT

Georg Kilian and Franz Mainz, Witten (Ruhr), Germany, assignors to Libbey-Owens-Ford Glass Company, Toledo, Ohio, a corporation of Ohio

Filed July 27, 1956, Ser. No. 600,533
Claims priority, application Germany July 30, 1955
8 Claims. (Cl. 49—82)

1. A method of producing double walled glazing units from substantially rectangular hard sheets of glass, comprising supporting pairs of said glass sheets arranged in face-to-face and spaced relationship in a vertical position, moving said pairs of sheets in a horizontal direction parallel to their face plane, applying heat to the upper and lower horizontal marginal edge portions of the so-supported pairs of sheets during movement thereof to soften said marginal edge portions, applying pressure against the outer sides of the softened marginal edge portions of said pairs of sheets also during movement of the sheets to thereby press said marginal edge portions together and fuse them to one another, discontinuing said horizontal movement of said pairs of sheets after said upper and



lower marginal edge portions have become fused together, and applying heat and then pressure against the outer sides of the vertically extending marginal edge portions of said pairs of sheets to fuse said vertical marginal edge portions to one another while said pairs of sheets remain stationary.

ERRATUM

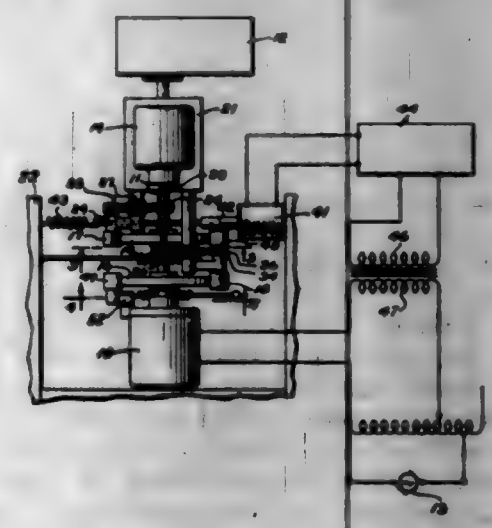
For Class 50—16 see:
Patent No. 2,969,027

2,968,896

METHOD AND APPARATUS FOR GRINDING CAMS

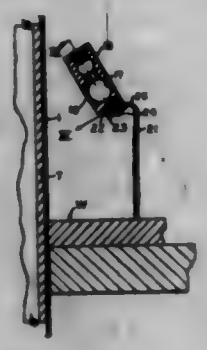
Donald R. MacFarlane, Indianapolis, Ind., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Filed Mar. 9, 1959, Ser. No. 798,258
12 Claims. (Cl. 51—105)



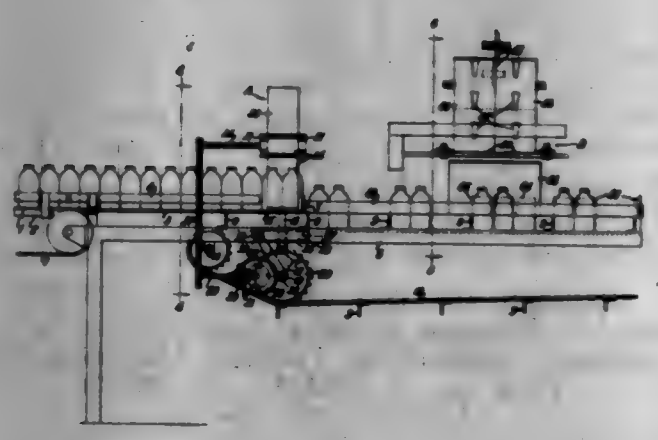
6. An apparatus for cutting a cam in accordance with a varying condition, which comprises means for rotating a cam blank, a cutting device mounted for movement toward and away from the cam blank, means responsive to the varying condition for accordingly moving said cutting device, and means responsive to the instantaneous contour of said cam blank being cut for modulating said varying condition so that, as the cutting of the cam blank progresses, the variation in the condition approaches zero.

2,968,897
MACHINE TOOL
Lee C. Hammond, Kalamazoo, Mich., assignor to Hammond Machinery Builders, Inc., Kalamazoo, Mich., a corporation of Michigan
Filed May 7, 1959, Ser. No. 811,783
5 Claims. (Cl. 51—263)



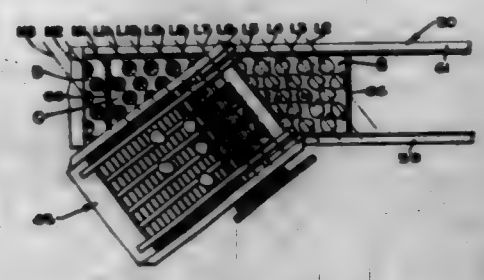
5. A grinding machine comprising a subetantially vertically arranged, movable abrasive belt; a work support located adjacent a course of said belt; a conduit mounted above said work support for directing liquid against said course of said belt; a flexible sheet supported along the upper end thereof adjacent said conduit and extending downwardly substantially to said work support in front of said course of said belt, the lower end of said sheet being free to flex toward said belt whereby a workpiece supported on said work support may be moved into engagement with said course of said belt and the lower end of said sheet will flex to the extent required to permit such movement, said sheet serving as a splash shield to confine the liquid in the zone between said course of said belt and said sheet.

2,968,898
PACKAGING METHOD AND APPARATUS
Robert J. Hickin, Seville, Ohio, assignor to Packaging Corporation of America, a corporation of Delaware
Filed Dec. 10, 1958, Ser. No. 779,483
13 Claims. (Cl. 53—26)



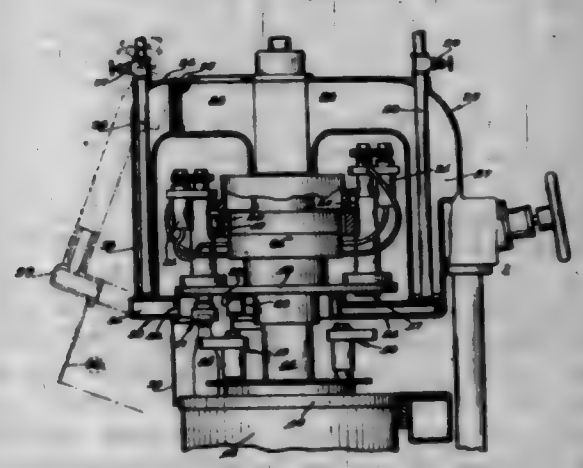
1. The method of handling a supply of similar articles for packaging in complements of predetermined multiples, which comprises the steps of feeding a plurality of the articles in an arrangement with their respective ends similarly oriented, collecting and guiding the thus fed articles in at least two files while supported at a predetermined level to a transfer station, at said transfer station transferring a selected number of said articles from each of the individual files laterally of the direction of feed in such files and to a different level, advancing the transferred articles at said last-named level and causing them to form a group, and following such grouping advancing the articles in groups to a packaging station.

2,968,899
METHOD OF AND APPARATUS FOR PACKING ARTICLES ON TRAYS
Jack H. Holmes, Yakima, Wash., assignor to Food Machinery and Chemical Corporation, San Jose, Calif., a corporation of Delaware
Filed Mar. 17, 1959, Ser. No. 799,985
29 Claims. (Cl. 53—35)



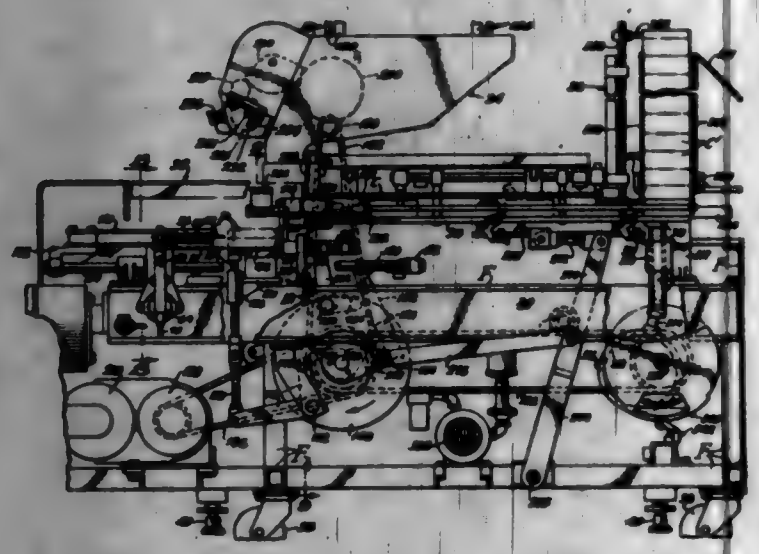
1. A method of packing articles on a tray having parallel rows of article-receiving recesses with the recesses of adjacent rows forming diagonal lines of recesses, said method comprising the steps of positioning a first line of articles above the tray at an angle relative to the parallel rows of recesses and in registry with recesses of one of said diagonal lines of recesses, depositing the line of articles into the recesses of said one diagonal line in registry therewith, positioning a new line of articles in the positions formerly occupied by said first line of articles, moving said tray in a direction perpendicular to said parallel rows and for a distance sufficient to bring the next adjacent diagonal line of recesses beneath said new line of articles, and depositing said new line of articles therein.

2,968,900
CONTAINER CLOSING APPARATUS
Olav Bjering, Toledo, Ohio, assignor to Owens-Illinois Glass Company, a corporation of Ohio
Filed Oct. 11, 1957, Ser. No. 689,731
5 Claims. (Cl. 53—112)



1. In container closing apparatus, means for carrying upright filled open top containers and closure caps thereabove along a circular horizontal path with the caps and containers spaced apart, means for effecting relative vertical movement of the caps and containers to seal the latter, means for introducing steam or an inert gas into the space between the caps and containers just prior to sealing of the latter, the last named means comprising a fixed distributor between said path and the axis about which the latter extends, a movable substantially semicircular distributor radially outward of and coaxial with said path and opposite the fixed distributor and means individual to the distributors for supplying steam or inert gas to the latter.

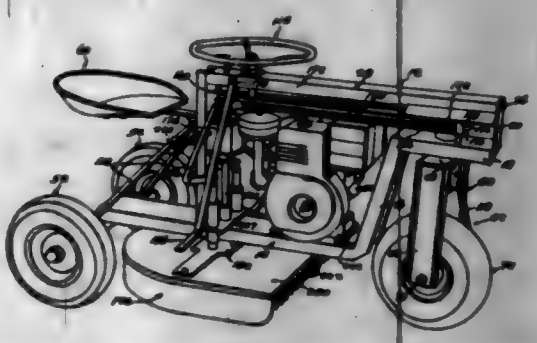
2,968,901
CARTONER
Bertil Johnson, Anderson, Ind., assignor to Lynch Corporation, Anderson, Ind., a corporation of Indiana
Filed Nov. 16, 1959, Ser. No. 853,129
24 Claims. (Cl. 53—230)



1. In a cartoning machine of the character disclosed, an in-feed conveyor, a dead plate onto which said conveyor delivers articles of product to be cartoned, a collector plate adapted to receive a number of articles from said dead plate, a collected product pusher adapted to coact with the articles on said collector plate and push them therefrom, a collected product elevator onto which said collected product pushes the articles, a product stop ahead of said elevator in the lower position thereof, a pre-break horn ahead of said elevator in the upper position thereof, means for delivering a carton blank having certain flaps thereof glued to a position in front of said collected product elevator, a cartoning pusher for pushing the product from said collected product elevator in the elevated position thereof into said pre-break horn, carton breakers between which said cartoning pusher pushes the carton and the product, said pre-break horn moving with the product to pre-break the carton, tab and flap tuckers ahead of said carton breakers for tucking tabs and flaps of the carton as said cartoning pusher pushes the product and carton past them to a predetermined station in the cartoner, tab tuckers at said station movable inwardly toward each other for tucking further tabs of the carton behind the product, reciprocably mounted pusher dogs biased upwardly and depressible by engagement with the carton as the dogs reciprocate in one direction, said dogs upon reciprocating in the opposite direction engaging another flap of the carton and tucking it, said dogs also moving the carton to a further station in the cartoner, an elevator at said last station for elevating the partially cartoned product, a vertically elongated carton compression chamber into which said elevator pushes the partially cartoned product, the sides of said chamber tucking the remaining flaps of said carton which are glued and holding them in tucked position while the glue sets, and means for removing the topmost carton from the stack of cartons being elevated through said compression chamber each cycle of operation of the cartoner and discharging it therefrom.

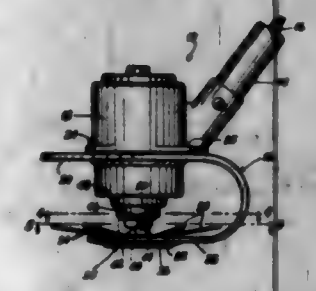
2,968,902
RIDER STEERED POWER GRASS AND WEED CUTTER
Harry H. Brown, R.F.D. 3, Box 18A, Lake City, Fla.
Filed Oct. 3, 1958, Ser. No. 765,150
5 Claims. (Cl. 56—25.4)

1. In a rider steered power driven mower, a frame having rear supporting wheels and at least one driving wheel supporting the front of said frame, a first vertically-disposed driven shaft extending through said frame intermediate the ends and having the lower end portion beneath said frame, a horizontally-disposed cutter positioned beneath said frame and drivingly connected to the lower end portion of said shaft, a fork including a head plate and a pair of arms depending therefrom, said driving wheel being disposed between the arms and rotatably



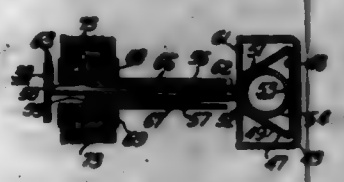
supported in said arms, a vertical sleeve rising from said head plate and journaled in said frame, steering means operatively connected to said sleeve, a second vertically-disposed driven shaft extending through said sleeve, drive connections between said second shaft and said driving wheel, and driving connections between said first and second driven shafts.

2,968,903
LAWN EDGE TRIMMER
Elmer G. Kesling, 5 Scarsdale Lane, Richmond Heights 17, Mo.
Filed Dec. 4, 1958, Ser. No. 778,168
7 Claims. (Cl. 56—25.4)



1. In combination with a lawn edge trimmer including a motor housing, a rotor shaft depending therefrom, and a rotary blade secured to said shaft, of a bracket secured to said motor housing including a lower arm beneath said blade, and a freely rotatable guard and grass lifting plate mounted in said lower arm underneath and extending beyond said rotary blade.

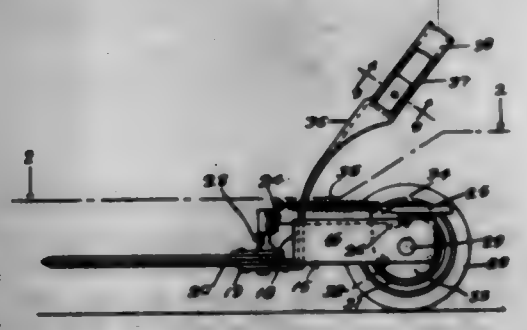
2,968,904
COTTON SPINDLE DRIVING ASSEMBLY
Rector C. Ferguson, Gadsden, Ala., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Aug. 11, 1952, Ser. No. 303,776
7 Claims. (Cl. 56—42)



1. For use in a cotton harvester of the type including means mounting a series of spindles presenting picking portions and pairs of spaced opposed cylindrical drive portions, a pair of opposed spindle drive tracks mounted between said spaced opposed drive portions, a drive track biasing assembly comprising an elongated open ended hollow spring retainer coextensive with said drive tracks and having a triangular cross sectional configuration

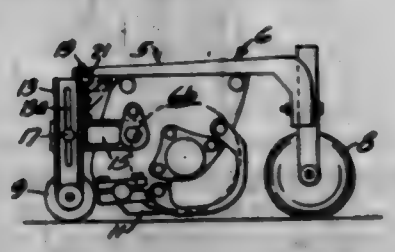
formed by a base portion and converging opposite sides terminating in apex edges spaced apart to provide therebetween a continuous slot disposed opposite said base portion, and a series of springs each having a pair of diverging drive track engaging leg portions extending outward from a common apex portion, said apex portion being dimensioned for and inserted longitudinally within said retainer with said leg portions extending outward through said slot, said side and base portions of said retainer having interior wall surfaces disposed in contiguous confining relation to said apex portions thereby preventing the latter from moving outward through said slot.

2,968,905
WHEEL OPERATED GRASS SHEARS
Levi Woolf, 587 W. Georgia Ave., Sebring, Ohio
Filed July 7, 1959, Ser. No. 825,481
2 Claims. (Cl. 56—248)



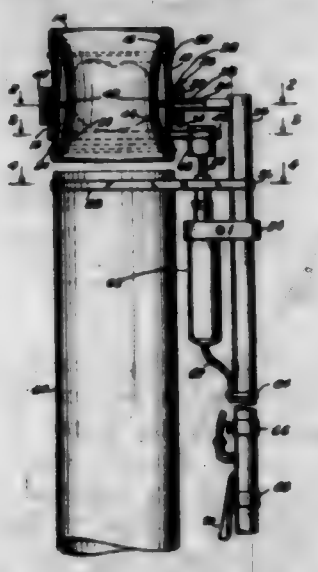
1. A wheel supported grass shears comprising a frame, a wheel mounted at the rear of said frame having a hub, a circular plate secured on said hub, a plurality of spaced cam rollers extending laterally from said plate, a stationary blade and a cooperating pivoted blade projecting forwardly from said frame, a cam bar mounted for horizontal sliding movement on said frame, a lever plate secured to said pivoted blade, a stud rising from said lever plate, a strap loosely encircling said stud connected to one end of said cam bar, connecting said stud and cam bar, a depending lug on the other end of said cam bar engageable with said cam rollers as said wheel rotates, moving said pivoted blade with respect to the stationary blade in a cutting operation, and a coiled spring operatively associated with said cam bar and said stud normally biasing said pivoted blade to an open position.

2,968,906
LAWN MOWER ROLLER AND SUPPORT
Charles E. Grimes, Minneapolis, Minn., assignor to Toro Manufacturing Corporation, Minneapolis, Minn., a corporation of Minnesota
Filed Sept. 8, 1958, Ser. No. 759,494
3 Claims. (Cl. 56—249)



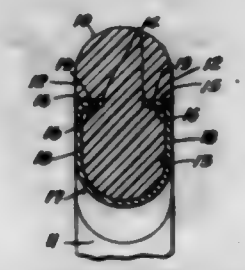
1. A ground roller mechanism adapted for use with a reel type lawn mower, said mechanism comprising a wheeled frame, a pair of spaced mounting brackets, each of said brackets including a rearwardly extending portion pivotally mounted to one side of said frame and a downwardly extending portion, a roller rotatably mounted on said second support members, and resilient means extending between said frame and said mounting brackets continuously urging said roller downwardly, said resilient means and said mounting brackets co-operatively permitting said roller to rise and fall relative to said frame to thereby reduce bouncing of said frame and the mower cutting mechanism as the mower traverses the ground.

2,968,907
PNEUMATIC FRUIT PICKER
Louis L. Bernheim, 2660 Mira Vista Drive, Richmond, Calif., and George M. Harris, 2320 Arlington Blvd., El Cerrito, Calif.
Filed May 18, 1959, Ser. No. 813,982
4 Claims. (Cl. 56—332)



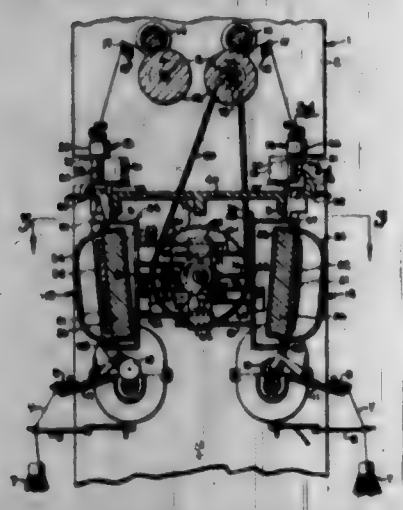
1. An automatic picker for fruit or the like comprising in combination: a head; a distensible member mounted on said head and cooperating therewith to define an expansible chamber; an assembly operatively connected to said head, said head being rotatably mounted by said assembly; said head having at least one aperture therein in communication with said chamber to permit the passage of fluid under pressure and permit the chamber to be inflated so that the fruit is adapted to be gripped by said liner; and means operatively associated with said head and liner to rotate same, such that the fruit is twisted free from its mounting structure upon being gripped by said liner.

2,968,908
TRAVELER WITH FACING SHELL OF WEAR RESISTANT MATERIAL
Louis H. Morin, Bronx, N.Y., assignor to Coats & Clark Inc., New York, N.Y., a corporation of Delaware
Filed July 23, 1959, Ser. No. 828,990
10 Claims. (Cl. 57—125)



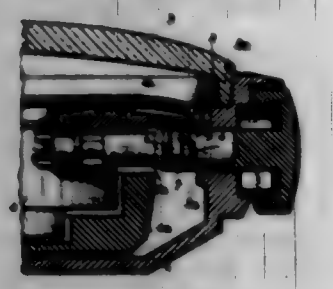
1. A molded plastic traveler having a large hook end portion and a recess on the inner surface and side walls of said large hook end portion, a U-shaped resilient element of wear resistant material fitting snugly within said recess, and interengaging means between said element and traveler for retaining the element against displacement from said traveler.

2,968,909
PRODUCING DUAL TORQUE YARN
Marvin H. Comer, Devoy W. Terrell, and Charlie A. Miles, Burlington, N.C., assignors, by mesne assignments, to Textile Licensing Company, South Coatesville, Pa., a partnership composed of Warren A. Seem and Nicholas J. Stoddard
Filed May 29, 1956, Ser. No. 588,069
2 Claims. (Cl. 57—157)



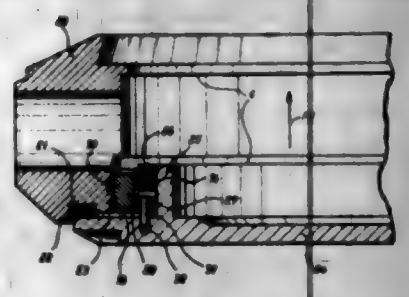
1. The method of producing torque yarn having reverse twist torques in alternating sections thereof which comprises continuously advancing an end of yarn from a yarn package past a heating element and through a rotating twisting spindle by which the said end of yarn is continuously twisted in one direction as it is being advanced from said package and continuously untwisted beyond said spindle, intermittently moving said end of yarn into and out of setting relation with said heating element as said end of yarn is being advanced and twisted to thereby heat set the twists in alternate sections of said end of yarn, and then advancing the said end of yarn thus processed past a second heating element and through a second twisting spindle by which the said end of yarn is twisted in a direction opposite to the initial twist and continuously untwisted beyond the second spindle, and maintaining said end of yarn in setting relation with said second heating element while said end of yarn is being advanced and twisted to thereby set the previously unset sections thereof.

2,968,910
FLUIDTIGHT WATCH
Bernard Taubert, 10–12 Rue des Pecheries, Geneva, Switzerland
Filed Feb. 6, 1959, Ser. No. 791,582
Claims priority, application Switzerland Apr. 16, 1958
2 Claims. (Cl. 58—90)



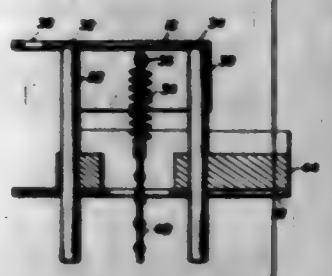
1. In a watertight watch comprising a glass, a case including a case-band and a rim, an inner ring clamping the glass between it and the inner edge of the rim, a movement carried inside the case and a winding stem, including two parts carried respectively by the case-band and by the movement, the provision of an inner annular projection rigid with the case-band and provided with a radial opening surrounding coaxially the cooperating part of the winding stem, an outer annular peripheral projection rigid with the upper part of the movement and resting on the upper surface of the projection on the case-band, and means through which the inner ring urges said projection on the movement over the inner projection on the case-band to hold the movement in position and simultaneously aline the two parts of the winding stem.

2,968,911
FLUIDTIGHT WATCH CASE
Ervin Piquerez, Bassecourt, Jura Bernois, Switzerland
Original application Nov. 1, 1955, Ser. No. 544,332. Divided and this application Dec. 18, 1959, Ser. No. 860,437
Claims priority, application Switzerland Nov. 22, 1954
1 Claim. (Cl. 58—90)



In a fluidtight watch case, the combination of two case components, a bottom section and a case band, an annular packing fitted between the peripheral portion of the upper surface of the bottom section and the lower periphery of the case band, an annular member rigid with and extending over the bottom section on the inside of the case band and having an annular surface facing the upper surface of said bottom section, a ring coaxial with the case and threadedly engaging the inner surface of the case band and including an inturned annular flange, the upper surface of which faces the above-mentioned annular surface in the annular member and annular elastic means fitted between the two last-mentioned cooperating annular surfaces and urging the member rigid with the bottom section and therewith the latter upwardly into fluidtight engagement with the case band with the interposition of the packing.

2,968,912
CHAIN HOLDING TOOL
John V. Kramer, 423 N. Grange Ave., Sioux Falls, S. Dak., assignor of one-tenth to Willard Reed, Sioux Falls, S. Dak.
Filed Mar. 11, 1958, Ser. No. 720,622
2 Claims. (Cl. 59—6)



1. A chain holding device comprising a first jaw member, a second jaw member, said jaw members positioned in opposed relationship, guide means including a pair of spaced elongated guides perpendicularly affixed to said first jaw member and extending toward said second jaw member, apertures in said second jaw member, said guides freely slidably received in said apertures whereby said jaw members may be moved relative to each other, said first jaw member dependingly supporting a spring therefrom extending toward said second jaw member, a chain terminally attached to the free end of the spring, a T-

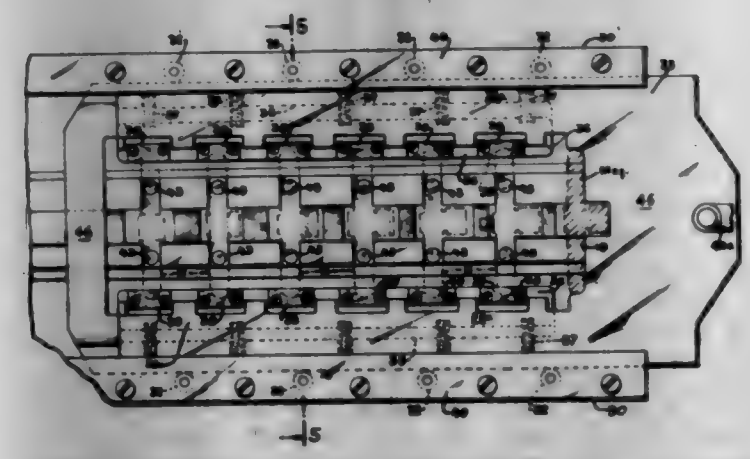
shaped passage in said second jaw member, the head portion of said T-shaped passage slidably receiving said chain therethrough, the stem portion of said T-shaped passage comprising means for engaging said chain with said second jaw member in said passage at spaced points along the length thereof for establishing a connection between said first and second jaw members, said jaw members being free of any other connections therebetween whereby said jaw members may be separated upon release of said engagement, said connection continually resiliently urging said jaws together, said second jaw member having a block affixed thereto, a plurality of aligned slots defined in said block whereby said plurality of slots may receive a plurality of various size link chains.

2,968,913

CHAIN-LINK FORMING APPARATUS WITH BLANK-FEEDING MEANS

Eugene W. Ozmiak, Trumbull, Conn., assignor to The Loehr Steel Chain Company, Bridgeport, Conn., a corporation of Connecticut

Filed May 27, 1957, Ser. No. 661,648
3 Claims. (Cl. 59—6)



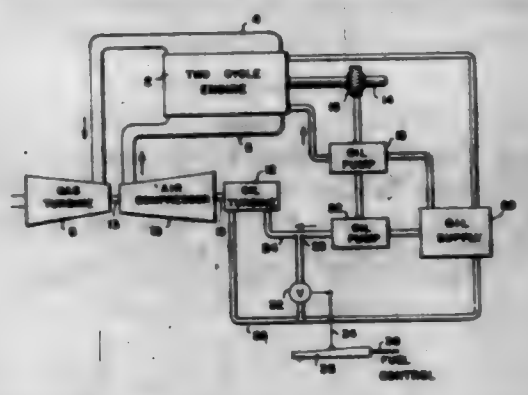
1. In apparatus for forming integral chain links from flat blanks, each of said blanks having a tab extending outwardly from one of the sides of the central portion thereof, the combination comprising a first station having press means for depressing said central portion relative to the blank, a second station having means for curling said tab so that its free end is adjacent the other side of the central portion of the blank, thereby forming a bushing comprised of the tab and the central portion, a work surface for upwardly supporting said blanks, a depression in said work surface at each station extending below the normal feed path of said blanks and having a rearward wall, movable upper and resilient lower holding means at each of said stations which engage and hold each of said blanks at points spaced from and on either side of said central portion and spaced inwardly of the free ends of said blanks prior to the engagement of each blank by the related operating means so that the blanks are preliminarily positioned and held in position at each station, and reciprocating feed means engaging only the free ends of said blanks for advancing said blanks over said work surface from said first station to said second station, so that the operating means at the stations act on different blanks simultaneously, said feed means comprising a pair of transversely spaced feed bars having blank end receiving indentations on their facing sides, said indentations having rearward surfaces adapted to normally abut the rearward surfaces of said blank ends and having forwardly sloping forward surfaces, said indentation surfaces extending below the feed path to the same extent as said rearward wall, means for depressing said upper holding means to depress said blanks into said depressions so that the bars are cammed apart by the ends of the blanks when the bars travel in a rearward direction, resilient means normally urging said bars toward each other and against the ends of the blanks, and means for reciprocating said feed bars over a predetermined linear distance, so that said bars move said blanks from the first station to the second station, said feed means moving in a non-feed direction at the time said operating means are acting on the blanks and said blanks are held in position by said resilient means.

2,968,914

TURBOCHARGING OF INTERNAL COMBUSTION ENGINES

Rudolph Birmann, Newtown, Pa., assignor to De Laval Steam Turbine Company, Trenton, N.J., a corporation of New Jersey

Filed July 6, 1955, Ser. No. 520,286
1 Claim. (Cl. 60—13)



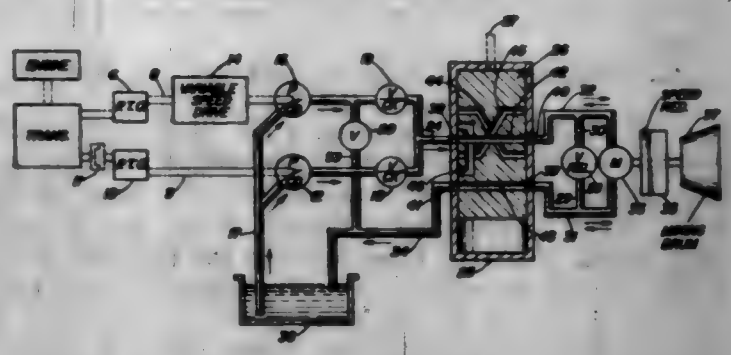
In combination, an internal combustion engine, a gas turbine receiving exhaust gases from the engine, a compressor driven by the gas turbine and supplying air to the engine, a liquid-operated turbine operatively connected to drive said compressor, a liquid pump driven by the engine and supplying driving liquid for said liquid-operated turbine, said liquid-operated turbine including a nozzle automatically adjusted in response to the pressure of the driving liquid to maintain jet velocity of the driving liquid, and means responsive to the load on the engine for controlling flow of driving liquid to said nozzle, said means tending to control said flow inversely with changes in load.

2,968,915

HYDRAULIC MECHANISM FOR CONCRETE MIXER

Robert B. Feistel, Jr., Oklahoma City, Okla., assignor, by mesne assignments, to Halliburton Oil Well Cementing Company, Duncan, Okla., a corporation of Delaware

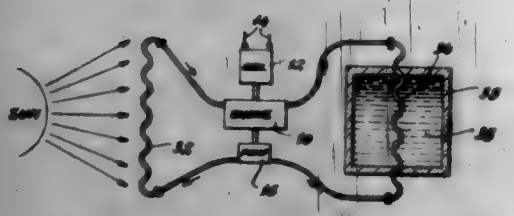
Filed Nov. 26, 1957, Ser. No. 699,043
1 Claim. (Cl. 60—19)



In a truck equipped with a variable speed propulsion engine and with a concrete mixing drum mounted for rotation thereon, the improvement which comprises: a first hydraulic pump; a first variable speed drive mechanism connecting said first pump to said engine to maintain the delivery rate of said first pump reasonably constant in spite of fluctuations in the speed of said engine; a second hydraulic pump; a second drive mechanism connect-

ing said second pump to said engine, said second drive mechanism including a clutch for disengaging the drive of said second pump; a reversible hydraulic motor; conduit means connecting the outputs of both of said pumps to said motor; a reversing valve in said conduit means for directing fluid from said pumps to drive said motor in either direction; a bypass valve for bypassing fluid from said first pump around said motor; and drive means adapted to connect said motor to said mixing drum to rotate the same in a direction dependent on the direction in which said motor is driven, whereby said drive means may: (1) remain stationary while said engine is running with said clutch disengaged and said bypass valve open; (2) be driven in either direction at relatively high speed while said engine is running with said clutch engaged and said bypass valve closed; and (3) be driven in either direction at relatively low and reasonably constant speed while said engine is running at varying speeds with said clutch disengaged and said bypass valve closed.

2,968,916
HIGH ALTITUDE POWER SUPPLY SYSTEMS
Charles Fayette Taylor, Brookline, and James C. Livengood, South Lincoln, Mass., assignors to Special Purpose Engine Co. Inc., Norwalk, Conn.
Filed July 20, 1956, Ser. No. 599,056
3 Claims. (Cl. 60—26)

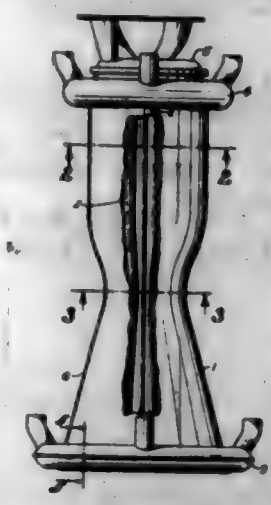


1. The combination with airborne apparatus for utilizing the sun's radiation as a source of heat energy for purposes of developing power at high altitudes, including a heat collector and a heat engine connected for operation from said collector, a carrier lacking directional control in travel, and means supporting said collector and said engine from said carrier; of means energized by the output of said heat engine for bodily orienting said heat collector in a direction facing the sun; said last-named means including radiant energy sensing means, means for rotating the heat collector in space, and means for controlling the rotation of the latter from said sensing means.

2,968,917
METHOD OF OPERATING A JET ENGINE AND FUEL COMPOSITION
Thomas P. Whaley, Royal Oak, Mich., assignor to Ethyl Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed May 6, 1954, Ser. No. 428,129
13 Claims. (Cl. 60—35.4)

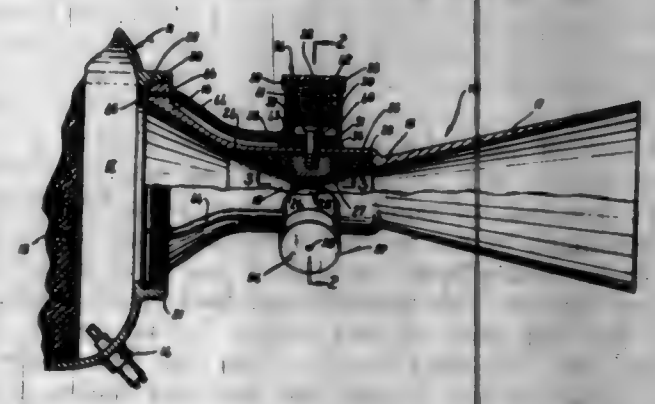
1. In a method of operating a jet combustion engine, wherein a fuel is burned in a combustion chamber and the products of combustion are allowed to escape through a jet, thereby producing a driving force, the improvement which comprises injecting into the chamber a fuel which consists essentially of a combustible liquid hydrocarbon fuel having an end point of up to about 650° F. and a heating value of about 18,000 B.t.u. per pound containing about 10 to about 60 percent by weight of a finely divided core element having a heat of combustion of at least 8000 B.t.u. per pound and at least 2000 B.t.u. per pound of air required for complete combustion and a melting point greater than about 400° F., said element being selected from the group consisting of aluminum, beryllium, magnesium, silicon, titanium and boron, in intimate contact with a thin adhering film of a coating of a light metal selected from the class of alkali and alkali-alkaline earth mixtures, said finely divided core element having a particle size of from about 10 to about 1000 microns and said coating material being deposited in a film having a thickness of from about 0.001 to about 0.1 micron and igniting the fuel therein.

2,968,918
ROCKET MOTOR SHELL CONSTRUCTION
Frank G. Denison, Jr., Pasadena, Calif., assignor to California Institute Research Foundation, Pasadena, Calif., a corporation of California
Filed Aug. 22, 1949, Ser. No. 111,750
6 Claims. (Cl. 60—35.6)



1. A rocket motor shell structure involving: a load-carrying shell of circular cross section and longitudinally contoured to define the combustion chamber and nozzle of a rocket motor; and a plurality of circumferentially spaced and mutually juxtaposed hollow archways disposed longitudinally within said shell to define therewith liquid-circulating passages, the radially inner surfaces of said archways being exposed to the gases burning within said chamber and nozzle.

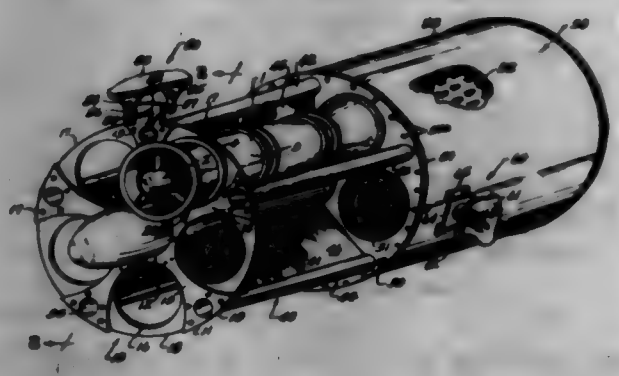
2,968,919
VARIABLE AREA NOZZLE
Larry E. Hughes, Granada Hills, and Phillip J. Stevens, Los Angeles, Calif., assignors to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Mar. 25, 1957, Ser. No. 649,589
2 Claims. (Cl. 60—35.6)



1. A variable area fluid nozzle for use with a vehicle propellant comprising, in combination: an elongated structure having a passage therethrough; a heat resistant insert positioned in said structure, a reduced cross-sectional area throat being formed in said insert; means for securing said structure to a discharge end of a propellant container; a plurality of radially disposed inwardly directed recesses in said insert; vanes slidably positioned in each of said recesses and projectable into said throat, said vanes being elongated in a direction parallel to a central axis of said passage structure and

airfoil shaped with rounded leading edges and sharp trailing edges, said trailing edges being disposed normal to said axis of said passage structure; a plurality of housings carried by said structure, each of said housings having a piston slidably disposed therein; piston rods interconnecting said pistons and said vanes; compression springs disposed in said housings on one side of said pistons to bias said pistons in a direction to urge said vanes radially inwardly; and conduit means for conducting fluid under pressure from said container to another side of said pistons whereby to oppose compressive force of said springs and move said vanes radially outwardly thereby to control fluid flow through said throat in response to changes in fluid pressure in said container.

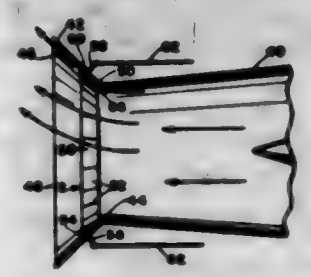
2,968,920
ENGINE MOUNTING ARRANGEMENT
Charles Joseph Wayne, Beverly, and Denis Pierpoint Edkins and Raymond Linly Cleveland, Lynnfield, Mass., assignors to General Electric Company, a corporation of New York
Filed Jan. 28, 1959, Ser. No. 789,556
13 Claims. (Cl. 60—35.6)



1. A multiple engine mounting structure for use in an aircraft comprising first and second support members, structural means rigidly interconnecting said members in spaced relationship to each other, mounting members positioned adjacent to each of said support members for securing the mounting structure to the aircraft, said mounting members being constructed and arranged to permit relative movement between the aircraft and the mounting structure laterally and longitudinally, thereby to afford differential thermal expansion of the mounting structure relative to the aircraft, and means for mounting a plurality of engines upon said support members, the respective engines being rigidly secured by said mounting means to one of said support members and slidably supported by the remaining one of said support members to afford differential thermal expansion of each engine relative to the mounting structure.

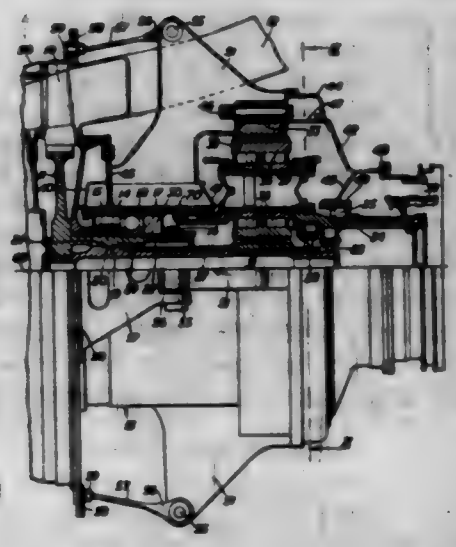
2,968,921
AERODYNAMIC JET DEFLECTING NOZZLE
Constant V. David, San Diego, Calif., assignor to Ryan Aeronautical Co., San Diego, Calif.
Filed Dec. 23, 1957, Ser. No. 704,662
1 Claim. (Cl. 60—35.54)

An aerodynamic jet deflecting device, comprising: a fluid jet conducting tailpipe having an outlet orifice; a divergent nozzle concentric with said orifice and extending axially from said tailpipe; a deflector ring operatively mounted in said nozzle immediately downstream from said orifice, said ring including a plurality of vanes interconnected in groups; said vanes being pivotally mounted on said nozzle at their downstream edges and spaced inwardly from said nozzle; said nozzle extending downstream beyond said vanes; the upstream edge of said vanes being substantially flush with said nozzle in one position; and means for opening selected groups of said vanes to extend their upstream edges into the jet stream and define a throat between said vanes and said nozzle, whereby



a portion of the jet stream is deflected through said throat to provide a boundary layer flow substantially parallel to the adjacent portion of the surface of said nozzle.

2,968,922
COMBUSTION TURBINE POWER UNITS
Ronald A. Gilbert, London, England, assignor to D. Napier & Son Limited, London, England, a British company
Filed Sept. 29, 1958, Ser. No. 764,112
3 Claims. (Cl. 60—39.5)



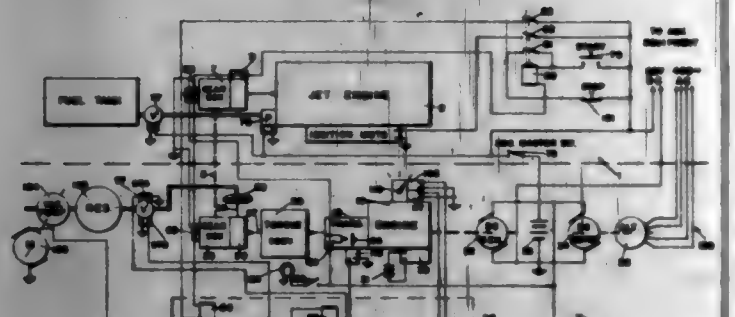
1. Means for supporting a free power turbine from a turbine casing surrounding said free power turbine, comprising a rigid gear casing, a power turbine shaft extending from said power turbine into said gear casing, an output shaft extending out of said gear casing in coaxial alignment with said power turbine shaft, epicyclic speed reduction gearing connecting said power turbine shaft to said output shaft within said gear casing and bearing means for said power turbine, said epicyclic gearing comprising a sun gear surrounding said power turbine shaft, a driving connection between said power turbine shaft and said sun gear, a non-rotatable ring gear, a planet gear carrier, first bearing means supporting said planet gear carrier rotatably in said gear casing between said power turbine and said sun gear, second bearing means supporting said planet gear carrier rotatably in said gear casing on the opposite side of said sun gear from said first bearing means and a driving connection between said planet gear carrier and said output shaft, and said bearing means for said power turbine locating said power turbine shaft coaxially with said gear casing and comprising a main bearing mounted in said gear casing and supporting said power turbine shaft between said power turbine and said sun gear, and an outrigger bearing supporting said power turbine shaft on the opposite side of said sun gear from said main bearing, said outrigger bearing being mounted in said planet gear carrier.

2,968,923

MOBILE STARTER FOR JET AIRCRAFT ENGINES

Daniel B. Coleman, Los Angeles, Calif., assignor to North American Aviation, Inc.

Filed May 6, 1955, Ser. No. 506,578
4 Claims. (Cl. 60—39.14)



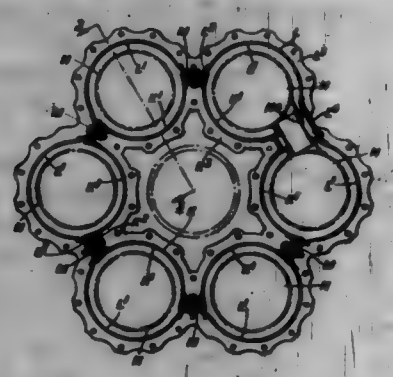
1. A starting device for a turbojet engine comprising a land vehicle; power means carried by said vehicle; a torque converter means connecting said power means to said turbojet engine for applying torque thereto, said torque converter means including gear shift means for disconnecting said turbojet engine from said power means; and means controlled by the pilot of said aircraft operatively connected from the cockpit of the aircraft to the starting device for initiating the sequential starting cycle of said engine, said control means including means for automatically reducing the speed of said power means to a predetermined value upon initiation of the starting cycle, means automatically engaging said power means with said jet engine, and means for automatically increasing the speed of said power means until a predetermined speed of said jet engine is reached; and means automatically operating said gear shift means to disconnect said power means from said turbojet engine when the jet engine reaches the predetermined speed.

2,968,924

COMBUSTION CHAMBERS OF INTERNAL COMBUSTION TURBINE UNITS

George Frank Upton, Borehamwood, England, assignor to D. Napier & Son Limited, London, England, a British company

Filed Aug. 9, 1955, Ser. No. 527,372
Claims priority, application Great Britain Aug. 18, 1954
1 Claim. (Cl. 60—39.37)



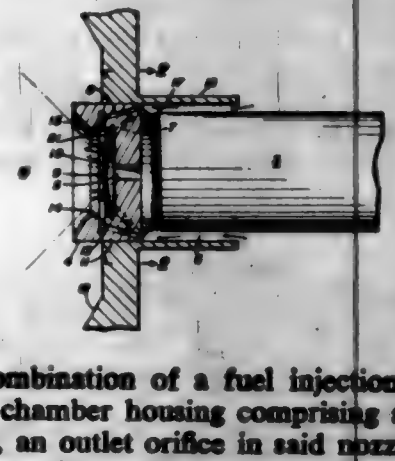
A combustion chamber assembly for an internal combustion turbine unit comprising, separate inner and outer rigid walls disposed concentrically in tubular formation respectively about a common axis, said walls respectively being formed with relatively opposed complementary recesses defining cylindrical combustion chambers, said inner and outer walls abutting each other between said combustion chambers, said chambers being disposed annularly around and with their axes parallel to said common axis and means rigidly interconnecting the abutting portions of said inner and outer walls.

2,968,925

FUEL NOZZLE HEAD FOR ANTI-COKING

William E. Blevans, Kansas City, Mo., and Walter L. Grant, Overland Park, Kans., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Nov. 25, 1959, Ser. No. 855,482
4 Claims. (Cl. 60—39.74)



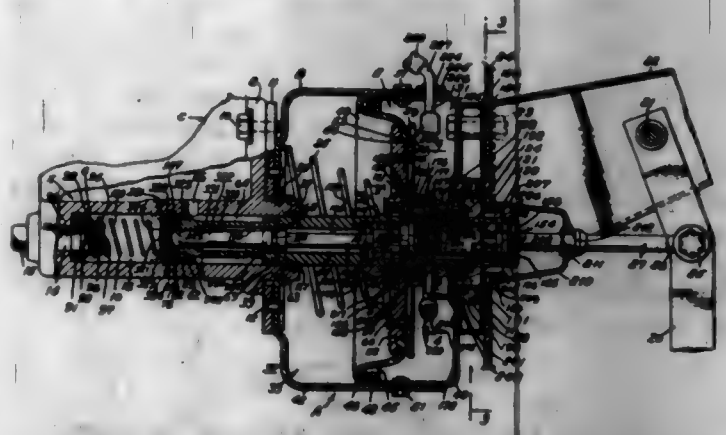
1. The combination of a fuel injection nozzle and a combustion chamber housing comprising a fuel injection nozzle head, an outlet orifice in said nozzle head, a first air guide formed by said combustion housing, a second and third air guide, each formed in said nozzle head, said second air guide being located adjacent said outlet orifice and having an inside and an outside face, an aperture in said second air guide in axial alignment with said outlet orifice, said aperture being of larger diameter than said outlet orifice, fuel supply means connected to said nozzle head and air passage means for supplying air to said nozzle head whereby coke is prevented from building up on said second air guide.

2,968,926

POWER-ASSISTED OPERATING MECHANISM FOR HYDRAULIC PRESSURE SYSTEMS

Glenn T. Randol, Mountain Lake Park, Md., assignor of fifty percent to Hamill-Markus Industries, Inc., Warren, Mich.

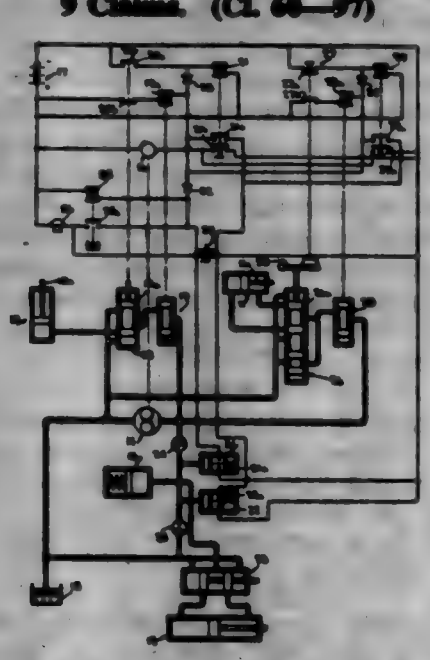
Original application Nov. 21, 1955, Ser. No. 547,994. Divided and this application Jan. 24, 1957, Ser. No. 636,193
12 Claims. (Cl. 60—54.6)



1. In a power-assisted brake operating mechanism wherein there is to be operated a hydraulic master cylinder having a body member, a hydraulic fluid reservoir and working chamber in said body member, a compensating passageway normally open between said chamber and reservoir, the improvement which comprises a hydraulic fluid-displacing member in said chamber to pressurize the fluid therein, displacement of which from normal released position is opposed by a normally preloaded spring, which master cylinder is adapted to be operator-operated, and power-assisted by a pressure differential operated servomotor provided with a casing divided interiorly into a constant pressure chamber and a variable pressure chamber by a power assembly movable therein from released position to act on said hydraulic

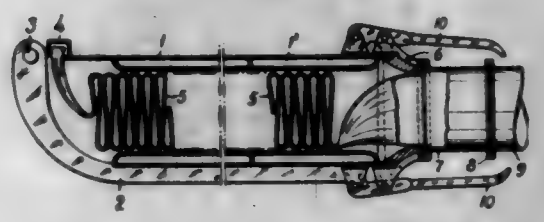
displacing member, in such manner that the initial operator force is transmitted to the hydraulic displacing member to close said compensating passageway to condition the working chamber of the master cylinder to pressurize the brake fluid thereby generating a progressively amplified resistance to such initial displacement to induce power-assist by said servomotor; control valve mechanism having at least two principal cooperating elements relatively displaceable from normal "off" position wherein said constant and variable chambers are interconnected to establish balanced pressures therein, and to operating "on" position wherein said constant and variable chambers are isolated to enable establishment of differential pressures therein to activate power-assist by said servomotor, said valve mechanism having a fluid connection with said variable pressure chamber; a source of pressure different from atmosphere communicating with said valve mechanism; another normally preloaded spring of greater strength than said first-named spring, reacting between said valve elements to separate them to normal "off" position for deactivating power-assist by said servomotor, the preloaded strength of said valve spring being capable of transmitting said initial operator force until said resistance induces modulation of the valve spring accompanied by said relative displacement of the valve elements to "on" position to activate power-assist by said servomotor in response to increased operator force; limiting means incorporated between said valve elements to define the normal "off" position thereof; reaction means effective on one of said valve elements to supplementally oppose said relative displacement of said valve elements against said valve spring; operator-operated means for operating said hydraulic displacing member and said valve mechanism including a link acting directly on said one valve element to effect relative displacement of said valve elements to "on" position; and normally spaced engageable portions operatively associated respectively with said hydraulic displacing member and one valve element for defining the relative displacement of said valve elements, said portions when engaged effecting "straight-through" operation of said hydraulic displacing member from said operator-operated link.

2,968,927
HYDRAULIC SYSTEM FOR AN INDUSTRIAL TRUCK
George F. Quayle, Philadelphia, Pa., assignor to The Yale and Towne Manufacturing Company, Stamford, Conn., a corporation of Connecticut
Filed Jan. 28, 1960, Ser. No. 5,286
9 Claims. (Cl. 60—97)



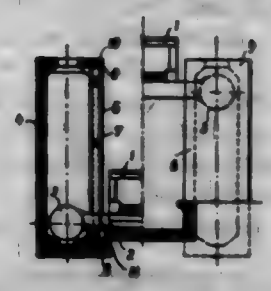
1. In a truck of the class described, a fluid pump, pump actuating means, a load manipulating ram, a power steering ram, an accumulator for supplying fluid under pressure to said power steering ram, control means operable to effect operation of said pump actuating means and to direct fluid under pressure from said pump to said load manipulating ram to operate said load manipulating ram, and means continuing operation of said pump actuating means to charge said accumulator after said control means are operated to stop operation of said load manipulating ram, whereby said accumulator is charged after each operation of said load manipulating ram.

2,968,928
FLOATING BARRIER
Anders Emanuel Wicklander, Strandvagen 6, Nynashamn, Sweden
Filed Mar. 22, 1955, Ser. No. 495,842
Claims priority, application Sweden Mar. 26, 1954
3 Claims. (Cl. 61—1)



1. A contrivance for laying out a floating barrier on a water surface comprising a floating body formed as a magazine, a hose folded up in said magazine to a state of readiness, one end of said hose being secured to said magazine, a coupling secured to the other end of said hose for connection to a source of foam constituted by a highly liquid material having stabilized gas bubbles entrapped therein, and means detachably connecting said coupling to said magazine.

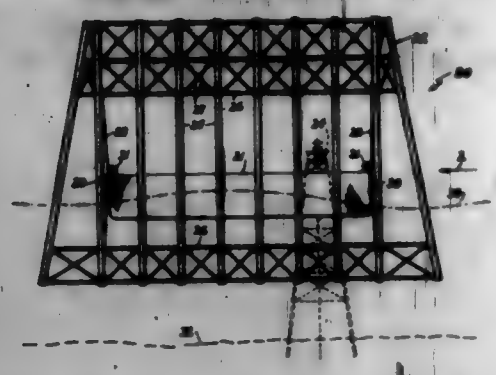
2,968,929
ARRANGEMENT FOR RAISING OR LOWERING OF HEAVY BODIES USING THE LIFTING POWER OF FLOATERS
František Jermář, 6 Smetanovo Nabrezi, Prague I, Czechoslovakia
Filed Dec. 23, 1957, Ser. No. 704,554
Claims priority, application Czechoslovakia Dec. 30, 1956
6 Claims. (Cl. 61—9)



1. An arrangement for raising and lowering heavy bodies comprising a support adapted to engage under a heavy body and having laterally extending beams, vertical shafts disposed at opposite sides of said support at the locations of said beams, each shaft having a vertical slot in a side thereof opening from the interior of said shaft, a float movable vertically in said shaft, connecting means extending through said slot from said float to one of said beams so that said support moves vertically with said float, an endless chain on said shaft, means guiding said chain to move along a path having at least one vertical run disposed along said slot, said endless chain including a series of pivotally interconnected links carrying plates which are closely adjacent each other during movement along said vertical run substantially to close said slot, and elastic means movable with said chain and sealing any gaps between said plates, and between the latter and a

surface of the shaft to prevent leakage of water through said slot, one of said links of said chain being secured to said connecting means between the float in the shaft and the adjacent beam so that the chains and elastic sealing means are displaced along the slots of the related shafts in response to vertical movement of said support with the floats.

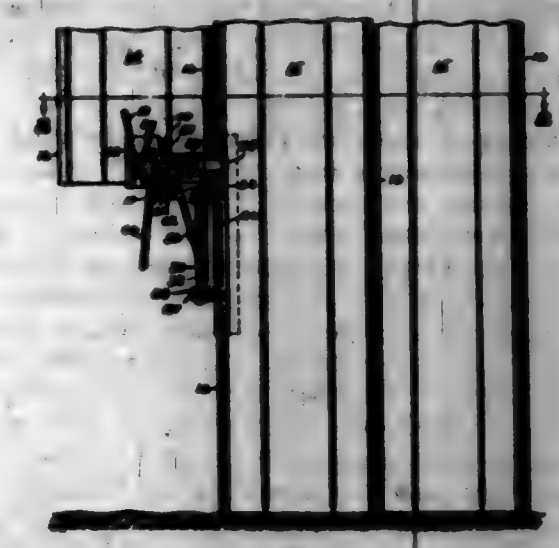
2,968,930
MOBILE SELF-ERECTING MARINE PLATFORMS
Ivan W. Mangone, Houston, Tex., assignor to Offshore Structures & Service Co., Houston, Tex., a partnership
Filed Oct. 12, 1955, Ser. No. 539,960
1 Claim. (Cl. 61—46.5)



In a mobile self-erecting marine platform, the combination of an upstanding marginal framework having a substantially rectangular plan when erected and defining a rectangular opening at the center thereof, said framework comprising a pair of complemental half-sections of a U-shaped plan when erected, said half-sections having upper and lower edges and pairs of opposing side edges which are in abutment when the framework is erected, hinge means provided on said opposing side edges at said lower edges of said half-sections whereby the same may be swung from their erected position outwardly and downwardly to a substantially horizontal travelling position wherein their lower edges are in abutment, a substantially rectangular buoyant platform member disposed in said opening and having its marginal edges spaced inwardly from said framework, winch means carried by said platform member, cables extending downwardly from said winch means to the lower edge portions of said half-sections adjacent said hinge means whereby said framework may be raised and lowered relative to the platform member with the latter having sufficient buoyancy to float the framework when the framework is raised, and cables extending from said winch means to upper edge portions of said half-sections whereby the same may be swung between their erected and travelling positions and whereby said platform member may be raised relative to the framework when the latter is erected.

2,968,931
ALIGNING FIXTURE FOR ASSEMBLING SHEET PILING
Leonard J. McGrath, 44 Sherman St., Roxbury, Mass.
Filed Mar. 4, 1959, Ser. No. 797,168
10 Claims. (Cl. 61—63)

1. A fixture for automatically positioning a free piling sheet into alignment for engaging a flanged longitudinal margin thereof telescopically into interlocking relation with the adjacent flanged longitudinal margin of a fixed piling sheet, comprising a sheet supporting body, means for attaching the body in longitudinal sliding relation onto said flanged longitudinal margin of the fixed sheet, means on the body for clamping the free sheet thereto with said margins of the two sheets in juxtaposed and parallel relation, means including self-acting power mechanism carried by said body and operative automatically to move the free sheet laterally toward the fixed sheet when the free sheet is moved longitudinally to a position beyond and free of the fixed sheet, and stop means for



limiting such lateral movement to a position wherein said adjacent flanged margins of the sheets are in said alignment.

2,968,932
COOLING DEVICE
John R. Vance, R.R. Box 516, Clayton, Ohio, and William R. Donnelly, 903 Washington Ave., Piqua, Ohio
Filed July 31, 1958, Ser. No. 752,337
7 Claims. (Cl. 62—9)

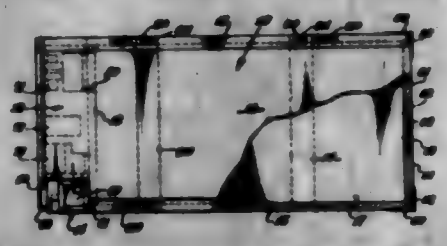


1. In a chemical cooling device, a closed sealed container having side walls and opposed end walls, means extending inwardly from said side walls and defining a valve seat, a valve member engaging said seat and thereby dividing the interior of said container into separate compartments having an opening therethrough, frangible sealing material sealing and securing said valve member on said seat, a valve actuator extending from said valve member to one end wall of said container, said one end wall being sealed to said container at its periphery, resilient and bowed outwardly whereby it holds said valve member on said seat and whereby it may be flexed to inwardly bowed condition and thereby act through said actuator to rupture said frangible sealing material and move said valve member off said seat, and different chemical materials in said respective compartments which, when mixed, react endothermally to absorb heat.

2,968,933
STORAGE AND SHIPPING CONTAINER
Arthur A. Pfeifer, Whittier, Erwin S. de Mezsheyi, Anaheim, and Richard E. Van Sant, Whittier, Calif., assignors to Rheem Manufacturing Company, New York, N.Y., a corporation of California
Filed Feb. 9, 1959, Ser. No. 792,105
8 Claims. (Cl. 62—176)

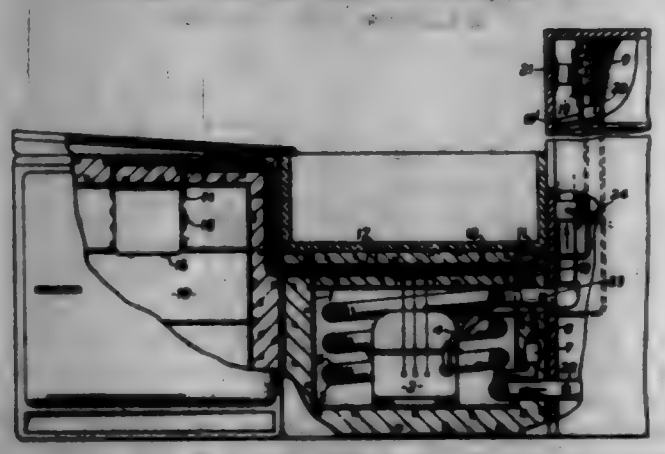
1. A portable storage and shipping container which comprises: a portable container; an insulated storage compartment in said container; insulated access doors to said storage compartment; an equipment compartment

in said container adjacent to said storage compartment; a hinged door mounted on said equipment compartment so as to give access to said equipment compartment and to serve as a platform when in open position; a winch mounted on said container adjacent said equipment compartment door; a cable, disposed between said winch and said door, and mounted on said door and on said winch; safety stop chains, disposed between said equipment compartment and said door, and rigidly mounted



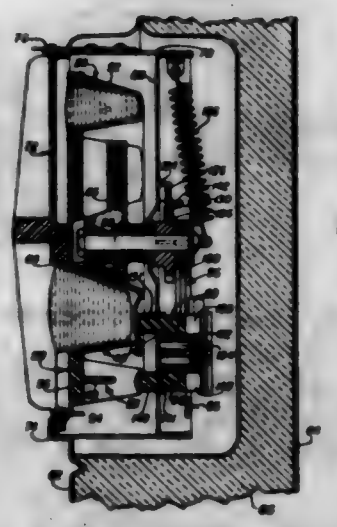
on said compartment and said door; temperature environment and humidity control means mounted in said equipment compartment; air passage means between said temperature environment and humidity control means and said storage compartment; a vent stack in said container adjacent said equipment compartment adapted to exhaust warm air from said equipment compartment; and vent means interconnecting said equipment compartment and said vent stack.

2,968,934
HEAT PUMP SYSTEMS
Mieczyslaw Komodera, High Wycombe, England, assignor to Heat Pump & Refrigeration Limited, London, England, a British company
Filed Feb. 28, 1958, Ser. No. 718,173
Claims priority, application Great Britain Mar. 5, 1957
3 Claims. (Cl. 62—197)



1. In a heat pump system in combination a motor compressor unit, a refrigerant condenser means connected to the outlet of said motor compressor unit, a water conducting means arranged to take up heat from refrigerant passing through said refrigerant condenser means, a main evaporator means connected with the inlet of the motor compressor, a main refrigerant line leading from said refrigerant condenser means to said main evaporator means, an insulated cabinet, a subsidiary evaporator means arranged within said insulated cabinet, a by-pass line connecting both ends of said subsidiary evaporator means with said main line at spaced points, a single shut-off valve in said main line between said spaced points, and a control circuit for controlling said shut-off valve, comprising a single thermostat which is positioned within said insulated cabinet and is exposed to the interior thereof and is responsive to the temperature therein and controlling said shut-off valve to close the same when the temperature in the insulated cabinet exceeds a predetermined maximum, the said by-pass line having flow resistance means therein and the said main line between said spaced points being obstructed only when said valve is closed.

2,968,935
ICE CUBE MAKING AND EJECTING APPARATUS
Leland K. Warrick, Western Springs, and Jack M. Bryant, Wheaton, Ill., assignors to General Electric Company, a corporation of New York
Filed Dec. 9, 1957, Ser. No. 701,463
13 Claims. (Cl. 62—353)

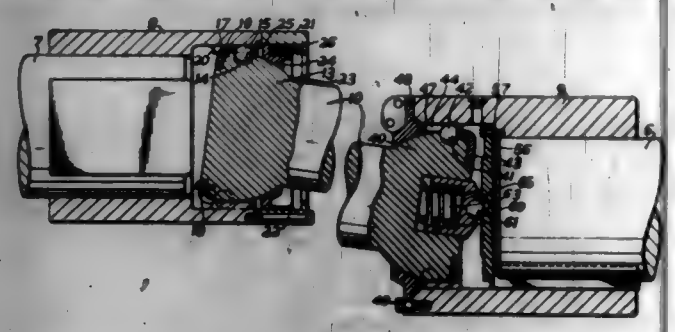


1. In combination, a refrigerator including walls defining a heat-insulated freezing compartment having a front opening, means for cooling said freezing compartment to a temperature below 32° F., and a front door including inner and outer walls disposed in spaced-apart relation and a layer of heat insulation therebetween, said front door cooperating with said freezing compartment front opening and movable between open and closed positions with respect thereto; an ice cube ejector carried by said front door and movable therewith and arranged in a cavity provided in said layer of heat insulation, said ejector comprising structure defining a chamber having a front opening through said inner wall of said front door and adapted to receive an ice tray, a front cover cooperating with said chamber front opening and movable between open and closed positions with respect thereto, so as to accommodate placement and removal of an ice tray with respect to said chamber, an ice tray having a plurality of ice cube mold cavities therein and adapted to be placed in said freezing compartment for the purpose of producing the ice cubes in said mold cavities and adapted to be placed in said chamber for the purpose of supplying the ice cubes from said mold cavities, said front cover facing directly into said freezing compartment and subject to the low temperature therein when said front door occupies its closed position, so as to maintain in a frozen condition the ice cubes in said mold cavities in said ice tray when it is in said chamber, said front cover having a delivery hole therein, mechanism successively operative to index said ice tray when it is in said chamber to bring said mold cavities into successive registry with said delivery hole and then to eject successively the ice cubes from the successively registering mold cavities through said delivery hole, and means for successively operating said mechanism.

2,968,936
SPINDLE COUPLING DEVICES FOR ROTARY MEMBERS
Louis Paul Cresset, 23 Gornhill Ave., Huddersfield, England
Filed Aug. 20, 1959, Ser. No. 834,976
Claims priority, application Great Britain Aug. 28, 1958
8 Claims. (Cl. 64—7)

1. A spindle coupling device for transmitting power between two shafts or like members and capable of accommodating axial angular misalignment of at least 2 degrees comprising a coupling comprising an annular series of balls located between a hub member and a sleeve mem-

ber that surrounds the hub member, one of said members being connected to the shaft; axially disposed semi-circular grooves in the sleeve member forming ball tracks, said balls seating with a sliding fit in frusto-spherical recesses in the hub member, each groove having a surface



formed integrally in said sleeve member parallel to the axis of the sleeve member and having a single radius of curvature said radius being greater than that of the ball radius to permit driving under the required maximum angular misalignment, said groove radius is equal to approximately

$$\frac{P.C.R.}{2} - \frac{\cos. A \times P.C.R.}{2} + R$$

wherein P.C.R. is the pitch radius, A is the maximum angle of tilt and R is the ball radius.

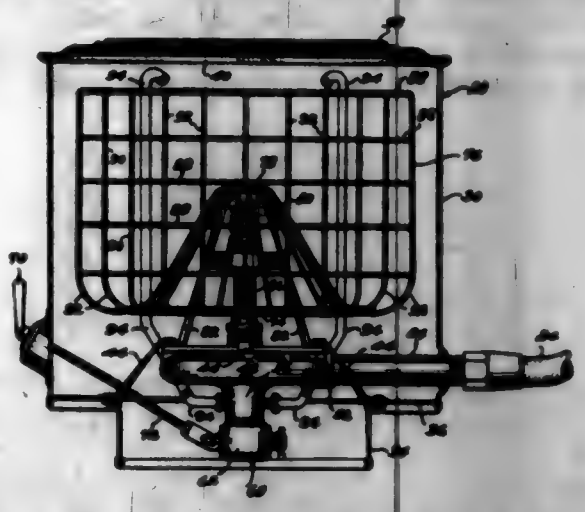
2,968,937
KNITTED FABRICS AND METHODS OF CLOSING SAME
Samuel Margulies, 1215 Devereaux Ave., Philadelphia, Pa.
Filed June 19, 1958, Ser. No. 743,185.
10 Claims. (Cl. 66—187)



8. In a circular knit stocking formed with a leg portion, a toe portion and a toe opening, a plurality of courses approximate the toe opening and between the toe opening and the toe portion composed of yarn smaller in size than the yarn used in knitting any other portion of the stocking, and a seam overlapping said courses to close the toe opening.

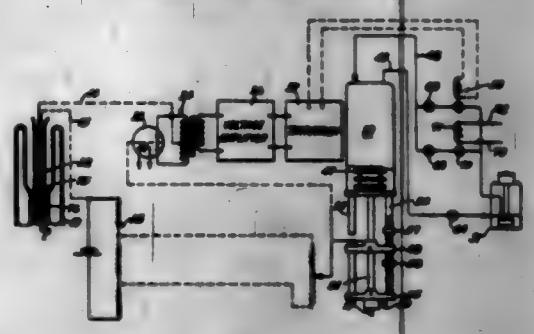
2,968,938
DIAPER RINSE DEVICE
Alvah V. Frohnapel, Detroit, and Lawrence E. Welch, Grand Rapids, Mich.; said Frohnapel assignor to said Welch
Filed July 21, 1959, Ser. No. 828,656
4 Claims. (Cl. 68—205)

1. A diaper rinse device comprising, a housing having a lower end discharge surrounded by an annular seat adapted to seat on the flange of a toilet bowl, a casing mounted on and within said housing having an inlet for connection to a water faucet and an outlet in communication with said discharge, a water-driven wheel rotatable within said casing, a rotatable basket mounted within said housing to receive a soiled diaper and operatively con-



nected to said water wheel, conduit means leading from said casing and arranged to direct streams of water down into said basket, said outlet having a flow capacity sufficient to reduce the pressure in said casing to a pressure insufficient to drive said water wheel, and a valve operable to close said outlet to effect rotation of said water wheel.

2,968,939
APPARATUS FOR CONTROLLING THE RATE OF A DISTILLATION OPERATION
Seaton T. Preston, Jr., Evanston, Ill., assignor, by direct and mesne assignments, to Walter J. Podbielniak
Filed July 20, 1955, Ser. No. 523,162
2 Claims. (Cl. 73—25)



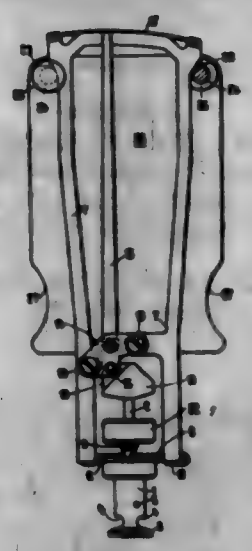
1. In distillation apparatus, a distillation column equipped with packing, a distillate flow line communicating with said column above the upper level of said packing, reflux means in said column above said packing upper level, a rate control valve in said distillate flow line, a differential thermocouple having one junction below said packing upper level and the other junction at said packing upper level, and electro-mechanical means coupling said valve and thermocouple for controlling said valve as a function of the temperature differential between the thermocouple junctions, the temperature differential being indicative of the concentration gradient in the upper section of the column packing and between the junctions.

2,968,940
METHOD FOR DETECTING DISPERSED WATER IN HYDROCARBONS
Nicholas Feldman, Perth Amboy, and George P. Gross, Westfield, N.J., and Philip Mosnikoudam, New York, N.Y., assignors to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Dec. 2, 1958, Ser. No. 777,572
5 Claims. (Cl. 73—73)

1. A method for detecting the presence of dispersed water in hydrocarbons which comprises contacting said

hydrocarbons with a minor amount of a mixture of a finely-divided anhydrous sodium salt of o-cresolsulfonphthalein and finely-divided anhydrous barium carbonate whereby said mixture undergoes a change in color in the presence of free water.

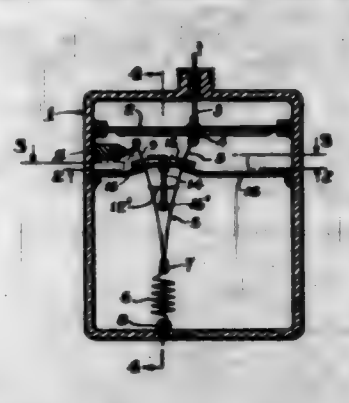
2,968,941
TONOMETER
Franz Paprtz, Liebefeld-Berne, Switzerland, assignor to Haag-Streit A.G., Liebefeld-Berne, Switzerland
Filed Nov. 29, 1956, Ser. No. 625,126
Claims priority, application Switzerland Aug. 31, 1956
9 Claims. (Cl. 73—80)



1. A tonometer for measuring the intraocular pressure or the tension of the eyeball, comprising an axially displaceable feeler adapted to be put on the eyeball and a pointer system adapted to be actuated by the displacement of the said feeler, a stationary tube into which the said feeler is inserted, small-area bearings for the feeler in the said pointer system and in the said tube, such bearings allowing a slight swinging motion of the feeler axis but no radial play of the feeler, the said tube having a bottom plate adapted to be put onto the eyeball and radial openings between its bottom plate and the said bearing in the stationary part, a swing-out supporting plate for the feeler being arranged on top of the said tube, a slit in the said supporting plate through which the feeler passes when the supporting plate is in its supporting position, a collet on the said feeler above the said supporting plate, the supporting plate forming a stop for the said collet when in supporting position and allowing removal of the feeler from the said tube when swung out of its supporting position.

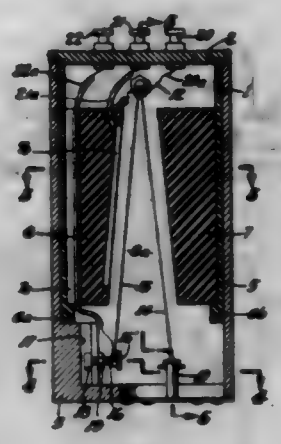
2,968,942
FORCE TRANSDUCER
Louis D. Statham, Beverly Hills, Calif., assignor to Statham Instruments, Inc., Los Angeles, Calif., a corporation of California
Filed Aug. 20, 1956, Ser. No. 605,098
20 Claims. (Cl. 73—141)

1. A transducer, comprising a frame, a pair of tensioned members, a movable force summing means, a first support, for a first one of said tensioned members, a motion transmitting connection between said force summing means and said support, a second support connected to the first one of said tensioned members, a yieldable constraining means connected to said frame and said second support, another of said tensioned members connected to said second support and a third support for said second tensioned member, one of the tensioned members connected to and extending in tension between the first and second supports and the second of said tensioned members connected to and extending in tension between the second and third support, and means for displacing at least one of said first and third supports to relatively vary the spacing of the first and third support relative to the second support on movement of said force summing means, whereby one of said tensioned



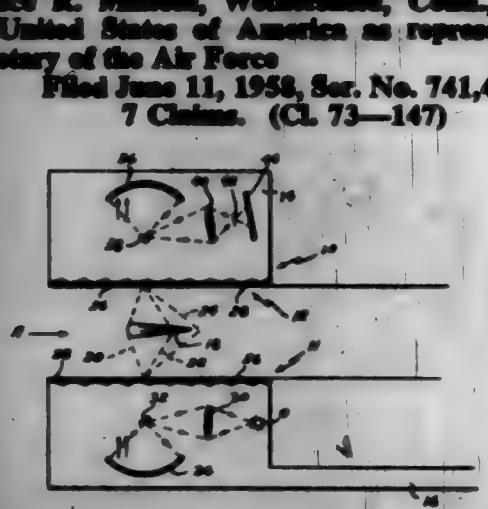
members increases in tension while the other of said tensioned members decreases in tension on said displacement of said force summing means, and a tensiometer responsive to the variation in tension in at least one of said tensioned members.

2,968,943
TRANSDUCER
Louis D. Statham, Beverly Hills, Calif., assignor to Statham Instruments, Inc., a corporation of California
Filed Oct. 29, 1956, Ser. No. 619,052
21 Claims. (Cl. 73—141)



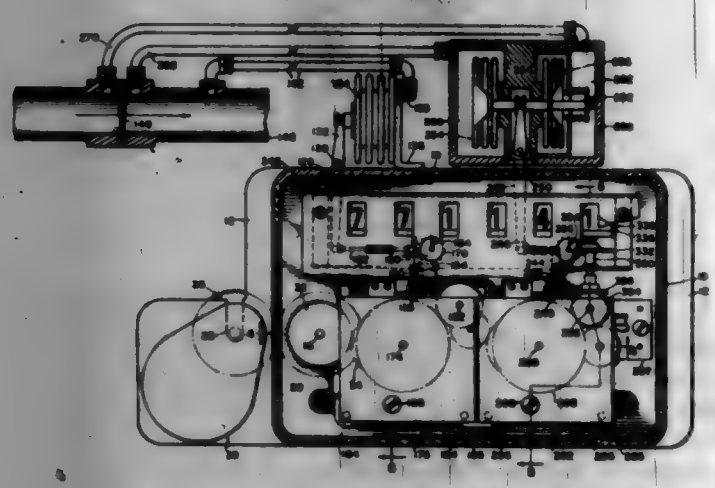
1. A transducer, comprising a frame, a pair of tensioned metallic wires, a movable force summing means, a first support for a first one of said tensioned wires, a motion transmitting connection between said force summing means and said support, a second support connected to the first one of said tensioned wires, a yieldable constraining means connected to said second support and to said frame, another of said tensioned wires connected to said second support and a third support for said second tensioned member, one of the tensioned wires connected to and extending in tension between the first and second supports and the second of said tensioned wires connected to and extending in tension between the second and third support, means for displacing at least one of said first and third supports to relatively vary the spacing of the first and third support relative to the second support on movement of said force summing means, whereby one of said tensioned wires increases in tension while the other of said tensioned members decreases in tension on said displacement of said force summing means, and magnetic means positioned adjacent one of said wires to establish a magnetic field transverse to said wire whereby an oscillating motion may be produced in said last named wire and an electrical signal may be derived from said last named wire at a frequency related to the natural frequency of said last named wire.

2,968,944
PERFORATED TEST SECTION WALLS FOR WIND TUNNELS
Lawrence R. Mansoni, Wethersfield, Conn., assignor to the United States of America as represented by the Secretary of the Air Force
Filed June 11, 1958, Ser. No. 741,434
7 Claims. (Cl. 73—147)



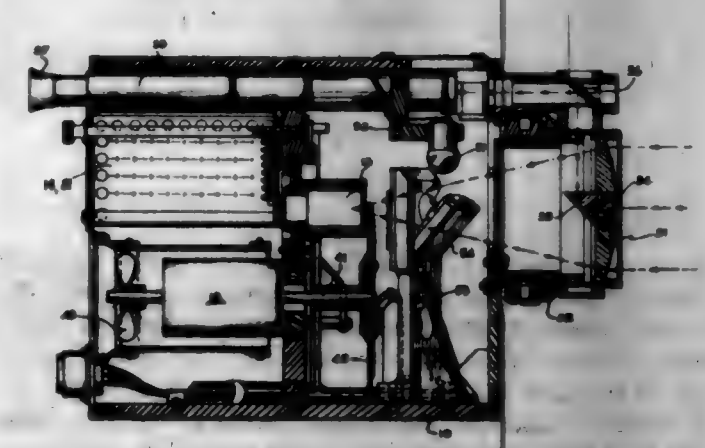
1. A wind tunnel having a test section, at least one wall for said test section comprising a plate, the interior surface of said plate being free from protuberances, means providing circular openings in said plate for drawing off boundary layer developed in said wind tunnel, a slanted area in said plate on the upstream side of each of said openings terminating in the circumferential edge of said openings and providing the opening with the cross flow characteristics of slanted holes while allowing the unimpeded viewing characteristics of normal holes.

2,968,945
FLOW METER
Warren L. Perrine, Pasadena, Calif., assignor to General Precision, Inc., a corporation of Delaware
Filed Dec. 15, 1955, Ser. No. 553,382
12 Claims. (Cl. 73—206)



1. In combination for measuring the flow of fluid through a member having an orifice, first sensing means coupled to the orifice for providing continuous signals representing at every instant the pressure of the fluid flowing through the member at that instant, means including a first input shaft for converting the signals of the fluid pressure at every instant into corresponding rotary dispositions of the first input shaft, means including a second input shaft for obtaining a rotary movement of the second input shaft to represent time, means including a first pair of rotary members having their centers separated from each other by a particular distance and coupled to the first and second input shafts for converting the rotary movements of the input shafts into rotary movements of a particular one of the members in the pair in representation of the integral of the square root in fluid pressure with respect to time, second sensing means coupled to the orifice for providing continuous signals representing at every instant the drop in the pressure of the fluid as it flows through the orifice at that instant, means coupled to the last mentioned means and including a third input shaft for converting the signals of the drop in fluid pressure at every instant into corresponding rotary dispositions of the third input shaft at that instant, and means including a second pair of rotary members having their centers separated from each other by a particular distance and coupled to the third input shaft and to the particular one of the members in the first rotary pair for combining the rotary movements of the third input shaft and the rotary movements of the particular rotary member in the first pair at every instant to obtain rotary movements of a particular one of the members in the second pair in representation of a value related to the fluid flow.

2,968,946
RADIATION PYROMETER
Arthur E. Goldberg, Evanston, and David L. Fain, Lincolnwood, Ill., assignors, by mesne assignments, to Computameter Corporation, Chicago, Ill., a corporation of Illinois
Filed Nov. 12, 1958, Ser. No. 773,509
15 Claims. (Cl. 73—355)



15. A pyrometer having, in combination, means for detecting infra-red radiation comprising an intermetallic crystal proportionately responsive to the photon flux impinging on it over a substantial part of the infra-red spectrum, means for directing toward said detector means infra-red radiation from an object whose temperature is to be measured, a local source of infra-red radiation comprising an incandescent bulb having a tungsten filament therein and a glass envelope and being heatable to infra-red radiating temperature by the passage of electric current through said filament, said glass bulb having the property of passing the major portion of infra-red radiation from said filament below a characteristic wavelength and absorbing the major portion of infra-red radiation from said filament at longer wavelengths, said glass bulb being operative on absorbing such energy to re-radiate a part of the same at wavelengths longer than said characteristic wavelength, means for directing infra-red radiation from said local source toward said detector means, means for alternately illuminating said detector means with radiation from said object and radiation from said local source, means for sensing the difference in response of said detector means to said respective radiations and operative to develop a signal representative of such difference, means for supplying electrical current to the filament of said bulb, means responsive to said signal operative to control said current-supply means and to regulate the current through said filament to maintain the radiation therefrom at a level whereat its effect on said detector is substantially equal to the effect thereon of the radiation from said object, calibrated indicating means responsive to the electrical potential drop across said filament for indicating the temperature of said object, a glass filter plate interposed in the radiation path between

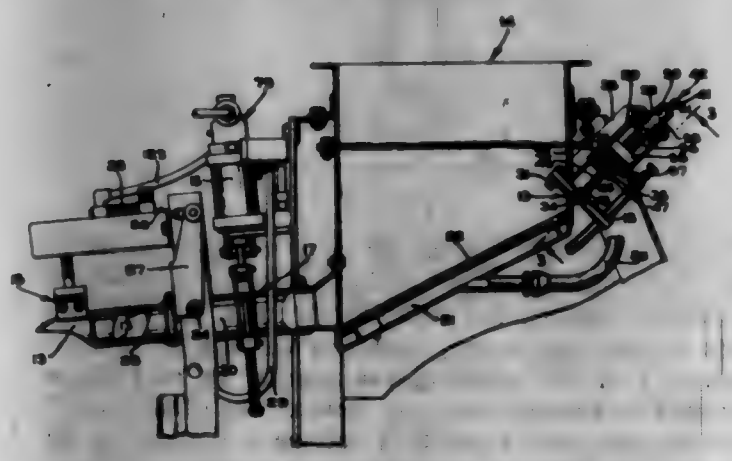
said local source and said detector means, means for heating said filter plate to a temperature above the ambient temperature of the space surrounding it, and means comprising a temperature-sensitive element for maintaining said filter plate substantially at such predetermined temperature, said filter plate being made of a glass having a characteristic cut-off wavelength to infra-red radiation shorter than said characteristic wavelength of said glass envelope.

2,968,947
PRESSURE MEASURING DEVICE
John E. Ainsworth, Jr., 5014 25th Place N., Arlington, Va.
Filed Apr. 23, 1957, Ser. No. 654,628
1 Claim. (Cl. 73—398)
(Granted under Title 35, U.S. Code (1952), sec. 266)



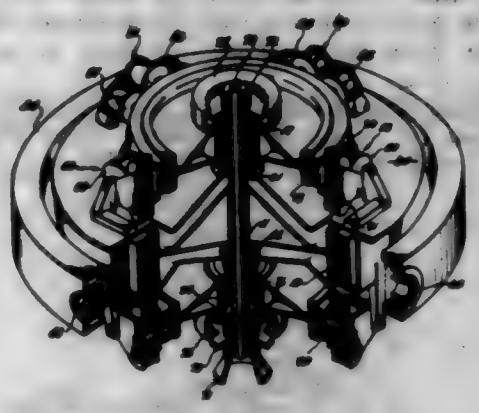
A pressure measuring device comprising a thin strip cantilever secured in an opening in a partition separating two adjacent areas having different pressures, said cantilever forming a movable surface of a capacitor and having a small spacing between the out edges of said cantilever and the adjacent partition wall surfaces, a stationary capacitor plate secured adjacent to said cantilever, means for measuring the capacitance change due to a deflection of said cantilever in accordance with the sum of the pressures acting on said cantilever.

2,968,948
SAMPLING DEVICE FOR BAG FILLING APPARATUS
Boyd W. Rees, Riverside, Calif., assignor to Food Machinery and Chemical Corporation, San Jose, Calif., a corporation of Delaware
Filed May 18, 1956, Ser. No. 585,809
8 Claims. (Cl. 73—421)



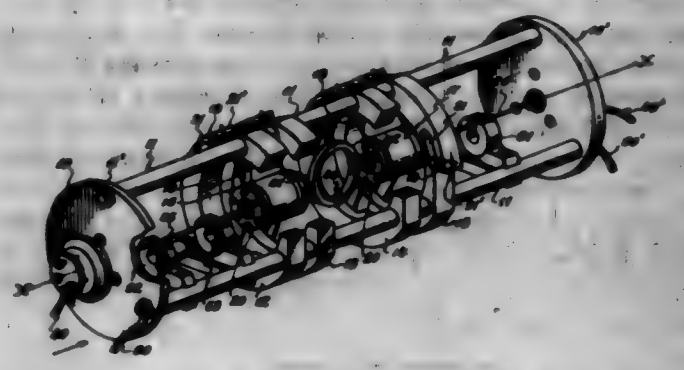
1. A sampling mechanism for use with a bag filling machine having a supply tank, a main filling spout, a valve for controlling the flow through said main filling spout, and a first power cylinder for actuating said valve, a discharge conduit connected to said first power cylinder, said sampling mechanism comprising a sampling spout extending outwardly and downwardly from said supply tank, a valve mechanism for controlling the flow through said sampling spout, spring means normally urging said valve mechanism toward its closed position, a second power cylinder connected to said valve mechanism for moving said mechanism toward its open position, conduit means connecting said second power cylinder with the discharge conduit of said first power cylinder, and a needle valve in said conduit means vented to the atmosphere to slowly bleed the pressure from said conduit means and permit said valve mechanism to be closed by said spring means.

2,968,949
INTEGRATING ACCELEROMETER
Herbert A. Lassen, Los Angeles, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Nov. 1, 1957, Ser. No. 695,475
1 Claim. (Cl. 73—504)



An integrating accelerometer comprising, in combination: means for providing a reference axis nonsensitive to accelerations; a shaft having a longitudinal axis; first and second rotors, each rotor having a center of rotation, an axis of rotation and a center of mass lying upon their respective axes of rotation and displaced axially in opposite directions from each respective center of rotation, first and second spherical bearing systems respectively interconnecting opposite ends of said shaft with and supporting said first and second rotors to permit precession of said rotors about each respective center of rotation; caging means for selectively aligning said axes of rotation coincident with said reference axis; and means including a plurality of magnetic circuits including a plurality of coils positioned adjacent peripheries of said rotors and responsive to the angular displacement between said rotors, whereby to provide a signal proportional to an integral of accelerations perpendicular to said reference axis.

2,968,950
ACCELEROMETER
Lee E. Dunbar, Plainview, N.Y., and Victor Vacquier, La Jolla, Calif., assignors to Sperry Rand Corporation, a corporation of Delaware
Filed July 16, 1958, Ser. No. 749,008
10 Claims. (Cl. 73—516)



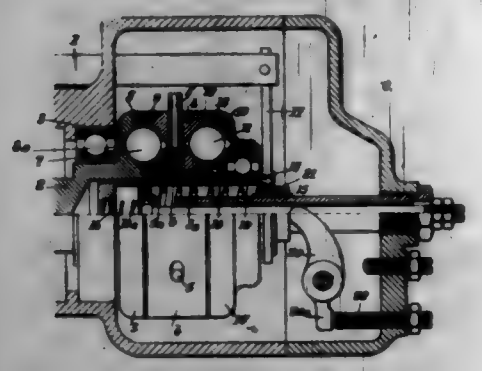
1. Force-measuring apparatus comprising a substantially rigid frame, a member mounted on the frame responsive to the force, a pair of filaments connecting said member to the frame, said filaments extending on the frame in a direction substantially parallel to the direction along which the force is exerted, resilient means associated with said member for normally applying equal tensions to said filaments, means for vibrating said fila-

ments at frequencies dependent upon the tensions applied thereto including means for vibrating said filaments in different vibratory modes having a predetermined ratio therebetween, and means responsive to said last-named means operable to provide a measure of the force exerted on said force responsive member changing the tension and related frequencies of vibration of each of said filaments.

2,968,951
CENTRIFUGAL GOVERNORS

Robert Gauthier, Saint-Germain au Mont d'Or, France, assignor to Societe Industrielle Generale de Mecanique Appliquee S.I.G.M.A., Paris, France, a society of France

Filed Mar. 8, 1957, Ser. No. 644,952
Claims priority, application France Mar. 10, 1956
14 Claims. (Cl. 73—511)



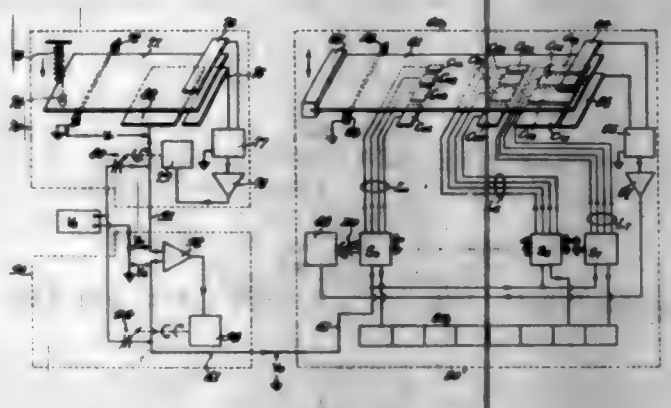
2. A centrifugal governor which comprises, in combination, a frame, two elements, consisting of a driving disc and a circular support respectively, disposed side by side and journalled in said frame about a common axis, said two elements being slidable relatively to each other parallelly to said axis, centrifugal weights slidably guided in said support radially with respect to said axis, said driving disc being provided on one side thereof with a number of recesses equal to the number of said centrifugal weights, each of said centrifugal weights being provided with a recess on the side thereof facing said driving disc, a plurality of spherical balls each engaged both in one of said disc recesses and in one of said centrifugal weight recesses so that said balls both transmit rotation from said driving disc to said support and cause said elements to move longitudinally with respect to each other in response to radial displacements of said centrifugal weights with respect to said support, the wall of each of said disc recesses being in tangential contact with a portion of the ball engaged in said recess located at a greater distance from said axis than the center of said last mentioned ball, said wall being in the form of a portion of a developable surface of revolution the axis of which intersects said first mentioned axis and the section of which by a plane passing through both of said axes is a straight line diverging from said axis toward said support, the circular sections of said surface, at least for a multiplicity of said sections, having respective diameters greater than the diameter of said balls, and means for yieldingly opposing longitudinal displacements of said elements with respect to each other in response to movements of said centrifugal weights away from said axis.

2,968,952
FORCE MEASUREMENT SYSTEM

John J. Stalder, West Caldwell, N.J., assignor to the United States of America as represented by the Secretary of the Army

Filed Sept. 21, 1959, Ser. No. 841,421
7 Claims. (Cl. 73—517)

1. A device for continuously counteracting a force of fluctuating magnitude comprising a plurality of transducers for converting electrical energy to mechanical energy, each transducer having a pair of spaced apart elements, a first set of elements comprised of one element from each transducer attached to a member displaceable by the force to be counteracted, a second set of elements comprised of the other element from each

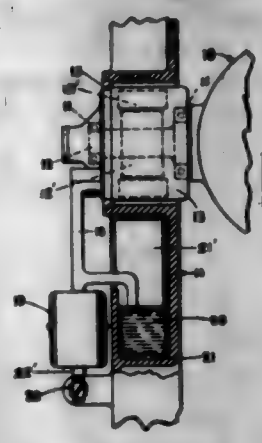


transducer attached to a support structure, sensing means for detecting the position of said first set relative to a reference position, and automatic means responsive to said sensing means for selectively energizing said transducers until a combination of transducers is energized which exerts a total force which will maintain said first set in the reference position.

2,968,953
STABILIZING SYSTEM CORRECTING MECHANISM

George Agins, Brooklyn, N.Y., assignor to American Bosch Arma Corporation

Filed Mar. 31, 1948, Ser. No. 18,187
14 Claims. (Cl. 74—5.4)



1. In a stabilizing system for a gyroscope journalled about a horizontal axis on a stabilized frame mounted on an unstable support, the combination of a first winding carried by said gyroscope, a second winding inductively related to said first winding and carried by said frame for limited movement relatively thereto, one of said windings being energized whereby a voltage is induced in the other of said windings in response to relative tilt about said axis to exert a torque about said axis, a pendulum suspended for movement about said axis, and mechanical connections between said pendulum and one of said windings for modifying the relation between said windings.

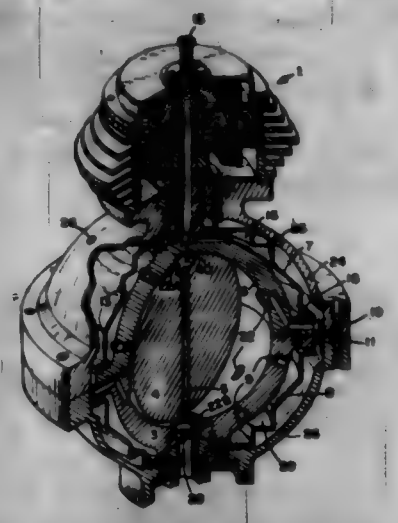
2,968,954
AIR-SUPPORTED SPHERICAL GYROSCOPE

Fritz K. Mueller, Huntsville, Ala., assignor to the United States of America as represented by the Secretary of the Army

Filed Mar. 30, 1960, Ser. No. 18,781
5 Claims. (Cl. 74—5.6)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A gyroscope comprising: a substantially spherical gyroscopic rotor having a central bore and having an

axis of gyroscopic rotation that coincides with the axis of said bore, said bore having sufficient diameter to insure that if said two axes are not aligned when the rotation of the rotor is begun centrifugal force causes them to move into coincidence during the starting phase of the gyroscope's operation; a casing around said rotor, having a substantially spherical inner surface that closely surrounds said rotor, with a clearance therebetween at all points, said casing having two sets of holes extending from its exterior to said clearance, one of said sets consisting of a plurality of annularly arranged groupings of gas-transmitting holes of relatively small diameter, and the other of said sets consisting of larger gas-transmitting holes that are located within said annularly arranged groupings each of said sets having an even



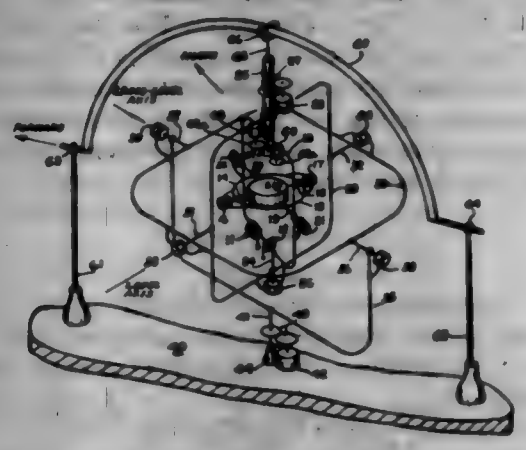
number of equidistantly-spaced holes, said casing and rotor being constructed and arranged to provide a gaseous film between them in which the force on the spherical rotor from any semispherical part of the film is balanced by the force on the rotor from the complementary semispherical part of the film; a motor drivably connected to said casing; means for supplying pressurized gas to one of said sets of holes, thereby forming a gaseous film in said clearance, while the other of said sets provides for exhaust of the gas from said clearance; whereby when said motor is started and drives said casing, said rotor is rotated, and increases its speed until it is rotating at substantially the speed of said casing, about the axis of rotation of said casing and said bore; and means for indicating a shift of said casing relative to said rotor's axis of gyroscopic rotation.

2,968,955

GIMBAL SYSTEM FOR VERTICAL INDICATORS

Charles T. Davenport, Manhasset, N.Y., assignor to American Bosch Arma Corporation, a corporation of New York

Filed Nov. 19, 1956, Ser. No. 623,054
7 Claims. (Cl. 74—5.8)



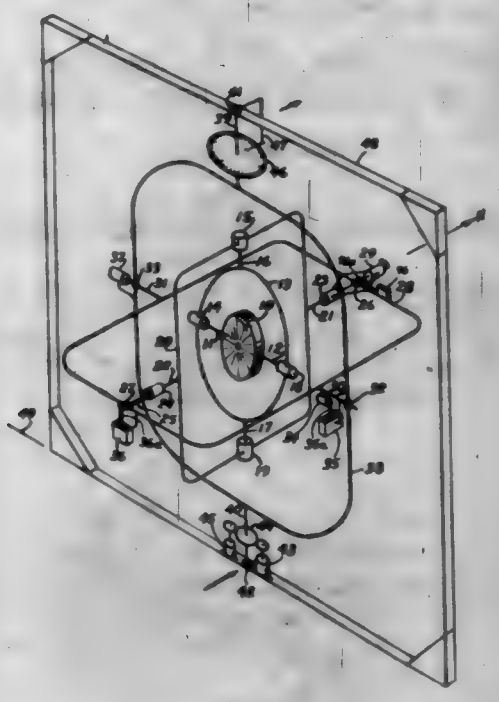
1. In a device of the character described, an unstable platform having a fore and aft axis, a vertical spin axis gyroscope universally supported in an azimuth frame, a gimbal system supported from and rotatable with respect to said platform, a vertical level frame supported in said gimbal system by horizontal shafts aligned with a level axis, means for supporting said azimuth frame in said level frame for rotation about a vertical axis therein, a roll reference bail supported for rotation about said fore and aft axis, a carriage slidable relative to said bail, a shaft extending between said carriage and said azimuth frame and means operatively connected to said shaft and said frame for indicating the relative angular displacement therebetween.

2,968,956

GYRO COMPASS

George Agins, Brooklyn, N.Y., assignor to American Bosch Arma Corporation, a corporation of New York

Filed Nov. 14, 1947, Ser. No. 785,910
20 Claims. (Cl. 74—5.9)



1. A gyroscopic system adapted to be mounted on an unstable support, the combination of a horizontal axis gyroscope suspended in an inner gimbal mounting, an outer gimbal mounting suspending said inner gimbal mounting on said support, motive means rotating said inner gimbal mounting about a horizontal axis, and reversing mechanism driven by said motive means for periodically reversing the direction of rotation of said inner gimbal mounting.

2,968,957

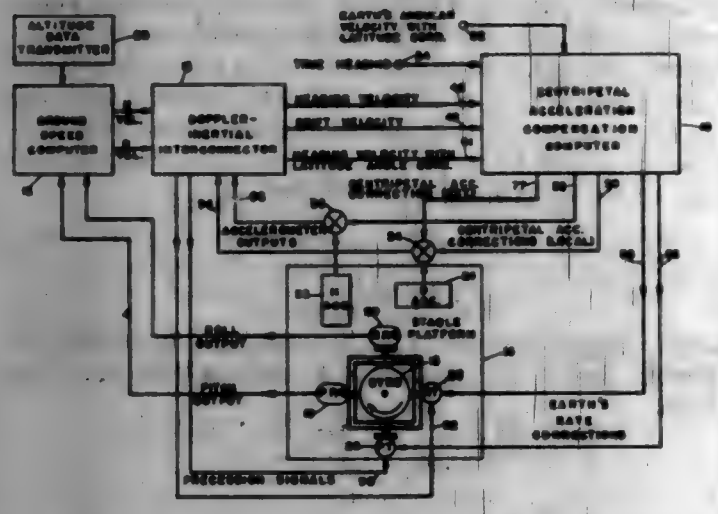
CENTRIPETAL ACCELERATION COMPENSATION COMPUTER FOR STABLE PLATFORM

Marion A. Condie, San Carlos, and Leland S. Reel, San Diego, Calif., assignors to Ryan Aeronautical Co., San Diego, Calif.

Filed Nov. 20, 1959, Ser. No. 854,409
7 Claims. (Cl. 74—5.47)

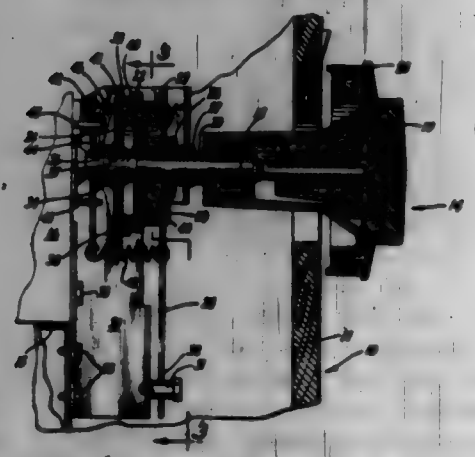
1. In a navigational system for a vehicle: a stable platform having a gyroscope; said gyroscope having pick-off means sensitive to motion about a plurality of axes of freedom, and erecting means coupled thereto erect the gyroscope in a predetermined position; said platform including a heading accelerometer and a drift accelerometer sensitive to accelerations of the vehicle in heading and drift directions, respectively, and having outputs providing signals proportional to the corresponding accelerations; and a centripetal acceleration compensation computer connected to said stable platform; a source of vehicle heading input, a source of heading velocity input and a source of drift velocity input connected to said

computer; computing means in said computer connected to said inputs and providing output signals proportional to the rate-of-change of heading multiplied by the head-



ing and drift velocities; said last mentioned output signals being combined with the output signals of said accelerometers.

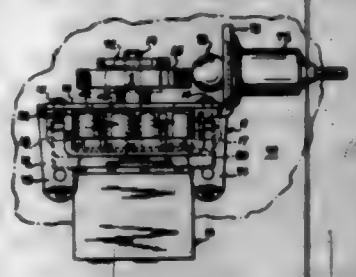
2,968,958
TUNING DEVICE WITH FINE TUNING MECHANISM
Gilbert J. Kennedy, Jenkintown, and Elmer W. Weber, Jr., Philadelphia, Pa., assignors to Philco Corporation, Philadelphia, Pa., a corporation of Pennsylvania
Filed Nov. 13, 1958, Ser. No. 773,614
5 Claims. (Cl. 74—10.8)



1. In a tuning device provided with a rotatable tuning shaft which has means whereby said shaft can be rotated directly to effect coarse tuning, fine tuning mechanism comprising: an eccentric mounted on and rotatable about said shaft; a pair of frictionally interengageable discs, one disc being rigidly affixed to said shaft, the other disc being freely journalled on said eccentric; means in engagement with said other disc to restrain the latter against rotation while providing for orbital oscillatory motion thereof in response to rotation of said eccentric; and tensioning means connected with and resiliently maintaining said other disc in driving frictional engagement with said one disc whereby said other disc, through said orbital oscillatory motion, drives said one disc and said shaft at a rate slower than the rate at which said eccentric is rotated.

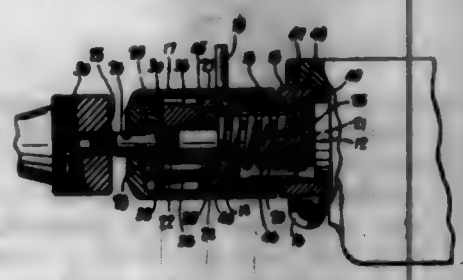
2,968,959
POSITION-SELECTING ACTUATOR DEVICE
Robert D. Emery, Euclid, Ohio, assignor to Eaton Manufacturing Company, Cleveland, Ohio, a corporation of Ohio
Filed Sept. 2, 1958, Ser. No. 758,524
11 Claims. (Cl. 74—10.27)

1. In a position-selecting actuator for operating devices having control stems, a body adapted to have a stem operated device attached thereto, a disk rotatably carried by said body, said disk adapted to engage said stem in coaxial relation for rotation of the stem therewith, and first and second push-buttons mounted on said body for reciprocation through power and return strokes, said



first push-button adapted to engage and rotate said disk for propelling said stem a fraction of a turn in one direction upon each power stroke, and said second push-button adapted to engage and rotate said disk for propelling said stem a fraction of a turn in the opposite direction upon each power stroke.

2,968,960
VARIABLE IMPACT DRILL
Charles Fulop, 131 Skyview Drive, Seven Hills Village, Ohio
Filed Dec. 8, 1959, Ser. No. 858,121
2 Claims. (Cl. 74—22)

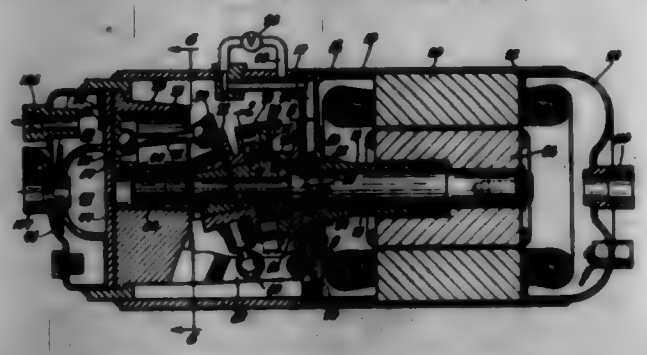


1. A variable impact drill, comprising in combination, an electric motor, including a drive shaft, mounted in a case having a hand grip; a spindle housing mounted on the case at the drive shaft; a spindle mounted on the end of the shaft, forming a continuation thereof, and extending through the housing; tool holding means mounted on the free end of the spindle; a cylindrical anvil member, including a flat impact face, mounted on the spindle within the housing and having a plurality of spaced plungers slidably mounted therethrough and movable between a first position, in which they extend beyond the impact face of the anvil, and a second position, wherein they lie flush with said face; a hammer member non-rotatably mounted on the spindle, within the housing, and slidable longitudinally thereof relative to the anvil member; the hammer having a series of inter-connected inclined cam tracks arranged in circular configuration and engageable by the anvil plungers when they are in their first positions; spring means engaged with the hammer member to normally bias the hammer cam tracks against the impact face of the anvil, and, impact control means for progressively moving the anvil plungers between their first and second positions.

2,968,961
REFRIGERATING APPARATUS
Ralph McGregor, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Feb. 13, 1957, Ser. No. 640,025
1 Claim. (Cl. 74—60)

In combination, a drive shaft having an offset crank portion thereon, an end thrust bearing adjacent said offset crank portion and abutted thereby, driving means mount-

ed on said crank portion, said driving means comprising a wobble plate and a wedge-shaped element rotatably supported on the offset part of said crank portion, rings disposed one within the other in spaced apart concentric relationship and secured to said crank portion for rotation therewith about the axis of said offset part thereof, said wedge-shaped element engaging an edge of each of the rings and forming therewith and with said crank portion a chamber between said rings, piston means within said chamber one secured to said offset crank portion and the other secured to said wedge-shaped element, said piston



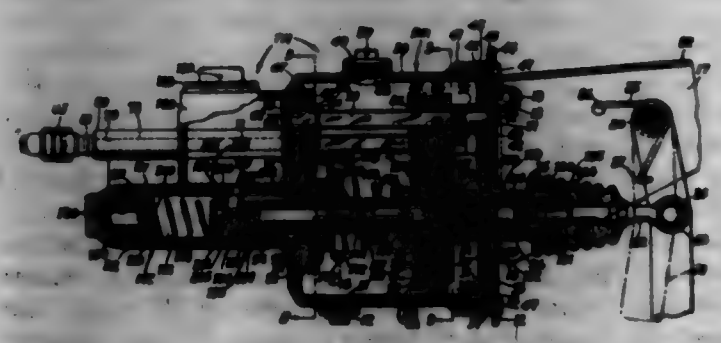
means being adapted to be moved relative to one another for shifting said wedge-shaped element about said offset part of said crank portion to change the angle of disposition of said wobble plate with respect to said drive shaft, an oil pump at the side of said thrust bearing opposite the side thereof abutted by said offset crank portion and operated by said shaft, and said bearing and said offset crank portion each being provided with a passage communicating with the outlet of said pump and with said chamber to cause said relative movement of said piston means in response to oil pressure developed by the pump.

2,968,962

TORQUE-ACTUATED BRAKE BOOSTER FOR MOTOR VEHICLES

Glenn T. Randel, 2nd and Paul Sts., Box 275, Mountain Lake Park, Md.

Filed Mar. 2, 1959, Ser. No. 796,412
19 Claims. (Cl. 74—89)



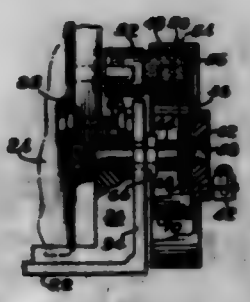
1. In a torque-actuated booster mechanism having an element movable to perform work, movement of said element being opposed by a normally preloaded spring, the improvement which comprises: a hollow casing closed at one end and open at the other; a detachable cover for closing the open end of said casing; a driven member rotatably supported in the casing between the closed end and cover thereof; an externally threaded hollow extension acted on by said driven member to rotatably and axially move together from a normal fully retracted position in an advancing operating direction to move said work performing element; a complemental internally threaded collar fixed on said casing in threaded engagement with said extension, said collar being effective to impart relative axial movement to the extension to actuate said work performing element as a function of corotational movement of said driven member and said extension; spring means including a compression spring encircling said extension, said spring having one end anchored to the casing and the other end reacting on the extension to impart rotational and axial movements to said extension and the driven member to retract them; a pair of oppositely rotatable drive shafts journaled between the closed end and cover of said casing in parallel relationship; a pair of constantly meshing gears for transmitting drive from one shaft to the other in opposite directions; another pair of gears slidably mounted on said shafts and corotational therewith; a pair of oppositely rotatable longitudinally spaced driving members coaxially journaled on said driven member with the latter member disposed in the space therebetween in normally disengaged relation with respect to said driving members, said driving members being selectively engageable in frictionally slipping relation with respect to said driven member to advance and retract the same; biasing means for urging said driving members to disengage with respect to the driven member; gear teeth defining the periphery of each driving member, and which are in constant meshing relation with respect to said pair of slidable gears; flange means carried by the sliding gears for connecting their respective driving members to move axially together; shifting mechanism for imparting sliding movement to said driving members and connected slidable gears relative to each other and to the driven member to selectively engage and disengage them from said driven member whereby the threaded extension is threaded into said collar and withdrawn therefrom to provide reciprocal movement to said extension as a function of its rotation; a cylindrical element coextensive with said extension in the hollow thereof and the driven and driving members; a yieldable detent mechanism carried by said driven member for releasably connecting the said element and shifting mechanism; operator-operated means including a link for acting on said element to shift the shifting mechanism thereby engaging and disengaging said driving members from the driven member; and a source of drive torque for imparting rotational movement to one of said drive shafts.

2,968,963

MOTOR DRIVEN AQUARIUM PUMP

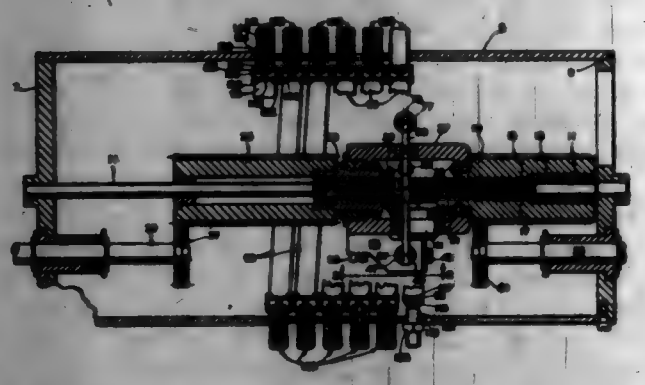
Russell Jennings Hazlett, 7802 Elmhurst, District Heights, Md.

Filed May 4, 1959, Ser. No. 810,917
4 Claims. (Cl. 74—206)



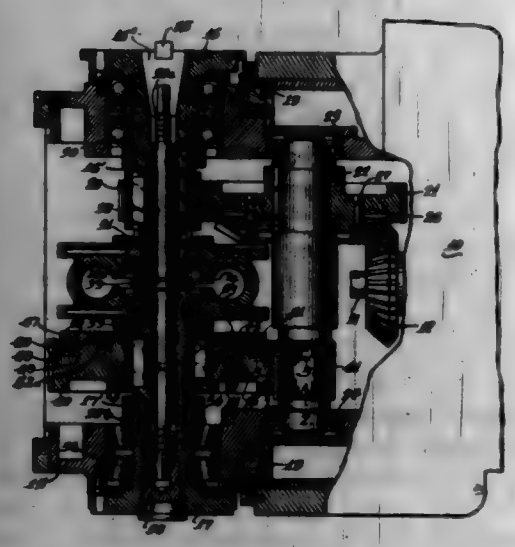
1. A motor-driven reduction gear drive for a reciprocating load such as a piston pump or the like, comprising a resilient cylindrical friction drive roll mounted on the shaft of a motor for rotation therewith, a driven wheel of substantially larger diameter than said roll and having a cylindrical flange providing an internal frictional contact surface engaged by said roll, a cylindrical idler wheel concentrically within said driven wheel and sized to provide, between its outer surface and the internal surface of said flange, an annular cylindrical space of width less than the normal uncompressed diameter of said roll, snugly receiving said roll, and a crank pin secured to said driven wheel to connect with said load.

2,968,964
MULTIPLE TURN CAM CORRECTOR
Harry G. Anastasia, Paramus, and William F. Watson, Fairlawn, N.J., assignors to The Bendix Corporation, a corporation of Delaware
Filed Feb. 23, 1960, Ser. No. 10,466
7 Claims. (Cl. 74—395)



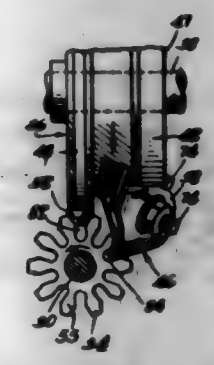
1. A multiple turn cam corrector, comprising an input shaft, an output shaft, a circular barrel having end portions rotatably carrying said input shaft and said output shaft respectively, a flat helical cam track having multiple turns, means for supporting said helical cam track within said barrel, said supporting means including a plurality of adjustable members projecting from an inner surface of said barrel and flange portions at the extremities thereof for carrying the helical cam track so that adjustment of said members may be effective to vary the contour of said helical cam track, another shaft fixedly supported by the end portions of said barrel, said other shaft having screw threads thereon, a differential gearing mechanism screw threadedly engaged with said screw threads and drivingly connecting said input shaft to said output shaft, a cam follower carried by said differential gearing mechanism and traveling on said multiple turn helical cam track for adjusting said differential gearing mechanism and thereby said output shaft relative to said input shaft in accordance with the contour of said helical cam track.

2,968,965
DRIVE WITH ANTI-BACKLASH MEANS
Fred R. Swanson and Carl F. Erikson, Rockford, Ill., assignors to Sundstrand Corporation, a corporation of Illinois
Filed June 24, 1959, Ser. No. 822,562
15 Claims. (Cl. 74—409)



1. A spindle drive transmission with anti-backlash means, comprising, a rotary spindle having a spindle drive gear thereon rotatable therewith, a power input including a rotary driving pinion meshing with said spindle drive gear for driving the latter to rotate the spindle, a backlash eliminator rotor positively connected with the spindle and rotatable proportionately therewith, a braking member rotated by said power input at a speed less than the speed of the rotor, and friction means connecting the braking member and the rotor to exert a braking effect on the rotor to thereby retard advance of said drive gear relative to said driving pinion.

2,968,966
INTERMITTENT MOTION DEVICE FOR PROJECTORS
Oscar J. Holmes, 512 N. Belden Ave., Chicago 14, Ill.
Filed June 24, 1958, Ser. No. 744,273
4 Claims. (Cl. 74—426)

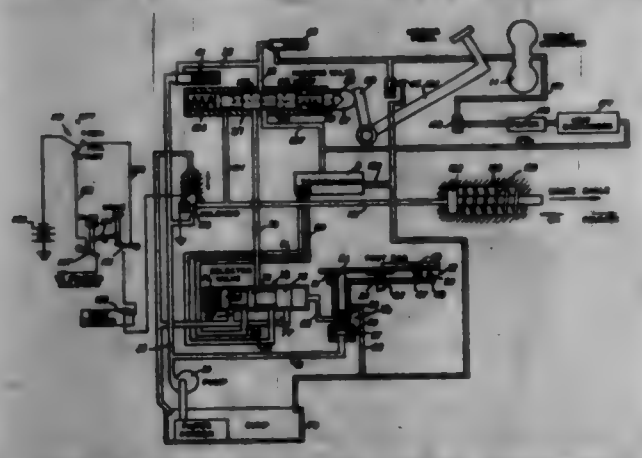


1. In a motion picture machine, the combination of film moving and locating means including an operating gear therefor having a plurality of rotatably spaced film exposing positions, said gear having teeth equal in number to said positions and having addenda and dedenda of substantial depth, a rotary holding element having a periphery normally entering between and engaging only the addenda of two adjacent teeth of said gear to hold the latter precisely in one of said positions thereof, said periphery defining a discontinuity therein, a rotary indexing element, a pair of sheet metal cam elements of approximately equal strength detachably mounted on said indexing element and projecting therefrom in spaced relation to each other, said cam elements having projecting gear-engaging free edge portions and being shaped and being positioned on and by said indexing element to move the projecting edge portions of both cam elements between two adjacent gear teeth to engage only the dedenda thereof upon rotation of the indexing element, said projecting edge portions having circumferentially spaced leading and trailing ends shaped to have a substantially parallel relation to the axis of said gear when engaged therewith, said leading and trailing ends being offset from each other with respect to said gear to a degree equal to the spacing of said gear teeth, said projecting edge portions curving longitudinally of the axis of said operating gear between and merging smoothly with said ends thereof and having a minimum spacing from said holding element periphery equal to at least one gear tooth space, and means for rotating said holding element and said indexing element in synchronization to move said periphery discontinuity into alignment with said gear concurrently with engagement of said gear by said cam elements.

2,968,967
DRIVE SYSTEM FOR LIFT TRUCK
Cecil J. Ross, Jr., Portland, Oreg., assignor to Hyster Company, Portland, Oreg., a corporation of Nevada
Filed Apr. 20, 1959, Ser. No. 807,512
10 Claims. (Cl. 74—472)

1. In a drive system for a vehicle, a throttle pedal including a pedal arm having a foot rest end, means spaced from said foot rest end and pivotally mounting said pedal for bodily movement of said foot rest end about the pivotal axis of said arm, foot operated means carried by said pedal at the foot rest end thereof and operable when actuated one way for placing said vehicle in a first drive, and operable when actuated a second way for placing said

vehicle in a second drive different from said first drive, and means for releasably holding said vehicle in the drive



in which it is placed despite release of pressure on the foot operated means.

2,968,968
BALL EJECTION CONTROLLED DETENT
Joe P. Mullen, Cedar Rapids, Iowa, assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa
Filed May 19, 1959, Ser. No. 814,234
5 Claims. (Cl. 74—527)



1. A detent mechanism comprising an input shaft rotatably supported with respect to a base member, a detent cam plate rigidly affixed to said input shaft, a circumferential detent defining member rigidly affixed with respect to said base member and carried in displaced axial alignment with said cam plate, a carrier frame member rotatably supported about said input shaft, said frame member including a face plate substantially parallel to said input shaft and carried in offset rotary position with respect to said cam plate and said detent defining member, first and second ball members carried in through-holes formed in said face plate, a spring-loading means affixed to said face plate, said spring-loading means commonly engaging each of said first and second detent balls, a cooperative pin and slot coupling means operably connected between said carrier frame and said cam plate respectively, said coupling means adapted to permit a preselected bidirectional relative rotation between said carrier frame and said cam plate with respect to a neutral position defined by the detent in said cam plate periphery, said spring-loading means and first ball member coactively adaptable such that camming action therebetween is effected responsive to relative rotation between said cam plate and said carrier frame and said spring-loading means is thereby removed from said second ball member to effectively remove the detent action between said second ball member and said second detent defining member.

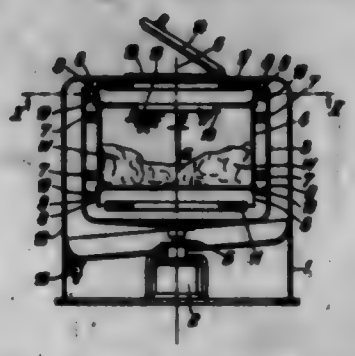
2,968,969
STEERING WHEEL COMPENSATING MEANS
Albert C. Henning, 814 14th St. N.W., Minot, N. Dak.
Filed Jan. 18, 1960, Ser. No. 3,103
11 Claims. (Cl. 74—552)

1. Steering wheel compensating means to compensate for adventitious forces acting thereon, comprising, a track element attachable to a steering wheel, a weighted member slidably carried on said track element for move-



ment thereon, and means for holding the weighted member in releasable selective positions on said track.

2,968,970
COMPENSATION OF UNBALANCE IN CENTRIFUGAL MACHINES
Wilhelm Lepper, Berghaus Heckenfels, Hoenef (Rhine), Germany
Filed Oct. 13, 1958, Ser. No. 766,734
Claims priority, application Germany Oct. 19, 1957
4 Claims. (Cl. 74—573)



1. A centrifugal machine comprising a machine frame, a carrier cage mounted in said frame for rotation about an axis fixed relatively to said frame, driving means operatively connected to said cage and adapted to rotate said cage about said axis, a rotary body accommodated within said cage, compensating weight means, at least one lever pivoted to the cage and having a first arm connected to one axial end of the rotary body and a second arm connected to the compensating weight means, at least one lever pivoted to the cage and having a first arm connected to the other axial end of the rotary body and a second arm connected to the compensating weight means, and elastically yielding locating members operatively connected to said cage and said body and adapted to urge said body into a position of concentricity with said axis, whereby said body and weight means are carried only by said cage and rotate synchronously with said cage, and said body can undergo resilient radial deflection from said position whereupon said levers positively deflect said weight means in a direction opposite to that of the deflection of said body, and the deflection of said weight means is proportional to the deflection of the body.

2,968,971
MOUNTING ARRANGEMENTS FOR GEAR TRAINS
Stanley Beadle and Ainger Alexander Gee, Beckenham, England, assignors to Mainhead & Co. Limited, Beckenham, England
Filed Aug. 31, 1959, Ser. No. 836,991
Claims priority, application Great Britain Oct. 6, 1958
5 Claims. (Cl. 74—606)

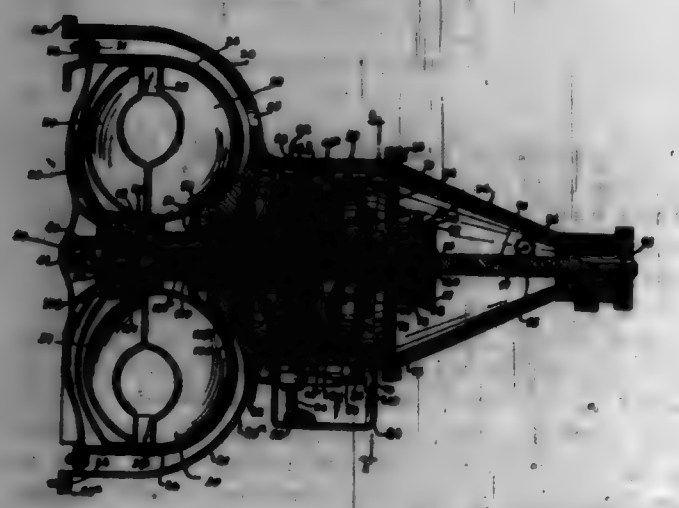
1. A gear assembly comprising an integral gear case structure of an end plate, a ring and webs spacing the end plate and ring apart, a second end plate located axially and circumferentially in the ring of the gear case structure, gear shafts having gear wheels thereon, bear-

ings locating each of the gear shafts at spaced positions in the end plate of the gear case structure and in the



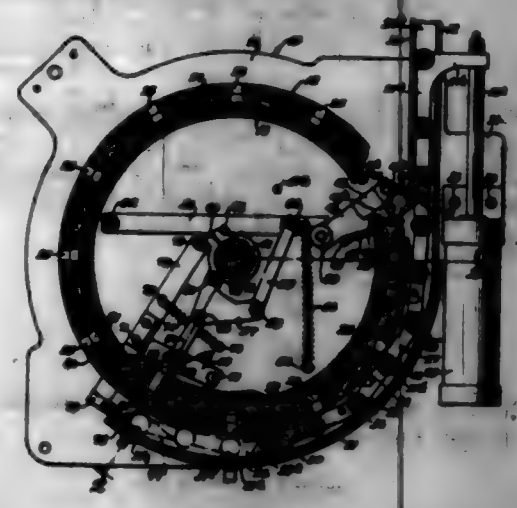
second end plate respectively, and a cylindrical housing fitting closely around the gear case structure and secured thereto.

2,968,972
FLUID CONTROLLED TRANSMISSION FOR ENGINES
Tibor Toth, 87 Greeley Ave., Staten Island, N.Y.
Filed July 9, 1959, Ser. No. 825,948
3 Claims. (Cl. 74—688)



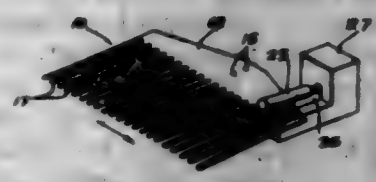
1. An automatic fluid drive system, comprising a fluid pump, a tank for said fluid, conduit means connecting said tank and pump for drawing fluid therefrom under suction created by said pump, a turbine, said turbine being connected to said pump and receiving fluid under pressure therefrom, a shaft connected to and driven by said turbine, a second shaft operatively connectable to the first shaft, forming an extension thereof, and providing a power take-off means, clutch members connected to said pump and adapted to be engaged and disengaged by fluid pressure and suction applied by said pump, said clutch members being carried by the first and second shafts, and manually operable valve means connected between said pump and clutch members for controlling engagement and disengagement thereof, said valve means comprising a block having two longitudinal bores, a pair of pistons movably mounted in one of said bores, a valve core movably disposed in the other of said bores and extending therefrom for manual actuation, and conduit means providing an inlet and outlet for fluid to and from the bores in said block, said bores being coupled by passages, said pistons and core being adapted to selectively close or open said passages to control the flow of said fluid between said inlet and outlet.

2,968,973
WORK FEEDING DEVICE
Theodore E. Mead, 1020 Michigan Ave., Wilmette, Ill.
Filed Aug. 29, 1958, Ser. No. 758,110
15 Claims. (Cl. 74—822)



1. In a rotary work-feeding device, a circular turntable rotatably mounted on a base and having a plurality of equally-spaced indexing openings provided in the rim thereof, a locking mechanism on said base including locking-pin means adapted to be removably inserted into each of said openings in sequence, and turntable-rotating means on said base for moving said turntable by engaging one of said openings when said pin means has been retracted from another opening, said base being provided with an upstanding rib inward of the rim of said turntable, an opening in said rib being equipped with a rotatable bushing having an eccentric opening therethrough, said turntable-rotating means including a track about said turntable, a chain slidably mounted in said track and equipped with a pawl for engaging said openings, and a fluid pressure cylinder connected to said chain for reciprocating the same.

2,968,974
METHOD OF MAKING A LAWN RAKE
Vernon M. Everett, 708 N. Harvard, Fullerton, Calif.
Filed Sept. 8, 1958, Ser. No. 759,710
9 Claims. (Cl. 76—111)

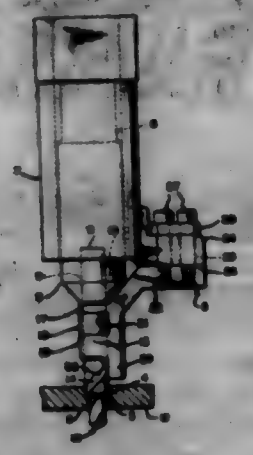


1. A method of manufacturing a sheet metal rake having integral tines and body, which comprises providing a sheet metal blank having a body portion and a tine portion, said tine portion comprising a plurality of tines integrally connected to said body portion and extending generally parallel to each other, and forming grooves in said body portion generally parallel to said tines to effect fanning apart of the ends of said tines.

2,968,975
COMBINED DRILL SUPPORT AND CHIP CUTTER DEVICE
Edward H. Niemeyer, Mount Rainier, Md., assignor to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey
Filed July 28, 1958, Ser. No. 751,364
7 Claims. (Cl. 77—65)

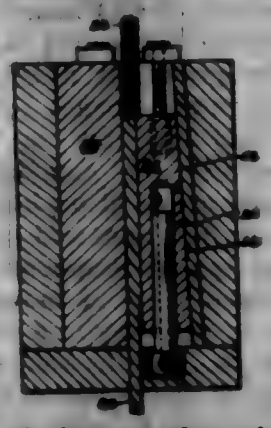
7. A combined drill support and chip cutting device comprising a body having an arm integral therewith, spaced bearings provided on said body to rotatably engage the medial portion of a fluted drill when mounted for rotation within the said bearing, and a chip cutter

integral with said body and having a straight cutting edge offset for engagement with the drill flutes whereby said cutting edge coacts with edges of the flutes in the drill to



sever helical chips into small sections during a drilling operation, and an oil impregnated bushing between said bearings to receive the drill and to lubricate the bearings.

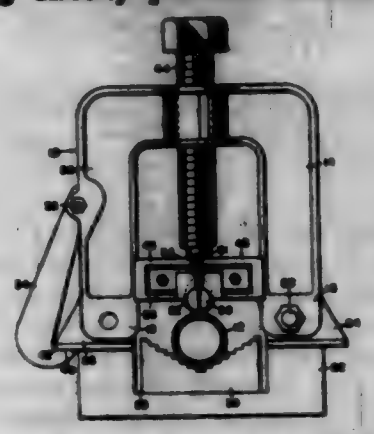
2,968,976
HEADING DIE
Roland E. Cole, Pittsburgh, Pa., assignor to Schaefer Equipment Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed June 11, 1958, Ser. No. 741,278
9 Claims. (Cl. 78—61)



1. An upsetting die for upsetting a length of wide, thin stock, comprising a die holder having a central recess therein extending from front to back, the recess having a side wall sloping outwardly from front to back, a first die slidably disposed within the recess for movement from front to back therein, the die having a sliding face that engages the sloping side wall of the recess and an opposite face provided with a longitudinally extending channel, the outer edges of which are spaced from the walls of the die holder, a second die disposed within the recess and having a die face opposed to the channel in the first die, the bottom and side walls of the channel in the first die and the die face of the second die defining a die cavity for receiving the stock and for supporting it during the upsetting operation in spaced relation to the walls of the die holder, and pressure means for applying longitudinal pressure on a length of stock inserted in the die cavity and for moving the first die longitudinally towards the back of the die holder during at least a portion of the upsetting operation.

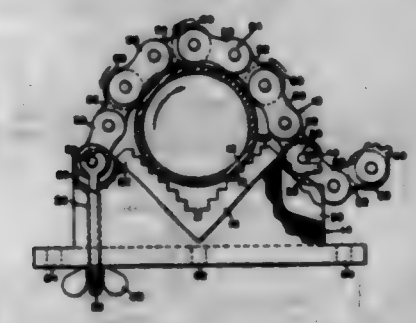
2,968,977
PIPE GRIPPING DEVICE HAVING ECCENTRICALLY JOURNALLED GRIPPING MEANS
Charles J. Wheeler, 2078 W. Jackson St., Painesville, Ohio
Filed Mar. 2, 1959, Ser. No. 796,700
3 Claims. (Cl. 81—19)

1. A tool for gripping a substantially cylindrical element comprising, in combination, engagement means against which a first portion of said element may engage, eccentrically journalled gripping means for engaging a second portion of said element, said first and second portions being substantially opposite from each other, press means engaging said eccentrically journalled gripping means for pressing said eccentrically journalled gripping means against said second portion of said element and thereby press said first portion of said element against said engagement means, said eccentrically journalled gripping means comprising rotatively journalled shaft means having directly provided thereon eccentric cam



surface means with a minimum dimension gripping position and a maximum dimension gripping position, said press means having bearing means for said shaft means and comprising thread means having an end portion thereof pressing against said shaft means, rotation of said shaft means in said bearing means upon attempted relative movement between said element and said eccentrically journalled gripping means generating a self-tightening action as said eccentric cam surface means tends to rotate relative to said element from a minimum dimension gripping position towards a maximum dimension gripping position.

2,968,978
VISE
Charles J. Wheeler, 2048 W. Jackson St., Painesville, Ohio
Filed Mar. 2, 1959, Ser. No. 796,701
2 Claims. (Cl. 81—19)

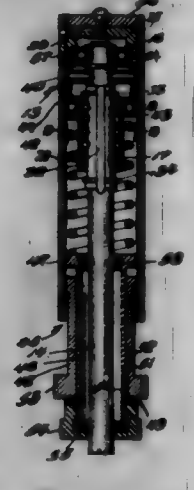


1. A pipe vise comprising, in combination, a base member, a flexible, nonextensible chain secured thereto at one end, means to engage the chain about a pipe at a point on the chain dictated by the size of the pipe, means to tighten the chain when disposed about a pipe, said chain carrying a plurality of spaced, curved, pressure-applying elements resiliently biased in a predetermined position and journalled off center whereby attempted turning of the pipe in the vise generates a self-tightening action.

2,968,979
PREDETERMINED TORQUE RELEASE HAND TOOL
Saio A. Ajaia, 615 Tiffany St., Attleboro, Mass.
Filed May 5, 1959, Ser. No. 811,206
11 Claims. (Cl. 81—52.4)

1. In a predetermined torque applying tool having a shaft, a handle, a clutch for connecting said handle to said

shaft for rotating the same, said clutch having a first part connected to said handle for rotation therewith, a second part connected to said shaft for rotation therewith, anti-friction means for axially slidably mounting one of said parts, said parts each having a plurality of grooves therein with the grooves on the said first part being adapted to be



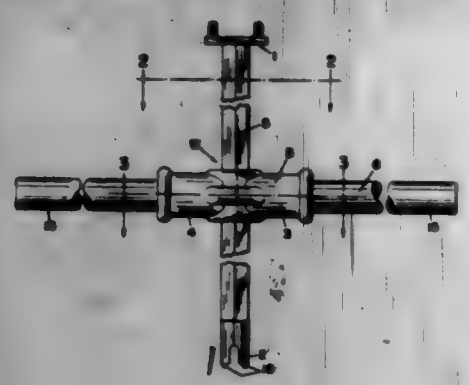
moved into axial registry with the grooves on the said second part, a third part between the first and second parts and engaged in said grooves, said slidable part being spring biased toward the other part to cause engagement of said grooves with the third part for providing a driving connection for transmitting torque applied to said handle to said shaft.

2,968,980

WRENCH WITH A VERTICALLY ADJUSTABLE CROSSARM

Walter Zierold, 84 Park Ave., Southbridge, Mass.

Filed Mar. 3, 1959, Ser. No. 796,845
6 Claims. (Cl. 81—177)



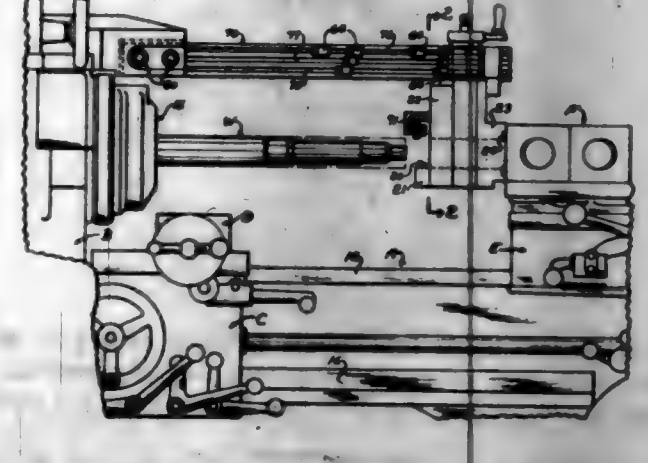
1. In a wrench, an elongated shank of non-circular cross-section having a wrench head on at least one end thereof, a handle transverse of the shank including a body having therein a hole with a cross-section approximately that of said shank and through which the latter passes, said body having a cavity therein merging with the hole and through which the shank passes, and a resilient holding member comprising a spring confined within the cavity formed with integral arms having frictional holding relation with opposite sides of the shank enabling the shank and handle to have relative motion lengthwise of the shank but normally effective by engagement with part of said body to prevent relative motion of the shank and handle due solely to their weight, said spring being made of flat stock and said arms being joined by a cross piece having a bend therein the curvature of which can be reduced to spread the arms apart or increased to lessen the distance between the arms.

2,968,981

PROGRESSIVE STEP BAR TURNER

Wilbur C. De Graff, deceased, late of Chagrin Falls, Ohio, by Margaret M. De Graff, executrix, Chagrin Falls, Ohio, assignor to The Warner & Swasey Company, Cleveland, Ohio, a corporation of Ohio

Filed Dec. 13, 1955, Ser. No. 552,956
19 Claims. (Cl. 82—11)



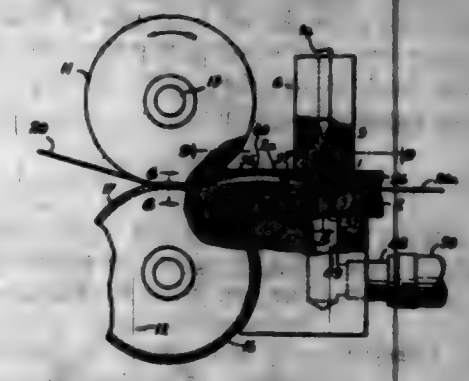
1. In combination with a machine tool having a tool supporting member supported for reciprocable movement along a predetermined path, a rack bar means operatively connecting said rack bar to said member for reciprocating the member upon reciprocation of the rack bar, a rotatable shaft, gearing operatively and positively connecting said shaft to said rack bar for rotation of said shaft upon movement of said rack bar, a movable member, means positively connecting said movable member to said shaft for movement thereby upon rotation of said shaft, spring motor means operatively connecting said motor to said rack bar to yieldably urge said rack bar to move said tool supporting member in one direction along said path and tending to move said movable member in one direction, said movable member having a plurality of spaced abutments thereon engageable to prevent movement of said movable member in the direction which it is urged by said spring motor whereby operation of said rack bar by said spring motor is prevented, a plurality of pawls, means supporting said pawls adjacent to said movable member for engaging said abutments to prevent movement of the movable member and for movement to a position clear of said abutments, each of said pawls engaging only one of said abutments, and means for yieldably urging said pawls into engagement with said movable member, said means positively connecting said movable member and said shaft comprising means to adjust the relative position of said shaft and said movable member.

2,968,982

FEEDING APPARATUS

Walter F. Cousino, 2160 Mount Vernon, Toledo, Ohio

Filed Nov. 8, 1957, Ser. No. 695,403
16 Claims. (Cl. 83—262)



1. The combination of a web supporting member, a web-engaging member, means for reciprocating one of

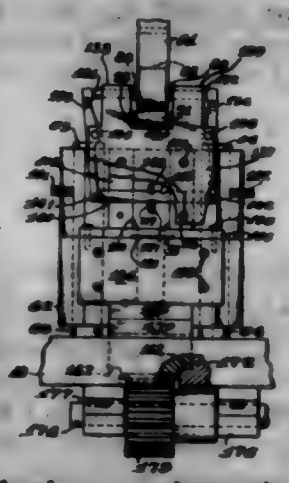
said members toward and away from the other of said members for operating on the web, continuously-driven feeding means for moving a web of flexible sheet material between said members, said members interrupting the movement of the web temporarily each time said members are moved toward each other and into operating engagement with the web, guide means between said web-engaging member and said feeding means having a curved web-engaging surface against which the web may bow, the bowed portion of the web moving away from said curved surface when said members interrupt the movement of the web, and fluid pressure means for creating and maintaining a fluid pressure differential on the opposite side faces of said bowed portion of the web to urge the sheet material toward said curved surface, said fluid pressure means accelerating the movement of the web past said web-engaging member when said members separate to release the web.

2,968,983

ROTARY IMPACT PERFORATING MACHINE HAVING POSITIVE PUNCH RETRACTING MEANS

Walter F. Cousino, 2160 Mount Vernon, Toledo, Ohio

Filed May 1, 1956, Ser. No. 581,862
4 Claims. (Cl. 83—355)



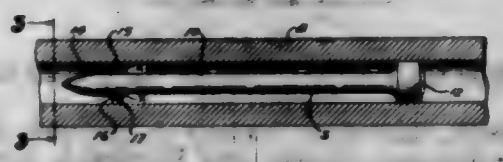
1. A machine having a reciprocating punch for perforating and stamping strips of sheet material comprising a frame, a punch guide and a die mounted on said frame, a light-weight reciprocating punch slidable in said guide, one end of the punch projecting beyond the punch guide, a pair of feed rolls mounted on said frame to feed said sheet material between said punch and die, a channel being formed in said frame and punch guide to conduct said sheet material from said feed rolls through said punch and die, a lever with its free end resting on the end of the punch projecting beyond the punch guide and with its other end mounted on a fulcrum pivot, a flywheel mounted on said frame with its shaft at substantially right angles to the centerline of the punch, a plurality of cams distributed about the circumference of said flywheel to strike said lever to in turn drive said punch through said sheet material, means to retract said punch, and a motor mounted on said frame to drive said flywheel and said feed rolls, said punch being provided with a pin projecting at substantially right angles therefrom in the plane of the flywheel, the means for retracting said punch comprising a cam bar with a pair of detents adapted to receive the free end of said pin and a central cam ridge between said detents, levers pivoted at each end of said cam bar in turn pivotally mounted on said frame, projecting pegs mounted about the circumference of the flywheel at alternately opposite sides thereof, and pins slidably mounted on said frame adapted to be struck by said pegs to in turn strike the other end of said levers, whereby on rotation of the flywheel one of the pegs strikes one of the slidably mounted pins to drive the adjacent lever away from the flywheel and drive the cam bar toward the flywheel, lift the punch pin onto the central cam ridge of the cam bar, retract the punch and also drive the other lever toward the flywheel to return and place it in the path of the next projecting peg.

2,968,984

EXPLOSIVELY ACTUATED STUD WITH A FRONT GUIDING MEANS WITH A TAPERED FLANGE

Charles J. De Caro, Cleveland, Ohio, assignor, by mesne assignments, to Olin Mathieson Chemical Corporation, a corporation of Virginia

Filed Mar. 9, 1955, Ser. No. 493,254
8 Claims. (Cl. 85—10)



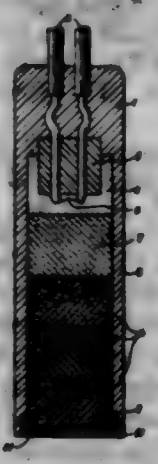
1. A stud for penetration into relatively hard material by its ejection through the bore of the barrel of an explosively-actuated stud driving tool, said stud comprising a shank portion and a headed rear end portion, said headed portion being of a cross dimensional size generally corresponding to that of said barrel bore, whereby said headed portion serves as a rear guiding and centering means for the stud in its ejection through said barrel bore, the shank portion of said stud being of a cross-dimensional size appreciably less than that of the headed portion thereof and said shank portion having a front end part tapered to a point to facilitate the penetration of the stud into said relatively hard material, said stud also having a front guiding and centering means which comprises a one-piece member having a resilient body portion retained on the stud shank portion, said body portion having a tapered socket open at its rear end, which generally corresponds in size and shape to the tapered front end part of said stud shank portion to snugly receive said end part, and said member also having a resilient axially flexible circumferentially disposed flange means so formed integrally with the body portion thereof and extending generally outwardly therefrom and axially spaced from the stud headed portion and from the rear end of said body portion for yieldable guiding and centering engagement with the tool barrel in the ejection of the stud through the bore of said barrel and for development of a component of force of the exploded gases toward the axis sufficiently to press said body portion inwardly to increase the retention of said member on said shank portion during driving thereby resisting the component of force of said gases tending to strip said member off said shank portion.

2,968,985

BLASTING CAPS

Frederick R. Seavey Alton, Ill., assignor to Olin Mathieson Chemical Corporation, East Alton, Ill., a corporation of Virginia

Filed Mar. 7, 1957, Ser. No. 644,680
2 Claims. (Cl. 86—1)



1. A method of manufacturing electric detonators which comprises molding a cylindrical plastic body about

a pair of spaced plastic insulated lead wires adjacent the bared ends thereof, extending a bridge wire between the bared ends of the lead wires, one end of the cylindrical body facing the bridge wire, molding a one-piece combination thermoplastic bridge plug and case about the side wall and the other end of the cylindrical plastic body and also about a portion of the lead wires adjacent said other end of the plastic body, the case being open at its end opposite the lead wires, introducing an explosive material through the open end of the case, and providing a bottom closure for the case.

2,968,986

METHOD OF FABRICATION OF EXPLOSIVE MISSILES

Robert J. Swift, Riverdale, Andrew A. Affrunti, Chicago, Samuel Altschuler, Skokie, and Werner A. Gans, Chicago, Ill., assignors to the United States of America as represented by the Secretary of the Air Force

Filed Jan. 30, 1957, Ser. No. 637,339
1 Claim. (Cl. 86—20)



The method of explosive missile fabrication to increase the spalling effect of the missile on armor comprising, inclosing an inner thin walled elongated cylindrical receptacle adapted to contain an explosive with a loosely braided elongated wire stranded cylindrical intermediate container with the wire braided strands disposed on a bias to the longitudinal axis of the inner receptacle and said intermediate container compressed laterally into encircling contact with the outer surface of the inner receptacle, inclosing said intermediate bias braided wire container with a closely fitting outer thin walled elongated metal receptacle, and spinning said outer receptacle over the length of said intermediate bias woven metallic receptacle to force the inner surface of the intermediate braided wire container into intimate contact with the outer surface of the inner receptacle throughout substantially the length thereof and loading the inner receptacle with an explosive, whereby when the missile is projected against armor the bias woven sleeve will be expanded transverse to its longitudinal axis to cause splitting of the thin walled outer receptacle and increase the spalling effect on the armor.

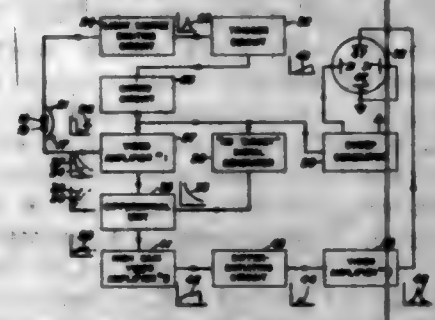
2,968,987

METHOD AND APPARATUS FOR MEASURING DEPTHS OF WATER AND DETECTING SUBMERGED BODIES BY EMPLOYING PULSED LIGHT

Joseph J. Knopow, 3437 24th St. N.W., Washington, D.C.

Filed June 1, 1949, Ser. No. 96,608
10 Claims. (Cl. 88—1)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A system for detecting objects submerged in water comprising a source of light pulses, means for directing said pulses downwardly into the water, light responsive means immediately adjacent said source for receiving the diminishing illumination propagated upwardly due to scattering and absorption as each pulse proceeds downwardly, said receiving means being operative to convert the diminishing illumination received into a corresponding electrical signal, a second signal producing means operative to produce a second electrical signal having a characteristic identical to that of the signal produced by said receiving means when there is no object present, means for combining the outputs of said receiving and



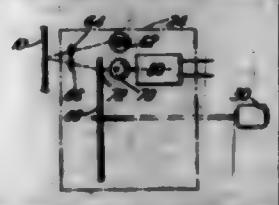
producing means to produce a signal which varies only when an object is present, said variation being proportional to the distance between said object and said source, and indicating means responsive to said last mentioned signal.

2,968,988

APPARATUS FOR INDICATING CHANGES IN INK

John Fothergill Crosfield, London, England, assignor to J. F. Crosfield Limited, London, England, a company of Great Britain

Filed Sept. 3, 1957, Ser. No. 681,843
Claims priority, application Great Britain Mar. 18, 1955
12 Claims. (Cl. 88—14)



1. Apparatus for indicating changes in the density of ink on a printed surface, the printed surface having predetermined monitoring areas of ink spaced at selected points across its width, the apparatus comprising a scanning head including a photoelectric cell, driving means for traversing the scanning head across the printed surface to enable the scanning head to scan said monitoring areas and to produce correspondnig electric signals, exposure control means for additionally exposing said photoelectric cell to two different standardising light intensities of greater and less value respectively than those of the monitoring areas, so that the ouput of the photoelectric cell includes, in addition to the signal corresponding to a scanned monitoring area, two signals of different values representing the two different standardising light intensities, a control circuit responsive to the output of the photoelectric cell to provide a signal representing the density of the scanned monitoring area in relation to the standardising light intensities, an indicating means responsive to the density-representing signals to provide an indication of the ink density at the selected points, and gating means rendered operative during movement of the scanning means between the monitoring areas across the width of the printed surface to block the application to the indicating means of data representing the appearance of the printed surface between successively scanned monitoring areas.

2,968,989

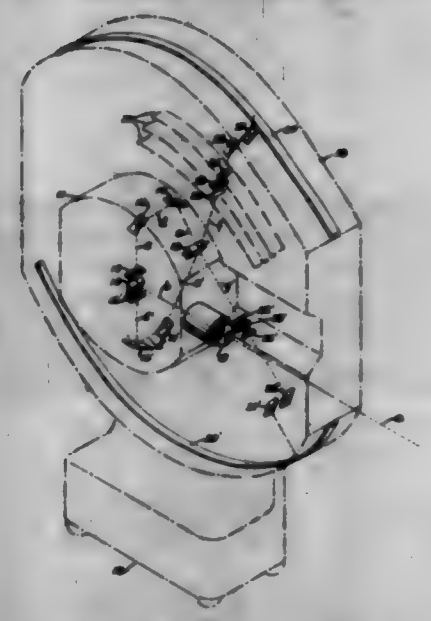
HIGH SPEED CONTINUOUS WRITING FRAMING CAMERA

Willard E. Buck, Boulder, Colo., assignor to Beckman & Whitley, Inc., San Carlos, Calif., a corporation of California

Filed Aug. 4, 1958, Ser. No. 752,833
5 Claims. (Cl. 88—16)

1. In a camera of the character described in which a beam of light from an objective lens is split into diverg-

ing paths to be directed toward films in different positions, beam splitting means comprising two angularly related mirror surfaces terminating in a line perpendicular to and intersecting the light beam axis shuttering masks disposed in the paths of the beams reflected by the mirror



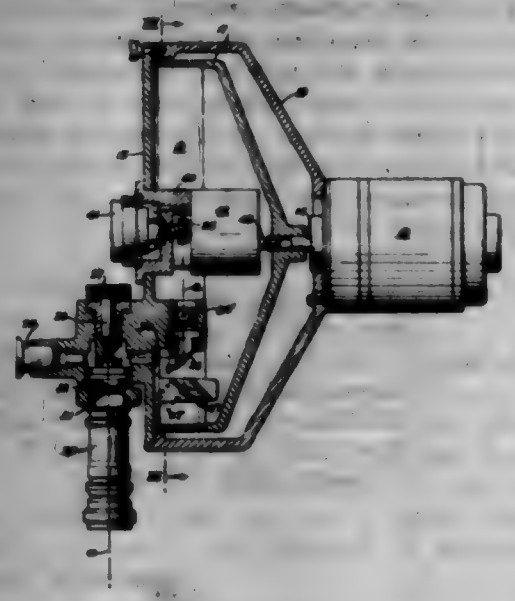
surfaces whereby light passing through each mask will be substantially equal in intensity to the beam from the objective lens and a single three-face rotating mirror intercepting both paths to create separate beams sweeping across separate films in immediate succession.

2,968,990

CONTINUOUS WRITING FRAMING CAMERA

Willard E. Beck, Boulder, Colo., and Lawrence R. Teeple, Jr., San Carlos, Calif., assignors to Beckmann & Whitley, Inc., San Carlos, Calif., a corporation of California

Filed Sept. 23, 1958, Ser. No. 762,735
3 Claims. (Cl. 88—16)



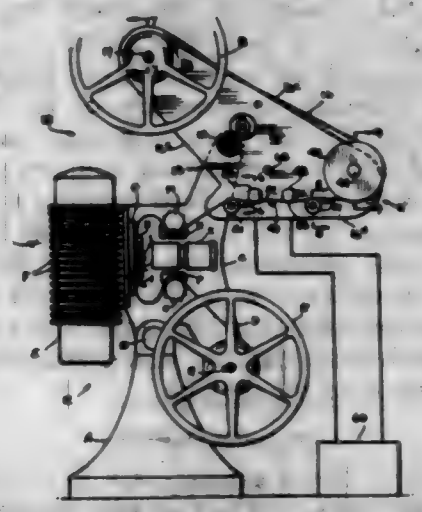
3. A camera of the kind described comprising a housing, a film transport drum rotatable in the housing and adapted to carry a strip of film on its inner drum surface, a multi-face mirror rotatably mounted adjacent the center of the transport, optical elements for producing an image of an outside object at a position adjacent the face of the mirror, two relay optical systems for projecting said image at angularly spaced positions on said film as the mirror rotates, and mirrors interposed between the relay systems and the film to cause the relay systems to project their images toward opposite edges of the film strip, said rotatable mirror, optical elements, relay systems and last named mirrors all being mounted on a cover removably secured to said housing.

2,968,991

APPARATUS FOR RECORDING, PLAYBACK AND ERASE OF SOUND ON MAGNETICALLY PREPARED MOVIE FILM

Gerald H. Wagman, 62 Farm Road Circle, East Brunswick, N.J., and Arnold B. Baskin, 1706 Davidson Ave., New York, N.Y.

Filed Nov. 23, 1955, Ser. No. 548,583
23 Claims. (Cl. 88—16.2)



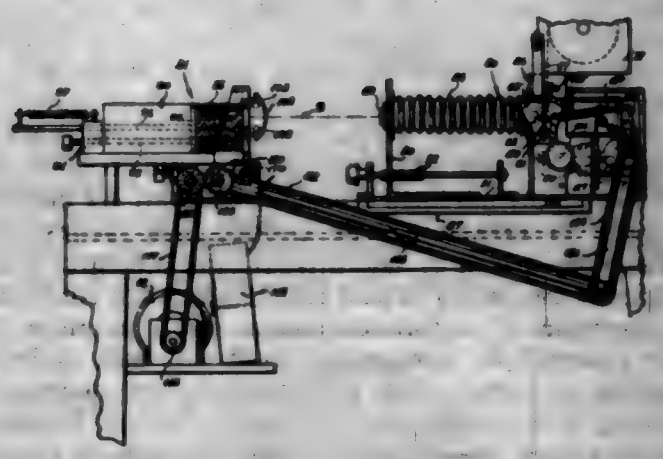
15. A sound recording and play back adaptor for a motion picture projector, said adaptor comprising in combination, a plate, means rotatable on the plate for mounting a film supply reel thereon, means for mounting said plate on a feed reel shaft of a moving picture projector, drive means including a coil spring belt connecting said feed reel shaft to said supply reel mounting means, means to secure said plate to an arm of the projector, means on the plate to record sound on said film, and means on the plate for guiding said film to the drive sprocket on said projector, whereby said belt will rotate said reel mounting means during rewind, and whereby said belt will act as a drag on film from said film supply reel in engagement with the sound record means during projection.

2,968,992

CAMERA APPARATUS AND METHOD OF MAKING UP PRINTED COPY

Edward Harris Billet, Union, N.J., assignor to Vari-Typer Corporation, Newark, N.J., a corporation of Delaware

Filed Nov. 21, 1958, Ser. No. 776,662
4 Claims. (Cl. 88—24)



1. An automatic camera apparatus, for photographing a succession of lines of printed material one line at a time in columnar form from a series of cards each bearing one such line, comprising: an objective lens, having a predetermined axis, interposed between a card-display station and a film exposure station; card feeding and positioning means for successively aligning and holding said cards in vertical position one-by-one at said ex-

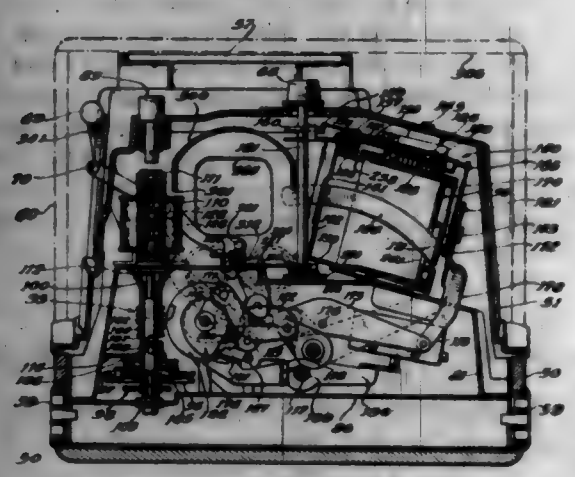
posure station with the base line of the printed material on the axis of said lens, said base line coinciding with the bottoms of the ascending letters in said printed material; means for advancing a photosensitive film stepwise through said exposure station; drive means for actuating said film advancing means in synchronism with the feeding of said cards to said display station; a focal-plane mask, interposed between said lens and said exposure station, for exposing only a predetermined area of film, in alignment with the axis of said lens, each time a card is positioned at said display station, said mask comprising two movable mask members having opposed parallel edges extending transversely of the direction of film travel; means for adjusting said mask members, independently of each other, toward and away from said lens axis; an adjustable film feed limiting member, operatively connected to the adjusting means for at least one of said mask members, for limiting the length of film feed in accordance with the displacement of said one mask member from the lens axis; and a shutter, interposed between said lens and said mask, for determining the exposure time for the film.

2,968,993

AUTOMATIC MAGAZINE SLIDE PROJECTOR

Theodore S. Briskin, Chicago, Robert L. Moore, La Grange Highlands, and Rudolph A. Rom, Stickney, Ill., assignors, by mesne assignments, to Revere Camera Company (formerly Samica Corporation), a corpotation of Delaware

Filed Mar. 21, 1955, Ser. No. 495,474
13 Claims. (Cl. 88—28)



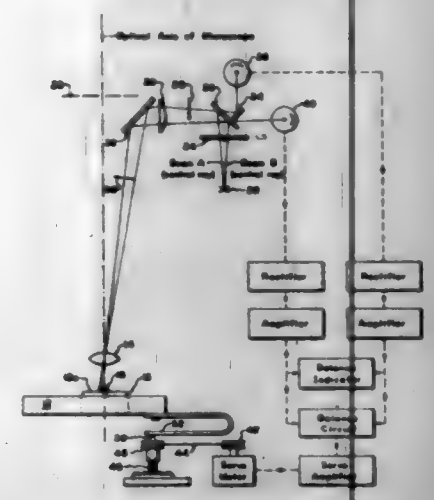
1. In an automatic slide projector having drive means and a drive shaft adapted to be driven from said drive means, the combination of cycling means and control means therefor, said cycling and control means comprising electrically controlled clutch means interposed between said drive means and said drive shaft to control the rotation of the latter, a cycle terminating cam mounted on said drive shaft and rotating therewith, control cam means rotatably mounted on said drive shaft for initiating the cycle of operation, said control cam means being continuously driven by said drive means, a control switch electrically connected to said clutch means for controlling the operation of said clutch means, and a common follower mounted for cooperation both with said cycle terminating cam and with said control cam means for operating said switch, slide displacing means, magazine advance means, means for establishing a driving connection between said drive shaft and slide displacing means, a magazine advance cam mounted on said drive shaft and rotating therewith for actuating said magazine advance means, means for axially displacing said common follower to cause the same to move out of registry with said control cam means, and means actuated by said follower displacing means for rendering said magazine advance means inoperative.

2,968,994

AUTOMATIC FOCUSING DEVICES AND SYSTEMS

William A. Shurcliff, Cambridge, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware

Filed Apr. 23, 1956, Ser. No. 579,976
21 Claims. (Cl. 88—39)



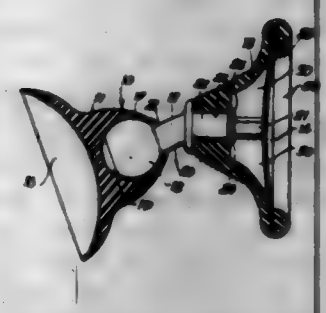
1. An automatic focusing system adapted to be incorporated with an optical system which includes both an objective lens and mounting means for an object, said automatic focusing system comprising means providing a reflecting surface of given reflectivity adjacent said object-mounting means, light source means for introducing at least a beam of light to said optical system in a given direction, means comprising a pair of relatively angularly disposed reflecting means and a converging lens positioned therebetween for directing said beam of light from said light source means through said objective lens so as to be incident upon said reflecting surface, diaphragm means having at least an aperture interposed in the path of components of said light beam which are incident upon and reflected from said reflecting surface, radiation detecting means sensitive to said light beam positioned in the path of a reflected component of said light beam which has passed through the aperture of said diaphragm means, and means responsive to said radiation detecting means for varying the optical path length between said objective lens and said reflecting surface means.

2,968,995

PORTABLE MIRROR

Orloff W. Holden, Chicago, Ill., assignor to Orloff W. Holden and Marguerite H. Holden, doing business as Knickerbocker Rubber Company, a partnership

Filed Mar. 8, 1957, Ser. No. 644,808
5 Claims. (Cl. 88—57)



1. A portable mirror assembly having, in combination, a base adapted to be attached removably to a supporting part and having a socket portion, an elongated body member having a knob on one end portion fitting into said socket portion and movable universally with respect to such portion, a mirror mounting member having a mirror

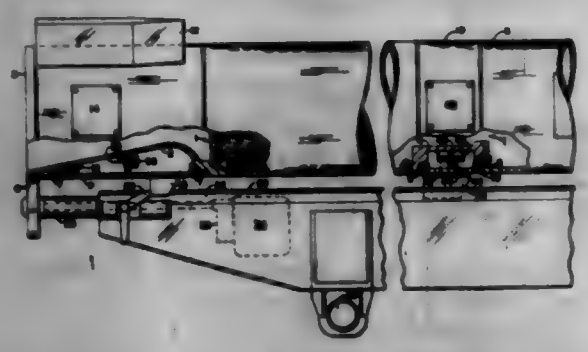
receiving recess in one side and a recess in its opposite side receiving the other end portion of said body member with a fixed angular relation between the members, a mirror fitting in said mirror receiving recess and disposed generally normal to said axis, said end portions of said body member being disposed at an obtuse included angle relative to each other to increase the range of angular disposition of said mirror relative to said base beyond the range afforded by said knob and socket portion alone.

2,968,996

FIN-STABILIZED, CENTER-ROTATED ROCKET

Raymond I. Strickland and William C. McCorkle, Jr., Huntsville, Ala., assignors to the United States of America as represented by the Secretary of the Army

Filed July 13, 1959, Ser. No. 826,886
5 Claims. (Cl. 89—1.7)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A fin-stabilized, center-rotated self-propelled missile comprising: an outer, shroud portion adapted to be held against rotation in a conventional straight-rail launcher; launching guide means fixed to said shroud portion and adapted to coact with the rail of a conventional straight-rail launcher; fins fixed to the perimeter of said portion, said fins being constructed and arranged to coact with the atmosphere during flight and to cause the longitudinal axis of said missile to maintain a position that is substantially tangential to its trajectory; a rotatable part, having a mass that is the major portion of the entire mass of the missile, said rotatable part comprising a missile motor, propellant, a payload, a power-transmission element constructed and arranged to be engaged and rotated by power means mounted on said rail when the missile is on said rail, and a connection between said power-transmission element and said missile motor, said element and connection being constructed and arranged, relative to said power means, to rotate said rotatable part at a non-gyroscopic speed; whereby when said power-transmission element is rotated, said rotatable part is spun at said non-gyroscopic speed just prior to launching of the missile, a ring encircling a forward portion of said rotatable part and journaled relative to said part; and launching guide means fixed to said ring, adapted to coact with the rail of a conventional straight-rail launcher.

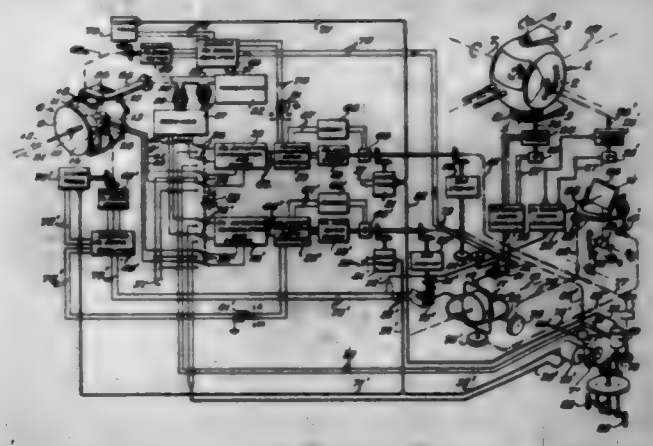
2,968,997

CROSS CONNECTED SERVO MECHANISM FOR A TURRET GUN DIRECTING SYSTEM

George C. Newton, Jr., Cambridge, Mass., and Walter T. White, New Hyde Park, and Edmund B. Hammond, Jr., Albertson, N.Y., assignors to Sperry Rand Corporation, a corporation of Delaware

Filed May 9, 1947, Ser. No. 747,008
26 Claims. (Cl. 89—41)

1. A system comprising a drivably supported object, a first servo mechanism including a control means therefor for driving said object, a second servo mechanism including a control means therefor for driving said object, means for supplying a signal proportional to the error between an output value of one of said servo mechanisms and the corresponding value called for by its con-



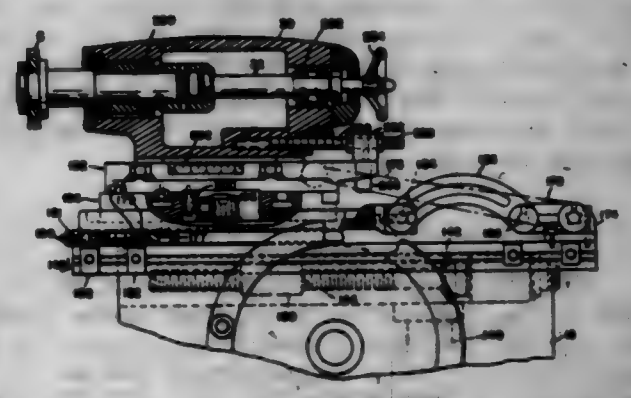
trol means, and means for additionally controlling the other servo mechanism by said signal.

2,968,998

INTERNAL GEAR SHAVING MACHINE

Walter S. Praeg, Detroit, Mich., assignor to National Broach & Machine Company, Detroit, Mich., a corporation of Michigan

Original application June 14, 1954, Ser. No. 436,365, now Patent No. 2,917,973, dated Dec. 22, 1959. Divided and this application Oct. 24, 1958, Ser. No. 769,337
7 Claims. (Cl. 90—1.6)



1. In a gear finishing machine having a base provided with a work support thereon, ways on said base extending toward and away from said work support, a tool head, means for moving said tool head toward and away from said work support comprising a sub-slide on said ways, power means for effecting slow reciprocatory movement of said sub-slide on said ways, ways on said sub-slide parallel to said first mentioned ways, an abutment on said sub-slide, a second slide on said last mentioned ways, said tool head being mounted on said second slide, and hand-operated toggle mechanism for effecting rapid movement between said slides between a cutting position in which said second slide engages said abutment, and a loading position in which said slide is retracted substantially from said abutment.

2,968,999

PROCESS FOR CUTTING METAL EMPLOYING AMORPHOUS SILICA

Ernest J. Breton, West Greve, Pa.

No Drawing. Filed Dec. 31, 1957, Ser. No. 706,259
4 Claims. (Cl. 90—11)

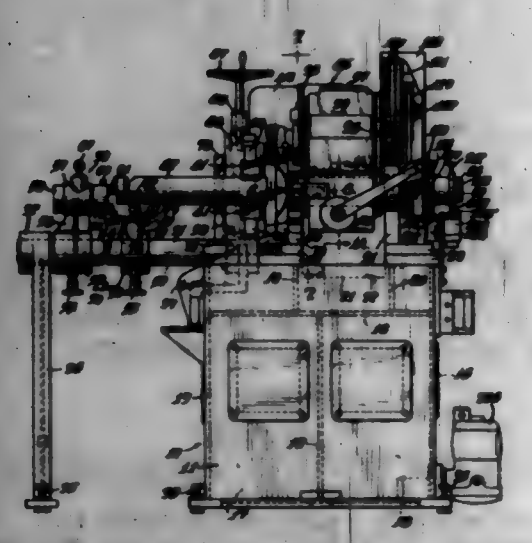
1. In a process for cutting metal with a tool point the improvement which consists of cooling the tool point during the cutting operation by flowing upon it a liquid in which there is colloidally dispersed about from 0.5% to 30% by weight of amorphous silica in the form of substantially discrete particles up to 150 millimicrons in size.

2,969,000
CHAMFERING TOOL
Hugo H. Grobecker, Milwaukee, Wis., assignor to Cleaver-Brooks Company, a corporation of Wisconsin
Filed Sept. 24, 1957, Ser. No. 685,948
7 Claims. (Cl. 90—12)



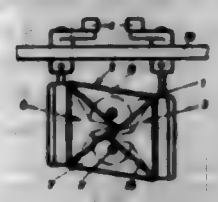
2. A backface chamfering tool, comprising, a tubular housing having one end adapted to abut the front face of a plate, around an opening through the plate, a tubular bearing member extending through the housing, means mounting the bearing member for universal tilting movement in the housing, a cutter shaft rotatable in the bearing member and having one end projecting outwardly beyond said one end of the housing, an annular backface chamfering cutter secured to said one end of the shaft exteriorly of the housing to project through the opening in the plate when the housing abuts the plate, said bearing member being tiltable in the housing to roll the cutter around the back edge of the plate opening, an annular stop on the housing, an annular stop on the bearing member engageable with the stop on the housing when the bearing member is tilted in the housing thereby to limit the tilting movement of the bearing member in the housing equally in all directions as the cutter is rolled around the plate opening, and means mounting one stop for axial adjustment thereby to vary the maximum angle of tilt and the depth of cut.

2,969,001
MILLING AND CENTERING MACHINE
Walter S. Swanson and David A. Hutchinson, Rockford, Ill., and Paul M. Bert, Linden, N.J., assignors to Sundstrand Corporation, a corporation of Illinois
Continuation of application Ser. No. 421,608, Apr. 7, 1954. This application Apr. 24, 1959, Ser. No. 808,843
6 Claims. (Cl. 90—59)



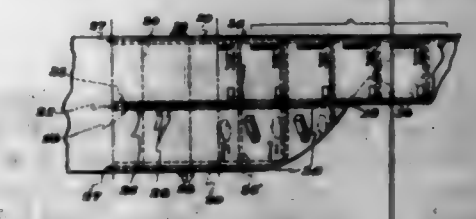
1. A workholder for milling and centering machine which successively mills and centers opposite ends of a workpiece, comprising, an upstanding base, a pair of vise jaws mounted on said base for simultaneous movement in a plane toward and away from each other to engage the workpiece adjacent to an end thereof, means for supporting the length of the workpiece extending away from the vise jaws comprising a bar secured at one end to the base generally beneath the vise jaws and extending horizontally outwardly of the base in the same direction as the workpiece, a leg and collar assembly in engagement with and supporting the other end of the bar, a work support adjustably mounted on the bar and having a V-shaped support engageable with the workpiece intermediate its ends, and means in engagement with the free end of the workpiece for determining the proper endwise location of the workpiece with respect to the vise jaws including an upright arm secured to the bar and having a rotatable shaft provided with an endwise adjustable center and an endwise adjustable stop on said shaft and extending toward the free end of the workpiece, said center extending slightly beyond said stop and said center and stop being located equidistantly from the axis of rotation of said shaft, the construction and arrangement being such that the stop gauges the workpiece for the milling of the first end thereof and the center gauges the workpiece for the milling of the second end upon reversal of the workpiece and compensates for the length of stock milled off the first end.

2,969,002
METHOD OF AND AN APPARATUS FOR PRE-FOLDING OR PRE-CREASING THE CLOSURE FORMING COMPONENTS OF A CONTAINER OF PAPER, CARDBOARD AND SIMILAR MATERIALS
Günther Meyer-Jagenberg, Duesseldorf-Grafenberg, Germany, assignor to Jagenberg-Werke Akt-Ges.
Filed Sept. 28, 1959, Ser. No. 842,976
Claims priority, application Germany Oct. 11, 1958
3 Claims. (Cl. 93—49)



1. A method for prefolding the closure of a container having gable sections in opposed walls thereof comprising the steps of temporarily deforming the area of the container having such gable sections to displace the edges of said gable sections laterally respecting each other and thereafter folding such gable sections inwardly whereby such sections lie in a common plane.

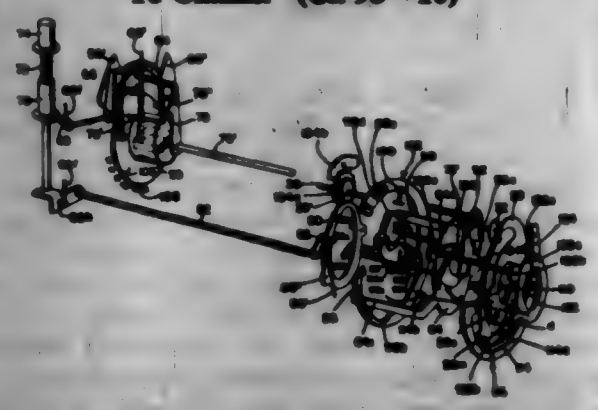
2,969,003
METHOD OF MAKING ENVELOPES
Raymond I. Rapp, 1352 Vernon Road, Philadelphia, Pa., assignor of one-half to William R. Peterson, Philadelphia, Pa.
Original application Dec. 23, 1954, Ser. No. 477,317, now Patent No. 2,847,915, dated Aug. 19, 1958. Divided and this application June 3, 1957, Ser. No. 663,249
1 Claim. (Cl. 93—63)



The method of making and sealing an envelope, which consists in perforating an initially double-width web longitudinally to define its opposite side edges and transversely to define the bottom and top edges of the finished envelopes after separation, in symmetrical arrangement upon the opposite sides of a central fold line of perforations, applying strips of active adhesive to at least one of

the webs adjacent to the half web's laterally opposite longitudinal edges and along transverse strips adjacent to and forwardly of said transverse perforations, applying an initially inactive thermosetting potentially adhesive medium along a transverse strip of at least one of said webs adjacent to and rearwardly of each of said first-mentioned transverse perforations, folding said half-webs transversely along said fold line of perforations until they are in parallel relation, so that said half-webs are secured together along rectangular strips forwardly of the now registering transverse perforations and along strips upon their laterally opposite edges, separating the resulting envelope units along said transverse perforations, and after filling the individual envelopes bringing their open top edges together and applying heat thereto to effect a sealing by the thermosetting medium.

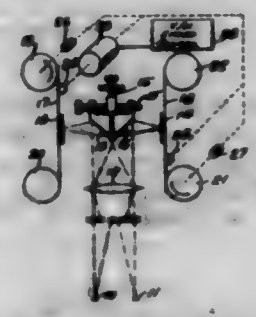
2,969,004
PHOTOGRAPHIC CAMERA
Kurt Gobele, Munich, Germany, assignor to Compur-Werk Friedrich Deckel O.H.G., Munich, Germany, a firm of Germany
Filed Nov. 17, 1959, Ser. No. 853,648
Claims priority, application Germany Nov. 18, 1958
16 Claims. (Cl. 95—10)



1. A photographic camera comprising a diaphragm having an adjustable aperture and a diaphragm aperture control ring rotatable through a range to various positions for adjusting the diaphragm to different aperture sizes, spring means tending to move said diaphragm control ring to a rest position at one end of its range, means for moving said diaphragm control ring to a tensioned position at the opposite end of its range, an exposure meter having a pointer, means for releasably clamping said pointer at its deflected position and for releasing said diaphragm control ring for running down from said tensioned to said rest position, a feeler engageable with said pointer and coupled to said control ring for movement to a limiting position when said control ring is moved to said tensioned position, said feeler swinging from said limiting position as said control ring runs down until engaging said clamped pointer as a stop and holding said control ring at the corresponding diaphragm aperture position, a switch having a cam, and means engageable by said switch cam for releasing the holding of said diaphragm control ring by said feeler and pointer when said control ring runs down from said tensioned to said rest position, thereby eliminating the function of said pointer as a stop.

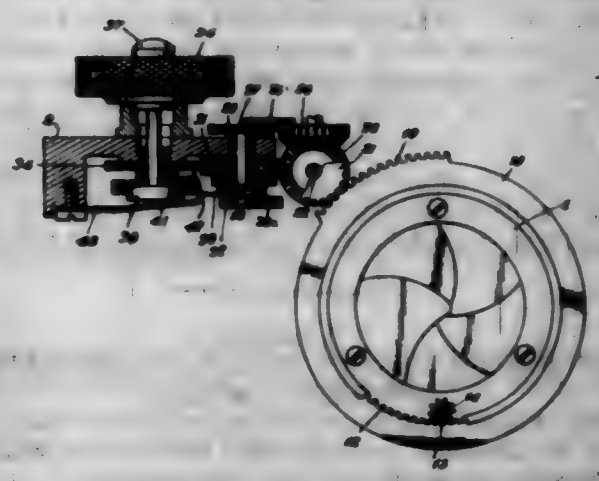
2,969,005
STEREO STRIP CAMERA
Henry Blachstone, Syosset, N.Y., assignor to Servo Corporation of America, New Hyde Park, N.Y., a corporation of New York
Original application Sept. 27, 1954, Ser. No. 458,301, now Patent No. 2,929,305, dated Mar. 22, 1960. Divided and this application Oct. 2, 1958, Ser. No. 764,917
7 Claims. (Cl. 95—12.5)

1. An aerial strip camera, comprising a single focusing optical system with a central axis of symmetry, two duplicate mirrors on opposite sides of said axis for folding oblique parts of the response of said optical system on opposite sides of said axis, a slit near the focal plane on one folded side of said axis, a second slit near the focal



plane on the other folded side of said axis, two strips of film supported for response to light passing said respective slits, and film-advancing means continuously driving said film with a movement transverse to the orientation of said slits.

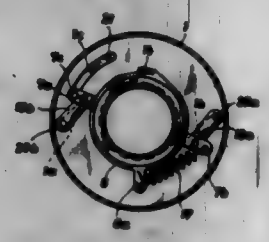
2,969,006
CAMERA SHUTTER
Willi Günther, Stuttgart, Germany, assignor to Zeiss Ikon A. G. Stuttgart, Stuttgart, Germany
Filed Nov. 21, 1955, Ser. No. 547,976
Claims priority, application Germany Nov. 29, 1954
5 Claims. (Cl. 95—53)



1. In a photographic camera, particularly a single lens reflex camera, a camera body provided with a circular opening therein, a first sleeve rotatably mounted in said opening, a second sleeve operatively connected with said first sleeve in such a manner so as to move axially when said first sleeve is rotated, a lens unit detachably secured to said second sleeve, said lens unit including a central shutter having a shaft extending from the rear of said detachable lens unit, and an actuating mechanism for said shaft including an operating shaft, means for rotatably supporting said operating shaft, means for automatically operatively connecting said two shafts when said lens unit is attached to said second sleeve, a gear on said operating shaft, a ring concentrically extending about the optical axis of said lens unit and rotatably mounted in said opening of said body adjacent the inner ends of said sleeves, said ring being arranged outside of the path of the actinic rays adapted to pass through said lens unit and being provided on a portion of its inner circumference with gear teeth meshing with said gear on said operating shaft, gear teeth on a portion of the outer circumference of said ring, a manually operable shutter tensioning knob mounted rotatably on said body for rotating said shaft in one direction, and a gear train operatively connecting said shutter tensioning knob with said gear teeth on the outer circumference of said ring, said gear train including a gear loosely rotatable about the axis of said knob, a coupling between said knob and said gear, spring means for urging

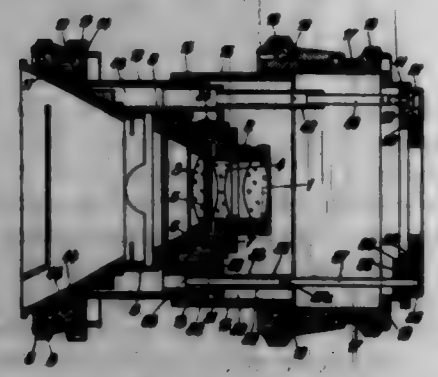
said coupling into operative position, and manually operable means for releasing said coupling so as to disengage said shutter tensioning knob from said gear train to permit a rotation of said shaft in the other direction so as to release the previously tensioned shutter.

2,969,007
SHUTTERS FOR CAMERAS AND THE LIKE
Silvester Gröger, Wuppertal-Elberfeld, Germany, assignor to Hora-Werk G.m.b.H., Essingloh, Germany
Filed Dec. 24, 1957, Ser. No. 704,989
4 Claims. (Cl. 95—56)



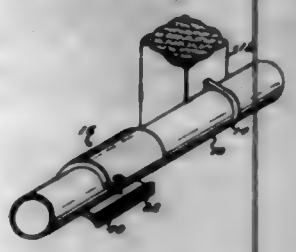
1. A shutter, particularly adapted for use in photographic cameras, comprising two mutually displaceable lamellae serving as the shutter as well as diaphragm lamellae, and means for variably adjusting the extent of such mutual displacement comprising an annular casing surrounding the shutter, a ring arranged for rotary displacement in said casing, a return spring arranged to oppose said rotary displacement, a partition in said casing, an arch-shaped slot in said casing partition, a pin on said rotary ring engaging said arch-shaped slot, adjustable stop means for varying the effective path of said pin in said slot whereby to correspondingly limit the rotary displacement of said ring, guide links linked to said ring, straight slots in said partition, and pins on said guide links guided in said straight slots and engaging said lamellae.

2,969,008
LENS, PARTICULARLY REPLACEABLE LENS FOR REFLEX CAMERAS
Alfredo Ferrari and Adolf Gasser, Mauren, Italy, assignors to Contina Bureau- und Rechenmaschinenfabrik Aktiengesellschaft, Mauren, Liechtenstein
Filed Dec. 8, 1958, Ser. No. 778,789
Claims priority, application Germany Dec. 17, 1957
12 Claims. (Cl. 95—64)



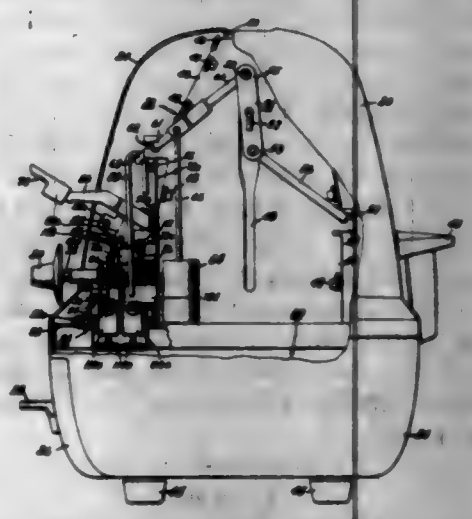
1. In an interchangeable lens unit adapted to be removably attached to a camera, in combination, an inner tube having exterior threads; lens holding means carried by said inner tube at least partly in the interior of said inner tube; an outer tube having interior threads, said outer tube and inner tube being coaxial with respect to each other and with respect to the optical axis; at least one intermediate tube having inner threads receiving the outer threads of said inner tube and having outer threads receiving the interior threads of said outer tube; attaching means for attaching the lens unit to a camera, said attaching means supporting said outer tube for rotation and said attaching means being stationary after being joined to a camera; means connected with said attaching means and said inner tube for preventing rotation of the latter relative to the optical axis while guiding said inner tube only for axial movement along the optical axis; and manually engageable means connected only with said outer tube for turning the latter with respect to said attaching means so as to set the position of said inner tube along the optical axis for focusing purposes, said inner tube being displaced along said optical axis only by turning of said outer tube transmitted to said inner tube through said intermediate tube.

2,969,009
CENTRIFUGAL TAKE-OFF AND CONTROL NOZZLE
William J. Caldwell, P.O. Box 456, Independence, Mo.
Filed July 14, 1958, Ser. No. 748,500
9 Claims. (Cl. 98—40)



1. In combination with a longitudinally extending air duct of circular cross-section, an air takeoff for use with said air duct having wall structure defining a flow chamber having an arcuate portion peripherally disposed about a portion of said duct, said flow chamber having a linear portion tangentially disposed to said arcuate portion, an opening defined in said duct in communication with said arcuate portion, a nozzle opening defined in said linear portion adapted to direct air discharged therethrough tangential to said arcuate portion and means reducing the flow chamber area at the junction of said arcuate and linear chamber portions.

2,969,010
AUTOMATIC ELECTRIC TOASTERS
Theodore E. Andrews, Orefield, and Alfred E. De Mott, South Allentown, Pa., assignors to General Electric Company, a corporation of New York
Filed Apr. 30, 1959, Ser. No. 810,029
19 Claims. (Cl. 99—329)



1. A household appliance comprising, in combination, a horizontally disposed broiler, vertically disposed toasting means above said broiler in said applicance, toast carriage means in proximity to said toasting means and movable vertically between a toasting and a non-toasting position, a latch for holding the toast carriage means in its toasting position, a bimetallic thermal timing element pivoted at one end, stop means adjacent the other end of said bimetallic element, means for heating said bimetallic

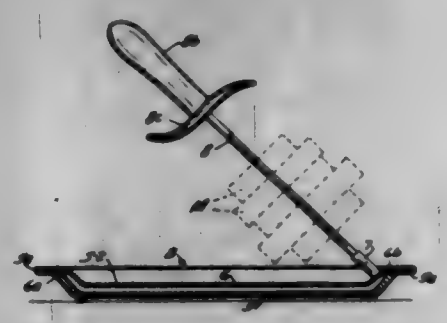
element, means controlling the energization of said heating means, said bimetallic element being so constituted that when heated it bows into an arc between said pivot and said stop means, rotatable means attached to the pivoted end of said bimetallic element and rotatable therewith for actuating said controlling means to de-energize said heating means after rotation of said rotatable means through a given angle, means for holding said rotatable means at said angle, said stop means adapted to restrain the rotation of said other end of said bimetallic element during cooling thereof, and means for transmitting the force thereby developed in said rotatable means due to the further cooling of said bimetallic element to said latch to release said carriage whereby the toasting operation is terminated.

2,969,011

SKEWER UNIT FOR HANDLING AND SERVING FLAMING FOODS

Ferdinand P. Sperl, Peoria, Ill., assignor to Service Ideas, Inc., Minneapolis, Minn., a corporation of Minnesota

Filed July 28, 1958, Ser. No. 751,562
2 Claims. (Cl. 99—419)



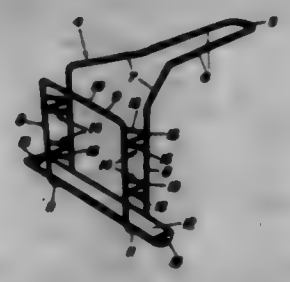
1. A unit for handling, serving and facilitating eating of flaming foods comprising a dished base having a bottom section of rigid heat-resisting material and having an upper dished section constructed of metal for being heated to a high temperature, an open ended retaining socket secured to the metal section of said base adjacent one end thereof and extending upwardly, obliquely and in overhanging relation to said base and an elongated metal skewer having a guarded handle at one end thereof and having its opposite end pointed for facilitating the impaling of solid food thereon, said point being detachably, telescopically and snugly seated within said socket to support said skewer in oblique overhanging relation to said base whereby any drippings from the impaled food will be collected in the metal upper section of said base, and said base being substantially heavier than the combined weight of said skewer and the food impaled thereon.

2,969,012

WIENER HOLDER

Lu Verne G. Steffel, 3380 Texas Ave., St. Louis Park, Minn.

Filed Oct. 6, 1958, Ser. No. 765,412
3 Claims. (Cl. 99—419)



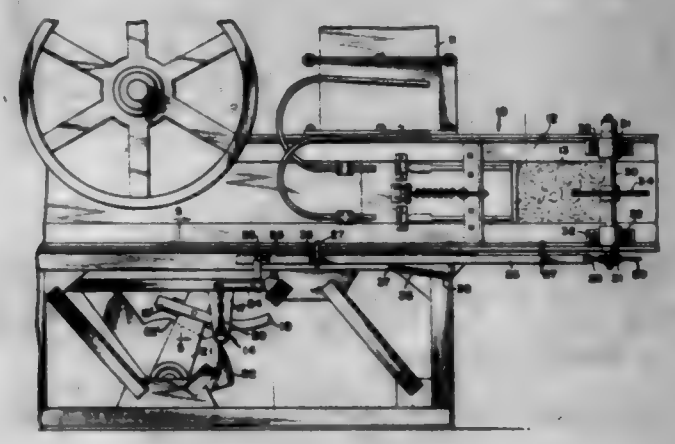
1. A wiener holder for insertion in an electric toaster comprising a handle having a pair of divergent forward portions terminating in a pair of U-shaped hangers spaced apart by said portions in opposite relation and each having like sides and a bottom bight portion connecting the sides thereof, one side of each of said hangers forming angular depending continuations of said divergent portions, zig-zag members extending transversely between and connecting the sides of each hanger together and each having a pair of terminal prongs extending laterally oppositely out of said hangers for impaling wieners thereon, and a trough fixed in said bight portions below said zig-zag members for catching juices dripping from wieners impaled on said prongs.

2,969,013

AUTOMATIC BALE TRIP MECHANISM FOR BAGASSE BALERS

Harry S. Toups, Jr., Louis P. Braud, and Richard H. Braud, Thibodaux, La., assignors to Thibodaux Boiler Works, Inc., Thibodaux, La., a corporation of Louisiana

Filed May 2, 1958, Ser. No. 732,694
6 Claims. (Cl. 100—4)



1. In combination with a bagasse baling machine which includes a wire threading actuator assembly and a metering unit activated by movement of the bagasse through the machine, the actuator assembly including a gravity trip arm hingedly connected to the baling machine for normally maintaining the actuator assembly inoperative, and trip means for the actuator assembly operatively connected to the metering unit including a throw-bar, one end of which is normally held in operative engagement with the metering unit and the other end of which is located proximate the wire threading actuator assembly, said throw-bar being moved longitudinally by the metering unit at predetermined intervals, a protrusion carried by said throw-bar remote from the metering unit-engaging end thereof, the trip means further including a lever movably mounted on the machine and connected to said gravity trip arm, said lever lying in the path of, and being adapted to be moved by the protrusion on said throw-bar upon longitudinal movement of the latter, to actuate the gravity trip arm.

2,969,014

PHOTOCHEMICAL STENCIL AND METHOD FOR MANUFACTURE

Donald E. Hansen, Park Ridge, and Mary K. Ornsbee, River Forest, Ill., assignors to A. B. Dick Company, Niles, Ill., a corporation of Illinois

Filed Feb. 19, 1958, Ser. No. 716,099
5 Claims. (Cl. 101—128.3)

1. A photochemical stencil comprising a stencil base tissue and an ink impervious coating on the stencil base tissue formed of a hardened proteinaceous colloid containing a nucleating agent for the release of silver upon reaction with a silver halide complex.

2,969,015

METHOD OF PRODUCING A SPIRIT MASTER FROM A POSITIVE AND A DUPLICATING PROCESS WITH SAME

Robert J. Klimkowski, Chicago, and Clarence J. Shoemaker, Franklin Park, Ill., assignors to A. B. Dick Company, Niles, Ill., a corporation of Illinois

No Drawing. Filed July 14, 1953, Ser. No. 368,003
8 Claims. (Cl. 101—149.4)

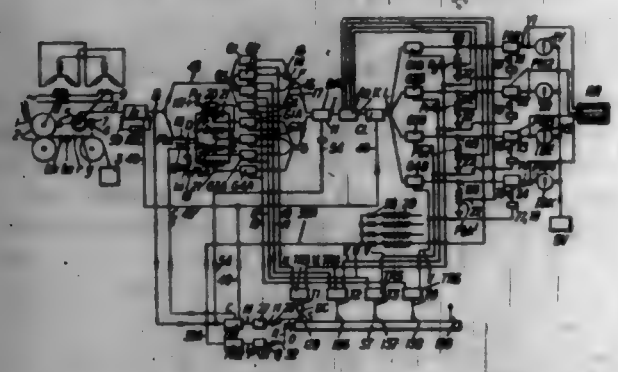
1. In the method of producing copy from a positive having an opaque image on a light-transmitting background, the steps of exposing to light through the positive, a master sheet having a substantially continuous coating concentrated on the surface portion thereof formed of a composition containing a high proportion of a soluble azo dye forming component which is sensitive to light and which is soluble in the fluid applied to the surface of the copy sheets prior to contact with the coated side of the master whereby the azo dye forming component in the coating on the master sheet is destroyed in the exposed portions and retained in the imaged portions to form an imaged plate, contacting the imaged surface of the master with copy sheets wetted with a fluid containing a solvent for the azo dye forming component and the other components for reaction therewith to form the azo dyestuff in the copy sheets whereby some of the azo dye forming component is transferred from the imaged master to the copy sheets upon contact where reaction takes place to form the azo dyestuff.

2,969,016

COLOUR PRINTING

John Fothergill Crosfield, Kenneth Bradley Morris, and Gordon Stanley James Allen, London, England, assignors to J. F. Crosfield Limited, London, England, a British company

Filed Mar. 15, 1956, Ser. No. 571,745
Claims priority, application Great Britain Mar. 18, 1955
20 Claims. (Cl. 101—202)



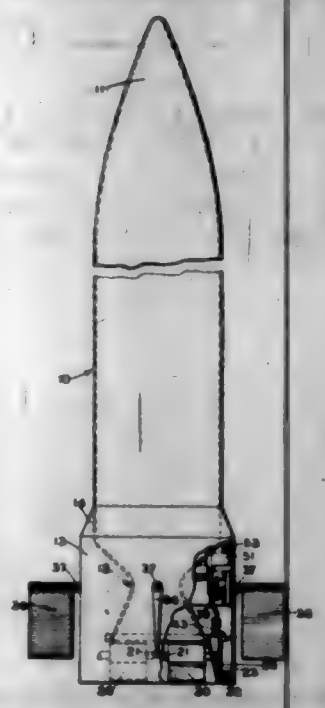
1. An apparatus for indicating changes in the quality of colour reproduction in printing with ink of at least one colour, comprising a scanning head, including a photoelectric cell which scans patches of the ink on a printed surface to give an output signal which represent the reflectance of the patches but which may also be affected by changes in factors unrelated to the reflectance of the said patches, exposure control means for additionally exposing said photoelectric cell to two different standardising light intensities, at least one of which varies in accordance with changes in at least one of the said unrelated factors, whereby the output of said photoelectric cell includes, in addition to the signal corresponding to the said ink patches, two signals of different values representing the said two different light intensities, the difference between the two values including variations due to changes in said one unrelated factor, control means for deriving from said two standardising signals a control signal varying in accordance with their difference, an amplitude compensating circuit receiving the output signal from said photoelectric cell and having means whereby the amplitude of the part of said signal corresponding to the ink patches is varied by means of said control signal to remove from the signal which corresponds to the ink patches the variations due to changes in the said one unrelated factor, and an electrical indicator connected to respond to the output of said control circuit so as to indicate changes in the quality of colour reproduction.

2,969,017

STABILIZERS FOR JET-PROPELLED VEHICLES

Richard B. Kershner, Silver Spring, Md., assignor to the United States of America as represented by the Secretary of the Navy

Filed Mar. 19, 1948, Ser. No. 15,867
6 Claims. (Cl. 102—50)



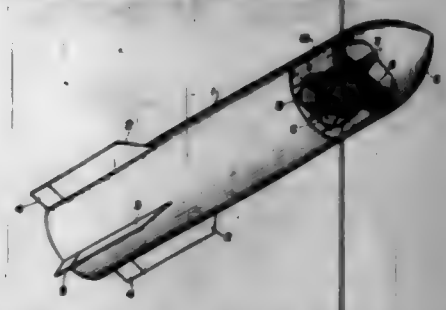
1. In an aerial missile having a propelling jet, a jet vane pivotally mounted in the jet orifice, a trailing vane pivotally mounted on said vehicle and exposed to the medium through which the vehicle moves, said trailing vane being arranged to trail rearwardly of said pivot line, and means mechanically connecting said trailing vane to said jet vane so that said trailing vane controls said jet vane in a contra direction to the direction of movement of said trailing vane, whereby whenever said trailing vane is deflected by said medium because the axis of said vehicle does not coincide with its direction of motion, a corresponding contra movement of said jet vane will occur, said jet vane, in turn, deflecting said jet such that the deflecting jet will tend to return said vehicle to its proper orientation.

2,969,018

QUADRANT HOMING SYSTEM

Stephen J. Erst, New Haven, Ind., and George E. Bowden, Plainview, N.Y., assignors to International Telephone and Telegraph Corporation

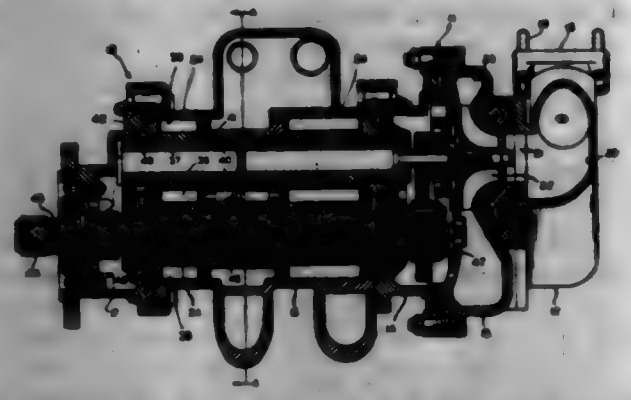
Filed May 1, 1957, Ser. No. 657,038
6 Claims. (Cl. 102—50)



3. In combination, in a homing missile: two pairs of planar photocells A, B, C, and D orthogonally arranged in a plane perpendicular to the missile axis; opaque planar shields arranged between and forwardly of said cells; a

selector circuit coupled to said photocells for selecting the maximum voltage of each pair; a subtractor circuit coupled to said photocells for deriving voltages proportional to the difference between the two pairs of voltages, a divider circuit coupled to said selector and subtractor circuits for generating a voltage proportional to the ratio of the difference voltage to said maximum voltage, and means coupled to said divider circuit for controlling one of said control surfaces in response to the ratio voltage.

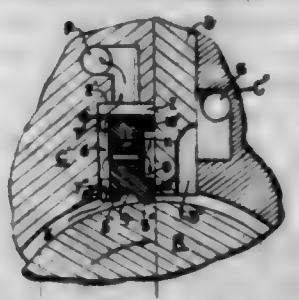
2,969,019
STRAINER CONSTRUCTION FOR A PUMP
Donald L. Lorenz, Euclid, and William V. Edwards, Willowick, Ohio, assignors to Thompson Ramo Wooldridge Inc., a corporation of Ohio
Filed Oct. 5, 1955, Ser. No. 538,685
7 Claims. (Cl. 103—5)



1. A pump comprising a casing having an inlet and an outlet, a centrifugal pumping unit in said casing at said inlet, a strainer in said casing through which the discharge of said centrifugal pumping unit is directed, a positive displacement pumping unit in said casing receiving the fluid pumped by said centrifugal pumping unit after it has passed through said strainer and further pressurizing the fluid for delivery through said outlet, said strainer including a strainer casing having an enlarged recess formed therein, a support member attached to said strainer casing and providing an annular ring portion forming a center inlet communicating with the discharge of the centrifugal pumping unit and a seating surface surrounding said center inlet, a cup-shaped cage having an end wall spaced oppositely from said center inlet and having side wall portions bottomed against said ring portion, a locking bolt extending through the center of said cage engaging said support member and said end wall to lock said cage in firm assembly with said support member, the side wall portions of said cage having a plurality of openings therein for communicating fluid in series flow relation to the positive displacement pumping unit, and a cylindrical foraminous filter sleeve in said cage movable as a valve and having a valve seating ring at one end engaging and seating against said seating surface and having a support member closing the opposite end thereof, said support member having an opening formed therein through which said locking bolt passes, and a continuous biasing means between said wall member and said end wall to normally bias said filter sleeve into seated position, but yielding in response to pressure forces to by-pass the filter sleeve, thereby insuring flow of fluid through the pump.

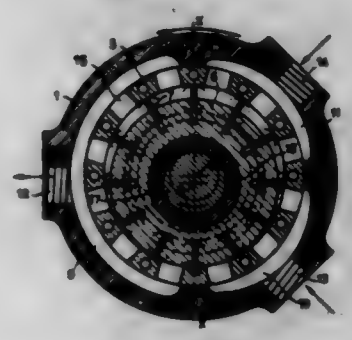
2,969,020
FLOATING BALANCED DOCTOR BLADE OR VANE
Gabriel A. G. Fazekas, Roslyn Heights, N.Y., assignor to The Farmingdale Corporation, Farmingdale, N.Y., a corporation of New York
Filed Sept. 26, 1956, Ser. No. 612,308
8 Claims. (Cl. 103—84)

1. In a pump or the like having a stator and a rotor separated by a clearance of substantially uniform radial depth and constant volume and provided with means for supplying a viscous fluid to said clearance, a fluid arresting means and mounting therefor comprising, a slot formed in said stator and opening into said clearance, an outlet port communicating with said slot through the inner wall thereof, a doctor blade floating freely in said slot, said blade having a generally rectangular cross-



sectional form and being provided with grooves so disposed as to permit the passage of fluid past the blade on its upstream side from the clearance to the outlet port, the blade being further provided on its side faces with longitudinally extending recesses bounded adjacent the top and bottom of the blade by relatively narrow flat lands, and the grooves extending across the lands on the upstream side face of the blade.

2,969,021
AUTOMATIC DEVICE FOR ADJUSTING THE OUTPUT OF ROTARY HYDRAULIC MACHINES
Luigi Menon, Turin, Italy, assignor to Soc. Acc. Emanuel di G. e R. Emanuel & C., Turin, Italy
Filed Apr. 13, 1959, Ser. No. 805,775
Claims priority, application Italy Apr. 16, 1958
3 Claims. (Cl. 103—120)



1. The combination of a variable delivery rotary hydraulic machine including a casing having a cylindrical cavity therein, a vaned rotor rotatable in the cavity on an axis excentrical with respect of the axis of the cavity thereby to define a revolving series of variable volume chambers in the cavity around the rotor, low and high pressure ports operatively associated with the revolving series of variable volume chambers for hydraulic fluid displacement through the machine, and crank means associated with the rotor axis for angularly displacing the latter around the axis of the cavity within a predetermined adjusting angle thereby to vary the hydraulic fluid displacement through the machine; and of an automatic control device for the said crank means including a fluid-tight cylinder fast with the casing, a piston axially slidable in the cylinder in a fluid-tight condition sub-dividing the cylinder into low and high pressure chambers respectively adjacent the opposite ends of the cylinder, a hollow axially directed extension on the piston extending from the latter through the high pressure chamber and the adjacent end of the cylinder, a crank-pin on the said crank means normally acting on the said extension to displace the piston towards the low pressure chamber in the cylinder as a

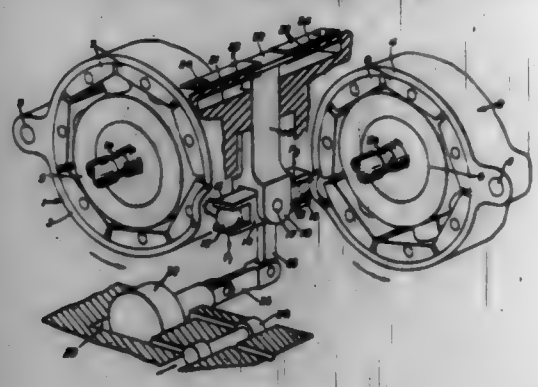
result of hydraulic fluid pressure on the rotor on operation of the machine, passage means in the cylinder constantly connecting the high pressure chamber with the high pressure port of the machine, a passage in the extension constantly connecting the inside of the latter with the high pressure chamber, a valve member axially slidable in the piston having a section thereon exposed to high pressure prevailing within the extension whereby the valve member is axially urged towards the low pressure chamber, a passage in the piston controlled by the said valve member connecting the low pressure chamber with the inside of the extension arranged for being closed by the valve member on displacement of the latter with respect of the piston towards the low pressure chamber, venting passage means across an intermediate part of the cylinder and piston arranged for venting the low pressure chamber via the said passage in the piston on the said displacement of the valve member, and spring means in the low pressure chamber acting on the valve member to urge the latter and piston towards the high pressure chamber thereby to open the communication between the passage in the cylinder and the inside of the extension and to close the venting passage means in the cylinder by the valve member, the said spring means exhibiting a load characteristic curve referred to adjusting angle values of the rotor axis which is substantially inverse of the fluid delivery characteristic curve of the machine referred to the said adjusting angle values.

2,969,022

FUEL PUMP ARRANGEMENTS

Stanley Ralph Tyler, Cheltenham, England, assignor to Dowty Fuel Systems Limited, Cheltenham, England

Filed May 20, 1958, Ser. No. 736,539
Claims priority, application Great Britain May 22, 1957
5 Claims. (Cl. 103—161)



1. A pressure liquid supply system comprising a pair of adjacent variable delivery pumps, a displaceable control element incorporated in each pump, the respective elements being shiftable in mutually opposite senses for like control of the respective pumps, duct means common to the two pumps arranged to receive the output from each thereof during normal operation, a mounting element guided for movement in a direction parallel to the direction of shifting movement of said control elements, spring-loaded means to retain said mounting element normally immovable in a fixed position, a lever pivotally mounted between its ends upon said mounting element and pivotally connected at its ends to the respective control elements, for rocking of the lever about its pivotal mount upon the fixedly positioned mounting element to effect conjoint and like but opposite movement of the control elements during normal operation, the spring-loaded means being yieldable upon locking of either pump's control element to effect control movement of the other pump's control element by rocking of said lever about its pivotal connection to the locked control element as a fixed point, to correspondingly vary the position of the other control element.

2,969,023

FREIGHT LOADING APPARATUS

Harvey W. Chapman, Detroit, and Henry L. Dunlap, Dearborn, Mich., assignors to Evans Products Company, Plymouth, Mich., a corporation of Delaware

Continuation of application Ser. No. 490,051, Feb. 23, 1955. This application Dec. 17, 1958, Ser. No. 781,114
6 Claims. (Cl. 105—368)



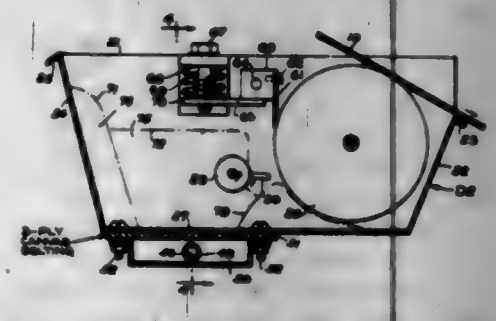
1. Tie down apparatus for tying down a vehicle, said apparatus including a structure having a vehicle supporting surface, a tie-down rail secured to and extending parallel to said surface, a tie-down fitting adapted to tie a vehicle to said rail and including a casing having an interior bore, first co-operating means on said rail at a plurality of predetermined locations spaced longitudinally of said rail and holding said fitting disposed with said bore of said casing substantially parallel to said vehicle supporting surface at each of said predetermined locations, said first co-operating means providing a coarse adjustment of said tie-down apparatus relative to said tie-down rail, a draw member mounted in said bore and movable axially thereof, a flexible tie-down member connected to said draw member and adapted to be connected to a vehicle on said vehicle supporting surface, second co-operating means connecting said draw member to said casing for adjusting said draw member axially of said bore to provide a fine take-up of said tie-down apparatus.

2,969,024

FLOUR DUSTING DEVICE WITH FLOUR LOOSENER

Axel Gunnard Johnson, Highland Park, Ill., assignor to Schulze and Burch Biscuit Co., Chicago, Ill., a corporation of Illinois

Filed Aug. 4, 1959, Ser. No. 831,663
3 Claims. (Cl. 107—7)



1. A flour dusting apparatus comprising a bin for containing flour, a flour-dusting wheel, agitating means within said bin for coating said wheel with flour, an aperture in the bottom of said bin, an air pan underlying said aperture, means for introducing air under pressure into said air pan, and means extending across said aperture for retarding the upward movement of air into said flour bin, whereby said air bubbles upwardly into said flour bin to prevent the flour therein from caking in locations inaccessible to said agitating means.

2,969,025

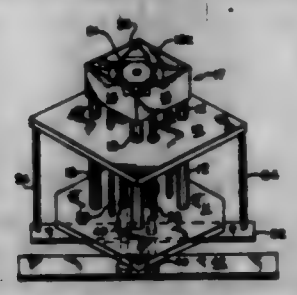
PASTRY FOLDER

Leonhard Schafer, 219 Mirian St., New York, N.Y.

Filed May 9, 1960, Ser. No. 27,897
5 Claims. (Cl. 107—8)

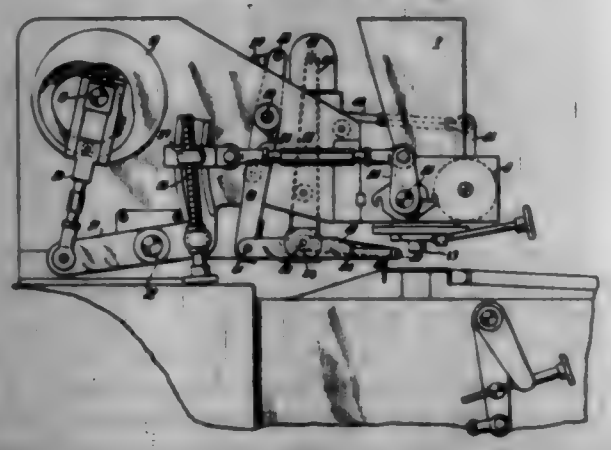
1. A pastry dough folding machine for making fruit filled Danish pastry comprising a cage having vertically

disposed spaced-apart walls, a first platform disposed centrally in said cage, means for operating said first platform reciprocally in the vertical wall cage, a second platform disposed centrally in said cage in spaced relationship beneath said first platform, a plurality of folder arms secured hingedly to said second platform, stud means fixedly secured to each of said vertical walls and disposed horizontally into said cage, cam means fixedly disposed on



the exterior surface of each of said folder arms for respectively slidingly engaging said fixed stud means to turn over said hingedly secured folder arms and any dough thereon onto said first platform, means for operating said second platform reciprocally in said cage after said first platform descendingly engages said second platform, and spring means for returning said first and said second platform to their normal spaced-apart relationship upon release of said first and said second operating means.

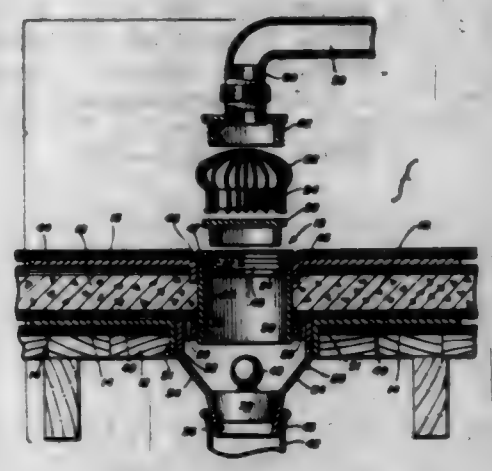
2,969,026
CANDY EXTRUDING MACHINE
William H. Genich, Racine, Wis., assignor, by mesne assignments, to J. W. Greer Company, Wilmington, Mass., a corporation of Massachusetts
Filed July 22, 1958, Ser. No. 750,137
6 Claims. (Cl. 107—29)



1. Candy extruding machine comprising the combination of opposed rolls spaced from each other to provide a guide channel therebetween, one of said rolls having a diametrical slot therein, an expeller blade slidingly guided in said slot and cooperative with the opposed roll to advance material through said channel, means for oscillating said slotted roll, means for projecting and retracting said expeller blade in said slotted roll at the ends of the oscillating movements of said roll into and out of cooperative relation with the surface of said opposed roll and means for rotating said opposed roll in the same direction in time with the downward oscillating movements of said blade in its projected position.

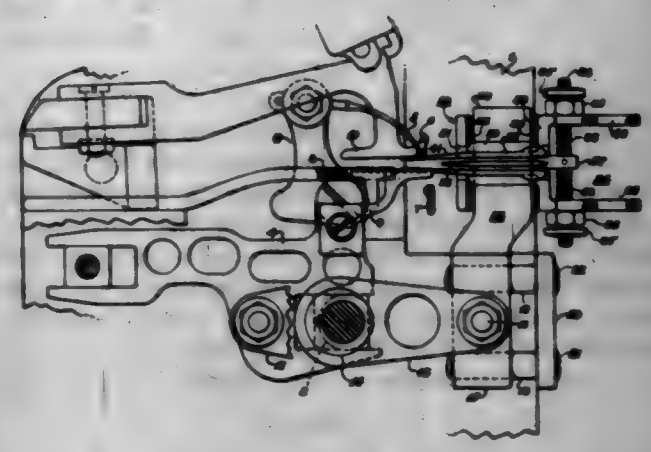
2,969,027
METHOD AND APPARATUS FOR MAINTAINING INSULATION
Carroll C. Figge, Batavia, Ill.
(315 W. Madison St., Chicago, Ill.)
Filed Apr. 30, 1956, Ser. No. 581,609
4 Claims. (Cl. 50—16)

1. A hollow pressure head for aerating roof insulation enclosed by upper and lower covers substantially impervious to liquids, comprising a sleeve open at the top and bottom and of a length to extend through the insulation and covers, a fitting with a top larger than the sleeve secured around the bottom end of the sleeve, means securing the top of the sleeve and the outer edge of the top of the fitting to the covers with the insulation



between them, the fitting having openings at the top thereof and outside of the sleeve to communicate with the insulation and with a lower funnel-shaped portion which tends to cause a suction of air and liquid through said openings when liquid passes downwardly from the roof through the sleeve for thereby drying the insulation.

2,969,028
UNCURLING DEVICE FOR SEWING MACHINES
John M. Washburn, West Hartford, Conn., assignor to The Merrow Machine Company, Hartford, Conn., a corporation of Connecticut
Filed Oct. 27, 1955, Ser. No. 543,113
8 Claims. (Cl. 112—18)



1. In a sewing machine having a frame, a stitch forming mechanism, a feed dog mechanism for feeding material to said stitch forming mechanism, and means for driving the aforementioned mechanisms in synchronized movement; a fabric uncurling and holding device comprising a carrier mounted upon said frame for movement toward and away from said stitch forming mechanism along the path in which material is fed to said stitch forming mechanism, means connecting said carrier and said driving means for driving said carrier in cyclic oscillating movement synchronized with movement of said feed dog mechanism, means upon said carrier including opposed blades extending along the path of feed for engaging and flattening the marginal edge of work material presented to said stitch forming mechanism, means resiliently biasing said blades toward each other to grip the marginal edge of work material therebetween, and means on said connecting means for moving said blades

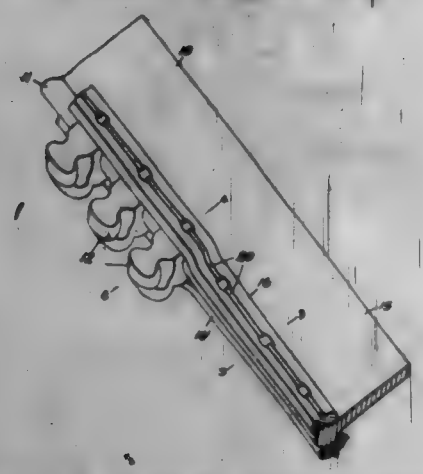
toward and away from each other to respectively grip and release work material in synchronism with the cyclic movement of said carrier.

2,969,029

METHOD OF PRODUCING CONTINUOUS STRINGER WORKPIECES WITH CONTINUOUS COVERING MEMBERS THEREON

Louis H. Morin, Bronx, N.Y., assignor to Coats & Clark Inc., New York, N.Y., a corporation of Delaware

Filed Nov. 4, 1958, Ser. No. 771,796
1 Claim. (Cl. 112—265)



The method of producing separable fastener stringers employing covering members on apertured mounting end portions of scoops of the stringers, with inner end surfaces on said mounting end portions adapted to be engaged by a slider movable along the stringers for stringer coupling and uncoupling action, which method comprises forming groups of scoops on the beaded edge of a stringer tape with wide spacings between adjacent groups of scoops, placing elongated covering members in position in substantial alinement to the outer beaded edge portion of the stringer tape and to the scoops with the inner edges of said covering members along said groups of scoops free from substantial projection beyond the inner surfaces of the mounting end portions of the scoops to expose said inner surfaces for engagement with the slider, stitching said covering members in said position with a line of stitching extending along said covering members and with such registry as to cause the stitchings to pass through the apertures respectively in the mounting end portions of the scoops, continuing the stitching of the covering members along the beaded edge portion of the stringer tape and along the spacings between groups of scoops on the stringer tape, with stitching of the same type and spacing as that passing through the apertures of the scoops, and with no interruption in the continuity of the stitching in its transition from the scoops to the spacings to the scoops, whereby stitching along the groups of scoops and along the spacings can be carried out by a continuous cycle of operation and whereby a stringer workpiece is produced, and then severing the spaced portions of the workpiece between adjacent ends of groups of scoops and at regions spaced from adjacent groups to form predetermined stringer lengths of said workpiece.

2,969,030

PRODUCTION OF WRITING TIPS

David Kahn, deceased, late of Englewood Cliffs, N.J., by Julius M. Kahn, Samuel Kahn, and Harry Yager, all of Englewood Cliffs, N.J., all executors, and Karl Weisser, deceased, late of Cresskill, N.J., by Helen E. Weisser, Cresskill, N.J., executrix, assignors to David Kahn, Inc., North Bergen, N.J., a corporation of New Jersey

Filed Oct. 22, 1958, Ser. No. 768,864
11 Claims. (Cl. 113—32)

1. A method of forming a ball point writing tip which comprises drawing flat metal stock into an elongated cup wherein the edge of the rear open end of the cup is roughened, the roughness being sufficiently great as compared to the size of the final article to have a deleterious effect thereon, simultaneously forming an outwardly flared annular excess portion at the rear open end, severing said flared portion from said cup to provide a substan-



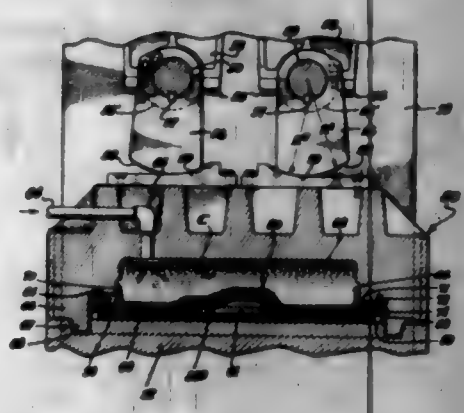
tially finished edge at said open end, drawing said cup to reduce the diameter of the forward end thereof, forming a smooth surfaced seat at the forward extremity of the forward end, rotatably seating a writing ball in said seat, and forming an aperture providing communication between the interior of said forward portion and said seat at a stage prior to seating the ball in said seat.

2,969,031

MOUNTING AND SEALING MEANS FOR A PRESS DIAPHRAGM

George Yates, 530 Riverdale Drive, Glendale, Calif.

Filed May 25, 1953, Ser. No. 357,045
4 Claims. (Cl. 113—44)



1. In a press: a pressure applying head; adapted to be engaged with a press bed; means forming in said head a pressure chamber including a flexible diaphragm; said head having a marginal portion surrounding said diaphragm; said marginal portion being adapted to contact said bed; means for securing the edges of said diaphragm to said head adjacent said marginal portion including a rigid clamping frame between which and said head said edges are confined; and means for preventing marginal portions of said diaphragm from being extruded laterally between said clamping member and said bed; said last named means including a floating frame and means mounting said floating frame on said head for movement relative thereto by said diaphragm into contact with said bed; said floating frame including a pair of angularly related portions joined to one another; one of said angularly relative portions being interposed between said diaphragm and said rigid frame in slidable engagement with said rigid frame; the other of said angularly related portions embracing a part of the diaphragm opposed to said bed for engaging said bed according to pressure exerted by said diaphragm.

2,969,032

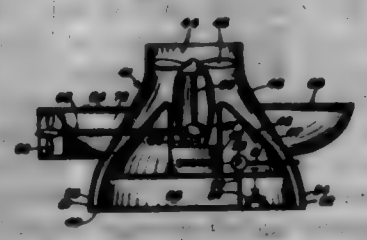
SUBMERSIBLE GROUND-EFFECT MACHINE

Robert W. Pinnes, 4421 Faroe Place, Rockville, Md.

Filed Aug. 31, 1959, Ser. No. 837,298
7 Claims. (Cl. 114—16)
(Granted under Title 35, U.S. Code (1952), sec. 266)

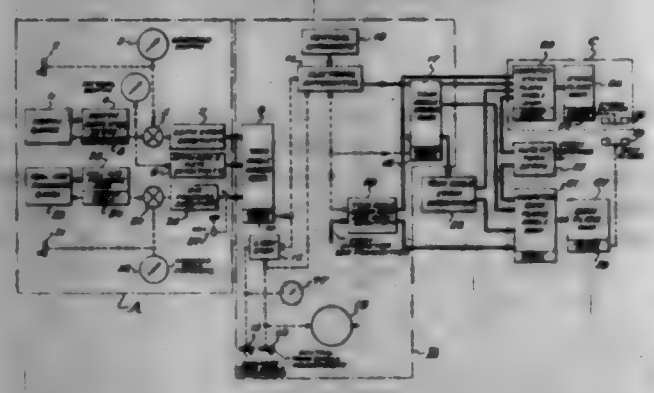
1. A submersible ground-effect machine comprising in combination a housing, a waterproof hull supported with-

in said housing and spaced therefrom to define a vertical well, said well communicating with the atmosphere below said machine through an annular nozzle and communicating with the atmosphere above said machine through a substantially circular duct, a fan mounted in said duct on a substantially vertical shaft projecting from said hull, said vertical shaft being detachably coupled to a source



of power whereby said fan may be driven to pump air down through said well and out said nozzle in an annular jet thereby creating and maintaining an air cushion beneath said hull, and underwater propulsion means detachably coupled to said source of power whereby when said fan is uncoupled from said power source while said machine is over water and said machine has been submerged, said machine may be propelled under water.

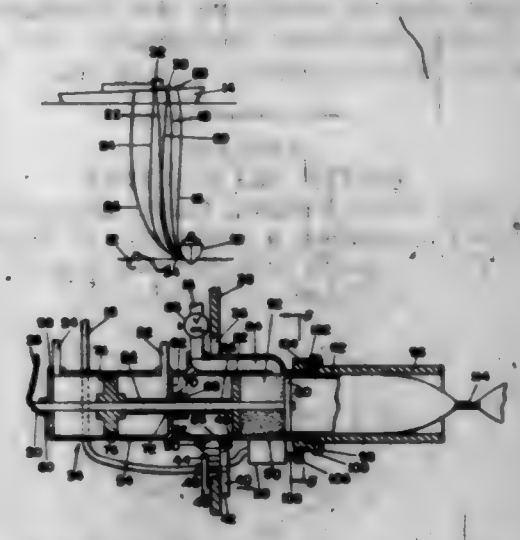
2,969,033
AUTOMATIC DEPTH CONTROL SYSTEM
Victor Vacquier, Garden City, N.Y., assignor to Sperry Rand Corporation, a corporation of Delaware
Filed Oct. 15, 1952, Ser. No. 314,825
14 Claims. (Cl. 114—25)



1. A control system for a navigable craft subject to inner and outer pressures of different magnitudes, both pressures being simultaneously but differently affected by vertical movements of said craft about a reference level, said system comprising means for providing a first signal proportional to the difference between the actual inner pressure and a given inner pressure, means for providing a second signal proportional to the difference between the actual outer pressure and the outer pressure which would be obtained at said reference level, means for controlling the vertical movement of said craft, and means for connecting said first and second signals in controlling relation to said last-recited means whereby the craft may be controlled vertically to move about said reference level so as to maintain an inner pressure substantially equal to said given inner pressure.

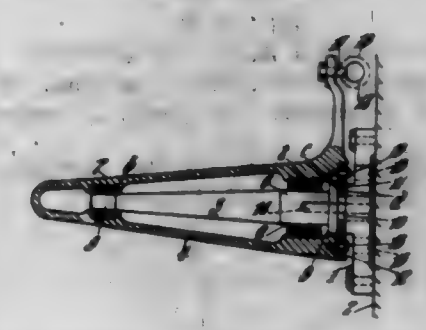
2,969,034
APPARATUS FOR RAISING SUBMERGED VESSELS
John E. Malloy, 1215 W. Glenwood Ave., Philadelphia, Pa., assignor of one-third to John M. Ashe, and one-third to Stanly Ashe, Philadelphia, Pa.
Filed Mar. 27, 1959, Ser. No. 802,474
5 Claims. (Cl. 114—54)

1. Apparatus for raising a submerged vessel including means for forming and inflating a series of connected balloons, means for clamping said balloon forming means directly within an opening in the side of the submerged



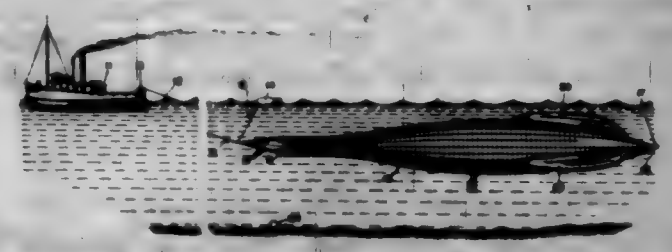
vessel, and means for pushing a series of inflated balloons from said balloon forming means into the interior of the submerged vessel.

2,969,035
SHIP STABILIZERS
John Victor Foll, Beckenham, England, assignor to Muirhead & Co. Limited, Beckenham, Kent, England
Filed June 19, 1959, Ser. No. 821,521
Claims priority, application Great Britain May 20, 1959
3 Claims. (Cl. 114—126)



3. A ship stabilizer comprising a ship's hull, a plurality of stub axles mounted outside the hull, the stub axles being made only of such strength that they will break off in the event of over-straining before damage is caused to the hull, spaced water-lubricated bearings mounted on the stub axles, fins mounted on the bearings for rotation about the stub axles, actuating means mounted to form part of each fin and means extending through the hull to operate the actuating means.

2,969,036
MEANS FOR SWEEPING A MINE
Graham B. Brown, 2133 Suitland Terrace SE., Washington, D.C.
Filed Oct. 25, 1945, Ser. No. 624,613
11 Claims. (Cl. 114—235)
(Granted under Title 35, U.S. Code (1952), sec. 266)



11. In a device of the character disclosed, the combination of an elongated flexible body for entraining a ponderous mass of water therein as the device is towed through the water, and a plurality of radially disposed

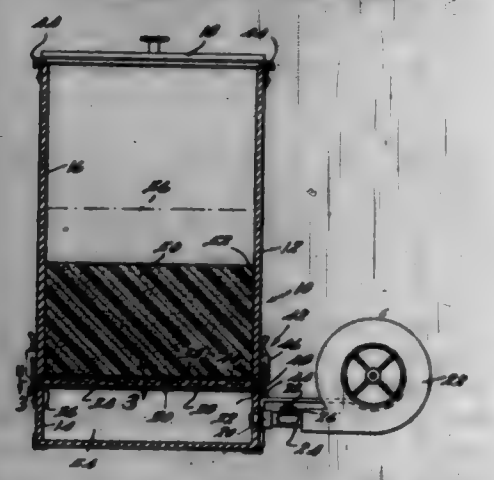
hydraulically inflatable stabilizing fin means secured to the body exteriorly thereof and having means individual thereto for directly entraining the surrounding water therein during movement therethrough and independently of the inflated condition of said body.

2,969,037
WATER SKI SCOOTER
Richard Vogt, Santa Barbara, Calif., assignor to Curtiss-Wright Corporation, a corporation of Delaware
Filed May 29, 1959, Ser. No. 816,779
4 Claims. (Cl. 115—70)



1. A water ski scooter comprising: a pair of floats in parallel relationship a given distance apart; a cross brace member holding said floats in said relationship; a pair of water skis positioned between said floats with their front ends hinged to said cross-brace member and their rear ends free; flexible bands secured between said cross brace member and said skis at a point spaced from the front hinged portions thereof to provide an upward bias on said skis; and a motor secured between said floats forward of said cross brace member for propelling said floats and skis forwardly in the water.

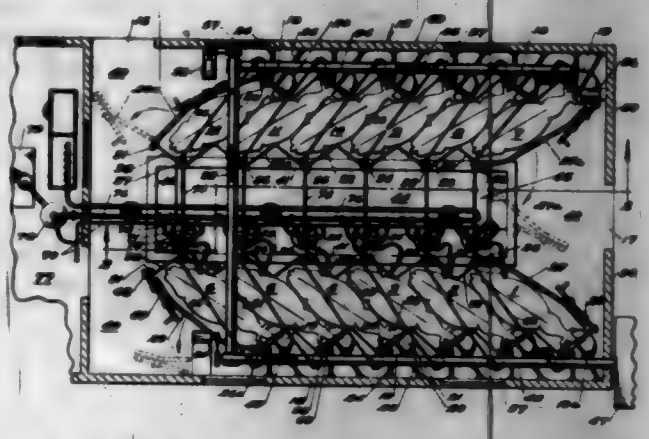
2,969,038
FLUIDIZED BED APPARATUS
Hans K. Neumann, Detroit, Mich., assignor to Michigan Chrome and Chemical Company, a corporation of Michigan
Filed Mar. 5, 1958, Ser. No. 719,386
4 Claims. (Cl. 118—429)



1. Apparatus for suspending powder particles in a gaseous stream comprising a container having a gas diffusion plate mounted between the upper and lower ends thereof so as to divide the container into an upper powder containing section and a lower section adapted to communicate with a source of gas under a pressure sufficient to force said gas upwardly through said plate, said plate consisting of a fiberboard member formed of compressed fibers and which is of a uniform permeability such that a uniform low velocity gas stream will flow upwardly therethrough.

2,969,039
ECHELON MILKING SYSTEM
Donavon E. Golay, Cambridge City, Ind., assignor to Golay & Co., Inc., a corporation of Indiana
Filed Dec. 26, 1957, Ser. No. 705,423
4 Claims. (Cl. 119—14.03)

1. A milking pen structure for aligning and maintaining cows in side by side contacting relation free of intervening partitions and free of head restraining means, which structure comprises a pen floor having an area on which a plurality of cows may stand in echelon arrangement; said floor area being defined by a head zone along one side, a milking zone along the opposite side, an inlet end, and an outlet end; a plurality of feed boxes mounted along said head zone side of the floor, one box for each of said cows, and centered approximately along a straight line, a box being at each of said inlet and outlet ends; each of said boxes having an opening on one side away from said floor head zone; a plurality of spaced apart splash guards fixedly mounted along said milking zone side, one guard for each feed box; each guard being spaced from a feed box approximately at right angles to and on a center line through said box opening to said guard and diagonally disposed over said floor; all of said center lines being approximately parallel and at acute angles to said feed box straight line in relation to said floor inlet end; an inlet gate hinged along a side of a feed box at the inlet end of said floor area;

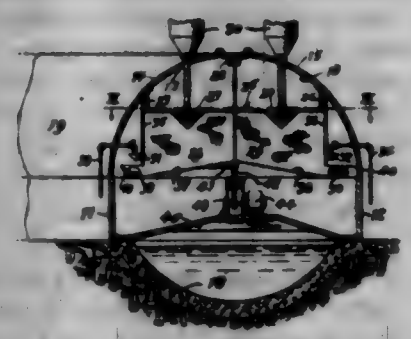


an inlet gate stop at the end of the splash guard at said inlet end; said inlet gate in closed position being in approximate parallelism with said center lines; an outlet gate hinged by one end at the end of a splash guard at said floor outlet end; an outlet gate stop at the outlet side of the feed box at said outlet end; said outlet gate, when closed, being in approximate parallelism with said inlet gate; a stop member interconnecting adjacent splash guards in each instance forming therewith a zigzag aligning device along said floor milking zone side, guard to stop member connections being in substantially straight lines; said structure being such in dimensions as will restrain said cows when on said pen floor, one for each feed box, in side by side, belly to flank contact, induced by closure of both said inlet and outlet gates, the rear ends of the cows being in close proximity to said splash guards with the cow heads entered through said box openings, and the cow rear ends being held by said members from shifting along said splash guards in a direction toward said floor outlet end.

2,969,040
AUTOMATED EGG-PRODUCING HENHOUSE
Fred M. Siptrott, 5326 Fulton Road, Santa Rosa, Calif.
Filed Aug. 10, 1959, Ser. No. 832,565
3 Claims. (Cl. 119—21)

1. An automated egg-producing hen house, comprising a hen accommodating cage enclosing structure of annular outline having spaced and concentrically disposed inner and outer sidewalls, a bowed roof structure having a central circular ridge beam, said roof structure having panelled sections hinged at its ridge to said beam adapted and arranged to expose the interior of the cage enclosing structure when lifted, a circular assembly of hen accommodating cages suspended from said roof structure for circular movement between said inner and outer sidewalls of the enclosing structure, motive power means

for driving said circular assembly of cages in a continuous manner, and a septic trough of circular outline con-



forming to the surface of substantially the entire cage area of said henhouse.

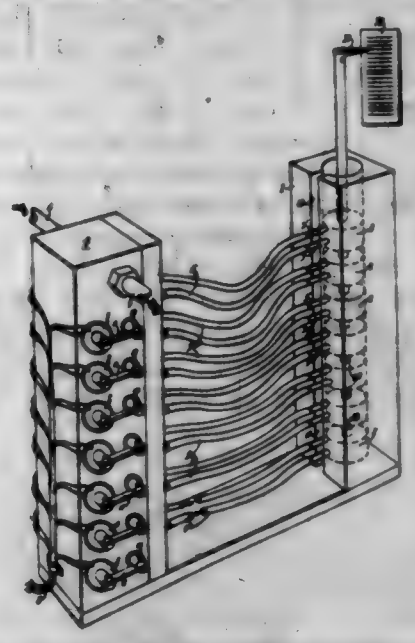
2,969,841
WRITING INSTRUMENTS
Christopher Guy Arenge, Bristol, England, assignor of one-half to Bristol Repetition Limited, Bristol, England, a company of Great Britain and Northern Ireland
Filed Oct. 17, 1958, Ser. No. 767,955
9 Claims. (Cl. 120—42.4)



1. A ball-point writing instrument comprising a reservoir containing a column of viscous ink and having a ball-point writing unit at one end with the other end open to the atmosphere, the column of ink being in contact with the ball-point writing unit at that end of the reservoir, and a plug disposed within the reservoir between the open end thereof and the adjacent end of the ink column, said plug comprising a mixture of a substance which is immiscible with the ink and a substance which is miscible with the ink to provide a controlled degree of miscibility of the plug with the ink.

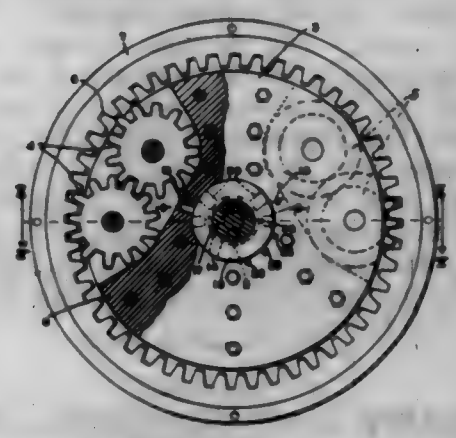
2,969,842
CYLINDER ADDER
Frank A. Litz, Santa Clara County, and John J. Lynott, Los Gatos, Calif., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed July 26, 1957, Ser. No. 674,416
15 Claims. (Cl. 121—38)

1. Apparatus for generating a mechanical translation in accordance with an electrical signal, said apparatus comprising a plurality of pressure responsive devices coupled together in tandem, each of said pressure responsive devices having a member displaceable between predetermined limits, and a control means responsive to the electrical signal operatively associated with all of said pressure responsive devices, said control means being operable to pass fluid under pressure to a selected side of the displaceable member and to exhaust fluid from the



other side to move the displaceable member to a selected one of the predetermined limits.

2,969,843
POWER CONTROL APPARATUS
Wilmer J. Friesen, 1016 W. 2nd St., Hutchinson, Kans.
Filed Mar. 18, 1959, Ser. No. 800,287
3 Claims. (Cl. 121—39)

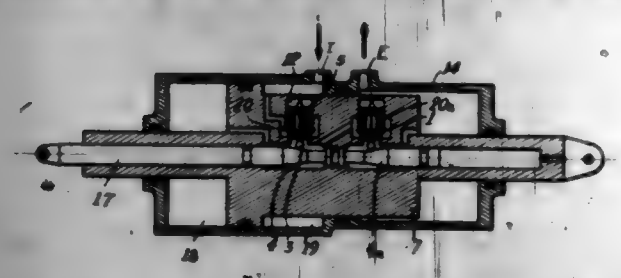


1. A fluid control comprising a low pressure housing having an exhaust port, a ring gear secured within the housing, a shaft journaled in the housing, a spider carried by the shaft, a pair of gear motors journaled in the spider and having high pressure chambers within the spider separated by the gears from the low pressure chamber outside the spider and within the housing, one gear of each motor being enmeshed with the ring gear for concurrent opposite rotation of the gear motors, said shaft having an internal ported fluid pressure supply passageway, and a valve on the shaft manually adjustable relative to the housing to open communication between the high pressure chamber of one rotary motor and the pressure supply while the high pressure chamber of the other rotary motor is placed in communication with the low pressure chamber, the resultant rotation of the shaft by the driven motor relative to the non-rotating housing and valve returning the parts to valve-closed position to stop rotation of the shaft relative to the valve and housing.

2,969,844
HYDRAULIC VALVE AND SERVO-SYSTEMS
René Leduc, 23 Rue Henri Cloppet, Le Vesinet, France
Filed Nov. 4, 1958, Ser. No. 771,839
Claims priority, application France Nov. 5, 1957
6 Claims. (Cl. 121—41)

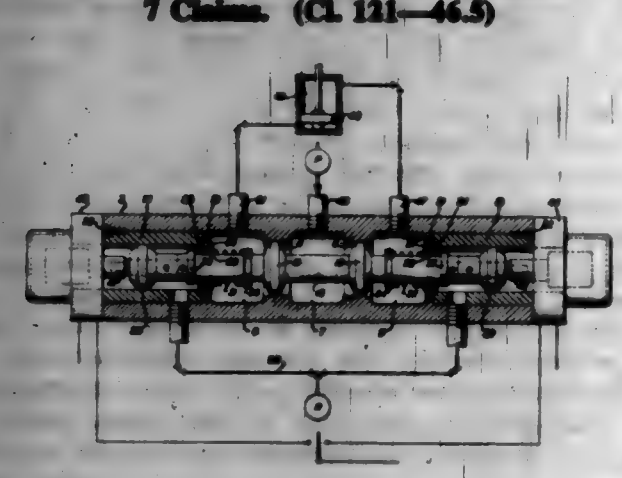
1. A valve arrangement comprising, in combination, housing means having an inlet chamber adapted to re-

ceive fluid under pressure and also having a cylindrical recess communicating with said chamber and terminating in a closed end distant from said chamber, said housing means having a wall spaced from said cylindrical recess, defining part of said inlet chamber, separating said inlet chamber from an outlet of the valve arrangement, and formed with an opening coaxial with said recess and of a smaller size than the diameter of said recess; a poppet located in said inlet chamber coaxially with said recess and having a closed position engaging an edge of said opening so that the latter edge acts as a valve seat; a piston of a larger diameter than said opening located in said cylindrical recess and having a face directed toward said wall, the diameter of said piston being less than the diameter of said cylindrical recess by a predeter-



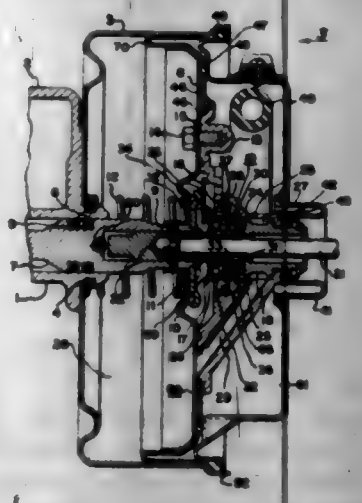
mined amount providing a predetermined leakage path from said inlet chamber into said recess, said piston and poppet being rigidly fixedly to each other for movement together and being formed with a passage extending axially through said piston and poppet; a valve member located in said recess at one end of said passage for closing the latter; moving means extending with substantial clearance through said passage for moving said valve member at the will of the operator toward said closed end of said recess to provide communication between said recess and outlet, whereby the fluid under pressure in said inlet chamber acts on said face of said piston to move said poppet away from said wall to an open position; and a single spring means forming the only spring means of the valve arrangement and acting exclutively on said poppet for urging the latter to its closed position.

2,969,045
SPOOL-TYPE VALVE FOR USE IN HYDRAULIC SYSTEMS
Milton Clar, Washington, D.C., assignor to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey
Filed Feb. 26, 1959, Ser. No. 795,348
7 Claims. (Cl. 121—46.5)



1. In a valve for distributing fluid under pressure to a pair of expansible chambers, said valve including an elongated housing, said housing defining a medial supply chamber having a passageway delivering the fluid under pressure, said medial chamber being defined in part at each end by spaced walls formed with cylindrical coaxial ports having aligned inner cylindrical surfaces, secondary liquid chambers formed at each side of the medial chamber, passageways connecting each secondary chamber with an expansible chamber, liner bushings at the outer ends of the secondary liquid chambers, valve seats formed at the inner end surfaces of said bushings, outlet ports for said secondary liquid chambers formed in the liner bushings and housing outwardly of the valve seats, a slidable valve stem arranged in said housing, said sliding valve stem including a pair of spaced flow control spools positioned for sliding movement within said spaced inner cylindrical surfaces at said coaxial ports, ring valve members slidably mounted on said valve stem laterally of said flow control spools for seating engagement with the annular valve seats at the inner ends of said liner bushings, fixed abutment means on said valve stem outwardly of the ring valve members for engaging said ring valves upon movement of said valve stem to urge the ring valves from their seats, spring means normally urging said ring valves toward closed position, means for sliding said valve stem to simultaneously displace an alternate sliding ring valve and a flow control spool to position the same for the passage of fluid from the medial liquid supply chamber to a secondary liquid supply chamber for discharge into an expansible chamber and for unloading the other secondary liquid chamber through its discharge port.

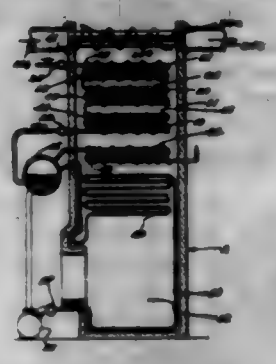
2,969,046
BRAKE BOOSTER UNIT CASING
George E. Kellogg, Miamisburg, and Robert H. Bauman, Dayton, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Aug. 26, 1958, Ser. No. 757,259
9 Claims. (Cl. 121—48)



8. In a power unit a diaphragm power wall comprising in combination a power unit casing including a forward and rearward section, a movable wall dividing said inner portion of the power unit casing into a constant pressure and a differential pressure compartment, said movable wall employing a flexible resilient diaphragm including three annularly arranged bead structures formed thereon, the radial innermost bead providing for mounting of said rolling diaphragm on said movable wall, the intermediate annularly arranged bead structure providing a bumper means between said movable wall and said rear section of said booster unit casing, the radial outermost bead providing a sealing means and support means for the outer periphery of said flexible resilient diaphragm, said forward section of said casing provided with axially rearwardly extending portions having axial internal grooves, circumferential slots adjoining one side of said axial slots and extending beyond said axial groove, said groove inclined to a plane perpendicular to the axis of said power unit, the alternate rearward portion of said front section between said extending portion comprising two flat areas connected by a step, said two flat areas on separate planes axially disposed from each other, the said portion adjoining two flat portions providing a shoul-

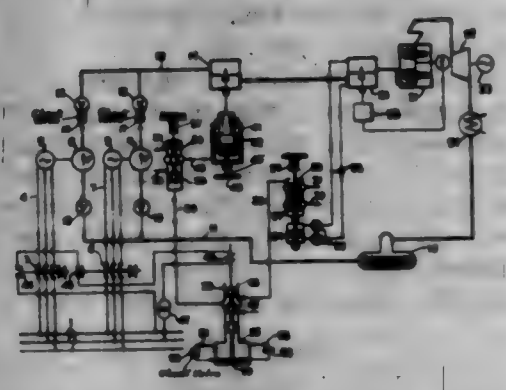
der on the rearward end of said forward section, the rearward section having radially extending tabs lying in a plane perpendicular to the axis of said power booster unit, the alternate tabs of said radial tabs on said rear section constructed for reception within said axial grooves of said forward section upon assembly, the alternate remaining tabs providing a stop means in axially assembling said rearward section and said forward section, said step portion of said forward section providing a locking means for retaining said rearward section in a non-rotative position upon assembling with said forward section.

2,969,047
METHOD AND APPARATUS FOR MINIMIZING FLUE DUST COLLECTIONS
Glenn A. Arter, 5125 N. Kenmore Ave., Chicago, Ill.
Filed July 19, 1954, Ser. No. 444,385
22 Claims. (Cl. 122—379)



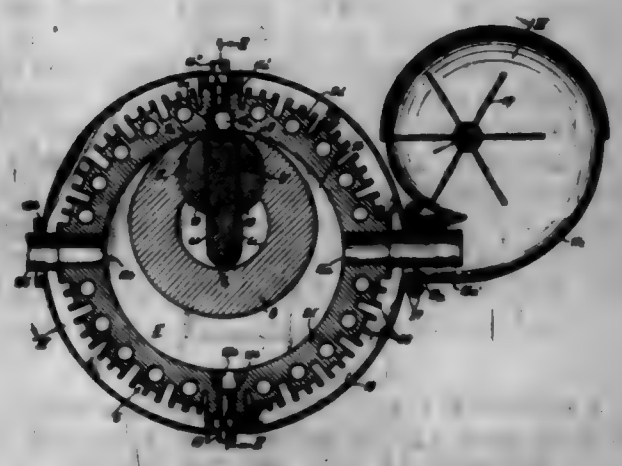
1. In a method of reducing the deposition of magnetically attracted materials contained in a fluid flow stream upon the surface of a member normally having a magnetic field thereabout and being disposed in the path of such flow stream so as to have such surface traversed thereby, the steps of developing a magnetic field about said member, and controlling the orientation and magnitude of said developed magnetic field so as to substantially oppose and approximate in value such normal magnetic field for counteracting the same, whereby the attraction of such materials to said member is substantially reduced.

2,969,048
FEED WATER SUPPLY SYSTEM FOR STEAM GENERATORS
Alfred Buri, Winterthur, Switzerland, assignor to Sulzer Freres, Societe Anonyme, Winterthur, Switzerland, a corporation of Switzerland
Filed Nov. 16, 1954, Ser. No. 469,265
Claims priority, application Switzerland Nov. 20, 1953
7 Claims. (Cl. 122—451)



1. A steam generating apparatus including a steam generator, a feedwater supply system comprising at least one centrifugal pump, starting and stopping means operatively connected to said pump for starting and operating said pump and for stopping said pump, the latter having an outlet, a feedwater conduit connecting said outlet and said steam generator, a valve in said feedwater conduit, a motor operator connected to said valve for opening and closing said valve, and control means connected to said motor operator for controlling operation of the latter, said control means including a control signal producing means connected to said feedwater conduit downstream of said valve for producing a control signal corresponding to the rate of flow of the feedwater to the steam generator, and control signal transmitting means operatively connected to said control signal producing means and to said motor operator and including controlling means operatively connected to said starting and stopping means for actuation thereby for transmitting said produced control signal to said motor operator when starting and during operation of the pump and for stopping transmission of said produced control signal to said motor operator upon stopping of said pump, said controlling means including means for producing a control signal and for transmitting said last mentioned control signal to said motor operator for closing said valve upon actuation of said controlling means by said starting and stopping means when the pump is stopped, said controlling means including means for retarding actuation of the controlling means upon starting of the pump, and means for rendering said retarding means ineffective upon stopping of the pump.

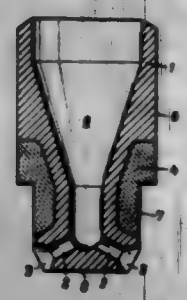
2,969,049
ROTARY PISTON ENGINE
Horst Dillenberg, Wuppertal-Elberfeld, Germany (Konigsgratzer Strasse 25, Haan, Rhineland, Germany)
Filed Apr. 18, 1960, Ser. No. 22,852
20 Claims. (Cl. 123—8)



20. In a rotary piston engine of the character described, in combination, a cylinder defining a coaxial cylinder space, a pair of diametrically opposed compression chambers extending radially of and communicating with said cylinder space and a pair of diametrically opposed radial openings communicating with said cylinder space and turned through 90 degrees with respect to said compression chambers, said cylinder having a cylindrical inner surface surrounding said space and a periphery formed with cooling ribs; a fuel injection nozzle mounted in each of said compression chambers; a radial piston in said space adapted to be rotated about the axis of said cylinder, said piston having a symmetry plane radial with respect to and intersecting the axis of said cylinder, and a front face slidable along said cylindrical surface; a cylindrical follower member; means coupling said follower member with said piston for rotary movement about the axis of said cylinder and for rotation with respect to said piston about a second axis parallel with the axis of said cylinder, said second axis located in the symmetry plane of said piston when the front face of said piston is adjacent to and seals one of said compression chambers from said space, said piston, said follower member and said coupling means sealingly dividing said space into a first and a second zone; means connected with said follower member for rotating the same in

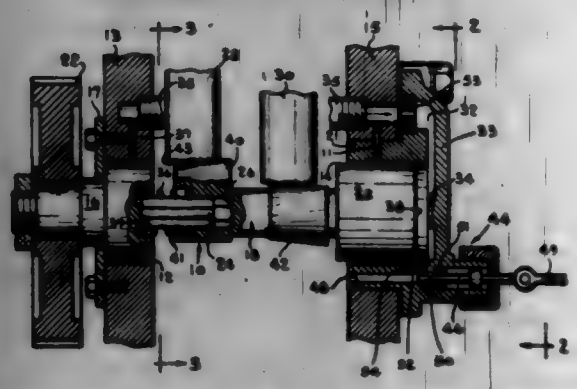
clockwise direction about said second axis and along said cylindrical surface when the piston rotates in anti-clockwise direction, and vice versa; a mantle surrounding the periphery of said cylinder and spaced from said ribs, said mantle having inlet and outlet pipe means; and fan means for blowing atmospheric air into the inlet pipe means of said mantle and through one of said openings, the other of said openings constituting a discharge opening for permitting discharge of gases from said cylinder space.

2,969,050
PRECOMBUSTION CHAMBER OF FUEL INJECTION ENGINES
Josef Greier and Bruno Schukoff, Graz, Austria, assignors to Hans List, Graz, Austria
Filed Mar. 6, 1959, Ser. No. 797,763
Claims priority, application Austria Mar. 7, 1958
3 Claims. (Cl. 123—32)



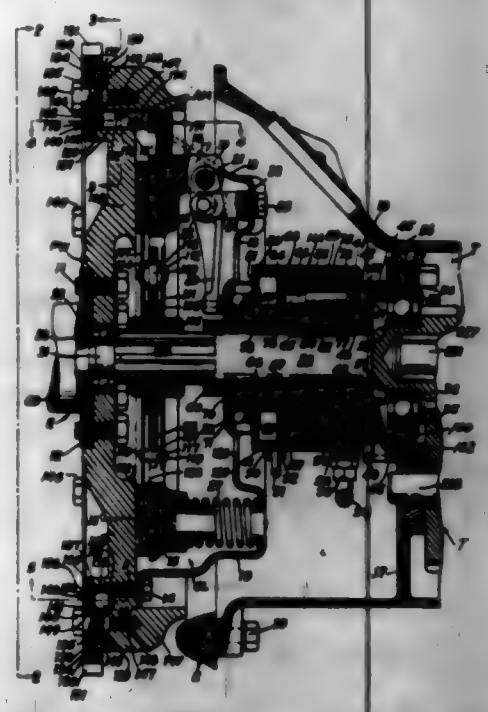
1. A precombustion insert for combustion engines, said insert comprising a main body of high refractory material defining a chamber opening through one end thereof, said chamber being tapered toward the other end of said main body, the said main body being further formed with a plurality of exhaust ducts opening outwardly therethrough from the converging end portion of said chamber, said main body being formed with grooves extending between respective adjoining pairs of said ducts and including portions of high heat conductivity completely occupying said respective grooves in intimate heat conducting relation with said main body.

2,969,051
VARIABLE CAM TIMING MECHANISM
Phillip S. Webster, 122 Headlands Road, Painesville, Ohio
Filed Oct. 16, 1959, Ser. No. 846,925
16 Claims. (Cl. 123—90)



12. Automatic valve timing mechanism for a four cycle-internal combustion engine having an engine oiling system the pressure of which varies with changes in engine speed, an internal chamber connected to said oiling system and intake and exhaust valve operating tappets comprising, a two part rotating camshaft having a driving end journaled and fixed against axial movement and a cam lobe portion provided with a journal the outer end of which is open to said chamber, a splined shaft and grooved recess interconnecting said driving end and cam lobe portion to transmit rotation therebetween while permitting limited relative axial movement, an intake and an exhaust conventional pear shaped cam lobe on said cam lobe portion each having an identical axial taper on the lift and lowering portions thereof extending from the large end to the small end of said lobes, said tappets having operating contact with a portion only of the axial length of such portions of said cam lobes, said small end of said lobes being more remote from said journal than the large end thereof, spring means on said splined shaft urging said journal toward said chamber to cause said operating contact to be at the small end of said cam lobes, the pressure of said oiling system in said chamber acting on said journal to move said cam lobe portion axially against said spring to cause said operating contact to move to the large end of said cam lobes as said pressure increases to predetermined amounts.

2,969,052
AUXILIARY DISENGAGING MECHANISM FOR AUTOMOTIVE CLUTCHES
Glenn T. Randol, Second and Paul St., Box 53, Mountain Lake Park, Md.
Continuation of application Ser. No. 692,911, Oct. 28, 1957. This application Jan. 15, 1960, Ser. No. 2,787
26 Claims. (Cl. 123—179)

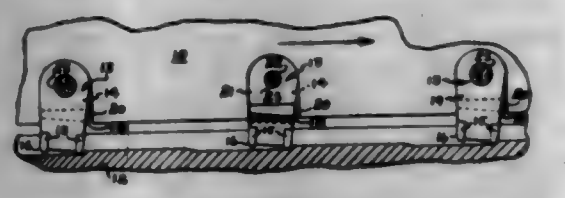


1. In engine-driven friction clutch mechanism having driving and driven members for transmitting drive-torque from the engine when engaged, an electric engine starter, power-operated means for normally controlling disengagement and re-engagement of said clutch members, and a source of power derived from operation of the engine for operating said power-operated means: auxiliary clutch controlling means including mechanism actuated by the engine starter prior to starting of the engine and including means interconnecting said starter and said engine for disengaging the clutch members independently of the power-operated means; and an electrical control circuit including a source of electrical energy, a personally-operated switch and means energized by said source upon operation of said switch for energizing said starter.

2,969,053
TEETH FOR RECIPROCATING STONE CUTTING SAW BLADE
Richard R. Wentzel, Trussville, Ala., assignor to Wentzel Carbide Tool Company, Inc., a corporation of Alabama
Filed Mar. 6, 1959, Ser. No. 797,730
4 Claims. (Cl. 125—22)

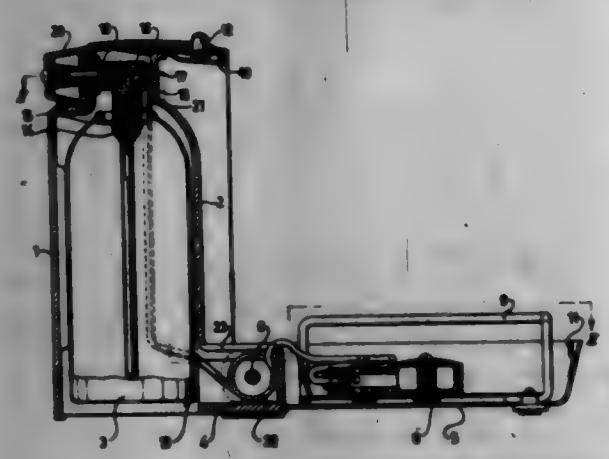
1. In a reciprocating saw blade adapted to cut stone on both the forward and rearward strokes thereof and hav-

ing a notch on the outer working edge thereof, a rib positioned in said notch intermediate the thickness of said blade and being of a thickness substantially smaller than the thickness of the saw blade, a bifurcated saw tooth fitting over the rib and extending outwardly from the working edge of the saw blade, said saw tooth being of a thickness substantially the same as said saw blade, cutting surfaces on opposite edges of the saw tooth engaging the stone alternately upon reciprocation of the saw



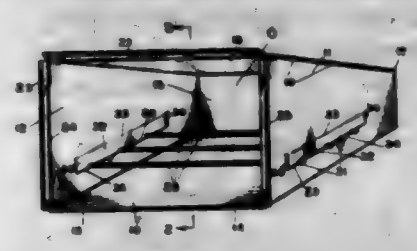
blade, and the spacing between the side edges of the blade defining the notch being greater than the width of the saw tooth therebetween to allow rocking movement of the saw tooth in said notch, the side edges defining the notch extending in a direction generally perpendicular to the direction of travel of the reciprocating saw blade and adapted to abut the side edges of the saw tooth and limit rocking movement thereof and the inner end edge of the saw tooth engaging the surface defining the inner end of said notch in supporting relation.

2,969,054
COOKING APPLIANCES BURNING A GASEOUS FUEL
Sten Sune Axelsson, Hegalund, Sweden, assignor to Aktiebolaget Balco, Stockholm, Sweden, a corporation of Sweden
Filed Dec. 2, 1958, Ser. No. 777,745
Claims priority, application Sweden Dec. 5, 1957
1 Claim. (Cl. 126—38)



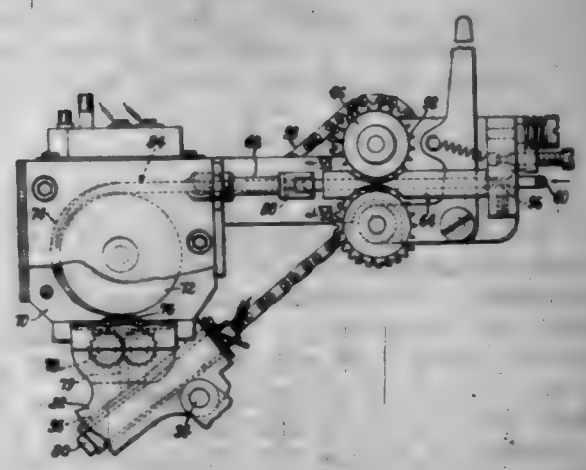
In a cooking appliance for burning a gaseous fuel, the combination comprising an upright casing, a gas container housed within said casing, a burner, a support underlying said burner and extending horizontally from the base of said casing and pivotally connected thereto for swinging movement about a horizontal axis from a horizontal open position to an upright closed position thereby to coact with said casing for enclosing said burner, a resilient tubular conduit interconnecting said gas container and burner for supplying fuel to the latter, said tubular conduit including a conduit section spirally wound about the axis of the pivotal connection between said casing and support, said conduit being operative to yieldably hold said support in open position for exposing said burner, and being operative to return said support to its open position when said support is turned about said pivotal axis to its closed position against the influence of the inherent resilience of said conduit and then released.

2,969,055
REFLECTOR CAMP OVENS
Rolland A. Martin, 1235 Walnut St., Albany, Oreg.
Filed Oct. 10, 1958, Ser. No. 766,560
1 Claim. (Cl. 126—274)



A reflector camp oven comprising a single sheet of foldable material formed with a bottom panel, a pair of side panels integrally formed with said bottom panel along opposite side edges thereof, a rear panel integrally formed with said bottom panel along the rear edge thereof, a top panel integrally formed with the upper edge of said rear panel, said side panels being foldable with respect to said bottom panel along crease lines separating said side panels and said bottom panel, said back panel being foldable with respect to said bottom panel along a crease line separating said bottom panel and said back panel, said top panel being foldable with respect to said back panel along a crease line separating said top panel and said back panel, means releasably securing the upper edges of said side panels to the side edges of said top panel with said panels in erected position, said means comprising a plurality of interfitting tongues and notches formed respectively on the edges of said side panels and said top panel, outwardly flaring offset end portions on the forward edges of said side panels, an upwardly flaring offset end portion on the forward edge of said top panel, and heat reflecting means supported on the inner surface of said side panels, said bottom panels, said top panel, and said back panel, to reflect heat from a fire on the food supported in said oven, said side panels each having slots therein extending in parallel relation and parallel to said bottom panel, and punched out portions at spaced intervals along said slots, and supporting rods extending transversely across said oven with their ends engaged in said punched out portions.

2,969,056
APPARATUS FOR HANDLING THERMO-RESPONSIVE CEMENTS
Hans C. Paulsen, Lexington, Mass., assignor to B.B. Chemical Co., Boston, Mass., a corporation of Massachusetts
Original application Nov. 30, 1953, Ser. No. 395,071, now Patent No. 2,874,884, dated Feb. 17, 1959. Divided and this application Dec. 5, 1957, Ser. No. 700,895
6 Claims. (Cl. 126—343.5)



1. In combination, heated means providing a passageway for an elongated rod of indefinite length of thermo-

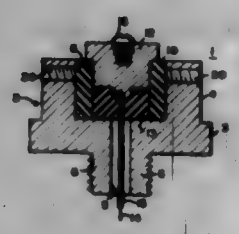
plastic adhesive, disposed in cooperative relationship with said passageway, for melting and dispensing said adhesive as said rod is moved through said passageway, said rod having a substantially uniform gross cross section throughout its length and having a longitudinally extending groove, and said passageway comprising an entrance portion complementary to the cross section of said rod, an intermediate portion having a cross section similar to that of the rod but bridging the groove, and a discharge portion for delivery of molten adhesive.

2,969,057
NEMATODIC SWAB
Vaughan P. Simmons, Wauwatosa, Wis., assignor to W. H. Brady Co., Milwaukee, Wis., a corporation of Wisconsin
Filed Nov. 4, 1957, Ser. No. 694,458
1 Claim. (Cl. 128—2)



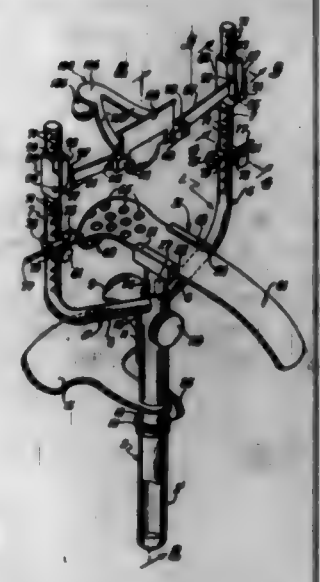
A swab for collecting and preserving specimens for microscopic examination, comprising: an upper layer of pliant sheet material capable of being readily written upon, namely cloth tape; an intermediate layer of transparent pliant sheet material, namely cellulose acetate; a lower layer of pliant sheet material, namely polyethylene terephthalate; a coating of permanently tacky eucohesive adhesive on the underside of the upper layer; a coating of substantially clear permanently tacky eucohesive adhesive on the underside of the intermediate layer; and three independent tack-free tabs for manipulation all on the same end of the swab, each tab being on the end of one of the three layers; the upper tab comprising one end of the adhesive-coated upper layer and a piece of stiff material covering the adhesive coating of said end.

2,969,058
ANODE-CATHODE CONSTRUCTION FOR BRAIN POLAROGRAPH
Lawrence R. Parton, 5458 Mitchell Drive, Dayton, Ohio
Filed May 18, 1959, Ser. No. 814,119
1 Claim. (Cl. 128—2.1)
(Granted under Title 35, U.S. Code (1952), sec. 266)



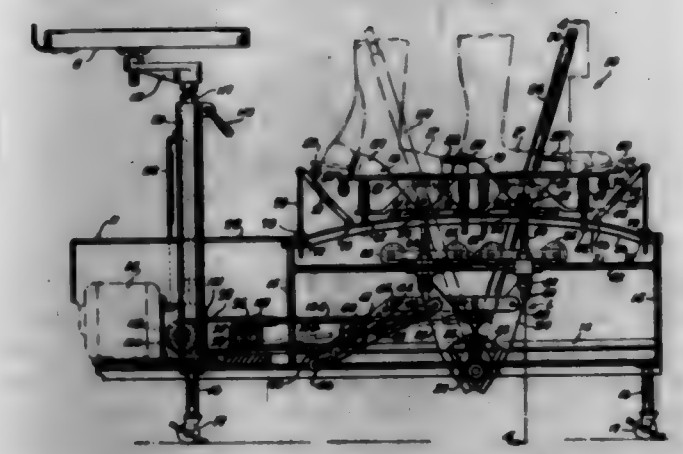
A concentric anode-cathode electrode adapted to be permanently implanted in the skull of a small animal for determining the availability of oxygen in the animal's brain tissue comprising; a silver plated anode block, a cylindrical cavity formed in said anode block and having one end open, a threaded extension on said block concentric with said cavity and having a small central passage therethrough connected at one end to said cylindrical cavity, an annular insulating sleeve positioned in said anode circular cavity, a plug of insulating material closing the bottom of said insulating sleeve, a metal cathode support mounted in said annular insulating sleeve, a platinum wire cathode electrode centrally secured in said cathode support and adapted to pass through said insulating plug and through said anode central passage to project beyond said anode block threaded extension said cathode wire being insulated throughout its length except at its tip portion from electrical contact with the anode, said anode block threaded extension being adapted to be screwed into a trephined hole in the animal's skull, said cathode support, insulating means therefor and said cathode wire electrode being adapted to be inserted into said anode cylindrical cavity and said cathode wire projecting through said anode threaded extension into the brain tissue of the animal and means for removably securing the cathode support and insulating means therefor in the anode cylindrical cavity.

2,969,059
MOUTH GAG
Cicero Parker Meek, 105 Jackson Drive, Aiken, S.C., and S. P. Wall, Jr., Aiken, S.C. (Rte. 1, Box 315, Travelers Rest, S.C.)
Filed Nov. 25, 1958, Ser. No. 776,306
7 Claims. (Cl. 128—12)



1. A mouth gag, comprising: a yoke-shaped frame member having a depending leg with two upstanding arms secured adjacent the upper end thereof, said leg being adapted to serve as a handle; a first tooth-engaging member and a chin-engaging member mounted on said leg and projecting generally horizontally from one face thereof with said tooth-engaging member in vertically spaced overlying relation with respect to said chin-engaging member, said first tooth-engaging member and said chin-engaging member having downwardly facing and upwardly facing bearing surfaces, respectively, said upwardly facing bearing surface lying in a substantially horizontal plane and having an enlarged area of sufficient size to underlie a major portion of a user's chin, at least one of said members being mounted for guided vertical movement with respect to the other; means for locking said one member against vertical movement with respect to said other member; and a second tooth-engaging member positioned in spaced relation above said first tooth-engaging member and having an upwardly facing bearing surface; and means for mounting said second tooth-engaging member between said arms for vertical adjustment with respect thereto, whereby said chin-engaging member and said first tooth-engaging member may be clamped on a user's jaw and locked in clamped position, and said second tooth-engaging member may be adjusted thereafter to spread the user's mouth to any desired extent.

2,969,860
EXERCISING MACHINE
Howard F. Swanda, Rte. 1, Box 13, Hiram, Ohio, and Robert L. Brannan, Bedford, Ohio (Box 198, Rte. 2, Thermal, Calif.)
Filed July 13, 1959, Ser. No. 826,598
9 Claims. (Cl. 128—25)



1. In an exercising machine, a frame, parallel arcuate guideways on said frame presenting upwardly directed convex surfaces, a pair of foot support means mounted for reciprocation along said guideways, motor drive means mounted on said frame, and drive linkages operably connecting said motor means to each of said foot support means for alternating reciprocation thereof, said linkages comprising a rotary crankshaft, levers each pivotally connected at one end to one of said foot support means and having a sliding fulcrum connection with said frame at the other end, connecting rods connecting said crankshaft to each of said levers at a position between said ends for oscillation of said levers and reciprocation of said foot support means upon rotation of said crankshaft.

2,969,861
APPLIANCE FOR FACILITATED X-RAY EXAMINATIONS OF ANKLE INJURIES
Elias D. Sedlin, Bronx, N.Y., assignor to the United States of America as represented by the Secretary of the Army
Filed Dec. 1, 1959, Ser. No. 856,622
2 Claims. (Cl. 128—84)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A surgical appliance for facilitating X-ray examinations of injured ankle joints, which comprises a rigid foot-piece including a pair of complemental elongated laterally adjustable foot-strips adapted to extend longitudinally beneath a patient's foot, each strip having an inner edge and and outer edge, an upstanding contoured heel flange on each foot-strip along rear portions of each outer edge, an upstanding contoured forefoot flange along forward portions of each outer edge of each foot-strip, each heel flange being gently curved divergingly posteriorly and each forefoot flange being curved inwardly with respect to its foot-strip, means enabling relative lateral adjustment of the foot-strips for enabling the flanges to engage snugly against the heel and forefoot, respectively, of a patient's foot, the means for laterally adjusting the complemental foot-strips with respect to each other including a turret clamp secured to each strip in similar forward and rear locations underside each strip, a forward crossbar extending transversely with respect to the complemental foot-strips through the forward turret clamps, a rear crossbar similarly extending through the rear turret clamps, the crossbars interconnecting the foot-strips forwardly and rearwardly thereof, the strips being slidable along the cross bars for snugly interfitting the flanges on the foot-strips with the patient's foot, and clamping set screws for each of the strips operatively disposed in the turret clamps at right angles to the crossbars for releasably securing the foot-strips in clamping position on the patient's foot; a thigh band adapted to encircle the patient's thigh, traction cable means interconnecting the foot-piece and thigh band for imparting stress and tilt to the foot-piece and patient's foot held thereby upon application of maximum inversion and moderate plantar flexion stress thereto through the traction cable means, and means for securing the foot-piece and traction cable means in desired stress, and tilt for obtaining selectively both inversion and eversion stress roentgenograms of an injured area.

2,969,862
ADHESIVE PROTECTIVE PADS
Miles E. Landau, 277 Eastern Parkway, Brooklyn, N.Y.
Filed Aug. 10, 1955, Ser. No. 527,544
1 Claim. (Cl. 128—153)

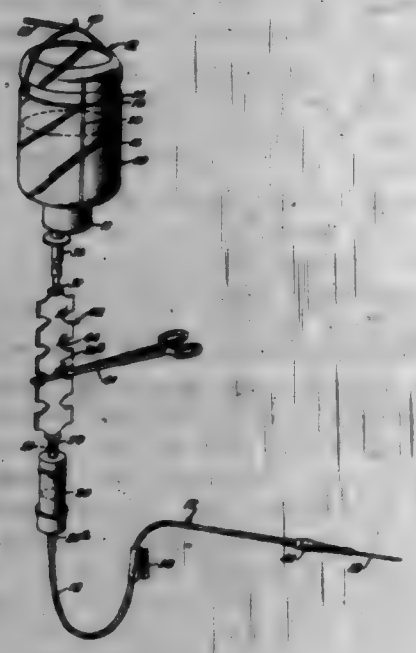


An adhesive protective pad comprising a strip of soft material, a flexible backing underlying said strip, a slow drying adhesive removably securing said strip to said backing, and said strip having an opening and slits extending longitudinally thereof from opposite sides of said opening, the slit on one side of said opening extending through one end of the strip and the slit on the other side of said opening terminating in adjacent relation to the opposite end of said strip, thereby bifurcating the said strip.

2,969,863
PARENTERAL FLUID ADMINISTRATION EQUIPMENT
Cyrus R. Broman, Evanston, Ill., assignor to Baxter Laboratories, Inc., Morton Grove, Ill., a corporation of Delaware
Filed Feb. 10, 1958, Ser. No. 714,422
10 Claims. (Cl. 128—214)

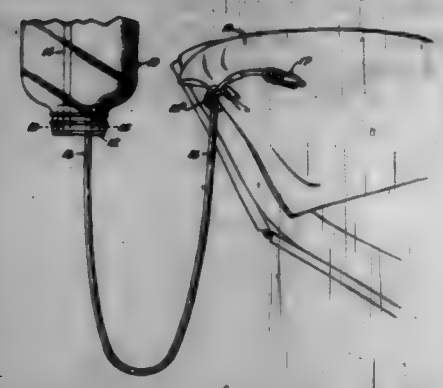
6. In parenteral fluid administration equipment, a flexible elongated tubular envelope equipped with flow ports at the ends thereof and adapted to collapse to a lay-flat condition, the said envelope being equipped with a plurality of constricted portions intermediate the ends there-

of defining, with the remainder of said envelope, a plurality of chambers, some of said chambers gradually



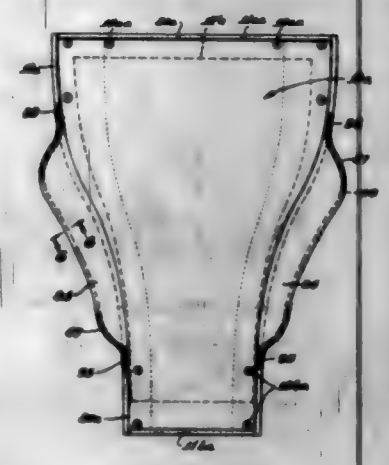
diminishing in size from one end to the other of said envelope.

2,969,064
DRINKING TUBE DEVICE
Henry E. Metz, Glenview, Ill., assignor to Baxter Laboratories, Inc.
Filed Mar. 26, 1957, Ser. No. 648,625
5 Claims. (Cl. 128—222)



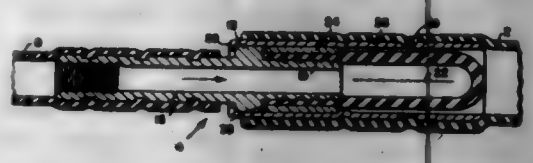
1. In a drinking tube structure for bedridden patients and the like, an elongated resilient tube adapted to be communicated at one end to a source of liquid, the other end of said tube being adapted to be received in a patient's mouth, a clamp on said tube compressing the walls thereof together to prevent liquid flow therethrough, said clamp comprising cooperating elements rockably secured together and having clamping means effective to apply a compressing force on said tube at a spaced distance from the mouth end of said tube, said elements extending along said tube from the point of compression toward the tube mouth end and being equipped with longitudinally-extending recesses effective to maintain said tube between said point of compression and said tube mouth end substantially uncompressed, said elements at the ends thereof adjacent said tube mouth end being mutually spaced and positioned sufficiently closer to said tube mouth end to permit said clamp to be received between the teeth of a patient and rockably opened by biting action alone whereby said tube is permitted to assume a substantially uniform cross section throughout its length and provide substantial flow of liquid therethrough.

2,969,065
DIAPER GARMENT
Don A. Farnsworth, Los Angeles, Calif., assignor to Ceed of California, Inc., Los Angeles, Calif., a corporation of California
Filed Sept. 21, 1959, Ser. No. 841,107
10 Claims. (Cl. 128—284)



1. A diaper garment for infants, comprising: a length of water repellant and light but strong backing material and being wider at the horizontal edge thereof that is placed around the back of the waist of the infant, than the horizontal edge of the end thereof that is passed under the infant's crotch and positioned upon the front of the infant, means for detachably connecting the horizontal edges together; soft light-weight absorbent sheet material, at least one sheet of which is co-extensive with and secured to the edges of the inner face of said backing material; an gusset of flexible waterproof material projecting laterally from and intermediate the ends of each side edge of the length of waterproof backing material; and a strip of resilient material secured along the central portion of the outer edge of each said laterally projecting gussets and effective to gather the mid-length of the garment into pouch-like form and to form the edges of the leg openings of the garment to hold the edge of said openings in firm engagement with the skin of the infant's thighs.

2,969,066
DEVICE FOR DRAINING VENTRICULAR FLUID IN CASES OF HYDROCEPHALUS
John W. Holter, Bridgeport, and Eugene Bernard Spitz, Swarthmore, Pa., assignors to The Holter Company, Bridgeport, Pa., a corporation of Pennsylvania
Filed Oct. 2, 1956, Ser. No. 613,549
5 Claims. (Cl. 128—350)

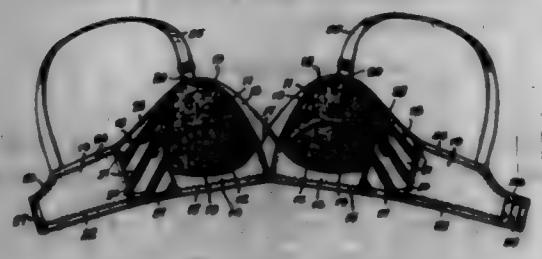


1. A device for the draining of ventricular fluid in cases of hydrocephalus comprising an elastic tube, inlet and outlet valves in the ends thereof completely closing said tube, each of said valves comprising a thin walled tubular member of elastic material provided with a slit arranged to be opened by excess of pressure in the interior of the member over the exterior thereto and to close upon release of said pressure excess, a pair of tubes, means connecting one of said pair of tubes to supply a flow of fluid to the upstream side of said inlet valve, and means connecting the other of said pair of tubes to receive a flow of fluid from the downstream side of said outlet valve, said valves being arranged to open upon existence of normal pressure gradient between the last mentioned tubes of the order of thirty millimeters of water.

2,969,067
BRASSIERES

Frances M. Smith, Bridgeport, Conn., assignor to The La Resista Corset Company, Bridgeport, Conn., a corporation of Connecticut

Filed July 8, 1959, Ser. No. 825,714
7 Claims. (Cl. 128—489)

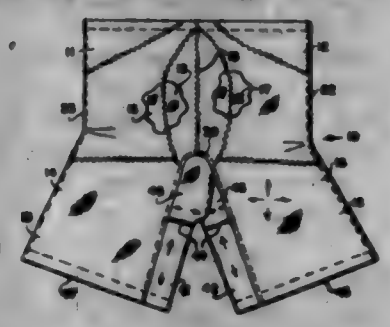


1. In a brassiere, a front section comprising a pair of breast cup means, horizontal panel means extending along the lower edge of said cup means and having outer side edges continuous with the outer side edges of said cup means, a pair of quadrilateral elastic side sections each having a forward side edge co-extensive with and respectively connected to the continuous outer side edge of said cup and panel means, a diagonal top edge extending downwardly and rearwardly, a substantially horizontal bottom edge, and a rearward side edge, a pair of substantially horizontally extending back band sections having inner end edges co-extensive with and respectively connected to the rearward side edges of said side sections and having outer end edges connectable to each other at the back of the brassiere, the lower portion at least of said respective back band sections being in horizontal line with said front panel means and entirely spaced therefrom by said side sections, and a pair of shoulder straps respectively connected between the upper end portions of said breast cup means and said back band sections, each of said side sections comprising a single thickness piece of one-way stretch elastic fabric having its normal stretch direction substantially parallel to said diagonal upper edge and bias to said rearward side edge, and a plurality of spaced parallel longitudinally stretchable one-way stretch elastic bands integrally embodied in said said fabric in parallel relation to its normal stretch direction and having greater resistance to stretch than the adjacent body of said fabric, at least certain of said bands of each side section being in its lower portion in horizontal line with said front panel means, and at least certain of said bands being substantially parallel and contiguous to its diagonal upper edge.

2,969,068
FOUNDATION GARMENT

Benjamin Murdock, New York, N.Y., assignor to Fortuna Foundations, Inc., New York, N.Y.

Filed Aug. 6, 1959, Ser. No. 832,041
3 Claims. (Cl. 128—524)



1. A foundation garment comprising a front and rear section of two-way stretch elastic fabric, said sections extending downwardly at the lower ends thereof to form relatively elongated leg sections adapted to engage the front, back and outer side of each thigh, a first lower inside leg panel secured to the opposite edges of the lower portion of each of the leg sections, and a second upper inside leg panel at each leg section being secured at the bottom edge thereof to said lower inside panel at the upper edge thereof and secured along the side edges thereof to the inner edges of said front and rear sections at the lower part thereof, said lower and upper inner leg panels of each leg section adapted to engage the inner side of each thigh; said upper inside leg panel of one leg section extending from a point medially the length of the leg section and terminating generally at the vertical center line of the garment, said upper inside leg panel of the opposing leg section extending from a point medially the length of the leg section terminating generally beyond the vertical center line of the garment to overlap the upper edge of the upper inside leg panel of the opposing leg section to form an overlapping openable slit in the crotch area of the garment.

2,969,069
EXTINGUISHERS

Jay B. Hinson, 81 Ridge Road, Hartsdale, N.Y.

Filed Feb. 13, 1959, Ser. No. 793,031
2 Claims. (Cl. 131—256)



1. A cigarette extinguisher including a slidable cone against which a lighted cigarette may be pressed, a funnel-shaped casing surrounding the cone, a bottom forming part of the cone, an internal annular ridge within said casing adapted to arrest said cone when its bottom reaches the ridge, means whereby the cone is supported and guided, a return spring forming part of said support means and normally holding the cone clear of the funnel bottom, and teeth at the bottom of the cone extending upwardly and outwardly to hold a cigarette against sliding off the cone.

2,969,070
ELASTIC HAIR TUFT RETAINER COMBINATION

Morris H. Todfeld, Brooklyn, N.Y., assignor to Delmere Company, Inc., New York, N.Y., a corporation of Delaware

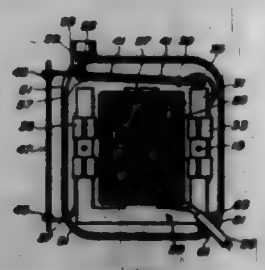
Filed July 7, 1958, Ser. No. 746,992
6 Claims. (Cl. 132—46)



1. A hair tuft retainer combination fitted with an elastic gripping band, comprising an elastic band substantially in the form of an elongated continuous loop, a holder having an opening therethrough to receive a portion of the elastic band, removably attached to a portion of the elastic band located at each end thereof, the elastic band with the first holder attached thereto being adapted to be wrapped around a tuft of hair, the portion of the elastic band located adjacent the first of said holders being adapted to straddle the second holder, thereby to grip the second holder, the elastic band being adapted to grip the

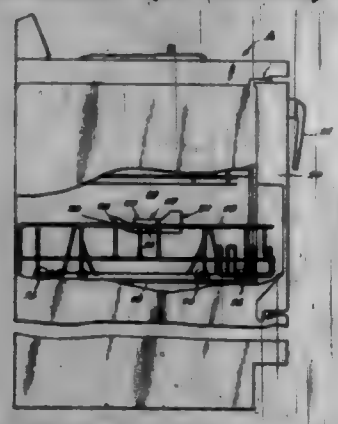
tuft of hair around which it is wrapped, a portion of the outer surface of the first holder abutting the outer surface of the second holder, each of said holders having connecting passages therethrough said passages including a parallel-faced slot extending through the outer surface of the holder, said passages being in direct communication with the opening through the holder, each of the holders being substantially solid, the slot through the outer surface of the holder being substantially parallel to the axis of the opening through the holder, one surface of one of the passages through the holder, connecting the slot to the opening through the holder, intersecting the surface of the holder surrounding the opening therethrough, to form a relatively sharp edge, the intersecting edge being adapted to restrict removal of the portion of the elastic band fitted to the opening, from the opening through the holder.

2,969,071
AUTOMATIC FINGERNAIL EMERY BOARD AND BUFFER
James D. Davenport, 1613 E. Hollis Lane, Fort Wayne, Ind.
Filed Nov. 29, 1957, Ser. No. 699,596
1 Claim. (Cl. 132—73.6)



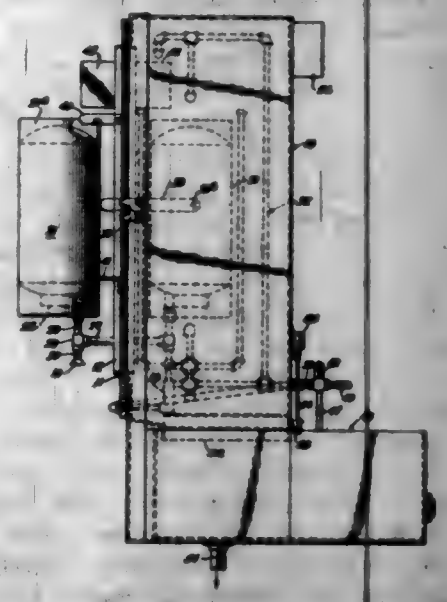
A fingernail device comprising, in combination, a compact hollow casing having a motor mounted therein, said motor comprising an E-shaped magnet, said casing having a pair of spaced openings, an elongated abrasive member, a first resilient arm and a second resilient arm extending through the spaced openings for supporting the abrasive member so that it is accessible for engagement with a fingernail, said first resilient arm being mounted on one outer leg of the E-shaped magnet and said second resilient arm being mounted on the other outer leg of the E-shaped magnet, an armature connected to the second arm, said second resilient arm adapted to support the armature in operative proximity to said motor so that the abrasive member will be reciprocated when the motor is energized.

2,969,072
DETERGENT DISPENSER
Max E. Barritt, Marion, Ohio, assignor to Whirlpool Corporation, St. Joseph, Mich., a corporation of Delaware
Filed Jan. 20, 1958, Ser. No. 709,840
12 Claims. (Cl. 134—93)



1. A device for dispensing detergents and the like into a washing compartment, comprising a plurality of pivotally mounted containers arranged to individually introduce a predetermined quantity of detergent into washing relation with objects located within the compartment, a water trapping container located at one end of said device to pivot said containers generally downwardly after introduction of detergent from one of the containers into said washing compartment, and balance means at the opposite end of said device to cause further pivotal movement of the containers and release of detergent from another of said containers into washing relation with the objects in the compartment.

2,969,073
CONTAINER WASHING APPARATUS
Warren Du Broff, Highland Park, Ill., assignor to Charles Barancik, Chicago, Ill.
Filed Mar. 24, 1958, Ser. No. 723,321
15 Claims. (Cl. 134—152)

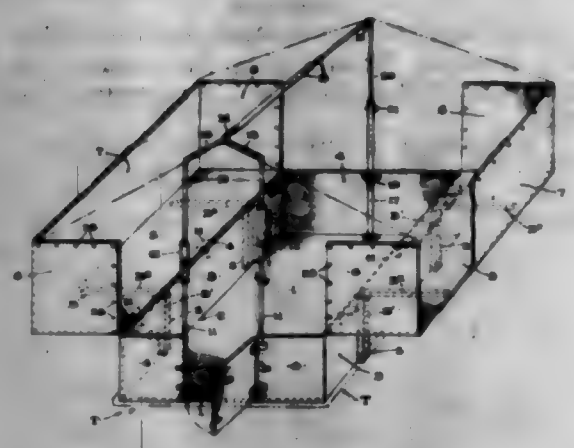


1. In article washing apparatus, a housing equipped with washing liquid supply conduit means coupled to a source therefor, said housing having an article entrance opening, said opening being symmetrical about a central axis thereof, a door pivotally mounted on said housing and adapted to close said opening with either face of said door directed inward of said housing, said door having a perimetric shape conforming to said opening and the pivotal mounting of said door permitting said door to be rotated on an axis thereof parallel to the said central axis of said opening, both faces of said door being equipped with article supporting means whereby, when one article is positioned inward of said housing, the external face of said door permits unloading therefrom of an already-washed article and loading thereon of the next article to be washed.

2,969,074
CAMPING SHELTER
Reuben M. Wilks, 18 S. Wilson, Chanute, Kans.
Filed Apr. 17, 1959, Ser. No. 807,079
1 Claim. (Cl. 135—3)

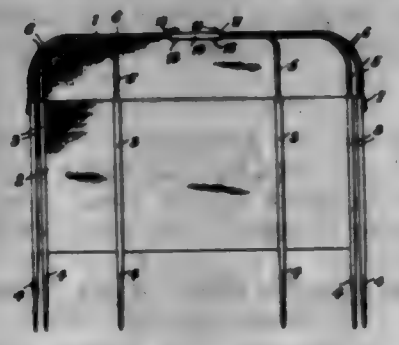
In a camping shelter of the type including a body having a floor and side walls, said side walls comprising lower sections fixed to opposite edges of the floor and upper sections hinged to said lower sections to swing outwardly, the combination, comprising, a collapsible and erectable canopy frame including upper and lower rear doorway forming frame members, each consisting of vertically disposed spaced portions, the lower ends of the spaced portions of the lower member being secured to the floor and whose upper ends are provided with transverse pin receiving openings and are also flexibly joined with the spaced frame portions of the upper doorway forming member, sleeves slidable on the opposite spaced portions of the upper and lower frame members and when resting on a pin in a related pin receiving open-

ing holding the spaced portions of both frame members erect in longitudinal alinement, said upper doorway forming frame members having intersecting inclined purlin portions, a ridge pole comprising rear and front telescoping members, a joint connecting the rear member with the intersection of the inclined purlin portions, a



front upright frame comprising bottom and top telescoping elements, said bottom element secured to the floor and said top element having a flexible joint connection with the front member of the ridge pole, and adjustable pin-connected telescoping supports joining the said hinged sections of the side walls with the fixed sections thereof.

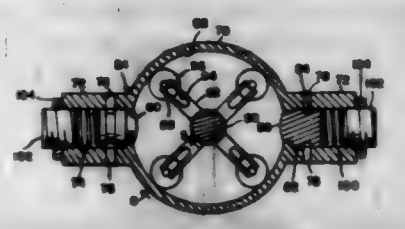
2,969,075
COLLAPSIBLE CABANA
William Girten, 805 SW. 20th St., Fort Lauderdale, Fla.
Filed Sept. 9, 1959, Ser. No. 838,965
3 Claims. (Cl. 135—5)



1. A light weight collapsible and readily set up cabana comprising a top canvas cover supported by a plurality of hollow aluminum rod supports, one end of which is bent through a 90° angle and the other end supported by a plate, means for swingably fastening the hollow aluminum rod supports to the said plate, a grooved clamp member into which the hollow aluminum rod supports rest when the top cover is in its extended position, means for fastening the clamp member to the plate, and a sidewall canvas cover supported by a plurality of struts, the number of struts corresponding to the number of the hollow aluminum rod supports, each sidewall cover strut supporting a hollow aluminum rod support at its top end and having its bottom end pointed so that it can be easily driven into the ground for supporting the sidewall cover in substantially an upright position.

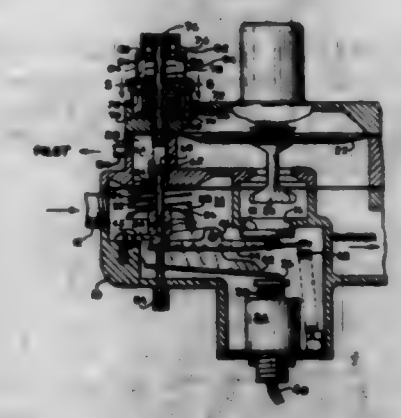
2,969,076
ENGINE SPEED CONTROL SYSTEM
Thomas F. Cramer, Warren, Mich., assignor to Holley Carburetor Company, Van Dyke, Mich., a corporation of Michigan
Filed June 23, 1958, Ser. No. 743,885
16 Claims. (Cl. 137—55)

11. A speed responsive valve including a stationary valve housing having a fluid passage therein, and a movable valve element movable in said housing to control said passage and having a limiting position, resilient means urging said valve element toward its limiting position, and speed responsive means operable to apply a



series of separated impulses to said valve element in a direction to move said valve element against said resilient means, the magnitude and frequency of said impulses being a function of the speed to which said valve is responsive.

2,969,077
CONTROL DEVICE
Reno L. Vicenzi and Ferdinand F. Heiser, Milwaukee, Wis., assignors to Controls Company of America, Schiller Park, Ill., a corporation of Delaware
Filed Apr. 12, 1957, Ser. No. 652,427
14 Claims. (Cl. 137—66)

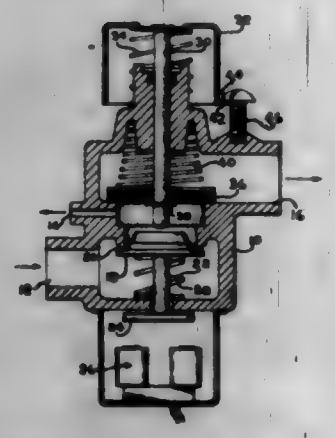


1. A gas control valve comprising, a body having an inlet and an outlet to a pilot burner and an outlet to a main burner, a separate safety valve for each of the outlets, a single condition responsive safety device operatively connected to said valves and operative to hold the valves open in response to a control condition and to close the valves in absence of the condition, the safety device requiring resetting, means for resetting the safety device, means associated with the reset means for opening the pilot valve and for holding the pilot valve open during the resetting operation and means associated with the reset means for holding the main valve closed during the resetting operation, the safety device including means to maintain control over the pilot valve in all positions of the main valve, and means for rendering the safety device inoperative to hold the main valve open.

2,969,078
SAFETY CONTROL DEVICE
Reno L. Vicenzi, Milwaukee, Wis., assignor to Controls Company of America, Schiller Park, Ill., a corporation of Delaware
Filed May 8, 1957, Ser. No. 657,850
9 Claims. (Cl. 137—66)

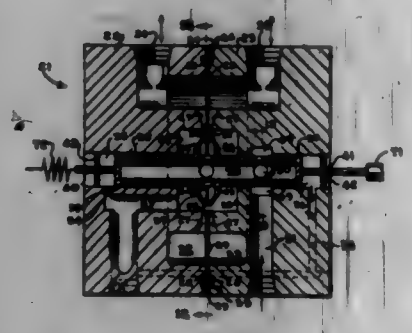
1. A control comprising, a first control device movable between a first position and a second position, a second control device movable between a first position and a second position, condition responsive means requiring resetting connected to the first device for retaining it in its first position while the response condition obtains and operative to move the first device to said second position when the condition does not obtain, reset means operatively connected to the first device and

to the response means for resetting the response means and moving the first device to its first position, means biasing the second device to its second position, means for moving the second device to its first position upon completion of resetting the response means, and stop



means for preventing movement of the second device to said first position at any time, said response means being operative after being reset to move the first device to its first position regardless of the position of the second device.

2,969,079
HIGH CAPACITY HYDRAULIC RELAY
Bernard L. Callender, Harvey, Ill., assignor to GPE Controls, Inc., a corporation of Illinois
Filed June 23, 1958, Ser. No. 743,812
6 Claims. (Cl. 137—83)



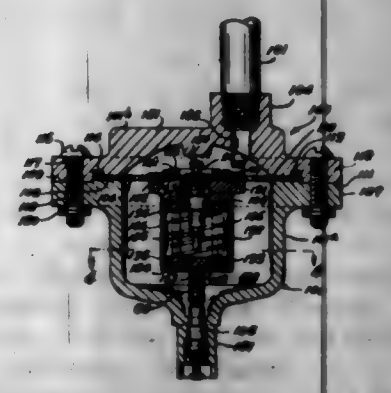
1. A hydraulic relay regulator device comprising a receiver structure comprising a pair of bodies having registered internal openings of corresponding peripheral profiles, meeting surfaces spaced outward from and surrounding said openings, and facing surface portions adjacent said openings and that are spaced apart and define between them a narrow, inward facing aperture that is extended about the periphery of said openings between said bodies, a thin plate having an internal opening of profile substantially matching said internal openings, said plate having a portion mounted between said meeting surfaces with all said internal openings registered, a portion of said plate being disposed in and dividing said aperture, said body surface portions being spaced at equal distances from facing surfaces of said plate, and said receiver structure having a pair of internal passages respectively communicating with portions of said aperture to opposite sides of said plate and arranged for connection to a pair of service lines, said device including an ejector structure comprising a support member, a pair of flanges surrounding and laterally projecting from said member, with facing surfaces spaced apart and defining an intervening flow passage, and with peripheral portions of said facing flange surfaces defining a discharge orifice of a width substantially matching the distance of spacing of said body surface portions from said plate surfaces, said member having an internal fluid delivery passage communicating with the flow passage defined between said flange surfaces, said device including means mounting said member with said internal openings, and being arranged to permit relative movement of said structures in directions extended transverse to said discharge orifice and aperture, and spacer means inserted between said plate and said surface portions for maintaining constant the spacing between them.

2,969,080
PNEUMATIC CONTROL APPARATUS
Charles L. Mamzic, Philadelphia, Pa., assignor to Moore Products Co., Philadelphia, Pa., a corporation of Pennsylvania
Filed Sept. 4, 1958, Ser. No. 758,968
8 Claims. (Cl. 137—84)



1. In pneumatic control apparatus, a fluid pressure responsive member to be controlled, a first fluid pressure controller responsive to a condition and having a pressure fluid output connection and a reset control portion with a fluid connection thereto, a second fluid pressure controller having a measured variable input connection and a pressure fluid output connection, a condition responsive fluid pressure transmitter having a pressure output connection connected to said second controller input connection, and switching means having a plurality of positions for determining the pressure applied at said fluid pressure responsive member, said switching means having portions for connecting the pressure output connection of the transmitter to the reset connection of the first controller.

2,969,081
DRAIN VALVES
George R. Pipes, South Euclid, Ohio, assignor to Eaton Manufacturing Company, Cleveland, Ohio, a corporation of Ohio
Filed June 23, 1958, Ser. No. 743,620
7 Claims. (Cl. 137—204)



1. In an automatic drain valve for draining an air pressure system, a housing, flexible diaphragm means partitioning said housing and defining an inlet chamber and an exhaust chamber therein, cage means forming passage means in said flexible diaphragm means communicating with said inlet chamber and said exhaust chamber, first valve means controlling said passage means in said cage means, means forming exit means for draining liquid from said exhaust chamber, second valve means controlling said exit means, said cage means connecting said flexible diaphragm means to said second valve means for opening the same upon the flexure of said flexible diaphragm means in one direction when the pressure in said exhaust chamber exceeds the air pressure in said

inlet chamber by a predetermined amount, and abutment means engageable by said first valve means for opening of the latter upon further flexing of said flexible diaphragm means in said one direction when the pressure in said exhaust chamber exceeds the air pressure in said inlet chamber by an amount greater than said predetermined amount.

2,969,882

LUBRICATING HOLDER FOR A SIDE WALL TIRE VALVE INFLATING NEEDLE

Ralph K. Boyer, Cleveland, and Henry W. Krohn, Jr., North Olmsted, Ohio, assignors to The Dill Manufacturing Company, Cleveland, Ohio, a corporation of Ohio

Filed Apr. 16, 1959, Ser. No. 806,885
2 Claims. (Cl. 137—231)



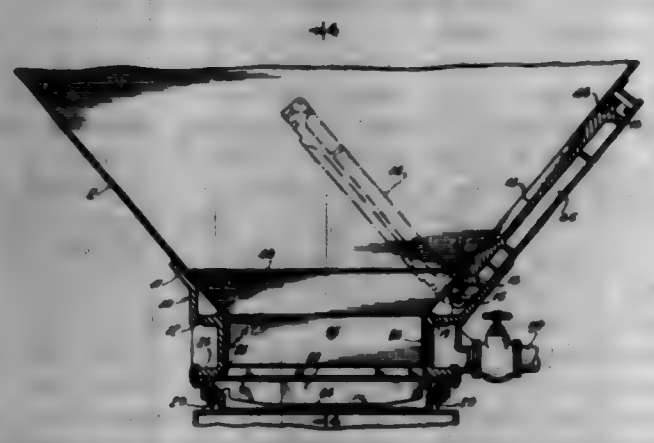
1. A lubricating holder for a side wall tire valve inflating needle comprising a rigid steel member having a bore therethrough formed adjacent one end of said member to removably mount therein a valve core, said one end of said member being formed externally with means for connecting said one end to an air chuck of an air line, the opposite end of said member fixedly mounting an inflating needle extending therefrom in longitudinal extension of said member and having a bore therethrough communicating with the bore through said member, a hollow capsule-like container adapted to have lubricant placed therein and closed at one end and open at its opposite end, said container being formed of elastic material deformable when squeezed, and a plug of resilient material fixed in said open opposite end of said container and provided with a central opening therethrough of a diameter less than the diameter of said inflating needle but such that said needle can be forced through said opening and then will be gripped by said plug.

2,969,883

VESSEL FOR CARRYING LIQUID OR BULK CARGOES

Francis J. Joyce, Bronx, N.Y., assignor to National Bulk Carriers, Inc., New York, N.Y., a corporation of Delaware

Filed June 29, 1956, Ser. No. 594,814
4 Claims. (Cl. 137—269)



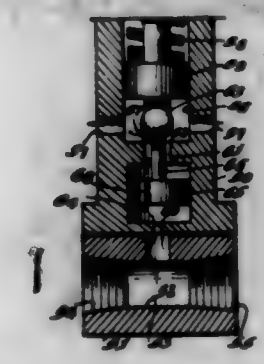
1. In a carrier of the kind described, the combination with a hopper having lower wall portions merging into a restricted bottom section, of an upwardly facing seat disposed around the upper end of said section, a downwardly facing seat disposed around the lower end of said section, an upper, hinged gate within the hopper adapted to close downwardly and seal against the upwardly facing seat, a cavity formed in one of said lower wall portions of the hopper to receive said gate in its open position, a lower gate adapted to close upwardly and seal against the downwardly facing seat, said bottom section between the two seats having a lateral outlet, and a removable liner member adapted, in the open position of the upper, hinged gate, to overlie the said lateral outlet, the said upwardly facing seat and to cooperate with the upper gate to close the said cavity.

2,969,884

PRESSURE RESPONSIVE VALVE

Robert E. Raymond, Zanesville, Ohio, assignor to Racine Hydraulics and Machinery, Inc., a corporation of Wisconsin

Filed Apr. 21, 1958, Ser. No. 730,815
8 Claims. (Cl. 137—471)



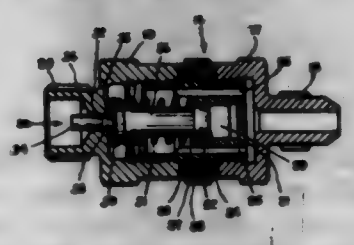
3. In a hydraulic relief valve, a casing having a bore, a fluid inlet, a flow passage intermediate the inlet and outlet, a circular valve seat formed at the outlet end of the flow passage, a ball valve member tightly engageable with said valve seat, a guide member movable in said bore and having a partially spherical concave end engageable with the valve member, means engageable with the guide member for urging the guide member and valve member toward the valve seat, a damping orifice of a size to block out pulsations in the fluid from the valve member located between the fluid inlet and valve seat, a chamber in said casing in the fluid path between the orifice and the valve seat adjacent said flow passage and having a diameter greater than the valve seat, a piston member movable in said chamber and having a part extending through said passage with a partially spherical concave end in engagement with said valve member, and a passage in said piston placing opposite ends of the chamber in fluid communication.

2,969,885

NON-CHATTERING FLOW DIVIDER VALVE

Carl H. Nystrom, West Springfield, and Arthur E. Hase, Springfield, Mass., assignors to American Bosch Arma Corporation, a corporation of New York

Filed Oct. 16, 1953, Ser. No. 386,595
1 Claim. (Cl. 137—514.7)



In a device of the character described, a casing member having an opening adapted to form an inlet at one end and having an internal threaded portion adjacent its opposite end, a valve guide member having a threaded portion in engagement with said internal threaded portion, a lock nut in engagement with said threaded portion of said valve guide for locking said casing member and valve guide in adjusted position, a second casing

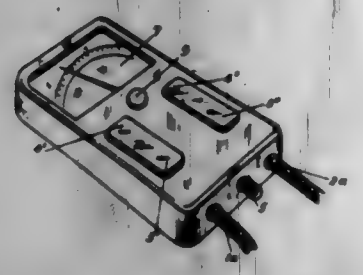
member having an internal threaded portion in engagement with the threaded portion on said valve guide, said second casing member having an outlet, a flow control member in said first mentioned casing member, a dashpot in said valve guide, said valve member having a portion extending into said dashpot and a needle metering portion extending into said inlet and forming a variable area orifice with said inlet, and spring means to normally retain said valve in closed position.

2,969,086

DEVICE FOR MEASURING AND BALANCING AIR PRESSURE IN WHEEL TIRES OF AUTOMOBILES

Raymond Gatalder, 11bis Blvd. Rainier III, Monaco, and Georges Mattei, 15 Rue des Roses, Monte-Carlo, Monaco

Filed Sept. 2, 1958, Ser. No. 758,327
Claims priority, application France Sept. 5, 1957
6 Claims. (Cl. 137—557)



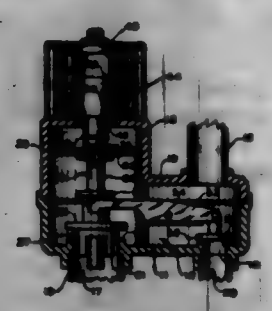
1. A portable apparatus for checking and adjusting air pressure in wheel tires of automotive vehicles so as to permit balance to be achieved between a pair of wheel tires comprising in combination a pair of main pipes connectable to a pair of wheel tire air tubes, a primary cross pipe interconnecting said main pipes and having a pair of independently operable valves and intermediate said valves a connection for connecting with a source of compressed air, and a secondary cross pipe interconnecting said main pipes and having a pair of independently operable valves and intermediate the last-cited valves a vent having a normally closed and manually operable valve.

2,969,087

VALVE MECHANISM

Estel C. Raney, Fort Lauderdale, Fla., assignor to Ranco Incorporated, Columbus, Ohio, a corporation of Ohio

Filed Oct. 19, 1954, Ser. No. 463,265
7 Claims. (Cl. 137—609)



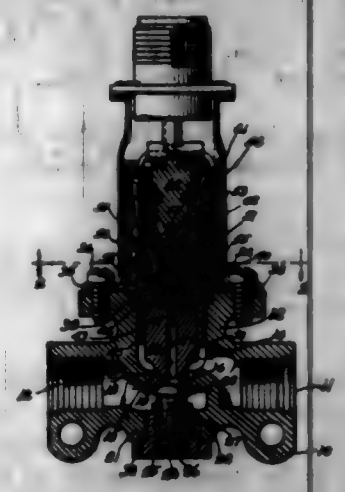
1. A valve mechanism comprising a valve chamber having a fluid inlet and two outlet ports, one of which is cylindrical, a piston movable freely in said chamber and adapted to enter said cylindrical port and substantially close said port and to move thereinto by pressure differential between said chamber and one port, a valve member for closing the other of said ports, means interconnecting said piston and valve member to cause said piston to move said valve member from said second port when said piston moves into said cylindrical port, said means interconnecting said piston and valve member including a lost motion connection permitting movement of said piston in said chamber to said cylindrical port while said valve member is closed on its port, and means to move said piston from said port.

2,969,088

PILOT VALVE

Leo Kramer, Bensenville, Ill., assignor to Controls Company of America, Schiller Park, Ill., a corporation of Delaware

Filed Mar. 16, 1956, Ser. No. 572,075
6 Claims. (Cl. 137—614.2)

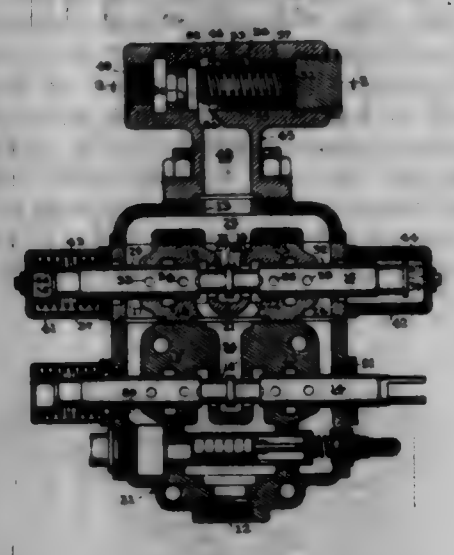


2. A pilot valve construction comprising a valve body having an inlet and outlet separated by a partition having a passage therethrough, said partition having a high pressure side communicating directly with the inlet, said body providing a cylindrical piston chamber at the high pressure side of the partition, a piston slidable in said chamber and having one end adjacent the high pressure side of the partition, pressure responsive means at said one end of said piston tending to slide said piston in said chamber in one direction only in response to said inlet pressure, said piston chamber including a cylindrical portion fitting around a portion of said piston intermediate the two piston ends, said piston fitting portion cooperating with the piston to provide a high resistance fluid leakage path from said one end of the piston to the other end thereof, means at said one end of the piston cooperating with the high pressure end of the partition aperture to provide a valve action, said piston being movable in said one direction away from the partition for valve opening, said piston having an axial passage end to end with said passage terminating opposite the partition passage, said piston passage having a fluid flow resistance substantially less than that of the high resistance fluid leakage path, a pilot valve member cooperating with the end of the piston passage at the other end of the piston, means for operating said pilot valve member, said pilot valve, when open, permitting fluid flow from a fluid source under pressure to pass from the intake, around the piston from said one end to the other end, thence through the pilot valve and through the piston passage to the outlet, said piston being subject to a pressure differential at the two ends thereof causing the piston to be moved to an open position, means additional to said fluid pressure differential for transmitting directly to said main valve member a force tending to move said main valve member from a closed valve position when said pilot valve member itself is moved from a closed position, and a check valve supported in said housing provided for cooperation with the low pressure end of the partition passage which functions as a check valve seat, and a spring for said check valve adapted to bias said check valve toward said check valve seat, said check valve adapted to produce a back pressure at said other end of said piston to thus prevent a high pressure differential across said piston when said pilot valve is opened.

2,969,089
CONTROL VALVE

Charles A. L. Rubl and Robert C. Westveer, Kalamazoo, Mich., assignors to The New York Air Brake Company, a corporation of New Jersey

Filed Mar. 16, 1959, Ser. No. 799,720
3 Claims. (Cl. 137—620)



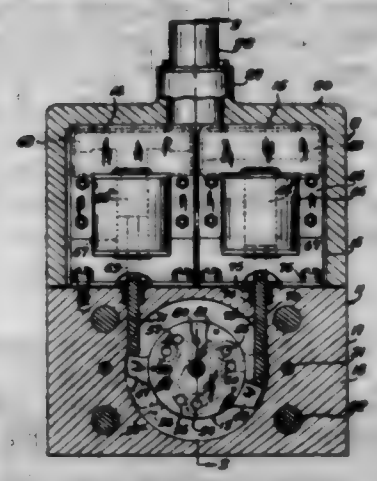
1. In an hydraulic control system for a double-acting motor, including a three-position open-center control valve having inlet and exhaust ports connected by inlet and exhaust passages with a pump and sump, respectively, two motor ports connected with opposite sides of the double-acting motor, and a movable valve member for controlling communication between these ports, the combination of a centering spring biasing the movable valve member to its open-center position; two opposed piloted pressure motors connected with the valve member, each motor having a working chamber and a movable element subject to the pressure in that chamber and connected with the valve member; an unloading valve controlling flow through the exhaust passage and being shiftable in passage-opening and passage-closing directions; two restricted passages providing parallel flow paths between points in the exhaust passage located upstream and downstream of the unloading valve, one of these restricted passages being connected with the working chamber of each piloted pressure motor; two pilot valves, one located in each restricted passage and each being shiftable between passage-opening and passage-closing positions, both pilot valves normally being in the same position; and means interconnecting the pilot valves and the unloading valve for selectively shifting one of the pilot valves to its other position and for simultaneously shifting the unloading valve in the passage-closing direction.

2,969,090
SOLENOID VALVE DEVICE WITH BALANCED MOVABLE COMPONENTS

James Frederick Norton, Westview Village, Ohio, assignor to Republic Manufacturing Co., Cleveland, Ohio, a corporation of Ohio

Filed May 1, 1958, Ser. No. 732,353
3 Claims. (Cl. 137—624)

1. A valve device of the character described comprising a housing having fluid supply and exhaust passages and also containing a valve chamber and a solenoid chamber in adjacent relation; said housing being formed of connected sections comprising a body portion containing said valve chamber, and a cover section containing said solenoid chamber; pivot means in said body portion providing a pivot axis substantially centrally of said valve chamber; a valve member supported by said pivot means for pivotal movement in said valve chamber for controlling said fluid passages; said valve member having thrust elements thereon located on opposite sides of said pivot axis and offset equal lever-arm distances from the pivot axis; solenoids in said solenoid chamber and each having an armature reciprocably movable in opposite directions along paths offset equal distances on opposite sides of said pivot axis; said body portion having guide passages extending between said solenoid chamber and said valve chamber; said guide passages being aligned with the thrust elements of said valve member and the paths of the reciprocatory movement of said armatures; and push pins slidable in said guide passages for transmitting actuating thrust from said armatures to said valve member for pivotally swinging the latter alternately in opposite directions in response to alternate energization of said solenoids; said valve member, armatures

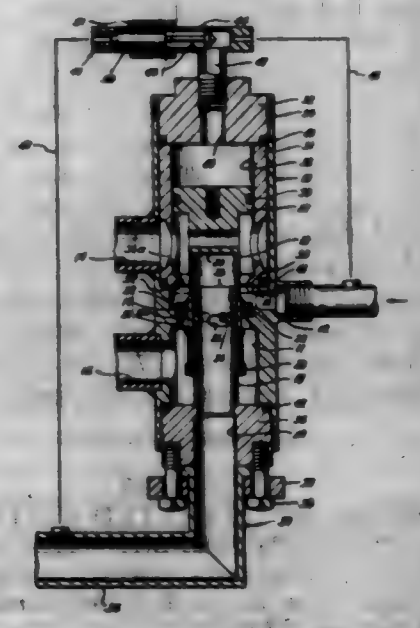


and push pins comprising movable components and all being substantially symmetrical in form and location with respect to the transverse mid-plane of the valve member and with respect to a first axial mid-plane of the device which includes said pivot axis and lies midway between said guide passages and solenoids; the materials comprising said movable components having a predetermined mass distribution providing a condition of balance for the masses thereof lying on opposite sides of said transverse plane and a condition of balance for the masses thereof lying on opposite sides of said first axial plane, for minimizing inertia effects on said movable components resulting from rapid accelerating movements and sudden directional changes of said device as a whole.

2,969,091
VALVE APPARATUS

Charles J. Wolff, 530 Goliad St., San Antonio, Tex.

Filed Nov. 15, 1957, Ser. No. 696,818
18 Claims. (Cl. 137—625.43)



1. A four-way valve, comprising a valve body haivng a flow passage therein, an inlet to and outlet from the flow passage, first and second connections intersecting said flow passage, a valve member including relatively slidable

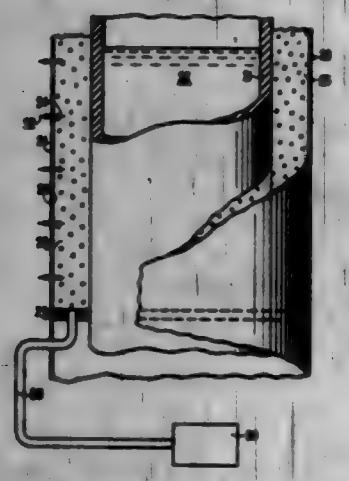
hollow parts having ports therein with one such part having a closed end and moveable with said flow passage between a first position directing flow from the inlet into said first connection and from said second connection into said outlet, and a second position directing flow from the inlet into said second connection and from said first connection into said outlet, said valve member being operable intermediate its movement between said positions to permit flow between said inlet and outlet, and means for moving said valve member between said positions, including a piston connected to the closed end of said one valve member part and sealably slidable within the flow passage to define a pressure chamber therewith, and means for alternately connecting said chamber with fluid within one or the other of said inlet and outlet, the area of the piston within the pressure chamber being so proportioned to the area of the piston exposed to the flow passage and the area of the closed end of said one valve member part as to urge said valve member into said first position when said chamber is connected with the inlet and into said second position when said chamber is connected with the outlet.

2,969,692

METHOD AND APPARATUS FOR CONTAINING A LIQUIFIED GAS

Herrick L. Johnston, Columbus, Ohio, assignor to Herrick L. Johnston, Inc., Columbus, Ohio, a corporation of Ohio

Filed Oct. 21, 1955, Ser. No. 541,983
1 Claim. (Cl. 138—64)



In cryogenics, an insulated conduit construction for a cold liquefied gas, comprising, in combination, a rigid transfer conduit having an inner surface in contact with said liquefied gas and an outer surface exposed to and partially bounding an insulating space, a flexible collapsible outer concentric jacket of metallic foil spaced from said conduit, said jacket having an inner surface bounding said insulating space and an outer surface exposed to atmospheric pressure, gas permeable low temperature insulating material in said insulating space and in direct contact with the outer surface of said conduit and the inner surface of said jacket, and means for producing a vacuum in said insulating space whereby atmospheric pressure on the outer surface of the jacket urges the jacket inwardly so that the insulating material provides structural support for the jacket.

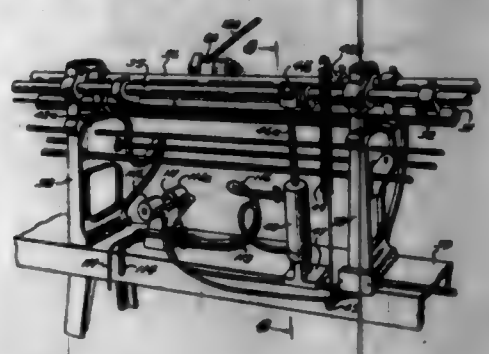
2,969,693

FLUID PRESSURE OPERATED ROD GUIDE FOR USE WITH PULL-OUT DEVICE

Carl B. Jones, Cleveland Heights, Ohio, assignor, by mesne assignments, to Curtis Manufacturing Company, a corporation of Missouri

Filed Nov. 18, 1955, Ser. No. 547,526
5 Claims. (Cl. 140—149)

1. In a straighten-and-cut machine having a zone wherein a length of rod from a coil is run out and cut to length and wherein guide elements normally hold said rod in proper gaging and cutting position in said zone, rod feeding means for causing movement of said rod, a first guide element having in a rod discharge position with an open lower side sufficiently large to permit rod ejection therethrough, a second element, means operatively associating said elements together for covering said open side with said second element in a channel closed position in said zone for preventing rod discharge from said channel by gravity or for uncovering said channel in a discharge position to permit discharge, a vise located a spaced distance in the direction of motion of the rod from said feeding means and adapted to be clamped on said rod and carried with the rod movement in said zone for supporting said rod independently of said guide elements, means preventing rotation of



said vise transversely of said rod, means for moving said second element from said closed position to said discharge position after rod cut-off to length so that the cut-off rod will discharge through said open side by gravity, element moving means operatively associated with both of said elements for moving both of said elements to a clearance position out of the path of vise travel to permit vise travel in said zone, and normally ineffective control means operatively connected to said element moving means and responsive to cut-off head movement and selectively operated means actuated prior to the end of said rod leaving the coil and prior to said vise and rod being moved in the portion of said zone occupied by said elements in closed position for permitting energization of said element moving means by said cut-off head movement for moving both elements to said clearance position.

2,969,694

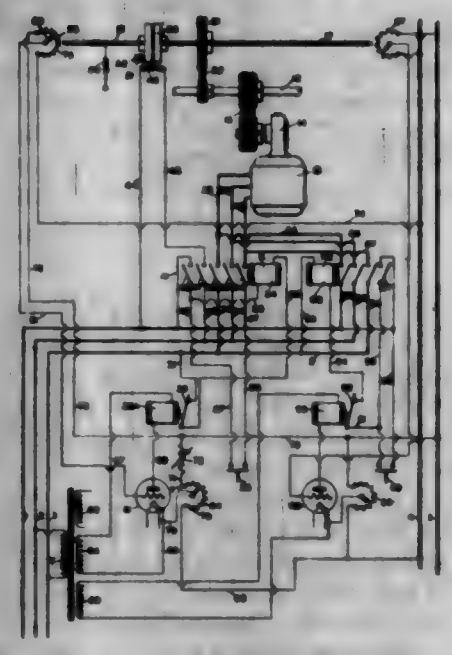
ELECTRICALLY OPERATED AUTOMATIC SAWMILL SET-WORKS

Donald E. Johnson, 3139 SW. Alameda Terrace, Portland, Oreg.

Filed July 26, 1955, Ser. No. 524,519
2 Claims. (Cl. 143—120)

1. In combination with a sawmill having extensible and retractible knees for positioning logs, a motor for actuating said knees, a source of power for said motor and an electric control system for controlling the operation of said motor to position said knees; said control system including an electromagnetic member responsive to a predetermined voltage to effect alteration between a driving and a nondriving condition of said motor, a potentiometer connected to and driven with said motor, a manually operable potentiometer, and an amplifying electronic tube, said electromagnetic member being connected to the plate circuit of said electronic tube, each potentiometer including a fixed resistance portion and a movable contact to be swept across the fixed resistance portion, a direct current source, said fixed resistance portions being connected in parallel across said direct current source, the movable contact of said manually operable potentiometer being connected to the cathode of said amplifying tube and the movable contact of said motor driven

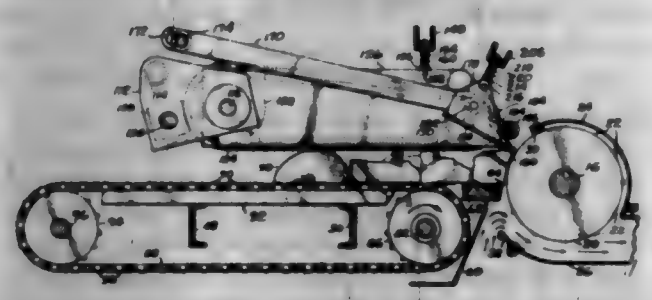
potentiometer being connected to the plate circuit control means of said amplifying tube, whereby actuation of said electromagnetic member will be effected instantaneously and at a particular and predetermined given instant in accordance with the positioning of said manually controlled potentiometer, said control system further including a second amplifying electronic tube, a second electromagnetic member responsive to a predetermined voltage to effect a driving condition of said motor different from the first mentioned driving condition of the motor, a second potentiometer connected to and driven with said motor, a second manually operable potentiometer, said second electromagnetic member being connected to the plate circuit of said second electronic tube, each of the second potentiometers including a fixed resistance portion and a movable contact to be swept across the fixed portion, the fixed resistance portions of said second potentiometers being connected in parallel across said second direct current source, the movable contact of said second manually operable potentiometer being connected to the cathode of said second amplifying tube and the movable contact of said second motor driven potentiometer being connected to the plate circuit control means of said second amplifying tube.



2,969,095
FEEDING APPARATUS FOR ROTARY WOOD FLAKER

Byron B. Brookhyser, Milton, Harold E. Erickson, Auburn, and Dale L. Schubert, Tacoma, Wash.; said Brookhyser and said Erickson assignors, by direct and mesne assignments, of one-sixth to said Schubert and three-sixths to Industrial Development Co., Tacoma, Wash., a corporation of Washington

Filed Aug. 30, 1957, Ser. No. 681,339
10 Claims. (Cl. 144—242)



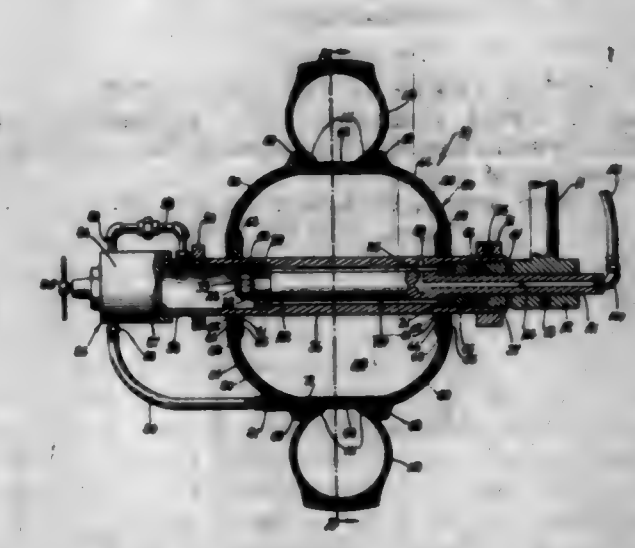
3. Apparatus for feeding wood blocks to a rotary wood flaker, comprising a frame, lower conveying means mounted on the frame, a plurality of independent laterally spaced upper conveying means arranged above the lower conveying means and cooperating with the latter in conveying against the flaker wood blocks introduced between and engaged by the upper and lower conveying means, pivot means supporting the infeed end of the plurality of upper conveying means, the outfeed ends of the plurality of upper conveying means being vertically movable independent of each other, and pivot support means mounted pivotally on the frame adjacent the infeed end thereof and supporting the pivot means and the infeed end of the upper conveying means supported thereby for floating movement to accommodate wood blocks of random thicknesses.

9. In combination, a rotary wood flaker having a circumferential cutting surface, anvil means adjacent the flaker and defining the outfeed of the latter, a hood encasing the flaker and having an air inlet opening therein disposed in the outfeed direction of the flaker and in a plane substantially tangent to the circumferential cutting surface at said outfeed, and a source of vacuum communicating with the hood for creating an air flow inwardly through said air inlet opening.

2,969,096
TIRE SUPPORTING AND INFLATING APPARATUS

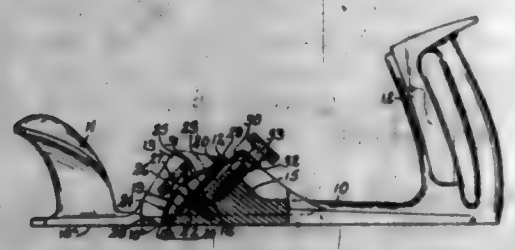
James A. Smyser, 207 Harrison St., Taft, Calif.

Filed Sept. 16, 1957, Ser. No. 684,307
8 Claims. (Cl. 144—288)



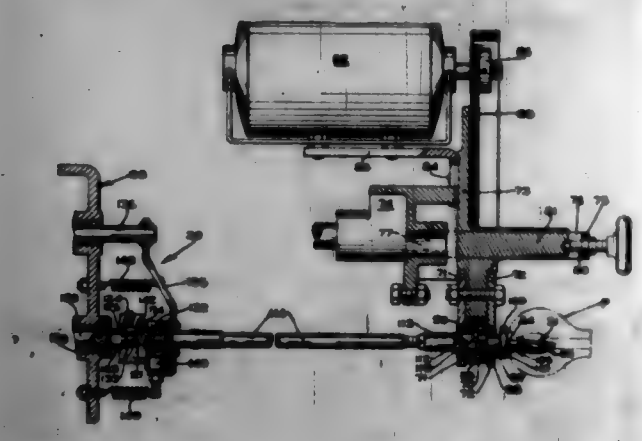
1. A tire supporting and inflating apparatus comprising an elongated sleeve; an annular inflatable casing having opposite ends fitted in air-tight circumscribing engagement on the sleeve and an expansible wall of resiliently flexible and compressible air-impervious material outwardly extended from said ends in spaced symmetrical circumscribing relation to the sleeve, the wall including a centrally substantially cylindrical circumscribing tire mounting portion adapted to receive a tire having annular beads in circumscribing relation thereon, and spaced annular ribs radially outwardly extended on opposite sides of the tire mounting portion adapted to be engaged by the beads of the tire, the sleeve having an air passage therein communicating with the interior of the casing; a pneumatic system connected to the air passage in the sleeve for supplying air under pressure to the casing to expand the wall outwardly into air-tight engagement with the beads of a tire mounted on the wall; and a plurality of substantially uniformly convexly curved stays of substantially nonelastic resiliently flexible material embedded in the wall of the casing individually positioned in peripherally spaced planes radially related to the sleeve for maintaining the wall concentrically of the sleeve during expansion of the wall outwardly into tire engagement.

2,969,097
CARPENTER'S PLANES
Nathan Kulbersh, New Haven, and George J. Ellis, Trumbull, Conn., assignors to Sargent & Company, New Haven, Conn., a corporation of Connecticut
Filed May 8, 1959, Ser. No. 812,926
3 Claims. (Cl. 145—14)



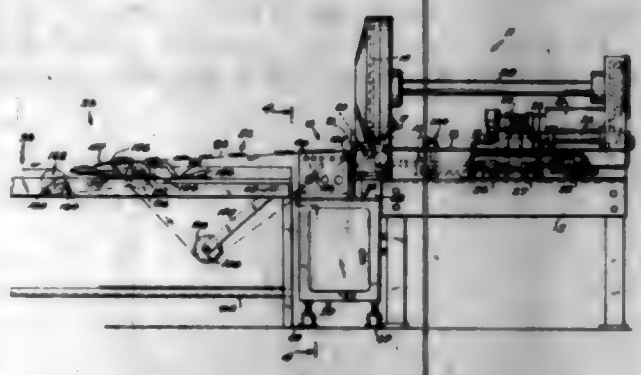
1. A carpenter's plane comprising a body member having a lower plane surface and a bridge member on its upper side, said bridge member having an inclined forwardly facing surface with the longitudinal recess therein providing spaced ribs, one on either side of said recess, a bit resting on raised portions of said ribs, an adjusting strap disposed in said recess and connected to the bit, an adjusting screw rotatably connected to the strap and threaded into said bridge, said bit being sharpened upon its inner and lower edges, and a resilient clamping member secured over said bit and having a part at its end extending over the upper edge of the bit to guard the latter.

2,969,098
FRUIT PREPARATION MACHINE
Sherman H. Creed, Campbell, Calif., assignor to Food Machinery and Chemical Corporation, San Jose, Calif., a corporation of Delaware
Filed Aug. 1, 1956, Ser. No. 601,541
4 Claims. (Cl. 146—52)



1. In a fruit preparation machine, a pulley having a bore disposed on the axis of rotation of the pulley, a knife holder pivotally mounted in the bore of said pulley, a knife secured to said holder and arranged to rotate with said holder about the axis of said pulley, means for rotating said pulley, a push rod disposed in axial alignment with said pulley and having an end portion slidably positioned in the bore of said pulley, cam means operatively disposed between said knife holder and said push rod end portion whereby sliding movement of said end portion effects pivoting movement of said knife holder, a push rod support member rotatably supporting said push rod, a fixed support structure slidably mounting said push rod support member, a rotary cam having a camming surface arranged to engage said push rod support member to cause movement of said push rod in a direction to move said push rod end portion into said pulley, and means for rotating said rotary cam.

2,969,099
APPARATUS FOR MEASURING AND SEGREGATING SLICED PRODUCTS FROM SLICING MACHINES
Harold K. Gilfman, Albany, N.Y., assignor to Cashin, Inc., Rochester, N.Y., a corporation of New York
Filed June 30, 1958, Ser. No. 745,406
9 Claims. (Cl. 146—94)



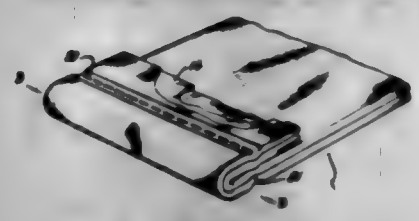
1. Apparatus for slicing measured amounts of food products and the like comprising a slicing machine having means therein for advancing and slicing said products, an adjustable weighing device having a constantly driven conveying means thereon adjacent said slicing machine, and a transfer conveyor adjacent said weighing device conveying means, said weighing device having operative interconnection with said slicing machine advancing means to stop said advancing means when a desired amount of sliced material has been received on said weighing device and restart said advancing means after it has been interrupted for a sufficient period of time for said desired amount to be conveyed away, effective length adjusting means operatively associated with said weighing device conveying means and separate length adjusting means operatively associated with said transfer conveyor, whereby when the effective length of said weighing device conveying means is adjusted, the length of said transfer conveyor correspondingly adjusted, and the weighing device adjusted, the measured amounts of sliced products may be correspondingly varied.

2,969,100
MEAT CHOPPERS
Remer R. Reid, Sr., 824 Briarcliff Road, and Eugene A. Anderson, 1594 Evans Drive SW., both of Atlanta, Ga.
Filed July 13, 1959, Ser. No. 826,591
1 Claim. (Cl. 146—189)



An attachment for use with a meat chopper having a feeder worm encased in a barrel and a knife cooperating with a perforated plate, said knife comprising a hub having a central opening, a plurality of cutter blades extending outwardly from said hub, propeller-like wings attached to said hub and positioned respectively adjacent and extending spirally from said blades, whereby in operation said blades will force material being chopped toward said perforated plate and avoid the formation of sinew and gristle balls behind said knife.

2,969,101
EXPLOSIVE BAG
Russell J. White, Lansdowne, Pa., assignor to Chase Bag Company, New York, N.Y., a corporation of Delaware
Filed Sept. 18, 1958, Ser. No. 761,847
4 Claims. (Cl. 150—5)



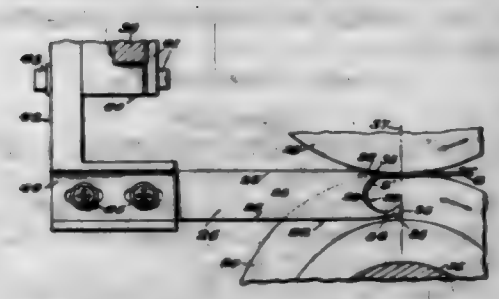
1. An explosive bag comprised of an outer fabric shell of flattened tubular form having a desired cross-sectional perimeter and a longitudinal seam fastened with waterproof adhesive; an inner flattened tubular shell comprised of flexible waterproof material having a cross-sectional perimeter slightly exceeding the cross-sectional perimeter of the outer shell and a length exceeding that of said outer shell, said inner shell having a transverse liquid-tight seal adjacent its bottom end and said inner shell projecting out of the outer shell at the top of said outer shell, said shells being formed into two similar side panels meeting in a common longitudinal fold, into a gusset enclosed between the side panels and extending inward to the common longitudinal fold, and into a transverse end fold superimposed on and transverse to the longitudinal fold; and a sewn seam through the end fold penetrating the inner shell between its bottom end and said transverse seal.

2,969,102
COLLAPSIBLE CONTAINER
Marion M. Cunningham, Providence, R.I., assignor to United States Rubber Company, New York, N.Y., a corporation of New Jersey
Filed Aug. 31, 1959, Ser. No. 837,963
1 Claim. (Cl. 150—5)



In combination, a lifting device comprising an elongated beam, sling means attached to the upper edge of said beam, and a plurality of hooks attached to the lower edge of said beam and spaced uniformly from one another longitudinally of said beam; and a collapsible container of the type formed by securing together the marginal edges of each end of a cylindrical tube of relatively flexible material, said container comprising a plurality of eyelets affixed to the exterior surface at the top thereof and arranged at uniformly spaced locations along the vertical longitudinal center plane of said container intermediate the ends thereof, a plurality of first anchoring elements located within said container and affixed, respectively, to the top of said container in vertical alignment with said eyelets, a plurality of second anchoring elements arranged within said container and affixed to the bottom of said container in vertical alignment with said first anchoring elements, respectively, and a plurality of vertically disposed cables arranged within said container and anchored at their opposite ends to said respectively aligned first and second anchoring elements, whereby said cables are disposed at uniformly spaced locations intermediate said ends of said container and in said vertical longitudinal center plane thereof; said beam being arranged above said container and along said vertical longitudinal center plane thereof, said hooks being releasably connected to said eyelets, respectively, whereby a lifting force applied to said beam is transmitted through said hooks, eyelets and cables to said container and the contents thereof along said vertical longitudinal center plane.

2,969,103
SHEET SLITTING AND SCRAP COILING MACHINE AND METHOD
Raymond F. Galitz, La Grange, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Oct. 24, 1955, Ser. No. 542,290
7 Claims. (Cl. 153—2)

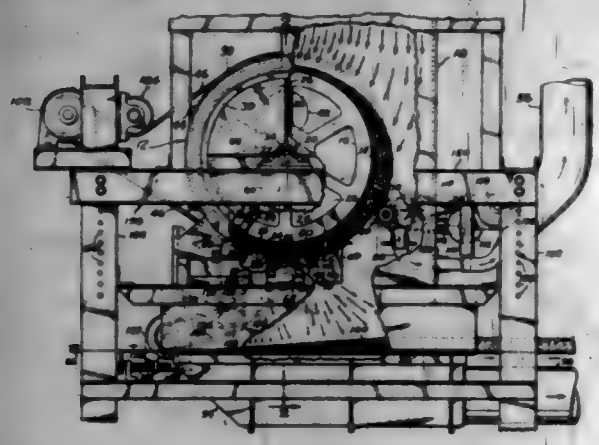


2. In a machine of the class described, means for advancing a sheet along a predetermined path, sheet slitting means stationarily mounted adjacent said path and operative to progressively slit said sheet on a line parallel with the line of feed and near one edge of said sheet, thereby progressively forming a scrap strip from the portion of the sheet between said edge and the slit, and a scrap strip coiling device stationarily mounted adjacent said path in position to receive said scrap strip as the latter is progressively formed, said coiling device having means for progressively coiling the scrap strip helically about an axis, whereby said scrap strip will have the form of a substantially cylindrical coil upon final severance from the sheet, said slitting means comprising an upper and a lower disk in overlapped relation with each other, said coiling device being disposed in the angle between one side of one of said disks and the periphery of the other of said disks, said coiling device having a notch to progressively receive and coil the scrap strip and also having a tapered lip at one side of said notch, said lip being substantially in contact with said disk periphery to guide the scrap strip into said notch.

2,969,104
MAT FORMING METHOD AND APPARATUS
Dale L. Schubert, Tacoma, Harold E. Erickson, Auburn, and Robert W. Riley, Puyallup, Wash., assignors, by direct and mesne assignments, of one-half to said Schubert and one-half to Industrial Development Co., Tacoma, Wash., a corporation of Washington
Filed May 14, 1956, Ser. No. 584,672
36 Claims. (Cl. 154—1)

9. Mat forming apparatus comprising means for entraining solid particles of varying size in an air stream, a foraminous member positioned in the path of the air stream, means for applying reduced air pressure to one side of the foraminous member, the direction of application of the reduced air pressure being at an angle to the air stream, thereby causing deviation of the particles from their air stream path to an extent determined by their respective sizes, and their separation from the air stream on the surface of the foraminous member to build up a mat having the smaller particles concentrated in the region adjacent the foraminous member, and shaving means adjacent the foraminous member for shaving off the mat surface to a predetermined depth while the

mat is held on the foraminous member by said reduced pressure, thereby leaving on the foraminous member a

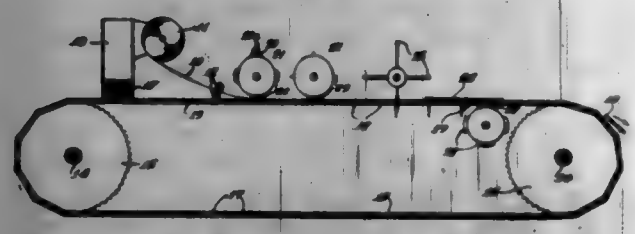


residual mat having an increased proportion of the smaller particles.

2,969,105
APPARATUS FOR MAKING PULL-TAB TYPE CLOSURES AND METHOD

Delbert R. Jones, Indianapolis, Ind., assignor, by mesne assignments, to Ekco-Alcoa Containers Inc., Wheeling, Ill., a corporation of Illinois

Filed Jan. 3, 1958, Ser. No. 707,021
9 Claims. (Cl. 154—1.6)



2. In apparatus for producing a closure disk having a pull tab wherein said pull tab is initially in the form of a continuous strip of relatively thin material having a coating capable of forming an adhesive joint with said disk with the aid of heat and pressure, the combination of means for conveying a plurality of said disks in single file in upwardly facing relation along a given path and simultaneously advancing said strip in superposed relation to the disks carried by said conveyor with the coated surface of said strip facing said disks, heat and pressure means with which said strip is engageable to attach a selected portion of said strip to an area of the upper face of the disk opposite thereto and extending rearwardly from the leading edge of the disk a distance short of the trailing edge of the disk, a cutter with which said strip is subsequently engageable to sever said selected portion of the strip from the portion of the strip in trailing relation thereto along a line substantially coincident with the rearward limits of said selected portion, and folding means with which the portion of the strip in leading relation to said selected portion is subsequently engageable to fold said leading portion against the lower face of the disk, and a second heat and pressure applying device with which said folded portion of the strip is subsequently engageable to attach said folded portion to the area of the second face of the disk opposite thereto.

2,969,106
SPLICE PATCH

Robert H. Reibel, Mount Airy Road, Croton-on-Hudson, N.Y.; Eugene Martinez, Bronx, N.Y. (28 Jaffray Park, Irvington-on-Hudson, N.Y.); and Marvin Kapilow, 15 Wells Ave., Croton-on-Hudson, N.Y.

Filed Dec. 9, 1958, Ser. No. 779,899
5 Claims. (Cl. 154—53.5)

1. A splice patch for securing two motion picture film strips in aligned and connected relationship comprising a light-transparent film having a pressure-sensitive adhesive material coating one surface thereof, a liner in covering relation and removably secured to said adhesive coated surface, said liner comprising two panel portions in substantial abutting relationship at an intermediate part of said patch, each of said panel portions at said intermediate part of said patch terminating in an integral finger-gripping flap such that said liner is adapted to be stripped

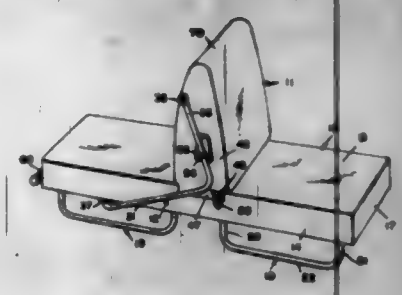


away from said film and said film secured to said film strips, at least one of said finger-gripping flaps being hinged to and bent back on its associated panel portion and said patch having at least one series of registering sprocket receiving openings adjacent a peripheral edge thereof having a common axis and being so constructed and arranged that a predetermined number of said openings are adapted to be aligned with sprocket receiving openings in said film strips.

2,969,107
CONVERTIBLE SEAT

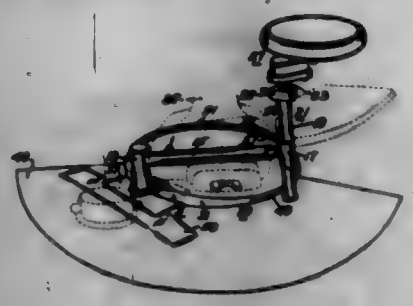
William Ira Naxon and Amelio Frank Le Pere, Dallas, and George Evans Eddy and Joe Bill D'Angelo, Mesquite, Tex., assignors to American Marine Upholstery Co., Dallas, Tex., a corporation of Texas

Filed Feb. 4, 1960, Ser. No. 6,798
3 Claims. (Cl. 155—45)



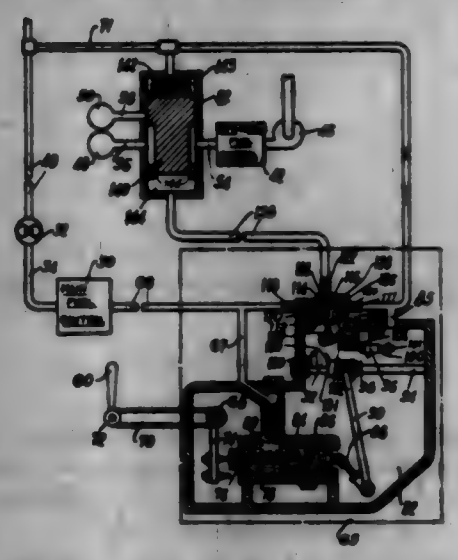
1. A convertible article of furniture comprising an elongate horizontally disposed platform, said platform having a top wall and depending side walls, supporting leg assemblies secured to the undersurface of said top wall for supporting said platform in elevated position, a yoke assembly including a bight portion traversing said platform and pivotally secured thereto between the lower edges of said side walls and including a pair of elongate arms extending from the bight portion, a combined back rest and extension member pivotally secured between the free ends of said arms so as to be movable between one position in which the combined member is disposed intermediate the ends of the platform in upstanding relation thereto and a position in which the combined member is horizontally disposed beyond one end of the platform so as to form an extension thereof, cooperating fastening means carried by the combined member and the side walls to hold the combined member intermediate the ends of the platform, the free ends of said arms terminating in leg portions serving to support said combined member when the same is in its horizontally disposed position forming an extension for the platform.

2,969,108
STABILIZED STOOL SUPPORT
Edgar W. MacKnight, deceased, late of San Leandro, Calif., by Bonna MacKnight, executrix, 159 Bowling Green, San Leandro, Calif., assignor, by court decree, to Bonna MacKnight
Filed Oct. 17, 1955, Ser. No. 540,838
8 Claims. (Cl. 155—81)



1. An auxiliary stool assembly for use with a patient's chair, said assembly including a base sub-assembly having floor engaging means of substantial length engaging the floor at its ends only and substantially symmetrically located with respect to a median line through such sub-assembly adjacent one edge thereof with the length of the floor engaging means substantially transverse to said median line, and patient chair flange supporting and securing means elevated above the plane of contact of said floor engaging means for supporting and securing to said stool assembly, the flange of the base of such patient's chair.

2,969,109
FUEL CONTROL FOR GAS TURBINE ENGINE
Theodore R. Card, South Bend, Ind., assignor to The Bendix Corporation, a corporation of Delaware
Filed Dec. 28, 1955, Ser. No. 555,851
5 Claims. (Cl. 158—36)



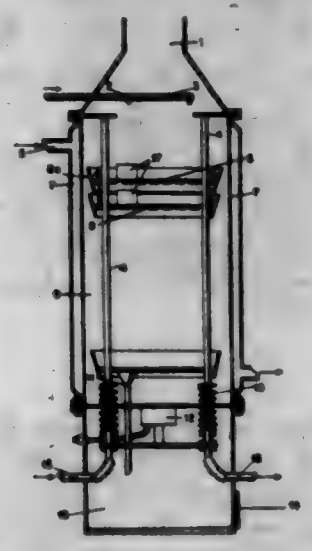
1. In a fuel control apparatus for a gas turbine engine the combination of an engine control throttle member, a first fuel manifold and a second fuel manifold, a fuel control device for controlling the supply of fuel to the first fuel manifold and to the second fuel manifold, said control throttle member being operatively connected with a control cam, with the fuel control device including a cam follower operative with said control cam such that in response to a first position the throttle member will initiate the supply of fuel to the first manifold and in response to a second position of the control throttle member the control device will supply fuel jointly to first and second manifold and means operatively connected to said cam follower for delaying the response of said cam follower to the movement of said control throttle member whereby the control device will cut-off the supply of fuel to said second manifold at a third control throttle position.

2,969,110
FUEL DELIVERY SYSTEM FOR AUTOMOTIVE VEHICLES
John Milton Jordan, Plainfield, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware
Filed Mar. 12, 1959, Ser. No. 798,956
5 Claims. (Cl. 158—36.4)



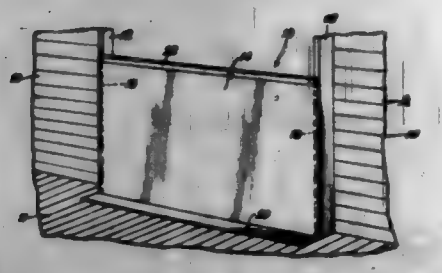
1. In an automotive vehicle, having forward and rearward ends, and including a liquid fuel pump, having a suction inlet, and a main liquid fuel storage tank, having an outlet connection, a conduit system for delivering liquid fuel from said tank to said pump, comprising an auxiliary fuel storage vessel disposed forwardly of both said tank and said pump and having an axis substantially aligned with the longitudinal axis of said vehicle; an inlet connection to said vessel in an upper portion thereof; a first conduit section connected in liquid delivery communication between said tank outlet connection and said vessel inlet connection; an outlet connection opening from said vessel at a level substantially below said vessel inlet connection, said outlet connection extending from said vessel toward the rearward end of said vehicle, in substantially parallel relation to said vessel axis; and a second conduit section connected in liquid delivery communication between said vessel outlet connection and said pump inlet.

2,969,111
PROCESS AND APPARATUS FOR SPRAYING AND DEHYDRATING SUSPENSIONS IN VACUO
René Joseph Bocognano, 3 Rue Carpeaux, Paris, France
Filed Apr. 25, 1956, Ser. No. 580,527
Claims priority, application France Apr. 26, 1955
6 Claims. (Cl. 159—3)



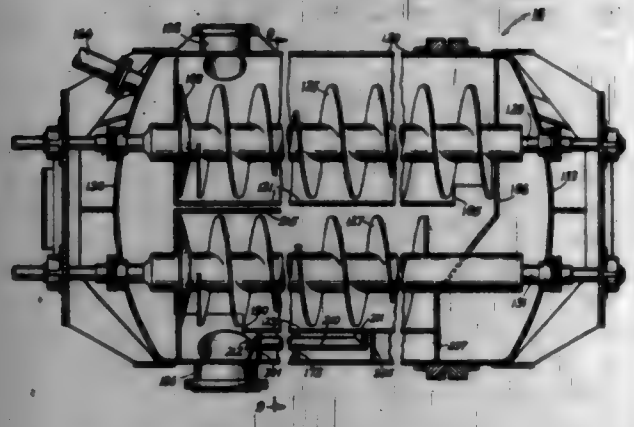
1. The method of dehydrating solid particles suspended in a liquid which comprises the steps of producing a vacuum zone of sub-atmospheric pressure, spraying said liquid into said zone to atomize the same at said sub-atmospheric pressure, passing said atomized suspension downwardly through said zone by gravity through a limited distance, repeatedly supporting said suspension at spaced intervals during the course of its downward movement to arrest said movement, repeatedly subjecting said suspension to heat and vibration while its movement is thus arrested, and recovering the dehydrated solid material at the lower limit of said downward movement.

2,969,112
GRAIN DOOR
Barton H. Ford, Omaha, Nebr., assignor, by mesne assignments, of one-half to International Paper Company, New York, N.Y., a corporation of New York, and one-half to The Stanley Works, New Britain, Conn., a corporation of Connecticut
Filed Apr. 17, 1957, Ser. No. 653,497
2 Claims. (Cl. 160—368)



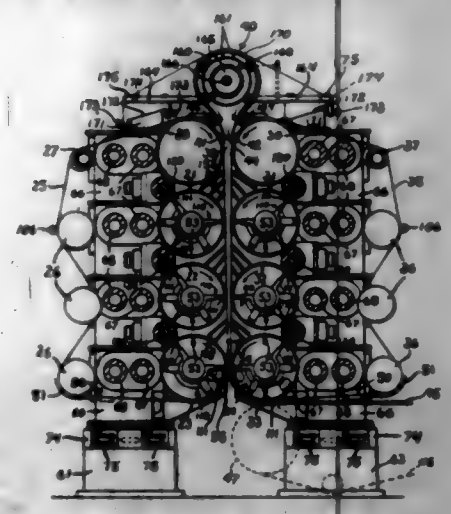
1. In a temporary door closure for railway cars, an elongated plastic sheet having integrated therewith on both sides thereof a paper sheet, the composite sheet thus achieved being sufficiently flexible to be rolled on itself, and rigid posts secured to the composite sheet adjacent the traverse edges thereof, said posts being secured to said closure independently of any means employed for securing the closure to a railway car door frame, said posts terminating a spaced distance from one longitudinal edge of the composite sheet to provide an elongated floor flap.

2,969,113
PULP MANUFACTURE
Frank B. K. Green, Massapequa, N.Y., assignor to Sprout, Waldron & Company, Inc., Muncy, Pa., a corporation of Pennsylvania
Filed Dec. 18, 1957, Ser. No. 703,588
9 Claims. (Cl. 162—237)



1. In a continuous digesting system for the manufacture of pulp from wood chips and the like at elevated temperatures and pressures with continuous flow of said chips through said system, the combination which comprises a cooking and digesting vessel having an outer shell enclosing a plurality of troughs through which said chips are conveyed during cooking and digesting thereof, means for continuously conveying said chips through said troughs, means for introducing cooking and digesting liquor to said chips in said troughs for impregnation of said liquor into said chips, means for withdrawing from said troughs excess liquor which does not impregnate said chips, means for collecting said liquor withdrawn from said troughs for recirculation through said liquor introducing means, and means for introducing steam under pressure into said outer shell for maintaining said elevated temperature and pressure therein.

2,969,114
PAPER MACHINERY
Joseph Baxter, Jr., Franklin, Ohio, assignor to The Black-Clawson Company, Hamilton, Ohio, a corporation of Ohio
Filed Oct. 13, 1958, Ser. No. 767,808
23 Claims. (Cl. 162—348)



1. A paper machine of the character described comprising a pair of breast rolls supported in closely spaced relation in a horizontal plane to define a vertically extending nip therebetween, means forming a headbox located on one side of said nip and including a pair of lips defining a discharge passage for stock from said headbox, means supporting said headbox with said lips extending generally vertically substantially within said nip to deliver stock directly from said headbox to said nip, at least one pair of suction rolls associated with said breast rolls respectively, means supporting said suction rolls in generally vertically spaced relation with said breast rolls on the opposite side of said nip from said headbox with each such pair of suction rolls progressively more closely horizontally spaced than said breast rolls, a pair of separate forming webs trained around associated said breast and suction rolls for generally vertical travel in progressively more closely horizontally spaced relation to receive therebetween the stock discharged from said headbox, means associated with said suction rolls for withdrawing and removing liquid from the stock through said webs to form a sheet between said forming webs, and means for receiving and conducting away said sheet from said pair of suction rolls.

2,969,115
AMBULATORY PARAFFIN SCRAPER
James C. Tripplehorn, 1013 Mary Ellen St., Pampa, Tex.
Filed July 16, 1957, Ser. No. 672,266
2 Claims. (Cl. 166—176)



1. An ambulatory paraffin scraper in combination with a sucker rod having a length of substantially uniform diameter, and a tubing string having an inside diameter, the scraper consisting of at least one and one-half con-

volutions of plastic material describing an open helix having inner and outer bearing surfaces which respectively lie on the surfaces of two cylinders each coaxial with the helix, the diameter of the cylinder occupied by the inner bearing surface being larger than the diameter of the sucker rod, and the diameter of the cylinder occupied by the outer bearing surface being smaller than the inside diameter of the tubing string.

2,969,116

METHOD OF CONTROLLING AND EXTINGUISHING FIRES IN PYROPHORIC FLUIDS

Arthur B. Guise, Marinette, Wis., assignor to Ansul Chemical Corporation, Marinette, Wis., a corporation of Wisconsin

No Drawing. Filed Mar. 19, 1959, Ser. No. 800,388
5 Claims. (Cl. 169—1)

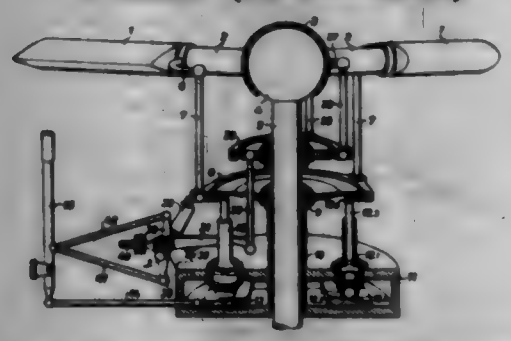
1. The method of controlling and extinguishing fires in pyrophoric fluids which comprises contacting the pyrophoric fluids with an adsorbent activated agent free of adsorbed liquid and then extinguishing the flames with a dry chemical type fire-extinguishing agent.

2,969,117

CYCLIC PITCH CONTROL SYSTEM FOR ROTORS OF HELICOPTER AIRCRAFT

Richard Schön, Prague, Czechoslovakia, assignor to Výzkumný a zkušební letecký ústav, Letnany, near Prague, Czechoslovakia

Filed Feb. 25, 1957, Ser. No. 642,193
6 Claims. (Cl. 170—160.25)



5. In a pitch control system for helicopters, in combination, a support; a rotor shaft journaled in said support for rotation; a rotor blade mounted on said shaft for rotation therewith, said blade being pivotable relative to said shaft about a transversely extending axis, said axis defining a rotor plane during rotation of said rotor blade; and control means for actuating the pivoting movement of said blade, said control means including a guide member reciprocably movable on said support in a predetermined path, a guide face on said member defining a small acute angle with said path, a transmission member mounted on said support for reciprocating movement in a direction substantially perpendicular to said guide face and to said path, a contact portion of said transmission member being in abutting contact with said guide face, and connecting means operatively connected to said transmission member and to said blade for pivoting movement of said blade responsive to the reciprocating movement of said transmission member, said angle being not substantially greater than the friction angle of said contact portion of said guide face.

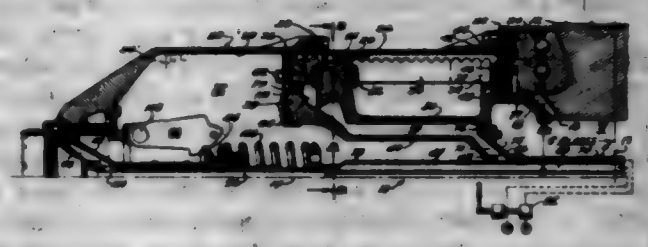
2,969,118

MOTOR UTILIZING COMBINED ACTION OF SPLINES AND CAMS

Arthur N. Allen, Jr., Wethersfield, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed Aug. 21, 1957, Ser. No. 679,382
7 Claims. (Cl. 170—160.32)

1. Propeller apparatus comprising propeller blades mounted for rotation on a hub, means to rotate said blades relative to said hub comprising apparatus effecting rotation firstly by spiral spline coaction and secondly and



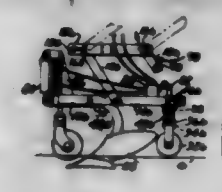
additionally by irregularly contoured cam slot and roller coaction.

2,969,119

IMPLEMENT POSITIONING DEVICE

Leonard D. Barry, 19300 Pennington Drive, Detroit 21, Mich.

Filed Sept. 22, 1954, Ser. No. 457,758
11 Claims. (Cl. 172—2)



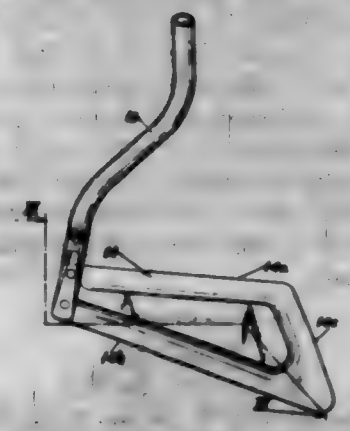
1. A ground-working-implement positioning device which comprises, a first and a second implement lift, a vehicle supporting said first lift, rotary mounting means securing said second lift to said first lift to enable said second lift to swing in substantially a vertical plane parallel to the direction of intended ground working, to and from working position, an implement on said second lift positioned for swinging downward to ground working position by the operation of said second lift, means for controlling the swinging movement of said second lift relative to said first lift and including pressure sensitive control means responsive to a force against said first lift when the implement is lowered substantially to the ground and connected to actuate said controlling means to lower said second lift to ground working position upon said pressure sensitive means receiving a predetermined force.

2,969,120

GARDEN TOOLS

Harry Beckham Randolph, 16 Pall Mall, London SW. 1, England

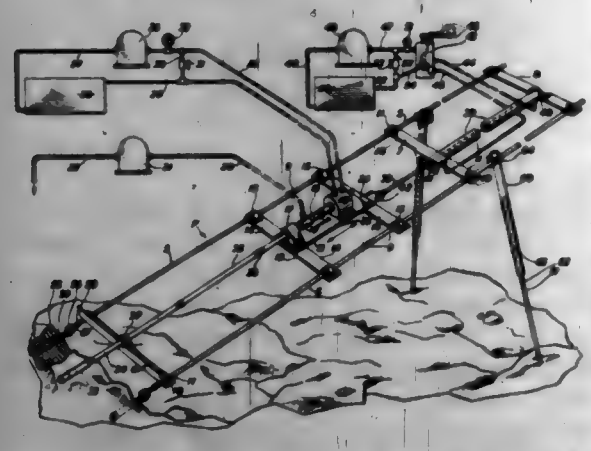
Filed Jan. 9, 1959, Ser. No. 785,942
5 Claims. (Cl. 172—371)



1. A garden hoe comprising a handle, a blade, said blade being elongated and having a front edge, a rear edge and two ends, said ends being shorter than said front and rear edges, and means attaching one end of said blade to said handle, said attaching means having the end attached to said blade offset from an axial line from said handle, the longitudinal axis of said handle being inclined at an angle of approximately forty-five degrees to

the plane in which lie said two blade sides and said two blade ends, said front edge being inclined to the rear edge with that end of the front edge rearmost which is adjacent that blade end attached to said handle, the other end of said blade being inclined to said rear edge at an angle which is appreciably greater than a right angle whereby said front edge and said other end of the blade constitute a forwardly directed tapered portion, said axial line intersecting said rear blade edge at right angles substantially midway of its length and intersecting said front edge at acute and obtuse angles on opposite sides of said line, that portion of the front edge lying on said attaching means side making an obtuse angle with the adjacent end and that portion of the front edge remote from said attaching means side making an acute angle with the adjacent end.

2,969,121
HYDRAULIC CORE DRILL
Jack G. Wallace, 361 Lakeshore Road W., Port Credit, Ontario, Canada
Filed June 23, 1958, Ser. No. 743,619
10 Claims. (Cl. 175—129)



10. A hydraulic core drill comprising a portable frame having a front end and a rear end and including a pair of spaced longitudinal way-forming side members and cross members securing said side members to each other at intervals along their length, said side members having frontal connecting termini at the front end of said frame, yokes having shanks engaged with said frontal termini of said side members and extending longitudinally therefrom and capable of adjustment, rock bolts having eye parts pivoted in said yokes, a carriage reciprocably disposed on said frame and having way-engaging bearings attaching it to said side members for permitting said reciprocable movement thereof, a shaft journalled on said carriage and arranged parallel to said side members, drill rod connected to said shaft and extending forwardly thereof and terminating in a core barrel having a hole boring element, a motor on said carriage having a driving connection with said shaft, a power system for operating said motor and connected thereto, force transmitting power means mounted on the rear end of said frame and having a forwardly extending portion connected to said carriage for reciprocal movement thereof, and means connected to said force transmitting power means for operating the same.

2,969,122
HOLLOW DRILL
Milton J. Steffes, Dearborn, Mich., assignor to Van Norman Industries, Inc., Springfield, Mass., a corporation of Massachusetts
Original application Mar. 31, 1955, Ser. No. 498,154, now Patent No. 2,919,902, dated Jan. 5, 1960. Divided and this application Jan. 14, 1957, Ser. No. 633,963
3 Claims. (Cl. 175—394)

3. A masonry drill having a body of tubular construction with means thereon for carrying cuttings in an upward direction, the end of said tubular body containing spaced supporting surfaces sloping rearwardly in a direction opposite to the direction of rotation of the drill, teeth of trapezoidal shape each having a wide and narrow face joined by sloping side faces and a top face at



right angles thereto, the narrow faces being secured to said spaced sloping surfaces, the wider faces having the side edges relieved by the sloping side faces and the right angle top face relieved by the sloping disposition of the supporting surfaces, and a shank on the opposite end of the body from that containing said teeth.

2,969,123
AUTOMOBILE UNDER HOOD WORK REST
Bennie C. Jamerson and Ben C. Jamerson, both of P.O. Box 895, Long Hollow, Buena Vista, Va.
Filed Jan. 15, 1959, Ser. No. 786,955
4 Claims. (Cl. 182—116)

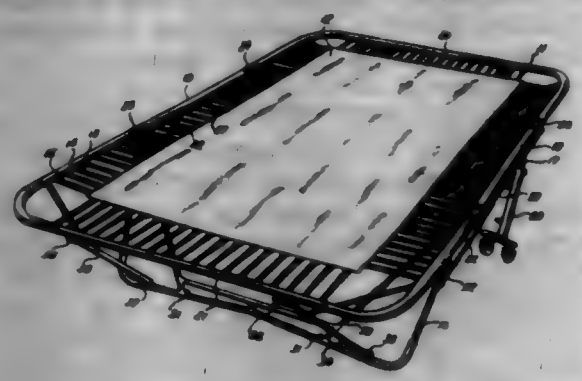


2. A mechanic-bearing portable garage dolly for servicing internal-combustion engines and adjustable both through a vertical angle and, within its vertical angular range, radially for any given angular setting, and also adjustable, through a combination of said angular and radial adjustments, to limited horizontal extent, which said dolly comprises a carrier frame; a ladder base pivoted thereto for angular swing through a vertical angle; means carried by said frame for adjustably bracing said ladder base in its adjusted angular position; an upper ladder telescopically received within said ladder base for linear adjustment longitudinally of any relative to said ladder base, said upper ladder having rungs therein, and including side rails; the rails of said upper ladder serving as trackways, and at least one rung of said upper ladder terminating at each end thereof in adjustable keeper plates engaging within said trackways and adjustably and lockingly positionable therealong to permit positioning of said adjustable rung linearly along said upper ladder to position best suited for the particular mechanic.

2,969,124
BOUNDING BEDS
George P. Nissen, 711 27th St. NE., Cedar Rapids, Iowa
Filed Sept. 29, 1958, Ser. No. 764,153
1 Claim. (Cl. 182—139)

A bounding bed comprising a rectangular frame having a sheet resiliently mounted within the perimeter thereof, support means for said frame, said frame comprising

a pair of parallel elongate side rails, said rails being oval in cross-section and having their greatest width in a horizontal plane, each of said oval side rails having a pair of spaced hinge sections therein, each of said hinge sections including a pair of hinge halves each comprising a body portion having an end secured to the said rail and having a deep vertical slot therein extending down from its top surface and shallow recesses therein extending laterally from the upper portion of said deep slot, said deep slot and said recesses extending to the distal end of said body portion, said slots in the two halves being aligned, a hinge link comprising a plate having apertures respectively in its opposite ends, and cover wings extending laterally



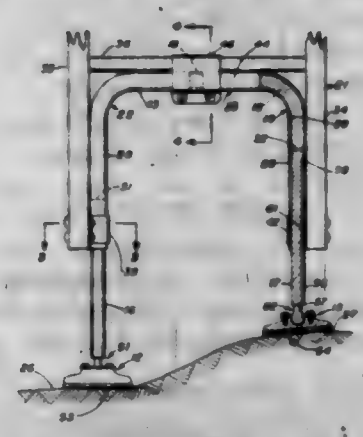
from the top thereof, said plate fitting into said aligned vertical slots, said body portions each having a pin bore extending transversely therethrough in alignment respectively with the apertures in said plate, hinge pins extending respectively through said pin bores and apertures and said cover wings extending into said shallow lateral recesses; the upper surface of said plate, cover wings and the sides and bottom of said hinge sections having similar outline to the outline of said oval rails comprising the frame, whereby the strength of the frame in a horizontal direction is enhanced and the upper and side surfaces of said rails and hinge sections present a minimum of upwardly directed inherently harmful projection area.

2,969,125
LIFTING APPARATUS
William S. Hartford, 725 W. Laurel, Colton, Calif.
Filed Jan. 3, 1955, Ser. No. 479,389
8 Claims. (Cl. 182—144)



1. Apparatus comprising a carrier structure on which a load may be supported and adapted to be moved vertically to raise and lower the load, a connector unit adapted to be connected to an upper support structure for suspending said carrier structure therefrom, two flexible lines connected at their upper ends to said connector unit and extending downwardly therefrom essentially parallel to one another and connected at their lower ends to said carrier structure to suspend the latter from said connector unit, said carrier structure including a vertically movable body having an upstanding projection at the location of said lines and having a load carrying portion extending laterally in a predetermined direction from a lower portion of said projection and suspended thereby as a cantilever, said load carrying portion having a platform for receiving the load at a location such that its center of gravity is offset laterally from said projection and is offset laterally in said predetermined direction beyond the main upper suspending portions of said lines, two pulleys engaging and guiding said lines respectively as they extend downwardly, means mounting said pulleys to said projection at a level higher than but offset laterally from said platform and each for rotation about a generally horizontal axis, said lines engaging said pulleys respectively at a side facing laterally in the direction of said load receiving platform, and said lines then extending angularly downwardly and laterally away from the load platform, and motor driven reel means carried by said body and acting to wind and unwind the lower portions of said lines to raise and lower the carrier structure.

2,969,126
EQUALIZING BASE SUPPORT FOR LADDERS
Oliver H. Gardner, 15 Laplaza St., Orinda, Calif.
Filed June 22, 1959, Ser. No. 821,848
6 Claims. (Cl. 182—202)



1. An equalizing base support for ladders comprising, ground engaging means providing laterally spaced ground supports, a pair of vertically extending reciprocally mounted ladder supporting members connected to said spaced ground supports, an elastic core member and channel therefor supporting and guiding said core member for longitudinal reciprocation, a predetermined clearance being provided between said core member and channel when said core member is in a normal substantially uncompressed state affording full sliding reciprocation of said core member, said core member being connected to said ladder supporting members for joint reciprocation to an adjusted position accommodating said ground supports to particular ground elevations, said ladder supporting members and channel cooperating to place said core member under predetermined compression when weight is applied simultaneously to said ground supports as when the ladder is rested thereon, said core member being formed of a material and functioning when under said compression and cooperating with said clearance to expand and fill said clearance and move into a frictional grip with said channel to support said ladder supporting members in their adjusted position as aforementioned, said frictional grip being substantially directly proportional to the weight placed upon said ladder supporting members.

2,969,127
AIR PURIFIER
Richard R. Cook, 2076 Elston Ave., Chicago, Ill.
Filed Sept. 30, 1957, Ser. No. 687,321
1 Claim. (Cl. 183—7)

In a device for providing warm or cold air having an air entrance duct, and means for moving the air, air purifying means in said air entrance duct comprising a plurality of filters arranged in side-by-side relation and a plurality of sets of collector plates arranged in series inwardly from said filters and a power pack connected to an electrical source of power for applying high volt-

age to alternate sets of collector plates, each of said filters having a central filter portion of expanded washable aluminum foil, and a metal frame surrounding the central portion, said filters adapted to remove heavy, coarse and large particles from the air, one of said filters having a stud with a shank and a head on said frame, and the adjacent filter having an opening and a narrowed slot adapted to receive the head and shank of the stud on the first mentioned filter for removably attaching the filters together in side-by-side relation, and enough of said adjacent filters being so attached together



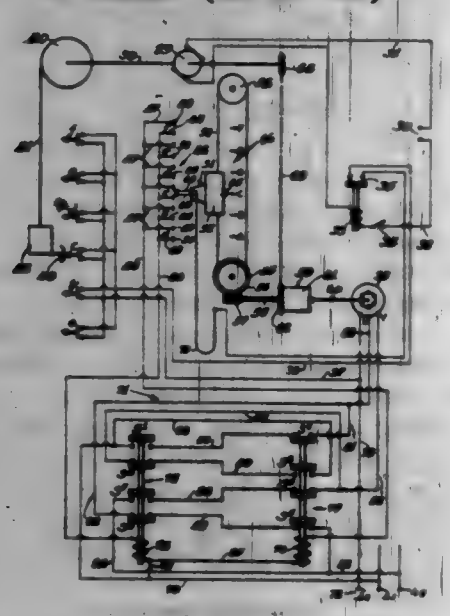
until the filters total sufficient size to fill the air entrance duct at its entrance where the air comes in, each set of collector plates having a plurality of plates, with each plate formed with a margin and spaced openings and fins extending equally as far above as below said margin, the bottom fin of each plate having an opening, and the top fin of each adjacent plate having a bent up tab so that said tab may enter the opening for holding adjacent plates together in side-by-side relation, said plates joinable side-by-side in each set until of sufficient total size to extend across and fill the air entrance duct.

2,969,128

DEVICE FOR CORRELATING AN ELEVATOR SIGNAL MACHINE CARRIAGE WITH THE POSITION OF AN ELEVATOR CAR

Frederick H. Jones and Joseph H. Mori, Chicago, Ill., assignors to Chicago Elevator and Machine Company, Inc., Chicago, Ill., a corporation of Illinois

Filed July 10, 1959, Ser. No. 826,298
6 Claims. (Cl. 187—29)



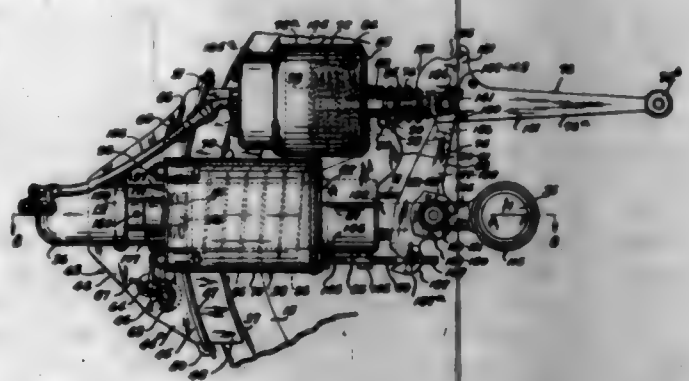
6. A device for correlating the positions of a car and a proportionally movable carriage comprising drive means for moving the car to a plurality of spaced positions, a differential including three differentially movable members, means connecting the said drive means to a first one of said movable members, means connecting the said carriage to a second one of said movable members, reversible correction motor means, means connecting said correction motor means to the third one of said movable members, and control means for said correction motor means including first control means actuated to operative position at each of the said positions of said car, second control means in series with said first control means actuated to operative position when said drive means is inoperative, a pair of spaced control members corresponding to each of the said positions of the car, said pairs of members being spaced apart in proportion to the spacing of the said positions of the car and being in series with said first and second control means, the members of each pair being operatively connected respectively for reversely energizing said correction motor means, and contactor means carried by said carriage for selectively contacting said control members to energize said correction motor means for operation in a predetermined direction in response to engagement of said contactor means with a control member when said first and second control means are actuated to operative position.

2,969,129

RAILWAY BRAKE MECHANISM

Kenneth A. Browne, Lakewood, and George J. Sennhauser, Parma, Ohio, assignors to The Chesapeake and Ohio Railway Company, Cleveland, Ohio, a corporation of Virginia

Filed Sept. 10, 1958, Ser. No. 760,237
25 Claims. (Cl. 188—33)



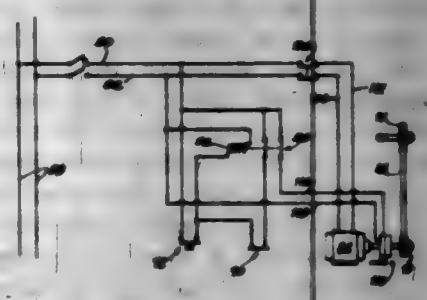
1. In brake mechanism for use with railway running gear comprising a rail wheel and a journal box having an axial shaft portion projecting therefrom; a brake beam; a brake cylinder carried by said beam; rod means operable in said brake cylinder and connected with said shaft portion; spring means in said brake cylinder in cooperation with said rod means and effective to supply brake applying force to said beam; a fluid pressure responsive cylinder device for supplying brake releasing force; and means for transmitting the brake releasing force from said cylinder device to said beam through said brake cylinder and in opposition to said spring means.

2,969,130

LATHE CONTROL

Henry H. Logan, Chicago, Ill., assignor to Logan Engineering Co., Chicago, Ill., a corporation of Illinois

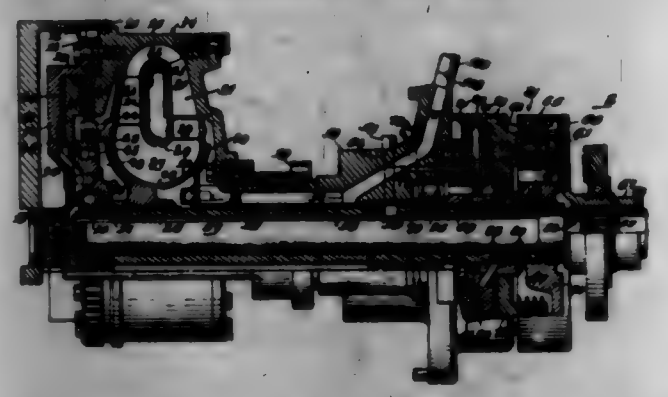
Filed Sept. 26, 1957, Ser. No. 686,423
3 Claims. (Cl. 192—.02)



3. In a lathe, rotatable means for rotating a workpiece, a motor for driving such rotatable means, and control means for quickly stopping the workpiece and

the driving of the rotatable means in emergency or normal operating conditions and for preventing undesired re-starting of the lathe, said control means comprising a brake for arresting the rotatable means, brake operating means including a handle mounted for convenient manual engagement by the lathe operator for movement between a first position in which said rotatable means is free to rotate and a second position in which said rotatable means is stopped, means normally biasing said handle to its said first position, electric circuit means connecting the motor with a source of electrical energy, a first starting circuit having a normally open starting switch and a relay coil controlled thereby, electrically operated clutch means coupling the motor and the rotatable means, a second circuit including said clutch means and first switch means operatively controlled by said coil, and a third holding circuit independent of said first and second circuits and including said coil, a safety switch closed by movement of said handle to its said second position and second switch means responsively controlled by said coil; energization of said holding circuit energizing said coil through said safety switch and second switch means and thereby permitting return of said starting switch to its normally open position for de-energization of said starting circuit whereupon the operative disconnection of said clutch means is directly responsive to the opening of said safety switch at movement of said handle to arrest said rotatable means.

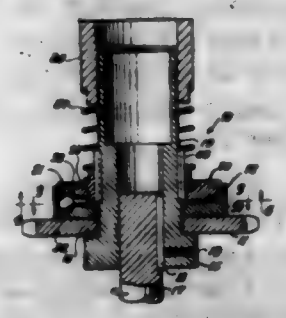
2,969,131
POWER TRANSMISSION
James B. Black, Rockford, Robert W. Meyer, Pecatonica, and Wilbur F. Sharts, Winnebago, Ill., assignors to Twin Disc Clutch Company, Racine, Wis., a corporation of Wisconsin
Filed May 13, 1958, Ser. No. 735,051
9 Claims. (Cl. 192—3.2)



1. A power transmission comprising an hydraulic torque converter including an impeller and a turbine cooperably related to form a toroidal circuit, a shaft driven by the turbine, a stationary member in which the shaft is journaled, and hydraulic circuit means including the converter, a pump driven by the impeller, an hydraulically actuated friction plate clutch providing a connection between the shaft and a load, a control valve for determining the engagement and release of the clutch, passage means including an inlet passage in the stationary member connecting the converter to the pump pressure line anterior to the control valve and having a pressure regulating valve for determining the engaging pressure of the clutch, and an outlet passage from the converter included between the member and shaft.

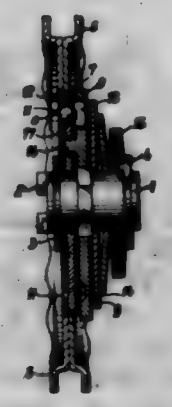
2,969,132
TORQUE LIMITING DEVICES
Harold H. Stewart, 5903 Forest Park Road, Dallas, Tex.
Filed Dec. 9, 1955, Ser. No. 552,160
10 Claims. (Cl. 192—56)

1. A torque limiting device comprising: a rotatable driving plate; a rotatable driven plate adjacent said driving plate, said plates being rotatable about a common axis; said driving plate having a flat surface provided with a plurality of indentations, said driven plate having a set of slots disposed at an angle to radii extending from said axis and having inner ends near said axis and outer ends remote from said axis, said outer ends only being adapted to register with said indentations, a ball disposed in each



of said slots and adapted to enter into an indentation in said driving plate when disposed in the outer end of the slot; the inner ends of the slots being disposed inwardly of the indentations whereby the balls cannot enter into the indentations and engage said flat surface when in the inner ends of the slots; and means biasing the plates toward one another.

2,969,133
OVERLOAD CLUTCH
Richard Langheck, Niefern, Baden, Germany, assignor to Wilhelm Sihn, Jr., K.G., Niefern, Baden, Germany, a firm
Filed Oct. 22, 1958, Ser. No. 768,992
Claims priority, application Germany Oct. 23, 1957
5 Claims. (Cl. 192—56)



1. In an overload clutch, in combination, a driving disc having a front face and adapted to be connected to a driving member; a driven disc having a front face and adapted to be connected to a driven member, said discs being arranged coaxially with their front faces facing each other; means for urging at least one of said discs toward the other disc; at least one ball-engaging overload means on the front face of one of said discs, said ball-engaging overload means comprised of two arcuate grooved portions arranged coaxially and equidistant from the center of said disc, and a projection between said grooved portions projecting toward the other disc; ball-engaging means arranged on the other disc at the same radial distance from the center of said other disc as said ball-engaging overload means on said one disc; a connecting ball arranged in one of said grooved portions between said facing faces of said discs and having a diameter smaller than the distance between the bottom of said grooved portions and the ball-engaging means on said other disc and slightly larger than the distance between the crest of said projection and said ball-engaging means on said other disc, whereby during rotation of said discs

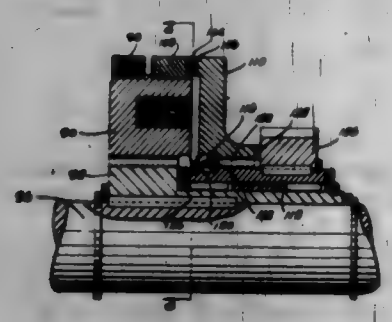
relative to each other said ball will be engaged by said projection connecting said discs to each other and will be adapted to move past said projection into the other grooved portion only in the event of overload; blocking means positively engaging and holding said ball; and abutment means for limiting relative turning movement between said blocking means and said one disc so that movement of said ball in said grooved portions is limited in such a manner that said ball is blocked before it engages an end of said arcuate grooved portions remote from said projection so as to prevent said ball from becoming wedged between said one disc and the ball engaging face of said other disc.

2,969,134

SOLENOID OPERATED POSITIVE DRIVE CLUTCH

Ludwig Wiedmann, Friedrichshafen, and Paul Thielmann, Friedrichshafen-Spaltenstein, Germany, assignors to I-T-E Circuit Breaker Company, Philadelphia, Pa., a corporation of Pennsylvania

Filed Oct. 26, 1955, Ser. No. 542,960
Claims priority, application Germany June 3, 1955
1 Claim. (Cl. 192—84)



A positive drive clutch, comprising a shaft having a sleeve keyed thereto, a solenoid magnet body keyed to said sleeve, an additional sleeve rotatively carried on said shaft, a disk-like armature carried on said additional sleeve and provided with radially disposed clutch teeth, a clutch-ring carried by said solenoid body and having teeth engageable with the teeth on said armature when said solenoid magnet is energized; each of said teeth of said armature being comprised of relatively straight sides and a top surface joining said relatively straight sides; the sides of the said teeth of said armature facing the direction of motion of said armature being longer than the sides away from the direction of motion whereby each of said top surfaces of said teeth of said armature have a slanted surface; each of said teeth of said clutch ring comprising relatively straight sides and a top surface joining said last mentioned relatively straight sides; the sides of said clutch ring teeth facing the direction of motion of said clutch ring teeth being shorter than the sides away from the direction of motion of said clutch ring teeth whereby said top surfaces of said clutch ring teeth have slanting surfaces relatively parallel to said slanting top surfaces of said teeth of said armature.

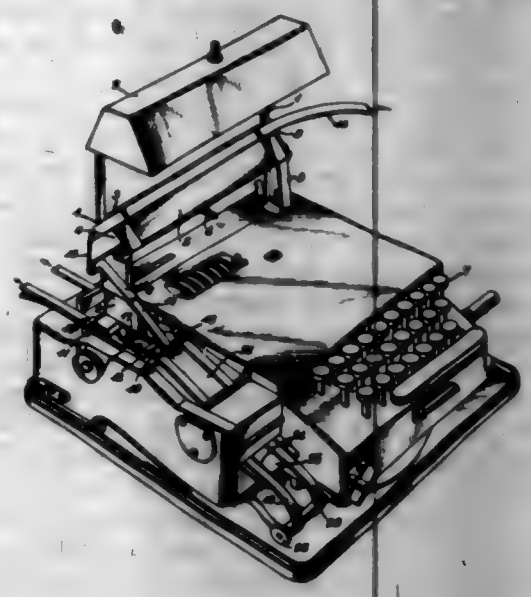
2,969,135

CIPHERING MACHINES

Gaetano Giovanni Felix, Rome, Italy
(649 S. Olive St., Los Angeles, Calif.)

Filed Dec. 31, 1957, Ser. No. 706,462
7 Claims. (Cl. 197—4)

1. In a ciphering machine having a first tape, means to print indicia thereon, and means synchronized with the indicia printing means to advance said first tape, the improvement that comprises a strip tape guide visually accessible at all times to an operator of said machine and adapted to guide a second tape to a point contiguous to the path of the first tape whereby the said second tape



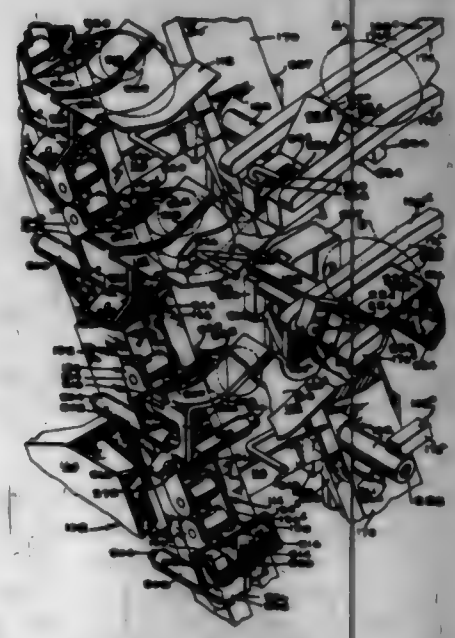
may be connected to the said first tape to be advanced thereby.

2,969,136

MACHINE FOR HANDLING EGGS

Harold J. Mumma, Riverside, Calif., assignor to Food Machinery and Chemical Corporation, San Jose, Calif., a corporation of Delaware

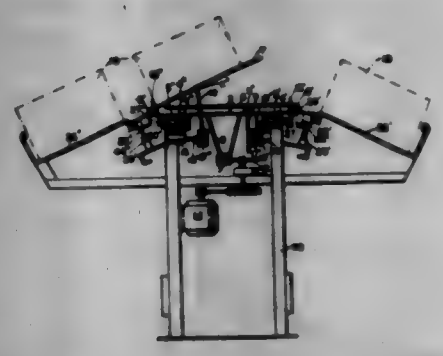
Original application June 1, 1953, Ser. No. 358,621. Divided and this application Nov. 15, 1956, Ser. No. 622,386
12 Claims. (Cl. 198—26)



2. In an egg handling machine, conveyor means for advancing eggs, a pair of inclined, transversely spaced bars disposed in spaced vertical planes and forming a chute and adapted to receive eggs and to deliver them to said conveyor means, a U-shaped block supported between the lower ends of said bars for pivotal movement about an axis perpendicular to the vertical planes passing through said parallel bars and with its cross bar extending in the direction of said axis and with its legs arranged for pivotal movement in planes parallel to said vertical planes, a knee-shaped plate secured to the cross bar of said U-shaped block, said block being biased to pivot into a position wherein the legs of said block are disposed parallel to said lower ends of said bar and the knee of said knee-shaped plate projects above said bars and blocks the chute formed by said bars, and means activated by said conveyor means to lower the knees of said plate and to raise the legs of said block, whereby an egg is ad-

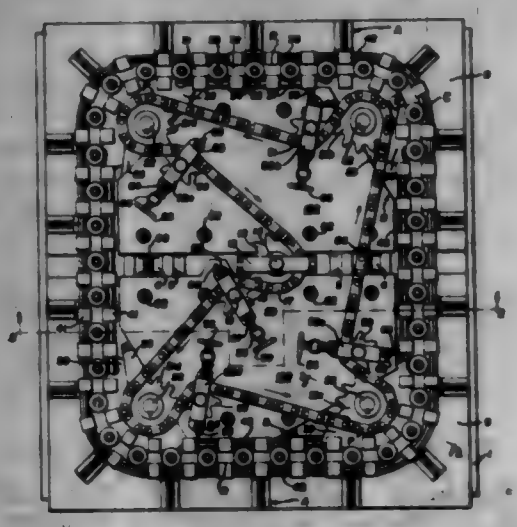
mitted to said plate and into engagement with the legs of said block to lower the same for delivery to said conveyor means and to reset said plate in blocking position.

2,969,137
SELECTIVE DISTRIBUTING AND CONVEYOR SYSTEM
Albert Baumann and Helmut Bünten, Bielefeld, Germany, assignors to Durkoppwerke Aktiengesellschaft, Bielefeld, Germany, a corporation of Germany
Filed Oct. 15, 1958, Ser. No. 767,463
Claims priority, application Germany Oct. 24, 1957
18 Claims. (Cl. 198—38)



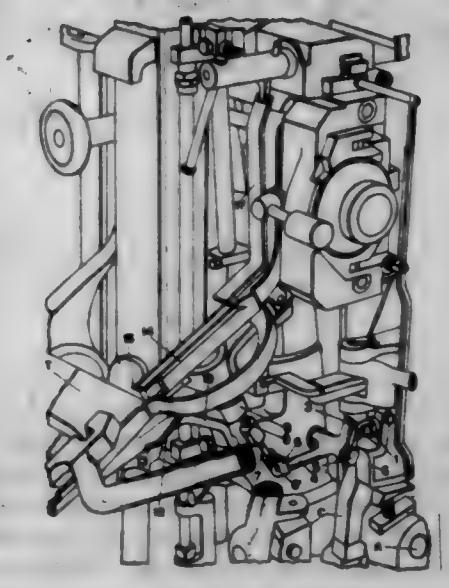
1. A carrier for articles to be selectively delivered to a plurality of stations located at opposite sides of a conveyor path, comprising a carrier body, a pair of oppositely tiltable grids with interleaved formations swingably secured to said carrier body, and mechanism for selectively tilting either of said grids from a normal horizontal into an off-normal inclined position.

2,969,138
CONVEYOR MULTIPLE DRIVE MECHANISM
George John Sykokis, 28 Ierosolymon St., Athens, Greece
Filed Feb. 20, 1958, Ser. No. 716,494
4 Claims. (Cl. 198—208)



1. A conveyor comprising an endless conveyor chain adapted to move in a driving direction, drive means for guiding said conveyor chain during driving movement, a plurality of chain sprockets having teeth drivingly engaging said conveyor chain at spaced points therealong, a drive sprocket drivingly connected to each of said chain sprockets, a driving means, driving chain means drivingly connected to said driving means and said driving sprockets for synchronously rotating said drive sprockets and the associated chain sprockets upon driving movement of said driving means, and tension means including an adjustable portion engaging a lateral portion of said driving chain means intermediate two of said drive sprockets, said tension means being positioned a substantially greater distance from a first one of said two drive sprockets than from a second one of said two drive sprockets, guide means engaging said tension means and constraining said tension means for movement along an arc having a center of curvature positioned at the tangential point of driving engagement of said driving chain means with said first drive sprocket for regulating the pressure of the teeth of the chain sprocket associated with said second drive sprocket against said conveyor chain while having substantially no influence on said first drive sprocket and its associated chain sprocket.

2,969,139
DEVICE FOR TURNING OVER TYPOGRAPHIC LINES COMPOSED BY A LINE-COMPOSING MACHINE
Mario Covini, Milan, Italy, assignor to Linotype S.p.A., Milan, Italy, a company of Italy
Filed May 14, 1959, Ser. No. 813,152
Claims priority, application Italy May 17, 1958
4 Claims. (Cl. 199—61)

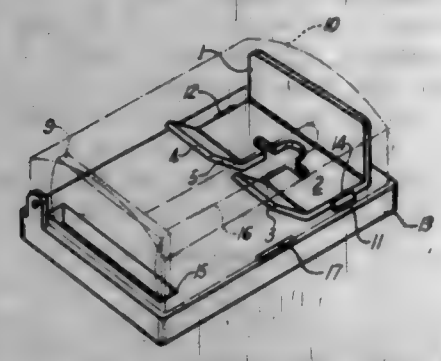


1. A device for turning over typographical lines, composed of a line-composing machine, provided with a founding pot for the lines, oscillating around a horizontal axis, characterized in that it comprises, in combination, a thrust member rigid with a point of the founding pot for the lead for the lines, a square lever pivoted around a fixed point of the frame of said composing machine, said square lever comprising a first arm cooperating with said thrust member rigid with said pot and a second arm at the free end of which there is pivoted a member provided with a wide-pitched helical threading, said member provided with a wide-pitched helical threading being in engagement with a nut fixed to a rotary platform adjacent the board for collecting the lines composed by said machine, said platform being adapted to receive individual composed lines, so that the thrust exerted by the pot upon said square lever, causes a rotation of said platform by 180° thereby turning over the typographical line.

2,969,140
MOUNTING BRACKETS FOR SAFETY RAZORS
Albert J. Avetta, 2109 W. Liberty Ave., Pittsburgh 26, Pa.
Filed Dec. 31, 1959, Ser. No. 863,178
1 Claim. (Cl. 206—16)

In a razor case, a base, a cover therefor, said base having a recess at one end for receiving a cutting side of a razor and a cradle member detachably secured to said base having a slotted portion for receiving the handle of the razor, said cradle member having a vertical flange constituting an end abutment for the razor handle and one

side of said flange having an adhesive surface for mounting on a wall to constitute the cradle a mounting bracket



for the razor with the handle depending from the slotted portion of the cradle member.

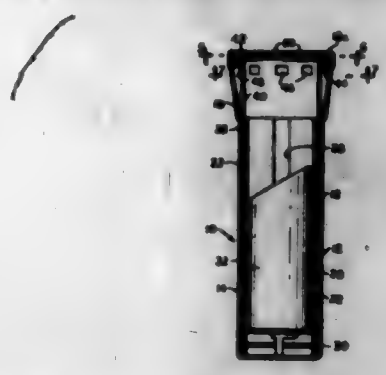
2,969,141
THERMOMETER COVER
Eugene M. Katzin, 50 Baldwin Ave., Newark, N.J.
Filed June 17, 1957, Ser. No. 666,142
1 Claim. (Cl. 206—16.5)



A thermometer cover comprising a tubular elongated sheath of relatively thin substantially uniformly thick highly elastic material, the cross sectional area of the sheath being generally uniform along its entire length and dimensioned to loosely receive a clinical thermometer, the sheath being open at one end and closed at the other end, the open end of the sheath being cut at an angle, the cut extending from one side of the sheath at the open edge thereof through the opposite side of the sheath at a point below the open edge of the last mentioned side to form a substantially triangular shaped elongated tab, the distance from the tip of the tab on one side of the sheath to the extreme end of the cut on the opposite side being at least equal to twice the largest transverse dimension of the sheath, the sheath being deformable under tension exerted longitudinally to elongate longitudinally and to constrict transversely, the sheath deformable transversely with respect to the longitudinal axis of the sheath to engage a portion of the interior of the sheath with the end of a clinical thermometer in he sheath to dispose the elongated manipulating tab outwardly and generally transversely to the longitudinal axis of the sheath.

2,969,142
IRIS TYPE CLOSURE FOR LIPSTICK HOLDERS AND OTHER CONTAINERS
William Mack, New York, N.Y.
(79–11 41st Ave., Elmhurst 73, N.Y.)
Filed May 9, 1958, Ser. No. 734,144
7 Claims. (Cl. 206—56)

1. A holder for lipstick and the like, said holder being provided with an outer casing, an elevator within said casing and movable longitudinally of said casing, said elevator being adapted to carry a mass, a sleeve carried by said casing and projecting outwardly therefrom, said sleeve being angularly movable relative to said casing but being fixed against longitudinal movement relative to said casing, an elevating mechanism operatively connected between said sleeve and said elevator whereby angular movement of the sleeve in one direction relative to the casing causes the elevator to rise in order to expose the mass for use and whereby relative angular movement in the opposite direction causes the elevator to retract in order to store the mass, and a diaphragm closure mounted at the outer end of said sleeve, said diaphragm closure comprising a plurality of iris leaves, separate pivot means for each leaf, means for simultaneously actuating said pivoting means for pivoting said leaves between open and closed positions thereof, means

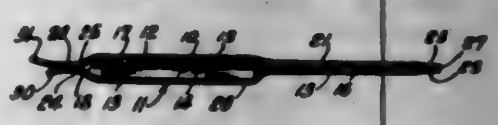


operatively connecting said pivot actuating means and said elevating mechanism for conjoint operation, said connecting means including means for pivoting said leaves to their fully open position before the said elevating mechanism becomes operative to raise said elevator and for retracting said elevator to a depressed position within said casing before said pivot actuating means becomes operative to pivot said leaves to their closed position, whereby angular movement of the sleeve relative to the casing causes the sequential operation of said pivot actuating means and said elevating mechanism relative to each other.

2,969,143
PRESSURE-SENSITIVE ADHESIVE TAPE
John M. De Bell, Longmeadow, Mass., assignor to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed May 17, 1956, Ser. No. 585,409
12 Claims. (Cl. 206—59)

2. A pressure-sensitive adhesive tape comprising as a film backing a chlorinated polymer selected from the group consisting of chlorinated polyethylene, chlorinated polypropylene, and chlorinated copolymers of ethylene and other unsaturated hydrocarbons polymerizable therewith, said chlorinated polymer containing from about 10 to about 55 weight percent chemically combined chlorine, and a pressure-sensitive adhesive material formed as a coating on one side of said film backing.

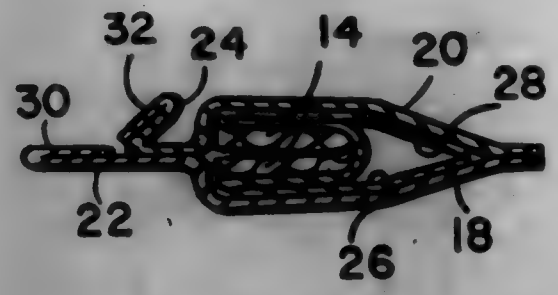
2,969,144
ADHESIVE BANDAGE
Eli A. Zackheim, South Plainfield, N.J., assignor to Johnson & Johnson, a corporation of New Jersey
Filed May 2, 1956, Ser. No. 582,173
18 Claims. (Cl. 206—63.2)



1. An adhesive bandage package unit comprising an adhesive bandage including an adhesive tape having a backing, a layer of pressure-sensitive adhesive on one surface thereof, and an absorbent pad attached to said surface between the ends thereof and shorter than the tape to leave projecting tape end sections beyond the ends of the pad, one of said tape end sections being folded back against the backing opposite the pad, where-

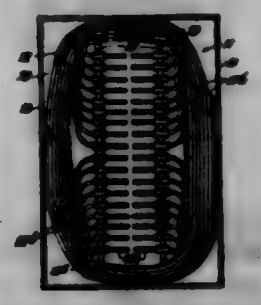
by the adhesive sides of the tape end sections will be on the outside of the folded adhesive tape, and a wrapper for said adhesive bandage having a section attached to the outside of the folded tape end section in face contact therewith by the adhesive layer thereon, and having another section attached to the outside of the other tape end section by the adhesive layer thereon, said wrapper sections being arranged to be pulled apart to cause the peeling of said wrapper sections from said tape end sections and the simultaneous withdrawal of the adhesive bandage from the wrapper.

2,969,145
PACKAGED ADHESIVE BANDAGE
George Hannauer, Jr., La Grange, Ill., assignor, by mesne assignments, to Johnson & Johnson, New Brunswick, N.J.
Filed May 7, 1956, Ser. No. 583,273
12 Claims. (Cl. 206—63.2)



1. A packaged adhesive bandage comprising an adhesive bandage and an envelope enclosing the same, said adhesive bandage consisting of a backing having a coating of tacky adhesive material applied on one side thereof and an absorbent dressing pad medially positioned on said adhesive surface and leaving said adhesive surface uncovered at each end of said backing, said envelope comprising a pair of opposing panels having smooth inner faces sealed together completely around and outside the edges of said bandage and provided with pull tabs at adjacent end portions, said bandage being folded transversely across the center of said pad with said backing folded around said pad, the ends of said backing being folded again reversely so that they extend in a direction opposite to that of the folded end portions of said pad and their adhesive coated surfaces face in opposite directions and directly contact opposing inner faces of the said panels of said envelope.

2,969,146
PACKAGING DEVICE AND METHOD OF MANUFACTURE
Henry E. Metz, Glenview, Ill., assignor to Baxter Laboratories, Inc., Morton Grove, Ill., a corporation of Delaware
Filed May 14, 1958, Ser. No. 735,225
5 Claims. (Cl. 206—65)



3. In a packaging device for blood collection sets each having a length of flexible tubing equipped at one end with a puncture needle, a generally rectangular outer carton, a plurality of tray-type inner members removably fitted in superposed relation within said carton, a pair of spaced-apart upstanding ribs on a flat surface of each of said members, said ribs being spaced inwardly of and parallel to one pair of sides of said member, said pair of ribs terminating a spaced distance short of the other pair of sides of said member, a plurality of equally spaced-apart needle protector-receiving recesses extending laterally through said ribs, a like plurality of parenteral tubing sets having needle protectors mounted in said recesses with the flexible tubing portions thereof coiled between said ribs and the sides of said member and between adjacent members, and means associated with each inner member for suspending same in a generally vertical plane.

2,969,147
GRAVITY CONCENTRATOR FOR METALLURGICAL MATERIALS
Howard P. Rock, Cisco, Utah, and Clyde S. Toone, 641 N. Redwood Road, Salt Lake City, Utah
Filed Sept. 12, 1956, Ser. No. 609,476
14 Claims. (Cl. 209—437)

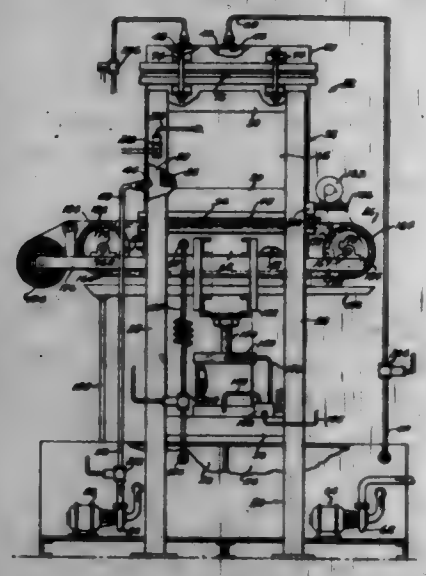


1. A gravity concentrator, comprising an elongate deck structure defining a flat and smooth deck surface arranged for traversal, longitudinally, by a liquid pulp containing solids to be concentrated, said deck surface having a feed end and a discharge end and sloping downwardly from said feed end to said discharge end so that the liquid pulp will flow thereover under the influence of gravity; means defining a longitudinal series of mutually spaced, transversely extending, attenuate, slit openings at said deck surface and extending through said deck structure, each of said slit openings having width at the deck surface within the range of approximately $^{3}/_{1000}$ to approximately $^{15}/_{1000}$ of an inch and having effectively increased width along its depth to prevent plugging, said slit openings being adapted to bleed off fine solid particles of high specific gravity that tend to descend to and hug said deck surface, said deck structure being largely imperforate and being free of obstructions so as to support and permit the unbroken flow thereover of the bulk of said pulp, and the thickness of said deck structure being considerably less than the distance between successive slit openings; and means below said deck structure for catching the concentrate that is bled off.

2,969,148
FILTER APPARATUS
Gene Hirs, 17208 Greenview Road, Detroit, Mich.
Filed Jan. 18, 1957, Ser. No. 634,962
4 Claims. (Cl. 210—108)

4. In a liquid filter apparatus, supporting means, a pair of separable sections including an upper section and a downwardly movable lower section forming a casing, one of said pair of sections having an inlet for liquid to be filtered and an outlet for the filtered liquid and the other of said pair of sections having an outlet for unfiltered liquid, a plurality of filter elements within said upper section and in communication with said outlet, said upper section having an air inlet, a normally open valve controlling said first outlet, a normally closed valve controlling said second outlet, a normally closed valve controlling said air inlet, foreign matter disposal means carried by said lower section and guided to pass between said sections to remove the foreign matter therefrom, power means operable to drive said disposal means, a control responsive to a predetermined increase in pres-

sure in said container to close said normally open valves and open said normally closed valves to effect the evacuation by air pressure of the unfiltered liquid within said container from said second outlet, a timer energized by said control responding to the increased pressure to close said air valve after a preselected interval, a power element operable to separate said sections and energized by said timer following the closing of said air valve, a control operable by the separation movement of said sections to energize said power means, and a second control actuated by and upon separation of said sections to render said pressure responsive control ineffective while the sections are separated.

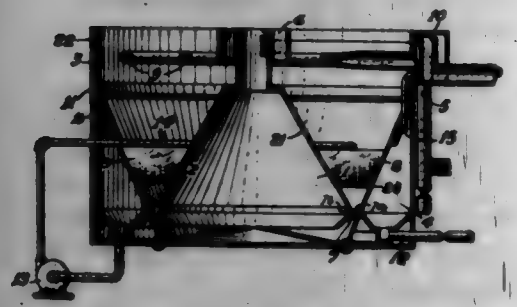


2,969,149

REACTOR FOR WATER PURIFICATION

Vladimír Mackrle, Svatopluk Mackrle, Igor Tesařík, and Vladimír Mičan, all of Brno, Czechoslovakia, assignors to Královopolská strojírna, Závody Chemických zařízení, národní podnik, Brno, Czechoslovakia

Filed May 19, 1958, Ser. No. 736,352
10 Claims. (Cl. 210—195)



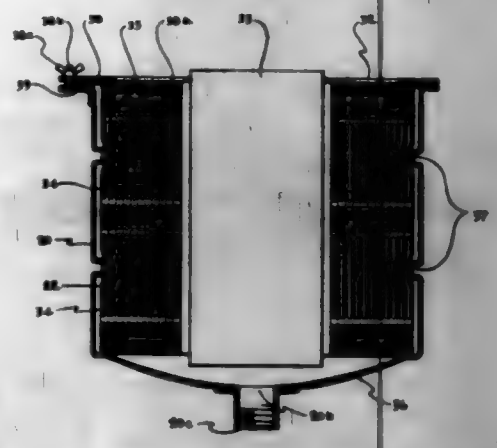
1. In a reactor for water purification by means of a suspended floc filter bed, in combination, a tank having an upper portion defining a settling zone; a first inclined wall in a lower portion of said tank, said wall having an upper edge portion closely adjacent said tank so as to form a sludge overflow passage therewith, and a lower portion spaced from said tank so as to define a sludge concentrating zone between said wall and said tank; a second inclined wall in said tank and extending into the lower portion of said tank separated from said concentrating zone by said first wall, said second inclined wall having a lower edge portion closely adjacent the lower portion of said first inclined wall to form a narrow gap therewith, said second inclined wall defining a precipitation zone in said tank for the precipitation of sludge-forming particles from raw water and chemicals and defining with said first inclined wall an upwardly flaring clarifying zone communicating with said precipitation zone through said gap only and communicating with said settling zone in said tank, said precipitation zone being separated from said settling zone by said second inclined wall; a conduit having an opening communicating with said overflow passage and another opening communicating with said sludge concentrating zone in a lower portion thereof for overflow of sludge from said clarifying zone to said lower portion of said concentrating zone; means for admitting raw water and chemicals to an upper portion of said precipitation zone for downward flow through said precipitation zone toward said gap; conduit means for withdrawing treated water from said settling zone; and conduit means for withdrawing sludge from the lower portion of said concentrating zone.

2,969,150

ARTIFICIAL KIDNEY SYSTEM

Cyrus R. Broman, Evanston, Ill., assignor to Baxter Laboratories, Inc., Morton Grove, Ill.

Filed Jan. 25, 1957, Ser. No. 636,269
5 Claims. (Cl. 210—321)



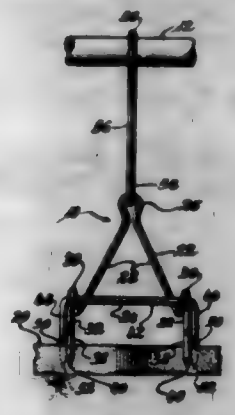
1. In an artificial kidney system, means for circulating a dialyzing liquid, a cylindrical receptacle for a coiled artificial kidney, said receptacle being operatively interconnected in said circulating means, said receptacle having an annular indentation intermediate its ends whereby said kidney is tightly but readily-removably received in said receptacle, and an annular ring cover mounted on said receptacle whereby said cover and said indentation co-operate to cause all dialyzing liquid to flow between the coils of said kidney along the entire length thereof.

2,969,151

BOOT HANGER

Stephen J. Krstulovich, 4407 S. Mozart St., Chicago, Ill.

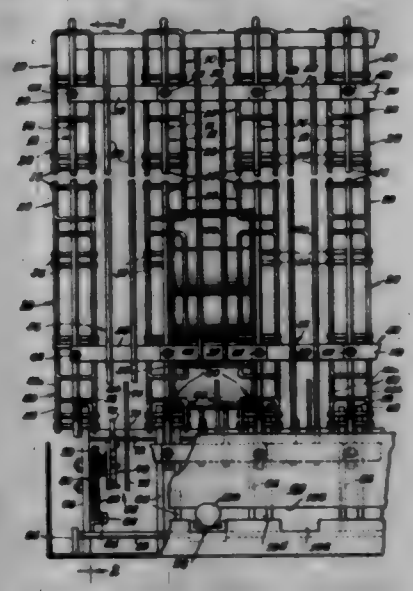
Filed Nov. 19, 1959, Ser. No. 854,195
7 Claims. (Cl. 211—34)



1. A boot hanger comprising a first bent wire member having a pair of pointed inwardly projecting legs at one end thereof and a pair of aligned loops intermediate the ends thereof, a hook member pivotally connected to the opposite end of said first wire member for suspending said hanger from a suitable support, and a second bent wire member having a pair of pointed inwardly projecting legs, portions of said second member being pivotally positioned through said loops, said wire members provid-

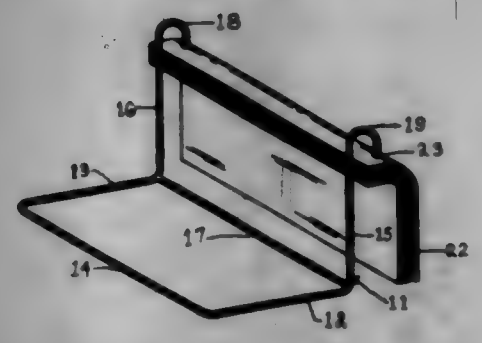
ing a four-pronged automatic grapple for gripping a boot heel or the like, said opposite end being positioned so that a boot being gripped by said grapple automatically hangs with its sole in a substantially horizontal plane.

2,969,152
AUTOMATIC DISPENSER FOR CANNED GOODS
Joseph B. Heanion, Niles, Mich., assignor to Tyler Refrigeration Corporation, Niles, Mich., a corporation of Michigan
Filed Oct. 2, 1957, Ser. No. 687,689
5 Claims. (Cl. 211—49)



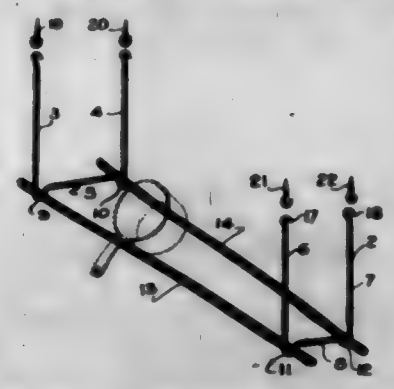
1. A storage and dispensing rack for canned goods comprising a plurality of spaced apart parallel wire frames each comprising a planar vertical median frame including a marginal wire having spaced apart vertical legs, and a continuous serpentine shaped wire having transverse runs extending between and inclined downwardly in alternate and opposite directions from said vertical legs and secured thereto at the portions of said runs adjacent said vertical legs of said marginal wire, and a plurality of track units formed of wire secured to said vertical legs of said marginal wire to extend inwardly of the latter between the portions of said serpentine shaped wire secured to said vertical legs of said marginal wire and having tracks at each side of said marginal wire generally paralleling said serpentine shaped wire above and below said runs of the same, whereby said tracks on adjacent sides of two of said wire frames define serpentine racks for supporting the opposite ends of cans and said serpentine shaped wires of said two wire frames serve to prevent lateral movement of cans off of said tracks.

2,969,153
SEGREGATOR
Howard Leon, Hartshorne Road, Locust, N.J.
Filed June 26, 1959, Ser. No. 823,198
2 Claims. (Cl. 211—49)



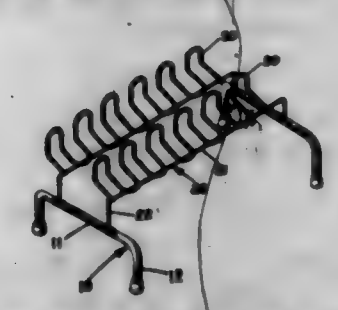
1. A segregator comprising a base, a generally vertical rod attached to the base, an arcuate end on the top of the rod, a retainer attached to the arcuate end, a flexible, moisure resistant sheet slidably mounted on the rod, the end of the rod disposed at a distance above the base to suspend at least a portion of the sheet from the retainer.

2,969,154
POT RACK
Joseph Edward Alfred Pelletier, Lewisville, New Brunswick, Canada (244 West Lane, Moncton, New Brunswick, Canada)
Filed Oct. 16, 1959, Ser. No. 846,849
3 Claims. (Cl. 211—71)



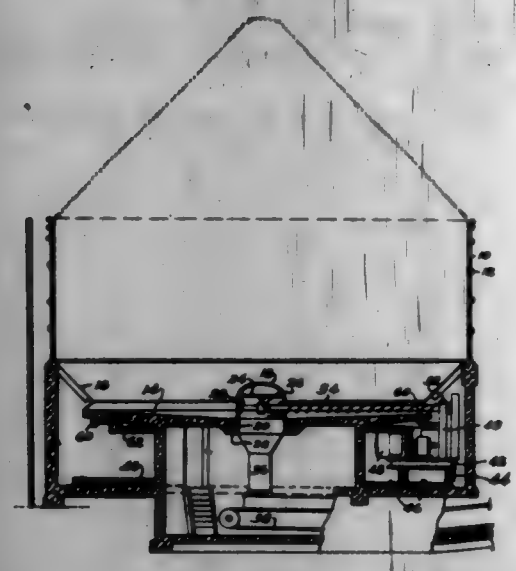
1. A rack for pots and pans comprising a pair of spaced hangers adapted to be suspended from a support, said hangers having parallel cross bars with the cross bar of one hanger being of greater length than the cross bar of the other hanger, the ends of said cross bars being off-set downwardly to define grooves and rods extending between said hangers disposed in the grooves of said cross bars.

2,969,155
LOCKING JOINT FOR RACKS
Truman L. Atkinson, Ludington, Mich., assignor to Atkinson Manufacturing Company, Ludington, Mich., a corporation of Michigan
Filed June 2, 1958, Ser. No. 739,215
5 Claims. (Cl. 211—177)



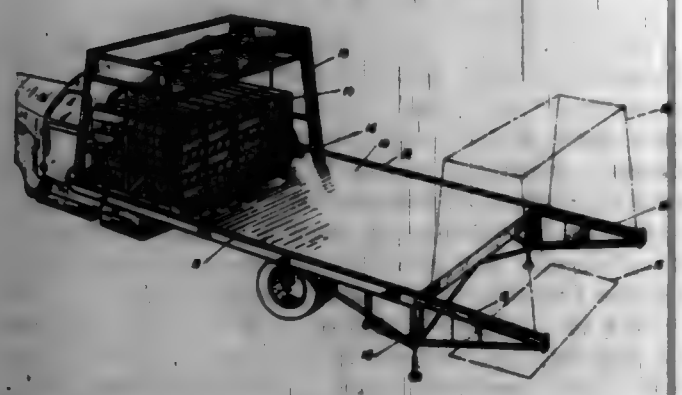
4. In a rack having a pair of standards and an article supporting bar, the improvement comprising: each of said standards having spaced generally parallel walls; said bar having a body portion and each of its ends bent over upon itself to form generally U-shaped hooks, the legs of said U being biased into a substantially divergent position; said walls of said standards each having an elongated opening therein of a width to slidably receive one of said hooks and of a length less than the spacing of the free end of one of said hooks from the body portion of said bar, said openings in each of said standards being aligned; one of said hooks being received through both of said openings in one of said standards, the other of said hooks being received through both of said openings in the other of said standards, the end of one of said openings in each of said standards compressively holding the respective hooks against said bias; the free end of each of said hooks being notched to receive an end of each of said one openings; said body portions of said hooks being pressed against the other end of each of said one openings and against the aligned ends of the other of said openings in each of said standards for detachably and firmly securing said bar to said standards.

2,969,156
UNLOADER FOR CIRCULAR SILOS
Henry C. L. Miller, Richmond, Va., and Joel H. Watkins, Bay City, Mich.; said Watkins assignor to Miller Hoist, Inc., Richmond, Va., a corporation of Delaware
Filed May 9, 1956, Ser. No. 583,798
2 Claims. (Cl. 214—17)



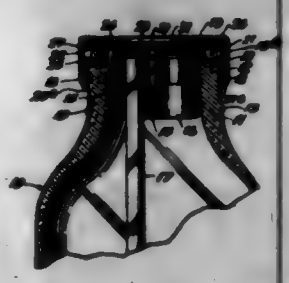
1. Apparatus for unloading a bin which is generally concentric about a vertical axis comprising a radially directed screw conveyor adjacent the bottom of the bin, a carriage mounted on a track adjacent the periphery of the bin, a motor mounted on said carriage, bearings mounted on said carriage to receive and guide the outer end of said conveyor, means mounted on said carriage for driving the same around said track, means connecting said motor to said conveyor for rotating the same about its axis and means connecting said motor to said driving means for driving said carriage around said track, said last named means including an adjustable eccentric on the shaft of said conveyor, a spring relieved connecting rod having one end connected to the throw of said eccentric and means at the other end of said connecting rod for actuating said drive.

2,969,157
TRACKS FOR LOADING AND UNLOADING TRUCKS
Frank E. Panes, Box 507 John St., Cooksville, Ontario, Canada
Filed Feb. 12, 1958, Ser. No. 714,777
1 Claim. (Cl. 214—75)



In a truck having a load carrying platform, a pair of fixed tracks secured along opposite edges of the platform and a pair of extension tracks, means for detachably mounting each track on the rear end of said platform as an extension of one of said fixed tracks, said means comprising a substantially long mounting bracket having its upper end fastened to the rear end of the platform in vertical alignment with one of said fixed tracks, a support truss connecting the lower end of the mounting bracket to said platform at load carrying positions, each extension track comprising a horizontal track forming member, a substantially long coupling bracket member having one end permanently secured to one end of said track-forming member, a load carrying strut interconnecting the other ends of said coupling bracket and track-forming members, said mounting bracket and coupling bracket having complemental inter-engaging parts whereby said track can be mounted on the rear of said platform.

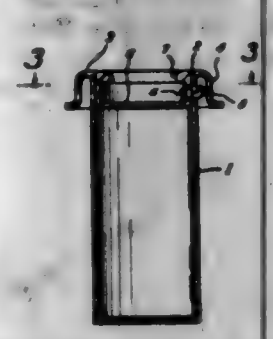
2,969,158
PARENTERAL SOLUTION EQUIPMENT
Karl E. Baumann, Mount Prospect, Ill., assignor to Baxter Laboratories, Inc., Morton Grove, Ill., a corporation of Delaware
Filed Mar. 2, 1959, Ser. No. 796,366
9 Claims. (Cl. 215—37)



1. In a closure for a parenteral solution bottle having its interior under a pressure of less than atmospheric and equipped with a neck, a resilient plug mounted in the bottle neck and closing the same, said plug having a pair of passages extending therethrough communicating the bottle interior with the atmosphere, said plug having an annular flange adjacent its outer end overlying the bottle top, said plug having an integral circular rib on its outer end about said passages to provide a central depressed portion, a resilient disc overlying said outer end of said plug, a rigid, cup-shaped cap anchored to said bottle neck and overlying said disc, said cap comprising a pair of nested cup-shaped members, each of the members being equipped with a central aperture in the cup face, a rigid disc interposed between said members and closing said apertures, said rigid disc having a centrally depressed portion aligned with the plug depressed portion.

2,969,159
WITHDRAWN

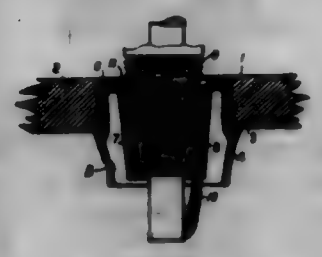
2,969,160
VIAL
Eugene P. Delk, Jr., Bellaire, Tex. (4603 Oleander, Houston 101, Tex.)
Filed Dec. 22, 1958, Ser. No. 781,965
3 Claims. (Cl. 215—41)



1. In a vial, a cylindrical plastic body being closed at one end and being open at the opposing end, transverse ports through the side walls of said cylinder adjacent the open end thereof, a cap to be mounted on the open end of said cylinder having an outwardly and downwardly extending outer flange and a downwardly extending inner

flange, outwardly projecting members on said inner flange adapted to be mounted in said ports, and a yieldable bead on said inner flange.

2,969,161
BUNG FOR BEER BARRELS AND THE LIKE
Robert Givens McCulloch, Blakehurst, near Sydney, New South Wales, Australia, assignor to Ceeco Products Pty. Limited, Belmore, New South Wales, a corporation of Australia
Filed Mar. 24, 1958, Ser. No. 723,240
1 Claim. (Cl. 217—106)



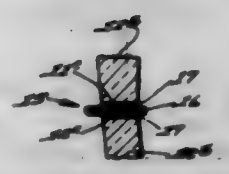
A semi-flexible plastic bung for a barrel having a bung hole therein, said bung comprising a tapered cylindrical body having an external shoulder thereon, an inwardly tapered entry portion extending downwardly from said shoulder, said shoulder adapted to engage the inner edge of the barrel around the bung hole when said bung is inserted therein, an inset flange on the outer end of said body, a connector tube integral with said inset flange and depending therefrom, said tube tapered inwardly and spaced from the wall of said body, said inset flange having a recessed step adjacent the upper end of said connector tube, a removable outer sealing disc fitted within said recessed step to prevent entry of foreign matter into said connector tube, a partially fracturable cap secured to the inner end of said connector tube and normally sealing in the contents of the barrel, whereby upon removal of said outer disc and insertion of a tap fitting through said connector tube against said cap, the latter will partially break away from said tube to an extent sufficient to permit passage of said fitting into the interior of said barrel for dispensing the contents thereof.

2,969,162
MOLDED PICTURE TUBE
William A. Stutzke, Toledo, Ohio, assignor to Kimble Glass Company, a corporation of Ohio
Filed Apr. 22, 1957, Ser. No. 654,106
6 Claims. (Cl. 220—2.1)



1. A wide-angle television picture tube envelope comprising a substantially funnel-shaped hollow glass body consisting essentially of funnel and flanged face plate members, the large end of said funnel being approximately rectangular in shape and having said flanged face plate sealed thereto, said funnel having flared sidewalls extending between its ends, said sidewalls being bowed outwardly between said ends, said funnel sidewalls having strengthening ribs formed therein extending radially between said ends, said ribs being essentially equi-spaced about the envelope axis and trough-shaped in cross-section with their outer surfaces convex and their inner surfaces concave, said inner surfaces being depressed below the plane of adjoining surface portions of said sidewalls, the said funnel sidewalls and strengthening ribs having substantially equal thickness throughout their cross-sectional areas, and at least one integral annular rib disposed contiguous with a terminating region of said funnel uniting the ends of said radial ribs in a common plane normal to the envelope axis.

2,969,163
CATHODE-RAY TUBE ENVELOPE
Theron W. Roberts, Toledo, Ohio, assignor to Owens-Illinois Glass Company, a corporation of Ohio
Filed Aug. 9, 1957, Ser. No. 677,381
3 Claims. (Cl. 220—2.3)



1. A cathode-ray tube envelope comprising essentially two hollow glass parts consisting of face plate and funnel members, said glass parts having complementary annular substantially planar sealing surfaces disposed in juxtaposed relation facing one another, a unitary annular metallic ring member having a flattened U-shaped cross-section disposed between and complementary to the contour of the sealing surfaces of said glass parts, said ring member comprising a folded twin-ply annular band of metallic alloy having at least slightly greater width than said glass sealing surfaces, each ply of said band having a uniform thickness of about 0.005 inch and a thermal contraction coefficient in substantial agreement with said glass parts, and at least two continuous annular layers of low-melting initially-vitreous sealant interposed between the opposing glass and metallic sealing surfaces in thermally fused relation.

2,969,164
INSULATED CONTAINER
Willard L. Morrison, Lake Forest, Ill., assignor, by mesne assignments, to Liquefreeze Company, Inc., New York, N.Y., a corporation of New York
Filed Nov. 21, 1958, Ser. No. 775,506
5 Claims. (Cl. 220—9)



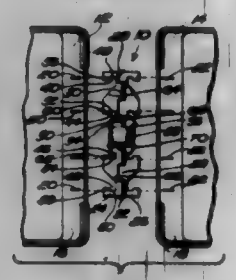
1. In an insulated container, a plurality of walls defining a self-supporting, generally rigid housing, a self-supporting, generally rigid liner floating therein, the walls of liner and housing being spaced apart, a plurality of generally rigid self-supporting, insulating panels loosely contained within and of lesser thickness than the space between the walls of housing and liner, a mass of freely flowing granular material loosely and flowably filling the clearances between the panels and between them and the liner and housing walls.

2,969,165

HINGE AND BOX ASSEMBLY

Helmut Augenstein, Warwick, R.I., assignor to Jewel Case Corporation, Providence, R.I., a corporation of Rhode Island

Filed Feb. 16, 1959, Ser. No. 793,571
4 Claims. (Cl. 220—35)



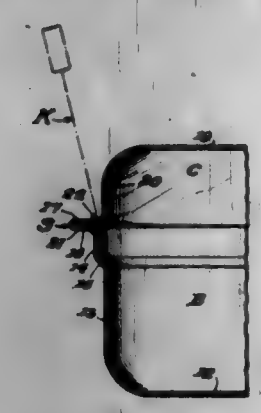
1. In a box having top and bottom halves to be hingedly interconnected, at least one of said box halves having one wall thereof formed with outstanding prongs, a hinge comprising a pair of hinge plates, means pivotally connecting the hinge plates to each other at juxtaposed edges, at least one of said hinge plates having slot formations therein for receiving said prongs, said slot formations extending transversely of the respective hinge plate and opening out at the side edge thereof remote from said juxtaposed edges, said slot formations each having an edge over which a prong is adapted to be bent to connect the hinge plate to its respective box half, the edges over which the prongs are bent terminating in prong-retaining shoulders at said side edge of the respective hinge plate, and said slot formations having further edges extending substantially away from the first mentioned slot formation edges.

2,969,166

RECLOSABLE CONTAINER

John Henchert, River Forest, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York

Filed Mar. 7, 1958, Ser. No. 719,839
4 Claims. (Cl. 220—48)



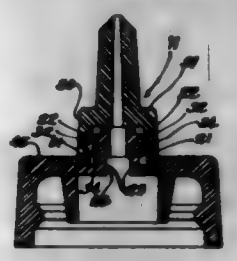
1. A reclosable container comprising a body having a bottom and a continuous side wall, an upper end portion of said side wall being outwardly offset to provide said side wall with a continuous internal upwardly facing shoulder and an upper offset side wall portion disposed outwardly of said shoulder, a cover having a top wall and a depending skirt, a projection of said skirt intersecting said shoulder, and a seam between said offset side wall portion and said skirt, said seam being disposed outwardly of said skirt and said skirt terminating below said top wall, whereby when said cover is severed from said body adjacent said seam, said cover may be partially telescoped into said body with said skirt engaging and forming a seal with said shoulder.

2,969,167

COMBINED CLOSURE AND SPOUT FOR A FLUID DISPENSING RECEPTACLE

Sidney M. Libit, 404 Woodlawn Ave., Glencoe, Ill.

Filed Apr. 17, 1957, Ser. No. 653,309
7 Claims. (Cl. 222—512)



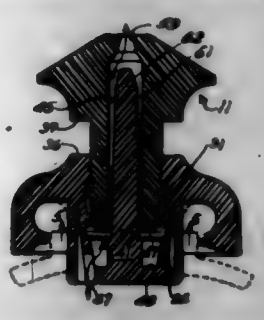
4. A two-part valve and pouring device for dispensing fluent material from a receptacle comprising: a fixed part having a portion for incorporating the device with the receptacle and an outer surface; a recess transversely of said surface having a horizontal floor and vertical side walls; a male dovetail element upstanding from said floor; a movable part adapted for shifting translationally relative to said fixed part, said movable part having depending lateral walls positioned on opposite sides of said dovetail element and ribs interengaged with said element to enable said shifting movement, said lateral walls being contiguous to said side walls of the recess to prevent deflection of said lateral walls; said element and base having respective surfaces contiguous in all operative positions of said parts to provide a fluid-sealing plane therebetween; said fixed part having a passage from the exterior thereof to said plane; said movable part having a passage extending from said plane to the exterior thereof; said passages being adapted to be brought into and out of register at said plane corresponding to "on" and "off" positions of the device.

2,969,168

DISPENSING CLOSURES

Arthur Wesley Newby, Park Ridge, Ill., assignor to U.S. Cap & Closure Inc., Chicago, Ill., a corporation of Illinois

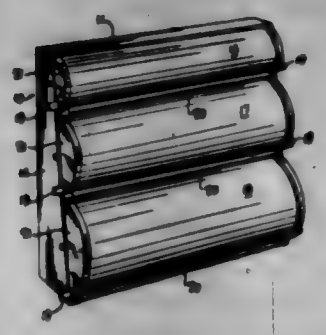
Filed Apr. 21, 1958, Ser. No. 729,580
1 Claim. (Cl. 222—525)



A combined dispensing and valve device for a receptacle for fluent material comprising: a fixed part having a portion for attaching the device to opening-defining means forming part of the receptacle for flow therethrough, said fixed part including means defining a bore open at the outer end of the device and an end wall at the inner end of said bore, said wall having at least one aperture therethrough for flow of the material from the receptacle into the bore, a stem snugly fitting said bore for frictional, axial movement therein between dispensing and non-dispensing positions, means mutual to said fixed part and stem for limiting the stroke of said stem to dispensing position, said stem having a portion obturating said aperture when the stem is moved to non-dispensing position constituting a first seal to interrupt flow through the device, said stem having a passage therethrough adapted to provide fluid communication between

said aperture and the exterior of the device when said stem is moved to dispensing position, a closure member for said stem passage upstanding from said end wall through said passage, said closure member being of generally cylindrical configuration with an enlarged portion adjacent said end wall for plug-type engagement with a complementary portion of the inner end of the stem passage to constitute a second seal against flow and a distal end for plug type engagement with the outer end of the stem passage to constitute a third seal against flow, both said enlarged portion and distal end engaging the stem passage substantially simultaneously upon movement of the stem to non-dispensing position.

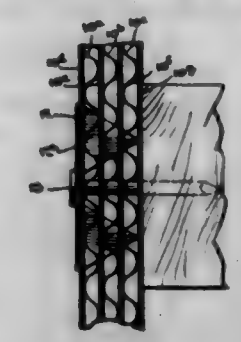
2,969,169
DISPENSER CABINET
Irlin Botnick, Cleveland, Ohio, assignor to The Kromex Corporation, Cleveland, Ohio
Filed Feb. 9, 1959, Ser. No. 792,186
1 Claim. (Cl. 225—43)



A cabinet for dispensing sheet materials packaged in web form on tubular rollers, comprising in combination, a housing open to the front, having top, bottom, rear, and end walls; each of the end walls being substantially right-triangular in shape with the hypotenuse forming the front edge thereof; a semi-cylindrical front wall, defining a cover having end caps, journaled between the end walls on separate shafts mounted at the forward edges thereof; the cover having a laterally extending finger tab and a longitudinally extending cutter positioned normal to its lower edge between the end caps; the said shafts being of unequal length and having freely rotatable roller engaging knobs mounted thereon, the knob on the longer shaft being movable longitudinally thereof and normally biased toward the inner end thereof by a helical spring positioned over the shaft between the knob and end cap and bearing against both; the said knobs being adapted to receive and hold the web roller therebetween, in spring pressed engagement; the cover and associated roller supporting knobs being rotatable between a first, closed, position wherein the finger tab rests against the end wall below the center of rotation of the cover and the cutter is engaged with the web to effect severence thereof along the line of engagement upon lifting the web upward thereagainst, and a second, open, position, wherein the finger tab rests against the end wall above the center of rotation of the cover, after the cover and spring coupled roller supporting knobs have been rotated in a counter clock-wise direction to deliver the end of the web through the housing openings, within easy grasp of the user.

2,969,170
COMBINED WOOD AND CORRUGATED PAPER BOARD STRUCTURES
Edmund H. Waldorf, Farmingdale, N.Y., assignor to Tri-Wall Containers, Inc., New York, N.Y., a corporation of New York
Filed Sept. 4, 1957, Ser. No. 681,991
5 Claims. (Cl. 229—23)

3. A combined corrugated-board and wood structure comprising a box having corrugated board sides having three interconnected walls having an inner liner and an outer liner, a wood piece to block an article within said box, the ends of said wood piece engaging the inner liners of said sides, cleats fastening said wood piece to said sides, said cleat having a plate portion lying against the outer liner of said sides and a plurality of prongs integral



with said plate portion and projecting therefrom, said prongs penetrating into said sides and being embedded in at least two walls thereof, said plate being provided with holes having nails inserted in said holes extending into said wood piece connecting said sides to said wood piece.

2,969,171
BLOWER OR COMPRESSOR OF THE MULTI-CELL CONSTRUCTION
Herbert Josef Venediger, 1 Heinrich-Heine-Strasse, Furth, Bavaria, Germany
Filed Mar. 18, 1959, Ser. No. 800,347
1 Claim. (Cl. 230—152)

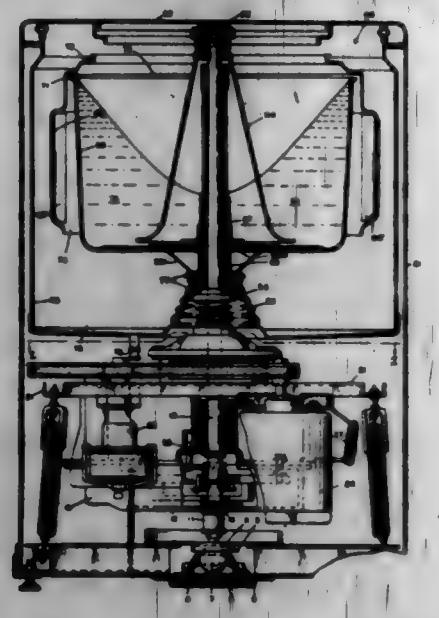


A rotary blower comprising, a cylinder having a peripheral wall and end walls, the peripheral wall being formed with inlet and outlet openings at opposite sides and the end walls being provided with aligned bearings on an axis eccentric to the axis of said peripheral wall, an annular recess in the inner face of said peripheral wall near each end, a bearing ring floating in each such recess with its inner face co-planar with the inner face of the peripheral wall of said cylinder, a rotor mounted in said bearings and extending between the opposite end walls, a plurality of equally-spaced radial grooves in said rotor extending from end to end, each said radial groove running through a radial hole near each end, a vane slidably mounted in each said radial groove and having a transverse cylindrical formation near each end to fill the respective radial hole, said cylindrical formations having their outer extremities bearing on the inner face of that bearing ring which is at the same end of the cylinder, said vanes defining pumping chambers between them as the rotor moves them past said inlet and outlet openings with the outer face of the rotor osculating the inner face of the peripheral wall and with the outer extremities of said cylindrical formations on the vanes extending above the outer edges of the vanes.

2,969,172
CLOTHES WASHING MACHINE
Percy Harold Hutt, Toronto, Ontario, Canada, assignor to The Easy Washing Machine Company, Limited
Filed May 16, 1956, Ser. No. 585,280
5 Claims. (Cl. 233—24)

5. In a clothes washing machine, a tub assembly axially mounted on an upright drive shaft assembly, a motor and

drive mechanism for driving said shaft assembly and a pump for evacuating liquid introduced into said tub assembly, said drive shaft assembly being supported from its lower end by an axially non-yieldable thrust bearing providing for free hunting movement of said lower shaft end over a limited area on tub rotation, means for resiliently holding said shaft assembly in the upright position comprising a support frame having a centrally disposed journal through which said shaft assembly extends intermediately of its height, said support frame having said motor, drive mechanism and pump mounted thereon in fixed relative relation so disposed and arranged on opposite sides of said drive shaft assembly to locate the center of gravity of said support frame and the members carried thereby substantially coincident with the axis of said shaft assembly, and spring means acting on said support frame on opposite sides of and at points remote from said shaft assembly to provide a balanced downward pull on said frame around said shaft assembly, a clutch mechanism for driving said tub assembly in rotation from said drive mechanism, a common belt drive for driving said drive mechanism pump and clutch from said motor and means for simultaneously tensioning said belt drive element and increasing pump driving and clutch driving belt contact.

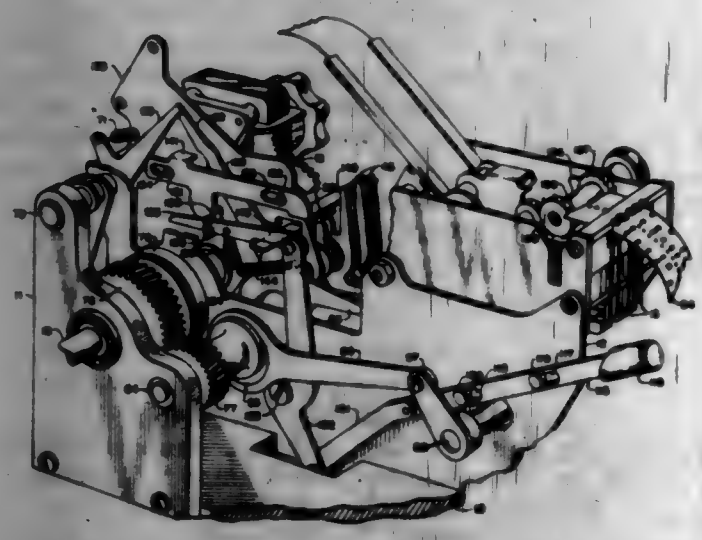


2,969,173

NON-INTERFERING TAPE FEED OUT FOR TELEGRAPH REPERFORATOR

Paul R. Schmitz, Elmhurst, Ill., assignor to Teletype Corporation, Chicago, Ill., a corporation of Delaware

Filed Apr. 29, 1958, Ser. No. 731,742
8 Claims. (Cl. 234—22)



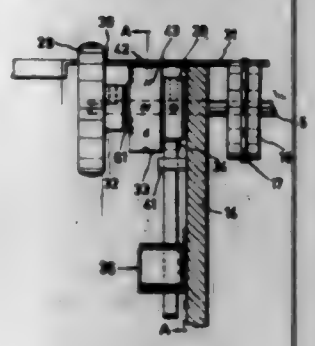
6. In a printing telegraph signal controlled tape reperforator having permutatively settable punch enabling means, tape feeding means for feeding the tape step by step through the reperforator, a trip lever for activating said feeding means, signal responsive selector means for actuating said trip lever upon receipt therein of a signal, means operable independently of incoming signals for activating said trip lever, said independently operable means including a manually operable lever, a pawl for actuation by said lever and a slide engageable and operable by said pawl for setting said punch enabling means and for operating said trip lever, and means actuated by said selector means for disengaging said pawl from said slide to render ineffective said independently operable means.

2,969,174

ERROR CODE INDICATIONS PROVIDING DEVICES FOR USE IN TAPE PUNCHES

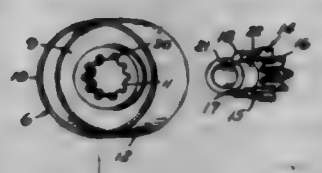
Thure Bernhard Bogert, Malmo, Sweden, assignor to Aktiebolaget Addo, Malmo, Sweden, a corporation of Sweden

Filed Mar. 2, 1959, Ser. No. 796,347
Claims priority, application Sweden Mar. 3, 1958
3 Claims. (Cl. 234—124)



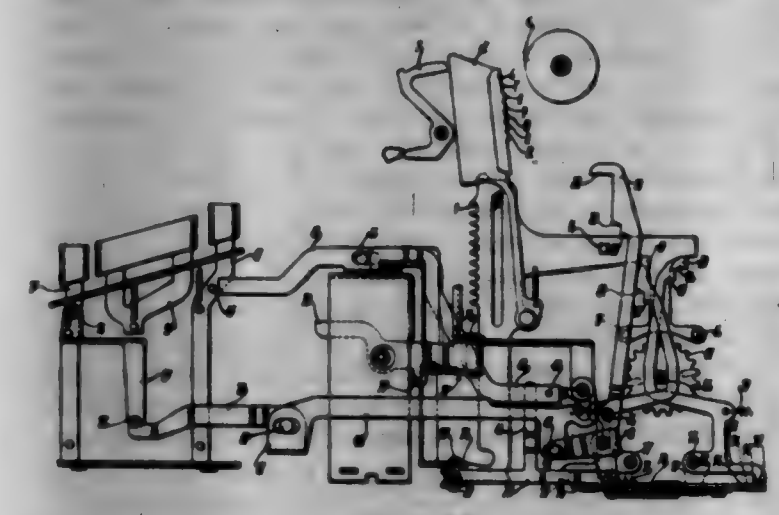
1. In a tape punch having electric drive means driving, when energized, the tape punch through consecutive operating cycles, a tape feed wheel indexed in one direction a fraction of a revolution during each operating cycle of the tape punch and engaging a tape for feeding the tape lengthwise in a feed direction one step during each operating cycle of the tape punch, punch means for punching an error code indication in the tape, and electric control means for enabling said punch means, a device for controlling the tape punch when punching the tape with error indications, comprising abutment means, friction clutch means connecting said abutment means with the tape feed wheel, normally closed switch means operable by means of said abutment means, said friction clutch means tending to move said abutment means into engagement with and to hold said abutment means in engagement with said switch means during the indexing of the tape feed wheel in the tape feed direction to hold said switch means in an open condition, adjusting means connected with the feed wheel for moving the feed wheel and the tape in the return direction, i.e. opposite the feed direction, and thereby moving said abutment means via said friction clutch means out of engagement with said switch means in order to close said switch means, manually operable switch means, and electric circuit means interconnecting said manually operable switch means, said switch means operable by said abutment means, the electric control means for enabling the punch means, and the drive means so that an error code indication is made in the tape by the punch means only when both said manually operable switch means and said switch means operable by said abutment means are closed.

2,969,175
COUNTER WHEEL
Harvey N. Bliss, Windsor, Conn., assignor to Veeder-Root Incorporated, Hartford, Conn., a corporation of Connecticut
Filed June 27, 1957, Ser. No. 668,369
3 Claims. (Cl. 235—1)



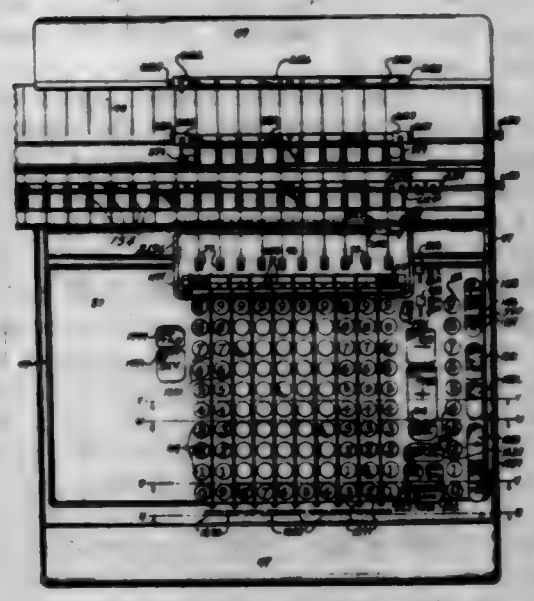
1. A number wheel comprising a drum having a central splined aperture and a single unitary hub and gear assembly comprising a piece of gear stock having one end forming the driven gear of the wheel, an intermediate portion of reduced tooth length seated in the splined aperture of the drum and at its other end having all but a small segment of the gear removed to form a locking ring and a driving gear segment of greater tooth length than the intermediate portion, said drum having a portion of the splined aperture enlarged to permit axial passage of the driving gear segment therethrough during assembly of the drum on the hub.

2,969,176
SIGNAL PRINTING MECHANISM
Walter A. Anderson, Trumbull, Conn., assignor to Underwood Corporation, New York, N.Y., a corporation of Delaware
Filed Dec. 14, 1956, Ser. No. 628,268
11 Claims. (Cl. 235—60.18)



11. In an adding machine of the class described having function selecting means, a register engageable with actuator rack means in opposite motion-receiving relations for running respectively negative and positive totals out of such register, a signal printing type bar movable to different positions for presentation of different signal types opposite a printing line, two stop members associated with said type bar, each stop member having at least two stop shoulders thereon and being movable from an inoperative position to a plurality of select positions wherein different of said shoulders are selected to limit movement of said type bar to distinct signal printing positions, resilient means responsive respectively to the establishment of said register in said opposite motion-receiving relations, to bias respectively one or the other of said stop members from its inoperative position toward select positions and means subject to differential control by said function selecting means to control said stop members for movement by said resilient means to different of its select positions.

2,969,177
PARTIAL PRODUCT CALCULATING MACHINE
William S. Gubelmann, Convent, N.J., assignor to Realty and Industrial Corporation, Convent, N.J., a corporation of New Jersey
Filed Nov. 6, 1950, Ser. No. 194,273
84 Claims. (Cl. 235—63)



22. In a calculating machine having a multi-order product register, selection devices for setting up multi-digit multiplicands; selection devices for successively setting up multiplier digits; multiplying computing mechanism comprising partial product elements arranged in denominational orders and formed with tens and units partial products stations, positioning means movably responsive to said selection devices for selecting and positioning selected elements to set up the stations thereon representative of the partial product of a selected multi-digit multiplicand and a selected multiplier digit, tens and units sensing means in each order movable into contact with the set-up stations of that order and arrested thereby, integrating means in each order connected with the units sensing means of that order and the tens sensing means of the adjacent lower order for moving accumulatively with the connectedly related said sensing means, longitudinally spring biased product transfer means in each order engageable with a said register order for operating said register order upon longitudinal movement of said transfer means and slip-jointedly connected with said integrating means, tens carry linkage means mounted on each said transfer means and connected with said integrating means for releasably constraining said transfer means to move with said integrating means, said carry linkage means in each order being actuated by the register order of the adjacent lower order upon rotation of that lower order through tens carry position for releasing said transfer means to advance relative to said integrating means during its said longitudinal movement, whereby a said transfer means actuates the engaged register order to indicate the sum of the value of the units station of that order and of the tens station of the adjacent lower order and of any tens carry in that adjacent lower order.

70. In a calculating machine, first and second factor entry means; a journaled shaft; an ordinal set of partial product plates pivoted on said shaft, each plate comprising representations of the product of a first factor times second factors; a bail carrier comprising a pair of spaced lever means secured to said shaft, and a rod carried by said pair of lever means for angular movement about the axis of said shaft; bail means pivoted on said rod and variably rockable in either of opposite directions from an intermediate neutral position by said first factor entry means for at each direction and extent selecting an individual product plate corresponding to said first

factor, said bail means engaging and moving the selected plate upon movement of said bail carrier; and plate moving means connected with said bail carrier and controlled by said second factor entry means for moving said bail carrier different extents in either one of opposite directions from an intermediate rest position according to the entered second factor for pivotally moving the selected plate to a computation serving position, at which the product representations thereon corresponding to the entered factors are set up.

78. In a calculating machine comprising an ordinally shiftable multiorder register and first and second factor entry means; ordinal sets of selectable and individually movable partial product plates, each plate comprising differential tens and units partial product stop portions; positioning means movable responsive to said first and second factor entry means for respectively selecting a plate in each order and positioning said selected plates to set-up the stop portions thereon representing the partial products of the entered first and second factors; tens and units sensing means in each order, each movable from rest position toward the related product plate until stopped by the related set-up stop portion thereon, the extent of movement of a sensing means corresponding to the value of said related set-up stop portion; integrating means in each order connected with the units sensing means of that order and the tens sensing means of the adjacent lower order and controlled thereby for movement to an extent corresponding to the combined extents of movement of the sensing means connected thereto; carrier means comprising a journaled transverse shaft, a pair of spaced lever means secured to said shaft, and rod means between said pair of lever means and secured thereto; gear means in each order rotatably supported on said rod means and engageable with said register upon angular movement of said carrier about the axis of said shaft; rack means in each order pivotally connected at a first end thereof with said integrating means of corresponding order for translation thereby and for angular adjustment about said pivotal connection, each said rack means being formed at a second end thereof with oppositely oriented first and second racks, said first rack normally engaging said gear means of corresponding order, said first rack being disengageable from its related gear means and said second rack being engageable therewith upon angular movement of said rack means, whereby when said first rack is engaged with said gear means, said translation of said rack means rotates said gear means in one direction for operating the engaged register order to indicate the sum of the sensed values, and when said second rack is engaged with said gear means, said translation of said rack means rotates said gear means in the opposite direction for operating the engaged register order to indicate the complement of the sum of the sensed values, a said rack remaining at least partially engaged with said gear until the other rack engages the gear upon angular adjustment of said rack means.

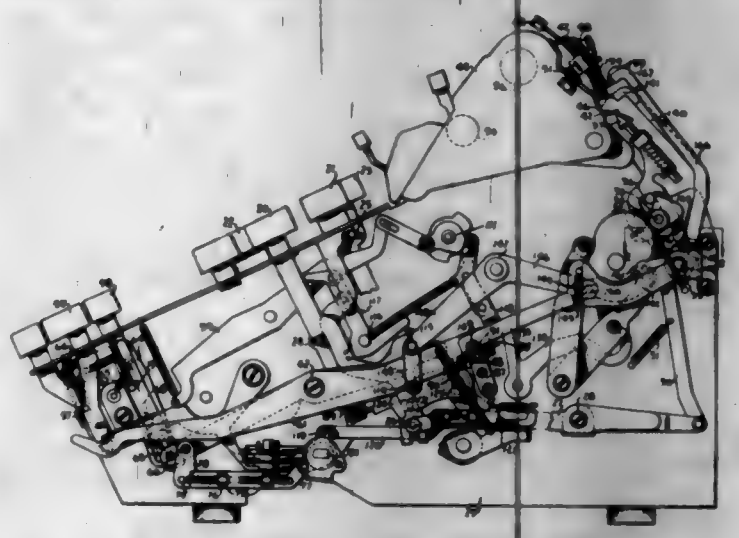
2,969,178

AUTOMATIC CARRIAGE SHIFTING MECHANISM FOR A CALCULATING MACHINE

Robert W. Starr, Danville, Calif., assignor to Friden, Inc., a corporation of California

Filed May 18, 1956, Ser. No. 585,900
9 Claims. (Cl. 235—63)

1. In a calculating machine having a selection mechanism, a shiftable carriage, a shifting mechanism for ordinally shifting said carriage in either direction relative to said selection mechanism, means operable to terminate operation of said shifting mechanism, means controlled by said carriage in either end position thereof for effecting operation of said terminating means, a plurality of settable tabulator keys mounted in said carriage each representative of an ordinal position of said carriage relative to the selection mechanism and operable in set position to effect operation of said terminating means upon movement of said carriage into the position corresponding thereto, means positionable selectively in either direction from a neutral position to effect operation of said shifting mechanism to move said carriage to the left or right, a latch for retaining said positionable means in a neutral position, adjustable means for controlling the positioning of said positionable means and normally operable to move said last-mentioned means for a left carriage shift operation upon release of said latch means, a control key, control means rendered operable by said key for releasing said latch means, and means normally operable by said control means to adjust said adjustable means for



a right shift operation, means for determining the effective operation of said adjusting means comprising a sensing member, a resilient means rendered operable by said control means for controlling the operation of said sensing member, means operable by said resilient means upon operation of said sensing member to lock said adjustable means in its normal position, and a blocking member associated with each of said tabulator keys normally effective to block operation of said sensing member, each of said keys being operable upon setting thereof to move the associated blocking member and the blocking members associated with the adjacent higher order keys out of blocking relation with the said sensing member to thereby enable operation of said sensing member and said locking means when said carriage is in a position to the right of that corresponding to the set tabulator key.

2,969,179

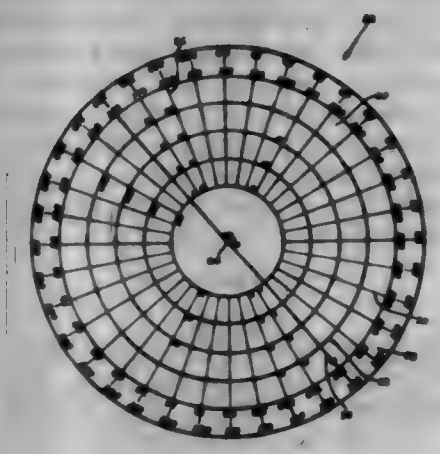
INTERCEPT COURSE CALCULATOR

Dominick J. Capuano, Plainview, N.Y., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Nov. 15, 1957, Ser. No. 696,891
4 Claims. (Cl. 235—78)

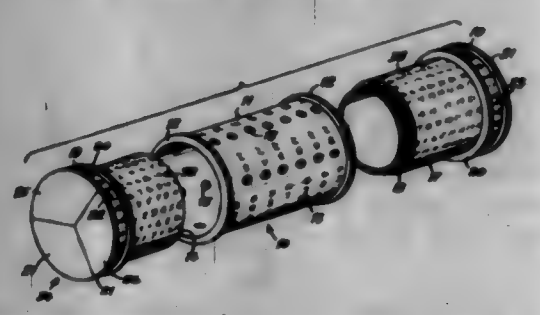
1. A calculator for supplying the intercept course bearing to be taken by an interceptor vehicle in order to intercept a target vehicle by the shortest possible path comprising, in combination, a disc and a ring encircling said disc, said disc and ring being rotatable relative to one another, said disc bearing concentric circles each marked with a different predetermined target speed, said disc further bearing radial lines at equal angular spacings, the angular values being marked along one periphery of said ring and a second set of identical angular values displaced 180 degrees from the first set being marked along the other periphery of said ring, the zero degree radial line on said disc being identifiably marked and the intersections of said radial lines and said concentric circles being marked with precalculated angular values indicating the angle be-

tween the line connecting the present positions of the target and interceptor vehicles and the locus representing the shortest possible intercept course as determined from



the equation relating said angle with the speeds of the target and interceptor vehicles and the angle between the target course and the line connecting the present target and interceptor positions.

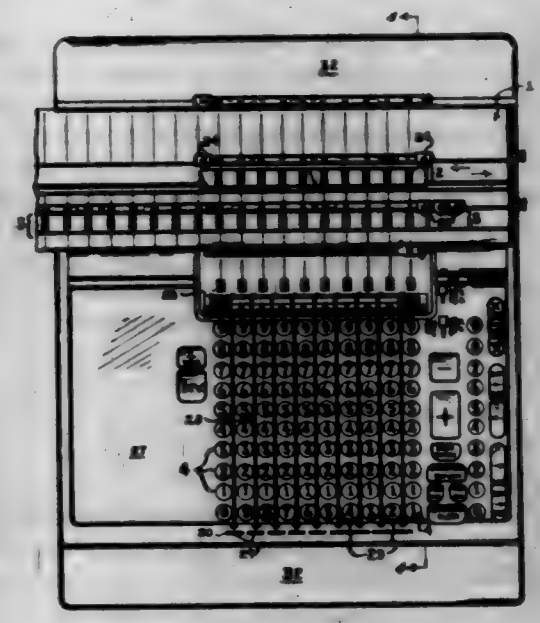
2,969,180
DEVICE FOR MEASURING LUMBER
Carlton F. Ives, 307 S. Elm, Carlsbad, N. Mex.
Filed July 8, 1957, Ser. No. 670,482
1 Claim. (Cl. 235—87)



A measuring device for lumber comprising a pair of cylindrical cases each having an open top and a flat bottom, inter-engaging cooperating threads on the portions of said cases adjacent the open tops securing said cases together, each of said cases having a first annular flange projecting outwardly from the end adjacent the bottom and a second annular flange arranged parallel to and spaced from said first flange, a cylindrical sleeve conformably shaped to fit about the portions of said cases between said second flanges and the open tops, a flange projecting from each end of said sleeve and each disposed so as to abut the adjacent one of said second flanges, said sleeve being manually rotatable about the portions of said cases between said second flanges and said open tops, spaced indicia on the bottom of each of said cases, spaced indicia on the last-named case portions, said sleeve having viewing openings having indicia therebeside in registry in turn with the indicia on said last-named case portions responsive to rotation of said sleeve on said case portions, said sleeve end flanges and said first and second flanges of said case providing hand grip means for manually rotating the said sleeve relative to said cases.

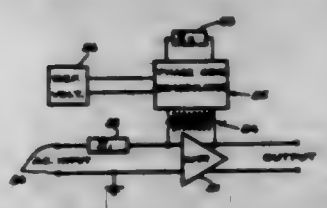
2,969,181
KEYBOARD DECIMAL MARKERS AND THE LIKE
William S. Gubelmann, Convent, N.J., assignor to Realty and Industrial Corporation, Convent, N.J., a corporation of New Jersey
Filed May 27, 1957, Ser. No. 661,971
11 Claims. (Cl. 235—145)

1. In a calculating machine in which there is a plurality of banks of keys, a wall formed of yieldable resilient material and forming a background for said keys, a plurality of elongated marker bars having more than two longitudinal faces on each bar, each bar extending over said wall between adjacent banks of keys and being mounted for turning about its longitudinal axis for bringing into a viewing position selectively any one of its faces, said bars being formed with angularly inclined longitudinal faces so that when any one of said faces of a bar is displayed, at least two of its other said faces are out of view, at least one face of each bar being of a surface corresponding to the surface of the background wall, the faces that are out of view with respect to said corresponding face on each bar being of a surface different from that of said background wall, whereby when a bar is turned to display its said corresponding face, it blends with said background wall to become substantially indiscernible, and when said bar is turned to display any one of its said differently surfaced faces over said background wall, it contrasts there-against,



distinctly delineating the adjacent banks of keys, and positioning means mounted on each said bar for turning therewith and formed with a plurality of step edges, each relating to and parallel with a different one of the faces of said bar, said step edges being frictionally engageable against said background wall to releasably hold said bar with any related face in viewing position, and stop limit means carried by said positioning means for rotary movement therewith and projecting radially further than any said step edge for stop contact with said wall to arrest said bar upon turning of said bar by only one face exhibiting step in any direction from said corresponding face viewing position, to expose a differently surfaced face, whereby, when a differently surfaced face is exposed, the bar must be first turned to the correspondingly surfaced face position, before it can be turned to the other differently surfaced face position.

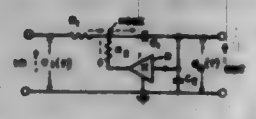
2,969,182
CARRIER INSENSITIVE A.C. COMPUTER
Paul H. Savet, Oceanside, N.Y., assignor to American Bosch Arma Corporation, a corporation of New York
Filed May 18, 1954, Ser. No. 430,696
4 Claims. (Cl. 235—183)



1. In a device of the character described for processing an input signal, an amplifier, a series impedance between said input signal and the input to said amplifier a phase sensitive demodulator connected across one input and an

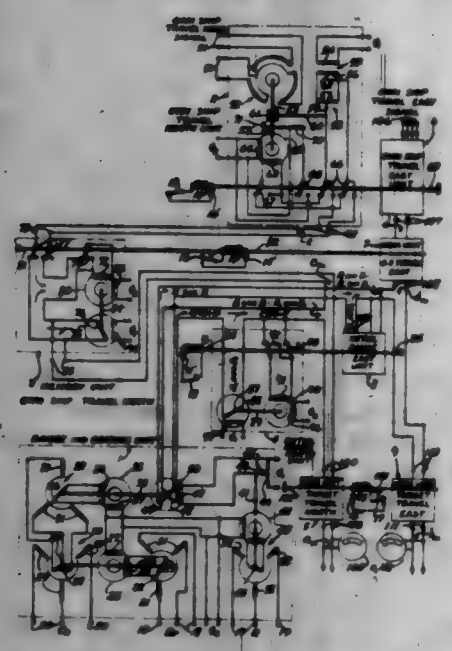
output terminal of said amplifier in a feedback circuit, a reference voltage supply means for said demodulator and a second impedance connected across the output of said demodulator.

2,969,183
POSITIVE FEEDBACK ELECTRONIC INTEGRATOR AND DIFFERENTIATOR CIRCUITS
Herbert B. Voelcker, Jr., Tonawanda, N.Y., assignor to the United States of America as represented by the Secretary of the Army
Filed May 6, 1958, Ser. No. 733,454
9 Claims. (Cl. 235—183)
(Granted under Title 35, U.S. Code (1952), sec. 266)



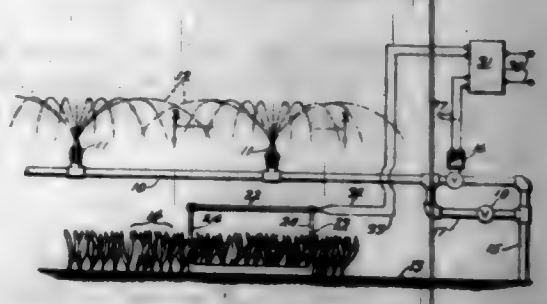
9. Means for generating a voltage which is a mathematical function of a source of input voltage comprising: first, second and third impedances connected in series in that order across said input source, the second and third impedances being of equal value and having phase quadrature characteristics with respect to the first impedance, a pair of output terminals connected across said third impedance, a regenerative feedback loop coupled between the junction of said second and third impedances and the junction of said first and second impedances, said feedback loop comprising an amplifier circuit having its input connected to the junction of the second and third impedances and a fourth impedance, equal to and characterized by the same electrical parameters as that of said first impedance, connected between the output of said amplifier circuit and the junction of said first and second impedance, said amplifier circuit being adapted to provide an amplification factor of 4.

2,969,184
ELECTROMECHANICAL TARGET TRAVEL COMPONENT COMPUTER
Richard Y. Miner, New York, Clifford F. Abt, Long Island City, and Quentin J. Evans, deceased, New York, N.Y., assignors to American Bosch Arma Corporation
Filed June 2, 1949, Ser. No. 96,688
20 Claims. (Cl. 235—187)



1. In an electromechanical calculating system, the combination of a source of signal voltage, a potentiometer having an energized input element and a movable output element, electrical motive means connected to said source and to said output element, operative connections between said motive means and said output element whereby the motive means adjusts said output element to develop an output voltage of said potentiometer according to said signal voltage, a transformer having a stator winding and a rotor winding, a second source of signal voltage, second electrical motive means energized by said second source, operative connections between said second motive means and said rotor winding, a third source of signal voltage connected to said stator winding for energizing the same, and means jointly connected to said rotor winding and said potentiometer output element for combining the output voltages thereof to produce a net voltage according to the algebraic sum of the first signal voltage and the output voltage of said transformer.

2,969,185
AUTOMATIC MISTING SYSTEM
Edward C. Geiger, North Wales, Pa.
Filed Sept. 8, 1958, Ser. No. 759,738
1 Claim. (Cl. 239—63)

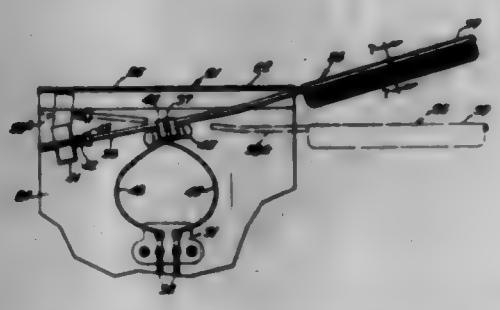


An automatic misting system for cutting beds and the like comprising a sprinkler pipe extending over said bed and having a plurality of misting nozzles operable upon supply of liquid to said pipe to direct a mist of spray liquid over said bed, a solenoid-operated valve to control the supply of spray liquid to said pipe, a manually-operated valve connected to bypass said solenoid-operated valve for a manual control of said supply, and automatic control means to operate said solenoid-operated valve comprising a pair of spaced-apart conductive bar electrodes, a stand supporting said electrodes at their ends in an elevated position in the atmosphere above the foliage of the plants in said bed and in the path of the mist from at least one of said spray nozzles, and consisting of a U-shaped member having notches in the upper ends of the legs thereof to receive the bars, said bars resting freely in said notches and being maintained in closely spaced relation at each end thereof by tape secured to at least one of the bars, the thickness of the tape at each end determining the clearance space between the electrodes, said electrodes being insulated from one another and operable to be electrically connected by moisture accumulated thereon during supply of spray liquid to said pipe and to be electrically disconnected upon evaporation of said accumulated moisture, said control means operable upon electrical connection of said electrodes to operate said solenoid valve to interrupt the supply of spray liquid to said pipe, and operable upon disconnection of said electrodes to operate said solenoid valve to supply spray liquid to said pipe whereby said misting nozzles operate automatically to maintain the bed moist in accordance with the atmospheric conditions surrounding said bed.

2,969,186
MISTING CONTROL
Edward C. Geiger, North Wales, Pa.
Filed Apr. 21, 1960, Ser. No. 23,678
5 Claims. (Cl. 239—65)

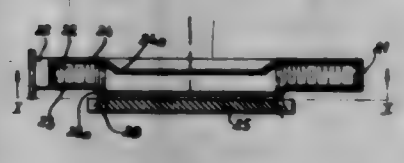
1. In an automatic misting system for cutting beds or the like having at least one misting nozzle operable upon a supply of liquid thereto to direct a mist of spray over said bed, and a valve to control the supply of spray liquid to said nozzle; an automatic control means to operate said valve comprising a housing having a pair

of spaced-apart side walls and a peaked roof, a non-absorbent collector mounted in the atmosphere above the bed and in the path of the mist from the spray nozzle to collect thereon a film of water of a thickness determined by the surface tension thereof, a balance rod mounting said collector at one end and pivoted in said housing to underlie the peak of the roof, a counter weight mounted on the opposite end of said balance rod to overcome the weight of said collector when it is dry, but of insufficient weight to overcome the weight of said collector when it is provided with a film of liquid thereon, said counter weight being positioned within said casing



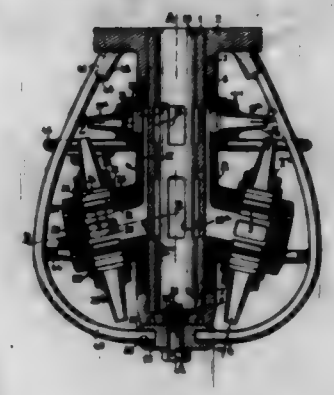
and operable upon over-balance thereof by said collector with its film of water to cause the rod to assume a first limit position wherein the counter weight is engaged against said roof at its peak to center the balance rod thereunder and to limit the pivotal movement thereof, said balance rod when said counterbalance overcomes the weight of said dry collector assuming a second limit position engaged in the peak of said roof to assist in centering the balance rod thereunder, and a switch means responsive to the position of said rod and connected to said valve to supply water to said nozzle in the second position of said rod and to interrupt said supply in the first postiion of said rod.

2,969,187
ATOMIZATION OF LIQUIDS
Pierre G. Vicard, 15 Cours Eugenie, Lyon, France
Filed May 23, 1958, Ser. No. 737,245
Claims priority, application France June 11, 1957
1 Claim. (Cl. 239—223)



An atomizer for liquids comprising a substantially flat spiral annular volute having an outer tangential inlet a lateral central circular outlet on one of its sides and a lateral central circular air inlet on its other side, with said air inlet of smaller diameter than said outlet, said outer tangential inlet receiving a liquid under pressure which rotates in the volute and issues from said central circular outlet in the form of a thin continuous substantially cylindrical rotating film; a wheel disposed coaxially to said annular volute, said wheel having a diameter substantially smaller than said lateral central circular outlet, and said wheel rotating at a high speed in the reverse direction with respect to the direction defined by said tangential inlet peripheral cutting blades radially carried by the periphery of said wheel close to said lateral central outlet, each of said blades having a cutting leading edge situated on the side of said wheel facing said volute and directed about the axis of said wheel and of said volute in the reverse direction with respect to said tangential inlet, a trailing edge situated on the other side of said wheel, and an intermediate curved portion with the concavity directed obliquely towards said last-named other side of said wheel, to cut said rotating liquid film immediately as it issues from said central circular outlet in continuous form to produce a mist without said film impinging on said wheel, and also to draw air internally of said substantially cylindrical liquid film through said lateral central air inlet and to mix same with the mist produced by said blades.

2,969,188
APPARATUS FOR CLEANING TANK-WAGGONS, TANKS AND OTHER CHAMBERS
Frederic Guignes, Aix-en-Provence, and Martin Louis Bressillon, Marseilles, France, assignors to Societe Lamy d'Etudes et de Recherches "Soler," Courbevoie (Seine), France, a French body corporate
Filed June 3, 1957, Ser. No. 663,291
Claims priority, application France June 5, 1956
4 Claims. (Cl. 239—243)



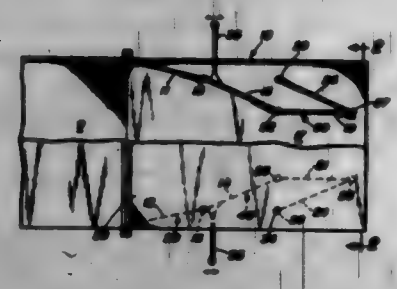
1. An apparatus for cleaning tank wagons and the like which comprises a support, a rotor carried by said support and driven with a rotational movement about a first axis, at least one freely rotatable sprinkler mounted on said rotor for rotation about a second axis different from said first axis, and a driving sprinkler fixed to said rotor for rotating said rotor on said support, each sprinkler being provided with nozzles adapted to project jets of cleaning liquid, said support and rotor being hollow and in communication with said nozzles to form conduits for distributing said liquid to said nozzles, said support and rotor and each sprinkler having in said conduits two conjugate series of liquid distributing ports, both of said series being concentrically disposed about the axis of rotation of the sprinkler, each port having an axis, the axis of each port of one of said series intersecting the axis of the corresponding port of the other of said series to provide a first torque acting on the sprinkler in one direction, and the axis of at least one of the nozzles of each sprinkler lying at least partly outside a radial plane containing the axis of the sprinkler, said nozzle axis extending away from said sprinkler axis in the direction of said first torque to produce a second torque having an opposite direction to that of said first torque, the difference between said torques determining the rotational speed of said sprinkler and rendering it substantially independent of the pressure of said liquid

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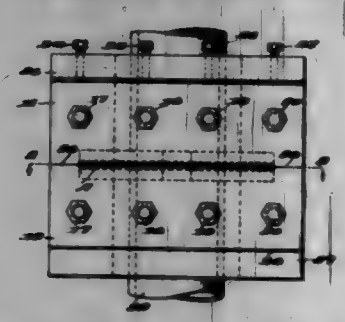
2,969,189
PARALLELOGRAM ACTUATED VARIABLE AREA NOZZLE
Harold S. Jordan, Jr., Kansas City, Mo., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Jan. 28, 1960, Ser. No. 5,313
6 Claims. (Cl. 239—455)

4. Fluid discharge nozzle apparatus comprising an upstream nozzle portion decreasing in cross-section in the downstream direction, movable plates hinged to said upstream nozzle portion, said plates being convergent with

respect to each other, parallel plates hinged to the downstream end of said movable plates and wall means enclosing said movable plates and said parallel plates to form a flow passageway.



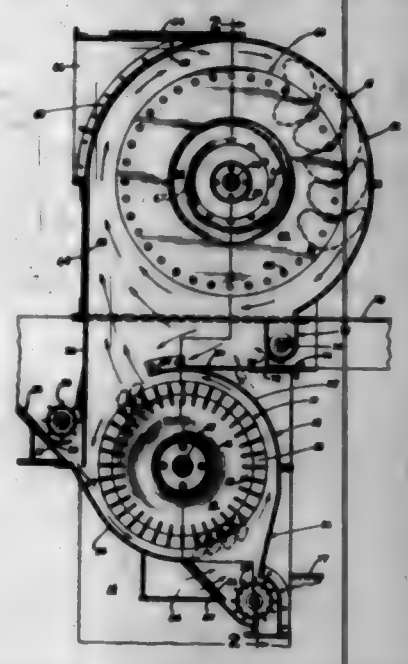
2,969,190
DEBARKING NOZZLE
Lemuel Roscoe Foreman, 310 W. Main St., Elizabeth City, N.C.
Filed Nov. 18, 1958, Ser. No. 774,668
3 Claims. (Cl. 239—597)



1. A hydraulic nozzle for debarking logs adapted to be used with water supplied under pressures of 1400–1500 pounds per square inch comprising a massive body having an inlet port adapted to be coupled to the water supply and a delivery chamber formed therein to receive all the water from the inlet port; a pair of heavy metal nozzle blocks abutted against each other and sealed at their abutted surfaces; means rigidly fixing said nozzle blocks upon said body; said nozzle blocks having opposed elongated surfaces together providing the principal walls of a water-discharging aperture which receives the high pressure water directly from said delivery chamber; said aperture having a width at its narrowest point of between about 1/32 in. and about 1/16 in. and said narrowest part of the aperture being spaced about 1/16 in. in from the lower faces of the blocks, the aperture below said narrowest part being bounded by curvilinear and separating surfaces on the two blocks, said aperture being straight throughout its length and forming a flat fan-shaped jet of water capable of acting as a chisel to remove the bark and phloem and disintegrate the same.

2,969,191
PROGRESSIVE REDUCING AND CLASSIFYING MEANS
Henry G. Lykken, Minneapolis, and William H. Lykken, Edina, Minn.; Frances Lykken, Hennepin County, Minn., administratrix of the estate of said Henry G. Lykken, deceased, and said William H. Lykken, assignors to The Microcyclomat Co., Minneapolis, Minn., a corporation of Delaware
Filed May 10, 1957, Ser. No. 658,455
11 Claims. (Cl. 241—75)

1. A progressive fluid energy reducing and classifying means for dry solid material in the subsieve particle size range which comprises a horizontal axis open rotor fluid energy reducing means enclosed in a mill housing and integrated with a horizontal axis peripheral inlet centripetal flow and axial outlet classifier rotor enclosed in a classifier housing disposed above and in direct fluid communication with said mill housing, a material inlet disposed along the length of the mill housing below the axis of the rotor, an air inlet disposed along the length of the



top of the classifier housing and regulatable air flow inducing means associated with the axial outlet of the classifier rotor.

2,969,192
CASCADE CHUTE FOR TRANSPORTING PACKING MATERIAL
Bohumír Furmánek, 24/9 Blok, Havírov II; Jindřich Holešovský, 17/1986 Liebknechtova, Prague XVI; and Walter Wittich, 7 Sprasova, Ostrava IX, all of Czechoslovakia
Filed Mar. 12, 1958, Ser. No. 720,858
Claims priority, application Czechoslovakia Aug. 14, 1957
4 Claims. (Cl. 241—154)



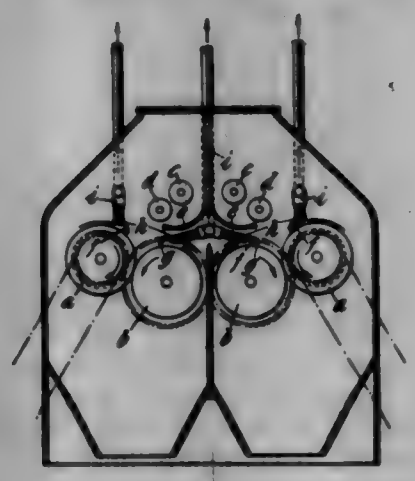
1. A cascade chute for transporting packing material from a relatively high location to worked-out levels of a mine, comprising a series of substantially vertical tube sections arranged with the axes of adjacent tube sections spaced apart in the horizontal direction, means defining chambers between said adjacent tube sections with the lower end of the tube section above each chamber opening into the latter and with each chamber opening into the next lower tube section, and at least one toothed wheel rotatable in each chamber below said lower end of the tube section thereabove and having its axis of rotation extending perpendicular to the vertical plane containing the axes of the related adjacent tube sections, said axis of rotation of the toothed wheel being spaced horizontally from the axis of the tube section thereabove in the direction away from the axis of the next

lower tube section by a distance less than the radius of said toothed wheel so that packing material falling from said lower end of a tube section into a chamber strikes the periphery of a toothed wheel in the latter and rotates the toothed wheel in the direction toward the next lower tube section, whereby the downward velocity of the packing material is reduced by contact with the toothed wheels in said chambers and large pieces of the packing material are broken-up by said toothed wheels to avoid jamming in said tube sections.

2,969,193
ROLLER MILLS FOR GRINDING CEREAL PRODUCTS

John Stephen Ball, Woodsmoor, Stockport, and Thomas Harold Gillett, Cheadle Heath, England, assignors to Henry Simon Limited, Cheadle Heath, England, a British company

Filed June 14, 1957, Ser. No. 665,703
Claims priority, application Great Britain July 13, 1956
4 Claims. (Cl. 241—227)



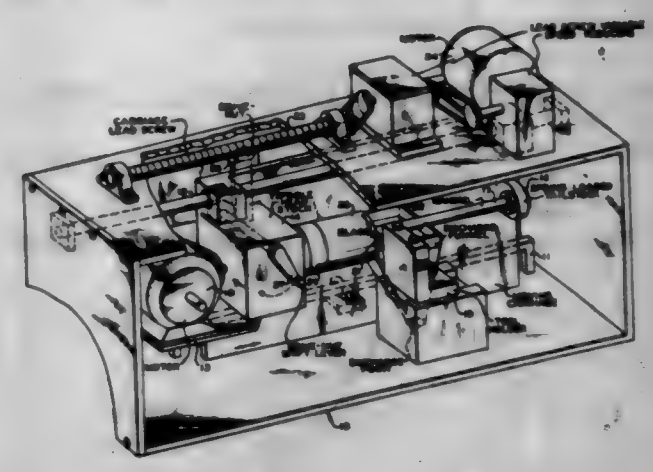
1. A high speed roller mill for grinding cereal products having in combination with at least one roller of a pair of rollers revolving at different speeds, a scraper deflector extending across the full length of the roller at a position adjacent to the nip of the rollers on the feed side of the rollers and being closely associated with the peripheral surface of said at least one roller, said scraper having a hook like end portion which is close to the roller surface at a point between 15° and 40° rotationally in advance of the roller nip, the hook like end portion intercepting and reversing the air layer on the roller periphery.

2,969,194
DRY FEEDER

Coy L. Moss, Albuquerque, N. Mex., and Paul E. Wilkins, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

Filed May 1, 1959, Ser. No. 810,487
3 Claims. (Cl. 241—279)

1. Apparatus for feeding a solid material at a predetermined rate to a point of utilization comprising, a support; a first stationary guide member mounted on said support; a second stationary guide mounted on said support; a carriage supported by and movable on said first and second guide members; a spindle head stock mounted on said carriage; a tail stock mounted on said carriage; a rotatable mandrel positioned between said head stock and said tail stock; a motor mounted on said carriage adapted to drive said mandrel; a fixed tool holder mounted on said support; a cutting blade carried by said tool holder, said blade being positioned adjacent said rotatable mandrel; a discharge funnel mounted on said support, said funnel being positioned to receive material cut by said blade; a carriage lead screw mounted on said support; a motor adapted to drive said lead screw; a drive nut on said carriage engageable with said carriage lead screw; and a shift lever on said spindle head stock,

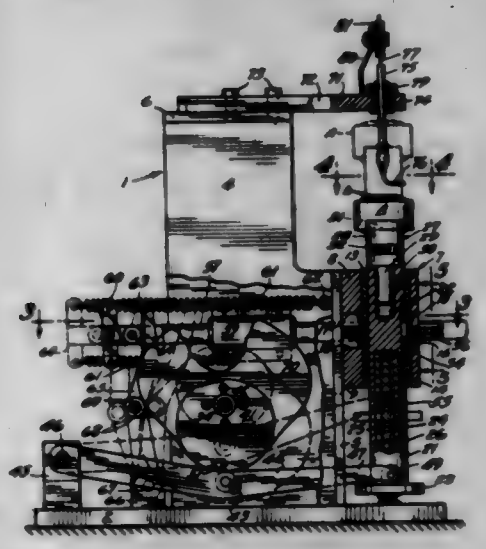


said shift lever moving said drive nut into and out of engagement with said lead screw.

2,969,195
COIL WINDING APPARATUS

Marvin L. S. Leithe, Minneapolis, Minn., assignor to Cedar Engineering, Inc., St. Louis Park, Minn., a corporation of Minnesota

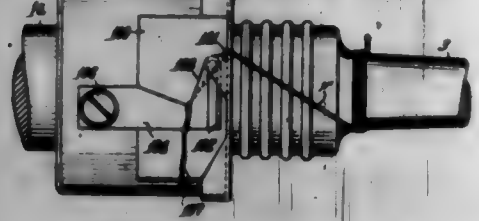
Filed Mar. 14, 1957, Ser. No. 645,982
3 Claims. (Cl. 242—1.1)



1. In a coil winding machine, a frame, a bearing carried by said frame, a rock shaft mounted in said bearing for axial reciprocatory and oscillatory movements, a chuck on one end of said rock shaft, said chuck being adapted to receive and to grip a generally cylindrical core element in axial alignment with said rock shaft, said core element being of the type having circumferentially spaced axially extending radial pole pieces, means for imparting axial reciprocatory movement to said rock shaft, means including a rack and pinion for imparting oscillatory movements to said rock shaft, said pinion being mounted in said bearing and coupled to said rock shaft for common oscillatory movements therewith and for axial sliding movement relative thereto, a stationary wire guide tube extending generally parallel to the axis of said bearing, said guide tube having a wire discharge end portion extending angularly from said guide tube and generally radially with respect to a core element mounted in said chuck, said discharge end portion being alternately received between different selected circumferentially spaced pole pieces of said core element during said reciprocatory and oscillatory movements of the core element and rock shaft, a member mounting said guide tube on said frame for limited bodily adjustment thereof in directions transversely of the axis of the core element, and

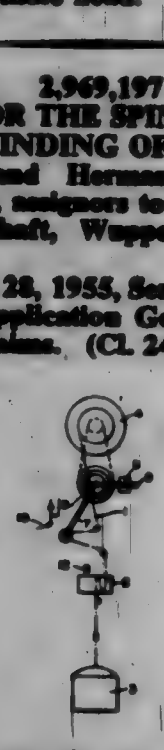
means for releasably locking said guide tube mounting member to said frame in desired adjusted positions between the limits of transverse adjustment thereof.

2,969,196
COIL STARTING DEVICE FOR YARN WINDING MACHINES
Wilhelm Küpper, Kreis, Erkelenz, Germany, assignor to Walter Reinert, Gladbach, Germany
Filed Nov. 6, 1956, Ser. No. 620,661
Claims priority, application Germany Nov. 9, 1955
10 Claims. (Cl. 242—37)



4. In a yarn-coil winding machine, a device for starting a coil winding operation after completion of the preceding coil, comprising a revolvable spindle head having means for entraining a coil core, means for driving the spindle head, a thread guide defining a path for the yarn to be wound onto the core, a yarn clamping and entraining device comprising a flat resilient clamping member having a portion thereof fixedly mounted on said spindle head and having a clamping portion pressed inwardly toward and normally in engagement with said spindle head to define a clamping position for clamping the starting end of the yarn during coil starting operation, said member being centrifugally movable away from said clamping position when said spindle head accelerates to a given speed during said starting operation, said member having an edge directed and facing away from the coil being wound, said edge forming an acute angle with the geometric plane normal to the spindle axis and which intersects said edge at its rearmost terminal portion relative to the winding direction of rotation of said spindle head.

2,969,197
APPARATUS FOR THE SPINNING, TWISTING AND WINDING OF THREAD
Wolfgang Weber and Hermann Grein, Remscheid-Lennep, Germany, assignors to Barmer Maschinenfabrik Aktiengesellschaft, Wuppertal-Oberbarmen, Germany
Filed Nov. 28, 1955, Ser. No. 549,488
Claims priority, application Germany Dec. 1, 1954
6 Claims. (Cl. 242—37)

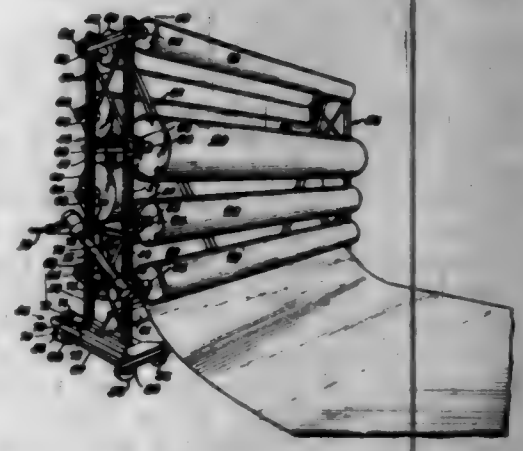


1. In a machine wherein thread is wound, having a supply cop and a winding bobbin, the combination of a take-off device feeding the thread from the supply cop to the winding bobbin, said take-off device comprising a roller around which the thread is looped; a roller driving means drivingly connected to said roller by magnetic means, said roller having a braking means associated therewith; a bobbin driving means; and a thread feeler for maintaining thread tension between said roller and said bobbin, said thread feeler having a switch-actuating means for stopping said bobbin driving means and a lever-actuating means for stopping said roller, said switch-actuating means and said lever-actuating means becoming respectively operatively associated with said bobbin driving means and said braking means on breakage of the thread between said take-off device and said bobbin.

2,969,198
YARN GUIDING DRUM FOR WINDING MACHINES
Helmut Wolff, M. Gladbach, Germany, assignor to Walter Reinert, M. Gladbach, Germany
Filed July 29, 1957, Ser. No. 674,829
Claims priority, application Germany Aug. 8, 1956
9 Claims. (Cl. 242—43.2)

1. In a coil winding machine having spool holder means including pivot means for rotatably holding a spool to be wound, the combination with said holder means of a rotatable guiding drum having an axis parallel to that of said pivot means and being, when in operation, peripherally engaged by the spool for driving the latter, said drum having in its peripheral surface a yarn guiding groove extending peripherally and axially of the drum and being closed upon itself and having two axially spaced reversing locations, for reciprocating the yarn along the spool as the yarn is being wound onto the spool by rotation of said drum, said guiding grove having in the regions before and behind the reversing locations a depth varying along the groove length and having respective locations of shallowest depth for said regions, said respective locations being behind said two reversing locations relative to the travel direction of the yarn in the region where the yarn is approaching the respective reversing locations.

2,969,199
EQUIPMENT FOR STORING AND HANDLING CARPETING AND THE LIKE
Claud C. Riemenschneider, 4139 Clausen Ave., Western Springs, Ill.
Filed July 14, 1954, Ser. No. 443,280
8 Claims. (Cl. 242—55.3)



1. A load carrier comprising an upright frame which is portably supported by wheel means for movement

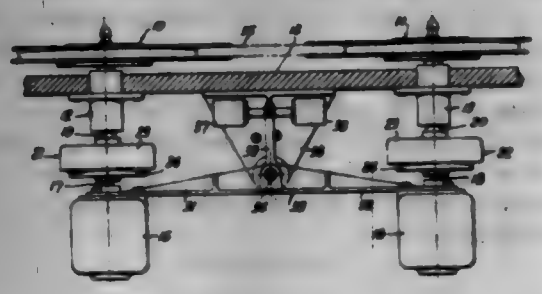
from place to place and has load supporting means vertically adjustable to selectable elevations along and accessible at one side of the frame for application of loads on and removal of loads from the load supporting means, and an elongated power unit which has a quick detachable connection with the frame at two longitudinally spaced places by which it is supported thereon and comprises a motor with power output extension projecting therefrom in the direction of and providing the elongation of the unit, the supporting connection at one of said places being provided by mating coupling parts respectively on the power unit at one side of the extension thereof and on the frame which have a quick detachable connection with one another and are rotatable in unison on a common axis extending transversely to the length of the elongated power unit and transmit power from the motor to one of said means of the frame for operation thereof, and the supporting connection at the other one of said places being at the motor end of the elongated unit and comprises connecting means which is quick detachable and extends laterally from the power unit to the frame and holds the power unit in a relation to the frame preventing swinging of the elongated motor unit around the common axis of the coupling parts.

2,969,200

MAGNETIC TAPE APPARATUS

Walter T. Selsted, Redwood City, Calif., assignor to Ampex Corporation, Redwood City, Calif., a corporation of California

Filed July 18, 1955, Ser. No. 522,425
6 Claims. (Cl. 242—55.12)



1. In magnetic tape apparatus, two reel holding means for engaging and rotating supply and take-up reels, two electric driving motors, means for operatively coupling each motor to an associated reel holder, each of said means including a magnetic coupling device comprising two adjacent rotatable aligned parts, one having a permanent magnet and the other an annular conductive path, one of the parts of each device being movable relative to the other for varying the torque transmitted through the same, a rocker member, means forming a pivotal support for said rocker member, the two opposite extending arms of said rocker member being attached to the movable elements of said coupling devices, and means for moving said rocker member to thereby oppositely vary the torques transmitted from the electric motors to the reel holding means.

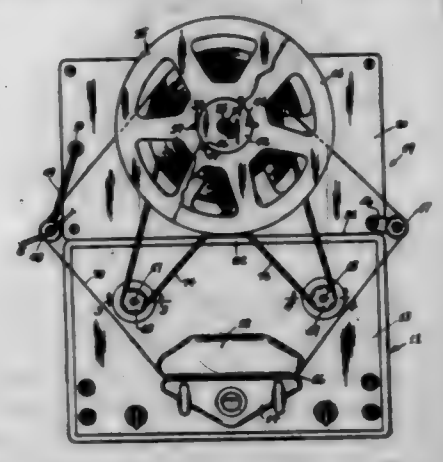
2,969,201

LARGE TAPE REEL ADAPTOR FOR HOME TAPE RECORDERS

Robert H. Redfield, 5705 Colfax Ave., Alexandria, Va.

Filed Apr. 1, 1958, Ser. No. 725,701
3 Claims. (Cl. 242—55.12)

1. In combination with a home tape recorder of the type having a horizontal tape deck provided with horizontally spaced tape feed reel and take-up reel spindles and having a straight rear wall portion adjacent the rear margin of the tape deck, an adaptor plate having a straight front edge in abutment with said straight rear wall portion, depending supporting means secured to said plate and being constructed and arranged to support said plate in a substantially horizontal position rearwardly adjacent said tape deck, a pair of pulleys journalled for independent rotation with respect to each other on said plate, one above the other on a common vertical axis, respective drive pulleys drivingly engaged on said feed reel and take-up reel spindles, respectively flexible



belts engaged around and coupling said first-named pulleys to the drive pulleys and being of a length such that they will be maintained in driving tension by the weight of the adaptor plate and the parts mounted thereon when said straight front edge is in abutment with said straight rear wall portion, respective reel hubs disposed one above the other on said common vertical axis, and means connecting said hubs to the respective first-named pulleys.

2,969,202

REEL SEGMENT GUIDING ARRANGEMENT

Judson W. Martt, Weirton, W. Va., assignor to National Steel Corporation, a corporation of Delaware

Filed Jan. 28, 1958, Ser. No. 711,736
3 Claims. (Cl. 242—72.1)



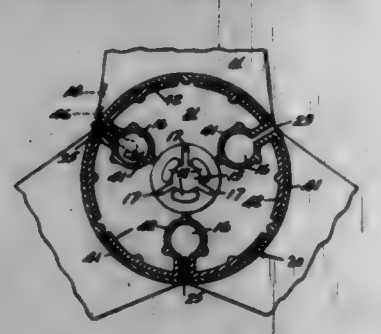
1. In an expansible rotatable drum for handling coiled strip material, including a plurality of segments having surfaces which together define a substantially cylindrical outer contour of the drum, the segments being disposed generally parallel to the axis of the drum, a member rotatable coaxially with the drum but fixed against movement axially of the drum, and means for selectively moving the segments relative to the rotatable member radially away from the axis of the drum to engage and hold a coil of strip material on the drum from within the coil; the improvement comprising elements interconnecting the rotatable member and an end of each segment adjacent an end of the drum, the outer contour of each said element being convex and coincident with a substantial portion of the surface of a sphere, one of the rotatable members and an end of each segment adjacent an end of the drum having recesses therein extending radially of the axis of the drum, the sidewalls of each said recess enclosing the centroid of a said element and being of uniform cross-sectional configuration in a plurality of spaced planes parallel to each other and to the axis of the drum, and the other of the rotatable member and the end of each segment adjacent an end of the drum having said elements which cooperate with said recesses to provide a slidable and universally rotatable bearing connection between said rotatable member and said segments.

2,969,203

MAGNETIC RECORDING TAPE REEL

Victor A. Mohrlant, St. Paul, Minn., assignor to Minnesota Mining & Manufacturing Company, St. Paul, Minn., a corporation of Delaware

Filed May 25, 1955, Ser. No. 510,971
2 Claims. (Cl. 242—74)



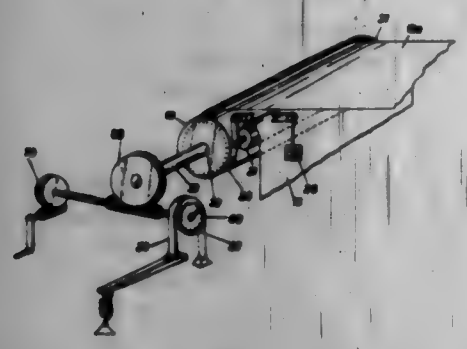
1. A reel adapted to have tape wound thereon and having a central hub, said hub bounded by a cylindrical rim and at least one side face, said side face being formed with drive-pin-engaging holes circularly symmetrically positioned around the rotative axis of the reel, said rim being discontinuous and forming a narrow paraxial slot connecting with one of said drive-pin-engaging holes, said hub also having a radially-elongated tongue-like stud of substantially greater radial length than the thickness of said rim, said stud being positioned within said slot and supported from the portion of said one side face between said one drive-pin-engaging hole and the hub rim and having a radially outer paraxial face forming a segment of the cylindrical rim of the hub, said hub including walls extending inwardly from said rim to provide sidewalls for said slot, said walls extending in the same general direction as and substantially parallel to the sides of said stud along the full length of the stud, said stud being spaced from each of said walls by a distance greater than the thickness of tape to be wound on said reel and accessible from the side of the reel opposite said one side face for easy insertion of a loop of the tape around the stud.

2,969,204

APPARATUS FOR TENSIONING MATERIALS

William Wycliffe Spooner, Ilkley, England, assignor to The Spooner Dryer & Engineering Co. Limited, Ilkley, England

Filed Nov. 22, 1957, Ser. No. 698,270
Claims priority, application Great Britain Feb. 9, 1957
22 Claims. (Cl. 242—75.2)



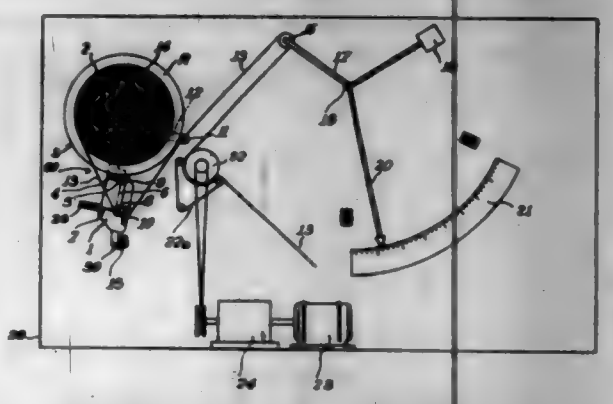
5. Apparatus for tensioning material, comprising a roller for frictional engagement with said material, a shaft member carrying said roller, one end of said roller being freely rotatable relatively to said shaft member, a driving connection member between the other end of said roller and said shaft member, one of said members being resilient whereby the transmission of torque between said roller and the end portion of said shaft member adjacent said one end of said roller causes a relative angular displacement between said one end of said roller and the portion of said shaft member thereadjacent, and means for applying a braking torque to said shaft member to cause said angular displacement.

2,969,205

REEL-OFF AND TENSION-REGULATING UNIT FOR MULTIPLE WINDING MACHINES AND TENSION-PREADJUSTING SYSTEM THEREFOR

Otto Haugwitz, La Celle Saint Cloud, France, assignor to Societe Anonyme Geoffroy-Delore, Paris, France, a company of France

Filed Nov. 24, 1959, Ser. No. 855,177
Claims priority, application France Nov. 24, 1958
4 Claims. (Cl. 242—75.43)



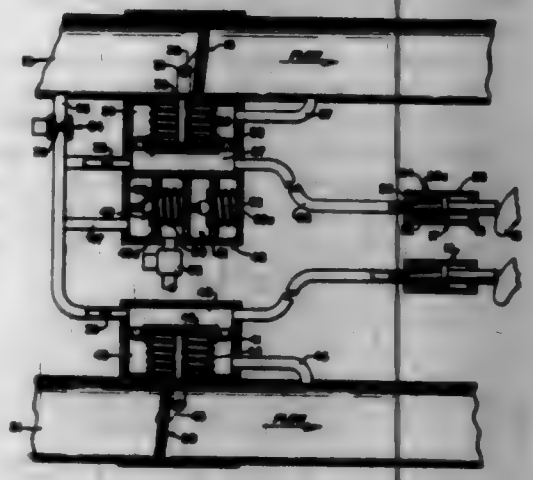
2. A system for pre-adjusting the tension setting in a reel-off and tension regulating unit having a reel and a tape element wound thereon, said system comprising in combination a frame, a spindle projecting from said frame for removably mounting of said unit thereon, a drive pulley journalled on said frame and engageable by the tape element issuing from said unit, motor means for rotating said drive pulley including means for varying the speed of rotation of said pulley, and tension-measuring means on said frame including means engageable by the tape element at a point intermediate said unit and said drive pulley and movable in response to variations in tension of the tape element.

2,969,206

BOUNDARY LAYER CONTROL SYSTEM FOR AIRCRAFT

Raymond W. Jensen, Phoenix, Ariz., assignor to The Garrett Corporation, Los Angeles, Calif., a corporation of California

Filed Dec. 4, 1956, Ser. No. 626,141
4 Claims. (Cl. 244—42)



2. In a boundary layer control system for aircraft, the combination of: a movable airfoil element; an air supply duct having an outlet disposed adjacent said airfoil element to supply boundary layer control air thereto; a main valve disposed for movement in said duct to vary the volume of air supplied to said airfoil element; actuat-

ing means for said main valve, said actuating means having a fluid pressure responsive member operatively connected with said main valve; means for conducting fluid from the inlet side of said main valve to one side of said pressure responsive member and from the outlet side of said main valve to the other side of such member; and a pilot valve communicating with said actuating means, said pilot valve being disposed to be actuated by said airfoil element to vary the fluid pressure applied to one side of the pressure responsive member of said actuating means.

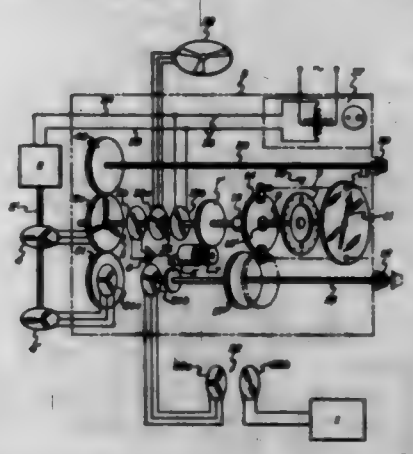
2,969,207
VARIABLE CAMBER AIRFOIL
Doyle F. Fain, 816 NW. 9th St., Oklahoma City, Okla., and Emil Genter, Rte. 2, Box 276B, Saugus, Calif.
Filed Oct. 16, 1958, Ser. No. 767,594
1 Claim. (Cl. 244—44)



In an airfoil, the combination of a bottom surface portion, a top surface portion, a hinged connection between the top and bottom surface portions at the trailing edge of the airfoil, a rigid arcuate leading edge section, a hinged connection between the bottom of said leading arcuate edge section and the front edge of said bottom surface portion, an elastic leading edge member extending between the front edge of said top surface portion and the front edge of said bottom surface portion overlying said rigid leading arcuate edge section, and means to move said top surface portion and said leading arcuate edge section about their respective hinged connections to vary the aerodynamic characteristics of the airfoil, said last mentioned means comprising remotely controlled means for introducing air under pressure into the interior of the airfoil, said elastic leading edge member being permanently sealed to said top and bottom surface portions and passed thereinto to provide a smooth exterior surface, said top and bottom surface portions having forwardly and inwardly offset extensions therein and said elastic leading edge member being secured to said offset extensions in flush relation with the outer airfoil surface, the hinged connection of said arcuate rigid leading edge section to said bottom surface portion being positioned at the forward edge of said offset extension of said bottom surface and the free edge of said rigid leading edge section abutting the forward edge of the offset extensions of said top surface, said top and bottom surface portions having reinforcing ribs, and elastic members extending between aligned reinforcing ribs of said top and bottom surface portions underlying said arcuate rigid leading edge section to limit the inward movement thereof about its hinged connection.

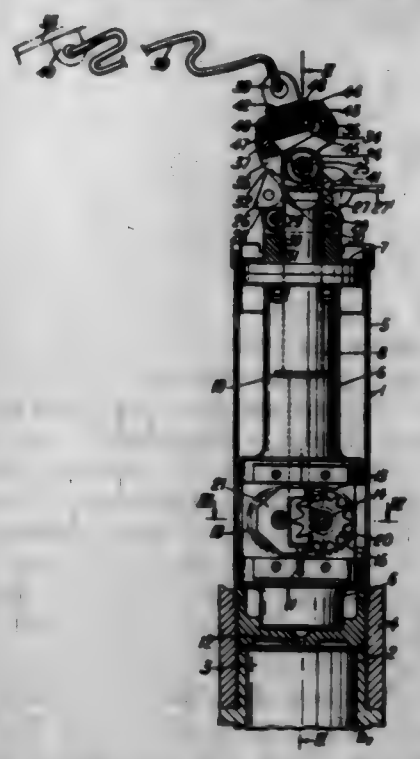
2,969,208
NAVIGATION AND AUTOMATIC CONTROL APPARATUS FOR AIRCRAFT
Frank Dove, St. Albans, England, assignor to The Sperry Gyroscope Company Limited, Brentford, England, a British company
Filed June 21, 1957, Ser. No. 668,278
Claims priority, application Great Britain June 22, 1956
13 Claims. (Cl. 244—77)

8. Aircraft navigation apparatus comprising an azimuth reference instrument for providing data concerning the aircraft's heading, automatic pilot means responsive to the reference instrument for controlling the steering of the aircraft, an adjustable course demanding member arranged to determine by the position into which it is adjusted the course steered by the automatic pilot means, a course pre-setting member manually adjustable into one of a plurality of positions representing courses which can be steered by the automatic pilot means, indicating means for indicating the course corresponding to the position in which the course pre-setting



member is set, servo means for adjusting the course demanding member automatically into a position corresponding to the position of the course pre-setting member, and means for bringing the servo means into operation at any desired moment subsequent to the adjustment of the course pre-setting member.

2,969,209
FIRING MECHANISMS SUITABLE FOR AIRCRAFT SEAT EJECTION DEVICES
James Martin, Southlands Manor, Southlands Road, Denham, near Uxbridge, England
Filed July 30, 1958, Ser. No. 752,132
Claims priority, application Great Britain Aug. 2, 1957
10 Claims. (Cl. 244—122)



1. In an aircraft having a jettisonable exit cover and a seat ejection device including an ejection gun adapted for launching a seat from the aircraft, firing mechanism for said ejection gun comprising a housing; a firing member mounted in said housing and biassed in a firing direction; a firing pin actuable by the said firing member; a first retaining member normally simultaneously engaging said firing member and a first part fixed relatively to said housing to prevent firing movement of the said firing member; a displaceable member carried by a second part fixed relatively to said housing; a second retaining member carried by said displaceable member so as to be mov-

able wtih the latter relatively to said housing and to said firing member between a restraining position and a release position in which said second retaining member is disengaged from said firing member; and holding means coupled to said exit cover and simultaneously engaging said displaceable member and a third part fixed relatively to said housing so as to hold said displaceable member and its second retaining member in their restraining positions until the said cover is jettisoned, whereupon the said holding means is automatically withdrawn permitting said displaceable member and said second retaining member to move into their release positions, said first and second retaining members being independent of one another and operable in any order.

2,969,210

RESCUE DEVICE

David A. Richardson, Broomall, and Hugh A. McCafferty, Upper Darby, Pa., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed June 30, 1959, Ser. No. 824,166
2 Claims. (Cl. 244—137)



1. In an aircraft personnel rescue device for rescuing an unconscious or disabled person from the water without the necessity of sending a crew member down the rescue hoist to render assistance, said device comprising a cable adapted to be played out of and retracted into the aircraft; a pulley block connected to the lower end of the cable; a rectangular frame; a hinge for joining two sides of the rectangular frame together; a second cable riding on the pulley and having its ends connected to opposite ends of the frame; a net attached to the frame; locking means connected to the hinge for holding the frame in a closed position until a sufficient force is exerted upon the frame to open it and for maintaining the frame in an open position until a sufficient force is exerted upon the frame to close it whereby a larger net area is provided for making the rescue; drag means connected to the open side of the frame for tilting the net downwardly when the net is submerged in a body of water and dragged therethrough by the cable.

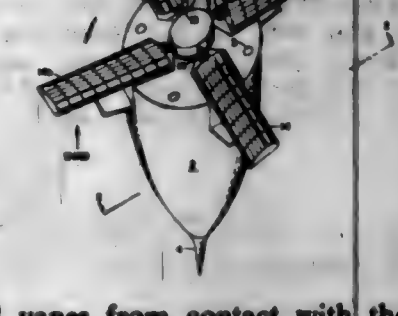
2,969,211

INFLATABLE-WING ROCOPTER

Friedrich G. von Saurma, 3309 Panorama Drive SE., Huntsville, Ala.

Filed Oct. 6, 1959, Ser. No. 844,834
6 Claims. (Cl. 244—138)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A space vehicle comprising: a rocket-propelled housing having a rotor-supporting wall; a rocket motor; means connecting said rocket motor to said housing, whereby said housing may be propelled up thru the atmosphere to the stratosphere; a support attached to said wall; bearings carried by said support; a hub journalled on said bearings; hollow, gas-inflatable airfoil vanes pivotally mounted on said hub, each of said vanes comprising telescopic spars and transverse ribs slidably mounted on said spars and flexible, accordion vane skins of airfoil configuration fastened to said ribs; means supported by said space vehicle movable relative to said wall, for



shielding said vanes from contact with the atmosphere while said housing is being rocket-propelled up thru the atmosphere; a reservoir of compressed gas supported on said housing; means flow-connecting said reservoir and the interiors of said hollow vanes for supplying pressurized gas to said interiors; and means, connected to said flow-connecting means, comprising a valve and valve-actuating means, for controlling the flow of pressurized gas to inflate said vanes; said hub and vanes being constructed and arranged to be rotatable by the relative wind of said housing's re-entry into the denser levels of the atmosphere.

2,969,212

APPARATUS FOR EJECTING BODIES FROM A PARENT AERODYNE

James Martin, Southlands Manor, Southlands Road, Denham, near Uxbridge, Middlesex, England

Filed Apr. 12, 1957, Ser. No. 652,392
Claims priority, application Great Britain Aug. 31, 1956
9 Claims. (Cl. 244—147)



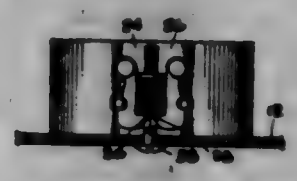
2. In combination, a body arranged to be ejected from a parent aerodyne, a main parachute attached to said body, a drogue parachute attached to said main parachute and adapted to draw out said main parachute, a time delay mechanism mounted on said body and releasably connected between said drogue parachute and said main parachute to delay the drawing out of the main parachute by said drogue, said time delay mechanism comprising a biased operating member mounted on said body for movement relative to said body from a locked position to a position which will release said main parachute, releasable means for holding said operating means in said locked position, said holding means being mounted on said body and attached to said aerodyne so that said holding means is released upon ejection of said body, an escapement mechanism mounted on said body and arranged to retard the movement of said operating means when it is released by said holding means and inertia operated means mounted on said body and arranged to lock said escapement mechanism when said body is subjected to a change in velocity in excess of a predetermined value and to release said mechanism when said body is subjected to a change in velocity less than such predetermined value.

2,969,213
BAG-DEPLOYING TYPE PARACHUTE
Tsuneo Iijima, Shinjuku-ku, Tokyo-to, and Naoichi Watanabe, Hachioji-shi, Tokyo-to, Japan, assignors to Fujikura Koso Company Limited, a company of Japan
Filed Oct. 30, 1957, Ser. No. 693,465
Claims priority, application Japan Nov. 26, 1956
4 Claims. (Cl. 244—148)



1. The combination with an aircraft provided with a static line of a deployment bag containing a canopy and means operatively connecting the bag to the static line so that the bag falls with the canopy, such means including a connector attached to the static line, complemental connector means for the bag engageable with the connector of the static line to attach the deployment bag to the static line, a webbing secured at one end to the canopy and at the other end to the deployment bag and means securing the complemental connector means to the webbing intermediate the ends of the webbing so that the deployment of the canopy from the bag imparts a pulling component on the complemental connector means to disconnect the same from the connector attached to the static line whereupon the deployment bag falls with the canopy.

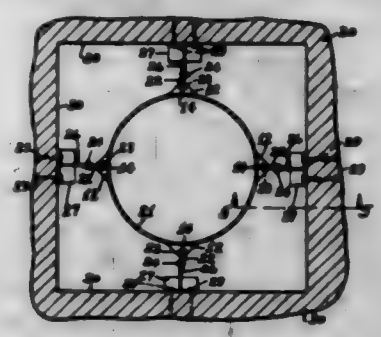
2,969,214
INSTRUMENT MOUNTING DEVICE
Carel T. Torressen, Santa Monica, Calif., assignor to The National Utilities Corporation, Pasadena, Calif., a corporation of California
Filed Mar. 31, 1959, Ser. No. 803,174
8 Claims. (Cl. 248—27)



8. A mounting for securing an instrument to an instrument panel having a cut-out to expose the instrument, comprising: a circular band split to provide two opposing free ends movable toward each other to embrace the instrument; an ear mounted to said band diametrically opposite said free ends and adjacent the panel-contacting edge of said band, said ear being adapted to receive a fastener for attaching it to the rear of said panel; a single pair of toggle links pivotally connected one to each of said free ends but free of connection to each other; a saddle movable parallel to the axis of said band and slidably engaging said links to force their pivoted ends toward each other to constrict said band about an instrument; and means to engage said saddle to urge it toward said panel; the engagement of said saddle with said links forcing said band into intimate engagement with said panel.

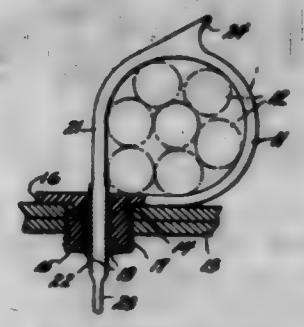
2,969,215
VERTICAL EXPANSION STACK BRACE
Floyd A. Weaver, Roselawn, Ind.
(6235 S. Kenwood Ave., Chicago 37, Ill.)
Filed July 22, 1959, Ser. No. 828,788
2 Claims. (Cl. 248—49)

1. A vertical expansion stack brace, in combination with a smoke stack and a wall spaced therefrom and in substantially parallel alignment with relation thereto, an angular-shaped plate having one side thereof secured to the stack, a tubular slide member secured to an extended portion of the angular-shaped plate, a slot formed vertically in the side of the tubular slide member with the slot being faced away from the stack and the angular-shaped plate, an angular member adapted



to be secured on the vertical face of a well, a plate wall member secured to and carried by the angular member and extending toward the stack, a second tubular slide member secured on the extended plate wall member, with the second tubular slide member fitted into the first tubular slide member, and with the first tubular slide member being adapted for vertical movement with relation to the second tubular slide member.

2,969,216
CLAMPS FOR SECURING AND SUPPORTING ARTICLES
James V. Halsey, Graham, N.C., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Apr. 25, 1958, Ser. No. 731,026
8 Claims. (Cl. 248—71)

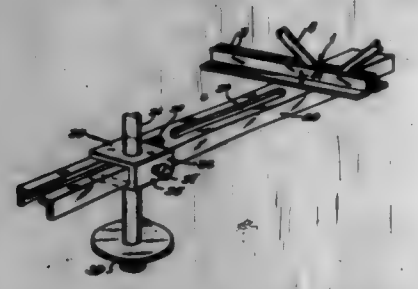


1. A one-piece, self-locking clamp for supporting an article from a structural member, which comprises a shank designed to be received within an aperture formed in a structural member, the shank having a passageway extending therethrough, restrictive means formed on the walls of said passageway, a flexible strap having a free end integrally formed on the shank and extending therefrom, the free end portion of the strap designed to be inserted into the passageway whereby the shank is expanded within the aperture, means on the free end portion of the strap cooperating with the restrictive means in the passageway to frictionally retain the free end of the strap within said passageway to form a loop in which to support the article.

2,969,217
FIXTURE HANGERS
James W. Potter, Urbana, Ill.
Original application Oct. 7, 1954, Ser. No. 460,941, now Patent No. 2,838,832, dated June 17, 1958. Divided and this application Apr. 11, 1958, Ser. No. 727,829
1 Claim. (Cl. 248—205)

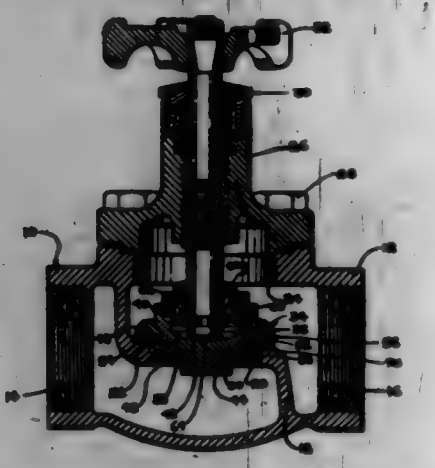
An apparatus for attaching a lighting fixture rod in an open joist ceiling structure comprising in combination a bar bridging at least two of the said joists, said bar containing longitudinal elongated apertures more than suf-

ficient to receive the said rod and allow same to be adjustable longitudinally with respect to said bar, said elongated apertures being evenly spaced throughout the length of said bar, a C-shaped clamp having openings in the



legs thereof sufficient to receive the said rod, the clamp being so mounted as to embrace the bar and substantially align the openings thereof with portions of the elongated apertures of the bar, said clamp containing an adjustable member to secure the rod and bar at any desired position.

2,969,218
VALVE
Harry N. Shaw, Mount Prospect, Ill., assignor to The Bastian-Blessing Company, Chicago, Ill., a corporation of Illinois
Filed June 22, 1956, Ser. No. 593,109
6 Claims. (Cl. 251—333)



6. A valve head comprising a ring having a hollow core of predetermined volume defined in part by a resilient wall for engaging a valve seat, and a substantially incompressible, deformable element filling said hollow core of a volume greater than said predetermined volume, and means confining said liquid element within said hollow core and stressing the ring by expanding said predetermined volume to that of the liquid element.

2,969,219
VALVE SEAT
Jerome R. Bunce, Jr., Wauconda, and Edwin J. Geu, Norwood Park Township, Cook County, Ill., assignors to The Bastian-Blessing Company, Chicago, Ill., a corporation of Illinois
Filed June 14, 1956, Ser. No. 591,337
2 Claims. (Cl. 251—362)



2. A valve head centerpiece assembly comprising a carrier member having an internally threaded annular flange defining a recess having a flat bottom, a valve seat disposed in the recess comprising a cylindrical main portion having a flat front face with a mirror finish and an annular member integrally formed therewith extending marginally from the back to define a hollow core above the bottom of the recess and terminating in an annular flat supporting surface resting on the bottom of the recess, said main portion having a hardness in excess of 82 Shore D. and the radial thickness of the annular flange being approximately one-half the radius of the main portion, a seat retainer ring threaded into the annular flange having a wall telescoping over the valve seat and a radial flange engaging the margins of said front face under compressive force.

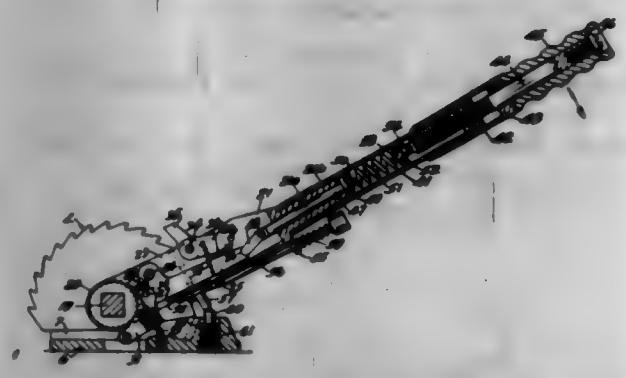
2,969,220
DEVICE FOR ELEVATING AND ALIGNING BUILDING MATERIAL
Herbert D. Spencer, Cincinnatus, N.Y.
Filed Nov. 18, 1957, Ser. No. 697,182
1 Claim. (Cl. 254—4)



A device of the kind described which comprises an outer tubular elongated elevator guide having upper and lower cylindrical end portions and an intermediate portion having a longitudinal slot which extends downwardly from said upper cylindrical end portion and terminates at said lower cylindrical portion; a base comprising a single elongated horizontally disposed cross member and horizontally disposed supports attached transversely to the ends of said cross member; castering means on said supports for facilitating the manipulating and positioning of the load to be carried by said device; means mounted intermediate the ends of said cross member for demountably securing said upright guide member on the base, said means comprising a receptacle formed to fit the lower cylindrical end portion of said outer tubular guide and manually operable means for securing the lower cylindrical end portion in said receptacle; an elongated tubular elevator member fitted to slide within said upright slotted guide and being surrounded along a part of its length by said upper cylindrical portion of the guide, said slotted portion of said tubular guide being formed to surround another part of said elongated elevator sufficiently to prevent a lateral emergence of the elevator through said slot; a horizontally disposed frame for carrying a load; pivotal means for manually mounting said frame on the upper end of said tubular elevator; a laterally projecting member secured to the lower end of said elevator, said member being formed to project through and slide along said slot and to be engaged by said upper and lower cylindrical portions of said guide for limiting the vertical throw of said elevator member; a winch for raising and lowering said elevator, said winch being mounted externally on said upper cylindrical

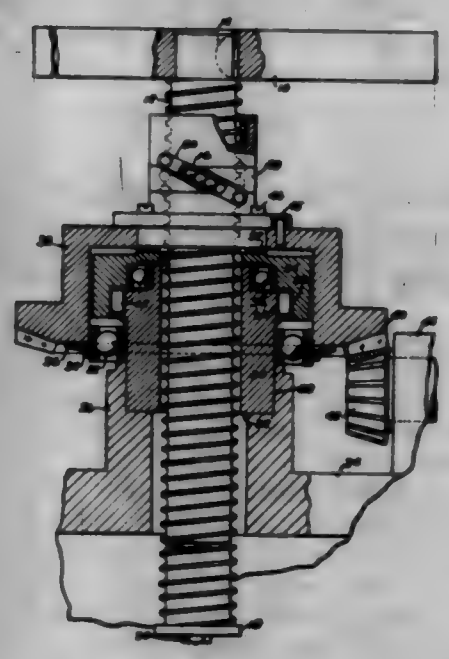
portion of said guide; releasable holding means for retaining said elevator in raised position; a cable attached at one end to said projecting member and extending vertically and upwardly outside the guide member; and means for winding said cable on said winch for raising the elevator.

2,969,221
BINDING TENSIONER
Oren B. Harmon, Algona, Iowa
Filed Apr. 15, 1955, Ser. No. 501,691
6 Claims. (Cl. 254—51)



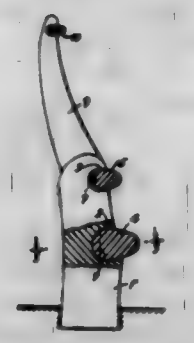
1. A binding tensioner comprising mechanism for engaging adjacent but longitudinally spaced portions of an elongated binding arranged in encircling relationship to an object to be bound and for tightening the binding around the object, said mechanism including rotary tightening mechanism for applying the tension to the binding, lever mechanism engaging said tightening mechanism directly for rotating the same and including a shiftably mounted torque-responsive toggle lever constructed and arranged to shift position when a predetermined torque is exceeded in attempting to rotate said tightening mechanism further, and locking mechanism connected with said binding engaging and tightening mechanism and actuated by said lever when a predetermined tension is reached for locking said rotary tightening mechanism against applying further tension to the binding.

2,969,222
NO-BACK ARRANGEMENT FOR BALL SCREWS
Richard E. Sears, Birmingham, Mich., assignor to Beaver Precision Products, Inc., Clawson, Mich., a corporation of Michigan
Filed Aug. 23, 1957, Ser. No. 679,972
17 Claims. (Cl. 254—103)



1. A screw jack subject to unidirectional thrust load comprising a screw and nut, one of which comprises a rotatable input member rotatable about the axis of the thrust load and the other comprises a translatable output member translatable along the axis of the thrust load, a series of bearing balls disposed between and interconnecting the screw and nut, means for driving the input member in either direction of rotation, a stationary member positioned to receive said thrust load and against which the input member bears axially, a connection between the input member and the stationary member for resisting rotation of the input member in the direction as induced by the thrust load on the output member, said connection including a frictional element interposed axially between the input member and the stationary member and means for reducing the frictional effect of said frictional element comprising a resilient support for supporting the input member from the stationary member independently of said frictional connection.

2,969,223
ROAD FENCE
Hans Henning Hansen, Askeby, Mon, Denmark
Filed June 26, 1957, Ser. No. 668,257
Claims priority, application Denmark June 28, 1956
6 Claims. (Cl. 256—13.1)

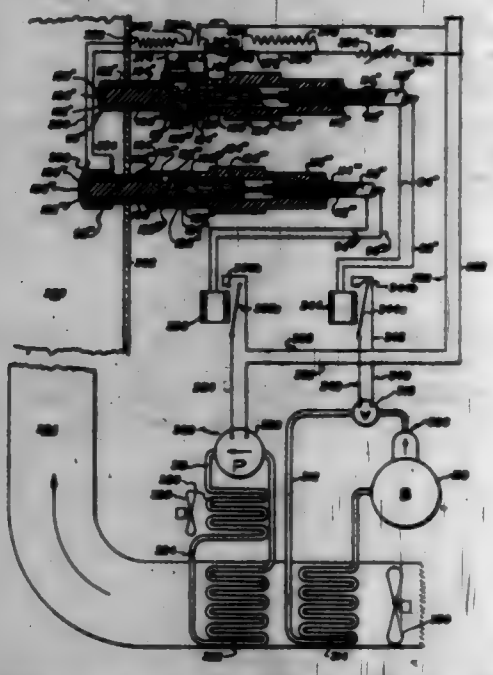


1. A guard rail fence comprising at least one rail and one post, said post having a side notch having an opening toward the front thereof, said notch being undercut to provide an enlarged area to the rear of said opening, said rail having an end portion of substantially the same configuration as that of said notch and in engagement therein, and an adjacent shoulder on said rail in abutting engagement with a side of said post.

2,969,224
TEMPERATURE RESPONSIVE CONTROL APPARATUS
Russell B. Matthews, Wauwatosa, Wis., assignor to Baso Inc., Milwaukee, Wis., a corporation of Wisconsin
Filed Feb. 12, 1957, Ser. No. 639,747
6 Claims. (Cl. 257—286)

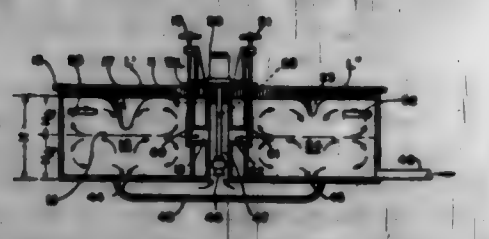
2. The combination with means defining a chamber, means for heating a medium within said chamber and means for cooling said medium, of control means for both of said heating and said cooling means comprising a first thermoelectric generator having a first thermojunction subject to the temperature of said medium and having at least one second thermojunction, first electroresponsive control means having a predetermined actuating electrical energization value in circuit with said first generator and in controlling relation with said heating means, a second thermoelectric generator having a third thermojunction subject to the temperature of said medium and having at least one fourth thermojunction, second electroresponsive control means having a predetermined actuating electrical energization value in circuit with said second generator and in controlling relation with said cooling means, first electroresponsive heating means for said second thermojunction tending when energized to maintain the temperature of said second thermojunction at a predetermined level above the ambient temperature external to said chamber, second electroresponsive heat-

ing means for said third thermojunction of said second generator tending when energized to maintain the temperature of said third thermojunction at a predetermined level above said ambient temperature, and a selector switch in circuit with both of said thermojunction heating means and with a source of electrical energy, said switch having a first position effecting energization of said first electroresponsive heating means and having a second position effecting energization of said second electroresponsive heating means, said first generator when said



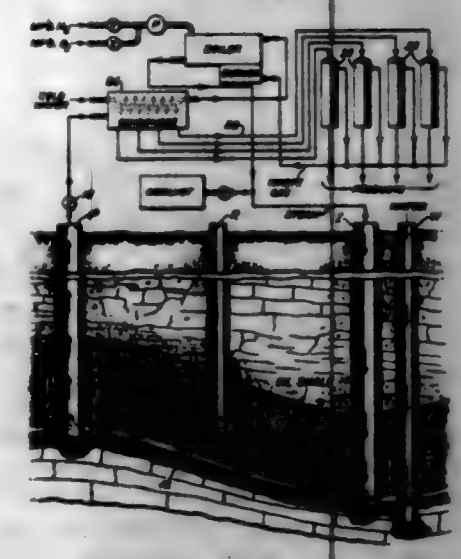
selector switch is in its first position being responsive to a temperature within said chamber less than a predetermined temperature above said ambient to effect actuation of said first electroresponsive control means for operation of said medium heating means, and said second generator when said selector switch is in its second position being responsive to a temperature within said chamber above a predetermined temperature below said ambient to effect actuation of said second electroresponsive control means for operation of said medium cooling means.

2,969,225
DETENTION AND MIXING APPARATUS FOR TREATING WASTE LIQUIDS
Harry N. Jenks, Palo Alto, Calif.
Filed Feb. 9, 1955, Ser. No. 487,855
3 Claims. (Cl. 259—95)



1. A continuously operable detention-and-mixing station, for treating poluted waste liquids, having a substantially cylindrical tank adapted to hold a vortically swirling body of liquid provided with a feed inlet and means for discharging liquid treated in the body, a lower conduit extending from the tank bottom, an upper conduit extending substantially tangentially into the tank in its upper section, a riser column communicatively extending from the lower conduit to the upper conduit with an inlet into the riser from the lower conduit and an outlet from the riser into the upper conduit, liquid-lift means in the riser for pumping liquid through the lower conduit upwardly through the riser and discharging the liquid tangentially back into the tank through the upper conduit at vortex-inducing speed, axially located tubular means communicating with the lower conduit in the tank bottom and extending upwardly into the region of the vortex having openings in its upper section, and means for converting velocity head of the vortex into static head in the riser column comprising vortex supressing and deflecting vane means having blades extending from the tubular means in its upper section with the outer edges angled against the direction of flow of the vortex for peeling off and infolding liquid from the periphery of the vortex to spill downwardly through the openings into the tubular means to be conducted by the latter on its way to the lower conduit and into the riser column.

2,969,226
PENDANT PARTING PETRO PYROLYSIS PROCESS
Morgan G. Huntington, Washington, D.C., assignor to Pyrochem Corporation
Filed Jan. 19, 1959, Ser. No. 787,755
8 Claims. (Cl. 262—3)

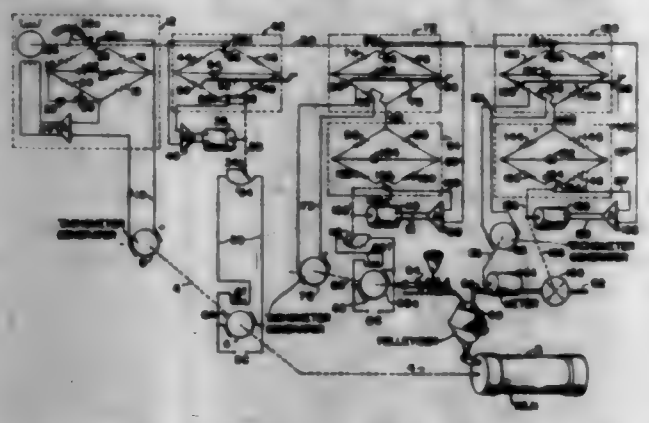


1. An in situ method of winning shale oil from oil shale that comprises: fracturing the impermeable formation of oil shale at a plane of weakness therein, venting a higher level natural plane of weakness in the formation, introducing a fluid into the formation along the parted plane of weakness, said fluid being at a temperature sufficient to pyrolyze the oil shale and at a pressure equal to or slightly greater than the rock pressure, whereby the sensible heat of the fluid is tranferred to the surrounding oil shale formation and pyrolysis and vaporization of the oil shale occurs, and recovering the fluid with hydrocarbon vapor products of pyrolysis entrained therein.

2,969,227
APPARATUS FOR MAKING PELLETS
Norman C. Ludwig, Chicago, Ill., assignor to United States Steel Corporation, a corporation of New Jersey
Filed Dec. 29, 1958, Ser. No. 783,436
4 Claims. (Cl. 263—33)

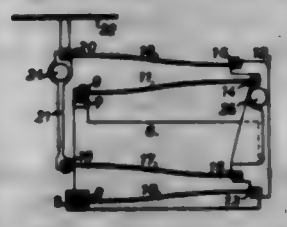
1. Apparatus for making pellets comprising a pelletizer, means for feeding raw solids to said pelletizer, means for obtaining a voltage proportional to rate of feed of raw solids, a rotatable shaft positioned according to the desired output of said pelletizer, a first bridge including a variable resistance having its contactor connected for movement by said shaft, means for connecting the last named voltage to said first bridge, a second bridge, means electrically connecting said first bridge to said second bridge, means for varying the rate of feed of solids, means for connecting the difference in output voltage of said first and second bridges to control said last named means, means for obtaining a voltage proportional to rate of feed of water, a third bridge including

a variable resistance having its contactor connected for movement by said shaft, means for connecting the last named voltage to said third bridge, a fourth bridge, means electrically connecting said third bridge to said



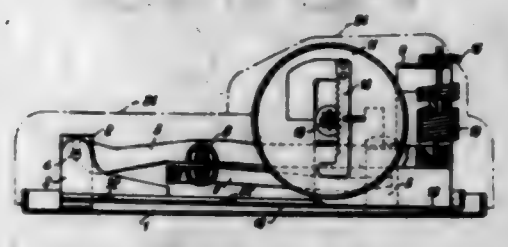
fourth bridge, means for varying the rate of water feed, and means for connecting the difference in output voltage of said third and fourth bridges to control said last named means.

2,969,228
SPRING BALANCE
Max Karl Appius, Rapperswil, Switzerland, assignor to Erhard Mettler, Zurich, Switzerland
Filed Dec. 29, 1958, Ser. No. 783,239
Claims priority, application Switzerland Apr. 2, 1958
4 Claims. (Cl. 265—63)



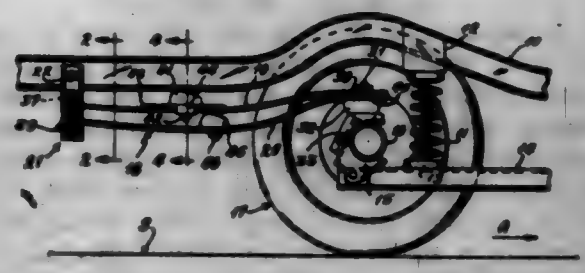
1. A spring balance comprising a frame having first and second vertically spaced spring connection points thereon, a vertical intermediate member having vertically spaced first, second, third and fourth spring connection points thereon, a vertical scale pan support having vertically spaced first and second spring connection points thereon, first and second leaf springs connected intermediate said intermediate member and said frame, said first leaf spring being connected at one end to said frame first connection point and at the other end to said intermediate member first connection point and said second leaf spring being connected at one end to said frame second connection point and at the other end to said intermediate member second connection point, and third and fourth leaf springs connected intermediate said intermediate member and said pan support, said third spring being connected at one end to said intermediate member third connection point and at the other end to said pan support first connection point and said fourth spring being connected at one end to said intermediate member fourth connection point and at the other end to said pan support second connection point, each of said leaf springs being flat over the length thereof and initially of a prestressed S-shaped configuration when said balance is free of any weight to be measured to cause said pan support first and second connecting points to be at higher elevations, respectively, than said intermediate member third and fourth connecting points and to cause said intermediate member first and second connection points to be at higher elevations, respectively, than said frame first and second connection points whereby when a weight to be measured is applied to the scale pan of said balance said pan support and said intermediate member will be moved downwardly to cause said each of said prestressed leaf springs to be distorted to a normally horizontal configuration.

2,969,229
WEIGHING MACHINE, PARTICULARLY FOR WEIGHING PERSONS
Fritz Krups, Solingen-Wald, Germany, assignor, by mesne assignments, to Detecto Scales, Inc., Brooklyn, N.Y., a corporation of New York
Filed Feb. 14, 1956, Ser. No. 565,487
Claims priority, application Germany June 5, 1955
20 Claims. (Cl. 265—68)



1. A weighing machine, particularly intended for weighing persons, comprising in combination a casing having a cover plate and a bottom plate, weighing elements arranged in said casing between said cover plate and said bottom plate, said weighing elements consisting substantially of a rotary indicator member having a pinion, a main transmission lever with knife edges, a vertical spiral spring acting on one end of said main transmission lever and a toothed rack cooperating with said pinion to transmit the movement of said main transmission lever to said rotary indicator member against the action of said spiral spring, supporting bearings on said bottom plate for the knife edges at the sides of the other end of said main transmission lever, a carrier on which certain of said elements and said spiral spring are firmly mounted, the end of said carrier remote from said spiral spring being connected to said bottom plate between said supporting bearings, whereas the other end of said carrier is mounted underneath said spiral spring at least one of said ends of said carrier being loosely mounted on said bottom plate so as to yield pivotally in a lateral vertical plane at said one end when the other end of said bottom plate is relatively distorted due to an uneven floor on which the device is resting, whereby the vertical spacing of the connections between said weighing elements is unaffected by such distortion.

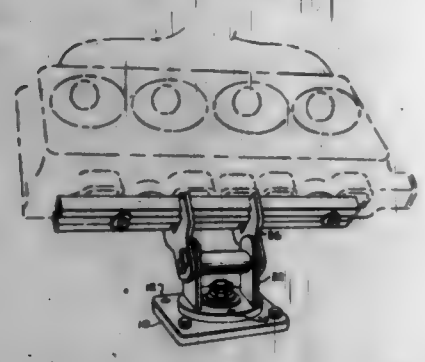
2,969,230
VEHICLE SPRING DEVICE
William A. Scheublein, Jr., St. Louis, and Edmund A. Check, Kansas City, Mo., assignors to Moog Industries, Inc., St. Louis, Mo., a corporation of Missouri
Filed Feb. 4, 1959, Ser. No. 791,178
8 Claims. (Cl. 267—16)



1. In a vehicle having a frame supported from the axle by a principal suspension spring, an auxiliary spring device disposed between the frame and axle to effect a progressively increasing load supporting lift on the frame to assist the principal suspension spring, said spring device including leaf members connected together at one end and separated at the opposite end, hanger means on the frame supporting the separated ends of said leaf members, a support surface on the axle to carry the connected ends of said leaf members, and bumper means carried by said spring device intermediate its ends in position to abut an adjacent part of the vehicle frame and to abuttingly en-

gage between said leaf members, said leaf members being formed of different gauge resilient material to have different flexing reaction rates.

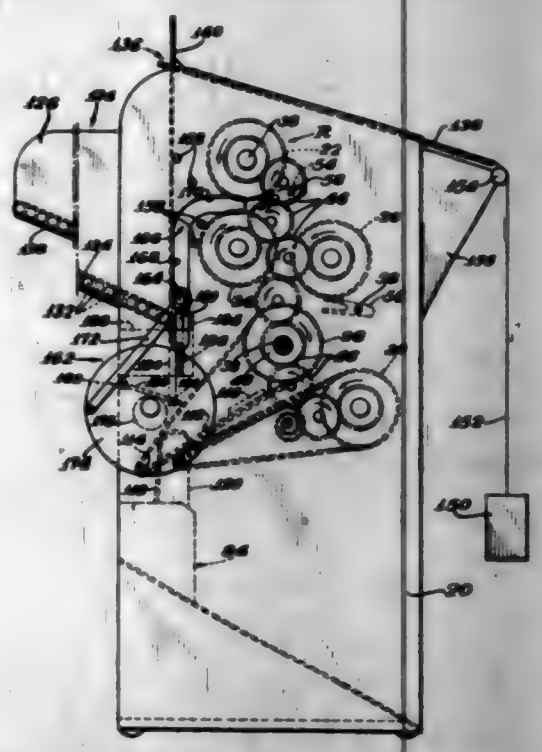
2,969,231
HEAD HOLDER
Harold E. Mills, 4701 40th, Lubbock, Tex.
Filed Feb. 2, 1960, Ser. No. 6,207
6 Claims. (Cl. 269—185)



1. A work holder comprising: a base plate having a plane surfaced lower side, the plate having a plurality of holes therethrough for attaching it to a support, a pintle on the opposite side of the plate from said plane surface normal thereto, a second plate with a hole in the center thereof, the pintle extending through the hole in the second plate, two ears extending upward from and attached to the second plate, each ear having a plane surface parallel to each other, the pintle extending in the same direction as the ears with the respect to the plate, one ear on either side of the pintle, each ear having a hole therethrough aligned with the hole in the other ear, two tabs each having a plane surface contacting a plane surface on one of the ears, a hole in each tab, a bolt extending through the holes in the ears and tabs, the bolt at a right angle to the pintle, screw threads and a nut on one end of the bolt so that the tabs may be clamped to the ears, and two straight free bars, each bar securely attached to each tab at each side of the mid-point of the bar, the sole connection of the bars being to the tabs, each bar parallel to the bolt, so that the bars are at all times parallel to the plane surface of the base plate and a work piece may be attached to the bars by bolts extending through the bars.

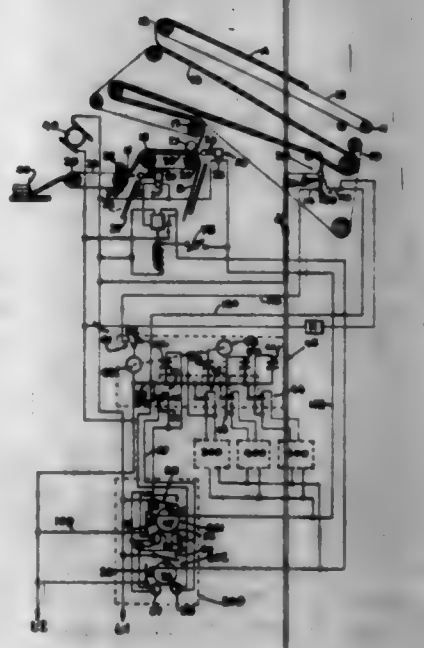
2,969,232
MACHINE FOR FOLDING NEWSPAPERS
Henry W. Cook, 4025 Amelia Ave., Lyons, Ill.
Filed July 9, 1957, Ser. No. 670,823
6 Claims. (Cl. 270—68)

1. A machine of the character disclosed comprising a plurality of sets of rolls arranged serially, the rolls being of substantially the same diameter and extending substantially entirely across the machine, each set of rolls being operative for gripping a paper and passing it therethrough, means for feeding a paper to a first of the sets, each set of rolls establishing a plane in which a paper is disposed in passing through these rolls, and the sets being arranged so that the said planes associated with adjacent sets are disposed at an angle relative to each other, a finger pivoted on an axis on the side of the plane associated with said first set opposite the second set, and having a recess at its swinging end, said finger being mounted for pivotal movement between a first position in which the recess is directed toward the exit bight of the rolls of the first of said sets and a second position in which the recess is directed toward the receiving bight of the rolls of a second of said sets, the finger when in said first position being adjacent to but angularly displaced from the plane associated with said first set and thereby being rocked under the force of a paper from the first set entering its recess to its second position in which the finger is closely adjacent the plane associated with said second set, the finger being operative for producing



a fold in the paper and presenting a folded new leading edge to the second set of rolls, and means biasing the finger to its first position and yielding under the action of the finger moving to its second position.

2,969,233
LAUNDRY FOLDING MACHINES
Benjamin Alvin Buss, East Moline, Ill., assignor to American Machine and Metals, Inc., East Moline, Ill., a corporation of Delaware
Filed Jan. 27, 1958, Ser. No. 711,509
7 Claims. (Cl. 270—69)



1. A control system for textile article processing apparatus adapted to receive successively fed articles of varying length measured along their path of travel through said apparatus comprising textile article operating means adapted to perform selected operations upon the articles being processed in sequence; a plurality of timing mechanisms each being connected to said article operating means for controlling said article operating means; sensing means disposed in said path of travel responsive to said length of the articles being processed as they pass sequentially thereby and adapted sequential-

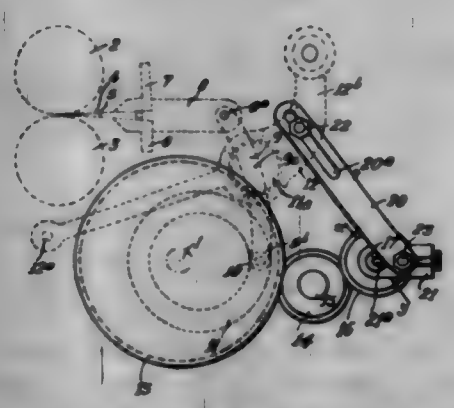
ly to control each of said timing mechanisms; and sequence controller means for sequentially transferring control by said sensing means to each of said timing mechanisms as articles pass in sequence so that one of the timing mechanisms assumes control of the article operating means for a particular article being processed, said sequence controller means performing its transfer function in two discrete steps, the first step being performed as the article is being sensed by said sensing means and the second step being performed by said sequence controller means after the article has passed said sensing means so as to transfer control to the next timing mechanism, said sensing means, after the article has been sensed, continuing operation of each of said timing mechanisms after it has been activated while said sequence controller is changing from said first step to said second step.

2,969,234

ATTACHMENT FOR FOLDING MACHINE

Daniel Demagny, 62 Rue Tiquetonne, Paris, France

Filed Oct. 8, 1958, Ser. No. 766,139
Claims priority, application France Nov. 30, 1957
7 Claims. (Cl. 270—80)



1. In a folding machine having a drive shaft, reciprocable folding comb means and means operated by said shaft for reciprocating said comb means to form folds in work material and a lever in operative association with said comb means and adjustable in angular position for altering the length of reciprocation of said comb means while the machine is in operation and thereby modifying the fold depth, the improvement comprising: a link having one end attached to said lever and its other end displaceable between different positions, a member shiftable between two positions in each of which said member is operative to cause said other end of the link to be displaced from one to the other of its said positions at selectable times in the operation of said machine, a pinwheel having selectively insertable and removable pins, cam means secured to said member and engageable with pins of the pinwheel to shift said member between its positions on engagement with a pin, and means operated from said drive shaft for imparting step by step rotation to said pinwheel.

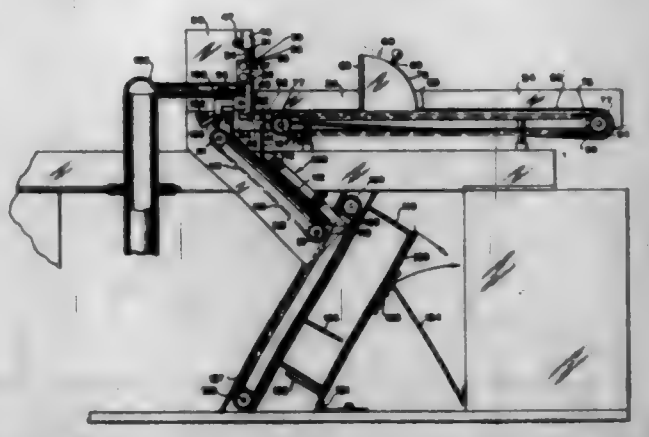
2,969,235

AUTOMATIC CAMERA APPARATUS FOR MAKING UP PRINTED COPY

Edward Harris Billet, Union, and Beatty Rank, Roselle, N.J., assignors to Vari-Typer Corporation, Newark, N.J., a corporation of Delaware

Continuation of application Ser. No. 552,472, Dec. 12, 1955. This application Nov. 21, 1958, Ser. No. 776,663
12 Claims. (Cl. 271—43)

1. In make-up apparatus for photographing a succession of lines of typed material in columnar form by photographing a series of cards, each bearing a typed line, a table for receiving a stack of cards on edge, a face plate and a knife feeder having faces against which the cards in succession are positioned, said faces lying generally in a common plane and the knife feeder having a step for engaging and feeding the foremost card of the stack edgewise upon movement of the knife feeder, at least one pilot pin projecting into said common plane and



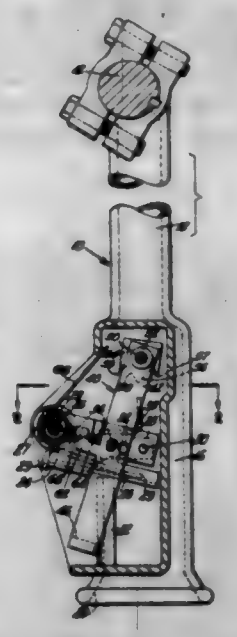
received within a previously punched hole in the card to position the card for photographing, means for retracting the pilot pin while the photographed card is being fed, and means for applying a partial vacuum to the front face of the foremost card to press it into contact with the face plate.

2,969,236

BOWLING PIN RESPOTTING APPARATUS

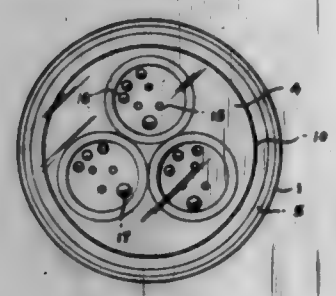
John Zuercher, Mansfield, Ohio, assignor to American Machine & Foundry Company, a corporation of New Jersey

Filed Jan. 15, 1958, Ser. No. 709,028
4 Claims. (Cl. 273—42)



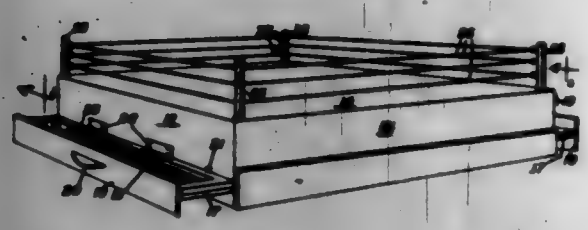
1. A bowling pin-respotting mechanism for use with a vertically moving pin-spotting table of a bowling pin-spotting machine, comprising a housing, means pivotally mounting said housing on said table, a gripper, means pivotally mounting said gripper in said housing, an inner and an outer channel, means pivotally mounting said channels inside said housing, resilient means to effect co-action between said channels, a cam mounted on said outer channel, and a pair of cam surfaces mounted on said gripper, said inner channel being mounted to engage a bowling pin inserted in said housing on said table when said table is moved vertically, whereby upon the relative upward movement of said pin said channels and said cam are moved upwardly, said cam traveling on said surfaces to move said gripper into and out of pin-engaging position adjacent said pin as said table is moved successively toward said alley.

2,969,237
ROLL-BALL DEVICE
William J. Rogers, 53—15 66th St., Maspeth 78, N.Y.
Filed Oct. 5, 1959, Ser. No. 844,398
4 Claims. (Cl. 273—113)



1. A roll-ball device comprising a container closed at its bottom and having a transparent member sealing over the opposite end thereof, a group of balls rollable about the interior of the container upon the bottom thereof, separate means confining each ball to a specific range of movement, a flat disc member resting upon the group of balls and having a diameter slightly less than the inner diameter of the container, a group of small holes in the upper surface of the disc member, a cylindrical wall projecting upwardly from the surface of the disc member and surrounding the group of holes, and a ball element rollable over the upper surface of the disc member within the confines of the cylindrical wall, the ball element having a diameter greater than that of the holes and adapted to be seated in any one of the holes.

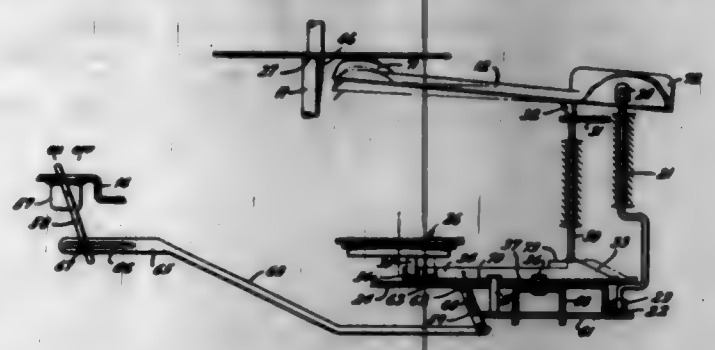
2,969,238
BOXING GAME
Fernando Tintorer, Prov de Matz, Cuba
(Calle Maceo 5, Perico, Matanzas, Cuba)
Filed Sept. 26, 1957, Ser. No. 686,527
1 Claim. (Cl. 273—136)



A game board comprising a hollow housing provided with a hollow interior, said housing embodying a pair of spaced parallel vertically disposed end walls, and spaced parallel vertically disposed side walls, said housing further including a horizontally disposed upper wall member, the bottom of the housing being open, there being slots in said end walls, a base slidably mounted in each slot, said bases having indicia thereon, a vertically disposed end piece secured to the outer end of each of said bases, a finger piece extending outwardly from each end piece, a flap hingedly connected to each of said end walls, and a transparent window carried by each flap, said bases being capable of movement into and out of extended and retracted positions through said slots, and whereby when the bases are moved to their retracted closed position, the flaps occupy a position which is contiguous to the end walls, and wherein when the bases are in their extended position, the flaps overlie the bases so that the indicia on the bases can be viewed through the transparent windows of the flaps.

2,969,239
PHONOGRAPH APPARATUS
Winfield W. Loose, Reading, Pa., assignor to Philco Corporation, Philadelphia, Pa., a corporation of Pennsylvania
Filed May 23, 1955, Ser. No. 510,250
1 Claim. (Cl. 274—10)

In a record-changing phonograph of the kind in which records to be played are supported at a predetermined level above a turntable and dropped successively to playing position on the turntable, and in which a driving motor is controlled by a switching device operable to start and to stop the phonograph, the combination comprising a tone-arm movable into and out of playing engagement with a record in said playing position, cycling mechanism adapted to be driven by the motor and to move said tone-arm, said mechanism including means for so lifting the tone-arm that a portion thereof is raised to an uppermost position above said predetermined level inside the diameter of a record to be played and at the

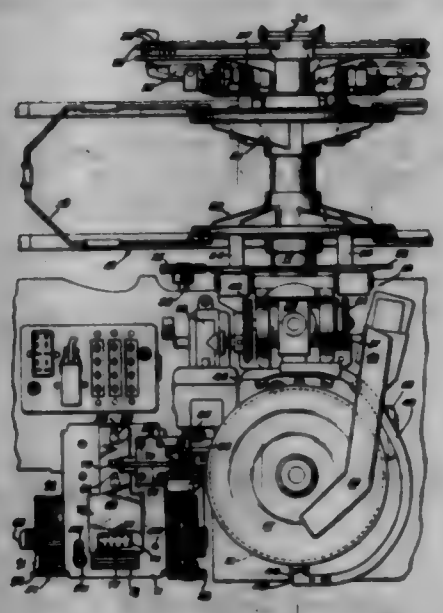


beginning of the change cycle, in the absence of a record at said level, a mechanical system coupled to the switching device and connected with said cycling mechanism to move therewith, means operated by the tone-arm in its uppermost position, whereby said system is shifted by said cycling mechanism from an inactive position to actuate said device to stop the phonograph, and means whereby said last mentioned means is prevented from shifting said system when said portion of the tone-arm is prevented from reaching its said uppermost position by a record supported at said predetermined level.

2,969,240
PHONOGRAPH ANNUNCIATOR-PLAYMETER
Harry Herbert Vanderzee, Bangor, Wis., and George S. Brown, Jr., Grand Rapids, Mich., assignors, by mesne assignments, to Automatic Music, Inc., Grand Rapids, Mich., a corporation of Delaware
Filed May 6, 1957, Ser. No. 657,220
12 Claims. (Cl. 274—10)

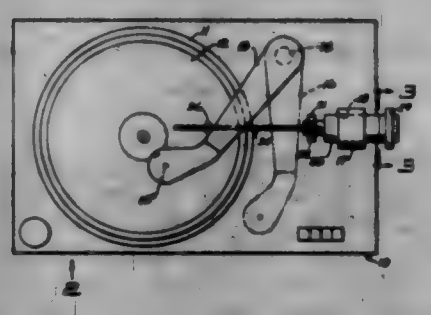
1. In an automatic phonograph mechanism including a record player consisting of a turntable and tone arm, a record magazine of circular form with multiple record compartments in radial arrangement; means for retaining a multiplicity of flat disc records in said magazine, and a record transfer mechanism including a semi-circular arm having opposed gripper members to move a record from vertical position in a compartment of said magazine to horizontal position on said turntable, an annunciator-playmeter assembly including an annunciator dial and a playmeter dial both carried by a drum located adjacent the turntable and operatively connected to the record magazine for synchronous rotation therewith; the annunciator dial having an index strip with at least two rows of indicia indicating the back and front faces respectively of the disc records in the magazine and an annunciator indicator consisting of a shiftable member movable between two alternative positions of registry with said rows of indicia; the playmeter dial including a series of parallel markings with a plurality of parallel indicator bars corresponding in number to the records in the magazine and

each individually related to a specific record, said bars extending in a direction perpendicular to said markings and being longitudinally shiftable across said markings; with means responsive to the playing of either side of any record to advance one of said bars in successive small increments of longitudinal motion; said means including



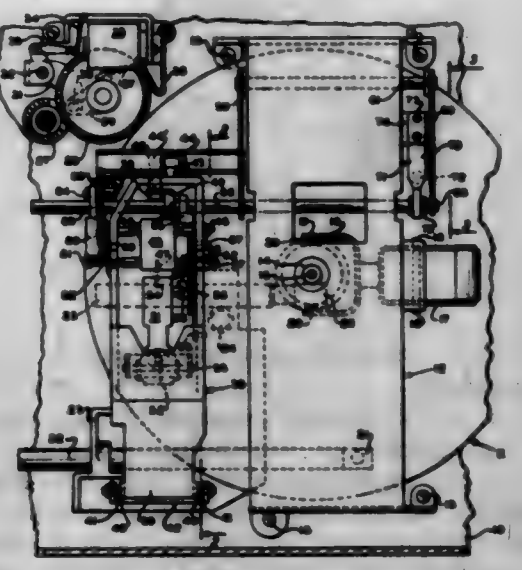
a single electro-mechanical advancing device common to all of said bars; said advancing device being normally out of engagement with all of said bars, with means responsive to the actuation of the record player to engage any one of said bars in accordance with the record selection made and to advance said bar a small increment of longitudinal movement upon each actuation of the record player.

2,969,241
RAISING AND LOWERING DEVICE FOR PHONOGRAPH ARM
Alex M. Wyrod, 21149 Huntington, Harper Woods, Mich.
Filed July 17, 1959, Ser. No. 827,835
3 Claims. (Cl. 274—14)



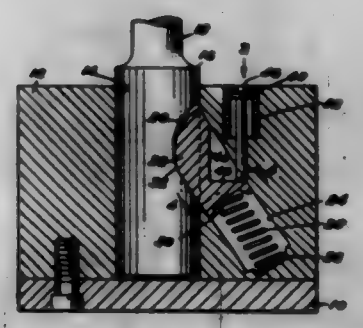
1. A repeating device for use with a phonograph having a tone arm provided with a stylus adapted to engage the sound grooves in a record, comprising: a body member; means for adjustably mounting said body member on the phonograph for adjustable vertical movement; a rod slidably and rotatably mounted in a horizontal position in said body member, said rod having a longitudinal bore therein eccentrically displaced from and parallel to its longitudinal axis, a lifting arm slidably mounted in said bore in an eccentric position relative to said axis and having the one end thereof extended inwardly of said phonograph and under the tone arm, whereby, when said rod is in a first position with the lifting arm disposed at its lowest position, the tone arm may operate freely on the record and when the rod is rotated to second position to bring the lifting arm to its highest position, the tone arm will be lifted to permit the rod to be slid outwardly to place the tone arm back to a desired starting place on the record.

2,969,242
DICTATING MACHINE
Robert M. Silverman, Springfield, N.J., assignor to McGraw-Edison Company, Elgin, Ill., a corporation of Delaware
Filed Feb. 13, 1959, Ser. No. 793,196
11 Claims. (Cl. 274—46)



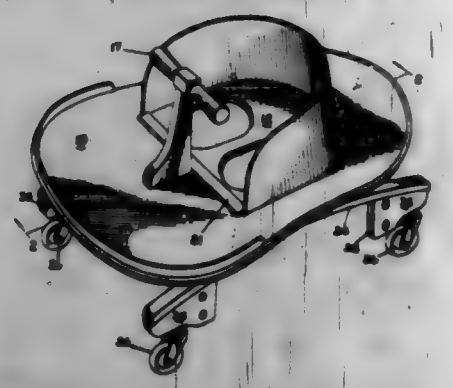
1. In a phonographic recording machine: the combination of a support for a record; a recorder head having a stylus for engaging a supported record and recording thereon by the embossing method in side-by-side grooves; control means for shifting said stylus into and out of engagement with the record; means for providing a normal bias force of the recorder stylus on the record when said control means is in record position; and supplementary bias means responsive to said shifting means as the stylus is moved into engagement with the record for initialling increasing the stylus pressure on the record by a predetermined amount.

2,969,243
HOLDING DEVICE
John Druzick, 8565 Steel Ave., Detroit, Mich.
Filed Mar. 9, 1959, Ser. No. 798,158
10 Claims. (Cl. 279—76)



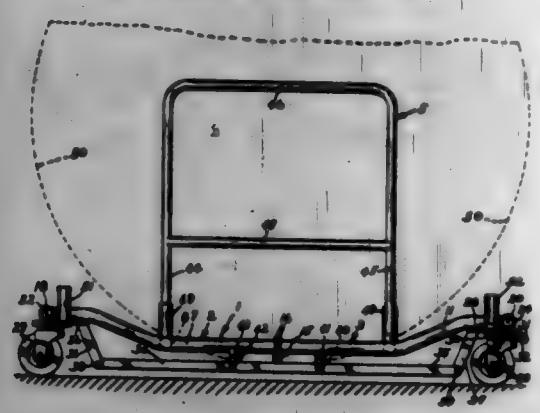
1. A releasable holding device for retaining cylindrical shafts in cylindrical sockets of the type in which a releasable, resiliently-biased plunger engages a recess in the shaft, and in which the plunger is inserted into an angled bore intersecting the cylindrical socket, that improvement which compriaes a plunger with a triangularly shaped notch in one side thereof, a pin disposed parallel to the socket spaced therefrom intersecting said angled bore having one end bearing against one side of said notch, means retaining said pin in said body, said means being apertured to permit the introduction of an actuating probe for shifting the plunger by pressure on the pin.

2,969,244
CHILD'S COMBINATION VEHICLE AND ROCKING CHAIR
William S. Duncan, Elora, Ontario, Canada
Filed Apr. 17, 1959, Ser. No. 807,096
5 Claims. (Cl. 280—8)



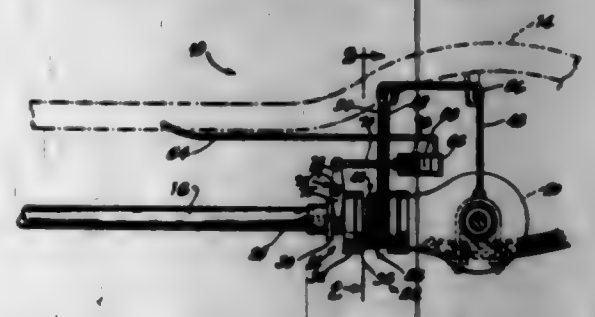
1. A child's combination wheeled vehicle and rocking chair comprising a platform, a central opening in said platform, a seat resiliently mounted in said opening, two pair of legs carried on the underside of and hingedly mounted on the underside of the platform to fold against the underside of the platform and a reversible ground gear removably mounted on the lower end of each pair of legs, the ground gear comprising an arcuate runner removably mounted on the lower end of each pair and retaining said legs against folding, a castor mounted on each end of the runner on the concave surface thereof whereby the runners may be selectively changed from a position in which the arcuate surface is in contact with the ground to a position in which the wheels are in contact therewith.

2,969,245
DEVICE FOR TRANSPORTING AND STORING ARTICLES OF FURNITURE AND THE LIKE
Kermit H. Wilson, % Sico Manufacturing Co., 5215 Eden Ave. S., Minneapolis, Minn.
Filed Mar. 23, 1959, Ser. No. 801,169
4 Claims. (Cl. 280—41)



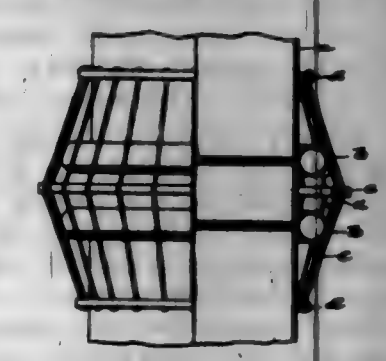
1. In a collapsible truck for transporting and storing articles of furniture and the like, a frame comprising a pair of cooperating normally generally horizontally disposed frame sections, hinge means pivotally connecting the inner ends of said frame sections together for swinging movements on a horizontal axis between their normally horizontally disposed operative article supporting positions and inoperative generally upright positions, wheel mounting means pivotally secured to the outer ends of each of said frame sections on horizontal axes parallel to the axis of said hinge means, supporting wheels journalled on said wheel mounting means, portions of said frame sections in their generally horizontal positions being disposed adjacent the level of the tops of said wheels, and means for maintaining each of said mounting means in given positions of pivotal movement relative to each other throughout movement of said frame sections between their operative and inoperative positions, said last-mentioned means comprising a pair of rigid control links disposed at one side of said truck and each pivotally connected to wheel mounting means of a different one of said frame sections and to the opposite frame section, the pivotal connections of said links to the wheel mounting means and to the frame sections having axes parallel to the axis of said hinge means.

2,969,246
ANTI-DIVE MEANS IN AUTOMOTIVE VEHICLE
Roy Erickson, Box 155, Thiensville, Wis.
Filed Oct. 30, 1958, Ser. No. 770,671
6 Claims. (Cl. 280—124)



1. In an automotive vehicle with a brake mechanism, a rear axle housing adjacent to the rear portion of the body frame and a drive shaft for transmitting power to the rear wheels of said vehicle, combined auxiliary braking and force-exerting means connected between the rear axle housing and the adjacent rear portion of the body frame for drawing the rear portion of the body frame closer to the rear axle housing and for supplementing the operation of the brake mechanism, means separate and apart from the brake mechanism for controlling the actuation of said brake mechanism, means connecting said combined means to the brake control means of the vehicle so that when the brake control means is operated for operation of the brakes the combined means is actuated to assist the braking mechanism and to draw the rear portion of the body frame down toward the rear axle housing and thereby prevent the front end of the body frame from dipping, said auxiliary braking and force-exerting means being drive shaft operated.

2,969,247
UNIVERSALLY MOVABLE PIPE JOINT
Jean Eggmann, Ennetbaden, Switzerland, assignor to Aktiengesellschaft Brown, Boveri & Cie, Baden, Switzerland a joint-stock company of Switzerland
Filed Feb. 7, 1958, Ser. No. 713,900
Claims priority, application Switzerland Feb. 28, 1957
4 Claims. (Cl. 285—114)



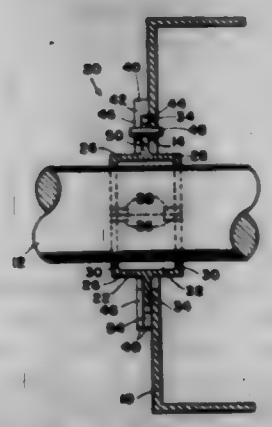
1. In a universally movable joint for rigid pipe the combination comprising a pair of rigid pipe ends arranged in confronting relation, a flexible pipe union interconnecting said pipe ends, an external flange secured on each of said pipe ends, said flanges being located on opposite sides of said pipe union, at least three longitudinally extending tension members arranged in equally spaced rela-

tion around the outside of said interconnected pipe ends and anchored at opposite ends thereof to the respective flanges, and a ring surrounding said interconnected pipe ends in a free floating manner in radially spaced relation from said pipe ends, the mid-portions of said longitudinally extending tension members being connected to said ring at points thereon lying at a greater radius from the pipe axis than are the end anchoring points on said flanges whereby a knee joint is established on each of said tension members at its point of connection to said ring, said ring being movable from a position concentric with the pipe axis and normal thereto when both pipe ends are axially aligned to an eccentric position and tilted from a normal to said pipe axis depending upon the direction in which one of said pipe ends is bent relative to the other at said flexible union, and which is accompanied simultaneously by a flexing of said knee joints to maintain equal tension in all of said tension members.

2,969,248
SHAFT SEAL

Walter V. Sulkowski, Williamsville, N.Y., assignor to National Gypsum Company, Buffalo, N.Y., a corporation of Delaware

Filed Apr. 19, 1957, Ser. No. 653,787
1 Claim. (Cl. 286—1)



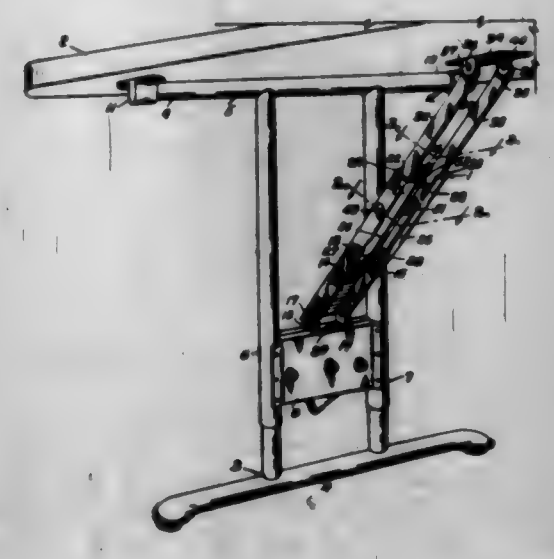
A method of containing heated calcining gypsum of a fineness of about 85% through 100 mesh in a container having a rotary shaft extending through a wall of said container whereat said calcining gypsum is disposed, comprising the steps of disposing in closely spaced relation around said shaft whereat said shaft extends through said wall a ring with a generally cylindrical inner periphery and having an inwardly opening annular chamber in said inner periphery, allowing said calcining gypsum to flow into said chamber in sufficient quantity to substantially fill said chamber, and retaining within said chamber substantially all of said gypsum which flows into said chamber, whereby an improved seal is provided eliminating undue leakage of said calcining gypsum.

2,969,249
FOLDING BRACE FOR CONNECTING HINGED ELEMENTS

Carl J. Fox, 449 North Shore Drive, Clear Lake, Iowa, assignor of one-half to Maxine E. Warren, North Miami Beach, Fla.

Filed July 6, 1959, Ser. No. 825,355
5 Claims. (Cl. 287—99)

1. A folding brace, including a channel member having side flanges interconnected by a web portion, said channel member having inturned side flanges extending along ends of said flanges of the channel member and cooperating with the web portion to provide longitudinally facing recesses, a pair of bars having apertured ends engaged in said recesses, a hinge pin extending through said flanges at points intermediate the length of the recesses and through said apertures for hinging the bars to the channel member, a coil spring having ends bearing against the apertured ends of the bars to yieldingly retain the said ends of the bars in said recesses in both extended and folded positions of the brace, and said spring being adapted to be compressed when a gripping pressure is applied to said bars to move the bars out of said recesses for folding of the brace, and cams providing continuations of said side flanges for moving the bars out of portions of the recesses on one side of the hinge pin when the brace is hinged on said hinge pin from folded to extended position whereby the spring snaps the ends of the bars into the portions of the recesses on the opposite side of the hinge pin.



2,969,250
SOCKET DRIVE

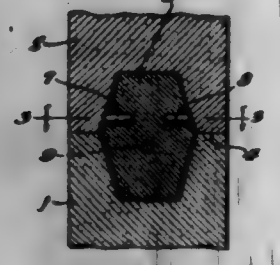
Francis R. Kull, Davisville, Pa., assignor to Standard Pressed Steel Co., Jenkintown, Pa., a corporation of Pennsylvania

Filed Jan. 5, 1959, Ser. No. 784,997
3 Claims. (Cl. 287—126)



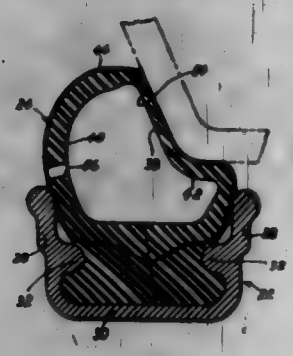
1. A coupling comprising a pair of telescopically engaged male and female members, at least one member having a plurality of outwardly-bowed outer peripheral surfaces equally spaced circumferentially about its periphery and defining portions of a cylindrical surface coaxial with said member, and work surfaces interconnecting said outer peripheral surfaces comprising inwardly-bowed arcuate surfaces, each disposed tangential to an imaginary circle coaxial with the cylindrical surface defined by said outer peripheral surfaces and of diameter greater than the depth of engagement of said male member in said female member, said inwardly-bowed arcuate surfaces being cylindrical in form with a radius of curvature equal to the diameter of the imaginary circle to which they are tangent, a straight line tangent to said imaginary circle at its point of tangency with each of said inwardly-bowed surfaces intersecting the outer peripheral surfaces adjacent to said inwardly-bowed cylindrical surface at the mid-points thereof.

2,969,251
CARBON ELECTRODE JOINT
Edward C. Thomas, Lewiston, N.Y., assignor to Great Lakes Carbon Corporation, New York, N.Y., a corporation of Delaware
Filed Feb. 15, 1960, Ser. No. 8,703
10 Claims. (Cl. 287—127)



9. In a connecting joint between sections of an electric furnace electrode comprising electrode sections, a nipple threaded into a socket in each section holding abutting faces of said sections in contact, the improvement comprising at least one carbon rod inserted transversely in a portion of the nipple in each socket, the axial coefficient of thermal expansion of said rods being substantially higher than the transverse coefficient of thermal expansion of said nipple.

2,969,252
SEAL
Benton A. Gruver, North Hollywood, Calif., assignor, by mesne assignments, to Gruver and Associates, Inc., a corporation of California
Filed Aug. 25, 1958, Ser. No. 756,843
2 Claims. (Cl. 288—22)



1. In a seal, the combination of: an elongated support channel incorporating detent means in the wall thereof; and an elongated sealing member located in said channel and including a base constituted by separable basal portions engaging at a juncture line having detents engaging said detent means and a flexible wall formed integrally with said base, said wall including a relatively rigid inboard wall section, an intermediate flexible diaphragm of reduced cross section located eccentrically with respect to the juncture line between said basal portions and a relatively rigid outboard wall section, said inboard section having ports therein for communication with a pressurized atmosphere and said diaphragm and outboard section being imperforate.

2,969,253
QUICK LOCK DOOR SECURER
Louis J. Schetfl, 1012 Columbus St., Two Rivers, Wis.
Filed Sept. 14, 1959, Ser. No. 839,779
8 Claims. (Cl. 292—294)

1. A quick lock door securing device comprising, a gripper bar adapted at one end to engage the keeper-plate of a door latch, an externally threaded member normally freely slidable on said gripper bar, a block slidably mounted on said bar between said one end and said member, an internally threaded knob threadably mounted on said member to project beyond the end of said member which is next to said block, catch means on said bar,

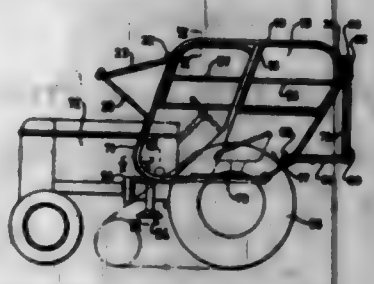


and engaging means on said member operative to engage said catch means when said block is pushed against a door by said knob.

2,969,254
COMPOSITE RUBBER-STEEL WHEEL TREAD
Richard P. Molt, Olympia Fields, Ill., assignor to Stanray Corporation, Chicago, Ill., a corporation of Delaware
Filed Dec. 3, 1959, Ser. No. 857,019
3 Claims. (Cl. 295—31)

1. A vehicle traction wheel assembly, comprising a wheel rim, having a cylindrical outer surface, an open mesh annular band encircling said outer surface, a tortuous zigzag bar secured on one edge to the central portion of said band, and continuing completely thereabout, said annular band being bulged upwardly between arms in a bend of said tortuous bar, individual resilient blocks molded about the open mesh band between bends in said bar, and means securing said mesh, bar and resilient blocks to said wheel rim.

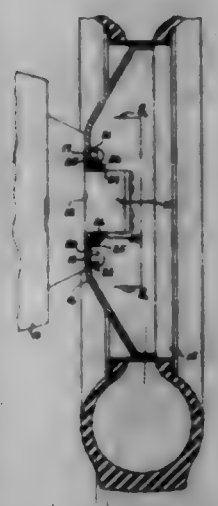
2,969,255
PROTECTIVE CABIN FOR TRACTORS
Karl Gösta Nyström, Bolen, Teg, Sweden, assignor to Aktiebolaget Nordpatent, Stockholm, Sweden, a limited company of Sweden
Filed Jan. 11, 1957, Ser. No. 633,707
Claims priority, application Sweden Jan. 18, 1956
6 Claims. (Cl. 296—102)



1. In a cabin for a tractor having a dirigible mobile frame mounting an engine over the fore end portion thereof, a rear axle structure mounting widely spaced rear traction wheels, and a driver's seat over said rear axle structure, a rigid frame adapted to be mounted over said rear axle structure including a pair of upright laterally spaced opposite side sections each disposed between one of said rear wheels and the proximate side of said

engine, the rear end portions of said frame sections being adapted to extend rearwardly beyond said rear wheels a substantial distance sufficient for engaging the ground should the tractor accidentally turn upwardly and rearwardly, thereby to check said turning movement and to maintain the tractor upright, and a rigid horizontally extending cross member having opposite end portions rigidly secured respectively to said frame sections and disposed at the top of said frame a substantial distance to the rear of said driver's seat, and a passenger seat disposed to the rear of said driver's seat including a back rest section suspended from said cross member, and a seat section supported from said back rest section, said back rest and seat sections being disposed between said frame sections thereby conjointly to close the back of said cabin frame.

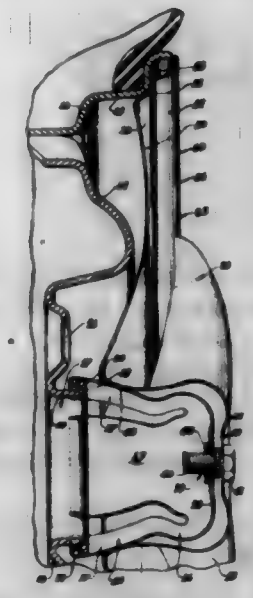
2,969,256
METHOD OF AND MEANS FOR STRENGTHENING THE WHEEL HUB UNITS OF VEHICLES
Richard D. Harberts, Sibley, Iowa
Filed Feb. 24, 1958, Ser. No. 716,900
2 Claims. (Cl. 301—9)



1. In a means for strengthening the wheel hub units of vehicles, a ring member having a circular cross-sectional area, a sleeve ring on the outer periphery of said ring member, at least a portion of the outer perimeter surface area of said sleeve ring being parallel to the center axis of said ring member and said sleeve ring, and means for securing said ring member and said ring together.

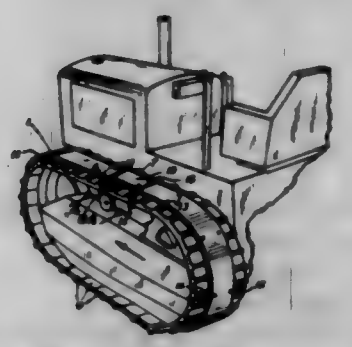
2,969,257
WHEEL COVER
George Albert Lyon, 13881 W. Chicago, Blvd., Detroit, Mich.
Filed Sept. 20, 1956, Ser. No. 610,923
8 Claims. (Cl. 301—37)

1. In a wheel structure, a wheel including rim and body parts with the body part having shoulder means, a cover structure including axially inner and axially outer cover members, the inner cover member having a central crown portion and a series of circumferentially spaced retaining extensions connected to the crown portion and arranged in a circle having a diameter slightly in excess of the diameter of the shoulder means, the outer cover member having a hub area with the crown portion on the inner cover member telescoped therein, the hub area having a cover area for engagement with the circumferentially spaced retaining extensions, the outer cover member extending radially outwardly from the cover area and having a bottoming area in bottomed engagement against the wheel radially outwardly of the cover area, and connecting means joining the cover members together and said connecting means being adapted to cause relative axial movement between the cover members with the retaining extensions being thereby biasable against the cover area radially inwardly behind the shoulder means to sustain the cover structure in assembly with the wheel



and to sustain the bottoming area in bottomed engagement against the wheel to thereby stabilize the cover structure when in assembly with the wheel.

2,969,258
OVERSHOE ATTACHMENT FOR TRACK LAYING VEHICLES
John R. Murray, Rte. 1, Maupin, Oreg.
Filed July 11, 1958, Ser. No. 747,920
8 Claims. (Cl. 305—35)

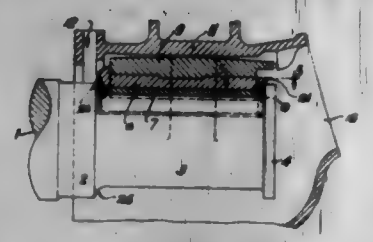


1. A highway protector for a vehicle having metallic traction means of a predetermined width and perimetric length adapted to cover said metallic traction means, comprising, a pair of flexible, inextensible cushioning belts, anchor bars removably secured to one end of each of said belts, a pair of coil springs secured to said anchor bars for removable engagement alongside the traction means of the vehicle, and a plurality of coil springs secured to each of said belts and removably secured alongside the traction means arranged to yieldingly resist side slippage of said belt when positioned on the traction means of said vehicle.

2,969,259
RAILWAY AXLE JOURNAL BEARING
Francis B. Rykoskey, Lutherville, and William A. Mullen, Catonsville, Md. (Both % Baltimore and Ohio Railroad, Baltimore, Md.)
Filed Nov. 15, 1957, Ser. No. 696,734
5 Claims. (Cl. 308—79.1)

1. A railway axle journal friction bearing, comprising a back and a liner, the liner having a journal-engaging surface arcuate in cross section transversely of the surface axis from side edge to side edge of the liner, and extending straight substantially throughout the length of the bearing but terminating at one end in an upwardly and outwardly convex rounded face, there being a downwardly and outwardly facing recess in the end portion

of said liner face extending arcuately from side to side of the liner and substantially concentric with said journal-



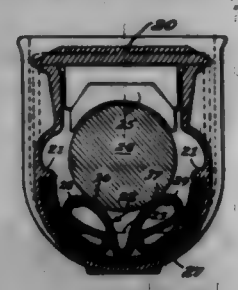
engaging surface for draining oil from the end of the liner to the lower side edges of the liner.

2,969,260

JOURNAL LUBRICATOR

Shephard A. Cole, Michigan City, Ind., assignor to Cardwell-Westinghouse Company, Chicago, Ill., a corporation of Delaware

Filed July 24, 1956, Ser. No. 599,815
9 Claims. (Cl. 308—87)



1. The combination of a rotatable journal, a bearing shoe at the top of the journal and resting thereon, a journal box containing the journal and bearing and having a lubricant reservoir at the bottom, and a lubricator by which lubricant is communicable from the reservoir to the journal, said lubricator comprising a pair of wiper lobes which are disposed in side by side relation to the peripheral face of the journal and extend outwardly therealong underneath the journal away from one another in opposite directions leading out from under the journal to opposite sides respectively thereof, each said lobe being formed with an enlarged rounded resiliently compressible outer end portion which is compressively interposed between the journal box and the journal in wiping engagement against the journal and has a tapered tail extending laterally therefrom toward and interconnected in the reservoir with the tapered tail of the other lobe in relative swinging relation providing swingability of the enlarged rounded outer end portions of the lobes toward and away from one another, and each lobe having a resiliently bendable wall shaped in a loop form with a resiliently bendable return bend portion which is at the outer end of the lobe and provides resilient compressibility of the enlarged outer end portion of the lobe and has leg portions extending therefrom which conjointly provide the tapered tail of the lobe.

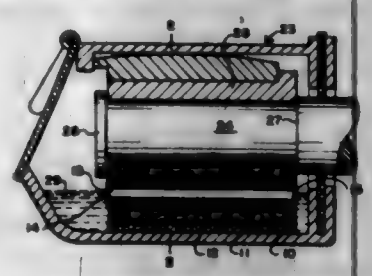
2,969,261

JOURNAL LUBRICATOR

Homer R. Stine, 114 E. 13th St., Newton, Kans.

Filed May 14, 1959, Ser. No. 813,260
7 Claims. (Cl. 308—87)

1. In a journal assembly which includes a journal which extends through an end wall of and into a journal box which has a liquid lubricant well below the journal, elongated self-rotating lubricator means for transversely compressed positioning between the journal surface and a wall of said lubricant well for conducting lubricant from the well onto the journal surface, said lubricator means comprising: at least one elongated hollow tube of flexible, resilient oil resistant material having minute closely spaced perforations through its wall over substantially its entire wall area; a generally right cylindrical thick walled core having a central bore throughout its length encompassing said tube from end to end, said core being sponge-like in structure, and of a resilient oil resistant material and therefore resiliently compressible; a combination lubricant wick and cover encompassing said core throughout its length, said cover being in the form of a



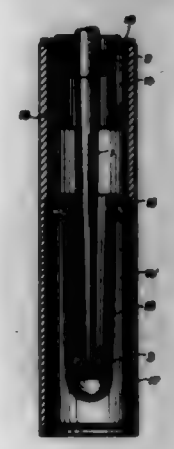
thick walled flexible cylindrical sleeve of highly absorbent material; and a handle strap spanning each end of said sleeve across the ends of said core and tube and firmly secured to the respective sleeve ends, said straps serving both as handles for the entire lubricator and as means to prevent any material longitudinal movement of the core and tube with relation to each other and with relation to the sleeve.

2,969,262

BEARING FOR HIGH-SPEED SPINDLES, PARTICULARLY FOR SPINNING AND TWISTING MACHINES

Helmut P. Staufert, Hoibeinweg 40, Stuttgart N, Germany

Filed Apr. 25, 1958, Ser. No. 731,593
Claims priority, application Germany Apr. 27, 1957
3 Claims. (Cl. 308—152)



1. In combination in a bearing system for spinning and twisting spindles: a first cup-shaped member, bearing means mounted in said cup-shaped member for journalling the lower end of a spindle, a second cup-shaped member substantially coaxially surrounding said first cup-shaped member in spaced relationship thereto and confining therewith an open end chamber of U-shaped cross section, sealing means hermetically sealing the open end of said chamber, vibration damping substance in said chamber, said chamber with said damping substance and said sealing means forming a single unit of a certain vibration damping characteristic, and supporting means exchangeably supporting said unit and permitting withdrawal of said unit as an entirety from said supporting means.

2,969,263

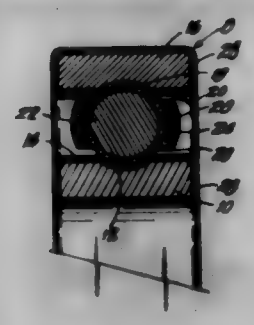
LUBRICATED ANTI-FRICTION BEARINGS

Edward R. Lamson, Greentree Road, Box 88, R.D. 4, Sewell, N.J., and Martin J. Devine, 2560 Prescott Road, Havertown, Pa.

Filed Apr. 16, 1958, Ser. No. 729,039
7 Claims. (Cl. 308—187)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. An anti-friction bearing comprising inner race means having a raceway therein, outer race means hav-

ing a raceway therein, a plurality of rolling elements carried in said raceways and being movable relative thereto, cage means associated with said rolling elements and being operable to separate said rolling elements, and



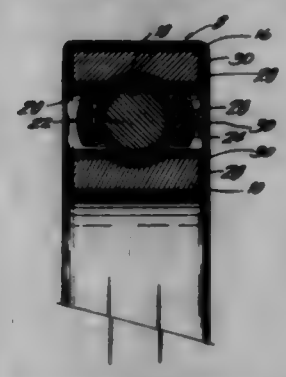
a bonded film lubricant having a predetermined thickness carried by and completely enveloping said inner and outer race means, said rolling elements and said cage means, said bonded film lubricant being comprised of a solid comminuted lubricant dispersed in a thermosetting resin and being substantially uniform in thickness.

2,969,264

LUBRICATED ANTI-FRICTION BEARINGS

Edward R. Lamson, Greentree Road, Box 88, R.D. 4, Sewell, N.J., and Martin J. Devine, 2560 Prescott Road, Havertown, Pa.

Filed Apr. 16, 1958, Ser. No. 729,040
9 Claims. (Cl. 308—187)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. An anti-friction bearing comprising inner race means having a raceway therein, outer race means having a raceway therein, a plurality of rolling elements carried in said raceways and being movable relative thereto, cage means associated with said rolling elements and being operable to separate said rolling elements, a coating of non-ferrous metal carried by and completely enveloping said inner and outer race means, said rolling elements and said cage means, and a bonded film lubricant having a predetermined thickness carried by and completely enveloping said coating of non-ferrous metal on said inner and outer race means, said rolling elements and said cage means, said bonded film lubricant being comprised of a solid comminuted lubricant dispersed in a thermosetting resin and being substantially uniform in thickness.

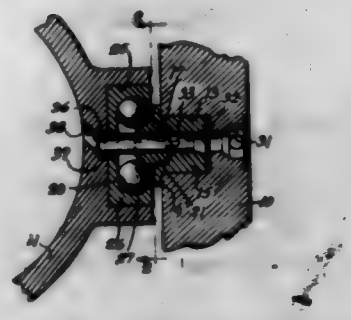
2,969,265

BEARING CONSTRUCTION FOR GYROSCOPES AND LIKE INSTRUMENTS

George Lester Jones, R.R. 2, Marne, Mich.

Filed Oct. 24, 1958, Ser. No. 769,426
3 Claims. (Cl. 308—194)

1. A bearing assembly for supporting a rotatable part on a relatively fixed part and in which there are associated with said parts respective passage means providing fluid communication therebetween comprising an annular race on one of the parts, a plurality of freely rotatable balls retained in annular array in said race defining a substantially circular space therebetween, a pivot fixed to the other part having a spherical working surface tangential to all of said balls, said pivot having a bore therethrough in alignment with said space, a tube secured solely



in said bore adapted to provide fluid communication between the respective passage means through the bearing assembly.

2,969,266

NEEDLE OR ROLLER BEARING

Georg Schaeffler, Herzogenaurach, Germany, assignor to Industriewerk Schaeffler oHG, Herzogenaurach, Germany, a German company

Filed Aug. 4, 1958, Ser. No. 752,960
Claims priority, application Germany Aug. 6, 1957
7 Claims. (Cl. 308—212)



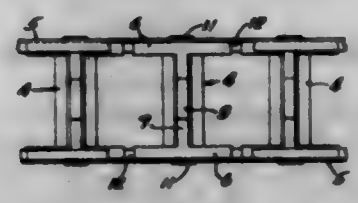
1. A bearing comprising a continuous rimless race sleeve having a circumferentially extending raceway, a plurality of circularly arranged circumferentially spaced cylindrical roller elements disposed in rolling engagement with said raceway, and a one-piece cage having two axially spaced continuous end rings disposed one at each end of said series of roller elements, a corresponding plurality of circumferentially spaced axial webs integral at the opposite ends thereof with said end rings, said webs being disposed between said roller elements, and locating means including a radially directed projection extending from one of said end rings into a single annular groove formed in said sleeve near one end thereof, for preventing, during operation of the bearing, axial displacement of said cage and of said roller elements guided by the cage, relatively to said race sleeve.

2,969,267

CAGE FOR ROLLING BODIES IN ROLLING BEARINGS

Karl Evald Andreas Göthberg, Backasen, Lerum, Sweden, assignor to Aktiebolaget Svenska Kullagerfabriken, Goteborg, Sweden, a corporation of Sweden

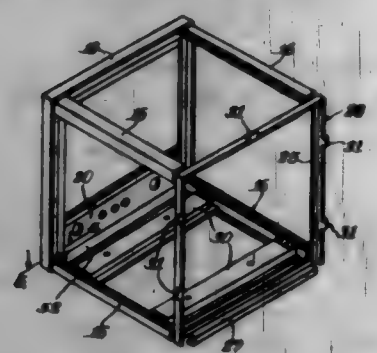
Filed Oct. 18, 1957, Ser. No. 690,994
Claims priority, application Sweden Oct. 23, 1956
11 Claims. (Cl. 308—217)



1. A cage for the rolling bodies of rolling bearings, said cage being in the form of an annulus having pockets for said bodies, and consisting of a plurality of separated segmental pocket-defining elements of plastic, each of said elements comprising a pair of spaced divergent arcuate wings, a cross bar connecting said wings at the

mid-sections thereof, means holding said elements together in said annulus, the said pockets being formed by the cross bars and wings of proximate elements of circumferentially adjoining pairs.

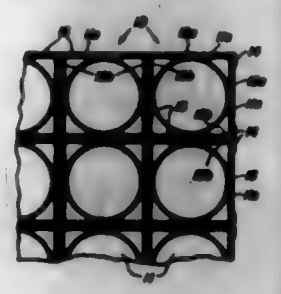
2,969,268
CABINET
Emerson B. Mason, Western Springs, and Anthony C. De Napoli, Jr., Mount Prospect, Ill., assignors to Motorola, Inc., Chicago, Ill., a corporation of Illinois
Continuation of application Ser. No. 470,684, Nov. 23, 1954. This application Jan. 8, 1959, Ser. No. 785,998
19 Claims. (Cl. 312—7)



1/ A housing structure for enclosing a television receiver including in combination, a unitary four-sided front frame with a channel groove having a retainer projection in at least three of the sides thereof, a plurality of at least three rectangular enclosing panels having ends disposed in said channel groove and retained by said projection, a back frame, a plurality of corner clamping means secured to said front frame and said back frame, said clamping means each including an elongated outer corner member with serrated sections overlying and contacting portions of two adjacent panels and an elongated inner clamping member in fixed relation with said outer corner member and engaging at least one of said panels to clamp the same directly against a serrated section of said outer member, and a strut member extending between a pair of corner clamping means for supporting an article to be housed within said structure.

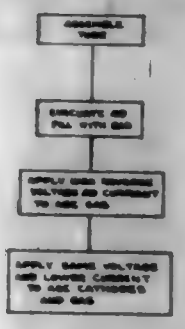
2,969,269
MULTIPLE UNIT STORAGE FILE
Robert S. Shelly, Logan, Utah, assignor to Pack Manufacturing Company, Logan, Utah, a corporation of Utah
Filed Apr. 30, 1958, Ser. No. 731,987
4 Claims. (Cl. 312—107)

1. A multiple unit, storage file, comprising a plurality of individual, storage receptacle units interlocked side by side, said receptacle units each having a body of non-durable, paperboard material and end caps of a rigid and durable structural material, the end caps of contiguous receptacle units being interlocked and the bodies intermediate said end caps having slightly smaller outer peripheries than such end caps and being consequently slightly spaced apart from each other; and protective



jacketing units applied to respective exposed body wall areas between the end caps of at least exterior receptacle units, each of said jacketing units comprising a plate coextensive and contiguous with the particular wall area concerned, and securing means carried by said plate and inserted in the spaces between adjoining receptacle units.

2,969,270
METHOD OF MAKING GASEOUS GLOW TUBES
John H. McCauley, Elizabeth, N.J., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Sept. 3, 1957, Ser. No. 681,637
7 Claims. (Cl. 316—26)



1. The method of making a gaseous glow tube of the type comprising an envelope containing a gas, a cathode electrode adapted to glow and an anode electrode, said method comprising the steps of mounting said cathode and anode in said envelope, filling said envelope with a gas for promoting the glowing of said cathode, applying a voltage between said cathode and anode of such polarity that said anode is operated as a cathode and said cathode is operated as an anode and thereby causing said axode to glow and said anode absorbs impurities from said gas, and then applying a voltage between said electrodes of reverse polarity so that said cathode is operated as a cathode and said anode is operated as an anode whereby said cathode glows and is conditioned for normal glow operation.

CHEMICAL

2,969,271
PARTIAL DYEING OF FUR SKINS AND LEATHER
Otto Marigraf, Neckargemund, Curt Schuster, Karl Herrle, and Ernst Boehm, Ludwigshafen (Rhine), and Erhard Schaefer, Mannheim, Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany
No Drawing. Filed May 21, 1957, Ser. No. 660,460
Claims priority, application Germany May 25, 1956
6 Claims. (Cl. 8—10)

1. A process for the partial dyeing of fur skins and leather with dyestuffs for fur skin and leather which process comprises partially covering the material to be dyed selected from the group consisting of fur skins and leather with a polymer which has been prepared from at least 20% by weight, with reference to the weight of total polymer, of a N-vinyl lactam having at least 8 carbon atoms in the molecule, which polymer is insoluble at elevated dyebath temperatures and soluble at lower temperatures, drying the thus partially covered material to be dyed, dyeing the same at a temperature sufficiently high to keep the polymer in the water-insoluble state, and washing the dyed material in an aqueous bath at a temperature at which the applied polymer is soluble to remove said polymer and thus obtain the partially dyed product.

2,969,272

PREPARATION OF SILICEOUS MATERIALS

Jayanti Dharma Teja, Whitestone, N.Y., assignor to Montecatini-Societa Generale per l'Industria Mineraria e Chimica, Milan, Italy, a corporation of Italy

No Drawing. Filed Apr. 26, 1957, Ser. No. 655,446
4 Claims. (Cl. 18—54)

1. The method of preparing amorphous glass fibers from a viscous siliceous aqueous composition which includes the steps of directing a stream of viscous siliceous aqueous composition downwardly through an orifice, passing the stream downwardly through a gaseous atmosphere, subjecting the stream to a stretching of such magnitude that the square root of the ratio of the length of the resulting siliceous product to the diameter of a theoretical sphere of said viscous siliceous aqueous composition having a total solids content equal to the solids content of said length of product is greater than 5, and evaporating the water from the stream of siliceous product, whereby a relatively high rate of collection of the resulting amorphous glass fiber is achieved without troublesome breakage of said stream, said viscous aqueous composition consisting essentially of water, oxygen-containing compounds of silicon comprising amorphous silicate particles of colloidal dimensions, oxygen-containing compounds of at least one alkali metal of the group consisting of sodium and potassium, and oxyegn-containing compounds of at least one metal of the group consisting of boron, aluminum, zirconium, titanium, zinc, calcium, barium, arsenic, germanium, phosphorus, lead, thorium, beryllium, and tungsten, the oxides of said metals constituting a non-alkaline glass component oxide group.

2,969,273

SEPARATION OF CARBON DIOXIDE FROM CARBON DIOXIDE-OLEFIN CONTAINING GAS MIXTURES

Herbert Köbel and Robert Langbein, Homberg, Lower Rhine, Germany, assignors to Rheinpreussen Aktiengesellschaft für Bergbau und Chemie, Homberg, Lower Rhine, Germany, a corporation of Germany

No Drawing. Filed Nov. 17, 1954, Ser. No. 469,557
Claims priority, application Germany Aug. 16, 1951
10 Claims. (Cl. 23—3)

1. In the method for the separation of carbon dioxide from carbon dioxide-olefin containing gas mixtures by absorption of the carbon dioxide, the improvement which comprises contacting such a gas mixture under pressure with an aqueous alkali salt solution having a pH of below 8 and selected from the group consisting of aqueous alkali acetates, aqueous alkali citrates, aqueous mono alkali phosphates, and mixtures of aequeous mono and dialkali phosphates.

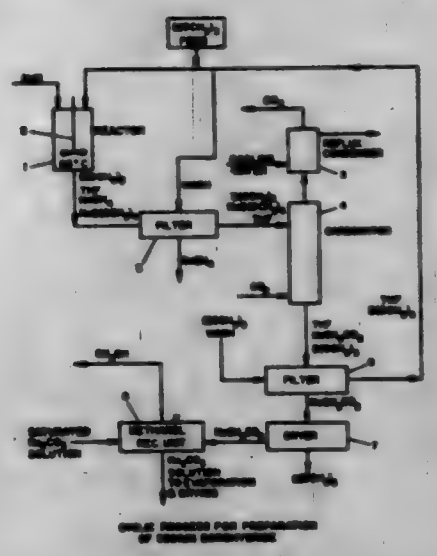
2,969,274

CYCLIC PROCESS FOR PRODUCTION OF SODIUM BOROHYDRIDE

David M. Kyllonen, Pittsburgh, Pa., assignor to Callery Chemical Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed June 9, 1955, Ser. No. 514,249
8 Claims. (Cl. 23—14)

1. A cyclic process for preparation of sodium borohydride, $NaBH_4$, which comprises contacting sodium hydride, NaH, and trimethylborate, $B(OCH_3)_3$, in tetrahydrofuran, C_4H_8O, to produce a solution of sodium tetramethoxyborate, $NaB(OCH_3)_4$, in tetrahydrofuran and a precipitate of sodium borohydride, separating the sodium borohydride from said solution, contacting the filtrate from said separation with carbon dioxide to produce a solution of trimethyl borate in tetrahydrofuran and a precipitate of sodium methyl carbonate, $NaCH_3CO_3$, separating the sodium methyl carbonate from said trimethyl borate and tetrahydrofuran, and re-



cycling said trimethyl borate and tetrahydrofuran for further reaction with sodium hydride.

2,969,275

RECOVERY OF BORON VALUES

Donald Everett Garrett, Trona, Calif., assignor to American Potash & Chemical Corporation, a corporation of Delaware

Filed Nov. 14, 1958, Ser. No. 774,059
18 Claims. (Cl. 23—59)



1. A process for the recovery of boron values from an alkaline aqueous solution containing such boron values in the form of at least one material selected from the class consisting of borax, sodium pentaborate, sodium metaborate and boric acid comprising: adding to said alkaline solution at least one open chain aliphatic polyol selected from the class consisting of diols and triols having 6 to 16 carbon atoms in the aliphatic chain, whereby to form a boron-rich solvent layer and a separate aqueous layer; separating the two layers so formed; and acidifying said boron-rich solvent layer whereby to cause said boron values to separate from said polyol.

2,969,276

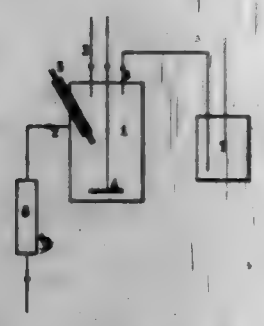
METHOD OF CONTROLLING THE CONTINUOUS PRODUCTION OF CHLORINE DIOXIDE

Rudolf Hirschberg, Frankfurt am Main, Germany, assignor to Farbwerke Hoechst Akti-engesellschaft vormals Meister Lucius & Brüning, Frankfurt am Main, Germany, a corporation of Germany

Filed Feb. 9, 1959, Ser. No. 792,031
Claims priority, application Germany Feb. 21, 1958
3 Claims. (Cl. 23—152)

1. In a method of controlling the continuous production of chlorine dioxide by reacting a chlorate with sulfur

dioxide in an acid solution, the improvement which comprises maintaining the redox potential of the reaction solu-



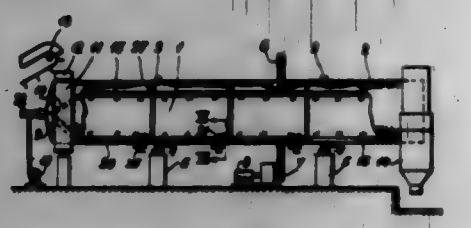
tion at between 1000 and 1080 millivolts measured with an electrode combination platinum/saturated calomel electrode.

2,969,277

APPARATUS FOR THE FERMENTATION OF SOLID ORGANIC MATERIALS

Peter Marius Carlsson, Copenhagen, and Kai Finn Petersen, Rungsted, Kyst, Denmark, assignors to Dano Ingeniorforretning og Maskinfabrik, Ingenior Kai Petersen's Fond, Soborg, Denmark, a Danish body corporate

Filed May 16, 1957, Ser. No. 659,592
Claims priority, application Denmark May 17, 1956
8 Claims. (Cl. 23—259.1)



1. Apparatus for making compost from non-fluid waste materials containing fermentable organic substances, which comprises a solid walled elongated container, said container comprising a shell, an end plate for closing said container at one end thereof, connecting means between said end plate and said shell, secured to the peripheral wall of said shell and to said end plate for securing said plate to said shell, said connecting means having a considerable length so as to hold the said end plate in spaced relationship with respect to the neighboring end of said shell in the axial direction of said container, means for mounting said shell together with said end plate for rotation about a horizontally disposed axis, a cylindrical ring member being positioned in the space between said shell and said end plate in substantially coaxial relationship with respect to said shell and said plate, means for mounting said cylindrical ring member non-rotatably in said position, the said cylindrical ring member having a diameter substantially equal to the diameter of said shell and a length substantially equal to the axial length of said space, a feeding opening for said materials arranged in the peripheral wall of the said cylindrical ring member in the upper half-part thereof with respect to the axis of rotation of said container, and discharge means at the opposite end of said container from said feeding opening.

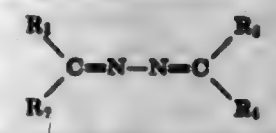
2,969,278

GASOLINE CONTAINING AZINES

Bruno H. Wojcik, Niagara Falls, N.Y., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia

No Drawing. Filed Feb. 21, 1956, Ser. No. 566,783
7 Claims. (Cl. 44—63)

1. Gasoline containing as an additive from about 0.1 to 2 percent by weight of at least one of the materials falling within the scope of the formula



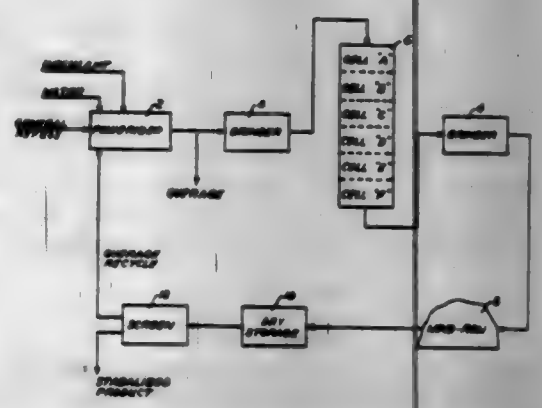
wherein R_1 and R_3 are selected from the group consisting of alkyl, cycloalkyl and aryl hydrocarbon radicals and heterocyclic radicals containing one hetero oxygen atom, and R_2 and R_4 are selected from the group consisting of hydrogen and R_1 and R_3 substituents, with the proviso that the total number of carbon atoms in the material does not exceed 36.

2,969,279

PROCESS OF DECOMPOSING AND STABILIZING REFUSE

Norman A. Pierson, Norman, Okla., assignor to Naturizer Co., Norman, Okla, a corporation of Oklahoma

Filed Aug. 1, 1956, Ser. No. 601,423
4 Claims. (Cl. 71—9)



1. A method of decomposing, to a soil nutrient, municipal refuse having a moisture content of from about 18 to 25 percent, comprising the steps of:

(*a*) adding water to adjust the moisture content of said refuse to between 50 and 70 percent,

(*b*) inoculating each ton of said refuse with at least 3 ounces of a filler material having an aerobic thermophilic bacterial count of at least 1,300,000,000 and penetrated with *A. fumigatus* mold to an extent that said filler material is blue-grey in color,

(*c*) grinding the refuse to particles ranging in size between 2 inches and ⅛ inch, with not more than about 15 percent of the particles being below 1½ inches in size,

(*d*) feeding the ground refuge to the uppermost of a series of vertically superimposed digestion cells, said refuse being supported in said uppermost cell at a depth of not more than about 28 inches,

(*e*) exposing each side of each of said cells to natural air circulation for inducing aerobic bacterial action and mold growth in said refuse,

(*f*) successively moving said refuse downwardly to the next lower cell of said series each 24 hours while turning and breaking-up the partially composted refuse each time the refuse is moved downwardly,

(*g*) retaining said refuse in said series of cells until the temperature of said refuse exceeds the temperature of pasteurization, then

(*h*) regrinding the partially decomposed refuse to a smaller particle size than the particle size thereof at the end of the initial grinding step to expose untreated portions of said refuse, then

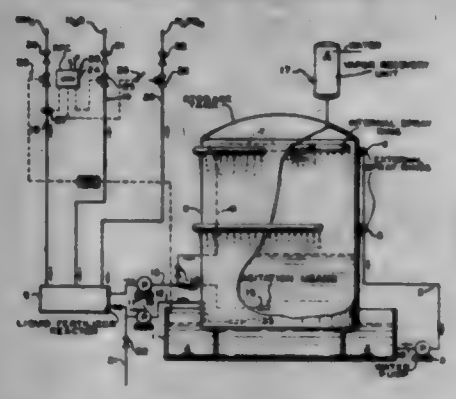
(*i*) allowing further bacterial action in said refuse until the temperature again exceeds the temperature of pasteurization and said refuse is decomposed to a soil nutrient.

2,969,280

PROCESS AND APPARATUS FOR PRODUCING COOLED AQUEOUS AMMONIUM PHOSPHATE FERTILIZER

Alvin W. Peck, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed June 28, 1956, Ser. No. 594,469
4 Claims. (Cl. 71—41)



1. A process for producing a cooled aqueous ammonium phosphate fertilizer comprising separately introducing liquid ammonia, water and phosphoric acid in a first zone and therein mixing these materials whereby the produced aqueous ammonium phosphate becomes heated to a higher temperature than the temperature of the ammonia, water and phosphoric acid prior to mixing, dividing this heated aqueous ammonium phosphate into two portions, flowing one portion down the inner wall of a second zone, flowing cooling water down the outer wall of said second zone in indirect heat exchange with the downflowing aqueous ammonium phosphate whereby the downflowing aqueous ammonium phosphate becomes cooled to a temperature intermediate the temperature of the original ammonia, water and phosphoric acid and said higher temperature, injecting the other portion of said heated aqueous ammonium phosphate into the cooled aqueous ammonium phosphate in said second zone thereby agitating same, further cooling the agitated contents of said second zone by indirect heat exchange with a body of cooling water through the bottom of said second zone, passing a portion of the further cooled, agitated liquid contents of said second zone into said first zone to minimize said higher temperature, regulating the rate of introduction of liquid ammonia into said first zone in response to temperature of the liquid contents of said second zone, regulating the rates of introduction of water and of phosphoric acid into said first zone in predetermined ratios with respect to the introduction of said ammonia into said first zone, and withdrawing the remainder of the further cooled, agitated liquid contents of said second zone as product.

2,969,281

PROCESS FOR MAKING SPHERICAL METAL PARTICLES

Walter T. Monson, Newark, N.J., assignor to American Metal Climax, Inc., New York, N.Y., a corporation of New York

No Drawing. Filed Jan. 17, 1958, Ser. No. 709,462
7 Claims. (Cl. 75—.5)

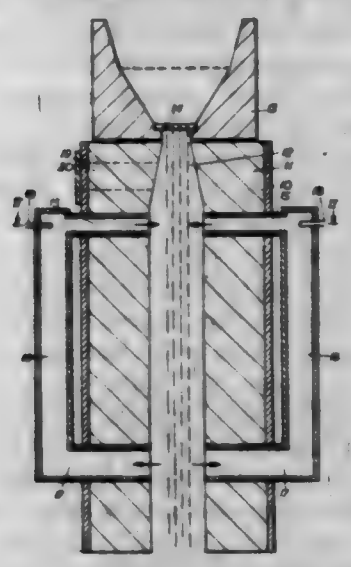
1. The process of producing spherical metallic particles from irregular shaped metallic particles which comprises uniformly dispersing said irregular particles in a loosely packed matrix material which is chemically unreactive with the metal particles and has a softening temperature above the melting point of said metallic particles to provide a suspension of said irregular metallic particles in the matrix material, heating said suspension to a temperature below the melting point of said particles said temperature being sufficient to spherify the irregular metallic particles in the absence of combustion of said matrix material, cooling said suspension, and separating the spherified metallic particles from the matrix material.

2,969,282

TREATMENT OF FERROUS METAL

Thomas Christopher Churcher, Sutton, England, assignor to The British Oxygen Company Limited, a British company

Filed Apr. 26, 1960, Ser. No. 24,703
Claims priority, application Great Britain May 6, 1959
8 Claims. (Cl. 75—60)



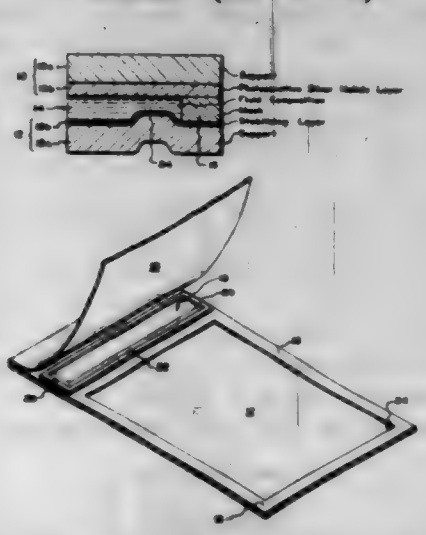
1. In a process for the treatment of molten ferrous metal by allowing the molten metal in subdivided form to fall freely through a reaction space in contact with a stream of an oxidising gas fed to said reaction space, the step of reducing the escape of fume from said reaction space by utilising the injector action of the oxidising gas fed to said reaction space to withdraw at least a part of the fume from said reaction space at a point remote from that at which said oxidising gas is fed to said reaction space and to return the withdrawn fume to said reaction space entrained in the oxidising gas.

2,969,283

PHOTOGRAPHIC FILM ASSEMBLAGE

Charles A. Govatsos, West Newton, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware

Filed Apr. 19, 1957, Ser. No. 653,886
7 Claims. (Cl. 96—76)



1. A photographic product comprising, in combination, a first sheet having a first substantially smooth fluid-confining surface which is treated with a fluid processing composition distributed in contact with said surface, means coupled with said first sheet and providing a second substantially smooth fluid-confining surface, said surfaces being arranged for superposition with one another, and means containing a fluid processing composition, including a liquid medium and a film-forming agent, in sufficient quantity to form a continuous thin layer of substantially uniform thickness between and in contact with a prede-

termined area of said surfaces, said area of said surfaces including a corner portion at which separation of said surfaces is commenced when processing of said first surface by said layer of fluid is complete, said corner portion of said first surface being provided with a small protuberance having a height which is less than the thickness of said layer of fluid and other dimensions which are approximately five to fifteen times the thickness of said layer, said protuberance being located closely adjacent the edges of said predetermined area of said first surface and projecting toward said second surface and providing means for reducing the thickness of said layer of fluid spread between said surfaces in the region of said corner portion and thereby facilitating the adherence of a film, formed by said layer of fluid upon removal of said liquid medium therefrom, to one of said surfaces when said sheet is stripped from said second surface.

5. A photographic film assemblage for producing a visible photographic image comprising, in combination, a photosensitive sheet including on one side a photosensitive layer of predetermined area capable of being exposed and processed for producing a visible photographic image, a second sheet providing a substantially smooth fluid-confining surface at least coextensive with said predetermined area of said photosensitive layer for aiding in the distribution of a processing fluid in a thin layer between said photosensitive layer and said surface, said sheets being joined to one another with said surface arranged for superposition with said area of said photosensitive layer, container means located between said sheets and carrying a viscous fluid processing composition including a liquid medium, a film-forming agent and an agent for reacting with said photosensitive layer, following exposure thereof, to produce a visible image, in sufficient quantity to form a continuous thin layer of substantially uniform thickness between and in contact with said area of said photosensitive layer and said surface, said film-forming agent comprising a material for forming a substantially solid film adhering to one of said photosensitive layer and said surface upon the removal of said liquid medium from said layer of fluid, and masking means attached to one of said one side of said photosensitive sheet and said surface for limiting contact between said fluid and at least one of said photosensitive layer and said surface over said predetermined area, said surface being provided with a small raised boss at a corner portion of said predetermined area projecting toward said photosensitive layer, said boss having a height which is less than the thickness of said layer of fluid and other dimensions which are approximately five to fifteen times the thickness of said layer of fluid, said boss being located closely adjacent the edges of said predetermined area and providing means for reducing the thickness of said layer of fluid spread between said surface and said photosensitive layer in the region of said corner portion and thereby facilitating the adherence of a film, formed by said layer of fluid upon removal of said liquid medium therefrom, to said surface in the region of said boss when said sheets are separated from one another.

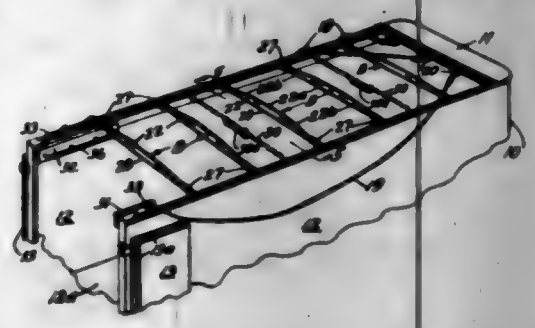
2,969,284

CONVERTER TOP FOR OPEN TOPPED TRAILERS AND THE LIKE

Andrew Ambli, 2360 W. County Road C, St. Paul, Minn.

Filed Mar. 11, 1958, Ser. No. 720,682
2 Claims. (Cl. 296—100)

1. A converter top for normally open-topped-trailer vehicles which inherently have front and side walls and media forming a rear wall structure, comprising a generally rectangular, flexible cover, means for detachably securing the forward edge of said cover to the upper portion of said front wall along a transverse line with doming of said secured edge, a plurality of longitudinally spaced, transverse, arched bow members interconnecting at corresponding points, the upper edge portions of the side-trailer-walls and underlying, supporting and doming the said flexible cover, a plurality of transversely spaced, longitudinal, flexible tensioning elements supported upon said bow members beneath said cover and having their forward ends connected with the upper portion of the front trailer wall, said media forming the rear wall structure including a split-header structure at



the top thereof comprising a pair of inwardly swingable, horizontal sections hinged on vertical axes and locking means for securing the free ends of said sections together in aligned and abutted relation and the rear ends of said flexible tensioning elements being secured to said swingable header sections at points eccentric to the axes of swinging of said header sections to release tension on said elements when said sections are swung inwardly and to tension said elements when said sections are swung outwardly into aligned, abutting and operative positions.

2,969,285

CHOCOLATE CHIP TYPE FLAVORING FOR ICE CREAM AND METHOD OF PREPARING THE SAME

L. Russell Cook, Milwaukee, Wis., assignor to Ambrosia Chocolate Company, Milwaukee, Wis., a corporation of Wisconsin

No Drawing. Filed Mar. 30, 1959, Ser. No. 802,639
7 Claims. (Cl. 99—23)

1. A method of preparing a chocolate chip product having the fat thereof in the dispersed phase in a form suitable for incorporation into ice cream comprising: admixing a minor proportion of chocolate liquor, and a major proportion of sugar; adding water sufficient to bring the mixture to a syrupy consistency; heating the mixture to a temperature within the range of approximately 250° F. to 290° F. and cooking said mixture for a period of time sufficient to reduce the water content thereof and bring said mixture to a nearly dehydrated condition; discontinuing the heat; cooling and solidifying the product with the fat thereof in the dispersed phase; and thereafter crushing and comminuting said solidified product into a state of subdivision suitable for incorporation into ice cream.

2,969,286

METHOD OF PREPARING CHOCOLATE FLAVORING FOR ICE CREAM

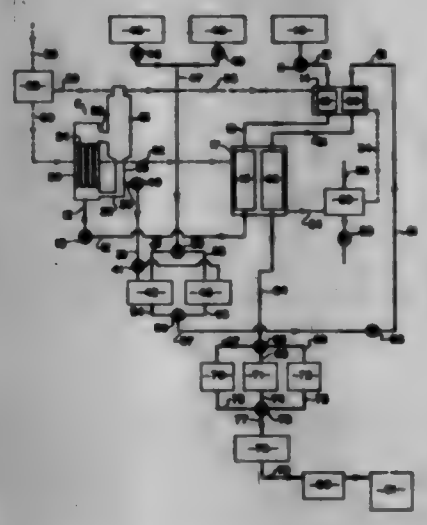
L. Russell Cook, Milwaukee, Wis., assignor to Ambrosia Chocolate Company, Milwaukee, Wis., a corporation of Wisconsin

No Drawing. Filed Mar. 30, 1959, Ser. No. 802,640
6 Claims. (Cl. 99—23)

1. A method of preparing a fondantized chocolate flavor composition for chocolate flavored ice cream which comprises the following steps; grinding to a smooth paste a mixture containing 13 to 40 parts by weight of sugar and 87 to 60 parts by weight of chocolate liquor prepared from cocoa beams which have been brought to only a low roast, subjecting said paste to a conching operation for 18 to 24 hours at a temperature within the range of 175° F. to 190° F., pressing the composition

in a cocoa press to extract cocoa butter therefrom and to reduce the cocoa butter to a total content of 18 to 40 percent, and thereafter subjecting the pressed composition to a crushing and pulverizing action.

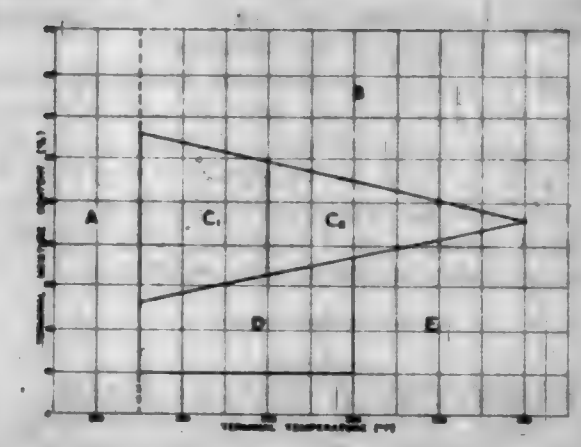
2,969,287
METHOD OF MAKING FROZEN DESSERT MIX
Donald B. MacCollom, 168 Winston Way, Dewitt, N.Y.
Filed Feb. 24, 1958, Ser. No. 717,106
2 Claims. (Cl. 99—55)



1. The method of making a frozen dessert mix, the steps consisting in conducting raw milk from a supply to a steam operated, recompression evaporator and evaporating the milk therein at a temperature of substantially 140° F., at subatmospheric pressure, compressing a portion of the vapor of evaporation from the evaporator by the steam supply to the evaporator to furnish steam vapor thereto in excess of that necessary for the operation of the evaporator, conducting the remainder of the vapor of evaporation from said evaporator to a pair of pre-heat exchangers, conducting the excess compressed steam vapor from the evaporator to a pair of high temperature heat exchangers, conducting the raw milk from said supply successively through one of said pre-heat exchangers and one of said high temperature heat exchangers to raise the raw milk temperature entering the evaporator to substantially 175° F., removing the evaporated milk from the evaporator, adding sugar and butter fat to the evaporated milk to form the mix, passing the mix successively through the second of said pre-heat exchangers and the second of said high temperature heat exchangers to heat said mix to pasteurizing temperature of substantially 175° F., homogenizing the pasteurized mix, and then cooling the same.

2,969,288
METHOD FOR PREPARING QUICK-COOKING RICE
Charles E. Flynn, Oradell, N.J., and Millard O. Ricker, Oak Park, Ill., assignors to General Foods Corporation, White Plains, N.Y., a corporation of Delaware
Filed Feb. 4, 1960, Ser. No. 6,828
3 Claims. (Cl. 99—82)

1. A process of preparing a dry quick-cooking rice product which comprises subjecting uncooked rice grains to moisture and heat sufficient to uniformly gelatinize the starch in said rice grains in a confined area of high water vapor pressure, said treated rice grains having terminal moisture and temperature conditions which define a point in the areas C_1 and C_2 of the graph of the single figure, said high water vapor pressure corresponding to the pressure of saturated steam at the terminal temperature selected, said treated rice grains having their terminal moisture evenly distributed throughout the grains and having the starch granules therein substantially unruptured, and suddenly discharging said treated rice grains from said confined area of high water vapor pressure to the atmosphere to puff the grains to a dry volume

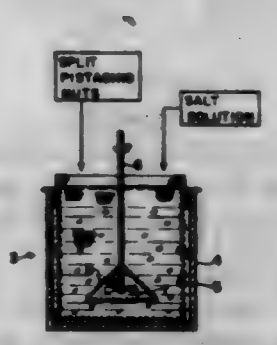


of 2–3 times the dry volume of said uncooked rice grains, whereby the puffed product is porous and readily rehydratable so as to be quick-cooking.

2,969,289
YEAST-FREE PREPARED FLOUR MIX
Samuel A. Matz, Chicago, Jason A. Miller, Dolton, and Charles S. McWilliams, La Grange, Ill., assignors to the United States of America as represented by the Secretary of the Army
No Drawing. Filed July 17, 1958, Ser. No. 749,305
9 Claims. (Cl. 99—90)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. Yeast-free prepared flour mix for making a yeast-free bakery product characterized by a flavor and texture substantially corresponding to the flavor and texture of a bakery product baked from a yeast dough, comprising a dry mixture of a major portion of flour and minor portions of dry shortening, sugar, sodium bicarbonate, an edible acidic compound capable of reacting with said sodium bicarbonate, nonfat dry milk solids, and a yeast-cell-free dry flavor preparation, said flavor preparation being produced by fermenting a sugar solution in the presence of yeast at a pH of about 6–9, said flavor preparation being substantially free from alcohol and carbon dioxide.

2,969,290
SALTING OF SPLIT PISTACHIO NUTS
Felix Bloch, Oakland, Calif., assignor to the United States of America as represented by the Secretary of Agriculture
Filed Aug. 28, 1959, Ser. No. 836,832
2 Claims. (Cl. 99—127)
(Granted under Title 35, U.S. Code (1952), sec. 266)

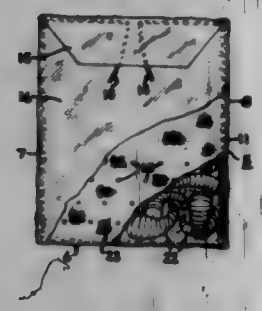


1. A process of salting split pistachio nuts which comprises introducing said nuts into a body of salt solution, applying centrifugal action to the mixture of nuts and salt solution to an extent sufficient to replace air trapped within the shells of the split nuts by salt solution, discontinuing the application of centrifugal action and removing the salted nuts from the salt solution.

2,969,291
COATING PROCESS
Linton E. Simeri, North Haven, Conn., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia
No Drawing. Filed June 10, 1957, Ser. No. 664,458
2 Claims. (Cl. 99—171)

1. Process of making preservative wrapping material comprising coating cellophane with an aqueous solution of chlortetracycline in a solvent consisting essentially of water and 25% to 75% by weight of a monohydric alcohol chosen from the group consisting of ethyl, propyl and isopropyl alcohol, said solution being capable of rapidly wetting and penetrating said cellophane.

2,969,292
PERFORATED COOKING PACKAGE
Melvin T. Heller, Whitefish Bay, Wis., assignor to Milprint, Inc., Milwaukee, Wis., a corporation of Delaware
Filed July 31, 1957, Ser. No. 675,368
1 Claim. (Cl. 99—171)

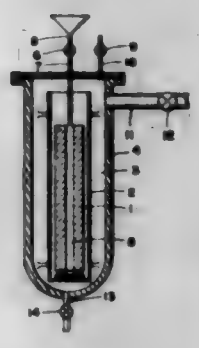


A food package adapted to be cooked by submersion in hot cooking liquid, said package comprising, a pouch-like food container formed of flexible heat conductive and high temperature resistant metal foil and having front and rear walls provided with liquid entry and drainage openings near the container bottom and also having their top and opposite marginal side edges sealed, a food product to be cooked housed within said container, a pair of tear strings embodied in said top and opposite side sealed edges and adapted to open said container edges when pulled in opposite directions, and a flexible transparent wrapper bag for receiving and confining the food laden container to maintain the food in sanitary condition and having its mouth coextensive with the container top and provided with a closure flap depending externally over one of said container walls, said strings having adjacent free ends extending downwardly from the medial portion of the container top, and outwardly beyond said bag closure flap and being adapted when pulled apart to initially open said bag flap and to thereafter facilitate removal of the container from said bag through its open mouth without destroying the bag.

2,969,293
VITREOUS ENAMEL
Dudley C. Smith, Vineland, N.J., assignor to Kimble Glass Company, a corporation of Ohio
No Drawing. Filed Dec. 31, 1956, Ser. No. 631,400
8 Claims. (Cl. 106—49)

1. A vitreous enamel for decorating a low expansion borosilicate glass consisting of an intimate mixture of (*a*) 20 to 95% of a lead oxide type enamel component containing at least 48% of PbO and at least 75% of PbO and SiO_2 combined and (*b*) 5 to 80% of a finely divided silica-containing material selected from the class consisting of amorphous silica, beta eucryptite, spodumene, and petalite, the amount of said material being selected to reduce the thermal expansion coefficient of the mixture to subetantially that of the borosilicate glass.

2,969,294
METHOD OF IMPREGNATING URANIUM IN GRAPHITE
James J. Skyne, Arlington, N.J., assignor, by mesne assignments, to the United States of America as represented by the United States Atomic Energy Commission
Filed Mar. 18, 1954, Ser. No. 417,099
9 Claims. (Cl. 117—119.2)



6. A method of impregnating a refractory body having interconnecting pores, which comprises saturating said body with an organic solution of a compound of a metal selected from the group consisting of nickel, copper, iron and uranium, the organic solvent portion of said solution having negligible expansion upon freezing being capable of being sublimated, freezing the resulting solution in said pores, and then sublimating said organic solvent out of said pores, whereby said compound remains uniformly distributed in said interconnecting pores.

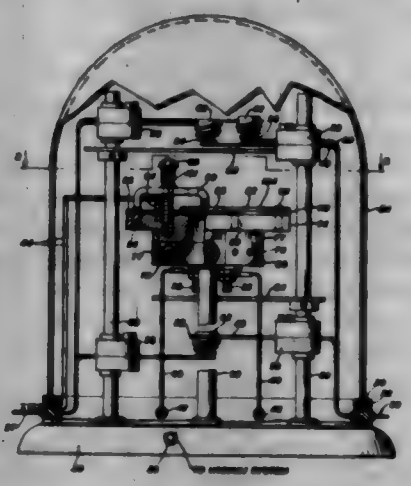
2,969,295
CHEMICAL GOLD PLATING
Joan M. Crisbal, Torrance, and Manlio B. Melillo, Inglewood, Calif., assignors to Pacific Semiconductors, Inc., Culver City, Calif., a corporation of Delaware
No Drawing. Filed May 5, 1958, Ser. No. 732,826
11 Claims. (Cl. 117—130)

1. A method of gold plating the surface of a metallic body which comprises immersing the metallic body in a solution having a pH value in the range from 8 to 10, said solution containing potassium gold cyanide having a gold content of at least 67½% and a soluble alkali metal salt selected from the group consisting essentially of carbonates and bicarbonates.

2,969,296
THERMAL EXPANSION FIXTURE FOR SPACING VAPORIZED CONTACTS ON SEMICONDUCTOR DEVICES
David J. Walsh, Chatham Township, Morris County, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 8, 1958, Ser. No. 778,836
2 Claims. (Cl. 117—200)

1. The method of depositing adjacent spaced contacts of two different contact metals on a semiconductor body comprising positioning a semiconductor body between a base member and an apertured mask member having a temperature coefficient of expansion different from said base member and including a free end fixed to said base member at a point on the opposite side of said semiconductor body from said free end, securing said semiconductor body to said base member, evaporating a first contact metal through the apertures of said mask member at a first ambient temperature and evaporating a second contact metal through the apertures of said mask member at a second ambient temperature, said ambient tempera-

tures being sufficiently different to cause said apertures to move with respect to said base and the semiconductor



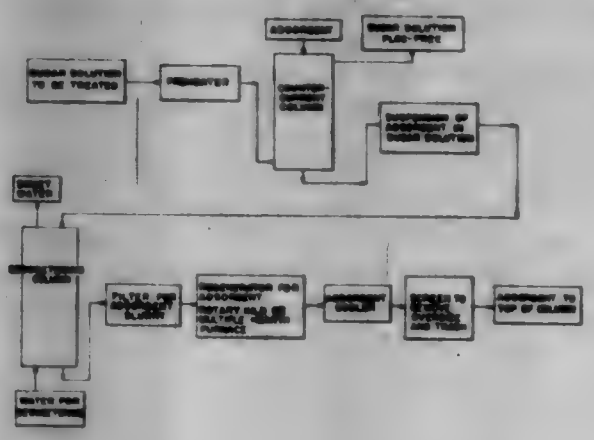
body, as a result of the difference in coefficient of expansions, a distance greater than the width of said apertures.

2,969,297

PURIFICATION OF BEET SUGAR SOLUTIONS

William M. Greevenor, Jr., Pelham, N.Y., assignor to The American Sugar Refining Company, New York, N.Y., a corporation of New Jersey

Filed June 22, 1959, Ser. No. 821,945
4 Claims. (Cl. 127—55)



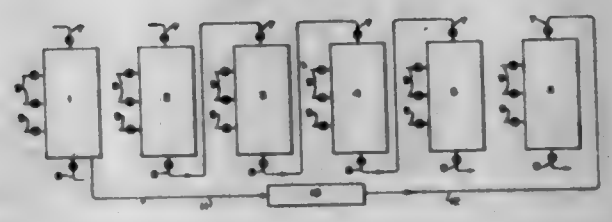
1. The method of treating beet sugar solutions in a continuous manner to remove floc-forming materials therefrom which comprises passing the hot sugar solution upwardly through an elongated vertical column countercurrent to a downwardly flowing bed of granular floc-forming-material-adsorbent carbon, continuously supplying the hot sugar solution to the bottom of said column with uniform distribution of the sugar solution over the cross-sectional area of the bed, causing the hot sugar solution to flow upwardly as a substantially lineal ascending column of sugar liquor through the downwardly flowing bed at a rate to maintain said bed of adsorbent in an expanded state as a substantially lineal descending column of expanded adsorbent, maintaining a body of purified sugar solution above said bed, supplying adsorbent through the body of purified sugar solution to obtain a substantially uniform distribution of the adsorbent to the top of the bed and withdrawing spent adsorbent from the bottom of the bed, taking samples at intermediate points in the bed and testing to determine the breakthrough point beyond which the sugar solution is free from floc-forming materials, maintaining a sufficient length of countercurrent flow of the sugar solution and rate of adsorbent supply to effect the removal of floc-forming materials well below the top of the bed and withdrawing the purified sugar solution uniformly from said body of sugar solution above the bed.

2,969,298

PURIFICATION OF BEET SUGAR SOLUTIONS

Richard A. McGinnis, San Rafael, Calif., assignor to Spreckles Sugar Company, San Francisco, Calif., a corporation of California

Filed June 22, 1959, Ser. No. 821,959
3 Claims. (Cl. 127—55)



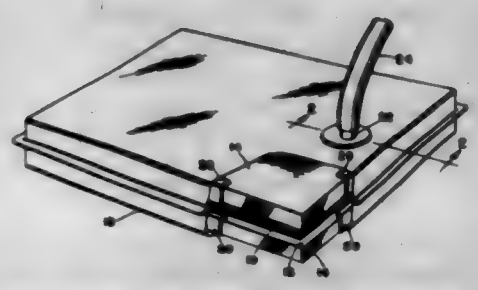
1. A method of treating beet sugar solutions containing floc-forming materials which comprises passing the same through a series of beds of granular, floc-forming-material-adsorbent carbon with progressive removal of floc-forming constituents from the sugar solution passing therethrough taking samples from the filter beds at different stages to determine the breakthrough point beyond which the sugar solution is free from floc-forming materials and the rate of travel of the breakthrough point in the filter beds, and maintaining a sufficient depth of the filter bed between the breakthrough point and the effluent to insure removal of floc-forming materials at a point in advance of the discharge of the solution from the last filter bed.

2,969,299

METHOD OF HANDLING THIN-SHEET MATERIAL TO PREVENT DISTORTION

John R. Fullerton and Lawrence E. Leech, San Diego, and Donald L. Heyser, Lemon Grove, Calif., assignors to Ryan Aeronautical Co., San Diego, Calif.

Filed July 21, 1958, Ser. No. 749,831
5 Claims. (Cl. 148—131)



1. A method of handling thin material having inherent grain growth changes during low temperature heat treatment to prevent distortion of the material, comprising: placing the material between two rigid, plate elements having confronting surfaces shaped to conform to the corresponding surfaces of the material; enclosing the resultant sandwich of material and thick plates in a sealed, flexible, non-porous bag; evacuating the air from the interior of the bag causing said material to be clamped flat between said thick plates by external pressure and preventing contamination and surface finish damage to the material; and maintaining the vacuum while the temperature is lowered for the period of time required for treatment.

2,969,300

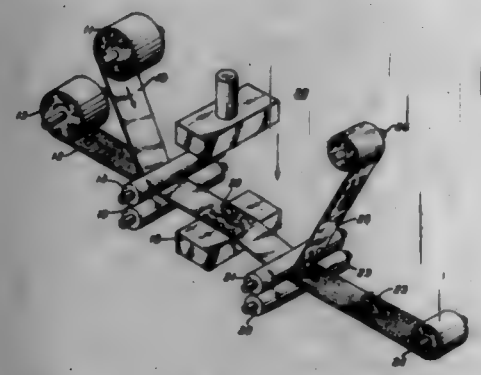
PROCESS FOR MAKING PRINTED CIRCUITS

Erwin E. Franz, deceased, late of Cranford, N.J., by Ada L. Franz, executrix, Cranford, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Mar. 29, 1956, Ser. No. 574,849
2 Claims. (Cl. 154—96)

1. In the fabrication of printed circuits, a continuous method comprising the steps of causing a thin continuous

conductive metallic foil to travel contiguous to a continuous paper carrier tape to a first work position, one of the contiguous surfaces of the foil and carrier tape having a coating thereon so as to insure a slight degree of adherence therebetween, dinking circuit patterns from successive portions of the continuous conductive foil and applying them to successive portions of the continuous carrier tape at said first work position to cause them to adhere to the carrier tape, moving said contiguous foil and carrier tape from said first work position and removing from the carrier tape the remaining portions of said continuous conductive foil not a part of said circuit patterns thereby leaving only said circuit patterns in stored positions on said continuous carrier tape, moving



said carrier tape to a second work position, successively bringing insulating members into contact with the stored patterns on said carrier tape at said second work position, moving said carrier tape and insulating members to a third work position, applying heat at said third work position to said insulating members and said stored patterns to permanently bond said insulating members and said patterns together at said third work position, moving said continuous carrier tape having the stored patterns and bonded insulating members thereon from said third work position, and then separating said bonded members and patterns from the successive portions of said continuous carrier tape, characterized in that in said dinking step said paper carrier tape is indented but not cut into, said circuit patterns are affixed to said paper carrier tape in an easily separable manner by adhesion only.

2,969,301

METHOD OF MAKING A SYNTHETIC RESIN PANEL WITH A CRINKLED FINISH

Joseph S. Finger, Bellaire, Tex., assignor, by mesne assignments, to Johns-Manville Fiber Glass Inc., Cleveland, Ohio, a corporation of Delaware

Filed Jan. 24, 1955, Ser. No. 483,771
3 Claims. (Cl. 154—186)



1. A method of producing a fiber reinforced thermosetting resin product having a highly decorative resin rich crinkled finish, comprising depositing a layer of a liquid thermosetting resin on a thin plastic film, depositing reinforcing fibers upon the surface of said layer of liquid resin and submerging said fibers in the resin, applying a thin plastic film onto the surface of the reinforced layer of resin after the fibers are submerged to form a resin-film laminate, at least one of said films being capable of crinkling in the presence of moisture, moistening the film capable of crinkling in the presence of moisture, and while said film is still moist heating the laminate to commence the cure of the resin.

2,969,302

METHOD OF MAKING PAPER

Jerome Green, Chicago, Ill., assignor to Nalco Chemical Company, a corporation of Delaware

No Drawing. Filed Feb. 14, 1957, Ser. No. 640,079
5 Claims. (Cl. 162—164)

1. A process for improving filler and fiber fines retention in the manufacture of cellulosic paper which comprises adding to paper stock containing an inorganic filler from 0.05 to one pound per ton of produced paper of a hydrophilic alkylene polyamine-polyfunctional halohydrin polymer; and thereafter forming a paper sheet from said stock, said stock being substantially free from other synthetic linear polymers.

2,969,303

COMBATING INSECTS

Roy E. Stansbury and Lyle D. Goodhue, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Nov. 15, 1957, Ser. No. 696,630
6 Claims. (Cl. 167—22)

6. A method of combating an insect which comprises contacting said insect with di-n-butyl sulfone and N-2-ethylhexylbicyclo[2.2.1]-5-heptene-2-dicarboximide, the said compounds being present in concentrations in the range 0.09–0.048 gram of di-n-butyl sulfone and 0.24–0.36 gram of N-2-ethylhexylbicyclo[2.2.1]-5-heptene-2-dicarboximide in 12 cc. of solution, respectively.

2,969,304

MANUFACTURE OF POLYOXYGENATED STEROIDS

Albert Wettstein and Ernst Vischer, Basel, and Charles Meystre, Arlesheim, Switzerland, assignors to Ciba Pharmaceutical Products Inc., Summit, N.J.

No Drawing. Filed July 12, 1955, Ser. No. 521,628
Claims priority, application Switzerland July 15, 1954
19 Claims. (Cl. 195—51)

1. In a method for oxygenating at least two of the 11-, 17- and 21-positions in a steroid compound, the step which comprises contacting a member of the group consisting of an 11-, 17-non-oxygenated, an 11-, 21-non-oxygenated, a 17-, 21-non-oxygenated and an 11-, 17-, 21-non-oxygenated pregnane compound with enzymes produced from at least two fungi selected from at least two of the groups consisting of (*a*) the order Mucorales and the genera Curvularia, Aspergillus, Streptomyces and Coniothyrium for oxidation in the 11-position; (*b*) the species *Trichothecium roseum*, *Leptosphaeria maculans*, *Cucurbittaria laburni*, *Acrospeira levis*, *Lophotrichus martinii*, *Melanospora parasitica* and *Thielavia terricola* for oxidation in the 17-position; and (*c*) the species *Ophiobolus herpotrichus* and *Sclerotinia fructicola* for oxidation in the 21-position, with the proviso that the fungi employed are those capable of oxygenating the corresponding non-oxygenated positions, said contact being effected in a single operation, the different oxygenating reaction taking place in a single culture vessel.

2,969,305

MANUFACTURE OF POLYOXYGENATED DEHYDRO-STEROIDS

Albert Wettstein and Ernst Vischer, Basel, and Charles Meystre, Arlesheim, Switzerland, assignors to Ciba Pharmaceutical Products Inc., Summit, N.J.

No Drawing. Filed Feb. 21, 1956, Ser. No. 566,777
Claims priority, application Switzerland Feb. 25, 1955
14 Claims. (Cl. 195—51)

1. In a method for dehydrogenating the 1:2-position and oxygenating at least one of the positions 11, 17 and 21 in a Δ^4-3:20-dioxo-pregnene, saturated in the 1:2-position and nonoxygenated in at least one of the positions 11, 17 and 21, the step which comprises subjecting a

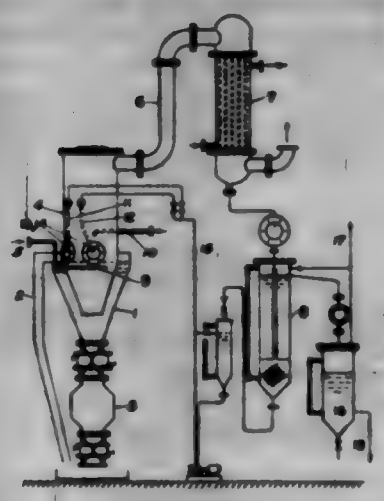
Δ^4-3:20-dioxo-pregnene, saturated in the 1:2-position and non-oxygenated in at least one of the positions 11, 17 and 21, simultaneously to enzymes from aerobic cultures of fungi selected from the group consisting of *Calonectria decora, Ophiobolus heterostrophus, Ophiobolus miyabeanus, Alternaria passiflorae* and *Didymella lycopersici* for dehydrogenation of the 1:2-position, and to at least one type of enzymes produced from one of the three groups of fungi consisting of (*a*) the genera Rhizopus, Mucor, Aspergillus, Penicillium, Curvularia, Cunninghamella, Spondylocladium and Streptomyces for oxidation in position 11, (*b*) the species *Trichothecium roseum, Leptosphaeria maculans, Cucurbitaria laburni, Acrospeira levis, Lophotrichus martinii, Melanospora parasitica* and *Thielavia terricola* for oxidation in position 17 and (*c*) the species *Ophiobolus herpotrichus* and *Sclerotinia fructicola* for oxidation in position 21, said treatment being carried out in a single operation.

2,969,306

PROCESS OF SEPARATING REACTION MIXTURE OF THE CYCLO-OCTATETRAENE SYNTHESIS INTO ITS CONSTITUENT PARTS

Walter Reppe, Heidelberg, and Karl Beer and Walter Schweter, Ludwigshafen (Rhine), Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

Filed Nov. 15, 1957, Ser. No. 696,675
Claims priority, application Germany Nov. 16, 1956
2 Claims. (Cl. 202—46)



1. A process for separating the liquid and solid components of the reaction mixture obtained from the synthesis of cyclo-octatetraene which comprises leading steam into a column of water at a short distance below the surface thereof so as to form a turbulent steam-water zone at the top of said column of water, the water below the point of entry of said steam being a zone relatively free of turbulence, and introducing said reaction mixture into said turbulent steam-water zone for vaporization of the liquid components of the reaction mixture, the solid components of the reaction mixture falling downwardly through the water zone which is free of turbulence.

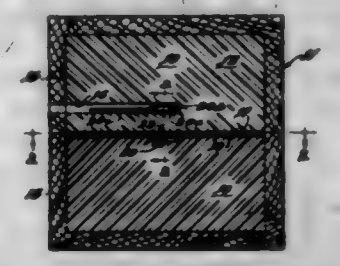
2,969,307

METHOD OF TESTING THERMAL NEUTRON FISSIONABLE MATERIAL FOR PURITY

Enrico Fermi, Santa Fe, N. Mex., and Herbert L. Anderson, Hartford, Conn., assignors to the United States of America as represented by the United States Atomic Energy Commission

Filed Nov. 21, 1945, Ser. No. 630,123
1 Claim. (Cl. 204—154.2)

A method of testing the neutronic purity of a thermal neutron fissionable material sample comprising the steps of producing a neutron flux field, inserting a standard neutron absorber of known characteristics and amount in said field, extracting substantially all of the chemical impurities from said sample, replacing said standard absorber with all of the impurities from the sample of the fissionable material, and producing successive indications of the neutron intensity by bombardment of a neutron



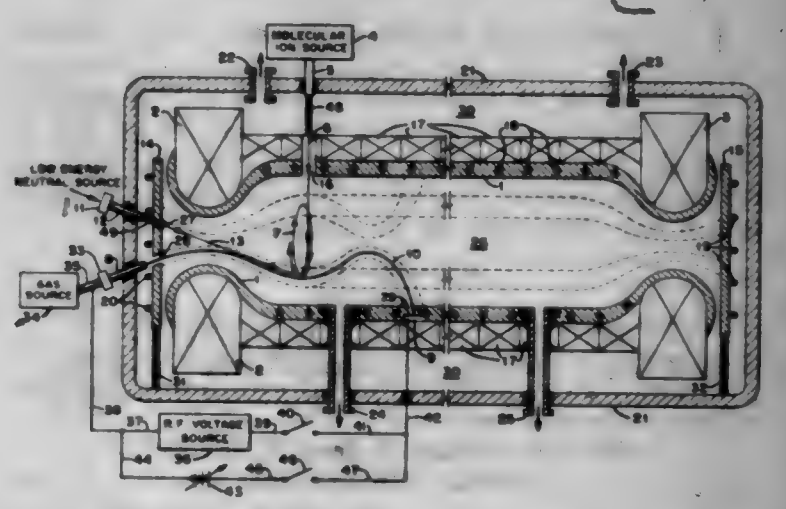
detector foil placed at a region of said field with both the absorber and the impurity sample removed, with the absorber present and the impurity sample removed, and with the absorber removed and the impurity sample present, whereby the neutronic purity of the sample may be calculated from said indications.

2,969,308

METHOD OF PRODUCING ENERGETIC PLASMA FOR NEUTRON PRODUCTION

Perm R. Bell, Albert Simon, and Robert J. Mackin, Jr., Oak Ridge, Tenn., assignors to the United States of America as represented by the United States Atomic Energy Commission

Filed Aug. 7, 1958, Ser. No. 753,846
5 Claims. (Cl. 204—154.2)



1. The method of initiating and sustaining an energetic plasma for the production of neutrons in an evacuated reaction chamber surrounded by a plurality of electromagnetic coils in end-to-end relation comprising the steps of selectively energizing some of said coils to establish a relatively large first value of containing magnetic field in a small portion of said chamber to form a magnetically contained sub-volume, said sub-volume being formed by two magnetic mirror regions spaced apart axially with a uniform magnetic field therebetween and having a mirror ratio of at least 3.5 to 1; initiating an energetic arc discharge between two electrodes, said discharge passing through said sub-volume along the containing magnetic field lines; injecting a selected current of relatively high-energy molecular ions into the path of said discharge where a portion of said molecular ions are dissociated and/or ionized to form atomic ions which are trapped by said containing magnetic field to form an energetic plasma in which neutrons are produced within said sub-volume, said selected current being at least greater than that required for producing a current of atomic ions sufficient to achieve burnout of neutral particles in said sub-volume; increasing the magnetic field strength of said sub-volume to a value at least five times larger than said first value after said plasma is formed; simultaneously terminating said arc discharge and the injection of said high energy

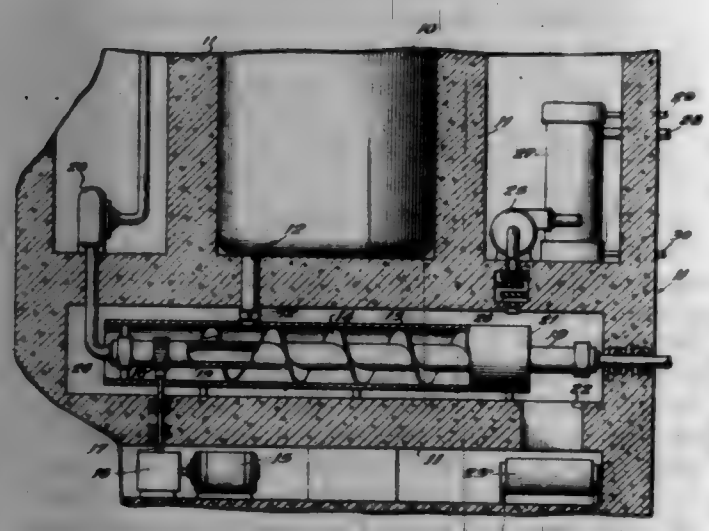
molecular beam, and then injecting relatively low-energy particles at a selective feed rate into said plasma until said sub-volume is filled with a plasma; then continuing said injection of said low-energy particles while at the same time periodically, step-by-step increasing the length of said magnetically contained sub-volume, each said step comprising decreasing the current flow through the coil forming one of said magnetic mirror regions to return said one region to said uniform field strength, and simultaneously increasing the current flow through the next adjacent coil to thereby establish a mirror region in alignment with said next adjacent coil, until said sub-volume has been expanded to encompass the entire reaction chamber and is filled with an energetic plasma and a substantial quantity of neutrons.

2,969,309
NEUTRONIC REACTOR FUEL ELEMENT AND METHOD OF MANUFACTURE
Harold Montague Finniston and Oliver Sidney Piall, London, England, assignors, by mesne assignments, to the United States of America as represented by the United States Atomic Energy Commission
Filed Feb. 21, 1950, Ser. No. 145,408
15 Claims. (Cl. 204—193.2)



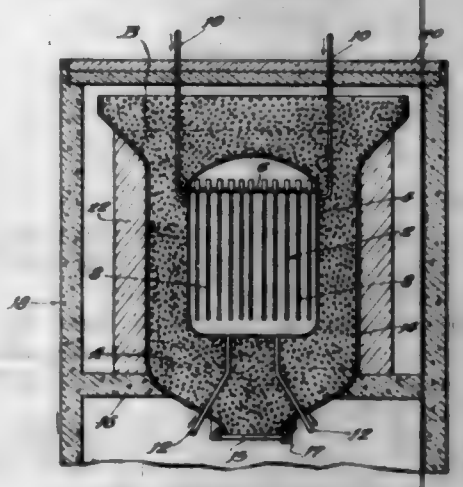
1. A uranium body for use in a nuclear fission reactor comprising a homogeneous rod of uranium metal enclosed in an envelope of aluminium, wherein a thin metallic layer of higher melting point than aluminium and of relatively low competitive neutron absorbtion between the uranium and the aluminium is bonded to the uranium and to the aluminium of the sheath.

2,969,310
NEUTRONIC REACTOR SYSTEMS
John J. Goett, Chicago, Ill., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed Apr. 18, 1945, Ser. No. 588,984
3 Claims. (Cl. 204—193.2)



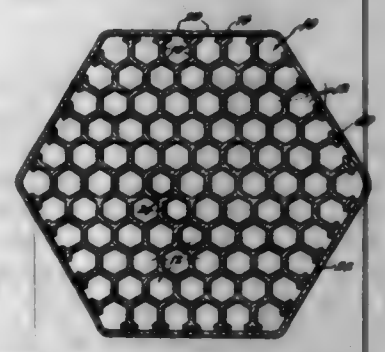
1. A neutronic reaction system comprising, in combination, a neutronic reactor provided with a tank containing a dispersion of thermal neutron fissionable material in a liquid moderator, an evaporation chamber, a duct connecting the evaporation chamber and the tank of the reactor, a valve disposed in the duct between the tank and the chamber, means for reducing the pressure within the chamber, a conveyor at least partially disposed within the evaporation chamber to remove solid residue therefrom, and means to cool the chamber to maintain the temperature of the solid residue therein below combustion temperature.

2,969,311
MEANS FOR PRODUCING PLUTONIUM CHAIN REACTIONS
Eugene P. Wigner and Alvin M. Weinberg, Oak Ridge, Tenn., assignors to the United States of America as represented by the United States Atomic Energy Commission
Filed Oct. 8, 1946, Ser. No. 701,911
2 Claims. (Cl. 204—193.2)



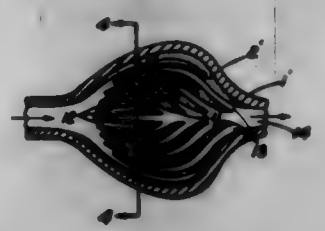
1. A neutronic reactor active portion capable of operating at an energy level of 0.5 to 1000 e.v. comprising discrete bodies of Pu^{239} disposed in a body of water which contains not more than 5 molecules of water to one atom of plutonium, the total amount of Pu^{239} being sufficient to sustain a chain reaction.

2,969,312
TYPE FUEL ELEMENT
Harry O. Monson, Elmhurst, Ill., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed Mar. 14, 1958, Ser. No. 721,611
6 Claims. (Cl. 204—193.2)



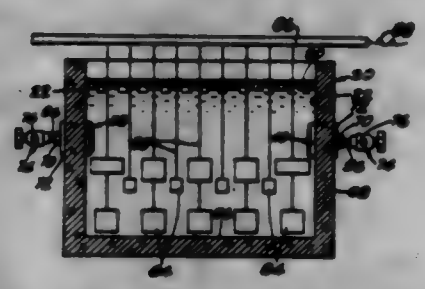
1. A radiator type fuel block assembly comprising a cylinder of neutron fissionable material having a hexagonal transverse cross-sectional shape, a plurality of longitudinal equally spaced channels therein aligned in rows parallel to each face of said cylinder, each of said channels being hexagonally shaped with the corners rounded and enlarged and having a maximum temperature isothermal line surrounding each channel which is approximately straight and equidistant between adjacent channels, a tube adapted to convey coolant and shaped to conform to the cross-sectional shape of said channel disposed concentrically in each of said channels, stagnant coolant in each of said channels between said tubes and said cylinder, the periphery of the cylinder having indentations formed of surfaces conforming concentrically to the cross sections of adjacent outermost coolant channels.

2,969,313
NUCLEAR REACTOR
John J. Grebe, Midland, Mich., assignor to the United States of America as represented by the United States Atomic Energy Commission
Original application Oct. 3, 1949, Ser. No. 119,228, now Patent No. 2,917,443, dated Dec. 15, 1959. Divided and this application Aug. 26, 1959, Ser. No. 838,013
1 Claim. (Cl. 204—193.2)



A nuclear reactor comprising a mass of material containing fissionable nuclei, said mass being formed as a plurality of tapered hollow tubular segments, each of said segments converging to a close at the apex of the taper, adjacent ones of said segments being interconnected at the opening of the taper, the walls of said tubular segments having gas passages therethrough whereby a coolant gas may be forced into the tapered opening of said segments, through said gas passages, and out the tapered opening formed between said segments.

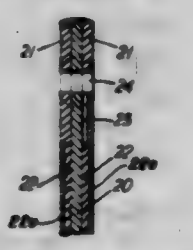
2,969,314
ELECTROLYTIC APPARATUS
George H. Coxe, Norwalk, Conn., assignor to Sanford Process Co. Inc., Los Angeles, Calif., a corporation of California
Filed Oct. 30, 1956, Ser. No. 619,184
12 Claims. (Cl. 204—242)



1. Electrolytic apparatus which comprises an electrically conductive tank, a plurality of electrically conductive buttons mounted on and electrically connected directly to the inside walls of said tank, said buttons being spaced from each other, each of said buttons having a plurality of surfaces, at least one of said surfaces being angularly disposed to and intersecting an adjacent surface of said button along a sharp intersecting edge, and an electrical connection to said buttons.

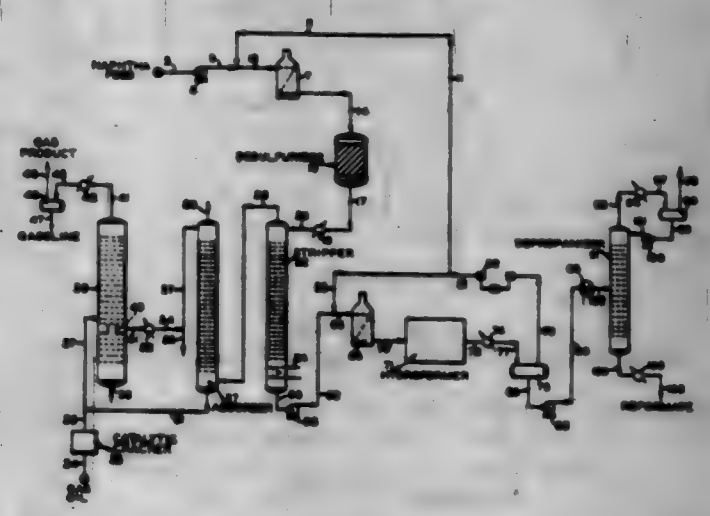
2,969,315
BIPOLAR ELECTRODE FOR ELECTRIC BATTERIES
Francis Thomas Bacon, Westfield, Little Shelford, England, assignor to E.R.A. Patents Limited, Leatherhead, England, a British company
Filed Aug. 21, 1957, Ser. No. 679,457
Claims priority, application Great Britain Aug. 23, 1956
6 Claims. (Cl. 204—284)

1. An electrode for use in an electrical cell of the oxygen-hydrogen type comprising, a conductive supporting plate having a solid central portion of extended area and a rim portion surrounding said central portion, a multiplex layer of porous nickel fixed to a face of said plate by closely spaced sintered connections covering said central portion, the outer-surface portion of said layer having a lesser pore size than that of the portion adjacent said central portion, said outer-surface portion of lesser pore size being connected to said rim portion throughout its periphery forming a closed gas chamber



over said central portion; and means embodied in the electrode providing a fluid passage communicating with said chamber from the outside of said electrode.

2,969,316
DESULFURIZING REFORMER FEED
George W. Stanford, Linden, and James L. Patton, Ramsey, N.J., assignors to The M. W. Kellogg Company, Jersey City, N.J., a corporation of Delaware
Filed May 6, 1958, Ser. No. 733,286
5 Claims. (Cl. 208—79)

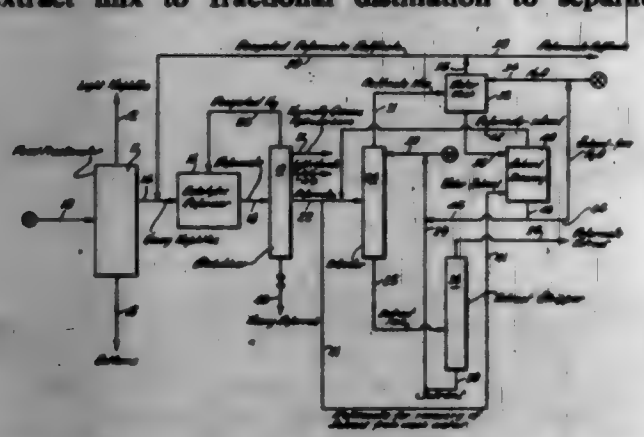


1. A method for controlling the concentration of C_3 and higher boiling normally gaseous hydrocarbons passed to a reforming zone which comprises passing a portion of a gaseous product stream containing hydrogen obtained from a reforming zone to a desulfurization zone with a sulfur-containing naphtha feed material under conditions to convert sulfur compounds therein to hydrogen sulfide, separating a product effluent of said desulfurization zone into a desulfurized naphtha product and a gaseous product stream containing hydrogen sulfide and low-boiling hydrocarbons, passing a cycle oil recovered from the fractionating zone of a catalytic cracking process in contact with the gaseous product stream separated from said desulfurization product effluent to recover by absorption said low-boiling hydrocarbons including C_3 and higher boiling gaseous hydrocarbons, passing the cycle oil enriched with said C_3 and higher boiling gaseous hydrocarbons by absorption to the fractionation zone to separate absorbed hydrocarbons from the cycle oil and passing the desulfurized naphtha substantially free of C_3 hydrocarbons to said reforming zone.

2,969,317
PETROLEUM TREATING PROCESS
Howard V. Hess, Glenham, N.Y., assignor to Texaco Inc., a corporation of Delaware
Filed May 27, 1958, Ser. No. 738,210
10 Claims. (Cl. 208—96)

1. A petroleum treating process which comprises subjecting a petroleum naphtha to catalytic reforming to yield a reformate containing aromatic hydrocarbons and non-aromatic hydrocarbons, subjecting said reformate to contact with a selective solvent which selectively dis-

solves aromatic hydrocarbons to yield a raffinate mix comprising non-aromatic hydrocarbons and said selective solvent and an extract mix comprising aromatic hydrocarbons and said selective solvent, contacting said raffinate mix with water to remove said selective solvent therefrom to yield a raffinate phase comprising non-aromatic hydrocarbons and an extract phase comprising water and said selective solvent dissolved therein, subjecting said extract mix to fractional distillation to separate said



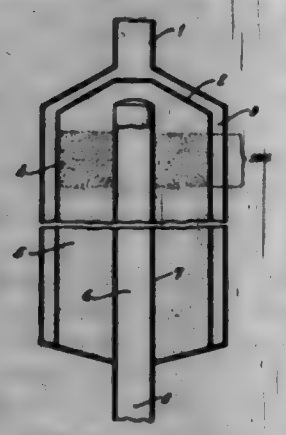
aromatic hydrocarbons and said selective solvent, returning the selective solvent separated from said extract mix to contact additional reformate and recovering said selective solvent from said extract phase by contacting said extract phase in a liquid-liquid contacting operation with a portion of said reformate and returning the resulting reformate, now containing selective solvent dissolved therein, to the aforesaid operation wherein reformate is contacted with said selective solvent.

2,969,318

SPENT CATALYST SEAL FOR A CATALYTIC REACTOR

Harry Lee Woodall, Jr., Port Arthur, Tex., assignor to Texaco Inc., a corporation of Delaware

Filed Dec. 17, 1956, Ser. No. 628,685
4 Claims. (Cl. 208—138)



1. In a process in which a hydrocarbon fraction is subjected to conversion conditions in a radial flow catalytic reaction zone containing a platinum catalyst, the improvement which comprises providing in said zone a catalyst seal comprising platinum catalyst which has become spent for hydrocarbon conversion purposes, the path of flow of the hydrocarbon through the catalyst bed being substantially parallel to the interface of the catalyst bed and the catalyst seal.

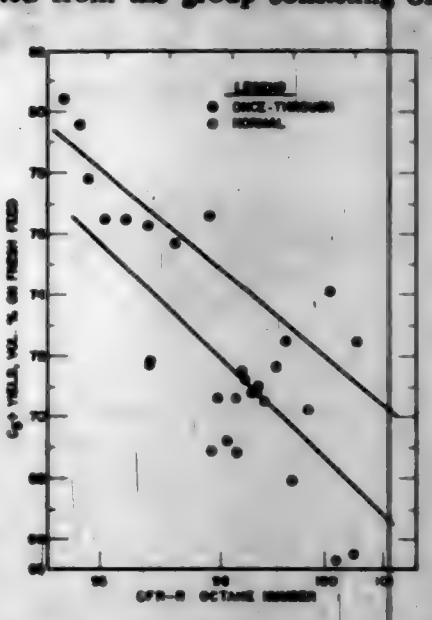
2,969,319

HCl REMOVED FROM RECYCLE GAS

John Sosnowski, Westfield, Walter J. Maier, Millington, Sumner B. Sweetser, Cranford, and William Priestley, Jr., Rahway, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

Filed Aug. 1, 1958, Ser. No. 752,511
4 Claims. (Cl. 208—139)

1. In the hydroforming of hydrocarbons in a reaction zone containing a catalyst comprising an alumina base, halogen and a metal selected from the group consisting of platinum and palladium wherein hydrogen-containing gas is separated from the liquid products for recycle to the reaction zone, the improvement which comprises contacting said hydrogen-containing recycle gas with a solid agent selected from the group consisting of high surface



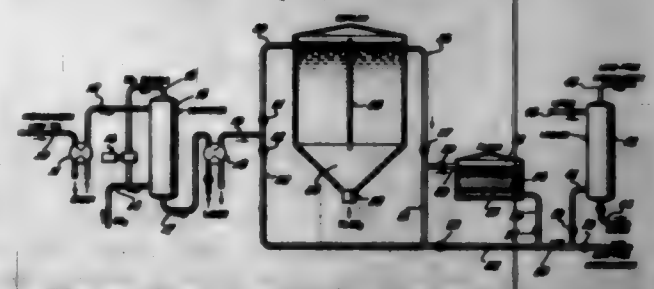
area adsorbents, and high surface area adsorbents impregnated with a solid basic material thereby reducing the halogen acid content of the recycle gas below a level of 5 p.p.m. and simultaneously reducing the water content of said recycle gas to below a level of 30 p.p.m. and returning the gas thus treated to said reaction zone.

2,969,320

REMOVAL OF TETRAETHYL LEAD FROM HYDROCARBON LIQUIDS WITH SULFUR DIOXIDE

Abraham Shapiro, Pasadena, and Dan A. H. Olson, Huntington Park, Calif., assignors to Socony Mobil Oil Company, Inc., New York, N.Y., a corporation of New York

Filed Feb. 3, 1959, Ser. No. 790,869
5 Claims. (Cl. 208—251)



1. The method of removing tetraethyl lead from a hydrocarbon liquid which comprises: bringing said liquid into contact with gaseous sulfur dioxide under conditions capable of causing a substantial degree of solution of said sulfur dioxide in said liquid, whereby tetraethyl lead is decomposed and a lead-bearing precipitate is formed.

2,969,321

DRILLING FLUIDS AND METHOD OF USING SAME

Paul G. Carpenter, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Dec. 3, 1956, Ser. No. 625,588
10 Claims. (Cl. 252—8.5)

1. An oil base drilling fluid comprising an oil at least part of which boils above 400° F. and which is selected from the group consisting of topped crude oil, gas oil, kerosene, diesel fuel, heavy alkylate, fractions of heavy alkylate, and mixtures thereof, and an amount of a polymer of 1-butene sufficient to reduce the fluid loss due to filtration without increasing the viscosity of said drilling fluid to such an extent that it cannot be circu-

lated, said polymer having been prepared by polymerizing 1-butene at a polymerization temperature within the range of about 100 to about 500° F. and a pressure within the range of about 100 to about 700 p.s.i.g. in the presence of a catalyst active for such polymerization and comprising, as the sole essential effective catalytic ingredients thereof, chromium oxide and at least one material selected from the group consisting of silica, alumina, zirconia, and thoria, at least part of the chromium being in the hexavalent state at the initial contacting of hydrocarbon with said catalyst.

2,969,322

PREPARATION OF WELL PACKER FLUIDS

Walter J. Weiss, Sugar Land, and Clarence O. Walker and John S. Brukner, Houston, Tex., assignors to Texaco Inc., a corporation of Delaware

No Drawing. Filed Apr. 16, 1958, Ser. No. 728,774
15 Claims. (Cl. 252—8.55)

1. A method of converting an aqueous limed mud into a well packer fluid having relatively improved high temperature properties which comprises dewatering said limed mud by centrifuging to increase the density thereof, incorporating in the resulting dewatered mud a sufficient amount of water and viscosity increasing agent to yield a resulting mud having a density approaching that of the aforesaid limed mud, the P_m value of said resulting mud having been substantially reduced with respect to the aforesaid limed mud, dewatering said resulting mud to increase the density thereof, adding additional water and incorporating in the dewatered resulting mud an additional amount of viscosity increasing agent to yield a resulting packer fluid having a P_m value of less than 5.0 and a shear value when subjected to a temperature of 350° F. for a period of 24 hours of less than about 550 lbs. per sq. ft., wherein P_m is the number of ccs. of N/50 H_2SO_4 required to titrate 1 cc. of the whole mud.

2,969,323

PHOSPHOSULFURIZED LUBRICATING OIL ADDITIVE

Peter J.V.J. Agius, Abingdon, Alan M. Dominey, Oxford, and Ronald E. Pegg, Kennington, near Oxford, England, assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Aug. 12, 1957, Ser. No. 677,753
Claims priority, application Great Britain Aug. 23, 1956
7 Claims. (Cl. 252—32.7)

1. An improved phosphosulfurized lubricating oil additive prepared by phosphosulfurizing, at a temperature in the range of 150° to 250° C. for 4 to 8 hours, a hydrocarbon polymer derived from the polymerization of C_3 to C_6 mono-olefins and having an average molecular weight above 10,000 with about 8 to 15 wt. percent of a phosphorus sulphide in the presence of 10 to 40 wt. percent of polymer bottoms obtained from polymer gasoline preparation and having an average molecular weight of less than 350 and boiling in the range of 200 to 270° C.

4. A phosphosulphurised lubricating oil additive prepared by neutralizing the phosphosulphurised derivative of claim 1 with a material selected from the group consisting of high alkalinity oil-soluble metal sulphonate and barium salt of an alkyl phenol sulphide.

2,969,324

PHOSPHOSULFURIZED DETERGENT-INHIBITOR

Carroll L. Knapp, Jr., Cranford, and Stephen L. Wythe, Westfield, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

Filed Feb. 28, 1958, Ser. No. 716,394
1 Claim. (Cl. 252—32.7)

A method for preparing a concentrate of a detergent-inhibitor additive derived by stabilizing an oil-soluble phosphosulfurized hydrocarbon, normally evolving hydrogen sulfide, which comprises reacting said phosphosulfurized hydrocarbon, in the presence of a mineral oil diluent, with a stabilizing amount of a high alkalinity neutralizing agent at a temperature in the range of 150 to 600° F. for at least 0.5 hour under substantially anhydrous conditions, the weight of said neutralizing agent times its alkaline neutralization number to a pH of 4 being at least equal to the weight of said phosphosulfurized hydrocarbon times its saponification No., said neutralizing agent having been obtained by reacting, in the presence of carbon dioxide, an alkaline earth base in at least 5 weight percent excess with at least one compound selected from the group consisting of alkyl phenols, alkyl phenol sulfides, sulfonic acids and metal salts thereof such that the ratio of equivalents of metal to equivalents of organic acids is greater than 1.5, said concentrate containing more than 20 weight percent of the resulting stabilized additive in said mineral oil diluent.

2,969,325

METHOD FOR IMPROVING YIELD OF SODIUM BASE GREASES

James R. Roach, Beacon, Joseph F. Lyons, Wappingers Falls, and John P. Dilworth, Fishkill, N.Y., assignors to Texaco Inc., a corporation of Delaware

No Drawing. Filed Sept. 8, 1955, Ser. No. 533,232
4 Claims. (Cl. 252—42)

1. A process for improving the yield of sodium base greases derived from fatty acids containing 6 to 24 carbon atoms, hydroxy fatty acids containing 10 to 24 carbon atoms, their glycerides and monoesters, and mixtures thereof, which comprises adding 0.5 to 3 weight percent of an estolide of a hydroxy fatty acid containing 10 to 24 carbon atoms to the finished grease composition, heating the mixture of estolide and finished grease to a temperature above 300° F., and cooling said estolide-grease mixture with the resulting formation of a harder grease composition.

2,969,326

LUBRICANT COMPOSITION

Amos Dorinson, Homewood, Ill., assignor to Sinclair Refining Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Aug. 3, 1956, Ser. No. 602,062
5 Claims. (Cl. 252—48.4)

1. A new composition of matter consisting essentially of a mineral lubricating oil and an amount sufficient to increase the load carrying capacity of the oil of a sulfurized oil-soluble ester of chlorendic acid produced by reacting sulfur and an oil-soluble chlorendic acid ester in a ratio of about one-half to four gram-atoms of sulfur to one mole of chlorendic acid ester in which said ester group is an unsaturated hydrocarbon radical containing from 3 to 20 carbon atoms.

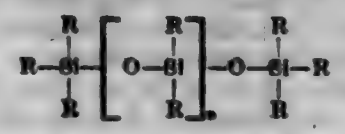
2,969,327

DIELECTRIC HEAT SEALING BLANKET

Henry Edward Quehl, Jr., Norwalk, Conn., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed July 23, 1958, Ser. No. 750,293
5 Claims. (Cl. 252—63.2)

1. A composition consisting essentially of a solid cured organopolysiloxane and about 175 to 400 parts of finely divided barium titanate per 100 parts organopolysiloxane, said organopolysiloxane having the following empirical formula:



in which substantially all the "R" substituents are selected

from the class consisting of monovalent alkyl and aryl hydrocarbon radicals and "*n*" is a whole number greater than 1.

2,969,328

COMPOSITION FOR REMOVING COATINGS

Evelyn Ellenson and Richard Galba, both of 57 W. 57th St., New York, N.Y.

No Drawing. Filed June 20, 1957, Ser. No. 667,029
8 Claims. (Cl. 252—153)

1. A liquid composition for removing a coating from a coated surface consisting of methylene chlorobromide and at least one liquid halogenated hydrocarbon having from one to three carbon atoms and at least one halogen atom selected from the group consisting of chlorine and bromine, with the methylene chlorobromide having a ratio of from 5 to 95 parts by volume to 95 to 5 parts by volume of the liquid halogenated hydrocarbon, and sufficient morpholine to give the mixture a pH of 6 to 8.

2,969,329

DETERGENT COMPOSITIONS

Samuel Allen Heininger, Dayton, Ohio, assignor to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Apr. 12, 1956, Ser. No. 577,669
17 Claims. (Cl. 252—153)

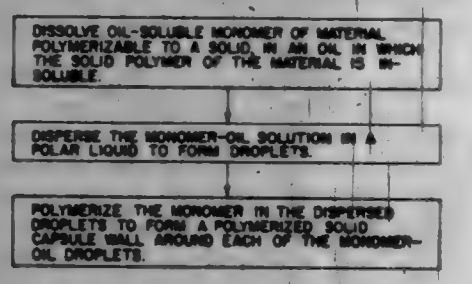
1. A detergent composition consisting essentially of a synthetic, organic detergent selected from the group consisting of the sulfated and sulfonated anionic and nonionic detergents, and in combination therewith a small amount of benzazimidol sufficient to inhibit tarnishing of a copper base alloy.

2,969,330

OIL CONTAINING CAPSULES AND METHOD OF MAKING THEM

Carl Brynko, Dayton, Ohio, assignor to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland

Filed June 4, 1958, Ser. No. 739,716
8 Claims. (Cl. 252—316)



1. The method of making capsules, consisting of the steps of providing an oil in which there is dissolved at least one monomer material which is polymerizable to a solid, the material after it is polymerized being insoluble in the oil; dispersing the monomer-containing oil in a polar liquid to form droplets; and causing polymerization of the material, which material when polymerized and thus rendered insoluble moves to the interfaces between the droplets and the polar liquid, whereby to form a separate encapsulating wall of solid polymer material around each droplet of oil.

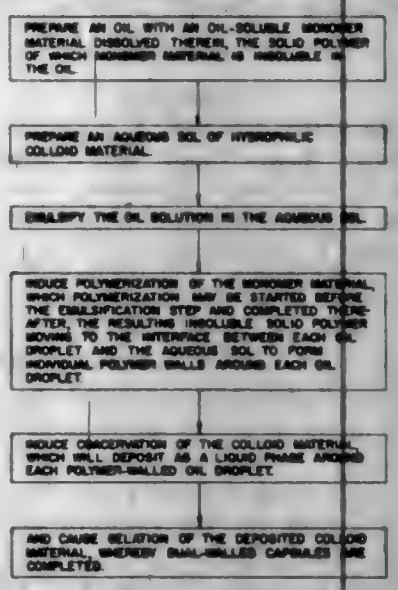
2,969,331

PROCESS OF MAKING DUAL-WALLED OIL CONTAINING CAPSULES

Carl Brynko and Joseph A. Scarpelli, Dayton, Ohio, assignors to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland

Filed July 14, 1958, Ser. No. 748,512
5 Claims. (Cl. 252—316)

1. A process for making pressure-rupturable microscopic oil-containing capsules each having around a central nucleus of oil, a dual wall structure consisting of an inner wall of solid material and an outer wall of solid material adherent to the inner wall, and the walls being of different chemical substances, including the steps of preparing an oil with at least one oil-soluble monomer material dissolved therein, the monomer material when polymerized being insoluble in the oil; preparing an aqueous sol of gellable hydrophilic film-forming colloid material; dispersing the oil-monomer solution in the sol as droplets; inducing polymerization of the monomer



which polymerization is started during the foregoing steps; causing the colloid material to coacervate, resulting in the deposition of the colloid as a liquid around each droplet, the polymerized monomer material, because of its insolubility in the oil, forming a solid inner wall at the interface between the oil of each droplet with the colloid material deposited therearound; and gelling the colloid to form an outer solid wall of colloid material around each inner wall of polymer material to form said dual-walled capsules.

2,969,332

DIOCTYL SULFOSUCCINATE COMPOSITIONS CONTAINING ANTIFOAMING AGENTS

Edward B. Lawler and Kenneth D. Ballou, Charlotte, N.C., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Feb. 5, 1957, Ser. No. 638,237
5 Claims. (Cl. 252—354)

1. A wetting composition consisting essentially of from 50 to 90 parts by weight of a member of the group consisting of alkali metal and ammonium dioctyl sulfosuccinates and from 10 to 50 parts by weight of a mixture of a fatty acid containing from 16 to 22 carbon atoms and a diethylene glycol monoester of a fatty acid containing from 16 to 22 carbon atoms, the weight ratio of said diethylene glycol monoester to said fatty acid being about one to one.

2,969,333

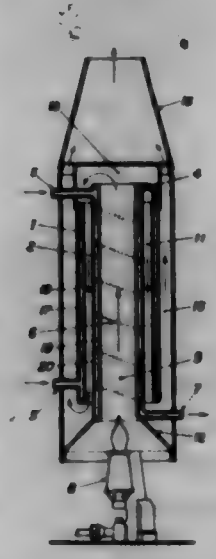
DEVICE FOR THE GENERATION OF ARTIFICIAL FOG

Oskar Roth, Huttenheim, Baden, Germany, assignor to Inventor-Kreditanstalt, Vaduz, Liechtenstein, a company of Liechtenstein

Filed Feb. 25, 1958, Ser. No. 717,433
Claims priority, application Austria Feb. 28, 1957
6 Claims. (Cl. 252—359)

1. A device for the generation of artificial fog comprising a first inner hollow cylinder including spaced cylindrical walls forming a first chamber, a second outer hollow cylinder including spaced cylindrical walls forming a second chamber arranged in spaced coaxial relationship relative to said first hollow cylinder, combustion means including a source of heat for heating gases below said first chamber and said second chamber, a

first deflecting member for the heating gases from said combustion means at the upper end of the said first and second chambers and overlying said first and second hollow cylinders a second deflecting member for the heating gases at the lower end of said first and second chambers, a jacket coaxial with the said first and second hollow cylinders forming a first annular space around the said second hollow cylinder, said second deflecting member extending between said jacket and said first hollow cylinder, a second annular space being formed between the said first hollow cylinder and the said second hollow cylinder, said first deflecting member deflecting the heating into said second annular space, said second deflecting member deflecting heating gases



passing from said second annular space into said first annular space, said first hollow cylinder being provided with a connection enabling oil to be supplied to said first chamber, said second hollow cylinder being provided with a connection for the supply of water to said second chamber, means in said first chamber for distributing the oil along the surfaces of said spaced cylindrical walls defining said first chamber, a connecting passage between said first chamber and said second chamber so that steam from heated water in said second chamber will flow through said passage to become coated with oil in said first chamber forming fog, and an outlet for fog provided at the lower end of said first hollow cylinder.

2,969,334

COMPOSITION COMPRISING DICHLOROMALEIC ANHYDRIDE AND AN EPOXY RESIN AND METHOD OF USING SAME

Robert Steckler, Russell, Ohio, assignor to Food Machinery and Chemical Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Sept. 3, 1958, Ser. No. 758,677

13 Claims. (Cl. 260—2.5)

9. A method of producing a foamed resinous product from a composition comprising dichloromaleic anhydride and a glycidyl polyether of a dihydric phenol having an average of between one and two 1,2-epoxy groups per molecule comprising: pulverizing the dichloromaleic anhydride, dispersing the pulverized dichloromaleic anhydride in the epoxy resin at a temperature below the curing temperature of the composition, adding a foaming agent, and curing the composition at a temperature at which said foaming agent continuously liberates gas bubbles.

2,969,335

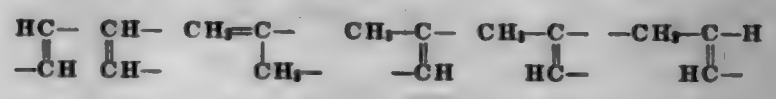
REACTION PRODUCTS OF POLYESTERS AND PRIMARY AMINES

John Kenson Simons, Norristown, Pa., assignor to Quaker Chemical Products Corporation, Conshohocken, Pa., a corporation of Pennsylvania

No Drawing. Filed June 25, 1957, Ser. No. 667,986

6 Claims. (Cl. 260—22)

1. A polyester containing at least one secondary amine group obtained by the interaction at a temperature from 20° C. to 150° C. of an unsaturated polyester and a mono primary amine, said amine being reacted chemically by addition across the carbon-carbon double bond of said unsaturated polyester in amount from 0.1 to 1 molar equivalent to the carbon-carbon double bonds in said polyester, said unsaturated polyester comprising the interesterification product of an acid of the formula HOOC·U·COOH where U is a divalent radical selected from the group consisting of



and a glycol of the formula HO—G—OH where G is a divalent radical selected from the group consisting of 1,2-; 1,3-; 1,4-; 1,5-; 1,6-alkylene radicals containing from 2 to 6 carbon atoms and polyoxyethylene and polyoxypropylene radicals containing 1 to 5 oxygen atoms, said mono primary amine having the formula RNH_2 wherein R is a monovalent radical selected from the group consisting of aliphatic, aromatic, cycloaliphatic and heterocyclic radicals.

2,969,336

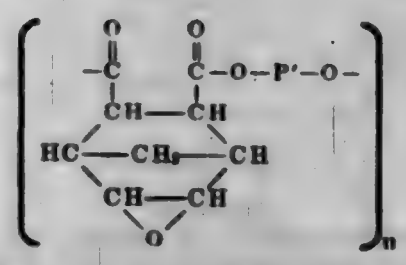
EPOXIDIZED POLYESTERS FROM 3-OXATRICYCLO - (3.2.1.0^{2,4}) OCTANE - 6,7 - DICARBOXYLIC ACID

Benjamin Phillips and Paul S. Starcher, Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Dec. 30, 1957, Ser. No. 705,770

9 Claims. (Cl. 260—22)

1. A polyester containing the characteristic unit defined by the formula:



wherein P' represents the residue of an aliphatic polyhydrice alcohol and *n* represents a whole positive integer of at least one.

2,969,337

NON-SAGGING JOINT SEALING COMPOSITIONS

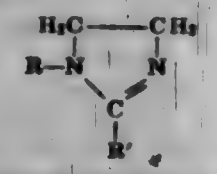
Manfred E. Goodwin, Haddonfield, Edgar W. Sawyer, Jr., Metuchen, and Homer A. Smith, Berkeley Heights, N.J., assignors to Minerals & Chemicals Philipp Corporation, a corporation of Maryland

No Drawing. Filed Dec. 3, 1958, Ser. No. 777,849

14 Claims. (Cl. 260—22)

1. A composition for filling joints which is substantially free from sag at elevated temperatures and comprising a coatings vehicle normally capable of forming a thermoplastic film at room temperature, said coatings vehicle comprising a nonvolatile portion including a coatings resin in an amount within the range of from 50 percent to 100 percent, based on the weight of the vehicle nonvolatiles, a naturally occurring colloidal clay having a surface area after drying to a temperature of 350° F. of at least 50 square meters per gram colloidally dispersed

in said coatings vehicle and an imidazoline of the following structural formula:



wherein R is selected from the group consisting of alkyl groups containing from 2 to 18 carbon atoms, radicals containing an alkyl amino group and having from 2 to 18 carbon atoms, alkyl and alkylene groups containing from 2 to 18 carbon atoms, and R′ is selected from the group consisting of alkyl and alkylene groups having from 11 to 21 carbon atoms, wherein the ratio of the weight of volatile-free clay to the weight of the vehicle nonvolatiles of said coatings vehicle is within the range of from about 1 to 2 to 1 to 20 and the weight ratio of the volatile-free clay to said imidazoline is within the range of 2 to 1 to 10 to 1 and sufficient to permit colloidal dispersion of said clay in said coatings vehicle.

2,969,338

POLYESTER CONTAINING ESTER OF LEVULINIC ACID AND PENTAERYTHRITOL WITH POLYMERIZED POLYCARBOXYLIC ACID

John A. Parker, Lancaster Township, Lancaster County, Pa., assignor to Armstrong Cork Company, Lancaster, Pa., a corporation of Pennsylvania

No Drawing. Filed May 1, 1959, Ser. No. 810,228
9 Claims. (Cl. 260—22)

1. The method of making a non-oxidizable keto-ester binder system for resilient flooring comprising reacting isophthalic acid and a glycol selected from the group consisting of 1,3-butylene glycol, neopentyl glycol, ethylene glycol, and diethylene glycol, to form a polyester having an acid number in the range of 10–40, admixing with said polyester a material selected from the group consisting of the pentaerythritol monoester of levulinic acid, and the ingredients for forming said monoester, the resulting mixture containing about 50–80% by weight of said polyester, adding to said resulting mixture an aliphatic, polycarboxylic, polymerized, fatty acid containing at least 36 carbon atoms in an amount of 40–60% by weight of said polycarboxylic acid based on the total weight of the mixture, and heating the final reaction mixture to a temperature in the range of 150°–225° C. to produce a gel.

2,969,339

CHLORINATED TRIGLYCERIDES OF FATTY ACIDS AS SECONDARY PLASTICIZERS FOR POLYVINYL CHLORIDE

Manfred Dohr, Duesseldorf, and Horst-Jürgen Krause, Duesseldorf-Benrath, Germany, assignors to Dehydag, Deutsche Hydrierwerke G.m.b.H., Duesseldorf, Germany, a corporation of Germany

No Drawing. Filed June 28, 1957, Ser. No. 668,614
Claims priority, application Germany July 2, 1956
6 Claims. (Cl. 260—23)

1. A composition of matter comprising 60 parts by weight polyvinyl chloride, 20 parts by weight dioctyl phthalate and 20 parts by weight of a triglyceride of a chlorinated high-molecular weight fatty acid derived from refined coconut oil having a chlorine content of about 34.7%.

6. In the process of rendering compositions containing polyvinyl chloride plastic by mixing said compositions with substantial amounts of a primary plasticizer and from 10 to 120% by weight of the primary plasticizer of a chlorinated fatty acid ester secondary plasticizer, the improvement which comprises mixing as said secondary plasticizer a triglyceride of a high-molecular-weight fatty acid having from 2 to 6 chlorine atoms attached to each fatty acid radical.

2,969,340

PROCESS OF PREVENTING THE SEPARATION OF POLYETHYLENE AND WAX COMPRISING THE ADDITION OF WATER

John J. Kaufmann, New Brighton, and Philip R. Templin, Oakmont, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Filed May 9, 1958, Ser. No. 734,170
2 Claims. (Cl. 260—28.5)

1. A process for preventing the separation and settling out of polyethylene from a mixture comprising about 0.25 to about 20 percent by weight of said polyethylene and about 80 to about 99.75 percent by weight of paraffin wax which has been heated to a temperature above about 95° C., which comprises adding at least about 1/1000 to about 1/10 percent by weight of water to said mixture while said mixture is at a temperature of about 82° to about 93° C.

2,969,341

VULCANIZABLE BUTYL RUBBER—GR-S BLENDS AND PROCESS OF MAKING SAME

Donald J. Buckley, Plainfield, and Samuel B. Robison, Roselle, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

Filed Dec. 14, 1954, Ser. No. 475,255
17 Claims. (Cl. 260—45.5)

1. A sulfur-free composition of matter comprising a vulcanizable blend of about 25 to 75 weight percent of butyl rubber copolymer of a major proportion of isobutylene and a minor proportion of a C_4 to C_{14} diolefin, about 25 to 75 weight percent of a rubbery copolymer of butadiene and styrene, about 1 to 10 weight percent of a curing agent selected from the group consisting of paraquinone dioxime and paraquinone dioxime dibenzoate and about 1 to 20 weight percent of an oxidizing agent selected from the group consisting of lead oxide and benzothiazyl disulfide; said composition being free of elemental sulfur and being covulcanizable upon heating.

2,969,342

VINYL RESIN COMPOSITIONS STABILIZED WITH ACYL BORATES

Otto Konig, Forest Hills, and Eliot G. Gordon, New York, N.Y., and Daniel F. Herman, Orange, N.J., assignors to National Lead Company, New York, N.Y., a corporation of New Jersey

No Drawing. Filed May 6, 1958, Ser. No. 733,268
6 Claims. (Cl. 260—45.85)

1. A vinyl halide resin composition containing, as stabilizer therefor, about 0.10 to 15% by weight, based on said resin, of a boron acylate having from 2 to about 12 carbon atoms in the acylate group.

2,969,343

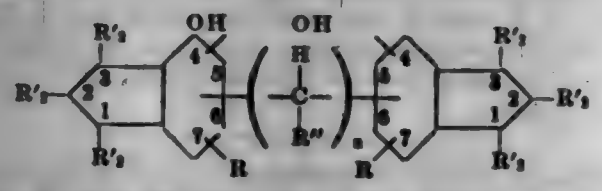
ALKYLIDENE BIS-INDANOLS AS DETERIORATION RETARDERS FOR RUBBERS

Roger E. Morris, Cuyahoga Falls, Ohio, assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York

No Drawing. Filed Sept. 10, 1956, Ser. No. 608,692
7 Claims. (Cl. 260—45.95)

1. A sulfur-vulcanized rubbery composition having highly efficient anti-flex-cracking properties and superior

heat-stabilizing properties, which composition comprises a vulcanized rubbery diolefinic polymer having dispersed therein from 0.3 to 10.0 weight percent on the said polymer of an alkylidene-bridged bis-indanol of the general formula



wherein R and R'' each represents a monovalent substituent selected from the class consisting of hydrogen, and alkyl and aralkyl radicals having from 1 to 8 carbon atoms, R' represents a monovalent substituent selected from the class consisting of hydrogen and alkyl radicals having from 1 to 8 carbon atoms, and *n* is an integer ranging from 1 to 2.

2,969,344

PROCESS FOR PREPARING POLYPROPYLENE

Ernest W. Dobson, Media, and Thomas J. Kelly, Philadelphia, Pa., assignors to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

No Drawing. Filed Aug. 8, 1957, Ser. No. 676,948
2 Claims. (Cl. 260—93.7)

1. Process for the preparation of crystalline polypropylene substantially free from amorphous polypropylene which comprises contacting, at a temperature within the range of from about 5° C. to 70° C., a mixture of crystalline and amorphous polypropylene with a mixture of saturated hydrocarbons boiling in the range of 36° C. to 267° C. and with from 0.01 to 0.45 part, based on the hydrocarbons, of a material selected from the group consisting of methanol and acetone, and separating undissolved crystalline polypropylene from the resulting solution.

2,969,345

THREE-COMPONENT ALKYL ALUMINUM HALIDE CATALYSTS FOR OLEFIN POLYMERIZATION

Harry W. Coover, Jr., and Frederick B. Joyner, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Mar. 31, 1958, Ser. No. 724,909
16 Claims. (Cl. 260—93.7)

1. In the polymerization of propylene to form solid crystalline polymer the improvement which comprises effecting the polymerization in liquid dispersion in an organic liquid and in the presence of a catalytic mixture consisting essentially of a molar ratio of ethyl aluminum dichloride and titanium trichloride of 1:0.5 to 1:2 and a molar ratio of ethyl aluminum dichloride and tris-N,N-dimethyl phosphoramide within the range of 1:1 to 1:0.25.

2,969,346

THREE-COMPONENT CATALYST FOR POLYMERIZING OLEFINS CONTAINING A MIXTURE OF METALS AND A HALOGEN

Harry W. Coover, Jr., and Frederick B. Joyner, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Mar. 31, 1958, Ser. No. 724,914
10 Claims. (Cl. 260—93.7)

1. In the polymerization of α-monoolefinic hydrocarbons containing 3 to 10 carbon atoms to form solid crystalline polymer, the improvement which comprises catalyzing the polymerization with a catalytic mixture consisting essentially of metallic titanium, metallic aluminum, iodine monochloride and an organophosphorus compound selected from the group consisting of trialkyl phosphites, trialkyl phosphates and hexaalkyl phosphoramides, the alkyl radicals in said organophosphorus compound containing from 1 to 8 carbon atoms, said catalytic mixture containing 0.1 to 10 atoms of aluminum per atom of titanium, 0.1 to 10 atoms of aluminum per mole of iodine monochloride and 0.1 to 0.5 mole of organophosphorus compound per mole of iodine monochloride.

2,969,347

RECOVERY OF OLEFIN POLYMERS FROM SOLUTION

Robert M. Bellinger and Norman F. McLeod, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

Filed July 2, 1956, Ser. No. 595,456
12 Claims. (Cl. 260—94.9)

1. In the treatment of solid olefin polymer which is a polymer of 1-olefin having a mixmum of 8 carbon atoms per molecule and no branching nearer the double bond than the 4-position precipitated from solution in which the solvent is separated from the polymer by heat and stripping, said solvent being selected from the group consisting of paraffins and alicyclic hydrocarbons having 5 to 12 carbon atoms per molecule, during which treatment the polymer passes through a range of polymer-to-solvent concentration wherein it tends to agglomerate and adhere to metal surfaces, the improvement which comprises introducing a slurry of said polymer in solvent in a concentration of between about 2 and about 6 percent to a preconcentrating zone containing steam and having a surface wetted with heated moving water and spraying the slurry onto said wetted surface whereby the polymer is dispersed in the water, solvent is vaporized from the slurry to increase the polymer concentration thereof to above about 6 percent, thereby passing the slurry without agglomeration through the agglomerating range of polymer concentration.

2,969,348

ETHYLENE POLYMERIZATION CATALYST AND PROCESS

William L. Fawcett, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Aug. 20, 1956, Ser. No. 605,197
14 Claims. (Cl. 260—94.9)

1. A process for the production of a solid polymer having enhanced flexibility, which process comprises contacting ethylene, at a temperature in the range 150 to 325° F. with a catalyst active for ethylene polymerization and prepared by depositing nickel oxide upon one portion of silica-alumina, depositing chromium oxide upon a separate portion of silica-alumina, heating and mixing the composites thus obtained to obtain a hexavalent chromium content of said catalyst of at least 0.1 weight percent, the total of nickel plus chromium content in said catalyst being within the range 1 to 4 percent of the total catalyst weight, and the mol ratio of nickel to chromium in said catalyst being within the range 0.2:1 to 2:1.

2,969,349

RECOVERY OF POLYMERIZATION CATALYST

Frederick L. Stoller, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Oct. 9, 1957, Ser. No. 689,229
3 Claims. (Cl. 260—94.9)

3. In a process in which ethylene is converted to normally solid polymer in the presence of a chromium oxide catalyst active for this conversion, the polymerization being conducted in the presence of a diluent paraffinic hydrocarbon having from 3 to 12 carbon atoms per molecule and an effluent containing said polymer dissolved in said

diluent and said catalyst in suspension in said solution is then passed to a centrifuging zone wherein said catalyst is separated from said solution by centrifugation, the improvement which comprises passing superheated vapor of the same diluent hydrocarbon into said centrifuging zone and thereby maintaining a pressure in said zone exceeding the vapor pressure of said solution and maintaining said centrifuging zone at a temperature in the range 200 to 400° F.

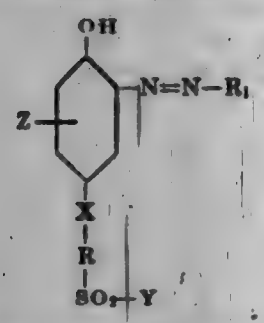
2,969,350

AZO DYESTUFFS AND THEIR METAL COMPLEX COMPOUNDS

Alfons Dorlars, Leverkusen, and Rolf Potter, Duesseldorf, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Oct. 21, 1958, Ser. No. 768,574
Claims priority, application Germany Aug. 2, 1958
7 Claims. (Cl. 260—148)

1. An azo dyestuff selected from the group consisting of a compound corresponding to the formula



wherein X stands for a member selected from the group consisting of a carbon-to-carbon bond, an oxygen atom, a sulfur atom and an azo bridge, R stands for an arylene radical selected from the group consisting of the benzene and naphthalene series, when X is azo and R stands for a member of the benzene series when X is selected from the group consisting of a carbon-to-carbon bond, an oxygen atom and a sulfur atom, R_1 means a diazo compound selected from the group consisting of a 1-amino-2-hydroxy-5-nitrobenzene, 1-amino-2-lower alkoxy-5-nitrobenzene, 1-amino-2-hydroxy-3,5-dinitrobenzene, 1-amino-2-hydroxy-3-chloro-5-nitrobenzene, 1-amino-2-hydroxy-5-nitrobenzene sulfonic acid, Y represents a substituent selected from the group consisting of hydroxyl and amino, and Z stands for a radical selected from the group consisting of hydrogen, lower alkyl, phenyl and chloro; a chromium complex thereof, a cobalt complex thereof and a copper complex thereof.

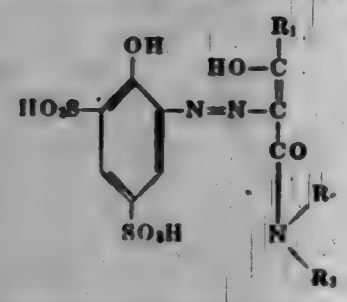
2,969,351

NEW METALLIFEROUS ORTHO:ORTHO'-DIHYDROXY-MONOAZO-DYESTUFFS

Hans Grossmann, Basel, Switzerland, assignor to Durand & Huguenin A.G., Basel, Switzerland, a company of Switzerland

No Drawing. Filed Mar. 10, 1958, Ser. No. 720,005
Claims priority, application Switzerland Mar. 11, 1957
7 Claims. (Cl. 260—149)

1. Complex metal compounds of ortho:ortho'-dihydroxy-monoazo-dyestuffs of the general formula



in which R_1 represents a member selected from the group consisting of a methyl, phenyl and diphenyl group, R_2 represents a member selected from the group consisting of a hydrogen atom, a lower alkyl group and a phenyl group, and R_3 represents a member selected from the group consisting of a hydrogen atom, a lower alkyl, cyclo-hexyl, benzyl, phenyl, and naphthyl group, and the groups R_1, R_2 and R_3 are free from sulphonic acid groups, and in which complex metal compounds the metal bound in complex union has an atomic weight of at least 55 and at most 64.

2,969,352

ANTIBIOTIC COMPOUNDS

Simon L. Ruskin, New York, N.Y., assignor to Union Carbide Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Jan. 25, 1955, Ser. No. 484,079
11 Claims. (Cl. 260—210)

2. The sodium salt of the reaction product of carbomycin and B sulfopropionic anhydride.

2,969,353

PROCESS FOR THE PREPARATION OF "ACTIVE METHIONINE" AND PRODUCTS OBTAINED THEREBY

Clifford H. Shunk, Westfield, N.J., and John W. Richter, Wilmington, Del., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Feb. 6, 1957, Ser. No. 638,460
9 Claims. (Cl. 260—211.5)

1. The process for making S-adenosyl-methionine, which comprises contacting the reaction product of adenosyl-homocysteine and a methyl halide with a cation exchange substance on the ammonium cycle and having a weak acid functional group and eluting S-adenosyl-methionine from said substance with a strong acid.

2,969,354

ALDOHEXOSE NITROUREIDE TETRANITRATE AND SALTS THEREOF

Joseph W. Lawrence and Norman M. Junk, Tamaqua, Pa., assignors to Atlas Powder Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Dec. 19, 1957, Ser. No. 703,741
12 Claims. (Cl. 260—211.5)

1. An aldohexose nitroureide tetranitrate.

2,969,355

METHOD OF PREPARING CELLULOSE SULFATE

Carl J. Malm, Martin E. Rowley, and Gordon D. Hiatt, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed May 15, 1958, Ser. No. 735,383
12 Claims. (Cl. 260—215)

1. A method of preparing cellulose sulfates whose sodium salts are water soluble, which comprises sulfating cellulose by reacting thereon for a time within the range of approximately 40 minutes to approximately 420 minutes with an esterification bath essentially consisting of a homogeneous mixture of sulfuric acid, fatty acid of 4–6 carbon atoms and water, the latter in an amount 10–25% of the sulfuric acid until an undissolved cellulose hydrogen sulfate having a combined sulfur content of at least 3% is obtained.

2,969,356

PREPARATION OF SULFURIC ACID ESTERS OF CELLULOSE

George P. Tousey and John E. Kiefer, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed May 15, 1958, Ser. No. 735,384
7 Claims. (Cl. 260—215)

1. A method of preparing sulfuric acid esters of cellulose which comprises reacting under anhydrous conditions

upon 1 part solid weight of an activated cellulose at 0–15° C. with 0.2–1.0 part of a sulfating agent selected from the group consisting of sulfuric acid and fuming sulfuric acid, fatty acid of 3–4 carbon atoms as the solvent therein and lower fatty acid anhydride within the range of 0.3–2 parts, in slight excess of that sufficient to destroy all the water present in the system and formed during the course of the esterification.

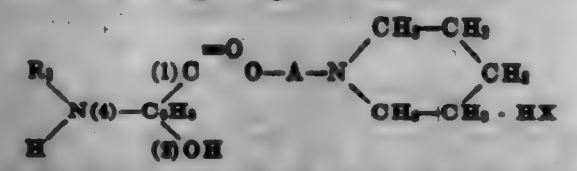
2,969,357

PENICILLIN SALTS OF AMINO SALICYLATES

Walter Grimme, Utfort, Werner Keil, Moers, and Heinrich Schmitz, Moers-Meerbeck, Germany, assignors to Rheinpreussen Aktiengesellschaft für Bergbau und Chemie, Homberg, Germany a corporation of Germany

No Drawing. Filed Aug. 31, 1954, Ser. No. 453,408
Claims priority, application Germany Nov. 16, 1950
1 Claim. (Cl. 260—239.1)

As a new chemical compound, a penicillin salt of an amino-salicylate having the general formula:



in which HX is penicillin in the form of its acid: R_3 is a radical containing not in excess of 10 carbon atoms and selected from the group consisting of hydrogen, alkyl, and phenylalkyl radicals; and A is a saturated aliphatic hydrocarbon radical having 2 to 5 carbon atoms.

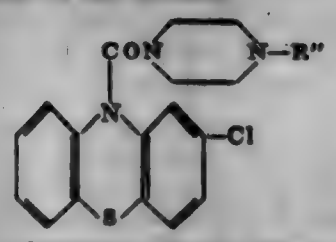
2,969,358

2-CHLORO-10-PHENOTHIAZINECARBONYL-PIPERAZINES

John W. Cusic, Skokie, Ill., assignor to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware

No Drawing. Filed Dec. 8, 1958, Ser. No. 778,588
8 Claims. (Cl. 260—243)

1. A compound of the formula



wherein R'' is a hydroxy (lower alkyl) radical.

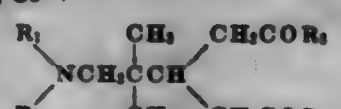
2,969,359

AMINOKETONES

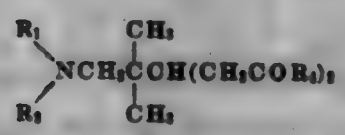
Peter L. de Benneville, Philadelphia, Pa., assignor to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed Mar. 24, 1958, Ser. No. 723,101
8 Claims. (Cl. 260—247.7)

1. As a composition of matter, a compound from the group consisting of



and



in which R_1 and R_2 taken singly represent alkyl groups of one to four carbon atoms and taken collectively with the amino nitrogen atom to which they are attached form a heterocyclic group selected from the class consisting of morpholino, thiamorpholino, piperidino and pyrrolidinyl, R_3 is a member from the class consisting of alkyl groups of one to seventeen carbon atoms, alkenyl groups of three to seventeen carbon atoms, and aryl and substituted aryl groups of six to twenty carbon atoms, and R_4 is a member of the group consisting of aryl and substituted aryl groups of six to twenty carbon atoms, said substituted aryl groups being free from interfering substituents within the symbols R_3 and R_4, said aryl groups are selected from the class consisting of phenyl and naphthyl and the substituents on said aryl groups being selected from the class consisting of chlorine, bromine, alkyl, alkenyl, alkoxy, and alkoxyalkyl.

2,969,360

CONTINUOUS CHLORINATION OF CYANURIC ACID

Richard Howard Westfall, Westfield, N.J., assignor to Food Machinery and Chemical Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Oct. 16, 1958, Ser. No. 767,509
4 Claims. (Cl. 260—248)

1. The method of making a compound of the group consisting of dichlorocyanuric acid, trichlorocyanuric acid and mixtures thereof, which comprises feeding cyanuric acid, aqueous alkali in a molar ratio to the cyanuric acid corresponding to the number of chlorine atoms to be attached to the cyanuric acid, and a separate stream of chlorine continuously to an aqueous reaction zone in which the pH is maintained between 5 and 9 and the temperature between 5° C. and 40° C., continuously withdrawing a portion of the reaction mixture and feeding it, with additional chlorine, to a second reaction zone in which the pH is maintained between 1.5 and 3.5 and the temperature between about 5° C. and 20° C., continuously withdrawing reaction product from the second reaction zone and recovering the precipitated chlorinated cyanuric acid from the withdrawn reaction mixture.

2,969,361

2,4-SUBSTITUTED-6,7-DIHYDRO-5H-CYCLOPENTA-[d]PYRIMIDINES

Quentin E. Thompson, Belleville, Ill., assignor to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Mar. 6, 1958, Ser. No. 719,493
5 Claims. (Cl. 260—251)

1. 4-chloro-6,7-dihydro-2-methyl-5H-cyclopenta-[d]pyrimidine.

2. 4-amino-6,7-dihydro-2-methyl-5H-cyclopenta-[d]pyrimidine.

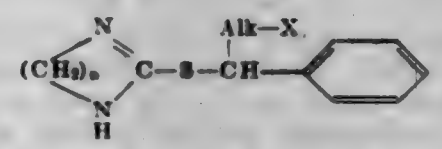
2,969,362

2-[α-(HALOALKYL)BENZYLTHIO]IMIDAZOLINES AND TETRAHYDROPYRIMIDINES CORRESPONDING

Robert C. Twelt, Wilmette, Ill., assignor to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware

No Drawing. Filed Aug. 11, 1959, Ser. No. 832,917
5 Claims. (Cl. 260—251)

1. A member selected from the group of compounds of the structural formula



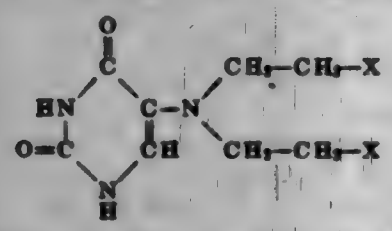
and non-toxic salts thereof; wherein Alk is a lower alkylene radical, X is a halogen having an atomic weight greater than 20, and *n* is a positive integer greater than one and less than 4.

2,969,363
NOVEL SALTS OF BARBITURIC ACIDS: AND METHOD OF PREPARING SAME
Albert Schlesinger, Jackson Heights, and Samuel M. Gordon, Forest Hills, N.Y., assignors to Endo Laboratories, Inc., Richmond Hill, N.Y., a corporation of New York
No Drawing. Filed May 23, 1957, Ser. No. 661,849
5 Claims. (Cl. 260—253)

1. Salts of 7-dimethyl amino ethyl theophylline with a barbituric acid whereof position 1 is occupied by a member of the group consisting of hydrogen and lower alkyl, one of the positions 5 is occupied by lower alkyl, and the second of positions 5 is occupied by a member of the group consisting of phenyl, mono-nuclear cycloalkenyl, lower alkyl and lower alkenyl.

2,969,364
DERIVATIVES OF 5-AMINO URACIL
Douglas A. Lyttle, Kalamazoo, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Michigan
No Drawing. Filed Dec. 26, 1957, Ser. No. 705,140
7 Claims. (Cl. 260—256.4)

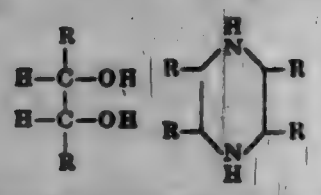
1. A compound having the following formula:



wherein X is a halogen having an atomic weight between 35 and 127.

2,969,365
ADDITION COMPOUNDS OF CYCLIC DIAMINES WITH VICINAL GLYCOLS
William W. Levis, Jr., Wyandotte, Mich., assignor to Wyandotte Chemicals Corporation, Wyandotte, Mich., a corporation of Michigan
No Drawing. Filed Dec. 23, 1957, Ser. No. 704,360
7 Claims. (Cl. 260—268)

1. An addition compound in accordance with the following formula:



wherein R is a member selected from the group consisting of H, methyl and ethyl radicals.

2,969,366
PRODUCTION OF QUINACRIDONES
Paul H. Griswold, Chatham, Felix Frederick Ehrich, Westfield, and William S. Struve, Chatham, N.J., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Feb. 11, 1958, Ser. No. 714,550
15 Claims. (Cl. 260—279)

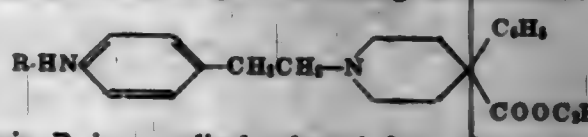
1. A method for converting 6,13-dihydroquinacridone to quinacridone having a crystal phase selected from the group consisting of the beta crystal phase and the gamma crystal phase, comprising oxidizing the dihydroquinacridone with a mild, alkali-stable oxidizing agent selected from the group consisting of nitrobenzene-m-sodium sulfonate, air, and sodium polysulfide while partially suspended in and partially dissolved in a mixture of water, a polar, alkali-stable, water-soluble organic solvent and an alkali selected from the group consisting of sodium hydroxide, potassium hydroxide, lithium hydroxide, barium hydroxide, and mixtures thereof, in an amount of about 20–120 parts of said alkali per 100 parts of water and at least 5 parts of said alkali per 100 parts of total liquid used, and the amount of organic solvent is at least as much as the water, and recovering quinacridone from the reaction mixture.

2,969,367
PROCESS OF ISOMERIZING YOHIMBANE COMPOUNDS
Maurice-Marie Janot, Robert Goutarel, and Alain Le Hir, Paris, France, assignors to Les Laboratoires Gobey, Paris, France, a firm of France
No Drawing. Filed Feb. 19, 1959, Ser. No. 794,227
Claims priority, application France Feb. 26, 1958
2 Claims. (Cl. 260—287)

1. In the process of isomerizing yohimbine to β-yohimbine, the steps which comprise adding potassium tertiary butanolate to a solution of yohimbine in benzene, heating the mixture under reflux, and isolating the resulting β-yohimbine.

2,969,368
N-[β-(p-ACYLAMINOPHENYL) ETHYL]-4-PHENYL-4-CARBOETHOXYPIPERIDINE COMPOUNDS AND PROCESSES OF PREPARING THE SAME
John Weijlard and Karl Pfister III, Westfield, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey
No Drawing. Original application May 26, 1955, Ser. No. 511,414. Divided and this application Nov. 14, 1956, Ser. No. 621,986
6 Claims. (Cl. 260—294.3)

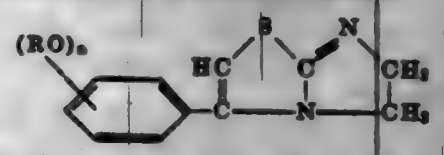
1. A compound selected from the group which consists of N-[β-(p-aminophenyl)ethyl]-4-phenyl-4-carboethoxypiperidine compounds having the formula:



wherein R is a radical selected from the group which consists of benzoyl and lower alkanoyl radicals, and non-toxic acid addition salts thereof.

2,969,369
DERIVATIVES OF 3-PHENYL-5,6-DIHYDRO-IMIDAZO-[2.1-b]THIAZOLES
Carl Peter Krimmel, Mundelein, Ill., assignor to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware
No Drawing. Filed Oct. 23, 1959, Ser. No. 848,237
7 Claims. (Cl. 260—306.7)

1. A compound of the structural formula



wherein R is a member of the class consisting of hydrogen and methyl and n is an integer greater than zero and smaller than four.

2,969,370
PROCESS FOR THE PREPARATION OF 2-AMINO-5-CHLOROBENZOXAZOLE
Edgar C. Britton, Donald D. Wheeler, and David C. Young, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Feb. 14, 1957, Ser. No. 640,972
7 Claims. (Cl. 260—307)

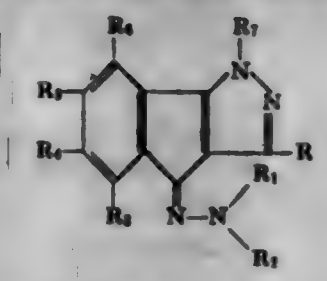
1. A process comprising contacting 2,5-dichlorobenzoxazole with ammonia at a temperature of 0–60° C. and in the presence of not more than 15% of water, by weight, based on the entire reaction mixture and recovering the thus formed 2-amino-5-chlorobenzoxazole.

2,969,371
SUBSTITUTED INDENO [1,2-c] PYRAZOLE DERIVATIVES

Robert A. Braun and William A. Mosher, Newark, Del. (Both of 1530 Spring Garden St., Philadelphia, Pa.)

No Drawing. Filed Feb. 3, 1959, Ser. No. 790,823
14 Claims. (Cl. 260—310)

1. A chemical compound having the following formula:



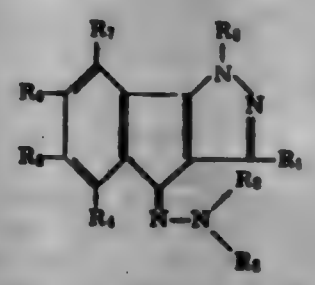
in which R is a member selected from the group consisting of alkyl having 1 to 8 carbon atoms, alkenyl having 2 to 8 carbon atoms, benzyl, phenethyl, phenyl, aminophenyl, halophenyl, lower alkyl phenyl and lower alkoxy phenyl; R_1 and R_2 are members selected from the group consisting of hydrogen, lower alkyl and, when taken together with the nitrogen to which they are attached, monophenylamino; R_3 is a member selected from the group consisting of hydrogen, halogen, nitro of a mononitro compound, lower alkyl and lower alkoxy; R_4 and R_5 are members selected from the group consisting of hydrogen, halogen, lower alkoxy, lower alkyl, nitro of a mononitro compound, amino and hydroxy; R_6 is a member selected from the group consisting of hydrogen, halogen of a tetrahalogen ring and lower alkoxy; and R_7 is a member selected from the group consisting of alkyl having 1 to 8 carbon atoms, hydrogen, benzyl, phenethyl, benzenesulfonyl, benzoyl, lower alkanoyl and lower alkyloxycarbonyl.

2,969,372
CYCLOALKYLPYRAZOLO[3,4-a]INDEN-4[1H]-ONE DERIVATIVES

Robert A. Braun and William A. Mosher, Newark, Del. (Both of 1530 Spring Garden St., Philadelphia, Pa.)

No Drawing. Filed Oct. 1, 1959, Ser. No. 843,657
11 Claims. (Cl. 260—310)

1. A chemical compound having the following formula:



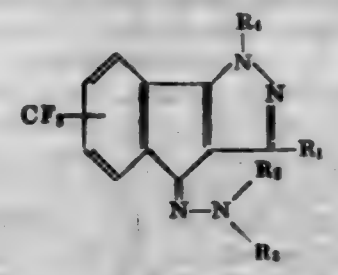
in which R_1 is a member selected from the group consisting of cycloalkyl, methylcycloalkyl, ethylcycloalkyl, cycloalkenyl, methylcycloalkenyl and ethylcycloalkenyl said cycloalkyl moiety having 3 to 6 carbon atoms and said cycloalkenyl moiety having 4 to 6 carbon atoms; R_2 and R_3 are members selected from the group consisting of hydrogen, lower alkyl and, when taken together with the nitrogen to which they are attached, monophenylamino; R_4 is a member selected from the group consisting of hydrogen and halogen; R_5 and R_6 are members selected from the group consisting of hydrogen, hydroxy, lower alkyl, amino, halogen, lower alkoxy and nitro; R_7 is a member selected from the group consisting of hydrogen and the halogen of a tetrahalogenated carbocyclic ring and R_8 is a member selected from the group consisting of hydrogen, alkyl having 1 to 4 carbon atoms, benzyl, phenethyl, benzenesulfonyl, benzoyl, acetyl, propionyl, carbethoxy and carbomethoxy.

2,969,373
TRIFLUOROMETHYLPYRAZOLOINDENONE DERIVATIVES

Bernard Loev, Broomall, Pa., and William A. Mosher, Newark, Del., assignors to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania

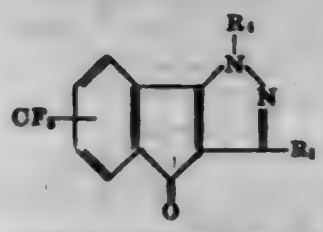
No Drawing. Filed Oct. 27, 1959, Ser. No. 848,927
11 Claims. (Cl. 260—310)

1. A chemical compound having the following formula:



in which R_1 is a member selected from the group consisting of alkyl having 1 to 8 carbon atoms inclusive, alkenyl having 2 to 8 carbon atoms inclusive, benzyl, phenethyl, phenyl, aminophenyl, halophenyl, lower alkylphenyl, lower alkoxyphenyl, cycloalkyl having 3 to 6 carbon atoms inclusive and cycloalkenyl having 4 to 6 carbon atoms inclusive; R_2 and R_3 are members selected from the group consisting of hydrogen, alkyl having 1 to 4 carbon atoms inclusive and, when taken together with the nitrogen atom to which they are attached, monophenylamino, and R_4 is a member selected from the group consisting of hydrogen, alkyl having 1 to 4 carbon atoms inclusive, benzyl, phenethyl, benzenesulfonyl, benzoyl, acetyl, propionyl, carbethoxy and carbomethoxy.

7. A chemical compound having the following formula:



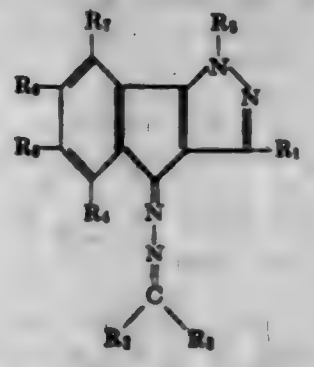
in which R_1 is a member selected from the group consisting of alkyl having 1 to 8 carbon atoms inclusive, alkenyl having 2 to 8 carbon atoms inclusive, benzyl, phenethyl, phenyl, aminophenyl, halophenyl, lower alkylphenyl, lower alkoxyphenyl, cycloalkyl having 3 to 6 carbon atoms inclusive, and cycloalkenyl having 4 to 6 carbon atoms inclusive; and R_4 is a member selected from the group consisting of hydrogen, alkyl having 1 to 4 carbon atoms inclusive, benzyl, phenethyl, benzenesulfonyl, benzoyl, acetyl, propionyl, carbethoxy and carbomethoxy.

2,969,374
PYRAZOLOINDENONE AZINES

Bernard Loev, Broomall, Pa., and William A. Mosher, Newark, Del., assignors to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Nov. 6, 1959, Ser. No. 851,262
8 Claims. (Cl. 260—310)

1. A chemical compound having the following formula:



in which R_1 is a member selected from the group con-

sisting of alkyl having 1 to 6 carbon atoms inclusive, alkenyl having 2 to 6 carbon atoms inclusive, benzyl, phenethyl, cycloalkyl having 3 to 6 carbon atoms inclusive, and cycloalkenyl having 4 to 6 carbon atoms inclusive; R_3 is a member selected from the group consisting of hydrogen, alkyl having 1 to 4 carbon atoms inclusive and trifluoromethyl; R_5 is a member selected from the group consisting of hydrogen, alkyl having 1 to 4 carbon atoms inclusive, trifluoromethyl, cycloalkyl having 3 to 6 carbon atoms inclusive, phenyl, halophenyl, lower alkoxyphenyl, lower alkylphenyl, aminophenyl, benzyl and phenethyl; R_4 is a member selected from the group consisting of hydrogen, chloro, bromo and iodo; R_6 and R_8 are members selected from the group consisting of hydrogen, chloro, bromo, iodo, lower alkyl, lower alkoxy, hydroxy, nitro, amino and trifluoromethyl; R_7 is a member selected from the group consisting of hydrogen and, when the carbocyclic ring is tetrasubstituted, chloro, bromo and iodo and R_9 is a member selected from the group consisting of hydrogen, alkyl having 1 to 4 carbon atoms, benzyl, phenethyl, benzenesulfonyl, benzoyl, acetyl, propionyl, carbethoxy and carbomethoxy.

2,969,375

PYRROLIDONE PURIFICATION

William O. Ney, Jr., Lincoln Township, Washington County, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

No Drawing. Filed Jan. 27, 1958, Ser. No. 711,177
3 Claims. (Cl. 260—326.5)

1. The process for the production of purified 2-pyrrolidone which is especially adapted for polymerization, from crude commercial 2-pyrrolidone, which consists in the steps of separating water from the pyrrolidone, and dissolving the pyrrolidone in an alkyl benzene solvent which is liquid at a temperature in the range of about —20° C. to —35° C., cooling the solvent to bring about crystallization of pyrrolidone therefrom, and recovering the crystallized pyrrolidone.

2,969,376

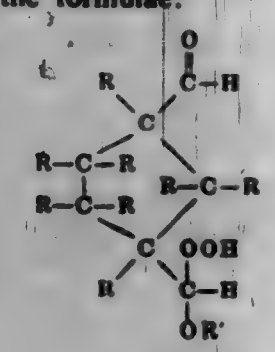
ALKOXY PEROXIDES

Robert H. Perry, Jr., Baytown, Tex., assignor, by mesne assignments, to Esso Research and Engineering Company, Elizabeth, N.J., a corporation of Delaware

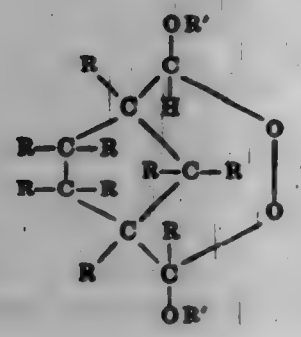
No Drawing. Filed May 13, 1957, Ser. No. 658,494
3 Claims. (Cl. 260—338)

1. A compound selected from the group consisting of peroxides having the formulae:

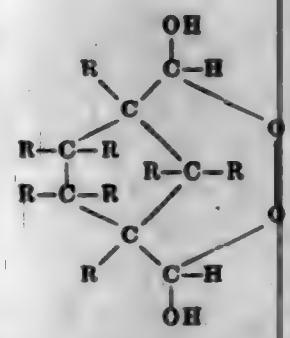
(II)



(III)



(IV)



wherein R is selected from the class consisting of hydrogen and C_1 to C_4 alkyl groups; and wherein R′ is a normal C_1 to C_{10} alkyl group.

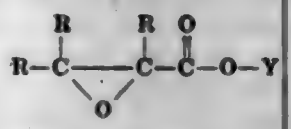
2,969,377

EPOXY ESTERS OF EPOXY CARBOXYLIC ACIDS

Benjamin Phillips and Paul S. Starcher, Charleston, and Donald L. MacPeek, South Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Nov. 13, 1957, Ser. No. 696,040
16 Claims. (Cl. 260—348)

6. A diepoxide ester having the following formula:



wherein each R, individually, is selected from the group consisting of hydrogen, phenyl, lower alkyl substituted phenyl, cyclopentyl, cyclohexyl, phenyl substituted lower alkyl, and alkyl containing up to 18 carbon atoms, with the proviso that at least one R is always one of the aforementioned hydrocarbon radicals, and wherein Y is a vicinal epoxy radical selected from the group consisting of epoxycyclopentyl, epoxycyclohexyl, lower alkyl substituted epoxycyclopentyl, lower alkyl substituted epoxycyclohexyl, epoxycyclohexylmethyl, lower alkyl substituted epoxycyclohexylmethyl in which the lower alkyl substituent is monovalently bonded to the cyclohexyl ring, phenyl substituted epoxyalkyl in which the epoxyalkyl moiety contains up to 12 carbon atoms, and epoxyalkyl containing up to 12 carbon atoms, the vicinal epoxy group of the aforementioned vicinal epoxy radicals being at least one carbon atom removed from the ester group of said diepoxide ester.

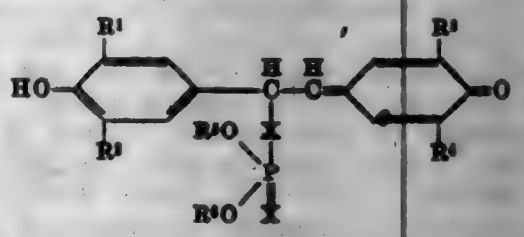
2,969,378

α-QUINONEYLIDINE ETHYL β-HYDROXY ARYL β-PHOSPHORIC ACID ESTER

William K. T. Gleim, Island Lake, and Ralph B. Thompson, Hinsdale, Ill., assignors, by mesne assignments, to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed Jan. 16, 1958, Ser. No. 709,167
1 Claim. (Cl. 260—396)

A compound of the formula:



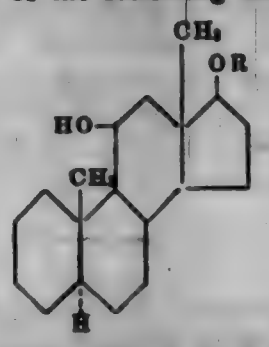
where R^1, R^2, R^3, and R^4 are selected from the group consisting of hydrogen and alkyl of from 1 to 10 carbon atoms and R^5 and R^6 are selected from the group consisting of hydrogen and alkyl of from 3 to 20 carbon atoms, and X is selected from the group consisting of oxygen and sulfur.

2,969,379
ANDROSTANE-11β,17β-DIOL AND THE 17-ESTERS THEREOF

John C. Babcock, Portage Township, Kalamazoo County, and Arnold C. Ott, Muskegon, Mich., assignors to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Filed Jan. 9, 1959, Ser. No. 785,797
3 Claims. (Cl. 260—397.5)

1. A compound of the following formula:



wherein R is a member selected from the group consisting of hydrogen and the acyl radical of a hydrocarbon carboxylic acid containing from one to twelve carbon atoms, inclusive.

2,969,380
ACID PRODUCTION

Charles M. Selwitz, Monroeville, Pa., assignor to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Filed Nov. 5, 1957, Ser. No. 694,511
7 Claims. (Cl. 260—413)

1. A process for producing monocarboxylic acids which comprises oxidizing a substantially pure saturated hydrocarbon with a gas containing molecular oxygen in the presence of boric acid for a time sufficient to convert about 10 to about 40 percent by weight of said hydrocarbon to an oxygenated product comprising monohydroxy secondary alcohols, ketones, acids and esters, separating said alcohols and ketones from said product and thereafter oxidizing said alcohols and ketones with nitric acid to obtain a product comprising the corresponding monocarboxylic acids.

2,969,381
PREPARATION OF ORGANO GROUP II–B METAL COMPOUNDS

Sidney M. Blitzer and Tillmon H. Pearson, Baton Rouge, La., assignors to Ethyl Corporation, New York, N.Y., a corporation of Delaware

Filed May 1, 1959, Ser. No. 810,235
9 Claims. (Cl. 260—429.9)

1. The process for producing organometallic compounds of group II–B metals which comprises reacting a Group II–B metal salt of an organic acid wherein the metal is attached to at least one carbon-containing organic radical through an intermediate atom selected from the group consisting of oxygen and sulfur with a hydrocarbon Group III–A element compound.

2,969,382
PROCESS FOR THE MANUFACTURE OF CYCLOPENTADIENYL GROUP III–A METAL COMPOUNDS

Jesse R. Mangham, Baton Rouge, La., assignor to Ethyl Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Apr. 25, 1958, Ser. No. 730,769
5 Claims. (Cl. 260—448)

1. A process for the manufacture of a tris(cyclopentadienyl hydrocarbon) group III–A metal which comprises reacting a group III–A elemental metal with a bis(cyclopentadienyl hydrocarbon) group II–B metal at a temperature of between about —20 to 150° C.

2,969,383
HYDROCARBON ALUMINUM OR BORON SULFATES AND SULFONATE

Harris E. Petree, Baton Rouge, La., assignor to Ethyl Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed July 30, 1958, Ser. No. 751,826
13 Claims. (Cl. 260—448)

1. New compositions of matter selected from the group consisting of hydrocarbon metal sulfate and sulfonate wherein the metals are selected from aluminum and boron, and said hydrocarbon group contains up to and including about 18 carbon atoms.

2,969,384
PRODUCTION OF ALKYL (ALKOXY OR ARYLOXY) ALUMINUM HALIDES

Guenther Hamprecht, Limburgerhof, Pfalz, and Heinrich Oertel and Matthias Schwarzmann, Ludwigshafen (Rhine), Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

No Drawing. Filed Aug. 26, 1959, Ser. No. 836,069
Claims priority, application Germany Sept. 18, 1958
6 Claims. (Cl. 260—448)

1. A process for the production of organo-aluminum compounds of the general formula Al.R(OR')X, in which R represents a lower alkyl radical containing from 1 to 3 carbon atoms inclusive and OR' is a radical selected from the group consisting of alkoxy radicals containing up to 20 carbon atoms and aryloxy radicals containing 6 to 10 carbon atoms, and X represents a halogen selected from the group consisting of chlorine, bromine and iodine, which comprises reacting an alkyl aluminum sesquihalide of the formula $AlR_2X.AlRX_2$ with about equivalent amounts of an organo-aluminum compound of the general formula $Al(OR')_3$ in which OR' has the meaning set forth above.

2,969,385
(SULFONYLDIALKYLENE)DIBENZOATES

Donald M. Young, Geneva, Switzerland, and Christian F. Horn, New York, N.Y., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Oct. 7, 1957, Ser. No. 688,415
9 Claims. (Cl. 260—470)

1. Compound having the general formula



wherein the R's are saturated divalent alkylene hydrocarbon radicals containing from two to five carbon atoms and the X's are members selected from the group consisting of hydrogen and saturated lower alkyl radicals.

2,969,386
PRODUCTION OF POLYURETHANE-POLYISOCYANATES

Wilbur R. McElroy, New Martinsville, W. Va., assignor to Mobay Chemical Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Apr. 29, 1957, Ser. No. 655,518
2 Claims. (Cl. 260—471)

1. A process for the production of urethane diisocyanates which comprises admixing at a temperature less than 100° C. a saturated aliphatic polyhydric alcohol having from two to four hydroxyl groups with an organic diisocyanate selected from the group consisting of saturated aliphatic diisocyanates, saturated cycloaliphatic diisocyanates, and arylene diisocyanates in an amount in excess of that required for the reaction of one mol of said diisocyanate with each mol equivalent of an hydroxyl group contained in said polyhydric alcohol, extracting the reaction mixture with a member having a boiling point of less than 200° C. and selected from the group consisting of aliphatic hydrocarbons, alicyclic hy-

drocarbons and mixtures thereof at a temperature above the melting point of said reaction mixture, but low enough to avoid undesirable polymerization reactions, separating the solvent layer from the liquid product layer obtained in the extraction step and recovering a urethane polyisocyanate from said product layer.

2,969,387
ALKYLENE AND ARYLENE DI(SULFONYL-ALKANOATES)
Christian F. Horn, New York, N.Y., Fritz Hostettler, Charleston, and Nelson R. Eldred, South Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Oct. 7, 1957, Ser. No. 688,422
15 Claims. (Cl. 260—481)

1. Compound having the general formula

$$R'[SO_2RCOOX]_2$$

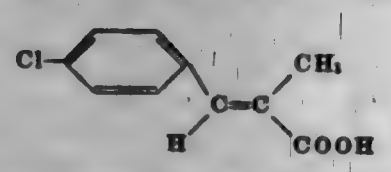
wherein the R's are divalent polymethylene groups containing from three to six carbon atoms, R' is a divalent radical selected from the group consisting of two to ten carbon atom alkylene hydrocarbon groups having a chain of at least two carbon atoms and para-xylylene group, and the X's stand for members selected from the group consisting of hydrogen and saturated lower alkyl radicals.

2,969,388
SURFACE-ACTIVE MONOESTERS
Warren D. Niederhauser, Huntsville, Ala., assignor to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware
No Drawing. Filed Jan. 24, 1957, Ser. No. 635,934
2 Claims. (Cl. 260—485)

1. A surface-active monoester composition which is the reaction product at 110° to 220° C. of ethylene oxide and a mixture of at least 80% of the viscous residue containing long-chained polycarboxylic acids, having an acid number between 140 and 165, having an iodine number between 30 and 60, and being the non-volatile material remaining from vacuum-distilling the by-product acids from sebacic acid manufacture from castor oil by treatment with alkali and no more than 20% of a higher aliphatic monocarboxylic acid, there being from 5 to 25 ethylenoxy groups per carboxy group, said monoester having an acid number of 0 and substantially having present only a single ester group in the chain formed from the reaction of ethylene oxide and the hydrogen atom of the carboxy group.

2,969,389
TRANS-p-CHLORO-α-METHYLCINNAMIC ACID
Donald G. Kundiger and Gene F. Morris, Manhattan, Kans., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Oct. 6, 1958, Ser. No. 765,292
2 Claims. (Cl. 260—515)

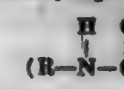
1. A method for the preparation of trans-p-chloro-α-methylcinnamic acid having the formula



which comprises mixing together at room temperature 3,3-dichloro-2-methylacrolein and chlorobenzene in the presence of a concentrated sulfuric acid, and thereafter heating the reaction mixture to a temperature not in excess of 100° C. wherein hydrogen chloride is liberated and evolved therefrom to produce an intermediate trans-p-chloro-α-methylcinnamyl chloride, followed by hydrolysis of the latter with water.

2,969,390
TRIS(SUBSTITUTED CARBAMOYL) PHOSPHINES AND THE PREPARATION THEREOF
Sheldon A. Buckler, Stamford, Conn., assignor to American Cyanamid Company, New York, N.Y., a corporation of Maine
No Drawing. Filed Feb. 2, 1959, Ser. No. 790,389
10 Claims. (Cl. 260—551)

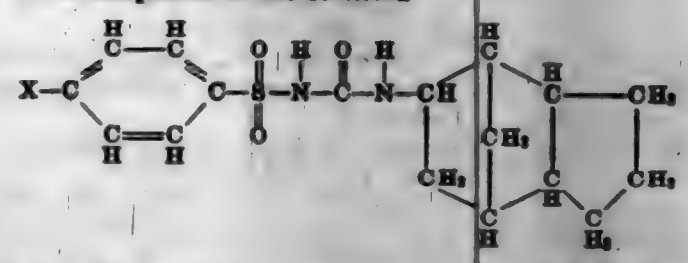
10. A tris(R-carbamoyl)phosphine of the formula



wherein R is selected from the group consisting of alkyl having from 1 to 11 carbon atoms, naphthyl and phenyl, substituted and unsubstituted, said substituents being selected from the group consisting of nitro-, lower alkyl, and halogen.

2,969,391
CERTAIN 1-ARYLSULFONYL-3-(TETRAHYDRODICYCLOPENTADIEN-9-YL)UREAS
John Alfred Aeschlimann, Montclair, and Arthur Stempel, Teaneck, N.J., assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey
No Drawing. Filed Sept. 15, 1959, Ser. No. 840,013
4 Claims. (Cl. 260—553)

1. A compound of the formula



wherein X represents a member selected from the group consisting of hydrogen, methyl, chlorine and bromine.

2,969,392
AMIDOMETHYLATION OF AROMATIC HYDROCARBONS
William D. Schaeffer, Pomona, Calif., assignor to Union Oil Company of California, Los Angeles, Calif., a corporation of California
No Drawing. Filed Dec. 30, 1957, Ser. No. 705,776
8 Claims. (Cl. 260—562)

1. A method for effecting amidomethylation of an aromatic hydrocarbon selected from the class consisting of unsubstituted aromatic hydrocarbons and alkyl substituted aromatic hydrocarbons containing at least one active ring hydrogen atom, which comprises contacting said hydrocarbon with an N-methylolamide at a temperature between about 0° and 150° C. in the presence of sufficient of a liquid catalyst to provide a fluid reaction medium, said catalyst consisting essentially of a mixture of sulfuric acid and between about 0.75 and 10 moles of water per mole of sulfuric acid, said N-methylolamide having the formula:

$$R—CO—NR'—CH_2OH$$

wherein R is selected from the class consisting of hydrogen, lower alkyl and —NR'—CH_2OH, and R' is selected from the class consisting of hydrogen and lower alkyl, and recovering an amidomethylated aromatic hydrocarbon from the reaction mixture.

2,969,393
CONVERSION OF NITROCYCLOHEXANE TO N-CYCLOHEXYLHYDROXYLAMINE
George G. Joris, Madison, N.J., assignor to Allied Chemical Corporation, a corporation of New York
No Drawing. Filed Nov. 19, 1953, Ser. No. 393,235
2 Claims. (Cl. 260—563)

1. The process for producing cyclohexylhydroxylamine which comprises contacting a cyclohexane solution of

nitrocyclohexane with at least one molecular proportion of hydrogen in the presence of a palladium catalyst at a temperature below that at which excessive production of cyclohexylamine occurs and removing the cyclohexylhydroxylamine so formed from the reaction mixture.

2,969,394
COMBINATION ALKYLATION AND DEHYDROGENATION PROCESS
Joseph A. Chenicek, Prairie View, Ill., assignor, by mesne assignments, to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
Filed Oct. 30, 1956, Ser. No. 619,152
8 Claims. (Cl. 260—577)

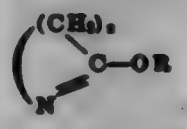
1. A combination process which comprises reductively alkylating a compound selected from the group consisting of aromatic amino compounds, aromatic nitro compounds and aromatic aminonitro compounds with a ketone, during which an alcohol is inherently formed, separating from the effluent products of the reductive alkylation an alcohol fraction contaminated with an amino compound, treating said fraction to separate alcohol from amino compound, recovering an alcohol fraction substantially free from amino compound and dehydrogenating the thus separated alcohol to a ketone, and supplying said ketone to the aforesaid reductive alkylation.

2,969,395
VINYLATION PROCESS
John J. Nedwick, Philadelphia, and John Robert Snyder, Malvern, Pa., assignors to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware
No Drawing. Filed Jan. 27, 1959, Ser. No. 789,257
7 Claims. (Cl. 260—534)

1. In a process for preparing vinyl ethers by reacting acetylene and an alcohol in the presence of a soluble, strongly basic vinylation catalyst, the improvement which comprises the steps of : (*a*) introducing acetylene under a pressure of about 10 to 30 atmospheres in a liquid mixture comprising an alcohol free of groups supplying acidic hydrogen and an inert organic solvent having a solubility for at least about 18 volumes of acetylene measured at standard conditions per volume of solvent at 0° C. and at one atmosphere pressure, said liquid mixture being substantially free of water and maintained at a temperature below about 10° C.; (*b*) continuing absorption of acetylene until the liquid mixture contains a ratio of the solvent to alcohol of from about 1:10 to 1:1 by weight; and (*c*) subjecting the alcohol-containing, water-free mixture, in the presence of a strongly basic alkali metal catalyst, to a reacting temperature between 160° and 250° C. under a pressure sufficient to maintain it in liquid phase and prevent desorption of acetylene.

2,969,396
PRODUCTION OF OMEGA.OMEGA'-DIAMINO-ALKANES
Otto Von Schickh, Ludwigshafen (Rhine), Germany, assignor to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany
No Drawing. Filed May 2, 1958, Ser. No. 733,248
Claims priority, application Germany May 10, 1957
5 Claims. (Cl. 260—585)

1. A process for the production of omega.omega'-diamino-alkanes which comprises hydrogenating a lactim ether of the formula



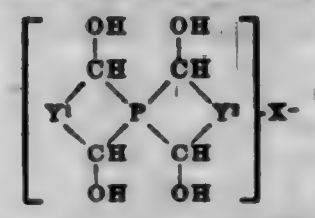
wherein —OR represents an alkoxy group with 1 to 4 carbon atoms and *x* represents the series of whole numbers from 3 to 13, in the presence of ammonia in an amount of at least one mol per each mol of lactim ether and a hydrogenating catalyst at a temperature of between 15° and 200° C. and a pressure of from 25 to about 300 atmospheres.

2,969,397
2-METHYL-8-PHENYL-7-NONEN-4-ONE
Waldemar Guex, Bottmingen, Switzerland, assignor to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey
No Drawing. Filed Oct. 2, 1958, Ser. No. 764,780
Claims priority, application Switzerland Oct. 18, 1957
1 Claim. (Cl. 260—590)

2-methyl-8-phenyl-7-nonen-4-one.

2,969,398
SPIRO-TETRAKISHYDROXYALKYL PHOSPHONIUM SALTS
Sheldon A. Buckler, Stamford, Conn., assignor to American Cyanamid Company, New York, N.Y., a corporation of Maine
No Drawing. Filed Sept. 26, 1958, Ser. No. 763,479
15 Claims. (Cl. 260—606.5)

1. Organophosphorus salts of the general formula



wherein X represents a member selected from the group consisting of the anion of a mineral acid and a substituted and unsubstituted lower alkanoic acid anion, said substituents being selected from the group consisting of —COOH and —OH; Y^1 and Y^2 each represent a member selected from the class consisting of substituted and unsubstituted alkylene groups and substituted and unsubstituted arylene groups, said alkylene groups providing 1 to 5 carbon atoms in the phosphorus-containing ring, said alkylene groups being the alkylene moieties intermediate the —CHO moieties in any of the compounds selected from the group consisting of glutaraldehyde, succinaldehyde, malonaldehyde and adipaldehyde, said substituents on the alkylene groups being selected from the group consisting of halogen, cyano, hydroxyl, carbamyl, acyloxy, carbalkoxy, carboxy, alkyloxy, aryl and aryloxy, and said arylene groups having rings from which 2 to 4 consecutive ring carbon atoms thereof provide, respectively, from 2 to 4 consecutive carbon atoms in the phosphorus-containing ring, the substituents on said substituted arylene groups being selected from the group consisting of halogen, cyano, hydroxyl, carbamyl, acyloxy, carbalkoxy, carboxy, alkyloxy, aryl and aryloxy.

2,969,399
O-ALKYLATION OF PHENOLIC COMPOUNDS
Louis Schmerling, Riverside, Ill., assignor, by mesne assignments, to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
No Drawing. Filed Dec. 23, 1957, Ser. No. 704,347
10 Claims. (Cl. 260—613)

1. A process for the O-alkylation of an aromatic compound containing at least one hydroxy substituent which comprises condensing said aromatic compound with a bicycloalkadiene in the presence of an acid-acting alumina catalyst selected from the group consisting of silica-alumina, HF-treated alumina and HCl-treated alumina at alkylating conditions, and recovering the resultant alkylated aromatic compound.

2,969,400

PREPARATION OF TRIS(VINOXY)PROPANE

Clayton M. Huggett, Newtown, and John J. Nedwick, Philadelphia, Pa., assignors to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed Sept. 12, 1958, Ser. No. 760,578
5 Claims. (Cl. 260—615)

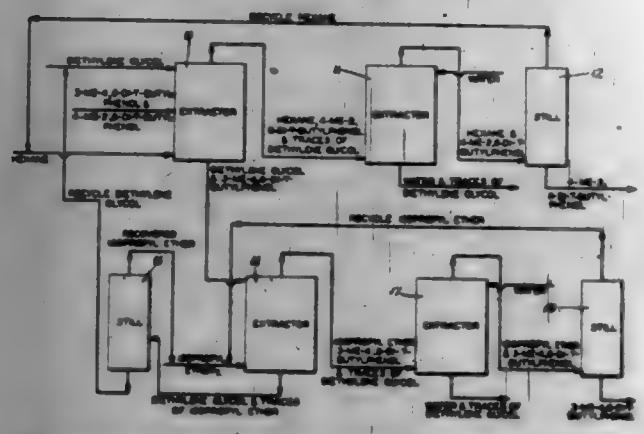
1. A process for preparing tris(vinoxy) propane which comprises dissolving acetylene under pressure in a liquid solvent consisting of at least one member of the class consisting of N-methylpyrrolidinone and N-ethylpyrrolidinone at a temperature below 25° C., heating the resulting solution of acetylene in solvent to a reacting temperature between 150° and 250° C. under a pressure sufficient to maintain the solution in liquid phase, and bringing into said solution under pressure an alkali metal catalyst and glycerol, the acetylene in said solution being in stoichiometric excess of the glycerol, and the proportion of said solvent to the glycerol being at least 1.5 parts of the former to 1 part of the latter.

2,969,401

SEPARATION OF ALKYLATED PHENOLS BY SOLVENT EXTRACTION

Charles H. Young, Charleston, and Paul A. Munday, Dunbar, W. Va., assignors to Union Carbide Corporation, a corporation of New York

Filed May 14, 1958, Ser. No. 735,143
6 Claims. (Cl. 260—624)



1. In a process for separating a mixture of phenols wherein one phenol has two tertiary alkyl groups in ortho positions to the hydroxyl group and another phenol in the mixture has two tertiary alkyl groups, one in the para position to the hydroxyl function and one in one of the ortho positions, the steps which comprise subjecting a mixture of said phenols to extraction with substantially immiscible organic solvents, one of said solvents A being selected from the group consisting of ethylene glycol, diethylene glycol, triethylene glycol, propylene glycol, ethylene carbonate, propylene carbonate, mono-, di- and triethanolamine, and aqueous methanol, and the other solvent B comprising essentially a saturated non-aromatic liquid hydrocarbon distilling in the range of about 35° to 160° C., and separately withdrawing a first product stream of phenol having tertiary alkyl groups in both ortho positions preferentially dissolved in the solvent B and a second product stream of phenol having a tertiary alkyl group in only one ortho position preferentially dissolved in solvent A.

2,969,402

PREPARATION OF CATALYSTS FOR THE POLYMERIZATION OF EPOXIDES

Fred N. Hill, South Charleston, and John T. Fitzpatrick and Frederick E. Bailey, Jr., Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Dec. 29, 1958, Ser. No. 783,100
12 Claims. (Cl. 260—632)

1. A process which comprises reacting alkaline earth metal hexammoniate with from about 0.3 to 1.0 mol of olefin oxide and from about 0.2 to 0.8 mol of a saturated aliphatic hydrocarbon nitrile, based on 1.0 mol of said alkaline earth metal hexammoniate, said reaction being conducted in an excess liquid ammonia medium, and subsequently evaporating from the resulting product mixture the excess liquid ammonia thereby obtaining a residue product which is catalytically active in effecting the polymerization of ethylene oxide.

2,969,403

METHOD FOR THE PREPARATION OF CHLORO-FLUOROCARBON OILS OR WAXES

Hans-Helmut Frey and Karl-Heinz Kalbe, Frankfurt am Main, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed Sept. 7, 1955, Ser. No. 533,025
Claims priority, application Germany Dec. 28, 1953
4 Claims. (Cl. 260—653.1)

1. A method for the preparation of liquid low molecular weight polymers consisting essentially of carbon, fluorine, and chlorine, which comprises thermally decomposing high molecular weight polymers consisting essentially of carbon, fluorine, and chlorine at reduced pressure and at a temperature in the range of about 50 to 350° C. in the presence of an additive selected from the group consisting of copper sulfate and ferric oxide.

2,969,404

METHOD FOR THE PURIFICATION OF CONTAMINATED DRY CLEANING SOLVENTS

Heinrich Baümann, 2a Zuckerfabrikstrasse, Frankenthal, Pfalz; Fritz Graf, 17 Schuckerstrasse, Ludwigshafen (Rhine); Hubertus Schmidt, 3 Zuckerfabrikstrasse, Frankenthal, Pfalz; and Leo Unterstenhofer, 65 Trifelsring, Limburgerhof, Pfalz, all in Germany

No Drawing. Filed Mar. 23, 1959, Ser. No. 800,905
Claims priority, application Germany Mar. 28, 1958
11 Claims. (Cl. 260—664)

1. A method for purification of contaminated dry-cleaning solvents containing as contaminating impurities fatty substances and textile finishing agents which are normally present in said dry-cleaning solvents used for cleaning clothes and textile scouring operations comprising treating the contaminated solvent with porous, rigid, foamed thermoset synthetic resin absorbent, said resin being selected from the class consisting of urea-formaldehyde condensation products, melamine-formaldehyde condensation products and phenol-formaldehyde condensation products whereby the contaminating impurities are absorbed by said absorbent and separating purified solvent from said absorbent.

2,969,405

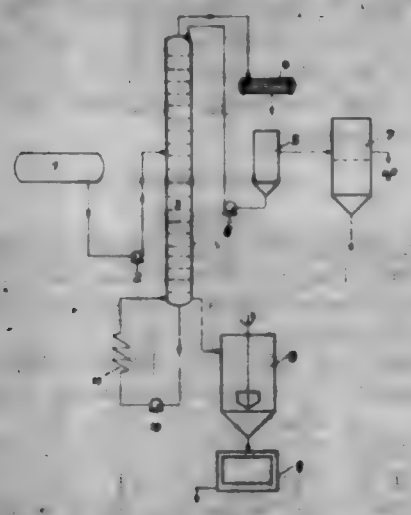
PROCESS FOR PREPARING 1,3,5-TRIPHENYL-BENZENE

Walter Metzger and Heinz F. Schlüssmann, Letmathe, Westphalia, Germany, assignors to Rütgerswerke-Aktiengesellschaft, Frankfurt am Main, Germany

Filed Dec. 16, 1958, Ser. No. 780,832
Claims priority, application Germany Dec. 24, 1957
5 Claims. (Cl. 260—668)

1. A process for preparing 1,3,5-triphenyl-benzene by condensation of acetophenone, comprising mixing acetophenone with a catalytic amount of an aromatic sulfonic acid; continuously introducing the resulting mixture into a distilling column in which condensation of the acetophenone to 1,3,5-triphenyl-benzene is carried out at elevated temperature in the presence of excess acetophenone; distilling off a mixture of water and acetophenone at the head of the column, the amount of water split off in the

reaction not exceeding 0.7 mol per mol acetophenone; keeping the temperature in the sump of the column in the



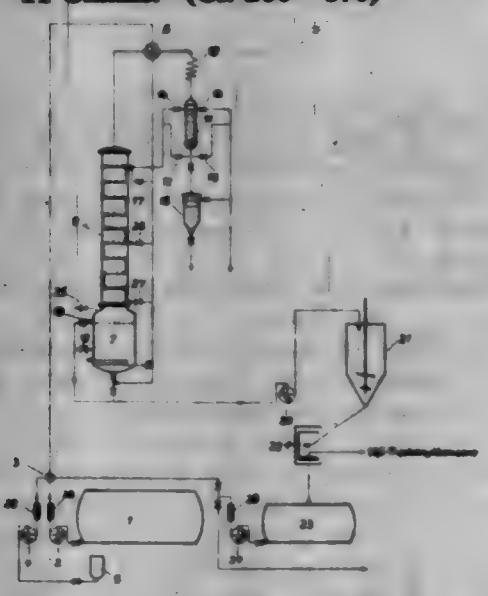
range of 200° to 265° C. and continuously discharging the product accumulating in the sump.

2,969,406

PROCESS FOR PREPARING 1,3,5-TRIPHENYL-BENZENE

Walter Metzger and Heinz Schönemann, Letmathe, Westphalia, Germany, assignors to Rutgerswerke-Aktiengesellschaft, Frankfurt am Main, Germany

Filed Dec. 9, 1958, Ser. No. 779,158
Claims priority, application Germany Dec. 14, 1957
11 Claims. (Cl. 260—670)



1. A process for the preparation of 1,3,5-triphenylbenzene by condensation of acetophenone with splitting off of water, comprising heating acetophenone in the range of 160°–250° C. in the presence of a catalytic amount of a condensation catalyst selected from the group consisting of boron fluoride, hydrates of boron fluoride, boron fluoride diacetic acid, boron fluoride formic acid, boron fluoride acetic acid, and boron fluoride phosphoric acid, and keeping the amount of split off water at not exceeding 0.8 mol of H_2O per mol of acetophenone.

2,969,407

DESTRUCTION OF ACETYLENES IN A HYDROCARBON MIXTURE CONTAINING ACETYLENES AND BUTADIENE

Mortimer L. Rosenberg, Charles R. Everett, and James B. Hutto, Port Neches, Tex., assignors to Neches Butane Products Company, Port Neches, Tex., a corporation of Delaware

No Drawing. Filed Aug. 12, 1959, Ser. No. 833,139
5 Claims. (Cl. 260—681.5)

1. A process for selectively destroying acetylenes in a mixture of hydrocarbons containing butadiene and butylene combined in a major percentage and acetylenes comprising passing said mixture together with steam over an alkalized iron oxide-chrome oxide catalyst at a temperature between 900° and 1025° F.

2,969,408

PROCESS AND CATALYST FOR POLYMERIZATION OF OLEFINS

Gene Nowlin, Glen Burnie, Md., and Harold D. Lyons, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Dec. 30, 1955, Ser. No. 556,485
3 Claims. (Cl. 260—683.15)

1. A method for producing normally gaseous and liquid polymers of ethylene which comprises contacting ethylene with a catalyst consisting essentially of an approximately equimolar mixture of ethylaluminum dichloride and diethylaluminum chloride and triphenylphosphine-nickel carbonyl complex.

2,969,409

PROCESS OF VULCANIZING RUBBER COMPOSITION CONTAINING LIGHT-COLORED FILLER AND QUATERNARY ALKYL-PYRIDINE COMPOUND

Willy Lautsch, 19–21 Anselstrasse, Berlin-Dahlem, Germany, and Rudolf Kern, 18 Maxberstrasse, Neustadt/Haardt, Germany

No Drawing. Filed Nov. 19, 1956, Ser. No. 622,829
8 Claims. (Cl. 260—765)

1. Process for the manufacture of rubber vulcanizates, which comprises subjecting natural rubber compositions and light-colored hydrophilic fillers selected from the group consisting of synthetically produced oxides, and synthetically produced hydrates, of a metal selected from the group consisting of silicon and aluminum, in the absence of organic solvents and in the presence of quaternary alkyl-pyridine compounds, to vulcanization, the quaternary alkyl-pyridine compounds splitting off the reactive alkyl groups under the conditions of vulcanization.

ELECTRICAL

2,969,410

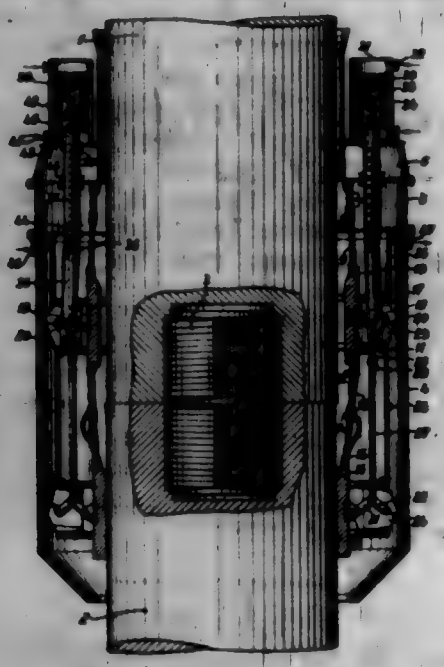
DEVICE FOR TIGHTENING AND LOOSENING CURRENT SUPPLY PLATES ON ELECTRODES IN ELECTRIC FURNACES

Wilhelm Düngen, Hurth, near Köln, Kurt Zager, Köln, and Gottfried Kremer, Grevenbroich, Germany, assignors to Knapsack-Griesheim Aktiengesellschaft, Knapsack, near Köln, Germany, a corporation of Germany

Filed Mar. 17, 1959, Ser. No. 799,957
Claims priority, application Germany Mar. 22, 1958
6 Claims. (Cl. 13—16)

1. Apparatus for tightening and loosening current supply plates on electrodes in electric furnaces comprising two vertically disposed, separate, independently controllable and independently operated systems of current supply plates, said plate systems being electrically interconnected, means for supporting the two independent systems whereby the distance between the systems is always the same, said means comprising suspension means pivotally connected with the upper portion of the lower system of current supply plates and the lower end of the upper system of current supply plates and suspension means pivotally connected with the upper portion of said upper plate system and a main support positioned on the electrode and lying above the upper plate system, control means connected with each plate system for tightening

and loosening said current supply plate systems with respect to the electrode, and pressure applying means con-



nected with said control means of each plate system to operate said control means.

2,969,411

INDUCTION HEATED FURNACES

Maurice G. Gibbs, Watford, England, assignor to Wild-Barfield Electric Furnaces Limited, Watford, England

Filed Aug. 28, 1958, Ser. No. 757,748
Claims priority, application Great Britain Sept. 4, 1957
6 Claims. (Cl. 13—27)



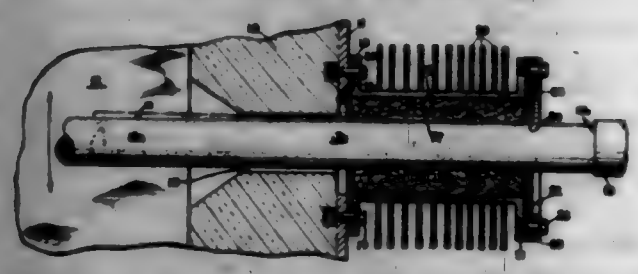
6. A former for the inductor of an induction furnace comprising spaced inner and outer coaxial walls of non-magnetic high resistivity metal, spaced apart to provide an air space therebetween, each of said walls comprising at least two sections joined by longitudinal strips of electrical insulating material.

2,969,412

FURNACES

Arthur W. Frank, Pewaukee, Wis., assignor, by mesne assignments, to Basic Products Corporation, Milwaukee, Wis., a corporation of Wisconsin

Filed Apr. 9, 1959, Ser. No. 805,164
9 Claims. (Cl. 13—31)



1. In a high temperature furnace including a furnace wall having an opening therein, the combination including a housing having open ends mounted at one end over said opening, an electrode of rod-like form extending through said furnace opening and said housing, and a flexible sheet member of heat resistant material sealing the opening at the other end of said housing between said housing and said electrode, whereby said electrode is sealed to said furnace.

2,969,413

ALKALINE ACCUMULATORS

Freimut Peters, Hagen, Westphalia, Germany, assignor to Accumulatoren-Fabrik Aktiengesellschaft, Hagen, Westphalia, Germany

Filed Sept. 24, 1958, Ser. No. 763,143
Claims priority, application Germany July 26, 1952
10 Claims. (Cl. 136—24)

2. In a method of producing an electrode plate adapted for use in an alkaline storage battery, the steps of forming a pulverulent mass consisting essentially of between 50% and 70% copper powder having a bulk weight within the range of 0.5 to 1.5 grams per cubic centimeter and approximately 80% of which has a grain diameter of less than 0.06 mm., powder having a bulk weight of up to 1.5 grams per cubic centimeter; sintering said mass in a reducing atmosphere at a temperature of between about 800° C. and 1000° C. for a period of between about one-half and two hours so as to transform the same into a highly porous plate consisting essentially of a homogeneous alloy of copper and nickel; and at least partially filling the pores of the thus formed plate with active mass.

2,969,414

MANUFACTURE OF CADMIUM AND NICKEL PLATES FOR BATTERIES OF THE NICKEL-CADMIUM TYPE

Arthur Fleischer, Livingston, N.J., assignor to the United States of America as represented by the Secretary of the Army

No Drawing. Filed Sept. 30, 1958, Ser. No. 764,463
2 Claims. (Cl. 136—29)

1. A method of manufacturing electrode plates from sintered, porous, nickel plaques carrying the electrodic materials of nickel cadmium batteries comprising impregnating said plaques with a solution of the salts of said electrodic materials, cathode polarization of said materials in alkaline solution, and washing and drying the plates characterized in that the washing operation is preceded by a soaking of the plates from 1 to 10 minutes, in an aqueous solution containing (1) an ammoniacal reagent selected from the group consisting of ammonium hydroxide, substituted ammonium hydroxides, methylamine, ethylamine, propylamine, trihydroxy ethylamine and quaternary ammonium compounds and (2) a soluble ammonium salt selected from the group consisting of ammonium nitrate, ammonium chloride and ammonium acetate for the purpose of removing the excess of said active electrodic materials from the surfaces of the finished plates.

2,969,415

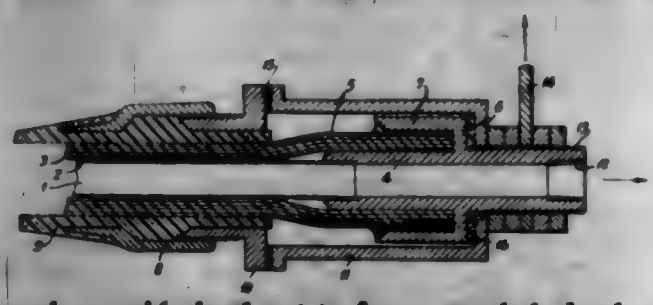
ELECTRIC CABLE TERMINATIONS

Eric Raymond Hartill, Sale, Norman Basil Hewett, London, and Arthur William Pimm, Salford, England, assignors to Metropolitan-Vickers Electrical Company Limited, London, England, a company of Great Britain

Filed May 27, 1958, Ser. No. 738,103
Claims priority, application Great Britain May 31, 1957
4 Claims. (Cl. 174—19)

4. A cable termination for an electric power cable having a central duct for the purpose of carrying cooling fluid comprising a tubular member of conductive material, a cylindrical skirt dependent from said tubular member and spaced therefrom, said skirt surrounding said tubular member over at least a portion of the length thereof to define an annular space between the inner sur-

face of the skirt and the outer surface of the tubular member, current carrying conductors of a cable secured within said annular space, said tubular member being provided with fluid coupling means to the interior thereof and with external electrical connection means, a gland nut bonded to the insulation of the cable, a threaded ring



tightened on said gland nut to form a sealed gland, said threaded ring carrying an outwardly extending flange, a tubular protective housing detachably secured to said tubular member and surrounding said skirt and sealed to said flange, and a seal between the inner surface of said housing and the outer surface of said skirt.

2,969,416

CABLE VIBRATION DAMPER

Sanford A. McGavern, Indianapolis, Ind., assignor to Schwitzer Corporation, Indianapolis, Ind., a corporation

Filed Aug. 26, 1959, Ser. No. 836,242
4 Claims. (Cl. 174—42)



4. An assembly for damping vibration in a cable or the like supported at spaced points, said assembly including an elastic element having a tubular configuration adapted to enclose a length of the cable, said elastic element being formed of a flexible, resilient material such as rubber and comprising two opposed sections each generally semi-circular in cross-sectional configuration, spaced, internal, annular cavities formed in said elastic element along its bore, said cavities being of increasing volume and spacing from one end of said elastic element to the other whereby said element is provided with graduated radial stiffness, and a generally tubular rigid sheath having appreciable mass enclosing said elastic element, said sheath comprising two opposed sections each generally semi-circular in cross-sectional configuration, the abutting edges of said sheath sections being aligned with the opposed edges of said elastic element sections, means for clamping said one end of said sheath tightly upon the cable with the adjacent portion of said elastic element under radial compression, means for clamping said other end of the sheath on the cable without placing said elastic element under appreciable radial compression whereby with said assembly oriented on the cable so that said one end is nearer than said other end to a cable support point cable vibration waves may enter said other end of the assembly and are absorbed by the internal friction inherent in said elastic element and the friction between said element and the cable.

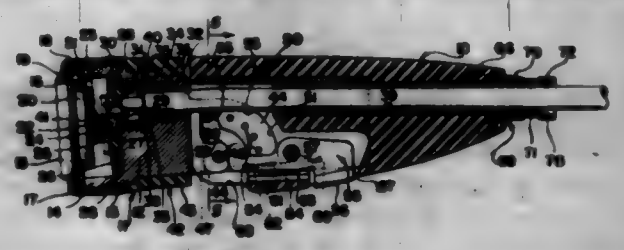
2,969,417

ADJUSTABLE ELECTRICAL INSTRUMENTS

Robert A. Weller, West Covina, Calif., assignor to The Bircher Corporation, Los Angeles, Calif., a corporation of California

Filed May 1, 1957, Ser. No. 656,441
11 Claims. (Cl. 174—46)

1. An adjustable electrical instrument comprising an electrical cable, a first member receiving one end of said electrical cable for attachment of said cable to said first member, guide means extending from said first member for supporting the position of said cable adjacent said first member, a second member pivotally connected to said guide means to provide for relative angular movement between said members, and passage means within said second member for receiving said cable and guiding the movement of said cable within said second member upon relative movement of said members, said guide means comprising a support surface commencing at the point said cable is received by said first member and having a portion shaped in an arc about said pivotal



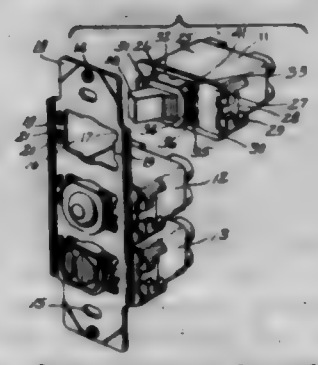
connection, said support surface being movable within said second member to continuously support said portion of said cable on one side and to support an increasing length of said portion as the angle between said members increases to increase the length of said cable extending between said members, said guide means having a plurality of locking pins positioned in an arc about said pivotal connection and latch means comprising a trigger arm pivotally mounted on said second member and having a notch for receiving any one of said pins, said trigger arm being spring biased toward said pins and having a trigger plate for moving said trigger arm against said spring bias and away from said pins.

2,969,418

INTERCHANGEABLE WIRING DEVICES

George B. Benander, Oaklawn, R.I., assignor to General Electric Company, a corporation of New York

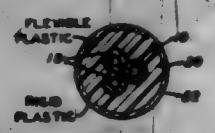
Filed Mar. 3, 1958, Ser. No. 718,772
1 Claim. (Cl. 174—53)



The combination of one or more interchangeable wiring devices assembled in a mounting bracket, each wiring device comprising a hollow housing of insulating material having a recessed base and cover member, said cover member having a central opening through which a portion of the base extends, and strap means fastened to the base and overlying the cover to complete the assembly of the device, said strap having a central opening with at least one pair of parallel sides, each parallel side of the cover adjacent the opening supporting a pair of inverted L-shaped hook members which extend perpendicularly to the cover in a single plane, each hook having one vertical leg joined with the cover and a horizontal leg directed toward the complementary leg of the other hook, the said mounting bracket having an aperture for each device, said aperture closely approximating the size of the opening in the cover of the device, and an inner projection from one edge of the aperture in the mounting bracket, the said projection extending between the vertical legs of the related pair of L-shaped hook members, each device being fastened in the aperture of the bracket

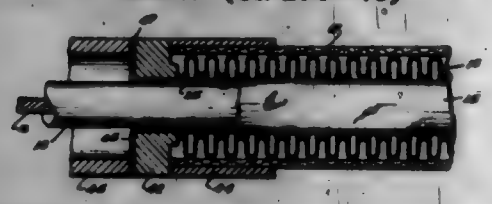
by twisting the pair of hook members opposite the projection into overlying engagement with the front face of the bracket.

2,969,419
RETRACTILE CORDS
Alvin N. Gray, Edgewood, Md., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Sept. 7, 1954, Ser. No. 454,323
1 Claim. (Cl. 174—69)



A retractile cord, which comprises a predetermined length of a plurality of flexible, individually insulated conductors extending lengthwise side-by-side, and a dual layer protective jacket of thermoplastic material surrounding the insulated conductors and including a soft pliable flexible, interior layer made of plasticized polyvinyl chloride and a relatively rigid tough nonseizing springy exterior layer made of unplasticized polyvinyl chloride, said interior portion forming a cushion for the exterior portion and adding flexibility to said cord, said interior and exterior layers being coextensive in length and being inseparably united throughout their length, said cord being wound into a compact helix and having been heat treated and cooled to impart a permanent set to its helical form to render the cord retractile.

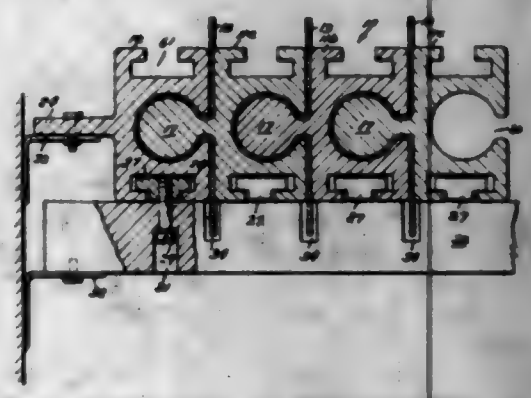
2,969,420
HIGH TEMPERATURE LEAD ASSEMBLY
Stephen E. Gregoire and Paul A. Blackington, Sidney, N.Y., assignors to The Bendix Corporation, a corporation of Delaware
Filed Oct. 1, 1957, Ser. No. 687,416
7 Claims. (Cl. 174—75)



1. A shielded conductor element comprising a cable having an insulated conductor wire, an electrically conducting braided metal wire sheath disposed closely about the wire, a conduit having at least one electrically conducting impervious flexible metal tube disposed about the sheath, and a fitting connected to one end of the cable, the fitting including an annular metal housing sleeve disposed adjacent such end of the wire, and an annular metal end piece connected to the conduit, the end piece being electrically connected to the impervious flexible metal tube of the conduit and being positioned coaxial of the housing sleeve, the housing sleeve and the end piece being connected at a joint therebetween, the sheath being connected to the housing sleeve and the conduit at such joint.

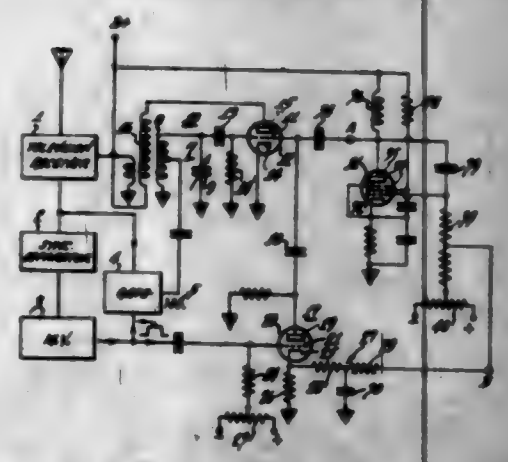
2,969,421
LOW X BUS
William M. Scott, Jr., Bryn Mawr, Pa., assignor to I-T-E Circuit Breaker Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed July 12, 1957, Ser. No. 671,646
10 Claims. (Cl. 174—117)

2. A bus structure comprising a plurality of parallel coplanar mechanically interlocked bus bars, at least three in number; each of said plurality of bus bars comprising an elongated body having a locking groove in a first surface and a locking member extending from a second surface opposite to said first surface; each of said locking grooves and each of said locking members extending along substantially the full length of their respective bus bars; the cross sectional configuration of said locking grooves being substantially the same as the cross sectional configuration of said locking members; a plurality of insulating members; said locking members of said bus bars being nested within the locking grooves of adjacent bus bars; said locking members and locking grooves also being the means to thereby locate geometric mean centers of said mechanically interlocked bus bars in closer proximity to thereby reduce reactance losses of said bus



structure; at least one of said plurality of insulating members being interposed between each of said locking members and the bus bars having the grooves within which the respective locking members are nested to electrically insulate said locking grooves from adjacent bus bars; each of said locking grooves having a cross-section including a first and a second dimension taken parallel to said second surface; said second dimension being greater than said first dimension and being positioned more remote from said first surface than said first dimension.

2,969,422
COLOR SYNCHRONIZATION FOR COLOR TELEVISION
Richard W. Sonnenfeldt, Haddonfield, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Nov. 30, 1951, Ser. No. 259,197
6 Claims. (Cl. 178—5.4)



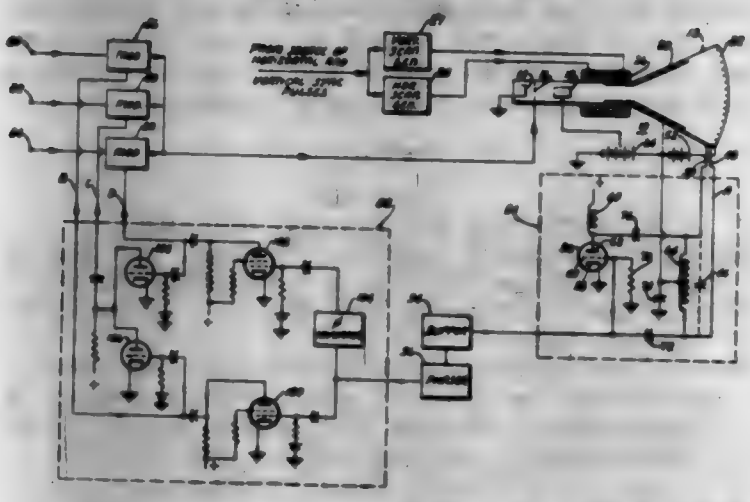
2. In a color television receiver adapted to receive a color television signal including color synchronizing bursts, said color synchronizing bursts having a predetermined phase and frequency, a burst synchronized color oscillator system comprising in combination, an oscillator having a tuned circuit resonant at said predetermined frequency and connected in said oscillator to operate as a tank circuit, a first gate circuit adapted to receive said color television signal and coupled to said tuned circuit, means for operating said first gate circuit whereby said color synchronizing bursts are gated into said tuned circuit, a second gate circuit, a resistance-condenser network, said second gate circuit coupled between said tuned circuit and said resistance-condenser network and adjusted to conduct only during the presence of said color synchronizing bursts thereby producing a control signal in said resistance-condenser network, said control signal

indicative of a reference level which corresponds to the energy present in said tuned circuit during said color synchronizing bursts, said reactance tube coupled to said oscillator and to said resistance-condenser network, said reactance tube responsive to said control signal to control the frequency and phase of oscillations produced in said oscillator according to a prescribed relationship with respect to the frequency and phase of said color synchronizing bursts.

2,969,423
CATHODE RAY TUBE DISPLAY SYSTEM FOR COLOR TELEVISION

David B. Smith, Meadowbrook, Pa., assignor to Philco Corporation, Philadelphia, Pa., a corporation of Pennsylvania

Filed June 14, 1952, Ser. No. 293,564
16 Claims. (Cl. 178—5.4)

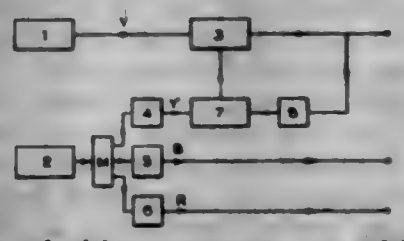


15. In combination: a color picture tube having a focusing and switching grille; and a free-running oscillator circuit for supplying a color switching signal to said grille, said oscillator having frequency determining elements which comprise a resonant circuit including the distributed capacitance of said grille.

2,969,424
COLOR TELEVISION CAMERA COLOR BALANCE APPARATUS

David Russell Tait, Ealing, London, England, assignor to Electric & Musical Industries Limited, Hayes, Middlesex, England, a company of Great Britain

Filed Sept. 25, 1956, Ser. No. 611,955
Claims priority, application Great Britain Sept. 29, 1955
8 Claims. (Cl. 178—5.4)

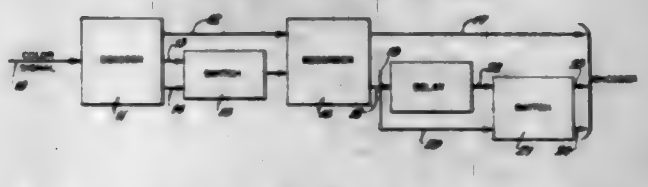


1. Color television apparatus comprising at least two component signal channels each including an image pick-up tube having a target surface, means for applying a representation of a first color component of a scene to the target surface of the pick-up tube in a first of said channels, means for applying a representation of said first color component and a representation of a second color component of the scene to the target surface of the pick-up tube in a second of said channels, said latter means including means for dividing the applied representation of one of said color components into a plurality of lines, said tubes having means for scanning the respective target surfaces to produce electrical signals corresponding to the applied representation with the signal corresponding to said divided representation comprising a modulated carrier wave in a different frequency band from the signal corresponding to the other representation applied to the same tube, means for separating said modulated carrier wave signal from the other signal derived from the same tube, and means for deriving from said modulated carrier wave signal a signal corresponding to the respective color component before division into said plurality of lines, and means responsive to the difference between corresponding components of the signals, corresponding to said first color component produced respectively from said tubes for varying the gain of one at least of said channels to improve the color balance of said channels.

2,969,425
COLOR TELEVISION RECORDAL

William L. Hughes, Ames, Iowa, assignor to Iowa State College Research Foundation, Inc., Ames, Iowa, a corporation of Iowa

Filed Jan. 12, 1959, Ser. No. 786,112
3 Claims. (Cl. 178—5.4)

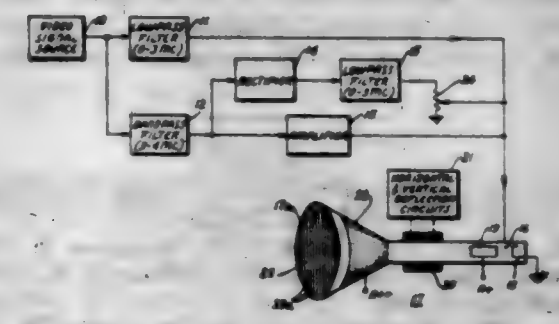


1. In a method of telecasting, the steps of decoding a field sequence of color signals into three colorimetric components, each of said components being a series of signals with two of the components carrying primarily chrominance information, alternately selecting signals from the two chrominance series, recording the selected signals and the signal from the third series simultaneously to form two series from the series of three, duplicating the recorded series containing chrominance signals to provide two identical series of colorimetric signals, delaying one of the identical series a time equivalent to a field period in length, and alternately selecting signals from the two identical series.

2,969,426
COLOR TELEVISION RECEIVER WITH SIGNAL MODIFYING SYSTEM

Stephen W. Moulton, Wyncote, Pa., assignor to Philco Corporation, Philadelphia, Pa., a corporation of Pennsylvania

Continuation of application Ser. No. 290,775, May 29, 1952. This application Oct. 9, 1959, Ser. No. 846,532
19 Claims. (Cl. 178—5.4)

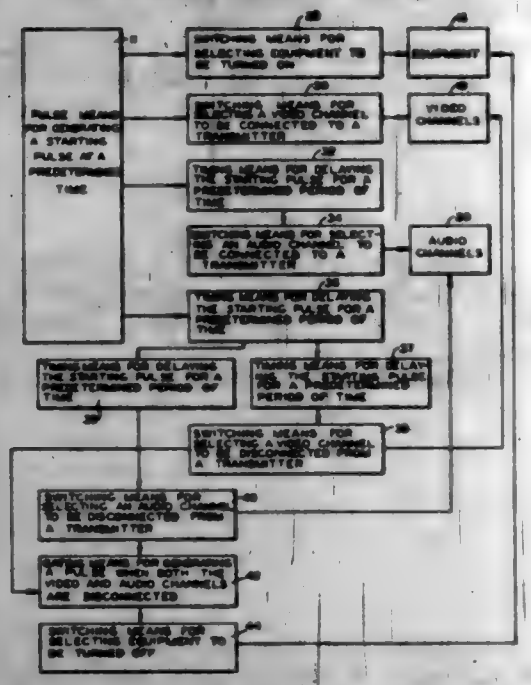


1. In combination: a source of a first unidirectional signal; a source of an alternating signal; means supplied with said alternating signal and responsive thereto to produce a second unidirectional signal whose amplitude is proportional to the amplitude of said alternating signal; means supplied with said first and second unidirectional signals and operative to produce a third unidirectional signal whose amplitude is proportional to the difference between the amplitudes of said first and second unidirectional signals; and means for additively combining said third unidirectional signal and a signal proportional to said alternating signal for application to a signal utilization device.

2,969,427
AUTOMATIC BROADCAST PROGRAMMING SYSTEM

Harold P. See, San Mateo, Calif., assignor to The Chronicle Publishing Company, San Francisco, Calif., a corporation of Nevada

Filed May 27, 1957, Ser. No. 661,879
18 Claims. (Cl. 178—5.8)



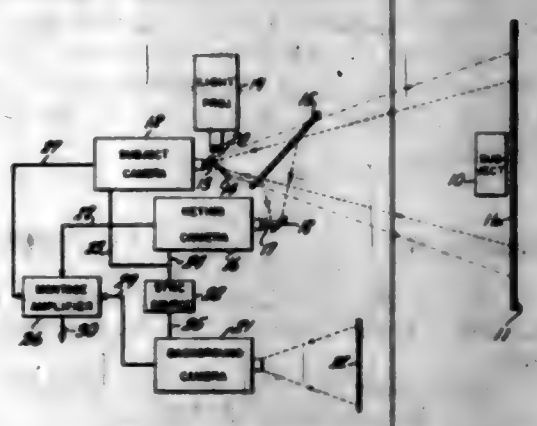
1. An electrical control for programming a series of events to be performed by a plurality of pieces of equipment which are to be connected for use at predetermined times, the combination comprising a timed stepping switch mechanism having a plurality of contacts, said mechanism having a unique position corresponding to each time unit of short duration in the program interval so that said contacts in said unique positions are activated at predetermined intervals during a program period, an adjustable stepping switch mechanism having a plurality of contact positions representing different time intervals in said program period, said adjustable stepping switch mechanism having banks of contacts permanently connected to corresponding banks of contacts of said timed stepping switch mechanism, means for positioning said adjustable switch mechanism to select a predetermined time interval in said program period, equipment to be controlled at said predetermined time intervals by said adjustable switch mechanism, means for selecting the said equipment to be controlled and relay means connected to control said selected equipment, said relay means being connected to be controlled when a unique position of said timed stepping switch mechanism corresponds to the position to which said adjustable switch mechanism is adjusted.

2,969,428
METHODS AND APPARATUS FOR TELEVISION MONTAGE

Paul F. Wittig, Manhasset, N.Y., assignor to Columbia Broadcasting System, Inc., New York, N.Y., a corporation of New York

Filed June 30, 1954, Ser. No. 440,379
17 Claims. (Cl. 178—7.1)

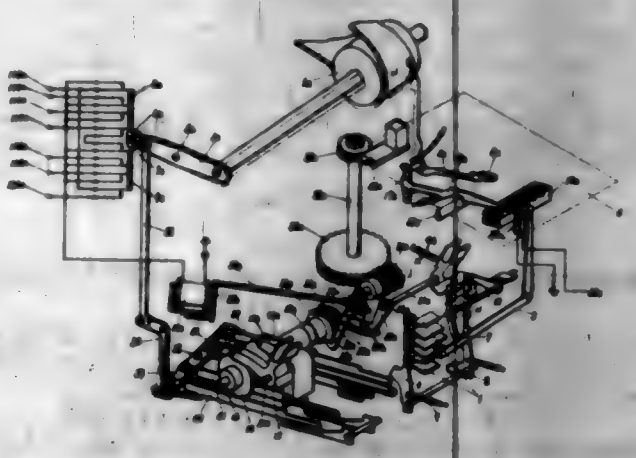
12. A television montage system comprising switching amplifier means, a first television camera supplying signals representing a background scene to said switching amplifier means, a second television camera synchronized with the first television camera, said second television camera viewing along an axis a normally illuminated subject in front of a reflex reflecting screen, a source of diverging polarized light rays, means for directing the diverging polarized light rays towards the screen, the screen reflecting many times more incident polarized light along said axis than the subject, means for blocking at least some of the reflected polarized light rays from said second television camera, signal generating means cooperating with the blocking means for supplying keying signals to the switching amplifier means, means for transmitting reflected light rays produced by said normal illumination of the subject to said second television camera for generating subject signals, and means for supplying said subject signals to said amplifier means.



2,969,429
TELEPRINTER RECEIVING APPARATUS

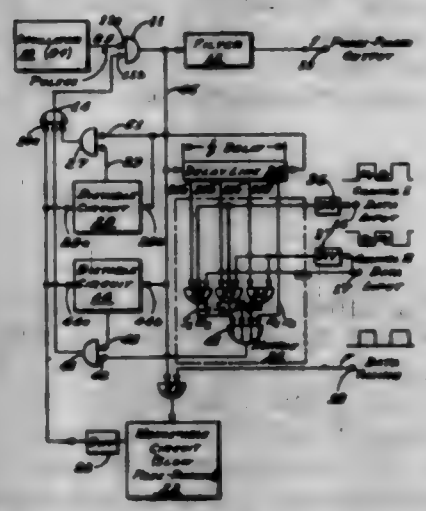
Sunthu Punyaratabandhu, Bangkok, Thailand, and Shimeo Ogawa and Bunno Fujio, both of Hanamaki-shi, Iwate-ken, Japan, assignors to Teiji Yamura, Hanamaki-shi, Iwate-ken, Japan

Original application Oct. 17, 1956, Ser. No. 616,398, now Patent No. 2,935,567, dated May 3, 1960. Divided and this application Feb. 1, 1960, Ser. No. 5,850
Claims priority, application Japan Dec. 24, 1955
3 Claims. (Cl. 178—25)



1. In a teleprinter receiving apparatus having a shiftable platen, a plurality of type bars forming a type basket, means for actuating the type bars for striking the platen, code bars for selecting which of the type bars are to be actuated, operating means operable in response to a received signal for operating the actuating means, means having a ratchet and pawls therein for spacing the type basket along an axis parallel to the platen each time the operating means actuates the actuating means, a bail driven by the actuating means and acting on the pawls, and type mounted on the type bars having a plurality of characters thereon, at least one character of which is such as to require that the spacing means not space the type basket when said one character is struck on the platen, the combination of shift means operable in response to the received signal for shifting the platen into one of three positions for being struck by one of the characters on said type, and a spacer control member pivoted to one of the pawls, and electro-magnetic means pivotally connected to said spacer control member and actuated by the shift means for pivoting said spacer control member out of the path of the bail, thereby preventing the operation of said ratchet and pawls and when the shift means has shifted the platen to a position to be struck by said one character.

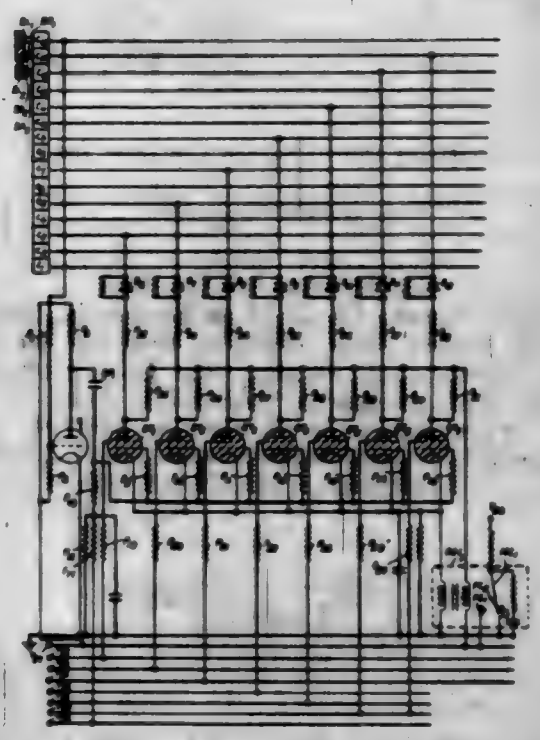
2,969,430
DELAY LINE PHASE-PULSE GENERATOR
George H. Barry, North Hollywood, Calif., assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa
Filed Mar. 19, 1959, Ser. No. 800,435
12 Claims. (Cl. 178—51)



1. A phase-pulse modulator, comprising an oscillator providing a pulsed output, a blocking "and" gate having at least a pair of inputs, with one input connected to the output of said oscillator, a delay line having an input connected to an output of said blocking "and" gate, a normally enabled "and" gate having an input connected to an output of said delay line, means connecting an output and said normally enabled "and" gate to another input of said blocking "and" gate, a first bistable circuit having a resetting input connected to the output of said delay line, a normally-enabled output of said first bistable circuit connected to another input of said normally-enabled "and" gate, a second bistable circuit having a resetting input connected to an output of said blocking "and" gate, a normally-disabled "and" gate having an input connected to the output of said second bistable circuit, an output of said normally-disabled "and" gate being provided to an input of said blocking "and" gate, a matrix connected between a plurality of tap points on said delay line and an input of said normally-disabled "and" gate, at least one data channel connected to said matrix, a monostable circuit, a differentiating circuit connected between the output of said monostable circuit and the second input of said blocking "and" gate, a setting input of said first bistable circuit and a setting circuit of said second bistable circuit connected to said differentiating circuit, a timing "and" gate having one input connected to an output of said blocking "and" gate, a data timing source connected to another input of said timing "and" gate, an output of said timing "and" gate triggering said monostable circuit, and filtering means connected to the output of said blocking "and" gate to provide a signal phase-pulsed by the data channel.

2,969,431
SIMULTANEOUS-TO-SEQUENTIAL CODE CONVERTER
Harold Kilner Robin, Tunbridge Wells, England, assignor, by mesne assignments, to National Research Development Corporation, London, England, a corporation of Great Britain and Northern Ireland
Continuation of application Ser. No. 649,131, Mar. 28, 1957, which is a division of application Ser. No. 200,150, Dec. 11, 1950, now Patent No. 2,816,163, dated Dec. 10, 1957. This application Nov. 3, 1959, Ser. No. 850,734
Claims priority, application Great Britain Dec. 14, 1949
6 Claims. (Cl. 178—63.1)

1. Apparatus for converting a plurality of simultaneous codes appearing in time division sequence at a common set of input terminals to a sequence of corresponding successive codes and distributing the last said sequence to a corresponding plurality of output terminals respectively, different codes being distributed to different output terminals, the apparatus comprising a number of sets of storage relay devices equal to the number of simultaneous codes in the sequence, the number of relay devices in each of the several sets being equal to the maximum number of pulses in the several codes respectively, the several relay devices in each set being associated with the common input terminals respectively at which the pulses in the simultaneous codes appear, and each relay device being of the type to become operated only when

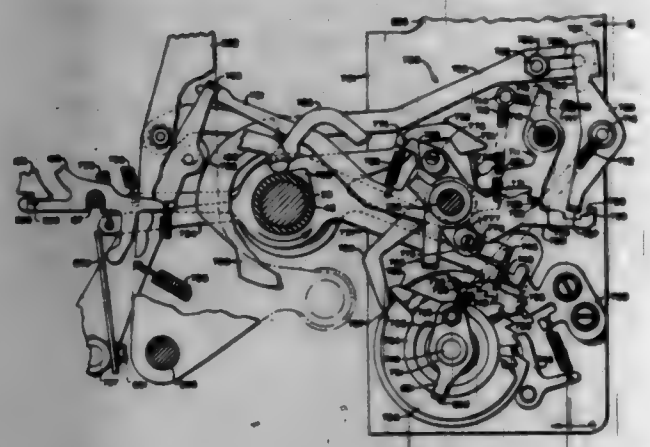


a pulse from a simultaneous code and a triggering pulse are applied to the relay device simultaneously, distributor means operating in cycles for applying the sequence of simultaneous codes and the triggering pulse or pulses to the sets of relay devices in such a manner that the several sets receive in turn a simultaneous code and a triggering pulse or pulses simultaneously, the triggering pulse or pulses applied to each set being simultaneously applied to all the relay devices of the set, and means operating synchronously with said distributor means for exploring in turn the relay devices of each set and transmitting an output pulse to the output terminal of the set when an operated relay device is explored.

2,969,432
NON-INTERFERING TAPE FEED-OUT MECHANISM
Gordon Sim, Northbrook, Ill., assignor to Teletype Corporation, Chicago, Ill., a corporation of Delaware
Filed May 20, 1959, Ser. No. 814,557
16 Claims. (Cl. 178—92)

1. A printing telegraph tape perforating apparatus including a selector mechanism responsive to permutation code line signals, a perforator having punches therein selectively operable under control of said selector mechanism, means in said selector mechanism for initiating an operation of the perforator after the selector mechanism has selected punches therein for operation, a tape feed out mechanism conditioned for operation once in each cycle of operation of said perforator, and means in said selector mechanism for disabling said tape feed out mechanism immediately upon the initiation of a cycle of operation of the selector mechanism and for causing said

perforator to operate in response to and in accordance with line signals received in the cycle of operation of the



selector mechanism that disables the tape feed-out mechanism.

2,969,433
CROSSBAR SWITCHES

Sten Daniel Vigren, 16–18 Mose-Backetorg, Stockholm, Sweden; Walter Otto Wilhelm Broberg, 6a Centralgatan, Nynashamn, Sweden; and Rolf Albin Zander, 15 Ivar Vidfamnsgatan, Stockholm, Sweden

Filed July 30, 1954, Ser. No. 446,794
Claims priority, application Sweden Sept. 10, 1947
13 Claims. (Cl. 179—27.54)



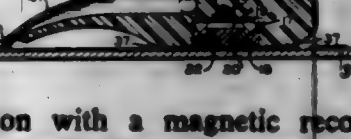
1. A crossbar switch comprising a base plate; a number of contact spring groups mounted thereon side by side to extend across said base plate; operating members, one for each spring of the different spring groups; an electromagnet adjacent to one end of the base plate including a core, an operating winding on said core and an armature attracted by a pole surface on said core; a lifting bar extending from the armature in one sideward direction only to be under the operating members of the spring groups, said armature and said lifting bar forming a unit the overall length of which in said sideward direction is many times greater than the dimension of the armature in said sideward direction; means for positioning said unit relative to said base plate for causing said unit to swingably move about an axis parallel with said lifting bar on the attraction of said armature; said electromagnet further comprising a magnetic flux return portion extending from the core pole surface coextensive with said core, said core pole surface and said return portion having coplanar surfaces substantially parallel with the plane of said base plate and said armature having an attraction surface traversing said coplanar surfaces substantially in alignment with the operating members of the contact spring groups; selecting fingers; and means for optionally inserting said selecting fingers between said lifting bar and said operating members.

2,969,434
SWITCHING DEVICE

Charles H. McGuire, Brooklyn, and Robert Lee Peek, Jr., New York, N.Y., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Jan. 30, 1958, Ser. No. 712,230
6 Claims. (Cl. 179—27.54)

1. A coordinate switch comprising a group of select coils, a group of hold coils, said groups being arranged in crosswise relation thereby defining a row-and-column array of crosspoints, a switching unit at each crosspoint, each switching unit including a fixed contact member of magnetic material, a support member of magnetic material arranged in parallel spaced relation to the fixed member and having an extension portion thereof projecting beyond the fixed member, the support member having a greater flux-carrying capacity than the fixed member, a movable contact member of magnetic material supported from the extension portion and arranged in parallel spaced relation with the support member and

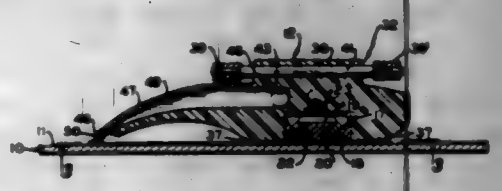


in overlapping spaced relation with the fixed member, the fixed member and the support member being electromagnetically coupled at the crosspoint with a hold coil, the movable contact member and the support member being electromagnetically coupled at the crosspoint with a select coil, whereby the energization of the hold coil subsequent to the energization of the select coil causes the movable contact member to become latched in engagement with the fixed member, the energization of the hold coil prior to the energization of the select coil causing the movable contact member to become latched in engagement with the support member.

2,969,435
OIL FILM SPACER FOR MAGNETIC RECORDING DEVICE

John J. Lynott, Los Gatos, Calif., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Feb. 7, 1955, Ser. No. 486,418
1 Claim. (Cl. 179—100.2)



In combination with a magnetic record surface of known formation and mounted to move in a known direction, a head element having a bearing surface thereon shaped to conform to the record surface, means for mounting said head element with its bearing surface in close, conforming relation with said record surface, a transducer flush-mounted in said bearing surface, means for urging the head element toward full, bearing contact with said record surface, an elongated neck extending forwardly from the head element, a duct leading to a forward portion of the neck, a discharge nozzle at the forward end of said duct, means for conveying a lubricating liquid into and through said duct and said nozzle and thence onto the record surface ahead of the bearing surface in the direction of record travel, for providing a liquid lubricant coating on the record surface, whereby said bearing surface rides on such coating to thereby uniformly space said bearing surface, and the transducer mounted therein, from said record surface against the pressure of said urging means by a minute distance controlled by the viscosity of the lubricant liquid.

2,969,436
MICROPHONE STAND

John Kilyk, 12 Hermann Ave., Carteret, N.J.

Filed July 23, 1959, Ser. No. 829,095
6 Claims. (Cl. 179—148)

1. A microphone stand comprising three concentric tubes, a cable attached at one end to the lower portion

of the middle tube and passing over the top of and down through the inner tube, means for winding and unwinding the cable, driving means for said means, a micro-



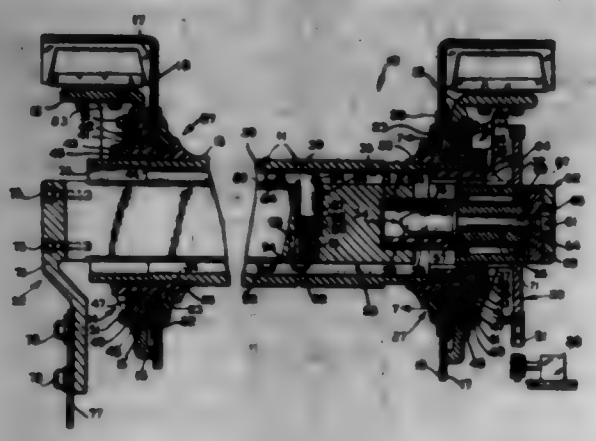
phone mounted on the middle tube, the inner and outer tubes secured against movement with respect to each other.

2,969,437

CONTACT ROLL ASSEMBLY

Vincent A. Rayburn, Baltimore, Md., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Filed Mar. 9, 1959, Ser. No. 798,285
8 Claims. (Cl. 191—1)



1. In a contact roll assembly having a rotary cylindrical shell, an electrically conducting brush bar extending into the shell, and a brush extending between the brush bar and the inner surface of the shell to conduct current from the brush bar to the shell; the improvement which comprises a stationary centering member extending into the shell from one end thereof and designed for supporting one end of the brush bar slidably thereon, and means for mounting the other end of the brush bar stationarily, whereby the brush bar may be removed from within the shell while the shell is rotating by disconnecting said mounting means and pulling the brush bar off of said centering member and out of the shell.

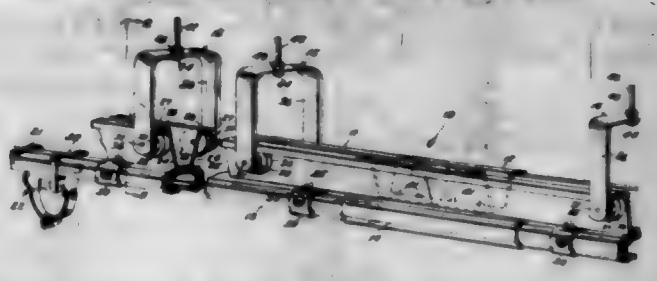
2,969,438

BUSWAY SYSTEM INCLUDING ROLLER HANGERS

John A. Herrmann, Grosse Pointe Farms, and George H. Farnsworth and Kent P. Stiner, Detroit, Mich., assignors, by mesne assignments, to I-T-E Circuit Breaker Company, Philadelphia, Pa., a corporation of Pennsylvania

Filed June 17, 1957, Ser. No. 666,143
10 Claims. (Cl. 191—23)

1. A duct run comprising a plurality of hanger units, a plurality of elongated duct sections, a plurality of elongated support members, one for each of said duct sections; said duct sections being joined end to end; said support members being joined end to end; said duct sections depending from said support members and extending generally parallel thereto; said plurality of hanger units being positioned at spaced intervals along a straight line in a horizontal plane; each of said hanger units including two rollers in horizontally spaced relationship rotatably mounted on horizontal spindles; each of said support members comprising a generally U-shaped cross



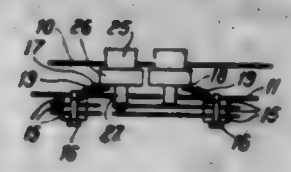
section having tracks projecting horizontally from the ends of the U-arms; said tracks operatively positioned in sliding engagement with said rollers; a plurality of longitudinally extending elongated bus bars disposed within said duct; each of said duct sections having a longitudinal opening therein for access to said bus bars; said longitudinal opening being operatively positioned for access from below the duct run with the longitudinal openings of each of said bus duct sections being aligned to form a continuous unobstructed opening accessible for the entire length of said duct run.

2,969,439

ELECTRIC SWITCHING DEVICE

Martin H. Dubois, Hagersten, Sweden, assignor to Svenska Relefabriken ABN AB, Tyreso, Sweden, a Swedish company

Filed Oct. 18, 1957, Ser. No. 691,014
Claims priority, application Sweden Oct. 22, 1956
2 Claims. (Cl. 200—18)



1. Electric switching device comprising a number of keys, a number of contact sets individually operable by said keys, at least one additional contact set, and actuating means for actuating said additional contact set, said actuating means comprising a strip having an edge resting on a supporting member, each of said keys having means coacting with said strip for imposing a rotation to the strip about said edge when the key is operated, said strip having associated therewith spring means consisting of an elastic wire having an intermediate portion extending along the strip in parallel with and at some distance from said edge and bent end portions protruding through holes in the strip and in said supporting member, said bent end portions having their ends resting against a side of said supporting member opposite to the side against which said strip is resting, and said intermediate portion of said wire having a bent-out portion attached to the strip.

2,969,440

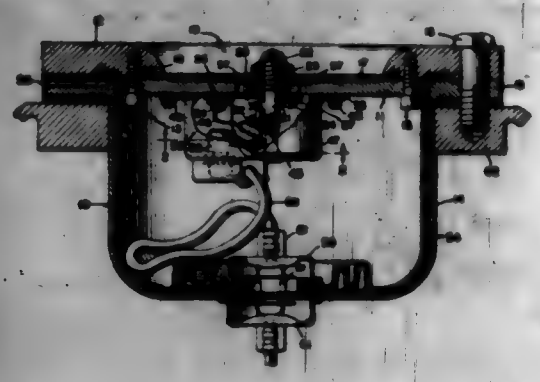
CHATTER SWITCH

Harry H. Hall, 1523 28th St. SE., Washington, D.C., and Whitney A. Brown, 15369 Tuller, Detroit, Mich.

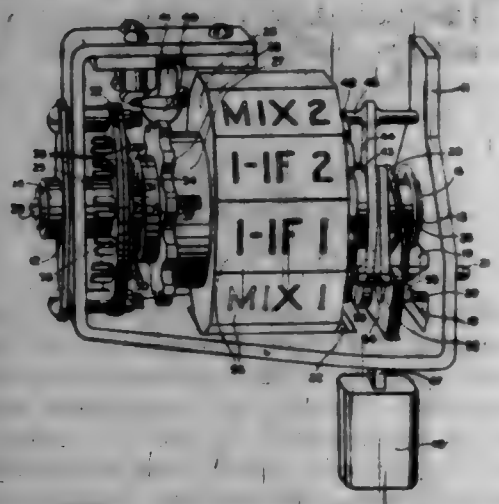
Filed June 8, 1945, Ser. No. 598,351
2 Claims. (Cl. 200—61.01)
(Granted under Title 35, U.S. Code (1952), sec. 266)

2. A device of the character disclosed adapted to be immersed in a body of water and comprising a casing

having an opening therein, a rigid support secured to said casing, a vibratory member covering said opening and securely clamped between said support and said casing, a pair of whisker type contacts disposed in mutually perpendicular relation, means on said support pivotally mounting one of said pair of contacts, means mounting the other of said contacts for movement with said vibratory member, means yieldably maintaining said pair of contacts in continuous engagement when the vibratory member is at rest and providing cyclic contact closure with the application of vibrational energy to the device, and means sealed in said casing for equalization of the internal pressure with increases of external pressures as the device is immersed in a body of water.

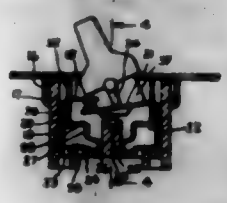


2,969,441
REVERSE ROTATION MULTI-POSITION SELECTOR SWITCH
Albert E. Showalter, Allentown, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed Dec. 29, 1959, Ser. No. 862,728
10 Claims. (Cl. 200—65)
(Granted under Title 35, U.S. Code (1952), sec. 266)



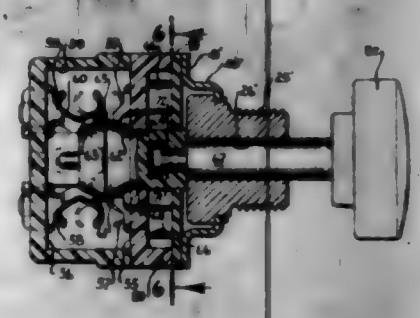
1. A reversible rotary switch having a plurality of selective positions comprising a housing and a shaft rotatably mounted thereon, a plurality of fixed contacts disposed on said housing around said shaft equal in number to said plurality of selective positions, a rotatable contact mounted on said shaft for rotation therewith disposed to engage successively said fixed contacts as said shaft is rotated, indicating means mounted on said shaft for indicating the angular position of said shaft with respect to a selected stationary point, and rotating means for rotating said shaft, said rotating means including at least a first motion transfer means and a second motion transfer means for transferring motion to said shaft, said first motion transfer means having an elongated shape and rotatably mounted at one end thereof on said shaft, said second motion transfer means having means attached thereto to engage said first motion transfer means and said housing to control rotation of said shaft to a selected number of degrees with respect to said stationary point.

2,969,442
DETENT MECHANISM FOR ALTERNATING CURRENT SWITCH
George B. Benander, Oaklawn, and Gustaf R. Lawson, West Warwick, R.I., assignors to General Electric Company, a corporation of New York
Filed July 30, 1958, Ser. No. 752,393
1 Claim. (Cl. 200—67)



An electric switch comprising a hollow housing, movable and fixed contacts positioned in said housing, a manually operable trigger movable about a pivotal axis between two at-rest positions, a detent on the base of said trigger engageable with said movable contact for changing the position of said contact, the base portion of said trigger having a bottom edge on the interior of the housing forming an indexing cam surface with two spaced spring pockets separated by a central tip, and a coil spring loosely supported in said housing axially parallel with the pivotal axis of said trigger, the central portion of said spring being engaged by said cam surface and displaceable by movement of said cam surface whereby said spring when in engagement with said spring pockets maintains said trigger in its at-rest positions.

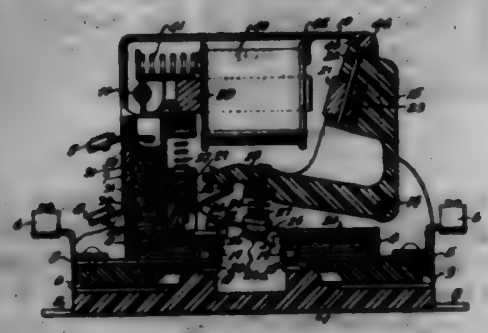
2,969,443
PUSH BUTTON TYPE ELECTRIC SWITCH
Wayne A. Borden and William D. Wagner, Elkhart, and Charles C. Snyder, Osceola, Ind., assignors, by mesne assignments, to CTS Corporation, Elkhart, Ind., a corporation of Indiana
Filed Feb. 20, 1958, Ser. No. 716,474
8 Claims. (Cl. 200—77)



8. In an electric switch: a hollow body having an end wall at its rear and an opening at its front; switch mechanism in the body including a contactor, and an actuator for the contactor constrained to fore and aft motion toward and from said end wall between spaced apart switch operating positions; an operating shaft; means connecting the actuator to the operating shaft to provide for propulsion of the actuator from one of its positions to the other as a consequence of endwise motion of the shaft, said means including elements on the actuator and on the shaft which interengage and maintain said connection operative as long as the actuator and shaft are in predetermined positional relationship, but which elements become disengaged by relative motion between the actuator and the shaft out of said predetermined positional relationship transversely of the shaft axis, to permit assembly and disassembly of the actuator and shaft; a thimble in which the shaft is slidably received and constrained to endwise motion with respect to the thimble; and means securing the thimble to the front of the body with said elements on the actuator and shaft interengaged and with the actuator and shaft in their predetermined positional relationship, said means

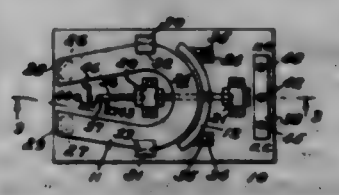
comprising outwardly extending flange means on the front end of the body having circumferentially spaced notches extending fore and aft therethrough, and a stamped metal ring encircling and fixed to the thimble, said ring having rearwardly projecting circumferentially spaced ears received in said notches, the rear ends of said ears being bifurcated and the resulting furcations being spread apart edgewise a distance such that portions of said furcations edgewise engage the rear of said flange means to thereby draw the thimble against the front of the hollow body.

2,969,444
ELECTROMAGNETICALLY ACTUATED SWITCH
Otto Deissler, Gummersbach-Niederseipen, Germany
Filed July 16, 1956, Ser. No. 598,160
24 Claims. (Cl. 200—87)



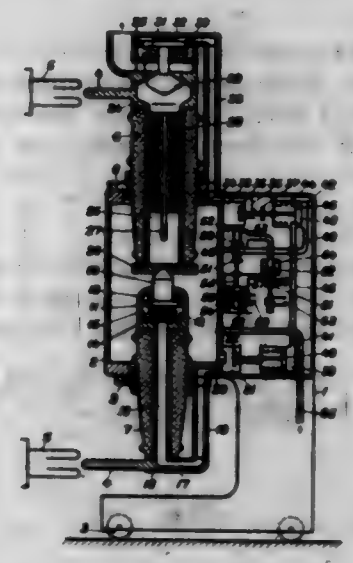
1. A switch comprising a housing having a removable front cover, fixed contacts mounted on the rear vertical surface of said housing, a bell crank lever and having a vertical and horizontal leg pivotally mounted in said housing, movable contacts fixed to the end of said vertical leg and engageable with said fixed contacts by movement substantially perpendicular to said surface, a coil mounted in the front cover of said housing and cooperating with an armature on the horizontal leg of said lever, whereby energization of said coil will close said contacts.

2,969,445
MAGNET OPERATED SWITCH
Clarence W. Mitchell, Ferndale, Mich., assignor to William T. Sevald, Royal Oak, Mich.
Filed June 19, 1958, Ser. No. 743,065
8 Claims. (Cl. 200—87)



1. A device having a bi-directionally moving magnet moved in both directions by the force of its own magnetic fields comprising a horseshoe magnet having adjacent ends defining the primary magnetic field interconnected by a loop portion defining the secondary magnetic field, a base plate slidably supporting said magnet on an axis of movement between said magnet primary field ends and said magnet secondary field loop portion, a primary armature selectively movable relative to said magnet adjacent ends primary field so as to be either inactively remote therefrom or actively proximate thereto; a secondary armature fixed on said base plate adjacent said magnet loop position secondary field providing reaction to said secondary field so that said secondary field moves said magnet toward said secondary armature to said magnet's retracted normal position when said primary armature is remote from said primary field, said magnet ends primary field when said primary armature is actively proximate thereto overcoming said secondary field and armature reaction to cause said magnet to move from its normal retracted position to its advanced position by the primary field magnetic force reaction to said primary armature; said secondary field and armature reaction moving said magnet to its normal position when said primary armature moves from a proximate to a remote position relative to said primary field; and means operated by the movement of said magnet such as an electric switch or a fluid valve.

2,969,446
AIR BLAST CIRCUIT BREAKERS
Haakon Forwald, Ludvika, Sweden, assignor to Allmanna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a corporation of Sweden
Filed Jan. 28, 1958, Ser. No. 711,610
Claims priority, application Sweden Feb. 1, 1957
5 Claims. (Cl. 200—148)

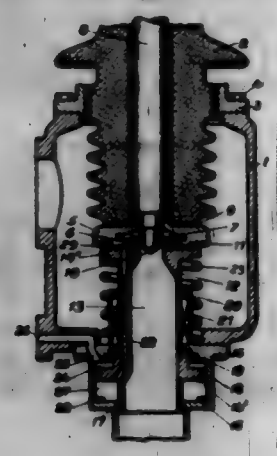


1. An air blast circuit breaker comprising a metal container permanently filled with compressed air, a movable breaking contact and a stationary breaking contact both arranged within said container, two leading through insulators inserted in the walls of the container and each carrying one of said contacts, a cylinder with an operating piston connected with said movable contact and carried by the insulator which carries the said movable contact, a blast valve carried by the insulator that carries the said stationary contact, an outlet channel for the compressed air in the latter insulator, and means whereby after the circuit is broken the said contacts are held in their open position so that a breaking gap of compressed air is located between them.

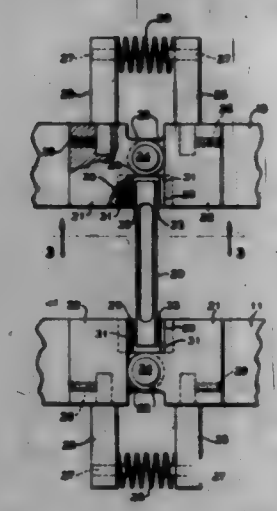
2,969,447
AIR BLAST CIRCUIT BREAKERS
Haakon Forwald, Ludvika, Sweden, assignor to Allmanna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a corporation of Sweden
Filed May 15, 1958, Ser. No. 735,619
Claims priority, application Sweden May 23, 1957
1 Claim. (Cl. 200—148)

An air blast circuit breaker having a container permanently filled with compressed air, said breaker comprising a leading through insulator projecting into the said container, a stationary contact carried by said insulator, a movable contact enclosed in the container and formed with an outlet channel therein for the escape of extinguishing air from the container, said outlet channel having an inlet opening facing the stationary contact, an operating piston connected to the movable contact, means to supply fluid under pressure to one side of said piston to move the movable contact away from the stationary contact, a blast valve comprising a valve disc with a tightening surface formed around the inlet opening and a valve seat for said valve disc formed on the stationary contact,

spring means operatively engaging said valve disc to move it toward said valve seat, said valve disc being in fixed relation to the operating piston, said movable contact having an orifice therein between the tightening surface and the inlet opening in permanent communication with said outlet channel and having a channel therein leading from the other side of the operating piston to said orifice.



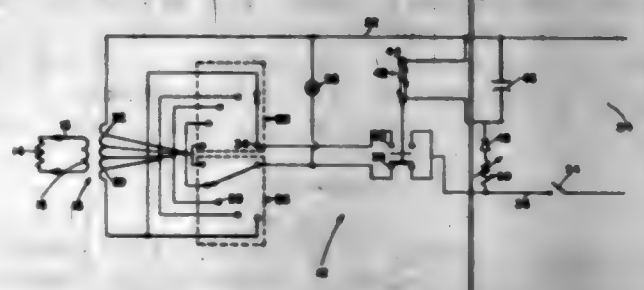
2,969,448
HEATER VAPORIZER ELEMENT SUPPORT
Paul Alexander, Princeton, N.J., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Mar. 3, 1959, Ser. No. 796,800
9 Claims. (Cl. 219—19)



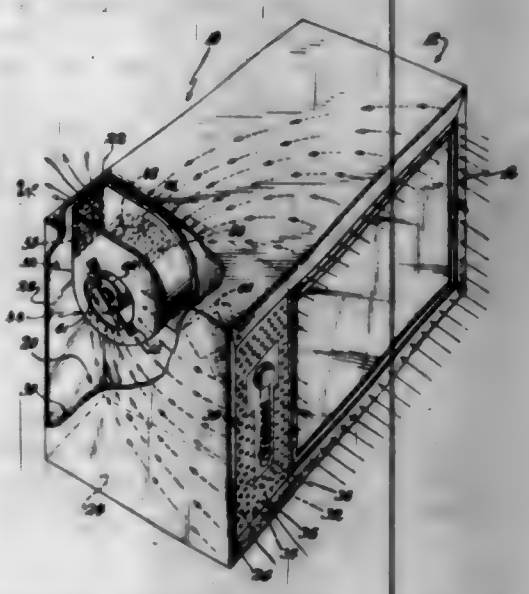
1. A clamp and support structure for a vaporizing heater element for employment in vacuum deposition, comprising a pair of bus bars having flat upper surfaces, a pair of blocks having flat lower surfaces for conductive engagement with a respective bus bar for gravitational support and movable thereon, an upright pivot hingedly connecting the blocks, so that parts of the blocks can be moved toward and from the side surfaces of the heater element, and a resilient element engaged with the blocks for causing said parts to engage the said side surfaces of the heater element with permissive relative rocking.

2,969,449
RESISTANCE SOLDERING POWER SUPPLY
Jonathan E. Tyler, Rochester, Mich., assignor to the United States of America as represented by the Secretary of the Army
Filed Aug. 25, 1959, Ser. No. 836,045
3 Claims. (Cl. 219—20)

1. In a machine disposed for soldering a specimen and provided with conductors of an alternating power source; and a pair of terminals for connection therebetween of the specimen; a switching device comprising a transformer with a secondary coil connected between the terminals, and a primary coil connected to one of the conductors and provided with taps; a pair of switches respectively provided with fixed contacts connected to said taps, and a movable contact disposed for selective engagement with the corresponding fixed contacts; and an RC circuit for switching to provide alternate connections of said movable contacts with the other of the conductors for resistive heating of the specimen in initial and subsequent phases at voltages corresponding to the selective engagement of the movable contact.



2,969,450
PORTABLE COMBINATION ELECTRIC ROTISSERIE AND CHARCOAL BROILER
Samuel M. Bernstein, 196 Sheridan Road, Winnetka, Ill.
Filed Feb. 16, 1959, Ser. No. 793,558
9 Claims. (Cl. 219—35)

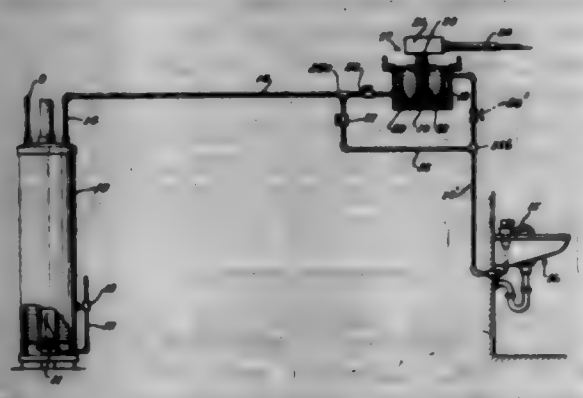


1. A portable cooking appliance adapted to be removably mounted in a wall opening of a building comprising; a housing having a cooking chamber therein, food support means mounted in said cooking chamber, heating means positioned in said cooking chamber, said housing defining a second chamber, a perforated grill comprising one of the walls of said second chamber, an exhaust-cooling unit positioned in said second chamber and terminating in an exhaust outlet formed in another one of said second chamber walls, said exhaust-cooling unit adapted to exhaust the atmosphere of said cooking chamber and simultaneously cool said second chamber by drawing cool air thereinto through said perforated grill.

2,969,451
HOT WATER HEATERS
John A. Logan, Canfield, Ohio, assignor to Ajax Magnethermic Corporation, a corporation of Ohio
Filed May 29, 1958, Ser. No. 738,847
6 Claims. (Cl. 219—38)

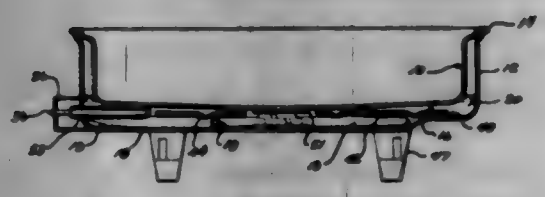
5. A hot water generating system for providing an immediate source of hot water to a faucet located a substantial distance from a main hot water tank and comprising a main hot water tank, heating means for said main tank, a faucet, a supplemental hot water tank of

relatively small capacity, said supplemental tank being located adjacent said faucet, means for heating said supplemental tank and maintaining the water therein at a higher temperature than the water in said main tank, a first pipe connecting said main tank to said supplemental tank and a second pipe connecting said supplemental tank to said faucet, a by-pass pipe having a first connection means at one end thereof to said first pipe and a second connection means at the opposite end there-



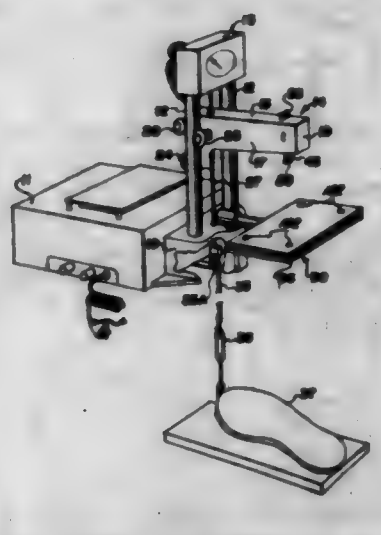
of to said second pipe whereby a portion of the water from said first pipe passes around said supplemental tank and is mixed with heated water from said supplemental tank in said second pipe to be discharged from said faucet, a first valve in said first pipe between said first connection means and said supplemental tank for controlling the flow of water through said supplemental tank and a second valve in said by-pass pipe between said first and second connection means for controlling the flow of water through said by-pass pipe.

2,969,452
ELECTRICALLY HEATED APPARATUS
Thomas L. Geller, William G. Laabs, and Ralph N. Kircher, West Bend, Wis., assignors to West Bend Aluminum Co., West Bend, Wis., a corporation of Wisconsin
Filed July 12, 1957, Ser. No. 671,451
5 Claims. (Cl. 219—44)



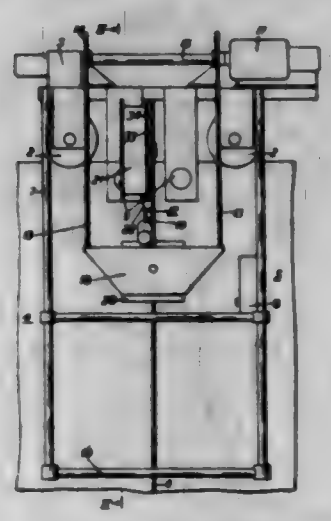
1. An electric cooking apparatus comprising, an inner vessel having a stainless steel cooking surface and an outer vessel hermetically sealed to each other to provide a chamber therebetween, said outer vessel formed to provide a sump in the bottom thereof, oil in said sump to a level whereby it contacts the bottom of said inner vessel, an electric heating element in said sump to heat said oil and cause it to circulate in said chamber, said heating element lying in a plane substantially parallel with the cooking surface of said inner vessel, a thermostat receiving well in said chamber immersed in said oil and lying next to the bottom of said inner vessel, holding means fixedly interconnecting the central parts of the bottom of said vessels to restrain movement thereof toward and away from each other when heated and cooled, and a baffle of heat conducting material in said chamber between said heating element and said inner vessel to direct the flow of said circulating oil outwardly and to dissipate radiant heat from said element to thereby provide uniform heat distribution over the stainless steel cooking surface of said inner vessel.

2,969,453
WELDING
Franklin H. Page, Jr., Arcadia, Calif., assignor to Du Pa Co., Inc., Arcadia, Calif., a corporation of California
Filed Aug. 11, 1958, Ser. No. 754,245
2 Claims. (Cl. 219—86)



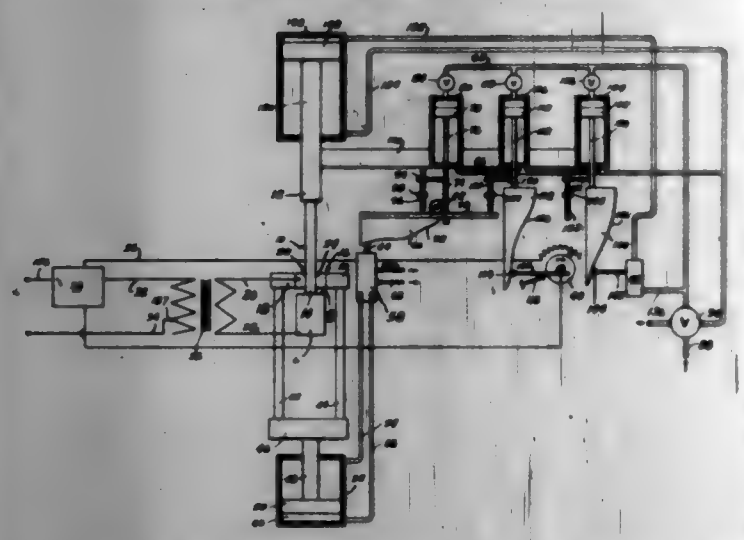
1. A spot welder comprising a support, a first electrode mounted on the support, a second electrode mounted on the support, each of the electrodes being movable with respect to the support so when the support and electrodes are advanced toward a piece of work to be welded the electrodes are displaced with respect to the support when they contact the work, a circuit for supplying current to the electrodes, a first switch responsive to displacement of the first electrode, and a second switch responsive to displacement of the second electrode, the switches being connected in series in the circuit so both must be actuated for the circuit to supply current to the electrodes.

2,969,454
WELDING METHOD AND APPARATUS
John A. Lacey, Newcastle-on-Tyne, England, assignor to The British Oxygen Company Limited, a British company
Filed Nov. 18, 1958, Ser. No. 774,616
Claims priority, application Great Britain Nov. 18, 1957
6 Claims. (Cl. 219—126)



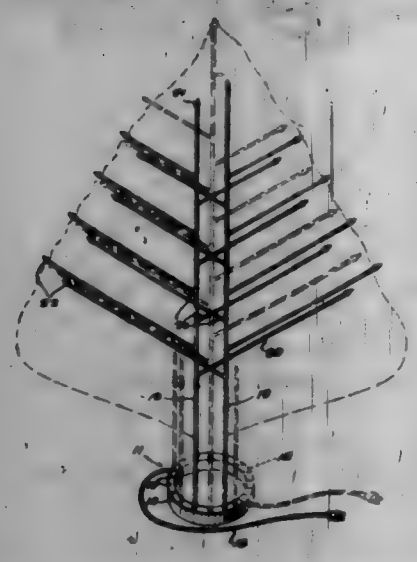
1. Apparatus for use in welding a vertical seam between upright plates set up edge to edge with a gap between adjacent edges comprising stationary positioning means adapted to maintain the upper edges of the plates in welding relationship, a welding head assembly including a member adapted to extend through said gap and including movable positioning means arranged to bear against both sides of said plates and maintain the plates in correct alignment at the point of welding, and means for raising the welding head assembly at a suitable welding speed.

2,969,455
RESISTANCE METAL GATHERING MACHINE
Eugene C. Booth, Bell, Calif., assignor to Thompson Ramo Wooldridge, Inc., a corporation of Ohio
Filed Oct. 29, 1958, Ser. No. 770,381
19 Claims. (Cl. 219—151)



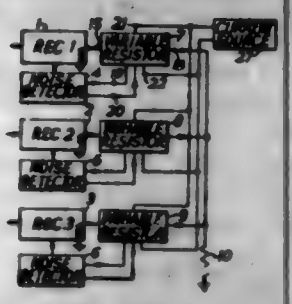
1. The method of gathering a thermoplastic article which comprises the steps of heating a short length of a transverse area of said article to a plastic state, progressively changing the length of the transverse heated area while the cross-sectional area of said transverse area remains the same, subsequently increasing the cross-sectional area of said transverse heated area by compression loading the article in a longitudinal direction, and progressively continuing to increase the length of the heated area after starting to increase the cross-sectional area by said compression loading.

2,969,456
CHRISTMAS TREE LIGHTING DEVICE
Florence C. Raymaley, 62 Reservoir Ave., Jersey City, N.J.
Filed Feb. 28, 1958, Ser. No. 718,232
1 Claim. (Cl. 240—10)



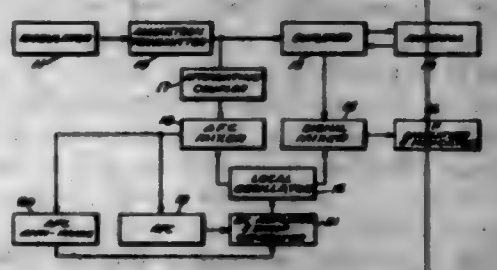
A Christmas tree lighting device comprising a substantially straight tubular vertical stem member having a plurality of upwardly and outwardly inclined tubular branches of progressively diminishing length upwardly along the stem member communicatively connected thereto at spaced locations along its length, said stem member and branches being of relatively rigid material, respective lamps mounted on the ends of the stem member and branches, spaced diametrically opposed external vertical, upwardly extending contact strips mounted longitudinally on the lower end of said stem member, conductors disposed in said stem member and branches and connecting said lamps in a series circuit, the ends of said conductors being respectively connected to said diametrically opposed external contact strips, a generally semicircular horizontal base member of solid rigid insulating material, opposing spaced arcuate conductors embedded horizontally in said base member concentrically therewith and extending substantially for its entire length, and a line cord connected to the ends of said arcuate conductors, said base member being formed with a plurality of substantially cylindrical vertical bores spaced therealong and opening at the top surface of said base member with their axes located midway between said arcuate conductors, said bores being of sufficient diameter to expose portions of said conductors, each bore being adapted to supportingly receive the lower end of said stem member in a position wherein said contact strips transversely engage the respective exposed portions of said arcuate conductors.

2,969,457
DIVERSITY RECEIVER
Michael O. Felix, Aldershot, and Andrew J. Lipinski, Alberton, Ontario, Canada, assignors to Canadian Westinghouse Company, Limited, Hamilton, Ontario, Canada
Filed May 9, 1960, Ser. No. 27,638
7 Claims. (Cl. 250—20)



1. A diversity receiving system comprising a plurality of receiving channels, a common load for said receiving channels, a detector in each of said receiving channels for producing signals representative of the signal to noise ratio of the associated receiving channel, individual impedances, variable in accordance with a control current, interposed between each of said receiving channels and said load, a source of constant current connected to all of said impedances to determine the value of said impedances and means to control the current applied to the individual impedances in accordance with signals representative of the signal to noise ratio of the associated receiving channel.

2,969,458
ANTI-IMAGE SYSTEMS
Geoffrey B. Parkinson, Waltham, Mass., assignor to Raytheon Company, a corporation of Delaware
Filed May 27, 1957, Ser. No. 661,704
3 Claims. (Cl. 250—20)



1. In a system for preventing an automatic frequency control system from locking on the image frequency of a desired intermediate frequency, the apparatus comprising a signal source, a local oscillator, a mixer connected to the outputs of said source and said local oscillator for producing intermediate frequency signals, a sweep generator connected between said mixer and said local os-

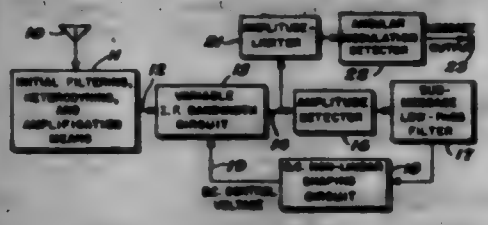
cillator for causing said local oscillator to be tuned over a range of frequencies upon loss of said intermediate frequency signals, an automatic frequency control circuit continuously coupled to said local oscillator and said mixer for causing said local oscillator to be locked in frequency when said intermediate frequency signals are present, and an anti-image circuit coupled between said mixer and said sweep generator for delivering a triggering pulse to actuate said sweep generator when said intermediate frequency signals are in the vicinity of the image frequency, said anti-image circuit including a discriminator tuned to a frequency different from the desired intermediate frequency to provide an output which may have either one of two electrical polarities, and further including means responsive to an output of one polarity only for producing said triggering pulse.

2,969,459

METHOD AND MEANS FOR REDUCING THE THRESHOLD OF ANGULAR-MODULATION RECEIVERS

Howard D. Hern, Cedar Rapids, Iowa, assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa

Filed Nov. 14, 1957, Ser. No. 696,473
10 Claims. (Cl. 250—20)



1. A threshold control system in a receiver of angularly-modulated signals comprising, a variable-bandpass circuit for passing said angularly-modulated signals, means for detecting amplitude variations of said signals, low-pass filtering means receiving the output of said detecting means and selectively passing frequencies below message frequencies of said signal, means for shaping the amplitude of the output of said low-pass filtering means according to the angular-modulation threshold of said signal, and means for decreasing and increasing the bandpass of said variable-bandpass circuit in response to the output of said shaping means.

2,969,460

ADJUSTABLE HIGH-FREQUENCY TUNING UNIT

Robert J. Rowley, Cedar Rapids, Iowa, assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa

Filed Oct. 14, 1957, Ser. No. 690,164
4 Claims. (Cl. 250—40)



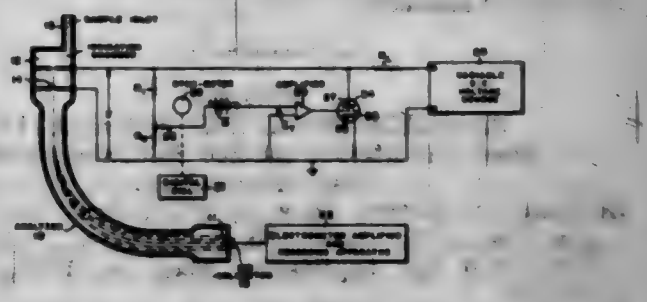
1. An adjustable high-frequency tuning unit of the variable inductance type comprising, an insulating core member with an inductive member wound on a first reduced diameter portion thereof, a conductive sleeve member placed over a second reduced diameter portion of said core member, one end of said inductive member electrically connected to said sleeve member, a first external conductor connected to said sleeve member, a hollow conductive cylinder, said core member contained within said conductive cylinder, an outer conductive surface surrounding said conductive cylinder and dielectrically separated therefrom, a conductive rod-like member inserted in said core member in juxtaposed and space-separated relationship with said conductive sleeve member, a second external connector connected to said rod-like member, a third external connector connected to said conductive cylinder, and adjustable shorting means between said wire turns on said core member and said conductive cylinder.

2,969,461

ELECTRO-MECHANICAL SCANNING VOLTAGE REGULATOR

Walter A. Morgan, Baytown, Tex., assignor, by mesne assignments, to Esso Research and Engineering Company, Elizabeth, N.J., a corporation of Delaware

Filed Sept. 5, 1958, Ser. No. 759,244
5 Claims. (Cl. 250—41.9)



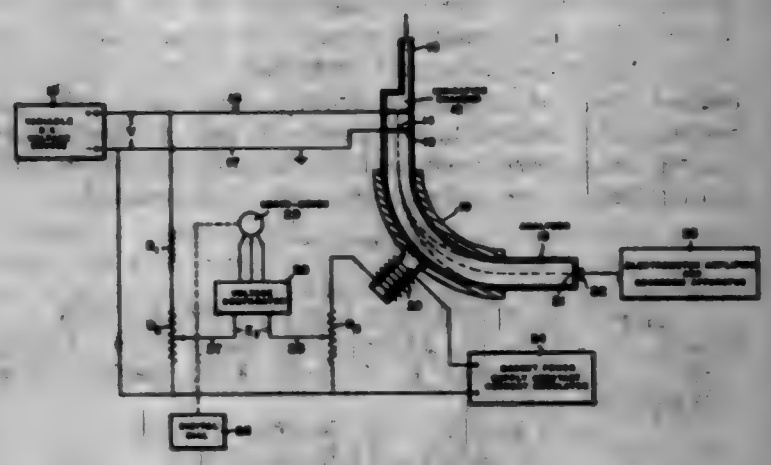
1. In a mass spectrometer having means for converting molecules into ions, an analyzer, a collector, means for accelerating the ions and directing the ions through the analyzer toward the collector, and means for producing a field in the analyzer to separate the ions according to their mass to charge ratio, the improvement of: a main circuit for feeding a voltage to the means for accelerating the ions; resistors connected across the main circuit; an electronic tube having a cathode, grid, and plate connected across the main circuit; and a feedback circuit including a wiper arm in contact with the resistors and a battery electrically associated with the wiper arm and the grid of the electronic tube for applying a voltage to the grid of the electronic tube and means for moving said wiper arm at a constant rate to focus on the collector, ions having a mass to charge ratio which varies linearly at a constant rate with time.

2,969,462

MASS SPECTROMETRY

Walter Avery Morgan, Baytown, Tex., assignor, by mesne assignments, to Esso Research and Engineering Company, Elizabeth, N.J., a corporation of Delaware

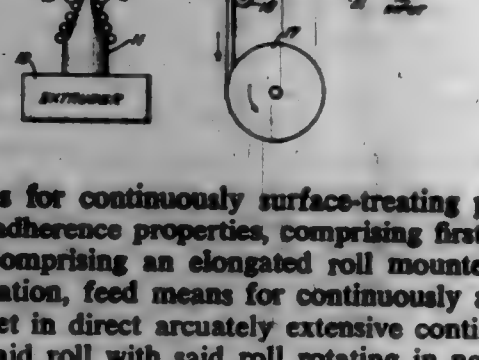
Filed Sept. 5, 1958, Ser. No. 759,245
1 Claim. (Cl. 250—41.9)



A mass indicator system comprising: an analyzer; an ionization chamber; a collector; a voltage source for impressing a potential to accelerate the ions in the ionization chamber and to direct the ionized particles through the analyzer to the collector; a magnet juxtaposed on

said analyzer; a magnet voltage circuit for applying a magnetic field to the analyzer to separate the ionized particles into homogeneous beams according to their mass to charge ratio; a resistor forming part of the magnet voltage circuit; at least one resistor connected across the voltage source for impressing a potential to accelerate the ions; and a mass indicator circuit including a tap for obtaining a substantially fixed voltage from the resistor in the magnet voltage circuit, a wiper arm for obtaining a voltage from the resistor connected across the voltage source, a comparator for receiving both voltages, a comparator controlled motor connected to the wiper arm responsive to any difference in the two voltages to move the wiper arm until the two voltages are again equal, and a dial indicator connected to the wiper arm for directly indicating the mass to charge ratio of ionized particles striking the collector.

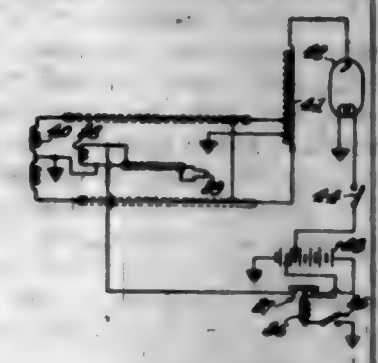
2,969,463
PLASTICS-TREATING APPARATUS
Joseph F. McDonald, 207 Stonehinge Lane, Carle Place, N.Y.
Original application May 3, 1957, Ser. No. 656,823, now Patent No. 2,879,396, dated Mar. 24, 1959. Divided and this application Mar. 16, 1959, Ser. No. 799,670
4 Claims. (Cl. 250—49.5)



1. Apparatus for continuously surface-treating plastic for improved adherence properties, comprising first electrode means comprising an elongated roll mounted for continuous rotation, feed means for continuously applying plastic sheet in direct arcuately extensive continuous contact with said roll with said roll rotating in non-slip relation with the moving plastic sheet, second electrode means comprising a fixed plurality of like elongated electrode members positioned in radially spaced relation with said roll and in angularly spaced relation over an extensive portion of the area of contact of plastic sheet with said roll, each of said electrode members comprising an elongated tube of high-strength dielectric material with elongated electrically conducting means including a circumferentially continuous conductive member having an external cylindrical surface supported by the inner wall of said tube, said conductive member being wholly contained within said tube and extending short of the longitudinal ends of said tube, means electrically interconnecting all conducting members of said plurality, and means for applying an electric potential between said last-defined means and said first electrode means.

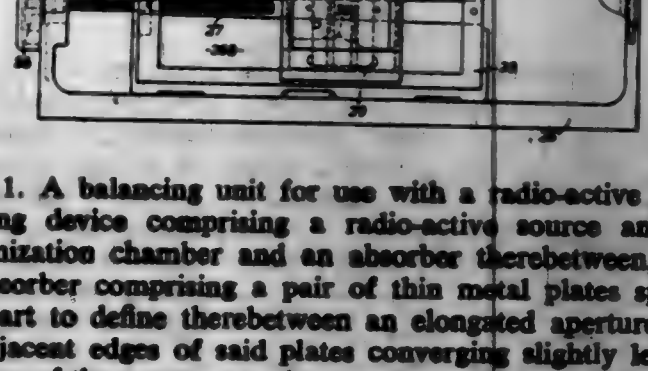
2,969,464
IMPULSE POWERED X-RAY APPARATUS
Morris W. Chisholm, 27110 Lake Shore Blvd., Euclid, Ohio, and Kenneth E. Nichols, 8250 Baylor Lane, Westminster, Colo.
Filed June 2, 1959, Ser. No. 817,689
5 Claims. (Cl. 250—102)
(Granted under Title 35, U.S. Code (1952), sec. 266)

5. A portable X-ray apparatus comprising an X-ray tube electrically connected to the secondary winding of a transformer, a high-frequency, high-voltage alternator electrically connected to the primary winding of said transformer, and a prime mover mechanically connected to rotate said alternator, said prime mover comprising a means utilizing a single explosive charge to generate fluid pressure and means to convert said fluid pressure



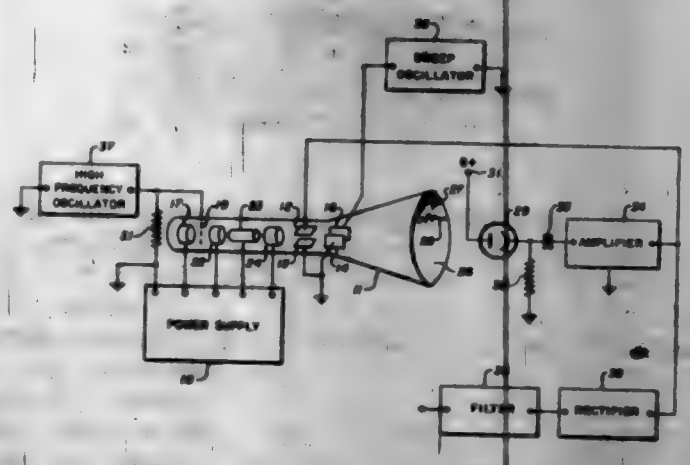
into torque whereby said alternator is rotated only for a period of time sufficient to produce a radiographic exposure.

2,969,465
BALANCING UNIT FOR USE WITH RADIATION GAUGES
Gordon Francis Wellington Powell, Deptford, London, England, assignor to Molins Machine Company Limited, Deptford, London, England, a British company
Filed May 15, 1957, Ser. No. 659,348
Claims priority, application Great Britain May 15, 1956
2 Claims. (Cl. 250—105)



1. A balancing unit for use with a radio-active scanning device comprising a radio-active source and an ionization chamber and an absorber therebetween, said absorber comprising a pair of thin metal plates spaced apart to define therebetween an elongated aperture, the adjacent edges of said plates converging slightly lengthwise of the aperture, and means for moving said absorber across the path of the rays from the source and in the direction of the length of the aperture to present different areas of metal in said path and thereby adjust the absorption of the rays by the interposed metal.

2,969,466
DYNAMIC CURVE TRACER
Robert J. Morris, 2157½ Vine St., Berkeley 9, Calif.
Filed Oct. 29, 1957, Ser. No. 693,173
6 Claims. (Cl. 250—217)



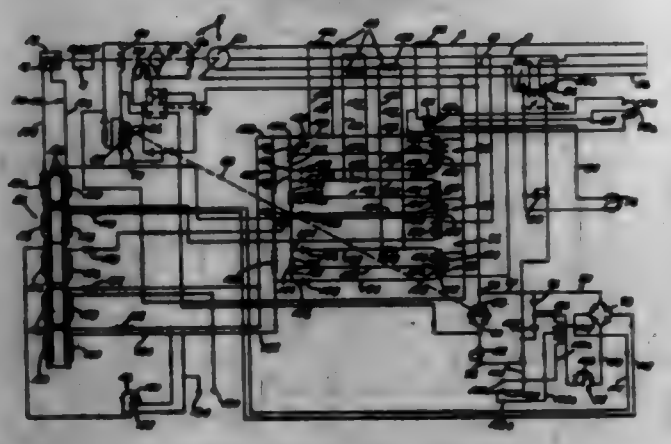
1. In electronic apparatus, the combination comprising a cathode-ray tube having a beam deflection system and

a fluorescent screen, a photosensitive device disposed proximal to said screen, a high frequency pass filter coupling said photosensitive device to said deflection system, high frequency modulation means periodically interrupting the beam in said cathode-ray tube, and a mask covering a portion of said screen.

2,969,467
FREQUENCY REGULATION SYSTEM FOR GENERATORS

John F. Hysler, Westport, Conn., assignor to Electric Regulator Corporation, Norwalk, Conn., a corporation of New York

Filed Oct. 30, 1958, Ser. No. 770,864
20 Claims. (Cl. 307—57)



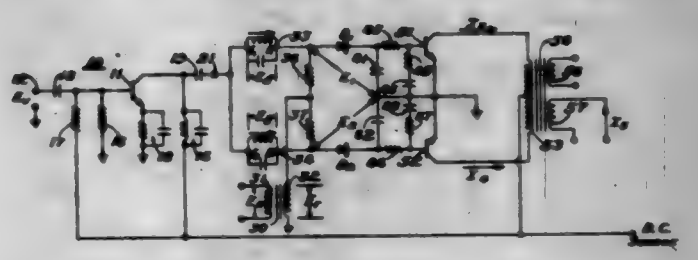
20. In a system for regulating the frequency in the output circuit of an alternator by sensing the output thereof and controlling the means which drives the alternator in accordance therewith, said system including means for sensing the output frequency and deriving a control signal in accordance therewith; the improvement which comprises a voltage transformer the primary of which is connected to said output circuit so as to be energized by the voltage therein and the secondary of which comprises a pair of windings, a first point connected to first ends of both said windings, the second ends of said windings each being connected to a second point via a path including a rectifier and a signal resistor, said rectifiers being oriented for current flow in the same direction relative to said second point, a connection between said first and second points, an additional resistor in one of said connection and said paths, and a current transformer in said output circuit the primary of which is connected to said output circuit so as to be energized by the current therein and the secondary of which is connected across said additional resistor, a voltage proportional to the in-phase current in said output circuit therefore appearing across said signal resistors in series, said signal resistors being connected to a series RC circuit, the current through said circuit defining an auxiliary signal, means for combining said auxiliary signal with said control signal, thereby to increase the speed of response of said system when rapid changes in load occur, and means for combining a predetermined portion of said voltage with said control signal in order to modify the droop or compounding characteristics of said system.

2,969,468
FREQUENCY AND PHASE DISCRIMINATOR

Noel E. Hogue, Cedar Rapids, Iowa, assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa

Filed Feb. 21, 1957, Ser. No. 641,576
5 Claims. (Cl. 307—88.5)

1. A frequency and phase discriminator for operation about a given center frequency f_c, comprising first and second parallel-resonant circuits, with said first resonant circuit being tuned to a frequency f_1 below f_c, and said second resonant circuit being tuned to a frequency f_2 above f_c, a first input terminal connected to one side of each of said first and second resonant circuits, a first amplitude detector circuit connected in series with the other side of said first resonant circuit, a second amplitude detector circuit connected in series with the other side of said second resonant circuit, a pair of low-pass filters respectively connected between ground and the outputs of

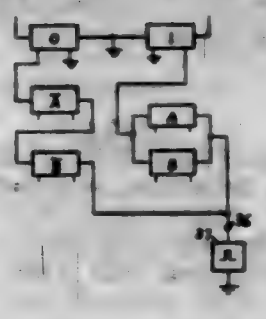


said amplitude detectors, a phase reference signal terminal, first impedance means connected between said reference signal terminal and the input of said first amplitude detector, second impedance means connected between said reference signal terminal and the input to said other amplitude detector, an L-circuit being comprised of said first impedance means and said first resonant circuit, and a complementary L-circuit being comprised of said second impedance means and said second resonant circuit.

2,969,469
CRYOTRON LOGIC CIRCUIT

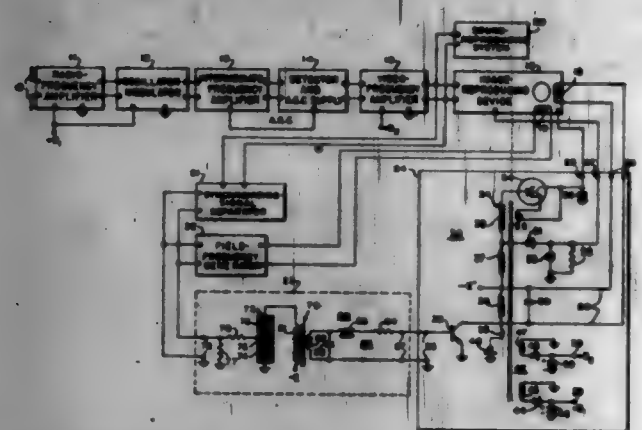
Richard K. Richards, Old Troy Road, Wappingers Falls, N.Y.

Filed July 2, 1957, Ser. No. 669,539
25 Claims. (Cl. 307—88.5)



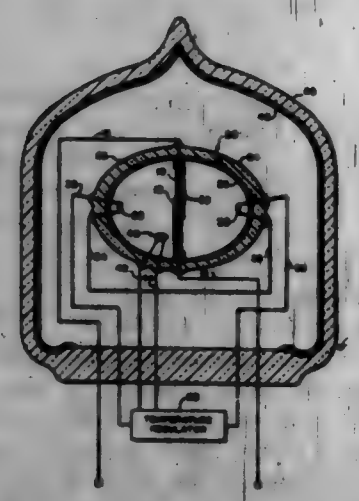
1. A cryotron transfer circuit comprising a pair of load cryotrons each having an input winding and a contact adapted to be controlled by said input winding, a plurality of transfer cryotrons each having an input winding and a contact adapted to be controlled by said input winding, means connected to selectively apply binary input signals in one or more predetermined combinations to the input windings of said transfer cryotrons, a source of transfer current, and means interconnecting said source of transfer current, said contacts of the transfer cryotrons, and said input windings of the load cryotrons so as to selectively cause said transfer current to flow through a selected one of the input windings of said load cryotrons in accordance with different ones of said predetermined combinations of binary input signals, the contact of each of said load cryotrons being free from any cross-coupling with the input winding of the other load cryotron, whereby said selection of a load cryotron is entirely dependent upon said predetermined combinations of binary input signals and whereby said contacts of the load cryotrons are independently available for read-out connections.

2,969,470
ALTERNATING-SIGNAL GENERATOR
John Marley, Fort Wayne, Ind., assignor to Hazeltine Research, Inc., a corporation of Illinois
Filed Sept. 3, 1957, Ser. No. 681,674
7 Claims. (Cl. 307—88.5)



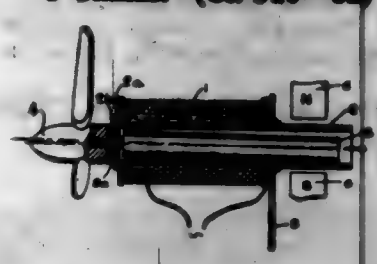
1. An alternating-signal generator comprising: a junction transistor having input and output electrodes and exhibiting a carrier-storage characteristic at a predetermined frequency; energizing means coupled to said output electrodes; means coupled to said input electrodes for rendering said transistor normally nonconductive; further means coupled to said input electrodes for applying thereto periodic pulses having said predetermined frequency, the pulse duration intervals being much less than the pulse separation intervals and the polarity of each pulse causing said transistor to conduct and store carriers durings the pulse duration; the carrier-storage characteristic of said transistor being such that the stored carriers flow out therefrom to maintain it conductive during a much longer portion of each subsequent pulse separation interval; and a load circuit coupled to said output electrodes and including a circuit resonant at a frequency related to said predetermined frequency and responsive to said stored carriers for developing an alternating signal having said resonant frequency.

2,969,471
CRYSTAL TEMPERATURE CONTROL DEVICE
Wilhelm A. Schneider, 70 Hendrickson Place, Fair Haven, N.J.
Filed Oct. 30, 1959, Ser. No. 850,000
5 Claims. (Cl. 310—8.9)



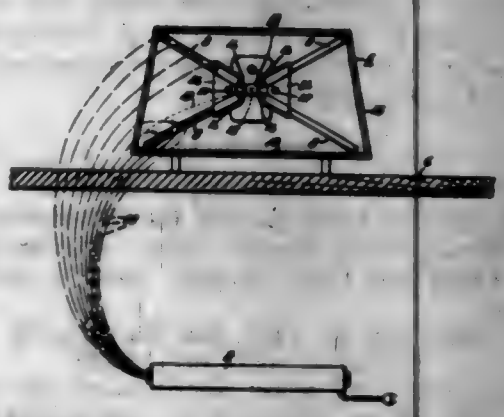
1. A device for maintaining a piezoelectric crystal at a constant temperature comprising an air-tight chamber for containing a crystal, said chamber being provided on its inner wall with an interior reflecting surface forming opposed concave reflectors, a pair of electric heating elements respectively positioned at each focus of said concave reflectors and adapted to direct heat rays toward said crystal mounted therebetween, a thermistor supported in said chamber and adapted to control said heating elements, and connector means for making electrical connection to said heating elements and for energization thereof.

2,969,472
MINIATURE ELECTRIC MOTOR
Hermann Faller, Hauptstrasse 26, Gutenbach, Black Forest, Germany
Filed Jan. 11, 1957, Ser. No. 633,716
Claims priority, application Germany Jan. 12, 1956
8 Claims. (Cl. 310—82)



1. A miniature electric motor for alternating current, comprising, in combination, an electromagnetic device including a solenoid having a central cavity and being adapted to produce an alternating magnetic field within said cavity and about itself, upon energization by an alternating current applied thereto; a permanent magnet device located within the region of said alternating magnetic field and adapted to superimpose a constant magnetic field on said alternating magnetic field; one of said devices comprising a shaft member having a pivot portion and a movable portion of magnetic material, said movable portion being arranged within said cavity radially spaced from the cavity surface for being able to carry out limited transverse oscillatory movements therein in all directions under the influence of said magnetic fields; stationary support means located at one end of said cavity for supporting said pivot portion for universal movement therein including rotary motion; and annular guide means located at the opposite end of said cavity and coaxially therewith, said annular guide means surrounding with an inside guide surface a portion of said movable portion and having an inner guide surface of a diameter larger than the outer diameter of said portion of said movable portion, so that the oscillatory movement of said movable portion produced by the application of alternating current to said solenoid and the simultaneous effect of said superimposed constant magnetic field, said shaft member being caused to carry out a rotary movement by rolling with said portion of said movable portion along said inside guide surface of said annular guide means.

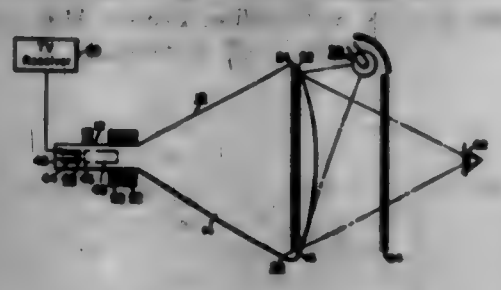
2,969,473
CORDLESS ELECTRIC CLOCKS
George L. de Wolf, Framingham Center, and Ira A. Terry, Ashland, Mass., assignors to General Electric Company, a corporation of New York
Filed Dec. 31, 1958, Ser. No. 784,334
7 Claims. (Cl. 310—191)



1. The combination in a clock having a magnetic rotor unit housed within a case for the clock, a flux collector

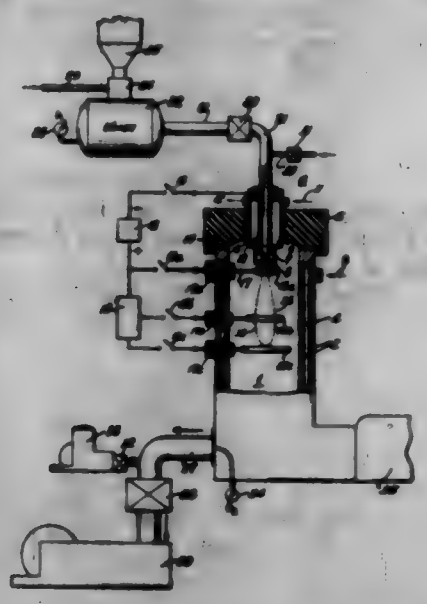
unit located entirely within said case and associated with said rotor, and a flux transmitter located entirely outside of and separated from said case.

2,969,474
KINESCOPE SCREEN FOR DAYLIGHT VIEWING
William L. Roberts, Monroeville, and Elmer R. Ashcraft, Penn Township, Allegheny County, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Mar. 19, 1956, Ser. No. 572,390
8 Claims. (Cl. 313—92)



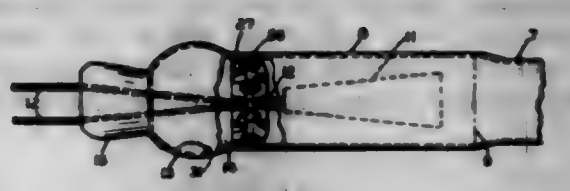
1. An image display system comprising an opaque screen member, means for impressing a heat pattern on said screen, means for directing radiations onto said screen of a uniform nature, said screen including a layer of homogeneous substitution type solid solution for reflecting said radiations of a given wave-length at one temperature and another wave-length at another temperature in response to the heat pattern impressed on said screen.

2,969,475
METHOD AND INSTALLATION FOR CARRYING OUT GLOW DISCHARGE PROCESSES
Bernhard Berghaus, Zurich, Switzerland, assignor to Elektrophysikalische Anstalt Bernhard Berghaus, Vaduz, Liechtenstein
Filed July 15, 1957, Ser. No. 671,790
Claims priority, application Switzerland July 14, 1956
8 Claims. (Cl. 313—231)



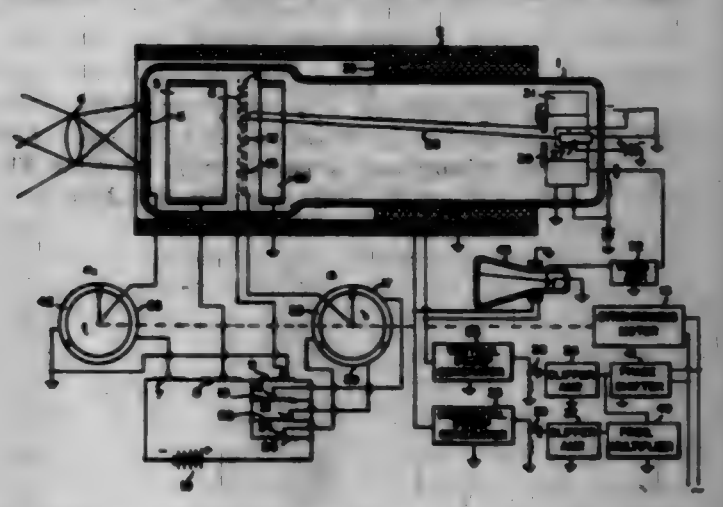
1. In a method of performing metallurgical, chemical or other technical processes under the influence of an electric glow discharge in a discharge vessel containing electrodes which carry an electric potential and provided with insulated leads for applying the potentials to the said electrodes, the steps which comprise charging a gas into the discharge vessel in the region of a first electrode and simultaneously withdrawing gas from the chamber at a point removed from the charging region and at such rates that a pressure gradient is created in the space surrounding the electrode in which the gas pressure diminishes with increasing distance from the electrode, and disposing a cooperating electrode at a distance from the first electrode and in the direction of diminishing pressure, whereby migration of the discharge away from the first electrode and into the zone of decreasing pressure is favored, and the first electrode is at least partly relieved of the load otherwise imposed thereon by the energy of the discharge.

2,969,476
MERCURY RESERVOIR FOR DISCHARGE LAMPS
Miles Pennybacker, Westport, and Charles A. Simpson, Norwalk, Conn., assignors to Miles Pennybacker, Norwalk, Conn.
Filed Sept. 19, 1957, Ser. No. 684,923
2 Claims. (Cl. 313—328)



1. An electrode for a mercury discharge tube which is provided with a seal at its outer end and lead-in wires passing through the seal, said electrode comprising a tubular envelope which is generally circular in cross section and which has a cavity for liquid mercury at said sealed end, and a partition mounted in the tubular envelope with a friction fit defining the other end of the said cavity, said partition comprising a cup-shaped member with a base and a resilient rim and having said rim facing the cavity, the outer periphery of the rim having a plurality of inwardly extending recesses forming channels between the partition and the envelope and increasing the resilience of the rim, said channels being large enough to permit passage therethrough of liquid mercury past the corner sections formed at the juncture of the base and the rim, and into the cavity, and small enough to cause substantially all liquid mercury traveling in the opposite direction to roll over the rim and pass into the cup-shaped interior of the partition.

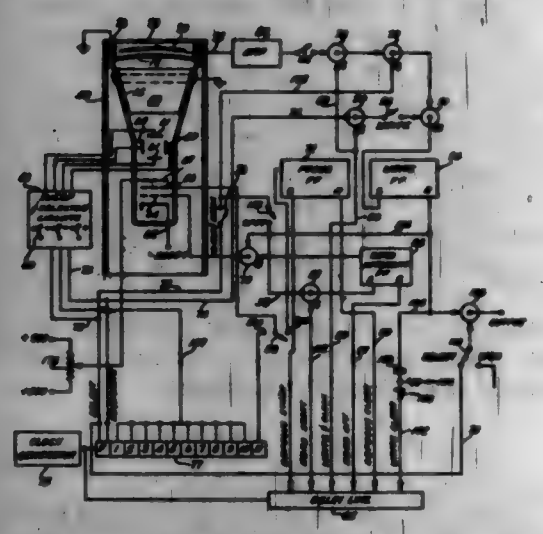
2,969,477
MOVING TARGET INDICATOR WITH BACKGROUND COMPENSATION FOR VISUAL LIGHT AND THE NEAR INFRARED
Radamec K. H. Gobel, Dayton, Ohio, assignor to the United States of America as represented by the Secretary of the Air Force
Filed Aug. 17, 1959, Ser. No. 834,358
2 Claims. (Cl. 315—11)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. Apparatus for producing a video signal representative of the moving objects only in an optical image comprising; a pick-up tube containing a photocathode for

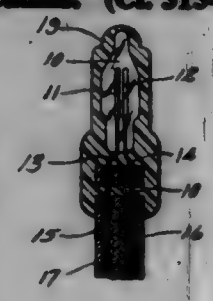
converting said optical image into an electron image; a secondary emissive charge storage element positioned to receive said electron image for converting same into a corresponding charge pattern the polarity of which depends upon the secondary emission ratio of said storage element; cyclic means for controlling the secondary emission ratio of said storage element and the application of said electron image thereto, each cycle of operation of said cyclic means being divided into three consecutive intervals during the first of which said electron image is applied to said storage element and a secondary emission ratio greater than unity is established therefor, during the second of which said electron image is applied to said storage element and a secondary emission less than unity is established therefor, and during the third of which said electron image is prevented from reaching said storage element; and electron beam scanning means synchronized with said cyclic means and operative during said third interval to scan said storage element for converting the charge pattern thereon into a video signal.

2,969,478
INFORMATION STORAGE SYSTEM
John Prosper Eckert, Jr., and Herman Lukoff, Philadelphia, Pa., assignors, by mesne assignments, to Sperry Rand Corporation, a corporation of Delaware
Filed June 10, 1949, Ser. No. 98,178
19 Claims. (Cl. 315—12)



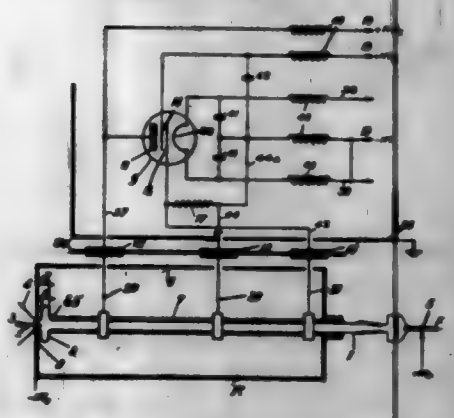
18. An information storage device comprising a storage member, an electron beam producing means for charging areas of said storage member means for reading the said information stored on said area comprising said electron beam producing means, and means for varying a characteristic of said beam producing means to condition said beam for reading information stored on said member.

2,969,479
ELECTRICAL CIRCUIT TESTER
Gustaf R. Lawson, West Warwick, R.I., assignor to General Electric Company, a corporation of New York
Filed Aug. 27, 1959, Ser. No. 836,379
11 Claims. (Cl. 315—52)



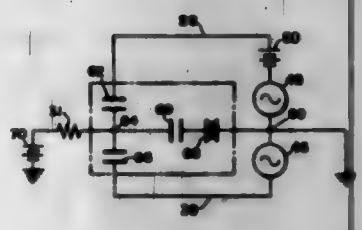
1. An electrical circuit tester comprising a light-transmissive gaseous discharge tube containing a gas ionizable at glow discharge pressures and spaced electrode means and having two electrode leads extending therefrom, a short flexible high-resistance conductor connected to each electrode lead, and a molded translucent protective housing positioned around said tube and the ends of said conductors which are attached to the electrode leads of said tube.

2,969,480
ION SOURCES
Siegfried Klein, Paris, France, assignor to Commissariat a l'Energie Atomique, Paris, France
Filed Apr. 29, 1959, Ser. No. 809,828
Claims priority, application France May 3, 1958
6 Claims. (Cl. 315—111)



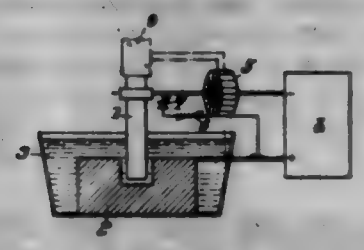
1. An ion source which comprises, in combination, a tube, means for applying a high direct potential difference between the ends of said tube, said tube having, near one of its ends, an enlarged portion in the form of a flat bulb extending transversely to the direction of said tube, pumping means for exhausting said tube, means for feeding the other end of said tube with a gaseous substance to be ionized, a high frequency current source and means forming a resonating cavity at least a portion of which surrounds said bulb, said cavity being coupled with said source to be energized by it and being arranged to form a zone of concentrated electric field including, and substantially limited to, the volume of said bulb.

2,969,481
DISPLAY DEVICE
Edgar A. Sack, Jr., Penn Hills, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 3, 1958, Ser. No. 765,083
7 Claims. (Cl. 315—169)



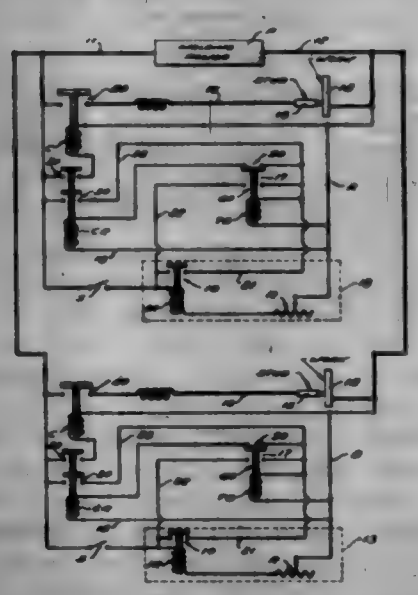
1. In a solid state display element in combination, a plurality of circuit systems connected in cooperative relationship with a common circuit portion between them, one circuit system comprising a nonlinear dielectric capacitor and a time varying potential source connected in series circuit relationship, the other circuit system comprising a nonlinear dielectric capacitor and a time varying potental source connected in series circuit relationship, an electroluminescent cell and a nonlinear dielectric capacitor connected in the common circuit portion.

2,969,482
MACHINING SYSTEMS MAKING USE OF INTERMITTENT ELECTRICAL DISCHARGES
Marc Bruene, Pavillons-sous-Bois, and Michel Magat, Bourg-la-Reine, France, assignors to Centre National de la Recherche Scientifique, Paris, France, a corporation of France
Filed Sept. 30, 1957, Ser. No. 687,165
Claims priority, application France Oct. 8, 1956
8 Claims. (Cl. 315—207)



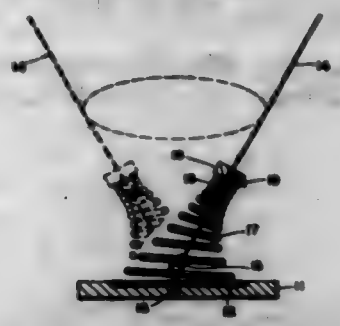
1. An electrical discharge machining system which comprises, in combination, a tool forming an electrode, mounted opposite a piece to be machined acting as another electrode, an electrical source for generating successive discharges between said electrodes, means connecting the terminals of said source with said two electrodes respectively, and means separate from the connecting means responsive to said discharges for applying to the tool electrode, in lagging phase relation to the beginning of each of said discharges, a voltage impulse of a sign opposed to that of the impulse which has produced said discharge and of a duration shorter than said second mentioned impulse so that said first mentioned impulse ends before the next impulse of the second mentioned kind begins.

2,969,483
INTERLOCKING CONTROL UNIT
Paul A. Glorioso, Lorain, Ohio, assignor to Nelson Stud Welding Div.
Filed Oct. 19, 1959, Ser. No. 847,210
4 Claims. (Cl. 315—362)



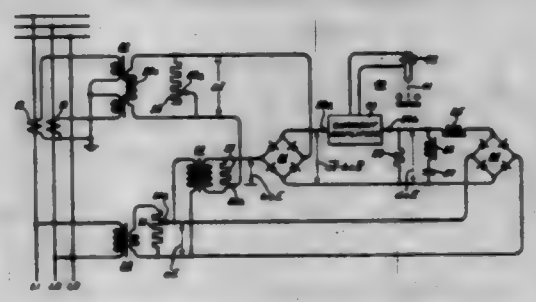
1. In a system having an electrical power source with first and second terminals of a rated voltage potential across said terminals, said voltage potential being subject to drop under load, and said system having at least two operating devices powered by said power source, the provision of an improved means associated with each device to prevent current flow in such device at less than rated voltage, said means comprising a voltage sensitive relay switch, said relay switch connected in a control circuit across said terminals and thereby subjected to voltage variances of said terminals, a master switch in said control circuit, and a control switch for the associated device operated by said relay switch, said relay switch tuned to a preselected voltage above which it will cause the control switch to assume a first position and below which it will cause the control switch to assume a second position, whereby upon closing of said master switch the relay switch will sense the voltage and will pass current therethrough only if the voltage is above a pre-determined minimum.

2,969,484
STATIC ELECTRICITY DEVICE
William B. Suchow, 1921 Oakwood Parkway, Union, N.J.
Filed Jan. 21, 1959, Ser. No. 788,124
3 Claims. (Cl. 317—2)



1. A static electricity eliminator device for discharging static electricity from a vehicle comprising a base plate, a first member secured thereto having an eye on its upper end, a rod having an eye on its lower end, said eyes being interlocked to provide a flexible connection between said member and rod to permit said rod to be displaced in a cone shaped arc of 360°, and biasing means for normally holding said rod in an upright position with respect to said base plate.

2,969,485
ELECTRIC RELAY
Leon E. Goff, Jr., Drexel Hill, Pa., assignor to General Electric Company, a corporation of New York
Filed Oct. 25, 1957, Ser. No. 692,315
11 Claims. (Cl. 317—36)



2. In an offset-impedance relay for an alternating current electric power transmission line: first and second output terminals; a first full-wave rectifier having a pair of direct current terminals and a pair of alternating current terminals; means coupled to the transmission line for applying to the alternating current terminals of said first rectifier a voltage proportional to transmission line voltage; a smoothing circuit connected to the direct current terminals of said first rectifier, said smoothing circuit including a load resistor across which is developed a relatively smooth direct voltage representative of line voltage, said load resistor having a positive terminal connected to said first output terminal and having a negative terminal; transforming means responsive to transmission line current for deriving an alternating voltage related to the line current by a predetermined constant impedance; a second full-wave rectifier having positive and negative direct current terminals and a pair of alternating current terminals, said positive direct current terminal being connected to said second output terminal and said negative direct current terminal being connected to said negative terminal of said load resistor; and means coupled to the

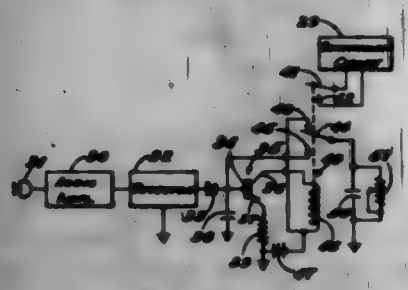
transmission line and to said transforming means for energizing the alternating current terminals of said second rectifier in accordance with the vector difference between said derived alternating voltage and a pre-selected portion of the line voltage; whereby an output control signal is developed at said output terminals whenever the magnitude of said direct voltage is less than the instantaneous magnitude of the voltage at the alternating current terminals of said second rectifier.

2,969,486

VOICE-OPERATED CONTROL SYSTEM

Warren U. Amfahr, Marion, Iowa, assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa

Filed Aug. 26, 1958, Ser. No. 757,296
2 Claims. (Cl. 317—148.5)



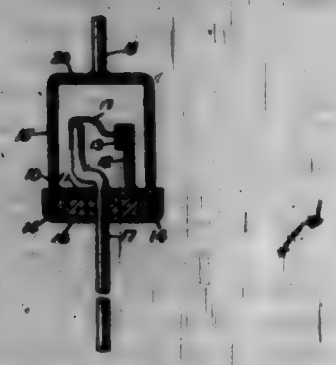
1. A voice-operated relay circuit of the type which includes an input, an amplifying means connected to said input, a detecting means connected to the output of said amplifier, a transistor which includes a base, emitter, and collector, a first capacitive means, said detector and said first capacitive means connected to said transistor base, said emitter resistively connected to ground, a relay containing a pair of normally open contacts and an energizing coil, a source of voltage, said energizing coil connected between said collector and said source of voltage, said circuit additionally containing a second capacitive means, a second set of contacts for said relay including one set of contacts normally closed and one set of contacts normally open, said contacts containing a common armature, said second capacitive means connected between ground and to said source of voltage through said normally closed contacts and to said first capacitive means through said normally open contacts, whereby said second capacitive means is parallelly connected to said first capacitive means upon operation of said relay means thereby raising the voltage of said first capacitive means substantially above said transistor threshold voltage and additionally improving the attack and decay time of said relay circuit.

2,969,487

SEALED CRYSTAL DIODE PACKAGES

Francis J. Bourassa, Needham, Mass., assignor to Raytheon Company, a corporation of Delaware

Filed Aug. 26, 1957, Ser. No. 680,327
1 Claim. (Cl. 317—234)



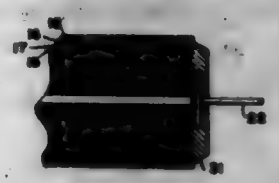
A sealed semiconductor device comprising a disk-like conductive cap member having an annular peripheral groove and a struck-up central portion, a semiconductor body mounted on said cap member with one face thereof in contact with said struck-up portion, a conductive lead member having one end thereof conductively connected to the face of said semiconductor body opposite to said one face, said lead member being insulatedly mounted on and passing through said cap member, a second conductive lead member, and a cylindrical conductive housing having a closed end conductively connected to said second lead member and an open end positioned in said annular peripheral groove, whereby said housing may be removably secured to said cap member by a metal solder contained within said groove in said cap member.

2,969,488

EXTENDED FOIL CAPACITOR

Cyril J. Foster and Benjamin S. Naves, Chicago, Ill., assignors, by direct and mesne assignments, to Dearborn Electronic Laboratories of Delaware, Inc., Orlando, Fla., a corporation of Delaware

Filed July 17, 1958, Ser. No. 749,236
3 Claims. (Cl. 317—260)



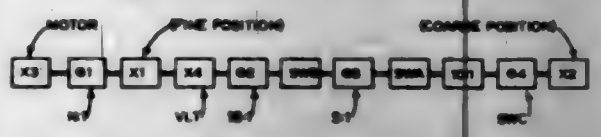
3. In an extended foil capacitor having a pair of offset electrodes wound into layers and providing outwardly extending convoluted edges projecting a uniform distance at the respective ends of the capacitor, a pair of terminal electrodes having substantially flat heads seated upon and embedded in the central convolutions at each end, the peripheral convolutions being compacted inwardly to intimately surround the heads of the respective terminal electrodes thereby to integrate such heads into respective unitary coin-shaped masses of foil which are substantially impervious to moisture penetration.

2,969,489

AUTOMATIC CONTROL SERVO SYSTEM, ESPECIALLY FOR MACHINE TOOLS

Rolf Edmund Spencer, London, and James Hugh Phillips, Cookham, England, assignors to Electric & Musical Industries Limited, Hayes, Middlesex, England, a company of Great Britain

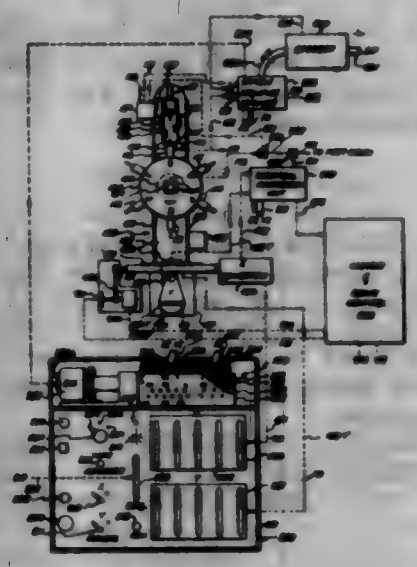
Filed Nov. 2, 1956, Ser. No. 620,144
Claims priority, application Great Britain Nov. 4, 1955
8 Claims. (Cl. 318—28)



1. An automatic control system comprising a servo motor and an element displaceable by said servo motor, a potential divider having a series of taps, a series of output contacts, means for producing relative displacement between said potential divider and said contacts to connect each contact in succession to different taps, a selector, means for producing relative displacement between said selector and said contacts to derive a first potential from a selected one of said contacts, a differencing circuit, means for applying said first potential to said differencing circuit, means for deriving a second potential intermediate the potentials of the terminals of said potential divider and for applying said second potential to said differencing circuit, said servo motor being responsive to the output of said differencing circuit to displace said element, and one of said means for produc-

ing relative displacement being responsive to displacement of said element, whereby said servo motor tends to displace said element in response to said other means for producing relative displacement.

2,969,490
AUTOMATION WITH DIGITAL POSITION-COMMAND COMPARISON
Jack S. Anderson, Pasadena, and Sheldon G. Knoch, Sherman Oaks, Calif., assignors to Electrosystems Incorporated, Burbank, Calif., a corporation of California
Filed June 18, 1958, Ser. No. 744,830
24 Claims. (Cl. 318—162)



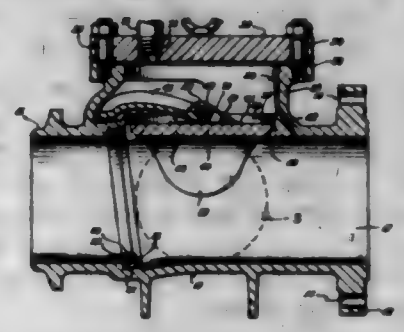
20. A position-indicating system for producing a numerical signal corresponding to a shaft position, which system includes: a series of circular segment systems, one system for each digit of said numerical signal, and each of said segment systems including a separate electrically conductive segment for each value of the digit of said system; a leading brush and a leading brush slip ring means associated with at least the more significant digit circular segment systems, said leading brush being adapted to sweep around said circular segment system and to make electrical contact between successive segments in said system and said leading brush slip ring means; a lagging brush and a lagging brush slip ring means associated with each of said segment systems having a leading brush, said lagging brush being adapted to sweep around said circular segment system at least one segment behind said leading brush, and to make electrical contact between successive segments in said system and said lagging brush slip ring means; position means for rotating the leading and lagging brushes for the segment system corresponding to an input digit of said numerical signal; a series of rotating means for each of the other digits of said numerical signal, each of said rotating means being related to the rotations of said input digit rotating means to change the number of rotations in proportion to the relationship of the digits, and each of said rotating means rotating one of said leading and lagging brush systems associated with one of said segment systems; a signaling circuit associated with each of said segment systems, said circuit including a connection to each of said segments in said system, an output connection, and means in said circuit adapted to produce an output signal at said output connection determined by the particular segment contacted in the associated segment system; brush switching means associated with each of said sets of leading and lagging brushes and adapted to selectively energize either of said brushes; and means for operating said brush switching means for a particular segment system when certain segments in the segment system of the next less significant digit are energized.

2,969,491
SELF-EXCITED SYNCHRONOUS MOTOR
Erik M. Pell, Scotia, N.Y., assignor to General Electric Company, a corporation of New York
Filed Dec. 16, 1959, Ser. No. 859,969
10 Claims. (Cl. 318—181)



1. A self-excited synchronous motor comprising in combination: a stator having a magnetic core and a stator winding adapted to produce magnetic flux therein; means to impart current flow to said winding to produce a first magnetic flux component rotating at one predetermined angular velocity in relation to the core and a second flux component not rotating at that predetermined angular velocity in relation to the core or any harmonic thereof; a rotor having a magnetic core adapted to receive the magnetic flux of the stator; a rotor winding on the rotor linking the magnetic flux in the core thereof; and means including a rectifier defining a unidirectional current path through said rotor winding, whereby with the rotor rotating in substantial unison with the first magnetic flux component the second magnetic flux component induces an alternating voltage in said rotor winding, a unidirectional current flow in said rotor winding, and magnetic flux rotating in unison with the rotor and linking the stator winding, whereby the rotor is driven in synchronous motor action at the angular velocity of said first magnetic flux component.

2,969,492
FULL PASSAGE CLAPPER VALVE
Thomas Wheatley, Houston, Tex., assignor, by mesne assignments, to Mission Manufacturing Company, Houston, Tex., a corporation of Texas
Filed Jan. 30, 1959, Ser. No. 790,225
3 Claims. (Cl. 137—527.4)

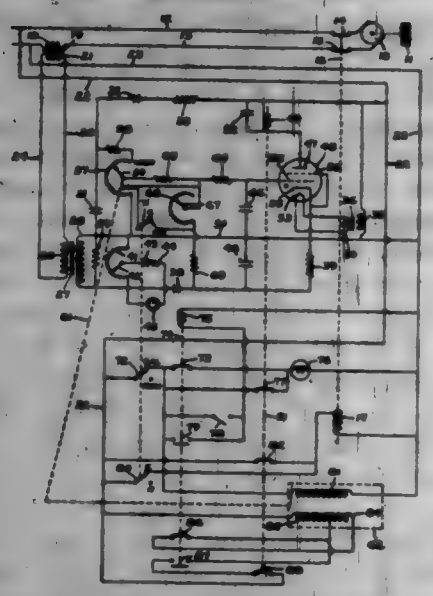


1. A valve comprising, a valve housing having a passageway therethrough, a valve seat in the housing surrounding the passageway, said seat having a sealing surface facing endwise of said passageway, a cavity in the wall of the housing adjacent said seat, and a clapper valve member having an annular sealing surface thereon, means for mounting said valve member in the housing for movement between a closed position in which said valve member sealing surface engages said seat sealing surface and an open position in which the valve member moves in part into said cavity, said clapper valve member including a pair of ears formed on one side of the valve member inside of said valve member sealing surface and having confronting surfaces which are contoured to form an arcuate surface on the valve member whose axis extends parallel with the axis of the passageway with the valve member in fully open position, said arcuate surface forming in effect a part of the wall of the passageway when the valve member is in open position, said ears extending through the valve seat sealing surface when the valve member is seated.

ERRATUM

For Class 137—527.4 see:
Patent No. 2,969,492

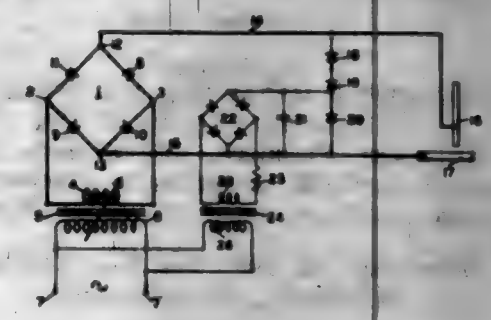
2,969,493
CONTROL APPARATUS
Francis P. Dunigan, Holden, Mass., assignor to Machinery Electrification, Inc., Northborough, Mass., a corporation of Massachusetts
Filed Feb. 25, 1957, Ser. No. 642,188
5 Claims. (Cl. 318—434)



1. Apparatus for use with a machine tool which operates in cycles driven by a main motor, comprising a relay for terminating the energization of the main motor, a current transformer producing a voltage signal proportional at any time to the load on the main motor, a potentiometer for determining a preselected voltage, a calibrating motor connected to the potentiometer for adjusting the value of the preselected voltage, a gas-filled tetrode to which the transformer and the potentiometer are connected, the coil of the relay residing in the plate circuit of the tetrode, the tetrode becoming conductive and energizing the relay when voltage from the transformer exceeds the voltage from the potentiometer by a predetermined amount, means for setting the potentiometer during a cycle of the machine, the said means setting the potentiometer in such a manner that the tetrode will fire during one of the later successive cycles when the transformer voltage reaches the greatest value reached during the said cycle, and means operative during the said cycle to prevent the relay from terminating the energization of the motor.

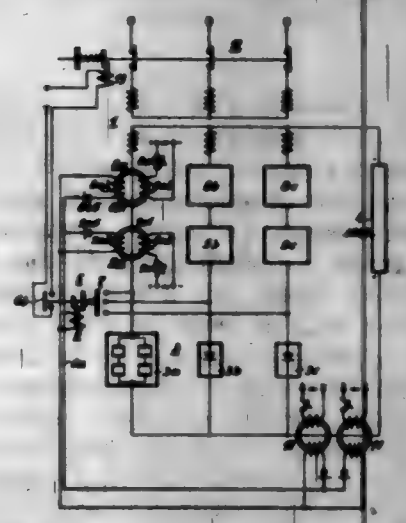
2,969,494
PROTECTIVE CIRCUIT FOR GERMANIUM AND SILICON RECTIFIER CELLS
Andrew J. Davis, Hinsdale, Mass., assignor to General Electric Company, a corporation of New York
Filed Nov. 29, 1957, Ser. No. 699,835
6 Claims. (Cl. 321—11)

4. Arc welding apparatus comprising an adjustable reactance alternating current transformer having a primary winding and a secondary winding, a rectifier bridge having input terminals connected to said secondary winding of said transformer and welding circuit conductors respectively connected to the direct current output terminals thereof, said rectifier bridge having in each arm thereof a P–N junction rectifier cell of the type employing a single crystal selected from the group consisting of germanium and silicon, a capacitor, means for charging said capacitor to a voltage less than the voltage of a welding arc supplied through said welding circuit conductors, means including series-connected selenium rectifier cells for conductively connecting the respective positive and negative terminals of said capacitor to said welding circuit conductors of corresponding polarity, said selenium rectifier cells having a combined rating and being poled to prevent charging of said capacitor from



said welding circuit conductors when subjected to the open-circuit voltage thereof, and a selenium rectifier cell connected across said capacitor and poled to prevent discharge of said capacitor.

2,969,495
CURRENT TRANSLATING SYSTEM WITH SEMICONDUCTING P–N JUNCTION RECTIFIERS
Willi Mosch and Gert Thiele, Berlin, Ernst Paul, Berlin-Charlottenburg, and Rudolf Zabel, Berlin-Gatow, Germany, assignors to Siemens-Schuckertwerke Aktiengesellschaft, Berlin-Siemensstadt, Germany, a corporation of Germany
Filed Jan. 23, 1958, Ser. No. 710,685
Claims priority, application Germany Jan. 25, 1957
15 Claims. (Cl. 321—14)

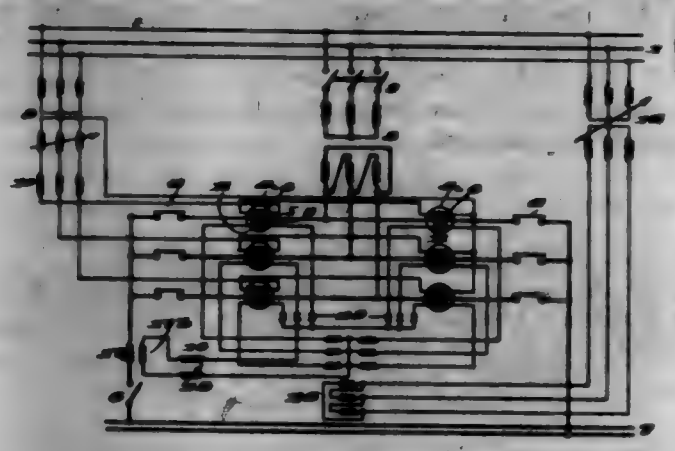


1. An electric current translating system, comprising a load circuit, semiconducting p–n junction rectifier means series-connected in said circuit and forming the active translating components of the system, a normally inactive current-reducing device connected with said semiconducting means for reducing, when active, the current flowing through said semiconducting means to a permissible value, and sensing means responsive to any electric load conditions in said semiconducting means due to cause overheating of said semiconducting means, said sensing means being connected to said device for actuating it in response to said conditions.

2,969,496
CONTACTOR TYPE RECTIFIER
Armand Brandt, Wettingen, Switzerland, assignor to Aktiengesellschaft Brown, Boveri & Cie, Baden, Switzerland, a joint-stock company
Filed Dec. 2, 1957, Ser. No. 700,149
Claims priority, application Switzerland Dec. 4, 1956
8 Claims. (Cl. 321—48)

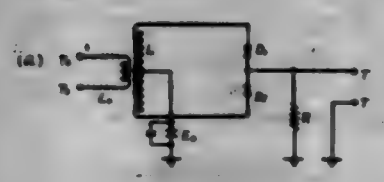
1. In an electrical converter of the contactor type the combination comprising an alternating voltage supply mains, a converter circuit connected to said supply mains, said converter circuit comprising contactor means adapted for synchronous operation with said alternating voltage

supply mains, and a saturable switching impedance device having a main winding series connected with said contactor means between the latter and said alternating voltage supply mains for producing a current step down near the current zero value of said alternating voltage supply mains and an auxiliary winding for producing a



magnetic biasing effect on said switching impedance device, said auxiliary winding being connected in an exciter circuit including a dummy load resistance and rectifier means effecting a current flow in said auxiliary winding to magnetize said impedance device in the same direction as is effected by the flow of the load current through said main winding.

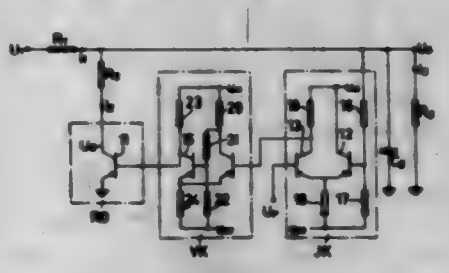
2,969,497
PARAMETRICALLY EXCITED RESONATOR
Zen-ichi Kiyasu, Kazuo Hashimi, and Kaoru Yamanaka, Tokyo, Japan, assignors to Nippon Telegraph and Telephone Public Corporation, Tokyo, Japan
Filed Jan. 15, 1957, Ser. No. 637,658
Claims priority, application Japan Jan. 16, 1956
13 Claims. (Cl. 321—69)



1. A resonator comprising input means for the introduction of an excitation signal, output means for the transmission of an output signal, a resonant circuit having a resonant frequency coupled between said input and output means, said resonant circuit including an inductance and a semi-conductor device, bias means providing a bias voltage having an amplitude greater than that of the excitation signal, said bias means being coupled to said resonant circuit for biasing the semi-conductor device to cause the same to operate as a non-linear capacitor, and a signal source coupled to said input means and generating a signal having a frequency which is about twice the reasonant frequency of the resonant circuit.

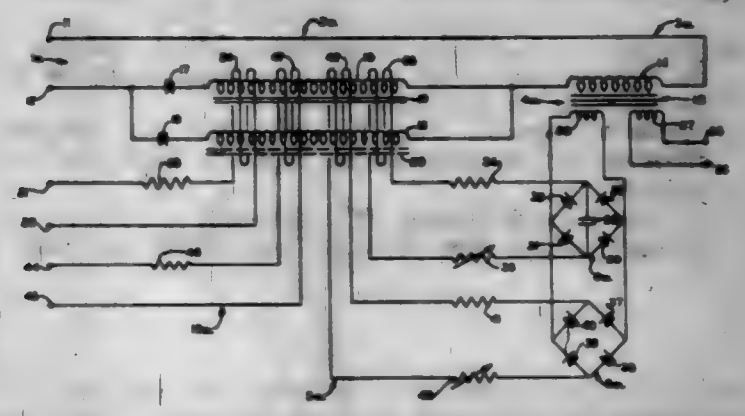
2,969,498
ELECTRIC CONTROL DEVICE FOR THE CONTROL OF ELECTRIC VOLTAGE OR CURRENT
Sven Gunnar Valter Stenudd, Stavsta, Sweden, assignor to Atvidabergs Industrier, Atvidaberg, Sweden, a Swedish joint-stock company
Filed Sept. 23, 1957, Ser. No. 685,525
Claims priority, application Sweden Sept. 25, 1956
5 Claims. (Cl. 323—22)

1. In an electrical control apparatus for generating from at least one unregulated input signal a controlled output signal following a reference signal, comprising at least one input terminal to which the input signal is applied, an output terminal from which the output signal is supplied, a load connected to said output terminal, a storage capacitance connected to said output terminal, at least one impedance connected between said input and output terminals, at least one control member for switching on and off a charging signal to said storage capacitance, a comparing device for comparing the signal at the output terminal with said reference signal to produce a difference signal, a bistable state device having



the input connected to said comparing device and the output connected to said control member, said bistable state device being triggered to one stable state by difference signals higher than a predetermined value and to another stable state by difference signals lower than another predetermined value, the output signal of said bistable state device causing the control member to be made conducting when the bistable state device has one state and to be made non-conducting when the bistable state device has the other state in order to maintain the output signal on the reference level.

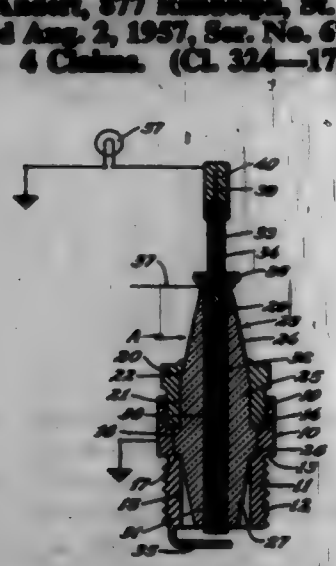
2,969,499
VOLTAGE REGULATOR
Richard L. Phillips, 1511 San Ysidro Drive, Beverly Hills, Calif.
Filed Aug. 3, 1959, Ser. No. 831,240
3 Claims. (Cl. 323—67)



3. A control device including power input terminals, a magnetic amplifier having at least two saturable cores, at least two power windings, each being wound upon a separate core, and at least two control windings, both being wound upon both cores; a power transformer including a primary winding and at least one secondary winding; two diodes; a circuit connecting said power input terminals, said primary of said transformer and said power windings and diodes in a doubler circuit arrangement; a first full wave rectifier having input terminals and output terminals, a first circuit connecting the said secondary of said transformer to said input of said full wave rectifier; a second circuit connecting the output of said rectifier to one of the control windings of said magnetic amplifier; a second full wave rectifier having input terminals and output terminals, a third circuit connecting the said secondary of said transformer to the input of said full wave rectifier; a fourth circuit connecting the output of said second full wave rectifier to an-

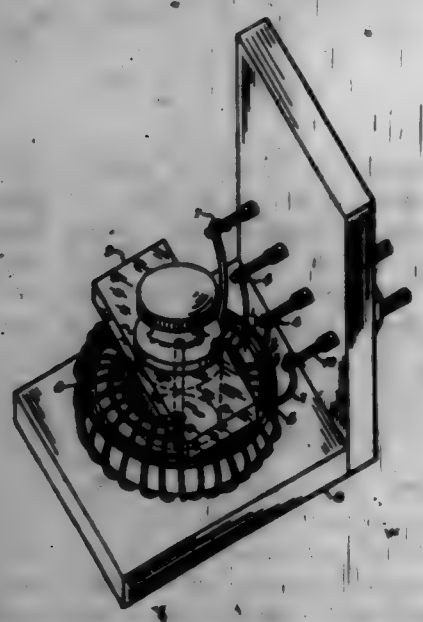
other of the control windings of said magnetic amplifier, and a condenser connected across the output terminals of said second full wave rectifier.

2,969,500
SPARK PLUG AND IGNITION INDICATOR SYSTEM THEREFOR
Frank S. Andert, 877 Randolph, St. Paul, Minn.
Filed Aug. 2, 1957, Ser. No. 675,844
4 Claims. (Cl. 324—17)



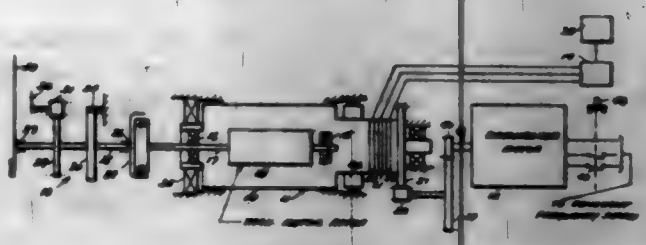
1. A spark plug including an outer metallic shell, an insulator body supported within said shell, a tubular electrode extending through said insulator body, a second insulator body within said tubular electrode, a second electrode extending through said second insulator within said tubular electrode, and a third electrode on said outer metallic shell extending transversely to the longitudinal axes of the tubular and second electrodes into closely spaced relation with one end of said tubular electrode and the adjacent end of said second electrode.

2,969,501
METHOD AND MEANS FOR TESTING MAGNETIC PROPERTIES OF TOROID CORES
Raymond A. MacMillan, Greenwood, Mass., assignor to the United States of America as represented by the Secretary of the Air Force
Original application Aug. 2, 1956, Ser. No. 601,851. Divided and this application Sept. 12, 1957, Ser. No. 683,671
5 Claims. (Cl. 324—34)
(Granted under Title 35, U.S. Code, (1952), sec. 266)



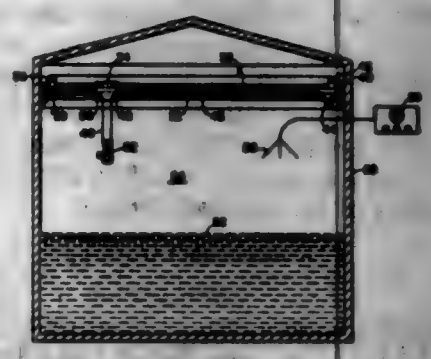
4. An electrical system comprising, in combination, a series of rigid, one-piece rings of insulating material of graduated sizes, said rings being disposed in concentric relationship and including inner and outer rings as well as a pair of medial rings, a magnetizable core disposed concentrically between said pair of medial rings, a first pre-stressed conductor wound helically about the sub-assembly consisting of said core and medial rings, a second pre-stressed conductor wound helically about the larger assembly consisting of said inner and outer rings and the conductor-enclosed sub-assembly disposed between said inner and outer rings, and means for supplying electric current to one of said conductors, to facilitate use of the other conductor for indicating the degree of magnetization of said core.

2,969,502
DIFFERENTIAL TACHOMETER
John H. Andresen, Jr., Greenwood Lake, N.Y., assignor to Kollsman Instrument Corporation, Elmhurst, N.Y., a corporation of New York
Filed Oct. 16, 1957, Ser. No. 690,560
6 Claims. (Cl. 324—70)



1. A tachometer system for measuring and indicating the speed of rotation of a rotating member; said tachometer system including an indicator means operable to indicate a speed range from zero to 100 percent of the rated speed of said rotating member, a standard frequency rotating means, and a differential connecting means; said differential connecting means having a first and second input means operatively connected to said rotating member and said standard frequency rotating means respectively and an output means operatively connected to said indicator means; said standard frequency rotating means driving said output means to cause said indicator means to indicate 100 percent of rated speed when said rotating member does not rotate and control means for rendering said standard frequency rotating means ineffective when said rotating member rotates in a low range of rated speed.

2,969,503
MEASUREMENT OF POTENTIAL GRADIENTS
William M. Bustin, Summit, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware
Filed Dec. 6, 1957, Ser. No. 701,208
13 Claims. (Cl. 324—72)



1. An apparatus for determining the magnitude and line of action of the potential gradient at any point in an electrostatic field which comprises a probe having directional sensitivity for potential gradients and capable of transmitting a radiofrequency wireless signal whose frequency is a function of the magnitude of the vector component of potential gradient sensed by said probe, said

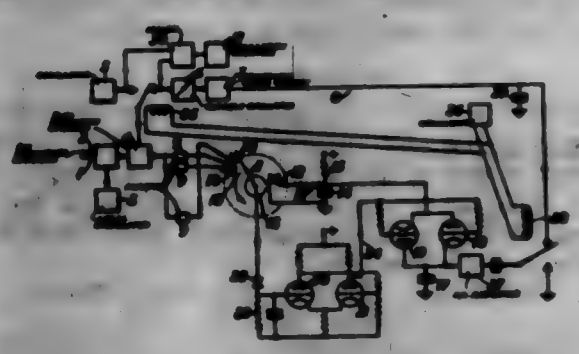
probe comprising a cylindrical stainless steel casing symmetrically slotted for part of its length with two opposite through cuts, closure plugs in each end of said cylinder, adjustable jewel bearings in the centers of said plugs, a rotating assembly carried in said bearings comprising in sequence at least one plate adapted to form a rotor plate of a variable capacitor, a copper damping disk, a balance wheel, and a flat metal vane aligned with said cuts in said casing all mounted on appropriate shaft elements, a clock spring attached at its inner end to said rotating assembly to oppose angular motion thereof with respect to said casing, a mounting for the outer end of said spring set rotatably in the closure plug of said casing nearer said vane to establish a reference angular position for said rotating assembly, releasable means for locking said mounting in any angular position with respect to said casing, thin metal transverse covers for said casing closely fitted around shaft elements of said rotating assembly at either end of said vane, curved metal shields attached to the outside of said casing in way of said cuts to regulate the apertures through which said vane is externally exposed, a permanent magnet mounted inside said casing in line with said copper disk, at least one insulated plate adapted to form a stator plate of a variable capacitor mounted within said casing in such spaced relation to said plate of said rotating assembly to form a variable capacitor, a ferrite rod external to said casing and held in spaced relation thereto by support means extending therefrom, circuit elements in addition to said variable capacitor and including primary and secondary coils all connected to form a battery powered radiofrequency transmitter-oscillator, said elements except for said primary and secondary coils being in an assembly mounted on the end of said casing nearer said variable capacitor and said primary and secondary coils being wound on said ferrite rod, said primary coil constituting a radiating antenna for said transmitter-oscillator, and a metal cap fitted over the end of said casing nearer said variable capacitor, and enclosing said circuit element assembly mounted on said casing end; and a radio receiver capable of detecting wireless signals in the range of frequencies transmitted by said probe and having its pickup antenna in unshielded relation to the radiating antenna of said probe.

2,969,504

FREQUENCY RESPONSIVE CIRCUIT ARRANGEMENTS

William Oliver Agar, Danbury, England, assignor to Marconi's Wireless Telegraph Company Limited, London, England, a company of Great Britain

Filed Feb. 1, 1956, Ser. No. 562,689
Claims priority, application Great Britain Apr. 6, 1955
5 Claims. (Cl. 324—79)



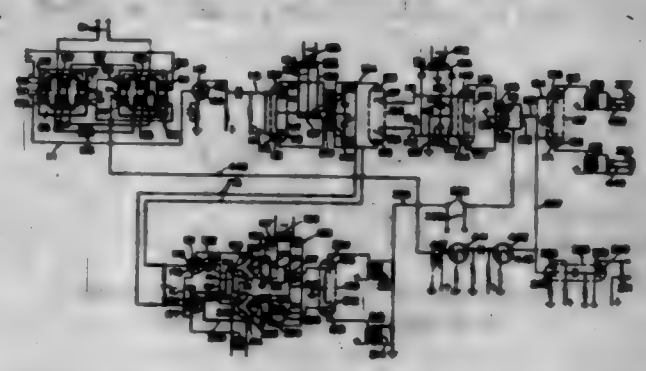
1. A circuit arrangement adapted to be responsive to input signals of any frequency within a pre-determined band of frequencies comprising a frequency changer; means for applying input signals to said frequency changer; a plurality of filters each adapted to be sharply responsive to a different frequency within a second band of frequencies of substantially the same width as said first band; connecting means for applying the output of said frequency changer to said filters; a first oscillation source adapted to produce a frequency approximately equal to the difference of the mean frequencies of the two bands; a second oscillation source adapted to produce a frequency approximately equal to the sum of said mean frequencies at least one of said sources being variable in frequency; sampling means adapted to sample cyclically and successively the outputs from the individual filters in said plurality of filters; a source of cyclically varying potential adapted to vary cyclically in synchronism with the cycle of sampling; means adapted to respond to increase in the output of any of said filters when said increase is above the average of the outputs from all said filters; a condenser connected to said potential source through said last mentioned means whereby said condenser is charged to a voltage characteristic of the filter providing said higher output; connecting means for alternately connecting the two oscillation sources to provide the second input to said frequency changer; means synchronously actuated with said last mentioned means and adapted to vary the frequency of the variable frequency oscillation source in dependence upon the charge in said condenser and to make the frequency of the output from said frequency changer the same when said variable frequency oscillation source is connected thereto as when the other oscillation source is connected thereto; and means responsive to a combination of the frequencies of the two oscillation sources.

2,969,505

AUTOMATIC CONTROL OF MOBILE CRAFT

Paul A. Noxon, Tenafly, and Alan M. MacCallum, Maywood, N.J., and Alfred Bennett, New York, N.Y., assignors to The Bendix Corporation, a corporation of Delaware

Original application Oct. 25, 1946, Ser. No. 705,524, now Patent No. 2,592,173, dated Apr. 8, 1952. Divided and this application Dec. 23, 1950, Ser. No. 202,552
13 Claims. (Cl. 328—127)



1. An electrical computer unit comprising means responsive to a direct current for developing an alternating current signal whose phase and amplitude are dependent upon the polarity and magnitude of said direct current, means connected with said last-named means for developing a constant magnitude potential from said alternating current signal, and integrating means responsive to said constant magnitude potential for developing an alternating current potential whose amplitude varies as a function of the time of persistence of said direct current.

2,969,506

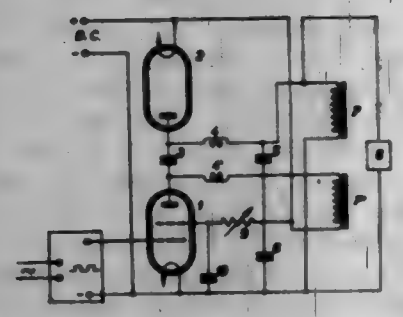
LOW FREQUENCY AMPLIFIER EXCITED BY WIDTH MODULATED IMPULSES

Jiří Vacháč, Prague, Czechoslovakia, assignor to Tesla, narodni podnik, Prague, Czechoslovakia

Filed May 22, 1958, Ser. No. 737,108
Claims priority, application Czechoslovakia May 25, 1957
15 Claims. (Cl. 330—207)

1. A low frequency amplifier stage excited by width modulated impulses, comprising a D.C. voltage source

having positive and negative terminals; an amplifier tube having an anode, control grid and cathode; input terminals connected with said control grid and cathode, respectively; a diode having an anode and a cathode; the cathodes of said amplifier tube and diode being respectively connected to said terminals of the D.C. voltage source; a capacitor with two terminals; two impulse chokes each having two terminals; two LF chokes each having two terminals; an output load having two terminals; means connecting one of said terminals of the capacitor with said anode of the diode and with one of said terminals of one of said impulse chokes; means connecting the other of said terminals of the capacitor



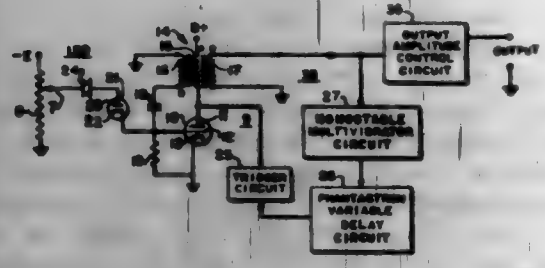
with said anode of the amplifier tube and with one of said terminals of the other of said impulse chokes; means connecting the other of said terminals of said one impulse choke with one of said terminals of one of said LF chokes and with one of said terminals of the output load; means connecting the other of said terminals of said other impulse choke with one of said terminals of the other of said LF chokes; means connecting the other terminals of said LF chokes respectively with said terminals of the D.C. voltage source; and means connecting the other of said terminals of the output load with one of said terminals of the D.C. voltage source and with the other of said terminals of said one LF choke.

2,969,507

BLOCKING OSCILLATOR DOUBLE PULSE GENERATOR CIRCUIT

John A. Haase, Evanston, Ill., assignor, by mesne assignments, to the United States of America as represented by the United States Atomic Energy Commission

Filed Mar. 17, 1959, Ser. No. 800,066
9 Claims. (Cl. 331—143)



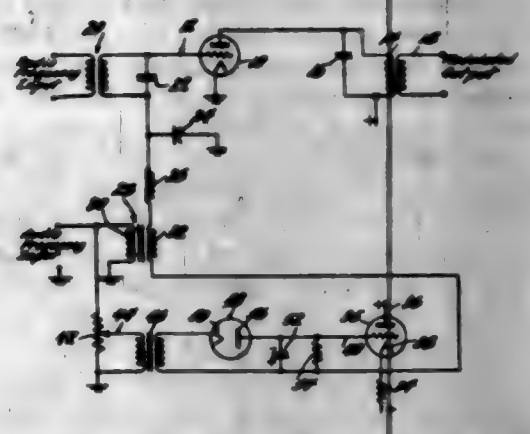
1. In a pulse generator circuit which includes a tube having a grid and a plate, a series resistor and capacitor timing network coupled to said grid, a plural-winding transformer having one winding coupled to said plate and a feed-back winding coupled to said network, the improvement comprising means for enabling the pulse generator circuit to shorten the discharge time of said network, said means including a diode coupled to said grid, a source of negative potential, and a non-linear resistance means coupled between said diode and said source of potential.

2,969,508

GRID MODULATION SYSTEM FOR SIMULTANEOUS AM AND FM TRANSMISSIONS

Mark I. Jacob, Catonsville, Md., and William R. Wilson, St. Louis Park, Minn., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed June 28, 1957, Ser. No. 668,826
1 Claim. (Cl. 332—38)



In a system for grid modulating a class C amplifier for simultaneous AM and FM transmissions including an RF output amplifier having at least one control grid, a radio frequency generator connected to said grid for applying a carrier signal thereto, an audio frequency generator connected to said radio frequency generator having a modulating signal output for modulating said carrier signal, the combination with said system of a low impedance grid biasing source for biasing said control grid for maximum output of said amplifier despite variations in the modulating signal comprising a biasing resistor having two terminals with a first terminal connected to said audio frequency generator and a second terminal adapted to be connected to a source of negative voltage, a low impedance output cathode follower tube for applying a control voltage to said biasing resistor having a cathode connected to said first terminal of said biasing resistor, a plate adapted to be connected to a suitable voltage supply, and a control electrode, a capacitor connected between said control electrode and cathode, a discharge resistor connected across said capacitor where the RC time constant of said resistor and capacitor is large compared to the time of one cycle of the lowest audio frequency to be used, a rectifier connected to said capacitor, and transformer means connected between said rectifier and said audio frequency generator for applying the output of said generator to said rectifier to apply said control voltage to said biasing resistor whereby the bias on said amplifier will be increased in the negative direction by an amount equal to said audio signal and the output of the amplifier will be decreased when there is an output from the audio frequency generator.

2,969,589

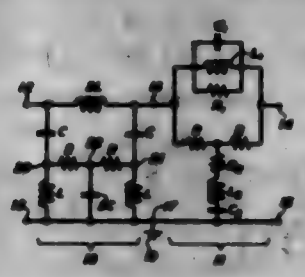
MINIMUM-PHASE WAVE TRANSMISSION NETWORK WITH MAXIMALLY FLAT DELAY

John T. Bongert, Chatham, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Nov. 19, 1958, Ser. No. 774,866
1 Claim. (Cl. 333—28)

A frequency-discriminatory wave transmission network of the minimum-phase type with a constant-resistance image impedance at each end and a maximally-flat delay comprising the tandem-connected combination of a wave filter and a shaping network each of the minimum-phase type and each having at each end an image impedance which is a substantially constant resistance at all frequencies, the filter having a delay characteristic which departs from maximum flatness and the shaping network having a delay characteristic which sub-

tantially compensates for this departure throughout the transmission band of the filter, whereby the composite



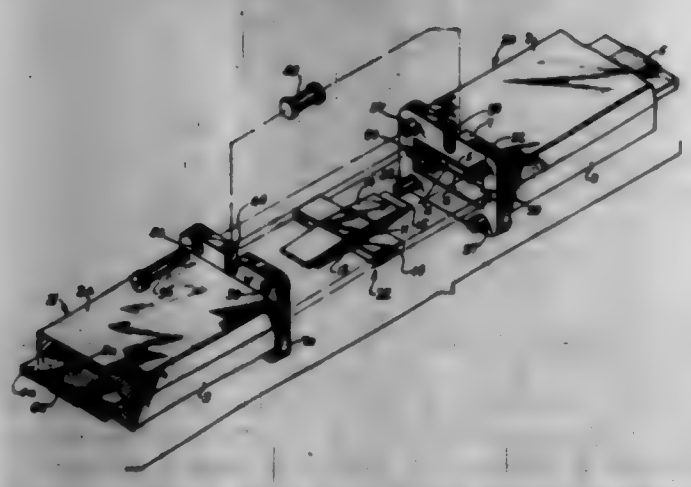
Network has both the proper insertion loss and the proper phase shift to eliminate substantially all overshoot and ripple in its unit-step response.

2,969,510

ULTRA HIGH FREQUENCY CONNECTOR

Donald R. J. White, Arlington, Va., assignor to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey

Filed Feb. 27, 1957, Ser. No. 642,799
7 Claims. (Cl. 333—33)



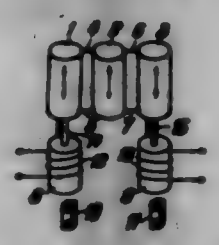
1. A printed strip type transmission line comprising a plurality of coaxal sections, each of said sections including a tubular conductor and an inner conductive strip insulatingly supported coaxially within said tubular conductor, and means joining an end of a first one of said coaxial sections to an end of a second one of said coaxial sections so as to obtain an electrical impedance match between said joining means and joined sections, said means comprising a support and a pair of resilient conductive members mounted on opposite sides of said support, said support positioned between said ends of said first and second coaxial sections with said inner conductive strips of said first and second coaxial sections being fractionally held between said pair of resilient members.

2,969,511

MECHANICAL HIGH FREQUENCY FILTERS

Manfred Börner, Ulm (Danube), Germany, assignor to Telefunken G.m.b.H., Berlin, Germany

Filed Mar. 13, 1958, Ser. No. 721,277
Claims priority, application Germany Mar. 20, 1957
7 Claims. (Cl. 333—71)



1. A mechanical filter comprising at least two elongated resonators each tuned to vibrate in a longitudinal mode at a common selected frequency, said resonators being disposed side-by-side in spaced mutually parallel orientation with vibrational antinodes substantially in transverse alignment; non-resonant couplers for coupling adjacent resonators with one another, said couplers comprising spring-like filar elements disposed transversely across said resonators and fixed thereto in the vicinity of aligned antinodes, whereby the couplers transmit vibrations between the resonators by flexural oscillation; and motion transducer means coupled with at least one of said resonators, and each transducer means having its direction of motion disposed longitudinally of the resonator to which it is coupled.

2,969,512

PIEZOELECTRIC CERAMIC RESONATORS

Hans Jaffe, Cleveland Heights, and Don A. Berlincourt, Chagrin Falls, Ohio, assignors to Clevite Corporation, Cleveland, Ohio, a corporation of Ohio

Filed Feb. 17, 1960, Ser. No. 9,352
11 Claims. (Cl. 333—72)



1. A piezoelectric resonator element comprising: a thin flat plate of polarizable ferroelectric ceramic material, said plate having substantially identical and parallel major planar surfaces having at least three-fold symmetry about an axis perpendicular thereto, the thickness dimension of said plate being sufficiently small relative to the planar dimensions thereof that, with the plate polarized perpendicular to said major surfaces, piezoelectric response of the plate to electric potential gradients between said major surfaces is predominently in the lateral modes and negligible in the thickness modes at frequencies near the fundamental resonance and its overtones, the plane configuration of said plate being such that all lateral modes coalesce to produce a single contour extensional mode, the planar dimensions of the plate being adapted to impart thereto a resonance of vibrations in said contour extensional mode at a particular selected frequency, and operating electrode means conductively associated with both major planar surfaces of said plate, including a first electrode on one of said major surfaces, a second electrode on said one major surface disposed about said first electrode and laterally spaced therefrom, and at least one additional electrode on the other of said major planar surfaces shaped, located and dimensioned to serve as a counter-electrode to those on said one major surface, said plate being polarized only in directions perpendicular to said major surfaces, the lateral extent of the polarization including at least the entire thickness regions of said plate underlying said first and second electrodes.

2,969,513

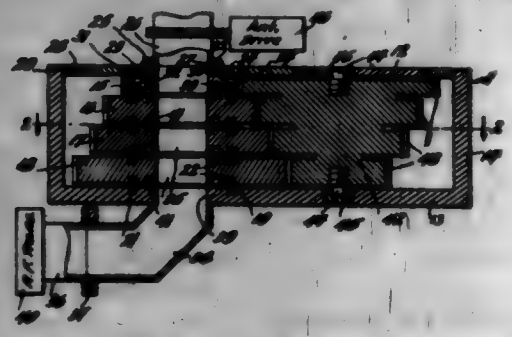
ROTARY WAVE GUIDE JOINTS

Chester I. Brunnalt, Fan Gallo Beach, Fla., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Filed Jan. 9, 1958, Ser. No. 707,918
10 Claims. (Cl. 333—98)

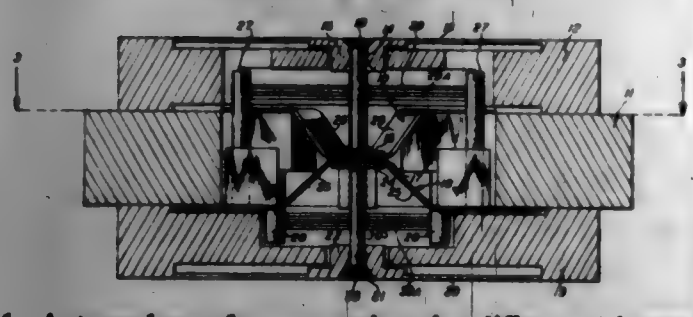
5. A wave guide rotary joint for coupling two sections of a wave guide, which comprises independently rotatable members supported in axially aligned stacked relationship and provided with apertures communicating with one another and the sections of the wave guide to be coupled, each of said members having an annular recess in the opposite faces thereof, means situated within adja-

cent recesses to uniformly and axially space apart the rotatable members, and means engaged with the rotat-



able members for revolving simultaneously said members about their common axis.

2,969,514
DIFFERENTIAL TRANSDUCER
Gerald R. Curtis, Duarte, Calif., assignor, by mesne assignments, to Consolidated Electrodynamics Corporation, Pasadena, Calif., a corporation of California
Filed July 1, 1957, Ser. No. 669,066
2 Claims. (Cl. 338—4)



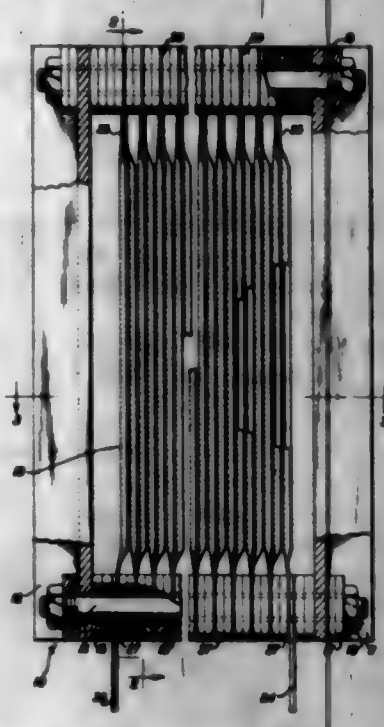
1. A transducer for measuring the difference between two pressures comprising a substantially rigid housing, two pressure summing means mounted in the housing in spaced-apart relationship to define with the housing an enclosure, means for applying separate pressures against each of the pressure summing means exteriorly of the enclosure so that said pressures act to urge the pressure summing means toward each other, substantially rigid force transmitting means within the enclosure interconnecting the pressure summing means whereby a differential between said separate pressures produces a displacement of the force transmitting means in the direction of the lower of the two pressures without substantial deformation of the force transmitting means, and a force sensing device disposed within the enclosure and operatively connected to the force transmitting means to be actuated responsive to its displacements, thereby providing measurement of the differential between the separate pressures.

2,969,515
DOMESTIC APPLIANCE
Richard S. Gaugler, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed June 19, 1959, Ser. No. 821,604
1 Claim. (Cl. 338—25)



A temperature sensing device comprising a pan shaped metallic element having an integrally formed terminal portion thereon, a metallic band surrounding the outer periphery of said pan in spaced relationship to said pan, said metallic band having an integrally formed terminal portion thereon, and porcelain material disposed between said metallic band and the outer periphery of said pan.

2,969,516
RESISTOR STRUCTURE
Robert E. Du Bois, 7541 Woodmar Ave., Hammond, Ind.
Filed Oct. 27, 1959, Ser. No. 848,960
4 Claims. (Cl. 338—284)



1. A resistor structure comprising spaced frame members, plural spaced means interconnecting said frame members to complete a rigid frame, a zig-zag resistor grid formed from a single piece of resistor material, said grid including a plurality of connected, spaced adjacent grid sections of similar length with each section being offset oppositely from adjacent sections to either side of a central plane through the longitudinal axis of the grid, each said grid section including a pair of legs integrally joined together by a folding bridging section along one side of the grid with the direction of fold of said bridging sections alternating from one grid section to the next, means connecting said folding bridging sections to one of said frame interconnecting means, said grid further including a plurality of planar bridging sections along the other side of the grid with one leg from each of a pair of adjacent grid sections terminating in one of said planar bridging sections, and means to connect the planar bridging sections to a second of said spaced frame member interconnecting means.

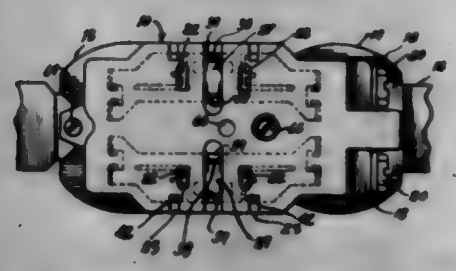
2,969,517
PIN GRIP FOR PRINTED CIRCUIT BOARD
William Gluck, Yonkers, N.Y., assignor to Industrial Electronic Hardware Corp., a corporation of New York
Filed June 13, 1958, Ser. No. 741,843
10 Claims. (Cl. 339—17)



1. A pin grip comprising a metal envelope and a contact spring therein, said envelope comprising a gen-

erally cylindrical barrel, a closed bottom, a flange at the top, and a constricted neck spaced somewhat above the bottom, said contact spring comprising an anchor portion near its lower end at the neck of the barrel, an enlargement beneath said anchor portion, and a bowed contact blade above said anchor portion, said contact spring being anchored in said barrel by the neck of the barrel engaging the anchor portion of the spring, said barrel and bottom being sealed against the passage therethrough of molten solder from the outside to the inside.

2,969,518
DUPLEX PLUG RECEPTACLE
Saul I. Slater, 10 Westland Drive, Glen Cove, N.Y.
Filed Nov. 12, 1959, Ser. No. 852,374
5 Claims. (Cl. 339—31)



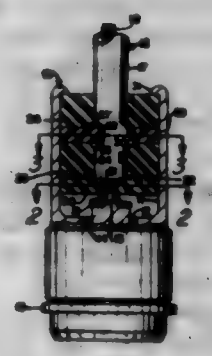
2. In a heavy duty duplex receptacle, a terminal strip formed from a flat metal sheet comprising at least two prong-receiving means, at least two conductor wire connecting means and at least one frangible portion located to divide said terminal into two electrically separable parts, each having at least one prong-receiving means and at least one conductor wire connecting means, each said frangible portion comprising a narrow strip of said sheet near the edge of a longitudinally central portion of said terminal strip and having an upturned portion formed and bent up from an interior portion of said terminal strip, said upturned portion being engageable to break said frangible portion.

2,969,519
RADIO ELECTRICIAN'S AND POWER TRANSMISSION SAFE TEST DEVICE
Gitchel A. Thomas, 3703 Moore St., Los Angeles, Calif.
Filed June 24, 1958, Ser. No. 744,170
3 Claims. (Cl. 339—33)



1. A combined electrical test probe and connector device comprising: a sleeve of electrical insulation material formed open at its opposite ends; a solidly constituted plug also formed of an electrically insulative material and fixedly mounted in one end of the sleeve, the plug having one end projecting out of the sleeve and formed with a flat end surface; a flat, electrically conductive plate overlying and fixedly secured to said end surface, said plate having a marginal notch; an electrically conductive connector wire embedded in and extending from end to end of the plug, one end of the wire being secured to said plate; a lead secured to the other end of said wire and projecting laterally outwardly from the sleeve; an electrically insulative plunger slidably engaged in and projecting out of the other end of the sleeve; spring means interposed between the sleeve and the plunger and stressed to bias the plunger in a direction away from the plug to a normally extended position; a plunger head secured to the projecting portion of the plunger for shifting the same in an opposite direction against the force of said spring; and a rod of electrically conductive material having one end anchored to the plunger between the plunger and the plunger head, said rod extending within the plunger and being slidably engaged in the plug in spaced, parallel relation to the longitudinal median line of the plug, the rod at its other end including a generally triangular point projecting away from said plug, said rod extending through the notch out of contact with the plate and being formed at the base of said point with a surface extending laterally of the rod in one direction across the longitudinal median line of the plug, said surface being in confronting relation to the plate so as to constitute a clamp means in cooperation therewith when the device is in use as an electrical connector, said surface of the rod being engaged directly against the plate when the device is in use as a probe.

2,969,520
STRAIN RELIEF FOR CABLE CONNECTORS
Howard W. Waldo, Pomona, Calif., assignor to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio
Filed Sept. 19, 1957, Ser. No. 684,986
11 Claims. (Cl. 339—105)



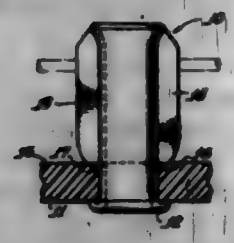
1. A connector for attachment to the end of a stranded cable, said connector comprising a connector body having a chamber opening to the exterior of said body, means for closing a portion of the opening to said chamber, a prong structure disposed in said chamber, a plurality of washers held compactly within said chamber by said means for closing a portion of the opening to said chamber, each of said washers having a hole through which the end of said stranded cable passes, one of said washers being of sufficient width to isolate the cable within the connector body from stresses due to flexure of the external portion of the cable, another one of said washers having a hole off set from the positions of the holes through the other of said washers thereby deforming the cable passing through said washers, said other washer having the off set hole being held tightly between two adjacent washers, said prong structure being directed to the hole in the one of said plurality of washers closest to said prong structure the several strand ends of said end of said cable contacting said prong structure so as to be held between said prong structure and the one of said plurality of washers closest to said prong structure.

2,969,521

ELECTRICAL WIRE CLIPS AND FEMALE RECEPTACLE FOR RECEIVING WIRE, TUBE OR TRANSISTOR PRONGS

Ray R. Scoville, 5083 Commonwealth Ave., La Canada, Calif.

Filed Nov. 20, 1956, Ser. No. 623,333
3 Claims. (Cl. 339—220)



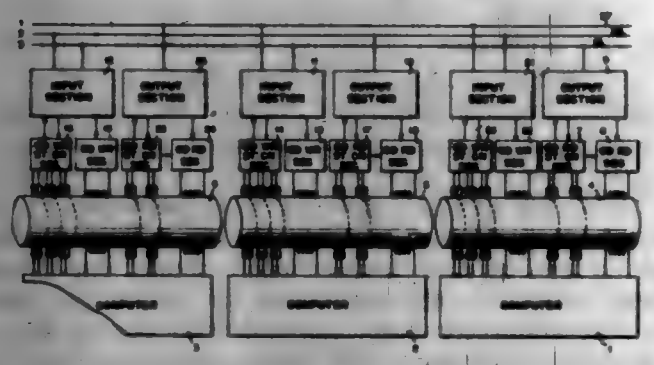
1. In combination, a female terminal for electronic circuits, a terminal board having an orifice for accommodating said terminal, said terminal comprising an elongated tubular element insertable into and through said orifice in said terminal board, an expanded portion adjacent one end of said terminal engaging one surface of said board when said terminal is mounted on said board, the other end of said terminal comprising two semi-cylindrical members, said semi-cylindrical members being spaced from each other to define a slot adapted to receive a conductor extending transverse to the central axis of said tubular element, each of said semi-cylindrical members having a single side flange, one of said side flanges being on one side of said slot, and the other side flange being on the other side of said slot, said side flanges extending outwardly from said semi-cylindrical members in spaced substantially parallel planar relation to one another, said side flanges being of elongated configuration extending along opposed sides of said slot in directions substantially parallel to the central axis of said tubular element, and the lower edges of said side flanges cutting into the other surface of said board when said terminal is mounted on said board whereby said flanges provide structural bracing for said terminal and stake said terminal in place on said board.

2,969,522

DATA TRANSMISSION AND STORAGE SYSTEM

James S. Crosby, Jr., Rhinebeck, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Continuation of application Ser. No. 578,736, Apr. 17, 1956. This application June 12, 1958, Ser. No. 741,545
30 Claims. (Cl. 340—172.5)



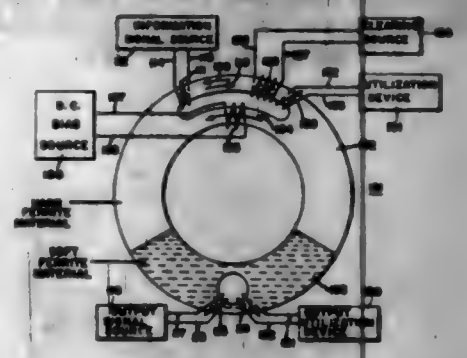
1. A digital data signal transmission and storage system comprising a shifting register storage device having a plurality of tandem coupled stages including an input stage adapted to be coupled to an input transmission channel, the number of stages of said shifting register being greater in number than the number of bits in a wood received from said transmission channel, means to shift said shifting register at a first rate such as to cause successive bits received from said transmission channel to be stored in said shifting register, to shift said shifting register at a rate which is faster than said first rate when the number of bits received from said transmission channel equals a predetermined number, and to independently shift a predetermined number of said stages of said shifting register at said first rate.

2,969,523

FLUX CONTROL SYSTEM FOR MULTI-LEGGED MAGNETIC CORES

George Joseph Kelley, Utica, N.Y., assignor to General Electric Company, a corporation of New York

Filed Jan. 22, 1957, Ser. No. 635,251
6 Claims. (Cl. 340—174)



5. In combination, a unitary ferromagnetic core having a first and second portion, said first portion composed of hard ferromagnetic material having an aperture therethrough providing a first and second parallel path for the core flux, said second portion composed of soft ferromagnetic material having an aperture therethrough providing a third and fourth parallel path for the core flux, biasing means for setting said first path in a first direction, means for establishing saturation flux density in said third and fourth paths comprising clearing means for setting said second path in a first direction, signal responsive means for reversing the direction of magnetization of said second path, and means for generating a signal determination of the direction of magnetization of said second path.

2,969,524

BIDIRECTIONAL SHIFT REGISTER

David R. Bennion, Loma Mar, Calif., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan

Filed Nov. 25, 1957, Ser. No. 698,615
10 Claims. (Cl. 340—174)



1. Bidirectional shift register comprising a plurality of annular cores, the cores being of magnetic material having a substantially rectangular hysteresis loop, each of the cores having at least a pair of apertures in the core, each of the apertures dividing the annular cores in the regions of the respective apertures into two flux branches, a plurality of current conductive coupling loops linking the cores in a series configuration, each pair of adjacent cores having a single coupling loop therebetween, said coupling loop including a pair of windings in parallel, each of the windings linking one of the two branches formed by the apertures in the associated cores by passing

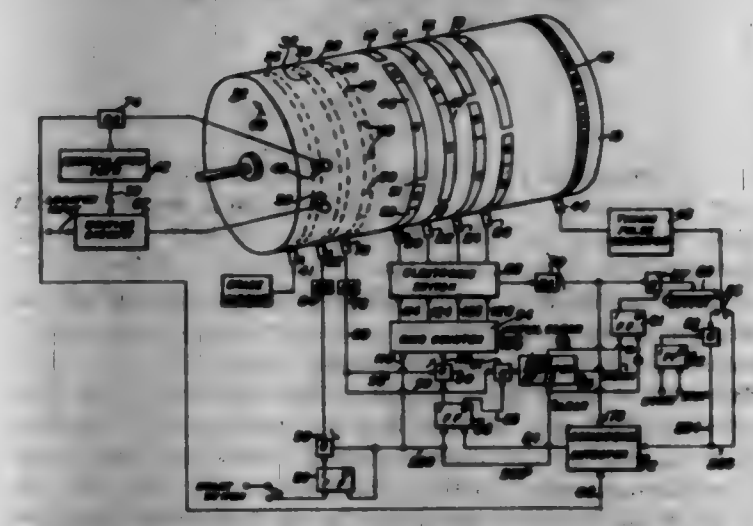
the turns of winding through the apertures, the pair of windings of each coupling loop having equal numbers of turns, a clearing winding on each of the cores, the clearing winding linking the associated core through the opening formed by the annular shape of the core, shifting pulse generating means having four separate outputs which are electrically pulsed in succession during one shifting cycle on four separate outputs, the clearing windings of alternate cores being electrically connected to the first one of said outputs to be pulsed in a shifting cycle and the clearing windings of the remaining cores being electrically connected to the third one of said outputs to be pulsed in a shifting cycle, switching means for electrically connecting the two parallel windings of each one of alternate coupling loops to the second one or the fourth one of the outputs to be pulsed in a shifting cycle and electrically connecting the two parallel windings of each one of the remaining coupling loops to the fourth one of the outputs or the second one of the outputs to be pulsed in a shifting cycle, whereby the switching means selectively reverses the time sequence of the shifting pulses in a shifting cycle for shifting information bidirectionally in the register.

2,969,525

LOCATING INFORMATION

John L. Hill, North St. Paul, Minn., assignor to Remington Rand Inc., New York, N.Y., a corporation of Delaware

Filed May 28, 1954, Ser. No. 431,108
14 Claims. (Cl. 340—174.1)



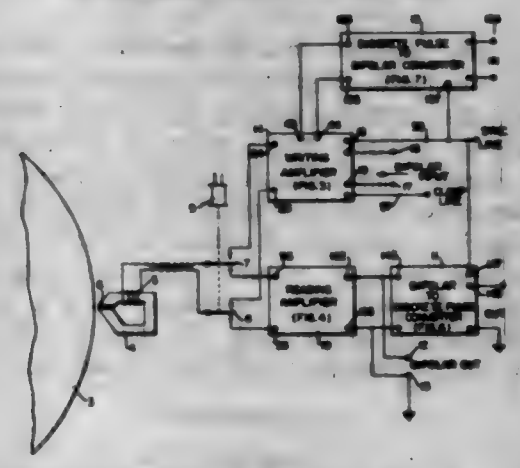
12. In apparatus for locating information recorded in a section in at least one of a plurality of information tracks extending along a record member, each track containing a plurality of recorded sections of information, each section of information including discrete identifying criterion differing from the identifying criterion of other information sections to a predetermined extent, revolver means for circulating information locator criterion intended to coincide with at least a portion of at least one identifying criterion of the said information sections, means for operating said revolver means in synchronism with said record member both as to rate of movement and to position of portions of the record member with respect to the identifying criterion in the information tracks, means for reading said locator criterion circulating in said revolver circuit, coincidence detector means having first and second inputs, one input being connected with said revolver reading means, information reading transducing means positioned in operative relationship to the information tracks, means for selectively enabling the information reading transducing means, a control track on the member containing spaced criterion marks, control reading transducing means in operative relation to said control track, the control reading means being connected as an input to the selective enabling means for successively advancing the enabling means in response to the criterion marks in the control track, the successive enabling means including means for applying to the second input of the coincidence detector means the output of whichever one of the information reading transducing means is enabled to energize the coincidence detector to produce an output signal whenever coincidence is detected by the criterion locator information read from the revolver means and an identifying criterion read from one of the information tracks.

2,969,526

METHOD AND APPARATUS FOR HANDLING AND STORING BINARY DATA

Gerard L. Clapper, Vestal, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Dec. 30, 1954, Ser. No. 478,628
11 Claims. (Cl. 340—174.1)



1. Data storage apparatus including a storage member having a magnetizable surface with a time track and a storage track, translating coil means adjacent said member and effective when energized to magnetize a portion of said storage track, means for moving the storage member relative to the coil means in a repeated cycle, means for energizing the coil means with current of selectively opposite polarities during such relative movement and thereby effective to magnetize different portions of the storage track with magnetic fields of opposite polarities, said current being of sufficient magnitude to saturate said magnetized portions regardless of their previous magnetic conditions, binary data input means shiftable between a binary "0" condition and a binary "1" condition, synchronizing means for repeatedly checking the condition of said binary data input means at separated intervals of time determined by spaced magnetized zones along said time track, and writing means including said binary input means, said coil energizing means, and said synchronizing means and effective when said binary input means is in one of its binary conditions at one of said intervals to establish in the coil means an electric current of corresponding polarity and to maintain said current flowing until said binary input means is in its opposite binary condition at a succeeding one of said intervals, said writing means being operable during one of said cycles to determine the magnetic data pattern written on said track, regardless of any data remaining on the track at the beginning of said one cycle.

2,969,527

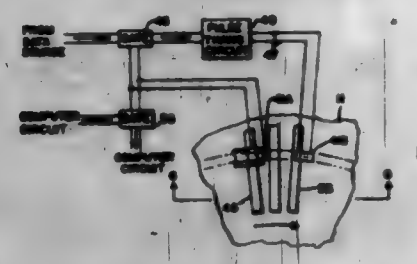
DISCRETE ELEMENT MAGNETIC RECORDING

Tung Chang Chen, Havertown, Pa., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan

Filed Jan. 19, 1955, Ser. No. 482,854
3 Claims. (Cl. 340—174.1)

1. In digital computer apparatus the combination of a non-magnetic support, a pair of electromagnetic trans-

ducers, means for continuously producing uniform high speed relative motion between said support and said transducers about an axis, a plurality of thin narrow discrete laminae of high magnetic remanence material not more than five thousandths of an inch thick, mounted on said support along a surface of revolution thereof about said axis and respectively bounded along a circular path about said axis by adjacent non-magnetic high reluctance materials, one of said pair of transducers being adapted to develop an induced electrical signal in re-



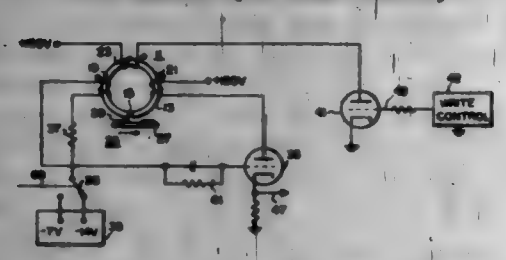
sponse to the change induced therein in the successive transition from non-magnetic to magnetic materials and conversely, the other transducer of said pair when excited over suitable periods being adapted to magnetize individual lamina, and circuit means connected to said other transducer and controlled in predetermined time relationship by said induced signal, said other transducer being excited by said circuit means to magnetize the lamina adjacent said other transducer with a signal having a selected duration with relation to the time of transit of said lamina past said other transducer.

2,969,528

READ-WRITE CIRCUIT FOR MAGNETIC RECORDING

Tung Chang Chen, Havertown, Pa., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan

Filed Apr. 16, 1956, Ser. No. 578,413
4 Claims. (Cl. 340—174.1)



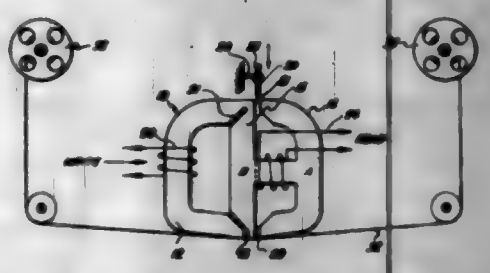
1. In a magnetic record system, in combination; a record surface having discrete sharply-defined areas of magnetizable material separated from each other by areas of non-magnetizable material; a read-write transducer apparatus for writing information signals on and for non-destructive reading of information signals from said magnetizable areas, the information being denoted by the polarity of the signal; and means for effecting transverse movement of said record surface relative to said transducer apparatus, said transducer apparatus comprising: a single core of magnetic material having a gap therein adjacent said record surface; a first winding on said core for producing therein read voltages of one polarity or the other in response to changes in flux in said core produced by the relative movement of recorded magnetic signals past said gap, the polarity of said read voltage being dependent upon the polarity of the recorded signal; an amplifier device having a gain control electrode and an output circuit; means for normally biasing said amplifier device beyond cutoff; means for coupling said first winding directly to said gain control electrode of said amplifier device for applying thereto, in response to a recorded signal of one polarity, a voltage of a polarity and magnitude to override said bias, thereby to trigger said amplifier device into conduction, the voltage applied in response to a recorded signal of other polarity tending to maintain said amplifier device in non-conduction; a second winding on said core; means for connecting said second winding in series in said output circuit of said amplifier device in a regenerative sense with respect to said first winding for inducing, in response to the flow of amplifier current therethrough, a voltage in said first winding of a polarity to maintain the conduction of said amplifier device for a period substantially longer than the duration of the voltage originally induced in said first winding solely by said recorded signal, for changing the flux in the vicinity of said gap to rewrite on said magnetizable surface a signal representing the same information read therefrom which triggered said amplifier device into conduction; and impedance means in the output circuit of said amplifier device for deriving a read output signal.

2,969,529

MAGNETIC READ-WRITE HEAD HAVING TWO GAPS

Paul R. Gilson, West Covina, Calif., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan

Filed May 17, 1957, Ser. No. 659,779
12 Claims. (Cl. 340—174.1)



2. A magnetic read-write head comprising a magnetic core structure defining a first closed loop magnetic flux path, the core structure having a first high reluctance gap completely separating the core structure in the region of the first flux path, and further defining a second closed loop magnetic flux path, the core structure having a high second reluctance gap completely separating the core structure in the region of the second flux path, the core structure having a portion thereof common to both flux paths, a portion common to the first flux path only, and a portion common to the second flux path only, the respective high reluctance gaps being positioned between the portion of the core structure in common with both paths and the respetcive ones of the remaining portions of the core structure common only to the first and second flux paths, a first coil wound on the portion of the core common to the first flux path, a second coil wound on the portion of the core common to the second flux path, and means for substantially eliminating any net flux generated across the gap in the first path from generating corresponding flux changes in the gap in the second path.

2,969,530

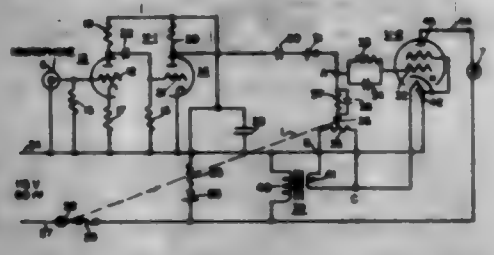
SOUND MONITORING CIRCUITRY AND INSTRUMENT

Myron G. Duncan, 813 Lochridge Road, Charlotte, N.C.

Filed Jan. 28, 1959, Ser. No. 789,639
6 Claims. (Cl. 340—261)

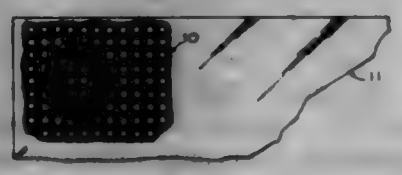
1. In an instrument for monitoring sound level of the circuit type having a sound pickup, an amplifier coupled therewith and emitting alternating signal currents corresponding to said level, an alternating current voltage supply, a gaseous discharge tube including a plate and grid, means exciting said plate and said grid from said supply, said grid excitation being substantially 180 degrees out of phase with said plate excitation, control means to adjust the value of said grid excitation, a cou-

pling between said amplifier and said grid, said coupling converting said signal currents to a pulsating direct current voltage tending to cause said grid to fire said tube, the improvement comprising in combination with the aforesaid of a visible signal lamp in series with said plate, said lamp being energized by said supply upon the firing of said tube, a pair of parallel resistor-condenser networks connected in series between said grid and said



control means and through a common terminal between said pair connected to said coupling, thereby making the operation of said grid immediately responsive to the presence and absence of said signal currents and the position of said control means, the firing and extinguishing of said tube and energization of said lamp for each such position being an automatic continuous sequence as determined by the amplitude of said signal currents.

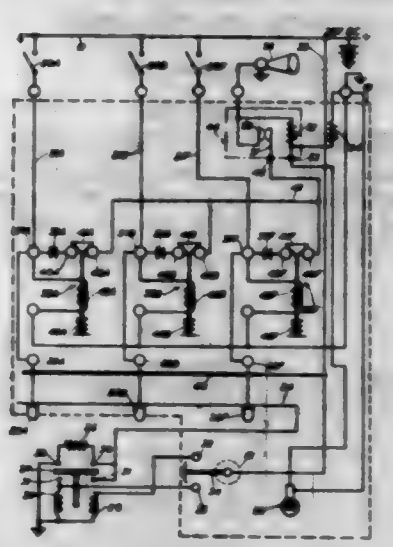
2,969,531
IMAGE REPRODUCING APPARATUS
Robert M. Stewart, Encino, Calif., assignor to Space Electronics Corporation, Glendale, Calif.
Filed Oct. 23, 1959, Ser. No. 848,385
14 Claims. (Cl. 340—324)



14. Image reproducing apparatus comprising: first and second members positioned in a face-to-face relationship and adapted for face-along-face motion, said first member being provided with a large opaque area substantially entirely covered with small transparent areas that are uniformly disposed over the large opaque area in a pattern that is by itself not informative, said second member being provided with a large area having a relatively large number of small light-contrasting areas arranged therein to form equal numbers of first and second informative patterns, said first and second patterns being arranged to overlap in such a manner that each pair of associated first and second patterns occupies substantially the same elemental area, the small light-contrasting areas of said second informative patterns being out of registration with said small transparent areas of said first member when the small light-contrasting areas of said first informative patterns are in registration with said small transparent areas of said first member.

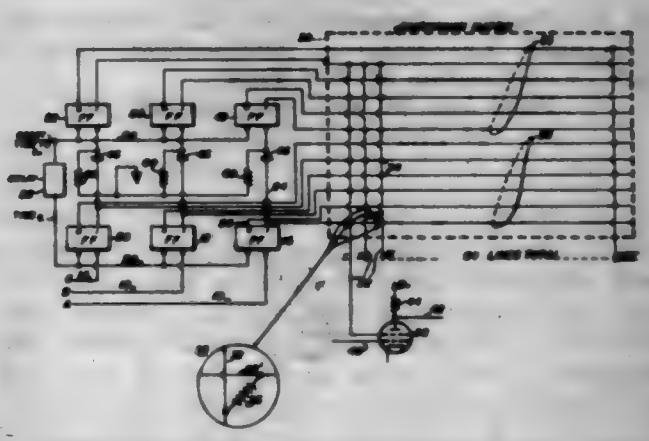
2,969,532
MULTIPLE INDICATORS
Francis Leonard Ebel, Hayes, England, assignor, by mesne assignments, to Fairey Aviation Limited, Hayes, England, a company of Great Britain
Filed Jan. 8, 1957, Ser. No. 633,056
Claims priority, application Great Britain Jan. 9, 1956
10 Claims. (Cl. 340—327)

1. A multiple electric visual indicator which comprises a number of individual electric visual indicators, a corresponding number of individual electric circuits, each controlled by a separate indicator switch and each connecting one of the individual indicators in series with the associated indicator switch to a common source of direct current electric power, a common electric visual indicator electrically connected to all the indicator circuits by separate branch circuits, each including a separate rectifier, whereby on the closing of any one of the indicator switches, both the associated individual indicator and the common indicator are energized through the associated individual circuit, the rectifier being arranged to permit the energization of the individual indicator through its



associated indicator switch when closed, but to prevent the energization of that individual indicator by current flowing as a result of the closing of another of the indicator switches, and which includes means for rendering the common indicator incapable of being further energized by current flowing as a result of the closing of any one of the indicator switches while leaving the common indicator and the remaining individual indicators in condition for subsequent energization by the closing of any of the remaining indicator switches.

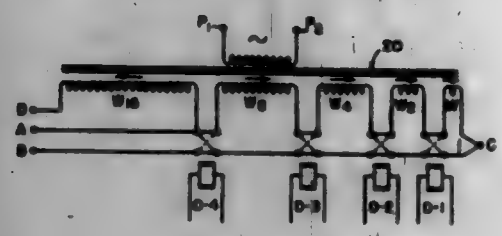
2,969,533
CODING METHODS AND APPARATUS
William J. Shanahan, New York, N.Y., assignor to Skiatron Electronics & Television Corporation, New York, N.Y., a corporation of New York
Filed Aug. 26, 1954, Ser. No. 452,428
9 Claims. (Cl. 340—347)



1. Apparatus capable of establishing 2^{2n} different codes in a like number of code periods in each of which n input code controlling signals are received comprising a first set of n memory means for respectively receiving said signals and for remembering same during one code period, at least one other set of n memory means respectively coupled to said first memory means for receiving outputs therefrom and thereby remembering the respective n input signals received by the first memory means during said one code period at least until said first memory means

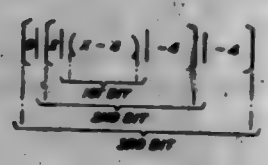
receives input signals in a successive code period regardless of the presence or absence of one or more of the n input signals in said successive code period, there being x number of memory means sets, and matrix means having a plurality of output lines variously coupled within the matrix to the first and other set of memory means, the arrangement being such that the combination of signals occurring on said output lines during a given portion of any code period is representative of one of said 2^n different codes and is based on the n input signals received during more than one code period.

2,969,534
DIGITAL TRANSFORMER
Walter W. Fisher, Pacoima, Calif., assignor to The Bendix Corporation, a corporation of Delaware
Filed May 19, 1955, Ser. No. 509,623
11 Claims. (Cl. 340—347)



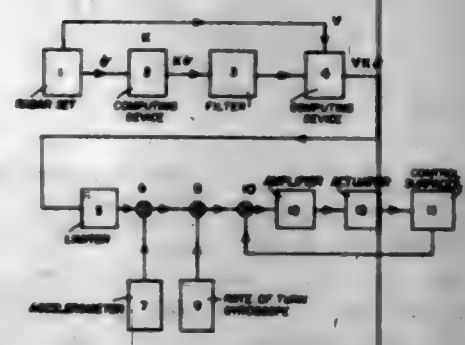
4. Apparatus for translating binary code multidigit signals into corresponding potential values between first and second main terminals comprising: a plurality of digital potential sources corresponding to the different digits of said signal, each source having twice the potential of the next lower digital source; a digital switch for each digital source operable by its corresponding digit signal into first and second positions, respectively, according to the binary value of the digit signals; and circuit means including said switches connecting said sources in series with each other between said first and second main terminals; each digital switch reversing the polarity of at least its associated source with respect to said first and second terminals in response to a change in the position of the switch.

2,969,535
ANALOG-DIGITAL INTERCONVERSION CIRCUITRY
John D. Foulkes, Bernardsville, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Aug. 29, 1957, Ser. No. 681,121
11 Claims. (Cl. 340—347)



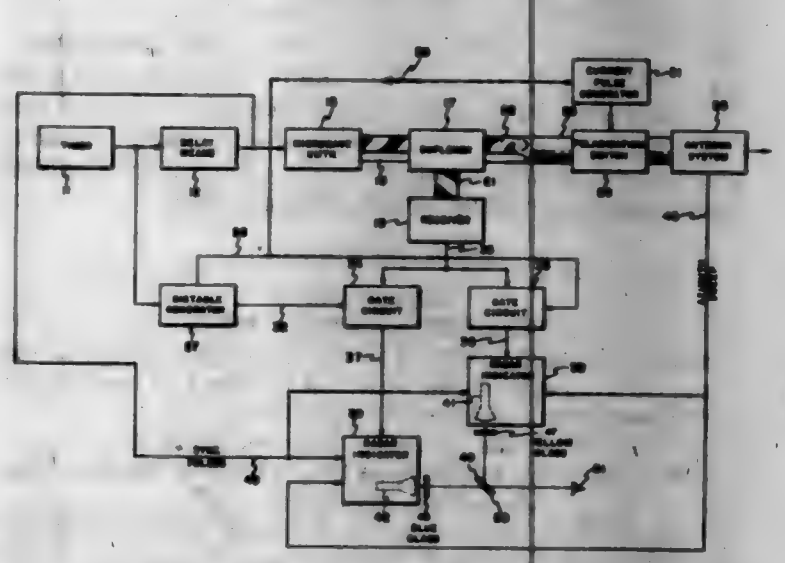
1. An encoder for forming a binary representation of the level of applied signals comprising a source of input signals of varying levels; means for subtracting a fixed amount from applied pulses; means for selectively producing output pulses in accordance with the sign of applied electrical pulses; a pulse rectifying circuit; a doubling amplifier; a delay loop including said substraction means, said pulse output means, said rectifying circuit, and said doubling amplifier connected in series; switching means for recirculating signals in said delay loop and for periodically inserting new pulses derived from said source of input signals into said delay loop; and means for quenching electrical signals which may be present in said delay loop concurrently with the insertion of new pulses into said delay loop.

2,969,536
CONTROL SYSTEMS FOR STEERING DIRIGIBLE CRAFT
Kenneth Fearnside, The Causeway, Bredon, Tewkesbury, Gloucestershire, England
Filed May 6, 1955, Ser. No. 506,451
9 Claims. (Cl. 343—7)



9. A control system for steering a dirigible craft towards a target, comprising radar equipment having a scanner mounted behind a radome mounted upon the craft and constructed to give an electric signal of varying amplitude dependent upon the orientation of the target relative to the craft but subject also to fluctuations due to radome aberrations, a filter to which the said electric signal is applied, said filter having two generally similar peak rectifying circuits responsive to positive and negative peaks of the electric signal respectively and means to obtain a mean of the outputs of the rectifying circuits, which said mean constitutes a filter output signal, means to generate a signal dependent upon the orientation of the craft in space, and means to control control surfaces of the craft by said filter output and orientation signals to guide the craft to the target, the said filter serving to inhibit oscillations of the craft caused by fluctuations in the electric signal due to radome aberrations.

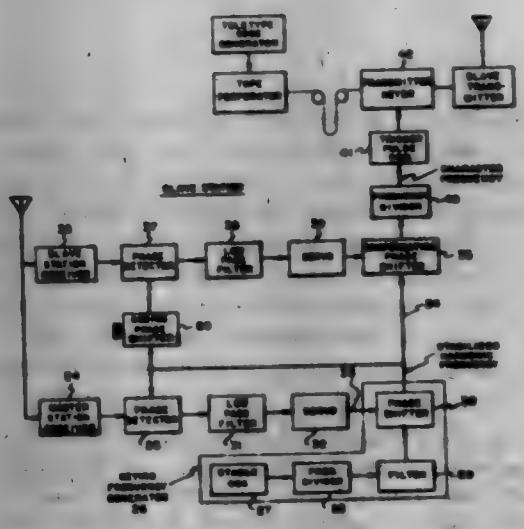
2,969,537
TARGET DISCRIMINATING RADAR SYSTEM
David Mannheimer, Bayville, N.Y., and Carl W. Ericson, Jr., Van Nuys, Calif., assignors to Sperry Rand Corporation, Great Neck, N.Y., a corporation of Delaware
Filed May 7, 1957, Ser. No. 657,999
5 Claims. (Cl. 343—11)



1. A radar system comprising means for generating a series of recurrent pulses of microwave energy, a

rectangular wave guide coupled to said generating means, a circular wave guide, a transition section coupling said rectangular to said circular wave guide, a ferrite plate oriented in said circular wave guide in a plane at an angle of 45 degrees with respect to the walls of said rectangular wave guide, and means for applying a recurrent transverse magnetic field to said ferrite plate for changing the magnetic permeability of said plate to thereby change the microwave phase delay properties of said plate recurrently between two values that differ by substantially 90 degrees.

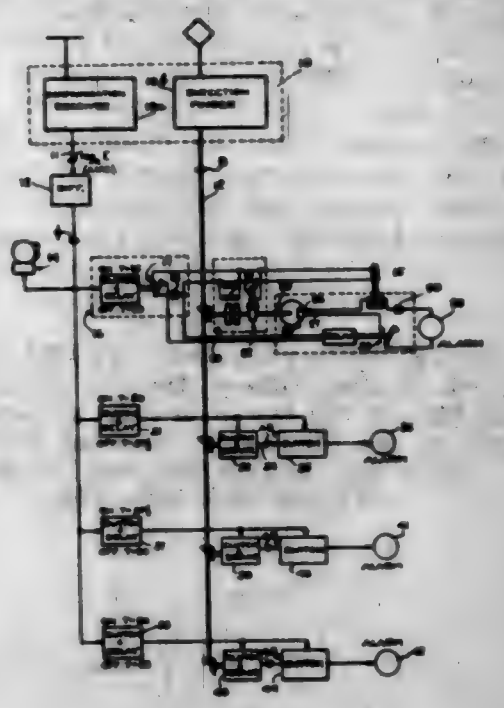
2,969,538
DUAL PURPOSE NAVIGATION SYSTEM
Winslow Palmer, Amityville, N.Y., assignor to Sperry Rand Corporation, a corporation of Delaware
Filed Dec. 13, 1956, Ser. No. 628,022
10 Claims. (Cl. 343—105)



1. A dual purpose signalling system comprising a first transmitter for transmitting a first grouped succession of modulated signals, said first groups containing a frequency component, related to the group repetition rate, whose phase is stabilized from group to group; at least a second transmitter including means for generating a second grouped succession of modulated signals, said second groups containing said frequency component whose phase is stabilized from group to group, means for synchronizing said frequency component of the generated signal groups with said frequency component of the transmitted signal group, whereby a predetermined phase relationship is established between said frequency components, and means for transmitting the second signal groups containing said synchronized frequency component; and receiving means including demodulating means separately responsive to said transmitted first and second signal groups for recovering the modulation thereon and producing the same at respective outputs, means for extracting said frequency component from each of said signal groups and means for comparing the phases of said extracted frequency components.

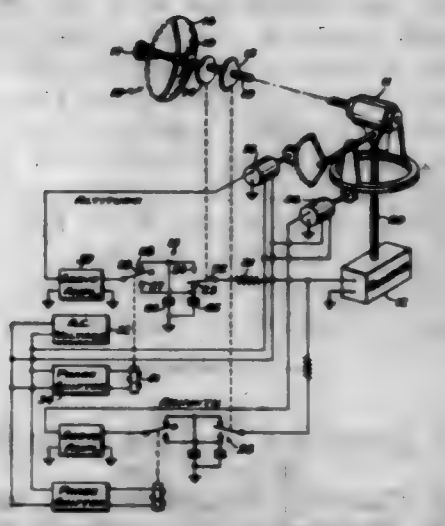
2,969,539
PROXIMITY WARNING AND COLLISION AVOIDANCE SYSTEM
Richard Y. Miner, Port Washington, N.Y., assignor to American Bosch Arma Corporation, a corporation of New York
Filed Mar. 28, 1958, Ser. No. 724,570
7 Claims. (Cl. 343—112)

2. In a device of the character described, means for obtaining a signal representative of closure time between an aircraft and an object, means for continuously determining the bearing of said object, means controlled by said signal for determining the actual bearing changes during preselected intervals of closure time beginning at



preselected values of said signal, and alarm means controlled by said bearing changes.

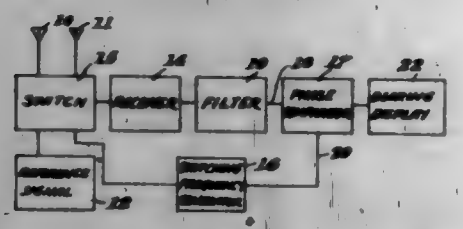
2,969,540
ELECTROMECHANICAL PHASE DETECTOR FOR RADIO SEXTANTS
Clyde Stewart, Cedar Rapids, Iowa, assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa
Filed July 2, 1958, Ser. No. 746,582
1 Claim. (Cl. 343—117)



In a radiometric sextant having a receiver, a nutational antenna connected to the input of said receiver, and an altitude and an azimuth servo system for directing said antenna; an altitude electromechanical phase detector connected between the output of said receiver and the input of said altitude servo system, an azimuth electromechanical phase detector connected between the output of said receiver and the input of said azimuth servo system, each of said phase detectors comprising first and second capacitors, switching means for each of said detectors, each of said switching means being connected to the output of said receiver, and an electromechanical chopper for each detector, means for operating said choppers for connecting alternately respective ones of said capacitors across the input of the respective one of said servo systems, nutating means for nutating said antenna and for operating each of said switching means in synchronism with the nutational cycle of said antenna, each of said switching means operating for

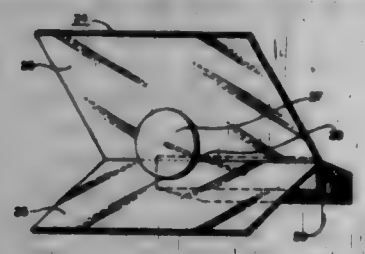
alternately connecting said respective first and second capacitors to produce a difference voltage between said capacitors of said altitude electromechanical filter in response to an error in positioning said antenna in altitude and to produce a difference voltage between said capacitors of said azimuth electromechanical filter in response to an error in positioning said antenna in azimuth, and each of said servo systems responsive to the application of difference voltage from respective capacitors through a respective one of said choppers to position said antenna.

2,969,541
DIRECTION FINDING APPARATUS
Ernest Alvin Seaman, Ottawa, Ontario, Canada, assignor to Her Majesty the Queen in right of Canada as represented by the Minister of National Defence
Filed Sept. 8, 1958, Ser. No. 759,487
4 Claims. (Cl. 343—120)



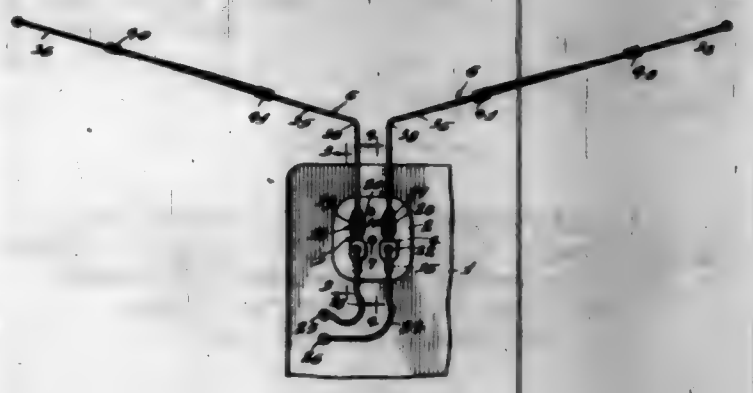
1. Direction finding apparatus for determining the direction of a source of radiation in the presence of ambient random radiation, comprising at least two unidirectional radiation sensing elements fixed relatively to each other and having partly overlapping sensing patterns, a source of power adapted to supply power equivalent to said ambient random radiation, receiving means for said radiation and said ambient random radiation and having an input and an output, switch means adapted to connect repeatedly at a predetermined frequency the said sensing elements and said source one at a time in turn to the input of said receiving means, a narrow-band filter tuned to said predetermined frequency and connected to the output of said receiving means, a phase comparator having as inputs the output from said filter and a signal of the same frequency and phase as said predetermined frequency, said phase comparator being adapted to compare the phases of the signals at its inputs to produce an output signal dependent on phase differences, and means to derive an indication of said phase differences from the output signal of the phase comparator.

2,969,542
SPIRAL ANTENNA SYSTEM WITH TROUGH REFLECTOR
Henri Paris Coleman, Alexandria, Va., and Julius A. Kaiser, Jr., Kensington, Md., assignors to the United States of America as represented by the Secretary of the Navy
Filed Mar. 30, 1959, Ser. No. 803,837
6 Claims. (Cl. 343—761)
(Granted under Title 35, U.S. Code (1952), sec. 266)



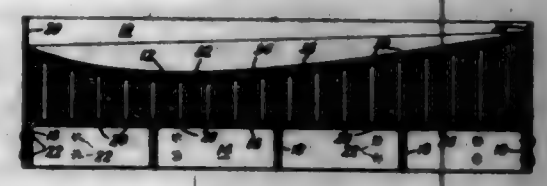
1. An antenna system comprising, a spiral antenna element, a right angle trough reflector, and means mounting said spiral antenna element in proximity to the trough in a plane normal to the plane bisecting the right angle of the trough reflector.

2,969,543
ANTENNA FOR A SIGNAL-RECEIVING DEVICE
Richard W. Cushing, Forest Park, and Roman Dereng, Berwyn, Ill., assignors to Warwick Manufacturing Corporation, a corporation of Delaware
Filed Mar. 29, 1957, Ser. No. 649,506
4 Claims. (Cl. 343—895)



2. An antenna for a portable television set comprising, in combination, a mounting member, means for mounting said member on the back of the set for rotational movement in a plane substantially parallel to the back of the set, a pair of terminal members fastened to the mounting member to which lead-in wires for the set may be attached, a cylindrically shaped socket member connected to each of the terminal members, and an extensible antenna arm extending from each socket member and rotatably mounted therein, each arm having a bend formed therein at a location to lie above the top of the set when the arms extend upwardly, whereby the arms may be positioned behind and adjacent the back of the television set or may be placed in operative position by rotation of the mounting member relative to the set and rotation of the arms relative to the socket members.

2,969,544
CONTOURED ARTICLE
William A. Di Marco, Tyler, Tex., and Leverne G. Hoag, Pittsfield, Mass., assignors to General Electric Company, a corporation of New York
Filed Oct. 31, 1956, Ser. No. 619,545
1 Claim. (Cl. 343—912)

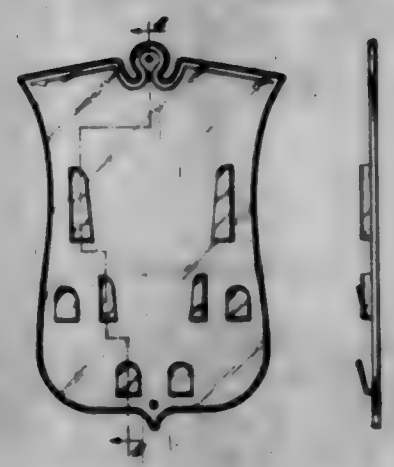


An article of manufacture having an accurately contoured surface comprising a base member, a plurality of peg mounting means distributed in selective geometric pattern over a surface of said base member, a like plurality of pegs including means coacting with said base member peg mounting means to mount the pegs thereto in substantially normal relation to the base member, said pegs being of selected lengths such that the outer ends thereof together define and maintain the desired surface contour, and a body of rough filler material filling the space between said pegs to a predetermined level from the outer ends thereof, a finish layer of settable plastic coactively placed over said filler material to a level with the outer ends of said pegs, and a layer of metallic foil imbedded between said filler material and said settable plastic.

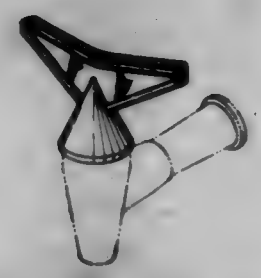
DESIGNS

JANUARY 24, 1961

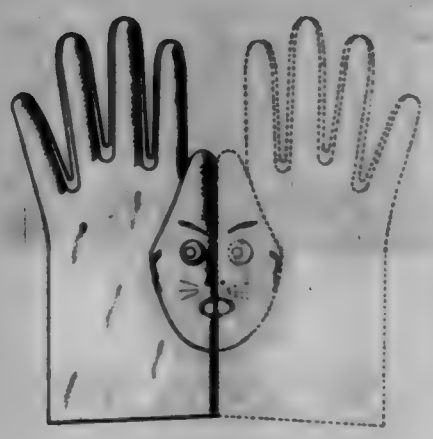
189,635
CARD RACK
Homer G. Long, R.R. 5, Franklin, Ind.
Filed July 21, 1960, Ser. No. 61,480
Term of patent 14 years
(Cl. D1—3)



189,636
FAUCET
Alan R. Cripe, Chagrin Falls, Ohio, assignor to Tomlinson Industries, Inc., Cleveland, Ohio, a corporation of Ohio
Filed Dec. 14, 1959, Ser. No. 58,654
Term of patent 14 years
(Cl. D2—3)



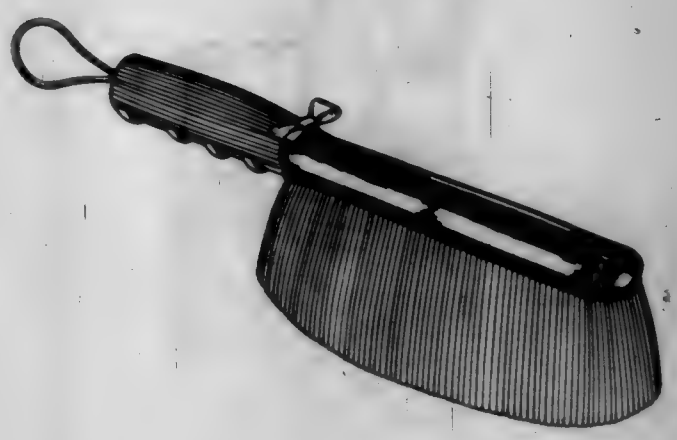
189,637
NOVELTY GLOVE
Robert Stanton, 140 Geary St., San Francisco, Calif.
Filed July 21, 1960, Ser. No. 61,462
Term of patent 14 years
(Cl. D3—11)



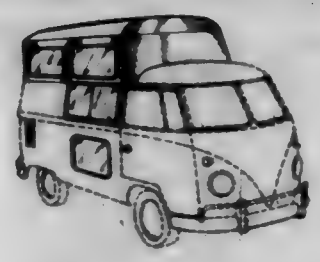
189,638
NOVELTY GLOVE
Robert Stanton, 140 Geary St., San Francisco, Calif.
Filed July 21, 1960, Ser. No. 61,464
Term of patent 14 years
(Cl. D3—11)



189,639
HAND BRUSH
Wong Bing Goon, 645 First St., San Diego, Calif.
Filed Apr. 27, 1959, Ser. No. 55,664
Term of patent 3½ years
(Cl. D9—2)



189,640
TRUCK
Herbert Smith, 62 Whitman Drive, Brooklyn, N.Y.
Filed Dec. 23, 1959, Ser. No. 58,788
Term of patent 14 years
(Cl. D14—3)



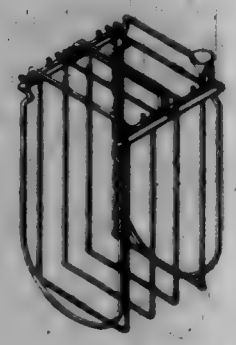
189,641
HUB CAP
John J. Palotace, 330 E. Front St., Youngstown, Ohio
Filed Mar. 2, 1960, Ser. No. 59,600
Term of patent 14 years
(Cl. D14—36)



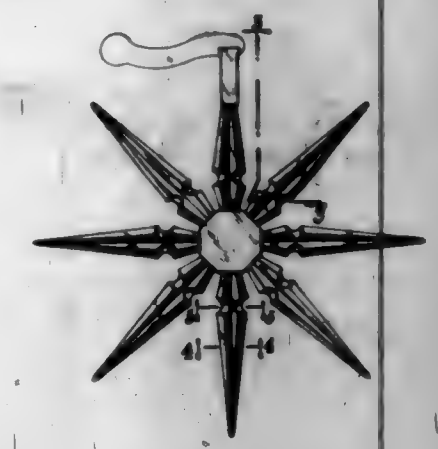
189,642
CHAIR
Theodore Hess, Chicago, Ill., assignor to Kuehne Manufacturing Co., Mattoon, Ill., a corporation of Illinois
Filed Nov. 16, 1959, Ser. No. 58,348
Term of patent 3½ years
(Cl. D15—1)



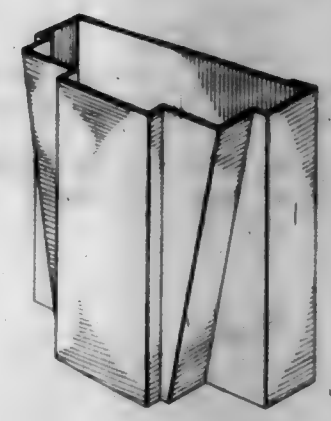
189,643
RACK AND FRAME COMBINATION FOR SUPPORTING PAPER STRIPS IN ASCENDING CHROMATOGRAPHY
Horatio Gorman Bolkie, 5628 Grove St., Oakland, Calif.
Filed Sept. 15, 1959, Ser. No. 57,557
Term of patent 14 years
(Cl. D16—2)



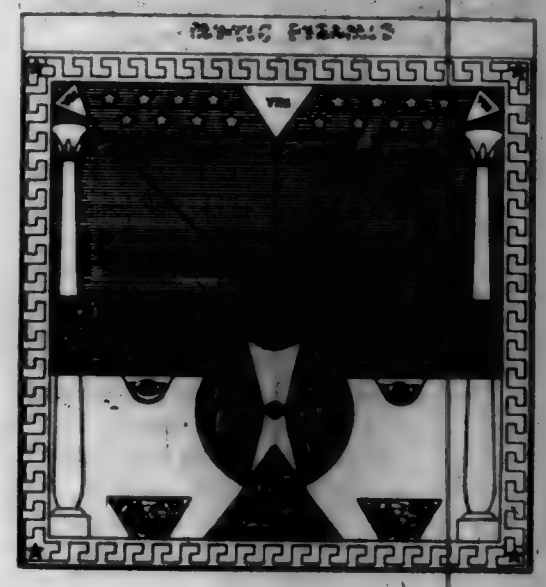
189,644
STAR
Eugenio Gatti, Via Piero della Francesca 5, Milan, Italy
Filed Nov. 27, 1959, Ser. No. 58,479
Term of patent 14 years
(Cl. D29—1)



189,645
TROPHY BASE
Ray E. Dodge, Miami Beach, Fla., assignor to Dodge, Inc., Chicago, Ill., a corporation of Illinois
Filed Aug. 16, 1957, Ser. No. 47,386
Term of patent 14 years
(Cl. D29—23)



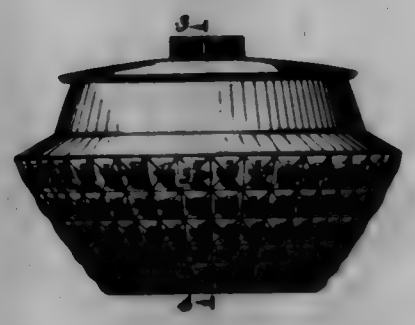
189,646
GAME BOARD
Otis F. Caldwell, 2427 Roslyn Ave., Charlotte, N.C.
Filed Feb. 5, 1960, Ser. No. 59,280
Term of patent 7 years
(Cl. D34—5)



189,647
ROLLER SKATE
Daniel S. Williams, 394 Spruce St., Pottstown, Pa.
Filed Apr. 7, 1960, Ser. No. 60,883
Term of patent 14 years
(Cl. D34—14)



189,648
SUGAR BOWL OR SIMILAR ARTICLE
Henry Wish, Tuckahoe, N.Y.
(% 3329 Merritt Ave., New York 69, N.Y.)
Filed Apr. 11, 1960, Ser. No. 60,112
Term of patent 3½ years
(Cl. D44—15)



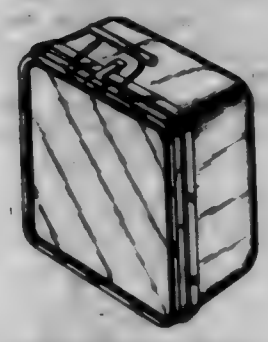
189,649
CONDIMENT DISPENSER
Henry Wish, Tuckahoe, N.Y.
(% 3329 Merritt Ave., New York 69, N.Y.)
Filed Apr. 11, 1960, Ser. No. 60,111
Term of patent 3½ years
(Cl. D44—22)



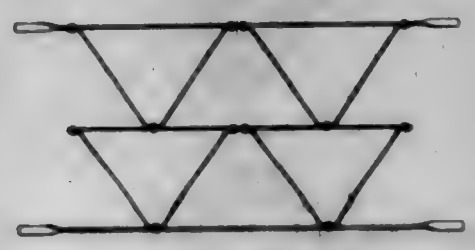
189,650
AUTOMOBILE TAIL LAMP UNIT
Clifford C. Voss, Clawson, Mich., and Allen R. Williams, Jr., Peabody, Mass., assignors to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware
Filed May 2, 1960, Ser. No. 60,415
Term of patent 7 years
(Cl. D48—32)



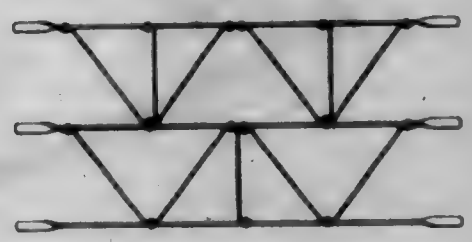
189,651
CASE FOR A PORTABLE LAUNDRY UNIT
Harold F. Brogdon, Grand Rapids, Mich., assignor, by mesne assignments, to Automatic Music, Inc., Grand Rapids, Mich., a corporation of Delaware
Filed June 9, 1958, Ser. No. 51,271
Term of patent 3½ years
(Cl. D49—1)



189,652
DOOR GRILL
Howard C. Zippel, Levittown, N.Y., assignor to Westmoreland Metal Mfg. Co., Philadelphia, Pa., a corporation of Pennsylvania
Filed Dec. 31, 1959, Ser. No. 58,885
Term of patent 3½ years
(Cl. D54—2)



189,653
DOOR GRILL
Howard C. Zippel, Levittown, N.Y., assignor to Westmoreland Metal Mfg. Co., Philadelphia, Pa., a corporation of Pennsylvania
Filed Dec. 31, 1959, Ser. No. 58,886
Term of patent 3½ years
(Cl. D54—2)



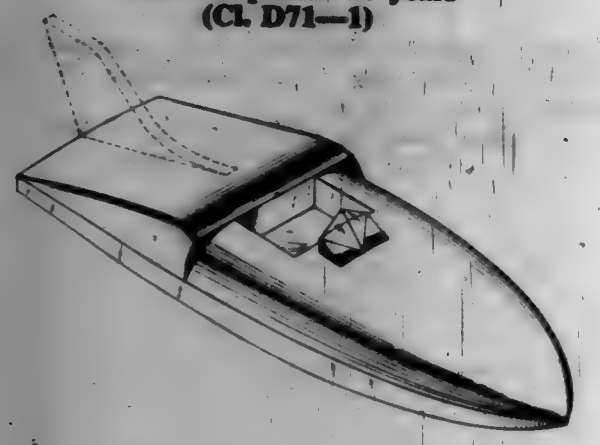
189,654
SQUEEZE BOTTLE OR SIMILAR ARTICLE
Henry Wish, Tuckahoe, N.Y.
(%3329 Merritt Ave., New York 69, N.Y.)
Filed Apr. 11, 1960, Ser. No. 60,113
Term of patent 3½ years
(Cl. D58—8)



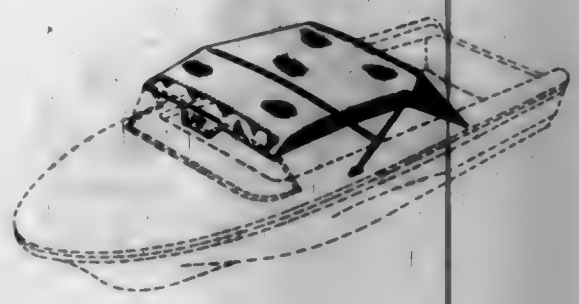
189,655
IMAGE PROJECTION APPARATUS
John T. Armbruster, Niagara Falls, and Henry T. Wilton, Buffalo, N.Y., assignors to American Optical Company, Southbridge, Mass.
Filed May 18, 1960, Ser. No. 60,633
Term of patent 14 years
(Cl. D61—1)



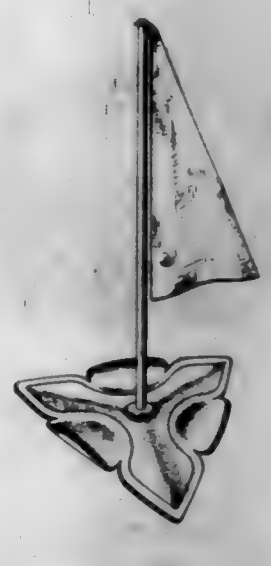
189,656
HYDROPLANE
George Glenn Eddy, 141 State Park Drive, Bay City, Mich.
Filed Feb. 4, 1960, Ser. No. 59,260
Term of patent 14 years
(Cl. D71—1)



189,657
CANOPY FOR A BOAT
George C. Rorie, Dallas, Tex., assignor to Lone Star Boat Company, Grand Prairie, Tex., a corporation of Texas
Filed May 11, 1959, Ser. No. 55,851
Term of patent 14 years
(Cl. D71—1)



189,658
TRAFFIC MARKER FOR HIGHWAYS, OR THE LIKE
Harold A. Cannon, 2180 Yale Ave., Camp Hill, Pa.
Filed Feb. 17, 1960, Ser. No. 59,430
Term of patent 3½ years
(Cl. D72—3)



189,659
TENT OR SIMILAR ARTICLE
Dorothy Spencer Bateman, 111 13th St., and William Joseph Holt, Jr., 1600 Melody Lane, both of Garland, Tex.
Filed Aug. 21, 1956, Ser. No. 42,678
Term of patent 3½ years
(Cl. D88—3)



LIST OF REISSUE PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 24TH DAY OF JANUARY, 1961

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

Newton, John A., to Thompson Ramo Wooldridge Inc. Valve retainer lock and method of making same. Re. 24,928, 1-24-61, Cl. 123—188.

Pack Mfg. Co.: *See*—
Shelly, Robert S. Re. 24,927.

Saltz, Morris A. Drapery hook dispensing and inserting apparatus. Re. 24,929, 1-24-61, Cl. 1—1.

Shelly, Robert S., to Pack Mfg. Co. Ruling layout table. Re. 24,927, 1-24-61, Cl. 45—131.

Thompson Ramo Wooldridge Inc.: *See*—
Newton, John A. Re. 24,928.

LIST OF PLANT PATENTEES

Clifford, Kenneth R.: *See*—
Molfino, Samuel F. 2,014.

Lowden, Edward W. Raspberry plant. 2,013, 1-24-61, Cl. 47—62.

Molfino, Samuel F., to K. R. Clifford. Peach tree. 2,014, 1-24-61, Cl. 47—62.

Sweeney, James W. Pear tree. 2,012, 1-24-61, Cl. 47—62.

LIST OF DESIGN PATENTEES

American Optical Co.: *See*—
Armbruster, John T., and Wilton. 189,655.

Armbruster, John T., and H. T. Wilton, to American Optical Co. Image projection apparatus. 189,655, 1-24-61, Cl. D61—1.

Automatic Music, Inc.: *See*—
Brogdon, Harold F. 189,651.

Baikie, Horatio G. Rack and frame combination for supporting paper strips in ascending chromatography. 189,643, 1-24-61, Cl. D16—2.

Bateman, Dorothy S., and W. J. Holt, Jr. Tent or similar article. 189,659, 1-24-61, Cl. D88—3.

Brogdon, Harold F., to Automatic Music, Inc. Case for a portable laundry unit. 189,651, 1-24-61, Cl. D49—1.

Caldwell, Otis F. Game board. 189,646 1-24-61, Cl. D34—5.

Cannon, Harold A. Traffic marker for highways, or the like. 189,658, 1-24-61, Cl. D72—3.

Chrysler Corp.: *See*—
Voss, Clifford C., and Williams. 189,650.

Cripe, Alan R., to Tomlinson Industries, Inc. Faucet. 189,636, 1-24-61, Cl. D2—3.

Dodge, Inc.: *See*—
Dodge, Ray E. 189,645.

Dodge, Ray E., to Dodge, Inc. Trophy base. 189,645, 1-24-61, Cl. D29—28.

Eddy, George G. Hydroplane. 189,636, 1-24-61, Cl. D71—1.

Gatti, Eugenio. Star. 189,644, 1-24-61, Cl. D29—1.

Goon, Wong B. Hand brush. 189,639, 1-24-61, Cl. D9—2.

Hess, Theodore, to Kuehne Mfg. Co. Chair. 189,642, 1-24-61, Cl. D15—1.

Holt, William J., Jr.: *See*—
Bateman, Dorothy S., and Holt. 189,659.

Kuehne Mfg. Co.: *See*—
Hess, Theodore. 189,642.

Lone Star Boat Co.: *See*—
Rorie, George C. 189,657.

Long, Homer G. Card rack. 189,635, 1-24-61, Cl. D1—3.

Palotsee, John J. Hub cap. 189,641, 1-24-61, Cl. D14—30.

Rorie, George C., to Lone Star Boat Co. Canopy for a boat. 189,657, 1-24-61, Cl. D71—1.

Smith, Herbert. Truck. 189,640, 1-24-61, Cl. D14—3.

Stanton, Robert. Novelty glove. 189,637, 1-24-61, Cl. D3—11.

Stanton, Robert. Novelty glove. 189,638, 1-24-61, Cl. D3—11.

Tomlinson Industries, Inc.: *See*—
Cripe, Alan R. 189,636.

Voss, Clifford C., and A. R. Williams, Jr. Chrysler Corp. Automobile tail lamp unit. 189,650, 1-24-61, Cl. D48—32.

Westmoreland Metal Mfg. Co.: *See*—
Zippel, Howard C. 189,652.
Zippel, Howard C. 189,653.

Williams, Allen R., Jr.: *See*—
Voss, Clifford C., and Williams. 189,650.

Williams, Daniel S. Roller skate. 189,647, 1-24-61, Cl. D34—14.

Wilton, Henry T.: *See*—
Armbruster, John T., and Wilton. 189,655.

Wish, Henry. Sugar bowl or similar article. 189,648, 1-24-61, Cl. D44—15.

Wish, Henry. Condiment dispenser. 189,649, 1-24-61, Cl. D44—22.

Wish, Henry. Squeeze bottle or similar article. 189,654, 1-24-61, Cl. D58—3.

Zippel, Howard C., to Westmoreland Metal Mfg. Co. Door grill. 189,652, 1-24-61, Cl. D54—2.

Zippel, Howard C., to Westmoreland Metal Mfg. Co. Door grill. 189,653, 1-24-61, Cl. D54—2.

LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 24TH DAY OF JANUARY, 1961

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

ACF Industries, Inc.: *See*—
Clar, Milton. 2,969,045.
Niemeyer, Edward H. 2,968,975.
White, Donald R. J. 2,969,510.
Abt, Clifford F.: *See*—
Miner, Richard Y., Clifford, and Evans. 2,969,184.
Accumulatoren-Fabrik Aktiengesellschaft: *See*—
Peters, Freimut. 2,969,413.
Aerojet-General Corp.: *See*—
Waldo, Howard W. 2,969,520.
Aeschlimann, John A., and A. Stempel, to Hoffmann-La Roche Inc. Certain 1-arylsulfonyl-3-(tetrahydrodicyclopentadien-9-yl)ureas. 2,969,391, 1-24-61, Cl. 260—553.
Affrunti, Andrew A.: *See*—
Swift, Robert J., Affrunti, Altschuler, and Gans. 2,968,986.
Agar, William O., to Marconi's Wireless Telegraph Co. Ltd. Frequency responsive circuit arrangements. 2,969,504, 1-24-61, Cl. 324—79.
Agins, George, to American Bosch Arma Corp. Stabilizing system correcting mechanism. 2,968,953, 1-24-61, Cl. 74—5.4.
Agins, George, to American Bosch Arma Corp. Gyro compass. 2,968,956, 1-24-61, Cl. 74—5.9.
Aglus, Peter J. V. J., A. M. Dominey, and R. E. Pegg, to Esso Research and Engineering Co. Phosphosulfurized lubricating oil additive. 2,969,323, 1-24-61, Cl. 252—32.7.
Aijala, Sulo A. Predetermined torque release hand tool. 2,968,979, 1-24-61, Cl. 81—52.4.
Ainsworth, John E., Jr. Pressure measuring device. 2,968,947, 1-24-61, Cl. 73—398.
Ajax Magnethermic Corp.: *See*—
Logan, John A. 2,969,451.
Aktiebolaget Addo: *See*—
Bogert, Thure B. 2,969,174.
Aktiebolaget Bahco: *See*—
Axelsson, Sten S. 2,969,054.
Aktiebolaget Nordpatent: *See*—
Nyström, Karl G. 2,969,255.
Aktiebolaget Svenska Kullagerfabriken: *See*—
Göthberg, Karl E. A. 2,969,267.
Aktiengesellschaft Brown, Boveri & Cie: *See*—
Brandt, Armand. 2,969,496.
Eggmann, Jean. 2,969,247.
Alexander, Paul, to Continental Can Co., Inc. Heater vaporizer element support. 2,969,448, 1-24-61, Cl. 219—19.
Allen, Arthur N., Jr., to United Aircraft Corp. Motor utilizing combined action of splines and cams. 2,969,118, 1-24-61, Cl. 170—160.32.
Allen, Eugene M., to American Cyanamid Co. Method for continuously straightening sheet material. 2,968,856, 1-24-61, Cl. 26—51.5.
Allen, Gordon S. J.: *See*—
Crossfield, John F., Morris, and Allen. 2,969,016.
Allied Chemical Corp.: *See*—
Joris, George G. 2,969,393.
Allis-Chalmers Mfg. Co.: *See*—
Fergason, Rector C. 2,968,904.
Allmanna Svenska Elektriska Aktiebolaget: *See*—
Forwald, Haakon. 2,969,446.
Forwald, Haakon. 2,969,447.
Altschuler, Samuel: *See*—
Swift, Robert J., Affrunti, Altschuler, and Gans. 2,968,986.
Aluminum Co. of America: *See*—
Bergmann, Werner J. 2,968,847.
Weston, Samuel C., Jr., and Oswald. 2,968,833.
Ambil, Andrew. Converter top for open topped trailers and the like. 2,969,284, 1-24-61, Cl. 296—100.
Ambrosia Chocolate Co.: *See*—
Cook, L. Russell. 2,969,285.
Cook, L. Russell. 2,969,286.
American Bosch Arma Corp.: *See*—
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Agins, George. 2,968,956.
Davenport, Charles T. 2,968,953.
Miner, Richard Y. 2,969,539.
Miner, Richard Y., Abt, and Evans. 2,969,184.
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Savet, Paul H. 2,969,182.
American Cyanamid Co.: *See*—
Allen, Eugene M. 2,968,856.
Buckler, Sheldon A. 2,969,390.
Buckler, Sheldon A. 2,969,398.
Lawler, Edward B., and Ballou. 2,969,332.
American Machine & Foundry Co.: *See*—
Zuercher, John. 2,969,236.
American Machine and Metals, Inc.: *See*—
Buss, Benjamin A. 2,969,233.
American Marine Upholstery Co.: *See*—
Naxon, William L., Le Pore, Eddy, and D'Angelo. 2,969,107.
American Metal Climax, Inc.: *See*—
Monson, Walter T. 2,969,281.
American Potash & Chemical Corp.: *See*—
Garrett, Donald E. 2,969,275.

American Sugar Refining Co., The: *See*—
Grosvenor, William M., Jr. 2,969,297.
Amfahr, Warren U., to Collins Radio Co. Voice-operated control system. 2,969,486, 1-24-61, Cl. 317—148.5.
Ampex Corp.: *See*—
Selsted, Walter T. 2,969,200.
Anastasia, Harry G., and W. F. Watson, to The Bendix Corp. Multiple turn cam corrector. 2,968,964, 1-24-61, Cl. 74—395.
Anastasio, Frank J., B. C. Kalustyan, and Raunecker, to Sandak, Inc. Film mount. 2,968,884, 1-24-61, Cl. 40—152.
Anderson, Eugene A.: *See*—
Reid, Remer R., Sr., and Anderson. 2,969,100.
Anderson, Herbert L.: *See*—
Fermi, Enrico, and Anderson. 2,969,307.
Anderson, Jack S., and S. G. Knoch, to Electrosystems Inc. Automation with digital position-command comparison. 2,969,490, 1-24-61, Cl. 318—162.
Anderson, Walter A., to Underwood Corp. Signal printing mechanism. 2,969,176, 1-24-61, Cl. 235—60.18.
Andert, Frank S. Spark plug and ignition indicator system therefor. 2,969,500, 1-24-61, Cl. 324—17.
Andresen, John H., Jr., to Kollsman Instrument Corp. Differential tachometer. 2,969,502, 1-24-61, Cl. 324—70.
Andrews, Theodore E., and A. E. De Mott, to General Electric Co. Automatic electric toasters. 2,969,010, 1-24-61, Cl. 99—329.
Anstalt fur die Entwicklung von Erfindungen und Gewerblichen Anwendungen Energa: *See*—
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Ansul Chemical Corp.: *See*—
Guise, Arthur B. 2,969,116.
Applus, Max K., to E. Mettler. Spring balance. 2,969,228, 1-24-61, Cl. 265—63.
Arengo, Christopher G., to Bristol Repetition Ltd. Writing instruments. 2,969,041, 1-24-61, Cl. 120—42.4.
Armstrong Cork Co.: *See*—
Parker, John A. 2,969,338.
Arter, Glenn A. Method and apparatus for minimizing flue dust collections. 2,969,047, 1-24-61, Cl. 122—379.
Ashby, Edward P., Jr. Invalid handling device for bathtubs. 2,968,814, 1-24-61, Cl. 4—185.
Ashcraft, Elmer B.: *See*—
Roberts, William L., and Ashcraft. 2,969,474.
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Malloy, John E. 2,969,034.
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Stenudd, Sven G. V. 2,969,496.
Augenstein, Helmut, to Jewel Case Corp. Hinge and box assembly. 2,969,165, 1-24-61, Cl. 220—35.
Automatic Music, Inc.: *See*—
Vanderzee, Harry H., and Brown. 2,969,240.
Avetta, Albert J. Mounting brackets for safety razors. 2,969,140, 1-24-61, Cl. 206—16.
Axelsson, Sten S., to Aktiebolaget Bahco. Cooking appliances burning a gaseous fuel. 2,969,054, 1-24-61, Cl. 126—38.
B. B. Chemical Co.: *See*—
Paulsen, Hans C. 2,969,056.
Babcock, John C., and A. C. Ott, to The Upjohn Co. Androstane-11β,17β-diol and the 17-esters thereof. 2,969,379, 1-24-61, Cl. 260—397.5.
Baby-Line Furniture Co.: *See*—
Jacobs, Saul B., and Siegel. 2,968,817.
Bacharach, Melvin L., to Levi Strauss and Co. Garment pocket structure. 2,968,813, 1-24-61, Cl. 2—248.
Backus, Alfred S., to Mycalex Corp. of America. Method of manufacturing mercury commutation switch. 2,968,861, 1-24-61, Cl. 29—155.55.
Bacon, Francis T., to E.R.A. Patents Ltd. Bipolar electrode for electric batteries. 2,969,315, 1-24-61, Cl. 204—284.
Badische Anilin- & Soda-Fabrik Aktiengesellschaft: *See*—
Hamprecht, Guenther, Oertel, and Schwarzmann. 2,969,384.
Markgraf, Otto, Schuster, Herrle, Boehm, and Schaefer. 2,969,271.
Reppe, Walter, Bauer, and Schweier. 2,969,306.
Von Schickh, Otto. 2,969,396.
Bailey, Frederick E., Jr.: *See*—
Hill, Fred N., Fitzpatrick, and Bailey. 2,969,402.
Ball, John S., and T. H. Gillett, to Henry Simon Ltd. Roller mills for grinding cereal products. 2,969,193, 1-24-61, Cl. 241—227.
Ballou, Kenneth D.: *See*—
Lawler, Edward B., and Ballou. 2,969,332.
Bangert, John T., to Bell Telephone Laboratories, Inc. Minimum-phase wave transmission network with maximally flat delay. 2,969,509, 1-24-61, Cl. 333—28.

Barancik, Charles: *See*—
Du Broff, Warren. 2,969,078.

Barden, Wayne A., W. D. Wagner, and C. C. Snyder, to CTS Corp. Push button type electric switch. 2,969,443, 1–24–61, Cl. 200—77.

Barmer Maschinenfabrik Aktiengesellschaft: *See*—
Weber, Wolfgang, and Grein. 2,969,197.

Barritt, Max E., to Whirlpool Corp. Detergent dispenser. 2,969,072, 1–24–61, Cl. 134—93.

Barry, George H., to Collins Radio Co. Delay line phase-pulse generator. 2,969,430, 1–24–61, Cl. 178—51.

Barry, Leonard D. Implement positioning device. 2,969,119, 1–24–61, Cl. 172—2.

Basic Products Corp.: *See*—
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Baumann, Albert, and H. Bunten, to Durkoppwerke Aktiengesellschaft. Selective distributing and conveyor system. 2,969,137, 1–24–61, Cl. 198—38.

Baumann, Heinrich, F. Graf, H. Schmidt, and L. Untersteinhöfer. Method for the purification of contaminated dry cleaning solvents. 2,969,404, 1–24–61, Cl. 260—664.

Baumann, Karl E., to Baxter Laboratories, Inc. Parenteral solution equipment. 2,969,158, 1–24–61, Cl. 215—37.

Baxter, Joseph, Jr., to The Black-Clawson Co. Paper machinery. 2,969,114, 1–24–61, Cl. 162—348.

Baxter Laboratories, Inc.: *See*—
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Broman, Cyrus R. 2,969,063.
Broman, Cyrus R. 2,969,150.
Metz, Henry E. 2,969,064.
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Beadle, Stanley, and A. A. Gee, to Muirhead & Co. Ltd. Mounting arrangements for gear trains. 2,968,971, 1–24–61, Cl. 74—606.

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Becker, Irene: *See*—
Young, Raymond L. and W. P. 2,968,810.

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Buck, Willard E. 2,968,980.
Buck, Willard E., and Teopie, Jr. 2,968,990.

Beech, James F. Cleaning apparatus for paint applicator rollers and the like. 2,968,824, 1–24–61, Cl. 15—4.

Bell, Persa R., A. Simon, and R. J. Mackin, Jr., to United States of America, Atomic Energy Commission. Method of producing energetic plasma for neutron production. 2,969,306, 1–24–61, Cl. 204—154.2.

Bell Telephone Laboratories, Inc.: *See*—
Bangert, John T. 2,969,509.
Foulkes, John D. 2,969,525.
Franz, Erwin E. 2,969,300.
McGuire, Charles H., and Peek, Jr. 2,969,484.
Walsh, David J. 2,969,296.

Bellinger, Robert M., and N. F. McLeod, to Phillips Petroleum Co. Recovery of olefin polymers from solution. 2,969,347, 1–24–61, Cl. 260—94.9.

Benander, George B., to General Electric Co. Interchangeable wiring devices. 2,969,418, 1–24–61, Cl. 174—53.

Benander, George B., and G. R. Lawson, to General Electric Co. Detent mechanism for alternating current switch. 2,969,442, 1–24–61, Cl. 200—67.

Bendix Corp., The: *See*—
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Fisher, Walter W. 2,969,534.
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Noxon, Paul A., MacCallum, and Bennett. 2,969,505.

Bennett, Alfred: *See*—
Noxon, Paul A., MacCallum, and Bennett. 2,969,505.

Bennion, David R., to Burroughs Corp. Bidirectional shift register. 2,969,524, 1–24–61, Cl. 340—174.

Berghaus, Bernhard, to Elektrophysikalische Anstalt Bernhard Berg-Haus. Method and installation for carrying out glow discharge processes. 2,969,475, 1–24–61, Cl. 313—231.

Bergmann, Werner J., to Aluminum Co. of America. Skimmer apparatus for fluxing light metals. 2,968,847, 1–24–61, Cl. 22—83.

Berlincourt, Don A.: *See*—
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Bernheim, Louis L., and G. M. Harris. Pneumatic fruit picker. 2,968,907, 1–24–61, Cl. 56—332.

Bernstein, Samuel M. Portable combination electric rotisserie and charcoal broiler. 2,969,450, 1–24–61, Cl. 219—35.

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Billet, Edward H., to Vari-Typer Corp. Camera apparatus and method of making up printed copy. 2,968,992, 1–24–61, Cl. 88—24.

Billet, Edward H., and B. Baak, to Vari-Typer Corp. Automatic camera apparatus for making up printed copy. 2,969,235, 1–24–61, Cl. 271—43.

Birmann, Rudolph, to De Laval Steam Turbine Co. Turbocharging of internal combustion engines. 2,968,914, 1–24–61, Cl. 60—13.

Birtcher Corp., The: *See*—
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Bjering, Olav, to Owens-Illinois Glass Co. Container closing apparatus. 2,968,900, 1–24–61, Cl. 53—112.

Black-Clawson Co., The: *See*—
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Black, James B., R. W. Meyer, and W. F. Shurts, to Twin Disc Clutch Co. Power transmission. 2,969,131, 1–24–61, Cl. 192—3.2.

Blackington, Paul A.: *See*—
Gregoire, Stephen E., and Blackington. 2,969,420.

Blackstone, Henry, to Servo Corp. of America. Stereo strip camera. 2,969,005, 1–24–61, Cl. 95—12.5.

Blaw-Knox Co.: *See*—
Hale, Andrew, McClellan, and Guggenheim. 2,968,832.

Blevans, William E., and W. L. Grant, to United States of America, Navy. Fuel nozzle head for anti-coking. 2,968,925, 1–24–61, Cl. 60—39.74.

Bliss, Harvey N., to Veeder-Root Inc. Counter wheel. 2,969,175, 1–24–61, Cl. 235—1.

Blitser, Sidney M., and T. H. Pearson, to Ethyl Corp. Preparation of organo group II-B metal compounds. 2,969,381, 1–24–61, Cl. 260—429.9.

Blich, Felix, to United States of America, Agriculture. Salting of split pistachio nuts. 2,969,290, 1–24–61, Cl. 99—127.

Bocognano, René J. Process and apparatus for spraying and dehydrating suspensions in vacuo. 2,969,111, 1–24–61, Cl. 159—3.

Bodholdt, Robert H. Large tape reel adaptor for home tape recorders. 2,969,201, 1–24–61, Cl. 242—55.12.

Boehm, Ernst: *See*—
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Bogert, Thure B., to Aktiebolaget Addo. Error code indications providing devices for use in tape punches. 2,969,174, 1–24–61, Cl. 234—124.

Booth, Eugene C., to Thompson Ramo Wooldridge Inc. Resistance metal gathering machine. 2,969,455, 1–24–61, Cl. 219—151.

Borah, John E. Utility holder. 2,968,888, 1–24–61, Cl. 45—28.

Börner, Manfred, to Telefunken G.m.b.H. Mechanical high frequency filters. 2,969,511, 1–24–61, Cl. 333—71.

Botnick, Irdin, to The Kromex Corp. Dispenser cabinet. 2,969,169, 1–24–61, Cl. 225—43.

Bourassa, Francis J., to Raytheon Co. Sealed crystal diode packages. 2,969,487, 1–24–61, Cl. 317—234.

Bowden, George E.: *See*—
Erst, Stephen J., and Bowden. 2,969,018.

Boyer, Ralph K., and H. W. Krohn, Jr., to The Dill Mfg. Co. Lubricating holder for a side wall tire valve inflating needle. 2,969,082, 1–24–61, Cl. 137—231.

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Brandt, Armand, to Aktiengesellschaft Brown, Boveri & Cie. Contactor type rectifier. 2,969,496, 1–24–61, Cl. 321—48.

Brandt, Edgar W., to Anstalt fur die Entwicklung von Erfindungen und Gewerblichen Anwendungen Energa. Sighting device for rifle grenades and the like. 2,968,870, 1–24–61, Cl. 33—47.

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Braud, Richard H.: *See*—
Toups, Harry S., Jr., and L. P. and R. H. Braud. 2,969,013.

Braun, Robert A., and W. A. Mosher. Substituted indeno [1,2-c] pyrazole derivatives. 2,969,371, 1–24–61, Cl. 260—310.

Braun, Robert A., and W. A. Mosher. Cycloalkylpyrazolo [3,4-a] inden-4[1H]-one derivatives. 2,969,372, 1–24–61, Cl. 260—310.

Brayman, Jacob: *See*—
Zeitlin, Alexander, Herman, and Brayman. 2,968,837.

Brennalt, Chester I., to Western Electric Co., Inc. Rotary wave guide joints. 2,969,513, 1–24–61, Cl. 333—98.

Brenner, Fivel C., and G. J. Liloia, to Johnson & Johnson. Fibrous products. 2,968,858, 1–24–61, Cl. 28—78.

Bressillon, Martin L.: *See*—
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Breton, Ernest J. Process for cutting metal employing amorphous silica. 2,968,999, 1–24–61, Cl. 90—11.

Briskin, Theodore S., R. L. Moore, and E. A. Rom, to Revere Camera Co. (formerly Samica Corp.). Automatic magazine slide projector. 2,968,993, 1–24–61, Cl. 88—28.

Bristol Repetition Ltd.: *See*—
Arengo, Christopher G. 2,969,041.

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Groombridge, Denis W., Hawtin, and Downing. 2,968,834.

British Oxygen Co. Ltd., The: *See*—
Churcher, Thomas C. 2,969,282.
Lucey, John A. 2,969,454.

Britton, Edgar C., D. D. Wheeler, and D. C. Young, to The Dow Chemical Co. Process for the preparation of 2-amino-5-chlorobenzoxazole. 2,969,370, 1–24–61, Cl. 260—307.

Broberg, Walter O. W.: *See*—
Vigren, Sten D., Broberg, and Zander. 2,969,433.

Broman, Cyrus R., to Baxter Laboratories, Inc. Parenteral fluid administration equipment. 2,969,063, 1–24–61, Cl. 128—214.

Broman, Cyrus R., to Baxter Laboratories, Inc. Artificial kidney system. 2,969,150, 1–24–61, Cl. 210—321.

Brookhyser, Byron B., H. E. Erickson and D. L. Schubert: said Brookhyser and said Erickson assor. of ⅓ to said Schubert and ⅔ to Industrial Development Co. Feeding apparatus for rotary wood flaker. 2,969,095, 1–24–61, Cl. 144—242.

Brown, George S., Jr.: *See*—
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Brown, Graham B. Means for sweeping a mine. 2,969,036, 1–24–61, Cl. 114—235.

Brown, Harry H. Rider steered power grass and weed cutter. 2,968,902, 1-24-61, Cl. 56—25.4.

Brown, Whitney A.: *See*—
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Browne, Kenneth A., and G. J. Sennhauser, to The Chesapeake and Ohio Railway Co. Railway brake mechanism. 2,969,129, 1-24-61, Cl. 188—33.

Brukner, John S.: *See*—
Weiss, Walter J., Walker, and Brukner. 2,969,322.

Bruma, Marc, and M. Magat, to Centre National de la Recherche Scientifique. Machining systems making use of intermittent electrical discharges. 2,969,482, 1-24-61, Cl. 315—207.

Bryant, Jack M.: *See*—
Warrick, Leland K., and Bryant. 2,968,935.

Brynko, Carl, to The National Cash Register Co. Oil containing capsules and method of making them. 2,969,330, 1-24-61, Cl. 252—316.

Brynko, Carl, and J. A. Scarpelli, to The National Cash Register Co. Process of making dual-walled oil containing capsules. 2,969,331, 1-24-61, Cl. 252—316.

Buck, Willard E., to Beckman & Whitley, Inc. High speed continuous writing framing camera. 2,968,989, 1-24-61, Cl. 88—16.

Buck, Willard E., and L. R. Teeple, Jr., to Beckman & Whitley, Inc. Continuous writing framing camera. 2,968,990, 1-24-61, Cl. 88—16.

Buckler, Sheldon A., to American Cyanamid Co. Tris (substituted carbamoyl) phosphines and the preparation thereof. 2,969,390, 1-24-61, Cl. 260—551.

Buckler, Sheldon A., to American Cyanamid Co. Spirotetrakishydroxyalkyl phosphonium salts. 2,969,398, 1-24-61, Cl. 260—606.5.

Buckley, Donald J., and S. B. Robison, to Esso Research and Engineering Co. Vulcanizable butyl rubber —GR-S blends and process of making same. 2,969,341, 1-24-61, Cl. 260—45.5.

Bunce, Jerome R., Jr., and E. J. Geu, to The Bastian-Blessing Co. Valve seat. 2,969,219, 1-24-61, Cl. 251—362.

Bunten, Helmut: *See*—
Baumann, Albert, and Bunten. 2,969,137.

Buri, Alfred, to Sulzer Freres, Societe Anonyme. Feed water supply system for steam generators. 2,969,048, 1-24-61, Cl. 122—451.

Burroughs Corp.: *See*—
Bennion, David R. 2,969,524.
Chen, Tung C. 2,969,527.
Chen, Tung C. 2,969,528.
Gilson, Paul R. 2,969,529.
McCauley, John H. 2,969,270.

Buss, Benjamin A., to American Machine and Metals, Inc. Laundry folding machines. 2,969,233, 1-24-61, Cl. 270—69.

Bustin, William M., to Esso Research and Engineering Co. Measurement of potential gradients. 2,969,503, 1-24-61, Cl. 324—72.

CTS Corp.: *See*—
Barden, Wayne A., Wagner, and Snyder. 2,969,443.

Cain, Arthur J. Pen and pencil attachment device. 2,968,849, 1-24-61, Cl. 24—11.

Caldwell, William J. Centrifugal take-off and control nozzle. 2,969,009, 1-24-61, Cl. 98—40.

Cale, Roland E., to Schaefer Equipment Co. Heading die. 2,968,976, 1-24-61, Cl. 78—61.

California Institute Research Foundation: *See*—
Denison, Frank G., Jr. 2,968,918.

Callender, Bernard L., to GPE Controls, Inc. High capacity hydraulic relay. 2,969,079, 1-24-61, Cl. 137—83.

Callery Chemical Co.: *See*—
Kyllonen, David M. 2,969,274.

Calumet Mfg. Co., Inc.: *See*—
Leahin, Joseph. 2,968,826.

Canada, Her Majesty the Queen in right of, as represented by the Minister of National Defence: *See*—
Seaman, Ernest A. 2,969,541.

Canadian National Railway Co.: *See*—
Posnanski, Edmund M. 2,968,844.

Canadian Westinghouse Co., Ltd.: *See*—
Felix, Michael O., and Lipinski. 2,969,457.

Capuano, Dominick J., to United States of America, Navy. Intercept course calculator. 2,969,179, 1-24-61, Cl. 235—78.

Card, Theodore B., to The Bendix Corp. Fuel control for gas turbine engine. 2,969,109, 1-24-61, Cl. 158—36.

Cardwell-Westinghouse Co.: *See*—
Cole, Shephard A. 2,969,260.

Carlsson, Peter M., and K. F. Petersen, to Dano Ingeniorforretning og Maskinfabrik, Ingenior Kai Petersen's Fond. Apparatus for the fermentation of solid organic materials. 2,969,277, 1-24-61, Cl. 23—259.1.

Carpenter, Paul G., to Phillips Petroleum Co. Drilling fluids and method of using same. 2,969,321, 1-24-61, Cl. 252—8.5.

Carter, Richard T. Method of casting refractory shells. 2,968,848, 1-24-61, Cl. 22—212.

Cashin, Inc.: *See*—
Gillman, Harold K. 2,969,099.

Cedar Engineering, Inc.: *See*—
Leithe, Marvin I. S. 2,969,195.

Ceeco Products Pty. Ltd.: *See*—
McCulloch, Robert G. 2,969,161.

Celanese Corp. of America: *See*—
Swerdloff, Jack, Larsen, and Troeleman. 2,968,857.

Central Transformer Corp.: *See*—
Smith, George A. 2,968,862.

Centre National de la Recherche Scientifique: *See*—
Bruma, Marc, and Magat. 2,969,482.

Chapman, Harvey W., and H. L. Dunlap, to Evans Products Co. Freight loading apparatus. 2,969,023, 1-24-61, Cl. 105—368.

Chase Bag Co.: *See*—
White, Russell J. 2,969,101.

Check, Edmund A.: *See*—
Scheublein, William A., Jr., and Check. 2,969,230.

Chen, Tung C., to Burroughs Corp. Discrete element magnetic recording. 2,969,527, 1-24-61, Cl. 340—174.1.

Chen, Tung C., to Burroughs Corp. Read-write circuit for magnetic recording. 2,969,528, 1-24-61, Cl. 340—174.1.

Chenicek, Joseph A., to Universal Oil Products Co. Combination alkylation and dehydrogenation process. 2,969,894, 1-24-61, Cl. 260—577.

Chesapeake and Ohio Railway Co., The: *See*—
Browne, Kenneth A., and Sennhauser. 2,969,129.

Chicago Elevator and Machine Co., Inc.: *See*—
Jones, Frederick H., and Mori. 2,969,128.

Chisholm, Morris W., and K. E. Nichols. Impulse powered X-ray apparatus. 2,969,464, 1-24-61, Cl. 250—102.

Chronicle Publishing Co., The: *See*—
See, Harold P. 2,969,427.

Churcher, Thomas C., to The British Oxygen Co. Ltd. Treatment of ferrous metal. 2,969,282, 1-24-61, Cl. 75—60.

Ciba Pharmaceutical Products Inc.: *See*—
Wettstein, Albert, Vischer, and Meystre. 2,969,304.
Wettstein, Albert, Vischer, and Meystre. 2,969,305.

Clapper, Genung L., to International Business Machines Corp. Method and apparatus for handling and storing binary data. 2,969,526, 1-24-61, Cl. 340—174.1.

Clar, Milton, to ACF Industries, Inc. Spool-type valve for use in hydraulic systems. 2,969,045, 1-24-61, Cl. 121—46.5.

Cleaver-Brooks Co.: *See*—
Grobecker, Hugo H. 2,969,000.

Cleveland, Raymond L.: *See*—
Wayne, Charles J., Edkins, and Cleveland. 2,968,920.

Clevite Corp.: *See*—
Jaffe, Hans, and Berlincourt. 2,969,512.

Coats & Clark Inc.: *See*—
Morin, Louis H. 2,968,908.
Morin, Louis H. 2,969,029.
Morin, Louis H., and Gries. 2,968,821.

Coblitz, Sanford E. Combination thread-cutting tool and reamer. 2,968,822, 1-24-61, Cl. 10—87.

Cole, Shephard A., to Cardwell-Westinghouse Co. Journal lubricator. 2,969,260, 1-24-61, Cl. 308—87.

Coleman, Daniel B., to North American Aviation, Inc. Mobile starter for jet aircraft engines. 2,968,923, 1-24-61, Cl. 60—39.14.

Coleman, Henri P., and J. A. Kaiser, Jr., to United States of America, Navy. Spiral antenna system with trough reflector. 2,969,542, 1-24-61, Cl. 343—761.

Coed of California, Inc.: *See*—
Farnsworth, Don A. 2,969,065.

Collins Radio Co.: *See*—
Amfahr, Warren U. 2,969,486.
Barry, George H. 2,969,430.
Hern, Howard D. 2,969,459.
Hogue, Noel E. 2,969,468.
Mullen, Joe P. 2,968,968.
Rowley, Robert J. 2,969,480.
Stewart, Clyde. 2,969,540.

Colombo, Roberto, to S.A.S. Lavorazione Materie Plastiche (L.M.P.) di M. I. Colombo & C. Screw press for extruding plastic materials. 2,968,836, 1-24-61, Cl. 18—12.

Columbia Broadcasting System, Inc.: *See*—
Wittlig, Paul F. 2,969,428.

Comer, Marvin H., D. W. Terrell, and C. A. Miles, to Textile Licensing Co. Producing dual torque yarn. 2,968,909, 1-24-61, Cl. 57—157.

Commissariat a l'Energie Atomique: *See*—
Klein, Siegfried. 2,969,480.

Comptometer Corp.: *See*—
Goldberg, Arthur E., and Fain. 2,968,946.

Compur-Werk Friedrich Deckel O.H.G.: *See*—
Gebele, Kurt. 2,969,004.

Condie, Marion A., and L. S. Reel, to Ryan Aeronautical Co. Centripetal acceleration compensation computer for stable platform. 2,968,957, 1-24-61, Cl. 74—5.47.

Consolidated Electrodynamics Corp.: *See*—
Curtis, Gerald R. 2,969,514.

Contina Bureau- und Rechenmaschinenfabrik Aktiengesellschaft: *See*—
Ferrari, Alfredo, and Gasser. 2,969,008.

Continental Can Co., Inc.: *See*—
Alexander, Paul. 2,969,448.
Galitz, Raymond F. 2,969,103.
Henchert, John. 2,969,166.

Controls Co. of America: *See*—
Kramer, Leo. 2,969,088.
Vicenzi, Reno L., and Heiser. 2,969,077.
Vicenzi, Reno L. 2,969,078.

Cook, Henry W. Machine for folding newspapers. 2,969,232, 1-24-61, Cl. 270—68.

Cook, L. Russell, to Ambrosia Chocolate Co. Chocolate chip type flavoring for ice cream and method of preparing the same. 2,969,285, 1-24-61, Cl. 99—23.

Cook, L. Russell, to Ambrosia Chocolate Co. Method of preparing chocolate flavoring for ice cream. 2,969,286, 1-24-61, Cl. 99—23.

Cook, Richard R. Air purifier. 2,969,127, 1-24-61, Cl. 183—7.

Coover, Harry W., Jr., and F. B. Joyner, to Eastman Kodak Co. Three-component alkyl aluminum halide catalysts for olefin polymerization. 2,969,345, 1-24-61, Cl. 260—93.7.

Coover, Harry W., Jr., and F. B. Joyner, to Eastman Kodak Co. Three-component catalyst for polymerizing olefins containing a mixture of metals and a halogen. 2,969,346, 1-24-61, Cl. 260—93.7.

Cotroumpas, Stephen. Fishing lure. 2,968,886, 1-24-61, Cl. 43—42.06.

Cousino, Walter F. Feeding apparatus. 2,968,982, 1-24-61, Cl. 83—262.

Cousino, Walter F. Rotary impact perforating machine having positive punch retracting means. 2,968,983, 1–24–61, Cl. 83—356.

Covini, Mario, to Linotype S.p.A. Device for turning over typographic lines composed by a line-composing machine. 2,969,139, 1–24–61, Cl. 199—61.

Coxe, George H., to Sanford Process Co. Inc. Electrolytic apparatus. 2,969,314, 1–24–61, Cl. 204—242.

Cramer, Thomas F., to Holley Carburetor Co. Engine speed control system. 2,969,076, 1–24–61, Cl. 137—55.

Creed, Sherman H., to Food Machinery and Chemical Corp. Fruit preparation machine. 2,969,098, 1–24–61, Cl. 146—52.

Crisbal, Joan M., and M. B. Melillo, to Pacific Semiconductors, Inc. Chemical gold plating. 2,969,295, 1–24–61, Cl. 117—130.

Crosby, James S., Jr., to International Business Machines Corp. Data transmission and storage system. 2,969,522, 1–24–61, Cl. 340—172.5.

Croset, Louis P. Spindle coupling devices for rotary members. 2,968,936, 1–24–61, Cl. 64—7.

Crosfield, J. F., Ltd.: *See*—
Crosfield, John F. 2,968,988.
Crosfield, John F., Morris, and Allen. 2,969,016.

Crosfield, John F., to J. F. Crosfield Ltd. Apparatus for indicating changes in ink. 2,968,988, 1–24–61, Cl. 88—14.

Crosfield, John F., K. B. Morris, and G. S. J. Allen, to J. F. Crosfield Ltd. Colour printing. 2,969,016, 1–24–61, Cl. 101—202.

Cunningham, Marion M., to United States Rubber Co. Collapsible container. 2,969,102, 1–24–61, Cl. 150—.5.

Curtis, Gerald R., to Consolidated Electrodynamics Corp. Differential transducer. 2,969,514, 1–24–61, Cl. 338—4.

Curtis Mfg. Co.: *See*—
Jones, Carl B. 2,969,093.

Curtiss-Wright Corp.: *See*—
Vogt, Richard. 2,969,037.

Cushing, Richard W., and R. Dereng, to Warwick Mfg. Corp. Antenna for a signal-receiving device. 2,969,543, 1–24–61, Cl. 343—905.

Cusic, John W., to G. D. Searle & Co. 2-chloro-10-phenothiazinecarbonylpiperazines. 2,969,358, 1–24–61, Cl. 260—243.

Damgen, Wilhelm, K. Zager, and G. Kremer, to Knapsack-Griesheim Aktiengesellschaft. Device for tightening and loosening current supply plates on electrodes in electric furnaces. 2,969,410, 1–24–61, Cl. 13—16.

D'Angelo, Joe B.: *See*—
Naxon, William L., Le Pore, Eddy, and D'Angelo. 2,969,107.

Dano Ingeniorforretning og Maskinfabrik, Ingenior Kai Petersen's Fond: *See*—
Carlsson, Peter M., and Petersen. 2,969,277.

Davenport, Charles T., to American Bosch Arma Corp. Gimbal system for vertical indicators. 2,968,955, 1–24–61, Cl. 74—5.8.

Davenport, James D. Automatic fingernail emery board and buffer. 2,969,071, 1–24–61, Cl. 132—73.6.

David, Constant V., to Ryan Aeronautical Co. Aerodynamic jet deflecting nozzle. 2,968,921, 1–24–61, Cl. 60—35.54.

Davis, Andrew J., to General Electric Co. Protective circuit for germanium and silicon rectifier cells. 2,969,494, 1–24–61, Cl. 321—11.

Dean, Harry N., Libbey-Owens-Ford Glass Co. Apparatus for sealing multiple sheet glazing units. 2,968,891, 1–24–61, Cl. 49—1.

Dearborn Electronic Laboratories of Delaware, Inc.: *See*—
Foster, Cyril J., and Naven. 2,969,488.

De Bell, John M., to Phillips Petroleum Co. Pressure-sensitive adhesive tape. 2,969,143, 1–24–61, Cl. 206—59.

De Beaneville, Peter L., to Rohm & Haas Co. Aminoketones. 2,969,359, 1–24–61, Cl. 260—247.7.

De Caro, Charles J., to Olin Mathieson Chemical Corp. Explosively actuated stud with a front guiding means with a tapered flange. 2,968,984, 1–24–61, Cl. 85—10.

De Graff, Margaret M.: *See*—
De Graff, Wilbur C. 2,968,981.

De Graff, Wilbur C., deceased by M. M. De Graff, executrix, to The Warner & Swasey Co. Progressive step bar turner. 2,968,981, 1–24–61, Cl. 82—11.

De Haven, Clark G., and R. O. Welty, to Phillips Petroleum Co. Method and apparatus for prilling ammonium nitrate. 2,968,833, 1–24–61, Cl. 18—2.4.

Dehydag, Deutsche Hydrierwerke G.m.b.H.: *See*—
Dohr, Manfred, and Krause. 2,969,339.

Deissler, Otto. Electromagnetically actuated switch. 2,969,444, 1–24–61, Cl. 200—87.

Delamere Co., Inc.: *See*—
Todfield, Morris H. 2,969,070.

De Laval Steam Turbine Co.: *See*—
Birmann, Rudolph. 2,968,914.

Delk, Eugene P., Jr. Vial. 2,969,160, 1–24–61, Cl. 215—41.

Demagny, Daniel. Attachment for folding machine. 2,969,234, 1–24–61, Cl. 270—80.

De Mocskonyi, Erwin S.: *See*—
Pfeifer, Arthur A., de Mocskonyi, and Von Berg. 2,968,933.

De Mott, Alfred E.: *See*—
Andrews, Theodore E., and De Mott. 2,969,010.

De Napoli, Anthony C., Jr.: *See*—
Mason, Emerson B., and De Napoli. 2,969,268.

De Nisco, Daniele. Method of using a musical toy. 2,968,890, 1–24–61, Cl. 46—179.

Denison, Frank G., Jr., to California Institute Research Foundation. Rocket motor shell construction. 2,968,918, 1–24–61, Cl. 60—35.6.

Dereng, Roman: *See*—
Cushing, Richard W., and Dereng. 2,969,543.

Detecto Scales, Inc.: *See*—
Krupa, Fritz. 2,969,229.

Devine, Martin J.: *See*—
Lamson, Edward R., and Devine. 2,969,263.
Lamson, Edward R., and Devine. 2,969,264.

De Wolf, George L., and I. A. Terry, to General Electric Co. Cordless electric clocks. 2,969,473, 1–24–61, Cl. 310—191.

Dick, A. B., Co.: *See*—
Hanson, Donald E., and Ormsbee. 2,969,014.
Klimkowski, Robert J., and Shoemaker. 2,969,015.

Dickinson, Jack R., to Foster Refrigerator Corp. Refrigerator door construction. 2,968,845, 1–24–61, Cl. 20—35.

Dill Mfg. Co., The: *See*—
Boyer, Ralph K., and Krohn. 2,969,082.

Dillenberg, Horst. Rotary piston engine. 2,969,049, 1–24–61, Cl. 123—8.

Dilworth, John P.: *See*—
Roach, James R., Lyons, and Dilworth. 2,969,325.

Di Marco, William A., and L. G. Heag, to General Electric Co. Contoured article. 2,969,544, 1–24–61, Cl. 343—912.

Dobson, Ernest W., and T. J. Kelly, to Sun Oil Co. Process for preparing polypropylene. 2,969,344, 1–24–61, Cl. 260—93.7.

Doherty, James J.: *See*—
Soper, Ralph B., and Doherty. 2,968,866.

Dohr, Manfred, and H.-J. Krause, to Dehydag, Deutsche Hydrierwerke G.m.b.H. Chlorinated triglycerides of fatty acids as secondary plasticizers for polyvinyl chloride. 2,969,339, 1–24–61, Cl. 260—23.

Dominey, Alan M.: *See*—
Agius, Peter J. V. J., Dominey, and Pegg. 2,969,323.

Donnelly, William R.: *See*—
Vance, John R., and Donnelly. 2,968,932.

Dorinson, Amos, to Sinclair Refining Co. Lubricant composition. 2,969,326, 1–24–61, Cl. 252—48.4.

Dorlars, Alfons, and R. Putter, to Farbenfabriken Bayer Aktiengesellschaft. Azo dyestuffs and their metal complex compounds. 2,969,350, 1–24–61, Cl. 260—148.

Dove, Frank, to The Sperry Gyroscope Co. Ltd. Navigation and automatic control apparatus for aircraft. 2,969,208, 1–24–61, Cl. 244—77.

Dow Chemical Co., The: *See*—
Britton, Edgar C., Wheeler, and Young. 2,969,370.
Kundiger, Donald G., and Morris. 2,969,389.

Downing, John: *See*—
Groombridge, Denis W., Hawtin, and Downing. 2,968,834.

Dowty Fuel Systems Ltd.: *See*—
Tyler, Stanley R. 2,969,022.

Drazick, John. Holding device. 2,969,243, 1–24–61, Cl. 279—76.

Dubois, Martin H., to Svenska Relafabriken ABN AB. Electric switching device. 2,969,439, 1–24–61, Cl. 200—18.

Du Bois, Robert E. Resistor structure. 2,969,516, 1–24–61, Cl. 338—284.

Du Broff, Warren, to C. Barancik. Container washing apparatus. 2,969,073, 1–24–61, Cl. 134—152.

Dunbar, Lee E., and V. Vacquier, to Sperry Rand Corp. Accelerometer. 2,968,950, 1–24–61, Cl. 73—510.

Duncan, Myron G. Sound monitoring circuitry and instrument. 2,969,530, 1–24–61, Cl. 340—261.

Duncan, William S. Child's combination vehicle and rocking chair. 2,969,244, 1–24–61, Cl. 280—8.

Dunigan, Francis P., to Machinery Electrification, Inc. Control apparatus. 2,969,493, 1–24–61, Cl. 318—434.

Dunlap, Henry L.: *See*—
Chapman, Harvey W., and Dunlap. 2,969,023.

Du Pa Co., Inc.: *See*—
Page, Franklin H., Jr. 2,969,453.

Du Pont de Nemours, E. I., and Co.: *See*—
Griswold, Paul H., Ehrich, and Struve. 2,969,366.
Quehl, Henry E., Jr. 2,969,327.

Durand & Huguenin A.G.: *See*—
Grossmann, Hans. 2,969,351.

Durkoppwerke Aktiengesellschaft: *See*—
Baumann, Albert, and Bunten. 2,969,137.

E.R.A. Patents Ltd.: *See*—
Bacon, Francis T. 2,969,315.

Eastman Kodak Co.: *See*—
Coover, Harry W., Jr., and Joyner. 2,969,345.
Coover, Harry W., Jr., and Joyner. 2,969,346.
Malm, Carl J., Rowley, and Hiatt. 2,969,355.
Touey, George P., and Kiefer. 2,969,356.

Easy Washing Machine Co., Ltd., The: *See*—
Hutt, Percy H. 2,969,172.

Eaton Mfg. Co.: *See*—
Emery, Robert D. 2,968,959.
Pipes, George R. 2,969,081.

Ebel, Francis L., to Fairey Aviation Ltd. Multiple indicators. 2,969,532, 1–24–61, Cl. 340—327.

Eckert, John P., Jr., and H. Lukoff, to Sperry Rand Corp. Information storage system. 2,969,478, 1–24–61, Cl. 315—12.

Eddy, George E.: *See*—
Naxon, William L., Le Pore, Eddy, and D'Angelo. 2,969,107.

Edkins, Denis P.: *See*—
Wayne, Charles J., Edkins, and Cleveland. 2,968,920.

Edwards, William V.: *See*—
Lorenz, Donald L., and Edwards. 2,969,019.

Eggmann, Jean, to Aktiengesellschaft Brown, Boveri & Cie. Universally movable pipe joint. 2,969,247, 1–24–61, Cl. 285—114.

Ehrich, Felix F.: *See*—
Griswold, Paul H., Ehrich, and Struve. 2,969,366.

Ekco Alcoa Containers Inc.: *See*—
Jones, Delbert R. 2,969,105.

Eldred, Nelson R.: *See*—
Horn, Christian F., Hostettler, and Eldred. 2,969,387.

Electric & Musical Industries Ltd.: *See*—
Spencer, Rolf E., and Phillips. 2,969,489.
Tait, David R. 2,969,424.

Electric Regulator Corp.: *See*—
Hysler, John F. 2,969,467.

Electrosystems Inc.: *See*—
Anderson, Jack S., and Knoch. 2,969,490.

Elektrophysikalische Anstalt Bernhard Berg-Haus: *See*—
Berghaus, Bernhard. 2,969,475.

Ellenson, Evelyn, and R. Galba. Composition for removing coatings. 2,969,328, 1–24–61, Cl. 252—153.

Emery, Robert D., to Eaton Mfg. Co. Position-selecting actuator device. 2,968,959, 1–24–61, Cl. 74—10.27.

Endo Laboratories, Inc.: *See*—
Schlesinger, Albert, and Gordon. 2,969,363.

Engineering Supervision Co.: *See*—
Zeitlin, Alexander, Herman, and Brayman. 2,968,837.

Erickson, Harold E.: *See*—
Brookhyser, Byron B., Erickson, and Schubert. 2,969,095.

Erickson, Harold E.: *See*—
Schubert, Dale L., Erickson, and Riley. 2,969,104.

Erickson, Roy. Anti-dive means in automotive vehicle. 2,969,246, 1–24–61, Cl. 280—124.

Ericson, Carl W., Jr.: *See*—
Mannheimer, David, and Ericson. 2,969,537.

Erikson, Carl F.: *See*—
Swanson, Fred R., and Erikson. 2,968,965.

Erst, Stephen J., and G. R. Bowden, to International Telephone and Telegraph Corp. Quadrant homing system. 2,969,018, 1–24–61, Cl. 102—50.

Esso Research and Engineering Co.: *See*—
Agius, Peter J. V. J., Dominey, and Pegg. 2,969,323.
Buckley, Donald J., and Robison. 2,969,241.
Bustin, William M. 2,969,503.
Feldman, Nicholas, Gross, and Monnikendam. 2,968,940.
Jordan, John M. 2,969,110.
Knapp, Carroll L., Jr., and Wythe. 2,969,324.
Morgan, Walter A. 2,969,461.
Morgan, Walter A. 2,969,462.
Perry, Robert H., Jr. 2,969,376.
Sosnowski, John, Maier, Sweetser, and Priestley. 2,969,319.

Ethyl Corp.: *See*—
Blitzer, Sidney M., and Pearson. 2,969,381.
Mangham, Jesse R. 2,969,382.
Petree, Harris E. 2,969,383.
Whaley, Thomas P. 2,968,917.

Evans, George F. Number finder and telephone receiver minder. 2,968,881, 1–24–61, Cl. 40—68.

Evans Products Co.: *See*—
Chapman, Harvey W., and Dunlap. 2,969,023.

Evans, Quentin J.: *See*—
Miner, Richard Y., Abt, and Evans. 2,969,184.

Everett, Charles R.: *See*—
Rosenberg, Mortimer L., Everett, and Hutto. 2,969,407.

Everett, Vernon M. Method of making a lawn rake. 2,968,974, 1–24–61, Cl. 76—111.

Fain, David L.: *See*—
Goldberg, Arthur E., and Fain. 2,968,946.

Fain, Doyle F., and E. Genter. Variable camber airfoil. 2,969,207, 1–24–61, Cl. 244—44.

Fairey Aviation Ltd.: *See*—
Ebel, Francis L. 2,969,532.

Faller, Hermann. Miniature electric motor. 2,969,472, 1–24–61, Cl. 310—82.

Farbenfabriken Bayer Aktiengesellschaft: *See*—
Dorlars, Alfons, and Putter. 2,969,350.

Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning: *See*—
Frey, Hans-Helmut, and Kahrs. 2,969,403.
Hirschberg, Rudolf. 2,969,276.

Farmingdale Corp., The: *See*—
Fazekas, Gabriel A.G. 2,969,020.

Farnsworth, Don A., to Coed of California, Inc. Diaper garment. 2,969,065, 1–24–61, Cl. 128—284.

Farnsworth, George H.: *See*—
Herrmann, John A., Farnsworth, and Stiner. 2,969,438.

Fawcett, William L., to Phillips Petroleum Co. Ethylene polymerization catalyst and process. 2,969,348, 1–24–61, Cl. 260—94.9.

Fazekas, Gabriel A. G., to The Farmingdale Corp. Floating balanced doctor blade or vane. 2,969,020, 1–24–61, Cl. 103—84.

Fearnside, Kenneth. Control systems for steering dirigible craft. 2,969,536, 1–24–61, Cl. 343—7.

Feistel, Robert B., Jr., to Halliburton Oil Well Cementing Co. Hydraulic mechanism for concrete mixer. 2,968,915, 1–24–61, Cl. 60—19.

Feldman, Nicholas, G. P. Gross, and P. Monnikendam, to Esso Research and Engineering Co. Method for detecting dispersed water in hydrocarbons. 2,968,940, 1–24–61, Cl. 73—73.

Felix, Gaetano G. Ciphering machines. 2,969,135, 1–24–61, Cl. 197—4.

Felix, Michael O., and A. J. Lipinski, to Canadian Westinghouse Co., Ltd. Diversity receiver. 2,969,457, 1–24–61, Cl. 250—20.

Ferguson, Rector C., to Allis-Chalmers Mfg. Co. Cotton spindle driving assembly. 2,968,904, 1–24–61, Cl. 56—42.

Fermi, Enrico, and H. L. Anderson, to United States of America, Atomic Energy Commission. Method of testing thermal neutron fissionable material for purity. 2,969,307, 1–24–61, Cl. 204—154.2.

Ferrari, Alfredo, and A. Gasser, to Contina Bureau- und Rechenmaschinenfabrik Aktiengesellschaft. Lens, particularly replaceable lens for reflex cameras. 2,969,008, 1–24–61, Cl. 95—64.

Figge, Carroll C. Method and apparatus for maintaining insulation. 2,969,027, 1–24–61, Cl. 108—6.

Filia, George J.: *See*—
Kulberah, Nathan, and Filia. 2,969,097.

Finer, Joseph S., to Johns-Manville Fiber Glass Inc. Method of making a synthetic resin panel with a crinkled finish. 2,969,301, 1–24–61, Cl. 154—106.

Finniston, Harold M., and O. S. Plail, to United States of America, Atomic Energy Commission. Neutronic reactor fuel element and method of manufacture. 2,969,309, 1–24–61, Cl. 204—193.2.

Fishburn, Ralph E., to Minneapolis-Honeywell Regulator Co. Temperature control apparatus for cotton driers. 2,968,874, 1–24–61, Cl. 34—48.

Fisher, Walter W., to The Bendix Corp. Digital transformer. 2,969,534, 1–24–61, Cl. 340—347.

Fitzpatrick, John T.: *See*—
Hill, Fred N., Fitzpatrick, and Bailey. 2,969,402.

Fleischer, Arthur, to United States of America, Army. Manufacture of cadmium and nickel plates for batteries of the nickel-cadmium type. 2,969,414, 1–24–61, Cl. 136—29.

Flynn, Charles E., and M. O. Ricker, to General Foods Corp. Method for preparing quick-cooking rice. 2,969,288, 1–24–61, Cl. 99—82.

Foll, John V., to Mutrhead & Co. Ltd. Ship stabilizers. 2,969,035, 1–24–61, Cl. 114—126.

Food Machinery and Chemical Corp.: *See*—
Creed, Sherman H. 2,969,098.
Holmes, Jack H. 2,968,899.
Mumma, Harold J. 2,969,136.
Rose, Boyd W. 2,968,948.
Steckler, Robert. 2,969,334.
Westfall, Richard H. 2,969,360.

Ford, Barton H., ½ to International Paper Co., and ½ to The Stanley Works. Grain door. 2,969,112, 1–24–61, Cl. 160—368.

Fording, William G. Folding bleachers. 2,968,843, 1–24–61, Cl. 20—1.126.

Foreman, Alexander, and G. M. Grimaldi, to Sylvania Electric Products Inc. Component assembly apparatus. 2,968,809, 1–24–61, Cl. 1—3.

Foreman, Lemuel R. Debarking nozzle. 2,969,190, 1–24–61, Cl. 239—597.

Fortuna Foundations, Inc.: *See*—
Murdock, Benjamin. 2,969,068.

Forwald, Haakon, to Allmanna Svenska Elektriska Aktiebolaget. Air blast circuit breakers. 2,969,446, 1–24–61, Cl. 200—148.

Forwald, Haakon, to Allmanna Svenska Elektriska Aktiebolaget. Air blast circuit breakers. 2,969,447, 1–24–61, Cl. 200—148.

Foster, Cyril J., and B. S. Naven, to Dearborn Electronic Laboratories of Delaware, Inc. Extended foil capacitor. 2,969,488, 1–24–61, Cl. 317—260.

Foster Refrigerator Corp.: *See*—
Dickinson, Jack R. 2,968,845.

Foulkes, John D., to Bell Telephone Laboratories, Inc. Analog-digital interconversion circuitry. 2,969,535, 1–24–61, Cl. 340—347.

Fox, Carl J., ½ to M. E. Warren. Folding brace for connecting hinged elements. 2,969,249, 1–24–61, Cl. 287—99.

Frank, Arthur W., to Basic Products Corp. Furnaces. 2,969,412, 1–24–61, Cl. 13—31.

Franz, Ada L.: *See*—
Franz, Erwin E. 2,969,300.

Franz, Erwin E., deceased (A. L. Franz, executrix), to Bell Telephone Laboratories, Inc. Process for making printed circuits. 2,969,300, 1–24–61, Cl. 154—98.

Frey, Hans-Helmut, and K. Kahrs, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning. Method for the preparation of chlorofluorocarbon oils or waxes. 2,969,403, 1–24–61, Cl. 260—653.1.

Friden, Inc.: *See*—
Starr, Robert W. 2,969,178.

Friesen, Wilmer J. Power control apparatus. 2,969,043, 1–24–61, Cl. 121—39.

Frohnapel, Alvah V., and L. E. Welch; said Frohnapel assor. to said Welch. Diaper rinse device. 2,968,938, 1–24–61, Cl. 68—205.

Fujikura Koso Co. Ltd.: *See*—
Iijima, Tsuneo, and Watanabe. 2,969,213.

Fujio, Bunzo: *See*—
Punyaratband, Smahn, Ogawa, and Fujio. 2,969,429.

Fullerton, John R., L. E. Leech, and D. L. Heyser, to Ryan Aeronautical Co. Method of handling thin-sheet material to prevent distortion. 2,969,299, 1–24–61, Cl. 148—131.

Fulop, Charles. Variable impact drill. 2,968,960, 1–24–61, Cl. 74—22.

Furmánek, Bohumír, J. Holešovský, and W. Wittich. Cascade chute for transporting packing material. 2,969,192, 1–24–61, Cl. 241—154.

GPE Controls, Inc.: *See*—
Callender, Bernard L. 2,969,079.

Galba, Richard: *See*—
Ellenson, Evelyn, and Galba. 2,969,328.

Galitz, Raymond F., to Continental Can Co., Inc. Sheet slitting and scrap coiling machine and method. 2,969,103, 1–24–61, Cl. 153—2.

Gans, Werner A.: *See*—
Swift, Robert J., Afruati, Altschuler, and Gans. 2,968,986.

Gardner, Oliver H. Equalizing base support for ladders. 2,969,126, 1–24–61, Cl. 182—202.

Garnett, Donald W., to The Olofsson Corp. Radially adjustable rotary cutter. 2,968,859, 1–24–61, Cl. 29—105.

Garrett Corp., The: *See*—
Jensen, Raymond W. 2,969,206.

Garrett, Donald E., to American Potash & Chemical Corp. Recovery of boron values. 2,969,275, 1–24–61, Cl. 23—59.

Gasser, Adolf: *See*—
Ferrari, Alfredo, and Gasser. 2,969,008.

Gaugler, Richard S., to General Motors Corp. Domestic appliance. 2,969,515, 1–24–61, Cl. 338—28.

Gauthier, Robert, to Societe Industrielle Generale de Mecanique Appliquee S.I.G.M.A. Centrifugal governors. 2,968,951, 1–24–61, Cl. 73—511.

Gebel, Radames K. H., to United States of America, Air Force. Moving target indicator with background compensation for visual light and the near infrared. 2,969,477, 1–24–61, Cl. 315—11.
Gebele, Kurt, to Compur-Werk Friedrich Deckel O.H.G. Photographic camera. 2,969,004, 1–24–61, Cl. 95—10.
Gee, Ainger A.: *See*—
Beadle, Stanley, and Gee. 2,968,971.
Geiger, Edward C. Automatic misting system. 2,969,185, 1–24–61. Cl. 239—63.
Geiger, Edward C. Misting control. 2,969,186, 1–24–61, Cl. 239—65.
Geller, Thomas L., W. G. Laabs, and R. N. Kircher, to West Bend Aluminum Co. Electrically heated apparatus. 2,969,452, 1–24–61, Cl. 219—44.
General Electric Co.: *See*—
Andrews, Theodore E., and De Mott. 2,969,010.
Benander, George B. 2,969,418.
Benander, George B., and Lawson. 2,969,442.
Davis, Andrew J. 2,969,494.
De Wolf, George L., and Terry. 2,969,473.
Di Marco, William A., and Hoag. 2,969,544.
Goff, Leon E., Jr. 2,969,485.
Kelley, George J. 2,969,523.
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Mereness, Charles E. 2,968,860.
Pell, Erik M. 2,969,491.
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Wayne, Charles J., Edkins, and Cleveland. 2,968,920.
General Foods Corp.: *See*—
Flynn, Charles E., and Ricker. 2,969,288.
General Motors Corp.: *See*—
Gangler, Richard S. 2,969,515.
Kellogg, George E., and Bauman. 2,969,046.
McGregor, Ralph. 2,968,961.
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Perrine, Warren L. 2,968,945.
Genich, William H., to J. W. Greer Co. Candy extruding machine. 2,969,026, 1–24–61, Cl. 107—29.
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Fain, Doyle F., and Genter. 2,969,207.
Gen, Edwin J.: *See*—
Bunce, Jerome R., Jr., and Gen. 2,969,219.
Gibbs, Maurice G., to Wild-Barfield Electric Furnaces Ltd. Induction heated furnaces. 2,969,411, 1–24–61, Cl. 13—27.
Gilbert, Ronald A., to D. Napier & Son Ltd. Combustion turbine power units. 2,968,922, 1–24–61, Cl. 60—39.5.
Gillett, Thomas H.: *See*—
Ball, John S., and Gillett. 2,969,193.
Gillman, Harold K., to Cashin, Inc. Apparatus for measuring and segregating sliced products from slicing machines. 2,969,099, 1–24–61, Cl. 146—94.
Gilson, Paul R., to Burroughs Corp. Magnetic read-write head having two gaps. 2,969,529, 1–24–61, Cl. 340—174.
Girten, William. Collapsible cabana. 2,969,075, 1–24–61, Cl. 135—5.
Gleim, William K. T., and R. B. Thomason, to Universal Oil Products Co. α-quinoneylidine ethyl β-hydroxy aryl β-phosphoric acid ester. 2,969,378, 1–24–61, Cl. 260—396.
Gloriose, Paul A., to Nelson Stud Welding Div. Interlocking control unit. 2,969,483, 1–24–61, Cl. 315—362.
Gluck, William, to Industrial Electronic Hardware Corp. Pin grip for printed circuit board. 2,969,517, 1–24–61, Cl. 339—17.
Goett, John J., to United States of America, Atomic Energy Commission. Neutronic reactor system. 2,969,310, 1–24–61, Cl. 204—193.2.
Goff, Leon E., Jr., to General Electric Co. Electric relay. 2,969,485, 1–24–61, Cl. 317—36.
Golay & Co., Inc.: *See*—
Golay, Donaven E. 2,969,039.
Golay, Donaven E., to Golay & Co., Inc. Echelon milking system. 2,969,039, 1–24–61, Cl. 119—14.08.
Goldberg, Arthur E., and D. L. Fain, to Comptometer Corp. Radiation pyrometer. 2,968,946, 1–24–61, Cl. 73—355.
Goodhue, Lyle D.: *See*—
Stansbury, Roy E., and Goodhue. 2,969,203.
Goodrich, B. F., Co., The: *See*—
Morris, Roger E. 2,969,343.
Goodwin, Manfred E., E. W. Sawyer, Jr., and H. A. Smith, to Minerals & Chemicals Philipp Corp. Non-sagging joint sealing compositions. 2,969,337, 1–24–61, Cl. 260—22.
Gordon, Eliot G.: *See*—
Konig, Otto, Gordon, and Herman. 2,969,342.
Gordon, Samuel M.: *See*—
Schlesinger, Albert, and Gordon. 2,969,363.
Göthberg, Karl E. A., to Aktiebolaget Svenska Kullagerfabriken. Cage for rolling bodies in rolling bearings. 2,969,267. 1–24–61. Cl. 308—217.
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Janot, Maurice-Marie, Goutarel, and Le Hir. 2,969,867.
Govatsos, Charles A., to Polaroid Corp. Photographic film assemblage. 2,969,283, 1–24–61, Cl. 96—76.
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Baumann, Heinrich, Graf, Schmidt, and Unterstenhofer. 2,969,404.
Grant, Walter L.: *See*—
Blevans, William E., and Grant. 2,968,925.
Gray, Alvin N., to Western Electric Co., Inc. Retractile cords. 2,969,419. 1–24–61. Cl. 174—60.
Great Lakes Carbon Corp.: *See*—
Thomas, Edward C. 2,969,251.
Grebe, John J., to United States of America, Atomic Energy Commission. Nuclear reactor. 2,969,818, 1–24–61, Cl. 204—193.2.
Green, Frank B. K., to Sprout, Waldron & Co., Inc. Pulp manufacture. 2,969,113. 1–24–61. Cl. 162—237.
Green, Jerome, to Nalco Chemical Co. Method of making paper. 2,969,802, 1–24–61, Cl. 162—164.
Greer, J. W., Co.: *See*—
Genich, William H. 2,969,026.
Gregoire, Stephen E., and P. A. Blackington, to The Bendix Corp. High temperature lead assembly. 2,969,420, 1–24–61, Cl. 174—75.
Greier, Josef, and B. Schukoff, to H. List. Precombustion chamber of fuel injection engines. 2,969,050, 1–24–61, Cl. 123—32.
Grein, Hermann: *See*—
Weber, Wolfgang, and Grein. 2,969,197.
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Morin, Louis H., and Gries. 2,968,821.
Grimaldi, Guy M.: *See*—
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Grimes, Charles E., to Toro Mfg. Corp. Lawn mower roller and support. 2,968,906, 1–24–61, Cl. 56—249.
Grimme, Walter, W. Keil, and H. Schmitz, to Rheinpreussen Aktiengesellschaft fur Bergbau und Chemie. Penicillin salts of amino salicylates. 2,969,857, 1–24–61, Cl. 260—239.1.
Grinwold, Paul H., F. F. Ehrich, and W. S. Struve, to E. I. du Pont de Nemours and Co. Production of quinacridones. 2,969,366, 1–24–61, Cl. 260—279.
Grobecker, Hugo H., to Cleaver-Brooks Co. Chamfering tool. 2,969,000, 1–24–61, Cl. 90—12.
Gröger, Silvester, to Horn-Werk G.m.b.H. Shutters for cameras and the like. 2,969,007, 1–24–61, Cl. 95—56.
Groombridge, Denis W., S. G. Hawtin, and J. Downing, to British Celanese Ltd. Manufacture of voluminous yarns. 2,968,834, 1–24–61, Cl. 18—8.
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Grossmann, Hans, to Durand & Huguenin A.G. New metalliferous ortho: ortho'-dihydroxy-monoazo-dyestuffs. 2,969,351, 1–24–61, Cl. 260—149.
Grosvenor, William M., Jr., to The American Sugar Refining Co. Purification of beet sugar solutions. 2,969,297, 1–24–61, Cl. 127—55.
Gruver and Associates, Inc.: *See*—
Gruver, Benton A. 2,969,252.
Gruver, Benton A., to Gruver and Associates, Inc. Seal. 2,969,252. 1–24–61, Cl. 288—22.
Gutalder, Raymond, and G. Mattei. Device for measuring and balancing air pressure in wheel tires of automobiles. 2,969,086, 1–24–61, Cl. 187—557.
Gubelmann, William S., to Realty and Industrial Corp. Partial product calculating machine. 2,969,177, 1–24–61, Cl. 235—63.
Gubelmann, William S., to Realty and Industrial Corp. Keyboard decimal markers and the like. 2,969,181, 1–24–61, Cl. 235—145.
Guex, Waldemar, to Hoffmann-La Roche Inc. 2-methyl-8-phenyl-7-nonen-4-one. 2,969,397, 1–24–61, Cl. 260—590.
Guggenheim, Robert L.: *See*—
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Guignes, Frederic, and M. L. Bressillon, to Societe Lamy d'Etudes et de Recherches "Soler." Apparatus for cleaning tank-waggons, tanks and other chambers. 2,969,188, 1–24–61. Cl. 239—243.
Guise, Arthur B., to Ansul Chemical Corp. Method of controlling and extinguishing fires in pyrophoric fluids. 2,969,116, 1–24–61, Cl. 169—1.
Gulf Research & Development Co.: *See*—
Kaufman, John J., and Temolin. 2,969,840.
Selwitz, Charles M. 2,969,880.
Günther, Willi, to Zeiss Ikon A.G. Stuttgart. Camera shutter. 2,969,006, 1–24–61, Cl. 95—53.
Haag-Streit A.G.: *See*—
Panritz, Franz. 2,968,941.
Hasse, John A., to United States of America, Atomic Energy Commission. Blocking oscillator double pulse generator circuit. 2,969,507, 1–24–61, Cl. 331—148.
Hale, Andrew, B. A. McClellan, and R. L. Guggenheim, to Blaw-Knox Co. Continuous mill. 2,968,832, 1–24–61, Cl. 18—2.
Hall, Harry H., and W. A. Brown. Chatter switch. 2,969,440. 1–24–61, Cl. 200—61.01.
Halliburton Oil Well Cementing Co.: *See*—
Feistel, Robert B., Jr. 2,968,915.
Halsey, James V., to Western Electric Co., Inc. Clamps for securing and supporting articles. 2,969,216, 1–24–61, Cl. 248—71.
Hamill-Markus Industries, Inc.: *See*—
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Hammond, Edmund B., Jr.: *See*—
Newton, George G., Jr., White, and Hammond. 2,968,997.
Hammond, Edmund B., Jr., to Sperry Rand Corp. Stabilized computing gun sight. 2,968,871, 1–24–61, Cl. 33—49.
Hammond, Lee C., to Hammond Machinery Builders, Inc. Machine tool. 2,968,897, 1–24–61, Cl. 51—263.
Hammond Machinery Builders, Inc.: *See*—
Hammond, Lee C. 2,968,897.
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Panicci, Richard L. 2,968,854.
Hamprecht, Guenther, H. Oertel, and M. Schwarzmann, to Badische Anilin- & Soda-Fabrik Aktiengesellschaft. Production of alkyl (alkoxy or aryloxy) aluminum halides. 2,969,384, 1–24–61, Cl. 260—448.
Hannauer, George, Jr., to Johnson & Johnson. Packaged adhesive bandage. 2,969,145, 1–24–61, Cl. 206—63.2.
Hansen, Hans H. Road fence. 2,969,223, 1–24–61, Cl. 256—13.1.
Hanson, Donald E., and M. K. Ormsbee, to A. B. Dick Co. Photochemical stencil and method for manufacture. 2,969,014, 1–24–61, Cl. 101—128.2.
Harberts, Richard D. Method of and means for strengthening the wheel hub units of vehicles. 2,969,256, 1–24–61, Cl. 301—9.
Hardy, Gordon W. Cable and tube anchor. 2,968,851, 1–24–61, Cl. 24—135.
Harmes, Oren B. Binding tensioner. 2,969,221, 1–24–61, Cl. 254—51.

Harris, George M.: *See*—
Bernheim, Louis L., and Harris. 2,968,907.
Hartford, William S. Lifting apparatus. 2,969,125, 1-24-61, Cl. 182—144.
Hartill, Eric R., N. B. Hewett, and A. W. Pimm, to Metropolitan-Vickers Electrical Co. Ltd. Electric cable terminations. 2,969,415, 1-24-61, Cl. 174—19.
Haugwitz, Otto, to Societe Anonyme Geoffroy-Delore. Reel-off and tension-regulating unit for multiple winding machines and tension-preadjusting system therefor. 2,969,205, 1-24-61, Cl. 242—75.43.
Hawtin, Selwyn G.: *See*—
Groombridge, Dennis W., Hawtin, and Downing. 2,968,834.
Hazeltine Research, Inc.: *See*—
Marley, John. 2,969,470.
Hazlett, Russell J. Motor driven aquarium pump. 2,968,963, 1-24-61, Cl. 74—206.
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Komedera, Mieczyslaw. 2,968,934.
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Vicenzi, Reno L., and Heiser. 2,969,077.
Heller, Melvin T., to Milprint, Inc. Perforated cooking package. 2,969,292, 1-24-61, Cl. 99—171.
Henchert, John, to Continental Can Co., Inc. Reclosable container. 2,969,166, 1-24-61, Cl. 220—48.
Henning, Albert C. Steering wheel compensating means. 2,968,969, 1-24-61, Cl. 74—552.
Henning, Robert W., and R. Marsh, to Olin Mathieson Chemical Corp. Fastener device. 2,968,811, 1-24-61, Cl. 1—106.
Hennion, Joseph B., to Tyler Refrigeration Corp. Automatic dispenser for canned goods. 2,969,152, 1-24-61, Cl. 211—49.
Herman, Daniel F.: *See*—
Konig, Otto, Gordon, and Herman. 2,969,342.
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Zeitlin, Alexander, Herman, and Brayman. 2,968,837.
Hern, Howard D., to Collins Radio Co. Method and means for reducing the threshold of angular-modulation receivers. 2,969,459, 1-24-61, Cl. 250—20.
Herrle, Karl: *See*—
Markgraf, Otto, Schuster, Herrle, Boehm, and Schaefer. 2,969,271.
Herrmann, John A., G. H. Farnsworth, and K. P. Stiner, to I-T-E Circuit Breaker Co. Busway system including roller hangers. 2,969,438, 1-24-61, Cl. 191—23.
Hess, Frederic O., to Selas Corp. of America. Annealing lehr. 2,968,894, 1-24-61, Cl. 49—47.
Hess, Howard V., to Texaco Inc. Petroleum treating process. 2,969,317, 1-24-61, Cl. 208—96.
Hewett, Norman B.: *See*—
Hartill, Eric R., Hewett, and Pimm. 2,969,415.
Heyser, Donald L.: *See*—
Fullerton, John R., Leech, and Heyser. 2,969,299.
Hiatt, Gordon D.: *See*—
Malm, Carl J., Rowley, and Hiatt. 2,969,355.
Hickin, Robert J., to Packaging Corp. of America. Packaging method and apparatus. 2,968,898, 1-24-61, Cl. 53—26.
Hicks, Alan A. Three-dimensional die. 2,968,838, 1-24-61, Cl. 18—34.
Hill, Fred N., J. T. Fitzpatrick, and F. E. Bailey, Jr., to Union Carbide Corp. Preparation of catalysts for the polymerization of epoxides. 2,969,402, 1-24-61, Cl. 260—632.
Hill, John L., to Remington Rand Inc. Locating information. 2,969,525, 1-24-61, Cl. 340—174.1.
Hinson, Jay B. Extinguishers. 2,969,069, 1-24-61, Cl. 131—256.
Hirs, Gene. Filter apparatus. 2,969,148, 1-24-61, Cl. 210—108.
Hirschberg, Rudolf, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning. Method of controlling the continuous production of chlorine dioxide. 2,969,276, 1-24-61, Cl. 23—152.
Hoag, Leverne G.: *See*—
Di Marco, William A., and Hoag. 2,969,544.
Hoffmann-La Roche Inc.: *See*—
Aeschlimann, John A. M., and Stempel. 2,969,391.
Guex, Waldemar. 2,969,397.
Hogue, Noel E., to Collins Radio Co. Frequency and phase discriminator. 2,969,468, 1-24-61, Cl. 307—88.5.
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Holden, Orloff W. 2,968,995.
Holden, Orloff W., to O. W. and M. H. Holden, d.b.a. Knickerbocker Rubber Co. Portable mirror. 2,968,995, 1-24-61, Cl. 88—97.
Holderer, Oscar C. Clinometer assembly. 2,968,873, 1-24-61, Cl. 33—207.
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Holley Carburetor Co.: *See*—
Cramer, Thomas F. 2,969,076.
Holmes, Jack H., to Food Machinery and Chemical Corp. Method of and apparatus for packing articles on trays. 2,968,899, 1-24-61, Cl. 53—35.
Holmes, Oscar J. Intermittent motion device for projectors. 2,968,966, 1-24-61, Cl. 74—426.
Holter Co., The: *See*—
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Holter, John W., and E. B. Spitz, to The Holter Co. Device for draining ventricular fluid in cases of hydrocephalus. 2,969,066, 1-4-61, Cl. 128—350.
Hora-Werk G.m.b.H.: *See*—
Gröger, Silvester. 2,969,007.
Horn, Christian F.: *See*—
Young, Donald M., and Horn. 2,969,385.
Horn, Christian F., F. Hostettler, and N. R. Eldred, to Union Carbide Corp. Alkylene and arylene di (sulfonyhalkanoates). 2,969,387, 1-24-61, Cl. 260—481.
Hornik, Frank J., to Lyon Inc. Retaining structure for kitchen sinks. 2,968,815, 1-24-61, Cl. 4—187.
Horton, Erwin C. Windshield wiper. 2,968,828, 1-24-61, Cl. 15—245.
Hostettler, Fritz: *See*—
Horn, Christian F., Hostettler, and Eldred. 2,969,387.
Huggett, Clayton M., and J. J. Nedwick, to Rohms & Haas Co. Preparation of tris(vinoxy)propane. 2,969,400, 1-24-61, Cl. 260—615.
Hughes Aircraft Co.: *See*—
Hughes, Larry E., and Stevens. 2,968,919.
Lassen, Herbert A. 2,968,949.
Hughes, Larry E., and P. J. Stevens, to Hughes Aircraft Co. Variable area nozzle. 2,968,919, 1-24-61, Cl. 60—35.6.
Hughes, William L., to Iowa State College Research Foundation, Inc. Color television recordal. 2,969,425, 1-24-61, Cl. 178—5.4.
Huntington, Morgan G., to Pyrochem Corp. Pendant parting petro pyrolysis process. 2,969,226, 1-24-61, Cl. 262—3.
Huse, Arthur E.: *See*—
Nystrom, Carl H., and Huse. 2,969,085.
Husimi, Kazuo: *See*—
Kiyasu, Zen-iti, Husimi, and Yamanaka. 2,969,497.
Hutchinson, David A.: *See*—
Swanson, Walter S., Hutchinson, and Bert. 2,969,001.
Hutt, Percy H., to The Easy Washing Machine Co., Ltd. Clothes washing machine. 2,969,172, 1-24-61, Cl. 233—24.
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Hysler, John F., to Electric Regulator Corp. Frequency regulation system for generators. 2,969,467, 1-24-61, Cl. 307—57.
Hyster Co.: *See*—
Ross, Cecil J., Jr. 2,968,967.
I-T-E Circuit Breaker Co.: *See*—
Herrmann, John A., Farnsworth, and Stiner. 2,969,438.
Scott, William M., Jr. 2,969,421.
Wiedmann, Ludwig, and Thielmann. 2,969,134.
Iijima, Tsuneo, and N. Watanabe, to Fujikura Koso Co. Ltd. Bag-deploying type parachute. 2,969,213, 1-24-61, Cl. 244—148.
Industrial Development Co.: *See*—
Brookhyser, Byron B., Erickson, and Schubert. 2,969,095.
Schubert, Dale L., Erickson, and Riley. 2,969,104.
Industrial Electronic Hardware Corp.: *See*—
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International Business Machines Corp.: *See*—
Clapper, Genung L. 2,969,526.
Crosby, James S., Jr. 2,969,522.
Litz, Frank A., and Lynott. 2,969,042.
Lynott, John J. 2,969,435.
International Paper Co.: *See*—
Ford, Barton H. 2,969,112.
International Telephone and Telegraph Corp.: *See*—
Erst, Stephen J., and Bowden. 2,969,018.
Inventor-Kreditanstalt: *See*—
Roth, Oskar. 2,969,333.
Iowa State College Research Foundation, Inc.: *See*—
Hughes, William L. 2,969,425.
Ives, Carlton F. Device for measuring lumber. 2,969,180, 1-24-61, Cl. 235—87.
Jacob, Mark I., and W. R. Wilson, to United States of America, Navy. Grid modulation system for simultaneous AM and FM transmissions. 2,969,508, 1-24-61, Cl. 332—38.
Jacobs, Saul B., and M. L. Siegel, to Baby-Line Furniture Co. Adjustable baby crib. 2,968,817, 1-24-61, Cl. 5—63.
Jaffe, Hans, and D. A. Berlincourt, to Clevite Corp. Piezoelectric ceramic resonators. 2,969,512, 1-24-61, Cl. 333—72.
Jagenberg-Werke Akt-Ges.: *See*—
Meyer-Jagenberg, Gunther. 2,969,002.
Jamerson, Ben C.: *See*—
Jamerson, Bennie C. and B. C. 2,969,123.
Jamerson, Bennie C. and B. C. Automobile under hood work rest. 2,969,123, 1-24-61, Cl. 182—116.
Janot, Maurice-Marie, R. Goutarel, and A. Le Hir, to Les Laboratoires Gobey. Process of isomerizing yohimbane compounds. 2,969,367, 1-24-61, Cl. 260—287.
Jenks, Harry N. Detention and mixing apparatus for treating waste liquids. 2,969,225, 1-24-61, Cl. 259—95.
Jensen, Raymond W., to The Garrett Corp. Boundary layer control system for aircraft. 2,969,206, 1-24-61, Cl. 244—42.
Jenson, Cecil R. Emergency buoy marker. 2,968,819, 1-24-61, Cl. 9—9.
Jermář, Frantisek. Arrangement for raising or lowering of heavy bodies using the lifting power of floaters. 2,968,929, 1-24-61, Cl. 61—9.
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Augenstein, Helmut. 2,969,165.
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Johnson, Axel G., to Schulze and Burch Biscuit Co. Flour dusting device with flour loosener. 2,969,024, 1-24-61, Cl. 107—7.
Johnson, Bertil, to Lynch Corp. Cartoner. 2,968,901, 1-24-61, Cl. 53—230.
Johnson, Donald E. Electrically operated automatic sawmill set-works. 2,969,094, 1-24-61, Cl. 143—120.
Johnson, Gordon, Co.: *See*—
Zebarth, Ralph S. 2,968,831.
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Brenner, Fivel C., and Liloia. 2,968,858.
Hannauer, George, Jr. 2,969,145.
Zackheim, Eli A. 2,969,144.

Johnson, Robert E. Process of making piano string. 2,968,863, 1-24-61, Cl. 29—169.5.

Johnston, Herrick L., to Herrick L. Johnston, Inc. Method and apparatus for containing a liquified gas. 2,969,092, 1-24-61, Cl. 138—64.

Johnston, Herrick L., Inc.: *See*—
Johnston, Herrick L. 2,969,092.

Jones, Carl B., to Curtis Mfg. Co. Fluid pressure operated rod guide for use with pull-out device. 2,969,098, 1-24-61, Cl. 140—140.

Jones, Delbert R., to Ekco Alcoa Containers Inc. Apparatus for making pull-tab type closures and method. 2,969,105, 1-24-61, Cl. 154—1.6.

Jones, Frederick H., and J. H. Mori, to Chicago Elevator and Machine Co., Inc. Device for correlating an elevator signal machine carriage with the position of an elevator car. 2,969,128, 1-24-61, Cl. 187—29.

Jones, George L. Bearing construction for gyroscopes and like instruments. 2,969,265, 1-24-61, Cl. 308—194.

Jones, John T. Display apparatus. 2,968,883, 1-24-61, Cl. 40—130.

Jordan, Harold S., Jr., to United States of America, Navy. Parallelogram actuated variable area nozzle. 2,969,189, 1-24-61, Cl. 239—455.

Jordan, John M., to Esso Research and Engineering Co. Fuel delivery system for automotive vehicles. 2,969,110, 1-24-61, Cl. 158—36.4.

Joris, George G., to Allied Chemical Corp. Conversion of nitrocyclohexane to *N*-cyclohexylhydroxylamine. 2,969,393, 1-24-61, Cl. 260—563.

Joyce, Francis J., to National Bulk Carriers, Inc. Vessel for carrying liquid or bulk cargoes. 2,969,083, 1-24-61, Cl. 137—269.

Joyner, Frederick B.: *See*—
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Coover, Harry W., Jr., and Joyner. 2,969,346.

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Lawrence, Joseph W., and Junk. 2,969,354.

Kahn, David, deceased (by J. M. and S. Kahn, and H. Yager, executors), and K. Weisser, deceased, (by H. E. Weisser, executrix), to David Kahn, Inc. Production of writing tips. 2,969,030, 1-24-61, Cl. 113—32.

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Kahn, David, and Weisser. 2,969,030.

Kahn, Julius M.: *See*—
Kahn, David, and Weisser. 2,969,030.

Kahn, Samuel: *See*—
Kahn, David, and Weisser. 2,969,030.

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Frey, Hans-Helmut, and Kahrs. 2,969,403.

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Katzin, Eugene M. Thermometer cover. 2,969,141, 1-24-61, Cl. 206—16.5.

Kaufman, John J., and P. R. Templin, to Gulf Research & Development Co. Process of preventing the separation of polyethylene and wax comprising the addition of water. 2,969,340, 1-24-61, Cl. 260—28.5.

Keil, Werner: *See*—
Grimme, Walter, Keil, and Schmitz. 2,969,357.

Kelley, George J., to General Electric Co. Flux control system for multi-legged magnetic cores. 2,969,523, 1-24-61, Cl. 340—174.

Kellogg, George E., and R. H. Bauman, to General Motors Corp. Brake booster unit casing. 2,969,046, 1-24-61, Cl. 121—48.

Kellogg, M. W., Co., The: *See*—
Stanford, George W., and Patton. 2,969,316.

Kelly, Thomas J.: *See*—
Dobson, Ernest W., and Kelly. 2,969,344.

Kennedy, Gilbert J., and E. W. Weber, Jr., to Philco Corp. Tuning device with fine tuning mechanism. 2,968,958, 1-24-61, Cl. 74—10.8.

Kern, Rudolf: *See*—
Lautsch, Willy, and Kern. 2,969,409.

Kershner, Richard B., to United States of America, Navy. Stabilizers for jet-propelled vehicles. 2,969,017, 1-24-61, Cl. 102—50.

Kesling, Elmer G. Lawn edge trimmer. 2,968,903, 1-24-61, Cl. 56—25.4.

Kiefer, John E.: *See*—
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Kilian, Georg, and F. Mainz, to Libbey-Owens-Ford Glass Co. Method of manufacturing a double sheet glazing unit. 2,968,895, 1-24-61, Cl. 49—82.

Kilyk, John. Microphone stand. 2,969,436, 1-24-61, Cl. 179—148.

Kimble Glass Co.: *See*—
Smith, Dudley C. 2,969,293.
Stutzke, William A. 2,969,162.

King, James A. Anti-slip device for boots and shoes. 2,968,878, 1-24-61, Cl. 36—61.

Kircher, Ralph N.: *See*—
Geller, Thomas L., Laaba, and Kircher. 2,969,452.

Kiyasu, Zen-iti, K. Husimi, and K. Yamanaka, to Nippon Telegraph and Telephone Public Corp. Parametrically excited resonator. 2,969,497, 1-24-61, Cl. 321—69.

Klein, Siegfried, to Commissariat a l'Energie Atomique. Ion sources. 2,969,480, 1-24-61, Cl. 315—111.

Klimkowski, Robert J., and C. J. Shoemaker, to A. B. Dick Co. Method of producing a spirit master from a positive and a duplicating process with same. 2,969,015, 1-24-61, Cl. 101—149.4.

Knapp, Carroll L., Jr., and S. L. Wythe, to Esso Research and Engineering Co. Phosphosulfurized detergent-inhibitor additive. 2,969,324, 1-24-61, Cl. 252—32.7.

Knapsack-Griesheim Aktiengesellschaft: *See*—
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Knickerbocker Rubber Co.: *See*—
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Knoch, Sheldon G.: *See*—
Anderson, Jack S., and Knoch. 2,969,490.

Kollsman Instrument Corp.: *See*—
Andresen, John H., Jr. 2,969,502.

Knopow, Joseph J. Method and apparatus for measuring depths of water and detecting submerged bodies by employing pulsed light. 2,968,987, 1-24-61, Cl. 88—1.

Kolbel, Herbert, and R. Langheim, to Rheinpreussen Aktiengesellschaft fur Bergbau und Chemie. Separation of carbon dioxide from carbon dioxide-olefin containing gas mixtures. 2,969,273, 1-24-61, Cl. 23—3.

Komedera, Mieczyslaw, to Heat Pump & Refrigeration Ltd. Heat pump systems. 2,968,934, 1-24-61, Cl. 62—197.

Konig, Otto, E. G. Gordon, and D. F. Herman, to National Lead Co. Vinyl resin compositions stabilized with acyl borates. 2,969,342, 1-24-61, Cl. 260—45.85.

Královopolská strojírna Závody Chemických zařízení, národní podnik: *See*—
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Kramer, John V., 10% to W. Rood. Chain holding tool. 2,968,912, 1-24-61, Cl. 59—5.

Kramer, Leo, to Controls Co. of America. Pilot valve. 2,969,088, 1-24-61, Cl. 137—614.2.

Krause, Horst-Jürgen: *See*—
Dohr, Manfred, and Krause. 2,969,339.

Kremer, Gottfried: *See*—
Damgen, Wilhelm, Zager, and Kremer. 2,969,410.

Krimmel, Carl P., to G. D. Searle & Co. Derivatives of 3-phenyl-5,6 - dihydroimidazo - [2.1 - b]thiazoles. 2,969,369, 1-24-61, Cl. 260—306.7.

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Krstulovich, Stephen J. Boot hanger. 2,969,151, 1-24-61, Cl. 211—34.

Krupa, Fritz, to Detecto Scales, Inc. Weighing machine, particularly for weighing persons. 2,969,229, 1-24-61, Cl. 265—68.

Kulbersh, Nathan, and G. J. Filia, to Sargent & Co. Carpenter's planes. 2,969,097, 1-24-61, Cl. 145—14.

Kull, Francis R., to Standard Pressed Steel Co. Socket drive. 2,969,250, 1-24-61, Cl. 287—126.

Kundiger, Donald G., and G. F. Morris, to The Dow Chemical Co. Trans-*p*-chloro-*a*-methylcinnamic acid. 2,969,389, 1-24-61, Cl. 260—515.

Küpper, Wilhelm, to W. Reiners. Coil starting device for yarn winding machines. 2,969,196, 1-24-61, Cl. 242—27.

Kyllonen, David M., to Callery Chemical Co. Cyclic process for production of sodium borohydride. 2,969,274, 1-24-61, Cl. 23—14.

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Lamson, Edward R., and M. J. Devine. Lubricated anti-friction bearings. 2,969,263, 1-24-61, Cl. 308—187.

Lamson, Edward R., and M. J. Devine. Lubricated anti-friction bearings. 2,969,264, 1-24-61, Cl. 308—187.

Landau, Miles E. Adhesive protective pads. 2,969,062, 1-24-61, Cl. 128—153.

Langheck, Richard, to Wilhelm Sihn, Jr., K.G. Overload clutch. 2,969,133, 1-24-61, Cl. 192—56.

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Kolbel, Herbert, and Langheim. 2,969,273.

La Resista Corset Co., The: *See*—
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Larsen, Ezra B.: *See*—
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Lassen, Herbert A., to Hughes Aircraft Co. Integrating accelerometer. 2,968,949, 1-24-61, Cl. 73—504.

Lautsch, Willy, and R. Kern. Process of vulcanising rubber composition containing light-colored filler and quarternary alkyl-pyridine compound. 2,969,409, 1-24-61, Cl. 260—765.

Lawler, Edward B., and K. D. Ballou, to American Cyanamid Co. Dioctyl sulfosuccinate compositions containing anti-foaming agents. 2,969,332, 1-24-61, Cl. 252—354.

Lawrence, Joseph W., and N. M. Junk, to Atlas Powder Co. Aldohexose nitroureide tetranitrate and salts thereof. 2,969,354, 1-24-61, Cl. 260—211.5.

Lawsine, Leo, and K. L. Martin. Tooth cleaning and gum massaging device. 2,968,827, 1-24-61, Cl. 15—184.

Lawson, Gustaf R.: *See*—
Benander, George B., and Lawson. 2,969,442.

Lawson, Gustaf R., to General Electric Co. Electrical circuit tester. 2,969,479, 1-24-61, Cl. 315—62.

Leduc, René. Hydraulic valve and servo-systems. 2,969,044, 1-24-61, Cl. 121—41.

Lee, Luther E. Apparatus for assembling resilient seals. 2,968,864, 1-24-61, Cl. 29—235.

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Fullerton, John R., Leech, and Heyser. 2,969,299.

Le Hir, Alain: *See*—
Janot, Maurice-Marie, Goutarel, and Le Hir. 2,969,367.

Leithe, Marvin I. S., to Cedar Engineering, Inc. Coil winding apparatus. 2,969,195, 1-24-61, Cl. 242—1.1.

Leon, Howard. Segregator. 2,969,153, 1-24-61, Cl. 211—49.

Le Pore, Amelio F.: *See*—
Naxon, William I., Le Pore, Eddy, and D'Angelo. 2,969,107.

Lepper, Wilhelm. Compensation of unbalance in centrifugal machines. 2,968,970, 1-24-61, Cl. 74—573.

Leshin, Joseph, to Calumet Mfg. Co., Inc. Fluid dispenser with ball applicator. 2,968,826, 1-24-61, Cl. 15—132.7.

Les Laboratoires Gobey: *See*—
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Libbey-Owens-Ford Glass Co.: *See*—
Dean, Harry N. 2,968,891.
Kilian, Georg, and Mainz. 2,968,895.

Libit, Sidney M. Combined closure and spout for a fluid dispensing receptacle. 2,969,167, 1–24–61, Cl. 222—512.

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Locke Steel Chain Co., The: *See*—
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Loev, Bernard, and W. A. Mosher, to Smith Kline & French Laboratories. Trifluoromethylpyrazoloindenone derivatives. 2,969,373, 1–24–61, Cl. 260—310.

Loev, Bernard, and W. A. Mosher, to Smith Kline & French Laboratories. Pyrazoloindenone azines. 2,969,374, 1–24–61, Cl. 260—310.

Logan Engineering Co.: *See*—
Logan, Henry H. 2,969,130.

Logan, Henry H., to Logan Engineering Co. Lathe control. 2,969,130, 1–24–61, Cl. 192—.02.

Logan, John A., to Ajax Magnethermic Corp. Hot water heaters. 2,969,451, 1–24–61, Cl. 219—38.

Loose, Winfield W., to Philco Corp. Phonograph apparatus. 2,969,239, 1–24–61, Cl. 274—10.

Lorenz, Donald L., and W. V. Edwards, to Thompson Ramo Wooldridge Inc. Strainer construction for a pump. 2,969,019, 1–24–61, Cl. 103—5.

Lucey, John A., to The British Oxygen Co. Ltd. Welding method and apparatus. 2,969,454, 1–24–61, Cl. 219—126.

Ludwig, Norman C., to United States Steel Corp. Apparatus for making pellets. 2,969,227, 1–24–61, Cl. 263—33.

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Eckert, John P., Jr., and Lukoff. 2,969,478.

Lykken, Frances: *See*—
Lykken, Henry G. and W. H. 2,969,191.

Lykken, Henry G., deceased (F. Lykken, administratrix), and W. H. Lykken, to The Microcyclomat Co. Progressive reducing and classifying means. 2,969,191, 1–24–61, Cl. 241—75.

Lykken, William H.: *See*—
Lykken, Henry G. and W. H. 2,969,191.

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Lynott, John J.: *See*—
Litz, Frank A., and Lynott. 2,969,042.

Lynott, John J., to International Business Machines Corp. Oil film spacer for magnetic recording device. 2,969,433, 1–24–61, Cl. 179—100.2.

Lyon, George A. Wheel cover. 2,969,257, 1–24–61, Cl. 301—37.

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Lyons, Harold D.: *See*—
Nowlin, Gene, and Lyons. 2,969,408.

Lyons, Joseph F.: *See*—
Roach, James R., Lyons, and Dilworth. 2,969,325.

Lyttle, Douglas A., to The Upjohn Co. Derivatives of 5-amino uracil. 2,969,364, 1–24–61, Cl. 260—256.4.

MacCallum, Alan M.: *See*—
Noxon, Paul A., MacCallum, and Bennett. 2,969,505.

MacCollom, Donald B. Method of making frozen dessert mix. 2,969,287, 1–24–61, Cl. 99—55.

MacFarlane, Donald R., to Western Electric Co., Inc. Method and apparatus for grinding cams. 2,968,896, 1–24–61, Cl. 51—105.

Machinery Electrification, Inc.: *See*—
Dunigan, Francis P. 2,969,493.

Mack, William. Iris type closure for lipstick holders and other containers. 2,969,142, 1–24–61, Cl. 206—56.

Mackin, Robert J., Jr.: *See*—
Bell, Persa R., Simon, and Mackin. 2,969,308.

MacKnight, Bonna: *See*—
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MacKnight, Edgar W., deceased, by B. MacKnight, executrix to B. MacKnight, by court decree. Stabilized stool support. 2,969,108, 1–24–61, Cl. 155—81.

Mackrle, Svatopluk: *See*—
Mackrle, Vladimir and S., Tesařik and Mican. 2,969,149.

Mackrle, Vladimir and S., I. Tesařik, and V. Mican, to Královopolská strojírna Závody Chemických zařízení, národní podnik. Reactor for water purification. 2,969,149, 1–24–61, Cl. 210—195.

MacMillan, Raymond A., to United States of America, Air Force. Method and means for testing magnetic properties of toroid cores. 2,969,501, 1–24–61, Cl. 324—34.

MacPeek, Donald L.: *See*—
Phillips, Benjamin, Starcher, and MacPeek. 2,969,377.

Magat, Michel: *See*—
Bruma, Marc, and Magat. 2,969,482.

Maier, Walter J.: *See*—
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Mainz, Franz: *See*—
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Malloy, John E., ½ to J. M. Ashe, and ½ to S. Ashe. Apparatus for raising submerged vessels. 2,969,034, 1–24–61, Cl. 114—54.

Malm, Carl J., M. E. Rowley, and G. D. Hiatt, to Eastman Kodak Co. Method of preparing cellulose sulfate. 2,969,355, 1–24–61, Cl. 260—215.

Mamzic, Charles L., to Moore Products Co. Pneumatic control apparatus. 2,969,080, 1–24–61, Cl. 137—84.

Mangham, Jesse R., to Ethyl Corp. Process for the manufacture of cyclopentadienyl group III-A metal compounds. 2,969,382, 1–24–61, Cl. 260—448.

Mangone, Ivan W., to Offshore Structure & Service Co. Mobile self-erecting marine platforms. 2,968,930, 1–24–61, Cl. 61—46.5.

Mannheimer, David, and C. W. Ericson, Jr., to Sperry Rand Corp. Target discriminating radar system. 2,969,537, 1–24–61, Cl. 343—11.

Manoni, Lawrence R., to United States of America, Air Force. Perforated test section walls for wind tunnels. 2,968,944, 1–24–61, Cl. 73—147.

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Margulies, Samuel. Knitted fabrics and methods of closing same. 2,968,937, 1–24–61, Cl. 66—187.

Markgraf, Otto, C. Schuster, K. Herrle, E. Boehm, and E. Schaefer, to Badische Anilin- & Soda-Fabrik Aktiengesellschaft. Partial dyeing of fur skins and leather. 2,969,271, 1–24–61, Cl. 8—10.

Marley, John, to Hazeltine Research, Inc. Alternating-signal generator. 2,969,470, 1–24–61, Cl. 307—88.5.

Marsh, Roger: *See*—
Henning, Robert W., and Marsh. 2,968,811.

Martin, James. Firing mechanism suitable for aircraft seat ejection devices. 2,969,209, 1–24–61, Cl. 244—122.

Martin, James. Apparatus for ejecting bodies from a parent aerodyne. 2,969,212, 1–24–61, Cl. 244—147.

Martin, Kenneth L.: *See*—
Lawsine, Leo, and Martin. 2,968,827.

Martin, Rolland A. Reflector camp ovens. 2,969,055, 1–24–61, Cl. 126—274.

Martinez, Eugene: *See*—
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Martt, Judson W., to National Steel Corp. Reel segment guiding arrangement. 2,969,202, 1–24–61, Cl. 243—72.1.

Mason, Emerson B., and A. C. De Napoli, Jr., to Motorola, Inc. Cabinet. 2,969,268, 1–24–61, Cl. 312—7.

Mattei, Georges: *See*—
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Matthews, Russell B., to Baso Inc. Temperature responsive control apparatus. 2,969,224, 1–24–61, Cl. 257—286.

Matz, Samuel A., J. A. Miller, and C. S. McWilliams, to United States of America, Army. Yeast-free prepared flour mix. 2,969,289, 1–24–61, Cl. 99—90.

Mawbey, Lawrence, to United Shoe Machinery Corp. Heel seat fitting machines. 2,968,823, 1–24–61, Cl. 12—31.5.

McCafferty, Hugh A.: *See*—
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McCauley, John H., to Burroughs Corp. Method of making gaseous glow tubes. 2,969,270, 1–24–61, Cl. 316—26.

McClellan, Boyd A.: *See*—
Hale, Andrew, McClellan, and Guggenheim. 2,968,832.

McCorkle, William C., Jr.: *See*—
Strickland, Raymond I., and McCorkle. 2,968,996.

McCulloch, Robert G., to Ceeco Products Pty. Ltd. Bung for beer barrels and the like. 2,969,161, 1–24–61, Cl. 217—106.

McDonald, Joseph F. Plastics-treating apparatus. 2,969,463, 1–24–61, Cl. 250—49.5.

McDougall, James R., to Nutrena Mills, Inc. Device for comparing data with standard information. 2,968,875, 1–24–61, Cl. 35—1.

McElroy, Wilbur R., to Mobay Chemical Co. Production of polyurethane-polyisocyanates. 2,969,386, 1–24–61, Cl. 260—471.

McGavern, Sanford A., to Schwitzer Corp. Cable vibration damper. 2,969,416, 1–24–61, Cl. 174—42.

McGinnis, Richard A., to Spreckles Sugar Co. Purification of beet sugar solutions. 2,969,298, 1–24–61, Cl. 127—55.

McGrath, Leonard J. Aligning fixture for assembling sheet piling. 2,968,931, 1–24–61, Cl. 61—63.

McGraw-Edison Co.: *See*—
Silverman, Robert M. 2,969,242.

McGregor, Ralph, to General Motors Corp. Refrigerating apparatus. 2,968,961, 1–24–61, Cl. 74—60.

McGuire, Charles H., and R. L. Peek, Jr., to Bell Telephone Laboratories, Inc. Switching device. 2,969,434, 1–24–61, Cl. 179—27.54.

McIntosh, Joseph J. Method and apparatus for displaying conditions of vehicle traffic and accidents incidental thereto. 2,968,876, 1–24–61, Cl. 35—7.

McKeown, Cornelius J., to United States of America, Army. Anchoring clamp. 2,968,853, 1–24–61, Cl. 24—263.

McLeod, Norman F.: *See*—
Bellinger, Robert M., and McLeod. 2,969,347.

McWilliams, Charles S.: *See*—
Matz, Samuel A., Miller, and McWilliams. 2,969,289.

Mead, Theodore E. Work feeding device. 2,968,973, 1–24–61, Cl. 74—822.

Medart, Fred, Mfg. Co.: *See*—
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Meddick, John W., to Weather-Seal, Inc. Hinge with arcuate plastic hinge connector. 2,968,829, 1–24–61, Cl. 16—136.

Meek, Cicero P., and S. P. Wall, Jr. Mouth gag. 2,969,059, 1–24–61, Cl. 128—12.

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Menon, Luigi, to Soc. Acc. Emanuel di G.e R. Emanuel & C. Automatic device for adjusting the output of rotary hydraulic machines. 2,969,021, 1–24–61, Cl. 103—120.

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Shunk, Clifford H., and Richter. 2,969,353.
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Metropolitan-Vickers Electrical Co. Ltd.: *See*—
Hartill, Eric R., Hewett, and Pimm. 2,969,415.

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Metz, Henry E., to Baxter Laboratories, Inc. Drinking tube device. 2,969,064, 1-24-61, Cl. 128—222.

Metz, Henry E., to Baxter Laboratories, Inc. Packaging device and method of manufacture. 2,969,146, 1-24-61, Cl. 206—65.

Metzger, Walter, and H. F. Schünemann, to Rutgerswerke-Aktiengesellschaft. Process for preparing 1,3,5-triphenylbenzene. 2,969,405, 1-24-61, Cl. 260—668.

Metzger, Walter, and H. Schünenmann, to Rutgerswerke-Aktiengesellschaft. Process for preparing 1,3,5-triphenylbenzene. 2,969,406, 1-24-61, Cl. 260—670.

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Wettstein, Albert, Vischer, and Meystre. 2,969,305.

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Miller, Leon F., to The Osborn Mfg. Co. Foundry molding machine. 2,968,846, 1-24-61, Cl. 22—42.

Mills, Harold E. Head holder. 2,969,231, 1-24-61, Cl. 269—185.

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Miner, Richard Y., C. F. Abt, and Q. J. Evans, to American Bosch Arma Corp. Electromechanical target travel component computer. 2,969,184, 1-24-61, Cl. 235—187.

Miner, Richard Y., to American Bosch Arma Corp. Proximity warning and collision avoidance system. 2,969,539, 1-24-61, Cl. 343—112.

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Minnesota Mining & Mfg. Co.: *See*—
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Ney, William O., Jr. 2,969,375.

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Mitchell, Clarence W., to W. T. Sevald. Magnet operated switch. 2,969,445, 1-24-61, Cl. 200—87.

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Molt, Richard P., to Stanray Corp. Composite rubber-steel wheel tread. 2,969,254, 1-24-61, Cl. 295—31.

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Monson, Harry O., to United States of America, Atomic Energy Commission. Type fuel element. 2,969,312, 1-24-61, Cl. 204—193.2.

Monson, Walter T., to American Metal Climax, Inc. Process for making spherical metal particles. 2,969,281, 1-24-61, Cl. 75—.5.

Montecatini-Societa Generale per l'Industria Mineraria e Chimica: *See*—
Teja, Jayanti D. 2,969,272.

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Moonan, Edward R. Diaper clip. 2,968,852, 1-24-61, Cl. 24—160.

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Moore, Robert L.: *See*—
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Morgan, Walter A., to Esso Research and Engineering Co. Mass spectrometry. 2,969,462, 1-24-61, Cl. 250—41.9.

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Morin, Louis H., and O. Gries; said Gries assor. to Coats & Clark Inc. Apparatus and method for forming lock nuts having a washer molded in the nut body. 2,968,821, 1-24-61, Cl. 10—72.

Morin, Louis H., to Coats & Clark Inc. Traveler with facing shell of wear resistant material. 2,968,908, 1-24-61, Cl. 57—125.

Morin, Louis H., to Coats & Clark Inc. Method of producing continuous stringer workpieces with continuous covering members thereon. 2,969,029, 1-24-61, Cl. 112—265.

Morris, Gene F.: *See*—
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Morris, Robert J. Dynamic curve tracer. 2,969,466, 1-24-61, Cl. 250—217.

Morris, Roger E., to The B. F. Goodrich Co. Alkylidene bis-indanols as deterioration retarders for rubbers. 2,969,343, 1-24-61, Cl. 260—45.95.

Morrison, Willard L., to Liquefreeze Co., Inc. Insulated container. 2,969,164, 1-24-61, Cl. 220—9.

Morse, Milton. Method of molding and bonding silicone rubber to metal. 2,968,840, 1-24-61, Cl. 18—59.

Mosch, Willi, G. Thiele, E. Paul, and R. Zabel, to Siemens-Schuckertwerke Aktiengesellschaft. Current translating system with semiconducting p-n junction rectifiers. 2,969,495, 1-24-61, Cl. 321—14.

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Braun, Robert A., and Mosher. 2,969,372.
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Loev, Bernard, and Mosher. 2,969,374.

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Murphy, Raymond J., to Fred Medart Mfg. Co. Telescopic bleachers and motorized movers therefor. 2,968,842, 1-24-61, Cl. 20—1.126.

Murray, John R. Overshoe attachment for track laying vehicles. 2,969,258, 1-24-61, Cl. 305—35.

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Nedwick, John J., and J. R. Snyder, to Rohm & Haas Co. Vinylation process. 2,969,395, 1-24-61, Cl. 260—584.

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Nester, Elijah T. Valve stem adjuster for curing rim. 2,968,839, 1-24-61, Cl. 18—45.

Neumann, Hans K., to Michigan Chrome and Chemical Co. Fluidized bed apparatus. 2,969,038, 1-24-61, Cl. 118—429.

Newby, Arthur W., to U.S. Cap & Closure Inc. Dispensing closures. 2,969,168, 1-24-61, Cl. 222—525.

Newton, George C., Jr., W. T. White, and E. B. Hammond, Jr., to Sperry Rand Corp. Cross connected servo mechanism for a turret gun directing system. 2,968,997, 1-24-61, Cl. 89—41.

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Palmer, Winslow, to Sperry Rand Corp. Dual purpose navigation system. 2,969,538, 1-24-61, Cl. 343—105.
Panes, Frank E. Tracks for loading and unloading trucks. 2,969,157, 1-24-61, Cl. 214—75.
Panicci, Richard L., to Hampden Specialty Products, Inc. Means for and method of securing the ends of strip material to tubular members. 2,968,854, 1-24-61, Cl. 24—265.
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Parker, John A., to Armstrong Cork Co. Polyester containing ester of levulinic acid and pentaerythritol with polymerized polycarboxylic acid. 2,969,338, 1-24-61, Cl. 260—22.
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Perrine, Warren L., to General Precision, Inc. Flow meter. 2,968,945, 1-24-61, Cl. 73—206.
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Pilkington, Lionel A. B. 2,968,893.
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Pilkington, Lionel A. B., to Pilkington Bros. Ltd. Manufacture of flat glass in continuous ribbon form. 2,968,893, 1-24-61, Cl. 49—3.
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Poliakoff, Raymond R. Retaining means for diablo toy. 2,968,889, 1-24-61, Cl. 46—60.
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Powell, Gordon F. W., to Molins Machine Co. Ltd. Balancing unit for use with radiation gauges. 2,969,465, 1-24-61, Cl. 250—105.
Poznanski, Edmund M., to Canadian National Railway Co. Side openings for box cars. 2,968,844, 1-24-61, Cl. 20—28.
Praeg, Walter S., to National Broach & Machine Co. Internal gear shaving machine. 2,968,998, 1-24-61, Cl. 90—1.6.
Preston, Seaton T., Jr., to W. J. Podbielniak. Apparatus for controlling the rate of a distillation operation. 2,968,939, 1-24-61, Cl. 73—25.
Priestley, William, Jr.: *See*—
Sosnowski, John, Maier, Sweetser, and Priestley. 2,969,319.
Pritty, Gerald N., ¼ to R.F.D. Co. Ltd. Stowage for an inflatable raft or like inflatable object. 2,968,820, 1-24-61, Cl. 9—11.
Punyaratband, Smahn, S. Ogawa, and B. Fujio, to T. Yamura. Teleprinter receiving apparatus. 2,969,429, 1-24-61, Cl. 178—25.
Putter, Rolf: *See*—
Dorlars, Alfons, and Putter. 2,969,350.
Pyrochem Corp.: *See*—
Huntington, Morgan G. 2,969,226.

Quaker Chemical Products Corp.: *See*—
Simons, John K. 2,969,335.

Quayle, George F., to The Yale and Towne Mfg. Co. Hydraulic system for an industrial truck. 2,968,927, 1–24–61, Cl. 60—97.

Quehl, Henry E., Jr., to E. I. du Pont de Nemours and Co. Dielectric heat sealing blanket. 2,969,227, 1–24–61, Cl. 252—63.2.

R.F.D. Co. Ltd.: *See*—
Pritty, Gerald N. 2,968,820.

Raak, Bently: *See*—
Billet, Edward H., and Raak. 2,969,235.

Racine Hydraulics and Machinery, Inc.: *See*—
Raymond, Robert E. 2,969,084.

Radio Corp. of America: *See*—
Sonnenfeldt, Richard W. 2,969,422.

Ranco Inc.: *See*—
Raney, Estel C. 2,969,087.

Randol, Glenn T., 50% to Hamill-Markus Industries, Inc. Power-assisted operating mechanism for hydraulic pressure systems. 2,968,926, 1–24–61, Cl. 60—54.6.

Randol, Glenn T. Torque-actuated brake booster for motor vehicles. 2,968,962, 1–24–61, Cl. 74—89.

Randol, Glenn T. Auxiliary disengaging mechanism for automotive clutches. 2,969,052, 1–24–61, Cl. 123—179.

Randolph, Harry B. Garden tools. 2,969,120, 1–24–61, Cl. 172—371.

Raney, Estel C., to Ranco Inc. Valve mechanism. 2,969,087, 1–24–61, Cl. 137—609.

Rapp, Raymond I., ¼ to W. R. Peterson. Method of making envelopes. 2,969,003, 1–24–61, Cl. 93—63.

Raunecker, Richard H.: *See*—
Anastasio, Frank J., Kalustyan, and Raunecker. 2,968,884.

Rayburn, Vincent A., to Western Electric Co., Inc. Contact roll assembly. 2,969,437, 1–24–61, Cl. 191—1.

Raymaley, Florence C. Christmas tree lighting device. 2,969,456 1–24–61, Cl. 240—10.

Raymond, Robert E., to Racine Hydraulics and Machinery, Inc. Pressure responsive valve. 2,969,084, 1–24–61, Cl. 137—471.

Raytheon Co.: *See*—
Bourassa, Francis J. 2,969,487.
Parkinson, Geoffrey B. 2,969,458.

Realty and Industrial Corp.: *See*—
Gubelmann, William S. 2,969,177.
Gubelmann, William S. 2,969,181.

Reel, Leland S.: *See*—
Condie, Marion A., and Reel. 2,968,957.

Reibel, Robert H., E. Martinez, and M. Kapilow. Splice patch. 2,969,106, 1–24–61, Cl. 154—53.5.

Reid, Remer R., Sr., and E. A. Anderson. Meat choppers. 2,969,100, 1–24–61, Cl. 146—189.

Reiners, Walter: *See*—
Küpper, Wilhelm. 2,969,196.
Wolff, Helmut. 2,969,198.

Remington Rand Inc.: *See*—
Hill, John L. 2,969,525.

Reppe, Walter, K. Bauer, and W. Schweter, to Badische Anilin- & Soda-Fabrik Aktiengesellschaft. Process of separating reaction mixture of the cyclooctatetraene synthesis into its constituent parts. 2,969,306, 1–24–61, Cl. 202—46.

Republic Mfg. Co.: *See*—
Norton, James F. 2,969,090.

Revere Camera Co.: *See*—
Briskin, Theodore S., Moore, and Rom. 2,968,993.

Rey, Jean C. Process for building up sleeves for Diesel and other engines. 2,968,865, 1–24–61, Cl. 29—401.

Rheem Mfg. Co.: *See*—
Pfeifer, Arthur A., de Mocskonyi, and Von Berg. 2,968,933.

Rheinpreussen Aktiengesellschaft fur Bergbau und Chemie: *See*—
Grimme, Walter, Keil, and Schmitz. 2,969,357.
Kolbel, Herbert, and Langheim. 2,969,273.

Richards, Richard K. Cryotron logic circuit. 2,969,469, 1–24–61, Cl. 307—88.5.

Richardson, David A., and H. A. McCafferty, to United States of America, Navy. Rescue device. 2,969,210, 1–24–61, Cl. 244—137.

Richter, John W.: *See*—
Shunk, Clifford H., and Richter. 2,969,353.

Ricker, Millard O.: *See*—
Flynn, Charles E., and Ricker. 2,969,288.

Riemenschneider, Claud C. Equipment for storing and handling carpeting and the like. 2,969,199, 1–24–61, Cl. 242—55.3.

Riley, Robert W.: *See*—
Schubert, Dale L., Erickson, and Riley. 2,969,104.

Roach, James R., J. F. Lyons, and J. P. Dilworth, to Texaco Inc. Method for improving yield of sodium base greases. 2,969,325, 1–24–61, Cl. 252—42.

Robart Partitions, Inc.: *See*—
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Roberts, Theron W., to Owens-Illinois Glass Co. Cathode-ray tube envelope. 2,969,163, 1–24–61, Cl. 220—2.3.

Roberts, William L., and E. B. Ashcraft, to Westinghouse Electric Corp. Kinescope screen for daylight viewing. 2,969,474, 1–24–61, Cl. 313—92.

Robin, Harold K., to National Research Development Corp. Simultaneous-to-sequential code converter. 2,969,431, 1–24–61, Cl. 178—53.1.

Robison, Samuel B.: *See*—
Buckley, Donald J., and Robison. 2,969,341.

Rock, Howard P., and C. S. Toone. Gravity concentrator for metallurgical materials. 2,969,147, 1–24–61, Cl. 209—437.

Rogers, William J. Roll-ball device. 2,969,237, 1–24–61, Cl. 273—113.

Rohm & Haas Co.: *See*—
De Benneville, Peter L. 2,969,359.
Huggett, Clayton M., and Nedwick. 2,969,400.
Nedwick, John J., and Snyder. 2,969,395.
Niederhauser, Warren D. 2,969,388.

Rom, Rudolph A.: *See*—
Briskin, Theodore S., Moore, and Rom. 2,968,993.

Rood, Willard: *See*—
Kramer, John V. 2,968,912.

Rose, Boyd W., to Food Machinery and Chemical Corp. Sampling device for bag filling apparatus. 2,968,948, 1–24–61, Cl. 73—421.

Rosenberg, Mortimer L., C. R. Everett, and J. B. Hutto, to Neches Butane Products Co. Destruction of acetylenes in a hydrocarbon mixture containing acetylenes and butadiene. 2,969,407, 1–24–61, Cl. 260—681.5.

Ross, Cecil J., Jr., to Hyster Co. Drive system for lift truck. 2,968,967, 1–24–61, Cl. 74—472.

Roth, Oskar, to Inventor-Kreditanstalt. Device for the generation of artificial fog. 2,969,333, 1–24–61, Cl. 252—359.

Rowley, Martin E.: *See*—
Malm, Carl J., Rowley, and Hiatt. 2,969,355.

Rowley, Robert J., to Collins Radio Co. Adjustable high-frequency tuning unit. 2,969,460, 1–24–61, Cl. 250—40.

Ruhl, Charles A. L., and R. C. Westveer, to The New York Air Brake Co. Control valve. 2,969,089, 1–24–61, Cl. 137—620.

Rusich, Edward J. Mechanical harvesting device for cultivated or reef oysters. 2,968,879, 1–24–61, Cl. 37—55.

Ruskin, Simon L., to Union Carbide Corp. Antibiotic compounds. 2,969,352, 1–24–61, Cl. 260—210.

Rutgerswerke-Aktiengesellschaft: *See*—
Metzger, Walter, and Schünemann. 2,969,405.
Metzger, Walter and Schünemann. 2,969,406.

Ryan Aeronautical Co.: *See*—
Condie, Marion A., and Reel. 2,968,957.
David, Constant V. 2,968,921.
Fullerton, John R., Leech, and Heyser. 2,969,299.

Rykoskey, Francis B., and W. A. Mullen. Railway axle journal bearing. 2,969,259, 1–24–61, Cl. 308—79.1.

S.A.S. Lavorazione Materie Plastiche (L.M.P.) di M. I. Colombo & C.: *See*—
Colombo, Roberto. 2,968,836.

Sack, Edgar A., Jr., to Westinghouse Electric Corp. Display device. 2,969,481, 1–24–61, Cl. 315—169.

Samica Corp.: *See*—
Briskin, Theodore S., Moore, and Rom. 2,968,993.

Sandak, Inc.: *See*—
Anastasio, Frank J., Kalustyan, and Raunecker. 2,968,884.

Sanford Process Co. Inc.: *See*—
Coxe, George H. 2,969,314.

Sargent & Co.: *See*—
Kulbersh, Nathan, and Filia. 2,969,097.

Savet, Paul H., to American Bosch Arma Corp. Carrier insensitive A.C. computer. 2,969,182, 1–24–61, Cl. 235—183.

Sawyer, Edgar W., Jr.: *See*—
Goodwin, Manfred E., Sawyer, and Smith. 2,969,337.

Scarpelli, Joseph A.: *See*—
Brynko, Carl, and Scarpelli. 2,969,331.

Schaefer Equipment Co.: *See*—
Cale, Roland E. 2,968,976.

Schaefer, Erhard: *See*—
Markgraf, Otto, Schuster, Herrle, Boehm, and Schaefer. 2,969,271.

Schaeffer, William D., to Union Oil Co. of California. Amidomethylation of aromatic hydrocarbons. 2,969,392, 1–24–61, Cl. 260—562.

Schaeffler, Georg, to Industriewerk Schaeffler O.H.G. Needle or roller bearing. 2,969,266, 1–24–61, Cl. 308—212.

Schafer, Leonhard. Pastry folder. 2,969,025, 1–24–61, Cl. 107—8.

Scher, Marvin B., to United States of America, Interior. Preparation of maps. 2,968,869, 1–24–61, Cl. 33—1.

Schettl, Louis J. Quick lock door securer. 2,969,253, 1–24–61, Cl. 292—294.

Scheublein, William A., Jr., and E. A. Check, to Moog Industries, Inc. Vehicle spring device. 2,969,230, 1–24–61, Cl. 267—16.

Schlesinger, Albert, and S. M. Gordon, to Endo Laboratories, Inc. Novel salts of barbituric acids and method of preparing same. 2,969,363, 1–24–61, Cl. 260—253.

Schmerling, Louis, to Universal Oil Products Co. O-alkylation of phenolic compounds. 2,969,399, 1–24–61, Cl. 260—613.

Schmidt, Hubertus: *See*—
Baumann, Heinrich, Graf, Schmidt, and Unterstenhöfer. 2,969,404.

Schmitz, Heinrich: *See*—
Grimme, Walter, Keil, and Schmitz. 2,969,357.

Schmitz, Paul R., to Teletype Corp. Non-interfering tape feed out for telegraph reperforator. 2,969,173, 1–24–61, Cl. 234—22.

Schneider, Wilhelm A. Crystal temperature control device. 2,969,471, 1–24–61, Cl. 310—8.9.

Schön, Richard, to Výzkumný a zkušební letecký ústav. Cyclic pitch control system for rotors of helicopter aircraft. 2,969,117, 1–24–61, Cl. 170—160.25.

Schubert, Dale L.: *See*—
Brookhyser, Byron B., Erickson, and Schubert. 2,969,095.

Schubert, Dale L., H. E. Erickson, and R. W. Riley, ½ to said Schubert, and ½ to Industrial Development Co. Mat forming method and apparatus. 2,969,104, 1–24–61, Cl. 154—1.

Schukoff, Bruno: *See*—
Greier, Josef, and Schukoff. 2,969,050.

Schulze and Burch Biscuit Co.: *See*—
Johnson, Axel G. 2,969,024.

Schünemann, Heinz: *See*—
Metzger, Walter, and Schünemann. 2,969,406.
Schünemann, Heinz F.: *See*—
Metzger, Walter, and Schünemann. 2,969,405.
Schuster, Curt: *See*—
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Schwarzmann, Matthias: *See*—
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Schweter, Walter: *See*—
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McGavern, Sanford A. 2,969,416.
Scott, William M., Jr., to I-T-E Circuit Breaker Co. Low X bus. 2,969,421, 1–24–61, Cl. 174—117.
Scoville, Ray R. Electrical wire clips and female receptacle for receiving wire, tube or transistor prongs. 2,969,521, 1–24–61, Cl. 339—220.
Seaman, Ernest A., to Her Majesty the Queen in right of Canada, as represented by the Minister of National Defence. Direction finding apparatus. 2,969,541, 1–24–61, Cl. 343—120.
Searle, G. D., & Co.: *See*—
Cusic, John W. 2,969,358.
Krimmel, Carl P. 2,969,369.
Tweit, Robert C. 2,969,362.
Sears, Richard E., to Beaver Precision Products, Inc. No-back arrangement for ball screws. 2,969,222, 1–24–61, Cl. 254—103.
Seavey, Frederick R., to Olin Mathieson Chemical Corp. Blasting caps. 2,968,985, 1–24–61, Cl. 86—1.
Sedlin, Elias D., to United States of America, Army. Appliance for facilitated X-ray examinations of ankle injuries. 2,969,061, 1–24–61, Cl. 128—84.
See, Harold P., to The Chronicle Publishing Co. Automatic broadcast programming system. 2,969,427, 1–24–61, Cl. 178—5.8.
Selas Corp. of America: *See*—
Hess, Frederic O. 2,968,894.
Selsted, Walter T., to Ampex Corp. Magnetic tape apparatus. 2,969,200, 1–24–61, Cl. 242—55.12.
Selwitz, Charles M., to Gulf Research & Development Co. Acid production. 2,969,380, 1–24–61, Cl. 260—413.
Sennhauser, George J.: *See*—
Browne, Kenneth A., and Sennhauser. 2,969,129.
Service Ideas, Inc.: *See*—
Sperl, Ferdinand P. 2,969,011.
Servo Corp. of America: *See*—
Blackstone, Henry. 2,969,005.
Sevald, William T.: *See*—
Mitchell, Clarence W. 2,969,445.
Shanahan, William J., to Skiatron Electronics & Television Corp. Coding methods and apparatus. 2,969,533, 1–24–61, Cl. 340—347.
Shapiro, Abraham, and D. A. H. Olson, to Socony Mobil Oil Co., Inc. Removal of tetraethyl lead from hydrocarbon liquids with sulfur dioxide. 2,969,320, 1–24–61, Cl. 208—251.
Shaw, Harry N., to The Bastian-Blessing Co. Valve. 2,969,218, 1–24–61, Cl. 251—333.
Shelly, Robert S., to Pack Mfg. Co. Multiple unit storage file. 2,969,269, 1–24–61, Cl. 312—107.
Shoemaker, Clarence J.: *See*—
Klimkowski, Robert J., and Shoemaker. 2,969,015.
Showalter, Albert E., to United States of America, Navy. Reverse rotation multi-position selector switch. 2,969,441, 1–24–61, Cl. 200—65.
Shunk, Clifford H., and J. W. Richter, to Merck & Co., Inc. Process for the preparation of "active methionine" and products obtained thereby. 2,969,353, 1–24–61, Cl. 260—211.5.
Shurcliff, William A., to Polaroid Corp. Automatic focusing devices and systems. 2,968,994, 1–24–61, Cl. 88—39.
Shurts, Wilbur F.: *See*—
Black, James B., Meyer, and Shurts. 2,969,131.
Shyne, James J., to United States of America, Atomic Energy Commission. Method of impregnating uranium in graphite. 2,969,294, 1–24–61, Cl. 117—65.
Siegel, Max L.: *See*—
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Siemens-Schuckertwerke Aktiengesellschaft.: *See*—
Mosch, Willi, Thiele, Paul, and Zabel. 2,969,495.
Siha, Wilhelm, Jr., K.G.: *See*—
Lanzheck, Richard. 2,969,133.
Silverman, Robert M., to McGraw-Edison Co. Dictating machine. 2,969,242, 1–24–61, Cl. 274—46.
Sim, Gordon, to Teletype Corp. Non-interfering tape feed-out mechanism. 2,969,432, 1–24–61, Cl. 178—92.
Simerl, Linton E., to Olin Mathieson Chemical Corp. Coating process. 2,969,291, 1–24–61, Cl. 99—171.
Simmons, Vaughan P., to W. H. Brady Co. Nematodic swab. 2,969,057, 1–24–61, Cl. 128—2.
Simon, Albert: *See*—
Bell, Persa R., Simon, and Mackin. 2,969,308.
Simon, Henry, Ltd.: *See*—
Ball, John S., and Gillett. 2,969,193.
Simons, John K., to Quaker Chemical Products Corp. Reaction products of polyesters and primary amines. 2,969,335, 1–24–61, Cl. 260—22.
Simpson, Charles A.: *See*—
Pennybacker, Miles, and Simpson. 2,969,476.
Sinclair Refining Co.: *See*—
Dorinson, Amos. 2,969,326.
Sintrett, Fred M. Automated egg-producing henhouse. 2,969,040, 1–24–61, Cl. 119—21.
Skiatron Electronics & Television Corp.: *See*—
Shanahan, William J. 2,969,533.
Slater, Saul I. Duplex plug receptacle. 2,969,518, 1–24–61, Cl. 339—31.
Smith, David B., to Philco Corp. Cathode ray tube display system for color television. 2,969,423, 1–24–61, Cl. 178—5.4.
Smith, Dudley C., to Kimble Glass Co. Vitreous enamel. 2,969,293, 1–24–61, Cl. 106—49.
Smith, Frances M., to The La Resista Corset Co. Brassieres. 2,969,067, 1–24–61, Cl. 128—489.
Smith, George A., to Central Transformer Corp. Method of manufacturing magnetic cores. 2,969,862, 1–24–61, Cl. 29—155.7.
Smith, Homer A.: *See*—
Goodwin, Manfred E., Sawyer, and Smith. 2,969,337.
Smith Kline & French Laboratories: *See*—
Loev, Bernard, and Mosher. 2,969,373.
Loev, Bernard, and Mosher. 2,969,374.
Smyser, James A. Tire supporting and inflating apparatus. 2,969,096, 1–24–61, Cl. 144—288.
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Barden, Wayne A., Wagner, and Snyder. 2,969,443.
Snyder, John R.: *See*—
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Soc. Acc. Emanuel di G.e R. Emanuel & C.: *See*—
Menon, Luigi. 2,969,021.
Societe Anonyme Geoffroy-Delore: *See*—
Haugwitz, Otto. 2,969,205.
Societe Industrielle Generale de Mecanique Appliquee S.I.G.M.A.: *See*—
Gauthier, Robert. 2,968,951.
Societe Lamy d'Etudes et de Recherches "Soler": *See*—
Guigues, Frederic, and Bressillon. 2,969,188.
Socony Mobil Oil Co., Inc.: *See*—
Shapiro, Abraham, and Olson. 2,969,320.
Sonnenfeldt, Richard W., to Radio Corp. of America. Color synchronization for color television. 2,969,422, 1–24–61, Cl. 178—5.4.
Soper, Ralph B., and J. J. Doherty, to Sylvania Electric Products Inc. Method of producing thin wafers of semiconductor materials. 2,968,866, 1–24–61, Cl. 29—417.
Sosnowski, John., W. J. Maier, S. B. Sweetser, and W. Priestley, Jr., to Esso Research and Engineering Co. HCl removed from recycle gas. 2,969,319, 1–24–61, Cl. 208—139.
Space Electronics Corp.: *See*—
Stewart, Robert M. 2,969,531.
Special Purpose Engine Co. Inc.: *See*—
Taylor, Charles F., and Livengood. 2,968,916.
Spencer, Herbert D. Device for elevating and aligning building material. 2,969,220, 1–24–61, Cl. 254—4.
Spencer, Rolf E., and J. H. Phillips, to Electric & Musical Industries Ltd. Automatic control servosystem, especially for machine tools. 2,969,489, 1–24–61, Cl. 318—28.
Sperl, Ferdinand P., to Service Ideas, Inc. Skewer unit for handling and serving flaming foods. 2,969,011, 1–24–61, Cl. 99—419.
Sperry Gyroscope Co. Ltd., The: *See*—
Dove, Frank. 2,969,208.
Sperry Rand Corp.: *See*—
Dunbar, Lee E., and Vacquier. 2,968,950.
Eckert, John P., Jr., and Lukoff. 2,969,478.
Hammond, Edmund B., Jr. 2,968,871.
Mannheimer David, and Ericson. 2,969,537.
Newton, George C., Jr., White, and Hammond. 2,968,997.
Palmer, Winslow. 2,969,538.
Vacquier, Victor. 2,969,033.
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Holter, John W., and Spitz. 2,969,066.
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Spooner, William W. 2,969,204.
Spooner, William W., to The Spooner Dryer & Engineering Co. Ltd. Apparatus for tensioning materials. 2,969,204, 1–24–61, Cl. 242—75.2.
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McGinnis, Richard A. 2,969,298.
Sprout, Waldron & Co., Inc.: *See*—
Green, Frank B. K. 2,969,113.
Stalder, John J., to United States of America, Army. Force measurement system. 2,968,952, 1–24–61, Cl. 73—517.
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Kull, Francis R. 2,969,250.
Stanford, George W., and J. L. Patton, to The M. W. Kellogg Co. Desulfurising reformer feed. 2,969,316, 1–24–61, Cl. 208—79.
Stanley Works, The: *See*—
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Stanray Corp.: *See*—
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Stansbury, Roy E., and L. D. Goodhue, to Phillips Petroleum Co. Combating insects. 2,969,303, 1–24–61, Cl. 167—22.
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Phillips, Benjamin, and Starcher. 2,969,336.
Phillips, Benjamin, Starcher, and MacPeek. 2,969,377.
Starr, Robert W., to Friden, Inc. Automatic carriage shifting mechanism for a calculating machine. 2,969,178, 1–24–61, Cl. 235—63.
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Statham, Louis D. 2,968,943.
Statham, Louis D., to Statham Instruments, Inc. Force transducer. 2,968,942, 1–24–61, Cl. 73—141.
Statham, Louis D., to Statham Instruments, Inc. Transducer. 2,968,943, 1–24–61, Cl. 73—141.
Staufert, Helmut P. Bearing for high-speed spindles, particularly for spinning and twisting machines. 2,969,262, 1–24–61, Cl. 308—152.
Steckler, Robert, to Food Machinery and Chemical Corp. Composition comprising dichloromaleic anhydride and an epoxy resin and method of using same. 2,969,334, 1–24–61, Cl. 260—2.5.
Steffel, Lu Verne G. Wiener holder. 2,969,012, 1–24–61, Cl. 99—419.

Steffes, Milton J., to Van Norman Industries, Inc. Hollow drill. 2,969,122, 1–24–61, Cl. 175—394.
Stempel, Arthur: *See*—
Aeschlimann, John A. M., and Stempel. 2,969,391.
Stenudd, Sven G. V., to Atvidabergs Industrier. Electric control device for the control of electric voltage or current. 2,969,498, 1–24–61, Cl. 323—22.
Stevens, Phillip J.: *See*—
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Stewart, Clyde, to Collins Radio Co. Electromechanical phase detector for radio sextants. 2,969,540, 1–24–61, Cl. 343—117.
Stewart, Harold H. Torque limiting devices. 2,969,132, 1–24–61, Cl. 192—56.
Stewart, Robert M., to Space Electronics Corp. Image reproducing apparatus. 2,969,531, 1–24–61, Cl. 340—324.
Stine, Homer R. Journal lubricator. 2,969,261, 1–24–61, Cl. 308—87.
Stiner, Kent P.: *See*—
Herrmann, John A., Farnsworth, and Stiner. 2,969,488.
Stoller, Frederick L., to Phillips Petroleum Co. Recovery of polymerization catalyst. 2,969,349, 1–24–61, Cl. 260—94.9.
Stolz, William J. Removable inserts for pipe passages in concrete. 2,968,855, 1–24–61, Cl. 25—128.
Strato-Missiles, Inc.: *See*—
Becher, Harold. 2,968,877.
Strauss, Levi and Co.: *See*—
Bacharach, Melvin L. 2,968,818.
Strickland, Raymond I., and W. C. McCorkle, Jr., to United States of America, Army. Fin-stabilized, center-rotated rocket. 2,968,996, 1–24–61, Cl. 89—1.7.
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Griswold, Paul H., Ehrich and Struve. 2,969,366.
Stutske, William A., to Kimble Glass Co. Molded picture tube. 2,969,162, 1–24–61, Cl. 220—2.1.
Suckow, William B. Static electricity device. 2,969,484, 1–24–61, Cl. 317—2.
Sulkowski, Walter V., to National Gypsum Co. Shaft seal. 2,969,248, 1–24–61, Cl. 286—1.
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Buri Alfred. 2,969,048.
Sun Oil Co.: *See*—
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Sundstrand Corp.: *See*—
Swanson, Walter S., Hutchinson, and Bert. 2,969,001.
Swanson, Fred R., and Erikson. 2,968,965.
Svenska Reklafabriken ABN AB: *See*—
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Classification of Designs

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TRADEMARKS

NOTICES

Examination

Pursuant to the provisions of Rule 341(c), an examination for persons seeking registration before the United States Patent Office as patent attorneys or agents will be held on Monday, April 24, 1961.

With the exception of former patent examiners for whom the examination is waived, all persons recognized for practice before the Patent Office in patent cases must, pursuant to the noted rule, pass the examination. Those passing the examination do not thereby qualify for recognition for practice before the Patent Office in trademark cases. Recognition for practice in trademark cases is governed by Rule 2.12 of the Trademark Rules of Practice, which does not require the passing of an examination.

This examination will be given under the supervision of the Civil Service Commission, and may be taken in any of the cities of the country in which the Civil Service Commission regularly conducts examinations. Applications to take the examination must be directed to the Commissioner of Patents and filed in the Patent Office not later than March 24, 1961.

Application blanks may be obtained from the Clerk of the Patent Office Committee on Enrollment, Room 3718, Department of Commerce Building, Washington 25, D.C.

ARTHUR W. CROCKER,
Jan. 3, 1961. *Chairman, Committee on Enrollment.*

CONDITION OF TRADEMARK APPLICATIONS AS OF NOVEMBER 30, 1960

Total number of applications awaiting action [excluding renewals and Sec. 12 (c)]	11,901
Date of oldest new application	June 3, 1960
Date of oldest amended application	June 1, 1960

J. H. MERCHANT, Director, Trademark Examining Operation

TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application: New	Oldest Application: Amended
(I) C. M. WENDT, Classes 2, 3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 39, 40, 41, 42, 43, 44, 50	6-17-60	7-4-60
(II) H. E. KASCHUB (Acting), Classes 1, 6, 18, 22, 37, 38, 45, 46, 47, 48, 49, 51, 52; Service Mark Classes 100, 101, 102, 103, 104, 105, 106, 107; Collective Membership Marks, Class 200; Certification Marks, Classes A and B	6-3-60	6-1-60
Renewals (All Classes)	11-19-60	11-29-60
Sec. 12 (c) Publications (All Classes)	11-1-60	11-29-60

Applications filed during the month of November 1960—1833

Registrations Issued	301—No. 710,081 to No. 710,381
Renewals Issued	59

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MARKS PUBLISHED FOR OPPOSITION

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Notice of opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.

As provided by section 31 of said act, a fee of twenty-five dollars must accompany each notice of opposition.

Class 1—Raw or Partly Prepared Materials

SN 79,454. Armour and Company, Chicago, Ill. Filed Aug. 13, 1959.

ITALIO

For Upper Leather.
First use July 10, 1959.

SN 81,143. Pittsburgh Plate Glass Company, Pittsburgh, Pa. Filed Sept. 10, 1959.

PITTCOR

For Glass Fiber Rovings for Use as Foundry Core Reinforcement.
First use Apr. 30, 1959.

SN 86,099. American-Marietta Company, Chicago, Ill. Filed Nov. 27, 1959.

EMC

For Epoxy Molding Compounds.
First use on or about Oct. 22, 1959.

SN 86,230. Albert Trostel & Sons Company, Milwaukee, Wis. Filed Nov. 27, 1959.

PARATROOP

For Leather.
First use Feb. 8, 1955.

SN 88,453. Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany. Filed Jan. 5, 1960.

DIOFAN

For Aqueous Dispersions of Synthetic Resins for Coating Paper and Fibrous Materials.
First use Apr. 10, 1959.

SN 89,479. Ultra Sonic Seal, Inc., New York, N.Y. Filed Jan. 21, 1960.



For Sheet Plastic Material, Including Vinyl Sheeting, Polyethylene Sheeting, Polyester Sheeting and Fluorinated Hydrocarbon Sheeting.
First use June 15, 1959.

TM 128

SN 92,317. Society of American Florists and Ornamental Horticulturists, d.b.a. Society of American Florists, Washington, D.C. Filed Mar. 7, 1960. COLLECTIVE MARK.



For Cut Flowers and Other Floral Products.
First use Dec. 3, 1959.

SN 94,335. National Lead Company, New York, N.Y. Filed Apr. 4, 1960.

PETROTONE

For Reaction Products of Organic Amines and Zeolitic Clays for Use as Additives in Oil Base and Oil Emulsion Drilling Fluids.
First use Feb. 22, 1959.

SN 99,974. Union Carbide Corporation, New York, N.Y. Filed June 29, 1960.

HYLOX

For Water Soluble Plastic Film for General Use in the Industrial Arts.
First use June 10, 1960.

SN 102,233. William Greiner Company, Chicago, Ill. Filed Aug. 8, 1960.

TERRINAP

For Leather.
First use in June 1960.

Class 2—Receptacles

SN 82,637. Continental Can Company, Inc., New York, N.Y. Filed Oct. 5, 1959.

CONOLENE

Owner of Reg. Nos. 662,403 and 674,622.
For Polyethylene Wrapping Material in Roll, Sheet and Bag Form.
First use Aug. 13, 1959.

SN 95,071. Garner & Co., Inc., New York, N.Y. Filed Apr. 14, 1960.

BINMASTER

For Canister Sets for Food Products.
First use Jan. 3, 1960.

SN 95,073. Garner & Co., Inc., New York, N.Y. Filed Apr. 14, 1960.

BIN-CADDY

For Canister Sets for Food Products.
First use Jan. 3, 1960.

SN 104,613. Hollywood Plastics, Inc., Los Angeles, Calif. Filed Sept. 16, 1960.

THRIFTLINE

For Plastic Trays and Boxes.
First use July 12, 1960.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

SN 88,491. Pittsburgh Garter Company, Pittsburgh, Pa. Filed Jan. 5, 1960.

KEYSTONE

Owner of Reg. Nos. 360,239 and 410,242.
For Pocket Billfolds, Pocket Keycases, Pocket Passport Holders, Pocket Content Holders.
First use Jan. 1, 1918.

Class 4—Abrasives and Polishing Materials

SN 75,851. E-Z Coat, Inc., Clearwater, Fla. Filed June 16, 1959.

NU COAT

For Polish for Automobiles, Refrigerators, Silverware, Furniture, Tile, Porcelain, Linoleum and Chrome.
First use Nov. 2, 1957.

SN 101,971. Louis Newman, d.b.a. Podiatry Laboratories, New York, N.Y. Filed Aug. 3, 1960.

SPRAYEX

For Shoe Shine Polish.
First use June 8, 1959.

SN 102,251. The Lamports Company, Cleveland, Ohio. Filed Aug. 8, 1960.

FABRASIVE

For Abrasive Fabrics.
First use June 15, 1960.

SN 102,307. Eastern Research Corporation, Philadelphia, Pa. Filed Aug. 9, 1960.

FOAM-BRITE

For Wax for Cleaning and Polishing Floors.
First use Aug. 1, 1960.

SN 102,405. Mrs. Lucila W. McGuire, d.b.a. McGuire Enterprises, Gary, Ind. Filed Aug. 10, 1960.

PINK PAY DIRT

For Silverware Polish.
First use Apr. 20, 1960.

SN 102,578. Navan Products, Inc, El Segundo, Calif. Filed Aug. 12, 1960.

NAVONIC

For Diamond Abrasive Circular Cut-Off Wheel.
First use Nov. 19, 1959.

SN 102,624. Diametal Ag, Biel, Switzerland. Filed Aug. 15, 1960.

SUPERFIX

Owner of Swiss Reg. No. 146,724, dated June 4, 1953.
For Grindstones Containing Diamonds.

SN 103,063. Unimatic Manufacturing, Inc., Bay City, Mich. Filed Aug. 19, 1960.

CARBOND

For Honing Stones.
First use Mar. 5, 1959.

Class 5—Adhesives

SN 91,132. Union Carbide Corporation, New York, N.Y. Filed Feb. 17, 1960.

NATIONAL

Owner of Reg. Nos. 443,800 and 670,068.
For Adhesive for Use With Carbon and Graphite.
First use on or about July 17, 1959; about 1944 as to "National."

SN 91,826. Fritz Müller "Coreplast" K.G. (Kommandit Gesellschaft), Wuppertal-Nachstebreck, Germany. Filed Feb. 29, 1960.

COROTHENE

Owner of German Reg. No. 660,014, dated July 13, 1954.
For Synthetic Plastic Products—Namely, Adhesive Foils and Tapes.

Class 6—Chemicals and Chemical Compositions

SN 68,879. Dehydag Deutsche Hydrierwerke GmbH, Dusseldorf, Germany. Filed Mar. 4, 1959.

SYKANOL

Owner of German Reg. No. 580,962, dated Mar. 26, 1941.
For Turkey Red Oil for Use as a Wetting and Softening Agent in the Preparation of Shampoos and Cosmetics.

SN 69,862. Zellstoffabrik Waldhof, Mannheim-Waldhof, Germany. Filed Mar. 18, 1959.

WALDHOF

For Lipides, Nucleic Acids and Salts Thereof, Nucleotides, Nucleosides, Natural Purines, Derivatives of Nucleic Acid, Peptides.
First use in 1956; in commerce about March 1958 for nucleosides and nucleotides.

SN 73,279. Sinclair Refining Company, New York, N.Y. Filed May 8, 1959.

The drawing is lined for green and red, and applicant claims the colors green and red in connection with the mark and design. Owner of Reg. Nos. 146,362, 655,721, and others.

For Propylene, Sulfonate, Anhydrous Ammonia, Rust Inhibitors, for Use in the Cooling Systems of Internal Combustion Engines and Oil and Gas Pipeline Systems, and Chemical Compositions for Use as Synthetic Lubricants.

First use Mar. 23, 1959.

SN 73,280. Sinclair Refining Company, New York, N.Y. Filed May 8, 1959.

The drawing is lined for green and red and applicant claims the colors green and red in connection with the mark and design. Owner of Reg. Nos. 146,362, 655,721, and others.

For Propylene, Sulfonate, Anhydrous Ammonia, Rust Inhibitors for Use in the Cooling Systems of Internal Combustion Engines and Oil and Gas Pipeline Systems, and Chemical Compositions for Use as Synthetic Lubricants.

First use Mar. 23, 1959.

SN 73,339. L. A. Dreyfus Company, South Plainfield, N.J. Filed May 11, 1959.



The lining on the drawing is for shading only.

For Thermoplastic Compounds Including Resins, Waxes, Elastomers and Polymers, and Combinations and Mixtures Thereof, With and Without Filler, Pigment and Other Inert Materials.

First use Feb. 5, 1959.

SN 77,260. Carnegies of Welwyn Limited, Welwyn Garden City, England. Filed July 8, 1959.

TREE OF LIFE

Priority claimed under Sec. 44(d) on British Reg. No. 787,997, dated Mar. 3, 1959.

For Chemicals for Use in the Manufacture of Pharmaceutical Preparations.

SN 77,262. Carnegies of Welwyn Limited, Welwyn Garden City, England. Filed July 8, 1959.



Priority claimed under Sec. 44(d) on British Reg. No. 787,995, dated Mar. 3, 1959.

For Chemicals for Use in the Manufacture of Pharmaceutical Preparations.

SN 85,045. Reichhold Chemicals, Inc., Detroit, Mich. Filed Nov. 10, 1959.

REICOTE

For Organic Solvent for Alcohol-Soluble Phenolic Resins Used To Coat Discreet Refractory Particles for Molds and Cores in the Foundry Industry.

First use Oct. 6, 1959.

SN 85,211. Clinton Detergent Company, Chicago, Ill. Filed Nov. 18, 1959.

EZ-TIME

For Ironing Fluid for Steam Irons With Incidental Deodorizing Properties.

First use Oct. 2, 1959.

SN 87,366. Marlenn Products Company, Inc., Baltimore, Md. Filed Dec. 15, 1959.

B.O. The Happy Hobo

For Air Freshener in the Form of a Perfumed Deodorant.

First use Nov. 30, 1959.

SN 89,498. The Brush Beryllium Company, Cleveland, Ohio. Filed Jan. 22, 1960.

LOH

For Beryllium Oxide and Compositions Comprising Predominantly Beryllium Oxide.

First use Nov. 17, 1959.

SN 91,757. Chapman Chemical Company, Memphis, Tenn. Filed Feb. 29, 1960.

TIMPREG

For Wood Preservative.

First use Oct. 19, 1959.

SN 91,778. Food Machinery and Chemical Corporation, New York, N.Y. Filed Feb. 29, 1960.

SEAMAG

Owner of Reg. No. 580,049.

For Purifying, Catalytic, and Decolorizing Materials—Namely, Magnesium Oxides.

First use Feb. 3, 1960.

SN 92,105. Moser Paper Company, Chicago, Ill. Filed Mar. 3, 1960.

FENO

For Embalming Chemical for Use by Undertakers for Embalming Dead Human Bodies.
First use Jan. 7, 1960.

SN 92,205. American Teleseptic Co. Inc., New York, N.Y. Filed Mar. 7, 1960.

Tele-septic

For Sanitizing Spray for Use on Telephones.
First use Dec. 23, 1959.

SN 96,827. Carrier Corporation, Syracuse, N.Y. Filed May 11, 1960.

CARREX

Owner of Reg. No. 248,155.
For Chemical Compositions for Treating and Purifying Air.
First use Aug. 28, 1959.

SN 97,463. De Mert & Dougherty, Inc., Chicago, Ill. Filed May 19, 1960.

RAINZ

For Insecticidal Spray for Use on Roses and Other Flowers.
First use on or about Apr. 4, 1960.

SN 97,992. Diamond Alkali Company, Cleveland, Ohio. Filed May 27, 1960.

FLOZAN

For Sodium Carbonate.
First use May 16, 1960.

SN 98,672. Morton Chemical Company, Chicago, Ill. Filed June 8, 1960.

PANDRINOX

Owner of Reg. Nos. 396,910, 640,535, and 648,043.
For Fungicidal-Insecticidal Composition Used in the Treatment of Seeds.
First use on or about Jan. 19, 1960.

SN 99,449. Arthur K. Peters, d.b.a. A. K. Peters Company, New York, N.Y. Filed June 21, 1960.



The drawing is lined for red and blue.
For Fire Extinguishing Composition.
First use May 27, 1960.

SN 101,506. Nopco Chemical Company, Newark, N.J. Filed July 26, 1960.

NOPCOTE

Owner of Reg. Nos. 598,972, 652,803, and 659,679.
For Chemical Compositions for Use in the Protective and Decorative Coating of Paper, Cellophane, and Like Sheet Materials.
First use May 14, 1952.

Class 10 — Fertilizers

SN 93,607. F. S. Royster Guano Co., Norfolk, Va. Filed Mar. 24, 1960.

FSR

Owner of Reg. No. 45,145.
For Fertilizers.
First use September 1959.

SN 96,425. Robertson Chemical Corporation, Norfolk, Va. Filed May 4, 1960.



The word "Pelletized" is disclaimed apart from the mark as shown. The words "Gold Nugget" and the lined portions within the circle are lined for the color gold.
For Fertilizer.
First use 1959.

SN 96,426. Robertson Chemical Corporation, Norfolk, Va. Filed May 4, 1960.



The word "Brand" is disclaimed apart from the mark as shown. The dollar sign of the drawing is lined for the color gold.
For Fertilizer.
First use 1930.

Class 12 — Construction Materials

SN 45,214. Elwin G. Smith & Co., Inc., d.b.a. Egsco, Pittsburgh, Pa. Filed Feb. 3, 1958.

SHADOWALL AN EGSCO PRODUCT

No claim is made to the words "An" and "Product" apart from the mark as shown. Owner of Reg. No. 617,350.
For Flanged Metal Panels Used for Surfacing Walls, Outside and Inside of Buildings.
First use Oct. 9, 1957; and 1954 as to "Egsco."

SN 64,160. Humble Oil & Refining Company, Houston, Tex., by merger from Esso Standard Oil Company, New York, N.Y. Filed Dec. 12, 1958.



For Asphalt.
First use July 28, 1958.

SN 65,363. Johnson & Johnson, New Brunswick, N.J. Filed Jan. 6, 1959.

RIBBON DOPE

For Self-Lubricating Threaded Pipe Sealer.
First use Oct. 10, 1958.

SN 70,299. Inland Steel Products Company, Milwaukee, Wis. Filed Mar. 26, 1959.

LOK-FRAME

For Pre-Engineered Metal Buildings.
First use Dec. 18, 1958.

SN 71,849. Johns-Manville Corporation, New York, N.Y. Filed Apr. 20, 1959.

WATER-COTE

For Fire-Retardant Preparation Comprising Particulate Mineral Absorbent and Thickening Agent.
First use Dec. 17, 1958.

SN 83,019. Louis Viscolosi, d.b.a. Visco, Providence, R.I. Filed Oct. 9, 1959.

DUBL CHEK

For Weather Seal Auxiliary Closure Covering the Crevice Between Swinging Double Doors.
First use March 1958.

SN 83,174. A. D. Lee, d.b.a. Custom Camp, Houston, Tex. Filed Oct. 13, 1959.

CUSTOM CAMP

For Collapsible, Portable Housing Units.
First use Sept. 22, 1959.

SN 86,712. Allis-Chalmers Manufacturing Company, Milwaukee, Wis. Filed Dec. 7, 1959.

BASCULE

For Crest Control Gate for Dams.
First use about Sept. 17, 1959.

SN 88,037. Gustin-Bacon Manufacturing Company, Kansas City, Mo. Filed Dec. 28, 1959.

ULTRAQUIET

For Acoustical Insulation Material in the Form of Fibrous Pads or Batts.
First use Nov. 20, 1959.

SN 89,031. John Sunshine Chemical Co., Inc., Chicago, Ill. Filed Jan. 14, 1960.

MITEE

Owner of Reg. No. 327,533.
For Pipe Joint Compound and Soil Pipe Cement.
First use Jan. 20, 1933.

SN 90,951. Savage Lumber & Manufacturing Co., Seattle, Wash. Filed Feb. 15, 1960.

RAWHIDE

Owner of Reg. No. 648,477.
For Smooth and Mineral Coated Roll Roofing, Asphalt Shingles, Deadening Felt, Sheathing Paper, Asphalt Cement, and Roofing Coating.
First use May 15, 1942.

SN 91,974. Vermiculite Manufacturing Co., Seattle, Wash. Filed Mar. 1, 1960.

INCA

For Precast Light Aggregate Concrete Building Bricks or Blocks.
First use May 10, 1959.

SN 94,066. Theodore A. Homoky, d.b.a. United States Aluminum Company, South Bend, Ind. Filed Mar. 31, 1960.

US ALUMINUM COMPANY

For Aluminum Doors and Aluminum Windows.
First use on or about May 1, 1953.

SN 94,081. Moscrip Inc., Lima, Ohio. Filed Mar. 31, 1960.

HARD-WEAR

For Wooden Doors.
First use Jan. 15, 1960.

SN 95,617. Plastering Development Center, Inc., Chicago, Ill. Filed Apr. 22, 1960.

TUFCON

For Powdered Gypsum Plaster Mixture for Walls and Ceilings.
First use Apr. 8, 1960.

SN 100,717. The Mosaic Tile Company, Zanesville, Ohio. Filed July 12, 1960.

STACCATO

For Ceramic Tile.
First use May 1, 1959.

SN 100,845. Hickson's Timber Impregnation Company (G.B.) Limited, Castleford, England. Filed July 14, 1960.

PYRESTOS

Owner of British Reg. No. 780,473, dated Aug. 1, 1958.
For Non-Metallic Panels for Use in Building and Construction, None Being Wholly or Principally of Glass.

SN 101,862. G. T. Schjeldahl Company, Northfield, Minn. Filed Aug. 3, 1960.

Schjelevator

Owner of Reg. Nos. 677,557 and 698,394.
For Air Supported Grain Storage Buildings.
First use Oct. 28, 1959.

SN 102,416. John Edward Reynolds, Leamington, Ontario, Canada. Filed Aug. 10, 1960.

PORTA-GREEN

No claim is made to the word "Green" apart from the mark as shown. Owner of Canadian Reg. No. 116,597, dated Jan. 15, 1960.
For Portable Plastic Covered Greenhouses.

SN 103,419. Solmica, Inc., St. Louis, Mo. Filed Aug. 25, 1960.

SOLMICA

For Aluminum Siding.
First use July 1952.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

SN 81,908. Klincher Locknut Corporation, Indianapolis, Ind. Filed Sept. 23, 1959.

KLINCHER

For Locknuts.
First use Jan. 31, 1945.

SN 81,909. Klincher Locknut Corporation, Indianapolis, Ind. Filed Sept. 23, 1959.

KL

For Locknuts.
First use Jan. 31, 1945.

SN 88,178. Rosan Engineering Corp., Newport Beach, Calif. Filed Dec. 29, 1959.



The representation of goods is disclaimed apart from the mark.
For Threaded Fastener Inserts.
First use Dec. 21, 1959.

SN 95,773. M. B. Skinner Company, South Bend, Ind. Filed Apr. 25, 1960.

PUNCH-IT

For Branch Pipe Fitting With Pipe-Tapping Means.
First use Mar. 8, 1959.

SN 100,451. Hartwell Corporation, Los Angeles, Calif. Filed July 7, 1960.

NYLATCH

For Panel Fasteners.
First use May 12, 1960.

SN 100,771. Flexigrip, Inc., New York, N.Y. Filed July 13, 1960.



Owner of Reg. Nos. 557,731, 642,478, and 684,991.
For Zippers and Slide Fasteners.
First use January 1954.

SN 100,959. West Bend Aluminum Co., West Bend, Wis. Filed July 15, 1960.

ARISTO-CRAFT

For Stainless Steel Cooking Utensils.
First use June 30, 1960.

SN 101,127. Salem Pipe & Iron Mfg. Co., Bridgeton, N.J. Filed July 19, 1960.

NU-SPUN

For Cast Iron Pipes.
First use Feb. 27, 1960.

SN 101,228. "Automatic" Sprinkler Corporation of America, Youngstown, Ohio. Filed July 21, 1960.

ELE • GARD

For Remote Station Fire Alarm Systems and Parts Thereof for Fire Protection.
First use Apr. 15, 1960.

Class 14—Metals and Metal Castings and Forgings

SN 86,557. Erico Products, Inc., Cleveland, Ohio. Filed Dec. 3, 1959.

ONE-SHOT

For Frangible Ceramic Mold Containing a Powder Cartridge, a Metal Disk, a Wrap Seal and a Flared Sleeve for Producing Welding Connections.
First use in or about March 1959.

SN 100,221. Bridgeport Brass Company, Bridgeport, Conn. Filed July 5, 1960.

Flexalum

Owner of Reg. Nos. 427,702, 696,134, and others.
For Fence Lattice Made of Painted Metal in Both Coil and Flat Form for Insertion Into the Fabric of Chain Link Fences.
First use Mar. 18, 1960.

Class 15—Oils and Greases

SN 75,473. Core-Lube, Inc., Danville, Ill. Filed June 10, 1959.

CORE-LUBE

Applicant disclaims the term "Lube" apart from the mark as shown. Owner of Reg. Nos. 692,624 and 696,260.
For Petroleum Lubricating Oils, Greases, and Metal Working Lubricants.
First use Jan. 31, 1958.

SN 104,402. The Standard Oil Company, Cleveland, Ohio. Filed Sept. 13, 1960.

7 C'S

Owner of Reg. No. 659,713.
For Outboard Motor Oil.
First use May 1, 1957.

Class 16—Protective and Decorative Coatings

SN 85,812. Bee Chemical Company, Chicago, Ill. Filed Nov. 23, 1959.

BRONZELESS GOLD

For Liquid Coating Composition Consisting Essentially of Aluminum Powder, Pigments and a Liquid Vehicle To Provide a Gold-Like Finish on Plastics, Metals, Glass, Paper and the Like.
First use Oct. 27, 1959.

SN 87,132. National Disinfectant Company, Dallas, Tex. Filed Dec. 11, 1959.

PLEX-I-GLOSS

For Plastic Floor Finish.
First use Sept. 11, 1959.

SN 100,083. American-Marietta Company, Chicago, Ill. Filed July 1, 1960.

AMERCRYL

For Varnishes.
First use on or about May 3, 1960.

Class 18—Medicines and Pharmaceutical Preparations

SN 70,135. Biosante Chemical Specialties, Inc., New York, N.Y. Filed Mar. 24, 1959.

BISMAGEN

Owner of Reg. No. 393,881.
For Medicinal Preparations Indicated in and for the Mitigation, Relief and Treatment of the Discomforts Resulting From Acidosis, Heartburn, Hyperacidity, and Overacidity of the Stomach and Digestive Tract.
First use in October 1932.

SN 76,135. Leonard G. Wolfson, d.b.a. Syl-Len, Boston, Mass. Filed June 19, 1959.

SYL-LEN

For Antiseptic Solution for Use in Applying Contact Lenses to the Eyes.
First use Oct. 1, 1957.

SN 77,261. Carnegies of Welwyn Limited, Welwyn Garden City, England. Filed July 8, 1959.

TREE OF LIFE

Priority claimed under Sec. 44(d) on British Reg. No. 788,002, dated Mar. 3, 1959.
For Pharmaceutical Preparations.

SN 90,761. Johnson & Johnson, New Brunswick, N.J. Filed Feb. 11, 1960.

MICRIN

For Mouthwash and Oral Antiseptic.
First use Aug. 19, 1959.

SN 98,195. American Home Products Corporation, d.b.a. Fort Dodge Laboratories, New York, N.Y. Filed June 1, 1960.

FREED

For Parasiticide for Veterinary Use.
First use Apr. 4, 1960.

SN 100,703. Guardian Chemical Corporation, Long Island City, N.Y. Filed July 12, 1960.

LUBRASEPTIC

For Medical and Surgical Lubricants.
First use Feb. 10, 1960.

SN 100,823. Viobin Corporation, Monticello, Ill. Filed July 13, 1960.

VIOSIL

For Nutritional Supplement Consisting of Octacosanol and Refined Cottonseed Oil.
First use June 3, 1960.

SN 102,014. Farbenfabriken Bayer Aktiengesellschaft, Leverkusen-Bayerwerk, Germany. Filed Aug. 4, 1960.

NEGASUNT

Owner of German Reg. No. 735,389, dated Apr. 6, 1960.
For Chemotherapeutic Agents and Chemical Products for Healing Purposes.

SN 102,072. The Upjohn Company, Kalamazoo, Mich. Filed Aug. 4, 1960.

NUMIX

For Veterinary Feed Supplement for Use in the Prevention and Treatment of Arthritic Diseases in Turkeys.
First use Feb. 9, 1960.

SN 102,103. Delaware Poultry Laboratories, Inc., Millsboro, Del. Filed Aug. 5, 1960.

NEO-DIHYDRO · DUST

Applicant makes no claim of exclusive right in the word "Dust" apart from the complete mark shown.
For Antibiotic Preparation for Treatment of Chronic Respiratory or Air Sac Infections in Poultry.
First use July 11, 1960.

SN 103,997. Colgate-Palmolive Company, New York, N.Y. Filed Sept. 6, 1960.

INSTAGESIC

For Analgesic.
First use July 29, 1960.

SN 104,872. Wynn Pharmacal Corporation, Philadelphia, Pa. Filed Sept. 20, 1960.

DEXALONE

Owner of Reg. Nos. 694,457, 698,864, and 701,234.
For Dextro-Amphetamine Sulfate Pharmaceutical Preparation.
First use Sept. 9, 1960.

SN 105,329. American Home Products Corporation, d.b.a. Ayerst Laboratories, New York, N.Y. Filed Sept. 28, 1960.

KAVITAN

For Preparation for Use in the Treatment of Hemorrhagic Conditions.
First use June 23, 1939.

SN 105,330. American Home Products Corporation, d.b.a. Ayerst Laboratories, New York, N.Y. Filed Sept. 28, 1960.

MATURON

Owner of Reg. No. 657,019.
For Enzyme Vitamin Compound in Dosage Form.
First use Sept. 12, 1960.

SN 105,402. White Laboratories, Inc., Kenilworth, N.J. Filed Sept. 28, 1960.

DISOPHROL

For Antihistamine Preparation With Vasoconstrictor for the Treatment of Allergic Rhinitis, Congested Sinuses, and the Like.
First use Sept. 15, 1960.

SN 105,593. Armour and Company, Chicago, Ill. Filed Oct. 3, 1960.

LUSTIKA

For Tranquilizer Preparation.
First use Sept. 1, 1960.

SN 105,596. Armour and Company, Chicago, Ill. Filed Oct. 3, 1960.

LUKON

For Ophthalmic Preparation.
First use Sept. 1, 1960.

SN 105,613. Armour and Company, Chicago, Ill. Filed Oct. 3, 1960.

TOMPIAN

For Tranquilizer Preparation.
First use Sept. 1, 1960.

SN 106,064. Creomulsion Company, Atlanta, Ga. Filed Oct. 10, 1960.

SINACHEK

For Tablets for Relief of Coughs and Other Symptoms Due to Colds.
First use Sept. 2, 1960.

SN 106,095. Haver-Lockhart Laboratories, Inc., Kansas City, Mo. Filed Oct. 10, 1960.

ELECTROGRO

For Composition Containing Electrolytes for Administration to Animals for Accelerating the Growth Thereof.
First use Sept. 21, 1960.

SN 106,116. Merck & Co., Inc., Rahway, N.J. Filed Oct. 10, 1960.

DIROZIDE

For Hydrochlorothiazide for Veterinary Use.
First use Sept. 29, 1960.

SN 106,216. The Norwich Pharmacal Company, Norwich, N.Y. Filed Oct. 11, 1960.

FURAZETS

For Pharmaceutical Preparation for the Treatment of Infections of the Mouth and Throat.
First use Sept. 12, 1960.

SN 106,473. Bristol-Myers Company, New York, N.Y. Filed Oct. 17, 1960.

ESTAFCILINA

For Antibiotic Pharmaceutical Preparation.
First use Aug. 31, 1960.

SN 106,868. Zirin Laboratories International, Inc., Hialeah, Fla. Filed Oct. 20, 1960.

NATROCAL

For Vitamin and Mineral Supplement for Vitamin Deficient Diets and Foods.
First use July 1953.

SN 106,869. Zirin Laboratories International, Inc., Hialeah, Fla. Filed Oct. 20, 1960.

NATURCAL

For Vitamin and Mineral Supplement for Vitamin Deficient Diets and Foods.
First use July 1953.

SN 106,948. M. R. Thompson, Inc., New York, N.Y. Filed Oct. 21, 1960.

'TRANSIPAN'

For Medical Preparation for Treatment of Hypertension.
First use Apr. 22, 1960.

SN 106,949. M. R. Thompson, Inc., New York, N.Y. Filed Oct. 21, 1960.

'TENSITRAN'

For Medical Preparation for Treatment of Hypertension.
First use Apr. 25, 1960.

Class 19—Vehicles

SN 83,651. Simca, Paris, France. Filed Oct. 20, 1959.

Rue de la Paix

The translation of the French term "Rue de la Paix" is "Peace Street." Owner of French Reg. No. 453,241, dated Oct. 14, 1955 (Seine); Natl. Inst. No. 62,947.
For Automobiles.

SN 83,662. Simca, Paris, France. Filed Oct. 20, 1959.

Monaco

Owner of French Reg. No. 470,502, dated Feb. 21, 1958 (Seine); Natl. Inst. No. 103,382.
For Automobiles.

SN 89,577. General Motors Corporation, Detroit, Mich. Filed Jan. 25, 1960.

LAKEWOOD

For Automotive Vehicles—Namely, Trucks.
First use Nov. 10, 1959.

SN 93,123. The Anderson Company, Gary, Ind. Filed Mar. 18, 1960.

SUPER SERVICE

For Windshield Wiper Arms and Parts Therefor.
First use Nov. 16, 1951.

SN 96,969. Robert J. Romaneck, Fairfax, Calif. Filed May 12, 1960.

ALLIGATOR

For Assembled Kayaks and Kits of Pre-Cut Parts.
First use Mar. 15, 1960.

SN 97,428. Anthony Company, Streator, Ill. Filed May 18, 1960.

DROP LEAF

For Elevating Gate for Use on Trucks.
First use Jan. 19, 1960.

Class 21—Electrical Apparatus, Machines, and Supplies

SN 74,567. Bourns, Inc., Riverside, Calif. Filed May 27, 1959.

RESISTON

Owner of Reg. No. 640,937.
For Resistance Elements for Potentiometers, for Use in Connection With Radios, Television, and the Like.
First use Feb. 24, 1958.

SN 80,899. Metal & Thermit Corporation, Woodbridge Township, Middlesex County, N.J. Filed Sept. 4, 1959.

Owner of Reg. Nos. 250,748, 525,043, and others.
For Rectifiers, Power Sources, Electric Welding Machines, Welding Accessories, and Electroplating Machines.
First use during 1949.

SN 99,832. Donald K. Allison, Albuquerque, N. Mex. Filed June 28, 1960.

RAY-FIN

For Heat Dissipating Electro-Magnetic Shields for Electronic Valve Devices, Such as Vacuum Tubes, Transistors, or the Like.
First use Mar. 29, 1960.

SN 99,833. Donald K. Allison, Albuquerque, N. Mex. Filed June 28, 1960.

COOLFIN

For Heat Dissipating Electro-Magnetic Shields for Electronic Valve Devices, Such as Vacuum Tubes, Transistors, or the Like.
First use Sept. 2, 1959.

SN 103,808. H. H. Robertson Company, Pittsburgh, Pa. Filed Sept. 1, 1960.

Q

Owner of Reg. No. 395,248.
For Electrical Fittings Particularly Adapted for Use in Combination With Metal Cellular Floor Including Metal Header Duct, Junctions, Elbows, Expansion Joints, Couplings, Connectors, Closures, Conduit Adapters, Bushings, Cover Plates, Outlet Boxes, Markers, Electrical Outlet Housings.
First use Sept. 9, 1942.
Subj. to Intf. with SN 76,841.

Class 22—Games, Toys, and Sporting Goods

SN 65,289. The Avalon Hill Company, Baltimore, Md. Filed Jan. 5, 1958.

TACTICS II

For Apparatus Sold as a Unit for Playing Board Games.
First use Aug. 14, 1958.

SN 81,991. George H. Gowdy, St. Petersburg, Fla. Filed Sept. 24, 1959.

hank gowdy's **Whirl-e-bird**

"Hank Gowdy" is the nickname of the applicant, George Gowdy.
For Fishing Lures.
First use Sept. 14, 1959.

SN 83,050. Buck-A-Roo Stores, Inc., Overland Park, Kans. Filed Oct. 12, 1959.

BUCK-A-ROO

For General Line of Inexpensive Toys, Fishing Tackle, and Soft Balls, Baseballs, Footballs and Other Equipment for Playing Various Games.
First use Sept. 1, 1959.

SN 88,629. Liberty Distributors, Philadelphia, Pa. Filed Dec. 10, 1959. COLLECTIVE MARK.

SPORTMASTER

For Baseball Gloves, Baseballs, Baseball Bats, Basketballs, Footballs, Football Outfits, Tennis Rackets and Tennis Balls, Soccer Balls, Badminton Rackets and Shuttle Cocks, Boxing Gloves, Punching Bags, Golf Clubs, Golf Balls and Golf Accessories.
First use Jan. 2, 1959, on baseball gloves.

SN 89,452. Peerless Playthings Co., Inc., Ridgefield Park, N.J. Filed Jan. 21, 1960.

JOLLY CHOLLY

For Plastic Molded Toys, Games, Children's Sets and the Like.
First use Nov. 15, 1959.

SN 91,713. Structo Manufacturing Company, Freeport, Ill. Filed Feb. 26, 1960.

Playmate Guidance

The word "Guidance" is disclaimed apart from the composite mark.
For Steel and Plastic Educational and Guidance Type Toys for Children of Pre-School Age.
First use Dec. 4, 1959.

SN 92,212. Bernard E. Berisnbach, d.b.a. Ski Free Co., Mill Valley, Calif. Filed Mar. 7, 1960.

SKI FREE

Owner of Reg. No. 589,814.
For Safety Ski Bindings.
First use Nov. 1, 1950.

SN 100,827. Western Lace & Line Company, d.b.a. Western Fishing Line Company, Glendale, Calif. Filed July 5, 1960.

MONOTAPE

For Fishing Line.
First use June 10, 1960.

SN 100,834. Wright & McGill Co., Aurora, Colo. Filed July 5, 1960.

Two-Way

For Fishing Spinners.
First use on or about Oct. 1, 1937.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

SN 79,314. Necchi Societa per Azioni, Pavia, Italy. Filed July 27, 1959.

miranda

Priority claimed under Sec. 44(d) on Italian application filed June 9, 1959; Reg. No. 151,052, dated Sept. 26, 1960.
For Sewing Machines and Parts Thereof.

SN 83,051. Buck-A-Roo Stores, Inc., Overland Park, Kans. Filed Oct. 12, 1959.

BUCK-A-ROO

For General Line of Cutlery and Hand Tools Comprising Knives, Scissors, Table Cutlery, Pliers, Screwdrivers, Hammers, Wrenches, Files, Hatchets and Garden Tools.
First use Sept. 1, 1959.

SN 86,118. Dubuque Stamping & Mfg. Co., Toledo, Ohio. Filed Nov. 27, 1959.

FARM-EZE

For Barn Cleaners and Cultivator Shanks.
First use Nov. 15, 1958.

SN 87,350. Graphic Supply Co., Inc., New York, N.Y. Filed Dec. 15, 1959.

GRAF-TONE

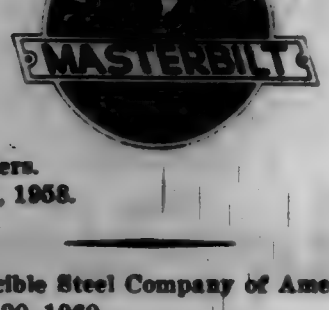
Owner of Reg. No. 617,171.
For Rubber Rollers for Printing Presses and Other Types of Machines.
First use Sept. 16, 1959.

SN 94,352. Haakon Sand, South Gate, Calif. Filed Apr. 4, 1960.

S A V E X

For Device for Sharpening Double Edge Razor Blades.
First use Mar. 2, 1960.

SN 100,129. Henry W. Kissinger, d.b.a. Kissinger-Masterbilt Co., Chicago, Ill. Filed July 1, 1960.



For Bread-Molders.
First use July 1, 1958.

SN 101,160. Crucible Steel Company of America, Pittsburgh, Pa. Filed July 20, 1960.

REXALLOY

Owner of Reg. No. 431,715.
For Metal Working Bits for Use With Machine Tools.
First use July 27, 1938.

SN 101,669. Draper Corporation, Hopedale, Mass. Filed July 29, 1960.

XP-2

For Looms and Parts Thereof.
First use Dec. 8, 1954.

SN 101,670. Draper Corporation, Hopedale, Mass. Filed July 29, 1960.

XP

For Looms and Parts Thereof.
First use July 26, 1940, on looms.

SN 101,759. Draper Corporation, Hopedale, Mass. Filed Aug. 1, 1960.

XB

For Looms and Parts Thereof.
First use Sept. 1, 1959.

SN 101,779. Hack Saws Limited, Sheffield, England. Filed Aug. 1, 1960.

AVEN

For Hacksaws, Hacksaw Blades, and Bandsaw Blades.
First use on or about June 13, 1913; in commerce March 1960.

SN 101,831. The Vendo Company, Kansas City, Mo. Filed Aug. 1, 1960.

VEN-PAR

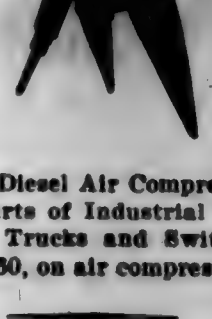
For Repair Parts and Accessories for Vending Machines.
First use July 18, 1960.

SN 102,058. Richards Shear Company, Seattle, Wash. Filed Aug. 4, 1960.

IRON SHARK

For Metal Shears.
First use Dec. 1, 1959.

SN 102,086. American Jenbach Corporation, Burlington, N.C. Filed Aug. 5, 1960.



For Diesel Engines, Diesel Air Compressors, Diesel Engines Sold as Component Parts of Industrial Equipment—Namely, Generators, Fork-Lift Trucks and Switchyard Locomotives.
First use May 12, 1960, on air compressors.

SN 102,912. Fabrique Nationale d'Armes de Guerre, Société Anonyme, Herstal-near-Liege, Belgium. Filed Aug. 18, 1960.

QUARTEX

Owner of Belgian Reg. No. 8,057, dated June 1, 1960.
For Textile Machines and More Particularly Knitting Machines.

SN 103,846. Draper Corporation, Hopedale, Mass. Filed Sept. 2, 1960.

XL

For Looms and Parts Thereof.
First use July 30, 1934, on looms.

Class 24—Laundry Appliances and Machines

SN 100,328. Whirlpool Corporation, St. Joseph, Mich. Filed July 5, 1960.



For Laundry Appliances—Namely, Washing and Cleaning Machines, Drying Machines and Parts Thereof.
First use May 12, 1960.

Class 26—Measuring and Scientific Appliances

SN 82,826. Dr. Ing. Rudolf Hell, Kiel-Dietrichsdorf, Germany. Filed Oct. 7, 1959.

ZETFAX

Owner of German Reg. No. 736,831, dated May 19, 1960.
For Device for Transmitting Images Such as Pictures or Writing From a Film Carrying the Image at a Transmitting Station to a Film Located at a Receiving Station.

SN 84,530. Foster Grant Co., Inc., Leominster, Mass. Filed Nov. 3, 1959.

ff77 filter factor

For Sunglass Lenses Sold as Component and Integral Parts of Sunglasses.
First use Oct. 8, 1959.

SN 84,531. Foster Grant Co., Inc., Leominster, Mass. Filed Nov. 3, 1959.

filter factor

For Sunglass Lenses Sold as Component and Integral Parts of Sunglasses.
First use Oct. 8, 1959.

SN 85,685. Rocket Jet Engineering Corp., Glendale, Calif. Filed Nov. 19, 1959.



For Apparatus for Automatically Dispensing a Predetermined Amount of a Selected Color or Predetermined Amounts of Various Selected Colors Into a Can of Basic White Paint.
First use Oct. 16, 1959.

Class 29 — Brooms, Brushes, and Dusters

SN 77,883. Herman Cohn, d.b.a. Herman Cohn Co., Baltimore, Md. Filed June 30, 1959.

Whisk-it

The representation of the whisk broom is disclaimed apart from the mark as shown.
For Whisk Brooms.
First use Nov. 1, 1938.

Class 32 — Furniture and Upholstery

SN 88,580. Restonic Corporation, Chicago, Ill. Filed Jan. 5, 1960.

REST-O-QUILT

For Mattresses and Box Springs.
First use Dec. 23, 1959.

SN 89,464. Restonic Corporation, Chicago, Ill. Filed Jan. 21, 1960.



"The Royalty of Bedding" is disclaimed apart from the mark as shown. Owner of Reg. No. 426,118.
For Mattresses and Box Springs.
First use Jan. 7, 1960.

SN 103,825. Consider H. Willett, Inc., Louisville, Ky. Filed Sept. 1, 1960.

FARMINGTON

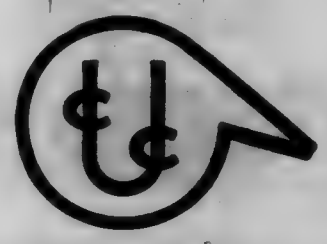
For (1) Bedroom Furniture—Namely, Beds, Bed Canopies, Chairs, Chests, Dressers, Dressing Tables, Mirrors, Night Stands and Vanities; (2) Dining Room Furniture—Namely, Buffets, Chairs, Cupboards, China Cupboards, Corner Cabinets, Servers and Tables; and (3) Living Room Furniture—Namely, Chairs, Desks, Love Seats, Ottomans, Sofas, and Coffee, Drop-Leaf, End, Lamp and Tavern Tables.
First use July 12, 1960.

SN 104,367. Brown-Saltman Furniture Co., South Gate, Calif. Filed Sept. 13, 1960.



For Furniture—Namely, Hinge-Connected Chairs, Hinge-Connected Chair and Table Units, and Hinge-Connected Chair, Table, and Planter Units.
First use Aug. 26, 1960.

SN 104,964. Urethane Corporation of California, San Francisco, Calif. Filed Sept. 21, 1960.



For Foam Mattresses and Cushioning Materials.
First use July 21, 1960.

SN 105,125. Archie Lewy, Philadelphia, Pa. Filed Sept. 21, 1960.

E-Z-RECT

Owner of Reg. No. 594,871.
For Foldable and Nonfoldable, Permanently Set Up and Knockdown Display Stands and Cabinets Made of Cardboard, Wood, Plastic, and Any Combination Thereof, for Displaying or Setting Off Merchandise in Shops, Offices, Showrooms, and Convention Booths.
First use during June 1952.

Class 33 — Glassware

SN 94,976. Federal Paper Board Company, Inc., Bogota, N.J. Filed Apr. 13, 1960.

REDDY-PAK

Owner of Reg. No. 413,152.
For Drinking Containers Made of Glass Sold in Special Cardboard and Paperboard Boxes and Cartons.
First use January 1957.

Class 34 — Heating, Lighting, and Ventilating Apparatus

SN 70,572. Arkla Air Conditioning Corporation, Evansville, Ind. Filed Mar. 31, 1959.

GASLITE BY ARKLA

Applicant disclaims the word "Gaslite" apart from its use of the mark as shown.
For Illuminating Devices Utilizing Gaseous Fuel.
First use Feb. 7, 1958.

SN 81,852. Childers Manufacturing Company, Inc., Albuquerque, N. Mex. Filed Aug. 17, 1959.



Applicant disclaims the wording "Circulating Hot Oil" and "Mfg. Co."
For Circulating Hot Oil Heaters.
First use June 25, 1955.

SN 91,658. Aktiebolaget Svenska Fläktfabriken, Nacka, Sweden. Filed Feb. 26, 1960.

FEMETTE

Owner of Swedish Reg. No. 87,318, dated June 5, 1959.
For Channels and Ducts, Apparatus for Conditioning of Air by Heating, Cooling, Humidifying, Dehumidifying, Purifying or Addition of Other Materials, Heat Exchangers for Ventilating Plants.

SN 91,660. Aktiebolaget Svenska Fläktfabriken, Nacka, Sweden. Filed Feb. 26, 1960.

AERONETT

Owner of Swedish Reg. No. 87,733, dated Aug. 21, 1959.
For Apparatus for Conditioning of Air or Other Gases by Heating, Cooling, Humidifying, Dehumidifying, Purifying or Addition of Other Materials; Heat Exchangers.

SN 100,565. Allcraft Manufacturing Company, Inc., Cambridge, Mass. Filed July 11, 1960.



The word "Copper" is disclaimed apart from the mark as shown.
For Electric Water Heaters and Copper Storage Tanks for Water Having Water Heating Means Associated Therewith.
First use May 3, 1960.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 81,100. United States Rubber Company, New York, N.Y. Filed Sept. 9, 1959.

MONO-RIB

Owner of Reg. No. 375,624.
For Rubber Tires for Vehicles.
First use Dec. 8, 1938.

SN 81,319. Parker-Hannifin Corporation, Cleveland, Ohio. Filed Sept. 14, 1959.

WING SEAL

The word "Seal" is disclaimed apart from the mark.
For Packing Rings.
First use May 18, 1957.

Class 36 — Musical Instruments and Supplies

SN 70,056. Fidelitone, Incorporated, Chicago, Ill. Filed Mar. 23, 1959.

STEREO-WIPE

For Cloths for Phonograph Records To Reduce or Eliminate Static Electricity.
First use Oct. 24, 1958.

SN 74,948. Peripole Products, Inc., Brooklyn, N.Y. Filed June 2, 1959.

PERIPOLE

For Novelty Musical Instruments for Classroom and Recreation Purposes.
First use April 1943.

SN 77,233. Alice Sirooni, d.b.a. Concert Classics Record Co., New York, N.Y. Filed July 7, 1959.



For Phonograph Records.
First use Dec. 22, 1958.

SN 87,286. Silo, Inc., Philadelphia, Pa. Filed Dec. 14, 1959.

ROBERT LAWRENCE

For Phonographs.
First use Apr. 18, 1959.

SN 102,959. Trixon Musikinstrumentenfabrik Karl-Heinz Weimer K.G., Hamburg, Germany. Filed Aug. 18, 1960.

Trixon

Owner of German Reg. No. 648,299, dated Nov. 18, 1953.
For Musical Instruments Including Jazz Instruments, Percussion Instruments, Drums, Cymbals, and Vibraphones and Parts of and Accessories for Such Instruments.

SN 106,088. General Magnetics & Electronics, Inc., Flushing, N.Y. Filed Oct. 10, 1960.

GEMARK

For Tape Recorders.
First use Aug. 24, 1960.

Class 37 — Paper and Stationery

SN 98,706. Fraser Paper, Limited, Madawaska, Maine. Filed June 9, 1960.

FRA-O-TEXT

Owner of Reg. No. 582,898.
For Bible Paper.
First use Dec. 8, 1954.

SN 99,085. Phillips-Joanna Company, Chicago, Ill. Filed June 15, 1960.

PHILJO

For Plastic Film Useful for Packaging.
First use Dec. 14, 1959.

SN 101,566. The Narrow Fabric Company, d.b.a. Wyomissing Paper Products, West Reading, Pa. Filed July 27, 1960.

Jewelstone

For High Gloss Coated Paper or Coated Paper.
First use June 24, 1960.

SN 101,855. Diamond National Corporation, New York, N.Y. Filed Aug. 2, 1960.

DIAMOND-GLO

Owner of Reg. Nos. 679,439 and 690,371.
For High Finish Clay Coated Paperboard.
First use June 1959.

SN 102,563. Kimberly-Clark Corporation, Neenah, Wis. Filed Aug. 12, 1960.

KIMTOWELS

Owner of Reg. No. 503,077.
For Wipers Made of Paper.
First use Aug. 5, 1960.

Class 38 — Prints and Publications

SN 93,255. American Business Systems, Inc., Philadelphia, Pa. Filed Mar. 21, 1960.

ABS TRACT

For House Organ.
First use Sept. 1, 1959.

SN 96,667. Chemical Bank New York Trust Company, New York, N.Y. Filed May 9, 1960.

For Occasional Bulletins, Serial Publications, and Periodical Reports.
First use Sept. 8, 1959.

Class 39 — Clothing

SN 57,173. Trans World Shoe Corporation, New York, N.Y. Filed Aug. 13, 1958.

VAGABOS

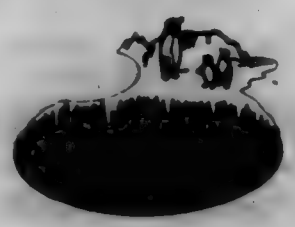
For Men's Shoes.
First use Feb. 4, 1958.

SN 75,432. Murphy, Brill and Sahner, Incorporated, New York, N.Y. Filed June 9, 1959.



For Hosiery, Particularly Men's Socks.
First use in February 1957.

SN 75,433. Murphy, Brill and Sahner, Incorporated, New York, N.Y. Filed June 9, 1959.



For Hosiery, Particularly Men's Socks.
First use in February 1957.

SN 76,723. Portis Style Industries Co., Chicago, Ill. Filed June 29, 1959.

HUGTEX BAND

The word "Band" is disclaimed apart from the mark as shown.

For Caps Having Outer Bands Which Form a Component Part of Men's Caps and Which Can Be Turned Down Over the Ears.
First use Apr. 1, 1959.

SN 77,018. The Joseph & Feiss Company, Cleveland, Ohio. Filed July 3, 1959.

OVERSEER

For Men's Clothing—Namely, Suits, Topcoats, Overcoats, Sportcoats, and Slacks.
First use June 29, 1959.

SN 78,289. The Joseph & Feiss Company, Cleveland, Ohio. Filed July 23, 1959.

DISTANCER

For Men's Clothing—Namely, Suits, Topcoats, Overcoats, Sportcoats, and Slacks.
First use July 15, 1959.

SN 79,487. The Joseph & Feiss Company, Cleveland, Ohio. Filed Aug. 13, 1959.

NON-STOP

For Men's Clothing—Namely, Suits, Topcoats, Overcoats, Sportcoats, and Slacks.
First use June 29, 1959.

SN 86,784. Clover Knitting Mills, Inc., Philadelphia, Pa. Filed Dec. 7, 1959.

The word "Knit" is disclaimed apart from the mark as shown.
For Sweaters.
First use in the year 1936; Oct. 28, 1958, as to "Clover Knits."

SN 87,262. The Modella Manufacturing Company, Inc., Port Chester, N.Y. Filed Dec. 14, 1959.

MODELLA

For Diaper Covers; Children's Sleeping Garments—Namely, Sleeping Bags; Diaper Liners; Training Pants for Small Children and Diapers for Boys and Girls.
First use Jan. 7, 1951, on sleeping bags.

SN 87,464. Williamson-Dickie Manufacturing Company, Fort Worth, Tex. Filed Dec. 16, 1959.

RAINCHECKER

For Raincoats.
First use at least as early as Sept. 1, 1959.

SN 88,066. George Melman & Co., Wilmington, Del. Filed Dec. 28, 1959.

O-R VERSHOE

For Covering Worn Over the Shoe, Said Covering Being Conductive for Protecting Against Static Electricity Sparks in Areas Where Occurrence of Such Sparks Might Lead to Explosions, Said Protective Covering Being Designed for Use in Clinics, Hospitals and the Like.
First use on or about Aug. 29, 1958.

SN 90,116. Stapleton Leather Co., d.b.a. MacPherson Bros. Leather Co., San Francisco, Calif. Filed Feb. 1, 1960.

COURT KING

For Tennis Shoes.
First use Nov. 23, 1959.

SN 91,395. The Levenson Company, Boston, Mass. Filed Feb. 23, 1960.

FURAMA

For Women's and Misses' Coats Made in Part of Fur.
First use Nov. 11, 1959.

SN 91,983. Emile Marghab, Incorporated, New York, N.Y. Filed Feb. 26, 1960.

MARGHAB

For Men's and Ladies' Handkerchiefs and Baby Bibs.
First use in December 1936.

SN 92,871. Cuddle Knit Knitting Mills, Inc., Queens Village, N.Y. Filed Mar. 15, 1960.

CUDDLE KNIT

The word "Knit" is disclaimed apart from the mark as shown. Owner of Reg. No. 434,320.
For Sweaters.
First use in or about October 1958.

SN 95,045. Bear Brand Hosiery Co., Chicago, Ill. Filed Apr. 14, 1960.

SUN-LON

For Hosiery for Women and Girls.
First use Feb. 26, 1960.

SN 96,230. Kishel Bros. Trading Co., New York, N.Y. Filed May 2, 1960.

Miss Europa

For Women's Hosiery.
First use Oct. 1, 1955.

SN 96,798. Joseph Guttman & Bros., New York, N.Y. Filed May 10, 1960.

JELLY BEAN

For Ladies' and Misses' Knitted Dresses, Blouses, Skirts, Jackets and Sweaters.
First use Mar. 1, 1938.

SN 98,037. Town Talk Coat Co., Inc., New York, N.Y. Filed May 27, 1960.

miniatures.....
Mr. Gerry

The words "Miniatures By" are disclaimed apart from the mark as a whole.
For Ladies' and Misses' Coats, Suits, Jackets, Skirts and Rainwear—Namely, Water-Repellant Coats, Capes, Coat and Hat Combinations, and Coat and Hood Combinations.
First use Mar. 2, 1959.

SN 100,055. Salant & Salant, Inc., New York, N.Y. Filed June 30, 1960.

MARKET TIME

For Men's and Boys' Sport Shirts, Work Shirts, Pants and Jackets.
First use June 15, 1960.

SN 100,610. Jolee Incorporated, New York, N.Y. Filed July 11, 1960.

Aqua-Dextrous

For Ladies' Coats.
First use June 1, 1960.

SN 101,187. McCrary Hosiery Mills, Inc., Asheboro, N.C. Filed July 20, 1960.

GIVE-N-TAKE

For Hosiery.
First use June 17, 1939.

SN 102,226. Frank & Meyer Neckwear Company, St. Louis, Mo. Filed Aug. 8, 1960.

INSTANTIE

For Neckwear.
First use July 25, 1960.

SN 102,414. The Pharmaceutical Foundation of the University of Texas, Austin, Tex. Filed Aug. 10, 1960.

PHARMA-KOTE

For Laboratory Frock.
First use Aug. 1, 1960.

SN 103,255. Bernard Industries, Inc., New York, N.Y. Filed Aug. 23, 1960.

Monsieur Bernard

Owner of Reg. No. 691,318.
For Sweaters, Pullovers, Cardigans and Knitted Shirts.
First use Aug. 6, 1960.

SN 103,585. G. C. Murphy Company, McKeesport, Pa. Filed Aug. 29, 1960.

CAROLE JOANNE

For Women's and Misses' Blouses, Skirts, Sweaters, Brassieres, Slips, Panties, Dresses, Jackets, Coats, and Hosiery.
First use Nov. 20, 1958.

Class 40—Fancy Goods, Furnishings, and Notions

SN 92,662. Taylor-Bell Co., Inc., New York, N.Y. Filed Mar. 11, 1960.

PINK CLOUD

For Non-Electrical Hair Curlers.
First use Jan. 4, 1960; Mar. 11, 1956, as to "Pink Cloud," in block letters.

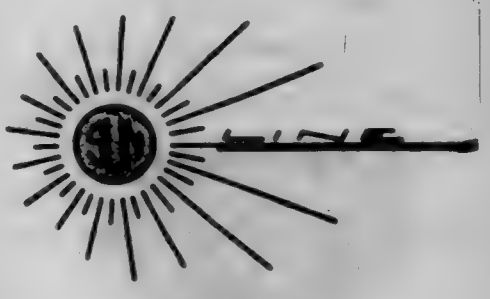
SN 92,664. Taylor-Bell Co., Inc., New York, N.Y. Filed Mar. 11, 1960.

Pink Cloud

For Non-Electrical Hair Curlers.
First use Jan. 4, 1960; Mar. 11, 1956, as to "Pink Cloud," in block letters.

Class 41—Canes, Parasols, and Umbrellas

SN 89,347. Finkel Outdoor Products, Inc., New York, N.Y. Filed Jan. 20, 1960.



For Garden, Beach and Other Such Umbrellas.
First use Dec. 17, 1959.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 69,246. Chatham Manufacturing Company, Elkin, N.C. Filed Mar. 10, 1959.

SIZESET

For Blankets Having a Shrinkproof Finish Applied Thereto, Resulting From a Special Treatment, Giving Them Positive Protection Against Shrinkage.
First use Feb. 1, 1950.

SN 72,476. Beaunit Mills, Inc., New York, N.Y. Filed Apr. 29, 1959.



Owner of Reg. Nos. 597,665, 661,085, and others.
For Lingerie Knitted Fabric of Cotton and Viscose Rayon.
First use December 1958.

SN 73,389. Lebanon Woolen Mills, Inc., Lebanon, N.H. Filed May 11, 1959.

Dominique
By
LEBANDALE

For Textile Material in the Piece Composed of Wool Used for Overcoats and Outer Coats.
First use Mar. 16, 1959.

SN 89,878. Stoffel & Co., Inc., New York, N.Y. Filed Jan. 28, 1960.

STOFFEL'S TINY-DOT

Owner of Reg. No. 376,753.
For Silk, Satin, Rayon, and Cotton Fabrics, and Mixtures Thereof, in the Piece.
First use Feb. 16, 1939.

SN 90,494. Crompton Company, New York, N.Y. Filed Feb. 8, 1960.

GLENMONT

For Textile Fabrics in the Piece Composed of Corduroy.
First use Dec. 9, 1959.

SN 90,513. Hockmeyer Bros. Inc., New York, N.Y. Filed Feb. 8, 1960.

SCHOLAROY

For Textile Fabrics in the Piece Composed of Corduroy.
First use Dec. 9, 1959.

SN 90,774. Franz Morat G.m.b.H., Stuttgart-Vaihingen, Germany. Filed Feb. 11, 1960.

MORANIT

For Tricot and Knitted Fabrics for Sweaters, Dresses, and Bathing Suits.
First use Nov. 11, 1957; in commerce May 4, 1959.

SN 91,102. Native Laces & Textiles, Incorporated, New York, N.Y. Filed Feb. 17, 1960.

HEAVENLY TOUCH

For Knit Fabrics in the Piece—i.e., Knit Fabrics for Blouses and Dresses.
First use Feb. 15, 1960.

SN 94,601. Mitsubishi Rayon Company Limited and Mitsubishi Vonnel Company Limited (joint owners), Chuo-ku, Tokyo, Japan. Filed Apr. 7, 1960.



Owner of Japanese Reg. No. 545,590, dated Dec. 10, 1959.
For Textile Fabrics Used in Making Dresses, Suits, Coats, Underwear, Sports Wear, Gowns, Shawls, Mufflers, Curtains, Bed Sheets, Covers and Scarves.

SN 104,075. Deering Milliken, Inc., New York, N.Y. Filed Sept. 8, 1960.

Astelot

For Textile Fabrics Made of Wool.
First use on or about Jan. 15, 1958.

Class 44—Dental, Medical, and Surgical Appliances

SN 91,576. Ziegler Electronics, Inc., Gardena, Calif. Filed Feb. 24, 1960.

DERMA-MAGIC

For Electrical Facial Exercisor Comprising Portable Electrical Apparatus Which Can Be Held by the User or Rested on a Table or Similar Support, or Otherwise Mounted, Such as on a Portable Support, for Professional Beauty Parlor or Home Use.
First use Dec. 18, 1959.

SN 97,882. Simmons Company, New York, N.Y. Filed May 25, 1960.

HAUSTED

For Patient Handling Equipment—Namely, Wheel Stretchers, Accessories for Attachment Thereto and Parts Therefor; Side Rails for Hospital Beds; Invalid Wheel Chairs; Therapeutic Apparatus for Applying Traction to a Patient; and Litters and Accessories for Attachment Thereto.
First use March 1950.

Class 45—Soft Drinks and Carbonated Waters

SN 99,898. Felix Wilson, New York, N.Y. Filed June 28, 1960.

KOR TESS

For Noncarbonated Soft Drink.
First use Apr. 20, 1960.

Class 46 — Foods and Ingredients of Foods

SN 70,836. Abuin, Lopez y Compania, Havana, Cuba. Filed Apr. 6, 1959.



The words "El Mino" is the name of a river in Spain. The exclusive right to the use of the word "Brand" is disclaimed. The drawing is lined for the color red.

For Canned Dry Sausages in Lard.

First use November 1937; in commerce November 1937.

SN 72,794. Cook Chocolate Company, Chicago, Ill. Filed May 4, 1959.

COOK'S

For Chocolate Products—Namely, Candy, Bulk Cocoa, Cocoa Powder, Coating, Baking Chocolate, Chocolate Liquor, and Syrup.

First use February 1950.

SN 75,199. Morningstar-Paisley, Inc., New York, N.Y. Filed June 5, 1959.



No claim is made to the exclusive use of the words "Scientific Adhesive Service" apart from the mark as shown. Owner of Reg. Nos. 122,729, 390,257, and others.

For Flour and Food Starches From Whatever Base Produced, Whole and Powdered Vanilla Beans for Use as a Flavoring Agent in Food Products, Beverages, Sauces and Syrups, All Sold to the Food Industry.

First use May 20, 1959.

SN 75,726. Guarantee Meat Market of Hackensack, Inc., d.b.a. Guarantee Super Markets, Hackensack, N.J. Filed June 15, 1959.

SUPER-TRIM

For Frozen Meats, Fresh Cuts of Meat and Meats in Carcass Form.

First use Mar. 8, 1956.

SN 76,214. Illinois Baking Corporation, Chicago, Ill. Filed June 22, 1959.

HAPPY TIME

For Unfilled Ice-Cream Cones of the Sugar Cone Variety.

First use May 22, 1959.

SN 79,857. International Milling Company, d.b.a. The Henkel Flour Mills, Minneapolis, Minn. Filed Aug. 19, 1959.

SUPERSTRENGTH

For Wheat Flour.

First use on or about July 30, 1937.

SN 80,433. John Mackintosh & Sons Limited, Halifax, England. Filed Aug. 28, 1959.

CARACRISP

Owner of British Reg. No. 783,628, dated Nov. 5, 1958.

For Confection Consisting of Refined Vegetable Fat, Sugar, Skimmed Sweetened Condensed Milk, Full Cream Milk Powder, Butter, Lecithin, Salt, and Artificial Flavor Sold in the Form of a Candy Bar With or Without Added Ingredients Such as Nuts or Between Crackers.

SN 86,213. Tom Thumb Donut Corp., Minneapolis, Minn. Filed Nov. 27, 1959.

TOM THUMB

For Food Product, Such as Doughnuts.

First use in or about August 1950.

SN 87,486. Fry Krisp Food Products, Inc., d.b.a. The Fry Krisp Co., Jackson, Mich. Filed Dec. 17, 1959.

FRY KRISP

Owner of Reg. No. 589,499.

For Dry Breading and Batter Mix for Pan Frying and Deep Fat Frying.

First use Feb. 14, 1952.

SN 88,242. Manor Morsels, Inc., Briarcliff Manor, N.Y. Filed Dec. 30, 1959.

CANAPÉ CAPERS

No claim of exclusive right is made to "Canapé," as used on the goods claimed.

For Frozen Hors d'Oeuvres.

First use Oct. 17, 1959.

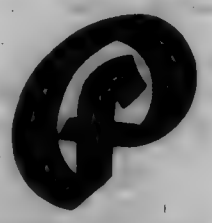
SN 91,497. Animex Centrala Importowo-Eksportowa Artykulow i Przetworow Pochodzenia Zwierzecego, Warsaw, Poland. Filed Feb. 24, 1960.



Owner of Polish Reg. No. 41,242, dated Mar. 13, 1959.

For Canned Ham, Shoulder, Pork Loin, Chopped Pressed Ham, Chopped Pressed Shoulder.

SN 92,918. Pepperidge Farm, Inc., Norwalk, Conn. Filed Mar. 15, 1960.



Owner of Reg. Nos. 640,121 and 659,445.

For Frozen and Unfrozen Pastries.

First use Dec. 30, 1957.

SN 95,253. Corn Products Company, New York, N.Y. Filed Apr. 18, 1960.

PRAIRIE GOLD

For Gluten Feeds for Poultry, Hogs, Cattle and Horses, and Gluten Meal Used as an Ingredient of Feeds for Poultry, Hogs, Cattle and Horses.
First use at least as early as Feb. 15, 1960.

SN 95,819. Five Guys From Boston, Inc., d.b.a. Ollie Orbit, Boston, Mass. Filed Apr. 26, 1960.

OLLIE ORBIT

For Ice Cream Mix, Ice Cream, Food Flavor Extracts, Fruit and Berry Toppings and Toppings Made of Vegetable Fats, Sugar, Emulsifiers, Stabilizers, Etc.
First use Apr. 1, 1960.

SN 96,138. Queens Packing Corporation, Jamaica, N.Y. Filed Apr. 29, 1960.

MAPLE LANE FARM

For Fresh Cuts of Meats and Prepared Meats—Namely, Ham, Sausages, Bacon, Bologna, Smoked Meats, and Frankfurters.
First use Mar. 1, 1960.

SN 96,139. Queens Packing Corporation, Jamaica, N.Y. Filed Apr. 29, 1960.



The drawing is lined for green.
For Fresh Cuts of Meats and Prepared Meats—Namely, Ham, Sausages, Bacon, Bologna, Smoked Meats, and Frankfurters.
First use Mar. 1, 1960.

SN 96,585. Food Manufacturers, Inc., d.b.a. M & M's Candies, Hackettstown, N.J. Filed May 6, 1960.

GALAXY

For Candy.
First use Apr. 13, 1960.

SN 96,658. Atalanta Trading Corp., New York, N.Y. Filed May 9, 1960.

CELEBRITY BRAND

Applicant disclaims the word "Brand." Owner of Reg. No. 640,768.
For Canned Sardines and Anchovies.
First use Feb. 17, 1960; Oct. 6, 1955, on canned ham.

SN 96,917. Anderson, Clayton & Co., Dallas, Tex. Filed May 12, 1960.

GLESTER

For Emulsifier for Use in Shortenings and Food Products.
First use Apr. 4, 1960.

SN 97,003. Wood & Selick Coconut Co., Inc., New York, N.Y. Filed May 12, 1960.

ISLAND PRIDE

For Canned Pineapple.
First use May 5, 1960.

SN 98,101. K.I.T.T.Y.S. Vegetable Distributors, Inc., d.b.a. Kittys Vegetable Distributors Inc., Los Angeles, Calif. Filed May 31, 1960.

KITTYS

For Fresh Vegetables, Fresh Deciduous Fruits, and Fresh Citrus Fruits.
First use May 14, 1960.

SN 98,313. Wm. J. Stange Co., Chicago, Ill. Filed June 2, 1960.

FLAV-O-CURE

Owner of Reg. No. 690,632.
For Blended Food Seasoning Containing Spice, Extractives, an Edible Carrier for the Extractives and Curing Salts Such as Nitrates and Nitrites of Sodium and Potassium.
First use May 28, 1960.

SN 98,471. Greenwood Foods, Inc., Waterloo, N.Y. Filed June 6, 1960.

GREENWOOD'S

For Harvard Beets, Pickled Beets, Apple Rings, Spiced Crabapples, Spiced Apples, Spiced Pears, Rhubard and Red Cabbage Packed in Glass and Cans.
First use in the year 1950.

SN 98,762. Bak-Kraft Corporation, Ltd., Los Angeles, Calif. Filed June 10, 1960.

SPUNGE-O-PEP

For Compound of Aqueous Mono and Diglycerides and Other Esters Used as an Emulsifier in the Production and Baking of Sponge Cakes.
First use Aug. 1, 1948.

SN 98,884. Federal Sweets & Biscuit Co., Inc., Clifton, N.J. Filed June 13, 1960.

ALI BABA

For Cookies.
First use Apr. 12, 1960.

SN 100,711. William Lippman, d.b.a. Sir William Shrimp Packers, Miami, Fla. Filed July 12, 1960.



For Frozen Breaded Shrimp.
First use June 4, 1960.

SN 101,548. Halco Research Corp., New York, N.Y. Filed July 27, 1960.

SLENDER-CAL

For Special Chocolated Food Concentrate Used in Weight Reducing Diets Which Provides Nutrition.
First use July 7, 1960.

SN 102,804. The Sugardale Provision Company, Canton, Ohio. Filed Aug. 16, 1960.

Wunderwurst

For Sausage.
First use on or about June 20, 1960.

Class 49 — Distilled Alcoholic Liquors

SN 48,347. Marie Brizard et Roger, Bordeaux, France. Filed Mar. 24, 1958.

MB

Priority claimed under Sec. 44(d) on French Reg. No. 49,957, dated Dec. 18, 1957 (Bordeaux); Natl. Inst. No. 100,340. Owner of U.S. Reg. No. 537,755.
For Brandies and Liqueurs.

SN 93,523. Klosterbrennerei A.G. Erste Badische Wein- und Edelbranntweinbrennerei, Emmendingen, Germany. Filed Mar. 23, 1960.



Priority claimed under Sec. 44(d) on German application filed Sept. 24, 1959; Reg. No. 733,692, dated Feb. 11, 1960.
For Brandies.

SN 99,073. Mr. Boston Distiller Inc., Boston, Mass. Filed June 15, 1960.

CANADIAN RIVER

No claim of exclusive right is made to "Canadian" as used on Canadian whiskey.
For Canadian Whiskey.
First use June 3, 1960.

SN 99,245. Ronrico Corporation, San Juan, Puerto Rico. Filed June 17, 1960.



The notation "Distilled Puerto Rican Rum," being the name of the goods is disclaimed. Owner of Reg. Nos. 327,538, 637,539, and others.
For Rum.
First use Mar. 3, 1960; Feb. 10, 1935, as to "Ronrico."

Class 50 — Merchandise Not Otherwise Classified

SN 89,410. Copley Manufacturing Company, Boston, Mass. Filed Jan. 21, 1960.

CRISTALGLO

For Illuminated Signs.
First use in October 1932.

SN 102,462. John Franklin Farr, Anderson, S.C. Filed Aug. 11, 1960.

DARLING BRAT

For Switches for the Correction of Deportment.
First use 1956.

Class 51 — Cosmetics and Toilet Preparations

SN 64,838. Evyan Perfumes, Inc., New York, N.Y., by change of name from Parfums Evyan Inc., New York, N.Y. Filed Dec. 23, 1958.

M.P.

Owner of Reg. No. 443,704.
For Perfumes, Colognes, and Toilet Waters.
First use on or about Mar. 12, 1957.

SN 64,839. Evyan Perfumes, Inc., New York, N.Y., by change of name from Parfums Evyan Inc., New York, N.Y. Filed Dec. 23, 1958.

W.S.

Owner of Reg. No. 402,138.
For Perfumes, Colognes, and Toilet Waters.
First use on or about Mar. 12, 1957.

SN 87,504. Adair Company, Worcester, Mass. Filed Dec. 17, 1959.

Noel Adair

For Foot Emollient Cream, Foot Bath Powder, Cleansing Cream, Foundation Cream, and Hand Cream.
First use Jan. 17, 1951.

SN 94,814. The Realistic Company, Cincinnati, Ohio. Filed Apr. 11, 1960.

LITTLE MISS PRETTY

For Permanent Wave Curling Solutions.
First use on or about Jan. 26, 1960.

SN 98,138. Jon Pierre Cosmetics, Inc., New York, N.Y. Filed May 31, 1960.

SHEER DELIGHT

For Cosmetic Foundation Liquid.
First use Aug. 15, 1959.

SN 101,075. Bristol-Myers Company, New York, N.Y. Filed July 19, 1960.

VITALIS

Owner of Reg. Nos. 271,624 and 294,839.
For Personal Deodorant.
First use June 16, 1960.

SN 102,347. Helena Rubinstein, Inc., New York, N.Y. Filed Aug. 9, 1960.

BATH DEW

Owner of Reg. Nos. 410,302, 640,796, and 689,237.
For Bath Oil.
First use Apr. 11, 1960.

SN 102,975. George H. Weyer, Inc., Kansas City, Mo. Filed Aug. 18, 1960.

BEAUTY FOOT

For Skin Lotion.
First use Apr. 27, 1957.

Class 52 — Detergents and Soaps

SN 79,850. Ever-Kleen Products, Inc., San Francisco, Calif. Filed Aug. 19, 1959.

EVER-KLEEN

Owner of Reg. No. 646,618.
For Toilet Bowl Cleaner Sold in Automatic Dispensers.
First use May 25, 1959.

SN 96,492. Diamond Alkali Company, Cleveland, Ohio. Filed May 5, 1960.

IOKEL

For Detergent Sanitizer.
First use Mar. 29, 1960.

SN 97,370. B. T. Babbitt, Inc., New York, N.Y. Filed May 18, 1960.

CHLOREAL

For Chlorine Bleach and Disinfectant Incorporated as Ingredients in a Detergent.
First use Feb. 16, 1959.

SN 98,058. Columbia Wax Company, Glendale, Calif. Filed May 31, 1960.

SPRING DAY

For General Purpose Cleaner for All Washable Surfaces.
First use May 13, 1960.

SERVICE MARKS

Class 100 — Miscellaneous

SN 97,664. Internuclear Company, Clayton, Mo. Filed May 23, 1960.

internuclear company

The lining constitutes lining forming part of the mark and does not represent color.

For Scientific Consulting Services for Various Fields, Such Services Including Data Processing, Engineering Design, Engineering and Scientific Consultation and Related Services, Particularly for the Field of Nuclear and Related Technology.

First use on or about Aug. 11, 1956.

Class 101 — Advertising and Business

SN 70,955. Alberta Sieh, d.b.a. Sieh Registry Plan of Licensed Child Care, Topeka, Kans. Filed Apr. 6, 1959.

SIEH REGISTRY PLAN OF LICENSED CHILD CARE

For Operating a Licensed Child Care Registry.
First use Jan. 1, 1958.

SN 75,711. Dyckman Hotel Company, Minneapolis, Minn. Filed June 15, 1959.

Cosmopolitan

Applicant disclaims the word "Hotels" apart from the mark. Owner of Reg. No. 696,566.
For Hotel Services.
First use Mar. 15, 1959.

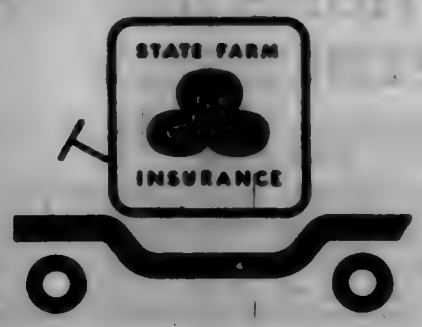
Class 102 — Insurance and Financial

SN 87,447. Nationwide Mutual Insurance Company, Columbus, Ohio. Filed Dec. 16, 1959.

IN SERVICE WITH PEOPLE NATIONWIDE INSURANCE

Applicant hereby disclaims the word "Insurance" as used apart from the mark as shown.
For Underwriting Casualty Insurance.
First use Nov. 14, 1954.

SN 96,370. State Farm Mutual Automobile Insurance Company, Bloomington, Ill. Filed May 3, 1960.



The words "Auto," "Life," "Fire," and "Insurance" are disclaimed apart from the mark as shown. Owner of Reg. Nos. 632,863, 632,864, and 645,890.

For Underwriting Automobile Insurance.

First use Nov. 24, 1959.

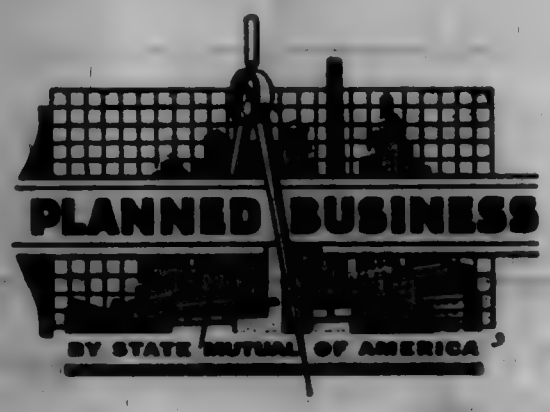
SN 96,068. Chemical Bank New York Trust Company, New York, N.Y. Filed May 9, 1960.



For Banking Services.

First use Sept. 8, 1959.

SN 96,760. State Mutual Life Assurance Company of America, Worcester, Mass. Filed May 9, 1960.



Applicant does not claim any right to the words "Planned Business" except as they form part of the mark. Owner of Reg. Nos. 687,386 and 684,213.

For Underwriting of Insurance.

First use Feb. 9, 1960.

SN 97,651. Great American Insurance Company, New York, N.Y. Filed May 23, 1960.

ECONOMIZER

For Underwriting Homeowners Insurance With Comprehensive Property and Personal Coverage.

First use May 10, 1960.

Class 103 — Construction and Repair

SN 88,449. The AaCronn Company, Inc., Philadelphia, Pa. Filed Jan. 5, 1960.

AACRONN

For Exterminating Services.

First use July 20, 1959.

SN 96,067. Advance Muffler Service, Inc., Gardena, Calif. Filed Apr. 29, 1960.

ADVANCE

For Inspection and Repair of Exhaust Systems of Automotive Vehicles and Installation of Exhaust System Parts.

First use July 1, 1939.

SN 97,819. Richard J. Case, d.b.a. Lil' Stinker, Vista, Calif. Filed May 25, 1960.



For Maintenance, Repair and Servicing of Septic and Sewer Systems.

First use Jan. 3, 1960.

Class 105 — Transportation and Storage

SN 95,133. Airways Rent-A-Car System, Los Angeles, Calif. Filed Apr. 15, 1960.



The words "Rent-A-Car System" are disclaimed apart from the mark as shown.

For Car Rental Service.

First use Feb. 4, 1960.

TRADEMARK REGISTRATIONS ISSUED
PRINCIPAL REGISTER

Class 1—Raw or Partly Prepared Materials

710,081. REN. Ren Plastics, Inc. SN 59,767. Pub. 4–19–60. Filed 9–29–58.

710,082. HIGHLAND GROWN. H & H Wholesale Nursery, Inc. SN 77,666. Pub. 11–8–60. Filed 7–14–59.

710,083. SHUFIBRE CB AND DESIGN. The Colonial Board Company, Incorporated. SN 84,209. Pub. 11–8–60. Filed 10–29–59.

710,084. MIDFLEX. Leatherflex Products Co. SN 87,886. Pub. 11–8–60. Filed 12–23–59.

710,085. SOLEFLEX. Leatherflex Products Co. SN 87,887. Pub. 11–8–60. Filed 12–23–59.

710,086. INFLEX. Leatherflex Products Co. SN 87,889. Pub. 11–8–60. Filed 12–23–59.

710,087. RODEO. Crawford Associates, Inc. SN 89,412. Pub. 11–8–60. Filed 1–21–60.

710,088. FORTRON. Fiber Industries, Inc. SN 90,417. Pub. 11–8–60. Filed 2–5–60.

710,089. T DESIGN. L. Teweles Seed Co. SN 90,590. Pub. 11–8–60. Filed 2–8–60.

710,090. MARAWELD. The Marbiette Corporation. SN 97,077. Pub. 11–8–60. Filed 5–13–60.

710,091. SINCH. Union Carbide Corporation. SN 97,343. Pub. 11–8–60. Filed 5–17–60.

Class 2—Receptacles

710,092. FANCIFUL INITIALS IPS. Inlander-Steindler Paper Company. SN 87,494. Pub. 11–8–60. Filed 12–17–59.

710,093. SPUTNIK. Delmer Engineers. SN 88,028. Pub. 11–8–60. Filed 12–28–59.

710,094. RECIPAK. St. Regis Paper Company. SN 90,370. Pub. 11–8–60. Filed 2–4–60.

710,095. PAYETTE. Glen McQuiston. SN 94,078. Pub. 11–8–60. Filed 3–31–60.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

710,096. IDENTIFIER. Amity Leather Products Co. SN 96,178. Pub. 11–8–60. Filed 5–2–60.

710,097. VISI/BELLE. Joshua Meier Company, Inc. SN 96,514. Pub. 11–8–60. Filed 5–5–60.

Class 4—Abrasives and Polishing Materials

710,098. ADVANCED FORMULA. Car-Skin Products Corporation. SN 59,886. Pub. 11–8–60. Filed 10–1–58.

710,099. DILAP AND DESIGN. American Carbide Company. SN 92,688. Pub. 11–8–60. Filed 3–14–60.

710,100. MAR-A-WAY. Don Hall Laboratories. SN 96,217. Pub. 11–8–60. Filed 5–2–60.

710,101. SIMPLICOTE. J. I. Holcomb Manufacturing Company, Inc. SN 96,221. Pub. 11–8–60. Filed 5–2–60.

Class 5—Adhesives

710,102. EPOXYLITE. The Epoxylite Corporation. SN 71,103. Pub. 11–8–60. Filed 4–8–59.

710,103. CHEM SET. Thiem Products, Inc. SN 98,684. Pub. 11–8–60. Filed 6–8–60.

710,104. PLASTOID. Plastic Products Company. SN 98,926. Pub. 11–8–60. Filed 6–13–60.

710,105. ROLTITE. Minnesota Mining and Manufacturing Company. SN 99,444. Pub. 11–8–60. Filed 6–21–60.

Class 6—Chemicals and Chemical Compositions

710,106. EVEREADY. Eveready Pressurized Products, Inc. SN 46,124. Pub. 9–20–60. Filed 2–19–58.

710,107. IODEO. Doho Chemical Corporation. SN 49,357. Pub. 11–8–60. Filed 4–9–58.

710,108. REPRESENTATION OF CHECK MARK IN A CIRCLE. Ferro Corporation. SN 63,815. Pub. 4–5–60. Filed 12–8–58.

710,109. ORKIL. Orkin Exterminating Company, Inc. SN 69,353. Pub. 11–8–60. Filed 3–11–59.

710,110. MIL FLO. Milwhite Mud Sales Company. SN 74,767. Pub. 5–3–60. Filed 5–29–59.

710,111. MULTI-FILL. Ronson Corporation. SN 77,956. Pub. 11–8–60. Filed 7–17–59.

710,112. DUSTA-CIDE. The Weevil-Cide Company. SN 79,743. Pub. 10–4–60. Filed 8–17–59.

710,113. DRI-KOOL. King Graphite Products, Inc. SN 85,753. Pub. 11–8–60. Filed 11–20–59.

710,114. DU-RITE. Du-Rite Chemical Co., Inc. SN 86,552. Pub. 11–8–60. Filed 12–3–59.

710,115. FARMORE. Farm Chemicals. SN 86,648. Pub. 11–8–60. Filed 12–4–59.

710,116. A AND DESIGN. Andrews Paper & Chemical Co., Inc. SN 88,891. Pub. 11–8–60. Filed 1–13–60.

710,117. SPL-ASH. Diamond Alkali Company. SN 94,657. Pub. 11–8–60. Filed 4–8–60.

Class 7—Cordage

710,118. FANCIFUL INITIALS IPS. Inlander-Steindler Paper Company. SN 87,495. Pub. 11–8–60. Filed 12–17–59.

Class 9—Explosives, Firearms, Equipments, and Projectiles

710,119. MARK V. Weatherby's, Inc. SN 96,298. Pub. 11–8–60. Filed 5–2–60.

Class 10—Fertilizers

710,120. FARMORE. Farm Chemicals. SN 86,649. Pub. 11–8–60. Filed 12–4–59.

710,121. MOLA MULCH. Molalla Forest Products Co. SN 89,011. Pub. 11–8–60. Filed 1–14–60.

710,122. CMH. International Minerals & Chemical Corporation. SN 95,901. Pub. 11–8–60. Filed 4–27–60.

710,123. FERT-ORGANIC. Clover Chemical Company. SN 96,830. Pub. 7–26–60. Filed 5–11–60.

710,124. FERTI-LAWN. Clover Chemical Company. SN 96,831. Pub. 7–26–60. Filed 5–11–60.

Class 11—Inks and Inking Materials

710,125. COOL AC. Interchemical Corporation. SN 60,669. Pub. 11–8–60. Filed 10–15–58.

710,126. HI-HAT AND DESIGN. Phillips Process Co., Inc. SN 95,663. Pub. 11–8–60. Filed 4–11–60.

710,127. DECI-PAK AND DESIGN. Burroughs Corporation. SN 97,033. Pub. 11–8–60. Filed 5–13–60.

710,128. UPIC AND DESIGN. Universal Printing Ink Corporation. SN 97,345. Pub. 11–8–60. Filed 5–17–60.

Class 12—Construction Materials

710,129. SUN VALLEY AND DESIGN. Sun Valley Industries, Inc. SN 78,941. Pub. 11–8–60. Filed 8–3–59.

710,130. SUPER SPREAD. The Gibsonburg Lime Products Company. SN 79,568. Pub. 11–8–60. Filed 8–14–59.

710,131. TARFEX. Bitucote Products Company. SN 81,111. Pub. 11–8–60. Filed 9–10–59.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

710,132. ROSS SKYLINE. Ross Operating Valve Company. SN 67,157. Pub. 11–8–60. Filed 2–5–59.

710,133. NOPAK AND DESIGN. Galland-Henning Manufacturing Company. SN 85,223. Pub. 11–8–60. Filed 11–13–59.

710,134. S. P. KINNEY AND DESIGN. S. P. Kinney Engineers, Inc. SN 86,292. Pub. 11–8–60. Filed 11–30–59.

710,135. DEMKA AND DESIGN. Koninklijke Demka Staalfabrieken N.V. SN 93,435. Pub. 9–13–60. Filed 3–22–60.

710,136. WORLD SYMBOL, THE ATLAS, ETC. The Atlas Bolt & Screw Company. SN 95,679. Pub. 11–8–60. Filed 4–11–60.

710,137. BARCLAD. L. J. Barwood Manufacturing Co., Inc. SN 96,389. Pub. 11–8–60. Filed 5–4–60.

710,138. YKK. Yoshida Kogyo Kabushiki Kaisha. SN 96,908. Pub. 11–8–60. Filed 5–11–60.

710,139. P & C CO AND DESIGN. American Chain & Cable Company, Inc. SN 96,910. Pub. 11–8–60. Filed 5–12–60.

710,140. UNI-SEMBLE. North & Judd Manufacturing Company. SN 96,974. Pub. 11–8–60. Filed 5–12–60.

710,141. TOT-LOK. David S. Cross, d.b.a. Blackwatch Safety Products. SN 97,381. Pub. 11–8–60. Filed 5–18–60.

710,142. H.C. Heli-Coil Corporation. SN 97,394. Pub. 11–8–60. Filed 5–18–60.

Class 14—Metals and Metal Castings and Forgings

710,143. DEMKA AND DESIGN. Koninklijke Demka Staalfabrieken N.V. SN 93,434. Pub. 9–13–60. Filed 3–22–60.

710,144. WALMET. The Walmet Corporation. SN 93,887. Pub. 9–27–60. Filed 3–28–60.

Class 15—Oils and Greases

710,145. TEMPO. Tempo Products Company. SN 56,808. Pub. 11–8–60. Filed 8–7–58.

710,146. GROTESQUE OF OIL DROP. Humble Oil & Refining Company, by merger from Esso Standard Oil Company. SN 64,157. Pub. 11–8–60. Filed 12–12–58.

710,147. STAZON. Texaco Inc. SN 84,107. Pub. 11–8–60. Filed 10–27–59.

710,148. PENTALUBE. Heyden Newport Chemical Corporation. SN 84,540. Pub. 11–8–60. Filed 11–3–59.

Class 16—Protective and Decorative Coatings

710,149. VARKYDOL. McCloskey Varnish Co. SN 68,584. Pub. 11–8–60. Filed 2–27–59.

710,150. RUST MAGIC. Krylon, Inc. SN 84,603. Pub. 11–8–60. Filed 11–4–59.

710,151. HBS. Mobile Paint Mfg. Co. Inc. SN 89,863. Pub. 11–8–60. Filed 1–28–60.

710,152. ON-TITE. The Foy Paint Company, Inc., d.b.a. The A. Burdsal Company. SN 97,474. Pub. 11–8–60. Filed 5–19–60.

710,153. FOIL-GARD. The Foy Paint Company, Inc., d.b.a. The R. F. Johnston Paint Company. SN 97,477. Pub. 11–8–60. Filed 5–19–60.

710,154. TUF-QUICK. The Wilbur & Williams Company, Inc. SN 97,597. Pub. 11–8–60. Filed 5–20–60.

710,155. FIGURE OF GENERAL. The Glidden Company, d.b.a. The General Paint Company. SN 97,646. Pub. 11–8–60. Filed 5–23–60.

710,156. ARISTA. Murmac Mfg. Corp. SN 97,778. Pub. 11–8–60. Filed 5–24–60.

710,157. COHASSET COLONIAL. Hagerty Company. SN 97,841. Pub. 11–8–60. Filed 5–25–60.

Class 18—Medicines and Pharmaceutical Preparations

710,158. ORGADINE. American Home Products Corporation, assignee of Fort Dodge Laboratories, Inc. SN 86,760. Pub. 9–27–60. Filed 12–7–59.

710,159. REPRESENTATION OF THREE HUMAN FEMALES. Maria Clementine Martin, Klosterfrau K.G. SN 87,814. Pub. 11–8–60. Filed 12–22–59.

710,160. ALMEZYME. Meyer Laboratories, Inc., assignee of Meyer and Company. SN 87,817. Pub. 11–1–60. Filed 12–22–59.

710,161. SYNIRIN. Wm. P. Poythress & Company, Incorporated. SN 94,342. Pub. 11–8–60. Filed 4–4–60.

710,162. NOBETEER. Aktiebolaget Bofors. SN 94,941. Pub. 11–8–60. Filed 4–13–60.

710,163. PULVIPAN. Aktiebolaget Bofors. SN 94,943. Pub. 11–8–60. Filed 4–13–60.

710,164. NOBEDOL. Aktiebolaget Bofors. SN 94,945. Pub. 11–8–60. Filed 4–13–60.

710,165. NOBAMIN. Aktiebolaget Bofors. SN 94,946. Pub. 11–8–60. Filed 4–13–60.

710,166. P-D. Parke, Davis & Company. SN 95,311. Pub. 11–8–60. Filed 4–18–60.

710,167. B.A.C. Hoffmann Laboratories, Inc. SN 95,824. Pub. 9–27–60. Filed 4–26–60.

710,168. CONTROL-30. William E. Boody, d.b.a. W. E. Boody and Company. SN 97,167. Pub. 10–4–60. Filed 5–16–60.

710,169. DICTOL. American Home Products Corporation, d.b.a. Fort Dodge Laboratories. SN 98,194. Pub. 11–8–60. Filed 6–1–60.

710,170. STAPH-CILLIN. Bristol-Myers Company. SN 99,410. Pub. 11–8–60. Filed 6–21–60.

710,171. FULVIDEX. Schering Corporation. SN 100,298. Pub. 11–8–60. Filed 7–5–60.

Class 19—Vehicles

710,172. TRITON. Pearson Corporation. SN 84,937. Pub. 11–8–60. Filed 11–9–59.

710,173. GYROMATIC. Comer C. Pierce. SN 86,446. Pub. 11–8–60. Filed 12–1–59.

710,174. TRIUMPH. The Standard Motor Company Limited. SN 87,288. Pub. 11–8–60. Filed 12–14–59.

710,175. EARLSDON. Beacon Cycle and Supply Co. SN 90,484. Pub. 11–8–60. Filed 2–8–60.

710,176. ALPINE. Lewis Supply Co., Inc. SN 98,296. Pub. 11–8–60. Filed 6–2–60.

710,177. CARI-ALL. American Metal Products, Inc. SN 98,613. Pub. 11–8–60. Filed 6–8–60.

710,178. M-R MIDLAND-ROSS CORP. Midland-Ross Corporation. SN 98,665. Pub. 11–8–60. Filed 6–8–60.

710,179. STA-GON. Cal Corporation. SN 98,698. Pub. 11–8–60. Filed 6–9–60.

Class 21—Electrical Apparatus, Machines, and Supplies

710,180. GROTESQUE OF OIL DROP. Humble Oil & Refining Company, by merger from Esso Standard Oil Company. SN 64,156. Pub. 11–8–60. Filed 12–12–58.

710,181. UNITIZED. General Electric Company. SN 72,496. Pub. 11–8–60. Filed 4–29–59.

710,182. FULMEN. Societe de l'Accumulateur Fulmen. SN 75,216. Pub. 11–8–60. Filed 6–5–59.

710,183. SPHERICON. University Loudspeakers, Inc. SN 80,212. Pub. 10–25–60. Filed 8–25–59.

710,184. MARVEL. Elite Sewing Machine Corp. SN 81,811. Pub. 11–8–60. Filed 9–22–59.

710,185. CARBOMOLD. Aerovox Corporation. SN 81,967. Pub. 11–8–60. Filed 9–24–59.

710,186. MAGNETICS INC. AND DESIGN. Magnetics, Inc. SN 85,677. Pub. 11–8–60. Filed 11–19–59.

710,187. RUI OMEGA AND DESIGN. Francisco Urbe. SN 85,971. Pub. 11–8–60. Filed 11–24–59.

710,188. GLASTEEL AND DESIGN. National Steel Construction Co. SN 86,897. Pub. 11–8–60. Filed 12–8–59.

710,189. JAY. Jay Lighting Mfg. Co., Inc. SN 89,275. Pub. 11–8–60. Filed 1–19–60.

710,190. VISORLITE. Jay Lighting Mfg. Co., Inc. SN 89,278. Pub. 11–8–60. Filed 1–19–60.

710,191. MINILOK. Burndy Corporation. SN 91,511. Pub. 11–8–60. Filed 2–24–60.

710,192. STARLETTE. Frigeco. SN 93,243. Pub. 11–8–60. Filed 2–9–60.

710,193. TRA-VOLCO. Momar Manufacturing Co., Inc. SN 96,608. Pub. 11–8–60. Filed 5–6–60.

710,194. SHOCKMOUNT. Signal-Stat Corporation. SN 96,812. Pub. 11–8–60. Filed 5–10–60.

710,195. A AND DESIGN. Amplex Corporation. SN 97,019. Pub. 11–8–60. Filed 5–13–60.

710,196. AMPLEX. Amplex Corporation. SN 97,020. Pub. 11–8–60. Filed 5–13–60.

Class 22—Games, Toys, and Sporting Goods

710,197. UNILIGHT. Zebco Company. SN 86,091. Pub. 11–8–60. Filed 11–24–59.

710,198. SQUIRT AND DESIGN. The Squirt Company. SN 96,758. Pub. 11–8–60. Filed 5–9–60.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

710,199. PLASTI-KERF AND DESIGN. Forrest Mfg. Co., Inc. SN 48,731. Pub. 11–8–60. Filed 3–31–58.

710,200. CPC. CPC Engineering Corporation. SN 57,054. Pub. 11–8–60. Filed 8–12–58.

710,201. JET LINER. National Foundry Sand Company. SN 76,968. Pub. 11–8–60. Filed 7–2–59.

710,202. CAKE-ICER BY MERRYMAID. Merrymaid Plastics Corp., by change of name from The Standfast Products Company. SN 84,815. Pub. 11–8–60. Filed 11–6–59.

710,203. CLARIFLOTOR. Union Tank Car Company. SN 84,818. Pub. 11–8–60. Filed 11–6–59.

710,204. FARMORE. Farm Chemicals. SN 86,647. Pub. 11–8–60. Filed 12–4–59.

710,205. SPRAYMATION AND DESIGN. Spraymation, Inc. SN 87,156. Pub. 11–8–60. Filed 12–11–59.

710,206. AIR-ROL. Rollway Bearing Company, Inc. SN 87,282. Pub. 11–8–60. Filed 12–14–59.

710,207. GALTONA. Richard Lloyd Limited. SN 87,722. Pub. 11–8–60. Filed 12–21–59.

710,208. CENTRILIFT. Borg-Warner Corporation. SN 88,727. Pub. 11–8–60. Filed 1–11–60.

710,209. KLEEN-O-MATIC. The Lodge & Shipley Company. SN 88,773. Pub. 11–8–60. Filed 1–11–60.

710,210. NISA. Zavody Jana Svermy, narodni podnik. SN 89,535. Pub. 11–8–60. Filed 1–22–60.

710,211. WORKLIFTER. Economy Engineering Company. SN 89,751. Pub. 11–8–60. Filed 1–27–60.

710,212. ASHCOMBE. The Ashcombe Company. SN 91,323. Pub. 11–8–60. Filed 2–19–60.

710,213. SEWER-RAIDER. Conco Engineering Works, Inc. SN 94,463. Pub. 11–8–60. Filed 4–6–60.

710,214. TOPIC. The International Silver Company. SN 96,597. Pub. 11–8–60. Filed 5–6–60.

710,215. TREE-O-MATIC. Donald A. Skinner, d.b.a. Skinner Farm Equipment Company. SN 97,583. Pub. 11–8–60. Filed 5–20–60.

710,216. "ROLL-O-TAPER." Thomas O. Thompson, d.b.a. T. Thompson Tool. SN 97,589. Pub. 11–8–60. Filed 5–20–60.

710,217. ROLIN' JOE AND DESIGN. Abe Chamness, d.b.a. Chamness Engineering Company. SN 97,621. Pub. 11–8–60. Filed 5–23–60.

710,218. BARER. Barer Engineering and Machinery Company, Limited. SN 97,748. Pub. 11–8–60. Filed 5–24–60.

710,219. BARER-MEUSER. Barer Engineering and Machinery Company, Limited. SN 97,749. Pub. 11–8–60. Filed 5–24–60.

710,220. FORTE. Barer Engineering and Machinery Company, Limited. SN 97,750. Pub. 11–8–60. Filed 5–24–60.

710,221. FORTEMAT. Barer Engineering and Machinery Company, Limited. SN 97,751. Pub. 11–8–60. Filed 5–24–60.

710,222. DALC AND DESIGN. Dale Bearings, Inc. SN 97,826. Pub. 11–8–60. Filed 5–25–60.

710,223. RED RAM AND DESIGN. Rodgers Hydraulic Incorporated. SN 98,533. Pub. 11–8–60. Filed 6–6–60.

710,224. PROCON. Procon Pump & Engineering Co. SN 99,783. Pub. 11–8–60. Filed 6–27–60.

710,225. JOTOR. Maquinas de Coser Jotor, S.A. SN 100,138. Pub. 11–8–60. Filed 7–1–60.

Class 24—Laundry Appliances and Machines

710,226. INSULEX. Trio Mills Mfg. Corp., assignee, by mesne assignments, of Pad Craft Mfg. Co. SN 88,484. Pub. 11–8–60. Filed 1–5–60.

710,227. TRIOMAT. International Duplex Corporation, d.b.a. Duplex Corporation. SN 94,167. Pub. 11–8–60. Filed 4–1–60.

710,228. CONCORD. McGraw-Edison Company, assignee of The American Laundry Machinery Company. SN 95,968. Pub. 11–8–60. Filed 4–28–60.

710,229. REVERE. McGraw-Edison Company, assignee of The American Laundry Machinery Company. SN 95,969. Pub. 11–8–60. Filed 4–28–60.

Class 26 — Measuring and Scientific Appliances

710,230. ELCAN. Ernst Leitz (Canada) Limited. SN 80,330. Pub. 11–8–60. Filed 8–27–59.

710,231. TELOMAR. Voigtlander A.G. SN 81,357. Pub. 11–8–60. Filed 9–14–59.

710,232. RICOHFLEX. Riken Optical Industries, Ltd. SN 84,944. Pub. 11–8–60. Filed 11–9–59.

710,233. NEO-FLAW. Russell C. Heldenbrand, d.b.a. Heldenbrand Tubular Service. SN 85,341. Pub. 11–8–60. Filed 11–16–59.

710,234. GEOMETRIC DESIGN. Axon West Coast Corporation. SN 87,622. Pub. 11–8–60. Filed 12–21–59.

710,235. TRUSPEED. Henry W. Carpenter, d.b.a. Muskegon Outboard Specialties Co. SN 89,050. Pub. 11–8–60. Filed 1–15–60.

710,236. MINI-RAPID. Fairchild Camera and Instrument Corporation. SN 90,044. Pub. 11–8–60. Filed 2–1–60.

710,237. CAPPY. Wagner Tool and Supply Corporation. SN 93,236. Pub. 11–8–60. Filed 3–18–60.

710,238. MISSILYZER. Kay Electric Company. SN 96,800. Pub. 11–8–60. Filed 5–10–60.

710,239. CLINISCANNER. Picker X-Ray Corporation. SN 97,092. Pub. 11–8–60. Filed 5–13–60.

710,240. CALOCOP. Thermokem Corporation. SN 97,725. Pub. 11–8–60. Filed 5–23–60.

710,241. ENGINE DESIGN. Aeroscience, Inc. SN 98,049. Pub. 11–8–60. Filed 5–31–60.

710,242. PRO-MATIC. Photographic Research Organization, Inc. SN 98,522. Pub. 11–8–60. Filed 6–6–60.

710,243. "SATELLOON." G. T. Schjeldahl Company. SN 98,536. Pub. 11–8–60. Filed 6–6–60.

710,244. MAG PNU TRA X. Brooks Instrument Company, Inc., by change of name from Brooks Rotameter Company. SN 98,569. Pub. 11–8–60. Filed 6–7–60.

Class 27 — Horological Instruments

710,245. 2000. Bulova Watch Company, Inc. SN 89,326. Pub. 11–8–60. Filed 1–20–60.

710,246. THE IMPALA CORPORATION AND REPRESENTATION OF AN IMPALA. The Impala Corporation. SN 94,586. Pub. 11–8–60. Filed 4–7–60.

Class 28 — Jewelry and Precious-Metal Ware

710,247. JEWELS BY FRANCOIS. Coro, Inc. SN 96,101. Pub. 11–8–60. Filed 4–29–60.

710,248. FRANCOIS. Coro, Inc. SN 96,102. Pub. 11–8–60. Filed 4–29–60.

710,249. METALITE. Coro, Inc. SN 96,788. Pub. 11–8–60. Filed 5–10–60.

710,250. QUINTETTE. Coro, Inc. SN 96,791. Pub. 11–8–60. Filed 5–10–60.

Class 31 — Filters and Refrigerators

710,251. MIL-FLO. The Millwhite Co., Inc. SN 77,123. Pub. 5–3–60. Filed 7–6–59.

710,252. CHLOROMATIC. Chlormatic Manufacturing Company. SN 87,166. Pub. 11–8–60. Filed 12–4–59.

Class 32 — Furniture and Upholstery

710,253. "COMFORT IS A THING CALLED CONTOUR." Contour Chair-Lounge Co., Inc. SN 79,837. Pub. 11–8–60. Filed 8–19–59.

710,254. CORRES-FILE. Wassell Organization, Inc. SN 90,873. Pub. 11–8–60. Filed 2–12–60.

710,255. ULTIMA. The Spring-Air Company. SN 96,276. Pub. 11–8–60. Filed 5–2–60.

Class 34 — Heating, Lighting, and Ventilating Apparatus

710,256. S. P. KINNEY AND DESIGN. S. P. Kinney Engineers, Inc. SN 86,291. Pub. 11–8–60. Filed 11–30–59.

710,257. CHAMPION. Champion Cooler Corporation. SN 93,416. Pub. 9–20–60. Filed 3–22–60.

710,258. WIMCO. Keating of Chicago, Inc. SN 96,504. Pub. 11–8–60. Filed 5–5–60.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

710,259. AUTO FLIGHT. Auto Flight, Inc. SN 81,612. Pub. 11–8–60. Filed 9–18–59.

710,260. SIRVON. Chicago Rawhide Manufacturing Company. SN 86,267. Pub. 11–8–60. Filed 11–30–59.

710,261. THEFTPROOF. The Gates Rubber Company. SN 88,034. Pub. 11–8–60. Filed 12–28–59.

710,262. DAVIS IMPERIAL SENTRY. Western Auto Supply Company. SN 90,463. Pub. 11–8–60. Filed 2–5–60.

710,263. FLEX-SILEC. The Flexible Tubing Corporation. SN 99,621. Pub. 11–8–60. Filed 6–24–60.

Class 36 — Musical Instruments and Supplies

710,264. 101 STRINGS. Miller International Co. SN 80,105. Pub. 11–8–60. Filed 8–24–59.

710,265. ATLANTIS. Atlantis Export-Import Limited. SN 82,190. Pub. 11–8–60. Filed 9–28–59.

710,266. TRANSICORDER. American Electronics, Inc. SN 89,538. Pub. 11–8–60. Filed 1–25–60.

710,267. DOMINO AND DESIGN. Southwestern Artists' Association, Inc. SN 89,560. Pub. 11–8–60. Filed 1–25–60.

710,268. CHANNEL. Travis J. Harkrider, d.b.a. Channel Records. SN 96,334. Pub. 11–8–60. Filed 5–3–60.

Class 37 — Paper and Stationery

710,269. FANCIFUL INITIALS IPS. Inlander-Steindler Paper Company. SN 87,496. Pub. 11–8–60. Filed 12–17–59.

710,270. INKOGRAPH. Koh-I-Noor, Inc., by change of name from Koh-I-Noor Pencil Company, Inc. SN 94,314. Pub. 10–18–60. Filed 4–4–60.

710,271. LIGHTHOUSE AND DESIGN. Paul Koch G.m.b.H. Papierverarbeitungswerk und Verlag. SN 96,417. Pub. 11–8–60. Filed 5–4–60.

710,272. BUCKEYE-BECKETT PAPERS AND DESIGN. The Beckett Paper Company. SN 96,664. Pub. 11–8–60. Filed 5–9–60.

710,273. KOH-I-LAR. L. & C. Hardtmuth, Inc. SN 96,862. Pub. 11–8–60. Filed 5–11–60.

710,274. TABLEAU. Technical Papers Corporation. SN 96,898. Pub. 11–8–60. Filed 5–11–60.

710,275. SPEEDI-PAK. Moore Business Forms, Inc. SN 97,084. Pub. 11–8–60. Filed 5–13–60.

710,276. SPEED-RILLE. Henry E. Harris, d.b.a. H. E. Harris & Co. SN 97,206. Pub. 11–8–60. Filed 5–16–60.

Class 38 — Prints and Publications

710,277. PROFESSIONAL FLORIST. Art In Flowers Publishing Co., Inc. SN 93,409. Pub. 11–8–60. Filed 3–22–60.

710,278. LITH-O SKETCH. Edward Curhan, d.b.a. Curhan Company. SN 93,669. Pub. 11–8–60. Filed 3–25–60.

Class 39 — Clothing

710,279. SEAL OF APPROVAL AND DESIGN. Plymouth Hosiery Mills, Inc. SN 36,107. Pub. 11–8–60. Filed 8–23–57.

710,280. MIA DONNA. Em Jay Originals, Inc. SN 57,256. Pub. 11–8–60. Filed 8–15–58.

710,281. GETAZ. United States Trust Company of New York. SN 58,381. Pub. 11–8–60. Filed 9–4–58.

710,282. PAJAMAS FOR THE ENTIRE FAMILY AND DESIGN. Weldon Pajamas, Inc. SN 62,500. Pub. 11–8–60. Filed 11–14–58.

710,283. JETRAVELER. L. W. Foster Sportswear Co., Inc. SN 66,874. Pub. 11–8–60. Filed 2–2–59.

710,284. GRO-TERRY. Bliss Manufacturing Company. SN 74,190. Pub. 11–8–60. Filed 5–21–59.

710,285. MARLINDA. Movie Star, Inc. SN 77,767. Pub. 11–8–60. Filed 7–15–59.

710,286. LOIS YOUNG. Ray Stockton, d.b.a. Lois Young Fashions. SN 79,722. Pub. 11–8–60. Filed 8–17–59.

710,287. SLIMFORM AND DESIGN. Spencer Gifts, Inc. SN 80,757. Pub. 11–8–60. Filed 9–2–59.

710,288. NEWPORT. Newport Knitting Co., Inc. SN 82,134. Pub. 11–8–60. Filed 9–25–59.

710,289. RONNIE. Ronnie Hats, Inc. SN 83,560. Pub. 11–8–60. Filed 10–19–59.

710,290. "CAREER SHOP." Rich's, Inc. SN 86,063. Pub. 11–8–60. Filed 11–25–59.

710,291. SANDGATE. Palm Beach Company. SN 86,587. Pub. 11–8–60. Filed 12–3–59.

710,292. CURL CUVER. Cathy J. Gobins. SN 86,773. Pub. 10–25–60. Filed 12–7–59.

710,293. MISS CONSTANCE. Bowen Shoe Company, Inc. SN 86,923. Pub. 11–8–60. Filed 12–9–59.

710,294. KAY FUCHS. John E. Fuchs Corp. SN 87,220. Pub. 11–8–60. Filed 12–14–59.

710,295. KURL-KNIT. Eagle Knitting Mills, Inc. SN 87,651. Pub. 11–8–60. Filed 12–21–59.

710,296. MR. HOPE. H.B.I. Knitting Mills, Inc. SN 89,766. Pub. 11–8–60. Filed 1–27–60.

710,297. MR. COMFORT. Graebels'. SN 89,848. Pub. 11–8–60. Filed 1–28–60.

710,298. NAP 'N' SHEAR. The Bamberger-Reinthal Company. SN 90,734. Pub. 11–8–60. Filed 2–11–60.

710,299. RODNEY COURT. Mid-States Shoe Co. SN 91,264. Pub. 11–8–60. Filed 2–19–60.

710,300. WHISTLE STOPS. Simon Cohen, d.b.a. Whistle Stop Footwear. SN 92,599. Pub. 11–8–60. Filed 3–11–60.

710,301. SMART LADY AND DESIGN. Smart Novelty Blouse Co., Inc. SN 92,821. Pub. 11–8–60. Filed 3–14–60.

710,302. QUIK-CHEK OUT. Elgin Knit Sportswear, Inc. SN 93,295. Pub. 11–8–60. Filed 3–21–60.

710,303. BRUCE STEVENS. Medwed Footwear, Inc. SN 93,448. Pub. 11–8–60. Filed 3–22–60.

710,304. HONEYCOMB. Superba Cravats, Inc. SN 93,561. Pub. 11–8–60. Filed 3–23–60.

710,305. BONGO. Gallenkamp Stores Co. SN 93,790. Pub. 11–8–60. Filed 3–28–60.

710,306. NAN SCOTT. Mayflower Dress Co., Inc. SN 93,827. Pub. 11–8–60. Filed S.R. 3–28–60; Am. P.R. 9–14–60.

710,307. GOLDEN CASUAL. Rockford Textile Mills, Inc. SN 93,948. Pub. 11–8–60. Filed 3–29–60.

710,308. EZ-ON. Theodore Cleve, d.b.a. Ez-On Plated Top Lifts. SN 94,051. Pub. 11–8–60. Filed 3–31–60.

710,309. AN OSCAR LOEWY DESIGN. Oscar Loewy. SN 94,498. Pub. 11–8–60. Filed 4–6–60.

710,310. LAMINAIRE. Winer Manufacturing Co., Inc. SN 94,637. Pub. 11–8–60. Filed 4–7–60.

710,311. ARLENE ANDREWS. Smoler Bros., Inc. SN 94,924. Pub. 11–8–60. Filed 4–12–60.

710,312. KEGLERETTE. Sam L. Mendelson, d.b.a. Harvey Shoe Company. SN 95,184. Pub. 11–8–60. Filed 4–15–60.

710,313. A. S. BECK, WHERE EVERY TEEN IS A QUEEN. A. S. Beck Shoe Corporation. SN 95,678. Pub. 11–8–60. Filed 4–25–60.

710,314. "KASH-UALS" BY SUPERB. Crescendoe Gloves, Inc. SN 95,695. Pub. 11–8–60. Filed 4–25–60.

710,315. SERENE HIGHNESS. Superior Petticoat Co., Inc. SN 96,438. Pub. 11–8–60. Filed 5–4–60.

710,316. INNER-SELF. Inner-self Corporation, assignee of North Bay Coats, Inc. SN 96,611. Pub. 11–8–60. Filed 5–6–60.

710,317. LIL' FOLKS. Liberty Hosiery Mills, Inc. SN 96,713. Pub. 11–8–60. Filed 5–9–60.

710,318. SPACE MASTER. Good Luck Glove Company. SN 97,998. Pub. 11–8–60. Filed 5–27–60.

710,319. DOMINO AND DESIGN. Somerset Knitting Mills, Inc. SN 99,884. Pub. 11–8–60. Filed 6–28–60.

710,320. BASHER. Dee Sportswear, Inc. SN 99,921. Pub. 11–8–60. Filed 6–29–60.

Class 40 — Fancy Goods, Furnishings, and Notions

710,321. CARPETON. Fabricon Company. SN 56,946. Pub. 11–8–60. Filed 8–11–58.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

710,322. MARTERIZED! Martha Mills, Inc. SN 34,156. Pub. 11–8–60. Filed 7–22–57.

710,323. CHUNKY. Northern Yarn Mills. SN 90,779. Pub. 11–8–60. Filed 2–11–60.

710,324. COURTESSA. Courtaulds, Limited. SN 94,743. Pub. 11–8–60. Filed 4–11–60.

710,325. JAMES NELSON. James Nelson, Limited. SN 95,615. Pub. 11–8–60. Filed 4–22–60.

710,326. LEMOYNE. Courtaulds, Inc. SN 95,694. Pub. 11–8–60. Filed 4–25–60.

710,327. CUDDLY BABY. Food Fair Stores, Inc. SN 95,889. Pub. 11–8–60. Filed 4–27–60.

710,328. MANOR HOUSE. Allied Stores Corporation. SN 96,459. Pub. 11–8–60. Filed 5–5–60.

710,329. TERRY RUB-A-DUB AND DESIGN. Demetrios Mountanos, d.b.a. Terry Rub-A-Dub. SN 97,087. Pub. 11–8–60. Filed 5–13–60.

710,330. KLM. J. P. Stevens & Co., Inc. SN 97,138. Pub. 11–8–60. Filed 5–13–60.

710,331. BAR-SET. Inwood Knitting Mills, Inc. SN 99,745. Pub. 11–8–60. Filed 6–27–60.

710,332. CREASHRUNK. M. Lowenstein & Sons, Inc. SN 99,761. Pub. 11–8–60. Filed 6–27–60.

Class 43 — Thread and Yarn

710,333. SOFTYON. Softexture Yarns, Inc. SN 75,958. Pub. 11–8–60. Filed 6–16–59.

710,334. CHUNKY. Northern Yarn Mills. SN 90,778. Pub. 11–8–60. Filed 2–11–60.

710,335. ELITE AND DESIGN. S.A. Etablissements A. Van Haute-Vercauteren. SN 96,548. Pub. 11–8–60. Filed 4–14–60.

Class 44 — Dental, Medical, and Surgical Appliances

710,336. SITZER. Craft Manufacturing Company. SN 81,120. Pub. 11–8–60. Filed 9–10–59.

710,337. CARDISTOR. William Frederick Wheeler. SN 101,364. Pub. 11–8–60. Filed 7–22–60.

710,338. VICTOR. Arthur E. Look, Inc. SN 102,403. Pub. 11–8–60. Filed 8–10–60.

710,339. GRANITE. Richard-Allan Company, Inc. SN 102,418. Pub. 11–8–60. Filed 8–10–60.

710,340. AVIOX. Scott Aviation Corporation. SN 102,423. Pub. 11–8–60. Filed 8–10–60.

710,341. TRANSPETS. Clay Adams, Inc. SN 102,815. Pub. 11–8–60. Filed 8–17–60.

Class 46 — Foods and Ingredients of Foods

710,342. H. SHENSON AND DESIGN. H. Shenson. SN 34,820. Pub. 11–8–60. Filed 8–1–57.

710,343. FLAVOR-GUARD. Del Pero-Mondon Meat Co. SN 47,352. Pub. 6–9–59. Filed 3–10–58.

710,344. VENUS. Venus Wheat Wafers, Inc. SN 52,176. Pub. 3–17–59. Filed 5–22–58.

710,345. OCEAN FARE AND DESIGN. Tuna Products Corporation. SN 78,095. Pub. 11–8–60. Filed 7–20–59.

710,346. SHO-GLO. Carnation Company. SN 79,093. Pub. 11–8–60. Filed 8–6–59.

710,347. GRAVY BOAT. Gravymaster Company, Inc. SN 92,982. Pub. 11–8–60. Filed 3–16–60.

710,348. WISH-BONE. Thomas J. Lipton, Inc. SN 93,443. Pub. 11–8–60. Filed 3–22–60.

710,349. WISH-BONE AND DESIGN. Thomas J. Lipton, Inc. SN 93,444. Pub. 11–8–60. Filed 3–22–60.

710,350. T. C. ROCKETS. Allied Mills, Inc. SN 94,950. Pub. 11–8–60. Filed 4–13–60.

710,351. WONDER CROWN. Sun Crown Food Corporation. SN 95,781. Pub. 11–8–60. Filed 4–25–60.

710,352. SPACE MEN AND DESIGN. Buttoni Foods Corporation. SN 96,313. Pub. 11–8–60. Filed 5–3–60.

710,353. THINN. Good Humor Corporation. SN 98,216. Pub. 11–8–60. Filed 6–1–60.

Class 50 — Merchandise Not Otherwise Classified

710,354. TRIMAR. Morgan Adhesives Company. SN 93,836. Pub. 11–8–60. Filed 3–28–60.

710,355. DRAPLEX FELT. Draper Brothers Company. SN 95,702. Pub. 11–8–60. Filed 4–25–60.

710,356. ELITE AND DESIGN. S.A. Etablissements A. Van Haute-Vercauteren. SN 96,548. Pub. 11–8–60. Filed 4–14–60.

Class 51 — Cosmetics and Toilet Preparations

710,357. MISTER CLAIROL. Clairol Incorporated. SN 91,341. Pub. 7–19–60. Filed 2–23–60.

710,358. MR. CLAIROL. Clairol Incorporated. SN 92,593. Pub. 8–30–60. Filed 3–11–60.

710,359. PROTOGEL. The George W. Luft Company, Inc SN 92,624. Pub. 10–25–60. Filed 3–11–60.

710,360. INDULGE. Associated Products, Inc. SN 95,862. Pub. 11–8–60. Filed 4–11–60.

Class 52 — Detergents and Soaps

710,361. LESTEX. Adell Chemical Co. SN 95,471. Pub. 11–8–60. Filed 4–21–60.

Service Marks

Class 100 — Miscellaneous

710,362. THE FATMAN. Theodore R. Grevers, d.b.a. The Fatman International Private Detective Service. SN 87,675. Pub. 11–8–60. Filed 12–21–59.

Class 101 — Advertising and Business

710,363. CR AND MPA DESIGN. Magazine Publishers Association, Inc. SN 86,984. Pub. 11–8–60. Filed 12–9–59.

Class 102 — Insurance and Financial

710,364. CC AND DESIGN. Country Life Insurance Company and Country Mutual Insurance Company. SN 70,872. Pub. 9–27–60. Filed 4–6–59.

710,365. CMCP ETC. AND DESIGN. The Chase Manhattan Bank. SN 73,886. Pub. 2–2–60. Filed 5–18–59.

Class 103 — Construction and Repair

710,366. DARBE AND DESIGN. Darbe Termite Control Co. SN 69,128. Pub. 11–8–60. Filed 3–9–59.

Collective Membership Mark

Class 200

710,367. KI-WIVES. Ki-Wives Council of the Capitol District. SN 88,923. Pub. 11–8–60. Filed 1–13–60.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

Class 12—Construction Materials

710,368. Charles G. Rist, d.b.a. Short-Log Products, Baltimore, Md. Filed P.R. 11–23–59; Am. S.R. 11–14–60.



For Cabins, Motels, Ranch and Custom Designed Log Structures.
First use Oct. 20, 1959.

710,369. Morell Industries, Inc., Baltimore, Md. SN 87,370. Filed P.R. 12–15–59; Am. S.R. 11–14–60.



For Genuine Hardwood Veneer Floor Covering.
First use Nov. 15, 1958.

710,370. Barry Wright Corporation, by merger and change of name from Barry Controls Incorporated, Watertown, Mass. SN 89,495. Filed P.R. 1–22–60; Am. S.R. 11–8–60.

LO-G

For Shelves, Mounting Bases for Stable Platforms Used in Ground-To-Air Missiles, Supports for Countermeasure Systems in Aircraft and Test Fixtures, and Plates, I-Beams, Channels, Angles and other Construction Materials Made of Combinations of Metal and Viscoelastic Materials for Use in Making the Aforesaid Articles and Also For Use in Making Boxes, Ducts, Buildings, Rooms, Machinery Foundations, Airplane and Missile Structures and Chassis and Parts for Electrical and Electronic Equipment.
First use Oct. 23, 1959.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

710,371. Brandon Equipment Company, Inc., Chicago, Ill. SN 99,568. Filed P.R. 6–23–60; Am. S.R. 11–14–60.

CUSHION CHAIN

For Rubber Cushioned Chain Shock Absorbers.
First use July 18, 1957.

Class 16—Protective and Decorative Coatings

710,372. Garry Laboratories, Inc., Buffalo, N.Y. SN 92,457. Filed 3–9–60.

GARRY'S NEW CAR PREP

The word "Prep" is disclaimed apart from the mark as shown. Owner of Reg. Nos. 604,943, 686,565, and others.

TM 156

For Liquid Preparation for Application to Automobile Bodies Having a Lacquer Finish for the Purpose of Cleaning Them, Removing Road Film or Other Deposits of Foreign Material and Producing a Brilliant and Glossy Finished Surface.
First use Mar. 2, 1959.

Class 18—Medicines and Pharmaceutical Preparations

710,373. Vitamins For Industry, Inc., Los Angeles, Calif. SN 68,091. Filed P.R. 2–19–59; Am. S.R. 11–25–60.



For Dietary Supplements Containing Vitamins and Minerals.
First use Dec. 1, 1958.

Class 22—Games, Toys, and Sporting Goods

710,374. La Chemise Lacoste, Societe Anonyme, Paris, France. SN 95,831. Filed P.R. 4–26–60; Am. S.R. 11–17–60.

LACOSTE

Owner of French Reg. No. 484,914 dated Dec. 22, 1959 (Seine); Natl. Inst. No. 136,407 and U.S. Reg. No. 637,201.
For Sports Equipment, Namely—Golf Balls and Golf Clubs, Tennis Racquets and Tennis Balls.
First use in commerce October 1957 on golf balls.

Class 28—Jewelry and Precious-Metal Ware

710,375. World Gems Corporation, Atlanta, Ga. SN 93,396. Filed P.R. 3–21–60; Am. S.R. 11–17–60.

GEM PAKS

For Precious and Semi-Precious Stones and Gems.
First use on or about March 1959.

Class 39—Clothing

710,376. Heydays Shoes, Inc., St. Louis, Mo. SN 82,977. Filed P.R. 10–9–59; Am. S.R. 11–10–60.

Eight to 5

For Women's Shoes.
First use Sept. 22, 1959.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

710,377. Morgan-Jones, Inc., New York, N.Y. SN 87,320. Filed P.R. 12–14–59; Am. S.R. 11–23–60.

DONEGAL

For Bedspreads.
First use July 1, 1959.

Class 45—Soft Drinks and Carbonated Waters

710,378. Bubble Up Corporation, by change of name from O-So Grape Co., Peoria, Ill. SN 82,594. Filed P.R. 10–2–59; Am. S.R. 4–15–60.



For Soft Drink Beverages.
First use Aug. 15, 1956.

Class 46—Foods and Ingredients of Foods

710,379. Fasano Pie Company, Bedford Park, Ill. SN 44,894. Filed P.R. 1–20–58; Am. S.R. 8–15–60.

... As Good as Mother's...
... Better than Others...

For Cakes and Pies.
First use Dec. 1, 1949.

710,380. Purwin's Cake Box Inc., Evanston, Ill. SN 73,264. Filed P.R. 5–8–59; Am. S.R. 11–22–60.

MRS. PURWIN'S

The mark "Mrs. Purwin's" identifies a living person whose consent is of record.
For Cakes, Cookies, French Pastries, and Sweet Buns.
First use Jan. 5, 1959.

710,381. Oshita, Inc., Castroville, Calif. SN 89,286. Filed P.R. 1–19–60; Am. S.R. 11–7–60.

Mor Green

For Fresh Green Vegetables.
First use June 7, 1959.

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137,720. TIFFANY & CO. Cl. 8. 11–30–20.
137,721. TIFFANY. Cl. 8. 11–30–20.
137,722. TIFFANY. Cl. 22. 11–30–20.
137,723. TIFFANY & CO. Cl. 30. 11–30–20.
138,137. SUPERIOR. Cl. 14. 12–14–20.
139,217. SUPERFLAKE AND DESIGN. Cl. 1. 1–25–21.
139,645. THURCO. Cl. 23. 2–8–21.
140,575. BYERS. Cl. 18. 3–22–21.
141,089. CALAMADE. Cl. 46. 4–12–21.
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142,338. SUNNY BROOK AND DESIGN. Cl. 49. 5–10–21.
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377,454. ROTO WING. Cl. 23. 5–7–40.
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381,828. DESIGN OF A COBRA. Cl. 19. 10–8–40.
381,829. AIRACOBRA AND DESIGN. Cl. 19. 10–8–40.
382,300. CROP-RITE. Cl. 10. 10–22–40.
382,876. ZENITH. Cl. 21. 11–12–40.
383,046. WINK. Cl. 46. 11–19–40.
383,140. COOLTAN. Cl. 51. 11–26–40.
383,431. FIRCONE. Cl. 14. 12–10–40.
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383,479. KRENE. Cl. 1. 12–10–40.
383,484. BELECTROMAL. Cl. 14. 12–10–40.
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384,641. CORUNDITE. Cl. 21. 1–28–41.
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385,237. TINIT. Cl. 6. 2–18–41.
385,662. SNAP-E-TOM AND DESIGN. Cl. 46. 3–11–41.
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385,844. JUNIOR MONARCH. Cl. 23. 3–18–41.
385,845. PATHFINDER. Cl. 23. 3–18–41.
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386,168. SODOL. Cl. 6. 3–25–41.
386,254. RUST-FOE. Cl. 52. 4–1–41.
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176,548. CAMP. Cl. 16. 11–27–23.
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598,917. SINGLE COMB EVER-HARDY WHITE LEGHORNS AND DESIGN. Cl. 1.
598,925. SANIFREZ. Cl. 2.
598,926. THE OLD OAKEN BUCKET. Cl. 2.
598,927. GOB SHOPS. Cl. 2.
598,928. GILCO AND DESIGN. Cl. 2.
598,929. GADGET KING AND DESIGN. Cl. 2.
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598,946. MARBLITE. Cl. 12.
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598,950. CUPLOPAX. Cl. 12.
598,952. CAMEO. Cl. 12.
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599,006. GAFF GUN. Cl. 22.
599,008. ULVIO CLEAR. Cl. 22.
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599,010. CHEYENNE. Cl. 22.
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599,083. AILEEN KNIT AND DESIGN. Cl. 39.
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599,096. RAPHAEL. Cl. 39.
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599,098. DIG THOSE CRAZY JEANS AND DESIGN. Cl. 39.
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Adell Chemical Co., Holyoke, Mass. 710,361, pub. 11–8–60. Cl. 52.
Aeroscience, Inc., Santa Ana, Calif. 710,241, pub. 11–8–60. Cl. 26.
Aerovox Corp., New Bedford, Mass. 710,185, pub. 11–8–60. Cl. 21.
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Auto Flight, Inc., Tallmadge, Ohio. 710,259, pub. 11–8–60. Cl. 35.
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Butler, Viola, Humboldt, Tenn. 599,147, canc. Cl. 46.
Buttoni Foods Corp., South Hackensack, N.J. 710,352, pub. 11–8–60. Cl. 46.
Byers, A. M., Co., Pittsburgh, Pa. 140,575, ren. 1–24–61. Cl. 13.
CPC Engineering Corp., Sturbridge, Mass. 710,200, pub. 11–8–60. Cl. 23.
Cal Corp., Berkeley, Mich. 710,179, pub. 11–8–60. Cl. 19.
California Co-operative Canneries, San Jose, Calif., to Tri-Valley Packing Association, San Francisco, Calif. 141,089, ren. 1–24–61. Cl. 46.
California Growers Association, Inc., Los Angeles, to Tri-Valley Packing Association, San Francisco, Calif. 142,245, ren. 1–24–61. Cl. 46.
Carmi-Ainsbrooke Corp., New York, N.Y. 599,090, canc. Cl. 39.
Carnation Co., Los Angeles, Calif. 710,346, pub. 11–8–60. Cl. 46.
Carpenter, Henry W., d.b.a. Muskegon Outboard Specialties Co., Muskegon, Mich. 710,235, pub. 11–8–60. Cl. 26.
Car-Skin Products Corp., Flemington, N.J. 710,098, pub. 11–8–60. Cl. 4.
Cat's Paw Rubber Co., Inc., Baltimore, Md. 683,400, canc. Cl. 50.
Chamness, Abe, d.b.a. Chamness Engineering Co., Dallas, Tex. 710,217, pub. 11–8–60. Cl. 23.
Chamness Engineering Co.: *See*—
Chamness, Abe.
Champion Cooler Corp., Denison, Tex. 710,257, pub. 9–20–60. Cl. 34.
Channel Records: *See*—
Harkrider, Travis J.
Chase Manhattan Bank, The, New York, N.Y. 710,365, pub. 2–2–60. Cl. 102.
Chicago Rawhide Mfg. Co., Chicago, Ill. 710,260, pub. 11–8–60. Cl. 35.
Child & Thompson, Carlton, Wash. 599,161, canc. Cl. 46.
Chipman Knitting Mills, Easton, Pa. 318,328, canc. Cl. 39.
Chipman's, Chas., Sons Co., Inc., New York, N.Y. 599,105, canc. Cl. 39.
Chlormatic Mfg. Co., San Francisco, Calif. 710,252, pub. 11–8–60. Cl. 31.
Clairol Inc., New York, N.Y. 710,357–8, pub. 7–19–60. Cl. 51.
Clairol Inc., Stamford, Conn. 644,336, canc. Cl. 51.
Cleve, Theodore, d.b.a. Ez-On Plated Top Lifts, Louisville, Ky. 710,308, pub. 11–8–60. Cl. 39.
Clopay Corp., Cincinnati, Ohio. 384,814, ren. 1–24–61. Cl. 2.
Clover Chemical Co., Pittsburgh, Pa. 710,123–4, pub. 7–26–60. Cl. 10.
Coastal Valley Canning Co.: *See*—
Ortega, E. C., Co.

Cohen, Simon, d.b.a. Whistle Stop Footwear, Pomona, Calif. 710,300, pub. 11–8–60. Cl. 39.
Colonial Board Co., Inc., The, Manchester, Conn. 710,083, pub. 11–8–60. Cl. 1.
Columbia Aquarium, Inc., New York, N.Y. 599,030, canc. Cl. 23.
Columbian Enameling & Stamping Co. Inc., Terre Haute, Ind. 598,926, canc. Cl. 2.
Conco Engineering Works, Inc., Mendota, Ill., 710,213, pub. 11–8–60. Cl. 23.
Contour Chair-Lounge Co., Inc., St. Louis, Mo. 710,253, pub. 11–8–60. Cl. 32.
Copperweld Steel Co.: *See*—
Superior Steel Corp.
Coro, Inc., New York, N.Y. 710,247–50, pub. 11–8–60. Cl. 28.
Country Life Insurance Co. and Country Mutual Insurance Co., Chicago, Ill. 710,364, pub. 9–27–60. Cl. 102.
Court, Kathleen, (England) Ltd., London, England. 383,140, ren. 1–24–61. Cl. 51.
Courtaulds, Inc., New York, N.Y. 710,326, pub. 11–8–60. Cl. 42.
Courtaulds, Ltd., London, England. 710,324, pub. 11–8–60. Cl. 42.
Coward Shoe, Inc., The, New York, N.Y. 384,199, ren. 1–24–61. Cl. 39.
Coward Shoe, Inc., The, New York, N.Y. 384,231, ren. 1–24–61. Cl. 39.
Craddock-Terry Shoe Corp.: *See*—
Mosinger Brothers.
Craft Mfg. Co., North Chicago, Ill. 710,336, pub. 11–8–60. Cl. 44.
Craver Associates, Troy, N.Y. 598,946, canc. Cl. 12.
Crawford Associates, Inc., Palo Alto, Calif. 710,087, pub. 11–8–60. Cl. 1.
Crescendoe Gloves, Inc., Johnstown, N.Y. 710,314, pub. 11–8–60. Cl. 39.
Cross, David S., d.b.a. Blackwatch Safety Products, Minneapolis, Minn. 710,141, pub. 11–8–60. Cl. 13.
Curhan Co.: *See*—
Curhan, Edward.
Curhan, Edward, d.b.a. Curhan Co., Gloucester, Mass. 710,278, pub. 11–8–60. Cl. 38.
Dale Bearings, Inc., New York, N.Y. 710,222, pub. 11–8–60. Cl. 23.
D'Andrea Brothers, Inc., New York, N.Y. 599,111, canc. Cl. 39.
Darbe Termite Control Co., Pratt, Kans. 710,366, pub. 11–8–60. Cl. 103.
Daystrom, Inc., Elizabeth, N.J. 598,998, canc. Cl. 21.
Dee Sportswear, Inc., Rockaway Beach, N.Y. 710,320, pub. 11–8–60. Cl. 39.
Delmer Engineers, Bell, Calif. 710,093, pub. 11–8–60. Cl. 2.
Del Pero-Mondon Meat Co., Marysville, Calif. 710,343, pub. 6–9–59. Cl. 46.
Detroit Motor Truck Co., Inc., New York, N.Y. 599,194, canc. Cl. 19.
Devine, James H., Washington, D.C. 598,955–6, canc. Cl. 13.
Diamond Alkali Co., Cleveland, Ohio. 710,117, pub. 11–8–60. Cl. 6.
Dixie Asphalt Products Corp., Chatham County, Ga., to The Ruberoid Co., New York, N.Y. 386,698, ren. 1–24–61. Cl. 12.
Doho Chemical Corp., The, New York, N.Y. 380,981, ren. 1–24–61. Cl. 18.
Doho Chemical Corp., New York, N.Y. 710,107, pub. 11–8–60. Cl. 6.
Donnelly Garment Sales Co., to Nelly Don, Inc., Kansas City, Mo. 375,990, ren. 1–24–61. Cl. 39.
Dorale Co., The, Cary, Ill. 599,006, canc. Cl. 22.
Draper Brothers Co., Canton, Mass. 710,355, pub. 11–8–60. Cl. 50.
Duplex Corp.: *See*—
International Duplex Corp.
Duralon Paint Products: *See*—
Singer, Arthur A.
Du-Rite Chemical Co., Inc., Brentwood, Mo. 710,114, pub. 11–8–60. Cl. 6.
Eagle Knitting Mills, Inc., Milwaukee, Wis. 710,295, pub. 11–8–60. Cl. 39.
Eagle Pencil Co., Danbury, Conn. 387,524, ren. 1–24–61. Cl. 37.
Eberhardt Poultry Farm, West Liberty, Ill. 598,917, canc. Cl. 1.
Economy Engineering Co., Chicago, Ill. 710,211, pub. 11–8–60. Cl. 23.
Elgin Knit Sportswear, Inc., New York, N.Y. 710,302, pub. 11–8–60. Cl. 39.
Eli Lilly and Co., Indianapolis, Ind. 387,419–20, ren. 1–24–61. Cl. 18.
Elite Sewing Machine Corp., New York, N.Y. 710,184, pub. 11–8–60. Cl. 21.
Em Jay Originals, Inc., New York, N.Y. 710,280, pub. 11–8–60. Cl. 39.
Embalmers' Supply Co., The, Westport, Conn. 387,282, ren. 1–24–61. Cl. 52.
Emsig Mfg. Co.: *See*—
Emsig, Max.
Emsig, Max, d.b.a. Emsig Mfg. Co., to Emsig Mfg. Co., New York, N.Y. 386,745, ren. 1–24–61. Cl. 40.
England, Victor, Agencies: *See*—
England, Victor.
England, Victor, d.b.a. Victor England Agencies, San Francisco, Calif. 671,068, canc. Cl. 7.
Epoxylite Corp., The, El Monte, Calif. 710,102, pub. 11–8–60. Cl. 5.
Essex Products Inc., New York, N.Y. 599,018, canc. Cl. 23.
Esso Standard Oil Co.: *See*—
Humble Oil & Refining Co.
Eveready Pressurized Products, Inc., Cleveland, Ohio. 710,106, pub. 9–20–60. Cl. 6.
Ez-On Plated Top Lifts: *See*—
Cleve, Theodore.
Fabricon Co., Chicago, Ill. 710,321, pub. 11–8–60. Cl. 40.
Fairchild Camera and Instrument Corp., Syosset, N.Y. 710,236, pub. 11–8–60. Cl. 26.
Farm Chemicals, Athena, Oreg. 710,115, pub. 11–8–60. Cl. 6.
Farm Chemicals, Athena, Oreg. 710,120, pub. 11–8–60. Cl. 10.
Farm Chemicals, Athena, Oreg. 710,204, pub. 11–8–60. Cl. 23.
Farmer's Accounting Service Co., The: *See*—
Baumgardner, William E.
Fasano Pie Co., Bedford Park, Ill. 710,379. Cl. 46.
Fatman International Private Detective Service: *See*—
Grevers, Theodore R.
Ferro Corp., Cleveland, Ohio. 710,108, pub. 4–5–60. Cl. 6.
Fiber Industries, Inc., Charlotte, N.C. 710,088, pub. 11–8–60. Cl. 1.
Firth Co. Ltd., The, Warrington, England. 383,431, ren. 1–24–61. Cl. 14.
Fischer, B., & Co., Inc., New York, N.Y., to Astor Products, Inc., Jacksonville, Fla. 383,046, ren. 1–24–61. Cl. 46.
Flexible Tubing Corp., The, Guilford, Conn. 710,263, pub. 11–8–60. Cl. 35.
Food Fair Stores, Inc., Philadelphia, Pa. 710,327, pub. 11–8–60. Cl. 42.
Forrest Mfg. Co., Inc., Rutherford, N.J. 710,199, pub. 11–8–60. Cl. 23.
Fort Dodge Laboratories, Inc.: *See*—
American Home Products Corp.
Foster, L. W., Sportswear Co., Inc., Philadelphia, Pa. 710,283, pub. 11–8–60. Cl. 39.
Foy Paint Co., Inc., The, d.b.a. A. Burdsal Co., Cincinnati, Ohio. 710,152, pub. 11–8–60. Cl. 16.
Foy Paint Co., Inc., The, d.b.a. The R. F. Johnston Paint Co., Cincinnati, Ohio. 710,153, pub. 11–8–60. Cl. 16.
Franklin Plastics, Inc., Franklin, Pa. 598,952, canc. Cl. 12.
Frigeco, Paris, France. 710,192, pub. 11–8–60. Cl. 21.
Fuchs, John E., Corp., New York, N.Y. 710,294, pub. 11–8–60. Cl. 39.
Galland-Henning Mfg. Co., Milwaukee, Wis. 710,133, pub. 11–8–60. Cl. 13.
Gallenkamp Stores Co., Los Angeles, Calif. 710,305, pub. 11–8–60. Cl. 39.
Gallo, E. & J., Winery, Modesto, Calif. 599,169, canc. Cl. 47.
Garry Laboratories, Inc., Buffalo, N.Y. 710,372. Cl. 16.
Gates Rubber Co., The, Denver, Colo. 710,261, pub. 11–8–60. Cl. 35.
General Aniline & Film Corp., New York, N.Y. 599,050, canc. Cl. 26.
General Electric Co., Schenectady, N.Y. 710,181, pub. 11–8–60. Cl. 21.
General Paint Co., The: *See*—
Glidden Co., The.
Gettler-Montanye, Inc., Glyndon, Md. 384,522, ren. 1–24–61. Cl. 38.
Gibsonburg Lime Products Co., The, Gibsonburg, Ohio. 710,130, pub. 11–8–60. Cl. 12.
Gileo Enterprises, Inc., Stratford, Conn. 598,928, canc. Cl. 2.
Gillespie & Co. of New York, Inc., New York, N.Y. 599,099, canc. Cl. 39.
Glidden Co., The, d.b.a. The General Paint Co., Cleveland, Ohio. 710,155, pub. 11–8–60. Cl. 16.
Glowmeter Corp., Buffalo, N.Y. 599,043, canc. Cl. 26.
Glowmeter Corp., Buffalo, N.Y. 599,047, canc. Cl. 26.
Gob Shops of America, Inc.: *See*—
Sterling Stores Corp.
Gobins, Cathy J., Phoenix, Ariz. 710,292, pub. 10–25–60. Cl. 39.
Goldrock Beverage Co., Clifton, N.J. 599,132, canc. Cl. 45.
Good Humor Corp., Brooklyn, N.Y. 710,353, pub. 11–8–60. Cl. 46.
Good Luck Glove Co., Carbondale, Ill. 710,[illegible]8, pub. 11–8–60. Cl. 39.
Goodman-Kleiner Co., Inc., New York, N.Y. 598,929, canc. Cl. 2.
Gould, Barbara, Inc., New York, N.Y. 383,865, ren. 1–24–61. Cl. 51.
Graebles', Milwaukee, Wis. 710,297, pub. 11–8–60. Cl. 39.
Gravymaster Co., Inc., Long Island City, N.Y. 710,347, pub. 11–8–60. Cl. 46.
Grevers, Theodore R., d.b.a. The Fatman International Private Detective Service, Battle Creek, Mich. 710,362, pub. 11–8–60. Cl. 100.
Grove Silk Co., Dunmore, Pa. 599,122, canc. Cl. 43.
H.B.I. Knitting Mills, Inc., Brooklyn, N.Y. 710,296, pub. 11–8–60. Cl. 39.
H & H Wholesale Nursery, Inc., Fillmore, N. Mex. 710,082, pub. 11–8–60. Cl. 1.
Hagerty Co., Cohasset, Mass. 710,157, pub. 11–8–60. Cl. 16.
Hall, Don, Laboratories, Portland, Oreg. 710,100, pub. 11–8–60. Cl. 4.
Hamilton Specialties, Inc., Hamilton, Ohio. 599,010, canc. Cl. 22.
Hansen, A. L., Mfg. Co., Chicago, Ill. 598,954, canc. Cl. 13.
Hardtmuth, L. & C., Inc., Bloomsbury, N.J. 710,273, pub. 11–8–60. Cl. 37.
Harkrider, Travis J., d.b.a. Channel Records, Dumas, Tex. 710,268, pub. 11–8–60. Cl. 36.
Harris, H. E., & Co.: *See*—
Harris, Henry E.
Harris, Henry E., d.b.a. H. E. Harris & Co., Boston, Mass. 710,276, pub. 11–8–60. Cl. 37.
Harvey Shoe Co.: *See*—
Mendelson, Sam L.
Heldenbrand, Russell C., d.b.a. Heldenbrand Tubular Service, New Iberia, La. 710,233, pub. 11–8–60. Cl. 26.
Heldenbrand Tubular Service: *See*—
Heldenbrand, Russell C.

Heli-Coil Corp., Danbury, Conn. 710,142, pub. 11–8–60. Cl. 13.
Hepworth Machine Co., Inc., Long Island City, N.Y. 599,033, canc. Cl. 23.
Heydays Shoes, Inc., St. Louis, Mo. 710,376. Cl. 39.
Heyden Newport Chemical Corp., New York, N.Y. 710,148, pub. 11–8–60. Cl. 15.
Hoffmann Laboratories, Inc., Paterson, N.J. 710,167, pub. 9–27–60. Cl. 18.
Holcomb, J. I., Mfg. Co., Inc., Indianapolis, Ind. 710,101, pub. 11–8–60. Cl. 4.
Holiday Frosted Food Co.: *See*—
Wolf, Robert S.
Humble Oil & Refining Co., Houston, Tex., by merger from Esso Standard Oil Co., New York, N.Y. 710,146, pub. 11–8–60. Cl. 15.
Humble Oil & Refining Co., Houston, Tex., by merger from Esso Standard Oil Co., New York, N.Y. 710,180, pub. 11–8–60. Cl. 21.
Impala Corp., The, Smithfield, Va. 710,246, pub. 11–8–60. Cl. 27.
Industrial Chemical Products Co., Detroit, Mich. 386,167–8, ren. 1–24–61. Cl. 6.
Inlander-Steindler Paper Co., Chicago, Ill. 710,092, pub. 11–8–60. Cl. 2.
Inlander-Steindler Paper Co., Chicago, Ill. 710,118, pub. 11–8–60. Cl. 7.
Inlander-Steindler Paper Co., Chicago, Ill. 710,269, pub. 11–8–60. Cl. 37.
Inner-Self Corp., from North Bay Coats, Inc., New York, N.Y. 710,316, pub. 11–8–60. Cl. 39.
Interchemical Corp., New York, N.Y. 710,125, pub. 11–8–60. Cl. 11.
International Duplex Corp., d.b.a. Duplex Corp., San Francisco Calif. 710,227, pub. 11–8–60. Cl. 24.
International Minerals & Chemical Corp.: *See*—
National Foundry Sand Co.
International Minerals & Chemical Corp., Chicago, Ill. 599,142, canc. Cl. 46.
International Minerals & Chemical Corp., Skokie, Ill. 710,122, pub. 11–8–60. Cl. 10.
International Silver Co., The, Meriden, Conn. 710,214, pub. 11–8–60. Cl. 23.
Inwood Knitting Mills, Inc., New York, N.Y. 710,331, pub. 11–8–60. Cl. 42.
James Nelson, Ltd., Nelson, England. 710,325, pub. 11–8–60. Cl. 42.
Japan Food Corp.: *See*—
Pacific Trading Co., Inc.
Jay Lighting Mfg. Co., Inc., Brooklyn, N.Y. 710,189–90, pub. 11–8–60. Cl. 21.
Johnston, R. F., Paint Co., The: *See*—
Fox Paint Co., Inc., The.
Jolly Chef Products Co., Jamestown, N.Y. 599,075, canc. Cl. 34.
Joy-Cee, Inc., New York, N.Y. 599,081, canc. Cl. 39.
K.L.G. Sparking Plugs Ltd., London, England. 384,641, ren. 1–24–61. Cl. 21.
Kay Electric Co., Pine Brook, N.J. 710,288, pub. 11–8–60. Cl. 26.
Keating of Chicago, Inc., Chicago, Ill. 710,258, pub. 11–8–60. Cl. 34.
King Graphite Products, Inc., Trenton, Mich. 710,113, pub. 11–8–60. Cl. 6.
Kinney, S. P., Engineers, Inc., Carnegie, Pa. 710,184, pub. 11–8–60. Cl. 13.
Kinney, S. P., Engineers, Inc., Carnegie, Pa. 710,256, pub. 11–8–60. Cl. 34.
Ki-Wives Council of The Capitol District, Bethesda, Md. 710,367, pub. 11–8–60. Cl. 200.
Koch, Paul, G.m.b.H., Papierverarbeitungswerk und Verlag, Geesthacht, Germany. 710,271, pub. 11–8–60. Cl. 37.
Koh-I-Noor, Inc., by change of name from Koh-I-Noor Pencil Co., Inc., Bloomsbury, N.J. 710,270, pub. 10–18–60. Cl. 37.
Koh-I-Noor Pencil Co., Inc.: *See*—
Koh-I-Noor, Inc.
Koninklijke Demka Staalfabrieken N.V., Utrecht, Netherlands. 710,135, pub. 9–13–60. Cl. 13.
Koninklijke Demka Staalfabrieken N.V., Utrecht, Netherlands. 710,143, pub. 9–13–60. Cl. 14.
Kroger Co., The, Cincinnati, Ohio. 599,200, canc. Cl. 46.
Krylon, Inc., Norristown, Pa. 710,150, pub. 11–8–60. Cl. 16.
La Chemise Lacoste, Societe Anonyme, Paris, France. 710,374. Cl. 22.
La Mann Specialty Mfg. Co.: *See*—
La Mear, William P.
La Mear, William P., d.b.a. La Mann Specialty Mfg. Co., St. Louis, Mo. 599,080, canc. Cl. 39.
Leatherflex Products Co., Newark, N.J. 710,084–6, pub. 11–8–60. Cl. 1.
Lee Rubber & Tire Corp., Conshohocken, Pa. 599,001, canc. Cl. 21.
Lee Rubber & Tire Corp., d.b.a. Republic Rubber Division, Youngstown, Ohio. 383,472, ren. 1–24–61. Cl. 35.
Leitz, Ernst, (Canada) Ltd., Midland, Ontario, Canada. 710,230, pub. 11–8–60. Cl. 26.
Lewis Supply Co., Inc., New York, N.Y. 710,176, pub. 11–8–60. Cl. 19.
Liberty Hosiery Mills, Inc., Gibsonville, N.C. 710,317, pub. 11–8–60. Cl. 39.
Lipton, Thomas J., Inc., Hoboken, N.J. 710,348–9, pub. 11–8–60. Cl. 46.
Lloyd, Richard, Ltd., Tyburn, Birmingham, England. 710,207, pub. 11–8–60. Cl. 23.
Lodge & Shipley Co., The, Cincinnati, Ohio. 710,209, pub. 11–8–60. Cl. 23.
Loewy, Oscar, Metuchen, N.J. 710,309, pub. 11–8–60. Cl. 39.
Longfellow Products, Inc., Fraser, Mich. 599,195, canc. Cl. 22.
Look, Arthur E., Inc., Boston, Mass. 710,338, pub. 11–8–60. Cl. 44.
Lowenstein, M., & Sons, Inc., New York, N.Y. 710,332, pub. 11–8–60. Cl. 42.
Lowry, Jence: *See*—
Lowry, Virginia M.
Lowry, Jence, Creations: *See*—
Lowry, Virginia M.
Lowry, Virginia M., also known as Jence Lowry, d.b.a. Jence Lowry Creations, New York, N.Y. 599,088, canc. Cl. 39.
Luft, George W., Co., Inc., The, Long Island City, N.Y. 710,359, pub. 10–25–60. Cl. 51.
Magazine Publishers Association, Inc., New York, N.Y. 710,363, pub. 11–8–60. Cl. 101.
Magnetics, Inc., East Butler, Pa. 710,186, pub. 11–8–60. Cl. 21.
Maquinas de Coser Jotor, S.A., Havana, Cuba. 710,225, pub. 11–8–60. Cl. 23.
Marblette Corp., The, Long Island City, N.Y. 710,090, pub. 11–8–60. Cl. 1.
Markwell Mfg. Co., Inc., New York, N.Y. 554,469, canc. Cl. 13.
Marlboro Shirt Co., Inc., Baltimore, Md. 599,102, canc. Cl. 39.
Martha Mills, Inc., New York, N.Y. 710,322, pub. 11–8–60. Cl. 42.
Martin, Maria Clementine, Klosterfrau K.G., Bensberg, near Koln, Germany. 710,159, pub. 11–8–60. Cl. 18.
Mathews, Idell E., Easton, Conn. 599,013, canc. Cl. 22.
Mayers, L. & C., Co., Inc., New York, N.Y. 598,997, canc. Cl. 21.
Mayflower Dress Co., Inc., New York, N.Y. 710,306, pub. 11–8–60. Cl. 39.
McCloskey Varnish Co., Philadelphia, Pa. 710,149, pub. 11–8–60. Cl. 16.
McGraw-Edison Co., Milwaukee, Wis., from The American Laundry Machinery Co., Cincinnati, Ohio. 710,228–9, pub. 11–8–60. Cl. 24.
McQuiston, Glen, Marion, Ind. 710,095, pub. 11–8–60. Cl. 2.
Medar Co.: *See*—
Seiger, H. Wright.
Medwed Footwear, Inc., Skowhegan, Maine. 710,303, pub. 11–8–60. Cl. 39.
Meier, Joshua, Co., Inc., New York, N.Y. 710,097, pub. 11–8–60. Cl. 3.
Mendelson, Sam L., d.b.a. Harvey Shoe Corp., Cleveland, Ohio. 710,312, pub. 11–8–60. Cl. 39.
Merck & Co., Inc., Rahway, N.J. 598,989, canc. Cl. 18.
Merrymaid Plastics Corp., by change of name from The Standfast Products Co., Cleveland, Ohio. 710,202, pub. 11–8–60. Cl. 23.
Meyer and Co.: *See*—
Meyer Laboratories, Inc.
Meyer Laboratories, Inc., from Meyer and Co., Detroit, Mich. 710,160, pub. 11–1–60. Cl. 18.
Midland-Ross Corp., Cleveland, Ohio. 710,178, pub. 11–8–60. Cl. 19.
Mid-States Shoe Co., Milwaukee, Wis. 710,299, pub. 11–8–60. Cl. 39.
Miller International Co., Swarthmore, Pa. 710,264, pub. 11–8–60. Cl. 36.
Milwhite Co., Inc., The, Houston, Tex. 710,251, pub. 5–3–60. Cl. 31.
Milwhite Mud Sales Co., Houston, Tex. 710,110, pub. 5–3–60. Cl. 6.
Minnesota Mining and Mfg. Co., St. Paul, Minn. 710,105, pub. 11–8–60. Cl. 5.
Miracle Adhesives Corp., New York, N.Y. 598,980, canc. Cl. 16.
Mobile Paint Mfg. Co. Inc., Mobile, Ala. 710,151, pub. 11–8–60. Cl. 16.
Molalla Forest Products Co., Cloverdale, Calif. 710,121, pub. 11–8–60. Cl. 10.
Momar Mfg. Co., Inc., Birmingham, Ala. 710,193, pub. 11–8–60. Cl. 21.
Monarch Marking System Co., The, Dayton, Ohio. 385,843–5, ren. 1–24–61. Cl. 23.
Moore Business Forms, Inc., Niagara Falls, N.Y. 710,275, pub. 11–8–60. Cl. 37.
Moore, Mari: *See*—
Moore, Marie S.
Moore, Marie S., d.b.a. Mari Moore, Milwaukee, Wis. 599,004, canc. Cl. 22.
Moore & White Co., Philadelphia, Pa. 599,036, canc. Cl. 23.
Morell Industries, Inc., Baltimore, Md. 710,369. Cl. 12.
Morgan Adhesives Co., Stow, Ohio. 710,354, pub. 11–8–60. Cl. 50.
Morgan-Jones, Inc., New York, N.Y. 710,377. Cl. 42.
Morrison, C. H. B., Fresno, Calif. 598,932, canc. Cl. 4.
Mosinger Brothers, St. Louis, Mo., to Craddock-Terry Shoe Corp., Lynchburg, Va. 386,399, ren. 1–24–61. Cl. 39.
Mountanos, Demetrios, d.b.a. Terry Rub-A-Dub, New York, N.Y. 710,329, pub. 11–8–60. Cl. 42.
Movie Star, Inc., New York, N.Y. 710,285, pub. 11–8–60. Cl. 39.
Murmac Mfg. Corp., Astoria, N.Y. 710,156, pub. 11–8–60. Cl. 16.
Muskegon Outboard Specialties Co.: *See*—
Carpenter, Henry W.
National Aluminate Corp., Chicago, Ill. 599,060, canc. Cl. 31.
National Carbon Co., Inc., to Union Carbide Corp., New York, N.Y. 383,479, ren. 1–24–61. Cl. 1.
National Distillers and Chemical Corp.: *See*—
Sunny Brook Distillery Co., The.
National Distillers Products Co.: *See*—
Sunny Brook Distillery Co., The.
National Foundry Sand Co., Detroit, Mich. 710,201, pub. 11–8–60. Cl. 23.

National Foundry Sand Co., Detroit, Mich., to International Minerals & Chemical Corp., Chicago, Ill. 598,950, canc. Cl. 12.
National Steel Construction Co., Seattle, Wash. 710,188, pub. 11–8–60. Cl. 21.
Naxon Telesign Corp., Chicago, Ill. 386,919, ren. 1–24–61. Cl. 21.
Nelly Don, Inc.: *See*—
Donnelly Garment Sales Co.
Newport Knitting Co., Inc., New York, N.Y. 710,288, pub. 11–8–60. Cl. 39.
Nopco Chemical Co., Harrison, N.J. 598,972, canc. Cl. 16.
North Bay Coats, Inc.: *See*—
Inner-Self Corp.
North & Judd Mfg. Co., New Britain, Conn. 710,140, pub. 11–8–60. Cl. 13.
Northern Yarn Mills, Newark, N.J. 710,323, pub. 11–8–60. Cl. 42.
Northern Yarn Mills, Newark, N.J. 710,334, pub. 11–8–60. Cl. 43.
Olde Tyme Products, Santa Monica, Calif. 598,934, canc. Cl. 4.
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Ortega, E. C., Co., Los Angeles, Calif., to Coastal Valley Canning Co., Oxnard, Calif. 385,662, ren. 1–24–61. Cl. 46.
Ortega, E. C., Co., Los Angeles, Calif., to Coastal Valley Canning Co., Oxnard, Calif. 385,849, ren. 1–24–61. Cl. 46.
Oshita, Inc., Castroville, Calif. 710,381. Cl. 46.
O-So Grape Co.: *See*—
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Pacific Trading Co., Inc., to Japan Food Corp., San Francisco, Calif. 382,300, ren. 1–24–61. Cl. 10.
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Palm Beach Co., Portland, Maine. 710,291, pub. 11–8–60. Cl. 39.
Parke, Davis & Co., Detroit, Mich. 710,166, pub. 11–8–60. Cl. 18.
Pearson Corp., Bristol, R.I. 710,172, pub. 11–8–60. Cl. 19.
Personal Luxuries, Inc., Newton, Pa. 599,206, canc. Cl. 51.
Phelan, L. A. M., Rockton, Ill. 599,138, canc. Cl. 46.
Phillips Process Co., Inc., Rochester, N.Y. 710,126, pub. 11–8–60. Cl. 11.
Photographic Research Organization, Inc., New York, N.Y. 710,242, pub. 11–8–60. Cl. 26.
Picker X-Ray Corp., White Plains, N.Y. 710,239, pub. 11–8–60. Cl. 26.
Pierce, Comer C., Jacksonville, Fla. 710,173, pub. 11–8–60. Cl. 19.
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Plastic Products Co., Detroit, Mich. 710,104, pub. 11–8–60. Cl. 5.
Pleitner Charcoal Co., Inc.: *See*—
Pleitner, H. W., Charcoal Co.
Pleitner, H. W., Charcoal Co., d.b.a. W. Pleitner Charcoal Co., Inc., St. Louis, Mo. 598,940, canc. Cl. 10.
Plymouth Hosiery Mills, Inc., High Point, N.C. 710,279, pub. 11–8–60. Cl. 39.
Polyrein Corp., Sherbrooke, Quebec, Canada. 598,911. Cl. 1.
Poythress, Wm. P., & Co., Inc., Richmond, Va. 710,161, pub. 11–8–60. Cl. 18.
Procon Pump & Engineering Co., Detroit, Mich. 710,224, pub. 11–8–60. Cl. 23.
Progress Varnish Co., Inc., Louisville, Ky. 262,208, canc. Cl. 16.
Provinse, Winnie D., d.b.a. Winatco, Alhambra, Calif. 599,055, canc. Cl. 29.
Purwin's Cake Box Inc., Evanston, Ill. 710,380. Cl. 46.
Qualman, Alfred A., Coos Bay, Oreg. 599,048, canc. Cl. 26.
Regulation Paint Co., Louisville, Ky. 176,546, canc. Cl. 16.
Regulation Paint Co., Louisville, Ky. 176,548, canc. Cl. 16.
Ren Plastics, Inc., Lansing, Mich. 710,081, pub. 4–19–60. Cl. 1.
Republic Rubber Division: *See*—
Lee Rubber & Tire Corp.
Reynolds & Irving, Inc., New York, N.Y. 599,141, canc. Cl. 46.
Richard-Allan Co., Inc., Evanston, Ill. 710,339, pub. 11–8–60. Cl. 44.
Rich's, Inc., Atlanta, Ga. 710,290, pub. 11–8–60. Cl. 39.
Riken Optical Industries, Ltd., Ohta-ku, Tokyo, Japan. 710,232, pub. 11–8–60. Cl. 26.
Rist, Charles G., d.b.a. Short-Log Products, Baltimore, Md. 710,368. Cl. 12.
Rockford Textile Mills, Inc., McMinnville, Tenn. 710,307, pub. 11–8–60. Cl. 39.
Rodgers Hydraulic Inc., St. Louis Park, Minn. 710,223, pub. 11–8–60. Cl. 23.
Rollway Bearing Co., Inc., Syracuse, N.Y. 710,206, pub. 11–8–60. Cl. 23.
Roma Wine Co., Inc., to Schenley Industries, Inc., Fresno, Calif. 386,411, ren. 1–24–61. Cl. 47.
Ronnette Fashions, Inc., New York, N.Y. 599,119, canc. Cl. 39.
Ronnie Hats, Inc., New York, N.Y. 710,289, pub. 11–8–60. Cl. 39.
Ronson Corp., Woodbridge, N.J. 710,111, pub. 11–8–60. Cl. 6.
Ross Operating Valve Co., Detroit, Mich. 710,132, pub. 11–8–60. Cl. 13.
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Rowell, Inc., St. Paul, Minn. 599,037, canc. Cl. 23.
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Scott Aviation Corp., Lancaster, N.Y. 710,340, pub. 11–8–60. Cl. 44.
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Short-Log Products: *See*—
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Shumsky, Julius, Philadelphia, Pa. 599,097, canc. Cl. 39.
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Skinner, Donald A., d.b.a. Skinner Farm Equipment Co., Binghamton, N.Y. 710,215, pub. 11–8–60. Cl. 23.
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Smart Novelty Blouse Co., Inc., New York, N.Y. 710,301, pub. 11–8–60. Cl. 39.
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Sniffy Bait Co.: *See*—
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Societe de l'Accumulateur Fulmen, Clichy (Seine), France. 710,182, pub. 11–8–60. Cl. 21.
Softexture Yarns, Inc., Newark, N.J. 710,333, pub. 11–8–60. Cl. 43.
Somerset Knitting Mills, Inc., Philadelphia, Pa. 710,319, pub. 11–8–60. Cl. 39.
Southwestern Artists Association, Inc., Austin, Tex. 710,267, pub. 11–8–60. Cl. 36.
Spencer Gifts, Inc., Atlantic City, N.J. 710,287, pub. 11–8–60. Cl. 39.
Spraymation, Inc., Little Falls, N.J. 710,205, pub. 11–8–60. Cl. 23.
Spring-Air Co., The, Chicago, Ill. 710,255, pub. 11–8–60. Cl. 32.
Squirt Co., The, Sherman Oaks, Calif. 710,198, pub. 11–8–60. Cl. 22.
Standard Motor Co. Ltd., The, Canley, Coventry, England. 710,174, pub. 11–8–60. Cl. 19.
Standard Oil Co. of California, Wilmington, Del. 598,966, canc. Cl. 15.
Standfast Products Co., The: *See*—
Merrymaid Plastics Corp.
Sterling Stores Corp., now by change of name Gob Shops of America, Inc., Pawtucket, R.I. 598,927, canc. Cl. 2.
Stevens, J. P., & Co., Inc., New York, N.Y. 710,330, pub. 11–8–60. Cl. 42.
Stockton, Ray, d.b.a. Lois Young Fashions, Dallas, Tex. 710,286, pub. 11–8–60. Cl. 39.
Storz Brewing Co., Omaha, Nebr. 599,173, canc. Cl. 48.
Style Undies, Inc., New York, N.Y. 599,107, canc. Cl. 39.
Sun Crown Food Corp., San Francisco, Calif. 710,351, pub. 11–8–60. Cl. 46.
Sun Valley Industries, Inc., Sun Valley, Calif. 710,129, pub. 11–8–60. Cl. 12.
Sunny Brook Distillery Co., The, Chicago, Ill., to National Distillers and Chemical Corp., d.b.a. National Distillers Products Co., New York, N.Y. 142,338, ren. 1–24–61. Cl. 49.
Superba Cravats, Inc., Rochester, N.Y. 710,304, pub. 11–8–60. Cl. 39.
Superior Flake Graphite Co., to Superior Graphite Co., Chicago, Ill. 139,217, ren. 1–24–61. Cl. 1.
Superior Graphite Co.: *See*—
Superior Flake Graphite Co.
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Superior Steel Corp., Pittsburgh and Carnegie, Pa., to Copperweld Steel Co., Pittsburgh, Pa. 138,137, ren. 1–24–61. Cl. 14.
Syntha Laboratories, Ingomar, Ohio. 599,150, canc. Cl. 46.
Technical Papers Corp., Boston, Mass. 710,274, pub. 11–8–60. Cl. 37.
Tempo Products Co., Cleveland, Ohio. 710,145, pub. 11–8–60. Cl. 15.
Terry Rub-A-Dub: *See*—
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Teweles, L., Seed Co., Milwaukee, Wis. 710,089, pub. 11–8–60. Cl. 1.
Texaco Inc., New York, N.Y. 710,147, pub. 11–8–60. Cl. 15.
Thermokem Corp., New York, N.Y. 710,240, pub. 11–8–60. Cl. 26.
Thiem Products, Inc., Milwaukee, Wis. 710,103, pub. 11–8–60. Cl. 5.
Thomas French & Sons Ltd., Manchester, England. 599,121, canc. Cl. 40.

Thommen Inc., New York, N.Y. 599,008, canc. Cl. 22.
Thompson, T., Tool: *See*—
Thompson, Thomas G.
Thompson, Thomas G., d.b.a. T. Thompson Tool, West Middlesex, Pa. 710,216, pub. 11–8–60. Cl. 23.
Thurston Mfg. Co., Providence, R.I. 139,645, ren. 1–24–60. Cl. 23.
Tiffany & Co., New York, N.Y. 137,720–1, ren. 1–24–61. Cl. 8.
Tiffany & Co., New York, N.Y. 137,722, ren. 1–24–61. Cl. 22.
Tiffany & Co., New York, N.Y. 137,723, ren. 1–24–61. Cl. 30.
Tinit Mfg. Co., Inc., Denver, Colo. 385,237, ren. 1–24–61. Cl. 6.
Trio Mills Mfg. Corp., Chicago, Ill., from Pad Craft Mfg. Co., New York, N.Y. 710,226, pub. 11–8–60. Cl. 24.
Tri-Valley Packing Association: *See*—
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Tri-Valley Packing Association: *See*—
California Growers Association, Inc.
Tuna Products Corp., Boston, Mass. 710,345, pub. 11–8–60. Cl. 46.
Tweedie Footwear Corp., Jefferson City, Mo. 137,398, ren. 1–24–61. Cl. 39.
Union Carbide Corp.: *See*—
National Carbon Co., Inc.
Union Carbide Corp., New York, N.Y. 710,091, pub. 11–8–60. Cl. 1.
Union Tank Car Co., Chicago, Ill. 710,203, pub. 11–8–60. Cl. 23.
United American Metals Corp., Brooklyn, N.Y. 598,962, canc. Cl. 14.
United States Gypsum Co., Chicago, Ill. 261,807, canc. Cl. 12.
United States Pipe and Foundry Co., Birmingham, Ala. 598,981, canc. Cl. 16.
United States Trust Co., of New York, New York, N.Y. 710,281, pub. 11–8–60. Cl. 39.
United Wallpaper, Inc., Chicago, Ill. 598,925, canc. Cl. 2.
Universal Printing Ink Corp., Houston, Tex. 710,128, pub. 11–8–60. Cl. 11.
University Loudspeakers, Inc., White Plains, N.Y. 710,183, pub. 10–25–60. Cl. 21.
Urbe, Francisco, Fenteria, Guipuzcoa, Spain. 710,187, pub. 11–8–60. Cl. 21.
Varo Met, Inc., Chicago, Ill. 599,127, canc. Cl. 44.
Venus Wheat Wafers, Inc., Boston, Mass. 710,344, pub. 3–17–59. Cl. 46.
Vitamins for Industry, Inc., Los Angeles, Calif. 710,373. Cl. 18.
Voigtlander A.G., Braunschweig, Germany. 710,231, pub. 11–8–60. Cl. 26.
Wagner Electric Corp., St. Louis, Mo. 386,848, ren. 1–24–61. Cl. 21.
Wagner Tool and Supply Corp., Hialeah, Fla. 710,237, pub. 11–8–60. Cl. 26.
Walmet Corp., The, Pleasant Ridge, Mich. 710,144, pub. 9–27–60. Cl. 14.
Wassell Organization, Inc., Westport, Conn. 710,254, pub. 11–8–60. Cl. 32.
Weatherby's, Inc., South Gate, Calif. 710,119, pub. 11–8–60. Cl. 9.
Weevil-Cide Co., The, Kansas City, Mo. 710,112, pub. 10–4–60. Cl. 6.
Weingeroff & Son, Inc., Providence, R.I. 692,583, canc. Cl. 28.
Weldon Pajamas, Inc., New York, N.Y. 710,282, pub. 11–8–60. Cl. 39.
Western Auto Supply Co., Kansas City, Mo. 710,262, pub. 11–8–60. Cl. 35.
Western Chemical Co., St. Joseph, Mo. 387,291, ren. 1–24–61. Cl. 6.
Westgate-California Corp.: *See*—
Westgate Sea Products Co.
Westgate Sea Products Co., to Westgate-California Corp., San Diego, Calif. 381,567, ren. 1–24–61. Cl. 46.
Wheeler, William F., Newdigate, near Dorking, England. 710,337, pub. 11–8–60. Cl. 44.
Whistle Stop Footwear: *See*—
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Wilbur & Williams Co., Inc., The, Norwood, Mass. 710,154, pub. 11–8–60. Cl. 16.
Williamson Candy Co., Chicago, Ill. 384,529, ren. 1–24–61. Cl. 46.
Winatco: *See*—
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Winer Mfg. Co., Inc., Hammond, Ind. 710,310, pub. 11–8–60. Cl. 39.
Wolf, Robert S., d.b.a. Holiday Frosted Food Co., Philadelphia, Pa. 599,203, canc. Cl. 46.
World Gems Corp., Atlanta, Ga. 710,375. Cl. 28.
Wright, Barry, Corp., by merger and change of name from Barry Controls Inc., Watertown, Mass. 710,370. Cl. 12.
Wyman, Alice: *See*—
Wyman, Alice H.
Wyman, Alice H., d.b.a. Alice Wyman, Greenville, S.C. 599,190, canc. Cl. 101.
Yoshida Kogyo Kabushiki Kaisha, Chuo-ku, Tokyo, Japan. 710,138, pub. 11–8–60. Cl. 13.
Young, Lois, Fashions: *See*—
Stockton, Ray.
Zavody Jana Svermy, Narodni Podnik, Brno, Czechoslovakia. 710,210, pub. 11–8–60. Cl. 23.
Zebco Co., Tulsa, Okla. 710,197, pub. 11–8–60. Cl. 22.
Zenith Radio Corp., to Zenith Radio Corp., Chicago, Ill. 382,876, ren. 1–24–61. Cl. 21.

U.S. GOVERNMENT PRINTING OFFICE: 0—1961

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PATENTS

NOTICES

Board of Appeals Decisions Rendered in the Month of December 1960

Examiner affirmed	160
Examiner affirmed in part	24
Examiner reversed	45
Total	229

Foreign Patents Received in the Scientific Library as of December 30, 1960

Country	Date received	Highest number
Australia:		
(*Abstracts*)	Dec. 20, 1960	60,304
(*Patents*)	Dec. 21, 1960	228,712
Austria	Dec. 7, 1960	211,750
Belgium	Dec. 14, 1960	568,800
Canada	Dec. 19, 1960	610,706
Denmark	Dec. 1, 1960	89,180
Egypt	Nov. 16, 1960	1,872
Finland	Aug. 16, 1960	30,645
France:		
(*Patents*)	Dec. 19, 1960	1,236,000
(*Additions*)	Nov. 1, 1960	73,250
Germany:		
(*Auslegeschriften*)	Nov. 16, 1960	1,089,700
(*Patents*)	Oct. 14, 1960	1,074,412
Great Britain	Dec. 19, 1960	855,510
India	Nov. 1, 1960	66,101
Ireland	Nov. 16, 1960	22,450
Italy	Dec. 2, 1960	573,900
Japan	Nov. 23, 1960	16,500/60
Netherlands	Dec. 7, 1960	96,142
Norway	Dec. 8, 1960	96,820
Pakistan	Apr. 17, 1959	107,298
Poland	Nov. 22, 1960	43,709
Rumania	Oct. 10, 1960	41,277
Sweden	Nov. 8, 1960	172,727
Switzerland	Dec. 19, 1960	349,559
U.S.S.R.	Nov. 22, 1960	182,135

Australia: First 2,000 incomplete
Belgium: First printed 493,079/1950
Canada: First printed 445,931/1948
Czechoslovakia: Latest 81,300/1952
Finland: First printed 19,428/1941
First 500 incomplete
Hungary: First received 5,792/1896
Latest 140,582/1951
Ireland: Missing 1–10,000
Italy: First 243,000 incomplete
Philippine Republic: Latest 217/1956
Rumania: First received 40,380/1957
U.S.S.R.: Not received between 2,496/1926 and 116,000/1958
Yugoslavia: First received 10,001/1933
Latest 16,461/1941

Patents Available for Licensing or Sale

Singer-Cobble, Inc. is prepared to grant non-exclusive licenses under the following patent upon reasonable terms to domestic manufacturers.

Applications for license under this patent may be addressed to: J. Lewis Card, Singer-Cobble, Inc., Riverside Drive, Chattanooga, Tenn.

2,966,866. Method of and Apparatus for Making Patterned Tufted Pile Fabric.

General Electric Company is prepared to grant non-exclusive licenses under the following 27 patents upon reasonable terms to domestic manufacturers.

Applications for license under these patents may be addressed to: General Electric Company, Flight Propulsion Division, Cincinnati 15, Ohio. Attention: Patent Counsel.

2,744,821. Iron Base High-Temperature Alloy.

2,764,660. Induction Heating Apparatus.

2,775,912. Double Socket Wrench Having Universal Joint Drives.

2,842,666. Multivibrator.

2,846,845. Fuel Manifold Drainage System.

2,913,221. Damping Turbine Buckets.

2,913,874. Tailpipe Thrust Augmentor.

2,914,241. Means for Adjusting the Flow Characteristics of Fluid Flow Machines.

2,916,230. Supersonic Airfoil.

2,916,257. Damping Turbine Buckets.

2,919,786. Threaded Fastener Retaining Device.

2,922,456. Threaded Fastener Retaining Device.

2,922,620. Rotor Stage Construction.

2,924,375. Positioning Device.

2,926,495. Fuel Injection Nozzle.

2,927,536. Variable Capacity Pump.

2,928,652. Roll-Pin Support for Turbomachine Blades.

2,928,653. Variable Angle Blade for Fluid Flow Machines.

2,929,204. Jet Spoiler and Reverser.

2,929,546. Positioning Device.

2,930,193. Improved Cowled Dome Liners for Combustors.

2,936,585. Variable Blockage Flame Stabilizer.

2,937,849. Structural Dampener for Turbo-Blading.

2,944,326. Method of Staking Blades.

2,944,331. Engine Installation Frame.

2,948,317. Threaded Fastener Retaining Device With Resilient Holding Means.

2,948,797. Annealing Furnace.

New Applications Received During December 1960

Patents	7,081
Designs	366
Plant Patents	9
Reissues	18
Total	7,474

Issue

Patents	768	No. 2,969,545 to No.	2,970,312, incl.
Designs	53	No. 189,660 to No.	189,712, incl.
Plant Patents	4	No. 2,015 to No.	2,018, incl.
Reissues	3	No. 24,980 to No.	24,982, incl.
Total	828		

CONDITION OF PATENT APPLICATIONS AS OF NOVEMBER 30, 1960

Total number of pending applications (excluding Designs)	189, 708
Total number of pending Design applications	5, 579
Total number of applications awaiting action (excluding Designs)	87, 872
Total number of Design applications awaiting action	1, 405
Date of oldest new application	June 17, 1959
Date of oldest amended application	June 18, 1959

M. C. ROSA, Director, Patent Examining Operation

PATENT EXAMINING GROUPS, AND SUPERVISORY EXAMINERS	DIVISIONS
(I) STONE, I. G., CHEMICAL AND RELATED ARTS	6, 31, 38, 43, 46, 59, 58, 59, 60, 63, 64.
(II) EVANS, N. H., COMMUNICATIONS, RADIANT ENERGY AND ELECTRICAL ARTS	16, 36, 37, 41, 42, 44, 48, 51, 54, 65.
(III) YUNG KWAI, B., MECHANICAL MANUFACTURING, MACHINE ELEMENTS AND DESIGNS	2, 12, 13, 14, 21, 24, 27, 28, 61, 81, 82.
(IV) SPINTMAN, S., MATERIAL HANDLING AND TREATING, OPTICS, RAILWAYS AND AMUSEMENT DEVICES.	7, 11, 17, 27, 34, 35, 39, 58, 62.
(V) HULL, J. S., STATIC STRUCTURES AND INSTRUMENTS OF PRECISION	5, 8, 20, 29, 33, 36, 40, 52, 66.
(VI) MURPHY, T. F., AGRICULTURE, CALCULATORS, PUMPS AND MOTORS, TRANSPORTATION	1, 4, 9, 10, 18, 22, 23, 26, 45, 47.
(VII) KAUFFMAN, H. E., HEATING AND COOLING, PLASTIC SHAPING AND COATING, SEPARATION AND MIXING, BODY TREATMENT AND CARE.	3, 15, 19, 25, 30, 32, 49, 55, 67.
(CLASS.) GORECKI, G. A., ARTS UNDERGOING RECLASSIFICATION AS LISTED UNDER CLASSIFICATION DIVISIONS.	91, 92, 93, 94, 95.

DIVISIONS, EXAMINERS AND SUBJECTS OF INVENTION (Roman numerals in parentheses indicate Examining Group)	Oldest Application: New	Oldest Application: Amended
1. (VI) GOLDBERG, A. J., Brakes; Planting; Plant Husbandry; Scattering Unloaders; Earth Working	5-4-60	5-9-60
2. (III) STONE, A., Fishing, Trapping and Vermin Destroying; Presses; Tobacco; Textile Wringers; Buckles, Buttons and Clasps	6-1-60	5-26-60
3. (VII) MARMELSTEIN, N., Metal Founding and Treatment; Metallurgy (Process and Apparatus); Alloys; Electrical Resistors	4-25-60	4-11-60
4. (VI) FALLER, E. A., Hoists; Power Driven Conveyors; Handling Apparatus; Elevators; Pneumatic Dispatch; Store Service; Conveyors, Chutes, Skids, Guides and Ways	3-11-60	3-18-60
5. (V) ROBINSON, C. W., Harvesters; Unearthing Objects; Threshing; Knotters; Animal Husbandry; Bee Culture; Dairy; Butchering; Vegetable and Meat Cutters and Comminutors; Fences; Gates; Music; Signals and Indicators; Acoustics	10-20-59	11-12-59
6. (I) LIDOFF, H. J., Carbon Chemistry (part), e.g., Heterocyclic, General Organic Processes, Amides	12-28-59	2-9-60
7. (IV) ANDERSON, E. G., Optics	2-10-60	2-29-60
8. (V) BREHM, G. L., Beds; Chairs and Seats; Cabinets; Tables; Miscellaneous Furniture; Fire Escapes; Ladders; Deposit and Collection Receptacles; Scaffolds	5-10-60	6-1-60
9. (VI) BRANSON, J. H., Pumps; Fans; Turbines	3-16-60	4-4-60
10. (VI) HORTON, A. M. (acting), Firearms; Ordnance; Ammunition; Explosive Charge Making	4-14-60	4-13-60
11. (IV) BENHAM, E. V., Boots, Shoes and Leggings; Shoe and Leather Manufacture; Button, Eyelet and Rivet Setting; Nailing, Stapling and Clip Clinching; Card, Picture and Sign Exhibiting; Cutlery; Pipes and Tubular Conduits	3-23-60	3-7-60
12. (III) DURHAM, B. G. (acting), Machine Elements; Engine Starters; Interrelated Clutch and Motor Control	4-6-60	3-25-60
13. (III) BEALL, T. E., Gear Cutting; Electric Lamp and Tube Manufacture; Needle and Pin Making; Metal Working (part), e.g. Special Work, Forging, Plastic Working, Drawing, Sawing, Milling, Planing, Turning	3-8-60	3-14-60
14. (III) WILTZ, W. A., Metal Working (part) e.g. Sheet Metal; Metal Bending, Miscellaneous Processes, Assembly and Disassembly Apparatus; Wire Fabrics	3-1-60	12-21-59
15. (VII) BRINDISI, M. V., Plastics; Plastic Block and Earthenware Apparatus	6-7-60	6-3-60
16. (II) ANDRUS, L. M., Telephony; Recorders (part)	10-6-59	10-15-59
17. (IV) LEIGHEY, R. A., Packaging; Typewriters; Printing; Type Casting and Setting; Sheet Material Associating or Folding; Sheet Feeding or Delivering	4-4-60	4-6-60
18. (VI) BLUM, A., Power Plants; Fluid Transmissions; Servomotor Systems; Jet Motors; Combustion Turbines; Speed or Acceleration	6-1-60	5-27-60
19. (VII) PATRICK, P. L., Stoves and Furnaces; Boilers; Fluid Fuel Burners; Heating Systems; Miscellaneous Heating; Automatic Temperature and Humidity Regulation; Illuminating Burners	3-16-60	3-18-60
20. (V) SEERS, J. D., Miscellaneous Hardware; Closure Fasteners; Locks; Safes; Bank Protection; Bread, Pastry and Confection Making; Tents and Canopies; Umbrellas; Canes; Undertaking; Electrical Connectors	6-3-60	6-3-60
21. (III) MADER, R. C., Textiles	4-13-60	4-18-60
22. (VI) BUCHLER, M. B., Aeronautics; Boats; Buoys; Ships; Marine Propulsion; Propellers; Windmills; Fluid Diaphragms and Bellows	3-29-60	3-9-60
23. (VI) SMILOW, L., Data Processors; Digital and Analog Computers; Calculators; Bookkeeping Machines; Cash and Fare Registers; Voting Machines; Counters	6-17-59	6-18-59
24. (III) HICKEY, T. J., Apparel (except Corsets and Brassieres); Apparel Apparatus; Sewing Machines; Textiles, Ironing or Smoothing; Clutches and Power-Stop Control; Work Holders	4-1-60	4-1-60
25. (VII) NEVIUS, R. D., Coating—Processes, Miscellaneous Products and Apparatus; Distillation; Wood Treating Apparatus; Paper Making	1-13-60	12-21-59
26. (II) RADER, O. L., Electricity—Generation, Motive Power, Transmission Systems, Voltage and Phase Control Systems, Furnaces, Battery Charging and Discharging, Arc Lamps, Prime Mover Dynamo Plants; Elevators (part), e.g. Miscellaneous Electric Control Mechanisms; Inductors; Transformers	3-19-60	1-14-60
27. (IV) JAMES, S., Brushing, Scrubbing and General Cleaning; Brush, Broom and Mop Making; Textiles, Fluid Treating Apparatus; Cleaning and Liquid Contact With Solids	5-20-60	5-11-60
28. (VI) BRAUNER, R. H., Internal Combustion Engines; Expansible Chamber Motors; Fluid Servomotors; Spring, Weight and Animal Powered Motors; Cylinders; Pistons; Drive Shafts; Flexible-Shaft Couplings; Chucks or Sockets; Fluid Current Conveyors; Pressure Modulating Relays; Wheel Substitutes	4-29-60	3-1-60
29. (V) FRITZ, M. M., Tools; Woodworking; Button, Barrel and Wheel Making; Baggage; Cloth, Leather and Rubber Receptacles; Package and Article Carriers; Valved Pipe Couplings; Rod Joints; Tool-Handling Fastenings	3-21-60	3-11-60
30. (VII) O'LEARY, R. A., Comminutors; Refrigeration; Fluid Sprinkling, Spraying and Diffusing, Separating and Assorting Solids (part)	6-7-60	6-3-60

DIVISIONS, EXAMINERS AND SUBJECTS OF INVENTION (Roman numerals in parentheses indicate Examining Group)	Oldest Application	
	New	Amended
31. (I) SULLIVAN, A. M. (acting), Carbon Chemistry (part), e.g., Urea Adducts, Silicon Containing Carbon Compounds, Hydrogenation of Carbon Oxides, Partial Oxidation of Non-Aromatic Hydrocarbon Mixtures, Hydrocarbons, Halogenated Hydrocarbons; Synthetic Resins (part) (e.g., Oil-Modified; Stabilized); Mineral Oils	5-3-60	5-3-60
32. (VII) BERMAN, H., Gas and Liquid Contact Apparatus; Heat Exchange; Agitation; Fire Extinguishers; Centrifugal Bowl Separators; Liquid Separation or Purification (part)	2-25-60	2-26-60
33. (V) MUSHAKE, W. L., Bridges; Hydraulic and Earth Engineering; Roads and Pavements; Building Structures	1-13-60	1-13-60
34. (IV) QUACKENBUSH, L., Railways—Draft Appliances, Switches and Signals, Surface Track, Rolling Stock, Track Sanders; Electricity, Transmission to Vehicles; Dumping Vehicles; Vehicle Fenders; Hand and Hoist Line Implements	1-11-60	1-12-60
35. (IV) DEMBO, L. J., Dispensing; Filling Receptacles; Toilet; Severing by Tearing or Breaking; Coin Controlled Apparatus; Dispensing Cabinets; Article Dispensing; Coin Handling	4-13-60	4-4-60
36. (V) EVANS, R. L., Measuring and Testing (part)	2-29-60	2-6-60
37. (II) LEVY, M. L., Electricity—Switches, Welding, Heating, Photo-Cell Circuits	1-25-60	2-4-60
38. (I) PARKER, C. B., Carbon Chemistry (part), e.g., Azo, Carbocyclic or Acyclic Compounds (part), e.g., Anthrones, Triarylmethanes, Esters, Acids, Ketones, Aldehydes, Ethers, Phenols, Alcohols, Proteins, Amines, Natural Resins	12-14-59	1-11-60
39. (IV) WEIL, L., Fluid-Pressure Regulators; Valves; Fluid Handling (except Pressure Modulating Relays, Float Valves, Diaphragms and Bellows)	4-25-60	4-26-60
40. (V) DRUMMOND, E. J., Receptacles—Metallic, Paper, Wooden, Glass; Special Receptacles and Packages	5-3-60	5-3-60
41. (II) LOVEWELL, N. N., Recorders (part); Sound Recording; Television; Telegraphy (part)	4-21-60	3-21-60
42. (II) REYNOLDS, E. R., Electric Signaling; Telegraphy (part)	3-21-60	3-21-60
43. (I) KNIGHT, W. B. (WOLK, M. O., acting), Medicines, Poisons, Cosmetics; Sugar and Starch; Skins and Leathers; Preserving, Sterilizing and Disinfecting (except Wood Treatment Apparatus); Bleaching, Dyeing, Fluid Treatment of Textiles	11-30-59	10-30-59
44. (II) JUSTUS, C. L., Directive Radio Systems; Nuclear Batteries; Nuclear Resonant Devices; Radar; Sonar; Torpedoes	11-30-59	11-5-59
45. (VI) MANIAN, J. A., Wheels, Tires and Axles; Railway Wheels and Axles; Lubrication; Bearings and Guides; Belt and Sprocket Gearing; Spring Devices; Animal Draft Appliances; Excavating	5-5-60	4-29-60
46. (I) WILES, W. G. (CAMPBELL, R. L., acting), Actinide Series (e.g., Fissionable) Compounds; Sintered Metal Stock; Explosives; Power Plants (part); Metallurgy (part); Radioactive Medicines; Nuclear Reactions; Carbon Chemistry (part)	3-8-60	3-8-60
47. (VI) KANOF, W. J., Mining, Quarrying, and Ice Harvesting; Motor Vehicles; Land Vehicles; Education	5-24-60	5-16-60
48. (II) BERNSTEIN, S., Electricity—Conversion Systems, Protective Systems; Measuring and Testing (except Meters); Switchboards, Relays, Magnets, Condensers, Transistors, Barrier Layer Rectifiers	3-8-60	3-8-60
49. (VII) BENDETT, B., Drying and Gas or Vapor Contact With Solids; Ventilation; Wells; Concentrating Evaporators; Earth Boring	3-30-60	1-6-60
50. (I) ARNOLD, D., Carbon Chemistry (part), e.g., Synthetic Resin Compositions (part), Synthetic Rubber Compositions, Natural Rubber; Synthetic Resins (part) (e.g., Butadiene Polymers and Copolymers, Polyacrylonitriles, Acrylate Polymers and Copolymers)	2-1-60	1-15-60
51. (II) WESTBY, G. N., Modulators; Piezoelectric Devices; Antennas; Oscillators; Miscellaneous Electron Space Discharge Device Systems; Radio Detectors	3-7-60	3-1-60
52. (V) LE ROY, C. A., Supports and Racks; Separating and Assorting Solids (part)	4-1-60	4-7-60
53. (IV) NINAS, G. A., Label Pasting and Paper Hanging; Books and Book Making; Manifolding; Printed Matter; Stationery; Paper Files and Binders; Flexible or Portable Closures or Partitions; Doors, Windows, Awnings, and Shutters; Harness; Whip Apparatus; Food Apparatus; Closure Operators; Illumination	3-31-60	4-15-60
54. (II) NILSON, R. G., Electric Lamps; Electronic Tubes; Miscellaneous Discharge Devices; Lamp, Cathode Ray and Gas Discharge Device Circuits; Ray Energy (e.g., X-Ray, Ultraviolet, Radioactive) Applications; Mass Spectrometers	3-21-60	4-20-60
55. (VII) WHITMORE, H. B. (acting), Surgery; Dentistry; Artificial Body Members	3-7-60	3-22-60
56. (I) SPECK, J. R., Abrading Compositions; Batteries; Coating or Plastic Compositions; Electrical and Wave Energy Chemistry	3-21-60	3-8-60
57. (III) TOMLIN, C. W. (acting) Bolt, Nut, Rivet, Nail, Screw, Chain, and Horseshoe Making; Driven and Screw Fastenings; Nut and Bolt Locks; Jewelry; Pipe Joints or Couplings; Cutting	2-15-60	3-3-60
58. (III) BRONAUGH, F. H., Rolls and Rollers; Making Metal Tools and Implements; Stone Working; Abrading Processes and Apparatus; Baths, Closets, Sinks, and Spittoons; Boring and Drilling; Paper Manufactures; Selective Cutting	3-31-60	3-31-60
59. (I) BRINDISI, M. A., Inorganic Chemistry; Fertilizers; Gas, Heating and Illuminating	12-30-59	11-23-59
60. (I) MANGAN, P. E., Carbon Chemistry (part), e.g., Synthetic Resins (part); Miscellaneous Polymers (e.g., Vinyl Polymers); Synthetic Resin Compositions (part), Synthetic Rubber; Photographic Processes and Products	4-4-60	4-1-60
61. (III) STRIZAK, J. P., Winding and Reeling; Pushing and Pulling; Horology; Railway Mail Delivery; Feeding of Indefinite Lengths	5-19-60	5-23-60
62. (IV) LOWE, D. B. (FULLER, E. E., acting), Games; Toys; Amusements and Exercising Devices; Mechanical Guns and Projectors; Photographic Apparatus	4-1-60	4-19-60
63. (I) WINKELSTEIN, A. H., Foods and Beverages; Fermentation; Carbon Chemistry (part), e.g., Lignins, Carbohydrate Derivatives, Fats, Sulfurized Compounds; Heavy Metal Compounds	3-8-60	3-17-60
64. (I) GREENWALD, J., Fuels; Miscellaneous Compositions	3-1-60	4-1-60
65. (II) SAX, E. J., Wave Guides; Electric Meters; Conductors; Insulators; Amplifiers	4-21-60	4-11-60
66. (V) LISANN, L., Geometric Instruments; Measuring and Testing (part)	11-18-59	11-18-59
67. (VII) KRAFFT, C. F., Liquid Separation or Purification (part); Laminated Fabrics	3-3-60	3-12-60
81. (III) MONCURE, J. A., Industrial Arts	9-7-60	9-14-60
82. (III) HUNTER, E. H., Household, Personal and Fine Arts	9-13-60	9-21-60
91. KENT, A. P. (acting), Ornamentation; Glass	5-3-60	4-26-60
92. GAUSS, H., Radio Transmitters, Receivers and Tuners	3-18-60	7-22-60
93. WAHL, R. A., Wire Working	6-27-60	6-21-60
94. BERLOWITZ, W., Gas Separation	5-20-60	5-11-60
95. ANGEL, C. D., Metallic Building Structures; Packed Rod Joints; Joint Packings	4-6-60	3-28-60
M. E. DIV. A (I) GASTON, L. H., Carbon Chemistry (part), e. g., Steroids; Synthetic Resins (part), i. e., Polyethylenes	4-6-60	3-4-60

EXPIRATION OF PATENTS

The patents within the range of numbers indicated below expire during January 1961, except those which may have been extended under the provisions of the Veterans Patent Extension Act (64 Stat. 316 as amended by 66 Stat. 321) and those which may have expired earlier due to shortened terms under the provisions of Public Law 600. A list of Veterans' patents which have been extended appears in the *Annual Index of Patents—1960*.

Patents..... Numbers 2,920,021 to 2,940,268, inclusive

Plant Patents..... Numbers 611 and 613

DECISIONS IN PATENT AND TRADEMARK CASES

In the United States Patent Office
Before the Board of Appeals

EX PARTE McLESTER

Appeal No. 87-47. Decided May 28, 1959

1. PATENTABILITY—INVENTION—NOVELTY.

"It is well established that a mere difference in structure, namely novelty, is insufficient to render a claim patentable, that to be patentable there must be invention in the novel structure as by a showing of some new and unexpectedly improved result."

2. SAME—PARTICULAR SUBJECT MATTER—COMBINED HAMMER AND NAIL PULLER.

Upon the basis of the conclusion that "We find no new and unexpectedly improved result flowing from the differences in structure recited by the claim over the reference disclosure * * * or in the combined effect of these differences," *Held* that a claim to a combined hammer and nail puller was unpatentable over the reference patent.

APPEAL from the Examiner. Serial No. 459,737.

AFFIRMED.

McMorrow, Berman & Davidson, for appellant.

Before DRACOPOULOS and MANIAN, *Examiners-in-Chief*, and PATRICK, *Acting Examiner-in-Chief*

MANIAN, *Examiner-in-Chief:*

This is an appeal from the final rejection of claim 2, which is the only claim remaining in the case.

Claim 2 reads as follows:

2. A combination tool comprising a handle, a head carried by the handle, said head extending perpendicularly across one end of the handle, a curved bit carried by the head and extending longitudinally therefrom adjacent one end thereof, the convex side of the bit merging with the side of the head remote from the handle, said head having a hexagonal opening extending thereinto and across the longitudinal axis of the handle, and said opening extending through the convex side of the curved bit to define with the curved bit claws which extend perpendicularly across and diverge as they recede from the axis of the handle.

The single reference relied upon is:

Hebblethwaite, 529,384, November 20, 1894.

The claim is drawn to a combined hammer and nail puller, the structure of which is fully described on page 2 of the brief and, moreover, is apparent from a reading of the claim on the drawing disclosure.

Claim 2 is finally rejected as defining no invention over Hebblethwaite who discloses a combined hammer and nail puller.

The structure recited in claim 2 differs from the reference with respect to the cross-sectional shape of the groove and its location in the hammer head. The claim defines this groove as being hexagonal, the reference showing the same to be dove-tail in cross section. We find no patentable significance in this difference in structure. In Hebblethwaite the dove-tail opening intersects the curved convex outer surface of the hammer head to form curved bit claws (see Figs. 2 and 3). It is stated in lines 36 to 40 on page 1 of that patent that the interval (i.e., the space formed by the opening and the curved surface of the hammer) is sufficiently wide at the open end to admit the largest size of nails in common use, and decreases toward the other end sufficiently to grasp any of said nails below the head. This is precisely the function provided by the hexagonal opening recited in the claim. We find no material difference in the shape of the bit claws formed by appellant's hexagonal opening over the shape produced by the dove-tail opening of the reference. This is apparent because the dove-tail opening constitutes the upper half of the hexagonal opening. Necessarily, the opening in the reference is of sufficient depth to accommodate the head of the nail when the nail is clinched between the jaws. No added function would be provided by increasing the depth of the opening shown in the reference and giving the said added depth a shape which is the reverse of the dove-tail shape shown therein. We do not imply by the preceding statement that a hexagonal shaped opening, as recited in claim 2, is necessarily deeper that the dove-tail shaped opening shown in Hebblethwaite.

Claim 2 defines the opening as extending perpendicularly across * * * the axis of the handle. In Hebblethwaite the curvature of the bit carried by the head has a radius that is materially smaller than the curvature shown in Fig. 1 of the present case, and the slot in the reference is located in the head further down on the curved bit and consequently does not extend across the axis of the handle.

In applying the teachings of Hebblethwaite to a hammer having a materially greater radius of curvature on the bit, the slot will obviously approach a perpendicular relationship with respect to the axis of the handle. In regard to the slot extending "across" the axis of the handle, appellant refers, on page 4 of the brief, to the "novel advantage" provided by his claimed structure, but he does not explain wherein or how his structure, as to this or other aspects, produces any new, unexpected or different result over the location of the slot shown in the reference and, in our opinion, none exist.

[1], [2] It is well established that a mere difference in structure, namely novelty, is insufficient to render a claim patentable, that to be patentable there must be invention in the novel structure as by a showing of some new and unexpectedly improved result. *In re Harding*, 40 CCPA 1005; 1953 C.D. 319; 98 USPQ 161; 676 O.G. 907; 205 F.2d 171, *In re Hass et al.*, 31 CCPA 895; 1944 C.D. 234; 563 O.G. 576; 141 F.2d 122; 60 USPQ 544, *In re Lyon*, 27 CCPA 1244; 1940 C.D. 582; 521 O.G. 527; 112 F.2d 822; 46 USPQ 75. We find no new and unexpectedly improved result flowing from the differences in structure recited by the claim over the reference disclosure and considered above or in the combined effect of these differences. We will accordingly sustain the rejection of claim 2 for the above reasons.

The decision of the Primary Examiner is affirmed.

AFFIRMED.

PATENT SUITS

Notices under 35 U.S.C. 290; Patent Act of 1952

2,890,126, F. A. Firestone, Flaw detecting device and measuring instrument; 2,898,701, same, Supersonic inspection devices; 2,467,201, same, Supersonic inspection for flaws lying near the surface of a part; 2,892,184, same, Method of supersonic inspection, filed May 13, 1959, C.C.A., 6th Cir., Doc. 13/890, *Aluminum Company of America et al. v. Sperry Products, Inc. et al.* Judgment of District Court affirmed except as to its finding that claims 16, 19, 20, 25, 26, 29, and 32 of Patent No. 2,398,701 were valid and infringed, which finding is reversed Nov. 22, 1960. Same, filed same, Doc. 13/891, *Floyd A. Firestone v. Aluminum Company of America et al.* Judgment of District Court reversed Nov. 22, 1960.

2,889,870, D. J. Miller, Apparatus and method for manufacture of rubber tubing, filed Dec. 9, 1960, D.C., N.D. Ohio (Cleveland), Doc. 36/558, *The B. F. Goodrich Company v. Rubber Latex Products, Inc. et al.*

2,888,701. (See 2,280,226.)

2,457,310, D. N. Judelson, Cutting machine; 2,753,623, same, Seam-openers; 2,772,734, same, Bias-cutting machine, filed Dec. 11, 1957, D.C., S.D.N.Y., Doc. 127/339, *Oscar I. Judelshon Inc. et al. v. American Seam Binding Machine Co., Inc. et al.* Consent judgment; defendants enjoined Dec. 5, 1960.

2,464,766, N. A. Pennington, Air-conditioning apparatus; 2,562,415, same, Heat exchanger for air-conditioning, filed Dec. 9, 1960, D.C.N.J. (Trenton), Doc. 1026/60, *Neal A. Pennington et al. v. Heat Recovery Corporation et al.*

2,457,201. (See 2,280,226.)

2,457,379, H. J. Graham, Welding system; 2,685,630, same, filed Mar. 9, 1959, D.C.N.J. (Camden), Doc. 192/59, *Omark Industries, Inc. v. KSM Products, Inc.* Consent decree; patents held valid and infringed Dec. 5, 1960.

2,457,261, Collins and Arnold, Method of reversing elastic coil structures, filed Dec. 10, 1960, D.C. Conn. (New Haven), Doc. 8601, *The Whitney Blake Co. et al. v. Adirondack Wire & Cable Co., Inc. et al.*

2,562,415. (See 2,464,766.)

2,573,047, H. Marke, Fishing rod guide; 2,762,154, same, Tip for fishing rod, filed Nov. 10, 1960, D.C., S.D. Calif. (Los Angeles), Doc. 1284/60–WB, *Actna Products & Manufacturing Co. v. Commerce Pacific, Inc.*

2,892,184. (See 2,280,226.)

2,607,051, L. K. Jackson, Bedframe and special caster receiving socket construction, filed July 22, 1960, D.C., W.D. Okla. (Oklahoma City), Doc. 3922, *The Harvard Manufacturing Company v. Fadco Products Company.* Defendants restrained from infringing upon claims 3, 9, and 11 of Patent No. 2,607,051 Dec. 5, 1960.

2,861,769, E. A. Corsilia, Wig construction, filed Dec. 5, 1960, D.C., S.D. Calif. (Los Angeles), Doc. 1353/60–Y, *Celia Bernia, doing business as Celia's Creations v. Emil A. Corsilia et al.*

2,885,939. (See 2,457,379.)

2,766,338, M. E. Bourns et al., Variable resistor; 2,777,926, M. E. Bourns, same, filed Dec. 9, 1960, D.C., N.D. Calif. (San Francisco), Doc. 39/591, *Bourns, Inc. v. Zack Radio Supply Company.*

2,753,623. (See 2,457,310.)

2,762,154. (See 2,573,047.)

2,760,172, L. B. Franco, Ballast sled for use under railway tracks; 2,921,390, Stein and Franco, Ballast plow for use under railway tracks; 2,924,897, J. W. Christoff, same, filed Nov. 29, 1960, D.C., N.D. Tex. (Fort Worth), Doc. 4844, *Mannix Company Limited v. M. A. Healey et al.*

2,772,734. (See 2,457,310.)

2,774,874, E. R. Schneider, Pulsation smoothing valve, filed Dec. 9, 1960, D.C., W.D. Wis. (Madison), Doc. 3401, *Edgar R. Schneider v. Milesmaster, Inc.*

2,777,936. (See 2,706,230.)

2,816,801, K. Reiner, Light weight metal lock nut having a relatively hard, thin and resilient locking sleeve portion, filed Dec. 7, 1960, D.C., S.D. Calif. (Los Angeles), Doc. 1362/60–HW, *Kenneth Reiner et al., doing business as The Kaynar Company et al. v. Townsend Company et al.*

2,873,800, P. Friedman et al., Closure fastener, filed May 8, 1959, D.C., E.D. Pa. (Philadelphia), Doc. 26/315, *Rose Grossman et al. v. Joseph Hall Tool Company.* Consent judgment; claims 1 and 2 of patent held valid (notice Dec. 7, 1960).

2,892,419, A. L. Coulter, Hand-choke conversion unit, filed Nov. 23, 1959, D.C., N.D. Ill. (Chicago), Doc. 59c1857, *Albert L. Coulter v. J-E Auto Supply Co., Inc. et al.* Order holding patent valid and claims 1 and 2 thereof infringed; injunction granted Dec. 8, 1960.

2,904,639, C. D. Mullin et al., Temple construction; Des. 185,084, same, Combined eyeglass temple and hearing aid casing, filed Mar. 16, 1960, D.C. Ariz. (Phoenix), Doc. 3289 Phx., *Maico Electronics, Inc. v. Audio Company of America et al.* Consent judgment; patents held valid; injunction granted Dec. 6, 1960.

2,921,390. (See 2,760,172.)

2,924,897. (See 2,760,172.)

2,924,982, H. B. Wagner, Hydraulic cement mortar compositions and methods of use, filed Dec. 9, 1960, D.C., S.D. Tex. (Houston), Doc. 13/447, *Title Council of America, Inc. v. C. E. Kaiser Company et al.*

2,941,173, W. T. Sutton, Jr., Electrical winding construction, filed Dec. 5, 1960, D.C., N.D. Ill. (Chicago), Doc. 60c1866, *Nytronics, Inc. v. Coilcraft, Inc.*

2,924,662, E. S. Pfau et al., Pneumatic tires and tread stock composition, filed Dec. 13, 1960, D.C., N.D. Ohio (Cleveland), Doc. 36/564, *The General Tire & Rubber Company v. The Goodyear Tire & Rubber Company.* Same, filed same, Doc. 36/565, *The General Tire & Rubber Company v. United States Rubber Company et al.*

Des. 176,267, Meyer and Stahlhut, Reflector for tubular lamp lighting fixtures, filed Oct. 31, 1958, D.C., N.D. Calif. (San Francisco), Doc. 37/785, *Day-Brite Lighting, Inc. v. Fluorescent Fixtures of California, Inc.* Consent judgment; patent held valid; injunction granted (notice Dec. 5, 1960).

Des. 184,171, A. Felcan, Combined lavatory and vanity, filed Jan. 18, 1960, D.C., N.D. Ill. (Chicago), Doc. 60c87, *August Felcan v. S & S Sink Top Company.* Dismissed by stipulation with prejudice Dec. 5, 1960.

Des. 185,084. (See 2,904,639.)

REISSUES

JANUARY 31, 1961

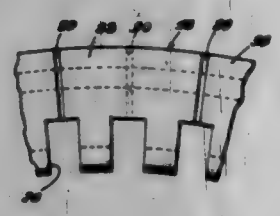
Matter enclosed in heavy brackets [ ] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates additions made by reissue.

24,930
PISTON RING

Melvin W. Marien, Brentwood, Mo., assignor to Ramsey Corporation, St. Louis, Mo., a corporation of Ohio

Original No. 2,932,543, dated Apr. 12, 1960, Ser. No. 781,978, Dec. 22, 1958. Application for reissue May 23, 1960, Ser. No. 32,071

14 Claims. (Cl. 309—45)



1. A piston ring, which comprises a ring member providing axially spaced ring portions having circumferentially spaced openings therein along the inner and outer diameters thereof, with the openings in one ring portion staggered with respect to the openings in another ring portion, the openings along one diameter varying as to width and the relatively narrow openings being greater in number than the relatively wider openings so that upon compression of the ring member to operating position the relatively narrow openings are essentially closed and the relatively wide remain open, thereby substantially eliminating circumferential jamming of the ring member and reducing oil leakage therethrough.

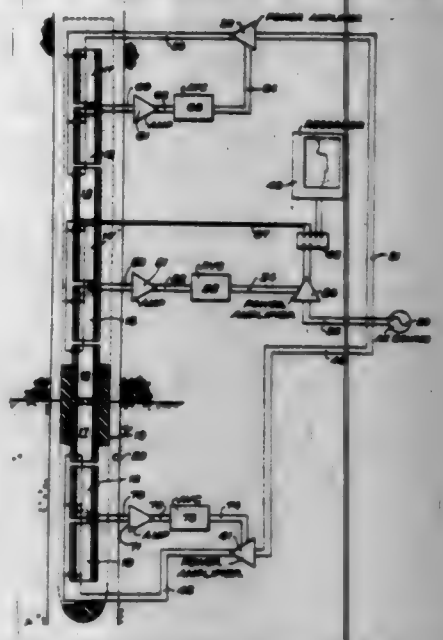
24,931
ACOUSTIC WELL LOGGING WITH END SHIELDING

William C. Overton, Jr., Prince Georges County, Md., assignor, by mesne assignments, to Socony Mobil Oil Company, Inc., a corporation of New York

Original No. 2,878,886, dated Mar. 24, 1959, Ser. No. 276,095, Mar. 12, 1952. Application for reissue Oct. 21, 1959, Ser. No. 847,855

16 Claims. (Cl. 181—.5)

16. An acoustic well logging system for measuring properties of formations adjacent a bore hole comprising a housing adapted to be lowered into the bore hole, a piezoelectric sound transmitting means mounted within said housing and including at least one piezoelectric transmitter, a piezoelectric detector mounted within said housing, the arrangement being such that the longitudinal extremities of the sound transmitting means extend above and below the longitudinal extremities of the piezoelectric detector, means for causing the continuous expansion and contraction of said piezoelectric sound transmitting means, and means for obtaining an electric



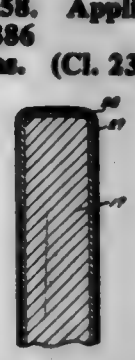
signal from said piezoelectric detector indicative of the type of formations traversed by said housing.

24,932
LIGHT METAL VANE FOR ROTARY COMPRESSORS

Paul H. Davey, Kent, Ohio, assignor of one-third to Paul H. Davey, Jr., and one-third to Joseph T. Myers

Original No. 2,905,376, dated Sept. 22, 1959, Ser. No. 711,820, Jan. 29, 1958. Application for reissue Mar. 4, 1960, Ser. No. 12,886

4 Claims. (Cl. 230—152)



1. [A vane for sealing between the rotor and the stator of a rotary compressor comprising] *A vane for sealing between relatively rotatable generally cylindrical rotor and stator members having their axes parallel and eccentric comprising* a solid body of metal of low density and high heat conducting capacity, a thin abrasion-resisting coating covering said body and bonded thereto, and an outside thin smooth coating of self-lubricating material substantially bonded to said abrasion-resisting coating.

PLANT PATENTS

GRANTED JANUARY 31, 1961

Illustrations for plant patents are usually in color and therefore it is not practicable to reproduce the drawing.

2,015

MAGNOLIA GRANDIFLORA TREE

Maunsell Van Rensselaer, Saratoga, Calif., assignor to Saratoga Horticultural Foundation, Inc., Saratoga, Calif., a corporation of California

Filed Mar. 28, 1960, Ser. No. 18,208
1 Claim. (Cl. 47—60)

A new, distinct and improved variety of *Magnolia grandiflora* tree substantially as shown and described, characterized particularly by its unusually large and abundant foliage having a dark glossy green color on the upper sides of the leaves and a dark rusty brown tomentum on the underside of the leaves, the conspicuously displayed light green mid-rib and primary veins of the leaves, and the light green hyaline margin of the leaves; the extraordinarily large size of its blooms, and the uniform arrangement of the petals in alternating tiers of four; the erect densely clothed growth of the tree with its sharply ascending branches to form an oval upright crown; its sturdy, hardy and unusually rapid growth habits; and the consistency of its growth form, foliage, size and coloring.

2,016

AZALEA PLANT

George Albert Reid, Linwood, N.J., assignor to Fischer Greenhouses, Linwood, N.J., a corporation of New Jersey

Filed Feb. 17, 1960, Ser. No. 9,407
1 Claim. (Cl. 47—60)

A new and distinct variety of azalea plant of the Indian azalea type substantially as herein shown and described, characterized particularly as to novelty by the unique combination of extremely good winter-hardiness, shiny green foliage of Indian azalea-like form, large, complicated, semi-double flowers of Indian azalea-like form, and a strong Purplish Red general color tonality of the flowers.

2,017

ROSE PLANT

Herbert C. Swim, Ontario, and O. L. Weeks, Chino, Calif., assignors to The Conard-Pyle Company, West Grove, Pa., a corporation of Pennsylvania

Filed Apr. 1, 1960, Ser. No. 19,436
1 Claim. (Cl. 47—61)

A new and distinct variety of rose plant of the grandiflora class, substantially as herein shown and described, characterized particularly as to novelty by the unique combination of large size and abundance of foliage, said foliage having a heavy and leathery texture, good resistance to powdery mildew disease, an excellent flower form, said flowers having broad petals, an unusual brilliance and richness of the color of the inner surface of the flower petals, with the color corresponding to orange-red in general tonality, and a superior substance and lasting qualities of the flowers.

2,018

ROSE PLANT

Herbert C. Swim, Ontario, and O. L. Weeks, Chino, Calif., assignors to The Conard-Pyle Company, West Grove, Pa., a corporation of Pennsylvania

Filed Apr. 11, 1960, Ser. No. 21,572
1 Claim. (Cl. 47—61)

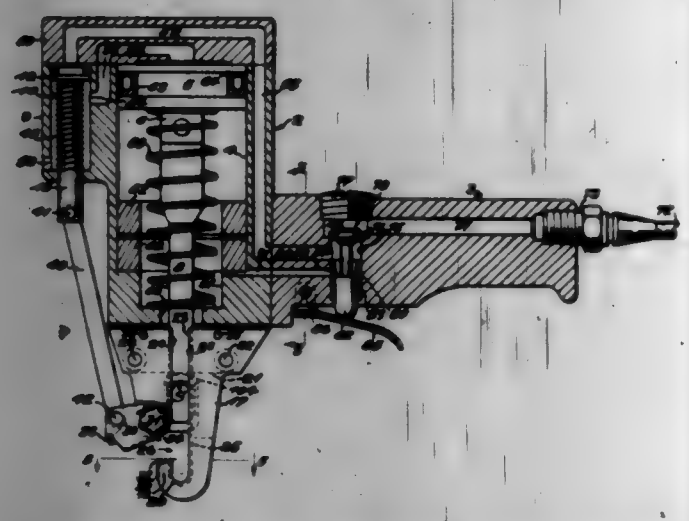
A new and distinct variety of rose plant of the hybrid tea class, substantially as herein shown and described, characterized particularly as to novelty by the unique combination of productive and vigorous plant habits, a heat and compact plant form, with many erect, well-placed and well-proportioned branches, attractive foliage of large size and an abundance thereof which gives the plant a well-clothed appearance, a relative scarcity of prickles on the flower stems, graceful proportions of the bud in relation to the number of flower petals, and a distinctive variable blend of pink and yellow flower color generally in the range of salmon, orange and pink and combinations thereof.

PATENTS

GRANTED JANUARY 31, 1961

GENERAL AND MECHANICAL

2,969,545
FASTENER-APPLYING IMPLEMENT
Howard G. Allen, Stonington, Conn., assignor to Bostitch, Inc., East Greenwich, R.I., a corporation of Rhode Island
Filed Oct. 13, 1958, Ser. No. 766,911
16 Claims. (Cl. 1—187)



1. A fastener-applying implement having a cavity for holding the work, an opening on the side of the cavity for insertion of the work thereinto, a gate movable to close said opening, a plunger for operating said gate, a fastener-driver, a second plunger for actuating said driver, and power means to initially operate the first-named plunger for closing said gate and thereafter operate said second plunger to actuate the fastener-driver.

2,969,546
CROWN PIECE FOR HELMETS
Gerard E. Morgan, Jr., Glenview, Ill., assignor to John T. Riddell, Inc., Chicago, Ill., a corporation of Illinois
Filed June 18, 1956, Ser. No. 592,079
5 Claims. (Cl. 2—3)



1. In a protective helmet having a shell adapted to encircle a wearer's head in spaced relationship thereto, the combination including: a crown suspension consisting essentially of a plurality of flexible crown suspension straps each secured at one end inside the shell at approximately the level with respect to a wearer's head of a normal hat band and each extending upwardly and inwardly of the shell adapted to lie flat on the crown of a wearer's head; means securing the upper ends of the crown suspension straps with respect to one another spaced from the shell and providing a central opening of adjustable diameter in the crown suspension to enable the suspension to be fitted to the heads of the different wearers; a core of soft, flexible, resilient material extending through the central opening of the crown suspension having a diameter no greater than the diameter of the central opening when adjusted to its smallest diameter; and a pair of flanges of flexible material each integral with an end of the core extending laterally with respect to the longitudinal axis of the core and each having a diameter greater than the diameter of the central opening at its maximum diameter, the distance between the flanges being slightly greater than the thickness of the ends of the crown suspension straps and securing means adjacent the central opening.

2,969,547
PROTECTIVE HEAD COVERING
Edward R. Dye, 540 S. Buffalo Road, Orchard Park, N.Y.
Filed Dec. 17, 1958, Ser. No. 781,029
1 Claim. (Cl. 2—3)

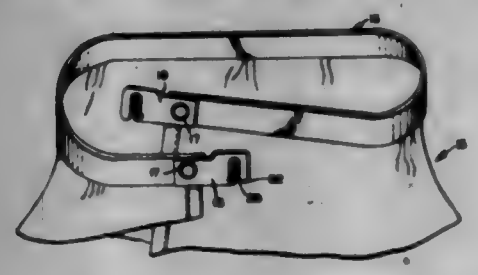


A head gear, comprising a single piece of resilient, plastic, energy-absorbing material having a narrow headband portion, a plurality of equi-spaced fingers integral with said headband portion and extending upwardly from the upper side of said head band portion approximately at right angles thereto, two narrow cheek pieces integral with said head band portion and depending downwardly from the lower side of said headband portion at approximately right angles thereto, means for adjustably lacing opposed ends of said narrow head band portion together about the temples of a wearer of the head covering, means for adjustably drawing said fingers together around the head of the wearer above the temples so that said fingers extend over the crown of the wearer's head approximately along arcs of a hemisphere, each of said cheek pieces being disposed, when said head band portion and said fingers are in the described positions on the head of the wearer, in front of the ears of the wearer, and means adapted to be passed under the chain of the wearer to connect said cheek pieces together, said energy-absorbing material when in position on the wearer's head constituting in itself a protective head covering.

2,969,548
CAPES FOR BEAUTY PARLORS AND BARBER SHOPS
Arthur M. Herschensohn, Scarsdale, N.Y., assignor to Corona Hair Net Corp., New York, N.Y., a corporation of New York
Filed May 13, 1959, Ser. No. 812,997
2 Claims. (Cl. 2—52)

1. A cape having a free edge for encircling the neck of a wearer; said edge having free ends which overlap when the cape is worn and a tab of stiff springy material secured to one of said ends in extension thereof; said tab having an inverted U-shaped opening therethrough; the distal end of one arm of said U-shaped opening, being open and commencing from the very bottom edge of said tab and the distal end of the other arm of said U-shaped

opening being closed and ending near said bottom edge of the tab whereby an upwardly extending resilient finger is formed between the arms of said U-shaped opening; said finger being in the plane of the tab it is part of; any region of said neck-encircling edge of the cape, which



is overlapped by a tab when the cape is worn, being enterable across the bottom edge of said tab and into the open arm of the U-shaped opening in such tab, whereupon said finger becomes stressed and clamps the entered portion of the cape to the tab.

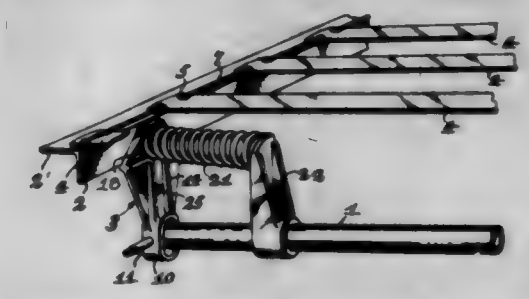
2,969,549
SINK MOUNTING
Ernest R. Mills, 1234 Hiatt St., Indianapolis, Ind.
Filed June 10, 1954, Ser. No. 435,750
1 Claim. (Cl. 4—187)



In a sink installation wherein a sink having a substantially horizontally disposed rim is seated within an opening in a counter top, means securing said sink to said counter top comprising a trim strip formed of sheet metal which is configurated to provide a cap portion and a flange depending from said cap portion, said trim strip disposed to encircle the sink with the cap portion thereof overlying adjacent edges of the sink rim and the counter top and with the flange depending into the space between the sink rim and the counter top, a plurality of internal thread formations disposed at spaced points on said flange, each thread formation opening downwardly and consisting of a plurality of narrow arcuate bands which protrude alternately from opposite sides of said flange in horizontal planes spaced vertically with respect to one another to receive a coarse pitch, pointed screw, said internal thread formation being slightly undersized with respect to said screw, whereby the screw must expand the thread formation upon being threaded thereinto, means spanning the space between the undersides of the counter top and the sink rim at each thread formation, and a screw of the type set forth traversing the latter named means and being engaged into said internal thread formation.

2,969,550
BED SPRING
Roland Letendre, 946 Brebeuf St., Drummondville, Quebec, Canada
Filed Oct. 19, 1959, Ser. No. 847,294
3 Claims. (Cl. 5—211)

1. A bed spring comprising two longitudinal members, two transverse members disposed above said longitudinal members, and arms connecting the end of said longitudinal members to the ends of said transverse members, each arm being rigidly secured to said transverse members, two of said arms common to one transverse member being pivotally connected to said longitudinal members such that the transverse member secured to said pivoted arms can be moved away from the other transverse member, upwardly extending abutment arms fixed to said longitudinal members inwardly of said pivoted



arms, compression springs disposed between the upper ends of said abutment arms and the upper ends of said pivoted arms and lying entirely above said longitudinal members and their pivotal connection to said pivoted arms, and non-stretchable metal blades longitudinally disposed with respect to said bed spring and directly secured at their ends to said transverse members.

2,969,551
BOAT
Stanley R. Snider, 1450 State St., New Orleans, La.
Filed Aug. 6, 1957, Ser. No. 676,567
7 Claims. (Cl. 9—2)

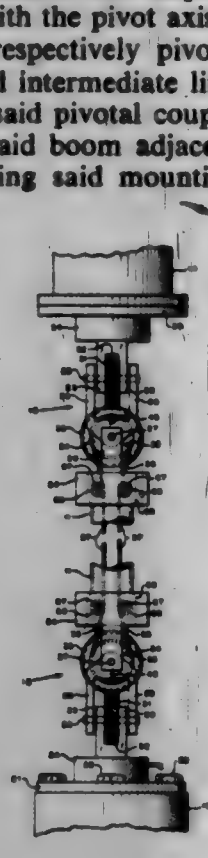


3. As a new article of manufacture, a boat fabricated of a unitary piece of material and comprising a bottom, upright sides integral therewith, and an upright transverse rear portion integral with said bottom and sides, said bottom portion tapering toward the front of said boat so that the forward edges of the sides meet, the forward edges of the sides being interconnected by a plurality of superposed vertical triangular sections, said sections being interconnected by fold lines to form accordion folds, the fold lines radiating upwardly from the forward extremity of said bottom, said triangular sections being integral with the forward edges of the sides and bottom, the lateral edges of the rear portion being interconnected with the rear edges of the sides by a plurality of vertical folds, the folds being integral with said edges of the rear portion and the rear edges of the sides, and means for maintaining the folds at the front and rear of the boat in the folded condition.

2,969,552
SELF-ORIENTED ARTICULATED SUPPORT
Paul Karnow, 3336 Decatur St., Philadelphia, Pa.
Filed Mar. 10, 1958, Ser. No. 720,516
9 Claims. (Cl. 9—8.3)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A self-oriented articulated support comprising a base means supported in fixed relation to a solid submerged surface, a movable mounting means spaced a substantial distance from said base means, an articulated linkage means interconnecting said base means and said mounting means and capable of assuming any position in a 180° hemispherical locus, said linkage means including a substantially elongated rigid boom connected at its opposite

ends to first and second flexible coupling means respectively connected to said base means and said mounting means, each said flexible coupling means including an intermediate linking element and first and second spaced pivotal connecting means, each disposed perpendicular to a plane coincident with the pivot axis of the other pivotal connecting means, respectively pivotally connecting the opposite ends of said intermediate linking element to adjoining elements of said pivotal coupling means, buoyant means attached to said boom adjacent to said mounting means for maintaining said mounting means at a substantially constant predetermined distance above an ambient free surface of a fluid medium, and a restraining means supported by said linkage means and actuated by displacement of said linkage means, said restraining means including a first positioning system effective to maintain said mounting means in a predetermined fixed azimuth orientation as said linkage means is displaced angularly about said base means in azimuth and a second positioning system effective to maintain said mounting means at a predetermined fixed vertical orientation as said linkage means is displaced angularly in elevation about said base means.

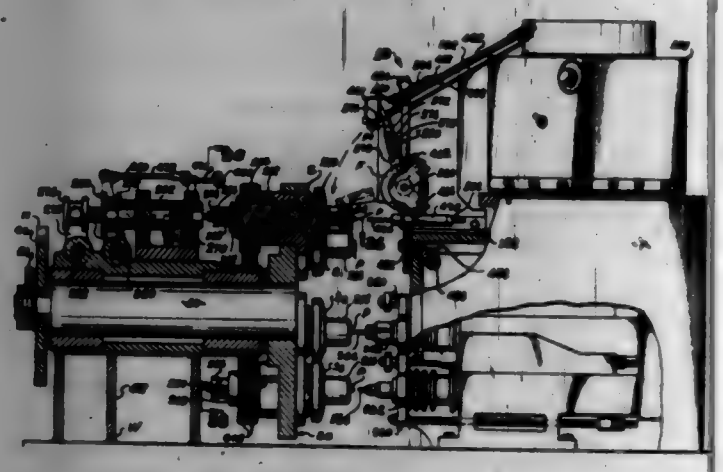


2,969,553

MULTIPLE SPINDLE MACHINE TOOL APPARATUS WITH IMPROVED WORK HOLDING CHUCK MEANS

George A. Hatherell, Sun Valley, and Martin Padway, Beverly Hills, Calif., assignors to The National Screw and Manufacturing Company, Cleveland, Ohio, a corporation of Ohio

Filed Jan. 31, 1957, Ser. No. 637,425
27 Claims. (Cl. 10—128)



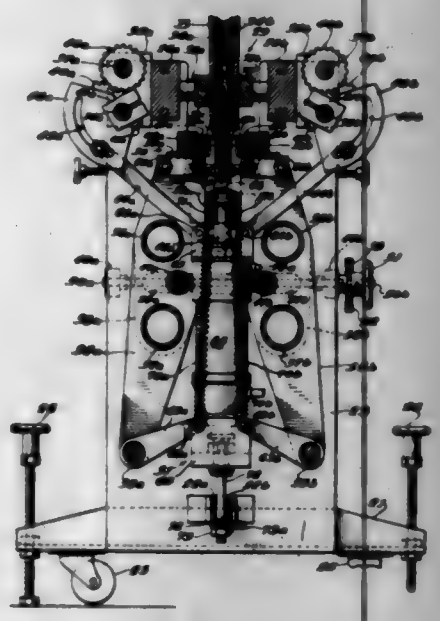
1. An automatic machine tool for machining parts having a head and a shank, comprising: a frame; a spindle table rotatably supported by said frame; a plurality of spindles rotatably carried by said spindle table, said spindles being progressively moved from a first station at which unfinished parts are loaded thereinto and finished parts are removed therefrom to a plurality of additional stations by rotation of said spindle table, and each of said spindles being formed with a parts-receiving opening that extends transversely to the spindle's axis of rotation; a collet mounted in each of said spindles in communication with said parts-receiving opening, said collets each being formed with an aperture that receives the shank of said part; means interposed between said frame and said spindles for effecting rotation of said spindles at certain of said stations other than said first station; parts loading means on said frame for inserting unfinished parts through the parts-receiving opening of the spindle disposed at said first station and positioning the shank thereof in alignment with the aperture of said collet; a part holding member in each spindle having a head that enters said opening to abut the head of said part and urge it against said collet; and means interposed between said frame and said spindles for automatically orienting the parts-receiving opening of the spindle disposed at said first station with respect to said parts loading means.

2,969,554

MACHINE FOR SIMULTANEOUSLY PRESSING AND FORMING JOINTS IN THE HINGE AREAS OF CASED BOOKS

John O. McCahon, Crawfordsville, Ind., assignor to R. R. Donnelley & Sons Company, a corporation of Delaware

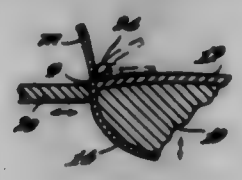
Filed Sept. 27, 1956, Ser. No. 612,437
15 Claims. (Cl. 11—1)



1. A machine for simultaneously pressing cased books and forming joints in the hinge areas thereof, comprising: a frame; a pair of parallel, horizontal book support rails extending longitudinally of said frame to support cased books end to end in an upright position; adjustable mounting bracket means for said book support means to vary the space between said rails and the vertical position of said rails with respect to the frame; a pair of horizontally reciprocable parallel elongated case pressing irons flanking books on said support rails, said pressing irons having a retracted position in which they retain books loosely in upright position; pressing linkage means operatively connected to said pressing irons to move the irons between said retracted position and a case pressing position; means for adjusting the connection between said pressing linkage means and the pressing irons to vary the space between said irons in said retracted position; a pair of

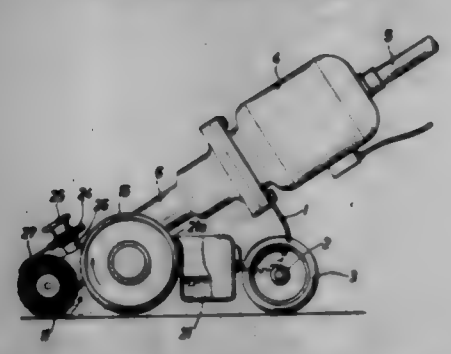
horizontally reciprocable parallel elongated jointing irons flanking the hinge areas of books on said support means; jointing linkage means operatively connected to said jointing irons to move said jointing irons between a retracted position and a joint pressing position; means for adjusting the positions of said jointing linkage means to vary the space between said jointing irons in said retracted positions independently of the adjustment of said pressing irons; and sequential actuating means for moving first said pressing irons and then said jointing irons into pressing position and for retracting first said jointing and then said pressing irons, whereby the pressing irons hold the books firmly during movement of the jointing irons.

2,969,555
METHOD OF END LASTING
Jacob S. Kamborian, West Newton, Mass. (% International Shoe Machine Corp., 292 Main St., Cambridge, Mass.)
Filed July 9, 1958, Ser. No. 747,443
5 Claims. (Cl. 12—145)



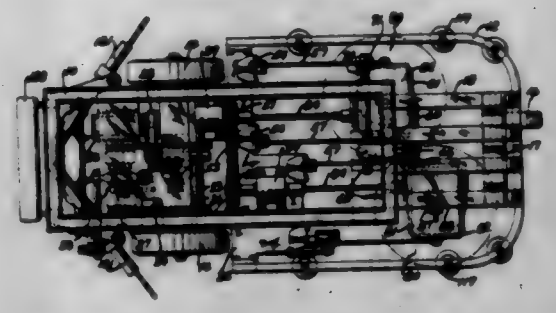
1. The method of lasting shoes wherein the upper and insole have been assembled on a last with a lasting margin at one end of the shoe extending upwardly from the insole, comprising, depositing a ribbon of adhesive proximate to the juncture of the margin and insole which is substantially smaller in its cross-sectional dimensions than the height of the lasting margin and wiping the lasting margin over the insole so that portions of the ribbon will travel from proximate to the juncture outwardly thereof between the insole and lasting margin and other portions of the ribbon will progressively be caused to adhere to the margin and the insole during this travel.

2,969,556
FLOOR CLEANING MACHINE
Josef Grasmann, Jun., 1 Weissenbach, Frankenfels, Lower Austria
Filed Nov. 20, 1958, Ser. No. 775,167
Claims priority, application Austria Nov. 23, 1957
4 Claims. (Cl. 15—49)



1. A floor cleaning machine which comprises a frame having wheels adapted to carry said frame on a floor, at least one floor scrubbing roller brush rotatably mounted in said frame, at least one smooth-surfaced cylindrical transfer member rotatably mounted in said frame and closely spaced from said brush in the radial direction thereof, said transfer member being spaced from the floor in axial parallelism with said roller brush, a motor carried by said frame, transmitting means carried by said frame and operatively connecting said motor to said roller brush and transfer member to drive said roller brush at a relatively higher speed and said transfer member at a relatively lower speed, said roller brush being adapted to contact the floor and when thus driven being adapted to throw dirty water from the floor onto said transfer member, a container carried by said frame, and a stripping member having an edge which engages said transfer member along a generatrix thereof and an upwardly facing surface extending from said edge downwardly into said container, whereby water is stripped by said stripping member from said transfer member during the rotation of the latter and is guided by said surface into said container.

2,969,557
POWERED FLOOR SCRUBBER
William L. Petersen, Muskegon, Mich., assignor to Clarke Floor Machine Company, a corporation of Michigan
Filed Nov. 30, 1956, Ser. No. 625,372
6 Claims. (Cl. 15—50)

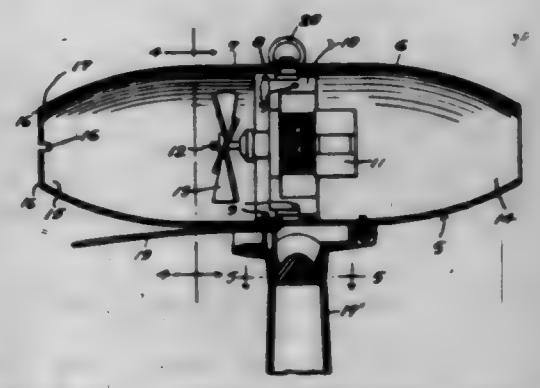


1. A floor cleaning machine comprising: a frame having longitudinal extent; a pair of separate brush supports beneath said frame; separate brush means supported by each of said brush supports; a transversely disposed beam pivotally supported intermediate its ends on said frame; said brush supports each being pivotally attached to opposite ends of said beam whereby a force exerted upwardly on one of said brush means imparts a downward force on the other of said brush means; and means operatively connected to said beam for exerting an overall downward pressure on said brush means.

2,969,558

WITHDRAWN

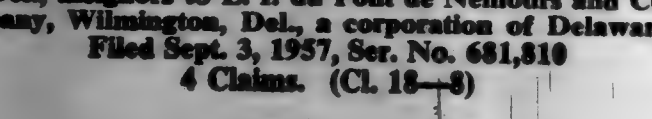
2,969,559
PORTABLE VACUUM AND BLOWER CONSTRUCTION
Oliver L. Landis, 867 Kimball, Yuba City, Calif.
Filed Sept. 2, 1959, Ser. No. 837,714
1 Claim. (Cl. 15—330)



A portable suction and blast producing apparatus for removing loose hair cuttings, comprising an open ended tubular body tapering in opposite directions from the center of the body to the open ends thereof providing reduced end portions, the marginal edge of one open end extending inwardly providing an annular flange, said flange having slots extending inwardly from the edge thereof, said slots continuing for a distance along the

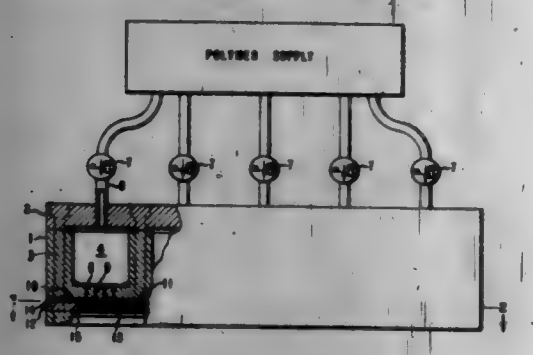
wall of said body and disposed longitudinally of said body, an electric motor operated fan mounted within said body intermediate the ends thereof adapted to blow hair through the other end of said body and draw hair through said slots in the wall of said body, and a handle for effecting manipulation of said apparatus.

2,969,560
DOOR RETURN AND CHECK MECHANISM
Charles G. Pierie, Huntingdon and Creek Roads, Huntingdon Valley, Pa.
Filed July 20, 1959, Ser. No. 828,147
2 Claims. (Cl. 16—49)



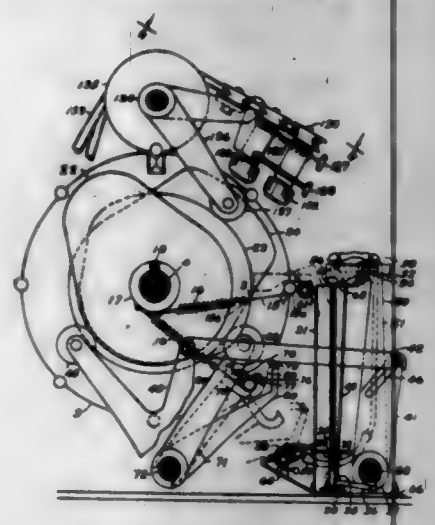
1. A door return and check mechanism adapted to be positioned between a door and door frame or the like to actuate the door to the closed position, comprising a cradle formed by first and second yoke portions, said yoke portions being interconnected for longitudinal movement relative to each other between a closed position and an extended position, each of said yoke portions having at least one longitudinally extending leg thereon with the legs of opposite yoke portions extending in opposite directions, a first end plate secured to the end of the leg of said first yoke portion and slidably receiving the leg of said second yoke portion, a second end plate secured to the end of the leg of said second yoke portion and slidably receiving the leg of said first yoke portion, said first end plate having an irregular opening therethrough, spring means positioned between said first and second end plates operable to normally urge said yoke portions toward said closed position, and a stud member secured to one end of said spring means and passing through said end plate opening to engage said second yoke portion during movement of said yoke portions toward said closed position.

2,969,561
RECTANGULAR SPINNING PACK
Gordon R. McCormick and George A. Read, Seaford, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Sept. 3, 1957, Ser. No. 681,810
4 Claims. (Cl. 18—8)



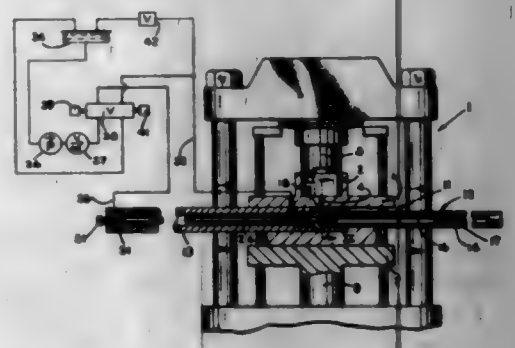
1. In a spinneret pack assembly the improvement comprising a spinneret plate having at least 40 orifices arranged in a substantially rectangular pattern having a length at least three times its width, the orifices being staggered in the direction of the width, a metal screen of at least 20 mesh in contact with the inner spinneret face and covering all the spinneret orifices, a filtration apparatus having a lower planar surface parallel to said screen and spaced thereabove between about 0.1 and about 0.25 inch to provide a single distribution zone above said screen, said filtration apparatus containing at least two separate and independent filter chambers, each individually connected to a source of polymer and each communicating by a plurality of conduits with the distribution area above said screen, and means to supply polymer at substantially the same volume rate to each of the filter chambers.

2,969,562
APPARATUS FOR CURLING STRIPS OF THERMOPLASTIC MATERIAL
Walter R. Hart, 33 5th Ave., Port Washington, N.Y.
Filed Sept. 23, 1957, Ser. No. 685,729
9 Claims. (Cl. 18—19)



1. Apparatus for curling blanks of thermoplastic sheet material comprising a movable carrier, a plurality of rotatable mandrels on said carrier, means for moving the carrier to move said mandrels through a selected path, a flexible curtain associated with each of the mandrels and having an edge secured to the mandrel, said curtain being adapted to receive a blank to be curled and to be wound with said blank on the mandrel, means for heating said blank to a selected temperature at which said blank is formable, means for rotating each of the mandrels to wind on the mandrel the associated curtain and a blank position on the curtain, said blank being thereby curled, means for unwinding the curtain for removal of said blank after it has cooled sufficiently to retain its curled form, and means for coordinating said heating, winding and unwinding operations.

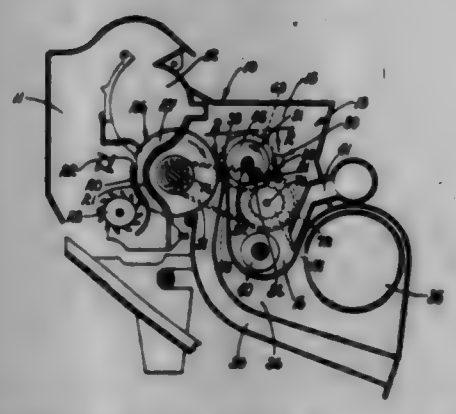
2,969,563
PLASTIC WORKING PROCESS AND APPARATUS
James W. Hendry, Louisville, Ky., assignor to Tube Turns Plastics, Inc., Louisville, Ky., a corporation of Delaware
Filed June 16, 1958, Ser. No. 742,159
4 Claims. (Cl. 18—30)



2. An apparatus for injection molding an elongated tubular body, comprising: an elongated tubular mold having an opening at one end thereof through which material may be injected thereinto; an elongated cylinder coaxial with and connected to said one end of said mold and extending in the opposite direction therefrom; a rod extending coaxially through said cylinder and said mold, said rod having a first piston secured thereto and located

within said cylinder; means for supplying fluid pressure to opposite ends of said cylinder so that said piston and thereby said rod may be moved axially within said cylinder and mold; a second piston releasably secured to said rod and located within said mold and slidably contacting the internal wall thereof so as to form a movable end wall for said mold and fluid pressure within said cylinder will be effective to oppose movement of said second piston away from said one end of said mold.

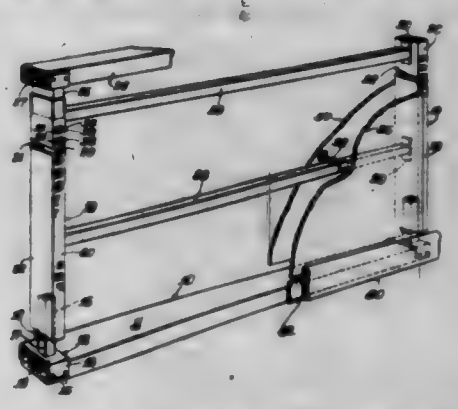
2,969,564
APPARATUS FOR CLEANING AN AIR NOZZLE OF A COTTON GIN
Ellis L. Henderson, P.O. Box 366, San Joaquin, Calif.
Filed Sept. 24, 1958, Ser. No. 762,978
1 Claim. (Cl. 19—59)



In an elongated gin stand providing a roll compartment for receiving a roll of cotton to be ginned and a mote chamber, spaced ginning ribs separating the roll compartment from the mote chamber, ginning saws extended between the rims into the roll compartment and mounted for rotary movement so as to engage cotton in the roll and pull it through the ribs to a doffing station and whereby motes are thrown by the saws into the mote chamber, a lint flue having an open receiving end adjacent to said doffing station, and an elongated air blast nozzle adjacent to said doffing station for blowing cotton from the saws into the flue and having an outer surface on which such motes tend to collect disposed toward the mote chamber; an air nozzle cleaner comprising an elongated shaft rotatably mounted in the stand and extended longitudinally in the mote chamber in adjacent spaced relation to the outer surface of the nozzle, an elongated blade mounted on and helically extended around the shaft and engaging the outer surface of the nozzle longitudinally progressively therealong for wiping motes from the nozzle, drive means connected to the shaft for imparting rotary movement to the shaft, a blade cleaning pad mounted in the stand in radially spaced relation to the shaft for engagement by the blade during rotation thereof, and means connected to the pad for supplying a cleaning fluid to the pad.

2,969,565
MERCHANDISE SUPPORTING AND DISPLAY BACKGROUND WALL CONSTRUCTION
Edward M. Levy, Evanston, Ill., assignor to Reflector Hardware Corporation, Chicago, Ill., a corporation of Illinois
Filed Aug. 1, 1956, Ser. No. 601,532
1 Claim. (Cl. 20—4)

A merchandise supporting and display background wall construction comprising, a lower base member having a pair of longitudinally extending side edges, a plurality of U-shaped foot members including a web mounted on said base member and a pair of downwardly extending legs engaging said side edges and secured thereto, an upwardly projecting post mounted on each of said webs, each of said posts having a plurality of vertical substantially planar exterior surfaces thereon defining for each post a substantially square exterior horizontal cross section, interrupted thread segments formed on the exterior vertical edges of said posts about axes coinciding with the respective longitudinal axes of the posts, a plurality of upstanding hollow rectangular tubular pilasters having side walls defining a first pair of parallel spaced apart interior planar surfaces, a pair of brackets respectively secured to the interior of each of said pilasters and having arms thereon providing a second pair of parallel spaced apart interior planar surfaces substantially normal to said first pair of interior planar surfaces, the lower end portions of said pilasters being telescopically received upon the upper end portions of said respective posts with each of said posts being slidably received between said pairs of interior planar surfaces in said pilasters, an upper base member mounted parallel to and in vertical alignment with said lower base member, said upper base member having a pair of longitudinally extending side surfaces, a plurality of U-shaped top plates each including a top web mounted on said upper base

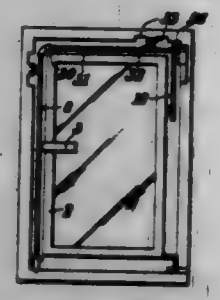


member and a pair of upwardly extending legs engaging said side surfaces and secured thereto, a stationary stub member mounted on each of said top webs and being in telescopic engagement with the upper end portion of each of said pilasters, nuts rotatably mounted about said posts on the thread segments thereon, each of said nuts being in supporting engagement with the lowermost end of one of said pilasters, said nuts being rotatable on said thread segments so as to travel selectively upwardly and downwardly thereon and thereby selectively to raise and to lower said pilasters about said posts, said planar exterior surfaces of said posts coacting with said interior planar surfaces within said pilasters to prevent rotation of said pilasters with respect to said posts during rotation of said nuts, means removably connected to said pilasters for supporting merchandise, brace means extending horizontally between the adjacent ones of said pilasters, and wall panels removably secured to said brace means and extending from one pilaster to the next adjacent pilaster.

2,969,566
ROTATABLE AND TILTABLE CASEMENT WINDOW
Ernst Mayer, Mundingen, Wurttemberg, Germany
Filed June 4, 1958, Ser. No. 739,797
Claims priority, application Germany June 6, 1957
10 Claims. (Cl. 20—53)

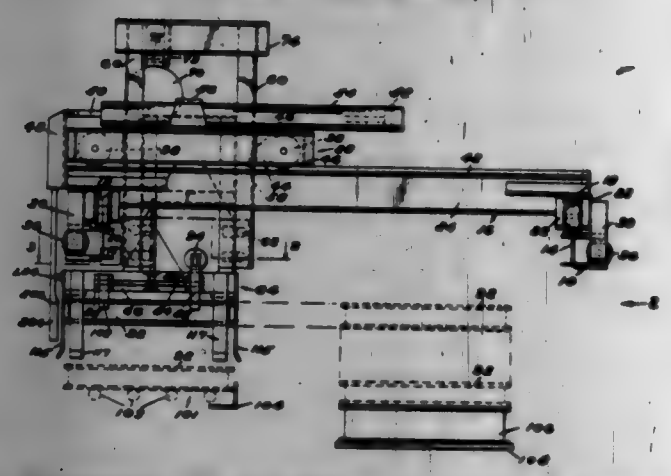
1. A rotatable and tiltable casement window comprising a rectangular peripheral frame, a rectangular window wing disposed within said frame, a lever system disposed within said frame, a handle on said window wing and engageable with said lever system for actuating said lever system, first means pivotally mounting said window wing for movement about horizontal and vertical pivot axes with respect to said frame, first latching means holding said window wing against pivotal movement about a vertical axis, said first latching means being operably connected to said lever system and pivotally mounting said window wing on said frame for pivotal movement about a horizontal axis, second means pivotally mounting said

window wing to said frame for pivotal movement about a vertical axis, second latching means operably connected to said lever system for holding said window against pivotal movement, and a bar pivotally slidably connected



to said window wing and pivoted to said second means for supporting said window wing when pivoted about a horizontal axis to an opened position, said lever system including a rod extensible through said bar to lock said window wing in a closed position.

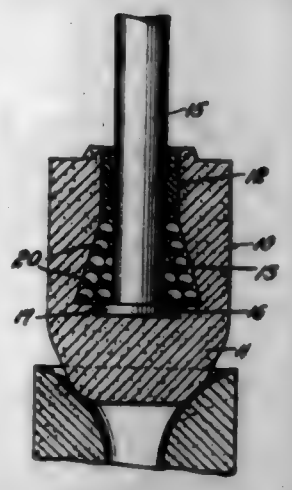
2,969,567
COPE CLOSE-UP MECHANISM
Burton C. Ferris, Detroit, and McDonald E. Pond, Dearborn, Mich., assignors to Kelsey-Hayes Company, Detroit, Mich., a corporation of Delaware
Filed Apr. 7, 1958, Ser. No. 726,664
8 Claims. (Cl. 22—31)



7. Mechanism for depositing a cope flask section on a moving drag flask section comprising a bridge, means supporting said bridge for reciprocation along the path of movement of the drag flask section to and from a normal position, a lift carried by said bridge for vertical movement, means for lowering and raising said lift relative to said bridge toward and away from a lower position adjacent the path of the drag flask section, means on said lift for gripping a cope flask section, abutment means on said lift engageable by the drag flask section in the lower position of said lift for movement of said lift and bridge from the normal position of said bridge by and as a unit with the drag flask section and with a cope flask section gripped by said gripping means in register with the drag flask section, means for releasing said gripping means during movement of said lift and bridge by the drag flask section to deposit the cope flask section on the drag flask section, and means for raising said lift to clear said abutment means of the flask sections and for then returning said bridge to its normal position following release of the cope flask section.

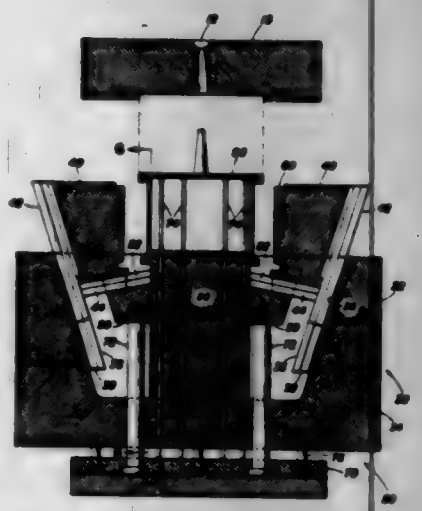
2,969,568
STOPPER ROD ASSEMBLIES
Sherwood B. Seeley, Staten Island, N.Y., assignor to The Joseph Dixon Crucible Company, Jersey City, N.J., a corporation of New Jersey
Filed Oct. 15, 1959, Ser. No. 846,691
2 Claims. (Cl. 22—85)

1. A stopper rod assembly comprising a stopper having portions forming an undercut recess communicating with a bore of reduced cross-section and opening into the upper surface of said stopper, stopper rod means including a lower flange portion receivable axially through said stopper bore and recess and positionable in angular relation therein, a plurality of individual locking means independently receivable longitudinally through said stopper bore and disposed in said recess laterally of said



bore in overlying relationship to said flange portion and forming voids therebetween, said locking means combining to prevent withdrawal of said rod means flange through said stopper recess and bore, and retaining means in said bore and circumposed about said rod means for retaining said assembly integral, said locking means comprising individual substantially spherical ball elements.

2,969,569
COMPOUND ANGULAR EJECTION SYSTEM
Charles A. Brown, Sylvania, Ohio, assignor to National Lead Company, New York, N.Y., a corporation of New Jersey
Filed Sept. 5, 1957, Ser. No. 682,216
7 Claims. (Cl. 22—92)



1. A compounded ejection die comprising a die housing portion, at least one movable die portion closely interfitted with the die housing portion and together with said housing portion forming a die cavity, means for ejecting a casting from the die cavity, a guide block resting on the back plate of said housing portion and a cover die fitted over the open end of said die cavity and having a sprue for injection of the molten metal for the casting, an outwardly extending key and keyway between the movable die portion and said guide block for determining the relative direction of retraction of said movable portion from the casting, said key and keyway extending outwardly at an angle other than 90 degrees with respect to the direction in which a casting is ejected, another outwardly and angularly extending key and keyway between the movable portion and said housing portion for determining the extent of such withdrawal upon effecting

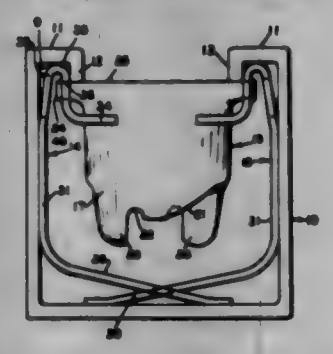
relative movement of said guide block, and means for effecting such relative movement of said guide block coincidental with ejection of the casting, the direction of retraction of the movable portion being at an angle of less than 90° with respect to the direction of ejection of the casting.

2,696,570
LOCKING FASTENER
Hector D. Petri, Framingham, and Carl J. Symonds, Arlington, Mass., assignors to United-Carr Fastener Corporation, Cambridge, Mass., a corporation of Delaware
Filed Sept. 18, 1958, Ser. No. 761,893
1 Claim. (Cl. 24—16)



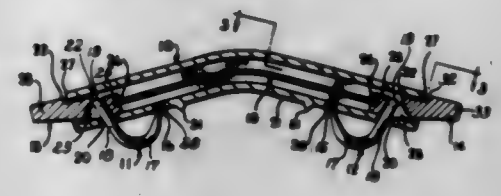
A locking fastener comprising a flexible connecting strip, a female element integral with one terminal end of said strip and a male element integral with the other terminal end of said strip, said female element comprising a base portion, attached to said connecting strip, two straight portions integral with said base portion and in right angle relationship thereto, a bight portion in the form of a segment of a circle connecting the straight portions at their end farthest from the base portion, a triangular shaped bar portion connecting the two straight portions, and a pair of shoulder portions formed on the base and bight portions, said male element comprising a male wall portion formed to fit around the base portion, straight portions and bight portion of said female element, a shelf integral with said male wall portion which overlies a portion of said female element, a male connecting bar connecting said shelf and male shoulder elements in spaced acute angular relationship to each other for engagement with said female element.

2,969,571
ROTARY STUD RECEPTACLE FOR MOUNTING IN A CHANNEL
John L. Vander Sande and Warren C. Bross, Westwood, N.J., assignors to Camloc Fastener Corporation, Paramus, N.J., a corporation of New York
Filed June 21, 1957, Ser. No. 667,183
8 Claims. (Cl. 24—73)



1. A receptacle structure for mounting in movable relation in an open channel formed with inwardly extending flanges on its open side and arranged to receive a stud provided with a cross-pin element at its inner end, said structure including a receptacle having an opening shaped to pass the cross-pin element therethrough, and a spring bracket element supporting the receptacle on opposite sides thereof, base portions on the bracket having a cooperating tongue and slot and which urges the bracket outwardly of the channel, the opposite ends of the bracket being substantially of inverted U-shaped contour and having inwardly extending terminals which receive and support the receptacle.

2,969,572
SAFETY CLAMP
Eloise M. Poe, 9204 Whitworth Drive, Los Angeles, Calif.
Filed July 7, 1958, Ser. No. 746,822
5 Claims. (Cl. 24—87)



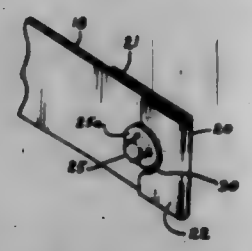
1. In a safety clamp, the combination of: a body having spaced ends; two actuators respectively carried by said body adjacent said ends thereof and respectively slidable relative to said body and toward each other from outer positions to inner positions; two hooks engaging said body and respectively engaging said actuators and respectively movable away from each other from closed positions to open positions in response to movement of said actuators from said outer positions to said inner positions; resilient means biasing said actuators and said hooks toward said outer positions and said closed positions, respectively; and interengageable stop means on said body and said actuators, respectively, for releasably locking said actuators and said hooks in said outer positions and said closed positions, respectively, against movement toward said inner positions and said open positions, respectively.

2,969,573
SHOE FASTENING DEVICE
Clive B. Forrester, Coral Gables, Fla., assignor to Talon, Inc., a corporation of Pennsylvania
Filed July 26, 1954, Ser. No. 445,779
9 Claims. (Cl. 24—207)



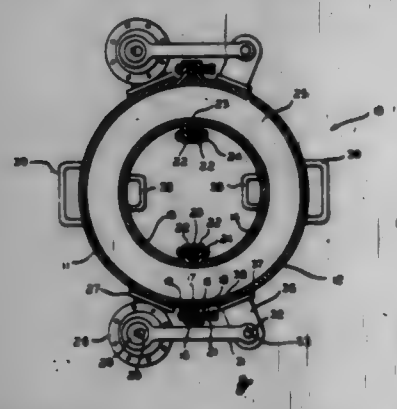
1. A fastening device for closing an opening comprising a resilient slide wire member bent to substantially a V-shape having the outer ends of its arms removably attached to the marginal edges of the opening, a manipulating member having one end thereof pivotally attached to said wire member at the central and lower end thereof, a rigid member consisting of two elongated channel-like parts telescopically arranged relative to one another for adjusting the length thereof, one of said parts having means arranged on one end thereof slidably engaging the arms of said wire member, the other of said parts having one end thereof pivotally attached to said manipulating member at a spaced distance from its pivotal connection with said wire member, means for adjustably locking the two parts together, and means carried by said manipulating member adjacent the pivotal connection of the other of said parts with said manipulating member which co-operates with said rigid member for locking the manipulating member in its closed position substantially parallel to the arms of said wire member.

2,969,574
FASTENER MEANS
John T. Blake, Wolcott, Conn., assignor to Scovill Manufacturing Company, Waterbury, Conn., a corporation of Connecticut
Filed Aug. 15, 1958, Ser. No. 755,325
2 Claims. (Cl. 24—219)



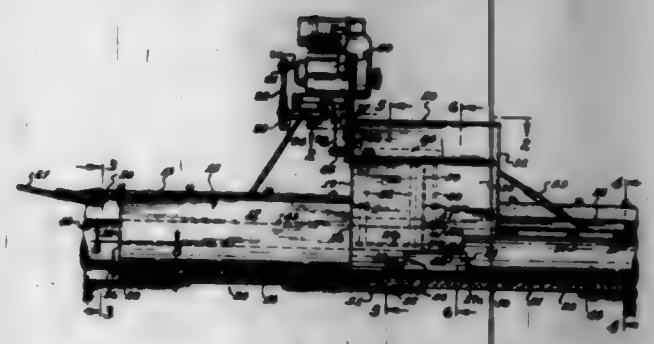
1. Fastening means for securing the end of a flexible strap or the like to an adjacent wall portion of an article comprising a first snap fastener element spaced from the end of the strap adapted to have mating engagement with a second or complemental snap fastener element on said wall portion, a rigid one-piece clip of the same width as said strap covering and reinforcing the end of the strap, said clip having an apertured outer flat section overlying the strap and a relatively short inner flat section underlying the strap, said outer section joined to said inner section by a fold in abutted relation with the end of said strap to prevent twisting of said clip relative to said strap, and fastener element attaching means extending through the aperture in said outer flat section and through said strap whereby said clip is held in place on the strap by the fastener element attaching means.

2,969,575
APPARATUS FOR CASTING CONCRETE PIPE
Archie R. Gagne, Franklin Park, Ill., assignor to Amplus, Inc., Franklin Park, Ill., a corporation of Illinois
Filed Sept. 15, 1958, Ser. No. 761,058
2 Claims. (Cl. 25—30)



2. In apparatus for molding concrete pipe in an annular cavity defined by an inner annular mold and an outer annular mold spaced therefrom, the improvement wherein said inner and outer annular molds comprise longitudinally extending arcuate mold portions which are spaced from each other along their contiguous edges, a longitudinally extending flange along the edges of each arcuate portion and being in confronting relationship with a flange of a contiguous mold portion, a resilient shim between each pair of confronting flanges, means spaced along the length of said confronting flanges and passing through said confronting flanges and the resilient shim therebetween for securing said arcuate mold portions to each other in spaced relationship as defined by said resilient shim, and means for vibratingly moving contiguous arcuate mold portions toward and away from each other through a known distance to compact a concrete mass in said annular cavity comprising a shaft extending longitudinally of one arcuate mold portion and fixed in position relative thereto, an eccentric mounted on said shaft, a link connected at one end to said eccentric and pivotally connected at its other end to a contiguous mold portion and across the confronting flanges and resilient shim of said contiguous mold portions, and resilient means interposed between one end of said securing means and the proximate confronting flange.

2,969,576
CONTINUOUS CONCRETE PIPE LAYING MACHINE
Revilo Fuller, Phoenix, Ariz., assignor, by mesne assignments, to Fullerform Continuous Pipe Corporation, Phoenix, Ariz., a corporation of Arizona
Filed Nov. 12, 1958, Ser. No. 774,072
5 Claims. (Cl. 25—32)

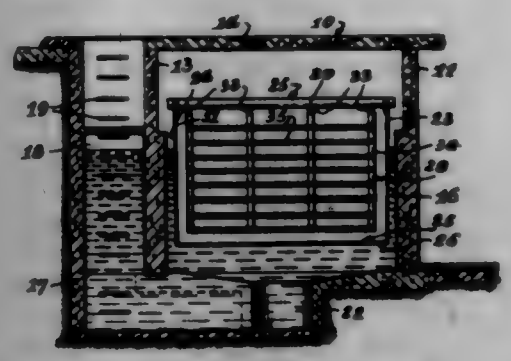


4. A cylindrical concrete pipe laying machine using a fluid pressure inflatable core, a guide portion having a semi-cylindrical bottom and vertically disposed sides slidably engaging a mating semi-cylindrical bottomed pre-dug trench to receive the pipe, a laterally disposed vertical baffle fixed to the rear end of said guide portion, an elongated horizontally disposed core support member having an upwardly facing arcuate semi-cylindrical core engaging surface fixed in spaced position from the semi-cylindrical bottom surface of said guide portion and extending through a circular opening in said baffle and rearwardly of said baffle, the portion of said core support member extending rearwardly of said laterally disposed vertical baffle being so positioned as to define a space between the bottom of said trench and the underside of said core support member whereby the convex under surface of said core support member provides a troweling surface for the lower half of the bore of said pipe to be formed and the concave top surface of said core support member provides a support surface for slidingly engaging the lower half of said inflatable core, a hopper fixed to and extending rearwardly of said lateral baffle and located above said core support and bottom troweling member, a top troweling member fixed to and extending rearwardly of said hopper having a downwardly facing concave semi-cylindrical top troweling surface radially outwardly positioned from the surface of said inflatable core, a cut-out passageway formed in a rear transverse baffle of said hopper interconnecting said hopper interior with the space between said top troweling member and the top half of said inflatable core, and guide means on said guide portion sloping upwardly and rearwardly from said transverse baffle toward the rear of said hopper arranged to distribute a smooth flow of concrete from said hopper into and filling the space between said core support and the bottom semi-cylindrical surface of said pre-dug ditch.

2,969,577
ROTATIVE KILN FOR CONCRETE BLOCKS
Pierre Laforest, 2694 Letourneux St., Montreal, Quebec, Canada
Filed Nov. 25, 1957, Ser. No. 698,797
7 Claims. (Cl. 25—133)

1. A rotary apparatus for curing concrete blocks comprising, in combination, a bottom wall, a top wall and a pair of spaced inner and outer circular walls defining

an annular receptacle for receiving water therewithin, an open top annular container floating in the water within said receptacle for rotation about an axis concentric with the central axis of said receptacle, means dividing said container into a plurality of similar compartments, a



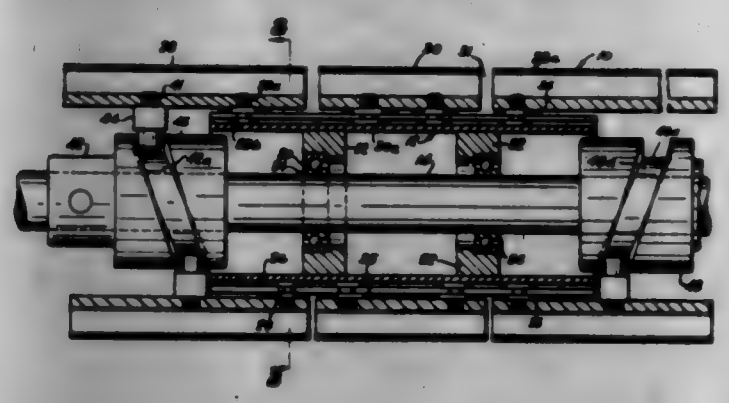
loading station including an opening in the top wall of said receptacle, means for rotating said compartments of said container sequentially into register with said top opening, means for storing concrete blocks in said compartments, and means for heating said blocks while stored in said compartments.

2,969,578

AN EXPANDER FOR STRETCHING A FABRIC AND THE LIKE

Frank Lembo, 248 E. 17th St., Paterson, N.J.

Filed Sept. 25, 1958, Ser. No. 763,352
1 Claim. (Cl. 26—64)



In a fabric-stretching expander roll, in combination, a tubular support with longitudinal circumferentially spaced slots, a plurality of movable slats located at opposite ends of said support, guiding devices located at opposite ends of said support and having inclined channels formed therein and extending in opposite directions, each of said slats consisting of a hollow body having an outer curved uninterrupted portion, an inner portion, and side walls interconnecting said portions, means firmly engaging the inner portion of each slat and slidably mounted in one of said slots, means firmly engaging the inner portion of each slat and slidably mounted in one of said channels, a separate finger extending into the interior of each of said slats, a drive plate carrying said fingers, and a motor drive for said drive plate.

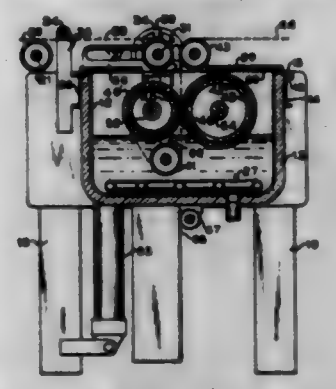
2,969,579

APPARATUS FOR SIZING YARN

Gaines L. Ball and Jack Hamrick, West Point, Ga., assignors to Batson-Cook Company, West Point, Ga., a corporation of Georgia

Filed Apr. 4, 1958, Ser. No. 726,445
10 Claims. (Cl. 28—28)

1. A size box for slashers including in combination, a squeeze roll, a size roll disposed on an axis parallel to the axis of said squeeze roll, said axes being spaced to form a nip between said rolls, and means for passing yarn through said nip in a straight path of travel in free upward flight tangentially to and from said nip, said means including spaced surfaces on opposite sides of said nip, each lying in a common plane passing through said nip, said means including an immersion roll underlying



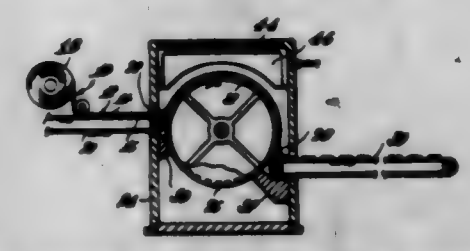
said squeeze roll and having a periphery tangential to a plane passing through said nip, and a guide roll overlying said size roll and having a periphery tangential to said plane passing through said nip.

2,969,580

METHOD OF SEPARATING A CONTINUOUS SERIES OF KNIT ARTICLES

Rudolph H. Wyner, Brookline, Mass., assignor to Shawmut, Inc., Stoughton, Mass., a corporation of Massachusetts

Filed Dec. 4, 1958, Ser. No. 778,164
2 Claims. (Cl. 28—72)



1. The method of preparing like knitted articles in which said articles are knitted as successive portions of a strip of fabric and each such portion is connected to the next by an interknitted yarn of a material which melts at a temperature below that which would injure the material of which said articles are formed, comprising as steps supporting the knitted fabric on a porous support, moving said supported fabric along a predetermined path, drawing air through the moving fabric and thereafter through the support, first heating said air to a temperature such as to melt the connecting yarn without injury to the material of which the articles are formed, preserving the relative arrangement of the separated, knitted articles while on said support, and successively removing the articles from the support.

2,969,581

PAPERMAKER'S SCREEN WITH A WAVY LONGITUDINAL SHAPE AND EDGES LONGER THAN THE CENTER PORTION THEREOF

Günther Bischoff, Kanalstrasse 2, Heidenheim (Brenz), Germany

Filed Sept. 13, 1956, Ser. No. 609,694
Claims priority, application Germany Sept. 14, 1955
9 Claims. (Cl. 28—78)



1. A paper-making machine screen comprising weft and warp monofilaments of which the warp filaments are composed of a synthetic material and the weft filaments

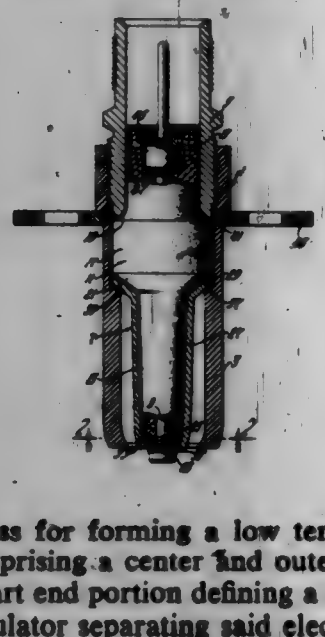
are metal, and the longitudinal edges on both sides of the screen being longer than the longitudinal center length of the screen.

2,969,582

SPARK PLUG AND PROCESS FOR MAKING THE SAME

Neil F. Meredith, Cleveland, Ohio, and Karl Schwartzwalder, Holly, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Jan. 19, 1955, Ser. No. 482,818
3 Claims. (Cl. 29—25.12)



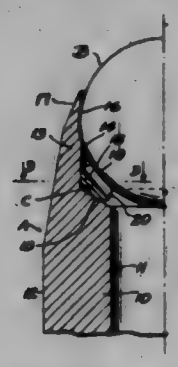
1. In a process for forming a low tension spark plug of the type comprising a center and outer electrode having a spaced apart end portion defining a spark gap therebetween, an insulator separating said electrodes and having the bottom surface thereof adjacent the gap, the steps of making a preform of a semi-conductor composition, positioning said preform about said center electrode, assembling said outer electrode about said preform and said center electrode, positioning said electrodes with a predetermined gap between their ends, said preform being in contact with the surface of said electrodes and abutting said gap, positioning a separator disk on the upper surface of said preform, positioning said insulator about said center electrode and resting on said disk, applying heat to said preform to raise the temperature thereof to the softening point and applying pressure on said insulator to compress the preform to a dense substantially non-porous mass, and cooling said composition while maintaining the application of pressure until said composition hardens, said composition being adherent to said electrodes to form a good heat conducting path therebetween.

2,969,583

BALL POINT PEN

Friedrich Schachter, 7333 W. Harrison St., Forest Park, Ill.

Filed Sept. 8, 1958, Ser. No. 759,827
7 Claims. (Cl. 29—148.4)



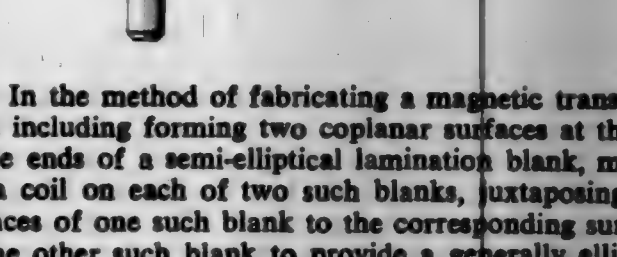
1. A method of fabricating a thrust bearing for a writing ball comprised of a socket, said socket having a ball receiving bore, an annular shoulder projecting inwardly from the base of said bore, an annular lip surrounding and defining said bore, and means for conducting ink from a reservoir to said bore, and an inserted ring having a face permanently conforming to the contour of the ball, which ring is of uniform cross section and is deformable without appreciable spring back, said method including the following steps: fashioning said socket of sufficient bulk and from material of sufficient strength to retain its original dimensions when the socket is supporting said ring in an operation of forming the ring; fashioning from a length of malleable wire of material having no appreciable spring back, a split ring, said wire being softer than the material of the socket and the ball, said length of wire being such as to provide a substantially closed ring having a diameter corresponding to said bore; inserting the ring into the bore; applying a substantially unyielding spherical surface against the face of the ring to deform the ring to form a thrust bearing surface concentric with said bore having true geometric conformity equivalent to the contour of the writing ball and simultaneously forcing the ring to conform circumferentially to the walls and shoulder at the base of said bore, but the deforming being limited to an amount that no appreciable spring back is developed due to the forming operation, the annular shoulder being of such size as to support and hold the ring in position and to oppose the forces applied to the face of the ring both during and after the deformation.

2,969,584

METHOD OF ADJUSTING A MAGNETIC HEAD

Lloyd J. Bobb, Glenside, Pa., assignor, by mesne assignments, to Armour Research Foundation of Illinois Institute of Technology, a corporation, not for profit, of Illinois

Original application Jan. 14, 1949, Ser. No. 70,837, now Patent No. 2,745,905, dated May 15, 1956. Divided and this application May 14, 1956, Ser. No. 584,795
3 Claims. (Cl. 29—155.5)



1. In the method of fabricating a magnetic transducer head including forming two coplanar surfaces at the opposite ends of a semi-elliptical lamination blank, mounting a coil on each of two such blanks, juxtaposing said surfaces of one such blank to the corresponding surfaces of the other such blank to provide a generally elliptical configuration with non-magnetic gaps between the respective juxtaposed surfaces of said blanks lying on the major axis of the configuration and with one of the gaps of size to carry out a magnetic transducing function with respect to a magnetic record, and securing the blanks in such juxtaposed relation, the improvement characterized by subjecting the juxtaposed blanks to an extraneous magnetic field, sensing the electrical output from said coils, and moving one of said blanks relative to the other in the plane of said surfaces to a position corresponding to minimum output of said coils due to said extraneous magnetic field prior to securing of the blank in said juxtaposed relation.

2. The method of aligning a transducer head in magnetic recording and reproducing apparatus which comprises inserting a magnetic record with a standard mag-

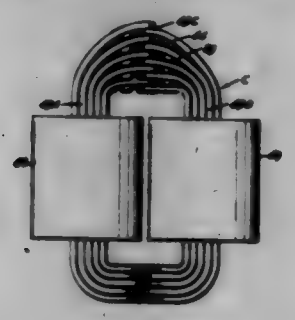
netic recording thereon in the apparatus in contact with the transducer head and scanning the record with the head, rocking the head in a plane transverse to the record to angularly adjust the position of the head, securing the head as against transverse movement in a position where maximum output is observed and thereafter oscillating the head on an axis normal to the plane of the record and securing the head in the position of oscillation at which maximum high frequency response is observed.

2,969,585

MAGNETIC STRIP MATERIAL FOR CORES OF TRANSFORMERS AND METHOD OF MANUFACTURE OF SUCH STRIP MATERIALS AND CORES

George A. Smith, Pine Bluff, Ark., assignor to Central Transformer Corporation, Pine Bluff, Ark., a corporation of Arkansas

Filed Aug. 9, 1954, Ser. No. 448,595
11 Claims. (Cl. 29—155.57)



1. As a new article of manufacture, magnetic strip material adapted for use in wound-type laminated cores for transformers in which laminations are discontinuous and are jointed by overlapping end portions to form lap joints, which comprises elongated ferrous strip, relief zones, in which the cross-sectional area of said strip is reduced, disposed transversely across said strip, said relief zones being longitudinally spaced apart along said strip, the spacing between adjacent relief zones being a distance substantially equal to the length of a single core turn when wound, integral spacers embossed in said strip at intervals along said strip, each said interval being a distance equal to the length of a plurality of core turns when wound, at least two said spacers being disposed adjacent each said interval and one of said relief zones being interposed between said two spacers adjacent each interval, said two spacers being respectively longitudinally spaced substantially equally and oppositely from the interposed relief zone a distance equal to the length of overlap of said end portions when said laminations are jointed, and longitudinal integral rib means formed in said strip and extending longitudinally thereof.

4. Method of manufacture of wound cores for transformers from magnetic strip material, which comprises the pre-winding steps of transversely partly severing said strip material at intervals spaced longitudinally along said strip material to provide transversely extending longitudinally spaced relief zones, subsequently continuously winding said partly severed strip material into a substantially quadrilateral coil of continuous whole turns, thereby positioning said relief zones substantially in alinement at one side of said coil, beginning annealing of said coil, thus expanding said turns with the best of annealing and thereby effecting parting of said turns along said relief zones under the effect of the heat of said annealing and without interrupting said annealing to establish a plurality of discontinuous strip laminations in nested condition and having free ends, completing said annealing with said laminations nested and discontinuous while maintaining said laminations substantially in the shape of said coil and subsequently overlapping said lamination free ends to lap said laminations and complete a laminated, lapped joint core for a transformer.

2,969,586

METHOD FOR INCREASING THE EFFECTIVE THICKNESS AND RESILIENCY OF SHEET METAL AND SHEETS PRODUCED THEREBY

John H. Victor, Wilmette, Ill., assignor to Victor Manufacturing & Gasket Co., Chicago, Ill., a corporation of Illinois

Filed Apr. 24, 1957, Ser. No. 654,777
5 Claims. (Cl. 29—183.5)



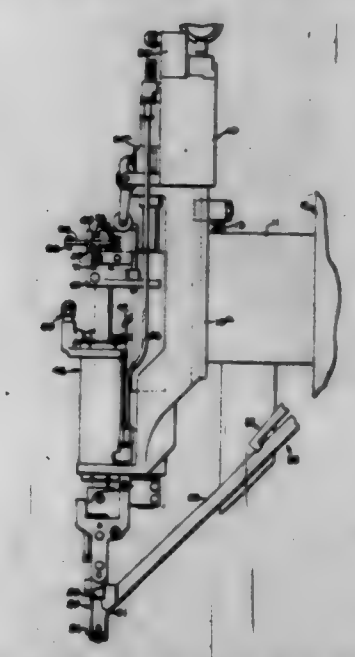
1. A sheet stock made of a metal selected from the group consisting of copper, brass and steel, and of approximately .006" thickness formed into a gasket stock having an effective thickness of approximately .030 and consisting of a plurality of generally pyramidal sockets indented into each face of the stock, each socket forming a projection rising out of the other face of the stock, the outer face of each projection being somewhat rounded and blended into the inner surfaces of sockets indented into the face of the stock out of which the projections rise whereby the increase of effective thickness and resiliency of the stock are achieved; said sockets being uniformly spaced apart in uniformly spaced apart rows which the sockets and rows on the obverse face of the stock located midway between the sockets and rows on the reverse face thereof, said rows of sockets and sockets in the rows being spaced approximately .047" apart, whereby said sockets and projections aid in bonding facing materials onto the stock.

2,969,587

AUTOMATIC ASSEMBLING MACHINE WITH SIZE SENSING ARRANGEMENT

Paul H. Dixon, Rockford, Ill., assignor to Dixon Automatic Tool, Inc., Rockford, Ill., a corporation of Illinois

Filed Apr. 3, 1958, Ser. No. 726,263
5 Claims. (Cl. 29—200)



1. In an assembling machine for fitting a workpiece with respect to the work, the combination comprising, a support for the work, means for suspending the workpiece above the work, a plunger mounted for vertical recipro-

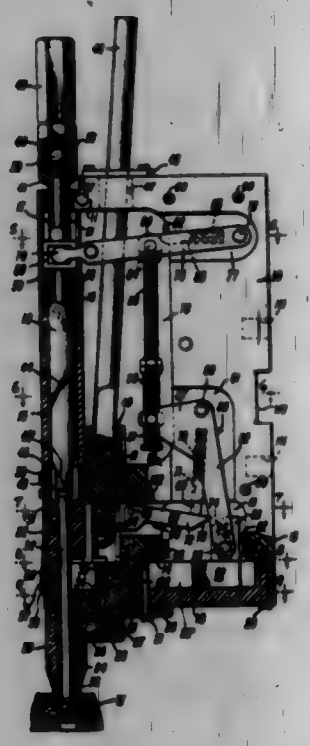
cating movement into contact with the suspended workpiece, a motor having a vertically reciprocable member, means interconnecting said member and said plunger while permitting limited longitudinal lost motion therebetween so that the plunger and the member form an assembly shiftable between extended and shortened relative positions, a lever inter-engaging and carried with said plunger and said member so as to swing when said assembly shifts between said extended and shortened positions, said motor being effective to power said member to a lower limit position whereat said plunger engages the workpiece and seats it in the work, and means for cycling said motor including a control effective to cause said member to be raised by said motor, said control having an operator for initiating its operation, said operator being positioned in the path of movement of the lever so that said lever will engage it only when the member is in its said lower limit position and said assembly is held in its shortened position by a standard workpiece that is in proper assembled relation with the work, whereby an oversized workpiece will keep said assembly above said lower limit position and said lever out of contact with said operator, and an undersized workpiece will permit he plunger to drop and the assembly to be extended when the member is in its lower limit position so that said lever is swung out of contact with said operator, the arrangement thus causing said assembly to be raised only if a standard workpiece is properly assembled.

2,969,588

TOOL FOR INSERTING WIRE COILS IN BORES

Ronald B. Stephens, York, England, assignor to Heli Coil Corporation, Danbury, Conn., a corporation of Delaware

Filed July 8, 1958, Ser. No. 747,215
7 Claims. (Cl. 29—240.5)



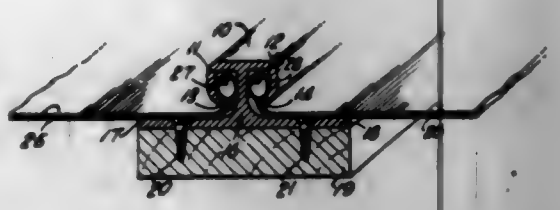
1. In a device for installing a wire coil screw thread insert in the cylindrical bore of a work piece, the combination of a tubular member, a mandrel guided in said tubular member, a thrust bearing being disposed on top of said mandrel to permit simultaneous rotation of said mandrel when an axial movement is imparted to said mandrel through said thrust bearing, said mandrel having a helical shoulder forming a step at a short distance from its lowermost end, said tubular member forming a lower nozzle-like end portion and being provided with a lateral recess above said nozzle-like end for charging an insert in the path of said mandrel, said mandrel being reciprocal between an upper end position in which said mandrel is clear of the recessed tubular member portion, and a lower end position in which said helical shoulder has pushed a charged insert through and out of said nozzle-like end, one of said mandrel and said tubular member being provided with a scroll-like guiding face, and a pin, being secured to the other one of said mandrel and said tubular member and adapted to engage said scroll-like face so as to rotate said mandrel positively in the direction of the insert winding in the course of its active downward stroke, whereby the mandrel will be turned so as to engage the top end of the charged insert with said shoulder, the one of said mandrel and said tubular member provided with said scroll-like guiding face is also provided with another guiding face engageable by said pin to rotate said mandrel in the opposite direction in the course of its return stroke, said pin being disengaged from both said scroll-like faces over an initial short distance of the return stroke of said mandrel.

2,969,589

METHOD OF MAKING A PANEL STRUCTURE

Howard A. Fromson, Weston, Conn., assignor to Calumet & Hecla Inc., a corporation of Michigan

Filed Dec. 20, 1956, Ser. No. 629,560
3 Claims. (Cl. 29—421)



1. The method of permanently securing an edge of a metal panel to an anchor member with a weather-tight seal which comprises: forming an elongated anchor member with a longitudinal cavity therein, said cavity having a continuous restricted entrance extending lengthwise along one side thereof; inserting through said entrance and into said cavity a flat edge portion of a metal sheet incorporating, in said flat edge portion, an inflatable tube section extending lengthwise along said edge from one end to the other end thereof; and inflating the said tube section within the cavity to a diameter larger than the restricted entrance to the cavity by introducing fluid under pressure into the tube section.

2,969,590

PRODUCTION OF COMPOSITE ALUMINOUS METAL ARTICLES

Spencer R. Milliken, New Kensington, Pa., assignor to Aluminum Company of America, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed Oct. 25, 1957, Ser. No. 692,286
14 Claims. (Cl. 29—488)

1. In the bonding of composite aluminous metal articles wherein at least one component is an aluminum base alloy containing 0.1 to 15 percent magnesium, the method comprising providing an atmosphere in a furnace containing not less than 75 milligrams of boron trifluoride per cubic foot of atmosphere, placing said component in said furnace, heating said component to a temperature between 400° F. and 750° F., but below the critical oxidation temperature of said alloy component for a long enough time to develop an oxidation-resistant film on the surface thereof, thereafter preheating the components of said composite article at a temperature above said critical oxidation temperature, and finally pressure-bonding said components while still hot to form the composite metal article.

2,969,591
CONTAINER OPENER

Eugene Rader, 21 Clarksville St., Paris, Tex.

Continuation of application Ser. No. 675,581, Aug. 1, 1957. This application Oct. 9, 1958, Ser. No. 766,345
2 Claims. (Cl. 30—16)

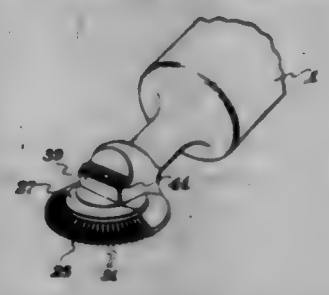


1. A container opener of the type described comprising: a solid cylindrical shank of uniform circular cross-section throughout its length; a single flat bevel surface at one end of said shank; and means defining a recess in said shank extending from a point on said bevel surface adjacent the tip thereof toward the other end of said shank, said means partially intersecting said bevel surface to define a V-shaped tip between said bevel surface and said recess, and adapted to engage the bead of a conventional container to pierce the adjacent end wall thereof.

2,969,592
HAIRLINE CUTTER

Philip T. Felts, 1120 S. Memorial Blvd., Tulsa, Okla.

Filed Mar. 23, 1959, Ser. No. 801,081
2 Claims. (Cl. 30—206)



1. A device for cutting hair, comprising a casing having a forwardly opening cavity therein, a rotor shaft extending through the casing on one side of the cavity and across the cavity and terminating in the casing on the other side of the cavity and having screw-threaded engagement with the casing, a rotor mounted in the cavity in the casing for rotation on the shaft and having a plurality of radially extending cutting teeth, some of the cutting teeth extending outside the casing and some of the cutting teeth being disposed inside the casing in all positions of the rotor, and a resiliently deformable integral comb having a plurality of stationary comb teeth disposed outside the casing and extending radially of the axis of the rotor, the cutting teeth which extend outside the casing successively registering with the stationary comb teeth upon rotation of the rotor thereby to cut hairs disposed between the cutting and comb teeth, the comb having opposed portions disposed on both sides of the cavity and resiliently gripping the casing between them removably to mount the comb on the casing, said portion of the comb on said one side of the cavity covering the end of the rotor shaft on said one side of the cavity.

2,969,593
LAWN AND GARDEN TOOLS

James A. Sinclair, The Jimsin Co., P.O. Box 238, Franklin, La.

Filed Jan. 6, 1960, Ser. No. 829
5 Claims. (Cl. 30—318)

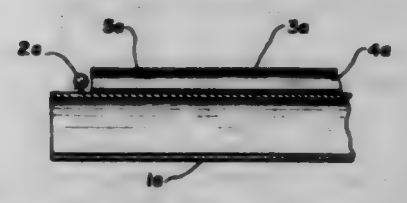
2. An elongated garden tool for the stand-up cutting or trimming of vegetation comprising, in combination, a straight elongated handle member, a broad flat flexible resilient blade having cutting edges on each side thereof, means for fixedly securing one end of said blade to an end of said handle member for extending in substantial alignment therewith, and a separate flexibly resilient but self-sustainingly stiff tension element having one of its ends detachably interlocked with the distal end of the blade and the other end detachably connected with said handle member at a point above the place of securement of the blade; the means for effecting the detachable connection comprising an eye member rigid with said handle at said point, the plane of the eye intersecting the axis of the handle member and extending transversely to the common plane of the handle member and the tension element, and a hook element at the latter end of said tension element in detachable engagement with said eye, the plane of the hook element substantially coinciding with said common plane, the length of said tension element being less than the distance along the blade and handle between the points of connection of said tension element, whereby the blade is sprung out of its planar condition to an arcuate curvature, the transverse dimension of the blade at any point along its length being perpendicular to said common plane.



2,969,594
GUN SIGHT

Frank R. Palmer, 1201 Reading Blvd., Wyomissing, Pa.

Filed Apr. 13, 1959, Ser. No. 805,781
7 Claims. (Cl. 33—47)



6. A tubular front sight for a fire arm comprising a thin walled tube having an inside diameter of less than ¼ inch and of the order of ⅛ inch and long enough so that both of the shooter's eyes cannot see through the tube at the same time when sighting the fire arm, said tube having its inside surface substantially non-reflective, the ends of said tube being open, a brilliant element positioned immediately in front of said tube so as to block the view through the front end by the shooter's eye that is axially aligned with the tube.

2,969,595
DOOR JAMB STRAIGHTEDGE BRACKET

Charles H. Songer, 1504 W. 26th St., Pine Bluff, Ark.

Filed Mar. 2, 1959, Ser. No. 796,397
8 Claims. (Cl. 33—85)

1. A door jamb straightedge bracket for use in applying plaster and tile about a door jamb, said bracket comprising an upper clamp and a lower clamp for clamping engagement with a wall structure, and a pair of straightedges extending between and supported by said upper and lower clamps, each of said straightedges being in the form

of an angle member having a pair of intersecting flanges disposed at right angles to each other, means pivotally mounting said straightedges upon said upper and lower



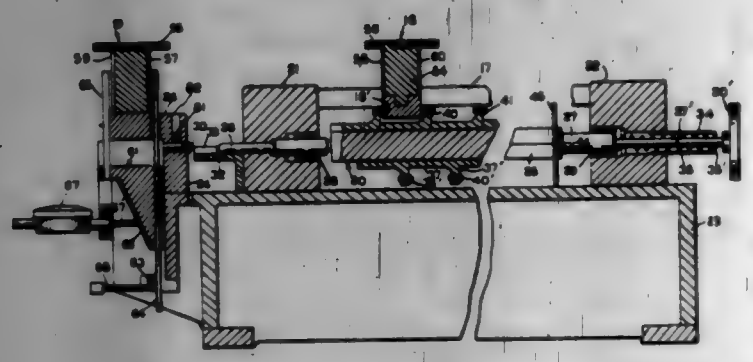
clamps for pivotal movement about axes lying along the line of intersection of said flanges whereby said flanges may be positioned to lie in planes and thus define surfaces which are at right angles to each other.

2,969,596

GAGE SETTING AND CHECKING APPARATUS

Harvey Edmonds, Poughkeepsie, N.Y., assignor to Boice Manufacturing Company, Inc., Hyde Park, N.Y., a corporation of New York

Filed Feb. 15, 1960, Ser. No. 8,835
20 Claims. (Cl. 33—143)



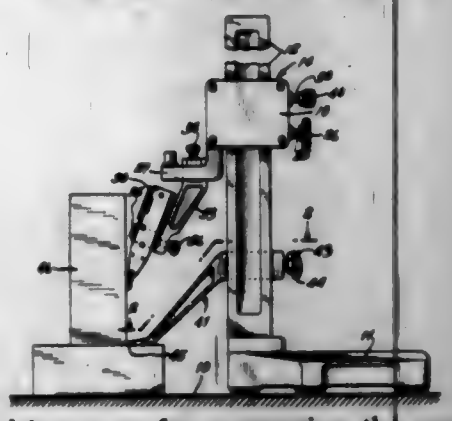
1. In an apparatus for setting and checking linear dimension gages, a frame, an anvil structure fixed on the frame, another anvil structure mounted on an elongated straight track on the frame, for sliding movement along said track, towards and away from said fixed anvil structure, an elongated station-carrying member positioned along said track, mounted on the frame for sliding longitudinal movement, a plurality of spaced station elements extending laterally from said station-carrying member, station contact points, one on each of said station elements and pointing along the line of said track, a contact point on the movable anvil structure, adapted to contact each of said station contact points, one at a time; said movable anvil structure and said station-carrying member being relatively movable whereby said movable anvil structure can be set along the track so that the contact point said movable anvil structure carries will be made to abut any selected station contact point, a reference contact point on the fixed anvil structure facing one end of the station carrying member, means for releasably maintaining the movable anvil structure to the track means, spring means on the frame, biasing the station-carrying member towards said reference contact point on the fixed anvil structure, a table on the frame for supporting gage blocks between said reference contact point and said end of the station carrying member and contact elements on the anvil structures to be contacted by the anvils of gages to be set or checked.

2,969,597

SQUARENESS GAGE

Walter J. Crosbier, Hyde Park, N.Y., assignor to Standard Gage Company, Inc., Poughkeepsie, N.Y., a corporation of New York

Filed May 22, 1958, Ser. No. 737,008
3 Claims. (Cl. 33—172)



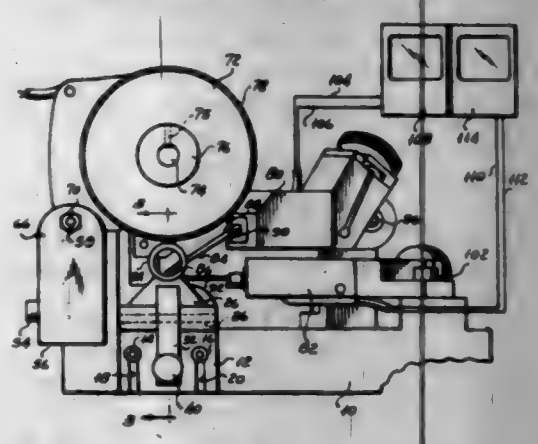
1. A precision gage for comparing the squareness of a master with that of a workpiece comprising, in combination, a base having an extended area adapted to be placed on a surface plate, a support rod extending generally vertically from said base, a dial indicator supporting slider mounted on said support rod, a dial indicator mounted on said slider, a reference member mounted for movement along said support rod, said member comprising an arm extending outwardly beyond said base and terminating in a portion extending parallel to the surface plate, said terminating reference portion being curved convexly outwardly in the horizontal direction, the radius of curvature being great as compared to the radius of the indicator contact, said dial indicator being positioned on said slider with its contact point in substantially vertical alignment with said reference surface, and means to rock said slider about said support rod to move said indicator to position the contact point thereof against the vertical surface of a master having a base at exact right angles to the vertical surface and placed on the surface plate on which said base is positioned, the vertical surface being in contact with said reference surface whereby said indicator may be set to a zero reading and the surface of the workpiece compared with the vertical surface of the master to determine the deviation of the workpiece surface from that of the master and thus determine the squareness of the workpiece, said curved reference surface serving to yield a passing reading as the master and workpiece are moved relative to the dial indicator contact point along said reference surface.

2,969,598

GROOVE WOBBLE AND ECCENTRICITY GAUGE

Paul Voltaire, New Milford, and David N. Mends, Sandy Hook, Conn., assignors to The Barden Corporation, Danbury, Conn., a corporation of Connecticut

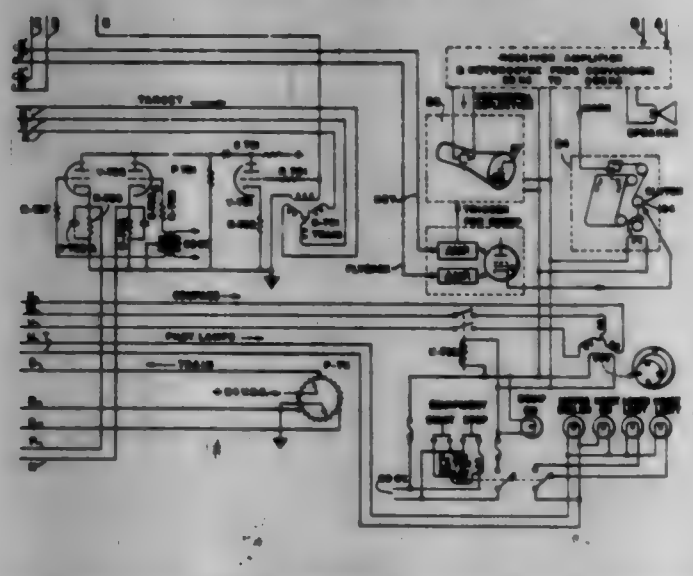
Filed May 5, 1958, Ser. No. 733,102
12 Claims. (Cl. 33—174)



1. A gauge for measuring the deviation of a bearing groove from a predetermined path including in combina-

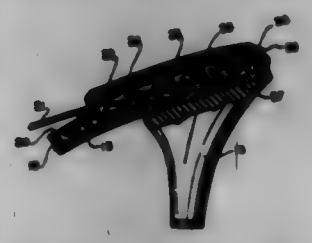
tion a replica having an extended surface conforming to a portion of the surface of a bearing ring groove describing said predetermined path, said replica being stationarily positioned to support a bearing ring to be tested with the bearing groove directly in engagement with said replica surface, means for driving said ring to move said ring groove over said replica surface and means for sensing movement of said ring in response to deviation of the groove of said ring from said predetermined path.

2,969,599
GROUP TRAINER FOR OPERATORS OF ECHO-RANGING EQUIPMENT
Robert Glen Nye, George A. Brettell, Jr., and Laurel T. Apple, San Diego, Calif., assignors to the United States of America as represented by the Secretary of the Navy
Filed May 9, 1946, Ser. No. 668,450
1 Claim. (Cl. 35—10.4)



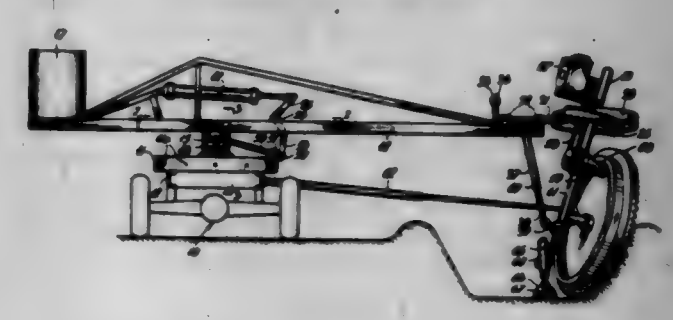
In combination in a training apparatus for simulating a depth-charge attack made against a submarine by sound contact, means for simulating the transmission of echo-ranging pings, means for simulating echoes from the submarine, means for shortening the interval between the ping and the echo as the range shortens, means for generating an indication of target bearing in simulation of said attack, said means including a selsyn generator and a cam follower for rotating it, and including also switch means for reversing the polarity of the power input to the control transformer for introducing a fixed shift in bearing near the time at which the simulated attacking ship crosses the presumed track of the target submarine, and means for silencing echoes at this same time.

2,969,600
SHOE PROVIDED WITH ELASTIC BRIDGING ELEMENT
Jack Meltzer, 544 N. Laurel Ave., Hollywood, Calif.
Filed Feb. 10, 1960, Ser. No. 7,906
3 Claims. (Cl. 36—58.5)



1. In a shoe, an insole, a flexible but non-stretchable bridging element overlying the insole having its front end anchored to the forward region of the insole and extending rearwardly to the heel region thereof, an elastic arranged in tension overlying the heel region of the insole having its rear end anchored to the heel region of the insole and its front end connected to the rear end of the bridging element, and a separate heelpiece conforming in shape to the heel region of the insole overlying and completely concealing the elastic and being secured only along its rear and side edges to the heel region of the insole, said heelpiece being a member folded between its ends to form two superposed plies, the folded edge of said member being the front edge of the heelpiece, said front edge extending across the width of the insole and being free of attachment to the insole so as to provide an opening substantially as wide as the insole having a smooth and finished upper edge through which the rearward region of the bridging element can move freely in a longitudinal direction as the insole is flexed.

2,969,601
CHANNEL CLEARING MACHINE
James Herbert McMaster, 19 Richard St., Kyabram, Victoria, Australia
Filed Mar. 13, 1959, Ser. No. 799,212
4 Claims. (Cl. 37—94)

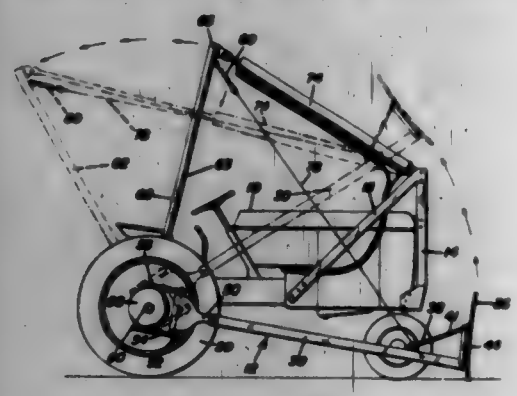


1. A channel clearing machine comprising a vehicle having a chassis, a turntable mounted on said chassis, a generally horizontal beam pivotally and rotatably mounted on said turntable and having one end extending beyond said vehicle, the beam thereby being capable of rotation about a vertical axis from one side of the vehicle to the other, a support member disposed at the said one end of the generally horizontal beam, a generally vertical beam rotatably mounted on said support member whereby said generally vertical beam may be rotated about its own axis, bearings journalling the said support member at the said one end of the generally horizontal beam permitting the generally vertical beam to be inclined at any desired angle in relation both to the vertical plane including the axis of the generally horizontal beam and the vertical plane perpendicular thereto, a disc-like rotary implement rotatably mounted at the lower end of the said generally vertical beam, the rotary implement having a periphery extending below the generally horizontal beam for engagement with the soil in a channel below the level of the ground surface on which the vehicle is supported, and power means supported on said generally vertical beam for rotating the rotary implement at any position thereof in relation to the said generally horizontal beam at such a speed that material removed from the channel by the rotary implement will be deposited as a bank on one side of the channel.

2,969,602
TRACTOR LIFT
Charles N. Taylor, Marsland, Nebr.
Filed Aug. 1, 1957, Ser. No. 675,620
1 Claim. (Cl. 37—144)

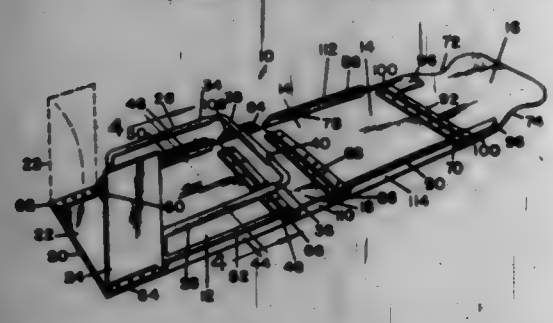
In a tractor which has a tractor body, a rear axle housing establishing a pivot axis, and rear wheels, a seat near said rear axle, and a pair of front wheels, a multipurpose attachment comprising a forward frame, means attaching the forward frame to the front part of the tractor, said forward frame having a portion which raises above said front part of the tractor, at least one

hydraulic cylinder pivoted to said portion of said frame that rises above the front part of the tractor, a substantially U shaped inverted boom having lower ends, means for pivoting said lower ends of said substantially U-shaped boom adjacent and in spaced relation to the rear axle housing for movement about an axis spaced from and parallel to said pivot axis with said boom swingable above the tractor and the sides of said boom travelling on opposite sides of the tractor, means pivotally connecting said hydraulic cylinder to an intermediate part of



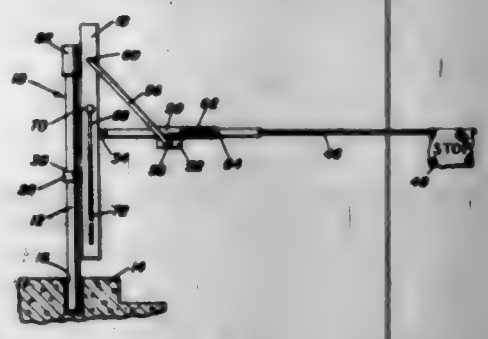
said boom above the tractor, side arms pivoted to the rear of said tractor for movement about said pivot axis and located on the sides of the tractor, means for attaching an implement to the front part of said side arms and located in advance of the front wheels of the tractor, and mechanical connecting means attached to an intermediate part of said boom and said side arms near the front ends thereof for mechanically coupling said side arms to said boom so that said side arms are pivotally movable in response to pivotal movement of said boom.

2,969,603
PORTABLE COMBINATION IRONING BOARD AND LUGGAGE CASE
Mary R. O'Buckley, Horseheads, N.Y.
Filed June 20, 1958, Ser. No. 743,342
1 Claim. (Cl. 38—112)



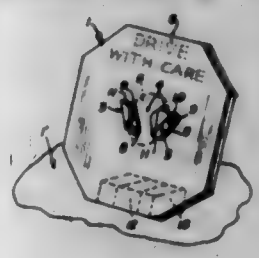
In an ironing board and carrier, the combination which comprises a rectangular-shaped base panel, a first end panel hinged to one end of the base panel, a side panel of the same pattern and size as that of the base panel hinged to the extended edge of the first end panel, an ironing board nose panel hinged to the extended edge of the side panel and patterned to nest against the inner surface of said side panel, a second end panel hinged to the end of the base panel opposite to the end to which the first end panel is hinged, side walls hinged to the ends of said second end panel, the base panel, side panel, nose panel, and first and second end panels being connected by piano hinges providing a smooth outer ironing surface, said base, side, nose, and end panel positioned between the base and side panel having longitudinally disposed registering tubes on under surfaces, pins slidably mounted in the tubes for retaining the panels in extended positions, and a U-shaped frame having telescoping arms mounted on and spaced from the base panel for supporting the ironing board from and in spaced relation to a supporting surface.

2,969,604
SCHOOL CROSSING GUARD RAIL
Mutual Burton, Sr., 2258 Dartmouth Ave., Columbus, Ohio
Filed Dec. 10, 1958, Ser. No. 779,437
6 Claims. (Cl. 39—92)



1. A school crossing guard rail comprising a stationary upright standard, a vertically disposed support member, means rotatably and detachably connecting the support member to said standard for rotation about the longitudinal axis of the standard, an arm extending laterally from said standard for supporting a signal device in the path of movement of traffic for controlling the movement of such traffic, a block slidably disposed on said support member and being pivotally connected to the inner end of said arm, link means pivotally connected to said arm in longitudinally spaced relation to the block and connected to the support member whereby vertical movement of the block will cause movement of the arm from a laterally extending horizontal position to a vertical position alongside of the support member, and a handle connected to said block for vertically reciprocating the same.

2,969,605
DISPLAY DEVICE
John C. Garvin, Washington, D.C., assignor to Safety Sake Enterprises, Inc., Washington, D.C., a corporation of Delaware
Filed Oct. 13, 1959, Ser. No. 846,206
8 Claims. (Cl. 40—10)

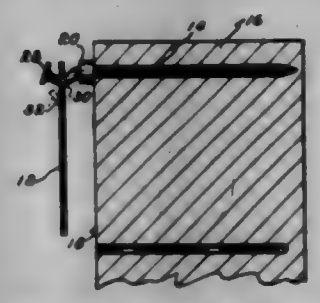


1. A combination display device and coin holder of the type described comprising a plaque, transversely spaced, forwardly projecting fingers disposed on the front face of the plaque, an indicia-bearing card having apertures spaced to receive said fingers, removably mounted on the front face of the plaque, said fingers jointly defining a receptacle for a coin inserted therebetween in overlying relation to a portion of the card and acting with said inserted coin to hold said card on the plaque, and means for removably affixing the plaque with the card mounted thereon to a supporting surface.

2,969,606
SCINTILLATING SIGN
Angelo F. Battaglia, 1703 Walnut St., Philadelphia, Pa.
Filed Jan. 8, 1958, Ser. No. 707,758
5 Claims. (Cl. 40—130)

1. A scintillating sign assembly for mounting upon a wall surface comprising a disc with reflecting front and rear surfaces thereof and having a non-circular opening in a non-centric portion thereof, a cut-flap consisting of two

substantially parallel slits extending away from the opening and contiguous therewith so that the cut-flap may be deflected out of the plane of the said surfaces for thereby



enlarging the substantial size of the opening, and a nail having a head that substantially fits through the said enlarged opening.

2,969,607
COMBINATION ARTIST'S EASEL AND CANVAS CARRIER

Joseph Graenbacher, Long Beach, N.Y., assignor to M. Graenbacher, Inc., New York, N.Y., a corporation of New York

Filed Nov. 5, 1958, Ser. No. 772,086
2 Claims. (Cl. 45—129)



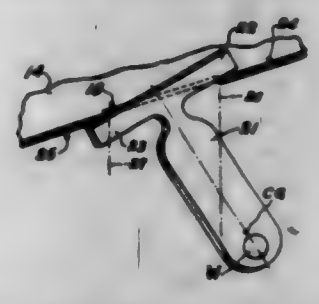
1. A combination artist's easel and canvas carrier comprising a frame having clamping means for mounting a canvas on the front thereof and having a central supporting portion; a combination supporting device and carrying handle on the frame for either holding the same upright on a supporting surface or else for carrying the frame, said device including an elongate narrow brace having a width substantially less than that of the frame, said brace being at one end pivotally secured to the said central portion of the frame, the other end of the brace having a relatively short cross member compared with the frame width, said cross member being adapted to constitute a handle, said brace being extendable angularly downward from the back of the frame to a location adjacent the supporting surface therefor to hold the frame upright, and being foldable upward and flat against the back of the frame with the said cross member disposed outside of the frame and spaced therefrom for use as a handle whereby the brace constitutes a carrying means for the frame; and detent means engageable with the brace at a point spaced inward from the handle end thereof, for releasably holding the brace flat against the back of the frame, said detent means comprising an elongate member hingedly connected to the bottom of the frame and swingable upward against the back of the frame and against the said brace.

2,969,608
TOY WITH A RELEASABLE LOAD OR BOMB

William J. Shapiro, 658 Montgomery, Brooklyn 25, N.Y.

Filed Feb. 21, 1957, Ser. No. 641,527
9 Claims. (Cl. 46—77)

1. A load dropping toy to be used with an inclined track comprising a vehicle having oppositely facing supporting surfaces spaced a substantial planar distance from each other, means carried by the vehicle for mounting the same on the track for movement thereon, a load having at least one fin extending laterally therefrom and said fin providing a first contact edge facing towards the forward end of the load, means carried by the load providing at least one second contact edge spaced both rearwardly and laterally from the first contact edge and facing rearwardly of the load, the supporting surfaces being spaced apart a substantial planar distance and in a longitudinal direction of the vehicle but engageable by

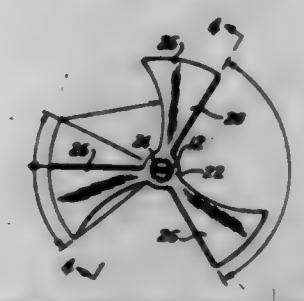


the contact edges, each first contact edge engaging one supporting surface of the vehicle and said second contact edge engaging the other spaced supporting surface of the vehicle, the center of gravity of the load being distant forwardly from the contact edges so that when the load is mounted with the contacting edges in contact with the supporting surfaces the center of gravity of the load is displaced beyond one of two vertical lines extending through the points of contact of the load with the supporting surfaces of the vehicle to clamp the load to the vehicle.

2,969,609
AERIAL TOY

Bronislaw P. Kowalski, 358 Chapin St., Ludlow, Mass.

Filed Jan. 14, 1959, Ser. No. 786,795
1 Claim. (Cl. 46—85)



An aerial toy flyer formed from sheet material in a single plane, said flyer comprising a central disc-shaped hub portion having an elongated rectangular diametrical slit of a length less than the hub diameter, the slit being adapted to fit about a helical rod rectangular in cross section, the flyer being adapted to be rotated by and projected upwardly from the helical rod by pressure applied against the bottom side of said hub portion, three identical equi-angular blades integrally extending radially from and secured only to said hub, a straight radial leading edge on each blade on a radius from said hub and extending at an angle of approximately 20° up from the plane of said hub, a concavely curved trailing edge on each blade extending at an angle below the plane of the hub substantially equal to the leading edge angle, the peripheral edges of said blades being circumferential and measuring approximately 40° between the tips of their leading and trailing edges.

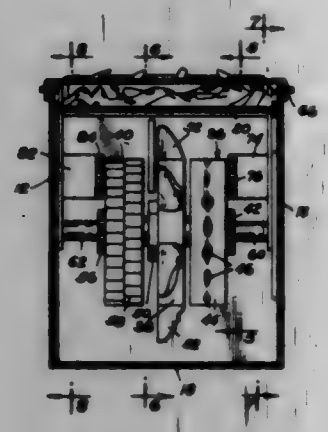
2,969,610
TOY WITH CHANGEABLE FACIAL FEATURES

Hilman Weiner, 5541 W. Quincy St., Chicago, Ill.

Filed Mar. 18, 1959, Ser. No. 800,138
3 Claims. (Cl. 46—135)

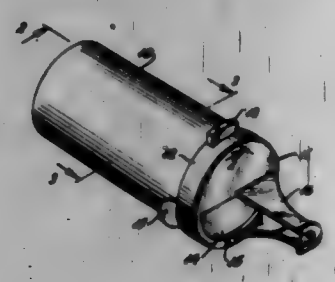
2. A toy comprising a housing having a simulated face, said face having a plurality of eye openings, a nose open-

ing and a mouth opening, a post slidably supported in said housing, three rotatable members supported on said post, the first of said members having simulated eyes, the second having simulated noses and the third having simulated teeth, a cover for said face, means within said



housing and engaged by said rotatable members for rotating and alining said members when the post is slid forwardly, connecting means between said cover and said post adapted to slide said post forwardly upon moving the cover to uncover said face.

2,969,611
TURKEY CALLER
Drew V. Warren, Jr., P.O. Box 117, Lake Monroe, Fla.
Filed Aug. 28, 1958, Ser. No. 757,754
2 Claims. (Cl. 46—180)



1. A turkey caller comprising a hollow tube having a transverse opening at one end and an opening remote therefrom for the free escape of air passing through the tube from the said one end, a wall extending across said transverse opening and having a substantially straight free edge substantially bisecting said opening, said wall covering approximately one-half of the opening, and an elastic member mounted under tension across the other approximately one-half of the opening not covered by said wall, said member having a substantially straight free edge extending substantially parallel to the free edge of the wall and slightly therebeneath and approximately bisecting said opening, whereby the free edge of said wall overlaps the free edge of said elastic member permitting the latter to flex inwardly of the opening.

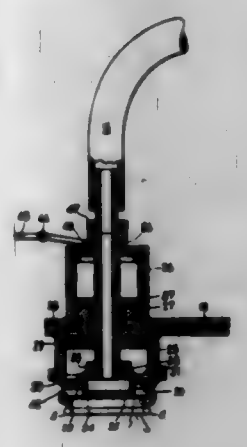
2,969,612
APPARATUS FOR TREE TREATMENT AND FERTILIZING
William A. Loree, P.O. Box 284, Corona, Calif.
Filed June 10, 1958, Ser. No. 741,117
2 Claims. (Cl. 47—1)

1. A tree treating and fertilizing device comprising a pair of liquid receptacles adapted to be mounted adjacent the trunk of said tree, mounting means for said receptacles whereby one side of each receptacle is maintained in contact with said trunk, said one side having perforations therein whereby liquid in said receptacle is dispensed, and



flow retarding means mounted on said one side to control the dispensing of said liquid.

2,969,613
APPARATUS FOR BENDING ARTICLES OF GLASS OR OTHER THERMOPLASTIC MATERIALS
Roger Emile Lambert, Paris, and Michel Dubesset, Le Vesinet, France, assignors to Compagnie de Saint-Gobain, Paris, France
Original application Oct. 2, 1950, Ser. No. 187,964, now Patent No. 2,817,928, dated Dec. 31, 1957. Divided and this application Nov. 8, 1957, Ser. No. 695,457
Claims priority, application France Oct. 3, 1949
7 Claims. (Cl. 49—7)

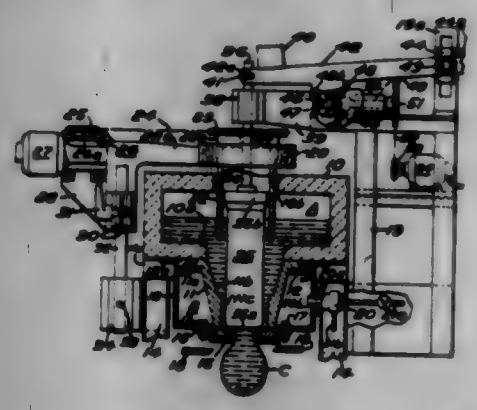


7. An apparatus for the production of thermoplastic materials, in particular of glass, having at least two different curvatures, which comprises a suction element supporting the article which has been preliminary-shaped and conforming on all its article-engaging surfaces to the curvature of a substantial zone of the preliminarily shaped article, the suction element having a face engaging said zone of the article, said face of the element being somewhat smaller than the face of the article engaged thereby so that an edge portion of the preliminary-shaped article protrudes beyond the suction element in at least one edge portion of the suction element, heating means confronting that surface of the protruding edge portion of the thus held article which is remote from the suction element, and means on the same side of the article as the suction element having at least one suction port in the zone of the protruding edge of the article whereby gas heated by the heating means is sucked around the protruding edge portion of the article to engage both broad surfaces thereof.

2,969,614
CHARGE FORMING APPARATUS
Andrew H. Stewart, Windy Ghoul, Beaver, Pa.
Filed May 4, 1956, Ser. No. 582,867
2 Claims. (Cl. 49—55)

1. In a feeder apparatus for hot plastic or vitreous material having a forehearth and a support frame to supply molten material downwardly in the form of gob

charges therefrom, and a plunger projecting downwardly through an opening in the top of said forehearth to control the shaping and delivery of the gob charges from said forehearth, means for providing a uniformity of texture of the molten material which is discharged from said forehearth, said means comprising a rotatable refractory agitator sleeve operatively projecting downdownwardly through the opening in the top of said forehearth, said sleeve extending circumferentially about said plunger and into the molten material within the forehearth, an L-shaped cantilever support wing connected to one side of the support frame and projecting over and along the top of said forehearth, a bearing carried in said support wing co-axially above said plunger to rotatably suspend said refractory sleeve about said plunger, a motor mounted on said support wing and operatively connected to said sleeve to impart rotational movement thereto, and connecting means on said support frame for vertically-adjusting said support wing to simultaneously adjust the vertical positioning of said



sleeve and said motor with respect to said forehearth so that power from said motor may be continuously supplied to said sleeve to continuously rotate said sleeve during the positioning and at all desired vertical positions; a drive rod projecting upwardly from said plunger, a swing arm having means at one end operatively engaging said drive rod to vertically reciprocate said rod and said plunger, a pivot mounting assembly secured to the other side of said support frame, the other end of said swing arm swingably secured to said pivot mounting assembly for pivotable movement with respect thereto, an actuating cam mechanism operatively positioned on said support frame and engaging an intermediate portion of said swing arm to actuate it in a timed relationship to reciprocate said plunger, means for vertically adjusting said pivot mounting assembly to selectively adjust the height of reciprocation of said plunger, and weight means on said swing arm to maintain said swing arm in operable engagement with said cam mechanism and provide a positive down action of constant magnitude on said plunger for controlling gob formation.

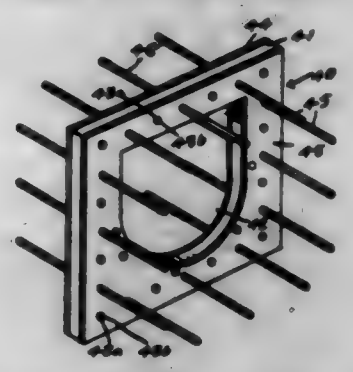
2,969,615

EXPANSION GASKET FOR LIQUID CONVEYORS

Curtis L. Barron, Sacramento, Calif.
(Rte. 2, Miles, Tex.)

Original application July 3, 1956, Ser. No. 595,667, now Patent No. 2,843,913, dated July 22, 1958. Divided and this application May 15, 1957, Ser. No. 659,309
1 Claim. (Cl. 50—155)

A gasket for interposing between the confronting ends of aligned concrete ducts, comprising a pair of parallel spaced identical plates having central substantially U-shaped openings, said plates having a plurality of aligned openings, a thick rubber gasket disposed between the plates, portions of said rubber gasket filling said aligning openings, uniting said plates, and a plurality of anchor rods having one of their respective ends affixed to and projecting at right angles from the outer sides of each of said plates, providing anchors for said gasket



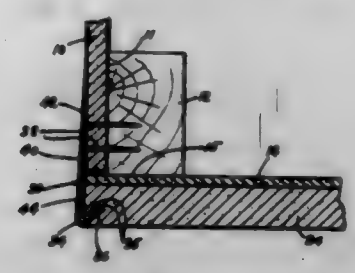
anchoring the gasket to a concrete plastic foundation surrounding said gasket.

2,969,616

TRIM MEMBER

David M. Gustafson, Garden Grove, Calif., assignor to Angeles Metal Trim Co., Los Angeles, Calif., a corporation of California

Filed June 18, 1957, Ser. No. 666,392
2 Claims. (Cl. 50—165)



1. In combination dry and plaster wall construction:

a structural framing member defining the exterior corner of a wall structure;

a panel of wallboard overlying said structural member;

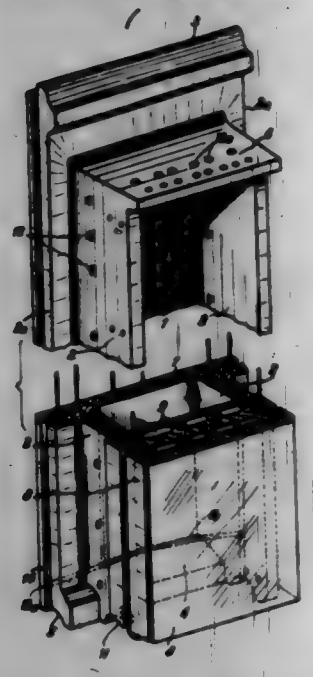
an elongated trim member adapted to be placed along the edge of said wallboard panel at said structural member,

said elongated trim member having an elongated flat trim section with parallel elongated edges serving as a front trim section, an elongated flat trim section having elongated parallel edegs disposed at an acute angle with relation to the inner surface of said front trim section and serving as a plaster keying projection, and an elongated corner bead integrally joining the juxtaposed edges of said front trim section and said keying projection, said corner bead being disposed at an obtuse angle with relation to the outer surface of said front trim section;

fastener means for securing said trim member and wall board to said framing member, with the corner bead and keying projection of said trim member extending substantially beyond the edge of said wallboard and with said keying projection extending inwardly from the plane of the front of said wallboard toward said structural member and terminating in spaced relation to said structural member; and

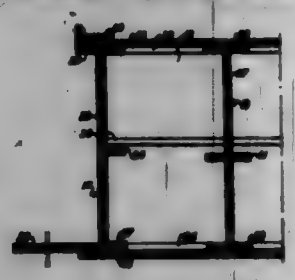
a plaster wall having a plane meeting the plane of said wallboard at an angle and covering said framing member, the edge of said wallboard, and the keying projection of said trim member and extending behind said projection, the plaster of said wall enclosing said keying projection and extending through the space between said structural member and the termination of said keying projection substantially into contact with the inner surface of said front trim section, said plaster being installed flush with the outer edge of said corner bead whereby the edges of said wallboard and said plaster wall are concealed and protected.

2,969,617
CONSTRUCTION OF PRE-FABRICATED PANELS
Jean-Pierre Michel Michelier, 10 Rue de Rome, Paris, France
Filed Apr. 23, 1957, Ser. No. 654,536
Claims priority, application France May 29, 1956
4 Claims. (Cl. 50—263)



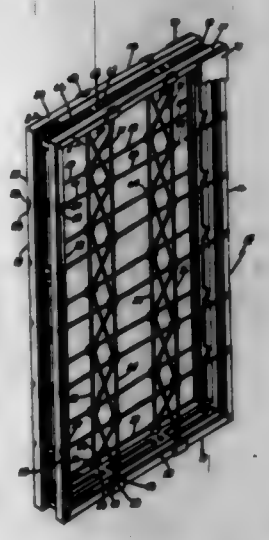
4. A prefabricated generally rectangular panel having, when erected to be used as a structural wall element of a building, outer and inner faces bounded by a lower and an upper horizontal side and two vertical sides, the length of the panel and of the vertical sides being substantially equal to the height of a story of a building, said panel comprising two vertical ribs projecting from said inner face and extending downwardly to said lower side but terminating short of the other sides; upper and lower rims formed on said panel extending along the upper and lower horizontal sides and having a greater thickness than the remainder of the panel, the lower rim having a downwardly facing recess defining a curved bottom, and the upper rim having an upwardly projecting convex edge, the radius of curvature of said recess being greater than that of said convex edge and the depth of said recess being smaller than the height of said convex edge, whereby the convex edge of a panel is adapted to engage the recess of a similar panel thereabove to form a hinge; vertical first drain-channels defined in said vertical sides, and a second drain-channel defined in said lower rim and facing upwardly to collect any liquid trickling down the inner face of said panel and sloping down towards the ends thereof terminating at said first channels discharging said liquid into said first drain-channels.

2,969,618
SKYLIGHT
George I. Ratner, Lake Shore Drive, R.F.D. 2, Parsippany, N.J., and Robert Slater, 27 Knollwood Road, Morristown, N.J.
Filed Mar. 13, 1957, Ser. No. 645,706
4 Claims. (Cl. 50—267)



1. A skylight comprising a frame formed of longitudinally extending peripheral extruded I-beams, said peripheral beams being provided with a top plate, a bottom plate, a substantial base flange extending outwardly from the bottom plate, and an internally extending flange midway between the said top and bottom plate; spanning extruded I-beams extending parallel to each other and transversely across said frame, said spanning beams being provided with a top plate, a bottom plate, a cross-bar slightly above the vertical mid-point of said spanning I-beam so as to fit just above the internally extending flange of said peripheral flange, and notches interlocked with said top and bottom plates and middle flange of said peripheral I-beams; short extruded I-beams extending parallel to each other and transversely of said spanning I-beams, said short I-beams being provided with top plates, bottom plates and notches interlocked with said top and bottom plates and internal flange of said peripheral flanges and said top and bottom plates and said cross-bar of said spanning flanges; said top plates of said I-beams all being on the same top plane and said bottom plates of said I-beams all being in the same bottom plane generally parallel to said top plane; and a diaphanous light transmitting panel secured to each group of said plates.

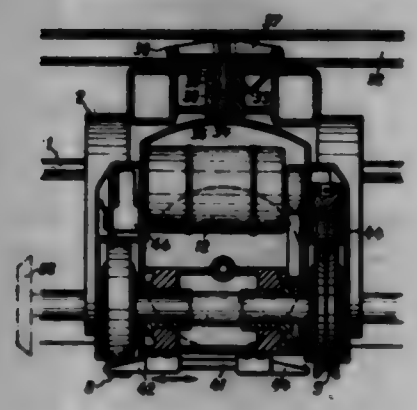
2,969,619
REINFORCED HOLLOW CONCRETE BUILDING PANEL
Edward John Didrick, 1242 Grant St., Fort Wayne, Ind.
Filed Sept. 15, 1958, Ser. No. 761,209
11 Claims. (Cl. 50—437)



1. A reinforced hollow concrete building panel comprising: a rectangular metal reinforcing frame including elongated plate members defining at least three perimetral edges of said panel, said plate members respectively having a cross-section formed by three interconnected channels with the middle channel facing outwardly and the outer two channels respectively facing inwardly, at least one pair of first transversely spaced apart elongated rod elements extending between two opposite plate members with their ends secured respectively to the outer flanges of the outer channels thereof, at least one pair of second transversely spaced apart elongated rod elements extending at right angles to said first rod elements respectively joining the same to frame means parallel with and spaced from said first rod elements and to the outer flanges of the outer channels of the third of said plate members, at least one pair of third elongated rod elements, each of said third rod elements having at least one of its ends secured to an outer flange of the outer channel of one of said two opposite plate members adjacent an end of one of said first rod elements, each of said third rod elements having a portion spaced from said one end thereof secured to the other of said first rod elements adjacent a respective second rod element whereby said third rod elements cross intermediate their respective one end and spaced portions,

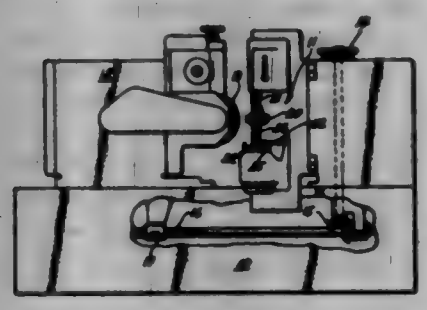
said third rod elements being secured together at their crossing points, respective first and second rod elements of said pairs lying in two transversely spaced parallel planes respectively substantially coextensive with the opposite edges of said plate members; and two transversely spaced planar slabs of concrete having respective first and second rod elements imbedded therein and respectively lying in planes generally coextensive with said two planes, said slabs respectively terminating at said plate members.

2,969,620
SLIDEWAY GRINDING MACHINE
Otto Bretscher, Dorf, Canton Zurich, Switzerland, assignor to Ludw. von Roll'schen Eisenwerke A.G., Gerlafingen, Switzerland
Filed Aug. 4, 1958, Ser. No. 752,758
Claims priority, application Austria Aug. 2, 1957
6 Claims. (Cl. 51—72)



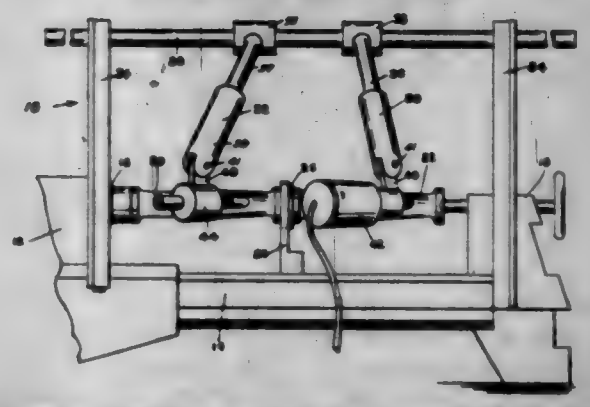
1. A grinder comprising a crossarm, a cross slide means suspending said cross slide from said crossarm for horizontal movement relative thereto, a vertical slide mounted on said cross slide for vertical movement relative thereto, hydraulic means for locking said vertical slide relative to said cross slide, a yoke on said vertical slide, a support pivoted to said vertical slide and said yoke, hydraulic means for locking said support to said vertical slide in adjusted position against rotation, a motor carried by said support, and a shaft having grinding disks thereon journalled in said support and being driven by said motor.

2,969,621
APPARATUS FOR GRINDING TOOTHED MEMBERS
Duncan S. Campbell, Dayton, Ohio, assignor to The Sheffield Corporation, Dayton, Ohio, a corporation of Delaware
Filed Jan. 13, 1958, Ser. No. 708,466
5 Claims. (Cl. 51—95)



1. Apparatus for grinding toothed members such as gears and the like by means of a helically ribbed grinding wheel in a generating hob-type operation, comprising a base, a work support rotatably carried on said base, a helically ribbed grinding wheel, a spindle rotatable on said base carrying said grinding wheel, power means, first drive means operated by said power means between said support and said spindle including a positive driving interconnection, second drive means operated by said power means between said support and said spindle including a resilient driving interconnection for yieldingly transmitting power, and control means operatively associated with said first drive means for disabling said positive driving interconnection during a grinding operation to thereupon render said resilient drive interconnection effective.

2,969,622
MEANS FOR REPRODUCTION OF MASTER SHAPES
Mitchell Gogol, 6 Janet Terrace, New Hartford, N.Y.
Filed Nov. 25, 1957, Ser. No. 698,593
8 Claims. (Cl. 51—101)

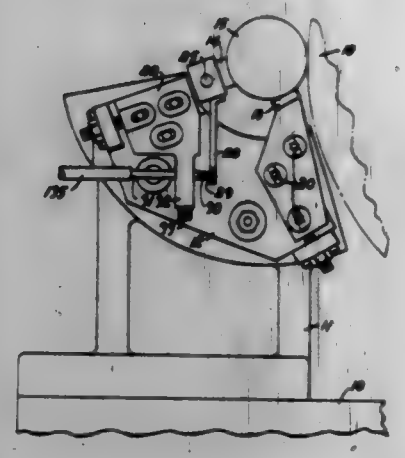


1. A cam grinding machine for accurately duplicating the outer contour of a master cam on a work piece comprising a lathe having a distance between centers greater than the combined length of said master cam and work piece, a guide and timing assembly mounted approximately midway between said lathe centers and adapted to receive therein one end each of said master cam and work piece, a cam grinder assembly, a cam follower assembly, a shaft member slidably and rotatably mounted vertically above and in axial alignment with the axis of said lathe, a pair of angularly disposed arm members fixed to said shaft for rotary and longitudinal movement therewith, one of said arms carrying on the end there of said cam grinder assembly and the other of said arms carrying at the end thereof said cam follower assembly, adjustable telescoping and pivoting means on each arm member for adjustably securing said cam grinder and cam follower assemblies in parallel axial alignment in the same radial plane relative to said master cam and work piece, said grinder and cam follower assemblies being spaced apart such that the work piece and master cam contacting tip portions thereof are spaced apart a distance exactly equal to the distance between corresponding sections of said master cam and work piece, a second shaft member adapted to be inserted between the centers of said lathe and carrying thereon in parallel axial alignment a carbide stylus member and a diamond dressing stylus member, said carbide and diamond dressing styli being spaced apart a distance exactly equal to the spacing of said cam grinder and cam follower assembly tips and means for positioning said second shaft member in said lathe in axial alignment with the axis thereof and with said dressing stylii in the same radial plane thereof with said cam grinder assembly and cam follower assembly, whereby upon dressing said cam grinder assembly tip portions periodically the shape of said master cam can be duplicated exactly on said work piece.

2,969,623
SIZE GAUGING DEVICE
Kenneth D. Mehlhope and Arthur H. Faulhaber, Cincinnati, Ohio, assignors to The Cincinnati Milling Machine Co., Cincinnati, Ohio, a corporation of Ohio
Filed Dec. 30, 1957, Ser. No. 706,030
6 Claims. (Cl. 51—103)

3. In a centerless grinding machine having a grinding wheel, a pair of shoes for supporting the work piece to

be ground, and means for feeding the grinding wheel and the shoes toward one another so as to cause the grinding wheel to abrade the surface of the work piece supported on said shoes, the combination of means for supporting one of said shoes for pivotal movement about



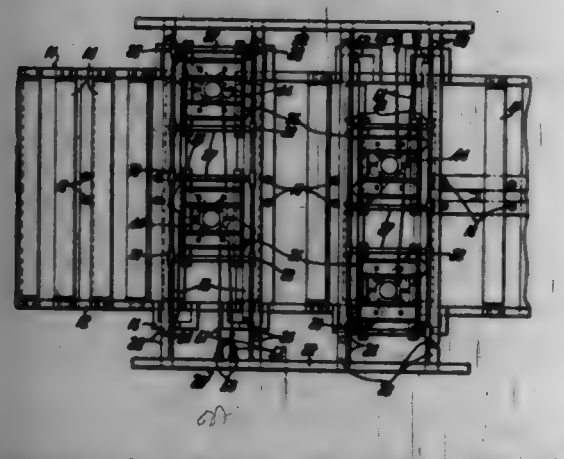
an axis parallel to the longitudinal axis of the work piece, and means controlled by said one shoe as it changes its position in accordance with change in the diameter of the work piece during grinding for stopping said feeding means when the work piece has reached a predetermined size.

2,969,624

EDGE SEAMING APPARATUS

William A. Castine, Jr., Jeannette, Dale R. Buckles, Natrona Heights, and John R. Dahlberg, Greensburg, Pa., assignors to Pittsburgh Plate Glass Company, county of Allegheny, Pa.

Filed Dec. 16, 1958, Ser. No. 780,735
7 Claims. (Cl. 51—137)



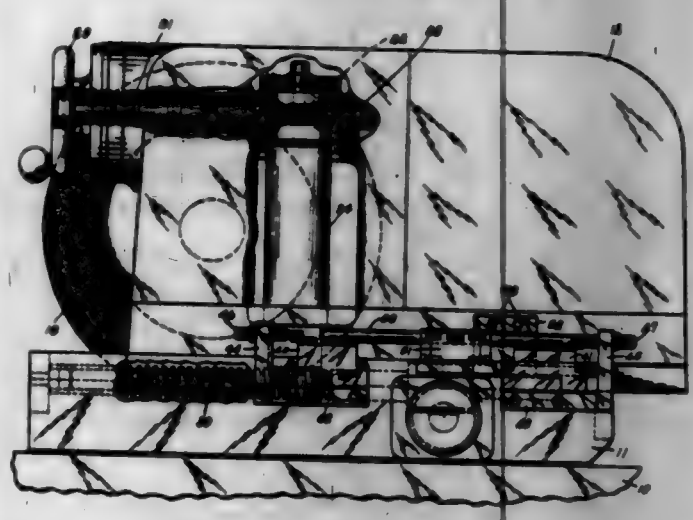
1. Apparatus for edge seaming substantially the entire peripheral edge of a precut contoured flat glass sheet having spaced edge portions converging at its longitudinal extremities adapted for use as an automotive windshield or the like comprising, a horizontal conveyor for transporting the precut flat glass sheet, a seaming station comprising a pair of spaced tracks extending transversely of and spaced from said conveyor, a carriage mounted for movement along each track, a pulley system pivoted to each carriage for rotation about a vertical axis, each pulley system including a driving pulley and a driven pulley, an abrasive belt traversing the horizontal plane of the conveyor and interconnected between said pulleys, means to initially position each pulley system so that its abrasive belt engages the edge of the glass sheet at a predetermined location along said edge, means causing each pulley system to follow the contour of the glass sheet edge and to disengage said edge at a predetermined location, means to return each carriage to said initial position after an edge seaming operation, and means to drive each pulley system.

2,969,625

CONTROL ACTUATING MEANS FOR MACHINE ELEMENT HAVING A VARIABLE ZONE OF MOVEMENT

Glenn M. Snyder, Waynesboro, Pa., assignor to Landis Tool Company, Waynesboro, Pa.

Filed Jan. 9, 1959, Ser. No. 785,878
4 Claims. (Cl. 51—165)



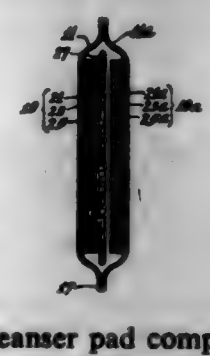
1. In a grinding machine, a base, a grinding wheel support slidably mounted thereon for movement toward and from operative position, a grinding wheel on said grinding wheel support, spaced limit switches for transmitting signals at the advanced and retracted positions of said grinding wheel support, means movable with said grinding wheel support for actuating said switches, a magnet for slidably attaching said means to said grinding wheel support and adjustable stops for limiting the movement of said actuating means in both directions.

2,969,626

DISPOSABLE CLEANSER PADS

George S. Rudes, 2125 Sharon Drive, Lancaster, Pa.

Filed Mar. 25, 1960, Ser. No. 17,555
4 Claims. (Cl. 51—185)



2. A disposable cleanser pad comprising a pair of substantially equally sized and shaped pieces of reinforced absorbent tissue web material in face to face relation and sealed around the periphery thereof to form a chamber therein; a pair of porous elements within said chamber in face to face relation, each element comprising a matted paper web filler between two sheets of absorbent tissue; and a semi-rigid, water-resistant paper layer in said chamber, said pad being impregnated with a composition of matter including a detergent and a chlorine type cleanser.

2,969,627

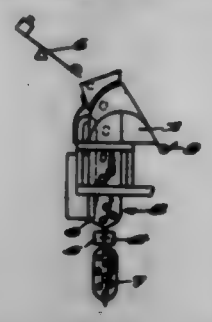
METHOD AND APPARATUS FOR PACKAGING

William C. Leasure, 7000 Ardmore, Houston, Tex.

Filed Feb. 1, 1960, Ser. No. 5,916
14 Claims. (Cl. 53—28)

1. A method of packaging wherein a package is formed from a continuous web of sheet material in which a former is reciprocated longitudinally with respect to the continuous web and clamping means is reciprocated

transversely with respect to the movement of the former, comprising the steps of filling the package while the clamping means is engaged therewith and while the



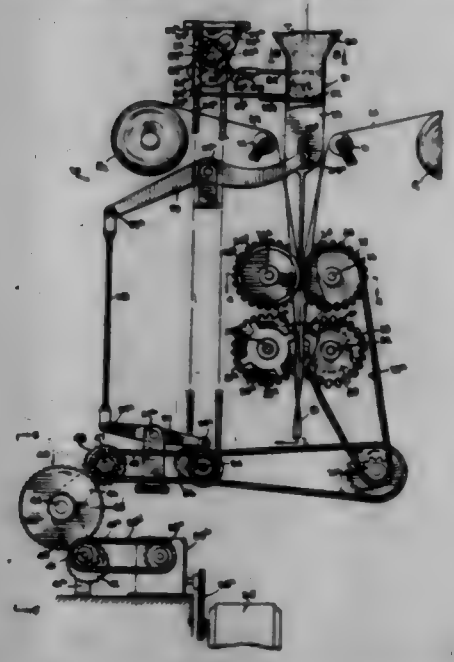
former is moving away from the clamping means, and releasing the clamping means and moving the former towards the clamping means to bring the other end of the package adjacent the clamping means.

2,969,628

CHARGE CONTROL MECHANISM IN INFUSION PACKAGE MANUFACTURE

Hans O. Irmscher, Hempstead, N.Y., assignor to National Tea Packing Company, Inc., Long Island City, N.Y., a corporation of New York

Filed May 22, 1957, Ser. No. 660,840
5 Claims. (Cl. 53—28)



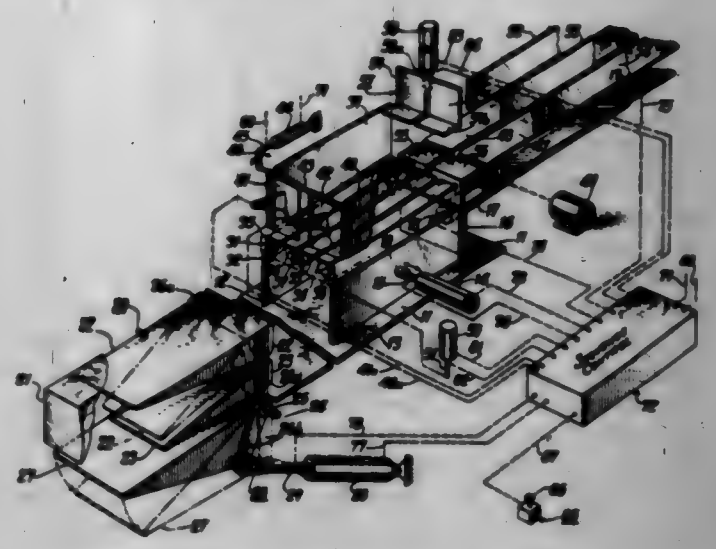
1. The method of manufacturing infusion packages containing a fluid commodity comprising the steps of forming a tubular structure about a vertically disposed mandrel having a delivery chute extending therethrough, intermittently advancing said tubular structure downwardly beyond the end of the mandrel and heat-sealing a transverse seam across said structure to form a bag section, transferring a previously measured and collected charge of said fluid commodity from the lower end of the delivery chute into said bag section while the latter continues to advance, sealing off the mouth of the chute to prevent further entrance of the fluid commodity into the bag section, delivering a measured charge into the top of the chute for filling the succeeding bag, stopping for a dwell period said advancing movement of the tubular structure and filled bag section while the mouth of the chute remains sealed to permit the charge within the bag section being formed to settle before applying the next transverse seam to form a top closure for the filled bag section and a bottom closure for the succeeding bag section, said intermittent advancing movement of said tubular structure for heat-sealing and filling between said dwell periods being accomplished at a pulsating rate of speed.

2,969,629

PACKING APPARATUS

Maurice E. Blais, Pawtucket, R.I., assignor to St. Regis Paper Company, New York, N.Y., a corporation of New York

Filed Mar. 12, 1958, Ser. No. 720,904
8 Claims. (Cl. 53—124)



1. Apparatus of the class described including in combination: a substantially vertical ram plate mounted for reciprocable motion with respect to a substantially horizontal table and between a pair of substantially vertical compression plates, said ram and compression plates defining three sides of a charge receiving station, the fourth side comprising a discharge opening, charge gathering means located above said charge receiving station and including trap door means located directly thereabove and substantially coextensive in area and normally parallel to said table, means for directing onto said charge gathering station a plurality of containers through an entrance thereto, retaining means located along the sides of said charge gathering station except for the entrance thereto and positioned for retaining containers thereupon, gate means for said charge gathering station, and control means for actuating said compression plates, said ram plate, trap door means and gate means in preselected timed relationship, said gate means being held open by said control means during the actuation of said ram plate.

2,969,630

APPARATUS FOR PACKAGING PALLET-MOUNTED BULKY OBJECTS

Michael G. Shenigo, Sandusky, Ohio, assignor to West Virginia Pulp and Paper Company, New York, N.Y., a corporation of Delaware

Filed Nov. 12, 1959, Ser. No. 852,555
21 Claims. (Cl. 53—138)



1. Apparatus for packaging pallet-mounted bulky objects in paperboard cartons which are introduced to such apparatus in the form of rectangular tubes having forward, rearward, and sideward upstanding flaps at their upper ends and also having forward, rearward, and sideward depending flaps of relatively narrow dimensions at their lower ends, comprising conveyor line means having underside-engaging work-supporting conveyor elements leading in a conveying path past a carton loading station and a stapling station, top flap gluing, infolding, and sealing means located on said conveyor line means downstream of said carton loading station, said conveyor elements comprising at said loading station roller conveyor

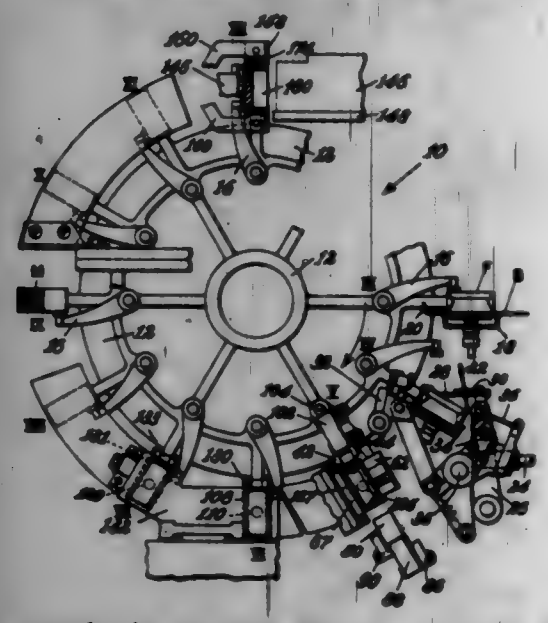
means including a pair of roller conveyor subassemblies extending parallel to each other in the conveying direction in laterally spaced relationship to define a gap therebetween, pallet lifter members extendible upwardly at said carton loading station from said gap and from the level of said roller conveyor means, whereby said forward and rearward depending flaps of said cartons introduced at said carton loading station pass between pairs of said conveyor rolls and said sideward depending flaps of said cartons splay sidewardly outwardly on said conveyor rolls and movement of emplaced cartons and upstream portions of said roller conveyor means relatively toward each other underfolds said rearward depending flaps beneath said pallets and movement of emplaced cartons and downstream portions of said roller conveyor means relatively toward each other underfolds said forward depending flaps beneath said pallets, parallel clamping bars oriented longitudinally of said roller conveyor means on either side thereof and having opposed clamping faces, clamping bar linkage means for moving said clamping bars toward and away from each other in clamping and unclamping directions respectively above the level of said roller conveyor means, said clamping bars being mounted for pivoting movement about axes oriented in said conveying direction from attitudes in which said clamping faces are vertical to attitudes in which said clamping faces slant upwardly, elevating means for actuating said pallet lifter members following said underfolding of said forward and rearward depending flaps of said emplaced cartons for raising said pallet lifter members above the said axes of pivoting movement of said clamping bars and for thereupon lowering them to said level of said roller conveyor means, control means for concurrently actuating said clamping bar linkage means respectively in said clamping direction to engage said clamping bars with emplaced cartons and to underfold partially said sideward depending flaps of said cartons and thereupon in said unclamping direction to accommodate said lowering of said pallet lifter members to said level of said roller conveyor means whereby said partially underfolded sideward flaps of said cartons collapse inwardly on said conveyor rolls to complete underfolding thereof and means at said stapling station for stapling said underfolded sideward flaps to the undersides of said pallets.

2,969,631

CIGARETTE PACKAGING MACHINE

Tullio Edgar Grade, Bronx, and John Jackson, Brooklyn, N.Y., assignors to American Machine & Foundry Co., a corporation of New Jersey

Filed Mar. 9, 1959, Ser. No. 797,947
20 Claims. (Cl. 53—192)



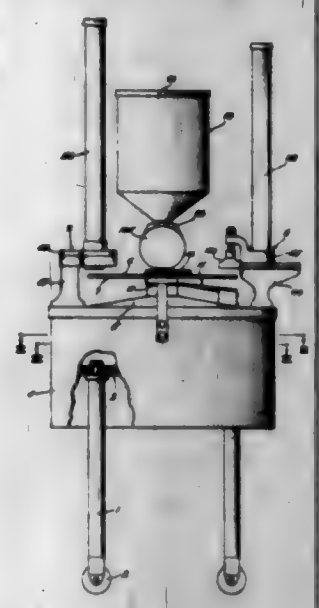
1. In a packaging machine having a series of hollow travelling mandrels adapted to be moved stepwise to and from a plurality of operating stations including a filling station, apparatus for forming cartons thereabout, each of said cartons being formed from a blank having integrally connected front, rear and side panels, and top and bottom end flaps for forming top and bottom walls, said blank being provided with a closure flap connected to the top of one of said side panels for forming a slide closure for said carton, said apparatus comprising means for folding said blank about the girth of said mandrel, means for folding said top flaps and closure flap to form said top wall, means for severing said closure flap from said side panel whereby said carton is provided with a freely slidable closure, and means operative after a mandrel supporting a partially formed carton has been moved from said filling station for folding the bottom end flaps to form a completed carton.

2,969,632

AUTOMATIC CONTAINER DISPENSING, FILLING AND CAPPING MACHINE

Herman Carew, Easton, Pa., and Alfred W. Kinney, Washington, N.J., assignors, by mesne assignments, to American Can Company, New York, N.Y., a corporation of New Jersey

Filed Feb. 21, 1956, Ser. No. 567,017
9 Claims. (Cl. 53—283)



1. In a container dispensing, filling, and capping machine, a turntable having circumferential recesses to receive and carry containers, dispensing means to deliver containers successively into the recesses of said turntable, filling means to successively fill containers on said turntable with a commodity, capping means to successively cap the filled containers, said filling means being adjustable to accommodate different commodities varying in viscosity whereby each commodity may be dispensed at the same velocity, in the same amount and in the same time as the other commodities, and drive means connected to continuously actuate said dispensing and capping means while intermittently rotating said turntable and intermittently operating said filling means.

2,969,633

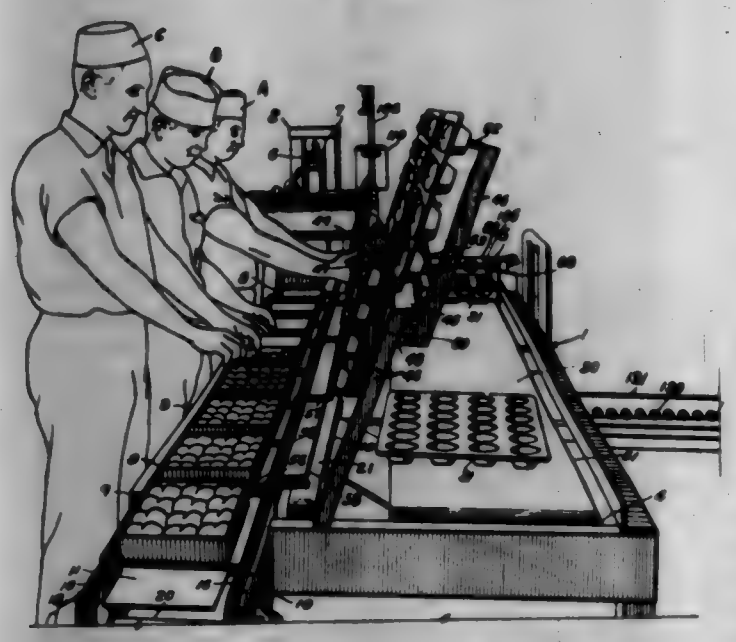
APPARATUS FOR FACILITATING REMOVAL OF BAKERY PRODUCTS SUCH AS ROLLS FROM BAKING PANS AND PACKING THEREOF IN CARTONS

Irving M. Archer, Dallas, Tex., assignor to Campbell Taggart Associated Bakeries, Inc., Dallas, Tex., a corporation of Delaware

Filed Mar. 21, 1958, Ser. No. 723,025
13 Claims. (Cl. 53—391)

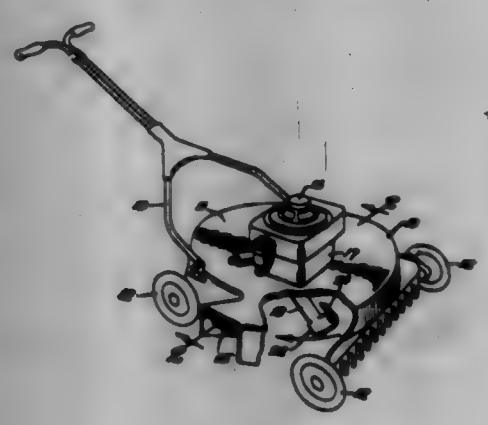
1. An apparatus for facilitating boxing of bakery products such as rolls, including a carton conveyor for carry-

ing cartons through a packing station, a rack extending along the conveyor for supporting baking pans with the rolls therein, means on the carton conveyor for pushing the cartons along the rack, said means having portions extending into contact with the baking pans on the rack



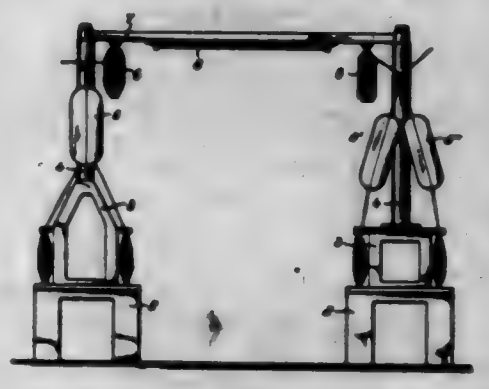
to move the baking pans along the rack progressively with movement of the cartons while the rolls are being removed from the baking pans and placed in the cartons, and means for removing the empty baking pans from the rack.

2,969,634
ROTARY LAWN MOWER BLADE
Melvin R. Lamert, 1921 De Cook Ave., Park Ridge, Ill.
Filed Oct. 23, 1957, Ser. No. 691,826
3 Claims. (Cl. 56—25.4)



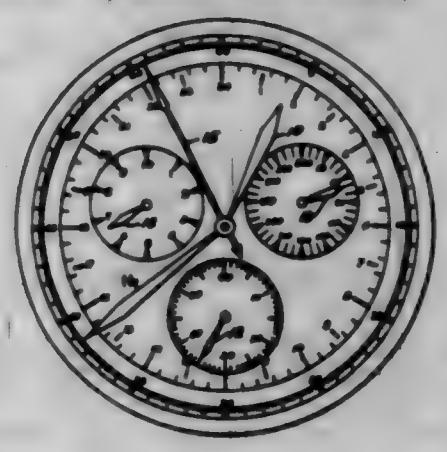
1. A rotary lawn mower cutter blade adapted to prevent wet clippings from accumulating upon the undersurface of a mower casing and thereby interfering with the blade rotation, comprising a horizontally elongated blade adapted for central attachment to a vertical power shaft for rotation thereby in a horizontal plane, said blade having opposite end portions each providing a sharpened horizontal lower edge facing in the direction of blade rotation, said end portions each extending rearwardly behind said lower edge and then curving upwardly and forwardly to define C-shaped scoops having upper horizontal edges also facing in the direction of blade rotation, whereby, upon rotation of said blade said scoops catch clippings to prevent the same from being impelled upwardly against the undersurface of said casing.

2,969,635
SETUP OF SPINNING MACHINES IN A ROW
Johann Jacob Keyser, Aarau, Switzerland, assignor to Schiess Aktiengesellschaft, Duesseldorf-Oberkassel, Germany, a German firm
Filed June 2, 1958, Ser. No. 739,396
Claims priority, application Germany June 4, 1957
5 Claims. (Cl. 57—1)



1. A setup for spinning machines, which includes: at least two spinning machines with two longitudinal sides thereof respectively facing each other and spaced from each other so as to leave a service aisle therebetween, each of said spinning machines including machine frame means and supporting means connected thereto, and connecting means arranged within the area confined by the planes through the end surfaces of said machines and within said area extending across said aisle at an angle to the longitudinal sides of said machines, said connecting means interconnecting said machines at the upper portions of said supporting means and bracing said machines relative to each other.

2,969,636
CHRONOMETER
Oscar E. Batori, New York, N.Y., and Raymond Nardin, Le Locle, Switzerland, assignors to Batori Computer Company, Inc., New York, N.Y., a corporation of New York, and Ulysse Nardin, S.A., Le Locle, Switzerland, a corporation of Switzerland, jointly
Filed Aug. 22, 1958, Ser. No. 756,618
Claims priority, application Switzerland Sept. 23, 1957
2 Claims. (Cl. 58—3)



1. A chronometer for the simultaneous indication of local time and hour-angle corresponding to the sidereal time, said chronometer comprising a local time assembly and a sidereal time assembly each comprising an individual spring operatively connected to appropriate indicators, escapement means operatively connected to said assemblies, and a differential gear means operatively connected between said assemblies and constructed to impose a predetermined motional relation upon said assemblies respectively corresponding to the difference between local and sidereal time measurements, said differential gear means comprising a pair of planet gears each comprising first and second gear wheels, the first gear wheel of one of said planet gears being connected to one of said as-

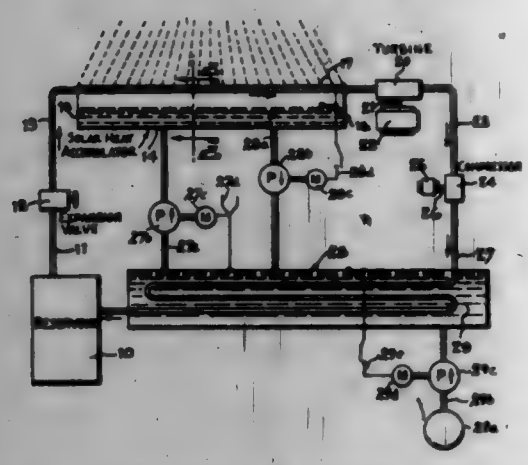
semblies, a satellite carried by a plate and independently rotatable about its own axis, the second of said gear wheels of both of said planet gears being connected to said satellite gear, said plate being connected to one of said assemblies and to a pinion, said pinion being connected to the first gear wheel of the other of said planet gears.

2,969,637

SYSTEM FOR CONVERTING SOLAR ENERGY INTO MECHANICAL ENERGY

Richard J. Rowekamp, 420 Hilltop Lane, Cincinnati, Ohio

Filed June 28, 1956, Ser. No. 594,584
1 Claim. (Cl. 60—26)



A system for converting solar energy into mechanical energy comprising: a reservoir, solar heating means, a turbine having an inlet, an exhaust outlet and an output shaft; compressor means and a condenser: first conduit means connecting said reservoir to the inlet of said turbine and passing through said heating means, an expansion valve positioned in said conduit-means between said reservoir and said heating means; second conduit means connecting the exhaust outlet of said turbine to an inlet of said compressor; third conduit means connecting an outlet of the compressor with the reservoir and having a plurality of passes through said condenser: said system containing a highly volatile liquid; means for driving said compressor, said condenser containing cooling fluid, said heating means containing heat accumulator means, pump means for supplying fluid heated in said condenser to said heat accumulator, means for controlling said pump means, whereby the volatile liquid flowing in said system is heated and vaporized in said heating means for driving said turbine, said accumulator means heating said fluid during short periods when the solar energy is interrupted to said heating means, and means for replenishing fluid in said condenser.

2,969,638

SOLID PROPELLANT AND PROPELLANT BURNING RATE CATALYST SYSTEM

George D. Sammons, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Nov. 30, 1956, Ser. No. 625,553
26 Claims. (Cl. 60—35.4)

25. In the method of developing thrust wherein a solid propellant charge contained in a combustion chamber of a rocket motor is ignited and then burned with the evolution of combustion gases which are exhausted from said combustion chamber, the step which comprises burning in said combustion chamber a propellant charge comprising: as a base propellant, a solid inorganic oxidizing salt as an oxidizer component and a suitable binder component; and a burning rate catalyst system consisting essentially of from 3 to 10 parts by weight per 100 parts by weight of said base propellant of ammonium dichromate, from 0.5 to 7 parts by weight per 100 parts by weight of said base propellant of a copper component selected from the group consisting of finely divided copper metal, copper chromite, and copper oxides, and from 2 to 20 parts by weight per 100 parts by weight of said base propellant of a salt of a trinitrophenolic compound selected from the group consisting of 2,4,6-trinitrophenol and 2,4,6-trinitroresorcinol.

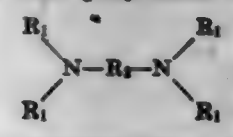
2,969,639

METHOD FOR DEVELOPING THRUST BY THE COMBUSTION OF BIPROPELLANTS

John E. Mahan, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Dec. 18, 1957, Ser. No. 703,703
19 Claims. (Cl. 60—35.4)

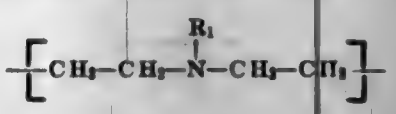
1. In the method for developing thrust by the combustion of bipropellant components in a combustion chamber of a reaction motor, the steps comprising separately and simultaneously injecting a stream of an oxidant component and a stream of a fuel component into a combustion chamber of said motor in such proportions as to produce spontaneous ignition, said fuel component comprising at least one polyamine having the formula



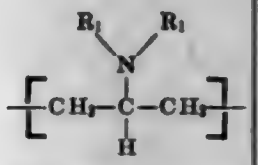
wherein each R_1 is selected from the group consisting of alkyl and alkenyl hydrocarbon radicals containing from 1 to 3 carbon atoms; and R_2 is selected from the group consisting of

(*a*) alkylene, alkenylene, alkadienylene and alkynylene hydrocarbon radicals containing from 2 to 6 carbon atoms and

(*b*)



and



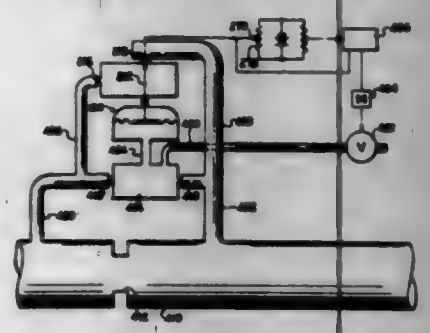
radicals wherein R_1 is as defined above.

2,969,640

PRESSURE RATIO SENSING, INDICATING, AND CONTROLLING APPARATUS

Wendell E. Reed, San Diego, Calif., assignor to Solar Aircraft Company, San Diego, Calif., a corporation of California

Filed Aug. 25, 1953, Ser. No. 376,337
8 Claims. (Cl. 60—35.6)



1. In a gaseous turbine power plant including a compressor, a control assembly comprising a chamber having an inlet orifice connected to be subject to the compressor discharge pressure and an outlet orifice connecting said chamber to a pressure below the turbine discharge pressure, a movable pressure responsive device connected to the subject to the pressure in said chamber and to the

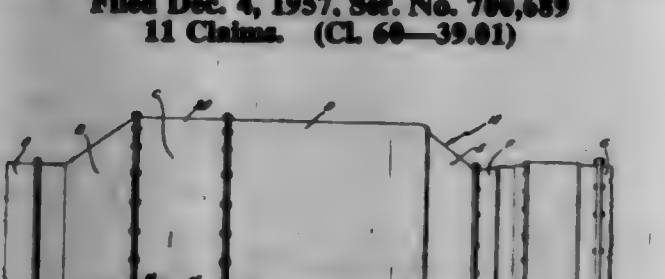
turbine discharge pressure, a control element movable with said pressure responsive device and extending through one of said orifices to vary the area of one of said orifices upon displacement of said pressure responsive member, the effective area and configuration of said orifices being so related when said pressure responsive device is in its neutral position as to establish in said flow chamber a pressure substantially equal to the normal turbine discharge pressure, and means responsive to displacement of said pressure responsive device when said turbine discharge pressure departs from its normal value for restoring said turbine discharge pressure to its normal value.

2,969,641

AERODYNAMIC NOZZLE

Robert Harold Schaefer, Stratford, Conn., assignor to General Electric Company, a corporation of New York

Filed Oct. 17, 1955, Ser. No. 540,764
7 Claims. (Cl. 60—35.6)



1. An aerodynamic nozzle for a reaction-type power plant comprising, an inner converging nozzle, a plurality of peripherally spaced inner flaps pivoted to the downstream edge of said nozzle to vary the nozzle throat area, an outer diverging nozzle including a fixed shroud surrounding and radially spaced from said inner nozzle to define a secondary air passage, an annular ring member concentric with said outer shroud disposed within said air passage and axially movable thereof, sealing means between said shroud and ring member, a plurality of peripherally spaced outer flaps pivoted to said ring member to vary the exit area and exit plane of said diverging nozzle, linkage means including a cam for each of a pair of inner and outer flaps, a bellcrank connecting each cam and outer flap, pivoted connecting means between each inner flap and cam, and control means connected to said linkage means to impart motion thereto, whereby said exit area and exit plane are varied as a function of the throat area.

2,969,642

RADIATOR MATRIX DESIGN

Ralph S. Colby, Merrimac, Mass., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed Dec. 4, 1957, Ser. No. 700,689
11 Claims. (Cl. 60—39.01)

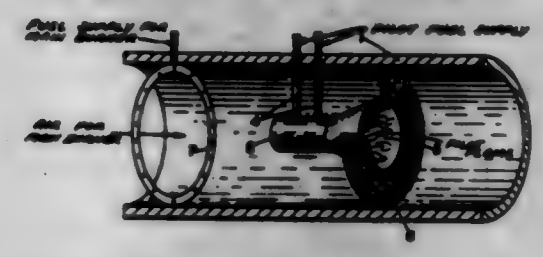
1. In an axial flow gas turbine engine, an axial compressor having rotating blades, a diffuser receiving the swirling air from said compressor having an annular diffuser passage coaxial with said shaft, an axial flow radiator receiving the swirling air from said diffuser comprising inner and outer shells concentric with said shaft, annular inlet and outlet headers associated with said outer shell, and a plurality of hollow radial vanes extending between said shells having their interiors in fluid communication with said headers, said vanes lying in planes inclined with respect to axial planes through said radiator.

2,969,643

SCREENED IGNITER FOR RAMJET BURNERS

James W. Mullen II, Richmond, Va., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Oct. 13, 1949, Ser. No. 121,102
2 Claims. (Cl. 60—39.11)



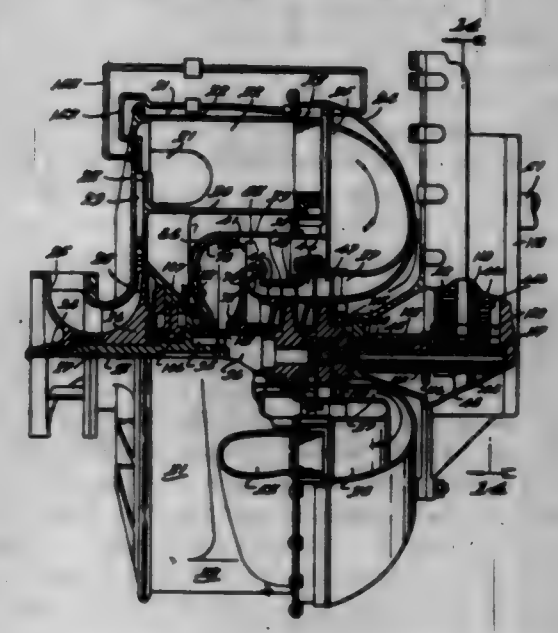
1. A burner assembly comprising a conduit, means to supply fuel to said conduit, a container supported in said conduit downstream from said means, said container being outwardly flared to an opening at its downstream end, means producing a pilot flame within said container, and a screen fitting around and extending to the conduit wall substantially in the plane of said opening.

2,969,644

DRIVE MEANS FOR A REGENERATOR IN A REEXPANSION GAS TURBINE ENGINE

Sam B. Williams, Birmingham, and Jack J. Benson, Detroit, Mich., assignors to Williams Research Corporation, Birmingham, Mich, a corporation of Michigan

Original application Oct. 24, 1955, Ser. No. 542,328. Divided and this application Dec. 12, 1956, Ser. No. 630,429
7 Claims. (Cl. 60—39.16)



1. A gas turbine comprising a radial compressor, a rotating matrix heat exchanger axially spaced from said compressor, duct means connecting said compressor and said heat exchanger, an annular combustion chamber between said compressor and said matrix, reversing duct work leading from said matrix to said combustion chamber, first and second stage turbines spaced axially from said combustion chamber and concentric with and spaced inwardly from said matrix, a compressor shaft connecting said first stage turbine to said compressor, the inner

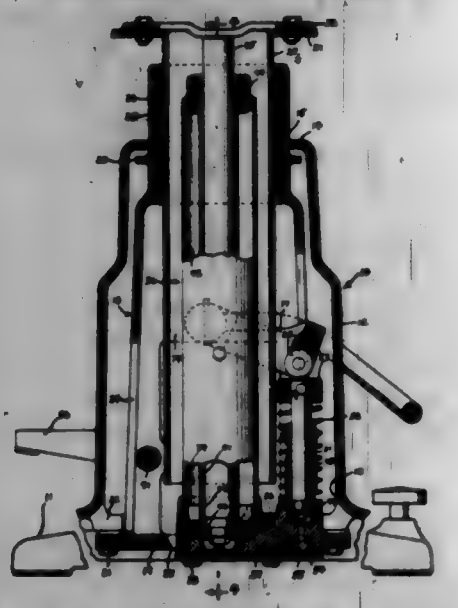
portion of said combustion chamber being closely adjacent said shaft, a hollow drive shaft connected to said second stage turbine and extending in the opposite direction from said compressor shaft, a bearing carried by one end of said drive shaft and rotatably supporting the adjacent end of said compressor shaft, an accessory shaft rotatably mounted within said drive shaft and non-rotatably connected to said compressor shaft, a drive pinion on said drive shaft, and an accessory pinion on said accessory shaft and adjacent said drive pinion.

2,969,645

HYDRAULICALLY OPERATED CHAIR

Walter J. Kiefer, Belvidere, Ill., assignor to Belvedere Products, Inc., Belvidere, Ill., a corporation of Illinois

Filed July 6, 1959, Ser. No. 825,288
10 Claims. (Cl. 60—52)



1. In an hydraulically operated chair, a hollow support base defining a lower opening and having a casing extending upwardly around said lower opening and defining a top opening at its upper end, a hollow cage having a cage base detachably secured to said support base at the underside thereof and extending upwardly through said lower opening into said casing, an annular bearing at the upper end of said cage, a vertically extending support sleeve in said cage and slidably supported in said bearing means to extend upwardly through said top opening, bracket means on the upper end of said sleeve for mounting a chair seat thereon, said cage base having an opening therein, a self-contained pump and ram unit having a ram base and concentric cylinders extending upwardly from said base and defining an outer reservoir and an inner motive cylinder, means detachably securing said ram base to the underside of said cage base with said cylinders extending upwardly through said opening in the cage base into said sleeve to enable detachment and withdrawal of the ram unit from the lower end of the cage, said ram unit including a piston in one of said cylinders having a rod thereon engageable with said bracket means to elevate and lower the sleeve, said ram unit also including a pump and a control valve on said ram base externally of said sleeve, and lever means mounted on said cage for operating said pump and control valve.

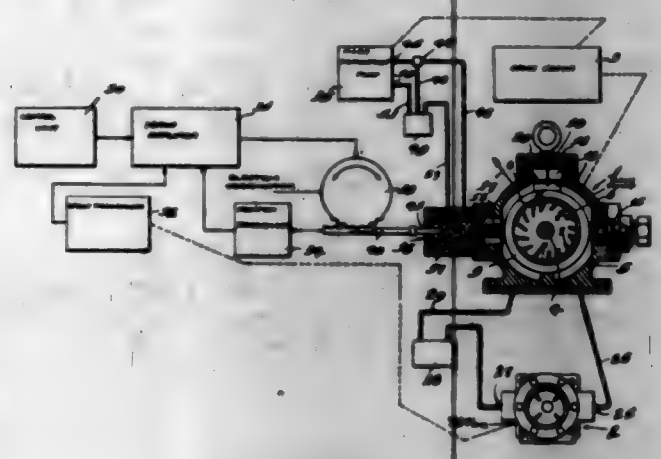
2,969,646

VARIABLE VOLUME PUMP HYDRAULIC TRANSMISSION

George B. Miller and Robert D. Rynders, Racine, Wis., assignors to Racine Hydraulics & Machinery, Inc., a corporation of Wisconsin

Filed Jan. 11, 1957, Ser. No. 633,631
5 Claims. (Cl. 60—53)

5. In a hydraulic transmission, in combination, a motor, a variable volume pump including a shiftable device for varying the output volume of the pump, a fluid connection between the pump and motor, a source of operating fluid under pressure, a member in engagement with the shiftable device in opposing relation to the force of pumping action in said pump, a cylinder hav-



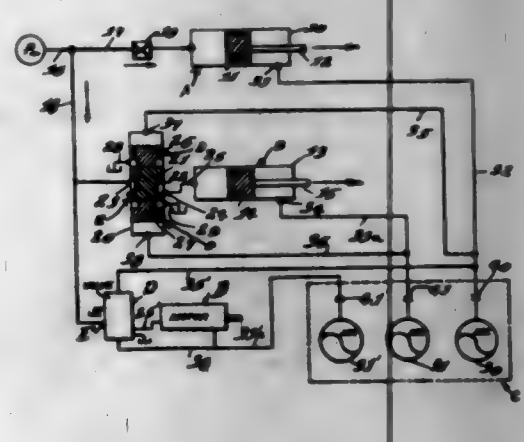
ing a movable piston for positioning the member, a valve including a valve member connected to the cylinder for selectively directing said fluid to said piston, a pilot valve connected to operate the first-mentioned valve, and means responsive to a speed signal from the motor for positioning the pilot valve.

2,969,647

SYNCHRONIZING SYSTEM

Robert E. Raymond, Zanesville, Ohio, assignor to Racine Hydraulics and Machinery, Inc., a corporation of Wisconsin

Filed July 16, 1958, Ser. No. 748,911
6 Claims. (Cl. 60—97)



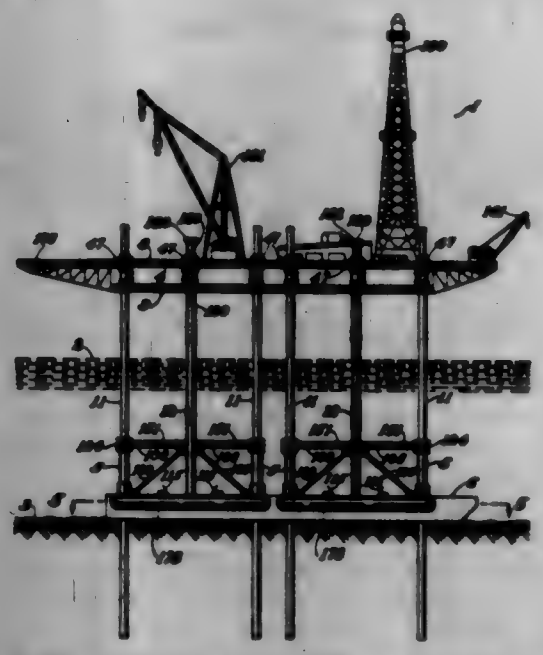
1. A system for synchronizing the movement of a pair of hydraulic cylinders comprising, a master cylinder and a slave cylinder both having a fluid inlet and a fluid outlet and both connectable in parallel with a source of hydraulic fluid under pressure, a control valve in circuit with the slave cylinder inlet responsive to opposed pressure signals to control the flow of said fluid from the source to said slave cylinder, a pair of fluid-storing accumulators in circuit one with each of said cylinder fluid outlets to receive hydraulic fluid discharged therefrom and create a pressure signal corresponding to the position of the associated cylinder piston, and means for applying said pressure signals in opposed relation to the control valve whereby the rate of fluid flow to the slave cylinder is determined by comparison of said pressure signals and adjusted to have the slave cylinder synchronized with the master cylinder.

2,969,648

MOBILE DRILLING PLATFORM AND METHOD OF OPERATION

Eberhardt C. Rechtin, Beaumont, Tex., assignor to Bethlehem Steel Company, a corporation of Pennsylvania

Filed Dec. 27, 1956, Ser. No. 630,998
19 Claims. (Cl. 61—46.5)



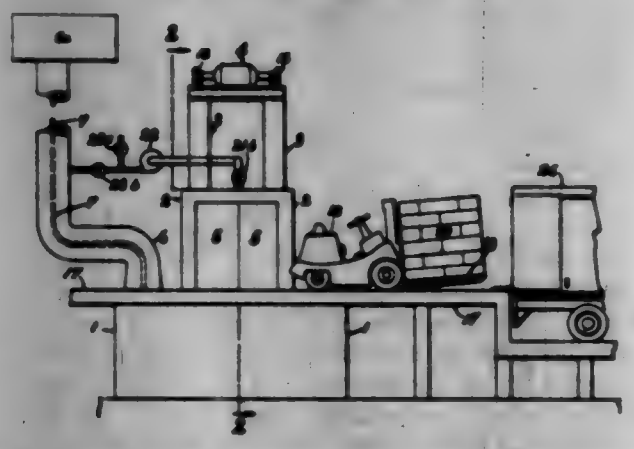
1. A marine structure comprising a buoyant member, a framework mounted on said buoyant member, a platform removably mounted on said framework, pile guides mounted on said buoyant member, pile guides mounted on said platform in vertical alignment with the pile guides on said buoyant member, piles extending through said pile guides in engageable relation with a marine floor, means for securing said platform to said piles, means for varying the buoyancy of said buoyant member, a vertical member secured to said buoyant member and communicating with the interior thereof, a guide mounted on said platform through which said vertical member passes, means operatively connecting said platform and said vertical member for raising and lowering said buoyant member relative to said platform and means for securing said platform to said vertical member to maintain said platform and said buoyant member at a predetermined distance from each other.

2,969,649

METHOD OF SUPERCHILLING FROZEN FOOD

Willard L. Morrison, Lake Forest, Ill., assignor, by mesne assignments, to Liquefreeze Company, Inc., New York, N.Y., a corporation of New York

Filed Nov. 13, 1958, Ser. No. 773,772
12 Claims. (Cl. 62—64)



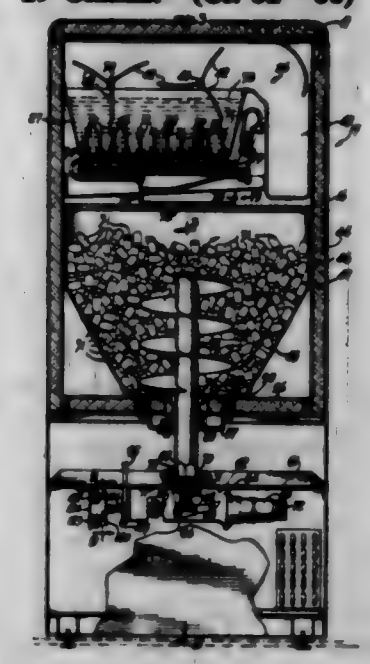
9. A closed bath chamber, a bath of liquid nitrogen at atmospheric pressure therein, a gas lock chamber above and communicating with the bath chamber, an elevator platform and means for moving it up and down between the two chambers, a seal at the upper limit of the excursion of the platform forming with the latter a sealed closure between the two chambers, the lock chamber being ported to atmosphere and means for opening and closing the port, means for withdrawing gaseous nitrogen from the lock chamber, reliquefying it and returning it to the bath.

2,969,650

ICE MAKING AND VENDING MACHINE

William A. Eschenburg and William S. Taylor, Beloit, Wis., assignors to Yates-American Machine Company, Beloit, Wis., a corporation of Delaware

Filed Nov. 1, 1957, Ser. No. 693,928
19 Claims. (Cl. 62—68)



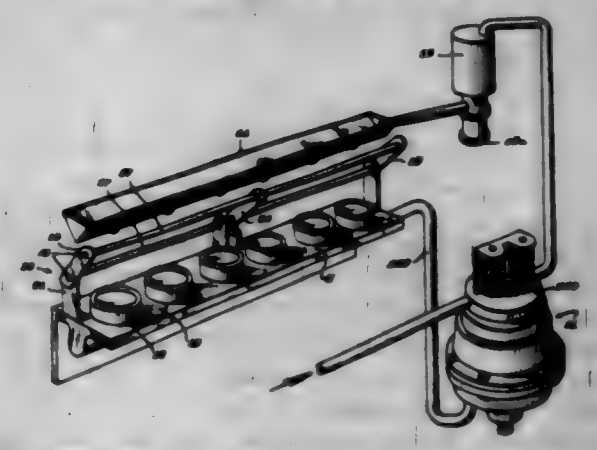
14. An ice particle storage and vending arrangement including a storage bin in which ice particles are accumulated for vending purposes, ice particle moving means in the form of a centrally positioned and vertically directed auger in said bin to impart circulatory-type motion to the ice particles therein to prevent coherence and fusion therebetween during storage, said storage bin being of substantially larger total area than that occupied by said auger therein to permit said circulatory-type motion, and ice particle vending means including a rotatable drum having an opening in the periphery thereof for alignment with a delivery opening in said bin for ice particle delivery purposes.

2,969,651

AUTOMATIC ICE MAKING APPARATUS

Carl C. Bauerlein, Lincolnwood, Ill., assignor to The Dole Valve Company, Morton Grove, Ill., a corporation of Illinois

Filed June 27, 1958, Ser. No. 744,997
13 Claims. (Cl. 62—135)



1. An automatic ice cube maker comprising a plurality of flexible invertible molds for receiving and holding

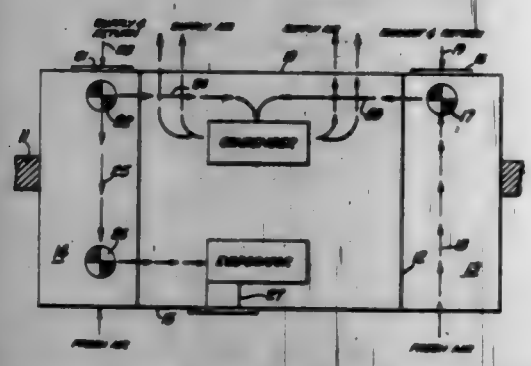
water, a support carrying said molds, a scavenger bar mounted on said support for rotatable movement above said molds, means for turning said molds inside out to discharge frozen ice cubes therein, and means for moving said scavenger bar into the path of return movement of any cubes to engage and dislodge any ice cube sticking to a mold.

2,969,652

HEATING, VENTILATING AND COOLING UNIT

Winborne Boyce Blanchard, Architects Bldg., 3415 Virginia Ave., Newport News, Va.

Filed June 5, 1959, Ser. No. 818,404
6 Claims. (Cl. 62—157)



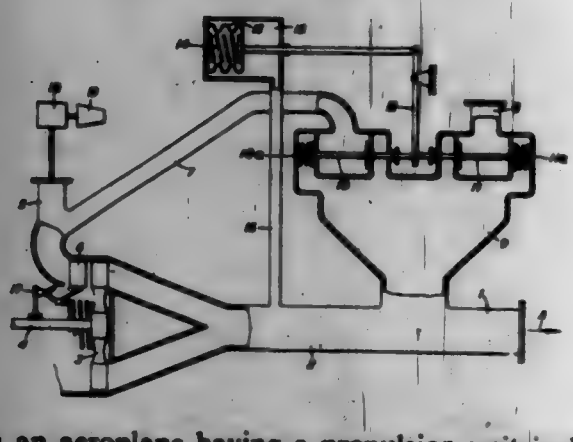
1. Heating and ventilating apparatus for a room or like enclosure comprising a heat pump including a condenser section and an evaporator section each having a coil and a blower, means for recirculating selected adjustable proportions of return air from the room through said condenser section to heat the air by condensation of refrigerant in the condenser coil including means for entraining therewith selected, adjustable proportions of fresh outside air, and means for exhausting selected adjustable proportions of return room air through said evaporator section while recirculating selected proportions of return room air through said condenser section to cause part of the heat of the return room air to be yielded to the refrigerant in the evaporator.

2,969,653

AUXILIARY POWER SYSTEMS ASSOCIATED WITH AIRCRAFT TURBINES

David Roy Trowbridge, near Brentwood, and Norman Moss, London, England, assignors to The Plessey Company Limited, London, England, a company of Great Britain

Filed Dec. 3, 1959, Ser. No. 857,227
2 Claims. (Cl. 62—172)



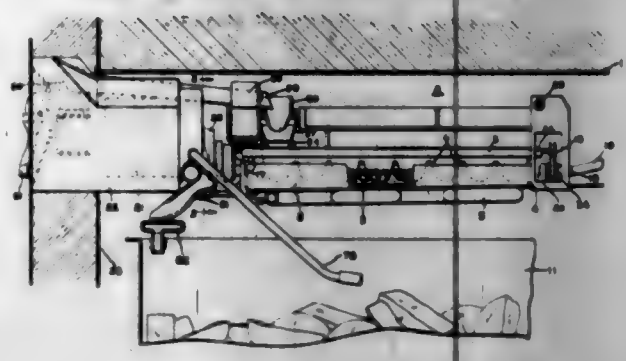
1. In an aeroplane having a propulsion unit including a compressor equipped with a bleed, and an auxiliary turbine driven by bleed air from the compressor bleed, a pressurisation duct for the aeroplane cabin, and means for supplying air from the compressor bleed to the pressurisation duct: the combination of a valve chest freely communicating with the turbine exhaust and the cabin pressurisation duct and having a connection to the bleed of the compressor, a valve governing said bleed connection, an atmospheric vent for said valve chest, a valve controlling said vent, and a pressure sensing element responsive to the pressure in said pressurisation duct to progressively open the valve in said bleed air connection as the pressure in the duct tends to fall below a predetermined value and to progressively open said vent valve as the pressure in said duct tends to increase above said predetermined value.

2,969,654

AUTOMATIC ICE MAKER

Harold P. Harle, Louisville, Ky., assignor to General Electric Company, a corporation of New York

Filed July 17, 1958, Ser. No. 749,171
6 Claims. (Cl. 62—233)



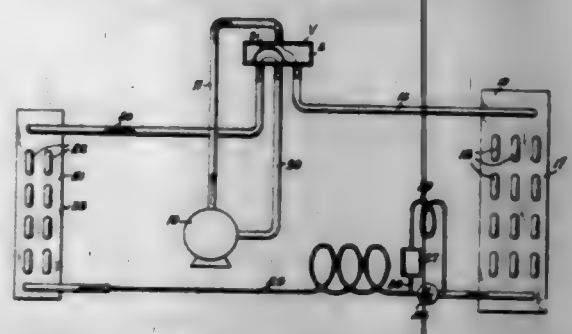
1. An ice maker comprising a flexible tray, means for supporting said tray for tilting movement thereof about an axis adjacent one side of said tray between a horizontal ice making position and a tilted ice ejecting position, drive means operably connected to one end of said tray for rotating said tray to said tilted position, said drive means including a drive shaft, an arm carried by said shaft, a cam pin on said arm, and a cam member connected to said tray, a stop for engaging the other end of said tray and limiting the movement of said other end during operation of said drive means to cause flexing of said tray when rotated to the tilted position, and energy storing means for biasing said tray away from said tilted position, said cam member including a cam surface permitting said energy storing means to subject said tray to a jarring action following the flexing thereof to release any ice pieces remaining in said tray.

2,969,655

REVERSIBLE HEAT PUMP SYSTEM

James A. Salter, Fort Lauderdale, Fla., assignor to Ranco Incorporated, Columbus, Ohio, a corporation of Ohio

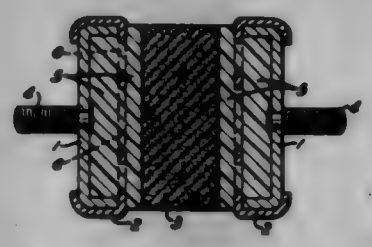
Filed May 19, 1959, Ser. No. 814,233
5 Claims. (Cl. 62—324)



1. In a heat pump system comprising a refrigerant compressor and first and second coil type heat exchangers connected with the compressor in a refrigerating circuit and including means to selectively reverse the order of flow of refrigerant through the exchangers, means forming a refrigerant passage between said exchangers including a first restrictor, a liquid reservoir, a second restrictor connected in series with said reservoir, and means to direct refrigerant flow from said first exchanger succes-

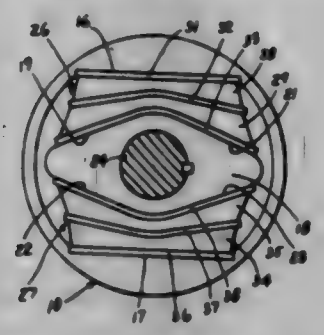
sively through said first restrictor, said reservoir and second restrictor and to said second exchanger whereby said reservoir is filled to capacity with liquid and to cause the flow of refrigerant from said second exchanger to said first exchanger to by-pass said second restrictor and reservoir and to flow through said first restrictor.

2,969,656
COUPLING DEVICE
Franz Gottfried Reuter, Lemforde, Hannover, Germany, assignor, by mesne assignments, to Mobay Chemical Company, Pittsburgh, Pa., a corporation of Delaware
Filed Dec. 15, 1958, Ser. No. 780,289
Claims priority, application Germany Dec. 14, 1957
8 Claims. (Cl. 64—11)



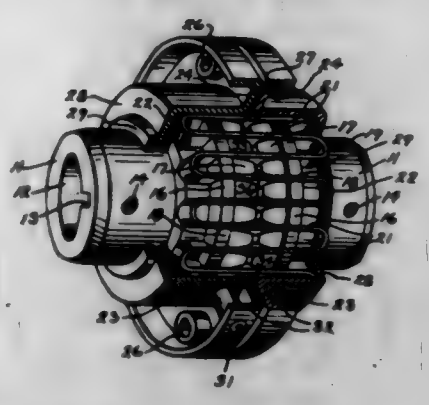
7. A coupling device comprising a unitary flexible polyurethane body having a central porous portion and two non-porous end portions, two spaced apart metal supports securely anchoring said end portions of said unitary flexible polyurethane body, the metal supports comprising a base plate and a U-shaped member having a perforated base securely affixed to said base plate in spaced relation.

2,969,657
FLEXIBLE COUPLING
Sanford A. McGavern, Indianapolis, Ind., assignor to Schwitzer Corporation, Indianapolis, Ind., a corporation
Filed Apr. 27, 1959, Ser. No. 809,272
3 Claims. (Cl. 64—11)



1. A coupling device for effecting power transmission between driving and driven shafts, said device including a first member adapted to be rotationally locked to the driven shaft, said member being formed to provide diametrically opposed planar surfaces on opposite sides of the driven shaft axis, a second member having oppositely inclined side margins and rotationally locked on the driving shaft, said second element being positioned so that its inclined side margins face the planar surfaces of said first element, and a flexible member extending between each of the planar surfaces of said first element and the inclined side margins of said second element, each of said flexible members comprising a plurality of elastic elements arranged in stacked relation, end leaves secured to the end surfaces of the element stack and an interleaf interposed between each of said elastic elements, the end leaves having a configuration permitting them to be disposed contiguous to said planar surfaces and to said oppositely inclined surfaces, whereby deformation of said elastic elements permits said coupling device to accommodate various misalignments between said shafts as well as relative endwise motion therebetween.

2,969,658
COUPLING COVER
Edward J. Wellauer, Wauwatosa, Wis., assignor to The Falk Corporation, Milwaukee, Wis., a corporation of Wisconsin
Filed July 24, 1959, Ser. No. 829,313
4 Claims. (Cl. 64—15)

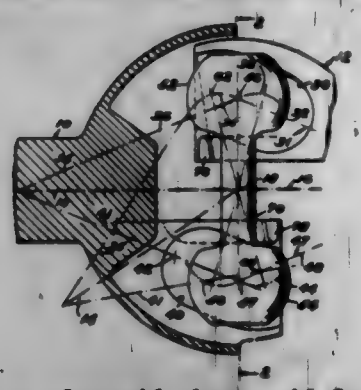


1. A flexible shaft-coupling, comprising: a pair of substantially coaxial coupling elements capable of limited relative rotation about their common axis, each such element being provided adjacent the face facing the other with a series of circumferentially spaced radially projecting driving teeth, which teeth define between them a series of axially directed peripheral grooves; means for drivingly securing these coupling elements to the ends of their respective shafts; a grid interlacing the teeth of both coupling elements, and thereby drivingly connecting said coupling elements; said grid comprising a series of torque transmitting resilient limbs, each lying in a groove of each coupling element; a lubricant retaining cover enclosing the grid and the adjoining ends of the two coupling elements, said cover being formed of two complementary housing members, each having an outwardly radially projecting connecting flange secured to the corresponding connecting flange of the other, the connecting flanges thus forming at their juncture on the inside of the cover an annular groove of wedge shaped cross section, each housing member also having means slidably sealing the outer end of each housing member to the surface of its respective coupling element; characterized by the fact that there is a ring of flexible resilient yieldable material lying partly in the annular groove; and that the outer edge of each limb extends radially outwardly beyond the adjacent teeth where such limb crosses said groove, each limb contacting and indenting said ring, and forcing said ring into said groove to be gripped thereby; whereby said ring constitutes means yieldably drivingly connecting the coupling to its cover for damping the angular inertia of the cover when the angular velocity of the coupling is accelerated, retarded, or reversed.

2,969,659
UNIVERSAL JOINT
Everett H. Sharp, Berkley, Mich., assignor, by mesne assignments, to Dana Corporation, Toledo, Ohio, a corporation of Virginia
Filed Jan. 27, 1958, Ser. No. 711,510
26 Claims. (Cl. 64—21)

1. A constant velocity universal joint comprising a pair of rotary members angularly movable relative to each other about a fixed intersecting point in the axes thereof and having oppositely axially extending interspersed lugs, the opposed faces of adjacent lugs being fashioned with grooves to provide sets of opposed grooves with the axes of the grooves of each set intersecting and each extending at an oblique angle to and diverging outwardly from the axis of the corresponding member toward said other member, a ball in each set of opposed grooves at the intersection of the axes thereof, the grooves of each of two sets being so fashioned that the distance between the

points of intersection of the axes thereof is constant in all operative positions of said members relative to each other about the fixed intersecting point in their axes, and means for holding said members in assembled relation



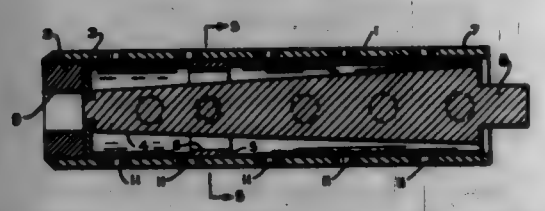
for movement as aforesaid about said fixed intersecting point in their axes including a direct connection between the balls in said two sets of grooves maintaining the distance between said last-mentioned balls constant.

2,969,660

IMPACT WRENCH CONTROL

William S. Dale, Kingston, R.I., and Philip R. Haskell, Fairfield, Conn., assignors to Remington Arms Company, Inc., Bridgeport, Conn., a corporation of Delaware

Filed Feb. 26, 1959, Ser. No. 795,853
6 Claims. (Cl. 64—27)



1. A rotary impact device comprising in combination, a housing, driving means on end of the housing, a driven element connected to the other end of said housing, a torsion member drivingly connected to said driving means and the driven element and having a continuously varied cross section, and means engaging said torsion member cooperating therewith to selectively vary the effective length and selectively utilize one cross sectional area of said torsion element and establish a desired limiting impact torque which can be transmitted from said driving means to said driven element corresponding to the cross section and effective length of the torsion member selected.

2,969,661

SHEAR PIN UNIT FOR FLEXIBLE COUPLING

Arthur Swanson, Towson, Md., assignor to Poole Foundry & Machine Company, Baltimore, Md., a corporation of Maryland

Filed Jan. 28, 1958, Ser. No. 711,741
12 Claims. (Cl. 64—28)



1. A shear pin adapter unit for mounting between the driving and driven sleeves of a flexible coupling comprising a driving member for attachment to the driving sleeve of a coupling, a driven member for attachment to the driven sleeve of a coupling, said members being arranged with a space between their opposed surfaces, a shear pin having end portions slidably received respectively in said members, a shearing section on said shear pin connecting said end portions to each other and disposed within said space, and means located between each end portion and the associated member resiliently biasing said end portions away from said shearing section.

2,969,662

KNITTED GARMENT WITH BREAST CUPS AND METHOD OF MAKING

Barnett D. Gordon, 106 Essex St., Brookline 11, Mass.

Filed Feb. 2, 1959, Ser. No. 790,669
2 Claims. (Cl. 66—89)



1. A method of knitting a front half-panel for a swimsuit having an unstressed bulge, which comprises knitting a series of plain courses on a full-fashioning machine to form the half-panel from the bottom to the breast cup areas, starting a first loop-shifting operation by shifting in the widening direction the loops on a substantial number of marginal needles at one side of the fabric to the next adjacent needles, knitting a course, shifting the loops from the same marginal needles to the same next adjacent needles, knitting a course, alternately shifting loops and knitting as described, whereby successive new wales are started by the inmost needle from which loops are shifted, starting a second loop-shifting operation while the first loop-shifting operation is in progress by shifting in the widening direction the loops on a substantial number of marginal needles at the outer side of the fabric to the next adjacent needles, knitting a course, shifting the loops on said next adjacent needles in the same direction to the then next adjacent needles, continuing both shifting and knitting operations simultaneously for a predetermined number of courses, resuming plain knitting for a predetermined number of courses, reversing both shifting operations by simultaneously shifting loops in the opposite directions from both sides of the fabric whereby wales are merged, discontinuing the reversed second loop-shifting operation, and subsequently discontinuing the reversed first loop-shifting operation.

2,969,663

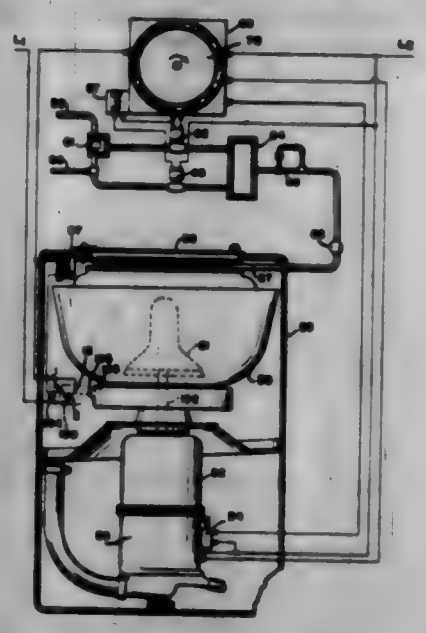
AUTOMATIC SEQUENTIAL OPERATION TYPE CLOTHES WASHING MACHINE

Marshall C. Harrold, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Sept. 23, 1957, Ser. No. 685,459
8 Claims. (Cl. 68—12)

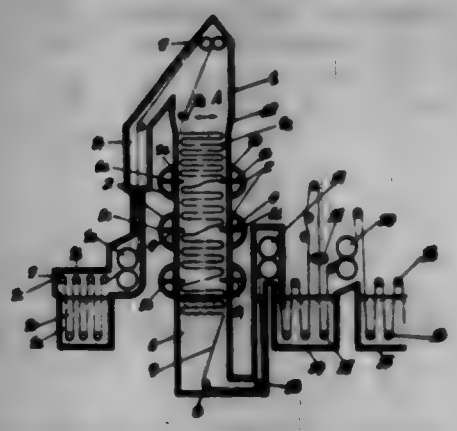
8. In combination: a washing machine comprising a tub; a power motor to rotate said tub; an access door to said tub; an electrical circuit switch on said door; a

safety switch actuated by the rotation of said tub and having a door switch by-pass position and a door switch



series position; said safety switch being actuated to said series position when said tub is rotating.

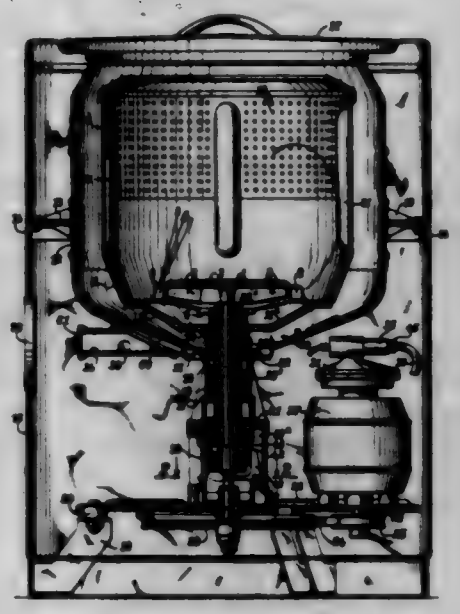
2,969,664
APPARATUS FOR TREATING WEB MATERIAL
Kunikaru Nasu and Susumu Niwa, Wakayama-ken, Japan, assignors to Sando Iron Works Co., Ltd., Wakayama-ken, Japan
Filed Nov. 19, 1958, Ser. No. 774,908
Claims priority, application Japan Jan. 5, 1958
6 Claims. (Cl. 68—178)



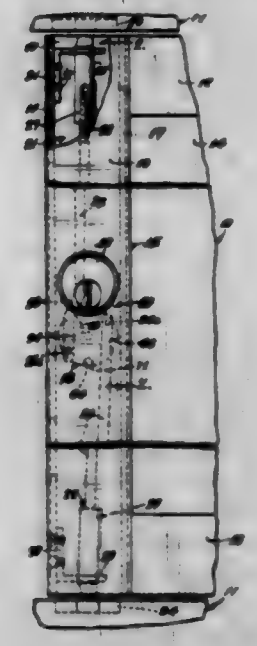
1. An apparatus for treating web material, comprising a tank, means for feeding web material into said tank and means for removing web material from said tank, and a plurality of vertically spaced turnstile means extending into said tank for supporting plies of said web material to reduce the weight of the web material on the lower plies thereof in said tank, said tank having spaced side walls, said side walls having aligned slots therein, said turnstile means being rotatably mounted outwardly of said tank and having portions extending through said slots.

2,969,665
FABRIC WASHING MACHINE
Francois Victor Marie Desire Saverio, Paris, France, assignor, by mesne assignments, to Philco Corporation, Philadelphia, Pa., a corporation of Pennsylvania
Filed Oct. 20, 1955, Ser. No. 541,746
3 Claims. (Cl. 68—184)

1. In a clothes washing machine of the type in which wash water is drawn into a pump casing and discharged therefrom into a tub having a bottom wall and an upwardly directed cylindrical side wall, said tub having a central vertical axis and adapted to contain the wash water and clothes to be washed, said casing being mounted in said tub and disposed centrally and adjacent said bottom wall, the combination comprising: a plurality of jet nozzles each leading from said casing and opening into said tub, certain nozzles opening upwardly and generally in the direction of the central vertical axis of said tube to emit a first series of jet streams in flow paths angled upwardly and toward said axis from different sides thereof whereby said first series of jet streams impinge upon the clothes to suspend them in the wash water and above said bottom wall, certain other nozzles opening laterally and in directions substantially tangential to said casing and away from said axis to emit a second series of jet streams in flow paths directed laterally toward and following said side wall; and deflector elements carried by said side wall, said elements extending vertically over the greater part of the height of said side wall and projecting therefrom toward said axis to deflect said second series of jet streams away from said side wall and toward said axis whereby they impinge upon the clothes to maintain them off said side wall.



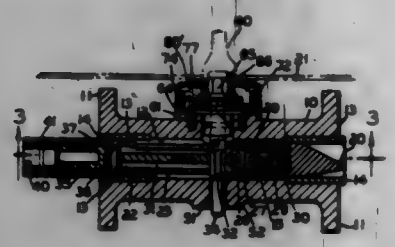
2,969,666
LOCK AND LATCH ASSEMBLY
Dan C. Muessel, Niles, Mich., assignor to Kawneer Company, Niles, Mich., a corporation of Delaware
Filed July 3, 1957, Ser. No. 669,781
8 Claims. (Cl. 70—116)



7. A panel type closure lock of the type in which a pair of bolts is projected outwardly of the closure and

into engagement with keepers located on a frame adjacent to the closure, said lock comprising an actuator assembly including first and second spaced apart discs mounted for rotation for unitary rotation upon said closure and each including a peripheral slot therein, means pivotally connecting each of said bolts to said actuator assembly at points removed from the axis of rotation of said assembly, first and second manually operated lock cylinders respectively accessible from opposite sides of the closure and each including a cam operator respectively received within the slots formed in said first and second discs in order to rotate said assembly, the rotation of said assembly in one direction being effective to project said bolts outwardly of said closure and the rotation in the opposite direction being effective to retract said bolts, a latching assembly mounted for sliding movement with respect to said discs and including a member in engagement with both of said discs to prevent rotation of the latter when said bolts are in their fully extended position, said latching assembly including first and second followers respectively extending adjacent said first and second discs with each follower including a portion partially overlapping the slot in its adjacent disc, whereby one of the follower portions is engaged by the cam when one of the lock cylinders is turned, thereby to slide said latching assembly to disengage said member from the discs in order to release said actuator assembly for rotation, and a spring urging said member into peripheral engagement with the discs.

2,969,667
LATCH FASTENER
Jacob R. Newcomer, Jr., Westwood, and Frank Wheeler, Little Falls, N.J., assignors to Camloc Fastener Corporation, Paramus, N.J., a corporation of New York
Filed May 14, 1956, Ser. No. 584,600
4 Claims. (Cl. 70—134)



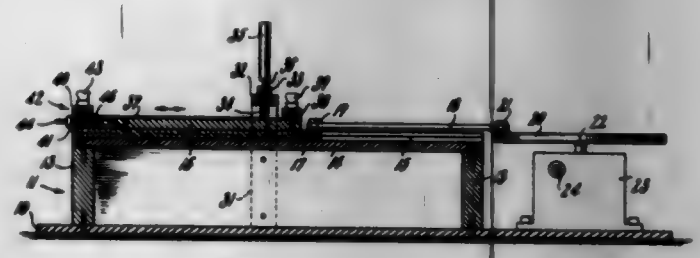
1. A latch fastener comprising an elongated housing having a through longitudinal bore and provided with means for attachment to a structure provided with an outer skin having an opening therein, a pair of bosses on the housing forming bearing trunnions disposed transversely of the bore on opposite sides thereof and bearings in said trunnions, a shaft provided with tool receiving means at its outer end and journalled in said bearings for rotative and slidable movement, the housing having a through longitudinal slot at right angles to the shaft, a generally elliptical cam in the slot and having an opening adjacent one of its edges to slidably receive the shaft which is keyed thereto for conjoint rotation therewith, a latch bolt tapered at its forward end slidable in the housing bore and having a pair of through longitudinal slots at right angles to each other, one to receive the cam and one to receive the shaft to permit travel of the latch bolt, spaced followers carried by the latch bolt engaging opposite sides of the cam whereby the latch bolt can be moved to fastening and unfastening position on rotation of the shaft, a cup mounted on one of the bosses and slidable toward and away from the housing, spring means urging the cup and the shaft towards the skin and means limiting outward travel of the shaft towards the skin opening.

2,969,668
KEY HOLDER HOOK
Frederick J. Aitchison, Watertown, Conn., assignor to Scovill Manufacturing Company, Waterbury, Conn., a corporation of Connecticut
Filed June 16, 1959, Ser. No. 820,648
2 Claims. (Cl. 70—458)



1. A key hook of flat sheet metal spring material comprising first and second arms joined together by a connecting loop, one end of the first arm formed with a hollow cylindrical head portion having open ends with its axis prependicular to the axis of said first arm, said head portion having a transverse slot adjacent said first arm, and the opposite or second arm having a cylindrical head portion also with its axis perpendicular to the axis of its support arm, said second cylindrical head of smaller diameter than the head on the first arm adapted to be slipped endwise to fit first cylindrical head whereby the arm of said second head is disposed in said slot and said second head is held there in place against movement parallel to said arms.

2,969,669
ABRASION TESTING APPARATUS
Isidor S. Hirschhorn, West Orange, N.J., assignor to Ronson Metals Corporation, Newark, N.J., a corporation of New Jersey
Filed May 10, 1955, Ser. No. 507,220
4 Claims. (Cl. 73—7)



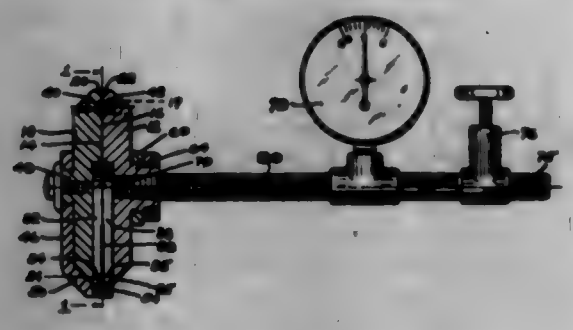
1. An abrasion testing apparatus comprising an elongated support, a sheet provided with an abrading surface disposed on said support, a plurality of hollow guide means arranged above and in transverse direction of said sheet, means for reciprocating said support in longitudinal direction of said support and relative to said guide means, said guide means being adapted to receive and hold a plurality of test specimens, means applying uniform force to the specimens when received in said guide means, so that upon reciprocation of said support all of said specimens are simultaneously and under uniform condition subjected to abrasion by said abrading sheet surface, graduated means on said support for adjusting the disposition of said abrading sheet in transverse direction of the latter, said guide means being spaced from each other whereby upon adjusting the position of said sheet said specimens may be subjected to abrasion by different portions of the abrading sheet surface to thereby utilize successively all of said surface, means for tensioning said sheet surface in longitudinal direction on said support, and means for releasably clamping said sheet surface to said support.

2,969,670

GAUGE FOR MEASURING ACCURACY OF CURVATURE

Oscar P. Liebreich, Waterbury, Conn., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Apr. 19, 1957, Ser. No. 653,978
8 Claims. (Cl. 73—37.5)



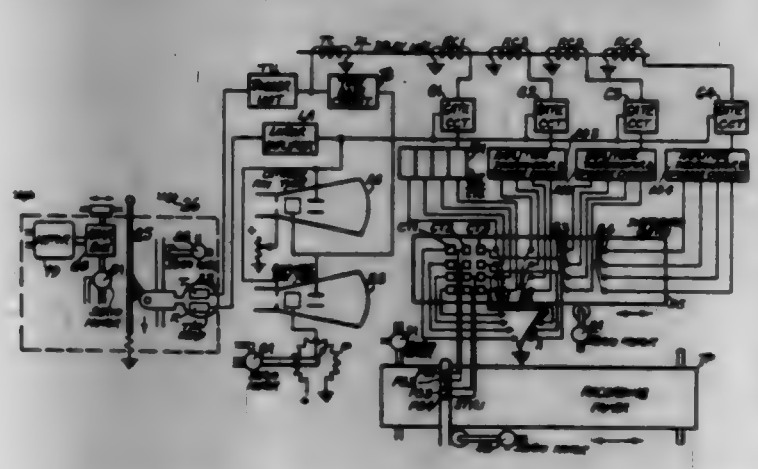
8. In a gauge for measuring the accuracy of transverse curvature of a bearing raceway, a gauging member provided with an arcuate measuring portion of predetermined contour for fitting into closely conforming engagement, with a transverse curvature of the raceway to be measured, said measuring portion extending through an arcuate distance exceeding the length of transverse curvature of said raceway, said gauging member containing a narrow arcuate slot disposed in a plane transversely of the axis of said arcuate portion, the slot extending through said arcuate portion and opening onto said raceway transversely of the raceway during its measurement, the arcuate length of said slot exceeding the length of transverse curvature of said raceway, means delivering fluid under predetermined pressure into said slot, and mechanism responsive to change in said fluid pressure dependent upon fluid leakage from said slot under control of the extent of conforming contour of the arcuate edges of said slot against the arcuate surface being measured.

2,969,671

ULTRASONIC FLAW DETECTING APPARATUS

Donald Orr Sproule, London, England, assignor to Glass Developments Limited, London, England, a British company

Filed Feb. 7, 1957, Ser. No. 638,719
Claims priority, application Great Britain Feb. 10, 1956
8 Claims. (Cl. 73—67.9)



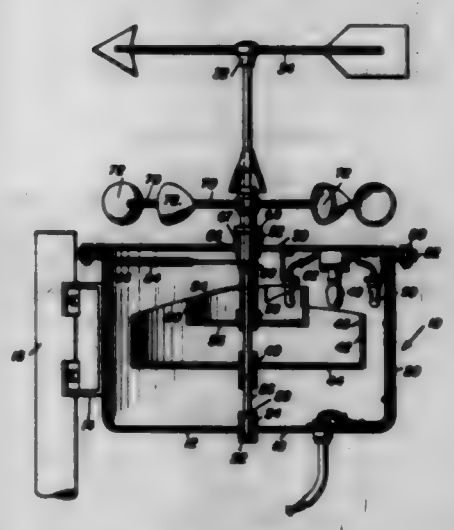
1. A device for detecting and automatically recording flows in an object by means of ultrasonic waves, comprising a probe incorporating at least one electro-acoustic transducer so as to provide a transmitter and a receiver, means for transversing said probe over the object to be tested, a source of pulses of ultrasonic frequency, means for connecting said source to said transmitter, a plurality of gate circuits, means for supplying the output from said receiver to said gate circuits, a timing device for causing said gate circuits to be opened successively in turn in response to each pulse from said source, a like plurality of electrical storage devices operable from said receiver when the associated gate circuits are opened, a recording surface, a recording member co-operating with said recording surface, means for effecting relative movement between said recording surface and said recording member in synchronism with the traverse movement of said probe, and a distributor switch synchronised with the traverse movement of said probe for connecting up said storage devices in turn to said recording member to produce a corresponding record on said recording surface in accordance with the operation of said storage devices.

2,969,672

WIND VELOCITY AND DIRECTION INDICATING DEVICE

Wayne E. Sell, 7415 Marquette, Dallas, Tex., and Doyl E. Sell, 4946 Gibbs Road, Kansas City, Kans.

Filed Nov. 18, 1957, Ser. No. 696,977
10 Claims. (Cl. 73—189)



1. In a wind velocity and direction indicating device, the combination of a housing, a shaft journalled in said housing and having a wind direction vane fixed thereto, a sleeve rotatably mounted on said shaft extending into said housing and having a plurality of cups mounted thereon outwardly of said housing, spring means terminally secured to said sleeve for limiting rotation of said sleeve in response to wind force applied to said cups, a source of illumination in said housing, a first light shield secured to said shaft, a first photo-electrical cell, said first light shield being disposed between said first photo-electric cell and said source of illumination, a second light shield secured to said sleeve, and a second photo-electric cell, said second light shield being disposed between said second photo-electric cell and said source of illumination.

2,969,673

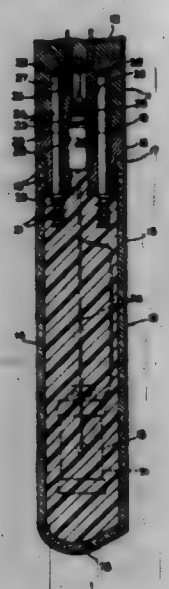
RODMETER

William M. Snyder, Kensington, and Jay Smith, Jr., Silver Spring, Md., assignors to the United States of America as represented by the Secretary of the Navy

Filed Dec. 17, 1956, Ser. No. 628,942
3 Claims. (Cl. 73—194)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A rodmeter of the type described adapted to measure ship speed in water comprising a strut, said strut having an outer plastic casing formed of water impervious chemically inert material, means along and adjacent the leading edge of said strut to induce turbulent flow at low speeds, an electromagnetic sensing unit symmetrically disposed within said casing, and a plastic filler material

within said casing, said plastic filler serving to maintain said sensing unit securely fixed in symmetrical relation-



ship to the casing and to give said strut mechanical strength.

2,969,674

MEASURING APPARATUS AND METHOD

Hugh Malcolm Ogle, Palo Alto, Calif., assignor to General Electric Company, a corporation of New York

Filed Jan. 8, 1957, Ser. No. 633,152
8 Claims. (Cl. 73—359)



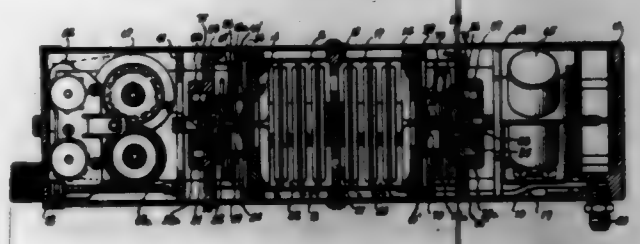
1. An apparatus for measuring the dimensions of an object subject to heating and changes in physical dimension which comprises means for securing one portion of said object in a fixed position leaving a second portion free to move under such dimensional changes, and temperature detecting means subject to cooling disposed in a fixed position with an area of its surface in immediate proximity and in heat transfer relation to an area of only the movable second portion of said object, whereby the heat transfer area and the resistance to heat flow between the second portion of said object and said temperature detecting means are variable and determined by the relative positions thereof, and whereby the temperature of said temperature detecting means is a function of the dimension of said object.

2,969,675

ALTIMETER

Franz L. Fischer, Jackson Heights, N.Y., assignor to Bulova Research and Development Laboratories, Inc., Woodside, N.Y., a corporation of New York

Filed Apr. 12, 1957, Ser. No. 652,592
2 Claims. (Cl. 73—386)



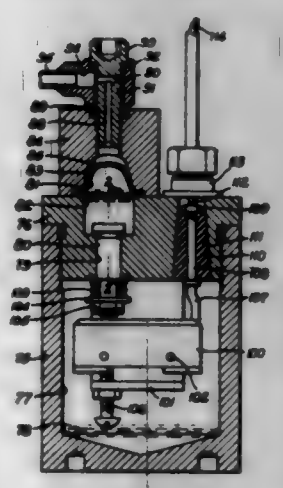
1. An altimeter of the aneroid type comprising a pair of oppositely disposed pressure-sensitive elements provided with axially extending armatures carrying magnetic cores, said elements being arranged in axial symmetry whereby a given change in pressure effects equal and opposite movement of said cores, an inductive device surrounding each armature and constituted by a frame supporting a pair of annular transformers having primary and secondary windings, means connecting the secondaries of the transformers in series to form a control circuit, the primaries of said transformers being connected serially to an alternating voltage source whereby said control circuit produces zero voltage only when the cores occupy corresponding positions relative to the associated transformers, a pair of rotatably mounted spur gears surrounding said armatures and coaxial therewith, a sleeve concentrically disposed about each frame and attached to the hub of the associated spur gear, said sleeve being adapted threadably to engage said frame whereby rotation of said gear effects an axial displacement of said frame relative to said core, and motor means coupled to said control circuit and responsive to the output thereof simultaneously to rotate said spur gears to restore said devices to their mid-positions.

2,969,676

PRESSURE PULSATION FREQUENCY INDICATOR

Clarence J. Coberly, San Marino, Calif., assignor, by mesne assignments, to Kobe, Inc., Huntington Park, Calif., a corporation of California

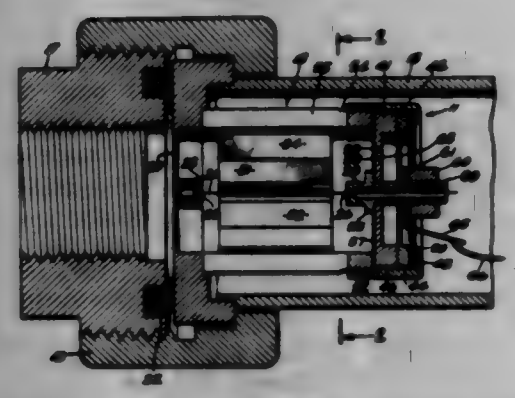
Original application June 3, 1950, Ser. No. 166,008, now Patent No. 2,812,662, dated Nov. 12, 1957. Divided and this application Apr. 29, 1957, Ser. No. 656,477
8 Claims. (Cl. 73—388)



1. In a device for measuring the frequency of variations in fluid pressure, the combination of: a rigid, liquid-filled chamber; a rigid cylinder communicating at one end with said chamber; a rigid piston movable in said cylinder and having two opposed end surfaces one of which

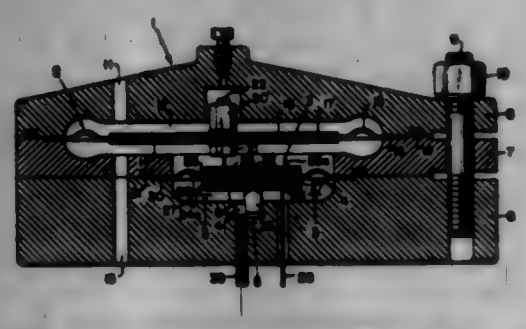
is exposed to the pressure of said liquid in said chamber; means, including rigid, liquid-filled passage means communicating with the other end of said cylinder, for exposing the other end surface of said piston to fluid pressure variations the frequency of which is to be measured, whereby the fluid pressure variations result in movement of said piston at the frequency of such variations to vary the volume of said liquid in said chamber inversely with such variations and at the frequency thereof; and means for indicating the frequency of movement of said piston.

2,969,677
STRESS ADJUSTING APPARATUS
Alvin V. Lewis, West Covina, Calif., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Filed Sept. 30, 1955, Ser. No. 537,750
10 Claims. (Cl. 73—398)



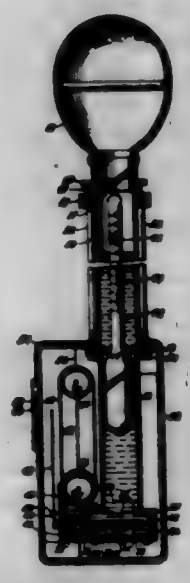
6. In a device comprising a given member the stress of which is to be varied, said given member having a stationary portion, and means for adjusting the stress of said given member, that improvement wherein said adjusting means includes a pair of spaced flexible members having aligned openings, a stem extending through said openings and engaging one of said flexible members, and a fastening member adjustably fixed on said stem and engaging the other of said flexible members for relatively flexing said flexible members upon adjustment of said fastening member upon said stem, said given member being operatively connected to the adjusting means for adjustment of the stress of said given member in proportion to the difference in the flexibilities of said flexible members.

2,969,678
METER
Robert B. Watrous, Philadelphia, Pa., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed Dec. 13, 1956, Ser. No. 628,158
4 Claims. (Cl. 73—407)



1. A differential-pressure-responsive device, including, a casing, a measured-variable-responsive element movably mounted within said casing and dividing it into two chambers, a linkage for transmitting the movement of said measured-variable-responsive element from the interior of said case to the exterior thereof and comprising, an inner link engaging said measured-variable responsive element, a pivoted link engaged by said inner link, an outer link exterior of said casing and engaging said pivoted link, a flexible static-pressure seat secured in fluid-tight engagement with the rim of said pivoted link and with said casing, and a pivot mounted on said case and engaging said pivoted link intermediate said inner link and said outer link and in such a fashion that the areas of said pivoted link and of said seal on opposite sides of said pivot are substantially equal thereby cancelling the effect of atmospheric pressure on said intermediate link.

2,969,679
ANTI-FREEZE TESTER
Robert B. Edelmann, Chicago, Ill., assignor to E. Edelmann and Company, Chicago, Ill., a corporation of Illinois
Filed Dec. 15, 1958, Ser. No. 780,383
2 Claims. (Cl. 73—443)

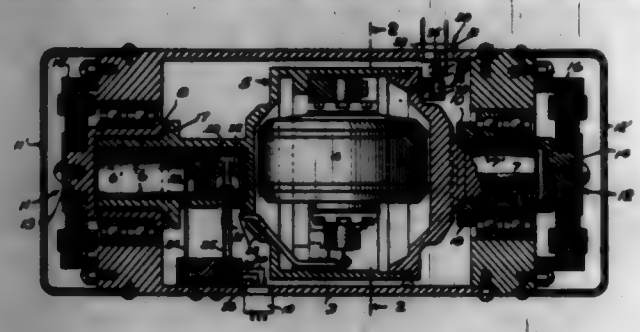


1. A hydrometer comprising an elongated, upright barrel terminating at its upper end in a collapsible bulb and at its lower end in a temperature-measuring chamber, a tube connecting to said chamber for carrying liquid into and out of said barrel, a float member disposed within said upright barrel and carrying specific gravity characters thereon, a temperature-sensitive bimetal coil mounted in said chamber and having a laterally extending shaft extending therefrom through the wall of said chamber, the axis of said shaft being transverse to the longitudinal axis of said barrel, an upright indicator hand connected to the end of said shaft for arcuate movement about the axis of said shaft in response to changes in temperature in the liquid within said chamber, a vertically movable web mounted between said upright indicator hand and said upright barrel and having a series of vertically-disposed scales printed thereon, each scale corresponding to a specific gravity character on said float in said upright barrel, a housing enclosing said chamber, indicator and web, and a slot in said housing opposite said web through which one scale at a time of said web is visible together with said upright indicator hand.

2,969,680
GYROSCOPE UTILIZING INVERTED HYDRODYNAMIC BEARINGS
Sidney S. Linn, Garden City, N.Y., and Oscar H. Bauschinger, Ridgewood, N.J., assignors to Sperry Rand Corporation, Ford Instrument Company Division, Wilmington, Del., a corporation of Delaware
Filed Jan. 14, 1960, Ser. No. 2,508
6 Claims. (Cl. 74—5)

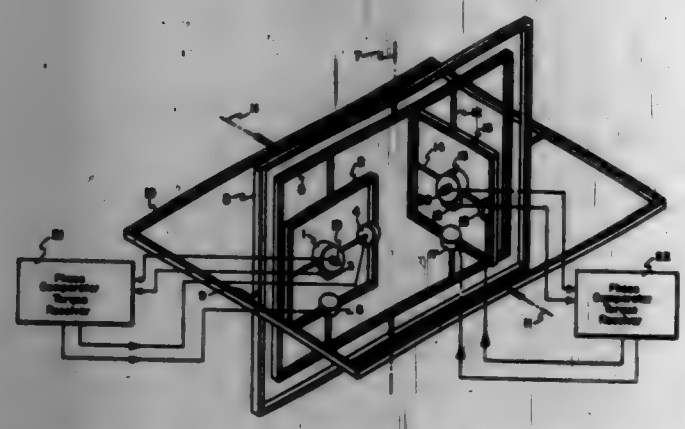
1. In a gyroscopic device having a casing with a pair of longitudinally spaced end walls, a gimbal disposed within said casing between said end walls, a gyrorotor

rotatably mounted in said gimbal, and bearing means by which said gimbal is mounted within said casing for slow oscillation, said bearing means comprising; a pair of axially aligned oppositely extending trunnions one of which is secured to each side of said gimbal with the axes thereof coincident with the precession axis of said device, a pair of tubular bearing sleeves into which said trunnions extend, the inside diameter of said sleeves being



slightly greater than the outside diameter of said trunnions to thereby provide an annular air film space therebetween, means by which one of said sleeves is rotatably mounted in each of said end walls, and means by which said sleeves are rapidly rotated in opposite directions at the same r.p.m. thereby providing air film journal bearings for said trunnions without applying a torque to the precession axis of said device.

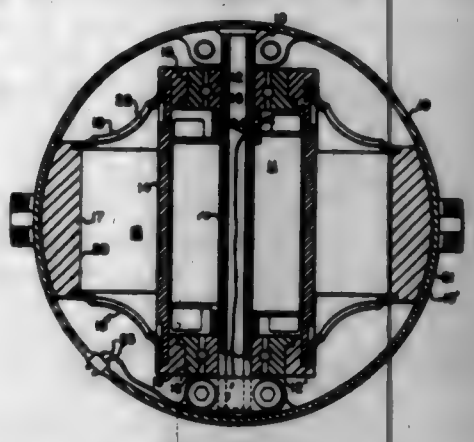
2,969,681
GYROSCOPIC APPARATUS
Thomas J. Beasley, Canoga Park, Calif., assignor to Lear, Incorporated
Filed Apr. 28, 1958, Ser. No. 731,352
6 Claims. (Cl. 74—5.4)



1. Stabilizing means comprising a statically balanced rotating mass having differing moments of inertia about orthogonally disposed axes in its plane of rotation, a casing supporting said mass for rotation therein, gimbal means rotatably supporting said casing for rotation about an axis normal to the axis of rotation of said mass, reference frame means rotatably supporting said gimbal means about an axis normal both to said axis of rotation of said mass and said axis of said casing, means responsive to angular accelerations of said casing at a frequency double the rotative frequency of said mass for torquing said gimbal means in the sense required to reduce said angular accelerations to zero.

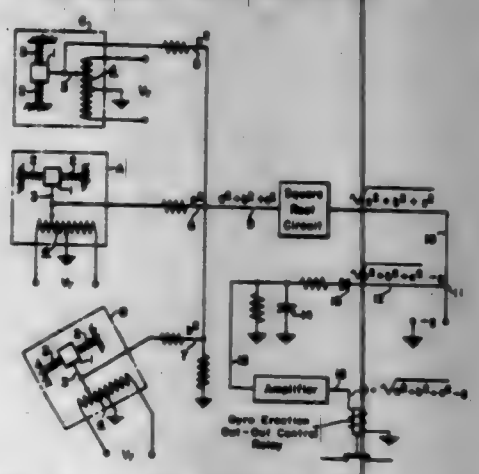
2,969,682
ROTATIVE DEVICE
John F. Schoeppel, Christian H. Will, Jr., and Roland Pittman, Grand Rapids, Mich., assignors to Lear, Incorporated
Filed Oct. 17, 1957, Ser. No. 690,835
6 Claims. (Cl. 74—5.7)

1. A gyroscopic structure comprising an axle, an inner race secured to each end of said axle, a stator on said axle and between said inner races, a hollow rotor shaft, an outer race on each end of said rotor shaft and balls between each of said inner and each of said outer races supporting said rotor shaft for rotation about and by said stator and relative to said axle, an annular member encircling said shaft and radially spaced therefrom, said



member having an outer diameter substantially equal to the length of said hollow shaft, a pair of somewhat conical shaped perforated end bells joining the axial ends of said member to the respective axial ends of said rotor shaft and a hollow spherical member secured to the opposite ends of said axle and inclosing said stator and said rotor.

2,969,683
GYRO ERECTION CUT-OUT METHOD
Fred U. Sulmer, Baltimore, Md., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed July 1, 1959, Ser. No. 824,310
3 Claims. (Cl. 74—5.41)

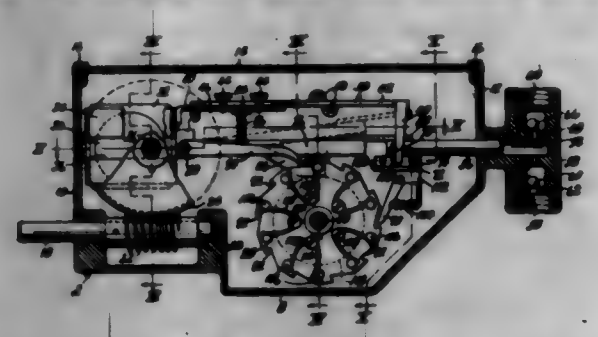


1. A method of controlling erection of the spin-axis-defining-means of a gyro whereby erection is prevented at a time when such gyro may be subjected to acceleration forces other than gravity, irrespective of the direction of such acceleration forces, said method comprising the steps of deriving three signals representative of the magnitudes of respective acceleration force vectors along three mutually-perpendicular directions, deriving a vector summation signal representative of the vector sum of the aforesaid three signals, deriving a gravity signal representative of the force of gravity, deriving a difference signal representing the difference between the vector summation signal and the gravity signal, and controlling a gyro erection cut-out control means according to said difference signal.

2,969,684
LIQUID INJECTOR
Orla E. Watson, 2911 W. 67th St., Mission Hills, Kans.
Filed Dec. 11, 1958, Ser. No. 779,584
6 Claims. (Cl. 74—49)

1. A device for dividing a reciprocable element comprising a reciprocable plunger so positioned that when

driven in one direction it will engage and advance said element, a retracting member connected to and reciprocable with said plunger and so positioned that as said plunger is driven in the opposite direction said retracting member will engage and retract said element, means op-

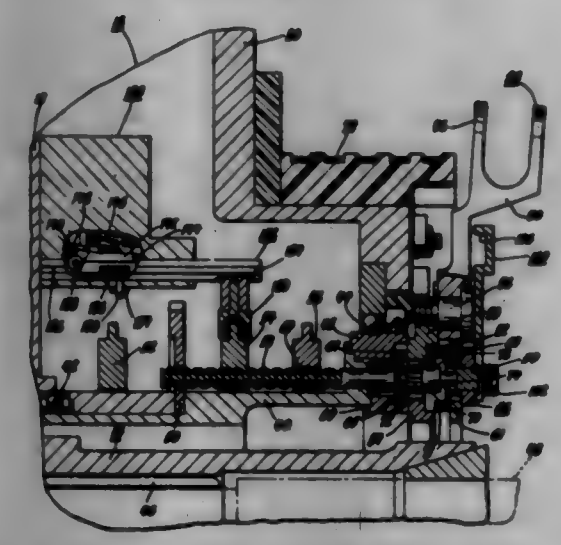


erable to drive said plunger continuously, said plunger being movable transversely to its direction of reciprocation to an inoperative position wherein reciprocation thereof will not advance said element, and means interconnected with and operable by said plunger driving means to move said plunger intermittently to its inoperative position.

2,969,685
CONTROL MECHANISM FOR VARIABLE PITCH PROPELLERS

Richard A. Hirsch, West Milton, and Lawrence V. McNamara, New Carlisle, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Apr. 2, 1957, Ser. No. 650,262
2 Claims. (Cl. 74—89)



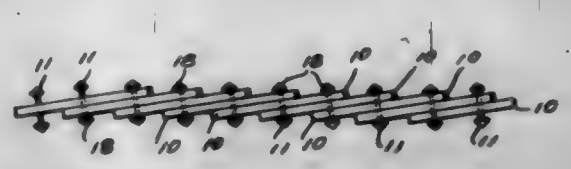
1. In a variable pitch propeller, an axially movable control element, a rotatable control member, at least one high lead screw helically connected with said control element whereby rotation of said high lead screw will effect axial movement of said control element, means interconnecting said high lead screw and said rotatable control member for establishing intermittent driving connection therebetween, an angularly movable control lever, and means interconnecting said control lever and said control member and establishing an automatically variable ratio driving connection between the control lever and the control member during movement of said control lever between its limit positions.

2,969,686
V LINK TRANSMISSION BELT

Leslie A. Runton, Middle Haddam, Conn., assignor to The Russell Manufacturing Company, Middletown, Conn., a corporation of Connecticut

Filed Mar. 20, 1958, Ser. No. 722,685
2 Claims. (Cl. 74—236)

1. A V link belt comprising a plurality of links secured together in overlapping relationship, each link being composed of a multi-ply fabric having inner and outer plies impregnated with an elastomeric molded resin, said inner plies being composed of straight stiff monofilament fillers composed of a synthetic resin forming transverse columns resistant to axial compression and flexible chain

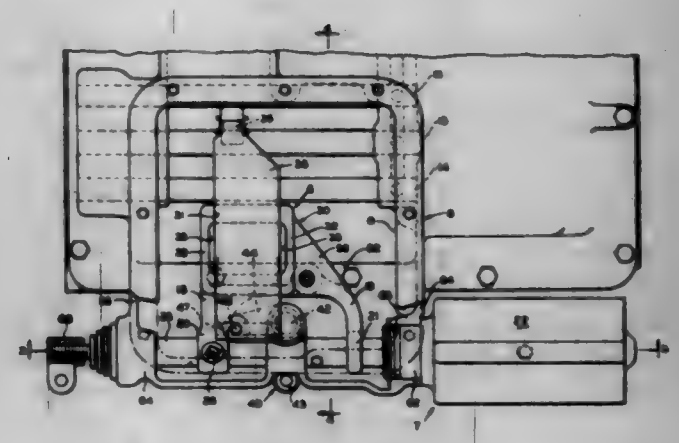


warps woven with said fillers to bind the latter in place, said outer plies being composed of longitudinally extending continuous filament filler yarns woven with flexible chain yarns of a material which is readily bondable to said resin.

2,969,687
SHIFTER MECHANISMS FOR MULTI-SHIFT TRANSMISSIONS

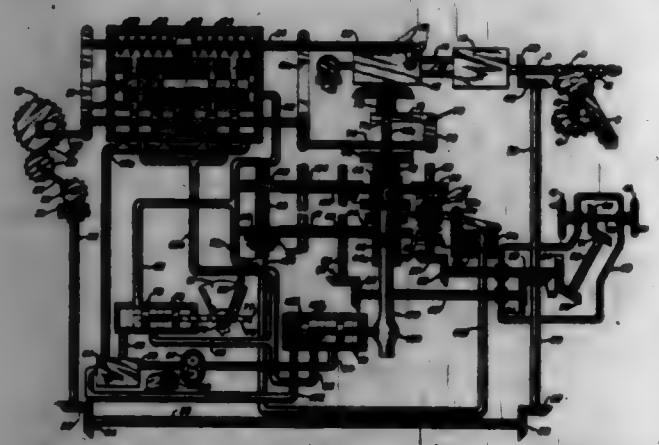
William F. Leonard, Jackson, Mich., assignor to Clark Equipment Company, a corporation of Michigan

Filed Nov. 26, 1958, Ser. No. 776,511
7 Claims. (Cl. 74—335)



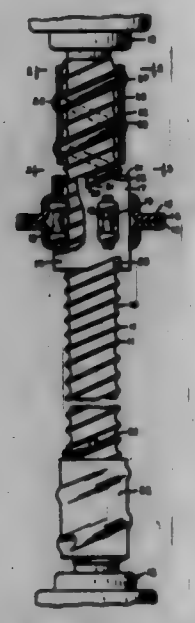
7. Shifter mechanism for association with a multi-shift transmission having a housing open at the upper end and including a plurality of parallel shift rails movable lengthwise of their longitudinal axes, and motor means including a power cylinder, force applying tube means and control tube means coaxially with each other on an axis parallel with the axes of said shift rails, comprising a slide carriage mounted on said force applying means for movement therewith on an axis parallel to the axes of said shift rails, a slide member mounted for sliding movement in said slide carriage in a direction transverse of the longitudinal axes of said shift rails, a cover closing the opening of said transmission housing and having its inner surface in juxtaposition of said slide member, spring means between said slide carriage and said transmission housing for yieldingly engaging said slide member with the inner surface of said cover to retain said slide member in said slide carriage, shift rail selector lever means comprising a shaft mounted for rotation on an axis laterally of and normal to the axes of said shift rails, a first crank arm at one end of said shaft externally of the transmission housing, a second crank arm at the other end of said shaft internally of said transmission housing, and pin and slot means between said second crank arm and said slide member whereby said slide member is adapted to be selectively positioned relative to said shift rails by rotation of said shaft of said shift rail selector means.

2,969,688
HAND CONTROL FOR A SERVO SYSTEM
Denver Eldin Hackelman, 1747 N. Cambrian, Bremerton, Wash.
Filed May 12, 1949, Ser. No. 92,935
4 Claims. (Cl. 74—388)
(Granted under Title 35, U.S. Code (1952), sec. 266)



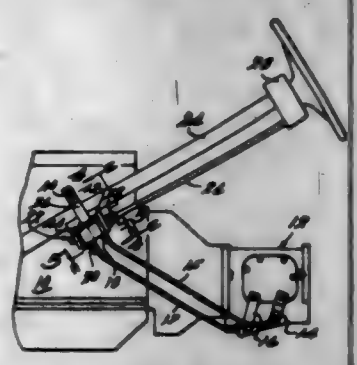
1. In a gun assembly, the combination including gun positioning means, manual means and automatic means selectively controlling said gun positioning means, said manual means comprising a differential unit having two input members and a differential output member, linkage connected between the output member and said gun positioning means acting upon selection of said manual means to control said gun positioning means responsive to movement of said output member, a manually movable control element for driving one of said input members, motion transmitting means driven by said gun positioning means and driving the other of said input members to provide follow-up action, a drive means interposed between said two input members including a clutch device releasably engageable to connect said one input member to said other input member to prevent differential movement of said output member during automatic control of said positioning means when said manually movable element is inoperative.

2,969,689
MOTION-TRANSMITTING DEVICE
Jack E. Martens, Gary, Ind., assignor to The Anderson Company, a corporation of Indiana
Filed Sept. 22, 1958, Ser. No. 762,525
9 Claims. (Cl. 74—424.8)



1. In combination, a threaded shaft having a freewheeling nut assembly including a cage thereon; means carried by at least one end of the cage of the assembly to be engaged by a stop for inhibiting rotation thereof; a helical wire spring surrounding at least one end of said shaft; and a tube extending over and part way along said spring, the end of said tube away from said nut being deformed against said shaft and the end of said spring to secure the tube, shaft and spring together, the portion of the spring projecting from the tube terminating in an abutment for engagement with said means on the cage.

2,969,690
TRANSMISSION SHIFT LOCK
Steve D. Ivan, Roseville, Mich., assignor to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware
Filed July 13, 1959, Ser. No. 826,797
2 Claims. (Cl. 74—477)



1. In a gear shift mechanism, first and second gear shift lever means angularly movably mounted on a housing secured to a steering column, portions of said lever means forming shoulders, a longitudinally and angularly movable actuating member for selectively engaging said shoulders and angularly moving said lever means, bearing means on said housing, collar means on said actuating member rotatably frictionally engaging the same, means on said actuating member engaging said collar means for preventing relative axial movement therebetween, stud means on said collar means extending toward one of said lever means and constantly at least partially engaged by said bearing means, aperture means in said one lever means, said stud means being inserted into said aperture means at one longitudinal position of said actuating member to prevent angular movement of said one lever means during movement of the other lever means.

2,969,691
EXTENSION PEDAL FOR VEHICLE LIGHT DIMMER SWITCH
Harry G. Cherry, P.O. Box 846, Alamogordo, N. Mex.
Filed Oct. 22, 1958, Ser. No. 769,824
1 Claim. (Cl. 74—560)



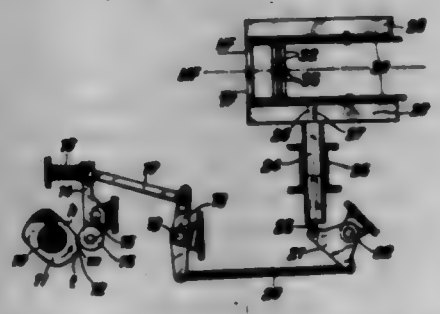
An extension pedal for an automobile headlight dimmer switch, said switch having a reciprocatory push-button projecting above an inclined floor portion of the automobile, said extension pedal comprising a unitary resilient metal strip body portion, said strip body portion comprising a lower elongated arm adapted to rest directly upon the inclined floor portion and free from attachment thereto, said lower arm adapted to be spaced from said

dimmer switch, an upper elongated arm spaced above the lower arm in upwardly and forwardly diverging relation thereto and extending forwardly of the lower arm for a substantial distance, a resilient bight portion integrally connecting the rear ends of said arms and serving to resiliently urge the upper arm away from the lower arm, a downwardly-opening cup element secured to the lower side of the upper arm at the forward end thereof and adapted to be located adjacent the pushbutton and to be engaged telescopically thereon and frictionally secured thereto, and side depending flanges secured to the upper arm and extending for the major portion of the length thereof to stiffen the upper arm.

2,969,692
CAM DRIVE

Erwin Pfarrwaller, Winterthur, Switzerland, assignor to Sulzer Freres, S.A., Winterthur, Switzerland, a corporation of Switzerland

Filed Mar. 30, 1959, Ser. No. 802,975
Claims priority, application Switzerland Mar. 31, 1958
8 Claims. (Cl. 74—567)



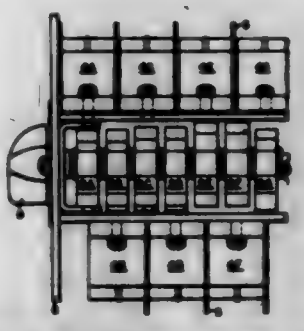
1. A drive for moving a mass by forces consecutively acting on the mass in opposite directions, including a cam having a cam surface, a follower engaged by said cam and receiving driving forces from said cam consecutively acting in opposite directions, and a linkage operatively connecting said follower to the mass to be moved, said linkage having clearances and elasticity causing a change of length of the linkage at each reversal of the direction of the driving force, said cam surface having a continuous first portion for applying a force to the mass acting in a certain direction on the mass, said cam surface having a second continuous surface portion for subsequently applying a force to the mass acting in the opposite direction, said second surface portion being shaped to form a continuation of said first surface portion but being offset with respect to said first surface portion, the offset being in a direction counter to the direction of the force acting on the follower and corresponding to at least a part of said change of length of said linkage when the direction of the driving force is reversed.

2,969,693
ADJUSTABLE-CONTOUR CAM

Ralph B. Immel, Williamsville, N.Y., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Original application June 24, 1957, Ser. No. 667,632, now Patent No. 2,887,901, dated May 26, 1959. Divided and this application Mar. 28, 1958, Ser. No. 722,780
1 Claim. (Cl. 74—568)

An adjustable-contour cam, comprising, a basic matrix having an axis and having a cylindrical hub-member and a cylindrical face plate of larger diametric dimension than said hub-member at one end of said hub-member, both having their outer peripheral surfaces symmetrically disposed with respect to said axis, said cylindrical face-plate having a plurality of circularly spaced, axially extending holes therethrough, and a plurality of cam-segment-forming elements each made of a somewhat elastic material, such as solid nylon, each cam-segment-forming element having a cylindrical portion and a plurality of resilient, laterally extending circularly and radially spaced prongs, each prong being provided with a radially projecting ridge at its end, said prongs being adapted to extend through said holes with the ridges holding the prongs against axial movement in the holes,

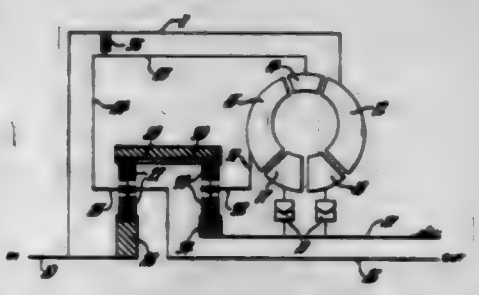


whereby said plurality of cam-segment-forming elements are each removably securable in any selected hole, the outer peripheral surface of said hub-member being shaped to form saddle-like seats for the cylindrical portion of each of said cam-segment-forming elements to thus receive the radial thrust on said cam-segment-forming elements during operation.

2,969,694
TRANSMISSION

Kenneth B. Harmon and Robert M. Tuck, Indianapolis, Ind., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed June 10, 1959, Ser. No. 819,346
25 Claims. (Cl. 74—677)



1. In a transmission, an input shaft, an output shaft, a fluid torque converter unit having a pump connected to said input shaft, a first turbine, a second turbine, and a stator, means to prevent reverse rotation of said stator, a planetary gear unit having a ring gear, a sun gear and planetary gears meshing with said ring and sun gears mounted on a planetary carrier, said sun gear being connected to said input shaft, drive means including a first drive connecting said carrier to said output shaft, a second drive connecting said second turbine to said ring gear, and a third drive connecting said first turbine to said output shaft, one of said drives having gear means providing other than one to one drive effective to cause said first turbine to rotate proportionally to said second turbine.

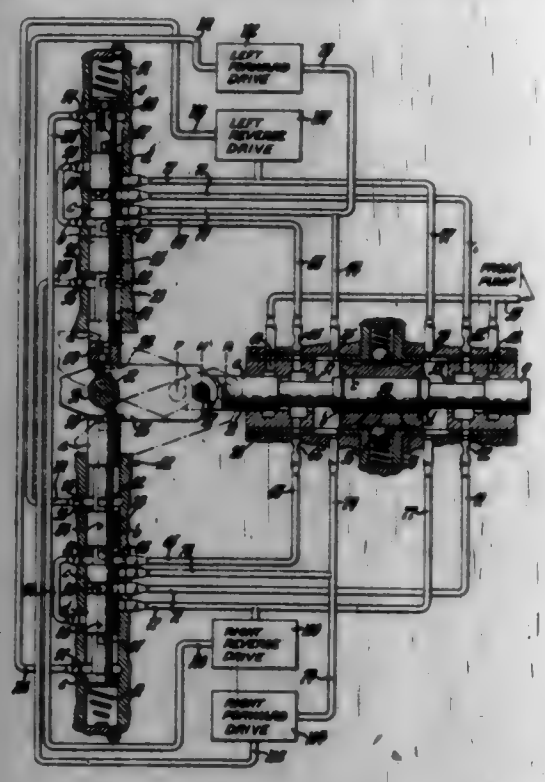
2,969,695
TRANSMISSION

Howard W. Christenson, Indianapolis, Mark E. Fisher, Carmel, and Ulysses A. Breting, Indianapolis, Ind., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed July 1, 1958, Ser. No. 746,035
11 Claims. (Cl. 74—710.5)

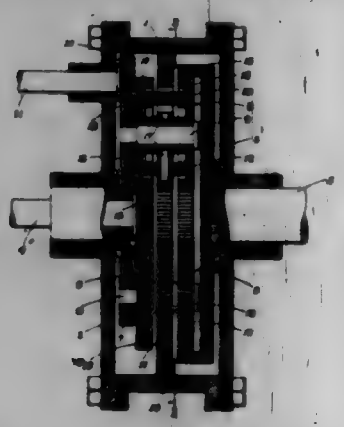
1. In a transmission, an input shaft, a right and a left drive unit each providing neutral, forward and reverse drive, respectively disconnecting or connecting said input shaft to drive a right output shaft and a left output shaft in either forward or reverse drive, a single lever control movable longitudinally from a neutral position in op-

posite directions to a forward and a reverse position and movable laterally to the right or left to a medium and a sharp steer position, control means including main control means to control said right and left drive units simultaneously and right and left steer control means to selectively control said right and left drive units, and means connecting said single lever control to said main control



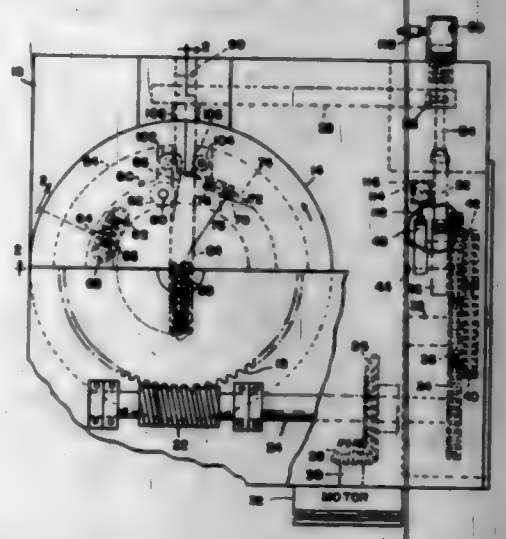
means to move said main control to establish neutral, forward, or reverse drive in the respective positions of said main control means and to said right and left steer control means to overcontrol the right or left drive unit on lateral movement to the right or left and to disengage one drive on movement to said medium turn position and to establish the opposite drive on movement to said sharp turn position.

2,969,696
TRANSMISSION
John B. Fraga, 746 Wright St., Stockton, Calif.
Filed Nov. 3, 1958, Ser. No. 771,563,
10 Claims. (Cl. 74—789)



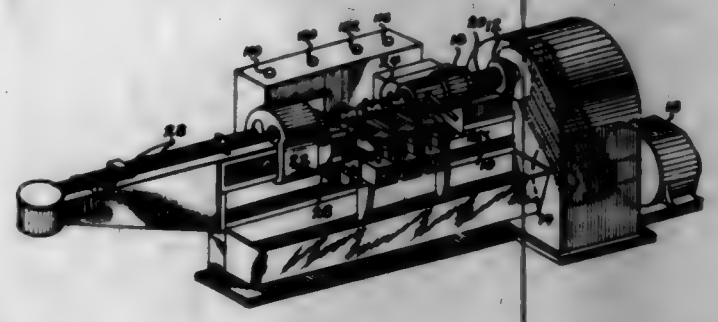
1. A transmission comprising a case, separate input and output shafts projecting into the case, a rotary carrier in the case turnable axially of and relative to the input shaft, means to control the rotation of the carrier from exteriorly of the transmission, a planetary gear unit mounted on the carrier in radially offset relation to the axis of the carrier, and a mechanism including gearing connected between the input shaft, the planetary gear unit, and the output shaft to turn the gear unit and drive the output shaft from the input shaft with a multiplicity of the force applied to the input shaft.

2,969,697
INDEXING FIXTURE
Russel W. Anthony, Detroit, Mich., assignor to National Broach & Machine Company, Detroit, Mich., a corporation of Michigan
Filed Oct. 7, 1957, Ser. No. 688,729
20 Claims. (Cl. 74—823)



1. Index mechanism comprising a worm gear, a worm in mesh therewith, said worm having a tooth provided with a drive and a locating side, means for driving said worm in equal increments of rotation, means operable upon stopping of said worm to advance said worm gear against the locating side of said worm tooth, and means for clamping said worm gear in located position.

2,969,698
CONTROL SYSTEM FOR A BORING MACHINE
Ragnar L. Carlstedt, Cincinnati, Ohio, assignor to The R. K. Le Blond Machine Tool Co., Cincinnati, Ohio
Filed May 12, 1958, Ser. No. 734,616
16 Claims. (Cl. 77—3)

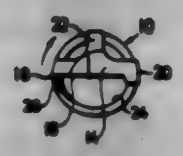


2. In a boring machine; a rotary spindle and a first motor energizable to drive the spindle, an axially movable boring slide and a second motor reversibly energizable to cause feed and retraction movement, respectively, of the slide, means for energizing said motors to cause a boring operation to take place, means for deenergizing said first motor while simultaneously momentarily reversing said second motor to interrupt the boring operation while slightly retracting the boring slide and for then de-energizing said second motor, and means responsive to halting of the said first motor and spindle for again energizing said second motor in the reverse direction to resume the retracting movement of the boring slide in the absence of rotation of said spindle.

2,969,699
DRILL HEADS AND CUTTING TOOLS THEREFOR
Werner Kurt Max Kleine, Bremen-Mahndorf, Germany
Filed Mar. 15, 1955, Ser. No. 494,422
2 Claims. (Cl. 77—68)

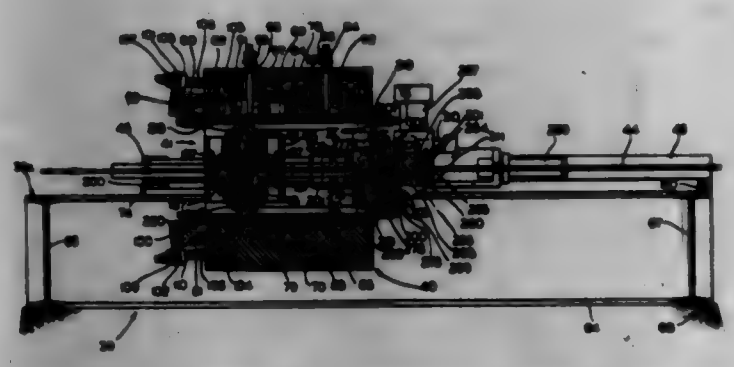
1. Rotary drill mechanism comprising a hollow drill head and a cutting bit secured to said head, said bit being

comprised of metal harder than that of said drill head and being in the form of a bar substantially T-shaped in transverse cross section extending transversely across and substantially diametrically of said drill head and having a length along the greater length of the T-section greater than the diameter of the drill head, one end of said bit extending radially beyond the circumference of said drill head to provide a cutting edge and the opposite end of said bit extending beyond the circumference of said drill head to provide a bearing surface for engaging the wall of the bore at a place substantially diametrically opposite the place engaged by the cutting edge of said bit, the laterally extending branch of the T-shaped bit extending beyond



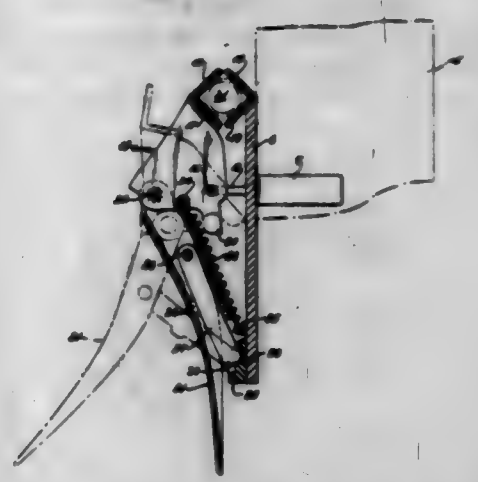
the circumference of said head to provide a further bearing surface for engaging the wall of the bore cut by said bit at a place circumferentially intermediate the cutting edge of said bit and said first mentioned bearing surface, said hollow drill head being axially slotted at three circumferentially spaced places to receive the diametrically opposed portions of the bit providing the aforesaid cutting edge, the bearing surface of the bit for engaging the wall at a place substantially diametrically opposite the place engaged by said cutting edge and the laterally extending branch of the bit providing the aforesaid further bearing surface at a place circumferentially intermediate the cutting edge of the bit and the first mentioned bearing surface.

2,969,700
MACHINE FOR ROLLING METAL
Frank R. Krause, New Castle, Pa., assignor to Thompson Ramo Wooldridge, Inc., a corporation of Ohio
Filed Mar. 23, 1954, Ser. No. 418,168
7 Claims. (Cl. 80—40)



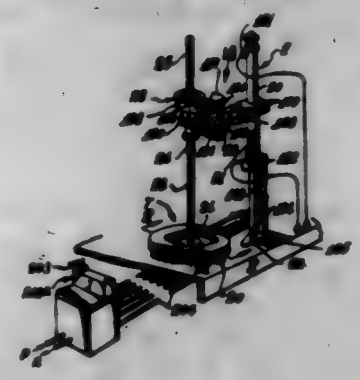
1. A rolling mill for rolling a metal workpiece, comprising: a support structure; a mill housing fixed in position on said support structure; track rails secured to said mill housing and extending therethrough and rearwardly therefrom; a roll carriage reciprocably arranged in said mill housing and slidably arranged on said track rails and including a pair of rolls positioned to roll at least a portion of a workpiece therebetween; a crosshead slidably disposed on said track rails; rack and pinion means positively coupling said rolls together, said rolls to said mill housing, and each of said rolls to said crosshead; a mechanism arranged to drive said crosshead; a gripper carriage slidably supported on said crosshead for relative movement therewith in the direction of said track rails; variable tension control means drivably connecting said gripper carriage to said crosshead; and a work gripper mechanism carried by said gripper carriage.

2,969,701
PORTABLE CLAMP FOR ELONGATED TUBULAR ARTICLES
William H. Hasenkamp, 8977 Hildreth Ave., South Gate, Calif.
Filed May 16, 1958, Ser. No. 735,826
4 Claims. (Cl. 81—41)



1. A portable clamp for holding elongated tubular articles on a structural member comprising a flat base plate having a surface for abutting said structural member, clamp means extending from said base plate for releasably securing said base plate to said structural member, an article engaging jaw fixed on one end of said base plate, a projection extending from a surface of said base plate opposite said clamp means, a pivot formed on said projection, a moveable article engaging jaw having an extension thereon pivotally connected to said projection at said pivot, and an adjustably fulcrumed handle pivotally connected to said moveable jaw for moving said moveable jaw toward said fixed jaw and releasably holding an article therebetween.

2,969,702
APPARATUS FOR RUNNING THREAD-JOINTED OIL WELL STRINGS INTO AND OUT OF OIL WELLS
Harry E. Cornish, Palos Verdes, Charles G. Graef, Downey, Harold F. Groebe, Inglewood, and Edward H. Simpson, Los Angeles, Calif., assignors to O & M Machine Company, Inc., Los Angeles, Calif., a corporation of California
Filed May 19, 1955, Ser. No. 509,652
10 Claims. (Cl. 81—53)



1. In a hydraulic tong elevator, the combination comprising a horizontal table, a vertical piston and cylinder assembly, a power tong on one member of said assembly, means mounting the other member of said assembly on said table, a source of pressure fluid at a predetermined pressure, a return pressure fluid line, a control valve for selectively connecting said source of pressure fluid to either end of said cylinder and the other end of said cylinder to said return line, a counter balance check valve between said control valve and the end of said cylinder which causes elevation of said tong, said counter balance check

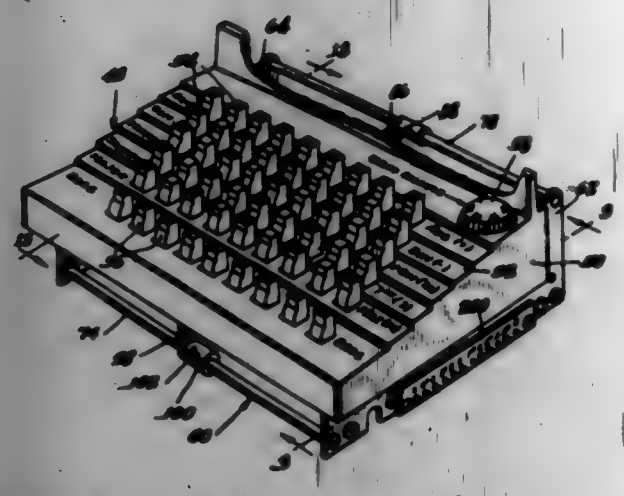
valve passing fluid toward said cylinder without restriction and being set to impose a predetermined back pressure against reverse flow of fluid just sufficient to counterbalance the weight of said one member and the tong carried thereby.

2,969,703
GUITAR TAILPIECE
Ralph Mattee, 375 E. 32nd St., Brooklyn, N.Y.
Filed Dec. 26, 1957, Ser. No. 705,219
1 Claim. (Cl. 84—299)



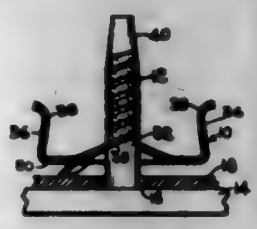
A tailpiece for a guitar comprising, in combination, a substantially rigid mounting plate, a support pin, said support pin being carried upon one side of said rigid mounting plate, a plurality of spaced apart parallel fingers, each one of said parallel fingers being pivotally carried intermediate its ends upon said support pin, gripping means at one end of each of said fingers gripping the adjacent end of a guitar string said gripping means including a hook portion, limit means at the opposite end of each of said fingers limiting rotation thereof upon said support pin relative to the other ones of said fingers, said string gripping means at said one end of each of said fingers comprising a downwardly and rearwardly opening portion, said hook portion having a longitudinally extending groove receiving a string therewithin, and said hook receiving the knot of a string for preventing outward longitudinal movement thereof, said means for limiting rotation of said fingers comprising a transversely extending thumb screw supported by said opposite end of each finger for threaded movement substantially normal to said mounting plate, all of said fingers being of different length, and said rear end of each of said fingers being aligned along a line parallel to said pin.

2,969,704
MECHANISM FOR PLAYING CHORDS
Fred H. Osborne, Snyder, Howard G. Besser, Tonawanda, and Robert S. Tuttle, Eggertsville, N.Y., assignors to The Wurlitzer Company, North Tonawanda, N.Y., a corporation of Ohio
Filed July 8, 1958, Ser. No. 747,288
19 Claims. (Cl. 84—443)



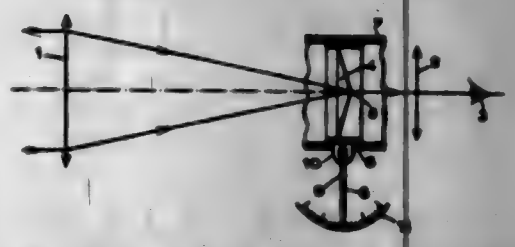
1. Mechanism for playing chords in an electronic musical instrument comprising a frame, a lever having a manually engageable part thereon for pivoting of said lever, means pivotally mounting said lever on said frame, actuating means, means on said frame mounting said actuating means substantially parallel to said lever for reciprocation relative to said frame substantially parallel to said lever, means operatively connecting said lever and said actuating means for reciprocation of said actuating means upon pivoting of said lever, electric switch means carried by said frame means for connecting electric tone oscillations to an output circuit, switch operating means movably carried by said frame, means operatively interconnecting said actuating means and said switch operating means for movement of said switch operating means upon reciprocation of said actuating means, and means operatively interconnecting said switch operating means and said switch means for operation of said switch means upon movement of said switch operating means.

2,969,705
SELF-THREADING SHEET METAL NUT
Philip D. Becker, Hingham, Mass., assignor to United-Carr Fastener Corporation, Boston, Mass., a corporation of Delaware
Filed Mar. 22, 1956, Ser. No. 573,156
4 Claims. (Cl. 85—36)



1. A self-threading sheet metal nut adapted to be rotated onto a threadless, smooth stud about a center of rotation coinciding with the axis of said stud and to press threads into said stud, said nut comprising a walled aperture coaxial with said center of rotation, said aperture defined by edges comprising at least two opposed lead-in portions which trace a circular path from opposed sides about the axis of rotation of a diameter at least equal to the diameter of the stud, at least two opposed thread trailing portions which on rotation of the nut trace circular paths from opposed sides about the axis of rotation of less diameter than said stud, and at least two opposed thread pressing ramp portions extending from each lead-in portion to its corresponding trailing portion, said apertured wall throughout said ramp portions and said thread trailing portions being extended helically in a longitudinal direction with respect to said axis.

2,969,706
OPTICAL RANGE-FINDER
Raymond Rosier, Asnieres, and Jean-Michel Baintenu, Paris, France, assignors to Societe d'Optique et de Mecanique de Haute Precision, Paris, France, a company of France
Filed May 9, 1957, Ser. No. 658,171
Claims priority, application France May 11, 1956
3 Claims. (Cl. 88—2.4)



1. An optical range finder having an eye piece, and a prism mounted in a movable support for movement along the optical axis of the range finder between the objective and the eye piece, said prism having two surfaces

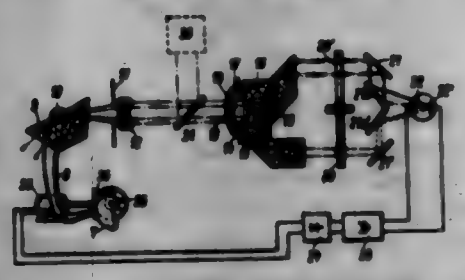
intersecting in a straight line forming the apex of the intersection angle, which line is disposed in a plane perpendicular to said optical axis and in the region of the image plane formed by rays passing through said objective, and means coupled to said movable support for imparting motion thereto whereby said planes may be brought into coincidence.

2,969,707

METHOD AND MEANS FOR AUTOMATICALLY ADJUSTING A MEASURING OR OBSERVATION INSTRUMENT

Gerhard Hansen, Heidenheim, Wurttemberg, Germany, assignor to Carl Zeiss, Oberkochen, Wurttemberg, Germany

Filed May 4, 1956, Ser. No. 582,813
Claims priority, application Germany May 7, 1955
8 Claims. (Cl. 88—14)



1. In an arrangement for automatically adjusting an optical measuring or observation instrument to the point of the greatest local change in the illuminating intensity of a radiation field, optical means including a partial reflecting member for splitting the light emanating from said radiation field into two separate light beams, means including a photoelectric cell for producing a voltage which is proportional to the first differential quotient of the light flux emanating from said radiation field, said means being responsive to one of said two light beams, means including a photoelectric cell for producing a voltage which is proportional to the second differential quotient of said light flux, said means being responsive to the other of said two light beams, means for adjusting said measuring instrument about a single axis, means including electric motor means energized by said voltages for operating said adjusting means and means operated by the voltage produced by said first mentioned photoelectric cell for connecting and disconnecting a portion of said means for adjusting said measuring instrument when said voltage drops below a predetermied minimum value and rises above a predetermined maximum value, respectively.

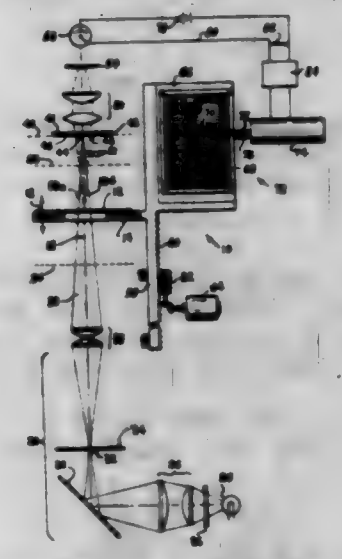
2,969,708

MEANS FOR ANALYZING MICROSCOPIC PARTICLES AND THE LIKE

Michael L. Polanyi, Webster, and James E. Johnston, Southbridge, Mass., and Morden G. Brown, Woodstock, Conn., assignors to American Optical Company, Southbridge, Mass., a voluntary association of Massachusetts

Filed Apr. 3, 1957, Ser. No. 650,518
11 Claims. (Cl. 88—14)

4. Apparatus for use in determining the average size of a relatively large number of microscopic particles of varying sizes distributed at random in a specimen, said apparatus comprising a light source of relatively small size, an objective and opaque means arranged in spaced optically aligned relation with each other, said objective being positioned so as to receive light from said light source and direct same as a convergent beam onto an opaque part of said opaque means, said opaque means having an annular aperture of relatively narrow width and predetermined size therein arranged in concentric relation with said opaque part and located substantially in conjugate relation to said light source, a holder for positioning a specimen in said beam, means for moving said holder and specimen toward and away from said annular aperture while illuminated by said beam, whereby certain light rays of said beam will be variously scattered by particles in said specimen, electrical means for receiving that part of the scattered light rays passing through said aperture and for producing a signal the instantaneous value of which is proportional to the intensity of the light rays so received, means for automatically producing upon a recording surface a specimen curve which represents in one predetermined direction thereon the various intensities of the light rays passing through said aperture for each position of said specimen and in a different predetermined direction thereon represents the various different operative positions of said specimen as said specimen is moved from a first extreme operative position to a second extreme operative position



in said beam, and graphic means having a family of curves thereon for indicating in accordance with said intensities of the light rays passing through said aperture and in accordance with the position of said specimen for each intensity the mean size of the microscopic particle in said specimen, the curves on said graphic means and on said recording surface being of the same scaler value so that they may be disposed in adjacent relation to each other, at least one of said graphic means and said recording surface being transparent so that the intersection of said specimen curve with said family of curves when adjacent thereto can be readily observed and a scale value for mean size of particle corresponding thereto indicated on said graphic means.

2,969,709

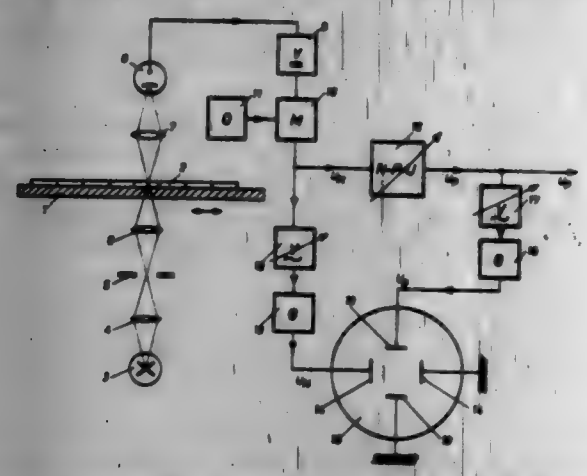
ELECTRONIC NEGATIVE-POSITIVE CONVERSION AND CORRECTION OF GRADATION CURVES OF COLOR EXTRACTIONS

Fritz-Otto Zeyen, Heikendorf, near Kiel, and Karl-August Springstein, Kiel, Germany, assignors to Dr.-Ing. Rudolf Hell Kommanditgesellschaft, Kiel-Dietrichsdorf, Germany, a German company

Filed July 31, 1957, Ser. No. 675,429
Claims priority, application Germany Aug. 4, 1956
5 Claims. (Cl. 88—14)

1. In a system for correcting and matching the course of gradation curves of photographic color extractions of a multicolor copy which is to be reproduced, wherein an original gray scale positive with fixed darkened areas is for the production of each color extraction always photographed together with the multicolor picture to obtain a gray scale negative, apparatus for satisfying, in the presence of deviations from a desired standard gradation course, the socalled gray requirement, comprising means for producing first electrical voltages proportional to the gradations in the gray scale on the negative, means for converting said first voltages to second voltages whereby the first voltages are modified by a variable functional relationship between densities of the negative and the positive due to a chosen photographic copying procedure, means for comparing those of the discrete values of said second voltages which according to said functional rela-

tionship reflect transparencies of the gray scale negative with corresponding values of transparencies of the origi-



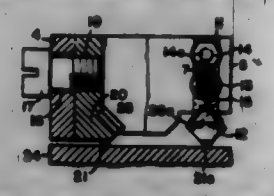
nal gray scale, and means for altering said functional relationship so as to bring the gray scale negative values obtained into agreement with those of the original.

2,969,710

ELEVATED TEMPERATURE EXTENSOMETER

George Zibritosky, Wilkinsburg, and Arthur J. Bush, Forest Hills, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Mar. 27, 1958, Ser. No. 724,408
12 Claims. (Cl. 88—14)



1. A high temperature optical strain gage, in combination, a supporting body of a material having low thermal expansion and being substantially unaffected in its characteristics when subjected to relatively high temperatures, as 1000° F. to 1500° F., comprising a frame structure having a pair of facing substantially parallel end members, a first base member of an alloy of iron and other hardening and toughening metals exhibiting the characteristic of high strength at elevated temperatures, said base member being rigidly secured to one of the end members, and having a flat surface facing the other end member at a selected angle, and also having a knife edge below the end members and disposed parallel to the end members and flat surface, a first reflecting quartz mirror removably secured to said flat surface, a second base member of like material mounted near the other end member for pivotal movement about an axis parallel to said knife edge, said second base member having a flat surface thereon facing the flat surface on the first base member at a selected angle when the second base member is not pivotally moved from a normal position, and a second reflecting quartz mirror removably secured to said flat surface on the second base member, said second base member having a knife edge below the end members and disposed parallel to the pivotal axis of the second base member, whereby any light reflected by the first quartz mirror onto the second quartz mirror changes direction in proportion to the changes in distance between the knife edges on the two base members.

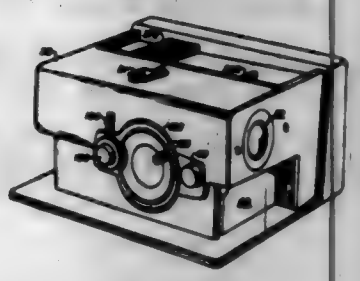
2,969,711

AUTOMATIC MAGAZINE SLIDE PROJECTORS

Herbert T. Robinson, Vernon H. Jungjohann, and William P. Ewald, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Nov. 14, 1957, Ser. No. 696,516
7 Claims. (Cl. 88—28)

1. In a photographic slide projector having an outside cover and a projection gate and being adapted to receive a magazine containing a plurality of slides which are to be projected in said gate, the combination comprising: indexing means for moving said magazine to align a slide with said gate; means for transferring said last-named slide from the magazine to the gate; said cover, having an aperture in communication with said gate; manually operable editing means disposed in cooperative relation with the slide in said gate and effective, upon operation thereof, for moving said slide from the gate toward said



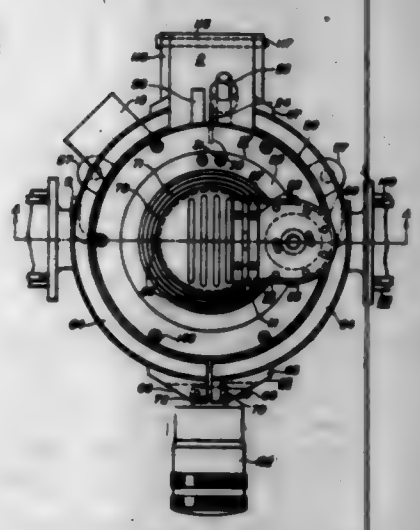
aperture; means for automatically operating said indexing and transferring means; means for manually operating said indexing and transferring means; a manually settable control member for selecting between automatic and manual operation of said indexing and transferring means; and means interrelating said control member and said editing means for preventing operation of the latter except when the former is set for selecting manual operation of said indexing and transferring means.

2,969,712

HIGH TEMPERATURE MICROSCOPE AND FURNACE

Donald M. Olson, Los Alamos, N. Mex., assignor to the United States of America as represented by the United States Atomic Energy Commission

Filed Dec. 21, 1959, Ser. No. 861,164
8 Claims. (Cl. 88—39)



1. A high temperature microscope and furnace comprising in combination

a pressure vessel having a side wall, a top and a bottom, said bottom being closed with an optically inert window element, said vessel having fittings adapted for connection to means for withdrawing gases therefrom and means for introducing inert gases therein,

a concave first surface mirror disposed within said pressure vessel near the top thereof with its reflecting surface facing said bottom and its principal axis extending through said window element, said mirror surface having a curvature such that light emanating from an object disposed within said furnace will be reflected from said mirror to form an image outside of said furnace at a distance therefrom such that essentially no sensible heat will be transferred through said distance,

means for supporting a specimen on said principal axis of said mirror at a distance therefrom such that said mirror will project a clear, magnified image of said specimen and to expose the upper surface of said specimen to said mirror,

centrally disposed electrical resistance heating means surrounding and spaced from the portion of said supporting means near said specimen and extending toward said mirror to heat said specimen,

a radiation shield spaced from and surrounding said heater on all sides to intercept direct radiation from said heating means, said specimen and said supporting means, said radiation shield being spaced from the side wall of said vessel to define a large annular gap for the transmission of radiations reflected from said mirror, said heating means and said radiation shield having top openings sufficient to allow essentially all of the radiations emanating from the upper surface of said specimen in directions lying within the angle subtended by said mirror surface to reach said surface without obstruction,

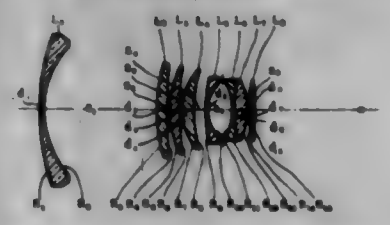
means including electrodes extending through the wall of said pressure vessel and connected to said heating means for supplying sufficient electrical power thereto to heat said specimen to incandescent temperatures, and means for cooling said side wall of said pressure vessel, said mirror and said radiation shield.

2,969,713

WIDE ANGLE PHOTOGRAPHIC OBJECTIVE

Jiro Mukai, Kohokuku, Yokohama City, Japan, assignor to Canon Camera Company, Inc., Tokyo, Japan, a corporation of Japan

Filed Feb. 7, 1958, Ser. No. 713,899
1 Claim. (Cl. 88—57)



A wide angle photographic lens satisfying the following relations:

[f=1 F:2 2ω=60° Back focus=0.97 f]

Lens	Radius of Curvature	Lens Thickness or Air Spacing	Refractive Index	Abbe Number
L_1	R_1=2.878 R_2=0.846	d_1=0.044 S_1=1.021	N_1=1.6127	V_1=58.6
L_2	R_3=1.634 R_4=11.464	d_2=0.069 S_2=0.014	N_2=1.6204	V_2=60.3
L_3	R_5=0.888 R_6=3.268	d_3=0.094 S_3=0.006	N_3=1.6127	V_3=58.6
L_4	R_7=0.556 R_8=1.271	d_4=0.107 S_4=0.092	N_4=1.6425	V_4=56.09
L_5	R_9=1.211 R_{10}=0.357	d_5=0.020 S_5=0.200	N_5=1.6254	V_5=35.6
L_6	R_{11}=−0.625 R_{12}=1.200	d_6=0.020	N_6=1.6254	V_6=35.4
L_7	R_{13}=−0.720 R_{14}=2.480	d_7=0.124 S_6=0.005	N_7=1.60280	V_7=55.61
L_8	R_{15}=−2.945	d_8=0.086	N_8=1.6968	V_8=55.61

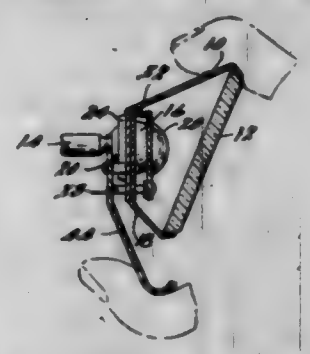
where $L_{\text{subscript}}$ is the lens, $R_{\text{subscript}}$ the radius of curvature of the lens surface, $d_{\text{subscript}}$ the thickness of the lens at the optical axis, $S_{\text{subscript}}$ the spacing between lenses, $N_{\text{subscript}}$ the index of refraction of the glass of the lens, and $V_{\text{subscript}}$ the Abbe number of the lens, each series of subscripts increasing for each element in the direction from the front to the back of the photographic objective.

2,969,714

ADJUSTABLE MOUNTING DEVICE FOR REAR VIEW MIRRORS

Walter P. Cousino, St. Clair Shores, Mich., assignor to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware

Filed May 8, 1957, Ser. No. 657,885
4 Claims. (Cl. 88—98)



4. Apparatus for adjustably mounting a mirror casing on a ball-type supporting member, said apparatus including means fixed to said casing for movement in unison therewith forming a seat for said ball-type supporting member and a yieldable ball engaging member secured to said casing and having a normal position and a deformed position in which at least a portion of the yieldable ball engaging member is displaced relative to said casing and the above mentioned seat, said yieldable ball engaging member when in its normal position urging said seat and said ball-type suporting member into frictional engagement, said apparatus further including a lever means accessible from the front portion of said casing, said lever means being operatively connected to said yieldable ball engaging member and operable upon said yieldable ball engaging member under the influence of manually applied pressure to move said yieldable ball engaging member in a direction away from said ball-type supporting member to its above mentioned deformed position to thereby unload the frictional engagement of said ball-type supporting member and said seat as long as the above mentioned manual pressure is applied to accommodate adjustment of the position of said mirror casing relative to said ball-type supporting member, said yieldable ball engaging member being adapted to return to its normal position to urge said seat and ball-type supporting member into frictional engagement when the above mentioned manual pressure is discontinued.

2,969,715

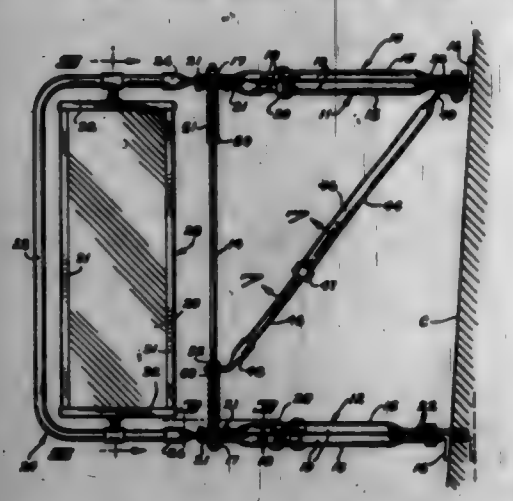
REAR VIEW MIRROR

Edgar T. Mosby, Minneapolis, Minn., assignor to Re-Trac Manufacturing Corporation, Minneapolis, Minn., a corporation of Minnesota

Filed Sept. 29, 1958, Ser. No. 764,013
2 Claims. (Cl. 88—98)

2. In a rear view mirror for trucks, a bracket means adapted to be mounted on the truck cab and having two vertically spaced pairs of tubular arm members extending laterally from the bracket means, the arm members in each pair converging in their extension from the bracket means, the extended end portions of each member being horizontally flattened and apertured, an elongated pivot rod extending vertically through the apertures in said end portions, means securing the pivot rod against endwise displacement from the end portions, a mirror frame, a mirror mounted on the mirror frame, the mirror frame having spaced parallel horizontally flattened extensions

journaled on the rod for swinging movement of the frame about the rod, said extensions disposed one intermediate the end portions of each pair of arms and in face to face contiguous relation to both, a pair of stop means fixedly mounted on the pivot rod in vertically spaced positions intermediate the pairs of said end portions, a pair of spiral springs encircling the pivot rod and held under compression one between each stop means and the adjacent arm end portion to yieldably urge said adjacent arm end portion axially of the rod against said mirror frame extensions, the flattened contiguous faces of each of said end



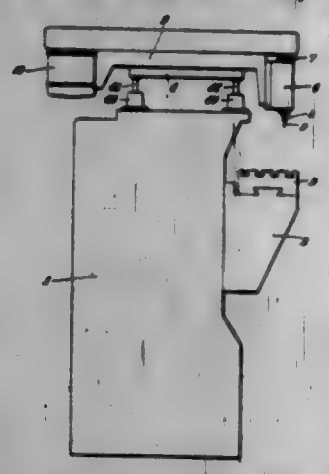
portions and said extensions each being provided with a circumferential series of radially extending teeth disposed about the axis of the pivot rod with the teeth on the extension intermeshing with the teeth on the end portions on both sides thereof whereby as swinging pressure sufficient to overcome the compressive force of the springs is exerted upon the mirror frame said extensions will cause the end portions contiguous thereto to spread allowing the extensions to rotate therebetween with the teeth of the extension moving circumferentially over the teeth of said end portions.

2,969,716

PROFILE-MILLING AND ENGRAVING MACHINE

Willy Brodbeck, Calmbach (Enz), Germany, assignor to Alfred Gauthier G.m.b.H., Calmbach (Enz), Germany, a corporation of Germany

Filed Sept. 4, 1958, Ser. No. 759,039
Claims priority, application Germany Sept. 7, 1957
13 Claims. (Cl. 90—13)



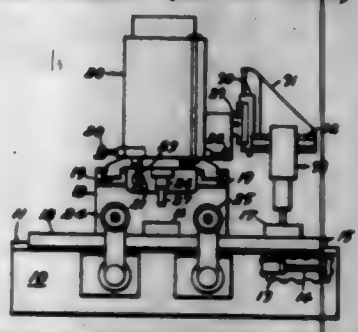
1. An automatic milling machine of the type having a control program, comprising a housing; workpiece support means on said housing, for mounting a workpiece thereon; tool support means on said housing, for mounting a tool thereon in cooperable relation to the workpiece support means, said support means having relative multi-directional movements with respect to each other; a plurality of elongate control cams representing said control program; movable supports respectively carrying said cams and movable on said housing, said cams being bodily reversibly movable substantially in directions at right angles to their basic reference lines; unyielding cam tracing members engaged with said cams; spring means normally holding said cams in engagement with the tracing members; guide means mounting said tracing members for movement in paths substantially at right angles to the directions of movement of the associated cams, thereby to enable relative traversing movements of the cams and associated tracing members to take place; means connecting said tracing members for simultaneous movement; a transmission actuated by one movable cam support for effecting relative movement between the workpiece and tool support means in one direction as determined by the associated tracing member; and an additional transmission actuated by another movable cam support for effecting relative movement between the workpiece and tool support means in another direction as determined by the tracing member associated with the cam of said other support, the said two relative movements between the workpiece and tool support means being coordinated by virtue of the simultaneous movements of the tracing members as effected by the said connecting means.

2,969,717

HYDRAULIC SYSTEM FOR PATTERN CONTROLLED MACHINE TOOLS

Benjamin W. Carter, Cincinnati, Ohio, assignor to The Cincinnati Milling Machine Co., Cincinnati, Ohio, a corporation of Ohio

Filed November 10, 1958, Ser. No. 772,974
10 Claims. (Cl. 90—13.5)



1. A hydraulic system for controlling relative reversible movement in one direction between a cutting tool and a workpiece in a machine tool operable to reproduce the contour of a pattern on the workpiece in a plane through an angle more than 180 degrees therearound but less than 360 degrees comprising in combination a movable follower adapted to engage the pattern, a source of pressure, a hydraulic motor for effecting said relative movement between the cutting tool and the workpiece, means to maintain pressure at a level below the level of pressure of said source on one side of said motor, means to connect the other side of the motor to the source of pressure when the follower is in a predetermined position, and means responsive to the movement of the follower to disconnect said other side of the motor from the source of pressure and connect said other side of the motor to discharge as the follower is moved to a position spaced from said predetermined position.

2,969,718

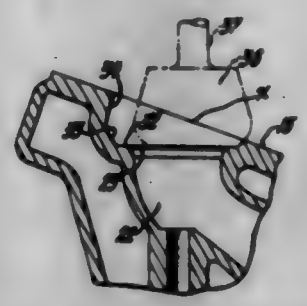
COMBUSTION CHAMBER AND METHOD OF FORMING COMBUSTION CHAMBER CAVITIES

Mark H. Frank, Birmingham, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Original application July 23, 1956, Ser. No. 599,426, now Patent No. 2,865,360, dated Dec. 23, 1958. Divided and this application Nov. 15, 1957, Ser. No. 696,659
2 Claims. (Cl. 90—15)

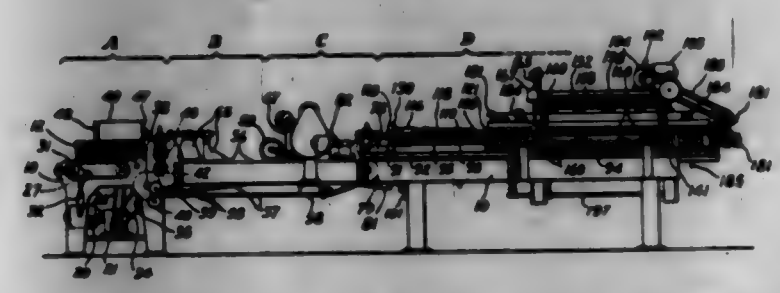
1. A method of manufacturing engine heads having combustion chamber cavities formed in plane surfaces

thereof which comprises employing a tool having a plane end surface and side surfaces diverging away from said end surface and converging beyond the diverging parts of said side surfaces, rotating said tool about the axis thereof, projecting said tool axially into a head and through a plane surface thereof with the end surface of said tool in oblique relation to and below said plane surface, and



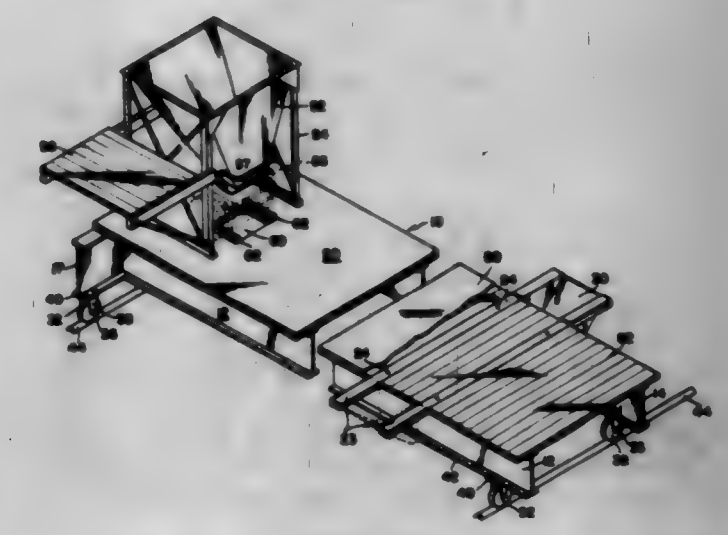
moving said tool in a closed path within said head, said tool during said movement extending into said head so that all of said tool end surface remains within said head beyond said diverging parts of said side surface, said closed path in which said tool is moved within said head being linear on two sides and curved at the ends and with the movement of said tool starting intermediate the ends of one of said linear sides.

2,969,719
MEANS FOR FORMING PAPERBOARD CONTAINERS
Michael G. Shonigo, Sandusky, Ohio, assignor to West Virginia Pulp & Paper Company, New York, N.Y., a corporation of Delaware
Filed May 26, 1959, Ser. No. 816,822
20 Claims. (Cl. 93—49)



1. A machine for forming box sections from blanks each of which comprises four tube panels including first and second endward tube panels and first and second centerward tube panels and also comprises additional panels including a first pair hinged to the first centerward tube panel and having a guiding edge aligned with the central hinge line between the first and second centerward tube panels and a second pair hinged to the first endward tube panel, said machine comprising conveying means to translate each blank in a conveying direction parallel to a central reference line with said central hinge line remaining in alignment with said central reference line and said translation occurring past an infolding station and a tube-seaming station to an erecting station, means for successively feeding said blanks onto said conveying means with said central hinge line of each blank in said alignment with said central reference line, guide means on said central reference line for contacting said guiding edge in guiding relationship but allowing translation of said blanks in said conveying direction, means at said infolding station for infolding said first and second endward tube panels whereby they meet each other at said central reference line, means at said tube-seaming station for seaming said endward tube panels together at said central reference line to complete the fabrication of a collapsed tube, floating hold-down means including at least one elongated member extending in said conveying direction past said infolding and seaming stations and terminating at a free end at said erecting station, said elongated member extending over and along the path of travel of said first centerward tube panels, means for applying glue to said second centerward and second endward tube panels of said collapsed tube, and means for then upfolding said second centerward tube panel to thereby also upfold said first endward tube panel and lift said second endward tube panel whereby said tube is erected while said first centerward tube panel is held down firmly by the weight of said hold-down means, means for thereupon folding around their hinge lines and across the leading end of said tube in laterally projecting relationship therewith said pairs of panels which are hinged to the first centerward and first endward tube panels, and means for then backfolding the projecting portions of said pairs of panels into contact with said applied glue and for holding them there during setting of the glue.

2,969,720
POURING BRIDGE FOR CONCRETE WORK
Troy T. Burnham, 18666 Beverly Road, Seattle, Wash.
Filed July 9, 1957, Ser. No. 670,690
1 Claim. (Cl. 94—39)



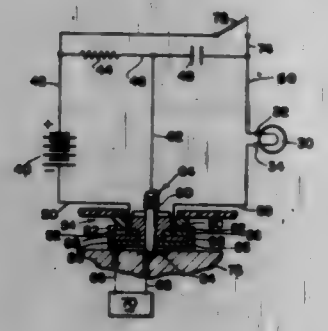
A materials dispensing machine comprising a plurality of dispensing hoppers disposed at spaced intervals along a machine framework transverse to the direction of travel of said machine, said machine framework being particularly adapted to negotiate curved trackways, said framework comprising a pair of spaced girders disposed transverse relative to the said direction of travel, a flanged wheel mounted on one end of each girder to guide said one end along a first trackway, a separate beam rigidly secured to the other end of each of said girders and perpendicular thereto, two or more wheels each having axially spaced flanges and mounted in trailing relationship to one another on each of said beams at points spaced from the longitudinal axis of said girders to guide the other end of said girder along a second trackway extending substantially in the same direction as said first trackway, elongated deck planks disposed substantially transverse relative to the longitudinal axis of said girders and supported by said girders, spaced clamp means secured to the underside of some of said deck planks intermediate said girders, said clamp means being slideable relative to the girders to releasably engage an upper flange of each of said girders, a receiving and dispensing hopper supported above said deck planks by some of said deck planks on said other end of said girders, said deck planks permitting transport of materials from said receiving and dispensing hopper to said spaced dispensing hoppers, said spaced dispensing hoppers being supported by extended portions of some of said deck planks, the friction between said clamp means and said flanges and between said girders and said deck planks retaining said

girders in spaced relationship and permitting an increase in the spacing between said girders so that the machine may readily conform to curvilinear portions of said trackway.

2,969,721
PHOTOFLASH UNIT

Robert C. Casselman, Auburndale, Dexter P. Cooper, Jr., Lexington, and Wilbur C. Otis, Winchester, Mass., assignors to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware

Filed June 23, 1958, Ser. No. 743,658
9 Claims. (Cl. 95—11.5)

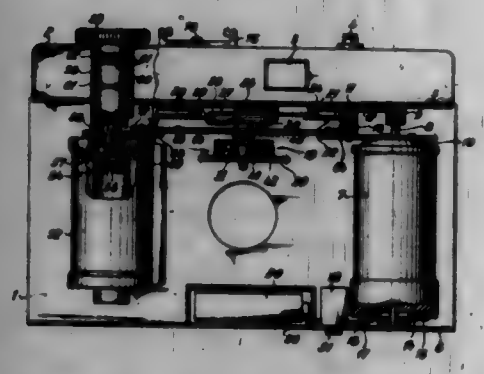


1. A photoflash unit for use with a camera having a flash-synchronizing switch, said unit comprising, in combination, an electrically capacitive element, an electrical resistance, a power source for supplying electrical energy through said resistance for charging said capacitive element, a low voltage incandescent filament bulb coupled with said capacitive element, said capacitive element being chargeable to an overload level with respect to the electrical characteristics of said bulb, and means for so coupling said synchronizing switch with said capacitive element and said bulb that upon actuation of said synchroniding switch the charge on said capacitive element is discharged through said bulb and said filament is raised to a temperature just short of its melting point.

2,969,722
PHOTOGRAPHIC CAMERA

Hans Schwartz, Hamburg, Germany, assignor, by mesne assignments, to Agfa Aktiengesellschaft, Leverkusen-Bayerwerk, Germany

Filed Dec. 9, 1957, Ser. No. 701,531
Claims priority, application Germany Dec. 14, 1956
17 Claims. (Cl. 95—31)

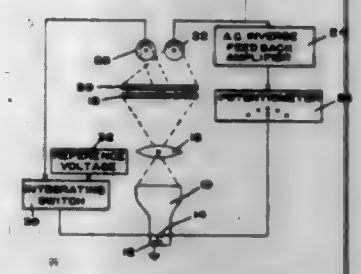


17. In a photographic camera employing a load film spool and a film take-up spool, said take-up spool comprising a rotatable electric motor housing, an electric motor having a rotor shaft encompassed within said housing, speed reduction drive means interconnecting said rotor shaft and housing whereby rotation of said shaft rotates said housing and means connecting said motor with an electrical current power source.

2,969,723
PHOTOGRAPHIC PRINTING

Dwin R. Craig, Falls Church, Va., assignor to Logetronics, Inc., Alexandria, Va., a corporation of Delaware

Original application June 17, 1957, Ser. No. 666,123, now Patent No. 2,960,019, dated Nov. 15, 1960. Divided and this application Apr. 1, 1960, Ser. No. 19,378
8 Claims. (Cl. 95—73)

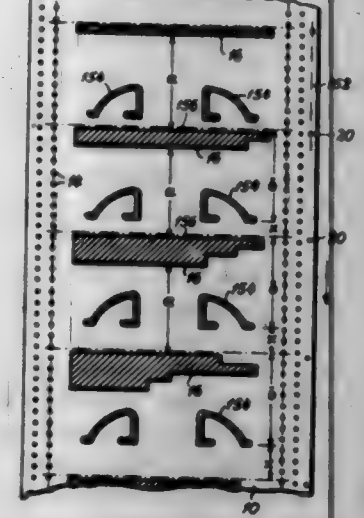


1. A photographic printing method comprising energizing a cathode ray tube to direct a light spot of finite area through a transparency on a photosensitive surface to be exposed, sensing the intensity of light to which said surface is exposed, and during an exposing cycle controlling the exposing light impinging on said surface to provide one exposing light component varying over said surface as an inverse function of the sensed intensity, and another exposing light component substantially equally illuminating the entire area of said transparency.

2,969,724
METHOD FOR THE PRODUCTION OF PRINTED MATTER TOGETHER WITH TYPEWRITER AND PUNCHING MACHINE TO BE USED IN CONNECTION THEREWITH

Johan Henrik Lemche, Copenhagen, Denmark, assignor to Carl Allers Etablissement A-S, Copenhagen, Denmark, a Danish joint stock company

Filed Apr. 19, 1957, Ser. No. 653,933
Claims priority, application Denmark Apr. 26, 1956
7 Claims. (Cl. 95—85)

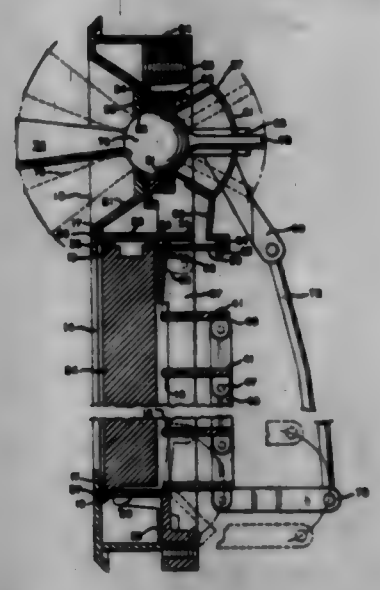


3. A scale-like assembly of overlapped cards for use in connection with the production of printed matter using reproduction originals composed of separate text elements, in which text elements of different heights are positioned, one on each card at the top edge thereof, each card being provided with flaps punched therein at a distance from the bottom edge of the card varying with the heights of the text element, the height of the cards exceeding that of the appertaining text element by a constant value, the cards being positioned in a row in such manner that the bottom edge of each card intermeshes with the flaps in the succeeding card to determine a varying amount of mutual overlapping to make all text elements visible.

2,969,725
MOTOR VEHICLE AIR REGISTER

Phillip F. Grace, Wayne, and Michael D. Goy, Dearborn, Mich., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Filed May 28, 1957, Ser. No. 662,269
11 Claims. (Cl. 98—2)



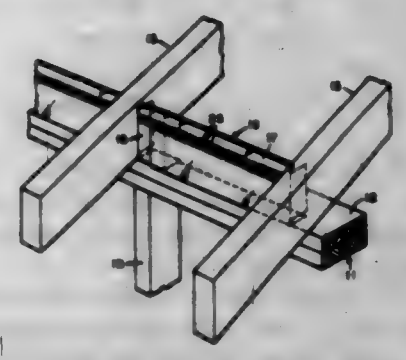
1. In a motor vehicle having a passenger compartment, a positive air supply and means for conducting the air from the positive air supply to the passenger compartment, that improvement of an air register for controlling the air entering said passenger compartment, comprising an outer frame member which constitutes the forward face of the register and an inner frame member which constitutes the rearward portion of the register, means securing said members in edge abutting relationship, an air hole in said frame members, attachment means for securing said frame members to the air supply conducting means, a plurality of vertical louvers, each of said vertical louvers having extensions at their upper and lower ends, holes in the edge of one of said frame members adjacent to the edge of the other of said frame members adapted to receive said vertical louver extensions for pivotal movement, a plurality of horizontal louvers, each of said horizontal louvers having extensions at their outer ends, holes rearwardly of the vertical louvers in the edge of one of said frame members adjacent to the edge of the other of said frame members adapted to receive said horizontal louver extensions for pivotal movement, a manual adjustment lever, aligned apertures in said frame members arranged to receive said lever for universal movement between said inner and outer frame members and connecting means pivotally secured to the lever and the vertical and horizontal louvers respectively for simultaneously positioning said louvers upon movement of the adjustment lever.

2,969,726
BUILDING CONSTRUCTION

Theodore J. Bottom, Kirkwood, Mo. (% Aluma Kraft Manufacturing Co., 1330 N. Rock Hill Road, St. Louis 17, Mo.)

Filed Jan. 7, 1959, Ser. No. 785,496
1 Claim. (Cl. 98—37)

In a building construction, an outside wall having a top bearing plate and siding on its outermost side, a plurality of rafter supported on said bearing plate in spaced relation, a ventilator consisting of a pair of plate members arranged in overlapping position, said members having rolled edges slidably interfitting to connect said members telescopically for lengthwise adjustment, said members extending between said rafters and extending from the bearing plate to the top of said rafters, an inturned flange on each of said members engaging said rafters, means attaching the inturned flanges to said rafters, the members each including an inturned bottom flange seating on the bearing plate, the bottom flanges providing an abutment engaging the top of said



siding, the plate members being disposed flush with the outer surface of said siding so as to provide a vertical continuation, the members being provided with a plurality of small apertures for the passage of air.

2,969,727
SELECTIVE PRINTING AND PUNCHING MACHINES

Charles F. Rudd, Munson, and Jack W. Brisbin, Mayfield Heights, Ohio, assignors to Addressograph-Multigraph Corporation, Cleveland, Ohio, a corporation of Delaware

Filed Dec. 1, 1958, Ser. No. 777,331
9 Claims. (Cl. 101—19)

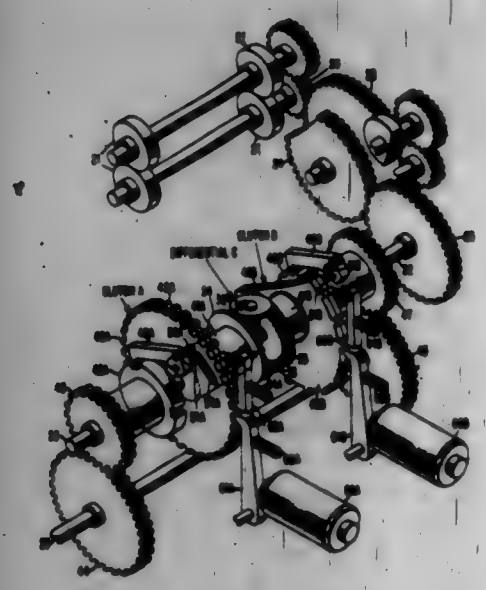


1. In a printing machine of the kind described wherein at least two different groups of forms are to be selectively punched and printed respectively at punching and printing stations in the machine, and wherein the punching and printing operations are to be under control of printing and control devices bearing control data and printing data: means for feeding said forms one by one to said punching and printing stations, and means for feeding said printing devices one by one to said printing station; means for sensing the control data on the devices; a control settable in at least two different states incidental to the sensing of said control data; at least two supply stations where said forms of the two different groups are to be arranged for sequential feeding therefrom; selectively operable separate feed means respectively allocated to said supply stations for advancing a form from its supply station to the feed means which feed the same to the punching station; a plurality of selectively operable punch elements at said punching station and operable to punch data in said forms advanced thereto one by one from said form supply stations; and means responsive to the setting of said control in one state to render effective but one of said separate form feed means while rendering operable selected of the punch elements, and responsive to the setting of said control in another state to render effective only the other of said separate form feed means while rendering inoperable certain of said selected punch elements.

2,969,728
METHOD OF EMBOSSING
Ray Horn, 231 N. Brookside, Wichita, Kans.
Filed May 6, 1957, Ser. No. 657,268
6 Claims. (Cl. 101—32)

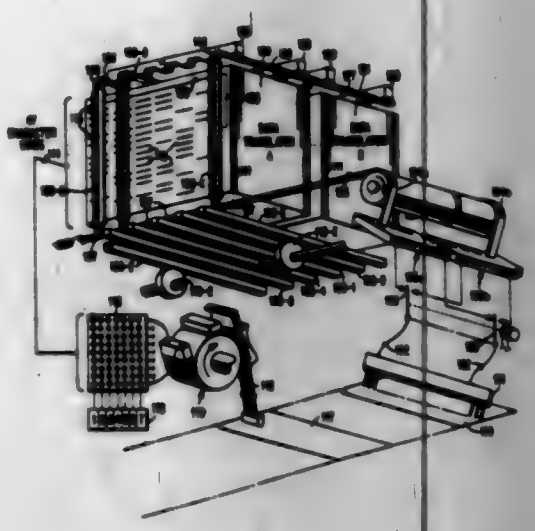
1. A method of producing embossed printed indicia comprising the steps of, cutting the reverse of the desired indicia into the face of an engraving die, pressing said die having said indicia cut therein against counter board to form a counter having protuberances corresponding to the indicia cut in said die, inking said indicia in said die, forcing a sheet of paper into said indica to transfer the ink therein to said paper and simultaneously embossing said paper where it has been forced into said indicia thereby producing an embossed positive proof of the desired indicia, making a photographic negative of said proof, exposing a photolithographic printing plate to said negative to form as the printing area on said plate a positive of the desired indicia, using said plate to offset print said indica onto a second sheet of paper, placing said second sheet of paper between said die and said counter with the printing on said second sheet in register with said indicia in said die, and pressing said die and said counter together with said second sheet therebetween to thereby emboss said indicia on said sheet.

2,969,729
MULTISPEED INDEXING DEVICE
Charles S. Jackowski, Endicott, and Fred Saltz, Binghamton, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed June 17, 1959, Ser. No. 821,000
14 Claims. (Cl. 101—93)



1. In an indexing device, driving means, driven means, speed change gearing interconnecting said means, said speed change gearing comprising a plurality of clutching means adapted to establish driving connections between said driving means and said driven means having different speed ratios, each of said clutching means comprising a rotatable control element, each of said control elements having a plurality of stop members thereon spaced at equal angular distances; a plurality of detent means, one for each of said control elements, adapted to engage selected stop members of their respective control element, and means associated with each of said control elements for engaging the related clutching means when the appertaining control element is released by the corresponding detent means and for disengaging the related clutching means when the appertaining control element is stopped by the corresponding detent means, said control elements being geared to said driven means so as to determine an exact position of said driven means when stopped by said detent means, the stop members on said control elements being so spaced that in every possible combination of stop positions of said control elements said driven member will be stopped in one of a series of evenly spaced index positions.

2,969,730
DATA TRANSLATION AND PRINTING
Lyle W. Brehm, Endicott, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Dec. 31, 1959, Ser. No. 863,212
8 Claims. (Cl. 101—93)



1. In a data processing machine of the type in which manifestations for identifying different data designations appear at respective ones of a sequence of times in a machine cycle, the translating device comprising: a branch circuit network including a plurality of exit terminals respectively pertaining to different ones of said data designations, an input terminal, a plurality of circuit branches, and a plurality of switches for selectively connecting combinations of said circuit branches in series to establish a circuit path from said input terminal to any one of said exit terminals; transfer means adapted to be made effective at different ones of said sequence of times to operate one or more of said switches to connect said input terminal to a selected one of said exit terminals; operating means responsive to said data manifestations for making said transfer means effective; and means for applying an electric signal to said input terminal for translation to one of said exit terminals.

2,969,731
STENCIL MANUFACTURE
Fred E. Kendall, 30550 Landerwood Drive, Chagrin Falls, Ohio
Filed May 24, 1954, Ser. No. 431,685
3 Claims. (Cl. 101—128.3)

1. The method of producing a wear-resistant stencil which comprises uniformly coating a thin flexible sheet of permeable material with a film of a cinnamic acid ester resin sensitized to the action of light, superimposing an article having opaque and transparent areas, exposing such coated sheet to the action of light transmitted through such article to render the exposed portions insoluble in developer, washing such exposed film in solvent developer effective to dissolve out the unexposed portions and disclose the underlying permeable sheet to produce the stencil design, such developer containing a plas-

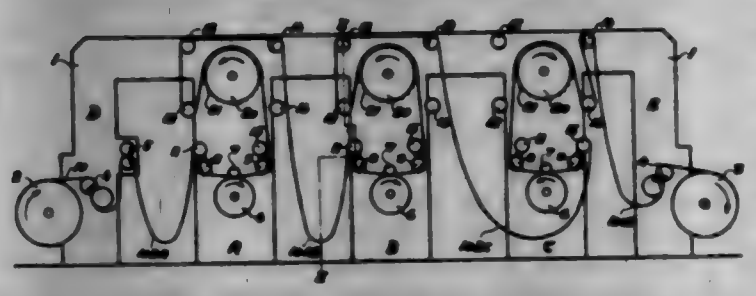
ticizing agent for such cinnamic acid ester resin adapted to be absorbed thereby during such washing operation to render such resin coating flexible and non-brittle.

2,969,732
STENCIL MEANS AND MANUFACTURE THEREOF
Fred E. Kendall, 30550 Landerwood Drive, Chagrin Falls, Ohio
Filed May 11, 1955, Ser. No. 507,696
10 Claims. (Cl. 101—128.3)

1. The method of producing a wear-resistant stencil which comprises applying a very thin coating of a cinnamic acid ester resin sensitized to the action of light to a thin flexible sheet of porous material, such coating leaving the pores in such sheet open, exposing such coated sheet to the action of light to render such coating insoluble, then coating such pre-coated sheet with a film of a cinnamic acid ester resin sensitized to the action of light and effective to close such pores in such sheet, drying such film to leave a residual coating having a thickness of from .0015 to .008 inch, superimposing an article having opaque and transparent areas, exposing such coated sheet to the action of light transmitted through such article to render the exposed portions insoluble in developer, and washing such exposed film in solvent developer to dissolve out the unexposed portions and disclose the underlying reinforced permeable sheet to produce the stencil design.

5. A stencil comprising a sheet of porous material permeable to an electrolytic fluid, light-exposed decomposition products of a light-sensitized cinnamic acid ester resin coating the porous material without closing pores therein to strengthen and reinforce said material, and a further coating of the light-sensitive cinnamic acid ester resin overlying and adhered to said sheet to close the pores thereof, said last mentioned resin being reactive to light to form hardened non-design areas of the stencil.

2,969,733
MULTI-COLOR PRINTING ON CONTINUOUS METAL BANDS
Andreas Vilhelm Borch-Madsen, 16 Lavendelstraede, Copenhagen, Denmark
Filed Sept. 16, 1957, Ser. No. 684,052
Claims priority, application Denmark Sept. 26, 1956
6 Claims. (Cl. 101—181)



1. The method of controlling the movement of a continuously moving heat-expansible metal band during printing thereof in a continuous multi-color printing process, wherein the band is passed through a series of consecutive printing stations, said method comprising the steps of

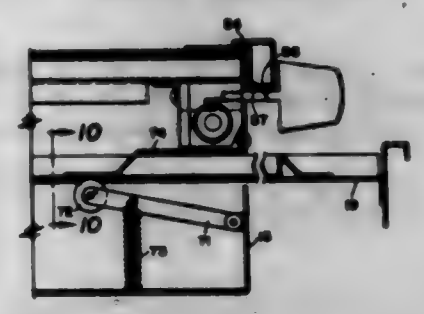
(*a*) passing the band with continuous movement through a perforating machine, so as to provide the moving band with perforations along either edge thereof,

(*b*) thereafter passing the moving perforated band through a first printing station comprising a printing roller and a pair of sprocket rollers arranged at either side thereof, so as to engage the sprocket rollers with the perforations and thereby to hold the band tightly against the surface of the printing roller by the sprocket rollers during the printing operation, thereafter while the band is moving

(*c*) compensating for distortions of the band set up by inherent stresses in the band due to changes in the temperature of the band accompanying the rapid evaporation of the imprint on the band by passing the band with a continuous movement during such temperature changes over a pair of interspaced guide rollers arranged so as to cause the band to hang in a loose loop between said guide rollers as it changes temperature and before passing the band on to a consecutive printing station, and

(*d*) passing the imprinted band having the dried imprint through a second printing station comprising a printing roller and a pair of sprocket rollers arranged at either side thereof to engage the band perforations and effect a positive feed of the band at the same rate and with a continuous movement through the said second printing station.

2,969,734
MAP MARKER
Harold S. Hall, San Diego, Calif. (5989 Zora St., La Mesa, Calif.)
Filed Aug. 18, 1959, Ser. No. 834,541
2 Claims. (Cl. 101—287)

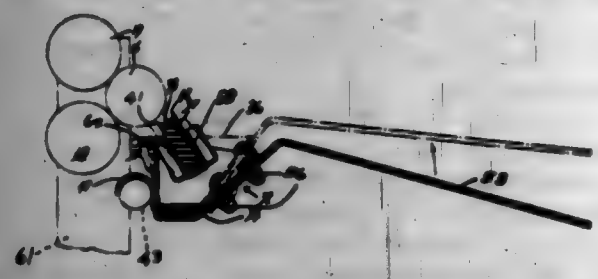


1. In a device of the character described, a housing, a map supporting drawer having an orifice in the floor thereof and slidably mounted in said housing and adapted to support a map in map marking position, a carriage, a marking mechanism supported on said carriage of said drawer, a pair of slotted carriage support members slidably supported on said housing, means associated with said carriage support members to move the same and said carriage and said marking mechanism to a predetermined position over a map supported in said drawer, means for accommodating said marking mechanism and means for marking the lower side of said map at a predetermined position comprising an inking roller positioned below said drawer in said housing and adapted to engage the orifice on the floor of said drawer whereby when the drawer is opened and closed the inking roller will engage the lower side of the map positioned thereon at the point at which the map overlies the orifice in the floor of said drawer.

2,969,735
WASH-UP DEVICE FOR PRINTING PRESS
Le Roy C. Cope, 336 Arleta Ave., San Francisco, Calif.; La Verne Nelson, San Francisco Calif. (1982 Bayshore Ave., Palo Alto, Calif.); and Glenn R. Meacham, Mountain View, Calif. (482 9th Ave., Menlo Park, Calif.)
Filed Feb. 24, 1959, Ser. No. 795,033
4 Claims. (Cl. 101—425)

1. A wash-up device for a printing press having a reversely rotating endwise reciprocating ink transfer roller comprising, an elongated container having laterally spaced lengthwise extending side walls and an open top, and an elongated rubber blade member mounted within said container in spaced parallel relation to said side walls and extending from the open top of said container and providing a top face for presentation to the periphery of said roller, said face being formed with a longitudinal

extending concavity providing a pair of laterally spaced longitudinally extending blade edges adapted for resilient spreading upon said roller periphery to assume a stable tightly seated position thereon with said blade edges running parallel to the axis of said roller whereby endwise reciprocation of said roller will be effected with



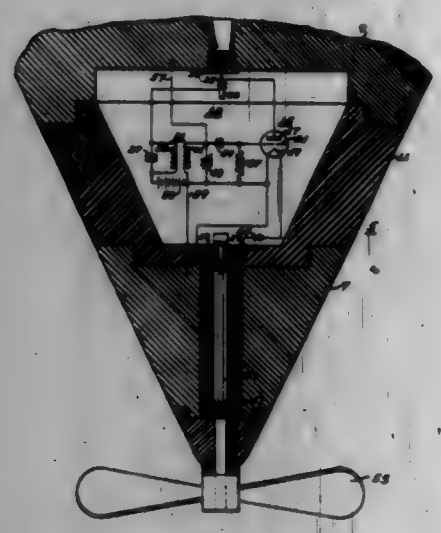
longitudinal slipping action along said blade edges and rotation of said roller will be perpendicular to said edges for the removal of ink from said roller periphery on to said blade member for flow thereover and into said container, the two laterally spaced blade edges cooperating to provide mutual support and ink removal in each direction of rotation of said roller.

2,969,736

MEANS FOR EXPLODING BOMBS

Royal C. Bergvall, Wilkinsburg, Pa., assignor to Westinghouse Electric Corporation, a corporation of Pennsylvania

Filed Nov. 7, 1941, Ser. No. 418,151
7 Claims. (Cl. 102—2)



1. An aerial bomb comprising a shell-casing enclosing an explosive together with an oscillation generator including a discharge device having a plurality of primicpal electrodes and a control electrode, means for varying the capacity between said control electrode and one of said principal electrodes as said bomb approaches the ground, thereby to vary the frequency of the oscillations generated by said generator, and means responsive to the output of said generator to explode said explosive when said frequency attains a predetermined magnitude.

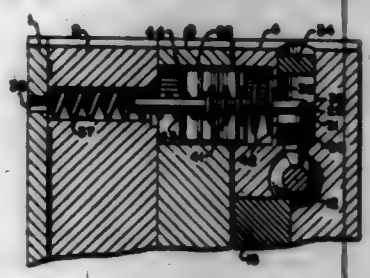
2,969,737

ARMING LOCKING DEVICE FOR A FUZE

Charles F. Bild, Albuquerque, N. Mex., assignor to the United States of America as represented by the Secretary of the Navy

Filed Jan. 23, 1952, Ser. No. 267,903
6 Claims. (Cl. 102—70)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A locking means for a fuze comprising a body having a bore therein and an interconnecting aperture arranged transversely thereto, a spring pressed locking pin slidably mounted in said bore, an elongated rack member extending into engagement with said locking pin through said aperture and normally retaining said locking pin in locking position, a first group of teeth and an enlarged group of teeth disposed on said rack member, and a geared inertia wheel rotatably mounted within said body, said wheel initially meshing with said first group of teeth on said rack member and being normally



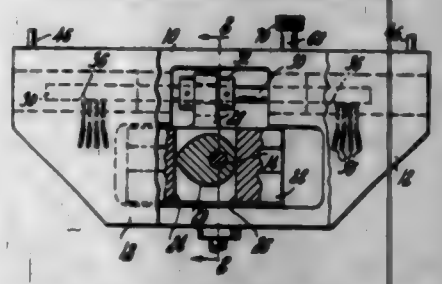
out of engagement with said enlarged group of teeth, said rack member being withdrawn through said aperture in response to set back force to release the locking pin whereby withdrawal of said rack member positions said enlarged group of teeth to engage said geared inertia wheel thereby shifting said rack member out of alignment with the aperture.

2,969,738

FUEL INJECTOR

Otmar M. Ulbing, Springfield, Vt.
(R.F.D. 1, Berkshire, N.Y.)

Filed May 14, 1956, Ser. No. 584,572
7 Claims. (Cl. 103—2)



1. Apparatus for injecting fuel into an engine which includes a metering element including a fuel cavity and a metering passage therefrom, means for providing fuel under pressure in said fuel cavity, a distributing element having therein a multiplicity of delivery openings and a multiplicity of recycle openings, means to slide said metering element and said distributing element relative to one another, said metering element and said distributing element being disposed adjacent each other such that said metering passage during all conditions of said pressure overlies to some extent at least one of said delivery and recycle openings and not more than one of said delivery and recycle openings except during transitional instants, said metering element closing all the other said delivery and recycle openings, means for sliding said metering element and said distributing element relative to each other to successively bring said metering passage in line with different ones of said delivery and recycle openings, and adjustment means to change the sliding path of said metering passage relative to said delivery openings and said recycle openings, to vary the extent of overlie thereover and thereby vary the relative amounts of fuel forced therethrough.

2,969,739

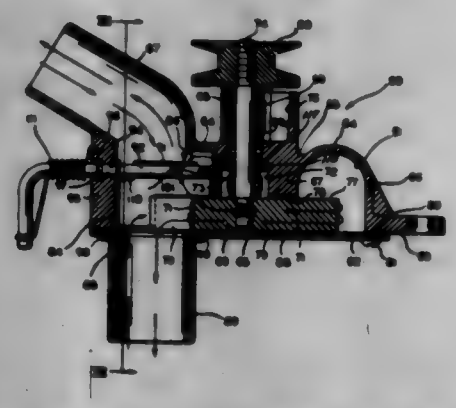
LAUNDRY MACHINE PUMP

Jack F. Clearman, St. Joseph, Mich., assignor to Whirlpool Corporation, a corporation of Delaware

Filed May 31, 1956, Ser. No. 588,285
13 Claims. (Cl. 103—3)

1. A pump comprising a rotatable impeller having a hub portion and a plurality of circumferentially spaced

radially outwardly extending vanes, a casing having bearing means for journaling said hub portion and providing an annular pumping chamber in which said vanes are rotated, a pair of coaxially disposed ports formed in said casing on opposite sides of said annular pumping chamber generally parallel to the impeller axis and transversely of the plane of rotation of said impeller, reversible flow control means for selectively reversing the direction of flow through said ports including a valve plate movably positioned crosswise in said chamber between said ports and pivotally displaceable on an axis intersecting the rotational axis of said impeller and the axis of said ports, continuous biasing means operatively dis-



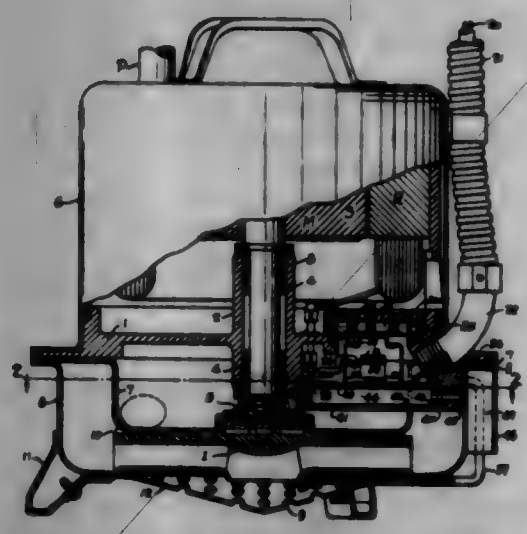
posed between said casing and said valve plate normally biasing said valve plate into a first position extending crosswise across said pumping chamber wherein said valve plate together with said casing forms an inlet passage for said pumping chamber adjacent one of said ports and an outlet passage adjacent said other port, and actuating means operatively connected to and moving said valve plate against said continuous biasing means to a second crosswise position wherein said valve plate together with said casing forms an inlet passage for said pumping chamber adjacent said other port and an outlet passage adjacent said first port, thereby to reverse the direction of flow of the pumped fluid without reversing the direction of rotation of said pump impeller.

2,969,740

PUMP CONTROL

Herbert W. Kaatz, Elyria, Ohio, assignor to The American Crucible Products Company, Lorain, Ohio, a corporation of Ohio

Filed May 27, 1957, Ser. No. 661,901
8 Claims. (Cl. 103—25)



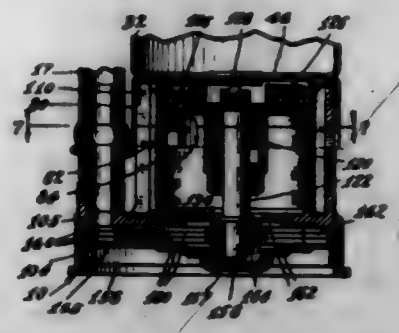
1. In a submersible pump having a motor, an impeller driven thereby, a base plate supporting said motor and impeller and an intake opening, the improvement of a control for turning said motor on and off, said control comprising vertically spaced, opposed first and second pressure sensitive diaphragms, a motor control switch disposed between said diaphragms, a first saddle member secured to the inner surface of said first diaphragm and in operative relation with said switch, a second saddle member secured to the inner surface of said second diaphragm, each said saddle member transmitting its responses to the other only when said saddle members are moved apart, means to communicate the static pressure of the liquid to be pumped to the outer surface of said first diaphragm, and means to communicate the vacuum developed at the eye of the impeller when said liquid is being pumped to the outer surface of said second diaphragm, said control actuating said pump when the liquid to be pumped has reached a predetermined level and deactuating said pump when the level of said liquid has been reduced below the level of said intake.

2,969,741

IMPELLER PUMP AND MOTOR-PUMP UNIT

George W. Wright, Yoder, and Joseph D. Clymer, Fort Wayne, Ind., assignors to Tokheim Corporation, Fort Wayne, Ind.

Filed Sept. 19, 1957, Ser. No. 685,013
7 Claims. (Cl. 103—87)



1. A motor-pump unit in which the motor is of a type in which speed varies with load and in which speed varies from motor to motor over a tolerance range, a centrifugal pump assembled to said motor, said pump comprising a casing forming an open-ended cavity having an end wall and a circumferentially-continuous side wall, a pump chamber defined at least in part by a number of chamber laminations received and fitted within said cavity and containing chamber-forming apertures, each said lamination providing a layer of axial thickness for the chamber, a pump impeller in said chamber and formed at least in part of a number of laminations of equal thickness with said chamber laminations, an outlet for said chamber opening through said cavity end wall and communicating with the chamber defined by said lamination apertures, second casing means forming a second end wall for said cavity secured in sealing relation within said side wall and against said chamber laminations to retain said laminations in place in the cavity and to close the cavity about the same, the number of chamber and impeller laminations being selected in relation to the speed characteristics of the motor with which the pump is assembled to vary the loading which said pump imposes on the motor and thereby vary inversely the speed of the combined motor and pump unit and limit the output pressure thereof to one within a tolerance range narrower than that of the motors.

2,969,742

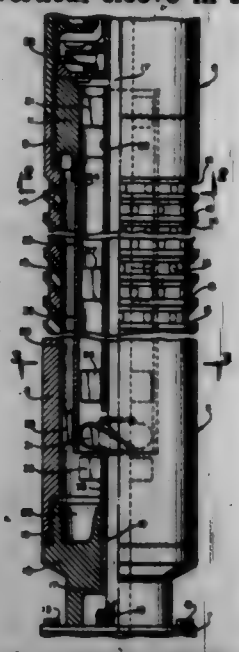
GAS SEPARATOR FOR SUBMERGIBLE MOTOR-PUMP ASSEMBLIES

Armais Arutunoff, Bartlesville, Okla., assignor to Reda Pump Company, Bartlesville, Okla., a corporation of Delaware

Filed July 18, 1958, Ser. No. 749,538
4 Claims. (Cl. 103—113)

1. A submergible motor-pump assembly, comprising a main pump unit, a cylindrical housing for said pump unit, a gas separator unit having a cylindrical housing sus-

pended from the bottom of said pump housing and forming substantially a coaxial continuation of said pump housing, a coaxial motor unit suspended from the lower end of said separator housing, shaft means extending axially through said separator unit, connecting said motor unit and said pump unit, said separator housing having a bottom closure at its lower end, a plurality of vertically and annularly spaced inlet openings adjacent the upper portion of said separator housing, said openings being abruptly inclined inwardly and downwardly toward said bottom closure, a vertical sleeve in said separator hous-



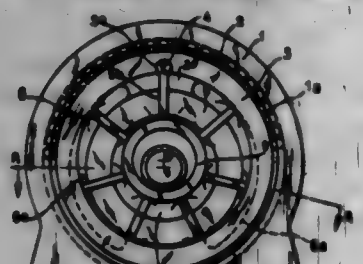
ing coaxial with and spaced radially inwardly from the housing of said separator, said sleeve terminating in an open lower end in axially spaced relation to said bottom closure, and forming an intake conduit for said pump unit, the lower portion of said separator housing together with the lower portion of said sleeve forming a reservoir for said pump unit, and an axial flow-type impeller mounted in the lower portion of said sleeve, whereby said impeller creates a reverse flow of liquid through said inlet openings, to said reservoir and thence to said pump unit, simultaneously releasing entrained gases from said liquid.

2,969,743

ROTARY SLIDABLE-VANE MACHINES

Stanislao Menon, Turin, Italy, assignor to Emanuel di Giuseppe e Roberto Emanuel & C. S.A.S., Turin, Italy

Filed Jan. 22, 1959, Ser. No. 788,433
Claims priority, application Italy Dec. 1, 1956
3 Claims. (Cl. 103—121)



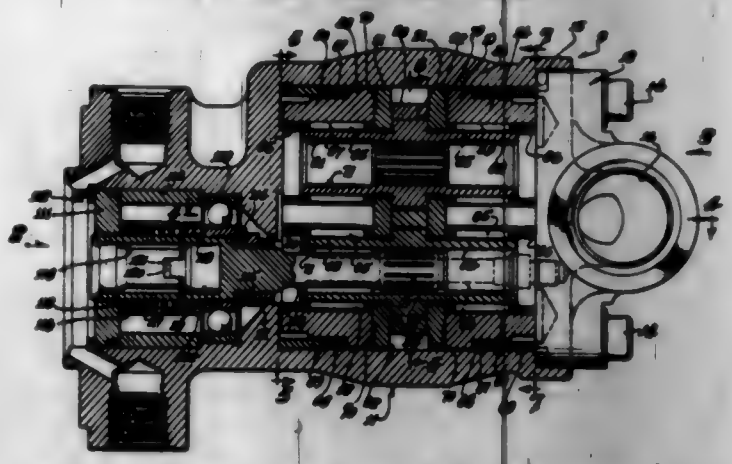
1. In a rotary slidable-vane machine of the type comprising a cylindrical casing having end walls, a hollow cylinder rotatably supported from and in said casing coaxially with the latter and defining with said end walls a chamber, a rotor rotatable in said chamber eccentrically with respect to said cylinder and casing, said rotor having a plurality of radial slots, a driving vane radially slidable in one of said slots having its radially outer edge section anchored to said cylinder, thereby coupling said cylinder and rotor for unison rotation in said casing, and a plurality of secondary vanes radially slidable in the remaining slots in said rotor to bear on the inner surface of said cylinder, said inner surface of said cylinder defining an axially directed groove and having a constant circular cross-sectional profile to accommodate said radially outer section of said driving vane, and said radially outer edge section of said driving vane consisting of a bead comprising a substantially limited annular surface section located longitudinally midway of said bead in a bearing engagement with said groove, and a pair of oppositely arranged frusto-conical sections on said bead coaxial with said annular surface section diverging from the latter towards the opposite ends of said bead.

2,969,744

GEAR MOTOR OR PUMP

James F. Hoffer, Altadena, Calif., assignor to General Metals Corporation, San Francisco, Calif., a corporation of California

Filed Mar. 10, 1959, Ser. No. 798,513
7 Claims. (Cl. 103—126)



1. In a gear motor or pump, the combination of: a cartridge having therein two intersecting gear chambers respectively occupied by two gears which mesh at the intersection of said chambers, said cartridge providing said chambers with end walls respectively engaged by the ends of said gears and with circumferential walls respectively engaged by the circumferences of said gears, said cartridge having two main ports spaced apart laterally thereof and respectively located on opposite sides of said intersection of said chambers, each of said main ports being located adjacent said intersection and communicating with both of said chambers, said cartridge having in its periphery two auxiliary ports spaced apart laterally thereof and respectively extending through said circumferential walls into communication with said chambers between said main ports; a case enclosing said cartridge and having axially spaced end walls and a peripheral wall, said case having main passages respectively communicating with said main ports, and the interior of said case communicating with said auxiliary ports; and two axially spaced, peripheral seals carried on the periphery of said cartridge and engaging said peripheral wall of said case and cooperating with said periphery of said cartridge and said peripheral wall of said case to define a peripheral space around said cartridge which is spaced from said main ports, said auxiliary ports being between said seals and in communication with said peripheral space.

2,969,745

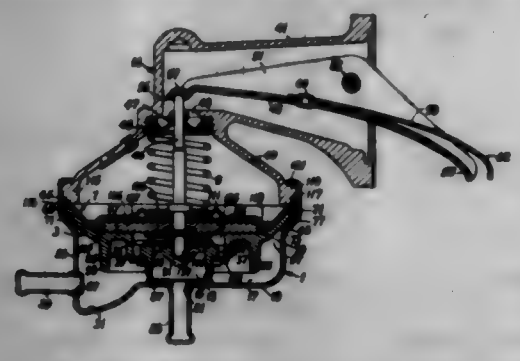
MECHANICAL FUEL PUMP

Eldon A. Johnson, St. Louis, Mo., and Donald R. Compton, Belleville, Ill., assignors to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey

Filed June 2, 1958, Ser. No. 739,241
15 Claims. (Cl. 103—150)

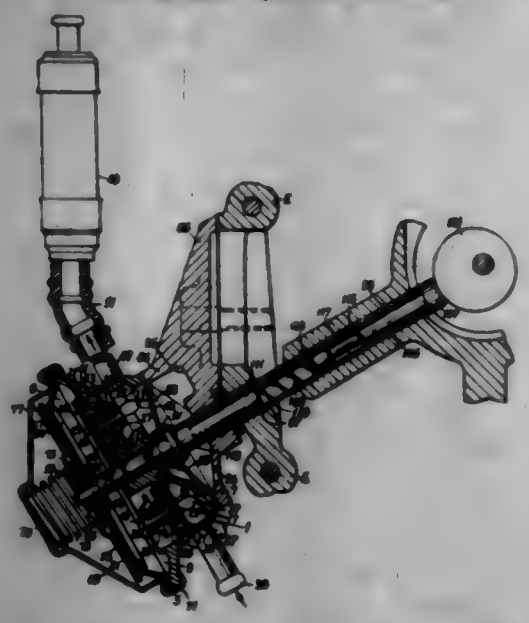
1. In a diaphragm pump, a cup-shaped body having a base and a peripheral wall defining a pumping chamber, the internal surface of the peripheral wall of said body flaring outward away from the base, a flexible diaphragm, said diaphragm closing the pumping chamber

and having a marginal portion flaring outward away from the base in facewise engagement with an outer portion of said flaring internal surface and conforming in shape thereto, a housing enclosing the diaphragm and engaging said flaring marginal portion of the diaphragm and clamping it in sealed relation against said outer portion of the flaring internal surface, means engaging a central portion of the diaphragm holding said



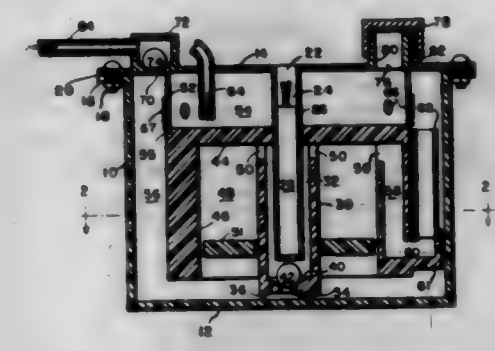
central portion substantially flat, said means including a rim constraining the diaphragm to have a portion flaring outward in the direction toward the base of the body and merging into said marginal portion of the diaphragm in the form of a free loop, and a spring in said housing reacting from the housing against said constraining means and biasing the diaphragm in the direction toward the base of said body.

2,969,746
FUEL PUMP
Russell F. Smith, Ferguson, Mo., assignor to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey
Filed Aug. 28, 1958, Ser. No. 757,796
16 Claims. (Cl. 103—150)



1. In a variable stroke pump for supplying fuel to a carburetor for an internal combustion engine, a housing providing first and second opposed coaxial pumping chambers, first and second coaxial diaphragms, one for each chamber, a rod connecting the diaphragms, spring means engaging said housing and biasing the diaphragms and rod in one direction for movement of the first diaphragm through a discharge stroke and accompanying movement of the second diaphragm through a return stroke, said rod being adapted to be moved in the opposite direction by the engine for movement of the first diaphragm through a suction stroke and accompanying movement of the second diaphragm through a discharge stroke, said housing having a partition provided with an inlet to the first chamber, a check valve for the inlet adapted to open on a return stroke of the first diaphragm and to close on a discharge stroke of the first diaphragm, said partition having a passage from the first chamber to the second chamber, a check valve for said passage adapted to open on a discharge stroke of the first diaphragm and to close on a return stroke of the first diaphragm, and an outlet from the second chamber adapted to supply fuel to the carburetor.

2,969,747
HEAT ACTUATED PUMPS
Calvin D. MacCracken, Tenafly, N.J., and Edward M. Smith, Mansfield, Ohio, assignors to Jet-Heet, Inc., Englewood, N.J., a corporation of New York
Filed Mar. 28, 1957, Ser. No. 649,060
14 Claims. (Cl. 103—255)

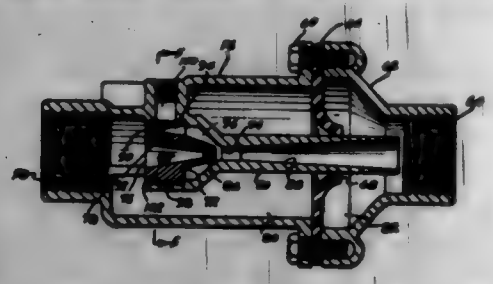


1. In a thermally actuated pump of the type in which alternating volumetric changes are produced by alternately collecting vaporized liquid in a first portion of said pump and condensing the vaporized liquid in a second portion of said pump, in combination, a closed outer shell, a first cylindrical partition in said shell encompassing a first central compartment inside said shell in which to vaporize liquid by heating, a second cylindrical partition surrounding said first partition and defining therewith an annular second compartment adjacent to said first compartment in which to collect vapor formed in said first compartment and defining with said shell an annular third compartment in which to condense vapor, said first partition having opening portions affording communication for liquid flow from the lower part of said second compartment to the lower part of said first compartment and affording communication for vapor flow from the upper part of said first compartment to the upper part of said second compartment, said second partition having an open portion providing a liquid conductive passageway between said third compartment and the lower part of said second compartment, means defining a U-shaped vapor conduit connecting the upper portions of said second and third compartments and extending downwardly through said second partition from the upper part of said second compartment and then upwardly outside said second partition and within said third compartment, and inlet and outlet means for said shell for transferring volumetric changes from inside to outside said shell.

2,969,748
EJECTOR
William A. Staats and William J. Conery, Ashland, Ohio, assignors to The F. E. Myers & Bro., Co., Ashland, Ohio
Filed Feb. 12, 1959, Ser. No. 792,788
7 Claims. (Cl. 103—271)

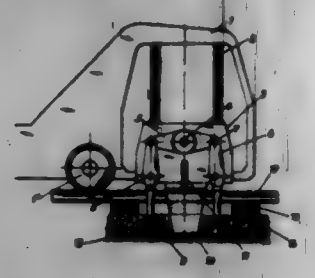
1. An ejector for a fluid system; a body part having an inlet and an outlet, a nozzle and venturi tube within the body part in series between the inlet and outlet, a passage leading to the throat of said venturi tube through a wall of said body part, a bypass channel through the body part bypassing the nozzle and venturi tube, and a resilient diaphragm having its periphery clamped in the body part and surrounding the venturi tube normally closing said bypass channel, said diaphragm being yieldable

outwardly from said venturi tube in response to a predetermined differential pressure between the opposite sides



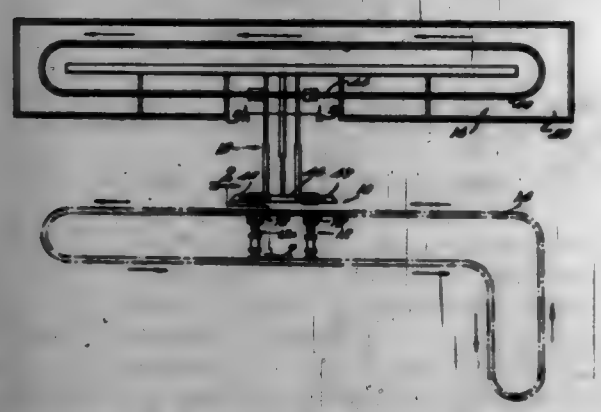
thereof for permitting fluid to flow through the said channel.

2,969,749
MOBILE TRACK TAMPING MACHINE
Franz Plasser and Josef Theurer, Johannesgasse 3, Vienna I, Austria
Filed Oct. 21, 1957, Ser. No. 691,360
Claims priority, application Austria Oct. 24, 1956
4 Claims. (Cl. 104—12)



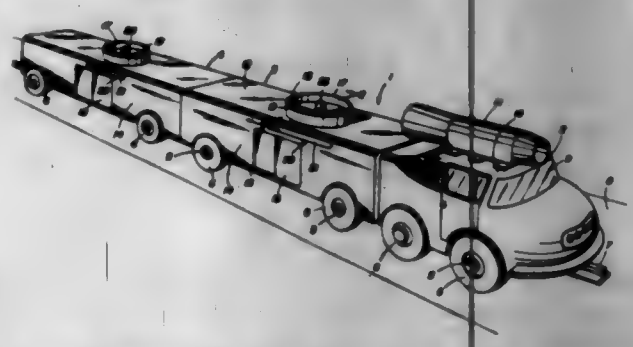
1. A mobile ballast tamping machine adapted to travel along the rails of a railroad track mounted on ties, comprising a vertically adjustable tamping tool carrier which may be lowered into a tamping position, at least one pair of cooperating tamping tools mounted on the carrier so that each tool of the cooperating pair is positioned alongside the longitudinal sides of a tie to be tamped and in proximity of one of said rails when the carrier has been lowered into the tamping position, flat jaws at the ends of the cooperating tamping tools and extending in the same direction as said longitudinal tie sides, and at least one additional tamping tool mounted on the carrier symmetrically with respect of said pair of cooperating tamping tools and laterally outside the end of the said tie, said additional tamping tool having a flat jaw extending transversely of the longitudinal tie sides.

2,969,750
RACK LOADING AND UNLOADING MECHANISM
Chester G. Clark, Detroit, Mich., assignor to The Udylite Corporation, Detroit, Mich., a corporation of Delaware
Filed Dec. 6, 1957, Ser. No. 701,037
9 Claims. (Cl. 104—96)



1. Apparatus for transferring racks for supporting workpieces in a plating machine back and forth between a loader for the machine and a shop conveyor of the type which includes a substantially horizontally extending track and a plurality of trolleys mounted on the track, and wherein said track has a pair of movable sections each of which is mounted for swinging movement about a substantially horizontal axis parallel thereto between a first position aligned with adjacent track sections and a second pivoted position to one side of said first position; said apparatus comprising power means associated with each of said sections and operable to swing said section between said first and second positions so that a rack having an unplated workpiece thereon is moved from a trolley on one section to the loader and a trolley on the other section receives a rack having a plated workpiece thereon from said loader.

2,969,751
APPARATUS AND METHOD FOR LAND TRANSPORTATION
Harry A. Toulmin, Jr., Dayton, Ohio, assignor to The Commonwealth Engineering Company of Ohio, Dayton, Ohio, a corporation of Ohio
Filed Dec. 7, 1955, Ser. No. 551,662
7 Claims. (Cl. 105—74)



4. A self-propelled land vehicle which is guided by a rail and comprising a vehicle body having a plurality of pairs of wheels for supporting the vehicle upon the ground, a longitudinally extending tubular member mounted on the under surface of said vehicle body, a plurality of axles extending laterally from opposing sides of said tubular member and having wheels on the outer end thereof to support said vehicle on the ground, jet propulsion units on said vehicle body for propelling the vehicle, means on said vehicle body for lifting the vehicle by an aerodynamic reaction with the air, a clamp depending from the undersurface of the vehicle body and comprising two portions each of which is movably mounted on the vehicle body for movement toward and away from each other, there being a laterally extending groove in each of said clamp portions with said grooves opening toward each other to receive a rail head therein to guide the vehicle when traveling upon the ground, the vertical distance of said laterally extending grooves being greater than the height of the rail head to limit the vertical lifting of the vehicle but to maintain the vehicle in engagement with the rail, means on said tubular member for pivoting said axles to elevate the wheels above the ground when the vehicle is traveling at high speeds and is engaged with the rail by the clamp, and means for moving said clamp portions away from each other whereby the clamp may be detached from the rail and the vehicle can travel upon the ground independently of the rail.

2,969,752
CAR CONSTRUCTION
Boris Terlecky, New York, N.Y., assignor to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey
Filed Nov. 28, 1956, Ser. No. 624,983
11 Claims. (Cl. 105—418)

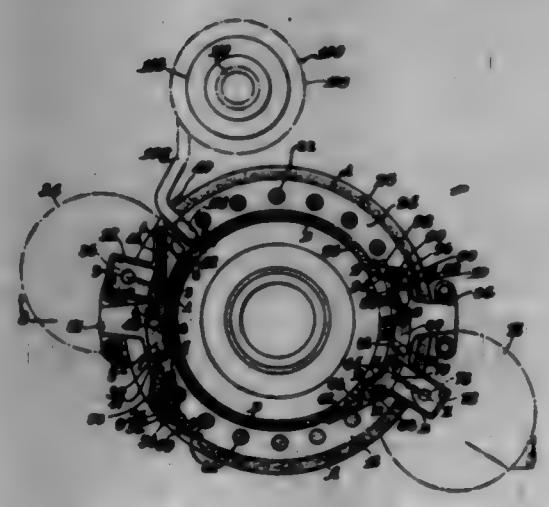
1. In a railway car body construction, a longitudinally extending center sill having an outwardly extend-

ing flange at the lowermost portion thereof, said outwardly extending flange extending longitudinally substantially the length of said center sill, a side sill comprising an outer sill member having a top edge and extending longitudinally of the car body, an inner sill member transversely spaced from said outer sill member and like-



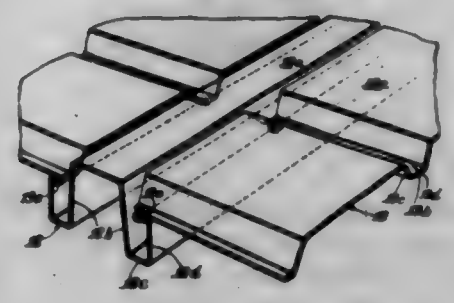
wise having a top edge and extending longitudinally of the car body and provided with floor supporting means at the lowermost portion thereof extending in a lowered plane substantially in line with said flange of said center sill, and buttress means connecting said sill members along their opposing vertical surfaces and maintaining said members and said top edges in spaced relation.

2,969,753
FEEDING AND PICK-OFF ARRANGEMENT FOR TABLET-FORMING MACHINE
Carl H. Abbe, Maspeth, and George A. Goetz, Jr., Ridgewood, N.Y., assignors to Chas. Pfizer & Co., Inc., Brooklyn, N.Y., a corporation of Delaware
Filed Jan. 30, 1958, Ser. No. 712,266
5 Claims. (Cl. 107—1)



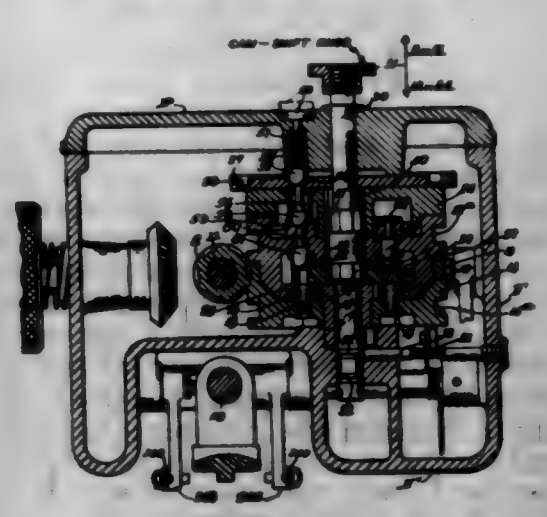
1. A powder-feeding and tablet pick-off apparatus for a pressing machine for forming tablets including layers of dissimilar powders, said apparatus comprising a rotating annular table, said table including apertures regularly spaced in a circular array disposed within a central ring-shaped area of said annular table, plunger means and associated synchronizing apparatus disposed above and below said table for passing through said apertures to compress powder deposited within said apertures into tablets, powder-feeding and scraper bar assemblies disposed in sliding contact with the top of said table at separate stations about its periphery, each of said scraper bar assemblies including a feeding pocket for receiving powder and directing it into successive apertures passing beneath it to permit said opposed plungers to compress said powder into tablets within apertures aligned with said plungers, powder storage means associated with said feeding pockets for feeding said dissimilar powders to said respective pockets, one of said scraper bar assemblies being constructed and arranged to divert powder disposed within an inner ring-shaped area of said annular table into its feeding pocket and back onto said inner ring-shaped area as sections of said table pass under it, the other of said scraper bar assemblies being constructed and arranged to divert powder deposited in an outer ring-shaped area of said annular table into its feeding pocket and back onto said outer ring-shaped area as sections of said table pass under it, and a vacuum pick-up means disposed in front of one of said scraper bar assemblies and including a pick-up tube whose mouth covers the entire width of said central ring-shaped area for abstracting said tablets and cleaning said central area of powder before the first of said dissimilar powders is deposited upon said central area to commence the process of formation of the first layer of one of said tablets, said vacuum pick-up means being confined between said inner and outer ring-shaped areas to avoid interference with said powders deposited thereon, and said vacuum pick-up means incorporating separating means for cleaning said tablets of any entrained powder.

2,969,754
ROOF STRUCTURE
Allen B. Wilson, Chicago, Ill., assignor to Acme Steel Company, Chicago, Ill., a corporation of Illinois
Original application May 12, 1954, Ser. No. 429,237. Divided and this application May 13, 1955, Ser. No. 508,255
1 Claim. (Cl. 189—34)



A roof deck comprising a three dimensional sheet metal beam having a flat top wall joined by downwardly projecting side walls with outwardly extending bottom walls which have their outer edges united with upwardly extending outer walls terminating in inwardly extending flanges, and corrugated sheet metal panels having flat top portions joined by intervening channel portions which rest at their ends on said inwardly extending flanges, said channel portions having their end extremities slitted to form tongues which are bent around the edges of said flanges, said top wall of said beam and said top portions of said panels being substantially in the same plane.

2,969,755
BUTTON SEWING MACHINE
Franklin A. Reece, Brookline, Mass., assignor to The Reece Corporation, Boston, Mass., a corporation of Massachusetts
Filed July 12, 1954, Ser. No. 442,670
57 Claims. (Cl. 112—112)



1. In a button sewing machine having a reciprocating needle and in combination two stitch cams producing a

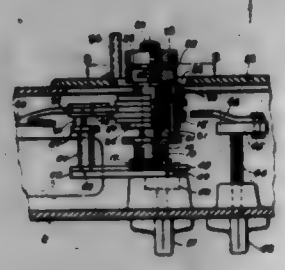
relative motion between the work and the needle in one direction and having cam tracks for different numbers of stitches, and a third cam producing a relative movement between the work and the needle in a direction different from that produced by the stitch cams, and means connecting the third cam with either of said stitch cams.

2,969,756

SEWING MACHINES

Allan Herman Eriksson, Huskvarna, Sweden, assignor to Husqvarna Vapenfabriks Aktiebolag, Huskvarna, Sweden, a corporation of Sweden

Filed June 8, 1954, Ser. No. 435,275
Claims priority, application Sweden Sept. 1, 1953
14 Claims. (Cl. 112—158)



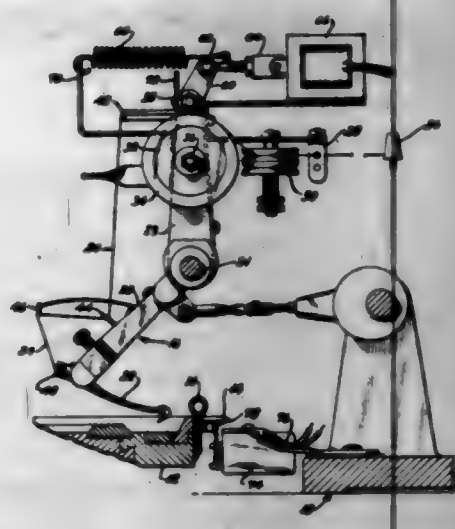
1. An ornamental stitch sewing machine comprising a hollow frame including an overhanging sewing arm, a needle carried by said frame and mounted for endwise reciprocation and for lateral swinging movement relative to said arm, means for reciprocating said needle including a drive shaft extending longitudinally of said arm, means for rotating said drive shaft, cam mechanism including a cam shaft extending perpendicular to the axis of said drive shaft and having a free end, said arm having an opening therein opposite the free end of said cam shaft, a unit comprising a series of interconnected pattern cams, means for removably mounting said unit on said cam shaft for rotation therewith, said last-mentioned means including means permitting sliding engagement of the unit axially of said cam shaft so that said unit can be readily removed from said cam shaft and withdrawn through said opening, spring operated latch means for releasably retaining said cam unit on said cam shaft and means for turning said cam shaft in response to rotation of said drive shaft, cam follower means having a single cam-engaging head for engaging and responding to the surface of a cam of said series, pivot means mounting said follower means for swinging movement about an axis parallel to said cam shaft, means mounting said follower means and said unit for relative shifting movement within the frame so that said head can be positioned for cooperation with any one of said series of cams, means normally urging said follower and thus said head into engagement with a selected cam, means for disengaging said head from a selected cam, manually operable means operably connected within said frame with one of said follower means and unit for effecting said shifting movement and for disengaging said head from a cam whereby said head can be disengaged from one cam of said series and said head and unit can be relatively shifted to select another cam of said series, motion imparting means including a rod operably connected between said follower means and said needle for transmitting the lateral swinging movement of the follower means to said needle in response to the surface of a selected cam, said motion imparting means including an adjustable variable movement connection interposed between said rod and said follower means, and a movable handle means carried by said frame and operatively connected within the frame with said variable movement connection for adjusting the same.

2,969,757

YARN MEASURING DEVICE

Thomas H. De Spain, Paducah, Ky., assignor to Southern Textile Machinery Co., Incorporated, Paducah, Ky., a corporation of Kentucky

Filed Aug. 22, 1958, Ser. No. 756,699
2 Claims. (Cl. 112—243)



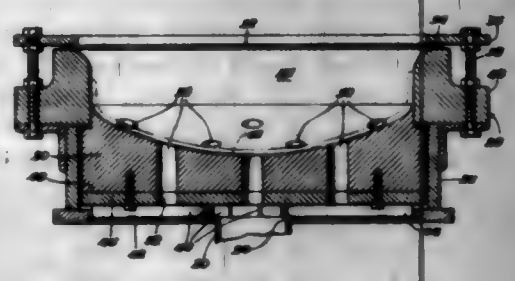
1. In a sewing machine having a work support, and stitch forming means for forming stitches in fabric on said work support; thread feeding means comprising a first roller mounted for rotation about a fixed axis, a shaft mounted for movement toward and away from said first roller, a second roller mounted for rotation on said shaft and movable with said shaft between a first position wherein said second roller is in rolling engagement with the periphery of said first roller and a second position wherein said second roller is out of engagement with said first roller, means guiding thread to be fed to said stitch forming means along the periphery of said first roller at a location where said thread may be gripped between said rollers when said second roller is in said first position, means for rotating said first roller through a predetermined movement in synchronism with each stitch formed by said stitch forming means, means responsive to the presence of fabric on said work support in position to be acted on by said stitch forming means for moving said second roller to said first position to grip thread between said rollers and thereby feed a predetermined quantity of thread to said stitch forming means upon each rotative movement of said first roller, and means responsive to the absence of fabric on said work support in position to be acted on by said stitch forming means for moving said second roller to said second position.

2,969,758

APPARATUS FOR CONTOUR FORMING

Thomas W. Howlett, Jr., Hammond, and Amel R. Meyer, Griffith, Ind., assignors, by mesne assignments, to Union Tank Car Company, Chicago, Ill., a corporation of New Jersey

Filed Mar. 5, 1957, Ser. No. 644,156
1 Claim. (Cl. 113—44)



In an apparatus of the type including a vessel containing a liquid, an energy producing device located in the liquid for forming a normally rigid material, sup-

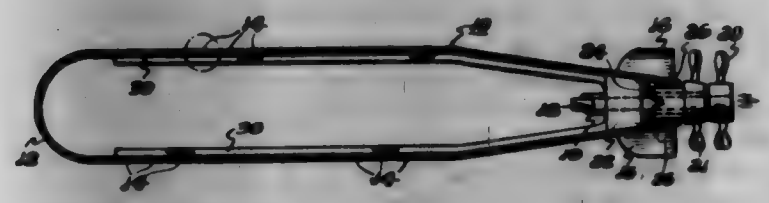
porting means for said rigid material, die means spaced from said rigid material and including means defining a plurality of openings extending between opposite sides of the die means, baffle plate means detachably secured to the side of said die means remote from the rigid material and including means defining a plurality of openings in registry with said die means openings, passage means establishing communcation between a point in the bottom of the vessel and the atmosphere, and said plate means including a plurality of baffles extending radially of said point and a central area of the die means and in engagement with the bottom of said vessel to provide communication between said registered opening means and said passage means to facilitate evacuation of air between the rigid material and the die means during a forming operation.

2,969,759

HYDRODYNAMIC DRAG REDUCTION IN VEHICLES THROUGH BOUNDARY LAYER CONTROL

Walter B. Giles, Topsfield, Mass., assignor to General Electric Company, a corporation of New York

Filed Sept. 13, 1957, Ser. No. 683,805
4 Claims. (Cl. 114—20)



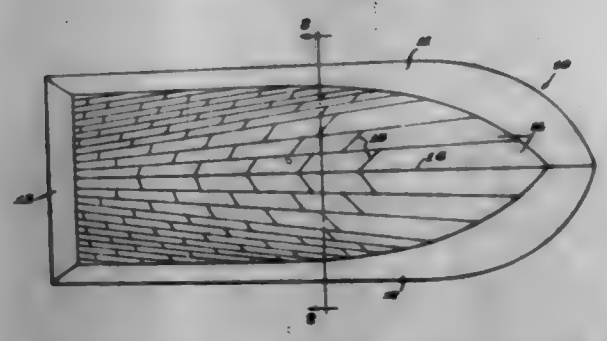
1. Boundary layer control means for reducing the drag of surface and underwater vehicles, comprising a plurality of slit means integral with the surface of the vehicle to permit a suction flow therethrough, duct means operatively associated with said slit means for carrying the suction flow to the stern of the vehicle, pump means operatively coupled to said duct means for generating and maintaining the suction flow and for preventing any hinderance to the suction flow at the surface of the vehicle, and means for reversing said suction flow.

2,969,760

HULL FORM

George G. Eddy, Bay City, Mich.
(Box 1114, Holland, Mich.)

Filed Mar. 18, 1957, Ser. No. 646,684
5 Claims. (Cl. 114—66.5)



1. A planing hull comprising: sides, transom, keel line, and at least two fluid-contacting surfaces between said sides, said transom and said hull line, a plurality of steps on said fluid-contacting surface, each of said steps being positioned so as to be substantially perpendicular to the pressure patterns developed by said hull planing through a fluid, and each of said steps being of a length substantially less than the distance between said keel line and said sides.

2,969,761

PUMP

Robert K. Youtie, Haddonfield, N.J.
(3201 PSFS Bldg., 12 S. 12th St., Philadelphia 7, Pa.)

Filed Jan. 31, 1958, Ser. No. 712,495
3 Claims. (Cl. 114—183)



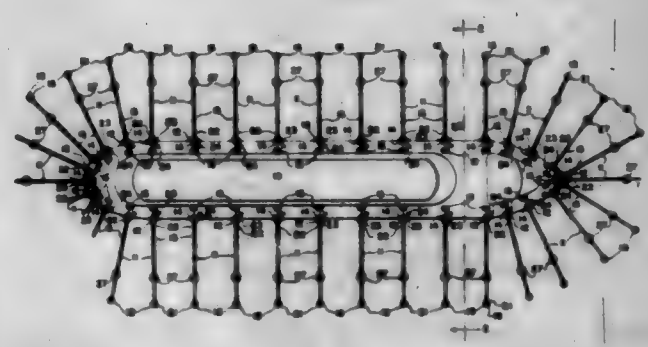
1. A bilge pump for a vessel adapted to navigate in water and be rocked thereby, said pump comprising an elongate casing mounted in said vessel for rocking movement with the vessel about an axis transverse of said casing to alternately raise and lower opposite ends of said casing, a single inlet port medially of said casing for communication between the interior thereof and the lower interior region of said vessel for passing liquids only from the latter into said casing, outlet ports at opposite ends of said casing for passing liquid only from the interior to the exterior of said casing, a pair of conduits connected to said casing each with one end communicating through a respective one of said outlet ports with the interior of said casing and the other end communicating with the exterior of said vessel, and a rigid piston movable by its weight back and forth in said casing upon said rocking movement, movement of said piston in opposite direction enabling liquid to pass through said inlet port into said casing alternately on opposite sides of said piston and effecting delivery of liquid from said casing alternately through said outlet ports and conduits for removing liquid from said vessel.

2,969,762

DEVICE FOR PROTECTING A VESSEL

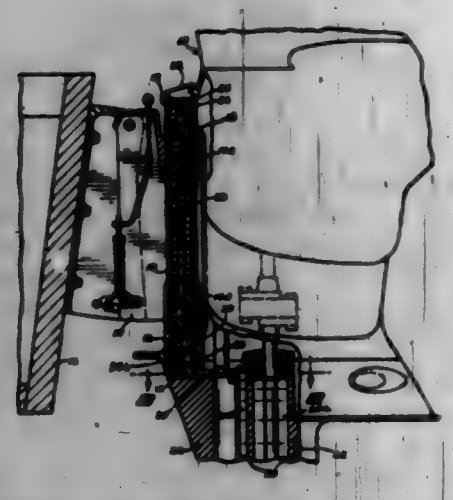
Clifford S. Livermore, United States Navy, Washington, D.C.

Filed Apr. 16, 1943, Ser. No. 483,257
7 Claims. (Cl. 114—240)
(Granted under Title 35, U.S. Code (1952), sec. 266)



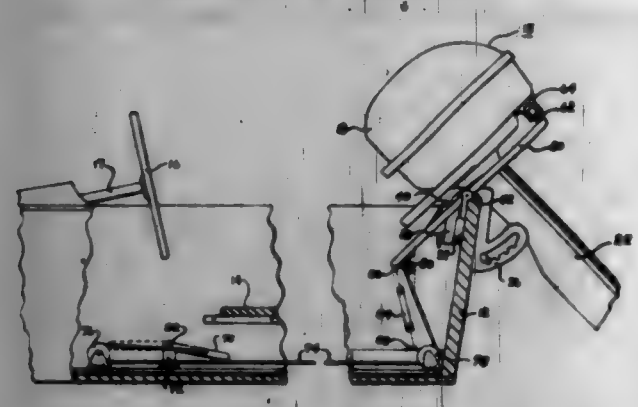
1. A vessel protector comprising a plurality of elongated mounting means adapted for attachment to the exterior of the vessel and projecting laterally therefrom, a plurality of explosive bombs arranged within the water at a distance from the vessel and respectively supported by said mounting means, a plurality of signal detecting devices arranged within the water and supported by each of said mounting means at the free end thereof, a plurality of means for amplifying the signals received by said signal detecting devices, a plurality of firing relays respectively controlled by said signal amplifiers each adapted to close a plurality of contacts as the relay operates, and a plurality of firing circuits adapted to be closed by said contacts and explode a selected group of said explosive bombs.

2,969,763
OUTBOARD MOTOR OIL FILLER TUBE ARRANGEMENT
Leslie W. Foster, Arden Hills, Minn., assignor to McCulloch Corporation, Marine Products Division, Minneapolis, Minn., a corporation of Minnesota
Filed Nov. 9, 1959, Ser. No. 851,811
6 Claims. (Cl. 115—18)



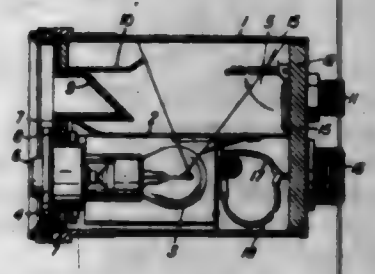
6. An outboard motor having a lower unit with an internal lubricant cavity, a bracket for mounting the motor on a boat, the motor being pivotally connected to the bracket on an upright pivot axis, said pivotal connection including an elongated tube extending coaxially of the pivot axis, the motor having internal passage means forming closed communication between the lower end portion of the tube and the said cavity, and a member for closing the upper end of the tube and being removably associated therewith.

2,969,764
MECHANISM FOR RAISING AND LOWERING OUTBOARD MOTORS
Dermot L. Meyer, Box 234, New Carlisle, Ind.
Filed Aug. 5, 1957, Ser. No. 676,289
7 Claims. (Cl. 115—41)



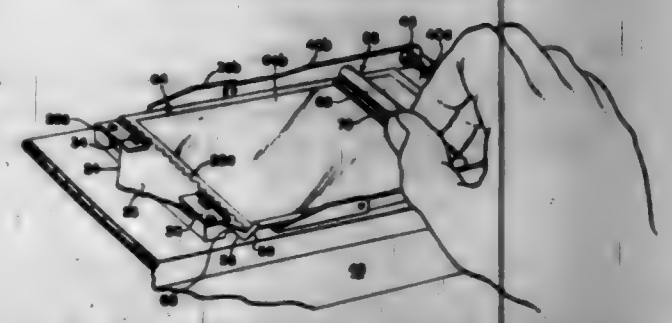
7. A mechanism for raising and lowering an outboard motor having a frame, a means for mounting said motor on a support at the rear of a boat including a pivot forming an axis on which said motor swivels in steering the boat and a second pivot forming a horizontal axis on which said motor tilts between operating and nonoperating positions, comprising: a contact element mounted on the frame, a member forming a track for said element with its center the swivel axis of said motor, a fixture adapted to be mounted on said support and forming an axis parallel with and in the proximity of the axis on which the motor tilts between operating and nonoperating positions for supporting said member, a movable means remote from said motor, and a cable attached to said movable means and connected to said member on the boat side of said fixture.

2,969,765
SMOKE DETECTION EQUIPMENT
Peter Melburn Pucill, Chalfont St. Peter, England, assignor to Specialties Development Corporation, Belleville, N.J., a corporation of New Jersey
Filed Mar. 11, 1958, Ser. No. 720,588
2 Claims. (Cl. 116—117)



1. A visual smoke detector device comprising a casing having vertical front and rear walls, a horizontal partition extending longitudinally within said casing dividing said casing into upper and lower chambers, electric lamp means detachably secured to said front wall extending therethrough into said lower chamber and adapted to be withdrawn from said lower chamber through said front wall, an air sample inlet in said rear wall above said partition, an observation window in said front wall above said partition in line with said inlet, an air sample outlet in said rear wall below said partition, said partition being provided with a slit for directing light from said lamp means into a portion of said upper chamber spaced inwardly of said window and said inlet, and a visual air flow indicator positioned at said inlet adapted to occupy a non-illuminated position when no air is flowing through said inlet and to be deflected to an illuminated position when a normal air flow is flowing from said inlet.

2,969,766
FLATTENING AND COATING DEVICE FOR PHOTOGRAPHIC PRINTS
Joseph W. Distel, Boston, and Maxfield Parrish, Jr., Lexington, Mass., and Karl Maierhofer, Norridge, Ill., assignors to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
Filed Mar. 25, 1959, Ser. No. 801,925
13 Claims. (Cl. 118—503)



1. A device for eradicating unwanted deformation of a photographic print and for facilitating the coating of its surface with a protective stabilizing fluid, said device comprising means providing a first fixed platform serving in part to support said print, said platform being of a lesser length than said print, a yoke member rigidly attached to said fixed platform, means pivotally attached to said yoke member providing a second platform for completing the support of said print and being of a relatively greater width but a lesser length than said print, said second platform, when pivoted to closed position, constituting a cover for said first platform and, when at open position, constituting, in effect, an extension of said first platform whereby a substantially continuous supporting surface of a length exceeding that of said print is provided, rounded surface means contiguous the longitudinal extreme of said second platform remote from

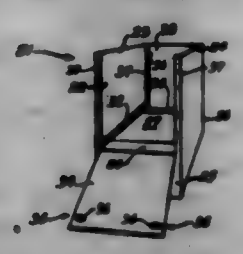
said first platform for providing a given frictional contact with said print to remove said deformation during passage of said print across said surface, and means mounted on said first platform for holding said print fixed against longitudinal movement when said print is mounted on said first and second platforms in position for an application of said protective stabilizing fluid to an exposed image-bearing surface thereof.

2,969,767
PET BAG
Alice M. Bassett, 1437 W. 98th St., Los Angeles 47, Calif.
Filed Apr. 2, 1958, Ser. No. 725,962
3 Claims. (Cl. 119—1)



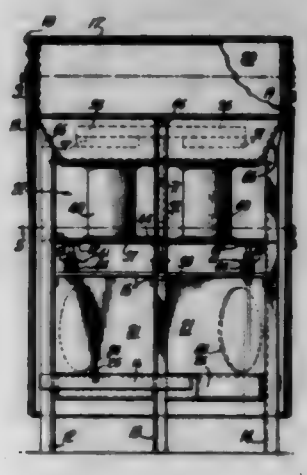
1. A pet transporting device comprising a substantially rectangular bag having a bottom, top, sides and front and rear portions, said front portion being permanently closed, said bag having a lengthwise opening therein extending along said top portion and partway along the rear end for insertion of a pet therethrough into the bag, said bag having opposite edges forming said opening and extending from the closed front end, a slide fastener mounted on said edges for closing said opening, said slide fastener being spaced from said closed end to provide for the head and neck of a pet extending out of said opening at said closed end of the bag, and strap means secured to said edges at the closed end of the bag for securing around a pet's neck extending out of said opening.

2,969,768
ANIMAL EXERCISER AND TRAINER
Frank L. Grant, 27851 Santa Barbara Drive, Lathrup Village, Mich.
Filed Nov. 17, 1958, Ser. No. 774,346
5 Claims. (Cl. 119—29)



1. An animal exerciser and trainer comprising an elongated enclosure having upright side and end walls, means for providing a floor within said enclosure below the upper edges of said side and end walls such that the upper edges of the side and end walls project above the floor to approximately shoulder height of an animal to be exercised and trained, an endless flexible linear member the top run of which constitutes a portion of said floor and is movable longitudinally of said enclosure, fixed floor members between the ends of the top run of said linear member and the end walls to complete the floor, drive means for said linear member, anti-friction support means for the top run of said linear member, the upper portions of said end walls constituting doors hinged at floor level for downward and outward swinging from upright position to provide ramps facilitating the movement of an animal to and from the enclosure, and releasable latch means for holding said doors in upright position, said enclosure being entirely open at the top and the ends thereof closed by said doors being entirely open and connecting directly with the open top of the enclosure when said doors are swung to the ramp-forming position aforesaid.

2,969,769
DOG FEEDER
L W Paschall, 1421 Vine St., Murray, Ky.
Filed Aug. 18, 1958, Ser. No. 755,728
6 Claims. (Cl. 119—56)

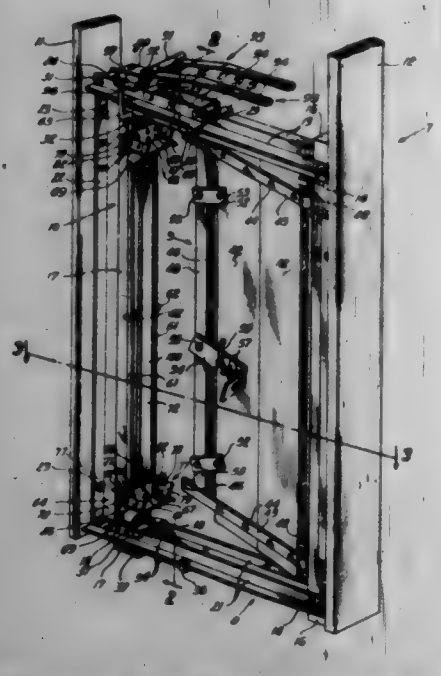


1. A feeding device for measuring and dispensing food for animals comprising, a feeding station, a hopper mounted in superposed relation above said feeding station, said hopper having a downwardly disposed outlet, a measuring container, a divider within said measuring container dividing said measuring container into a food receiving compartment and a food outlet compartment, said divider being substantially shorter than the height of said container, said food outlet compartment having a closure at its top and an opening at its bottom, said food receiving compartment having an opening at its top and an angularly disposed transversely positioned closure at its bottom for guiding food from said food receiving compartment into said food outlet compartment under said divider, said measuring container having a downwardly disposed outlet interposed between said feeding station and said hopper, plate means in engagement with said downwardly disposed outlet of said measuring container, said plate means having an aperture in communication with said feeding station, and means operable to move said measuring means to alternately place it in communication with said downwardly disposed outlet of said hopper and said aperture in said plate means.

2,969,770
STANCHION APPARATUS
Russell E. Collins, 311 S. Market, Oskaloosa, Iowa
Filed Jan. 16, 1958, Ser. No. 709,351
4 Claims. (Cl. 119—98)

1. A stanchion apparatus comprising a frame means, door means swingably attached at one side to a vertical side of said frame means and wherein the other side is horizontally spaced from the other vertical side of said frame means and has a horizontally extending catch member secured thereto, latch means movably attached to said frame means including a pair of horizontally spaced, vertically disposed rod members, a plate member secured to said frame means and being disposed between said rod members and said catch member and having a horizontally spaced pair of vertically elongated slots formed therein, a shelf-forming member secured to said frame means adjacent the base of said plate member and extending outwardly from said frame means in a position wherein said catch member moves horizontally

directly over said shelf member, and a pair of horizontally spaced keeper plates each pivotally secured at an outer end to said plate member a spaced distance above said shelf member and being pivotally secured at an inner end to a respective rod member by a pivot element extending through a respective slot, said rod members being free to fall a vertical distance limited by their pivot elements resting at the bottom of the slots whereupon the inner



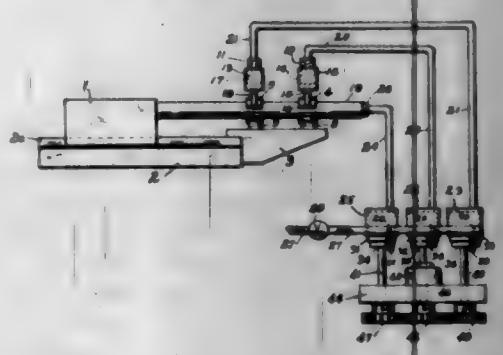
ends of said keeper plates lie adjacent the shelf member on either side of and in the path of horizontal movement of said door means catch member, and means secured to said frame means being connected to said rod members and being operable to move said rod members vertically upwardly whereby said keeper plates are pivotally moved upwardly and away from said shelf members and out of the horizontal path of movement of said catch member.

2,969,771
POWER HAMMER
Howard F. Caudill, Lutz, Fla., assignor to C. L. Guild Construction Co., Inc., a corporation of Rhode Island
Filed July 7, 1959, Ser. No. 825,496
3 Claims. (Cl. 121—30)



1. In a pile driving hammer having an upper cylinder and a lower cylinder, a valve block disposed between said cylinders and a piston disposed in said upper cylinder with a piston rod connected thereto and passing through said valve block into said lower cylinder and attached to a ram valve means for supplying motive fluid comprising two valve chambers located within said valve block, one of said chambers communicating with said upper cylinder, the other of said chambers communicating with said lower cylinder, valve plug means disposed within each valve chamber, a pair of passageways for supplying motive fluid to each valve chamber, means located within one of said passageways to close off said passageway and simultaneously vent the associated valve chamber whereby by the operation of said last named means the hammer may be changed from a double-acting hammer to a single-acting hammer.

2,969,772
FLUID OPERATED DEVICE
Daniel T. Cahill, Glen Head, N.Y., assignor to Specialties, Inc., Syosset, N.Y., a corporation of New York
Filed Jan. 5, 1960, Ser. No. 577
17 Claims. (Cl. 121—46)

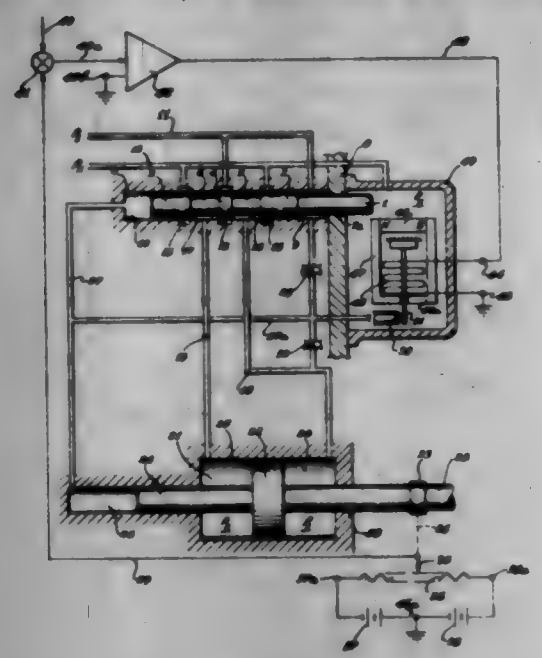


1. In an actuating device, a tubular member closed at one end, a first clamp for holding said member periodically against movement relative thereto, a second clamp spaced from said first clamp and adapted periodically to hold said member against movement relative to said second clamp, means for supplying fluid under pressure to said tubular member, means for actuating said clamps to cause clamping or release of said tubular member, and means to cause actuation of said fluid supplying means and said clamps in phased relationship to cause movement of said tubular member linearly relative to said clamps.

2,969,773
HYDRAULIC VALVE-CONTROLLED SERVO DEVICE
Augustus P. Henry, Los Angeles, Calif., assignor, by mesne assignments, to Kelsey-Hayes Company, Detroit, Mich., a corporation of Delaware
Filed May 3, 1956, Ser. No. 582,470
15 Claims. (Cl. 121—41)

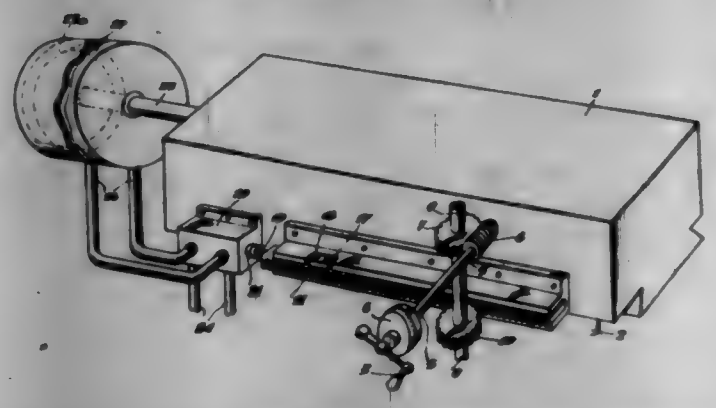
1. A hydraulically powered servo device comprising, in combination, an output means including an output member, a two-stage valve means for controlling motion of said output member, said valve means including a movable second stage valving element, an outer closed loop feedback, an error detection means included in said outer loop for continuously comparing the output position of said output member with the then existing input command to said device, means for ensuring operation responsive to the instantaneous error to induce a movement of said output member toward a position sufficiently in agreement with said input command as to reduce said instantaneous error substantially to zero, and further means for adapting said servo device for stable operation essentially insensitive to variations of load and also to ensure that stable operation is essentially independent of the configuration of the fluid metering ports internal of said valve means, said further means incorporating a tightly closed internal hydraulic feedback loop between said output member and said movable valving element,

said further means including means for modifying the position of the movable valving element as a function of



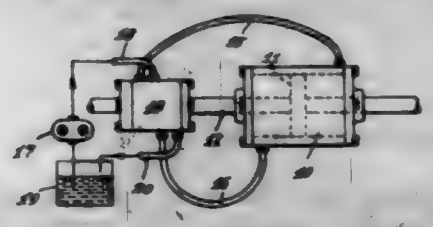
the intensity of the loading imposed on the output member.

2,969,774
SERVO-CONTROL MECHANISM OPERATING MEANS
Joseph B. Woodruff, Leeds, England, assignor to Hayes Engineers (Leeds) Limited, Leeds, England, a British company
Filed Aug. 26, 1957, Ser. No. 680,287
3 Claims. (Cl. 121—41)



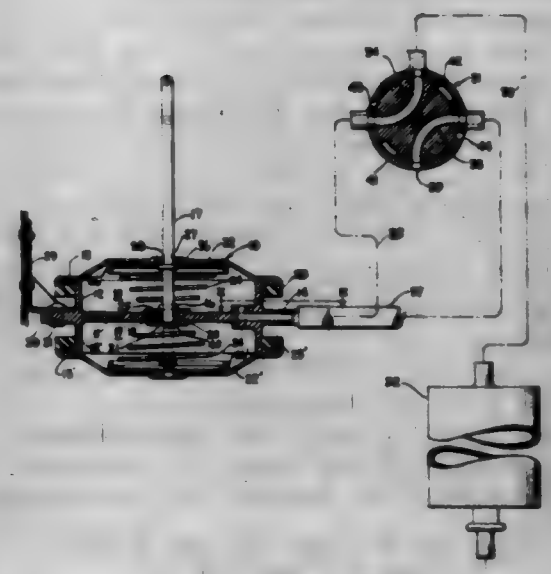
1. In a machine tool having a fixed support, a worktable connected to said fixed support for linear movement relative thereto, and a hydraulic system for moving said worktable relative to said support, said hydraulic system including a servo-control valve; means for operating said servo-control valve to cause movement of said worktable comprising two elements one of which is connected to said worktable and the other of which is connected to said support, one of said elements being a rack mounted for limited longitudinal movement in a direction parallel to the direction of movement of said worktable to control the operation of said control valve and the other of said elements being rotary operating means, said rotary operating means comprising a pair of spindles mounted at right angles to each other and geared together by a worm gear secured to a first one of said spindles and a pinion secured to the other of said spindles, said other spindle having a gear wheel thereon connected thereto by means of a spring-loaded friction clutch, said gear wheel being in meshed engagement with said rack, whereby initial movement of the rotary operating means causes the rack to move slightly longitudinally to operate the control valve to move the worktable so long as the movement of the rotary operating means is continued.

2,969,775
VALVE
Richard K. Thelen, Lafayette, Ind., assignor to Ross Gear and Tool Company, Inc., Lafayette, Ind., a corporation of Indiana
Filed Sept. 23, 1957, Ser. No. 685,705
14 Claims. (Cl. 121—46.5)



1. A flow-controlling valve, comprising a housing having a bore and provided with three axially spaced ports communicating with said bore, the intermediate one of said ports serving as an inlet port adapted for connection to a source of fluid and the other ports being motor ports adapted for connection to a reversible hydraulic motor, a valve member extending and axially slidable in said bore, and means operated by axial movement of said valve member for controlling the division between the motor ports of fluid supplied to said inlet port, said means comprising a ring in sealing engagement with the wall of said bore and overlying one of said ports, said ring having a radial passage providing communication between the interior of the ring and the port overlain thereby, said valve member having a land radially overlapping one end face of said ring and movable with the valve member toward and away from engagement with such end face, said housing being provided with an outlet port and said valve having passage means for conveying to said outlet port fluid which enters the inlet port and does not flow through one or the other of said motor ports, said ring when not engaged by said land being freely slidable in said bore under the influence of differential fluid pressures acting respectively on its end faces.

2,969,776
FLUID MOTOR
William C. Riester, Williamsville, N.Y., assignor to Trico Products Corporation, Buffalo, N.Y.
Filed Jan. 12, 1959, Ser. No. 786,380
7 Claims. (Cl. 121—48)



5. A fluid pressure motor comprising a base member having opposed dished surfaces, an apertured flexible diaphragm adapted to extend across each dished surface whereby said base member and said diaphragms form two adjacent chambers, conduit connections to said chambers, an aperture in said base member, a shaft member extending through said aperture in said base member and through an aperture in one of said flexible diaphragms,

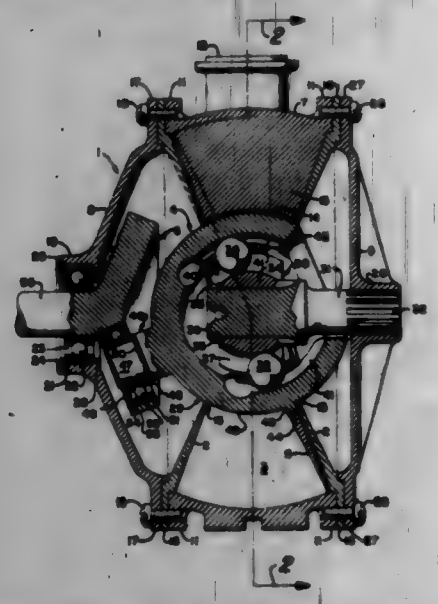
spring means extending between said base member and each of said diaphragms, and a member positioned between each of said spring means and said diaphragms, one of said members having an aperture therein in alignment with the aperture in said flexible diaphragm for permitting said shaft to extend therethrough, the other of said members blocking the aperture in the other of said diaphragms.

2,969,777

UNIVERSAL JOINT SUSPENSION FOR NUTATING DISKS

George F. Blaza, Phoenix, Ariz., assignor to The Garrett Corporation, Los Angeles, Calif., a corporation of California

Filed July 17, 1958, Ser. No. 749,272
14 Claims. (Cl. 121—69)



14. In a fluid pressure energy translating device, the combination comprising: a housing defining a chamber having inlet and outlet passages, and a flow-dividing wall extending transversely of the chamber at one side between said inlet and outlet passages; a shaft member rigidly secured to said housing and projecting into said chamber; an inner spherical element rigidly supported by said shaft member; an outer hollow spherical element surrounding said inner spherical element, said inner and outer elements having registering external and internal grooves, respectively, formed therein; a ball element confined in each set of registering grooves, said ball and groove relationship providing for nutating movement of said outer spherical element; disk means provided on said outer spherical element for nutating movement therewith; an output shaft journalled in said housing; and motion transmitting means connecting said outer spherical element and said output shaft, said motion transmitting means translating the nutating motion of said outer spherical element into rotary movement of said output shaft.

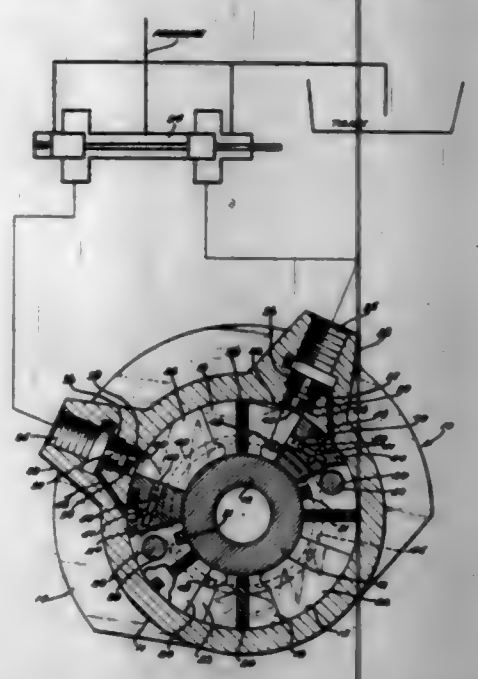
2,969,778

HYDRAULIC ROTARY ACTUATOR

Edward L. Klopfer, North Evans, N.Y., assignor to Houdaille Industries, Inc., Buffalo, N.Y., a corporation of Michigan

Filed Apr. 15, 1957, Ser. No. 652,951
3 Claims. (Cl. 121—99)

3. In a hydraulic actuator for aircraft and the like, a housing having a cylindrical inner wall, a rotary piston within said housing having diametrically opposed vanes slidably engageable with said inner wall and sealed thereto, diametrically opposed fluid reaction abutments abutting said inner wall between said vanes and extending inwardly therefrom to said piston, circumferentially spaced inlets leading into said housing on opposite sides of one of said vanes, annular passageways having communication with said inlets and connecting complemental working chambers together, said one vane closing off said inlets upon movement of said vane toward said abutments, damping orifices disposed between said inlets and said abutments and damping movement of said vanes as they approach said abutments, each of said abutments having a passageway leading thereinto from



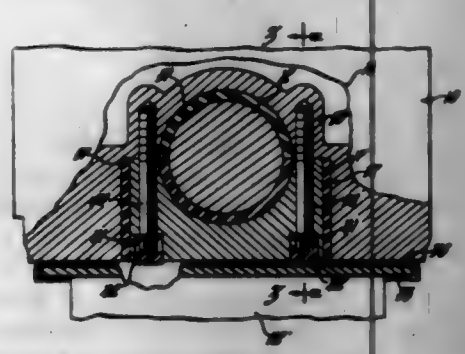
the face thereof adjacent said one vane and having communication with said inlet, and check valves in said passageways blocking the flow of fluid into said abutments through the adjacent faces thereof and accommodating the flow of fluid out through said abutments through said by-pass passageways upon movement of said one vane away from said abutments.

2,969,779

INTERNAL COMBUSTION ENGINE CRANKSHAFT SEALING MEANS

Robert L. Hauser, Pontiac, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

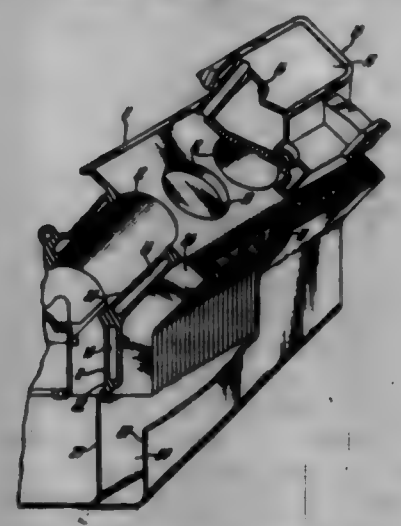
Filed Dec. 30, 1959, Ser. No. 862,881
3 Claims. (Cl. 121—194)



1. A main bearing seal for the crankshaft of an internal combustion engine having a crankcase formed to provide a bearing including a bearing cap and in which bearing a journal of said crankshaft is supported and through which the driving end of said crankshaft projects outwardly of said crankcase through a seal supporting extension of said bearing and in which engine the lower part of said crankcase is closed by an oil pan having a flange secured to the lower edges of said crankcase and said bearing cap and in which engine bolts are employed to secure said bearing cap to said crankcase opposite said flange and comprising, a rotary seal engaging the end of said crankshaft outwardly of said bearing but within said extension, another pair of bolts extending through openings in said bearing cap on opposite sides of said seal

and having the heads of said bolts disposed in recesses in said flange supporting edge of said bearing cap and in directly opposed relation to said oil pan flange, and means within said recesses and engaging and being compressed between said heads and said flange and sealing said recesses against the leakage of oil through said openings and said recesses and between said lower edge of said bearing cap and said flange.

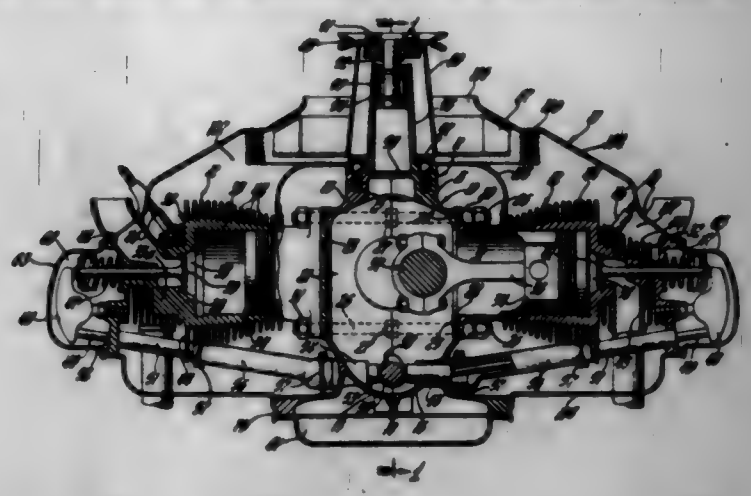
2,969,780
ENGINE COOLING SYSTEM
Floyd A. Wyczalek, Birmingham, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Jan. 12, 1959, Ser. No. 786,865
8 Claims. (Cl. 123—41.57)



1. An internal combustion engine comprising wall means forming a cylinder member and a head member, said members within said wall means providing a cylinder and a cavity and a passage, said cavity being formed in said wall means between said cylinder and said passage, said cylinder having a reciprocating piston therein for compressing and expanding and exhausting combustible charges admitted to said cylinder, said cavity being adapted to contain cooling fluid for absorbing heat resulting from the operation of said engine, said passage having fins formed in said wall means along the length of said passage and from the cooler to the hotter parts of said wall means to divide said passage into a plurality of passages defined by said fins and said wall means, said wall means embracing an outer wall enclosing said fins with said fins being disposed to extend entirely across said passages within said outer wall, said passage providing cooling fluid circulating means for said engine, said cooling fluid circulating means being adapted to circulate one cooling fluid along the length of said passage and between said fins and in thermal contact with said wall means and said fins and by conduction of heat through said wall means to cool another cooling fluid in said cavity means, said cooling fluid circulating means circulating said cooling fluid in said passage along the length of said passage and said fins and from the cooler to the hotter parts of said wall means.

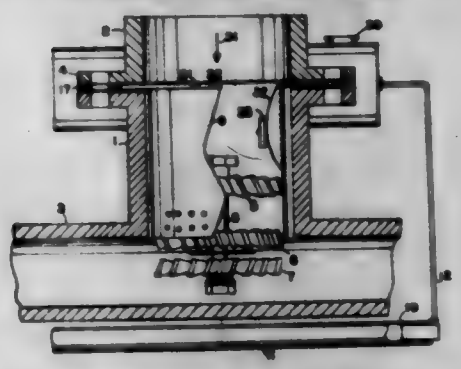
2,969,781
INTERNAL COMBUSTION ENGINE
Adelbert E. Kolbe, Berkley, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Original application Dec. 31, 1958, Ser. No. 784,217. Divided and this application Sept. 25, 1959, Ser. No. 842,389
4 Claims. (Cl. 123—41.69)

1. An internal combustion engine comprising a crankcase having a crankshaft mounted therein and a cylinder having a piston mounted therein, a connecting rod connecting said piston and said crankshaft, said cylinder being formed to provide an integral head, solid wall means embracing said cylinder and said head and having fins formed externally thereon, a combustion chamber formed in said cylinder and between said piston and said head for burning combustible charges supplied to said cylinder, an intake passage formed in said head and communicating with said combustion chamber for supplying said combustible charges to said cylinder, a valve in said head and controlling the communication between



said passage and said combustion chamber, said wall means adjacent said combustion chamber and said intake passage and said valve and inwardly of said fins being thicker than in parts of said cylinder and said head remote from said combustion chamber and said intake passage and said valve, said wall means being adapted to conduct heat resulting from said burning radially and axially of said cylinder and axially of said intake passage and away from said combustion chamber and said valve to said fins throughout said cylinder and said head.

2,969,782
ANTI SMOG MEANS
Joseph S. Falzone, 62 Crescent Court, Old Bethpage, N.Y.
Filed Mar. 9, 1960, Ser. No. 13,882
2 Claims. (Cl. 123—119)

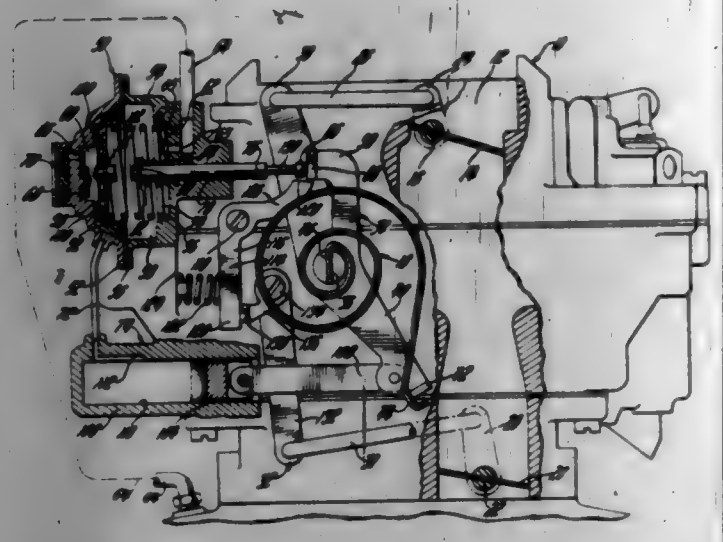


1. Anti smog means for internal combustion engines of the type having a carburetor, an intake manifold and an exhaust pipe comprising a filter mounted in said exhaust pipe, a mixer connected between said carburetor and said intake manifold, and means connecting said filter to the input side of said mixer, including a tank connected to the input side of said mixer and a pipe connecting said filter to said tank, a portion of said filter being blocked off.

2,969,783
CHOKE ACTUATING MECHANISM
Adolph F. Braun, Pittsford, N.Y., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Aug. 13, 1958, Ser. No. 754,841
12 Claims. (Cl. 123—119)

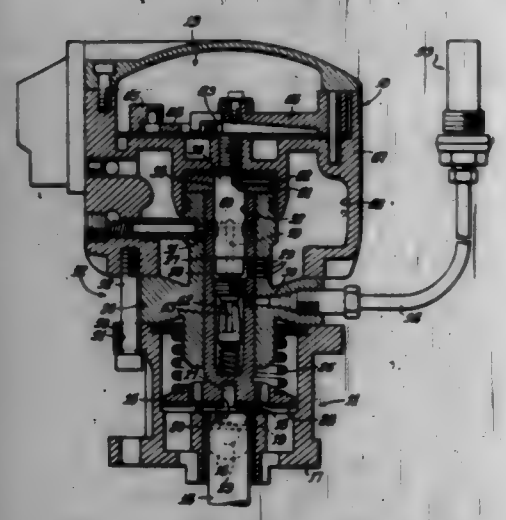
1. A charge forming device for an internal combustion engine comprising an induction passage, a throttle valve

rotatably disposed in said passage, a choke valve rotatably mounted in said passage, a temperature responsive element operatively connected to said choke valve and adapted to urge the same in a closing direction with a force inversely proportional to engine temperature, a first servo mechanism adapted to move said choke valve to a partially opened position when said engine becomes



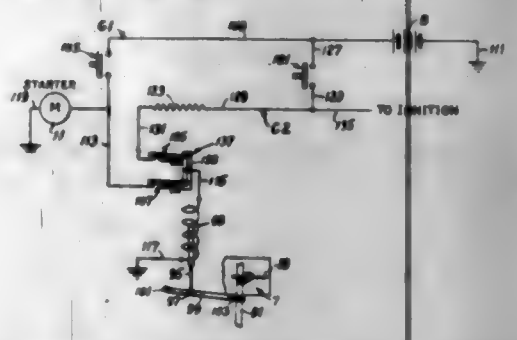
operative, a second servo device operatively connected to said choke valve and adapted to move said choke valve in a closing direction when the load on said engine exceeds a predetermined value, and a throttle controlled device adapted to coact with said choke valve to prevent said second servo device from moving said choke valve to a fully closed position.

2,969,784
FUEL INJECTION MECHANISM
Carl F. High, Detroit, Mich., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Filed Mar. 13, 1958, Ser. No. 721,197
4 Claims. (Cl. 123—139)



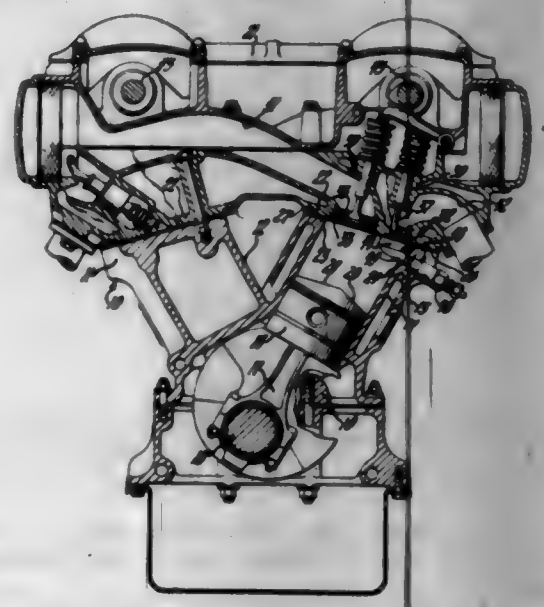
1. In a fuel injection system for supplying charges of fuel in timed relationship to a plurality of nozzles, a fuel injector pump comprising a pump body, a rotatable and reciprocative hollow plunger disposed within said pump body, a fuel metering valve disposed on one end of said plunger and having a core extending into a central cavity formed in said plunger, a second valve disposed within the hollow central cavity of said plunger, and fuel supply means for said plunger, said second valve being effective to prevent delivery of fuel from said supply means to said nozzles until the fuel has been metered by said metering valve.

2,969,785
CHOKE SYSTEM
Martin E. Fuchs and Harry J. Hertling, St. Louis, Mo., assignors to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey
Filed Jan. 5, 1959, Ser. No. 784,972
3 Claims. (Cl. 123—179)



1. In a fuel system for an internal combustion engine, a carburetor having a mixture conduit, a choke valve in said conduit, means biasing said choke valve to its open position, a solenoid operable to move said choke valve toward its closed position, a source of current, a first electrical circuit leading from said source of current to said solenoid, an engine starter switch and a first engine temperature responsive switch in said first circuit operable to energize said solenoid to move said choke valve to its closed position, a second electrical circuit leading from said source of current to said solenoid, an engine ignition switch, an electrical resistance coil, and a second engine temperature responsive switch in said second circuit operable to energize said solenoid to move said choke valve to its partly closed position, said first and second temperature responsive switches being initially in closed position, and each being movable to its open position responsive to an increase in temperature, said first temperature responsive switch being operable at a relatively lower temperature than said second switch.

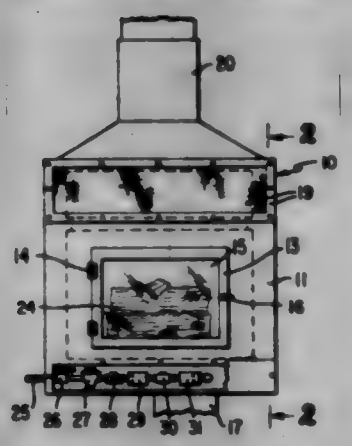
2,969,786
COMBUSTION CHAMBERS FOR ENGINES
John Dolza, Fenton, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Original application Jan. 19, 1955, Ser. No. 482,794, now Patent No. 2,865,341, dated Dec. 23, 1958. Divided and this application May 29, 1958, Ser. No. 738,865
7 Claims. (Cl. 123—191)



7. An internal combustion engine comprising, a cylinder having inner side wall means and an obliquely disposed end and a recess formed by a surface of revolution about an axis normal to said end, said end being disposed in a plane including a diameter of said cyl-

inder, a head secured to said end of said cylinder and having plane inner wall means closing said end of said cylinder, a piston having obliquely disposed plane end wall means on opposite sides of said diameter of said cylinder and reciprocably mounted in said cylinder and having an outer dead center position in said cylinder, said wall means of said head and said cylinder including said recess and said piston at said outer dead center position of said piston in said cylinder being spaced to provide combustion chamber means for said cylinder, a pair of valves having plane inner wall means forming substantially a continuation of said plane inner wall means of said head and mounted in said head and opening into said combustion chamber means through valve seat means in said inner wall means of said head and having opening and closing movements in said combustion chamber means normal to said end of said cylinder and said head, a spark plug in said head and projecting into said combustion chamber means through said inner wall means of said head, one of said end wall means of said piston being spaced from and parallel to said inner wall means of said head and said valves to provide minimum mechanical clearance space forming a part of said combustion chamber means between said head and said piston, said combustion chamber means including said cylinder recess being disposed largely between said piston and said cylinder and said head on the side of said cylinder opposite said minimum mechanical clearance space and in directly opposed relation to said ignition chamber means and said spark plug.

2,969,787
AIR-HEATER AND SAFETY FEATURE FOR SAME
Raymond R. Dupler, 744 Euclid Ave., Toledo, Ohio
Filed July 27, 1959, Ser. No. 829,761
4 Claims. (Cl. 126—92)



1. In a furnace of the character described having an open front heating chamber containing gas logs or the like the flames of which are viewed through the open front and a transparent panel covering the front opening of the heating chamber, the improvement which comprises shatterable tempered glass constituting the transparent panel, means controlling the flow of fuel to the gas logs including a normally closed valve adapted to be opened in response to electrical energization, and an electrical circuit including said valve and having a portion incorporated in the shatterable glass panel so that upon shattering of the panel the fuel supply is instantly shut off.

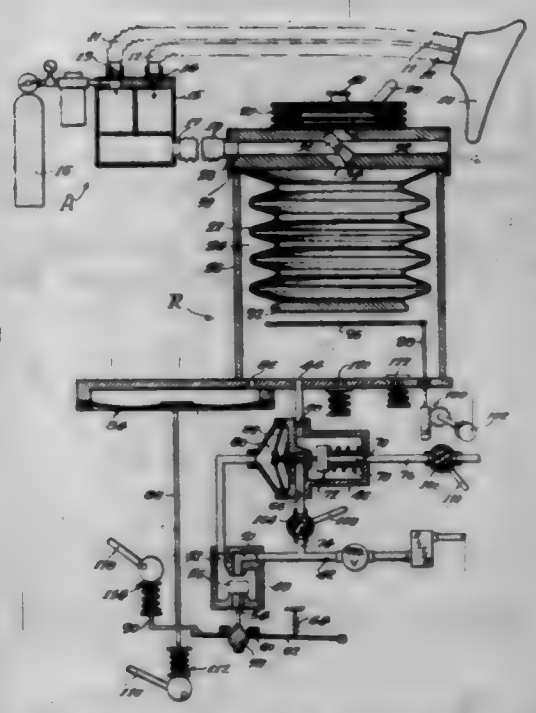
2,969,788
SOLAR ENERGY COLLECTORS
Alwin B. Newton, Wichita, Kans., assignor to The Coleman Company, Inc., Wichita, Kans., a corporation of Kansas
Filed July 1, 1957, Ser. No. 669,150
4 Claims. (Cl. 126—271)

1. In a high temperature solar energy collector, a casing providing a chamber therein and equipped with a transparent cover for admitting sun-light into said chamber, a series of elongated parallel reflectors mounted within said chamber, said reflectors each comprising a pair of downwardly and outwardly diverging side plates independently mounted upon said casing for pivotal movement about the lower edges thereof and being reflective



on opposite surfaces thereof, a plurality of elongated heat collecting tubes each mounted within said casing between the lower edges of the side plates of adjacent reflectors, and means for simultaneously pivoting said plates into selected positions for concentrating solar rays upon said heat collecting tubes.

2,969,789
RESPIRATOR
Ernst Trier Mörch, 5816 S. Blackstone Ave., Chicago 37, Ill.
Filed Mar. 23, 1956, Ser. No. 573,514
10 Claims. (Cl. 128—29)



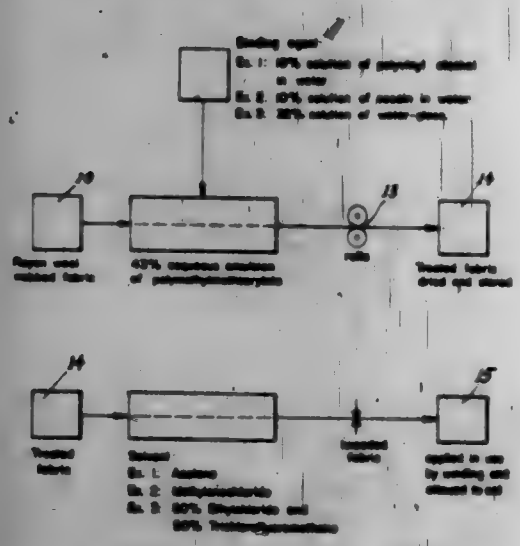
1. In a respiratory means, in combination, breathing bag means, a weight carried by said breathing bag means for normally distending the same, means for contracting said breathing bag means, said contracting means and said weight alternately actuating said breathing bag means whereby alternating positive and negative pressures are created within said breathing bag means, said weight subsequent to contraction of the bag means causing a relatively rapid initial distention of said bag means for producing a relatively sharp initial drop in pressure in said bag means and for causing the pressure in said bag means to decrease pursuant to an exponential function.

2,969,790
SURGICAL TRACTION BOOT
Phyllis Reddig, 806 N. 21st St., Boise, Idaho
Filed Feb. 12, 1960, Ser. No. 8,348
6 Claims. (Cl. 128—84)



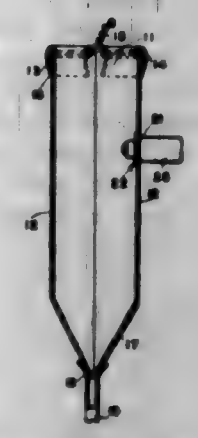
1. A surgical traction boot comprising, in combination, a legging member of fabric material having a longitudinal opening along its forward portion with securing means extending therealong and terminating at its lower end in an ankle portion; a foot member having a sole portion and a longitudinal opening along its upper portion in line with said longitudinal opening of the legging member and having securing means extending therealong, said foot member being open at its forward end to have extend therethrough the toes and forward portion of a foot, the rear portion of said foot member being secured to the ankle portion of said legging member; a tongue having a longitudinal edge thereof secured to an adjacent inside portion of the legging member and the foot member along one edge of said openings therein; and a traction attachment tab of fabric material secured at its upper end to the sole portion of said foot member, said tab adapted to be engaged by a traction force.

2,969,791
RIGID SUPPORTING DRESSING
Bo Thuresson Af Ekenstam, Bofors, Allan Richard Benjamin Furendal, Karlskoga, and Bror Holger Fredrik Von Fieandt, Upplands-Vasby, Sweden, assignors to Aktiebolaget Bofors, Bofors, Sweden, a corporation of Sweden
Filed Apr. 30, 1957, Ser. No. 655,965
Claims priority, application Sweden Apr. 30, 1956
21 Claims. (Cl. 128—90)



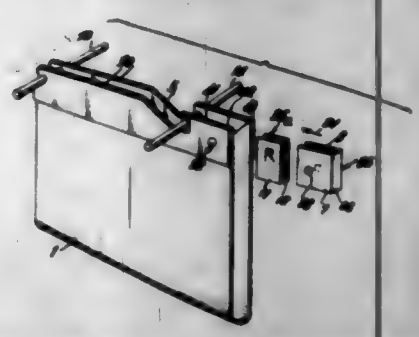
14. Method of manufacturing an article of the class described which comprises coating textile material with an aqueous emulsion comprising a dispersion of polymethylmethacrylate, including a binding agent which is insoluble in a solvent for the aforesaid plastic.

2,969,792
DISPOSABLE SYRINGE AND DETACHABLE RECEPTACLE
Charles J. Milton, 4200 Anderson Road, Coral Gables, Fla.
Filed May 19, 1958, Ser. No. 736,148
9 Claims. (Cl. 128—227)



9. A disposable syringe of the class described including a bag having a mouth for introducing liquid thereto and a tube for discharging liquid therefrom, an opening in said bag, a support member secured to said bag and encircling said opening, said support member including tubular means projecting into said opening, a pre-filled medicament container having a discharge outlet, and coacting means on the container and the support member securing said outlet in sealed contact with said tubular means and thereby establishing communication for discharge of the contents of said container into said bag.

2,969,793
SUSPENSION FILE ELEMENT WITH INDICIA CARRIER
Werner H. Fürrer, Kusnacht, Zurich, Switzerland, assignor to Rud. Fürrer Söhne A.G., Zurich, Switzerland, a company of Switzerland
Filed Aug. 18, 1954, Ser. No. 450,737
Claims priority, application Switzerland June 18, 1954
1 Claim. (Cl. 129—16.7)



In a hanging file system; an elongated flat and rectangular strip, a suspension element secured to said strip and depending therefrom, said strip having a front edge and an upper edge, a stud secured to said strip and equally spaced from said front edge and from said upper edge, said stud having heads located on each side of said strip and projecting therebeyond, a transparent U-shaped band having a central wall portion and spaced side wall portions interconnected by and extending from said central wall portion, said central wall portion in a first position lying parallel to said front edge of said strip, said wall portions having aligned openings receiving therein said projecting stud heads thereby to retain said band in said first position with said band straddling and detachably engaging said strip, said openings of said band being spaced from said central wall portion a distance equal to the spacing between said stud and each of said front and upper edges, said central wall portion extending parallel to said upper edge of said strip in a second position, and a substantially

U-shaped imperforate indicia carrier disposed between said strip and said transparent band and extending along substantially the entire height of and held in place by the latter, while embracing a predetermined portion of said strip, said indicia carrier having a central wall portion wide enough to carry indicia and being narrower than the corresponding central wall portion of said band, said central wall portion of said indicia carrier abutting against said front edge and against said upper edge of said strip, selectively, in said first and second positions.

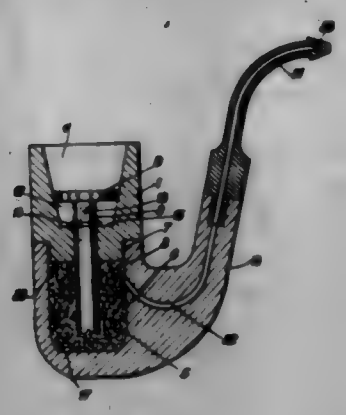
2,969,794
TOBACCO PROCESSING
Raymond R. Colton, 60 W. 68th St., and Irwin W. Scopp, 4 Stuyvesant Oval, both of New York, N.Y.
No Drawing. Filed Apr. 14, 1958, Ser. No. 728,047
7 Claims. (Cl. 131—140)

1. In the processing of tobacco, the improvement comprising incorporating with said tobacco a silicone during said processing, the amount of said silicone being sufficient to reduce variations in the moisture content of said tobacco.

2,969,795
CASING COMPOSITIONS
Sidney W. Dean, Jr., 27 Washington Square N., New York, N.Y.
No Drawing. Filed Aug. 21, 1959, Ser. No. 835,175
6 Claims. (Cl. 131—144)

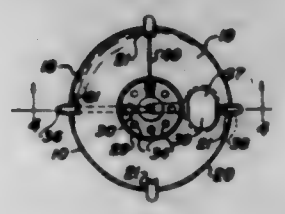
1. A liquid casing composition for tobacco, said composition containing flavoring substances, volatile aromatizing substances and a humectant, and having intimately intermixed therewith, as a stabilizer for said casing composition, a silicone.

2,969,796
SMOKING IMPLEMENT WITH FILTER
Carl Klopp, Unter den Linden 1, Frankfurt am Main, Germany
Filed Dec. 6, 1957, Ser. No. 701,117
1 Claim. (Cl. 131—205)



A tobacco pipe comprising a bowl having a lower filter chamber provided with an opening in a wall portion communicating with a smoke duct in a stem portion of the pipe, said chamber having an upper centrally apertured closure with an upper surface providing the lower wall of a tobacco chamber formed with an upwardly diverging conical wall and located above the filter chamber, and an insert comprising a vertically disposed hollow tube open at the bottom and closed at the top end and having a foraminous disc affixed to said top end so that the plane of the disc is perpendicular to the longitudinal axis of the tube, said insert having a shoulder flange spaced below the disc and said tube having at least one smoke-passing aperture in the wall portion thereof located between the shoulder flange and the disc, the diameters of the aperture in the closure wall of the filter chamber, of the tube, of the shoulder flange, of the disc and of the tobacco chamber being such that when the insert is placed in the bowl the shoulder flange will rest on the bottom of the tobacco chamber to position the disc so that the outer periphery thereof will contact the inner surface of the conical wall of the tobacco chamber and the bottom end of the insert will extend into the filter chamber whereby smoke may be drawn through the foraminous disc, into the hollow tube through the aperture between the shoulder flange and the disc, downwardly into the filter chamber and through the duct in the stem portion of the pipe.

2,969,797
ASH TRAY
John William Smith, Driftwood, Pa.
Filed Apr. 17, 1959, Ser. No. 807,234
1 Claim. (Cl. 131—242)



In an ash tray mounted upon a post mounted upon a base and having a tray mounted on the post below an ash receptacle, the improvement comprising a closure for said receptacle comprising a dish shaped member having a depending peripheral sleeve adapted to rest upon said receptacle and having an upstanding annular rim adapted to confine and center a rotatable base member therewithin, the base having a plurality of apertures extending vertically therethrough adapted to register with similar apertures in said closure, the base member having means supporting a vertical rod having a handle spaced thereabove, the rod also supporting a vertically disposed scraping member positioned within the dish shaped member between the annular rim and the periphery of the member, said closure having a relatively large opening adapted to be traversed by said scraping member whereby rotation of said handle will cause the base to be rotated to place the apertures in registration to pass extinguished butts in the base apertures to the receptacle and will also cause said scraper to move ashes and debris around on said closure to deposit the same into said receptacle through said relatively larger aperture.

2,969,798
UMBRELLA FRAME
Julius Kremer, Solingen-Wald, Germany, assignor to Kortenbach & Rauh Kommanditgesellschaft, Solingen-Weyer, Germany
Filed June 10, 1957, Ser. No. 664,573
Claims priority, application Germany Oct. 26, 1956
1 Claim. (Cl. 135—23)

In an umbrella frame: a first stick member, a second stick member telescopically arranged within said first stick member, said stick members being telescopically displaceable relative to each other, a plurality of ribs, first link means linking one end of said ribs to said second stick member, a plurality of stays, second link means linking one end of said stays to said first stick member, third link means linking the other ends of said stays to said ribs, latch means in form of a pawl having a first nose and a second nose, said latch means being arranged inside said first stick member and being adapted to cause said first nose to enter said second stick member for locking the latter to said first stick member, spring means associated with said latch means for continuously urging

said first nose when engaging said second stick member to maintain locking engagement therewith, sleeve means slidably mounted on said first stick member and operable to engage said second nose to thereby tilt said latch means



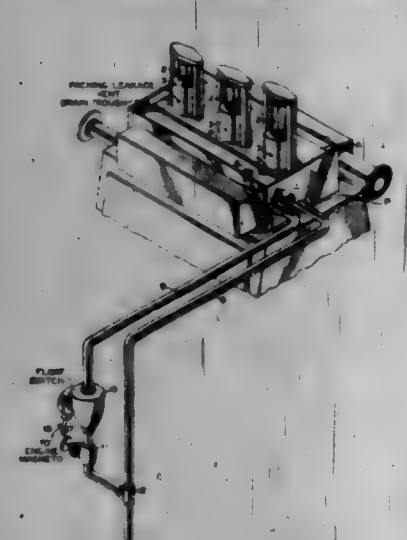
so as to remove said first nose from locking engagement with said second stick member, and a plurality of tension springs, each of said tension springs resiliently connecting one of said stays with the respective adjacent rib.

2,969,799

PUMPING SYSTEM

Charles H. Kangas, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Dec. 28, 1954, Ser. No. 478,082
9 Claims. (Cl. 137—2)



4. A method for controlling a positive displacement pump so that a normal leakage which can be tolerated does not cause shutting down of said pump but an excessive undesirably large leakage does cause the pump to shut down which comprises shutting down a positive displacement type pump, containing a fluid, when an undesirable amount of fluid leaks therefrom around a fluid seal means, comprising passing such leakage of fluid into a fluid receiving zone, withdrawing flow of leaked fluid from said zone at a maximum predetermined normal rate from a first level in said zone; accumulating any undesired excess of leakage in said zone until it rises therein to a second and higher level and then withdrawing same from said higher level as a separate column of fluid, measuring level of said separate column and in response to a predetermined measured level terminating flow of energy to the prime mover of said pump, thereby terminating the pumping operation so as to enable alteration of seal means to prevent further undesirable leakage.

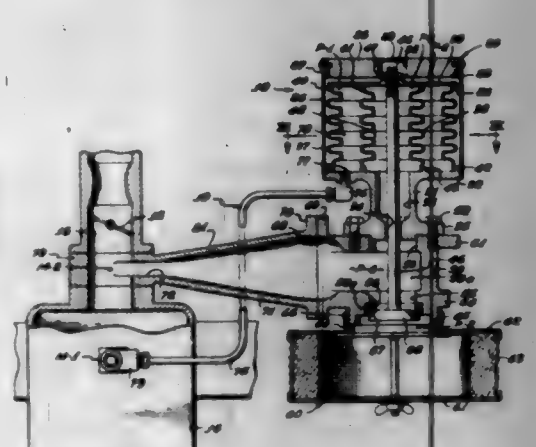
5. A method for controlling a positive displacement pump so that a normal leakage which can be tolerated does not cause shutting down of said pump but an excessive undesirably large leakage does cause the pump to shut down which comprises shutting down a positive displacement type pump, containing a fluid, when an undesirable amount of fluid leaks around a fluid seal means, comprising passing such leakage of fluid into a fluid receiving zone, conducting flow of leaked fluid as a column at a normal predetermined maximum rate from said receiving zone; measuring level of said column of fluid and in response to a predetermined high level due to an undesirably high rate of leakage terminating flow of energy to the prime mover of said pump thereby terminating the pumping operation so as to enable alteration of seal means to prevent further undesirable leakage.

2,969,800

CONTROL MEANS AND METHOD TO MAINTAIN PREDETERMINED PRESSURE IN A PRESSURE ZONE

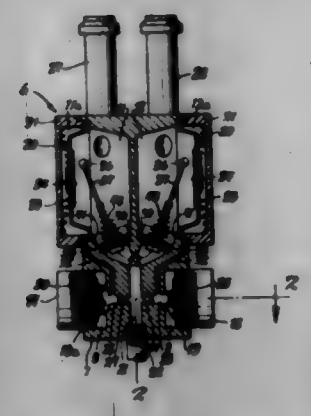
Clifford D. Skirvin and Weldon B. Allbaugh, Pomona, Calif., assignors, by mesne assignments, to B. H. Hadley, Inc., Pomona, Calif., a corporation of Delaware

Filed May 31, 1955, Ser. No. 512,136
13 Claims. (Cl. 137—7)



1. A control means for use with an internal combustion engine having carburetor means to introduce fuel mixture into intake manifold means to maintain manifold pressure at a predetermined subatmospheric pressure comprising a first passageway means in communication with the manifold means at a pressure-sensing point; a second passageway means in communication with the manifold means upstream from said pressure-sensing point; pressure responsive means including a hollow valve body provided with a chamber ported to atmosphere; a bellows means in said chamber comprising inner and outer concentrically arranged bellows members defining an outer annular bellows chamber and an inner bellows chamber; a bellows head connected to one end of said bellows means; means connecting said second passageway means to said inner bellows chamber; a valve means connected to the bellows head and extending through the inner bellows chamber into said second passageway means; a valve port in said second passageway means; and a valve head on said valve means for cooperable engagement with said valve port, said outer annular bellows chamber being connected in communication with said first passageway means whereby pressure sensed at said sensing point is transmitted to said bellows means for actuation of said valve means to controllably open said valve port to admit air under atmospheric pressure upstream of the sensing point.

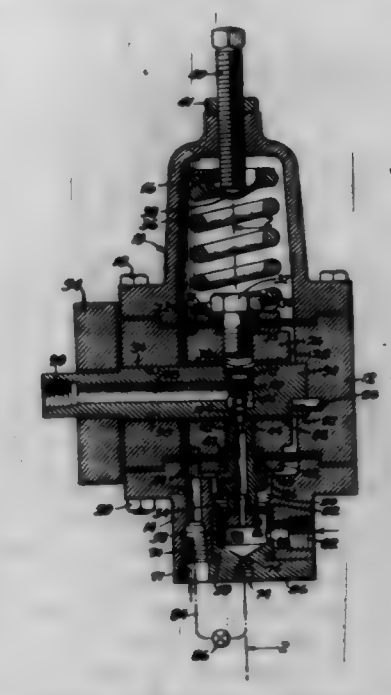
2,969,801
REGULATOR
Richard D. Cummins, Tonawanda, N.Y., assignor to Firewel Development Company, Buffalo, N.Y., a co-partnership
Filed Jan. 17, 1958, Ser. No. 709,683
2 Claims. (Cl. 137—64)



1. A regulator comprising a body portion formed to provide a first inlet passageway for the supply of pressurized oxygen to the regulator, a pair of demand valves each having a first chamber connected to an outlet and a second chamber, a diaphragm separating each of said first and second chambers and each said demand valve in said first chambers being responsive to movement of its respective diaphragm for providing communication between each said first chamber and said first pressurized oxygen supply passageway, said body portion being formed to provide a pair of recesses each of which is open to atmospheric pressure and is in communication with said first pressurized oxygen supply passageway via a second passageway, an evacuated bellows arranged within each recess and responsive to a given atmospheric pressure therein, means attaching one end of each of said bellows to said body portion, each of said bellows having a facing at its other end for engaging an outwardly facing seat upon the end of the corresponding second passageway, and resilient means within said bellows biasing said facing against said seat to disrupt the communication between the recess and the corresponding second passageway, said body portion also being formed to provide a third passageway providing communication between each second passageway and each said second chamber of each demand valve.

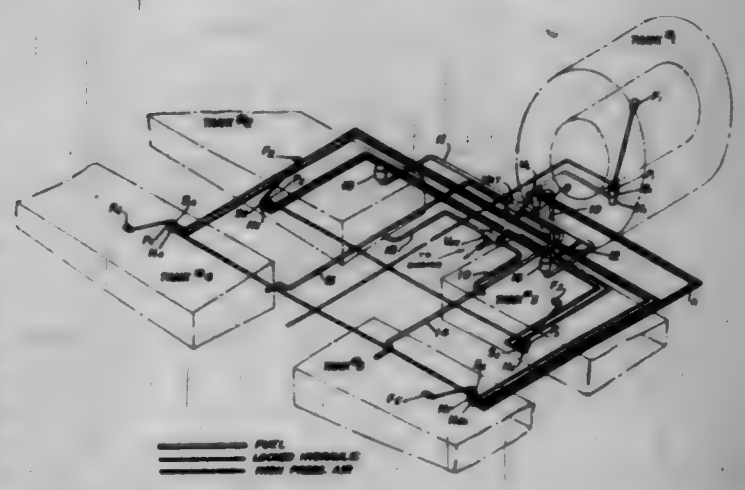
2,969,802
DIRECT OPERATED RESET PILOT
Herbert G. Rich, Marshalltown, Iowa, assignor to Fisher Governor Company, a corporation of Iowa
Filed June 30, 1958, Ser. No. 745,416
8 Claims. (Cl. 137—85)

8. A direct operated reset pilot for automatically controlling the operation of a pressure loaded valve in a main fluid flow line, said pilot comprising a hollow valve body, a pair of movable wall members mounted within said valve body in spaced relation to define an output pressure chamber, a body member secured to said wall members for movement therewith, a further movable wall member defining with one of said pair of wall members a volume pressure chamber, a control pressure chamber defined within said valve body at the side of said last named movable wall opposite said volume chamber, internal passage means interconnecting said last named movable wall with said body member and providing flow communication between said output pressure chamber and said control pressure chamber, first inlet conduit means for admission of pressure fluid from the upstream side of a main fluid flow line into said output pressure chamber, second inlet conduit means for admission of pressure fluid from the downstream side of a main fluid flow line to said control pressure chamber, one of said pair of movable wall members being responsive to change in pressure within said control pressure chamber to effect a slight pressure response movement of said body member in accordance therewith, double-action valve means operative in response to movement of said body member to control the admission of upstream and downstream



pressure fluid from said first and second inlet conduit means into said output pressure chamber, and bleed flow means communicating said volume pressure chamber with one of said other pressure chambers and having a flow restriction therein for desentizing the pressure change within said output pressure chamber in response to changes in pressure within said control pressure chamber.

2,969,803
CENTER OF GRAVITY FUEL CONTROL SYSTEM
James K. Mosher, Pasadena, Calif., assignor to Schulz Tool and Manufacturing Co., a corporation of California
Filed Mar. 22, 1956, Ser. No. 573,254
17 Claims. (Cl. 137—98)

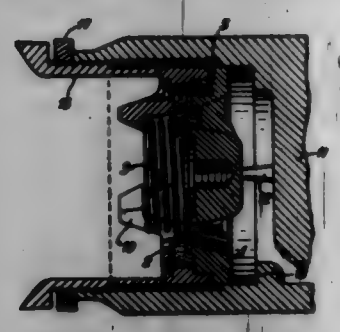


7. In a fuel control system for an aircraft, in combination: means comprising fuel tanks arranged transversely relative to a longitudinal axis through the center of gravity of the aircraft; means comprising fuel tanks spaced longitudinally relative to a transverse axis through the center of gravity of the aircraft; means comprising a three-way valve whereby transversely arranged tanks feed fuel to the aircraft power plant; and means whereby said longitudinally spaced tanks feed fuel directly into said transversely arranged tanks.

2,969,804
AUTOMATIC VALVE FOR AIR PUMPS AND THE LIKE

Fritz Tolkien, 4 Brahmsstrasse, Hannover, Germany

Filed May 19, 1955, Ser. No. 509,606
Public Law 619, Aug. 23, 1954
Patent expires Dec. 30, 1968
3 Claims. (Cl. 137—269.5)

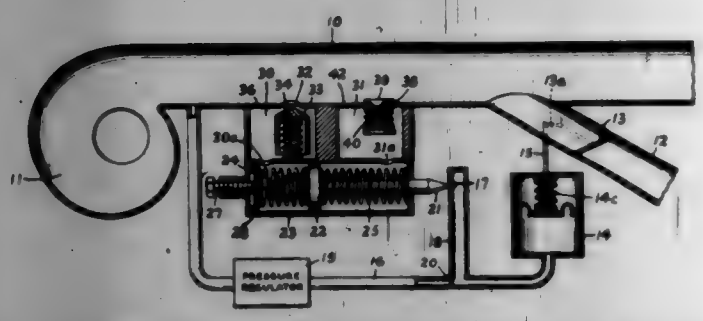


3. In combination, an automatic valve comprising a valve seat member, a valve disc extending over an annular aperture in said seat member, a circumferentially continuous annular body member of greater internal diameter than the diameter of said valve disc which is axially at least as long as the stroke of said valve disc and encloses said valve disc so as to provide an axially directed flow passage between said annular body member and said valve disc when said valve disc is in open position, and a helical valve spring abutting against said valve disc and against said body member, said valve being reversibly mounted in an opening in a casing, said casing being provided with a stud projecting from one end thereof axially of said valve, said stud having a free end slightly spaced from said valve seat when said valve is mounted for use as an inlet valve, and abutting against said valve seat when said valve is reversed in said casing for use as an outlet valve.

2,969,805
SURGE CONTROLLER

David U. Hunter, Huntington, N.Y., assignor to Fairchild Engine and Airplane Corporation, Bay Shore, N.Y., a corporation of Maryland

Filed Oct. 1, 1956, Ser. No. 613,231
13 Claims. (Cl. 137—489)

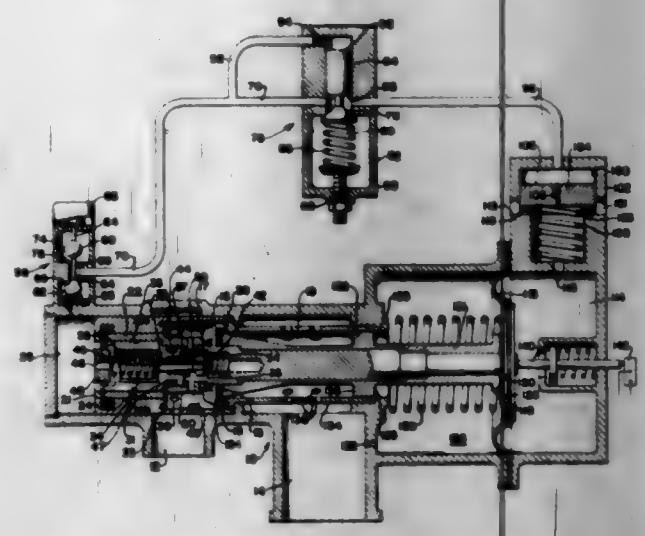


1. A control device for relieving pressure in the event of a surge condition comprising a conduit in communcation with a fluid under pressure, a normally closed relief valve in communication with said conduit, a pair of chambers in communication with the conduit, a check valve controlling the flow of fluid between the conduit and one of the chambers, a check valve controlling the flow of fluid between the conduit and the other of the chambers, one of said check valves opening in the event of a suddent pressure increase in the conduit, and the other opening in the event of a sudden pressure decrease in the conduit, a control member in communication with both chambers and displaceable in response to a pressure differential therebetween, and means operatively connecting the control member and the relief valve to open the relief valve in response to a displacement of the control member.

2,969,806
PRESSURE REGULATOR AND SHUTOFF VALVE

Raymond W. Jensen, Irvin D. Burke, and Robert L. Cholvin, Phoenix, Ariz., assignors to The Garrett Corporation, Los Angeles, Calif., a corporation of California

Filed Apr. 5, 1957, Ser. No. 651,866
9 Claims. (Cl. 137—495)



3. In a pressure regulating and shutoff valve, the combination of: a housing having fluid pressure inlet and outlet passages; a valve seat in said housing between said inlet and outlet passages; a main valve disposed in said housing for movement relative to said seat to control fluid flow between said inlet and outlet passages; resilient means operatively engaged with said main valve and tending to urge the same toward a closed position; actuating means operatively connected with said main valve, said actuating means having first and second oppositely disposed fluid pressure responsive surfaces; means forming a passage for applying outlet pressure to the first opposed surface of said actuating means to urge said main valve toward closed position; means forming a second passage for conducting fluid from said inlet passage to the second opposed surface of said actuating means to urge said main valve toward open position; means forming a restricted orifice in said second passage; means providing a surface area in motion transmitting relation with said main valve, said surface area being exposed to the fluid pressure in said second passage between said orifice and said actuating means, such pressure tending to move said main valve toward closed position; double-acting valve means in said second passage between said surface area and said actuating means, said valve means being operative to alternately interrupt and provide for fluid flow from said inlet passage through said second passage, said double-acting valve means serving to expose the second surface of said actuating means to a reduced pressure when fluid flow through said second passage is interrupted; and control pressure regulating means communicating with said second passage between said orifice and said actuating means.

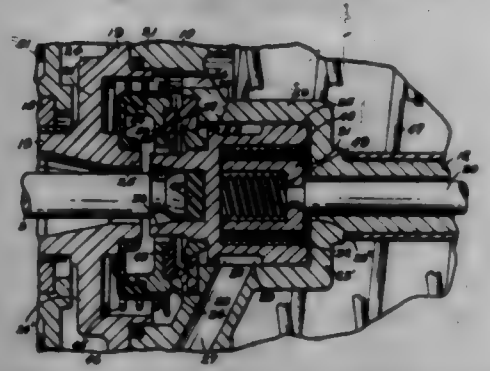
2,969,807
METERING VALVE CONSTRUCTION

Owen M. Whitten, Mesquite, Tex., assignor to Kelsey-Hayes Company, a corporation of Delaware

Filed Feb. 21, 1955, Ser. No. 489,487
1 Claim. (Cl. 137—620)

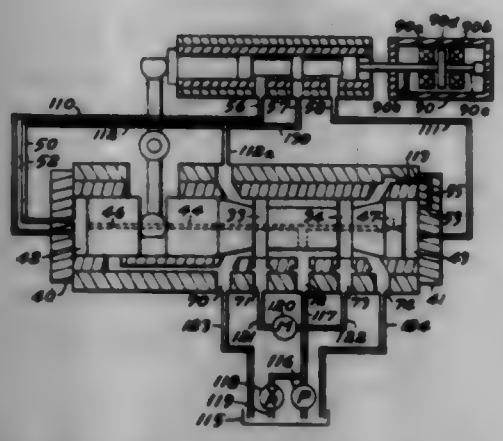
A valve construction for metering flow of a fluid medium comprising inner and outer telescoping coaxial valve elements having concentric annular seats on the corresponding ends thereof, the diameter of the seat on said inner valve element being less than the diameter of the seat on said outer valve element to provide clearance upon relative movement of said inner and outer valve

elements, a third valve element beyond said ends of said telescoping valve elements engageable with said seats, means supporting said valve elements for relative axial movement, said inner valve element having an annular radially outer surface extending from its seat in one axial direction away from said third valve element, said outer valve element having an annular radially inner surface opposed to said radially outer surface and extending away from its seat in said one axial direction away from said



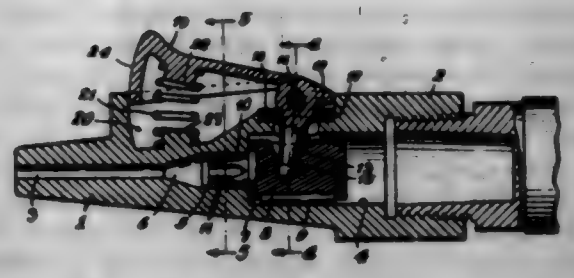
third valve element, said surfaces being concentric and radially spaced apart and cooperating to form an annular passage for flow of a fluid medium, the opposed surfaces of said telescoping valve elements being frusto-conical and tapering from the seats thereof away from each other in said one axial direction to vary the cross-sectional area of said passage when the seat of one of said telescoping valve elements engages said third valve element and the other of said telescoping valve elements moves axially relative thereto.

2,969,808
TWO-STAGE VALVE
Herman Horlacher, Cincinnati, Ohio, assignor to The Cincinnati Milling Machine Co., Cincinnati, Ohio, a corporation of Ohio
Filed May 22, 1958, Ser. No. 737,119
5 Claims. (Cl. 137—622)



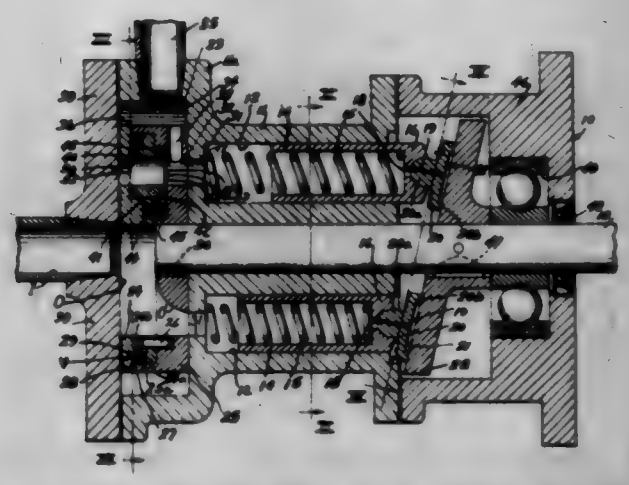
1. A two-stage valve operable in response to a control force to supply fluid under pressure from a source comprising a main stage in communication with said source and having a pressure outlet port and a pair of chambers, means to discharge fluid from the source of fluid under pressure into said chambers and from said chambers, fixed resistances associated with said means to restrict the discharge of fluid into said chambers and from said chambers normally to establish equal predetermined pressure levels therein. a pilot stage in communication with each of said chambers and having a discharge opening, means responsive to the control force to connect one of said chambers to the pilot stage discharge opening and thereby produce a pressure differential between the chambers, and means responsive to said pressure differential to connect the source of fluid under pressure to the pressure outlet port of the main stage.

2,969,809
FLUID CONTROL NOZZLE
Karl A. Klingler, 111 S. Wright St., Naperville, Ill.
Filed Sept. 27, 1956, Ser. No. 612,401
2 Claims. (Cl. 137—625.3)



1. A fluid control nozzle, comprising a generally cylindrical housing, containing in concentric alignment in the order named, a cylindrical valve chamber, a cylindrical metering chamber of lesser diameter, a conical throat, the cross sectional area of which decreases from the metering chamber to a discharge duct, the diameter of the duct equaling the smallest diameter of the throat, the end wall of the valve chamber forming a valve seat encircling the metering chamber, a valve body in the valve chamber and means for centering in and holding it out of contact with the cylindrical wall of the chamber, the end of the body forming a valve face adapted to seat on the valve seat, a metering cylinder carried by the valve body adapted to penetrate the metering chamber and having longitudinal metering slots cut into the surface of the metering cylinder adapted to be masked by the wall of the metering chamber at different positions of the valve, the housing being apertured at one side of the valve chamber, a lever pivoted on the housing adapted to mask the aperture, a valve actuating finger carried by the lever penetrating the aperture and engaging the valve block.

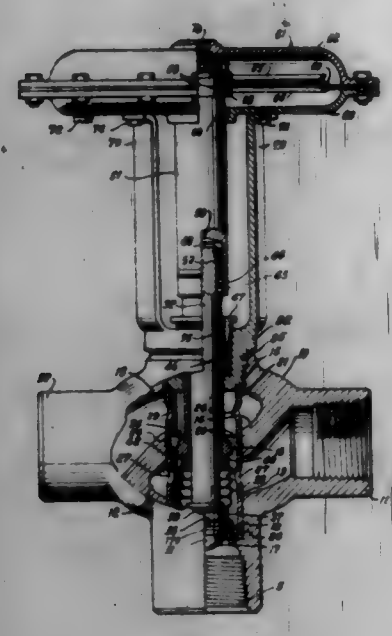
2,969,810
WOBBLE PLATE PUMP
Edward C. Dudley, 23630 Lake Shore Blvd., Cleveland 23, Ohio
Filed Dec. 27, 1955, Ser. No. 555,493
5 Claims. (Cl. 137—625.15)



1. A rotary valve assembly for a wobble plate pump or the like comprising a housing having a pair of axially spaced walls, one of said walls having an inlet centrally therein, a driving means extending centrally through the other of said walls, a pair of valve plates in said housing, one of said valve plates being slidably secured to said drive means in angularly fixed relationship thereto, means securing said valve plates in axially movable angularly fixed relationship, said valve plates being coaxial with said drive means and forming a peripheral annular chamber with said housing, said housing forming an outlet leading from said peripheral annular chamber, said other wall forming a pair of ports spaced radially from said

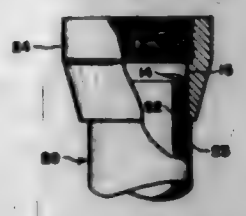
drive means and angularly from one another, said valve plates cooperatively forming a passageway leading from said inlet and terminating in position for successive communication with said ports, one of said plates forming a passage leading to said peripheral annular chamber and successively communicating with said ports, each of said plates having an outer eccentric surface extending therearound in facing, registered relationship to the eccentric surface of the other of said plates and an inner eccentric surface extending therearound in facing registered relationship to the inner eccentric surface of the other of said plates to define outer and inner cavities of angularly variable surface area, said cavities being spaced axially, means sealing said cavities from one another internally of said plates, said ports being alternately fed with fluid from said inlet through said valve plates and the inlet passageway formed therein and then emitting the fluid under high pressure through the passageway in said one valve plate to said outlet, said cavities formed by said valve plate surfaces having a larger pressure responsive area which is always in closely adjacent relation to and in communication with the high pressure fluid that is alternately and successively introduced through said ports, and said passageway in said one of said plates and said peripheral annular chamber to said outlet upon rotation of said valve plates by said drive means whereby to urge said valve plates away from one another into sealing engagement with said walls with increased sealing force at the high pressure areas in said housing.

2,969,811
VALVES
Mathew L. Freeman, Dallas, Tex.
(114 S. Jackson St., Crown Point, Ind.)
Filed Mar. 14, 1955, Ser. No. 494,180
15 Claims. (Cl. 137—627.5)



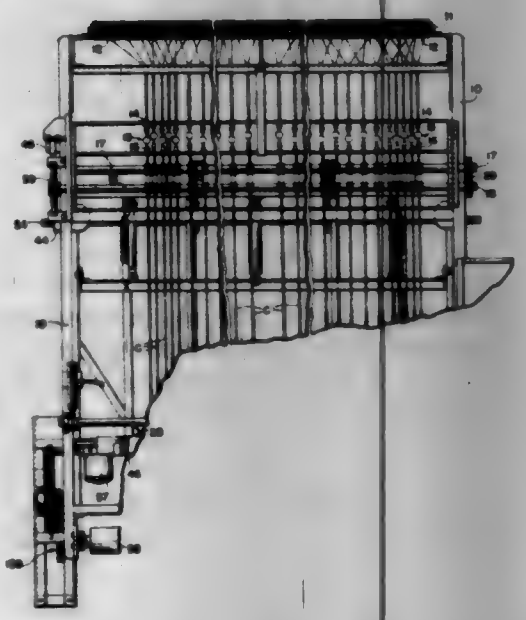
2. A three way valve including: a valve body having an inlet and two outlets; a pair of valve plugs, one valve plug controlling flow of fluid from the inlet to one of said outlets, and the other valve plug controlling flow of fluid from the inlet to the other of said outlets; means biasing said valve plugs in opposite directions and normally holding said valve plugs in closed position whereby flow of fluid from the inlet to said outlets is prevented; means for individually and selectively moving each of said valve plugs to its open position whereby fluid may flow from the inlet to a selected outlet; said biasing means comprising a resilient means disposed between said valve plugs; and means disposed between said valve plugs and connecting said valve plugs for shielding substantial areas of the valve plugs from the pressure of the fluid from the inlet which tends to hold the plugs in closed positions whereby the force necessary to move the valve plugs to open positions may be reduced to a desired value.

2,969,812
PIPE STRUCTURE
Carl De Ganahl, Greenlawn, N.Y. (% Spiral Glas Pipe Company, 47 Bayard St., New Brunswick, N.J.)
Filed Feb. 29, 1956, Ser. No. 568,601
3 Claims. (Cl. 138—25)



1. A pipe structure comprising a multiplicity of glass fiber rovings bonded together by and substantially embedded in a monolithic and substantially impervious hollow cylindrical body of plastic material, said rovings being disposed in said monolithic body of plastic material in a plurality of concentric layers of rovings, the rovings of at least one of said layers being disposed helically in one direction in said body of plastic material, the rovings of at least one other of said layers being disposed helically in the opposite direction in said body of plastic material, and the rovings of at least one more of said layers being disposed axially substantially parallel to the axis of said pipe, said layer of axially disposed rovings being the outermost of said concentric layers of rovings, said monolithic plastic pipe structure having a substantially impervious plastic inner lining securely bonded thereto, said inner lining containing from about 40% to 75% by weight of thermoplastic polymers, said pipe having a pipe fitting on at least one end thereof directly bonded to said axially disposed rovings of said outermost layer adjacent the end of the pipe.

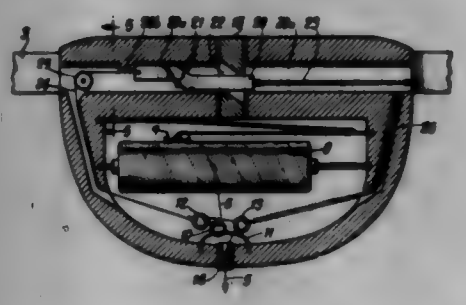
2,969,813
WARP CORD TENSING MEANS FOR LOOMS
Frederick H. Blake, 1045 91st NE., Bellevue, Wash.
Filed Apr. 21, 1959, Ser. No. 807,849
7 Claims. (Cl. 139—104)



2. A cord tightener for a loom, comprising: a pair of tension shafts extending transversely of a loom frame in closely spaced apart relationship and said shafts rotating at different peripheral speeds, and the warp cords in said loom having turns about said tension shafts; said pair of tension shafts are provided with roughened warp

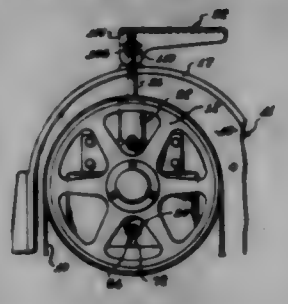
cord engaging surfaces, each being uniformly configured throughout their respective portions which are engaged by said warp cords.

2,969,814
AUTOMATIC STOP FOR NARROW FABRIC LOOMS
Alfred W. Heym, 1742 Starr St., Brooklyn, N.Y.
Filed Aug. 22, 1958, Ser. No. 756,610
11 Claims. (Cl. 139—371)



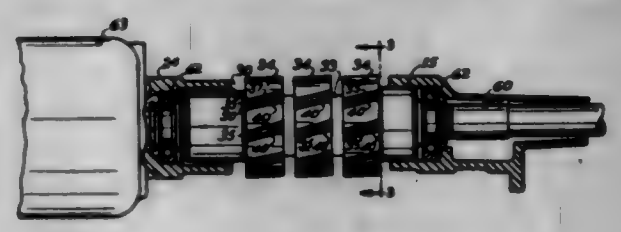
1. In a loom of the character described, having batten and shuttle block structure and a plurality of shuttles mounted for longitudinal movement and for transverse movement with respect to the batten structure, mechanism for stopping the loom upon reduction in the filling yarn tension below the normal operating range, comprising a contactor carried by the shuttle, and having cam engaging means, a target member carried by the batten structure and positioned adjacent to the path of travel of the contactor during transverse movement thereof, an elongated cam member also carried by and slidably mounted in the shuttle in motion transmitting engagement with said contactor, and means responsive to changes in tension of the yarn being fed from the shuttle for actuating said cam member to move said contactor into position to activate said target member as the shuttle moves transversely, when the yarn tension drops below the normal operating range, and for actuating said cam member to move said contactor to inactive position when the yarn tension reaches a point within normal operating range.

2,969,815
BAND SAW MOUNTING FOR A MEAT CUTTING SAW
William Lesar, Downey, Calif.
(2540 E. 114th St., Los Angeles 2, Calif.)
Filed Apr. 3, 1959, Ser. No. 804,005
1 Claim. (Cl. 143—27)



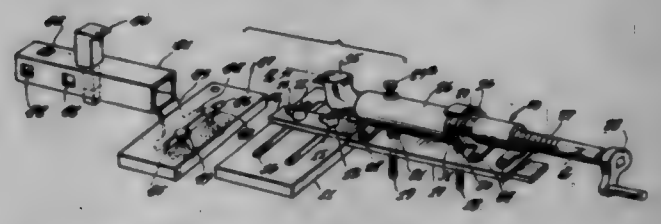
In a meat cutting machine having a housing wherein is disposed a band saw receiving-pulley, a mounting for said band saw that comprises: a support assembly for said pulley including a horizontal shaft keyed to said pulley; guide means in said housing supporting said assembly for vertical movement relative to said housing; tension indicating means including a body and a threaded tension rod extending upwardly from said body; cooperative tension indicating marks interposed between said support assembly and said body; resilient means interposed between said support assembly and said tension indicating means and yieldingly resisting downward movement of said support assembly relative to said tension indicating means; and an elongated adjustment handle having side walls which rotatably support at the front portion of said handle a horizontal nut element which is threadedly engaged with the upper portion of said tension rod, the side walls of said handle below said nut element being formed with depending arcuate cam surfaces having first flat surfaces that rest upon an upwardly-facing surface of said housing when said handle is disposed horizontally, and the front edge of said handle being formed with a second flat surface that rests upon said upwardly-facing surface when said handle is pivoted out of the horizontal, the distance between said nut element and said first flat surfaces being greater than the distance between said nut element and said second flat surfaces.

2,969,816
CYLINDRICAL CUTTER HEAD HAVING MULTI-DRUM AXIALLY ALIGNED SECTIONS WITH ANGULARLY DISPOSED BLADES
Berry H. Johns, Atlanta, Ga., assignor to Atlanta Oak Flooring Company, Atlanta, Ga., a corporation of Georgia
Filed May 11, 1959, Ser. No. 812,196
15 Claims. (Cl. 144—117)



7. A cutter head for planing wooden boards comprising a drum, there being provided a plurality of spaced cavities along the periphery of said drum, a plurality of flat removable blades carried within said cavities, and means within each cavity for clamping said blades in place, the edges of said blades projecting beyond the periphery of said drum, each of said blades being provided with a convex cutting edge, said blades being arranged at an acute angle with respect to the axis of said drum, the convexity of said cutting edge being such that all points along said cutting edge are equidistant from said axis of said drum.

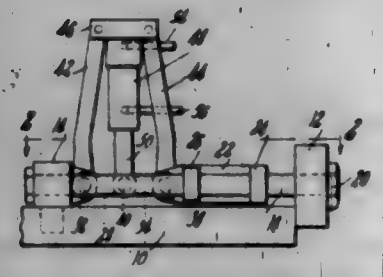
2,969,817
AXIALLY AND ANGULARLY ADJUSTABLE STRAIGHT BEAM CLAMP
Martin Zabich, 1136 Center Ave., Verona, Pa.
Substituted for abandoned application Ser. No. 290,995, May 31, 1952. This application Sept. 28, 1959, Ser. No. 846,528
2 Claims. (Cl. 144—297)



1. A clamping device comprising a fixed jaw having a support provided with a plurality of holes in two transverse planes, said jaw being connected to the support by a projection fitting into the holes in a snug fashion, said support having a slotted connecting plate and a separable slotted base plate, fastening means extending through said slots whereby the connecting plate and the base plate can be adjustably connected, in combination with a moving jaw having a cylindrical body with longitudinal grooves slidingly received in a sleeve and having an adjustable guide screw projecting selectively into one

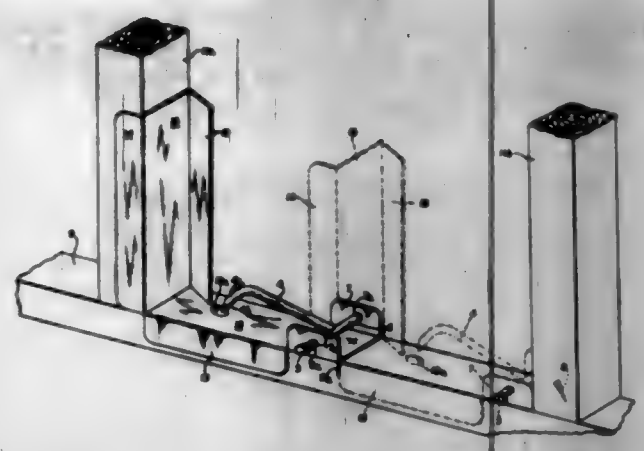
of said grooves, said sleeve being connected to a support plate which is connected to a carrier plate by means of a plurality of adjusting screws threaded in the carrier plate and passing through perforations in the sleeve supporting plate, said screws carrying positioning nuts between the carrier plate and the support plate, whereby the spacing of the carrier plate can be adjusted relative to the support plate, the carrier plate being mounted on a slotted base plate by means of bolts passing through said slots and through perforations in the carrier plate whereby the two last said plates are transversely adjustable, the moving jaw being rotatable within the sleeve and having forwardly extending teeth whereby the teeth may be selectively positioned to oppose the fixed jaw in any of its planes, a second sleeve internally threaded, secured to the support plate, a threaded stem extending through the second sleeve, a handle for actuating said stem, said stem being swiveled to said moving jaw, whereby rotation of the said handle causes only axial motion of the moving jaw.

2,969,818
CLAMPING MECHANISM FOR MOLDING MACHINES
Harrie M. Allard, Nashua, N.H., assignor to Improved Machinery Inc., Nashua, N.H., a corporation of Maine
Filed Nov. 28, 1958, Ser. No. 777,125
2 Claims. (Cl. 144—302)



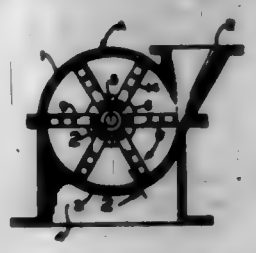
1. In combination with the clamping mechanism of an injection molding machine which includes a base, a fixed platen and a movable platen, a horizontally extending guide member mounted on said base for guiding said movable platen in a straight line path towards and away from said fixed platen, a force applying toggle linkage adapted to urge said movable platen toward said fixed platen for clamping, said toggle linkage comprising a pair of links pivotally connected to one another at their inner ends to form a pivotal junction, the outer end of one of said links being pivotally connected to said movable platen and the outer end of the other of said links being pivotally connected to said base, said links being disposed substantially in end-to-end aligned relationships to one another when said linkage is in fully extended position and with said outer link ends being adjacent to one another when said linkage is in folded fully retracted position, and a fluid pressure cylinder and piston structure, the piston of said structure being pivotally connected to the junction of said toggle linkage to move said junction away from said cylinder for urging said movable platen toward said fixed platen in a clamping operation, a fluid pressue cylinder support structure comprising two support arms, each arm being pivotally connected to the outer end of one of said toggle links and being pivotally connected to the fluid pressure cylinder, said arms being disposed substantially parallel to one another on either side of said cylinder when said toggle linkage is in fully retracted position, thereby insuring application of force to said junction in a direction perpendicular to the direction of force applied by said linkage to said movable platen.

2,969,819
STUD ALINEMENT TOOL
Edward Brave, 1110 Scott Drive, Valley Stream, N.Y.
Filed Feb. 5, 1959, Ser. No. 791,474
2 Claims. (Cl. 145—1)



1. A tool for positioning a stud on a sill, comprising a base plate having a longitudinal axis and lateral ends and adapted to be supported on a sill with said longitudinal axis extending in the direction of length of said sill, an alining plate connected to a first lateral end of said base plate and extending laterally and also upwardly from said base plate and adapted to receive a stud against the outer face thereof, a bracing plate fixedly connected to one of the upright edges of said alining plate and extending at an acute angle to said aligning plate over said base plate, said bracing plate and alining plate being substantially coextensive, the lower edge of said bracing plate substantially abutting said base plate, an anchoring rod, and means mounting said anchoring rod upon the upper face of said base plate adjacent the second lateral end thereof so that said anchoring rod is turnable about a lateral axis and extends transversely to said axis, said plate having a hole between said alining plate and said mounting means, said anchoring rod being adapted to be turned so as to extend from said mounting means toward said hole, said anchoring rod having a free end portion which is inclined relative thereto for extension through said hole when said anchoring rod extends from said anchoring means toward said hole, said rod free end portion having a sharpened tip which is adapted to be driven into said sill to anchor said tool upon said sill.

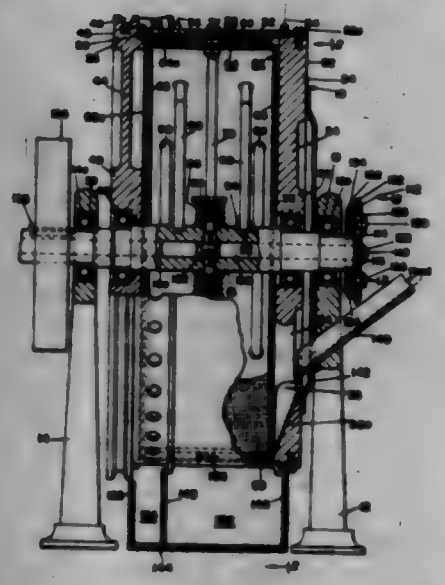
2,969,820
SHREDDING HAMMERS
William S. Gruendler, Richmond Heights, Mo., assignor to Gruendler Crusher and Pulverizer Company, St. Louis, Mo., a corporation of Missouri
Filed Sept. 8, 1958, Ser. No. 759,662
2 Claims. (Cl. 146—123)



1. A cutter for a hammer mill type of comminuter comprising an elongated substantially rectangular shank having a collar type journal adjacent one of its ends, one of the longitudinal edges of said shank having a bevel, on one side only, forming a cutting edge, a plurality of substantially rectangular plate-like and substantially parallel cutters extending outwardly from one side of said shank, one of said cutters being located at the end

of said shank opposite to said journal, and each of said cutters having a bevel, on one side only, forming a cutting edge facing in the same direction as the cutting edge of said shank and slightly inwardly with respect thereto.

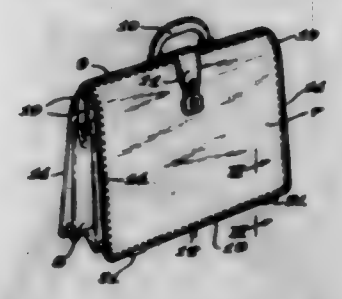
2,969,821
SCOURING MACHINE FOR SCOURING GRAIN
Acharon Maimon, Tel Aviv, Israel
(% Fishman, 635 Park Lane, Philadelphia, Pa.)
Filed Dec. 29, 1958, Ser. No. 783,611
10 Claims. (Cl. 146—296)



1. A scouring machine comprising a pair of mounting posts, a shaft rotatably supported between said mounting posts, a cylindrical drum mounted on said shaft between said posts, said drum being rotatable with said shaft, said drum including a cylindrical ring substantially concentrtic with said shaft and side walls extending radially between the sides of said ring and said shaft, a cylindrical casing rotatably mounted on said shaft and surrounding said drum, said casing being adapted to be rotated in the direction opposite to the direction that the drum is rotated, said casing including a cylindrical ring surrounding and substantially concentric to said drum ring, said drum ring being divided circumferentially into four equal segments, a separate mounting rod extending radially between the ring section of each of said segments and said shaft and securing said segments to said shaft, meansf or moving said mounting rods radially of said shaft to adjust the distance between said drum segments and the casing ring, a plurality of circumferentially spaced bristles secured across the outer surface of said drum ring, a layer of an abrasive material covering the inner surface of said casing ring, said bristles cooperating with said abrasive layer for scouring materials passed between said rings, and means for feeding the material to be scoured to the space between said rings.

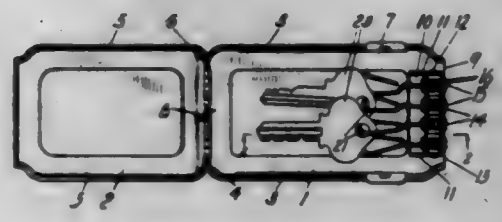
2,969,822
BRIEFCASE WITH REINFORCED EDGE STRUCTURE
Leo Stein, 1401 W. Jackson Blvd., Chicago 7, Ill.
Filed Feb. 13, 1958, Ser. No. 715,075
2 Claims. (Cl. 150—1.6)

1. In a carrying case having substantially coextensive side walls with expansible gusset-type connecting wall portions seam-secured marginally to the side walls, a hinged top frame structure attached to the upper margins of the side walls and to said connecting gusset wall structure and arranged to be pivotally opened, and molded form-sustaining plastic U-shaped reinforcing edge strip frame members of generally T-shaped cross-section with a body portion providing a generally T-head of the section in each instance, extending in reinforcing and protective relation over the edges defining the seams and with a leg flange of the T-shape secured in the seams in each instance, each of said strip frames having a base portion along the lower edges of the side walls and a pair of upstanding arm portions respectively along upright edges



of said side walls, the upper sections of the respective arm portions being preformed into curved-in form-sustaining shape directed toward said hinged top frame and normally acting to maintain the upper portions of the side walls in corresponding curved shape condition and predisposing the top of each of the side walls toward a closed position.

2,969,823
KEY HOLDER
Glenn L. Sherwood, P.O. Box 213, Benton Harbor, Mich.
Filed May 4, 1959, Ser. No. 810,797
2 Claims. (Cl. 150—40)

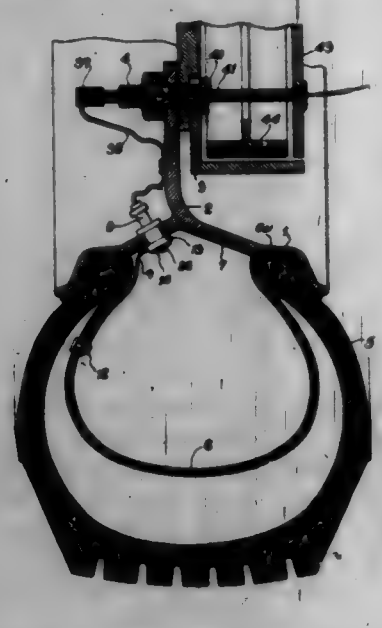


1. A key holder comprising a body member, a spindle supporting bracket disposed transversely of said body member adjacent to but in inwardly spaced relation relative to an edge thereof, a spindle mounted on said bracket, a plurality of key holders comprising head members having radial bores therein rotatably mounted on said spindle in end to end abutting relation and having projecting axially spaced engageable portions facilitating the independent manual manipulation thereof, and key links having shanks of substantial length provided with cylindrical heads retainingly secured within and rotatably and substantially non-tiltably engaged in said bores, said links having key engaging loops at their outer ends dimensioned to permit longitudinal tilting and swinging movement of a key engaged therewith as a head member is actuated to withdraw the key connected thereto and the withdrawn key is freely manipulatable for use.

2,969,824
SAFETY PNEUMATIC TIRE
Frank A. Howard, 30 Rockefeller Plaza, New York, N.Y.
Filed May 16, 1956, Ser. No. 585,223
2 Claims. (Cl. 152—340)

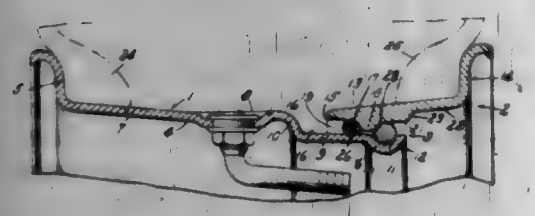
2. In combination, an air-impervious vehicle rim having radial side flanges, an outer tire of C-shaped cross section having inextensible beads seating on the rim adjacent the side flanges, an inner tire made up of a ring of the cross section of the Greek capital letter Omega with its marginal channels embracing the tire beads so as to be sealed and mechanically anchored on the rim thereby, the body of said ring being sufficiently strong to carry the load imposed upon the wheel in the event of failure of the tire, a separate inner tube of thin sheet rubber enclosed by the ring and by the rim, a dual valve secured in the inner tube and passing through the rim, and a flexible air

conduit joining the inner end of the dual valve with a reinforced air opening through the inner tube and the side wall of the ring to admit air through the dual valve to the



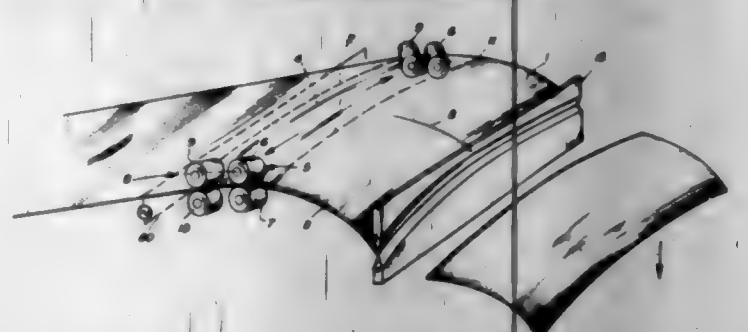
outer chamber of the tire, the said dual valve including additional means to permit separate air flow into and out of the inner tire chamber.

2,969,825
WHEEL RIM
Charles W. Sinclair, Detroit, and Rupert L. Atkin, Grosse Pointe Woods, Mich., assignors to Kelsey-Hayes Company, Detroit, Mich., a corporation of Delaware
Filed Mar. 11, 1957, Ser. No. 645,118
4 Claims. (Cl. 152—410)



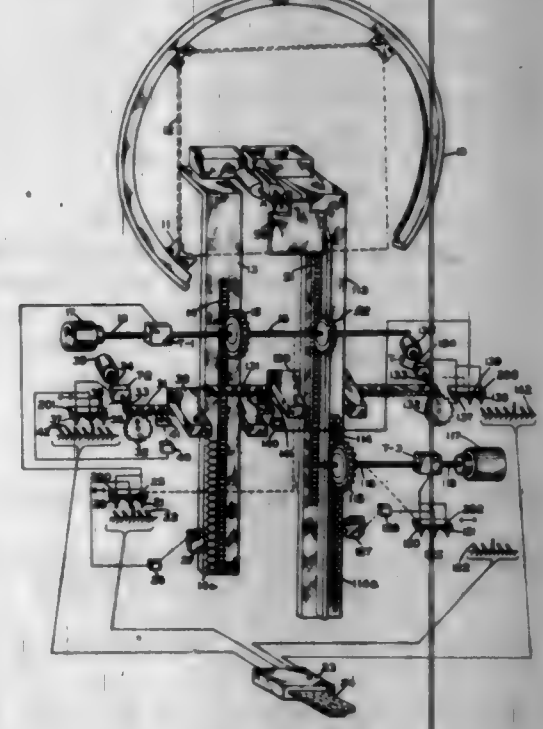
1. A rim for a tubeless tire comprising an endless annular base member, a detachable endless tire retaining member movable over the axially outer edge of said base member and having a generally axially extending portion encircling said base member in the assembled condition of said tire retaining member, said generally axially extending portion and said base member having radially opposed surfaces cooperating to provide an annular space, and a detachable endless deformable, resilient, compressible sealing ring assembled on said base member in encircling relation to said surface of said base member and disposed in said space in sliding contact with said surfaces, said surfaces converging at the axially outer side of said sealing ring, said space at the axially inner side of said sealing ring being in open communication with the air in the tire and said sealing ring being movable axially outwardly relative to said base and tire retaining members by the pressure of such air into more firm sealing contact with the converging portions of said surfaces, said surface of said generally axially extending portion diverging from said surface of said base member to the axially inner edge of said first mentioned surface and at said axially inner edge being of sufficiently greater diameter than said surface of said base member to permit said tire retaining member to be moved axially inwardly to assembled relation over said sealing ring previously assembled on said base member as aforesaid.

2,969,826
METHOD AND APPARATUS FOR FORMING COMPOUND CURVATURES IN SHEET MATERIAL
Earle F. Allen, Norwell, and Artemas J. Haynes, South Yarmouth, Mass., assignors to Valentine E. Macy, Jr., New York, N.Y.
Filed Oct. 3, 1956, Ser. No. 613,677
9 Claims. (Cl. 153—2)



6. Apparatus for continuously forming compound curvatures in a metal sheet of indefinite length comprising a platen having convexly curved surface, combined gripping and sheet feeding means at each of the opposite sides of said platen adapted to grip incremental opposite edge portions of the sheet and to draw the incremental edge portions along divergent paths at opposite sides of the curved platen, means independent of said sheet for operating said feeding means, whereby the metal sheet between the gripped sides is moved over the platen in contact therewith by said gripping and sheet feeding means and is simultaneously stretched beyond its yield point both laterally and longitudinally of the direction of sheet movement and is thereby given a desired curvature in cross setion.

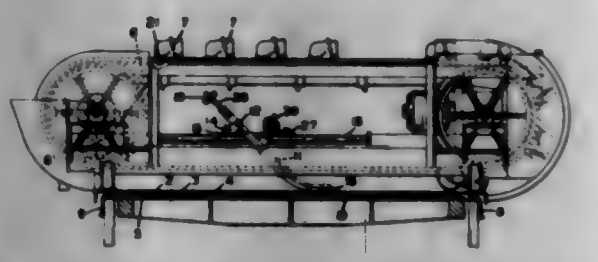
2,969,827
AUTOMATIC WIRING MACHINE
Felix Rosenthal, East Cleveland, Webster C. Roberts, South Euclid, and Robert F. Krejci, Cleveland Heights, Ohio, assignors to Clevite Corporation, Cleveland, Ohio, a corporation of Ohio
Filed Sept. 24, 1956, Ser. No. 611,440
7 Claims. (Cl. 153—20)



1. In an automatic wiring machine, the combination of a first wire-wrapping tool, a second wire-wrapping tool mounted to be positioned initially adjacent the first tool, means for moving the second tool away from the first tool simultaneously along two transversely disposed coordinate axes, and a dressing finger mounted to be positioned be-

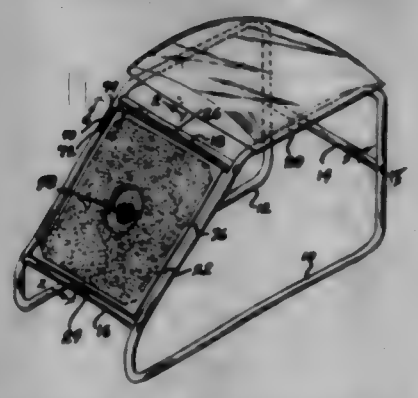
tween the first and second tools and movable with the second tool away from the first tool along only one of said axes.

2,969,828
STENCILING MACHINE
Harold E. Whittemore, East Hempfield Township, Lancaster County, Pa., assignor to Armstrong Cork Company, Lancaster, Pa., a corporation of Pennsylvania
Filed Aug. 1, 1957, Ser. No. 675,678
6 Claims. (Cl. 154—23)



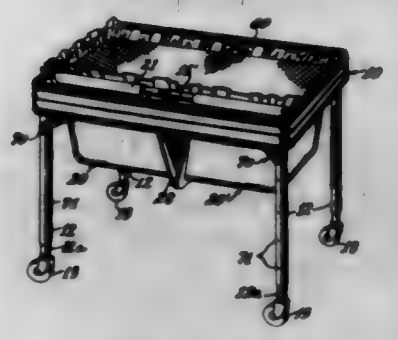
1. In a stenciling machine including a stencil plate having openings therein through which granulated inlaying composition may be strickled and means for periodically elevating said stencil plate away from the deposited inlaying composition upon completion of each stenciling operation, the combination of means for creating a shock wave in the stencil plate when said stencil plate is in an elevated position to disengage inlaying composition clinging to said stencil plate comprising an impacting member engageable with the upper surface of said stencil plate, means for holding said impacting member in an elevated position above said stencil plate, and means for releasing said impacting member when said stencil plate is in an elevated position for movement of said impacting member toward said stencil plate to cause said impacting member to strike the upper surface of said stencil plate and create a shock wave therein.

2,969,829
FITTING STOOL
Harold Leroy Henry, 121 E. Main St., Hillsboro, Ohio
Filed Jan. 29, 1959, Ser. No. 789,897
5 Claims. (Cl. 155—35)



4. In a fitting stool for the measuring of feet and the fitting of shoes thereto, a frame comprising an inclined front portion and a horizontal upper portion, a seat on the upper portion, a table rotatable in the said inclined forward portion, latch means for retaining the table in two inverted positions in said front portion where the table is coplanar with said forward portion, said table comprising a foot measuring device mounted on one side thereof and having an unobstructed surface on the other side thereof, means located in about the center of the table and about the center of the foot measuring device interconnecting the foot measuring device with the table for rotation of the foot measuring device in its plane for positioning thereof in two inverted positions, and means for retaining the foot measuring device in each of its said inverted positions.

2,969,830
MULTI-USE ARTICLE OF JUVENILE FURNITURE
Burnett F. Thompson, 1723 Erie Ave., Long Beach, Calif.
Filed Sept. 19, 1958, Ser. No. 762,062
1 Claim. (Cl. 155—44)



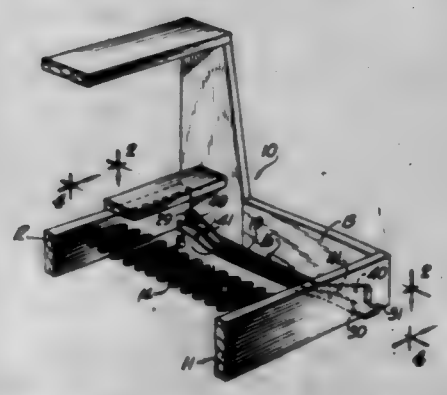
In a multi-use article of juvenile furniture, the combination including a rectangular table frame provided with foldable and extensible legs, a bed frame and means removably securing the bed frame to the inner periphery of said table frame in table frame strengthening position relative thereto, a pair of bucket seats and means removably and dependingly securing each said bucket seat separately to the bed frame to define thereby a bed recess.

2,969,831
SIDE FLEXING SHOCK MOUNT
Charles Eames, Venice, Calif., assignor to Herman Miller, Inc., a corporation of Michigan
Filed July 28, 1958, Ser. No. 752,156
1 Claim. (Cl. 155—191)



A furniture construction comprising: two overlapping parts; a side flexing shock mount adhesively secured to one of said parts; said shock mount comprising an elongated block of resilient material; an elongated rigid member embedded in said block; said member having fastening means associated therewith proximate to the ends thereof for fastening the other of said parts thereto; said block having apertures aligned with said fastening means permitting passage of said fastening means through one face of said block; said other part being attached to said fastening means.

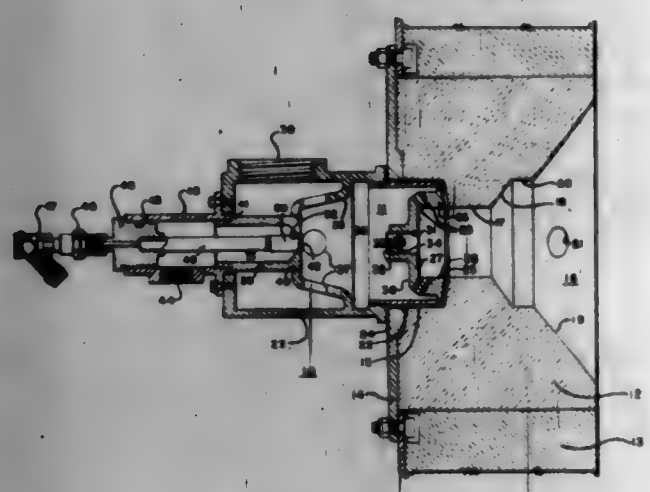
2,969,832
FURNITURE CONSTRUCTION
Forest Wilson, Chicago, Ill. (P.O. Box 6, Medinah, Ill.)
Filed May 5, 1958, Ser. No. 733,118
6 Claims. (Cl. 155—197)



6. A brace for connection between oppositely disposed rails in a piece of furniture, comprising an elongated member having first and second reverse bends near the ends thereof so as to provide said member with a generally concave central portion, said member having an

upstanding side flange, said flange being substantially wider near the ends of said member, and said flange terminating a substantial distance from the ends of said member, the ends of said upstanding side flange including an inturned lip disposed at right angles to the longitudinal axis of said side flange.

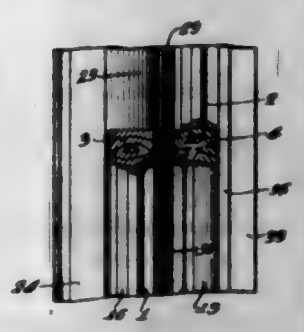
2,969,833
BURNER MECHANISM
Frederick S. Bloom, Mount Lebanon Township, Allegheny County, and Walter Rudin, Baldwin, Pa.; said Rudin assignor to Bloom Engineering Company, Inc., Pittsburgh, Pa., a corporation of Pennsylvania
Filed Apr. 11, 1957, Ser. No. 652,192
6 Claims. (Cl. 158—11)



2. In a nozzle-mix burner mechanism for a furnace or the like, apparatus comprising, in combination, a refractory port block adapted to fit into an opening in a wall of a furnace or the like, said port block having a burner recess at the rear thereof and a flaring port at the front thereof in communication with said recess through the base of said port, said flaring port having an intermediate stepped portion, an inner flaring portion in said port nearer to the interior of said furnace or the like, a tubular burner body adapted to fit against the sides of said recess, a burner tip closing the front of said body adjacent the front of said burner recess, said tip comprising a nozzle member having a rearwardly extending recess therein, said nozzle member having compound angle combustible mixture discharge passages extending through the wall of said member and an axial discharge passage extending through the back wall of said nozzle member to discharge combustible mixture into said nozzle recess, the cross section of said nozzle recess being substantially unrestricted and equal to and in registry with a port base opening communicating with said intermediate stepped flaring portion, said compound angle discharge passages being directed in a corresponding direction to rotate combustible mixture issuing therefrom, means for supplying combustion air to said body, and means for selectively supplying atomized fuel oil and fuel gas to said body, whereby combustion air and fuel mix to form a combustible mixture in back of said nozzle member for discharge through said discharge passages.

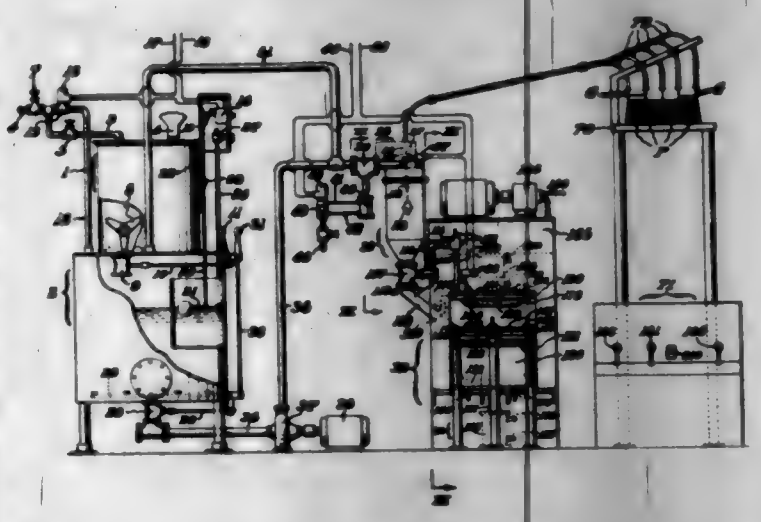
2,969,834
WINDOW CONSTRUCTION
John Courville, Antioch, Ill., assignor, by mesne assignments, to In-A-Wall Corporation, Cary, Ill., a corporation of Illinois
Filed Nov. 16, 1956, Ser. No. 622,627
2 Claims. (Cl. 160—101)

2. In a double hung window construction, upper and lower sliding window members, each window member having upper and lower rails and stiles with glass therein, guide means in which said window members are slidable and positioned to maintain the window members in offset parallel planes at a distance from each other to provide a space therebetween, and a pair of storm panel inserts having surround frames disposed in a common vertical plane in said space and at least coextensive in area with an area defined by the window members when closed with an upper insert resting on the



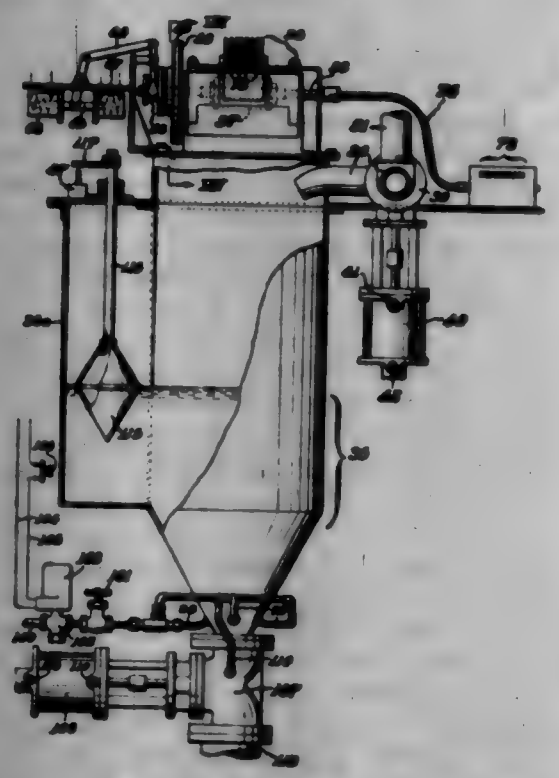
lower insert, said upper and lower inserts being spaced from the upper and lower window members respectively substantially the same distance to provide air spaces with optimum insulating properties, the surround frames of the pair of inserts abutting each other at the level of the upper window member lower rail and the lower window member upper rail when the window members are closed and having a width substantially equal to said space to close off said space.

2,969,835
MOLDING SHAPED ARTICLES FROM FLUID FIBROUS SUSPENSIONS
Seresun H. A. Young, 1309 Dermond Road, Drexel Hill, Pa., assignor of small interest to various assignees
Filed Oct. 1, 1956, Ser. No. 613,139
13 Claims. (Cl. 162—253)



1. In apparatus for molding shaped articles from fluid fibrous suspensions, a press having a mold cylinder and opposing retractable die elements, said elements having confronting faces configured to determine the shape of the articles, a pulp supply, a metering vessel having an inlet valve and an outlet valve, means for conducting pulp to the vessel when the inlet valve is open, means for cutting strands of inorganic material into staple lengths and discharging the cut staple into the pulp in the vessel to form a slurry, means automatically actuated during closing of the press to close the outlet valve of the vessel and to open the inlet valve thereof to admit pulp into the vessel and, at the same time, to start the cutting means to discharge cut staple into the vessel, means automatically operative after admission of a pre-

determined quantity of pulp into the vessel to close the inlet valve, means automatically operative after admission of a predetermined quantity of staple to stop the cutting means, means automatically actuated as the press is opened to open the outlet valve of the vessel for release of the slurry charge in the vessel into the mold cylinder of the press and control means for actuating the die elements.



11. In a metering unit for preparing slurry for a mold press, such unit including a vessel having an outlet for discharge of the slurry, the combination of a retractable spout connected to the outlet and normally positioned to deliver slurry from the outlet to the press, said spout being adapted to be retracted to a position spaced from the press as the press is closed, and means for agitating the slurry during its discharge through the outlet to the spout.

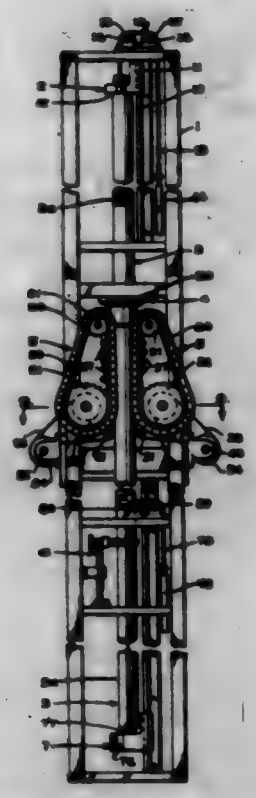
2,969,836

APPARATUS FOR FORMING TUBULAR CONDUITS FROM FIBROUS MATERIAL

Eugene Ceriat, Los Angeles, Calif., assignor to American Vitrified Products Company, Cleveland, Ohio, a corporation of New Jersey

Filed Nov. 20, 1958, Ser. No. 775,314
6 Claims. (Cl. 162—295)

1. A molding apparatus comprising a plurality of mold devices, having travelling operating surfaces, respectively, elongated in the direction of travel, means supporting the devices with the surfaces arranged about a common axis and defining an elongated molding throat, and so that they can be driven to cause lineal travel of the surfaces concurrently at substantially the same speed as each other from an upper feeding location downwardly in a direction endwise of the throat to a lower discharge location and concurrently at substantially the same speed as each other in a direction toward said common axis, progressively and gradually, as the surfaces travel lineally from the feed location toward the discharge location, power means to drive the devices, supporting means to support a mandrel in said throat for axial movement in coaxial and radially spaced relation to said surfaces and defining with the surfaces an elongated annular molding space for receiving material to be molded, means to cause the supporting means to feed the supported mandrel axially in a direction from the feeding location toward the discharge location at approximately the same speed of lineal travel as that of said surfaces, means to feed a slush of fibrous material into the throat between said surfaces and mandrel at the feeding location, said surfaces of the devices being, respectively, of fixed dimension circumferentially of the common axis and spaced apart circumferentially, spacers having walls, respectively, facing the common axis and substantially filling the spaces between the circumferential limits of said operating surfaces, respectively, said wall



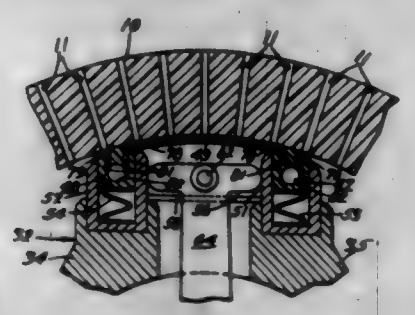
surfaces of the spacers being both decresent in circumferential extent and convergent relative to each other, and toward the common axis, progressively, from the feeding location to the discharge location, whereby an approximately cylindrical exterior molding surface is provided at the lower end of the throat.

2,969,837

SUCTION ROLL CONSTRUCTION

John H. Reynar, Coatesville, Pa., assignor to Layton-Greenfield, Inc., Wagontown, Pa., a corporation of Pennsylvania

Filed June 10, 1958, Ser. No. 741,114
5 Claims. (Cl. 162—371)



1. In a paper making machine having a hollow cylindrical perforated suction roll shell mounted for rotation about its major axis, an elongated suction box internal of the suction roll shell relative to which the shell rotates and which is open on one side adjacent to the shell, vacuum producing means adapted to produce a suction within the suction box, and sealing means on the suction box resiliently urged into contact with the internal surface of the shell, said sealing means including longitudinal wiper members, holders for said wiper members wherein the longitudinal wiper members are loosely held, and resilient means independent of the pressure of the lubricant employed acting upon the wiper members to urge them into contact with the internal surface of the shell, the improvement of providing said wiper members with lengthwise conduits entirely within the wiper mem-

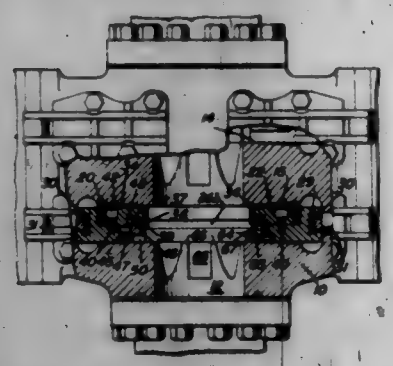
bers, and conduits therefrom to that surface of the wiper urged against the shell and connection means for coupling the conduits to a source of fluid under pressure whereby fluid may be supplied to the surface of the wipers contacting the shell to provide a lubricant between wiper and shell.

2,969,838

COMBINATION SHEARING AND SHUT-OFF RAM

Arthur E. Wilde, Big Bear Lake, Calif., assignor to Shaffer Tool Works, Brea, Calif., a corporation of California

Filed July 23, 1956, Ser. No. 599,620
13 Claims. (Cl. 166—55)



13. A ram for control gates including: a ram block holder having an inwardly facing straight side; a shearing blade secured to said holder and having a shearing edge disposed generally along said straight side; and a deformable sealing element secured to said holder, said seating element having a straight sealing surface disposed generally along the length of said straight side, said shearing blade and said straight sealing surface being offset vertically from each other along said straight side and with said shearing edge projecting beyond said straight sealing surface of said sealing element.

2,969,839

APPARATUS FOR FORMING A CLOSURE IN A WELL BORE

Haskell M. Greene, 8815 S. Highland Ave., Whittier, Calif.

Filed May 17, 1957, Ser. No. 659,945
4 Claims. (Cl. 166—63)



1. Apparatus for forming a closure in a well bore, comprising a hollow vertically extending body adapted to be lowered to a zone within the well, a mass of cementitious material in the body adapted to be ejected from the lower end of the body by gas pressure acting downwardly against the material, a plug carried by the body in an inactive position beneath said cementitious material and adapted to be ejected downwardly from the body with said cementitious material and to an active bore plugging position, said plug including holding means engageable with the side wall of the well after said downward ejection and operable to hold the plug against further downward movement in the well, said plug including closure means engageable with the bore wall after said downward ejection and operable to close the bore against downward flow of the cementitious material past the plug, a gas producing propellent charge carried by the body and adapted and positioned to produce a large quantity of high temperature and high pressure gases above said cementitious material at such a location and in such quantity as to rapidly force the cementitious material and plug downwardly relative to and from the body by the fluid pressure of said gases to thereby close the bore, said cementitious material being positioned to be highly pressurized by the gas force after the plug has been ejected so that said material, being retained by the plug against further downward movement, is forced is rapidly set by the high pressure and high temperature of the gases, a packer carried by the body and adapted outwardly against the well bore wall by the gases, and to close the bore at a location spaced above said active position of the plug to thereby confine the pressurized cementitious material and gases vertically between the plug and packer, said body being constructed to be free for withdrawal upwardly from the well without the plug and cement after firing of the propellent charge, and a seal structure supported in the body vertically between the cementitious material and said plug and preventing flow of said material downwardly into contact with the plug and constructed to shear under the force of said gases to allow downward movement of the material relative to the body.

2,969,840

PLASTIC WELL SCREEN AND WELLS UTILIZING THE SCREENS AND METHOD OF OPERATION

Adolph A. d'Andiffret, Robert E. Reimund, and William Chester Lavely, Columbus, Ohio, assignors to Ramney Method Water Supplies, Inc., Columbus, Ohio, a corporation of West Virginia

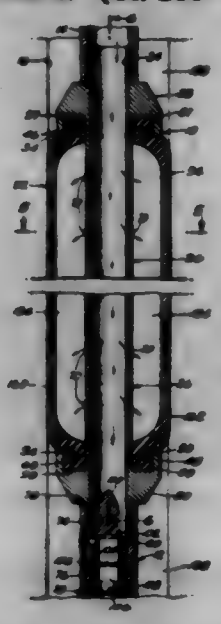
Filed Apr. 10, 1957, Ser. No. 651,990
2 Claims. (Cl. 166—205)



1. In a well installation, a metal casing extending into the ground, an acid-resistant resinous screen pipe extending from the end of the casing and having a blank portion at the casing end thereof sealed to the casing, a packer sealingly mounted in the blank portion, a first pipe extending through the packer and connected with a source of acid and having a check valve there, and a second pipe extending through the packer and leading to a point of discharge for removing acids and dissolved

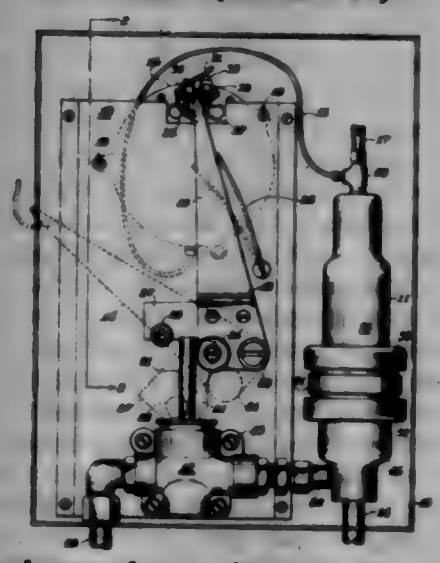
encrustations from the well, the arrangement being such that the acids do not directly contact any metal parts within the well thereby permitting the use of full strength acids, or acids otherwise not usable in conventional wells whereby complete removal of all well encrustations can be effected as often as necessary.

2,969,841
DEVICE FOR FRACTURING FORMATIONS
Gerald B. Thomas, Los Angeles, Calif., assignor to Signal Oil and Gas Company, Los Angeles, Calif., a corporation of Delaware
Filed Dec. 26, 1956, Ser. No. 630,576
10 Claims. (Cl. 166—243)



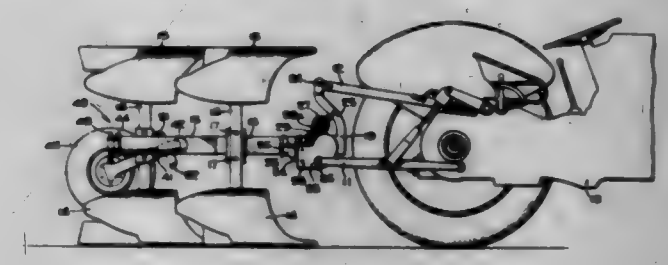
1. A formation fracturing device adapted to be inserted in a well bore, which comprises a tube, a flexible bladder mounted about an arcuate portion less than 180° of the outer periphery of said tube, ports in said tube communicating with said bladder, and means closing one end of said tube, said bladder being expandable into pressure contact with an arcuate portion of the wall of said bore by passage of fluid through said tube and into said bladder, and adapted to provide a space externally of said tube adjacent said bladder between the tube and well bore for free passage of fluid in said space.

2,969,842
ACCELERATOR FOR DRY PIPE SPRINKLER SYSTEMS
Wayne E. Ault, Youngstown, Ohio, assignor to Automatic Sprinkler Corporation of America, Youngstown, Ohio, a corporation of Delaware
Filed Dec. 9, 1958, Ser. No. 779,896
7 Claims. (Cl. 169—17)



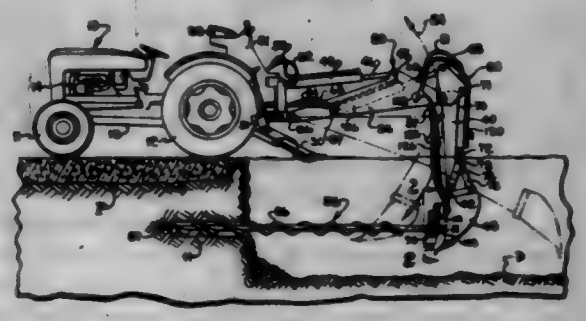
1. An accelerator for use in a dry pipe sprinkler system comprising in combination a valve, a diaphragm operated mechanism operatively engaging said valve and acting to move the same to open and closed position and an air pressure translator comprising a hollow body member having at least one diaphragm thereacross dividing said hollow body member into two portions, said air pressure translator having one portion thereof in communication with said dry pipe and said valve and the other portion thereof in communication with said diaphragm operated mechanism and spring urged movable means in said pressure translator between said portions.

2,969,843
REVERSIBLE PLOW
Harry A. Pursche, 16813 S. Vermont Ave., Gardena, Calif.
Continuation of abandoned application Ser. No. 323,200, Nov. 29, 1952. This application June 3, 1959, Ser. No. 817,822
5 Claims. (Cl. 172—224)



1. In a two way plow, the combination of: a mobile frame including a rearwardly extending longitudinal beam, a carrier mounted to turn on said beam, ground-engaging plow means mounted upon the carrier for producing either a right-hand furrow or a left-hand furrow, means for turning the carrier to either of two operative positions to form a right-hand furrow or a left-hand furrow, as desired, a swinging arm pivotally connected to said carrier, stop means limiting pivotal movement of the arm relative to the carrier in either direction, a tail wheel mounted on said swinging arm and adapted to roll upon unploughed ground in either operative position of said carrier, a stationary bracket fixed relative to the longitudinal beam near the rear end thereof, a pair of laterally spaced contact elements on said bracket, each of said elements engaging said wheel arm at a location directly above the wheel axis in one of the operative positions of the carrier to limit downward movement of the carrier.

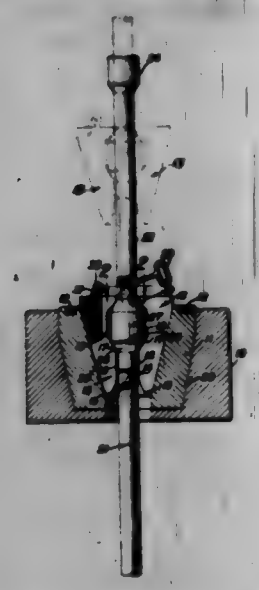
2,969,844
EARTH BORING IMPLEMENT
Wellington Hamrick, P.O. Box 157 Boiling Springs, N.C.
Filed Dec. 26, 1957, Ser. No. 705,306
4 Claims. (Cl. 175—130)



1. An earth boring attachment for a tractor comprising the combination of a boom operatively connected at one end to said tractor, a first hydraulic cylinder connected to said boom and said tractor to control the position of said boom, a dipper stick operatively connected at one end to the end of said boom opposite said tractor, a second hydraulic cylinder connected to said boom and

said dipper stick to control the position of said dipper stick relative to said boom, control means for selectively directing fluid pressure to said hydraulic cylinders, an earth boring auger, a frame rotatably supporting one end of said auger, a fluid motor carried by said frame for rotating said auger, means connecting said frame to the end of said dipper stick opposite said boom, and means connecting said control means with said fluid motor to selectively direct fluid pressure to said fluid motor.

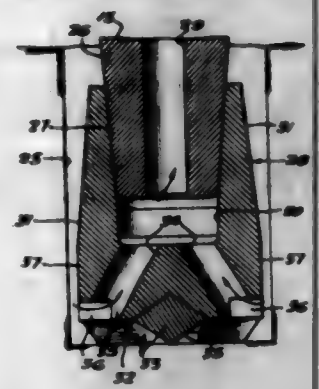
2,969,845
DRILL PIPE SAVING DEVICE
Dewey S. Hester, 878 Belanger St., Houma, La.
Filed Jan. 23, 1959, Ser. No. 788,565
2 Claims. (Cl. 175—200)



1. In a drilling assembly, a table provided with a recess, a bushing positioned in said recess and said table supporting said bushing, a pair of opposed slips positioned in said bushing and said slips being supported by said bushing, said slips coacting to define a hollow inner chamber, said chamber including a lower first portion which flares outwardly from top to bottom thereof, a cylindrical second portion above said first portion, a third portion above said second portion and said third portion tapering outwardly from bottom to top thereof, a cylindrical fourth portion above said third portion, a fifth portion above said fourth portion and said fifth portion tapering inwardly from bottom to top thereof, and a pipe member extending through said chamber, said pipe member having a shoulder positioned in said chamber, said shoulder being shaped to include sections of different cross-sectional areas which coact with corresponding portions of said chamber.

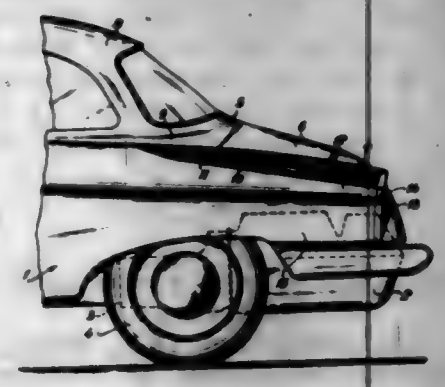
2,969,846
PERCUSSIVE DRILL BIT FOR USE IN REVERSE FLOW FLUSHING IN SOFT ROCK DRILLING
Robert L. Sandvig, Whittier, Calif., assignor to Thor Power Tool Company, Aurora, Ill., a corporation of Delaware
Filed Dec. 16, 1958, Ser. No. 780,745
2 Claims. (Cl. 175—418)

2. In an article of manufacture of the type comprising a drill bit adapted to be detachably mounted on the end of a hollow drill steel forming part of a percussive rock drilling unit operable to remove rock cuttings continuously in a high velocity suction air stream flowing inwardly through the bore hole and outwardly through the hollow drill steel and particularly suitable for use in drilling softer rock formations wherein the cuttings have a tendency to agglomerate at the drill tip and form chunks not readily entrained in the suction air stream, said drill bit being of the type having a solid one-piece body provided with an axial well for seating the drill steel, the exterior of one end wall of said body being generally normal to the body axis and having secured thereto a plurality of radially disposed cutting elements, a suction air duct leading from a point between each of said cutting elements into said axial well, the inlet ends of said suction air ducts being recessed axially thereof sufficiently



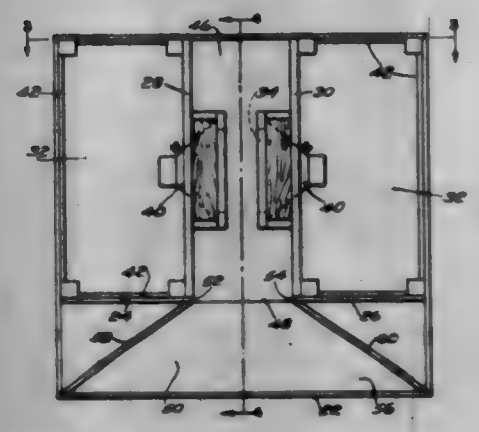
to provide wide but shallow high velocity passages opening through the side wall of said body and effective to convey air at high velocity into said ducts along with rock cuttings produced by the cutting elements to either side thereof, thereby to facilitate the flow of cuttings away from said elements and avoiding the compacting of the same opposite the end wall of said percussively-driven drill bit body.

2,969,847
COOLING-AIR GUIDE SYSTEM FOR MOTOR VEHICLES
Erwin Komenda, Stuttgart, and Konrad Bamberg, Stuttgart-Zuffenhausen, Germany, assignors to Dr. Ing. h.c. F. Porsche K.G., Stuttgart-Zuffenhausen, Germany
Filed Mar. 25, 1958, Ser. No. 723,678
Claims priority, application Germany Apr. 20, 1957
2 Claims. (Cl. 180—54)



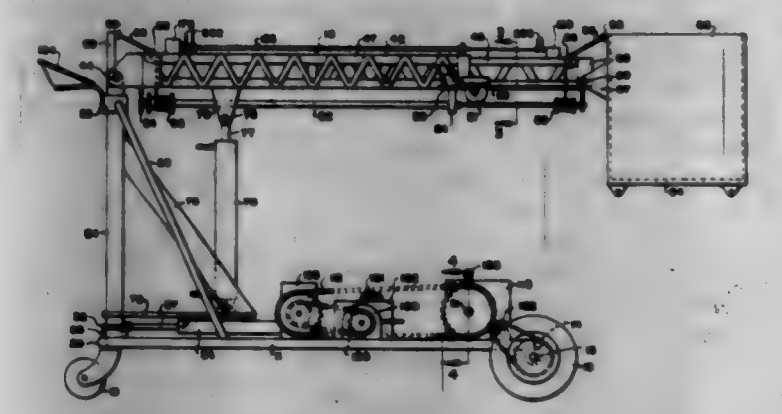
1. In a motor vehicle having a plurality of wheels and a body supported thereover, a rear-mounted, air-cooled, internal combustion engine and a cooling-air guide system for said engine, said cooling-air guide system being constructed in the outer body wall means of said vehicle body, said outer body wall means including a central body portion and a laterally-extending body portion on each side of said central body portion, each of said laterally-extending body portions including a portion extending beyond the surface of said central body portion at the rear of said vehicle and having an upper surface, said central body portion including a roof part and at least one end part merging thereinto at the rear of said vehicle, air-inlet aperture means located in each said upper surface, each of said air-inlet aperture means extending essentially from the rearmost end of the respective upper surface to the region of transition between said end part and said roof part, and reinforced decorative screen means covering each of said apertures, said screen means being so constructed and arranged as to correspond to said aperutres and to follow the contour of said outer body wall means.

2,969,848
BASS SPEAKER ENCLOSURE
Claude C. Farwell, 6 School St., Groton, Mass.
Filed May 8, 1958, Ser. No. 734,037
5 Claims. (Cl. 181—31)



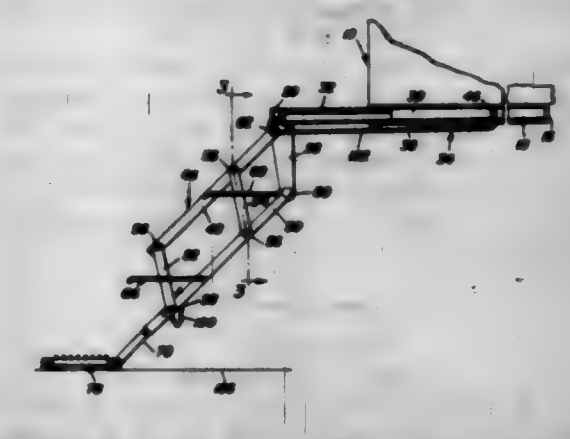
1. In combination, a cabinet enclosing two chambers with an air space between them, two bass speakers mounted respectively in said chambers with mouths opening into said space and directly opposed to each other, said mouth being separated by said air space only, each said speaker being completely enclosed except for its mouth in its corresponding chamber, and a horn-like structure communicating with said space and extending therefrom with an expanding cross section.

2,969,849
ORCHARD VEHICLE
John E. Grant, 549 Hastings Ave., Penticton, British Columbia, Canada
Filed Jan. 7, 1957, Ser. No. 632,804
4 Claims. (Cl. 182—2)



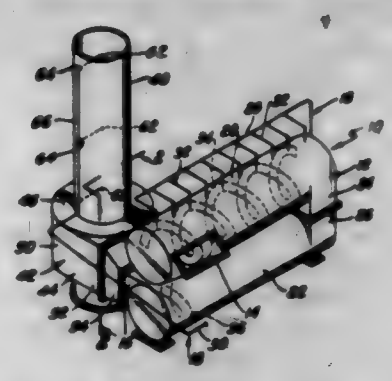
1. An orchard vehicle comprising a base on wheels, a vertical post rotatably mounted on the base near an end thereof, means on the base and connected to the post to rotate the latter about its vertical axis, an extensible boom pivotally mounted at its inner end on the post for vertical movement and normally extending over the base, power means mounted on the boom and connected thereto to extend and retract said boom, a support carried by the post and extending under the boom, means on the support and connected to the boom for swinging said boom up and down, a platform pivotally mounted on the outer end of the boom, an extensible shaft extending the length of the boom and rotatably supported thereby, a drum fixedly mounted on each end of the shaft, a cable connected to the post above the boom and wound on the adjacent drum, and another cable connected to the platform above the pivot thereof and wound on the other drum, whereby upward and downward movement of the boom causes the drums to rotate together respectively in opposite directions to maintain the platform in a substantially horizontal plane during both movements.

2,969,850
FOLDING STEPS
Orvel N. Hillis, 410 E. Louisiana, Sweetwater, Tex.
Filed June 5, 1959, Ser. No. 818,315
7 Claims. (Cl. 182—88)



1. A folding step assembly comprising a support, a step unit, said step unit including hangers and side rails, means slidably connecting said hangers to said support, and means retaining said hangers in a fixed depending angular position with respect to said support, a pair of said side rails pivoted to one of said hangers at spaced points thereon, a first link spaced from said one hanger pivoted to each of said pair of side rails, said one hanger, said first link and said side rail portions therebetween defining a parallelogram, and steps fixedly secured to said link.

2,969,851
GAS WASHING APPARATUS
Marvin B. Freeman, Los Angeles, Calif., assignor to Standard Steel Corporation, Los Angeles, Calif., a corporation of California
Filed Apr. 13, 1959, Ser. No. 806,072
4 Claims. (Cl. 183—21)



1. In a gas washing apparatus, the combination of: gas washing means including spray chamber means having an inlet and an outlet and including means for spraying a liquid into said spray chamber means to wash gas flowing therethrough from said inlet to said outlet; an upright stack; a centrifugal separator encompassing said stack adjacent the lower end thereof, said separator including an annular housing encircling and carried by said stack and having top, bottom and peripheral walls, said annular housing having in said peripheral wall thereof a tangential inlet which communicates with said outlet of said spray chamber means, said stack having a plurality of circumferentially spaced openings therethrough which connect the interior of said annular housing and the interior of said stack in fluid communication, whereby gas entering said annular housing through said tangential inlet flows therefrom into said stack through said openings after whirling around said stack within said annular housing; means for spraying a liquid into said stack above said separator to further wash gas flowing upwardly through said stack; and means for draining liquid from said anular housing and said stack.

2,969,852

PROCESS FOR REMOVING NIOBIUM OXYCHLORIDE FROM NIOBIUM PENTACHLORIDE

Howard W. Jacobson, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed June 18, 1959, Ser. No. 821,116
3 Claims. (Cl. 183—114.2)

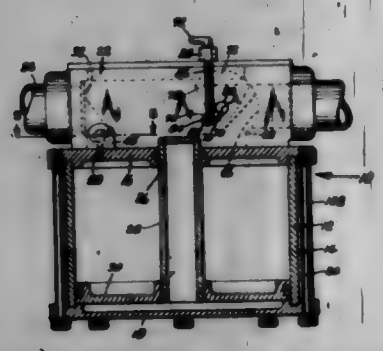
1. A process for the removal of niobium oxychloride occurring as a contaminant in niobium pentachloride, said process comprising passing the mixed chlorides through a bed of activated carbon at a temperature in the range of about 205° C. to about 500° C. to effect preferential adsorption of the niobium oxychloride on the activated carbon.

2,969,853

AIR-LINE OILER

Robert A. Wyman, Marion, Ohio, assignor to Joy Manufacturing Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Dec. 18, 1956, Ser. No. 629,089
5 Claims. (Cl. 184—55)



1. An air-line lubricator comprising, means forming a passage adapted to be connected between a source of air under pressure and a device to be operated by air flow from said source, a reservoir for a lubricant having a conduit for delivery of lubricant therefrom to an air stream passing through said passage, means operative in response to the pressure of the air stream in said passage for creating a lubricant pressure exceeding the pressure in said passage for introducing lubricant into said passage, control means for controlling the amount of lubricant introduced into said passage, valve means responsive to the rate of flow of the air stream through said passage for actuating said control means between various controlling positions thereby regulating the amount of lubricant introduced into said passage in accordance with such rate of flow, and valve means in said passage constructed to be normally biased to an open position being controlled by the exhaustion of lubricant in said reservoir for moving said valve means to its closed position and closing said passage.

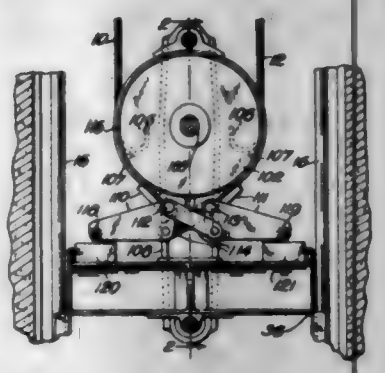
2,969,854

LIFTING, LOWERING AND HAULING

Robert Blair, Johannesburg, Transvaal, Union of South Africa, assignor to Anglo American Corporation of South Africa Limited, Transvaal, Union of South Africa

Filed May 17, 1957, Ser. No. 659,928
Claims priority, application Union of South Africa May 24, 1956
3 Claims. (Cl. 187—73)

3. A hauling system comprising a winding drum with two separate ropes and a load attached to the ropes, including a compensating device to which the rope ends are attached and which is itself attached to the load; the device consisting in a wheel assembly mounted on a horizontal axis, the rope ends being passed around at least part of the periphery of the assembly in opposite directions; means to connect the load to the assembly about a pivotal axis coincident with the axis of the assembly; braking means consisting in a brake band around the periphery of the assembly; and means operating automatically to tighten the band on lateral displacement of the assembly due to breaking of either one of the ropes.

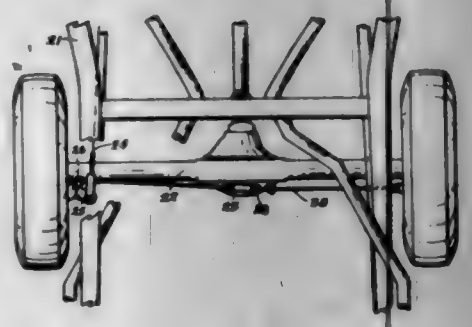


2,969,855

MOTOR VEHICLE BRAKE

Frank E. Demorest, Dearborn, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Filed Oct. 18, 1956, Ser. No. 616,752
1 Claim. (Cl. 188—106)



A motor vehicle brake system comprising a pair of brake assemblies, said assemblies each having a backing plate and arcuate brake shoes mounted on each said plate, separate mechanical means for separating said brake shoes of each assembly, a double crank pivotally mounted on one of said backing plates, one arm of said crank being pivotally connected to one of said separate mechanical means, another arm of said crank being connected by a cable to the means of the other brake assembly, and a manually actuated cable connected to said crank.

2,969,856

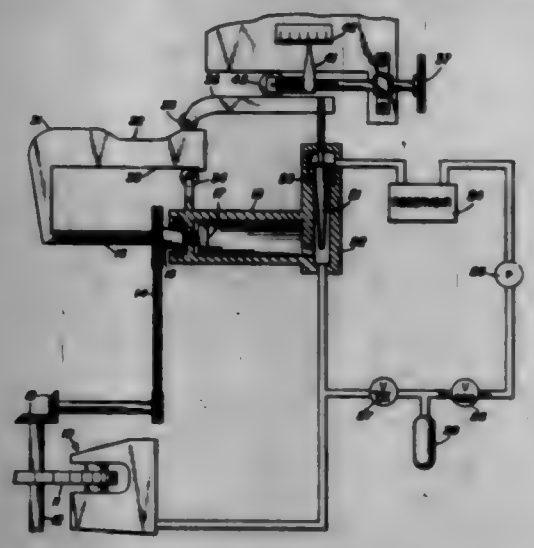
VELOCITY SENSITIVE RUNOUT BRAKE CONTROL SYSTEM

Joseph W. Dow, Kingsville, Md., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Apr. 30, 1959, Ser. No. 810,198
2 Claims. (Cl. 188—110)

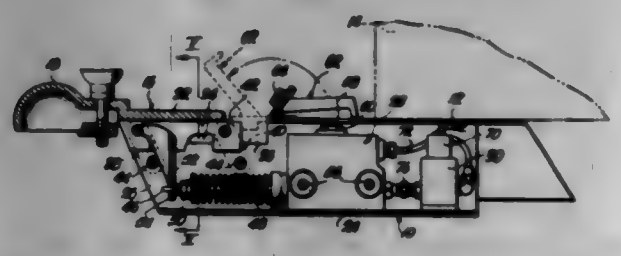
1. In a mechanism for arresting a landing aircraft with arresting gear comprising, brake means and adjustable fulcrum means, said brake means having a hydraulic system with an adjustable fluid pressure means operatively connected thereto, said adjustable fulcrum means operatively connected to said fluid pressure means for selecting the proper brake pressure for any given aircraft, said fluid pressure means having a cylinder and a piston therein, said piston operatively connected to said brake means, said cylinder having an orifice at its one end to permit the discharge of fluid therefrom, cam means operatively connected to said piston which moves an amount equal to the travel of said piston, an orifice valve mounted in said orifice to control the flow of fluid flowing therethrough, an arm having a roller on one end which rides on said cam means and the other end of said arm is connected to said orifice valve for adjusting the posi-

tion of said orifice valve, said adjustable fulcrum means having a movable roller which is in rolling contact with said arm and varies the fulcrum point about which said arm pivots when the position of said roller is changed,



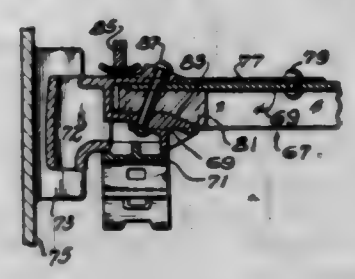
whereby the amount of fluid pressure applied to said brake is proportional to the movement of said arm on said cam, the setting of said adjustable fulcrum means and the velocity of said piston.

2,969,857
AUTOMOBILE-TRAILER COUPLING HAVING AUTOMATIC TRAILER-BRAKE OPERATING MEANS
William R. Parkhurst, R.R. 3, Sedalia, Mo.
Filed June 24, 1957, Ser. No. 667,383
1 Claim. (Cl. 188—112)



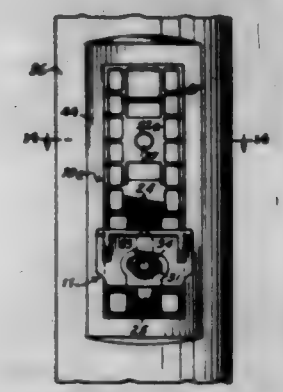
Hydraulic trailer-brake actuating mechanism comprising a U-shaped support adapted for rigid mounting on the tongue of a trailer, said support having a horizontal bight and a pair of spaced, upstanding legs; a U-shaped bracket overlying the support at the forwardmost end of the latter and provided with a forwardly extending coupling member for connecting the bracket to a towing vehicle, said bracket having a horizontal bight and a pair of bars depending from the bight, said bars being in substantially the same vertical plane as the upstanding legs and adapted to engage and overlap said legs; a front and a rear pair of pivoted parallel links swingably interconnecting the bracket and the support, said links being positioned to hold said bars and said legs out of engagement in a vertical position and permitting said bars and said legs to engage when said links are inclined whereby towing and braking force of the vehicle is transferable to said trailer through said support and bracket; a hydraulic cylinder housed by the support and the tongue, said cylinder being secured to the support and having a horizontal, spring loaded piston rod extending forwardly therefrom between said legs; an abutment between the front and rear links depending from the bracket between the bars and between the legs and engaging said rod for actuating the latter as the support swings forwardly relative to the bracket and downwardly away therefrom; and locking means carried by the tongue and engageable with said bars whereby the relative swinging movement of said support and said bracket may be prevented.

2,969,858
RAILWAY BRAKE GEAR STRUCTURE
Thomas C. Soddy, Chicago, Ill., assignor to Chicago Railway Equipment Company, Chicago, Ill., a corporation of Illinois
Filed Apr. 29, 1957, Ser. No. 655,785
5 Claims. (Cl. 188—219.1)



1. A railway brake beam comprising a single elongated main member extending substantially from end to end of the beam and having an upright web, a separately-formed end member at each end of the beam which is adapted to mount a brake shoe and through which end member the beam is supported, each end member forming a pocket having a front wall and a rear wall spaced apart, said pocket receiving the end of the main member between said walls and said rear wall being seated against the rear face of said web, and a filler block seated against the front face of the rear wall of the beam main member and against the opposing rear face of said end member front wall, said filler block forming a part for transmitting thrust directly from said beam main member to the brake shoe mounting elements of said end member.

2,969,859
CROSS ARM SUPPORTING GAIN
Owen R. Huggins, Darien, Conn., assignor to Malleable Iron Fittings Company, Branford, Conn., a corporation of Connecticut
Filed Apr. 22, 1958, Ser. No. 730,086
5 Claims. (Cl. 189—33)



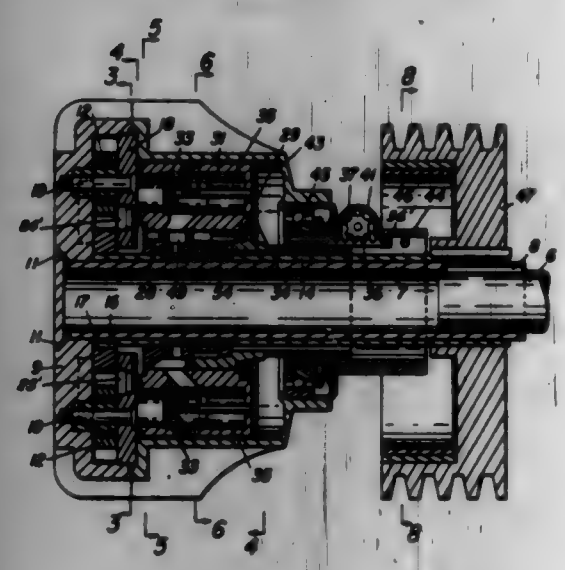
1. A gain for use between the side of a vertical pole and the inner and lower side of a through-bolt connected cross-arm, and wherein the through-bolt extends transversely through the pole and cross-arm, comprising a vertically disposed body member having a pole-engaging rearward face and a forward face and having a through-bolt receiving opening extending between said faces, said forward face including an upper face portion for engaging the inner side of said cross-arm and a lower face portion for extending below the lower side of said cross-arm, said lower face portion having a clamping bolt receiving vertical slot opening, a shelf member having a shelf portion for engaging the under side of said cross-arm and a vertical back portion engaged with said lower face portion and having a clamping bolt receiving slot opening

disposed transversely across said vertical slot opening, and of substantially greater length than the width of said vertical slot opening; a clamping bolt engaged in said slot openings of said body and shelf members to draw said shelf member into clamping engagement with said body member upon tightening of said bolt and to allow separation of said members upon loosening of said bolt, and interlocking formation on said lower face portion of said body member and said back portion of said shelf member comprising a series of complementary and inter-engaging parallel straight line serrations upon said respective face and body portions extending diagonally with respect to said vertical slot openings, said serrations of said shelf member being relatively slideable upon loosening of said clamping bolt in an upward or downward diagonal direction longitudinally of said serrations of said body member to raise or lower said shelf member through micromatic increments with respect to said body member.

ERRATUM

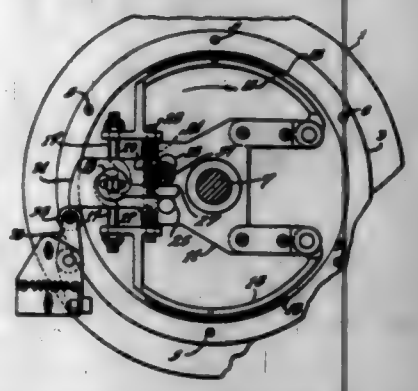
For Class 189—34 see:
Patent No. 2,969,754

2,969,860
VARIABLE-SPEED FLUID CLUTCH
David J. Reen, Palm Springs, Calif.
(P.O. Box 314, Northridge, Calif.)
Filed June 13, 1958, Ser. No. 741,966
6 Claims. (Cl. 192—12)



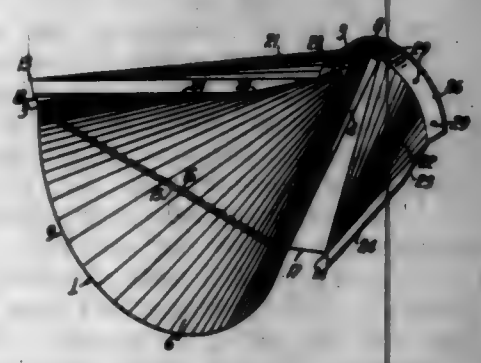
1. In a variable-speed fluid clutch, a driven shaft, a pump housing secured to said driven shaft and rotatable therewith, a tubular shaft circumposed about said driven shaft and freely rotatable thereon, a drive gear secured to said tubular shaft within said pump housing, a plurality of pump gears journaled in said housing and meshed with said drive gear, a pump plate in said housing and enclosing said gears, said housing and pump plate forming pump chambers about said pump gears, said pump plate including port means communicating with said pump chambers for permitting fluid to be circulated therethrough, a valve casing circumposed about said tubular shaft, a meter housing circumposed about said valve casing and including bore portions communicable with said port means of said pump plate for receiving oil from said pump chambers, said meter housing bore portions communicating with said port means for returning fluid to said pump chambers, and sliding control valve means including valve portions in said bore portions for controlling fluid flow through said pump chambers.

2,969,861
CLUTCHES
Theodore M. Wright, 934 Haddon Ave., Camden, N.J.
Original application Aug. 14, 1956, Ser. No. 603,967, now Patent No. 2,896,214, dated July 28, 1959. Divided and this application Apr. 12, 1957, Ser. No. 652,588
9 Claims. (Cl. 192—26)



1. A clutch mechanism for coupling a rotary driving member and a driven member into and out of driving relation with each other comprising a clutch drum carried by said driving member, a coupling device adapted to be connected to said driven member in locking engagement therewith, a pair of clutch shoes each movably mounted on said coupling device at one of its ends for movement from a first position out of engagement with said drum to a second position in engagement with said drum and vice versa, biasing means connected between the other ends of said shoes tending to bias said shoes into said second position thereof in engagement with said drum to thereby establish driving relation between said driving and driven members, and actuating means carried by said coupling device connected to said shoes for effecting movement of said shoes into their said first position in opposition to said biasing means whereby to normally maintain said driving and driven members in out-of-driving relation with each other.

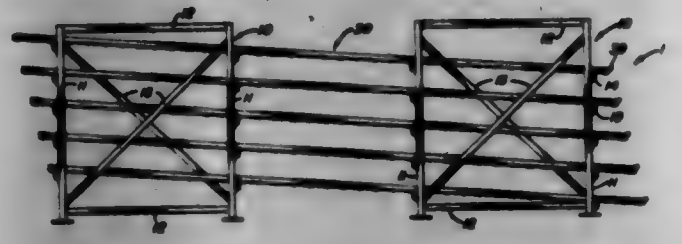
2,969,862
DEFLECTOR
Robert L. Worrell, La Porte, Ind., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed May 26, 1957, Ser. No. 648,732
7 Claims. (Cl. 193—4)



1. For use as a straw distributor on harvester threshers, a deflector connectable to an axial discharge opening of a material conveying tube in such relation thereto that straw particles ejected at high speed from said tube will ricochet from said deflector and fall upon the ground at a considerable horizontal distance therefrom, said deflector comprising, in combination, a tapered dispersion element presenting a longitudinally bisectioned cone surface between relatively diverging, coplanar edge portions thereof; side shields extending, respectively, along said edge portions and connected with said dispersion element in laterally overhanging relation thereto, and means including a flange member engageable with said material conveying tube and connected with said side

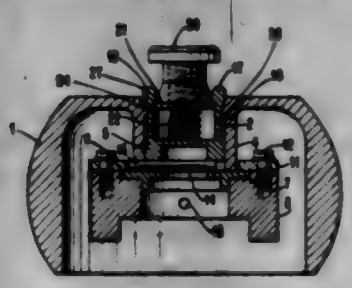
shields at the apex end of said dispersion element for securing said deflector to said tube in axially overhanging relation to the discharge end of the latter and in such angular relation thereto that said apex end of said dispersion element will be located at the periphery of said tube and said cone surface will be presented exteriorly of said tube in expanding relation to a stream of material ejected axially from said tube.

2,969,863
CONVEYORIZED STORAGE RACKS
Egbert Weldring and Peter Weltevrede, Grand Rapids, Mich., assignors to The Rapids-Standard Company, Inc., Grand Rapids, Mich., a corporation of Michigan
Filed May 21, 1956, Ser. No. 586,248
6 Claims. (Cl. 193—35)



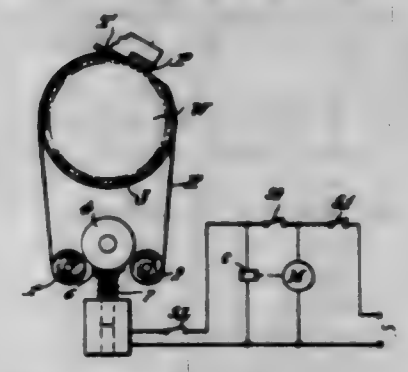
1. A conveyorized storage rack, comprising; side frames; pairs of cross bars secured to and extending between said side frames, the cross bars of each of said pairs being arranged to lie within a horizontally inclined plane, each of said pairs in different parallel inclined planes; slots in said cross bars extending in a direction longitudinally of said cross bars; a plurality of elongated rails supported by said pairs of cross bars; each of said rails being constructed of a bar having two sides; wheels rotatably supported solely on said rails and disposed on at least one of said sides, the periphery of said wheels terminating short of the top of said bar so as to cause the side of said bar to serve as a guide; said rails being spaced parallel to each other with said wheels being located on adjacent sides to form a track for a predetermined width article therebetween; means for securing said tracks to said cross bars, said means extending through said slots and adapted to be loosened whereby when said means is loosened it can slide in said slots and said tracks can be adjusted along said cross bar for adjusting the space between the sides of said rails thus permitting the adjustment of the width of the track formed by said rails.

2,969,864
ATTACHMENT FOR PRINT HEAD
Terence M. Holgate, Lexington, Ky., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Aug. 24, 1959, Ser. No. 835,690
4 Claims. (Cl. 197—52)



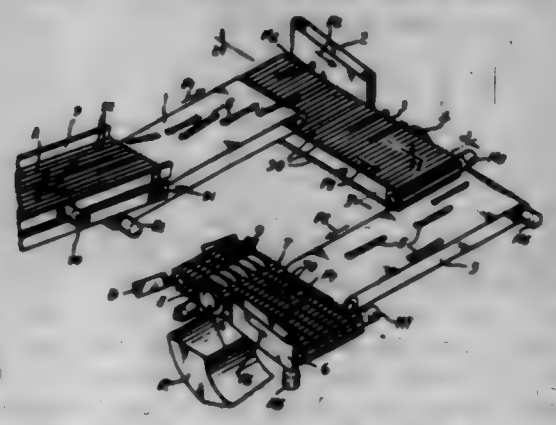
1. The combination with a print head and a drive member which extends into an opening in said head, of a mechanism for releasably attaching said print head to said drive member comprising, in combination, flexible fingers extending from said drive member upwardly through said opening, surfaces on said fingers adjacent their upper ends extending outwardly from the axis of said opening and engageable with said head at different points around the end of said opening, a button having a flange slidably engaging the inner sides of said fingers, a spring acting between said drive member and said button for urging the latter upwardly, and shoulders on said fingers adjacent their upper ends engageable by said flange for limiting upward movement of said button, said flange operating when engaging said shoulders to hold said surfaces on said fingers in engagement with said head.

2,969,865
PRINTING MACHINE HAVING INK-RIBBON REINKING MEANS
William J. Long, Framingham, Mass., assignor to Dennison Manufacturing Company, Framingham, Mass., a corporation of Massachusetts
Filed May 16, 1960, Ser. No. 29,195
3 Claims. (Cl. 197—171)



1. In a printing machine of the type having an ink ribbon, the combination of feed and take-up reels for the ribbon mounted side by side with a space therebetween and with their axes approximately horizontal, an ink roller bridging said space with its axis approximately parallel to said axes and resting on the rolls of ribbon on said reels, the ribbon feeding to and from said reels so as to rotate them in the same direction and therefore rotate the ink roller, and means to lift the ink roller off the ribbon rolls.

2,969,866
RHUBARB TRIMMER
Merrill N. Musgrave, 251 Securities Bldg., Seattle, Wash.
Filed Oct. 18, 1957, Ser. No. 690,936
4 Claims. (Cl. 198—29)



1. A machine useful in end-aligning stalks of rhubarb or the like, comprising means to deliver a supply of stalks to a feed station, a first belt moving beneath said feed station and receiving said stalks, means to align said stalks upon said first belt in general parallelism with each other and with the belt's direction of movement, means to advance said first belt and the stalks so aligned thereon at a rate sufficiently rapid to project the stalks endwise clear of the belt at its delivery end, a barrier disposed transversely of the path of the projected stalks, in position to intercept and halt the projection thereof,

a second belt disposed beneath the barrier-halted stalks, moving transversely of the first belt and receiving the halted stalks in parallel disposition, transversely of and generally aligned at one end upon said second belt, a third belt disposed transversely of and beneath the delivery end of the second belt, to receive the stalks from the latter, each in disposition lengthwise of the third belt, means to advance said third belt, in a sense opposite to the advance of the first belt, at a rate sufficiently rapid to project the stalks, with their previously trailing ends leading, beyond its delivery end, a second barrier disposed transversely to the path of the so-projected stalks, in position to intercept and end-align the now leading ends of the stalks, and a fourth traveling belt disposed transversely to the third belt, in position to receive and advance the stalks halted by the second barrier.

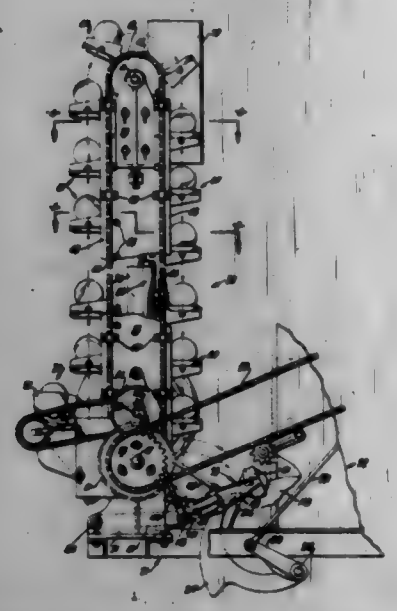
2,969,867

FRUIT TRANSFER APPARATUS

Etheridge R. McClelland, San Pablo, Calif., assignor, by mesne assignments, to Filper Corporation, a corporation of California

Original application Aug. 12, 1952, Ser. No. 303,913, now Patent No. 2,786,562, dated Mar. 26, 1957. Divided and this application Jan. 16, 1957, Ser. No. 634,546

5 Claims. (Cl. 198—33)



1. In combination with a peach pitter having peach receiving means and an orienting conveyor that includes a row of orienting mechanisms adapted to support and to orient individual peaches upon actuation of said conveyor, said orienting mechanisms being movable along a substantially straight path in one direction during said actuation of said conveyor for carrying said peaches along said path during orientation thereof, means connected with said conveyor for continuously actuating the latter, a transfer mechanism adjacent to said path and between said peach receiving means and said conveyor including peach gripping means adapted to move into gripping engagement with and to remove peaches from said orienting mechanisms following orientation thereof by said orienting mechanisms and to deliver the peaches so removed to said peach receiving means, mounting means mounting said peach gripping means adjacent to said conveyor for movement into gripping and carrying relation to individual peaches on said orienting mechanisms at a point along said path and for movement of said peach gripping means congruently with said conveyor for a predetermined distance in said one direction along said path, means connected with said peach gripping means for moving said peach gripping means into peach gripping relation during said movement of said peach gripping means congruently with said conveyor for said predetermined distance, said mounting means including means connected with said peach gripping means for moving said gripping means when said peach gripping means is in said gripping relation away from said path and to said peach receiving means after said peach gripping means has moved said predetermined distance.

2,969,868

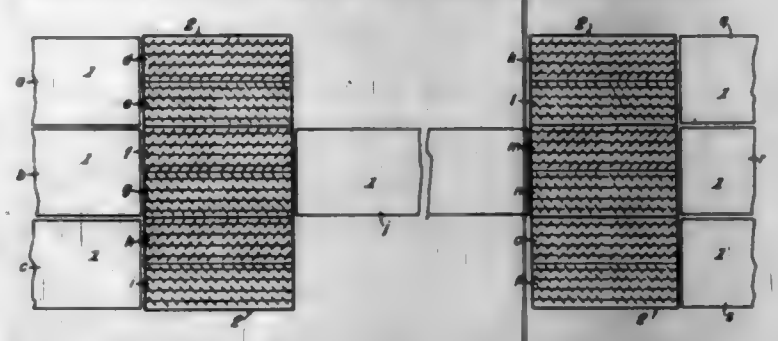
CONVERTIBLE SWITCH AND LOAD TRANSFERER FOR OVERLAND CONVEYOR SYSTEM

Harry I. Krellen, Newport News, Va., assignor to the United States of America as represented by the Secretary of the Army

Filed Aug. 15, 1958, Ser. No. 755,363

10 Claims. (Cl. 198—78)

(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A conveyor system comprising a main conveyor, a plurality of feeder conveyors and a plurality of helicoid screw units disposed in side-by-side alignment interconnecting said main and feeder conveyors, each of said feeder conveyors being terminated by a pair of helicoid screw units, one of said pair of units communicating with said main conveyor, each of said plurality of helicoid screw units including a plurality of uni-directionally revolving helicoidal screws and reversible drive means therefor.

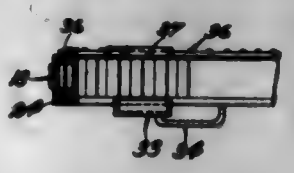
2,969,869

VACUUM DELIVERY BELT

Karl A. Klingler, 111 S. Wright St., Naperville, Ill.

Filed Sept. 12, 1957, Ser. No. 683,657

4 Claims. (Cl. 198—180)



1. A flexible, elastomeric, conveyor belt, containing a plurality of vacuum pockets enclosed therein and extending across the body thereof, the belt having a generally smooth surface adapted to contact a sheet to be transported, a plurality of suction ports open through such smooth surface, each communicating with a vacuum pocket, valve pockets in the edge of the belt, each communicating with a vacuum pocket through a valve seat therein, a valve associated with each seat, means for biasing the valve into engagement with the seat, a valve stem extending from the valve through the vacuum pocket and projecting beyond the opposite edge of the belt.

2,969,870

CONVEYOR CONSTRUCTION

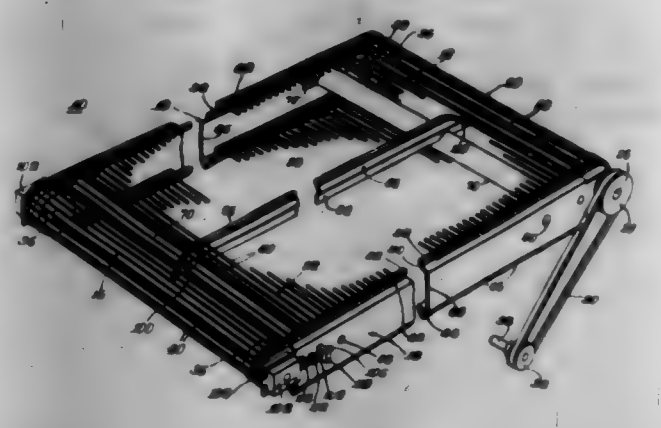
Willis Clark Pulver, Oak Lawn, Ill., assignor to Velten & Pulver Inc., Chicago Ridge, Ill., a corporation of Illinois

Filed July 9, 1957, Ser. No. 670,720

8 Claims. (Cl. 198—195)

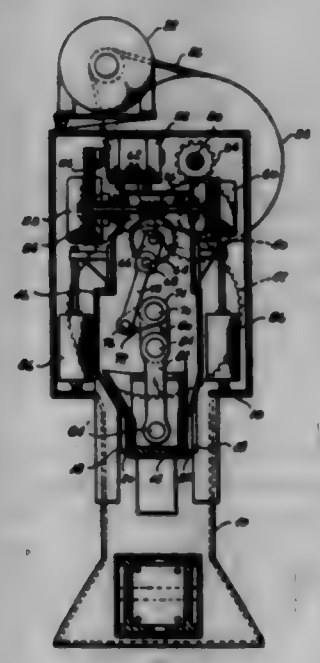
1. A conveyor comprising a pair of longitudinally extending stationary frame members, each of said frame

members including a substantially vertically disposed plate, said plates being mounted substantially parallel to each other, an inwardly and upwardly directed flange formed on the upper edge of each of said plates, an upstanding support rail formed on the upper edge of each of said flanges, each of said support rails having a bearing surface, a conveyor belt including a plurality of rods



disposed transversely with respect to said frame members, the bodies of said rods being disposed upon and supported fully by said bearing surfaces, and links interconnecting said rods, said bearing surfaces engaging the bodies of said rods adjacent the ends thereof at points spaced inwardly from said links and providing sliding point contact therewith during movement of said bolt.

2,969,871
METHOD OF OPERATING A HIGH SPEED SHELL FORGING PRESS
Philo H. Danly, Hinsdale, and Vasil Georgeff, La Grange Park, Ill., assignors to Danly Machine Specialties, Inc., Chicago, Ill., a corporation of Illinois
Filed Aug. 10, 1951, Ser. No. 241,272
1 Claim. (Cl. 205—8)



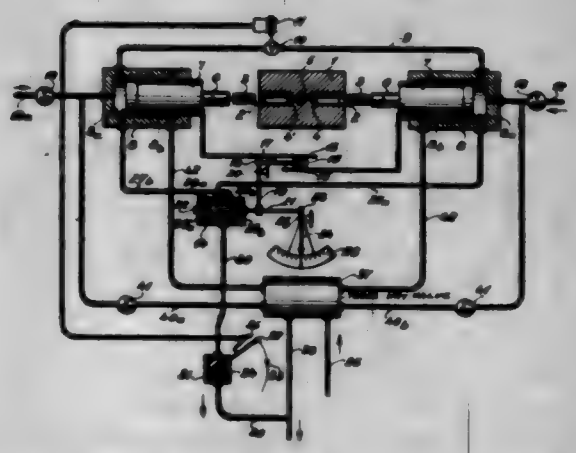
A method of drawing metal in a power press having a main slide and an auxiliary slide mounted on said main slide including the steps of placing a blank in the power press, extending the auxiliary slide to its bottom dead center position from an upper position, locking the auxiliary slide in its extended position, then reciprocating the main slide and its carried auxiliary slide with simple harmonic motion through a working stroke and a return stroke and returning the auxiliary slide to its upper position during said return stroke.

2,969,872
PACKAGE FOR ADHESIVE BANDAGES AND OTHER ARTICLES
John K. Chambers, Orange, Conn., assignor to The Seamless Rubber Company, New Haven, Conn., a corporation of Connecticut
Filed June 5, 1957, Ser. No. 663,701
1 Claim. (Cl. 206—63.2)



A packaged adhesive bandage comprising a rectangular strip-like wrapper of flexible, foldable, tearable material of greater length than the adhesive bandage, said wrapper having four parallel fold lines extending longitudinally of the strip-like wrapper from one end to the other, dividing the wrapper into five panels, said five panels including a middle panel, a pair of panels adjacent and folded back to overlie the middle panel and a pair of outermost panels, the two innermost fold lines being equally spaced from opposite longitudinal edges of the wrapper and the two outermost fold lines being equally spaced from opposite longitudinal edges of the wrapper, the middle panel being at least as wide as the adhesive bandage and the sum of the widths of the panels adjoining the middle panel being equal to the width of the middle panel, the width of the outer panels each being no greater than half the width of the middle panel, the adhesive bandage being interposed between the inner surfaces of the middle panel and the folded back panels adjoining the middle panel, the opposing faces of the middle panel and panels adjoining the middle panel being sealed together transversely beyond the ends of the adhesive bandage, the outermost panels being in faced contacting relation and sealed together throughout said contacting faces to form a longitudinal flange which can be pivoted from a position substantially perpendicular to the package to give the package a T-shaped configuration when viewed from one end to a position overlying one of the panels adjoining the middle panel to give the package a relatively flat appearance when viewed from one end.

2,969,873
DOUBLE-BILLET EXTRUSION PRESS
Peter Billen, Leverkusen-Kuppersteg, and Willi Linnerz, Duesseldorf-Eller, Germany, assignors to Schloemann Aktiengesellschaft, Duesseldorf, Germany
Filed May 17, 1957, Ser. No. 659,982
Claims priority, application Germany May 19, 1956
3 Claims. (Cl. 207—4)



1. A double billet extrusion press comprising a press head, opposed billet containers in said head, two opposed cylinders, two rams for engaging and pressing billets one in each container, two pistons connected one to each ram and slidably mounted in said cylinders, means for feed-

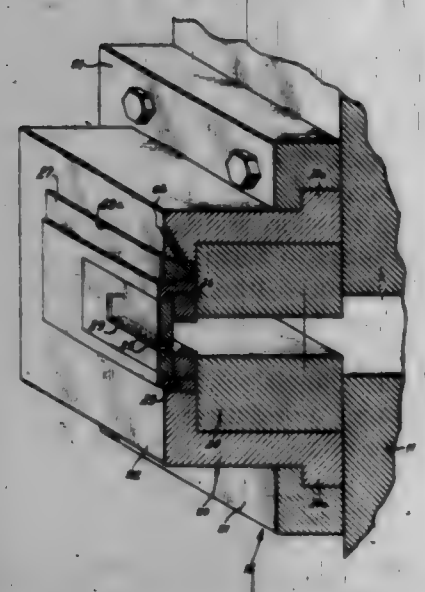
ing pressure fluid to each cylinder, a pipe connecting said cylinders for maintaining equal pressure therein, a control valve in said pipe, a synchronizing valve having pressure fluid inlets connected to each cylinder, a pressure fluid outlet on said synchronizing valve, a throttle valve in said fluid outlet, actuating means for said synchronizing valve comprising toothed racks fixed one to each piston and movable therewith and a pinion gear meshing with said racks and having an axle, said axle being connected to said synchronizing valve, whereby upon movement of said pistons at the same speed said axle will remain stationary and said synchronizing valve will be inoperative, but upon movement of one piston at a greater speed than the other piston, said axle will move to actuate said synchronizing valve to release pressure fluid from the cylinder of said one piston through said throttle valve to reduce the speed of said one piston thereby synchronizing the movement of said pistons.

2,969,874

EXTRUSION TOOLS FOR NON-CIRCULAR SECTIONS

Adolph J. De Matteo, Berkeley Heights, N.J., assignor to Farrel-Birmingham Company, Inc., Ansonia, Conn., a corporation of Connecticut

Filed Oct. 26, 1956, Ser. No. 618,567
1 Claim. (Cl. 207—17)



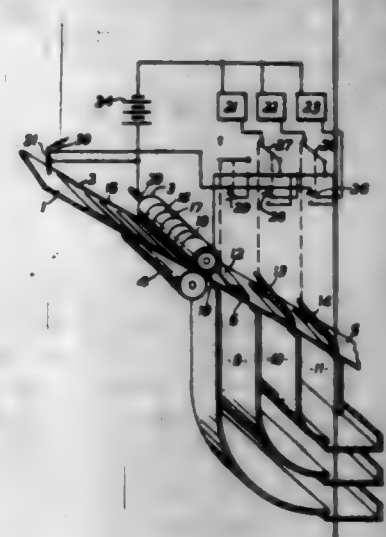
An extrusion die assembly comprising: a hollow die slide having one face thereof adapted to slide along the face of a press platen and the face opposite to said one face of said die slide having a rectangular opening which latter joins the hollow cavity in said die slide, at least one side of said opening having a slope that flares out from said face opposite to said cavity; two gibs adapted to be secured to said platen along opposite sides of said die slide to thereby hold said die slide in sliding contact with said platen; a hollow bolster filling said cavity and having a channel aligned with said opening and a corresponding channel in said platen; a rectangular die holder fitting against three sides of said opening one of which is said side having a slope, said holder seating on said bolster; a backer element seated on said bolster and enclosed by said holder, said element having a channel therethrough which is aligned with that of said bolster; an extrusion die seated on said element with the die sides being enclosed by said holder, said die having its billet contacting face free of but adjacent and substantially flush with a corresponding face on said holder, said die having an orifice therethrough which is aligned with the channels through said element, said bolster, and said platen; a wedge member pressed between said die and the side of said opening not contacted by said bolster, said wedge holding said die in assembled position; at least one stud holding said wedge in place; whereby said die, die holder, and their enclosed or surrounded parts may be, as a unit, readily slid to different positions along said face of said platen and may be readily disassembled as the occasion arises.

2,969,875

AUTOMATIC SORTING DEVICES

Thomas Symington McLeod, Redholme, Gomshall, Christopher Mark Deavin, London, and Geoffrey Cole, Woking, England, assignors to The Plessey Company Limited, London, England, a British company

Filed Nov. 24, 1958, Ser. No. 776,146
5 Claims. (Cl. 209—81)



1. In an automatic sorting device for sheets of insulating material according to a code formed by conductive lines extending transversely to a predetermined direction on at least one surface of said sheet, the combination of feed rollers for feeding each sheet in said direction, at least three feeler contacts arranged in a line for simultaneous contact with such surface of each sheet as the sheet is fed by the rollers, along a line extending in such transverse direction, means connecting each alternate contact to a first terminal, means connecting all other of said contacts to a second terminal, an electric decoding device including a pulse input circuit and relay controlled means determining the destination of each sheet according to the number of successive electric pulses transmitted by said circuit, said circuit including said first and second terminals so as to transmit a pulse each time any one of said contacts connected to the first terminal is connected by a conductive line portion on such sheet to any one of said contacts connected to the second terminal.

2,969,876

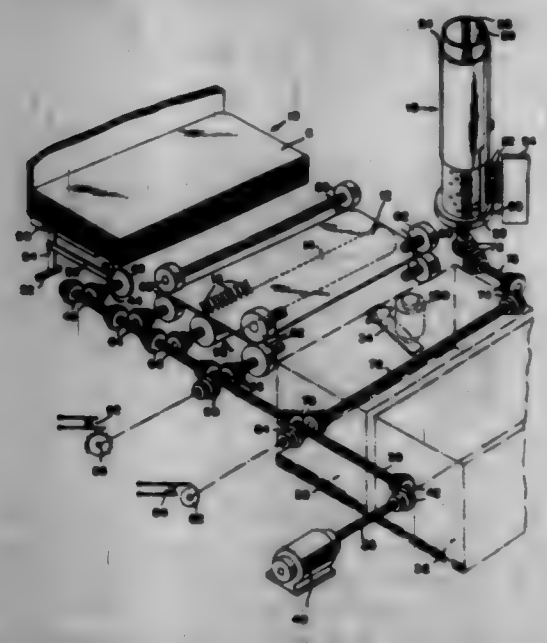
INFORMATION SEARCHING DEVICE

Hans P. Luhn, Armonk, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed July 14, 1955, Ser. No. 522,072
2 Claims. (Cl. 209—110)

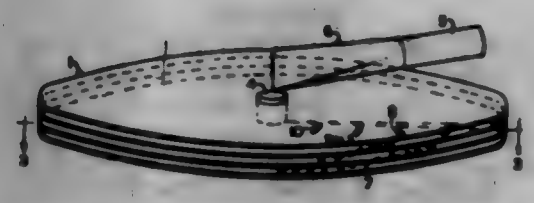
1. In a device for sorting data bearing detail records into two groups, one of said groups containing all detail records having data matching a question record and the other group containing all other detail records, a first sensing means, means for feeding said detail records successively past said first sensing means in a predetermined manner, a second sensing means, means for repeatedly feeding said question record past said second sensing means in a manner such that index points on said question record are sensed simultaneously with the sensing of corresponding index points on said detail records, sorting means, means responsive to the sensing of data at an index point in said question record for

activating said sorting means, and means responsive to a sensing of data at an index point of a detail record



simultaneously with the sensing of data at a corresponding index point of said question record for inhibiting said activating means.

2,969,877
APPARATUS FOR CLASSIFYING PARTICULATE SOLID MATERIAL
Andrew Grunberg, Deakin, Canberra, Australia (2 Minna St., Burwood, New South Wales, Australia)
Filed June 16, 1958, Ser. No. 742,190
Claims priority, application Australia June 28, 1957
2 Claims. (Cl. 209—144)



1. Apparatus for separating and classifying into fractions a particulate solid aggregate which is pumped under pressure together with a fluid through the apparatus, said apparatus comprising a launder in the form of a tightly helically wound completely enclosed tube of flattened rectangular cross section, said cross section having a high length to width ratio, the axis of the helix being vertical, said tube having a tangential inlet at one end of the tube, the other end of said tube having a plurality of parallel vertical partitions therein extending in the direction of the length of the tube and dividing the end of the tube into a plurality of outlets, the partition closest to the outer periphery curving from the said other end of the tube back along the tube parallel to the axis of the tube for one distance, and successive partitions positioned inwardly of said last mentioned partition curving back along the tube for distances which are successively less than the distance the said last mentioned partition extends.

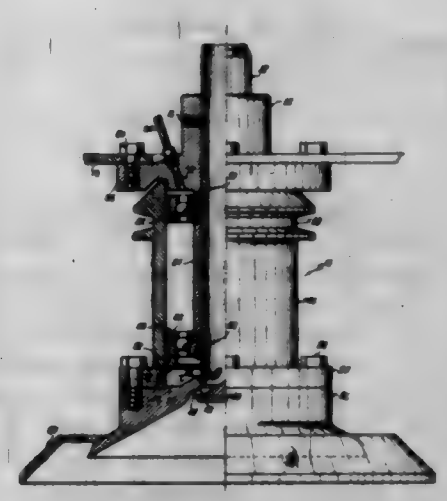
2,969,878
BELT TYPE SOLID SEPARATOR
John H. V. Finney, Jr., Denver, Colo., assignor, by mesne assignments, to Denver Equipment Company, Denver, Colo., a corporation of Colorado
Filed Aug. 9, 1954, Ser. No. 448,639
5 Claims. (Cl. 209—430)

1. In the art of treating solids in liquids in which a pulp containing a range of solids in a variety of sizes is fed into a pool having a substantially flat bottom portion formed on the distorted surface of a moving readily deformable endless belt, wherein the belt rises above the level of the pool at one end thereof to discharge settled solids from the pool, the improvement which comprises a belt arrangement of a relatively elastic center portion ca-



pable of stretch and shrink deformation and extending lengthwise of the belt in side by side relation with relatively inelastic side portions and laterally joined as an integral assembly.

2,969,879
LIQUID AND GAS MIXING MACHINE
Harold H. Belcher, Orange, Mass., assignor to Rodney Hunt Machine Co., Orange, Mass., a corporation of Massachusetts
Filed May 31, 1955, Ser. No. 511,937
1 Claim. (Cl. 210—70)

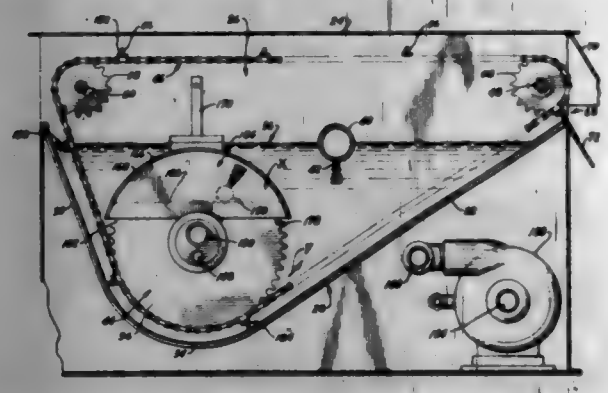


A method of separating particles from a liquid by flotation comprising the steps of propelling said liquid and particles across substantially all of a disc like rotating surface in the form of a thin unrestrained turbulent film in contact with said surface on one side and a gas on the other side to establish intimate contact between said particles and said gas, impinging said liquid onto the surface of a body of liquid at an angle sufficiently acute to prevent turbulence of said body of liquid, and skimming said body of liquid.

2,969,880
FILTER
Elmer C. Lundholm, 1535 10th St., and Harry L. Lundholm, 1908 Colorado Ave., both of Rockford, Ill.
Filed June 25, 1958, Ser. No. 744,441
7 Claims. (Cl. 210—393)

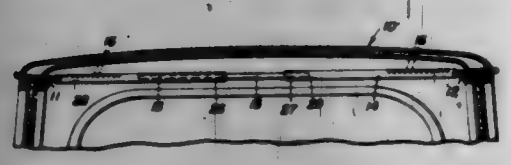
1. In a filter for coolant and the like, a tank adapted to hold coolant, an inlet for supplying coolant to be filtered to the tank, a continuous filter medium in the tank below the normal coolant level adapted to be moved through a continuous path, power means for moving the filter medium through its path, an outlet in communication with the inside of the filter medium for discharging filtered coolant, an air impervious hood over at least a part of the filter medium below the normal coolant level, means for supplying air to the hood to form an air pocket thereunder with a separate coolant

level through which at least a part of the filter medium path extends, and means for providing a counterflow of



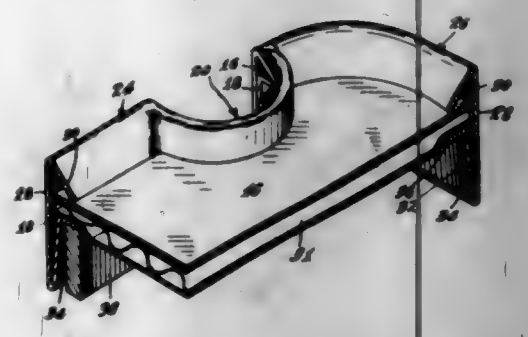
coolant through the filter medium as it passes through the air pocket under the hood.

2,969,881
CLOTHES HANGER ROD FOR AUTOMOBILES
Patrick E. Lilly, 455 Sunset Drive, Athens, Ga.
Filed Jan. 22, 1958, Ser. No. 710,476
2 Claims. (Cl. 211—105.3)



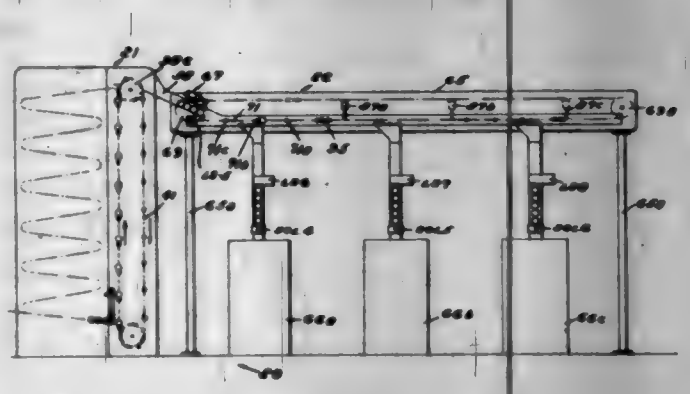
1. A clothes hanger for vehicles comprising an elongated rod assembly including three tubular, axially aligned, telescopingly and rotatably engaged sections, two of said sections comprising end sections and having the same inner diameter, the third tubular section having its opposite ends snugly and slidably disposed in the adjacent inner ends of said end sections, means at the remote ends of said end sections adapted to removably secure said rod assembly within an automotive vehicle against rotation about its longitudinal axis, a plurality of longitudinally spaced, transversely extending and upwardly opening notches formed in said end sections, each of said notches of a width to receive only one clothes hanger hook and being provided with substantially parallel side edges, said notches having their bottom edges disposed substantially on the horizontal diameter of said tubular sections and each being of a depth whereby a substantial portion of the notches will project above a hanger hook received therein insuring that said hooks will not be dislodged from said notches as a result of any jarring movement of the vehicle to which said assembly is attached and whereby the curved hook of a coat hanger will engage a section at two transversely spaced points along a horizontal plane passing through the longitudinal axis of the tubular sections thereby greatly reducing any tendency of the coat hangers to swing about the longitudinal axis of the end sections, said securing means comprising an eye secured to each of the opposite ends of said rod assembly each including laterally inwardly turned leg portions extending transversely through and rotatably journaled in the walls of the corresponding end section, said notches being confined to opposite end portions of the hanger to provide a full and unobstructed view in the center of an automobile in which said rod assembly is secured, one of said end sections including stop means projecting inwardly from the inner surface thereof between the innner end thereof and the innermost notch, said stop means engaging the corresponding end of said third section and preventing further telescoping of the latter within said one end section.

2,969,882
CART
Earl F. Hamilton, Columbus, Ind., assignor to Hamilton Cosco, Inc., a corporation of Indiana
Filed Oct. 21, 1957, Ser. No. 691,240
10 Claims. (Cl. 211—148)



1. In a cart, a plurality of generally rectangularly shaped shelves having opposed longitudinal edges and mounted in vertically spaced relation on a plurality of upstanding legs disposed adjacent the corners of said shelves, a shelf molding extending peripherally around each shelf and including a vertical web and a pair of members engaging said shelf to retain the molding thereon and stiffen said shelf, a silencer underlying each shelf and retained thereunder by one of said pair of members, a brace extending along each longitudinal edge of each shelf inwardly of the silencer-retaining molding member and engaging the molding at each end of the shelf for bracing said shelf, and means on said legs fastening each of them to the molding and one of said braces for securing said legs to the shelves in a bracing relation to form a rigid structure.

2,969,883
PARTS DISTRIBUTION AND STORAGE SYSTEM
Don A. Cargill and Avrel Mason, Birmingham, Robert A. Horvath, Detroit, and William H. Ducker, Oak Park, Mich., assignors to Cargill Detroit Corporation, Birmingham, Mich., a corporation of Michigan
Filed June 18, 1956, Ser. No. 592,075
11 Claims. (Cl. 214—16)



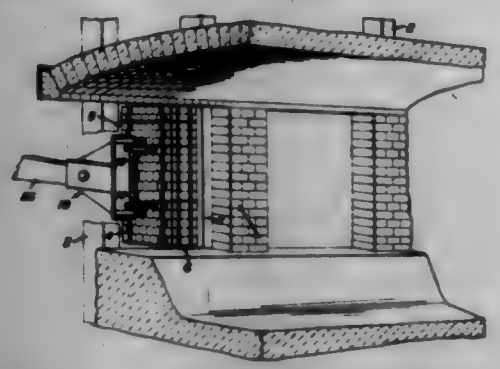
1. A storage and distribution system for supplying parts to a plurality of work stations comprising a storage unit containing a plurality of parts, a distribution unit including a conveyor having a plurality of parts-advancing means for receiving parts from said storage unit, said means each corresponding to one of said stations, respectively, a parts-receiving passage traversed by said conveyor and means controlling communication with said passage adapted to be actuated by traversing movement of said conveyor, signal means at each station responsive to the demand for parts at that station, and escapement means interposed between said conveyor and said storage unit for depositing a part on the conveyor at the appropriate parts-advancing means in response to said signal means.

2,969,884

DEVICE FOR HANDLING A REPAIR PIECE FOR A FURNACE

John V. Salmi, Morrisville, Pa., assignor to United States Steel Corporation, a corporation of New Jersey

Filed Dec. 5, 1958, Ser. No. 778,443
4 Claims. (Cl. 214—26)



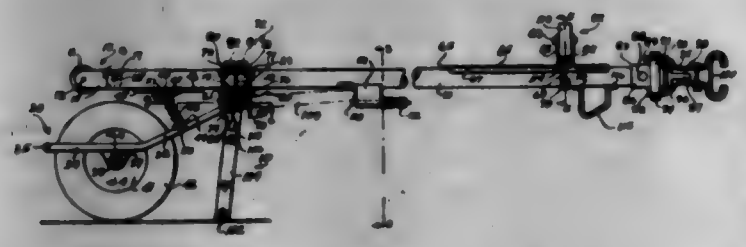
1. A device for handling a repair piece for a furnace and inserting the same through an opening in the furnace wall, said repair piece having a width greater than the width of said opening and a thickness substantially less than the width of said opening and having a horizontal hole in the face thereof, which device comprises means for attachment to a charging machine, a bracket, a vertical shaft rotatably mounted on the furnace end of said bracket, and an arm attached to said shaft for insertion in the hole of said repair piece, said arm being of sufficient length that the repair piece supported thereon clears the bracket so that the repair piece may be moved from a position in front of said bracket to a position substantially normal thereto alongside said bracket.

2,969,885

CARRIERS OR TRAILERS

Harold C. Lutz, 720 Forest Lane, Covington, Ky., assignor of forty percent to Raymond R. Vincent, Dry Ridge, Ky.

Filed Dec. 11, 1957, Ser. No. 702,004
2 Claims. (Cl. 214—500)



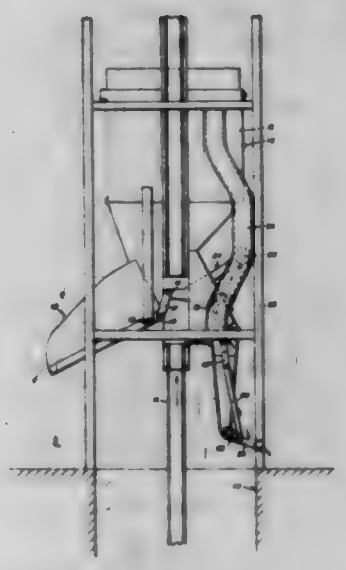
1. In a boat carrier of the class described comprising an elongated body member substantially the full length of the boat to be carried thereby, a rotatable boat support at the rear end of said body member, a cradle boat support at the forward end of said body member, an elongated transverse member carried by said body member with its lateral outer ends outwardly laterally of the body member, boat supports carried by said transverse member outwardly of the body member for engaging and supporting the boat intermediate its end supports, a wheel frame pivotally carried by the transverse member to extend rearwardly thereof below the rear end of the body member, a wheel rotatably supported by said wheel frame at a point substantially below the body member rear end and its rotatable boat support, a stand frame pivotally carried by said transverse member substantially coaxially with the wheel frame extending rearwardly and downwardly of the body member to a point just forwardly of the wheel, said stand frame including a base of a length to have its ends outwardly and substantially beneath the transverse member boat supports, said stand frame being adapted to be swung on its pivotal mounting to a position in a plane below the plane of the body member, means carried by said body member for releasably securing the stand frame in said last named position, and a depending support of less height than the pivoted stand frame adjacent the forward end of the body member cooperating with said stand frame for supporting said body member with its axis extending downwardly and forwardly and said pivoted stand extending downwardly and rearwardly preventing rearward movement of said body member.

2,969,886

MUCK BAILING ATTACHMENT FOR MINE SKIPS

Landy Taylor, Box 1185, Bartley, W. Va., and Lacy C. Brown, Bartley, W. Va. (Perry Highway, Rte. 2, Box 358B, Tallahassee, Fla.)

Filed May 8, 1959, Ser. No. 811,853
6 Claims. (Cl. 214—741)



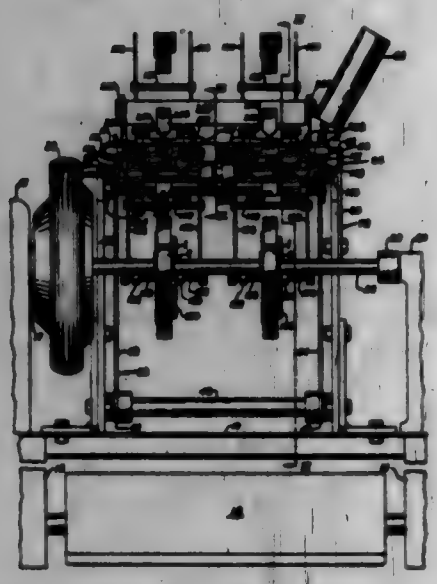
1. A muck bailing attachment for a mine skip, said skip including a top loading bottom discharge bucket mounted for vertical movement on vertical guides in a mine shaft, a discharge gate pivotally mounted on the bottom of said bucket, linkage means for operating said gate to open said bucket for discharging the contents and for closing said bucket for loading operations, a cam follower on said linkage means and a cam track adjacent the upper end of said shaft for engaging said cam follower slightly prior to termination of the upward movement of said skip to actuate said linkage to open said gate, downward movement of said skip and cam follower servserving to close said gate, said attachment comprising a frame including spaced side members secured to the bottom of said skip on the side opposite said gate and depending below said skip, cross braces extending between said side members, a dipper comprising and elongated front and a rear upwardly diverging wall and end walls, said rearwall terminating below said elongated front wall, said dipper being pivotally mounted at the lower end between the lower ends of said side members with said rear wall disposed on the side toward said skip and said elongated front wall on the side away from said skip, a crank arm fixed to the pivotal mounting of said dipper, a rocker arm pivotally mounted on one of said side members, a link connecting one end of said rocker arm and said crank arm and a second link connecting the other end of said rocker arm and said linkage means, whereby with said gate closed said dipper is disposed in vertical position to receive muck flowing into the same at the bottom of the shaft and upon operation of said linkage means to open said gate said dipper will swing outwardly away from said skip to discharge the muck at the opposite side, said elongated front wall providing a chute for the muck.

2,969,887
THREADED POURING LIP STOPPER COMBINATION FOR VACUUM BOTTLE
Louis J. Darmstadt, Norwich, and George W. Fuller, Hampton, Conn., assignors, by mesne assignments, to The American Thermos Products Company, Ann Arbor, Mich., a corporation of Michigan
Filed Apr. 8, 1959, Ser. No. 804,960
2 Claims. (Cl. 215—13)



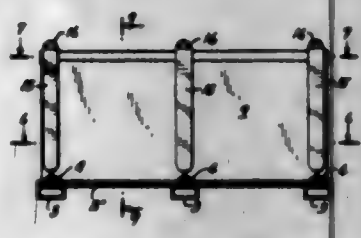
1. In a vacuum insulated bottle, the combination of case, a double-walled vacuum insulating filler within the case having an approximately cylindrical open mouth, a stopper member having an outer hand-gripping portion and an inner threaded cylindrical stopper portion, a circular rib on the surface of said mouth and disposed near the inner end thereof, a resilient stopper-receiving member having a cylindrical sleeve portion fitting within said mouth, and means on the casing for clamping said stopper-receiving member in position at the upper end of said mouth, said sleeve portion being internally threaded to receive the stopper portion of said stopper member, said sleeve portion defining an annular groove, said groove having a surface configuration closely conforming to all portions of said rib, and said stopper-receiving member terminating below said groove and adjacent thereto in an outwardly flared lip tapering in thickness to a thin edge forming a fluid seal against said mouth.

2,969,888
WINDING MACHINE
Theodore A. Whiting, Warren, R.I., assignor to Leesona Corporation, a corporation of Massachusetts
Filed Oct. 31, 1957, Ser. No. 693,747
8 Claims. (Cl. 216—33)



4. A machine for winding electrical coils from ribbons of conductive material comprising a rotatable spindle for rotating a core member about its longitudinal axis to wind a coil thereon, a pair of spaced side plates adjacent said axis, a carriage pivotally mounted between said side plates for pivotal movement toward and away from said axis, means for holding a supply of conductive ribbon, guide means on said carriage for directing a ribbon of conductive material drawn from the supply thereof onto said core, means carried by said carriage for holding a supply of tape having an adhesive on one face thereof, suction means carried by said carriage and movable relative thereto for holding the end of said tape, means carried by said carriage for holding a second supply of tape having an adhesive on one face thereof, suction means carried by said carriage and movable relative thereto for holding the end of said second tape, said end holding means being adapted to hold the ends of said tape with their surfaces parallel to the axis of said core and in radial alignment with a coil wound thereon, and means carried by one of said side plates and engaged by part of said carriage as it is pivoted for moving said suction means from positions spaced from the opposite sides of said ribbon as it extends between said guide and said coil wound on said core first to positions wherein they press the adhesive sides of said tapes against the periphery of said coil for application to said periphery circumferentially thereof and subsequently moves them adjacent and along opposite sides of said ribbon.

2,969,889
COLLAPSIBLE CONTAINER
Michel Morterol, 8 Rue de Marcoussiers, Paris, France
Filed Jan. 28, 1958, Ser. No. 711,584
Claims priority, application France Jan. 30, 1957
15 Claims. (Cl. 220—6)



1. A moisture-proof collapsible container comprising a rigid unitary platform having a raised supporting surface on which is mounted the load material to be contained, a unitary load enclosing cover seated on said platform and including a top panel and vertically disposed end and longitudinal panels, the lower edges of said end and longitudinal panels resting on edge portions of said platform located below said supporting surface, means on said platform for guiding said end and longitudinal panels into proper seating relation on such edge portions in position to enclose and shield said supporting surface, horizontally disposed hinge means connecting the upper edges of said longitudinal panels to opposite side edges of said top panel and including means protecting the lines of juncture of said panels against the passage of moisture therethrough while permitting pivotal movement of said longitudinal panels relative to said top panel, means on the opposite end edges of said top panel shielding the lines of juncture of such edges with the top edges of said end panels against passage of moisture therethrough, vertically disposed hinge means located at diagonally opposite corners of said cover and each hingedly connecting one side edge of an end panel to one side edge of a longitudinal panel, said vertically disposed hinge means each including means protecting the hinged joint defined thereby against the passage of moisture therethrough while permitting movement of the panels joined thereby, means provided on the other free side edges of one pair of said end and longitudinal panels associated with one vertical hinge means coacting with means provided on the other free side edges of the other pair of said longitudinal and end panels, respectively, associated with the other vertical hinge means to shield the lines of juncture formed thereby against passage of moisture therethrough, said horizontal and vertically disposed hinged means each being of substantial effective cross-section transversely of the axis of the hinge and continuously throughout its length to be resistant to substantial bending forces and end to end thrust along its axis, and means connected at its ends to opposite sides of

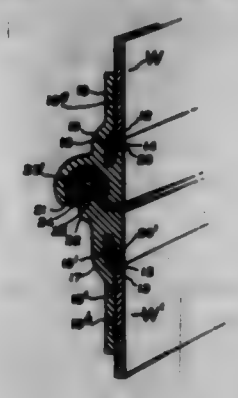
said platform and extending over said cover and holding said cover in said load covering position with respect to said platform.

2,969,890
ANIMAL OR LIKE FEEDING DISH
Leslie E. Udell, Cuyahoga Falls, Ohio, assignor to San-Fran Products Co., Cuyahoga Falls, Ohio, a partnership
Filed Apr. 14, 1958, Ser. No. 728,124
3 Claims. (Cl. 220—69)



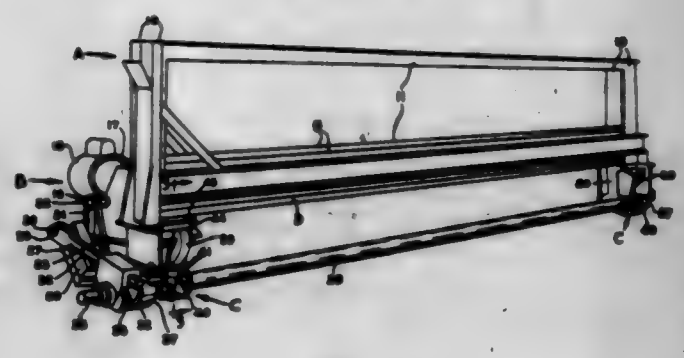
1. A feeding dish of the character described, comprising a container having a bottom wall, a cylindrical member affixed to said bottom wall and having an out-turned annular flange spaced therefrom to define an annular channel, a concavo-convex suction cup of flexible elastic material having a central opening entirely through the suction cup defining an annular portion complementally received in snug air-sealing relationship within said annular channel and about said cylindrical member to have said annular flange extending within said suction cup, whereby the suction cup is removable from said member by yieldingly distorting said annular portion over said annular flange and said annular flange limits downward movement of said container with respect to a flat supporting surface, said bottom wall having a peripheral rib outwardly concentric with said cylindrical member and positioned substantially closer to said flange than to the peripheral edge of said suction cup to engage the suction cup adjacent said cylindrical member, to maintain the cup-shaped form of the suction cup upon the same being flattened against the supporting surface.

2,969,891
CASE FINISHING MOLDING
Michael C. Presnick, 150—20 71st Ave., Flushing, N.Y.
Filed Mar. 12, 1958, Ser. No. 720,869
7 Claims. (Cl. 220—73)



1. In a sealable case comprising a pair of water impervious partial shell members having walls terminating in edges, the edges of said shells being adapted to register when superimposed, having inner edge engaging portions arranged to be continuous, molding strip members seated on said edges to form a sealing joint therewith and having outer seal portions arranged in the closed position of said case to form an impervious junction with each other comprising inwardly extending flange members adjacent said edge engaging portions, arranged intimately to be engaged with the inner faces of the walls adjacent said edges, offset lip portions spaced from said flange members, said lip portions including inner circumferential camming faces providing a seat to engage said edges in abutting relation and urge the flange inwardly against said walls as said strip members are seated over said edges, said walls, lip portions and flange members having rearwardly offset walls, adjacent the inner edges of each said shell member, a seated annular reservoir terminating adjacent said lip portions.

2,969,892
STICK DROPPING MECHANISM
Charles A. Sherman, Tacoma, Wash., assignor to Weyerhaeuser Company, Tacoma, Wash., a corporation of Washington
Filed Apr. 26, 1956, Ser. No. 580,911
8 Claims. (Cl. 221—210)

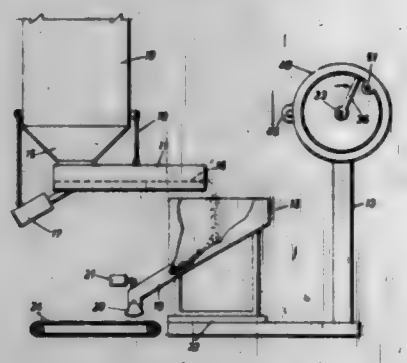


1. An article transfer mechanism comprising a magazine for holding a plurality of elongated articles, a rock shaft, means to rotate said shaft reciprocally approximately 180 degrees, rotatable means carried by said shaft, said rotatable means comprising two pairs of jaw members, one pair adjacent each end of the shaft and positioned below the magazine for receiving a single article at a time above the shaft and transferring said article to a discharging position below said shaft, said jaw members comprising jaws, said rotatable means further comprising means fixed to the shaft for effecting unitary rotation of said jaw members with the shaft between the receiving and discharging positions, said last mentioned means being engageable and disengageable at the receiving and discharging position with elements mounted on at least one of said jaw members to activate said jaws at the receiving and discharging positions, resilient means operative on said jaws for urging said jaws together into gripping engagement with an article therebetween, abutment means operative on one of said jaw members in each of said receiving and discharging positions 180 degrees removed from each other to stop said one of said jaw members operated upon in said position, article retaining means positioned below said magazine, said retaining means having a first position in engagement with a lowermost article in said magazine for supporting said articles and having a second position disposed away from said magazine to permit the article to feed downwardly, means urging said retaining means into said first position, and stop means for positioning said retaining means in said first position, said retaining means being in the path of at least one of said rotatable means for movement to said second position when said jaw members are rotated to said article receiving position.

2,969,893
CONSTANT WEIGHT FEEDER
Martin Peeters, 69 Lakewood Drive, Oakville, Ontario, Canada
Filed Mar. 2, 1959, Ser. No. 796,699
8 Claims. (Cl. 222—23)

1. A constant weight feeder which comprises the combination of a receptacle for bulk material, said receptacle having an outlet and normally closed closure means for said outlet, intermittently actuated means for feeding bulk

material from a source of supply to said receptacle in individual batches of random weights, means for weighing each batch of material fed into said receptacle, timing means actuated by said weighing means, means actuated by said timing means for opening said closure



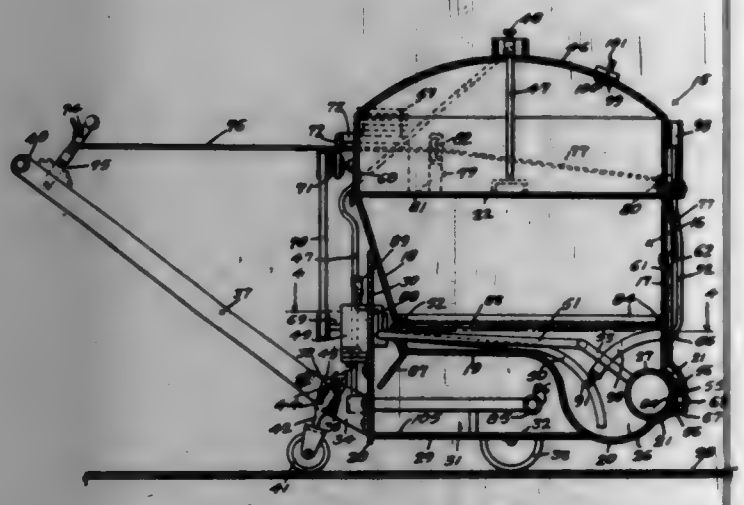
means at an instant determined by the weight of the batch of material in said receptacle and for closing said closure means at the end of a predetermined time, and means actuated by the closing of said closure member for energizing said intermittently actuated feeding means for a predetermined time.

2,969,894

COATING MACHINE

Frank A. Reustle, Box 14, Norma, N.J.

Filed May 16, 1958, Ser. No. 735,750
5 Claims. (Cl. 222—113)



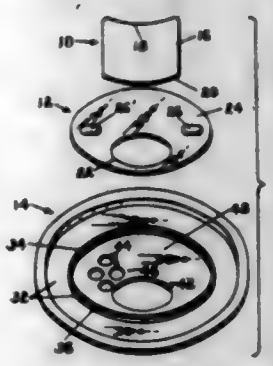
1. A coating applying machine comprising an elongated body including an elongated tank and an elongated heater casing connected to said tank, said body including a forward side and a rear side, said heater casing constituting a part of the forward side of the body, said tank having a slot extending from end-to-end thereof and located adjacent a rear side and bottom of the body, an elongated pipe, having closed ends, secured in the tank and disposed to close said slot, said pipe having discharge openings opening through said slot of the tank, a conduit system located within the bottom portion of the tank and partially within said heater casing adapted to supply a coating material under pressure from the bottom portion of said tank to said pipe, a driven pump interposed in said conduit system including a part disposed within the heater casing, a burner disposed within the heater casing beneath a part of the tank for heating the tank and said conduit system and pump, said tank having at least one opening in the top thereof through which the tank is adapted to be filled with solid pieces of coating material to be melted by the heat from the burner, and means providing a wheeled support for said body.

2,969,895

CONTAINER CLOSURE

Edward V. Rucki, Jr., Denville, N.J., assignor to King Container Corporation, Rockaway, N.J., a corporation of New Jersey

Filed Mar. 2, 1959, Ser. No. 796,340
8 Claims. (Cl. 222—153)



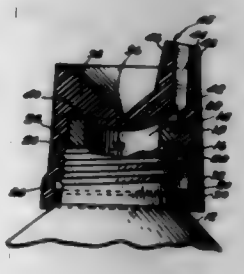
1. A closure unit secured to a container for selectively dispensing the contents of the container, including a base member, having at least one dispensing opening affording access to the interior of the container, fixedly sealed to one end of the container, a swivel member, having at least one dispensing opening therethrough, mounted for rotation relative to said base member, means for aligning the dispensing opening of said swivel member so that the contents of the container may be freely dispensed through the aligned dispensing openings and selectively operable container sealing means to retain said swivel member immobile relative to said base member and to simultaneously seal at least the dispensing opening in said swivel member.

2,969,896

CAP OR CLOSURE FOR CONTAINERS OR TUBES

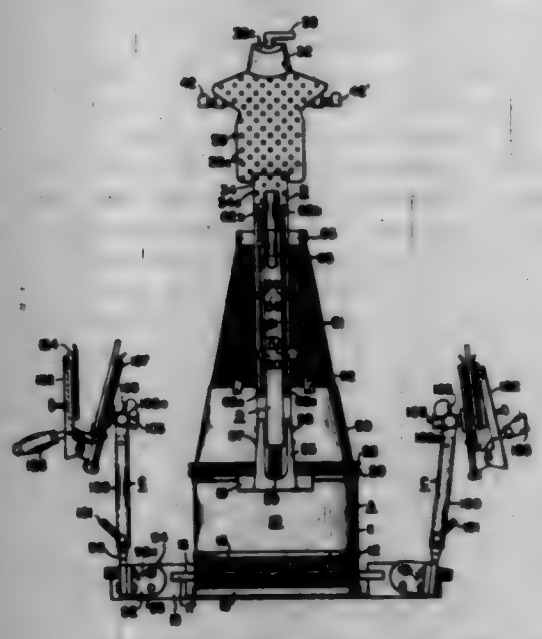
Nathan B. Lerner, Chicago, Ill., assignor to W. Braun Co., Chicago, Ill., a copartnership

Filed Oct. 28, 1957, Ser. No. 692,895
2 Claims. (Cl. 222—520)



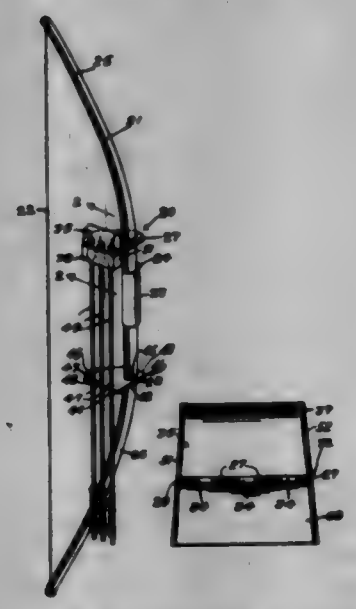
1. A one piece cap for a container for material, which container has a threaded neck portion and discharge opening therein, said threaded portion terminating below said discharge opening to provide an unthreaded wall portion, said cap being formed of substantially resilient material and having a continuous and uninterrupted tubular body provided with a continuous and uninterrupted thread cooperating with the threaded neck and having an unthreaded portion above said threaded portion for cooperating with the unthreaded wall portion, a top portion extending across the tubular body and having a central boss for engaging the container neck portion to obtain a line seal with said neck portion, said cap having a slot laterally of said sealing boss and at the upper end of the tubular body beyond the thread on said tubular body, and a discharge spout laterally of said sealing boss and extending axially and outwardly beyond the top of said cap and in communication with said slot to permit discharge of the material through said spout when the cap is partially unthreaded.

2,969,897
GARMENT AIR STEAM FINISHER
August F. Paris, Oak St., Brockway, Pa.
Filed Feb. 27, 1956, Ser. No. 568,024
7 Claims. (Cl. 223—67)



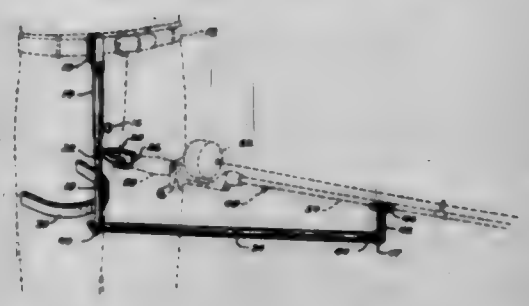
1. An improved apparatus for finishing clothing which comprises, a flexible and permeable bag-like form, a base unit having a base rim rotatably mounted thereon, a central post rotatably mounted on said base unit and having a shoulder support, said form being mounted on said shoulder support and said base rim, support rods mounted on said base rim and projecting upwardly therefrom to reinforce said form, said form having a bustle portion along its back side with an open slot along a substantial vertical extent thereof to receive the lining of an article of clothing that is positioned on said form, said bustle portion being adapted to simultaneously receive a tail flap portion of the article, and slide fastener means along a portion of said form to increase and decrease its size.

2,969,898
ARROW HOLDER
James C. Ramsey, % Shop of the Red Eagle, Lincoln, N. Mex.
Filed May 15, 1958, Ser. No. 735,465
1 Claim. (Cl. 224—1)



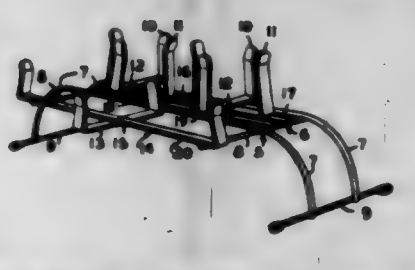
An arrow holding attachment for bows comprising an arrowhead supporting plate, said plate having an elongated slot therein for detachable engagement over the upper end of the bow in a generally horizontal plane with the bow in upright position, said plate having a plurality of arrowhead receiving openings extending vertically therethrough adjacent one edge thereof, said openings having a dimension such as to prevent said arrowheads from passing completely therethrough, an arrow supporting plate, said last-named plate having an elongated slot for detachable engagement over the lower end portion of the bow, said last-named plate arranged in underlying spaced parallel relation to said first-named plate, said last-named plate having a plurality of arrow shaft engaging apertures each underlying a respective one of said openings for frictionally engaging and supporting an arrow shaft with the arrowhead thereof supported in a respective overlying opening in the first-named plate, a shield having an inverted generally U-shaped configuration secured to said first-named plate on the side thereof opposite said second-named plate in overlying relation to said openings to cover the points of the arrowheads supported thereon, said shield including a depending skirt integrally formed thereon, said skirt projecting below said first-named plate, and a pair of perpendicular end flanges formed on opposite ends of said shield and said skirt and of a length to enclose the barbs of arrowheads supported in the openings of said first-mentioned plate to prevent damage to said barbs and injury by said barbs of the hands of the user, said end flanges being separated from the U-shaped shield at the bight thereof, and a space below the shield on the side nearest the bow being open for flexibility of the shield when the bow is flexed.

2,969,899
HOLDING DEVICE FOR FISHING RODS
Riley H. Brooks, 1522 1st St., Webster City, Iowa
Filed July 23, 1959, Ser. No. 829,022
5 Claims. (Cl. 224—5)



1. In a holding device for fishing rods, a first rod normally disposed in a vertical position, a belt-receiving hook means secured to the upper end of said first rod, a second rod pivotally connected to the lower end of said first rod a U-shaped leg band secured to the lower portion of said first rod, and supporting means on said first and second rods for receiving portions of a fishing rod.

2,969,900
ARTICLE SUPPORT TO SPAN HUMP IN AN AUTOMOBILE FLOOR
Harry R. Hesler, 2906 E. 18th St., Raytown, Mo.
Filed Feb. 26, 1959, Ser. No. 795,777
2 Claims. (Cl. 224—29)



1. A support frame comprising: a pair of parallel wire base members spaced sufficiently and adapted to rest at respective base junctures of a hump in the floor of an

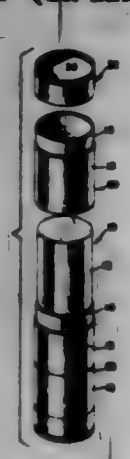
automobile, a pair of spaced, parallel elongated wire members, said pair of parallel wire base members being located transversely to said pair of parallel elongated wire members, the mid-portions of said pair of parallel elongated wire members being normally horizontal, the end portions of said pair of parallel elongated wire members being gradually curved outwardly and downwardly and secured to respective said wire base members, a pair of parallel cantilever wire members, said pair of parallel cantilever wire members being spaced and secured transversely to the mid-portions of the said pair of parallel elongated wire members, an upwardly opening generally U shaped spring clip, said pair of parallel cantilever wire members being extended outwardly sufficiently from one of said pair of parallel elongated wire members to support said upwardly opening generally U shaped spring clip and being secured thereto, a second upwardly opening generally U shaped spring clip, said second upwardly opening generally U shaped spring clip being located transversely on and secured to said first mentioned upwardly opening generally U shaped spring clip.

2,969,901
FLAT BOTTOM PAPER CONTAINER
Herbert C. Behrens, Easton, Pa., assignor, by mesne assignments, to American Can Company, New York, N.Y., a corporation of New Jersey
Filed Oct. 31, 1956, Ser. No. 619,552
2 Claims. (Cl. 229—1.5)



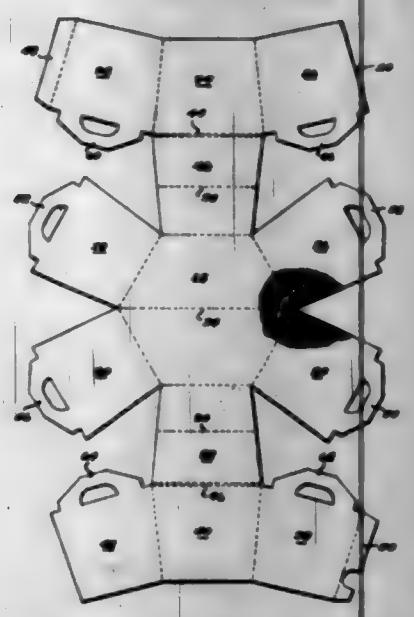
1. A flat bottom paper cup, comprising a body part formed from a rolled blank having overlapping marginal portions forming a side seam, a skirtless bottom, the lower margin of the body part being folded under said bottom and secured thereto, and the outer overlapping lower marginal portion of said body part having an extension on the bottom edge thereof reaching on both sides of the free edge of the inner overlapped lower marginal portion and extending farther beneath said bottom than the bottom edge of the inner lower marginal portion, said extension being secured directly to the bottom, whereby to prevent leakage past the bottom end of the seam.

2,969,902
UNITARY SECTIONABLE CONTAINERS
James Cage, Valley Stream, N.Y., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed May 17, 1957, Ser. No. 659,997
1 Claim. (Cl. 229—4.5)



A sectionable container comprising a bottom plate, a bottom wall section including a bottom outer ring extending upwardy from said bottom plate, and a bottom inner ring having the lower portion of its outer surface adhesively secured to the inner surface of said bottom outer ring, said bottom inner ring extending for a substantial distance above the upper edge of said bottom outer ring; a plurality of intermediate wall sections telescopingly superposed above said bottom wall section in the shape of a tube, each said intermediate wall section including an inner ring having the lower part of its outer surface adhesively secured to the upper part of the inner surface of an outer ring, each said inner ring having an outer diameter substantially equal to the inner diameter of the outer ring, each said intermediate outer ring having its lower part surrounding the upper part of an inner ring next below in slidable telescoping engagement; a cap closing the upper end of the container, said cap including a top plate and a top outer ring extending downwardly from the edge of said top plate, said outer top ring having an inner diameter substantially equal to the outer diameter of said intermediate inner rings, said top outer ring surrounding the upper part of the inner ring of the intermediate wall section located next below, said outer rings having abutting edges and being beveled around their outer edges to form grooves at the joints where the outer rings abut; and, a substantially impermeable sheet adhesively secured to the outer surfaces of said top, intermediate, and bottom outer rings, said sheet extending integrally across said joint between said outer rings, said sheet being indented into said grooves to provide externally-visible markings at said joints, said sheet initially forming a substantially-impermeable barrier and a connecting element around the container, but being severable around said joints between adjacent sections to permit them to be separated from each other.

2,969,903
PAPERBOARD BASKET STRUCTURE FOR FRUIT AND THE LIKE
Clifford H. Keith, Miami, Fla., assignor, by mesne assignments, to The Mead Corporation, Dayton, Ohio, a corporation of Ohio
Filed Sept. 18, 1957, Ser. No. 684,698
5 Claims. (Cl. 229—16)



1. A paperboard basket structure of the character described comprising an hexagonal bottom wall panel medially foldable across corners thereof, a liner panel foldably hinged at each side edge of said hexagonal bottom wall panel, the pair of liner panels at the opposed side edges of said bottom wall panel parallel with the medial folding axis thereof also being medially foldable at a parallel axis and having coextensive side wall panels foldably hinged at the opposite edges thereof, and additional side wall panels foldably hinged at the opposite side edges

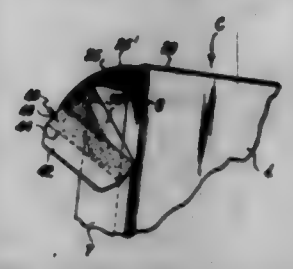
of each of said first mentioned side wall panels and respectively connected foldably and thereby forming an endless series including all of said side wall panels, whereby said basket structure may be disposed in collapsed form with said bottom wall panel medially folded and the respective liner and side wall panels at opposite sides of the medial fold therein arranged in face-to-face relation, and whereby said basket structure may be set up from said collapsed form to an erect form by opening said endless side wall panel series and inserting said medially folded bottom wall panel therein with all of the liner panels except said medially foldable pair disposed in inwardly folded relation over said medially folded bottom wall panel and then opening said bottom wall panel into place and disposing said liner panels at the inner faces of the respective side wall panels.

2,969,904

CARTON WITH INTEGRAL POURING SPOUT AND BLANK THEREFOR

Charles E. Cottrill, Fairborn, Ohio, assignor, by mesne assignments, to Standard Packaging Corporation, New York, N.Y., a corporation of Virginia

Filed July 24, 1957, Ser. No. 673,831
2 Claims. (Cl. 229—17)



1. A carton made from a blank and comprising three walls defining a corner of the carton, a triangular flap forming part of one wall and defined in part by two angularly disposed score lines, one a diagonal score line which extends between two edges of the wall of which the triangular flap forms a part and the other a score line which extends along one of the edges of the corner, the diagonal score line serving as a pivot for the triangular flap when the triangular flap is lifted to expose a pour opening at the corner of the carton, a spout flap connected to the triangular flap by said score line extending along the edge, said spout flap underlying one of the walls defining the corner when the triangular flap lies in the plane of its respective wall, a pull tab connected to the triangular flap for pivoting it about the diagonal score line to pull the spout flap from its position underlying one of the walls, the exposed portion of the spout flap having a curve imparted to it as the triangular flap is pivoted further outwardly about the diagonal score line, whereby the triangular flap and the exposed curved portion of the spout flap cooperate to define a pouring spout for a pour opening in the carton exposed by the triangular flap, and means internally of the carton and supported by one of the walls so as to underlie the spout flap to define a slit for guiding the spout flap therein and maintain it in closely-spaced relation with the wall which the spout flap underlies.

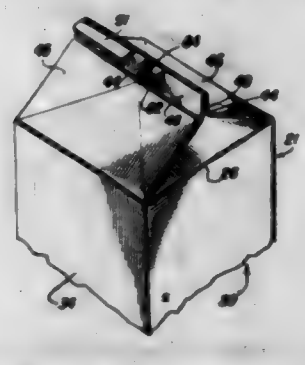
2,969,905

DISPENSING CONTAINER

Eric A. Braun, Havertown, Pa., assignor to Ex-Cell-O Corporation, Detroit, Mich., a corporation of Michigan

Filed Dec. 1, 1958, Ser. No. 777,322
3 Claims. (Cl. 229—17)

1. A gable top container of paperboard or the like, comprising, in combination, a tubular body having a bottom closure, a pair of opposed roof panels inclined toward each other and overlying said body, a pair of opposed triangular end panels in-folded between said roof panels from the opposite gable ends formed by the latter, two pairs of triangular fold-back panels each pair of which is joined with a respective one of said end panels along fold lines which are substantially in contact with the under sides of said roof panels, a plurality of inner and outer rib panels surmounting said roof panels and said end and fold-back panels and respectively joined thereto along fold lines and defining a laminar top rib, the outer rib panel of one of said roof panels comprising a tuck-in flap, the outer rib panel of said other one of said roof panels comprising a fold-over flap, said tuck-in flap



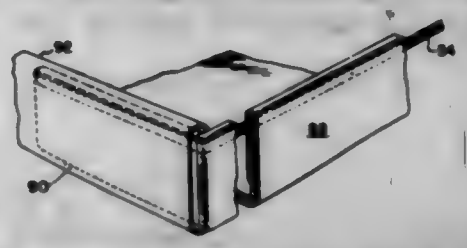
being inserted between the inner side of the inner rib panel of said other roof panel and the juxtaposed sides of the adjacent fold-back panels, the inner rib panel of said one roof panel having an arcuate cut therein intersecting the fold line between such inner rib panel and said tuck-in flap and defining a tab integral with said tuck-in flap and movable therewith into an open position with respect to such inner rib panel to vent the container as an incident to its closure, said tab being engaged by said fold-over flap and returned thereby into closed position with said fold-over flap fully covering the same upon completion of the closure of the container.

2,969,906

REENFORCED BOX AND BOX BLANK AND METHOD AND MACHINE FOR MAKING THE SAME

Chester E. Claff and Carl A. Moeller, Randolph, Mass., assignors to M. B. Claff & Sons, Inc., Randolph, Mass., a corporation of Massachusetts

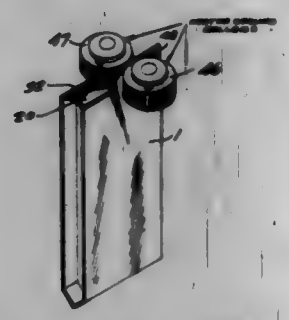
Continuation of application Ser. No. 634,248, Jan. 15, 1957. This application Nov. 24, 1959, Ser. No. 856,636
5 Claims. (Cl. 229—50)



1. A box blank comprising a web of cardboard having a longitudinally extending side wall portion and an integral corner lap at one end of the side wall portion, the web having a marginal edge extending along the side wall portion and corner lap, a layer of cover paper folded over said marginal edge, edge and corner reenforcing means including a multiplicity of fine synthetic fibers extending along said web in overlying relation thereto and disposed closely adjacent to the marginal edge surface of the blank and between the web and cover paper, a vegetable starch base first adhesive disposed on the surface of the cover paper next adjacent the side wall portion and corner lap and bonding the cover paper to the web, and a second adhesive of a type other than a vegetable starch base adhesive bonding the fibers to said marginal edge surface and bonding the fibers to the first adhesive on the portion of the

cover paper overlying the fibers, said second adhesive further anchoring said fibers against lateral separation, said second adhesive being compatible with said first adhesive and said fibers and said web.

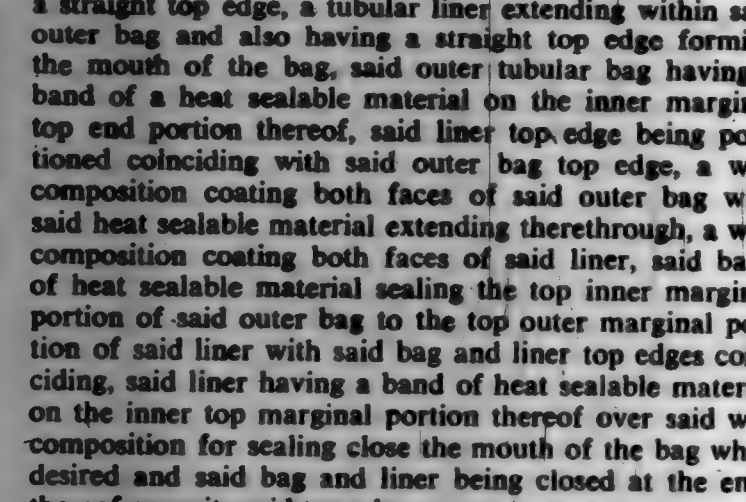
2,969,907
REINFORCED BAG
Warren N. Hubert, Dallas, Tex., assignor to Dixie Wax Paper Company, Dallas, Tex.
Filed Apr. 15, 1958, Ser. No. 728,730
1 Claim. (Cl. 229—55)



A multiply bag comprising an outer tubular bag having a straight top edge, a tubular liner extending within said outer bag and also having a straight top edge forming the mouth of the bag, said outer tubular bag having a band of a heat sealable material on the inner marginal top end portion thereof, said liner top edge being positioned coinciding with said outer bag top edge, a wax composition coating both faces of said outer bag with said heat sealable material extending therethrough, a wax composition coating both faces of said liner, said band of heat sealable material sealing the top inner marginal portion of said outer bag to the top outer marginal portion of said liner with said bag and liner top edges coinciding, said liner having a band of heat sealable material on the inner top marginal portion thereof over said wax composition for sealing close the mouth of the bag when desired and said bag and liner being closed at the ends thereof opposite said top edges.

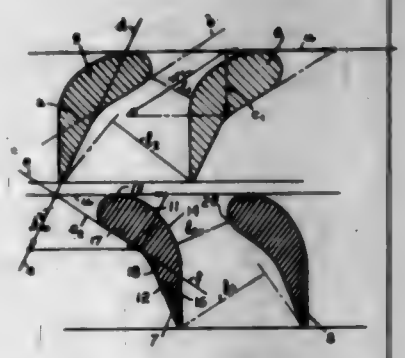
2,969,908
IMPULSE AXIAL-FLOW COMPRESSOR
Frederick Dallenbach, Phoenix, Ariz., assignor to The Garrett Corporation, Los Angeles, Calif., a corporation of California
Original application Apr. 27, 1953, Ser. No. 351,155, now Patent No. 2,923,461, dated Feb. 2, 1960. Divided and this application Feb. 24, 1958, Ser. No. 717,244

6 Claims. (Cl. 230—117)



1. An axial-flow compressor comprising: an electric motor having a rotor; motor field windings spaced from said rotor and surrounding the same; a heat exchanging casing surrounding said windings; a second casing spaced from said heat exchanging casing and forming a duct therewith for directing air in heat exchanging relationship with said heat exchanging casing; a cooling air impeller operatively associated with and driven by said rotor, causing air to flow through said duct; a third casing surrounding said second-mentioned casing and forming a second duct outwardly thereof; a compressor wheel spaced axially from said cooling air impeller, said compressor wheel being connected to said rotor and having blades adapted to force air through said second-mentioned duct; and seal means intermediate said compressor wheel and said impeller to prevent leakage of air from said wheel to said impeller.

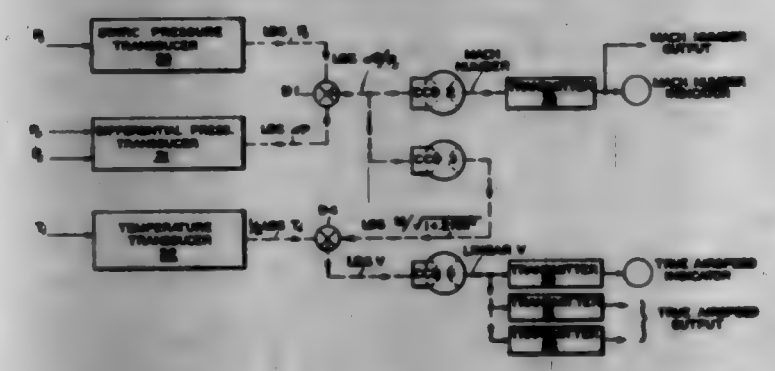
2,969,909
BLADING OF AN AXIAL ROTATIVE COMPRESSOR
Gio Batta Sommariva, Corso Italia 85, Genoa, Italy
Filed Aug. 13, 1957, Ser. No. 678,007
Claims priority, application Italy Sept. 1, 1956
1 Claim. (Cl. 230—122)



In a machine of the multi-stage axial flow type for converting kinetic energy of a gaseous fluid into pressure rise and having a stator, a driven rotor and a longitudinal axis, a plurality of successive compressor stages comprising alternately arranged rows of angularly spaced radially extending blades on the rotor and the stator each having geometrically alike cross-sections and the space between successive blades being equal in each row of blades, each of the blades having a thick-sectioned inlet portion at an angle relative to said longitudinal axis and a trailing discharge portion with said inlet portion substantially thicker in cross-section than said discharge portion with next adjacent blades of respective rows jointly defining a respective diffuser between them, the blades in the rows on the rotor being disposed in one sense relative to the longitudinal axis of the machine and the blades on the stator being disposed in an opposite sense relative to the longitudinal axis to define a predetermined optimum angle of entry in the successive rows, each blade having a convex leading edge and having oppositely disposed radially extending side surfaces, one of said sides having a convex surface along the inlet portion of the blade smoothly merging with the convex leading edge and smoothly merging with a flat surface of the discharge portion substantially normal to a plane at right angles to the longitudinal axis of the rotor, the opposite side having a surface at an angle relative to said longitudinal axis and substantially flat along substantially a major part of the inlet portion smoothly merging with the arcuate leading edge and merging smoothly with a concave surface of the discharge portion converging substantially along a straight path toward said surface normal to said plane to define a substantially narrow discharge end, said inlet portion forming a major sectional portion of the blade and the discharge portion being longer than the inlet portion, said leading edge of one of said two adjacent blades in a row and said convex surface of the inlet portion of the other blade jointly defining a throat in the respective diffuser defined between said two adjacent blades, and the con-

cave surface of each of the discharge portions of the individual blades being so curved as to turn in operation the gaseous fluid within the respective diffusers in a direction parallel to a tangent to the straight surface of the inlet portion of the blades of the next successive row of blades so that the gaseous fluid passes through the diffusers through a pattern of turning in which maximum pressure rise is effected in each stage and the gaseous fluid enters the space between adjacent blades of the successive rows of blades in a direction parallel to a tangent to the straight surface of the inlet portion of the blades.

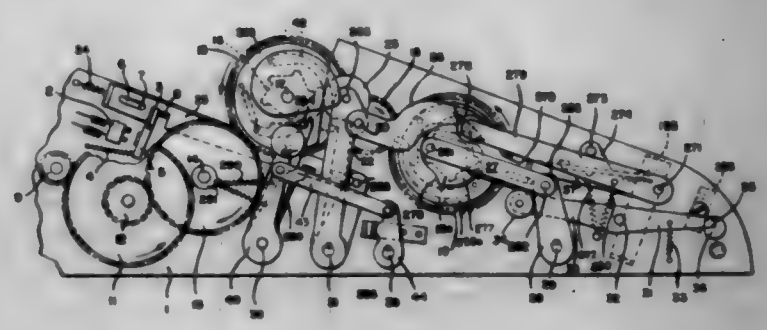
2,969,910
MACH NUMBER AND AIRSPEED COMPUTER WITH CORRECTION DIFFERENTIAL
Paul L. Reuter, Franklin Lakes, N.J., assignor to The Bendix Corporation, a corporation of Delaware
Filed June 30, 1954, Ser. No. 440,395
8 Claims. (Cl. 235—61)



1. For use in an aircraft having means for sensing static atmospheric pressure, means for sensing static atmospheric and total impact differential air pressure, and means for sensing ambient atmospheric temperature, each of said condition sensing means including means to effect an output signal providing a measure of the condition sensed by the condition sensing means during the prevailing flight conditions of the aircraft; an air data computer comprising a first differential coupling means for algebraically summing the static atmospheric pressure output signal and the differential pressure output signal so as to effect a first resultant signal, a first cam correcting differential mechanism driven by said first resultant signal to effect a fourth output signal providing a measure of the Mach number of the aircraft, a second differential coupling means for algebraically summing the ambient atmospheric temperature output signal and said fourth output signal so as to effect a second resultant signal, and a second cam correcting differential mechanism driven by said second resultant signal to effect an output signal providing a measure of the airspeed of the aircraft.

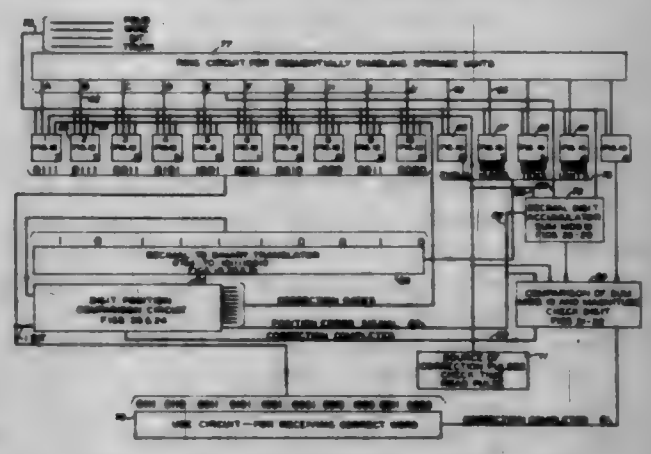
2,969,911
CALCULATING MACHINE ACTUATOR AND CARRIAGE CONTROL
Wilhelm K. B. Kiel, Nurnberg, and Ulrich T. R. Eichler, Nurnberg-Ebensee, Germany; said Kiel, assignor, to Metall-Guss und Presswerk Heinrich Diehl G.m.b.H., Nurnberg, Germany
Filed Aug. 8, 1952, Ser. No. 303,392
Claims priority, application Germany Aug. 11, 1951
7 Claims. (Cl. 235—63)

5. In a motor driven calculating machine, a differential actuator, a first normally disengaged power transmission mechanism for connecting said motor to said actuator, main clutch means including first and second spring power operated control means for engaging said main clutch means, auxiliary clutch means operatively connected to said main clutch means for effecting a preparatory and resetting cycle, an accumulator carriage transversely shiftable with respect to said actuator, a carriage shifting mechanism, a second normally disengaged power transmission mechanism for connecting said motor to said carriage shifting mechanism, a normally disengaged third spring power operated control means for engaging said second power transmission mechanism, three latching means normally holding each respective spring power operated control means in ineffective position, multiplication control means for shortcut multiplying operation including two groups of selector keys, a control train interposed between said spring power operated control means and said keys for engaging said first and third control means, shifting means operable in response to the actuation of said keys of one of the



two groups for shifting said lever means from a first to a second position to thereby engage said second and said third control means, actuating means operatively connected to said second power transmission mechanism and adjustable by said lever means for actuating said latching means of the first control means during a cycle of said power transmission mechanism and engaging said first control means, interlocking means operatively connected to said auxiliary clutch means and operable during said preparatory cycle for locking said control train in its second position and also operable during the resetting cycle for releasing said control train, and resetting means associated with said control train for resetting the same to its first position.

2,969,912
ERROR DETECTING AND CORRECTING CIRCUITS
Andrew Craig Reynolds, Jr., Waterbury, Conn., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Feb. 26, 1957, Ser. No. 642,509
9 Claims. (Cl. 235—153)



1. A number checking and correcting system in which each multidigit number is accompanied by a predetermined multi-digit check number describing certain characteristics of said number and by a predetermined single digit check number describing certain other characteristics of said number, means for registering said number and its said check numbers, means for translating

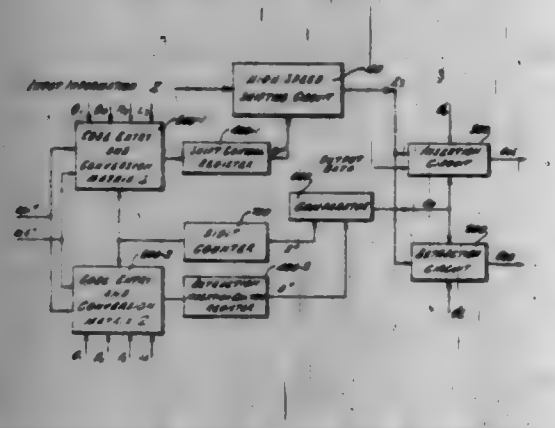
said multidigit check number into a representation of a multidigit number, a comparison circuit responsive to both a representation of said registered multidigit number and said translation of said multidigit check number for determining the particular digit of said number recorded in said registering means in error, means controlled by said comparison circuit for operating correcting means for said erroneously recorded digit, means operative during the registration of said multidigit number for deriving a single digit number for comparison with said single digit check number, a comparison circuit responsive to both said single digit check number and said derived single digit number for determining the amount of correction to be applied to said erroneously recorded digit and a satisfaction signal circuit responsive to said comparison circuits.

2,969,913

CIRCUITS FOR SELECTIVELY SHIFTING, EXTRACTING, AND INSERTING DIGITAL INFORMATION

Alvin A. Cherin, Torrance, and Robert Royce Johnson, Altadena, Calif., assignors to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

Filed Feb. 23, 1954, Ser. No. 411,695
16 Claims. (Cl. 235—157)



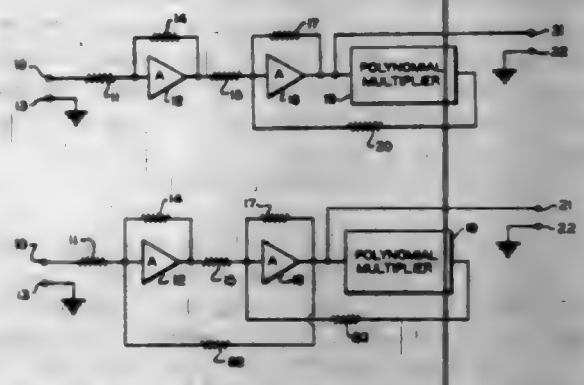
1. An electronic circuit for selectively shifting and extracting, or shifting and inserting a digital information group, represented by a series of electrical input signals, the circuit being operable, in response to an applied set of control signals, to prepare the input signals for a subsequent operation by simultaneously shifting and extracting a selected serial portion thereof, or to prepare a selected serial portion of the input signals for entry into a predetermined position in another information group by simultaneously shifting and inserting the selected serial portion into the predetermined position; said circuit comprising: first code entry and conversion means, responsive to the control signals for producing shift selection signals indicating the amount of shift specified by the control signals; second code entry and conversion means responsive to the control signals for producing an extract-insert signal set indicating the amount of extraction or insertion specified by the control signals; a comparator circuit coupled to said second means and responsive to said extract-insert signal set and to applied digit time reference signals for producing a comparator signal series indicating the selected serial portion of the input signals; shifting means, coupled to said first means and responsive to said shift selection signals, for shifting the input signals by an amount specified thereby and producing corresponding shifted output signals; an extraction "and" circuit, coupled to said shifting means, and responsive to said comparator signal series, for producing an output signal series corresponding to the selected portion of the input signals; and an insertion "and" circuit, responsive to said shifted output signals and to said comparator signal series, for producing an output signal series corresponding to the selected portion to be inserted.

2,969,914

POLYNOMIAL DIVIDER

Wade Blocker, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Feb. 6, 1956, Ser. No. 563,499
15 Claims. (Cl. 235—180)



1. Apparatus for dividing a first polynomial by a second polynomial comprising means for establishing a first electrical signal representative of the first polynomial, a first sign reversal unity gain operational amplifier, a second sign reversal unity gain operational amplifier, means to apply said first signal to the input of said first amplifier, means applying the output of said first amplifier to the input of said second amplifier, means to multiply an electrical signal representative of a polynomial by another polynomial, means to apply the output of said second amplifier to the input of said means to multiply, feedback means to apply the output of said means to multiply to the input of said second amplifier, and feedback means to apply the output of said second amplifier to the input of said first amplifier, the output signal of said second amplifier being representative of the quotient of the first polynamial divided by the second polynomial.

2. Apparatus for dividing a first polynomial $P(x)$ by a second polynomial $Q(x)$ to obtain the quotient $R(x)$ which comprises means for establishing a first electrical signal representative of $P(x)$, a first sign reversal unity gain amplifier having a first input resistor and a second feedback resistor, means to apply said first signal to the input of said first amplifier through said first resistor, a second sign reversal unity gain amplifier having a third feedback resistor, a fourth resistor connected between the output of said first amplifier and the input of said second amplifier, means to multiply an electrical signal representative of a polynomial by the polynomial $Q(x)$, means to apply the output signal of said second amplifier to the input of said means to multiply, a fifth resistor connected between the output of said means to multiply and the input of said second amplifier, and a sixth resistor connected between the output of said second amplifier and the input of said first amplifier, said first, second and sixth resistors being equal, and said third, fourth and fifth resistors being equal, the output of said second amplifier being representative of $R(x)$.

2,969,915

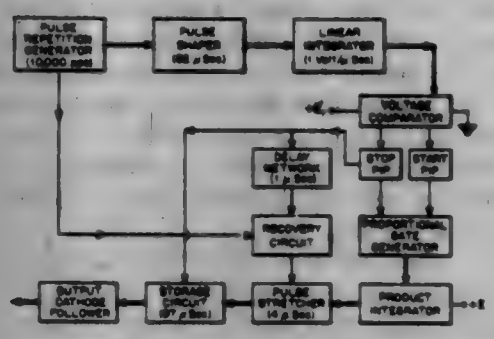
ELECTRONIC MULTIPLIER

Dana M. Collier and Leighton A. Meeks, Oak Ridge, Tenn., and James P. Palmer, Stony Brook, N.Y., assignors to the United States of America as represented by the United States Atomic Energy Commission

Original application July 29, 1955, Ser. No. 525,412, now Patent No. 2,936,119, dated May 10, 1960. Divided and this application Jan. 22, 1957, Ser. No. 635,556
2 Claims. (Cl. 235—194)

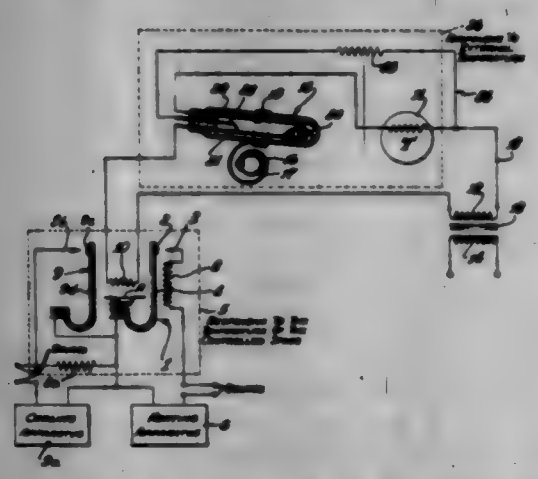
1. A multiplier circuit for providing an output voltage proportional to the product of first and second variables comprising: means for generating a first train of pulses of uniform duration, means for controlling said duration in accordance with the magnitude of said first variable, an

integrator coupled to said generating means to receive said pulses and adapted to deliver an electrical output, means coupled to said integrator for regulating the time and rate of integration responsive to the magnitude of said first and second variables respectively, means sustaining the crest voltage generated by said integrator, charge storage means alternately coupled to or isolated from said



sustaining means, and circuit means responsive to said generating means for isolating said storage means from said sustaining means after a selected time interval and for releasing said crest voltage from said sustaining means, said storage means thereby providing an output voltage proportional to the peak integrated voltage and to the product of said variables.

2,969,916
SYSTEM FOR CONTROLLING INTERIOR TEMPERATURE
Winston G. Sheqsen, La Crescenta, Calif., assignor to General Controls Co., Glendale, Calif., a corporation of California
Filed Dec. 9, 1957, Ser. No. 701,539
2 Claims. (Cl. 236—68)



1. In a system for controlling the temperature of a space, said system having a thermostat structure, and circuits controlled by the thermostat structure for adding to or extracting heat from the space, the combination therewith of: a heat anticipator for the thermostat structure; additional heating means for the thermostat structure; means responsive to the external temperature for decreasing the energization of the additional heating means upon a decrease in external temperature, and for increasing the energization of the additional heating means upon an increase in external temperature; said external temperature responsive means including a temperature sensitive resistance variable over a temperature variation which includes the range of external temperatures in which heating of the space is required, and said temperature variation extending beyond the top of said external temperatures in which heating of the space is required; and means responsive to a rise in external temperature beyond the top of said range, for energizing said additional heating means at a substantially constant rate, including a circuit having a fixed resistance therein, a circuit controller for connecting said circuit to the additional heating means, and means sensitive to external temperature for operating said circuit controller at the top of said range.

2,969,917
SPACE HEATING CONTROL SYSTEM AFFECTED BY EXTERNAL TEMPERATURES
Willis R. Nason, Seattle, Wash., assignor to General Controls Co., Glendale, Calif., a corporation of California
Filed June 24, 1957, Ser. No. 667,461
3 Claims. (Cl. 236—91)



1. In a space heating control system including a first bimetal member exposed to the temperature of the space, and a circuit controller having a pair of contact members adapted to perform a controlling function upon a heating apparatus, by making and breaking said contact members, said circuit controller being operated by said first bimetal member: a first electrical heater for radiating heat to said first bimetal member; means whereby said circuit controller energizes said first heater only while said circuit controller is in one of its two alternative controlling positions; a second bimetal member mechanically moving said first heater so as to adjust the distance between the first bimetal member and said first heater as said second bimetal member flexes in accordance with its temperature; a second electric heater for imparting heat to the second bimetal member; and a heating circuit for said electric heater, including a resistor in series with said second electric heater, said heating circuit being continuously energized; said resistor having an effective value dependent upon its temperature and being located outdoors so as to be subjected to the outdoor temperature.

2,969,918
SOLAR HEATING CONTROL SYSTEM
Foster C. Phelps, 4328 Troost Ave., North Hollywood, Calif.
Filed Oct. 11, 1954, Ser. No. 461,506
8 Claims. (Cl. 237—1)



1. In a heating control system, the combination of a structure providing a space adapted to be heated artificially and solarly; solar heating means for heating said space solarly; artificial heating means for heating said space artificially; means for regulating the solar heating of said space, including first temperature sensing means responsive to the temperature within said space, and including radiation control means externally of said structure and controlled by said first temperature sensing means for varying the quantity of solar heat radiation impinging on said structure, said radiation control means including a plurality of movable louvers adapted to be positioned at different angles to vary the radiation transmitted thereby,

and said radiation control means including means for varying the angle of said louvers with variations in the altitude of the sun's rays; and means connected to said artificial heating means for regulating the artificial heating of said space, including second temperature sensing means responsive to the temperature within said space, said first temperature sensing means responding to a higher temperature than said second temperature sensing means.

2,969,919

BASE FOR SUPPORTING A MINIATURE RAILROAD TRACK AFFORDING POWER OUTLETS THEREALONG

Peter Kornberg, 8 Welwyn Road, Great Neck, N.Y.

Filed Apr. 15, 1959, Ser. No. 806,654
9 Claims. (Cl. 238—10)



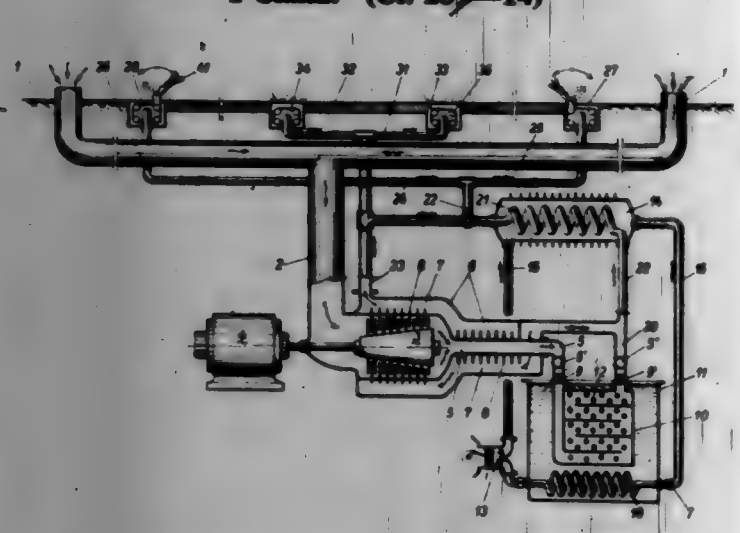
1. A base structure for supporting a miniature railroad track made of detachable lengthwise sections which can be assembled in a plurality of formations and to afford electric power outlets therealong for connection to accessories, comprising a plurality of base members set end to end in successive extension; the shape of each base member conforming with that of the track section it shall carry, sets of electrical conductors, one such set of conductors carried insulated from each other on each base member along each track member respectively, means on each base member automatically electrically connecting corresponding conductors on adjacent base members when such base members are associated in extension of each other, means on each of the base members for physically connecting them in successive extension and a set of electrically-conductive terminal elements on at least some of the base members, respectively electrically connected to the conductors carried by the base section they are on; such terminals being accessible for making connections thereto respectively and positioned that such connections permit passage of a train along the track.

2,969,920

FOG DISPERSAL SYSTEM, PARTICULARLY FOR AIRPORT RUNWAYS

Roberto Giammoni, Via Paolo Toscanelli 2, Florence, Italy

Filed Jan. 27, 1958, Ser. No. 711,312
1 Claim. (Cl. 239—14)



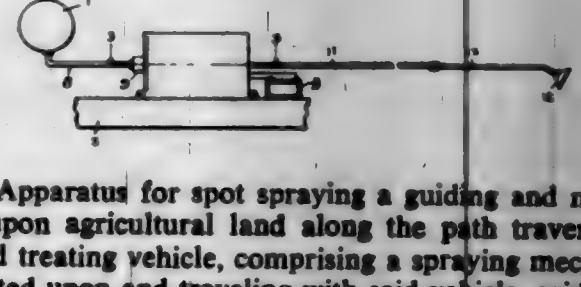
A fog dispersing system, comprising a plurality of intakes for drawing ambient air, a manifold connected with said intakes, a compressor having a suction end connected to said manifold, a pipe connected with the compression end of said compressor, a casing enclosing said compressor and said pipe, blades carried by said pipe and located between said pipe and said casing, another manifold connected with said pipe, a plurality of boxes connected with said other manifold, a cooling tank enclosing said boxes, tie rods within said boxes, a third manifold connected with said boxes and receiving cooled compressed air from said boxes, a pipe connected with said third manifold and the interior of said casing, a compressor for a cooling fluid, a coil located in said cooling tank and connected with said compressor, another tank, another coil in said other tank, another pipe connecting the first-mentioned coil with said other tank, a third pipe connecting said compressor with said other tank, a fourth pipe connecting the first-mentioned pipe with said other coil, a plurality of troughs for releasing dehydrated cooled air, and means connecting said casing and said other coil with said troughs.

2,969,921

MEANS FOR SPOT SPRAYING AGRICULTURAL LAND

James C. Tygart, 509 W. Washington St., Nashville, Ga.

Filed Feb. 17, 1959, Ser. No. 793,828
5 Claims. (Cl. 239—99)



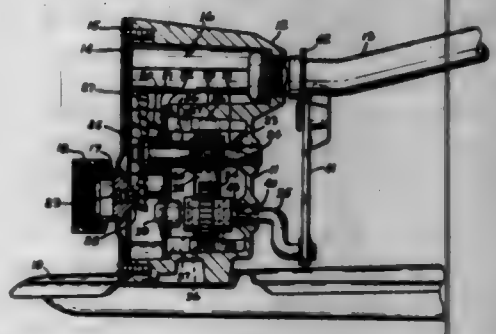
1. Apparatus for spot spraying a guiding and marking dye upon agricultural land along the path traversed by a land treating vehicle, comprising a spraying mechanism mounted upon and traveling with said vehicle, said spraying mechanism including a pump, cylinder and plunger therein, a supply tank for a marking dye connected to said cylinder, a spray boom and head extending outwardly from said cylinder, a source of power upon the vehicle, motor means actuated by said source of power independently of the rate of travel of the vehicle, connections between the motor means and the pump plunger constructed to impart a relatively slow suction impulse to the plunger to draw a marking fluid from the tank into the cylinder during the travel of the vehicle between the positions to be spot marked and another means acting much faster than the last named means upon said plunger to forcibly and quickly discharge the accumulated spray material in spot formation at predetermined spots.

2,969,922

LAWN SPRINKLER

Gray L. Butler, Terryville, Conn., assignor, by mesne assignments, to Otto Bernz Company, Inc., Rochester, N.Y., a corporation of New York

Filed Mar. 28, 1958, Ser. No. 724,583
4 Claims. (Cl. 239—242)



1. In a water sprinkler, a movable water discharge nozzle member, a water chamber communicating with said

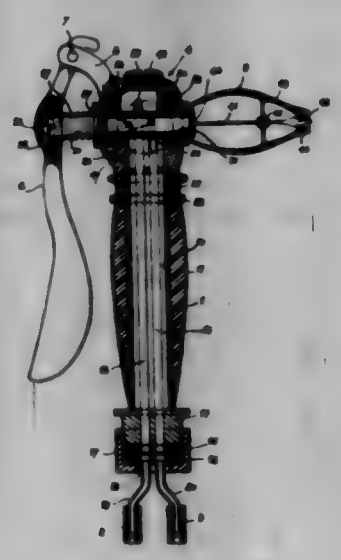
nozzle member, an impeller wheel mounted in said chamber, water inlet means to said chamber including a nozzle to direct the incoming water against said impeller wheel, means for transmitting motion from said wheel to said nozzle member including reduction gearing in which at least part of the gears are of plastic material, a hollow gear casing enclosing said gears including a partition plate between said water chamber and gear casing, and a gasket between said plate and gear casing at least a portion of which is only loosely clamped between said plate and casing, said gasket being of a fibrous material capable of swelling when exposed to water whereby water will be admitted into said gear casing when said gasket is loosely held in a dry condition but prevented from escaping from the gear casing when the gasket swells by absorption of water.

2,969,923

WATER-MIXING ARRANGEMENT FOR SHOWER BATHS

Maurice Fremion, 43 Rue de Cernay, Samois, Seine-et-Oise, France

Filed Feb. 20, 1958, Ser. No. 716,430
Claims priority, application France Feb. 20, 1957
5 Claims. (Cl. 239—415)



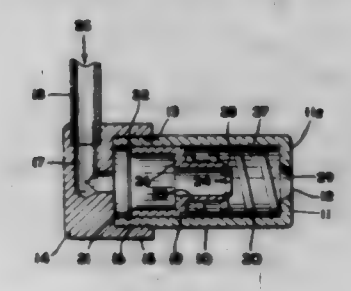
1. A device for mixing hot and cold water for shower baths, comprising a hollow grip body, a tubular member extending across the hollow part of said body and opening at its front end outside said body, said tubular member being provided with two water input ports at longitudinally spaced points thereof, a sprinkling rose fitted on the outside of the body coaxially with the front end of said tubular body, a sliding tubular valve engaging coaxially the inside of the tubular body closed at its rear end, and provided with lateral openings near the end facing the rose to thereby ensure communication between the rose and the inside of the valve through the lateral openings of the latter upon forward shifting of said valve, said valve being further provided with two ports the spacing between which is slightly less than the spacing between the ports in the tubular body, said valve ports being normally located to the rear of the corresponding ports in the tubular member registering selectively upon forward sliding of the tubular valve out of a rear inoperative position towards the rose into two successive operative positions with the said corresponding ports in the tubular member, the ports in the tubular member and sliding valve further remote from the rose registering with each other for the first operative position of the valve and the ports nearest the rose registering for the second operative position, means feeding hot water into the port of the tubular member nearest the rose, means feeding cold water into the other port of the tubular member, hand-operable means pivotally secured to the body and adapted to act on the closed rear end of the ported sliding valve to make it enter in succession its two operative positions, a transverse closure secured to the front end of the tubular member beyond the lateral openings therein and adapted to fluid-tightly close the connection between the rose and the tubular member when the valve is in its inoperative rear position, and means urging elastically said closure into engagement with the front end of the tubular member and thereby the sliding valve and hand-operable controlling member into their inoperative position.

2,969,924

FUEL NOZZLES FOR LARGE FLOW RANGE

Kenneth William Jay, North York Township, Ontario, Canada, assignor to Orenda Engines Limited, Malton, Ontario, Canada, a corporation

Filed Apr. 4, 1958, Ser. No. 726,396
2 Claims. (Cl. 239—436)



1. A fluid delivery nozzle comprising a hollow barrel closed at one end by an end plate having a first orifice therein of a restricted size with respect to the diameter of the barrel, the other end of the barrel communicating with a fluid conduit adapted to deliver fluid under pressure, a hollow piston slidable in the barrel and spring biased away from said end plate, the piston carrying a hollow axial extension thereon projecting towards the end plate, the extension having a second orifice therein through which fluid may flow from the conduit through the hollow piston and extension, the piston, extension and second orifice being movable under fluid pressure in the conduit from a first position in which the piston is at a point remote from the end plate and the second orifice is spaced above the end plate having the first orifice and fluid flows from the conduit through the hollow piston, extension and second orifice into the barrel experiencing as it does so, a first pressure drop and thence flows from the hollow barrel through the first orifice in the end plate experiencing as it does so, a second pressure drop; to a second position in which the second orifice lies within the first orifice and seals the first orifice from flow of fluid from said barrel and fluid flowing from the conduit flows into the barrel on that side of the piston remote from the end plate and thence flows only through the hollow piston, extension and second orifice experiencing as it does so, only a single pressure drop.

2,969,925

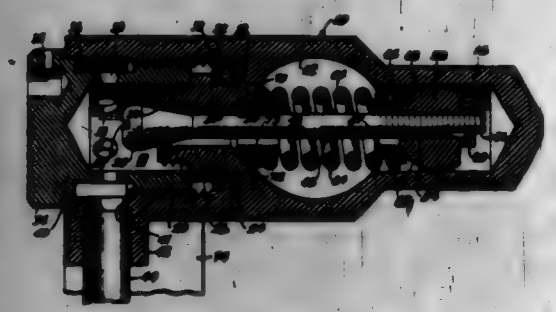
MULTIPLE VARIABLE AREA ORIFICE INJECTOR

Paul D. Burgess and Henry F. Rothwell, West Des Moines, Iowa, assignors to Delavan Manufacturing Company, West Des Moines, Iowa, a corporation of Iowa

Filed Feb. 3, 1958, Ser. No. 712,978
8 Claims. (Cl. 239—453)

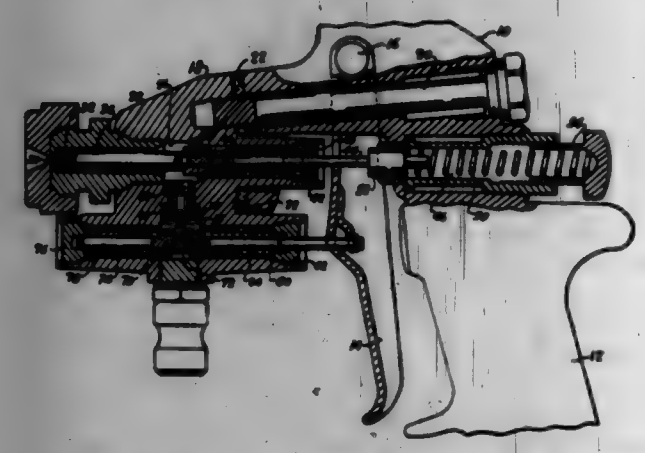
1. A fluid distributing device comprising a body, a manifold bore disposed within the body having a fluid inlet fitting connected thereto, a plurality of fluid outlet bores for discharging fluid in a predetermined pattern, each bore extending through the wall of said body and crossing with said manifold bore, thus forming a blind opening beyond the manifold bore and a discharge passage leading from said manifold bore to a point outside said body, said discharge passage having a valve

seat therein, a poppet within said outlet bore comprising a stem terminating in a head at one end, said head being disposed on the downstream side of said seat for regulating fluid flow past said seat, said stem having a piston-like nut on the end opposite said head slidably disposed within said blind opening to serve as a dashpot to dampen



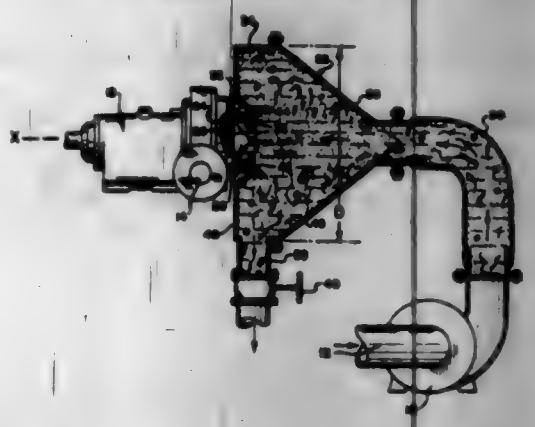
movement of said poppet and a coil spring encircling said stem and having one end bearing against the upstream side of said valve seat and the opposite end bearing against said nut, thus biasing said head toward said seat and permitting said head to lift when fluid pressure within said manifold bore exceeds the biasing force of said spring.

2,969,926
AIRLESS SPRAY GUNS
Donald J. Peops, Rossford, Ohio, assignor to The De Vilbiss Company, Toledo, Ohio, a corporation of Ohio
Filed Oct. 30, 1956, Ser. No. 619,183
4 Claims. (Cl. 239—526)



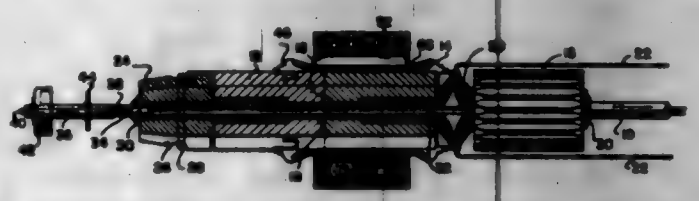
1. A spray gun for the airless spraying of liquid coating materials, said spray gun comprising a gun body having first and second liquid chambers and a passage therebetween, means for supplying coating liquid under pressure to said first chamber, a control valve associated with said passage to close and to open said passage to the flow of coating liquid from said first chamber to said second chamber, said control valve having a stem projecting into and located wholly within said first chamber, a pressure-balanced, trigger-actuated mechanism carried by said body and operatively connected to said stem and movable in a direction laterally of said stem to move said stem laterally and to cause said valve to rock about a point on its periphery thereby to open said valve, trigger means located outside said first chamber and associated with said spray gun body for manually operating said mechanism, means forming a spray nozzle in communication with said second chamber, a discharge valve between said second chamber and said spray nozzle, means normally urging said discharge valve toward a closed position, and means operatively connected to said discharge valve and responsive to liquid pressure in said second chamber to open said discharge valve rapidly when pressure in said second chamber exceeds a predetermined value, whereby said coating liquid will be substantially instantaneously sprayed from said spray nozzle when liquid pressure in said second chamber builds up above said value when said control valve is opened to supply coating liquid under pressure from said first chamber through said passage to said second chamber.

2,969,927
APPARATUS FOR TREATING FLUID SUSPENSIONS
Maurice Vaucher, Boussy St.-Antoine, and Bernard Jaoul, Neuilly-sur-Seine, France, assignors to Societe d'Equipements Industriels et Laitiers, Paris, France, a French company
Filed Apr. 23, 1958, Ser. No. 730,498
Claims priority, application France Apr. 24, 1957
3 Claims. (Cl. 241—46)



1. Apparatus for treating a viscous suspension in which particles of foreign matter are suspended by the viscosity of said suspension, said apparatus comprising a stator, a rotor mounted for rotation within the stator, said rotor and stator defining an annular passage therebetween through which said suspension is to be passed, said passage being coaxial in the axis of rotation of said rotor, said passage having a radial dimension small compared to its radial distance from said axis, an inlet chamber disposed in advance of said rotor and stator in the sense of flow of suspension through said chamber and passage, said chamber having a cross section transversely of said axis substantially greater than the diameter of said passage, an inlet connection to said chamber disposed substantially coaxially of said axis, and impeller means disposed on the end of said rotor exposed to said chamber, said impeller means having a diameter small compared to said cross section and said stator being shaped to expose to said chamber the major fraction of the diameter of said impeller means, whereby said suspension is subjected to rotation within said chamber in its passage between said inlet connection and said annular passage, said apparatus further comprising an outlet from said chamber at the periphery thereof remote from said axis.

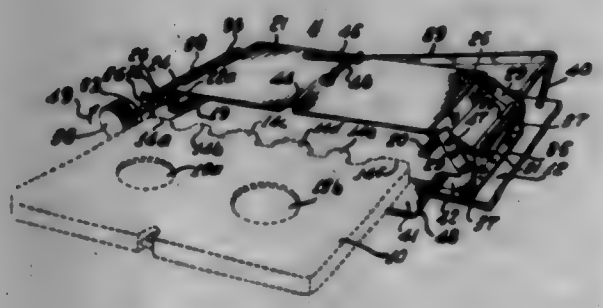
2,969,928
APPARATUS FOR WINDING COILS
Everett P. Larsh, 124 E. Monument, Dayton, Ohio
Filed Dec. 11, 1957, Ser. No. 702,108
8 Claims. (Cl. 242—1.1)



1. In an apparatus for winding slotted electromagnetic members such as electric motor stators and armatures; a support, slotted blocks carried by said support in co-

axial relation adapted for being telescoped with the electromagnetic member to be wound with the slots opening toward the slots in the electromagnetic member, guide elements in the slots in the blocks engageable with the tips of the teeth of the electromagnetic member and reciprocable therewith relative to the blocks while remaining in engagement with the tips of the teeth, wire feed nozzles carried by the support between the blocks and rotatable relative to the blocks and guide elements when disposed beyond the ends of said guide elements; said nozzle being reciprocable with said blocks along the slots of the electromagnetic member between said guide elements to lead wires through said slots, and said guide elements having each of their opposite ends formed so as to be convergent toward the electromagnetic member so that wires deposited on the ends of the said members by rotation of the nozzles when the nozzles are disposed beyond the ends of said guide elements will snap over the said ends of the members and lie against the ends of the electromagnetic member, each wire guide element engaging a single tooth of the electromagnetic member and leaving the slot on each side of the tooth unobstructed for receiving turns of wire.

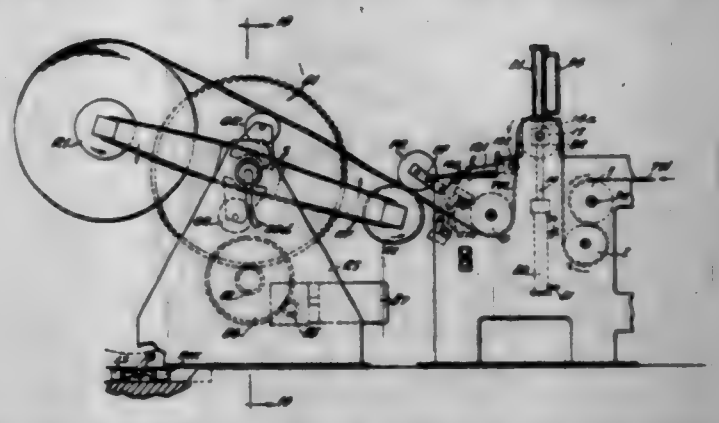
2,969,929
LOADING MECHANISM FOR A MAGNETIC TAPE RECORDER CARTRIDGE OR THE LIKE
Karl Rudzitis, West Babylon, N.Y., assignor to Telectro Industries Corp., Long Island City, N.Y., a corporation of New York
Filed Sept. 16, 1959, Ser. No. 840,263
15 Claims. (Cl. 242—55.13)



1. In a loading mechanism for a cartridge adapted to receive axially parallel reels, in combination, a frame, two parallel shafts journalled in said frame, two rigidly connected guide rails extending parallel to said shafts and spaced to receive slidingly and support said cartridge, said cartridge sliding in a direction at right angles to the reel axes, two mechanical linkage means, each of said mechanical linkage means connecting an associated one of said shafts and an associated one of said guide rails and converting a pivotal motion of said associated shaft from an initial angular position to a final angular position into a displacement of said associated guide rail from an initial position to a final position, said shafts being ganged for a common angular displacement over the same angular distance, and means for pivoting one of said shafts.

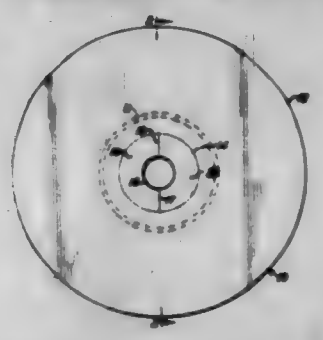
2,969,930
CONTINUOUS REWINDER FOR WEB MATERIAL
Peter Zernov, Milwaukee, Wis., assignor to Mercury Engineering Corporation, Milwaukee, Wis., a corporation of Wisconsin
Filed Sept. 22, 1958, Ser. No. 762,646
16 Claims. (Cl. 242—56)

1. In a winding machine, the combination of a stand, a turnover frame rotatably mounted on said stand, means for rotating said frame to bring it to different positions, roll supports mounted in spaced relation on said frame including web rolls, each having an adhesive coated portion, means for individually rotating said roll supports, means for supplying web material to said roll supports for winding thereon, cutting means, in advance of said frame and including a movable cutter for making a bias cut across the web material while web material is being wound up on one of the roll supports and the other roll support is disposed adjacent said cutting means, said cutting means being located immediately in advance of



said other roll support whereby cutting of the web occurs before it reaches said other roll support, and means for exerting pressure upon the cut end of the web material as it reaches said last named roll support to bring it into binding contact with the adhesively coated portion of this roll support to start the wind up of web material thereon.

2,969,931
REEL FOR USE ON SPINDLES OF DIFFERENT DIAMETERS
Felix B. Goldman, Dallas, Tex., assignor to Texlon Corporation, Dallas, Tex., a corporation of Texas
Filed Feb. 18, 1958, Ser. No. 715,888
1 Claim. (Cl. 242—71.8)

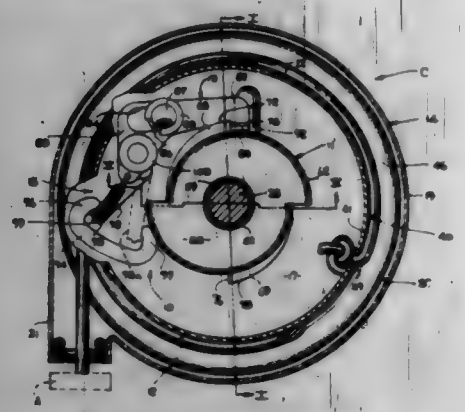


A reel comprising a hollow cylindrical hub, spaced flanges secured to the opposite end edges of said hub, said flanges having a central aperture for receiving a spindle of one diameter, a circular line of perforations in each flange having a diameter greater than the diameter of said aperture but less than the diameter of said hub and diametrically slits in the material of each flange extending between said aperture and said line of perforations whereby the material of each flange between said aperture and said line of perforations may be removed to provide a central aperture in said flanges for receiving a spindle of larger diameter.

2,969,932
REEL LOCK WITH QUICK RELEASE
Rodger F. Becker, Kalamazoo, Mich., assignor to Aero-Motive Manufacturing Company, Kalamazoo, Mich., a corporation of Michigan
Filed Nov. 6, 1959, Ser. No. 851,365
6 Claims. (Cl. 242—107.7)

3. In a lock mechanism for a cord reel rotatably mounted upon a support structure and having spring means urging rotation of said reel in one direction, the combination comprising: substantially spiral wall means arranged on one of said reel and said support structure around and spaced radially from the rotational axis of

said member, said wall means having a circumferential opening adjacent to the outer end of said spiral and facing in said one direction of rotation; a substantially spiral cam extending radially outwardly from said wall means and diverging with said wall means in said one direction of rotation, said cam having a radial edge spaced a substantial distance from the opening in said wall means; a cam



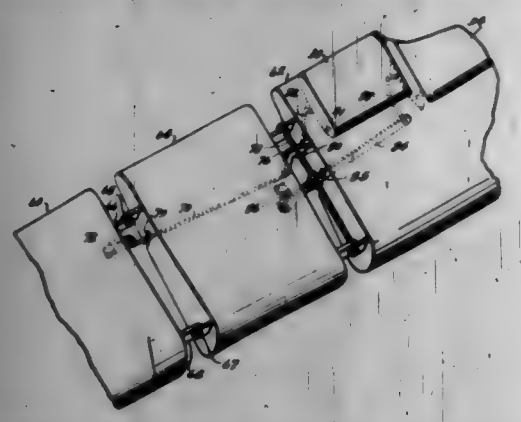
follower pivotally supported upon the other of said member and said support structure for movement radially of said rotational axis into and out of a position of engagement by the radial edge of said cam; and means including a device connected between said cam follower and the other of said member and said support structure for effecting said movement of said cam follower in response to a rotational movement of said member.

2,969,933

LINKING AIRPLANES AND WINGS OF AIRPLANES

Richard Vogt, Medway, Ohio, assignor to the United States of America as represented by the Secretary of War

Filed Oct. 2, 1951, Ser. No. 249,382
11 Claims. (Cl. 244—2)
(Granted under Title 35, U.S. Code (1952), sec. 266)



2. A hingedly connected wing panel construction comprising a plurality of wing panels, a two directional movement connection between said panels, said movement being in vertical and dihedral angular directions, control surface means in the wing panels responsive to vertical and dihedral angular displacement from a predetermined flying position.

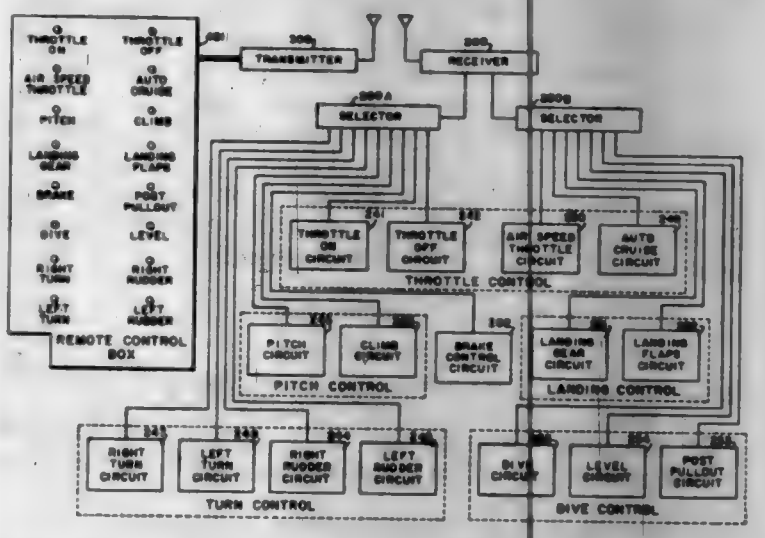
2,969,934

REMOTE CONTROL SYSTEM FOR AIRCRAFT

Charles E. Gallagher, 344 Court St., Doylestown, Pa., and Robert B. Eaves, 620 Aintree Road, Hatboro, Pa.

Filed July 24, 1953, Ser. No. 370,238
21 Claims. (Cl. 244—77)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. Remote control apparatus for a pilotless aircraft having a longitudinal axis and including control mechanisms for performing flight maneuvers, said apparatus comprising means for producing signals representing operation functions in the aircraft, means for introducing the signals into the respective control mechanisms, an automatic pilot having a first gyroscope assembly effective to establish a predetermined reference attitude with respect to yaw deviation, a second gyroscope assembly normally effective to establish a predetermined reference attitude with respect to pitch and roll deviation and a third gyroscope assembly effective to establish a predetermined reference attitude with respect to roll deviations when the longitudinal axis of the aircraft is at an angle so large with respect to the horizontal that the second gyroscope is ineffective to maintain control with respect to said roll deviations, pick-off means in each of said gyroscope



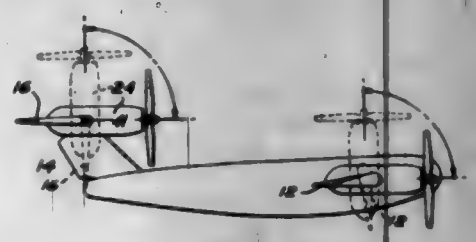
assemblies to initiate signals responsive to deviations from the predetermined reference attitude determined by each gyroscope assembly in operative condition of the respective assembly, switching means connected to the pick-off means of each of said gyroscope assemblies and adapted to selectively decouple the signals with respect to roll deviations in said second gyroscope assembly and to couple the signals with respect to roll deviations in said third gyroscope assembly for control of the pilotless aircraft under particular ambient aircraft attitude conditions, means responsive to said deviation signals to restore the aircraft to predetermined attitude and means responsive to said operation function signals to effect corresponding change of predetermined reference position.

2,969,935

CONVERTIBLE AIRCRAFT

Carl C. Price, Los Angeles, Calif.
(720 4th Ave., San Diego, Calif.)

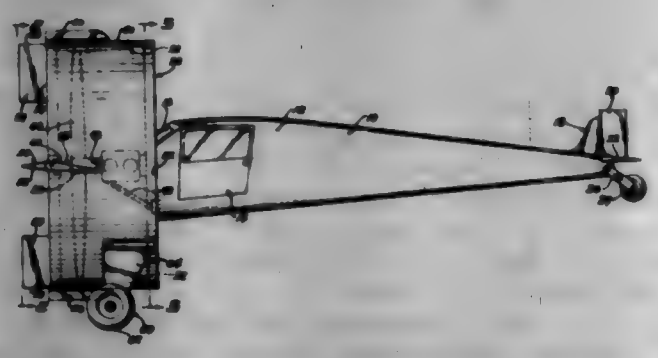
Filed Sept. 9, 1957, Ser. No. 682,672
9 Claims. (Cl. 244—7)



1. A convertible aircraft, comprising: a fuselage, oppositely extending wings adjacent the forward end of said fuselage; propulsion motors on said wings; pivotal means connecting said wings to said fuselage whereby said wings may rotate on a horizontal axis independently of each other; a master hydraulic actuator for rotating one of said wings; a hydraulic slave actuator for rotating the other wing; a hydraulic system for each of said motors, each system including a source of pressure fluid, valve means for controlling the direction of rotation of said actuator; a normally locked releasable hydraulically oper-

ated locking means for locking the respective wing in adjusted position, said locking means being moved to the released position by pressure fluid supplied to the respective hydraulic actuator for actuation of same in either direction; manual control means for the valve means of the master hydraulic system; an electrical system controlled by said manual control means, said electrical system including means for actuating the valve mechanism of the hydraulic slave system in either direction according to the direction of rotation of the master hydraulic actuator; and means for keeping said actuators in synchronism when actuating the respective wings.

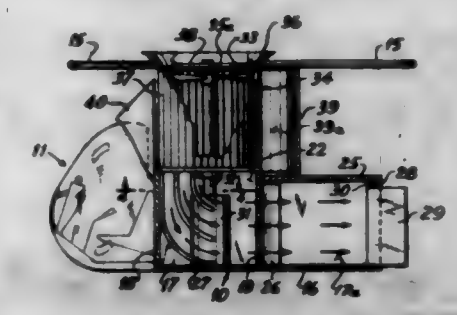
2,969,936
AIRCRAFT WITH PROPELLER ENCLOSED IN ANNULAR WING
Harley A. Dorman, 2969 Montclair, Detroit, Mich., and Bruce A. Dorman, 5807 Riley Drive, Corpus Christi, Tex.
Filed Mar. 13, 1959, Ser. No. 799,184
9 Claims. (Cl. 244—15)



1. An aircraft comprising a fuselage, a power tube assembly including an engine and a propeller shaft, supporting structure for mounting said engine on said fuselage, an annular wing having a cylindrical outer surface and a forward leading edge of knife-like configuration, the geometric axis of said outer surface extending in a forward and rearward direction, radial struts situated at the forward end and at the rearward end of said annular wing, means for journalling said propeller shaft on the forward struts, means for securing the rearward struts to said fuselage in the vicinity of the supporting structure for said engine, said annular wing defining a stream tube, the air bounded by said stream tube being displaced by said power tube assembly, said annular wing being adapted to shear the air, the air mass displaced providing both lifting force and thrust components, and control surfaces journalled on the forwardly situated axial struts, each control surface having a forwardly disposed portion radially inward of the outer periphery of said wing and another portion disposed radially outward of said wing, the forwardly disposed portion of each control surface being integrally formed with the radially outward portion thereof, said portions being adapted to rotate in unison about a common radial axis, one of said control surface portions being disposed on the forward side of said common radial axis and the other control surface portions being disposed rearwardly of said common radial axis whereby the aerodynamic forces acting on the control surface portions for each control surface produce balanced turning moments.

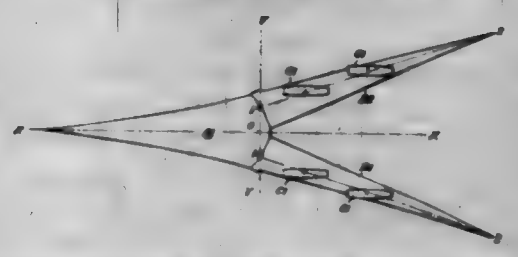
2,969,937
AIRCRAFT ROTOR DRIVING MEANS
Charles J. Trojahn, Forest Hills, N.Y.
(61—02 84th St., Middle Village 79, N.Y.)
Filed Dec. 31, 1957, Ser. No. 706,427
14 Claims. (Cl. 244—17.19)

14. A heavier than air aircraft comprising in combination a hollow body with a single horizontal opening at the top thereof and a single vertical opening at an end thereof, a circular shaft extending vertically upward with one end disposed within said chamber and its remaining end above said chamber, an air wheel mounted concentrically with said shaft for relative rotary motion therewith, said wheel



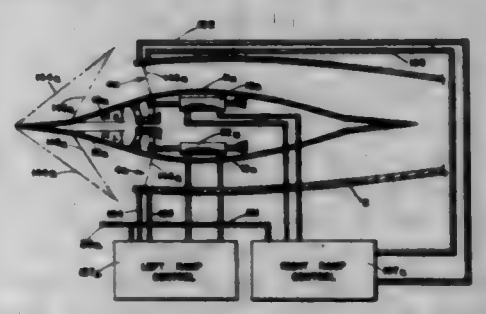
in spaced relation with said shaft, a propeller rigidly connected to said shaft within said air wheel, rotor blades rigidly connected to said air wheel near the top thereof above said propeller, a motor within said body and attached to said shaft for rotating said shaft about its axis.

2,969,938
VARIABLE SWEEPBACK AIRPLANE
Barnes Neville Wallis, Effingham, Surrey, England, assignor to Vickers-Armstrongs (Aircraft) Limited, London, England
Filed Sept. 16, 1957, Ser. No. 684,001
Claims priority, application Great Britain Sept. 17, 1956
4 Claims. (Cl. 244—46)



1. An aircraft having a fore-wing and a pair of swept-back wings, means for pivotally connecting said swept-back wings to said fore-wing for pivotal movement of the swept-back wings in azimuth between an outspread position for take-off and landing and a swept-aft position for high speed flight, at least one jet-propulsion unit mounted on each pivoted swept-back wing with its mass-center and center-of-pressure located in advance of the flexural axis of the wing, means for mounting said jet-units for pivotal movement about pivot axes which are substantially parallel to the OZ axis of the aircraft, and means for turning the jet-units relative to the wings about said pivot axes.

2,969,939
ASYMMETRICALLY VARIABLE SUPERSONIC INLET SYSTEM
Maurice A. Sulkin, Los Angeles, Gordon W. Campbell, Manhattan Beach, and Louis C. Young, Gardena, Calif., assignors to North American Aviation, Inc.
Filed July 30, 1956, Ser. No. 600,832
20 Claims. (Cl. 244—53)



10. In a supersonic airborne vehicle having a conduit with a fluid inlet, a wedge means dividing said conduit

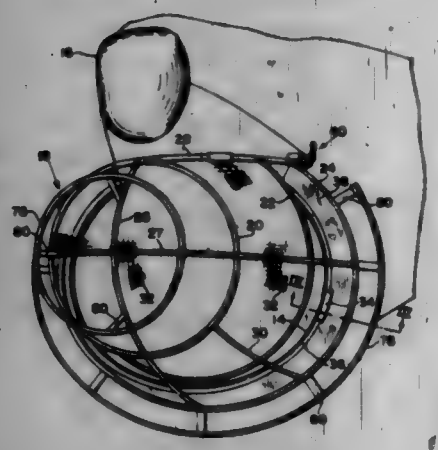
into a plurality of ducts, said wedge means having at least one variable ramp member in each duct, and means for independently moving said ramp members to asymmetrically deform said wedge means.

2,969,940
AIRCRAFT EXHAUST THRUST AUGMENTER WITH AN OIL BREATHER TUBE
Francis T. Gengler, 132 E. 2nd St., Mount Carmel, Pa.
Filed Sept. 9, 1959, Ser. No. 838,864
3 Claims. (Cl. 244—53)



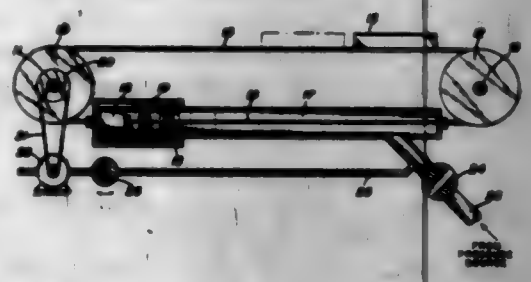
2. In an airplane engine of the type having a thrust augmenter tube through which the exhaust gases of said engine pass and an oil breather tube communicating with the crank case of said engine, the improvement wherein said oil breather tube is extended to enter the forward end of said tube, to pass along the interior of said thrust augmenter tube for substantially the entire length thereof and to terminate at a point adjacent the after end of said thrust augmenter tube.

2,969,941
AIR DUCT SCREEN WITH LOCKING DEVICE
Joe B. Hobart, Jr., Greenville, Miss., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Nov. 4, 1959, Ser. No. 850,976
8 Claims. (Cl. 244—53)



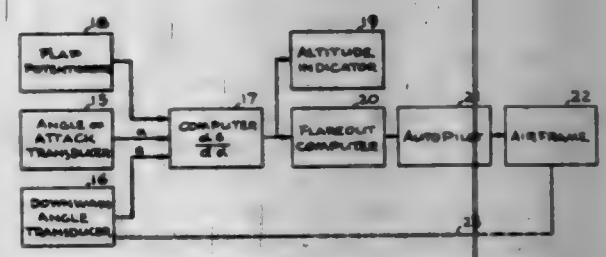
6. Means for demountably attaching a screening device to the engine air intake duct of an aircraft to preclude entry into such duct of foreign objects when said engine is undergoing ground operation, said aircraft having at least one opening in the surface thereof intended to lockably receive a keyed member mounted on said screening device, a tubular sleeve rigidly secured to said screening device, a keyed member carried by said sleeve, said keyed member being in the form of a cylinder slidable within said sleeve and having a pin on one end thereof extending radially therefrom and adapted for insertion into the opening in the surface of said aircraft, and a manually-operable camming member pivotally carried on the other end of said cylinder for securing said screening device to the said engine air intake duct following lockable insertion of said pin into the opening in said aircraft surface.

2,969,942
CATAPULT RETURN SYSTEM
Charles M. Scheuerman, Timonium, Md., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed July 28, 1959, Ser. No. 830,172
2 Claims. (Cl. 244—63)



1. In a pressure operated launching device; a pair of spaced sheaves, an endless belt passing over said sheaves and having an upper run and a lower run, a firing cylinder fixedly mounted between said sheaves, the lower run of said belt passing through said cylinder, a driving piston fixedly mounted on said belt for linear movement in said cylinder from a firing position to a terminal position, a first conduit connected to one end of said cylinder and adapted to be attached to a fluid pressure source, a rotary pneumatic motor, a secondary conduit fluidly connecting said first conduit with said motor, a second belt connecting said motor to one of said sheaves, a first valve means in said first conduit for permitting said fluid under pressure to flow into said firing cylinder to drive said first belt and operate said launching device, a second valve means in said secondary conduit for permitting pressure remaining in said cylinder after firing to pass through said motor and thereby rotate said second belt and sheave to return said piston to said firing position.

2,969,943
FLIGHT VEHICLE CONTROL SYSTEM
Walter Schwartz, Torrance, Calif., assignor to Thompson Ramo Wooldridge Inc., Hawthorne, Calif., a corporation of Ohio
Filed Nov. 28, 1958, Ser. No. 776,792
16 Claims. (Cl. 244—77)



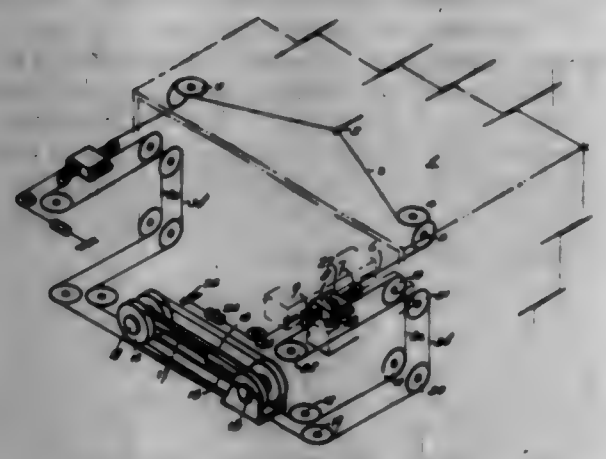
15. A control system for use in conjunction with a fluid traveling vehicle having at least one surface deflecting the flow of fluid in a downwash angle including the combination of a first transducer for generating an electrical signal representing the angle of attack of the surface, a second transducer for generating an electrical signal representing the angle of the downwash trailing the surface relative to the angle of attack, automatic means for controlling the path of the vehicle through the fluid, and means applying the electrical signals from the first and second transducers to said controlling means for causing the vehicle to follow a path controlled at least in part by said first and second transducers.

2,969,944

ARRESTING GEAR WITH SLIDING SHEAVE, CABLE SHOCK VIBRATION DAMPER AND SLACK TAKE-UP MECHANISM

Forrest E. Knecht, Catawba Ave., Newfield, N.J.

Filed Mar. 29, 1957, Ser. No. 649,583
3 Claims. (Cl. 244—110)
(Granted under Title 35, U.S. Code (1952), sec. 266)



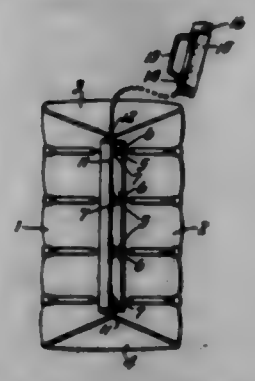
1. In a force arresting system having a cable with a purchase portion reeved into an arresting engine and an anchoring portion reeved from the engine and tied to an anchor, the improvement comprising a fixed track means, reciprocable means mounted for sliding in said track, a first sheave reciprocably mounted on said reciprocable means, a fixed sheave immovably mounted with respect to and on said reciprocable means, the purchase portion of said cable being reeved through said first sheave and the anchoring portion through said fixed sheave so that force to be arrested is subjected in sequence to the inertias of said first sheave, reciprocable means and the arresting engine and whereby a reduction in tension in the anchoring portion permits the reciprocable means to move toward the purchase portion providing it with additional cable.

2,969,945

PARACHUTE RIP CORD COMBINATION

Richard Switlik, Allentown, N.J., assignor to Switlik Parachute Company, Inc., Trenton, N.J., a corporation of New Jersey

Filed Nov. 19, 1956, Ser. No. 623,114
9 Claims. (Cl. 244—148)



1. A parachute rip cord combination comprising a flexible, substantially nonextensible and noncompressible longitudinally movable rip cord member, a grommet securing pin having a sleeve thereon through which said rip cord member freely extends for longitudinal sliding movement in relation thereto, means fixed on said rip cord member and normally spaced from said pin at one side thereof to engage said pin and cause the same to move in unison with the rip cord member when the rip cord member is moved in one direction and means fixed on said rip cord normally spaced from said pin at the opposite side thereof to exert back pressure in the opposite direction on said pin.

2,969,946

KITE

Louis J. Andrews, North Reading, Mass., assignor to Paul K. Guillow, Inc., Wakefield, Mass., a corporation of Massachusetts

Filed Oct. 30, 1958, Ser. No. 770,752
5 Claims. (Cl. 244—154)



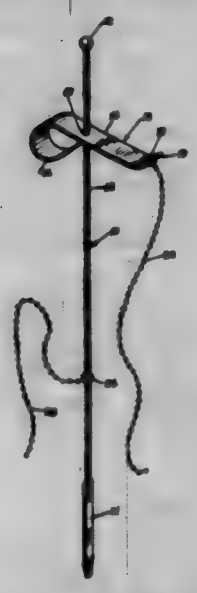
1. A kite having the form of a toy airplane comprising an elongated fuselage member, a triangular wing of tough flexible sheet material on each side of said fuselage member projecting outward therefrom, edge pieces of substantial rigidity extending along the outboard edges of each said wing, each said edge piece being joined at one end to the fuselage member and sloping outward and upward therefrom at an angle of about 10° from the horizontal, and a stiffly flexible transverse spar bearing upon the upper surface of said wings, said spar extending through said fuselage member at a point lower than the points of juncture between said edge pieces and said fuselage member to an edge piece on each of said wings, whereby said spar depresses said wings at the line of contact and causes the portion of each wing forward of the spar to slope forward and upward from the spar and the portion rearward of the spar to slope rearward and upward from the spar.

2,969,947

WREATH SUPPORT

Floyd Tonnesson, 3229 48th Ave. S., Minneapolis, Minn.

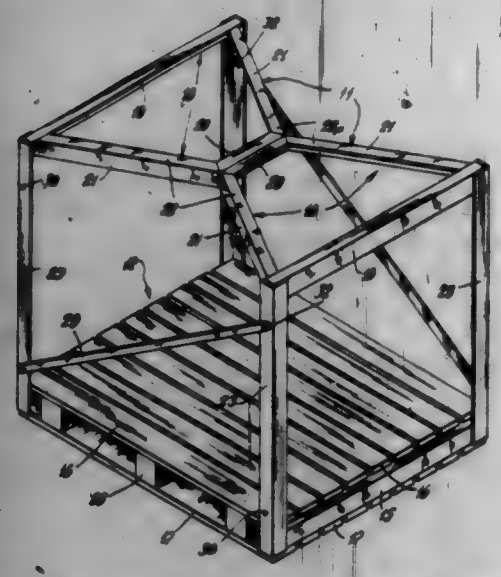
Filed Apr. 2, 1958, Ser. No. 725,910
4 Claims. (Cl. 248—27.8)



1. A wreath support comprising a straight rigid standard member, one end of which is adapted to be inserted in the earth to hold the standard vertically erect. a wreath supporting bracket slidably mounted on said standard, said bracket being formed from resilient metal strap provided with a central aperture through which said standard passes with a loose sliding fit and including

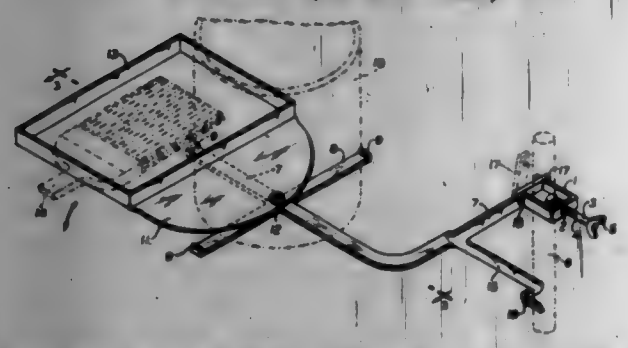
a forwardly projecting wreath supporting arm, integral spring gripping means on said bracket for frictionally engaging said standard to lock said bracket at a desired position along said standard, tying means secured to the outer end of said bracket arm for fastening a wreath to said bracket and further tying means slidably movable on said standard, said further tying means being spaced away from the bracket and adapted to fasten the bottom of a wreath to said standard.

2,969,948
FRAME STRUCTURE FOR PALLETS
William J. Higgins, 12 Capp St., Shore Crest, Carteret, N.J.
Filed Aug. 1, 1958, Ser. No. 752,681
5 Claims. (Cl. 248—120)
(Granted under Title 35, U.S. Code (1952), sec. 266)



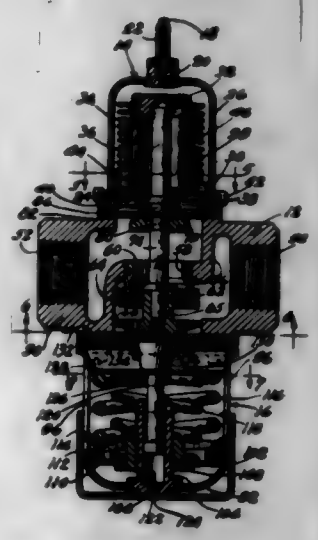
1. Frame structure for a pallet having a plurality of deck boards forming an upper deck and a lower deck sandwiching a plurality of stringers spaced from the ends of said deck boards, said frame structure comprising a rest member comprising a pair of frame components of angle iron defining identical closed plane figures, said components being secured together removably to form a figure that is coextensive with the corners of such pallet, angle irons secured to and depending from said rest member at the points thereof that are coextensive with the corners of such pallet, said depending angle irons being positioned wholly outside the rectangle defined by such pallet, and a pair of U-shaped channel members each connecting two of said angle irons at the ends thereof distal said rest member, said U-shaped channel member being seated wholly between such upper deck and such lower deck and parallel to such stringers.

2,969,949
PAIL AND PASTE BRUSH STAND
James T. Knight, 137 Reade St., Englewood, N.J.
Filed Aug. 18, 1959, Ser. No. 834,552
1 Claim. (Cl. 248—230)



A pail and paste brush stand comprising a U-shaped bracket having a base portion and two leg portions and being adapted to be clamped to a leg member, a latch-bar disposed at the open end of said bracket and pivotally mounted to open and close, respectively, the open end of said U-shaped bracket, a screw bolt threadedly inserted through said base portion of said U-shaped bracket in order to clamp said bracket to said leg member, a supporting bar extending laterally integrally from one of said leg portions of said U-shaped bracket, said supporting bar being adapted to support a tray in substantially horizontal position, and a supporting arm extending angularly downwardly and integrally from said supporting bar from a point laterally spaced apart from said bracket to a point substantially vertically below said bracket and for a length to maintain said supporting bar in substantially horizontal position, the lower end of said supporting arm being adapted to engage loosely said leg member.

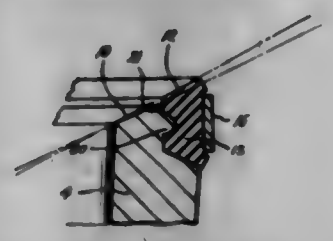
2,969,950
VALVE APPARATUS
Richard Gilbert, West Chicago, and Robert H. Warkentien, Mount Prospect, Ill., assignors, by mesne assignments, to Colorado Oil and Gas Corporation, Denver, Colo., a corporation of Delaware
Filed Jan. 7, 1957. Ser. No. 632,765
3 Claims. (Cl. 251—61)



3. A valve comprising a housing having an inlet, an outlet, and a communicating passageway, a valve seat in said passageway, a seal engageable with the valve seat to define inlet and outlet cavities and a stem extending from said seal into said outlet cavity and having a free end, said seal and stem movable between a closed position against said seat and an open position in said outlet cavity, the housing being apertured adjacent the free end of said stem, a shell secured to said housing and defining a substantially cylindrical cavity coaxial with said stem, manually rotatable means enclosing a portion of said shell and coaxially mounted therewith, said rotatable means including a threaded portion extending axially within said shell, support means threadedly engaging said threaded portion and engaging said shell to permit relative axial movement therebetween while restraining said support against rotation relative to said shell, said support defining an annular recess intermediate said shell and said threaded portion, flexible diaphragm means closing the aperture in said housing, coaxial rod means aligned with said stem with said diaphragm disposed therebetween, plate means slidable in said shell and carried by said rod means, and coil spring means compressed between said support means and said plate means, said coil spring means comprising two coaxial coil springs of different stiffness in the form of counter-wound helices, the larger of said springs fitting closely against the outer periphery of said annular recess, and the smaller of said springs fitting closely against the

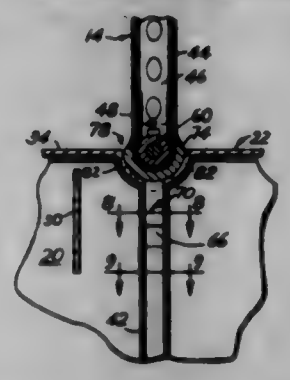
inner periphery of said annular recess whereby said springs are maintained in substantially coaxial relationship, said shell being apertured whereby said valve may be manually flushed by the insertion of any means in said aperture to compress said spring means and permit said seal to move to said open position.

2,969,951
PUMP VALVE
George W. Walton, Dallas, Tex., assignor, by mesne assignments, to Dresser Industries, Inc., Dallas County, Tex., a corporation of Delaware
Filed May 31, 1957, Ser. No. 662,757
4 Claims. (Cl. 251—332)



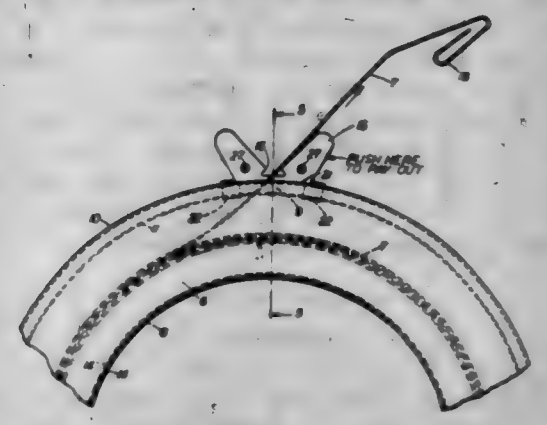
2. A valve seat structure including a seat ring of metallic material with its upper seating surface limited by an outer annular recess which is shaped to accommodate an annular packing ring of resilient material, an annular capturing flange extending outwardly into the recess, a locking band of metallic material arranged about the seat ring and aligned with the annular recess to capture a symmetrical packing ring in the recess on the flange, and a packing ring of resilient material captured between the seat ring recess flange and locking ring and having lip portions at its upper and lower outer peripheries, the band extending so that its upper and lower edges are proximate said lip portions and so that it overlies both the upper and lower surfaces of said flange.

2,969,952
ROTARY FLUID MACHINES WITH DAMPED BLADES
Edward A. Stalker, 406 N. Farragut St., Bay City, Mich.
Filed Oct. 5, 1956, Ser. No. 614,189
7 Claims. (Cl. 253—39)



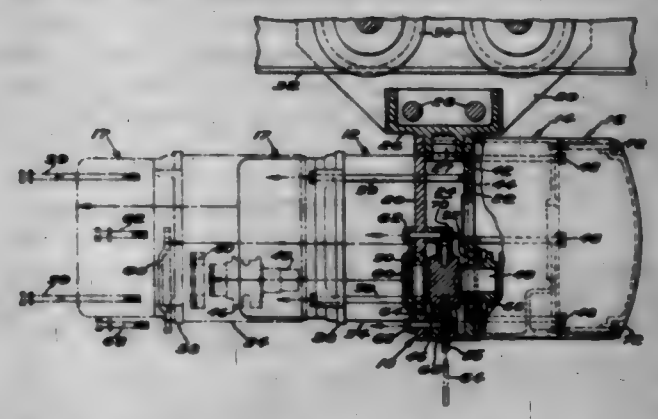
1. In combination in an axial flow compressor rotor for compressing a fluid, hub means, a sheet metal rim peripherally bounding said hub means and bathed by the flow of said fluid axially thereacross, the peripheral surface of said rim having a plurality of peripherally spaced external arcuate recesses therein, a plurality of axial flow blades peripherally spaced about said rim, each said blade having an arcuate end received in a said recess and extending radially outwardly therefrom, each said blade end conforming in contour to the walls of the respective recess and fitting closely to said wall and oscillatable relative thereto, said rim between adjacent said blades being closed to an axial flow of said fluid therethrough to sustain variations in pressure of said fluid axially along said rim between said blades, and means for oscillatably mounting each of said blades on said hub means about axes located substantially at the peripheral surface of said rim means to provide for oscillation thereof while maintaining the rim surface between blades substantially closed.

2,969,953
ELECTRICAL FISH TAPE WINDER
Orson A. Shaw, Jr., Belvidere, Ill., assignor, by mesne assignments, to Holub Industries, Inc., Sycamore, Ill., a corporation of Illinois
Filed Feb. 20, 1958, Ser. No. 716,422
3 Claims. (Cl. 254—134.3)



1. In combination with an electrician's fish tape reel having an outer peripheral wall including opposed, circumferentially extending, resilient, rounded edge portions normally disposed in uniformly spaced relation to define an annular slot of uniform width through which a fish tape of a slightly greater uniform width is movable endwise by spreading said rounded edge portions for a friction drag effect on the tape in its winding on or unwinding from the reel, a tape guide member disposed on and conformed on its radially inner side to the periphery of said reel and having opposite end portions on which are provided bearings disposed between and conformed to and slidably engaging said rounded edge portions, said guide member having the middle portion thereof between said bearings open to define two spaced parallel rounded guide surfaces extending transversely relative to said slot for extension of said tape from said reel between said guide surfaces and bearings, said tape slidably engaging one of said guide surfaces in winding onto the reel and the other of said guide surfaces in unwinding from the reel.

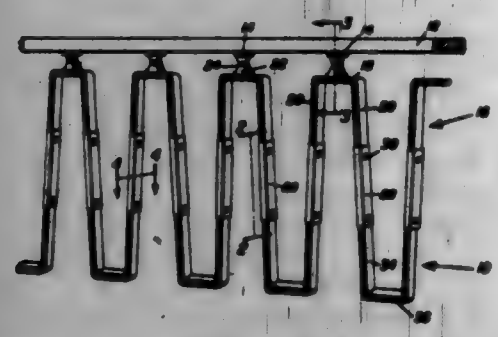
2,969,954
ELECTRIC HOIST
Humphrey F. Parker, Buffalo, and William H. Devonshire, Williamsville, N.Y., assignors to Columbus McKinnon Corporation, Tonawanda, N.Y.
Filed Jan. 30, 1958, Ser. No. 712,196
7 Claims. (Cl. 254—168)



1. In an electric chain hoist, in combination, a frame component and a motor housing component, said frame component comprising essentially parallel vertically disposed first and second structural side wall portions in-

terconnected by a perimetral wall portion, said side wall portions being circularly apertured in mutual alignment, hoist suspension means connected to the upper ends of said side wall portions, said motor housing component comprising a generally cylindrically shaped housing containing a motor having an output shaft, said motor housing being slip-fitted through the aperture of said first side wall portion and abutting at its inside end against said second side wall portion whereby said motor output shaft is exposed at the aperture of said second side wall portion, a load lift chain wheel disposed between said housing side walls and having a load lift shaft, means connecting said load lift wheel to said motor output shaft for being driven therefrom, said side walls being also apertured in offset alignment relative to said motor housing component and mounting bearings therein journalling opposite ends of said load lift shaft, one of said bearings being of an outside diameter greater than the overall diameter of said load lift wheel whereby said bearing and lift wheel are free to be axially displaced and disassembled from said frame component.

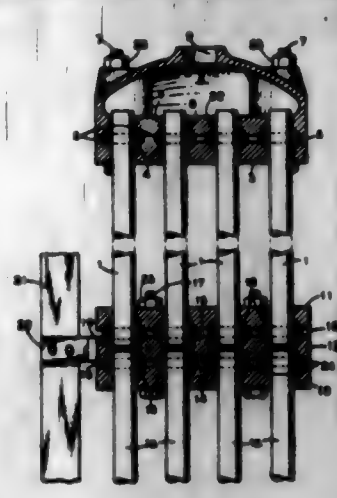
2,969,955
STAIR RAILING
Elmer S. Newman, Cincinnati, Ohio, assignor to Newman Brothers, Inc., a corporation of Ohio
Filed June 3, 1959, Ser. No. 817,821
3 Claims. (Cl. 256—21)



1. A railing comprising an elongated top rail, a plurality of interconnected post assemblies, and means pivotally connecting the upper end of each post assembly to the rail whereby the angular relationship between the post assemblies and the rail may be altered for enabling the rail to be disposed in horizontal or inclined position, each of said post assemblies including a horizontally disposed bottom element for engagement with a horizontal supporting surface, each of said post assemblies including an inverted U-shaped member having a bight portion pivotally attached to the top rail, said inverted U-shaped member having downwardly diverging legs, a U-shaped member having upwardly diverging legs with one leg of the U-shaped member being in alignment with a leg of the inverted U-shaped member, and an elongated rigid sleeve telescopingly receiving the adjacent end portions of the aligned legs for slidably receiving the aligned legs, setscrew means for locking the locking sleeve to the legs in adjusted position for permitting adjustment of the top rail and the effective length of the side portions of the post assemblies.

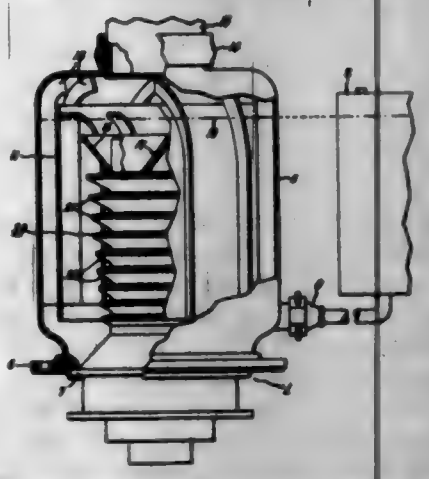
2,969,956
PIPE JOINT FOR HEAT EXCHANGE DEVICES
László Fórgó, Budapest, Hungary, assignor to Licencia Talalmanyokat Ertekesito Vallalat, Budapest, Hungary, a Hungarian firm
Filed Dec. 27, 1955, Ser. No. 555,682
5 Claims. (Cl. 257—224)

1. A tube-joint assembly for heat exchangers comprising, in combination, a support structure; a tube plate formed with tube receiving apertures; plural greatly elongated relatively thin-walled tubes having their ends extending through the tube plate apertures, and mechanically anchored in the tube plate; a tightening plate spaced beyond said tube plate and having tube receiving apertures respectively aligned with those in said tube plate, the ends of said tubes extending through the tube plate apertures extending into the tightening plate apertures; the tightening plate apertures having diameters sufficiently in excess of the tube outer diameters for free movement of the tube ends axially of the tightening plate apertures; said tube plate being anchored only to said tubes and being freely movable with said tubes, relative to said tightening plate; during expansion and contraction of said tubes; compressible packing means embracing the



tubes between said plates and seated on said tube plate; means operable to draw said plates toward each other to compress said packing means to provide a leakproof assembly of said tubes to said tube plate; and bracket means anchoring said tightening plate to said support structure to hold said tightening plate against movement relative to said support structure; whereby said tube plate is free of connection to any element having a temperature differing from the temperature of said tubes, so that said tubes and said tube plate will move as a fixed unit with said packing means relative to said tightening plate to inhibit abrasion of said packing means by said tubes.

2,969,957
ELECTRIC DISCHARGE DEVICE COOLING SYSTEMS
Charles A. E. Beurtheret, Saint-Germain en Laye, France, assignor to Compagnie Francaise Thomson-Houston
Filed Jan. 10, 1956, Ser. No. 558,385
13 Claims. (Cl. 257—259)



1. A vapor cooling system comprising an electric discharge device having a cylindrical anode forming a part of the envelope of the device and including a radiator, a coolant jacket enclosing said radiator and including an upper vapor collecting portion having a vapor outlet, a hollow straight-walled cylinder in said jacket surrounding said anode and radially spaced from

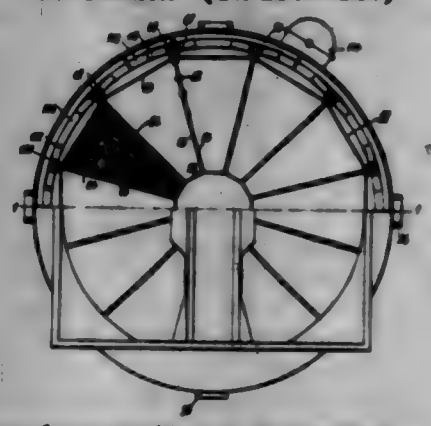
said jacket and from said radiator, said cylinder having both ends completely open for enabling a coolant to circulate freely therethrough, a set of deflection elements including straight portions in the lower part of the region between said cylinder and radiator and arcuate portions in the upper part of the region between said cylinder and radiator and said arcuate portions being spaced below the upper edge of said clyinder and effective for imparting a rotary motion about the longitudinal axis of said cylinder to vaporizing coolant rising by convection in said upper part of said region thereby to centrifuge entrained liquid coolant over the upper edge of said cylinder to extract said liquid from vaporized coolant, and another set of deflection elements in the region between said cylinder and jacket including arcuate portions disposed above said upper edge of said cylinder and inclined oppositely with respect to said arcuate portions of said first-mentioned set and effective for directing said extracted liquid downwardly into said region between said cylinder and jacket, whereby coolant circulation past said radiator by convection is increased.

2,969,958

ROTARY DEVICES, PARTICULARLY ROTARY HEAT EXCHANGERS

Hans Robert Nilsson, Ektorp, and Per Walther Sigvard Persson, Johanneshov, Sweden, assignors to Svenska Rotor Maskiner Aktiebolag, Nacka, Sweden, a corporation of Sweden

Filed Mar. 14, 1955, Ser. No. 494,008
27 Claims. (Cl. 257—267)



1. A rotary heat exchanger comprising a rotor component, a stationary component including apertured end plates the apertures of which define paths of flow of different heat-exchanging media and bearing means for rotatably supporting the rotor component at the outer periphery thereof with respect to the stationary component, said rotor component constituting a coherent unit comprising a plurality of sector-shaped baskets positioned in abutting relationship around the axis of the device so that the radial sides of contiguous baskets define partitions extending radially from the inner to the outer periphery of the rotor component, the inner and the outer walls of the rotor component being comprised of abutting transverse ends of abutting baskets, the radial sides of contiguous baskets being fastened together whereby the assembly of said baskets alone forms a completely coherent rotor the inner and outer circumferential walls of which are formed by the transverse ends of the baskets, each of said baskets being provided with means for supporting the same on said bearing means.

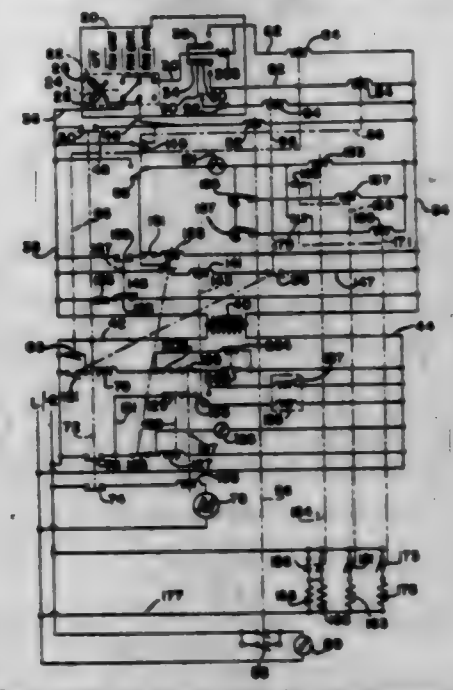
2,969,959

REFRIGERATING APPARATUS

Albert J. Kuhn and David D. Rector, Dayton, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Jan. 11, 1957, Ser. No. 633,692
1 Claim. (Cl. 257—278)

Air conditioning apparatus including a first heat transfer unit exposed to outdoor air and a second heat transfer unit exposed to indoor air, motor compressor means for withdrawing refrigerant from one of said units and delivering it to the other unit, refrigerant flow control means connected between said units, a reversing valve connected between said units and said motor compressor means to cause either of said units to heat or cool, a source of electrical energy, electric auxiliary heating means for said second unit, thermostatic switch means adjacent said first unit having first means responsive to low environment temperatures for closing and connecting said auxiliary means to said source and responsive to high environment temperatures for opening and disconnecting said auxiliary means from said source, said first means including a normally open electrically operated switch having its switch contacts connected in shunt circuit with said thermostatic switch means and having its electrical operating element connected in series with both said switch contacts and said thermostatic switch means for preventing the discontinuance of the auxiliary heat, means effective when said second unit is heating and said first unit is cooling for operating said reversing valve to



cause said first unit to heat and be defrosted, and means for deenergizing said electrical operating element to open its switch contacts, a second auxiliary heating means for said second unit, a second thermostatic switch means adjacent said second unit having a second means responsive to lower environment temperatures than said first mentioned thermostatic switch means for closing and connecting said second auxiliary means to said source and responsive to high environment temperatures for opening and disconnecting said auxiliary means from said source, said second means including a second normally open electrically operated switch having its switch contacts connected in shunt circuit with said second thermostatic switch means and having its electrical operating element connected in series with both its switch contacts and said thermostatic means for preventing the discontinuance of heating of said second auxiliary heating means, said means for deenergizing said electrical operating element of said first mentioned electrically operated switch also deenergizing said operating element of said second electrically operated switch to open its switch contacts.

2,969,960

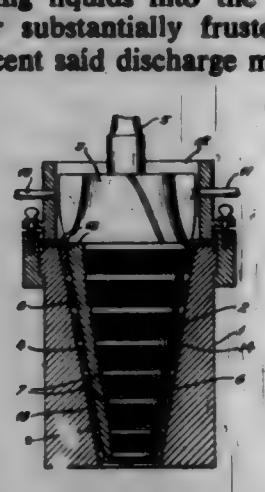
MIXING APPARATUS

Jesse Fred Gurley, Jr., St. Louis, Mo., assignor to Mobay Chemical Company, St. Louis, Mo., a corporation of Delaware

Filed June 5, 1957, Ser. No. 663,682
1 Claim. (Cl. 259—7)

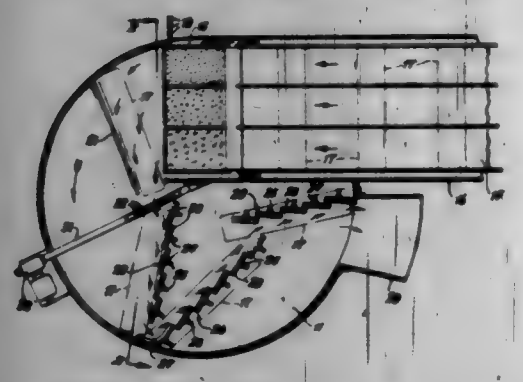
An apparatus for mixing liquids together, comprising in combination a chamber and a means for stirring liquids

in said chamber until they are substantially intimately mixed together, said chamber having means adjacent one end thereof for admitting liquids and a discharge means adjacent the other end thereof through which the resulting mixed liquids flow from said chamber, said stirring means having the general shape of two frustums which have abutting bases, the apex of one frusto-conically shaped portion of said stirring means lying adjacent said means for admitting liquids into the chamber and the apex of the other substantially frusto-conically shaped portion lying adjacent said discharge means, the last said



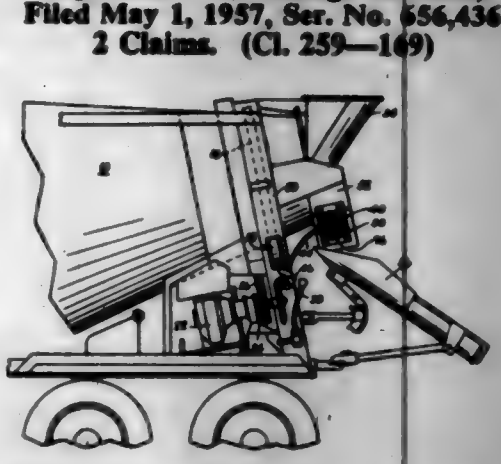
frusto-conically shaped portion having a plurality of tooth-like projections covering a major portion of the surface thereof, said tooth-like projections being formed by the intersection of a plurality of annular grooves and a plurality of longitudinally extending grooves, said chamber being substantially concentric with and having a diameter only slightly larger in cross-section than the diameter of the last said substantially frusto-conically shaped portion, said chamber having a plurality of tooth-like projections extending therefrom and between tooth-like projections of said stirring means.

2,969,961
MIXER
Bernard M. Thomann, 1920 Colvin Blvd., Tonawanda, N.Y.
Filed Apr. 14, 1958, Ser. No. 728,327
6 Claims. (Cl. 259—157)



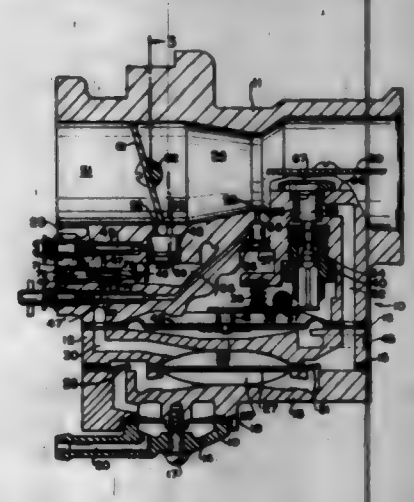
1. Mixing apparatus for preparation of road surfacing material comprising a rotatable circular platform, a compartmentalized hopper adapted to receive raw materials for controlled deposit upon the platform, a first baffle plate arranged to extend from the periphery of the platform toward the center region thereof, said baffle plate being further arranged to produce a rolling movement of the material as it engages the material deposited by the hopper and directs it toward the center region of the platform, a second baffle plate arranged to receive material from the first baffle plate and to direct it toward the periphery of the platform and being further arranged to produce a rolling movement of the material as it engages the material, a discharge pipe arranged to discharge a liquid binder upon the material as it moves from the first baffle plate to the second baffle plate, a third baffle plate arranged to receive material from the second baffle plate and to direct it toward the center region of the platform, and being further arranged to produce a rolling movement of the material as it engages the material, and a fourth baffle plate arranged to receive material from the third baffle plate and to direct it toward the periphery of the platform, and being further arranged to produce a rolling movement of the material as it engages the material.

2,969,962
CONCRETE MIXER
Andres J. Duany, Miramar, Havana, Cuba
(Apartado 778, Santiago de Cuba)
Filed May 1, 1957, Ser. No. 656,436
2 Claims. (Cl. 259—169)



1. A concrete mixer comprising a rotatable drum to contain and discharge a mass of relatively stiff concrete-mix, said drum being provided with means for rotating it on a fixed axis upwardly directed towards a discharge mouth of reduced size, said mouth being associated with the drum so as to partake of the rotary motion thereof, means comprising helical vanes within the drum to force the mix through said mouth as the drum is rotated in one direction, a high-speed vibratory member closely adjacent the exterior of the mouth of said drum and extending substantially transversely with respect to the direction of flow of the mass of concrete-mix issuing from the mouth and positioned to lie within the mass of concrete-mix as it is forced from said mouth, a common drive means for rotating the drum and for vibrating said member, whereby the concrete-mix issuing from the mouth and within the drum immediately adjacent the mouth is fluidized allowing it to be flowed to its point of use.

2,969,963
CARBURETOR
Herbert K. Brown, Trumbull, Conn., assignor to Brown Engine Products, Inc., a corporation of Texas
Filed May 7, 1958, Ser. No. 733,561
4 Claims. (Cl. 261—4)



1. In a carburetor having a venturi charge-forming chamber shuttered by a butterfly valve, and further having a passage for conducting liquid fuel from a fuel

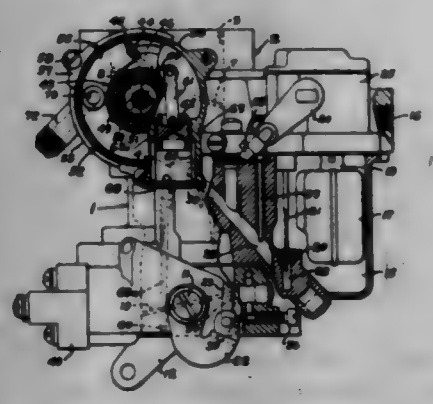
source pressurized by flexible diaphragm pump means through a first needle valve to a fuel reservoir and from the fuel reservoir through a second needle valve to said charge-forming chamber, said passage opening into said charge-forming chamber at a single fuel delivery position substantially in the plane of said butterfly valve and perpendicular to the axis thereof, the improvement which comprises a carburetor body structure defining the path for said passage and providing for said passage to extend along each of two courses from said second needle valve to two separate locations in the wall of the charge-forming chamber, said two separate locations each being substantially in the closed-position plane of the butterfly valve and being spaced angularly approximately 90° apart about the axis of the chamber, said single fuel delivery position being adapted to be located at either one of said two separate locations in the wall of said chamber, the body structure at each of said separate locations being sufficiently massive to be drilled to receive a butterfly valve shaft extending diametrically through the charge-forming chamber, whereby said butterfly valve may be positioned for operation about either of two axes at right angles to each other, said body structure also defining a fuel well in said passage directly adjacent the inlet side of the first needle valve and providing accommodation for a removable filtering element in said passage between said fuel reservoir and said second needle valve.

2,969,964

AUTOMATIC CHOKE FOR CARBURETORS

Wenford E. Highley, Normandy, Mo., assignor to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey

Filed Mar. 17, 1958, Ser. No. 721,915
16 Claims. (Cl. 261—39)



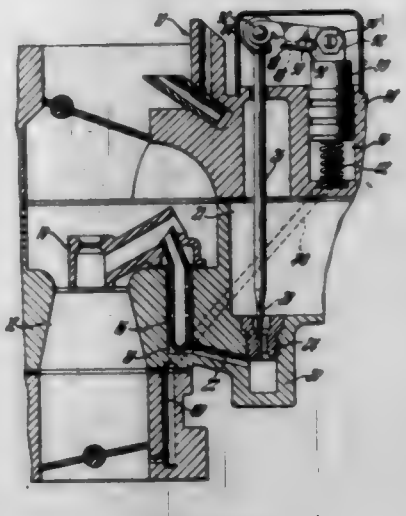
1. In a carburetor for an engine, an induction conduit, a choke valve in said induction conduit, and means responsive to engine suction for partially opening said choke valve upon starting of said engine and for subsequently urging said choke valve open first with a relatively great force and then with a substantially reduced force and comprising, a suction motor having cooperating parts movable axially with respect to each other, one of said parts being responsive to engine suction to actuate said choke valve, another of said cooperating parts having an open end and another end having means for communicating with a source of engine suction, said cooperating parts having by-pass means to said open end of said other cooperating part and having leading portions at different locations along said axial direction of motion to be progressively uncovered for intermittently modifying the flow through the by-pass means as said cooperating parts move relative to each other between extremities of their respective axial motion responsive to said engine suction to provide the relatively great force and subsequently a reduced force.

2,969,965

FUEL METERING PIN

Adolph F. Braun, Pittsford, N.Y., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed June 11, 1958, Ser. No. 741,302
7 Claims. (Cl. 261—39)



1. A charge forming device for an internal combustion engine comprising an induction passage, a fuel reservoir, passage means for supplying fuel from said fuel reservoir to the induction passage, a metering orifice intermediate said reservoir and said passage means, a tapered metering pin adapted to movably coact with said metering orifice to control the quantity of fuel flow therethrough, engine load responsive means for varying the position of said pin relative to said metering jet, and carburetor air temperature responsive means disposed between said pin and said engine load responsive means for modifying the position of said tapered pin in relation to the metering orifice to decrease the fuel flow through said orifice with an increase in temperature.

2,969,966

BUCKET MOUNTED FROST BREAKER

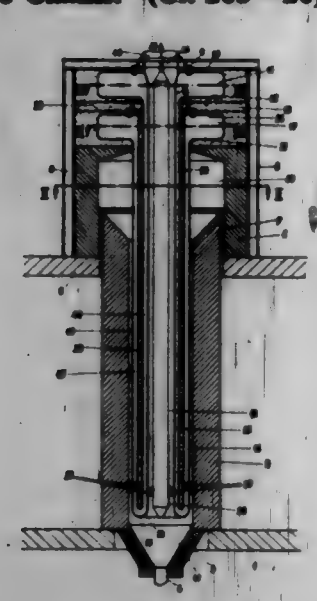
Aloys J. Matheis, 2455 N. Brookfield Road, Brookfield, Wis.

Filed July 23, 1957, Ser. No. 673,680
4 Claims. (Cl. 262—14)



1. The combination with a back hoe having relatively spaced sides defining an open front and dirt penetrating teeth in relatively spaced relation at its shovel end, said sides having means at said open front for attachment to a supporting member, said sides being connected by a member adjacent said open front and adjacent said means at the upper end of said hoe, of an elongated ram extending across said open front and having a leading edge below said hoe, said ram being attached to said hoe by means of a bracket receiving said teeth and engaging the exterior of said hoe adjacent said teeth and a clamping bracket engaging a side of said member corresponding to said exterior and including a clamp engaging the opposite side of said member whereby said ram extends across said open front in a line substantially parallel thereto.

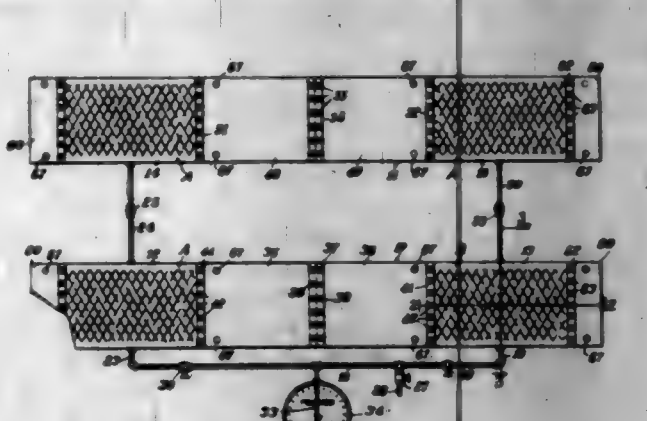
2,969,967
WASTE GAS RECUPERATOR
Erwin Bührer, Schaffhausen, and Ernst Bosshard, Feuerthalen, Switzerland, assignors to Georg Fischer Aktiengesellschaft, Schaffhausen, Switzerland, a company of Switzerland
Filed Oct. 25, 1957, Ser. No. 692,306
Claims priority, application Switzerland Oct. 27, 1956
6 Claims. (Cl. 263—20)



4. A recuperator for hot waste gases of metal working furnaces; comprising at least two heat exchange chambers, each one of said chambers including an inner and an outer longitudinally extending portion having two ends, said outer portion of one of said chambers surrounding said outer portion of the other of said chambers, said inner portion of one of said chambers being located internally of said inner portion of the other of said chambers, said inner portions being surrounded by said outer portions, said outer portions of said respective chambers communicating with said inner portions thereof at adjacent ends of said respective portions, said communicating ends of said portions of said one chamber being located immediately adjacent said communicating ends of said portions of said outer chamber, respective inlet and outlet openings for each of said chambers provided at said ends of said respective portions opposite said communicating ends, for supplying to and removing from one of said chambers hot waste gases and for supplying to and removing from the other of said chambers a gaseous medium of lower temperature than said hot gases, respectively, to thereby heat with said hot waste gases circulated in said one chamber said gaseous medium circulated in said other chamber, and separator means located adjacent said communicating ends of said portions of said one chamber to thereby remove from said hot waste gases dust and the like particles.

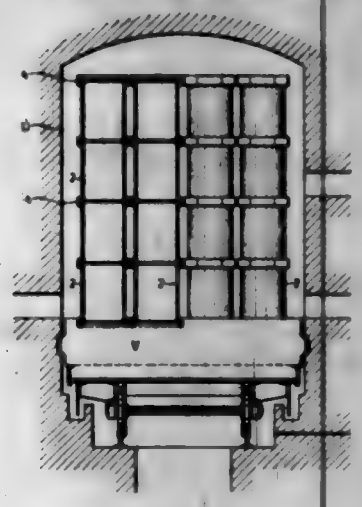
2,969,968
PNEUMATIC SCALES
Ralph R. Miller, Cowan, Tenn.
Filed Jan. 28, 1954, Ser. No. 486,853
3 Claims. (Cl. 265—47)

1. A weighing apparatus, comprising a pair of runways which are spaced apart and arranged to receive the wheels of a vehicle and providing runway wheel supports therefor, a pair of individual inflatable tubular cushion means disposed in each of said runways and in position to pneumatically contact and support the load of the wheels of the vehicle, said inflatable cushion means being fabricated of rubberized fabric to support the load on the uppermost wall of the cushions, conduit means for connecting the corresponding inflatable tubular cushions of each runway together, conduit means for connecting said pair of inflatable cushions on one of said runways, valve means in said latter conduit for controlling the pneumatic connection between the inflatable cushions at opposite ends of the runway, and pressure gauge means



communicating with said latter conduit for registering the pressure in said conduit, said pressure gauge being calibrated to indicate pressure applied to said cushions.

2,969,969
REDUCTION RETORTS
Per Egon Gummeson, Hoganas, Sweden, assignor to Aktiebolaget Höganaesmetoder, Hoganas, Sweden
Filed Aug. 19, 1955, Ser. No. 529,546
1 Claim. (Cl. 266—24)

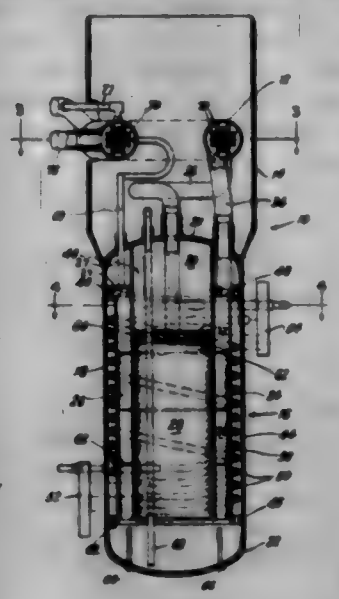


A reduction retort consisting of at least two substantially cylindrical ceramic tubes of the same size, placed one upon the other end to end, the tubes being interconnected by means of a heat resistant ring the cross section of which has the form of a lying T with an inner diameter equal to the inner diameter of the cylindrical ceramic tubes, said retort comprising holes in said ring and clamps to be inserted in said holes for interconnecting two retorts placed beside each other.

2,969,970
LIQUID METAL PURIFIER
Robert T. Schoemer, Baldwin, N.Y., assignor to The Babcock & Wilcox Company, New York, N.Y., a corporation of New Jersey
Filed June 4, 1956, Ser. No. 589,210
3 Claims. (Cl. 266—37)

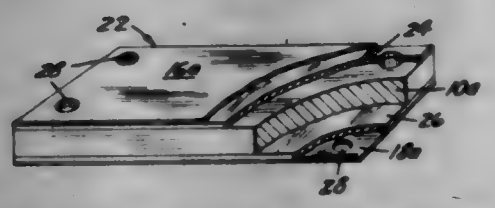
3. A liquid metal purifier comprising an elongated vessel, inlet and outlet means for flowing liquid metal therethrough, the invention comprising means in conjunction with said vessel forming a peripheral chamber extending along the inside wall of said vessel adapted to hold relatively quiescent liquid metal and in communication with the liquid metal flowing in the vessel, and heat transfer means for cooling the quiescent liquid whereby said quiescent liquid is in indirect heat transfer relation-

ship with said flowing liquid metal to precipitate the oxides therefrom, said heat transfer means including



cooling tubes immersed within the quiescent liquid metal in said peripheral chamber.

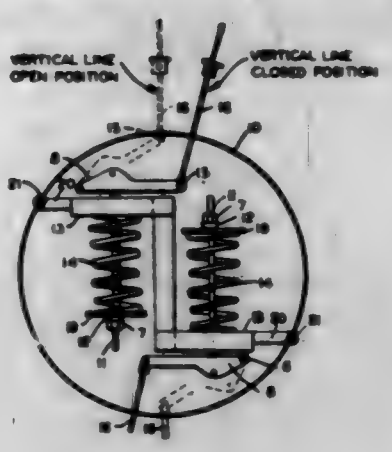
2,969,971
REINFORCED PLASTIC SPRINGS
Donald E. Nelson, Little Canada, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed July 23, 1958, Ser. No. 750,340
2 Claims. (Cl. 267—1)



1. A flat reinforced plastic spring for mounting in a machine as an elastically stress-resisting member, said spring comprising (*a*) a core of non-woven, lineally-aligned, continuous fine glass filaments which are contiguous and are surrounded and exclusively bonded to each other by hard resinous material and extend in the lengthwise direction of the spring, said core constituting a major proportion of the spring and having a pair of parallel lateral surfaces, and adherently bonded to each of said surfaces of the core, (*b*) a crosswrap of non-woven, lineally-aligned, continuous fine glass filaments which are contiguous and are surrounded and exclusively bonded to each other by hard resinous material and extend in the crosswise direction of the spring.

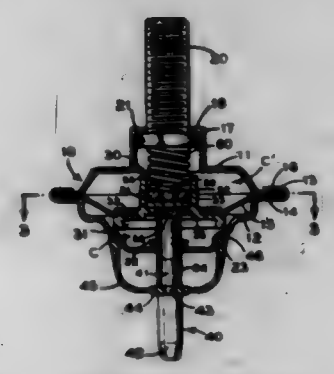
2,969,972
BALANCED LOAD HANGER
Torleif K. Holmen, Atkinson, N.H., assignor to Grinnell Corporation, Providence, R.I., a corporation of Delaware
Filed Sept. 19, 1958, Ser. No. 762,079
3 Claims. (Cl. 267—1)

1. A spring device for exerting support on a vertically displaceable load comprising a frame, a first spring supported by said frame at one end, a first lever arm pivotally connected at one end to said frame and at the other end of the arm to a first longitudinal load bearing member, means pivotally connecting the other end of said first spring to said first lever arm between the ends of the arm, a second spring parallel to and adjacent said first spring but oppositely oriented relatively to said frame with respect to said first spring, said second spring being supported by said frame at one end, a second lever arm pivotally connected at one end to said frame and at the other end of the arm to a second longitudinal load bearing member, means pivotally connecting the other



end of said second spring to said second lever arm between the ends of the arm, said first and second longitudinal load bearing members being coaxially oriented.

2,969,973
DASH-POT
Michael P. Scholz, Cranford, N.J., assignor to Paragon Products Corporation, Newark, N.J., a corporation of New Jersey
Filed Sept. 21, 1959, Ser. No. 841,307
5 Claims. (Cl. 267—1)



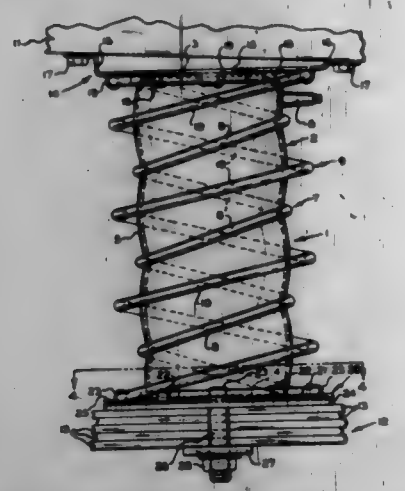
1. A dash-pot comprising, in combination, means forming a housing; diaphragm means, including an annular flexible diaphragm dividing said housing into a pair of chambers; an operator extending slidably through a wall of said housing and perpendicular to and engaged with said diaphragm means, said operator extending through one of said chambers; diamagnetic material means, including a valve seat, included in said diaphragm means and establishing communication between said chambers; a paramagnetic material ball check valve in the other of said chambers cooperable with said valve seat to restrict communication between said chambers; a magnet movable with said operator and normally retaining said valve against said valve seat to so restrict communication between said chambers; said valve, upon movement of said operator in the direction of said valve, being retained seated against said valve seat by the action of said magnet augmented by the resultant relatively increased pressure in said other chamber, to retard such movement of said operator; said valve, upon reverse movement of said operator, disengaging said seat by virtue of the resultant relative increase in pressure in said one chamber opposing the action of the magnet to facilitate such reverse movement of said operator; and coil spring means, within said housing, operatively associated with said diamagnetic means and biasing said operator to move in such reverse direction.

2,969,974

SPRING BOOSTER DEVICE

Don M. Pemberton, Lansing, Mich., assignor to Universal Air Lift, Inc., Lansing, Mich., a corporation of Michigan

Filed Nov. 19, 1958, Ser. No. 774,986
10 Claims. (Cl. 267—23)



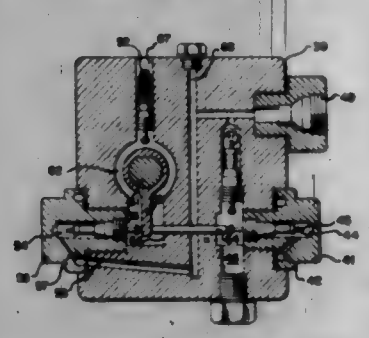
1. Apparatus for yieldably maintaining a pair of spaced apart members in spaced relation comprising a first coil spring; a hollow envelope having spaced apart end walls and elastic side walls, said envelope being received within the convolutions of said first coil spring; means communicating with the interior of said envelope for inflating the latter with a compressible fluid to such an extent that the side walls of said envelope assume a generally undulating configuration comprising alternating roots and nodes, said roots receiving individual convolutions of said first coil spring and said nodes protruding a substantial distance between adjacent convolutions of said first coil spring to provide yieldable supporting areas for individual convolutions of said first coil spring; and a second coil spring larger than said first coil spring and receiving both said envelope and said first coil spring and having its convolutions located in positions to bear externally against said protruding nodes.

2,969,975

VEHICLE AIR SUSPENSION SYSTEM BLOWOFF VALVE

Paul E. Chuba, Center Line, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Filed Jan. 3, 1957, Ser. No. 632,309
1 Claim. (Cl. 267—65)



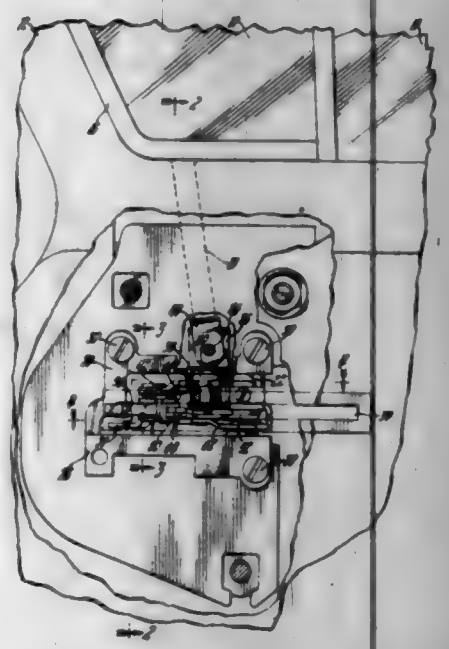
A leveling valve arrangement for controlling the release of air from an air spring for a motor vehicle suspension system, said valve arrangement comprising a housing having an intake port and an exhaust port, an intake valve and an exhaust valve positioned in said ports respectively, said valves being normally closed, a port communicating with the air spring and air passage means interconnecting said ports, a check valve in the air passage means connecting the intake port with the exhaust port normally permitting air to be passed through it into the air spring, means responsive to height variations in the vehicle suspension system including a shaft journaled in said housing for rotational movement thereof and a lever arm journaled on said shaft and a spacer interposed between the lever arm and said intake valve, said lever arm being normally positioned adjacent and between the exhaust valve and the spacer, and a minimum pressure exhaust blowoff valve interposed in the exhaust port in the housing adjacent to atmosphere whereby air from the air spring upon actuation of the exhaust valve by the lever arm will not escape into the atmosphere unless said air pressure is in excess of the predetermined setting of the minimum pressure exhaust blowoff valve.

2,969,976

PIVOTED WINDOW REGULATOR

James D. Leslie, Birmingham, and Alfred B. Sauer, Farmington, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Nov. 24, 1958, Ser. No. 775,802
9 Claims. (Cl. 268—118)



1. An operating mechanism for a pivoted type window, a common supporting member for the mechanism and the window, a shaft rotatably mounting said window on said supporting member, said mechanism being connected to said shaft and including an actuating lever disposed in a plane substantially perpendicularly disposed to the plane of the window, said mechanism also including a pin and slot device, said lever being operatively connected to and pivotal about said pin, an arm pivotally connected to said lever for moving the latter, and means for moving said pin in said slot when the lever is pivoted about said pin whereby the movement of said arm is substantially linear.

2,969,977

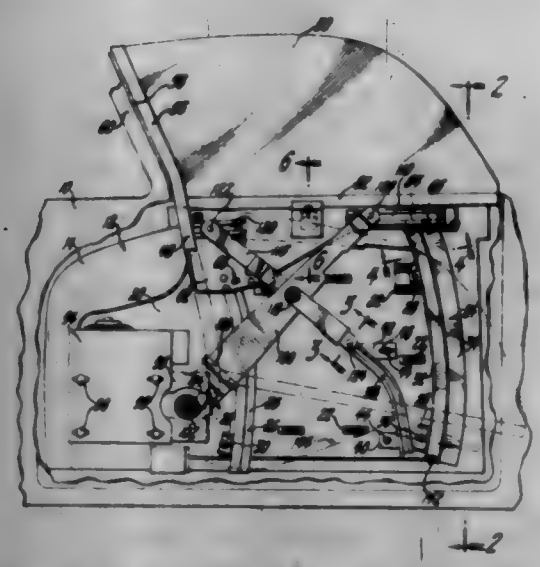
WINDOW REGULATOR

John Himka, Farmington, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Continuation of application Ser. No. 405,135, Jan. 20, 1954. This application Mar. 9, 1959, Ser. No. 798,308
9 Claims. (Cl. 268—124)

1. In a vehicle body having a window opening therein, a vehicle window curved both longitudinally and laterally thereof and adapted to open and close said opening, a pair of spaced guide members, each having a guiding edge portion curved both longitudinally and laterally with respect to said window and extending generally longitudinally with respect thereto, spaced pairs of first guide rollers rotatably mounted on said window on generally longitudinally disposed axes with respect thereto, each pair slidably and rotatably receiving said guiding

edge portion of one of said guide members therebetween for guiding lateral shifting movement of said window and permitting longitudinal shifting movement thereof, a guide channel on at least one of said guide members opening to said window and disposed adjacent said guiding edge portion thereof, said channel being curved both longitudinally and laterally with respect to said window,



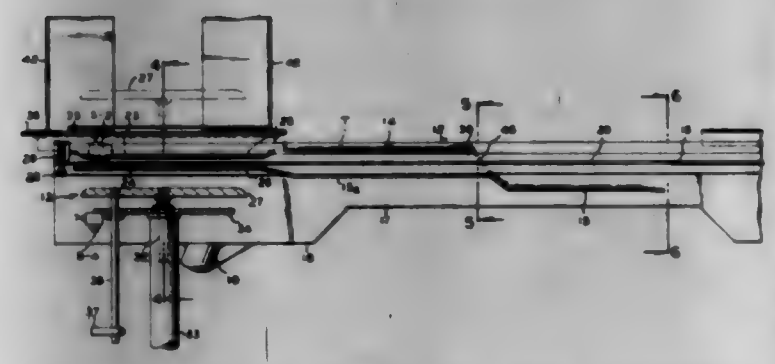
and a second guide roller rotatably mounted on said window on a generally laterally disposed axis with respect thereto and being slidably and rotatably received within said channel for guiding longitudinal shifting movement of said window and permitting lateral shifting movement thereof, said first and second guide rollers cooperatively guiding both lateral and longitudinal shifting movement of said window.

2,969,978

TOWEL OR LIKE FOLDING AND STACKING MACHINE

Clinton E. Myers, 3500 Adaline Drive, Stow, Ohio

Filed Feb. 20, 1958, Ser. No. 716,451
5 Claims. (Cl. 270—85)



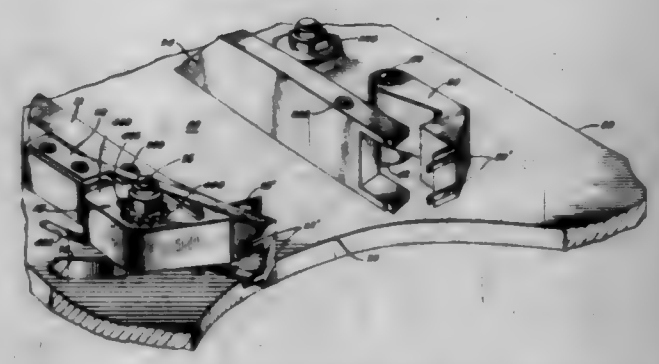
1. A machine for folding a flat article, comprising a frame, a longitudinally reciprocable plate having straight side edges and a leading edge, laterally spaced guide channel means extending generally in a horizontal plane, means for reciprocating said plate longitudinally along said channel means, relatively fixed means for supporting the flat article to have opposite end portions thereof above and below said horizontal plane and to have an intermediate portion of the article substantially free and unobstructedly presented vertically through the horizontal plane for engagement by said leading edge of the forwardly moving plate, and thereby to fold the article upon itself, means for maintaining the article in folded condition as it is moved forwardly by said plate and terminating in laterally spaced holding means for removably retaining the folded article after reverse movement of said reciprocated member, an article-stacking platform spaced above said holding means and having an opening therethrough generally smaller than a said folded article, each said holding means including laterally spaced slat portions generally aligned in said horizontal plane supportingly to receive opposite marginal edge portions of the folded article, said holding means defining between the same a passage generally smaller than the folded article, a plunger vertically reciprocable upwardly through said passage and said opening to urge the folded article through the same and to apply the folded article to the bottom of a stack of like articles to be gravitationally supported on said platform.

2,969,979

CARD PROCESSING APPARATUS

Alfred M. Nelson, Redondo Beach, and Allan Orner, Los Angeles, Calif., assignors to Magnavox Company, Los Angeles, Calif., a corporation of Delaware

Filed Mar. 12, 1957, Ser. No. 645,639
32 Claims. (Cl. 271—5)



1. In a system for processing data on a plurality of information storage cards as represented by signal indications on the cards, which system includes transport means for the cards, the combination of, a card holder for maintaining such cards in stacked relationship and disposed relative to the transport means to provide a transfer of cards between the card holder and the transport means, a feedhead pivotable to an operative position coupling the head to the cards in the card holder and disposed in the operative position relative to the transport means and the card holder to obtain a controlled transfer of cards from the card holder to the transport means and pivotable to a stand-by position decoupling the feedhead from the cards in the card holder, a stackhead pivotable to an operative position coupling the head to the cards on the transport means and disposed in the operative position relative to the transport means and to the card holder to obtain a controlled transfer of cards from the transport means into the card holder and pivotable to a stand-by position decoupling the stackhead from the cards in the card holder to prevent a transfer of cards from the transport means, and control means operatively coupled to the feedhead and the stackhead for pivotally moving said feedhead to the operative position and concurrently for pivotally moving said stackhead to the stand-by position at particular times and for pivotally moving said feedhead to the stand-by position and concurrently for pivotally moving said stackhead to the operative position at other times.

2,969,980

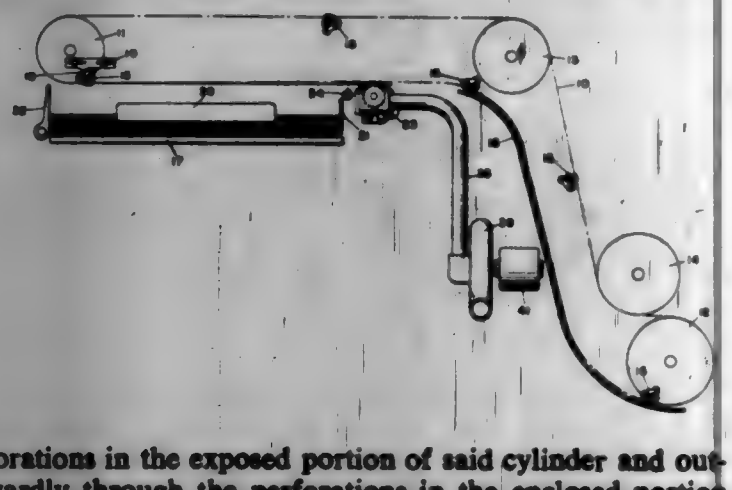
VACUUM SLOW DOWN DEVICE FOR SHEET DELIVERY MECHANISM

Carlton C. Claybourn, Northbrook, Ill., assignor to Miehle-Goss-Dexter, Inc., Chicago, Ill., a corporation of Delaware

Filed Sept. 8, 1958, Ser. No. 759,505
7 Claims. (Cl. 271—68)

1. In a sheet delivery mechanism the combination comprising an endless conveyor, grippers on said conveyor for conveying sheets in a predetermined path and for releasing the sheets at a point of delivery, a vacuum cham-

ber over which the sheets are drawn prior to their release by said grippers, a hollow cylinder having a multiplicity of perforations distributed about its periphery, means mounting said cylinder for rotation within said chamber and in a manner that a minor segment of its periphery is exposed adjacent said path for engagement with the sheets, suction means for evacuating said chamber whereby air is drawn inwardly through the perforations in the exposed portion of said cylinder and outwardly through the perforations in the enclosed portion thereof to thereby maintain the body of each succeeding sheet in intimate contact with the exposed segment of said cylinder while the sheet is still being conveyed by said grippers, and means for rotating the cylinder in the same direction but at a reduced surface speed with respect to said conveyor whereby said cylinder is effective to retard each sheet upon its release by said grippers.

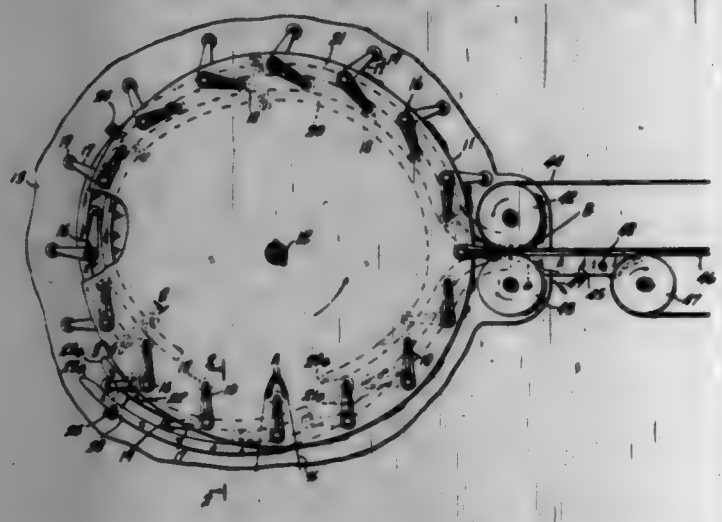


2,969,981

SIGNATURE HANDLING APPARATUS

Harry W. Faeber, Larchmont, N.Y., assignor to Time, Incorporated, New York, N.Y., a corporation of New York

Filed June 13, 1958, Ser. No. 741,786
8 Claims. (Cl. 271—82)



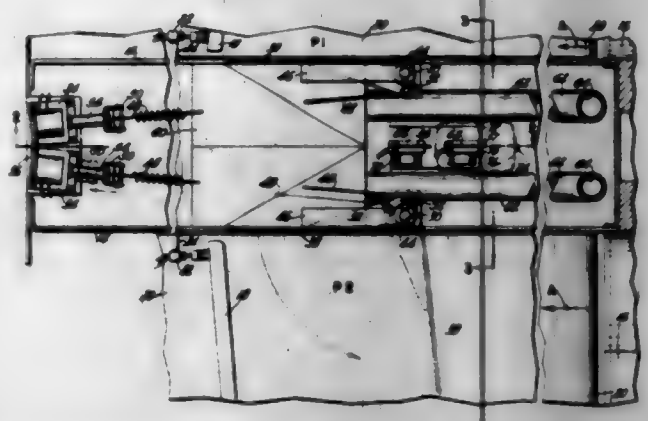
1. Apparatus for handling folded sheets comprising a sheet carrying blade for receiving a folded sheet in straddling fashion on the upper edge thereof; means supporting the sheet carrying blade for translation in an orbital path, means for feeding a sheet to the blade in straddling fashion, means adjacent the orbital path for receiving and removing the folded sheet from the sheet carrying blade angularly displaced from its upright position, means for maintaining the blade in upright position throughout substantially the entire transportation of the sheet from the point in the orbital path at which it is received until the sheet carrying blade approaches the sheet receiving means, and means for imparting angular displacement to the blade to tilt it from its upright position as it approaches the sheet receiving means to deliver the sheet to the sheet receiving means.

2,969,982

BALL DELIVERY MECHANISM FOR BOWLING PIN SPOTTING MACHINES

Morehead Patterson, New York, N.Y., and John Zuercher, Mansfield, Ohio, assignors to American Machine & Foundry Company, a corporation of New Jersey

Filed Jan. 14, 1958, Ser. No. 708,920
4 Claims. (Cl. 273—49)



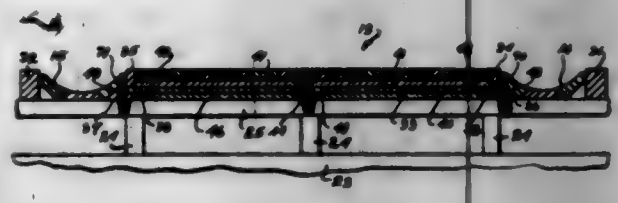
1. Bowling ball handling and return mechanism for use with two adjacent bowling alleys, each of said alleys having a pit at one end thereof, and spaced kickbacks positioned at opposite sides of each of said pits, the adjacent kickbacks of said alleys each provided with a ball opening through which a bowling ball may be rolled out of either of said pits, a gate for each of said openings, means mounting said gates for movement from closed position in said openings to open position in said pits, means normally urging each of said gates into said closed position, means operative in response to the arrival of a bowling ball in either of said pits to move the associated gate from closed position for passage of said ball out of said pit and through said opening, means for incapacitating said last-named means, after said ball has passed out of its associated pit, and means for delivering said ball onto a return runway, said openings being disposed at different elevations in said kickbacks to effect the selective delivery of said ball from the opening at a lower level first by said last-named means when balls from each of said pits pass thereto through said openings at substantially the same time.

2,969,983

BOWLING ALLEY CONSTRUCTION

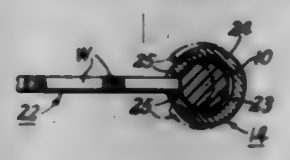
Paul A. De Vore, 3326 Gleaway Ave., Cincinnati, Ohio

Filed Nov. 14, 1956, Ser. No. 622,193
14 Claims. (Cl. 273—51)



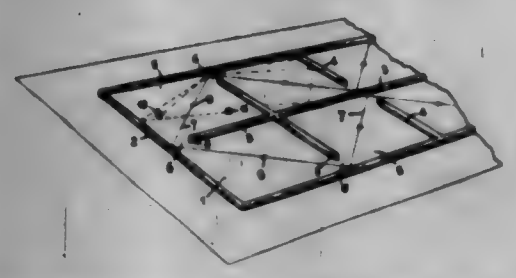
1. In a bowling alley construction the combination of a longitudinally extending supporting foundation including a plurality of substantially equally spaced transversely extending cross members, a longitudinally extending substantially smooth surfaced base secured on said foundation cross members, a plurality of supporting blocks secured between each transversely extending cross member and said base with one block at each side edge of the base and one block located substantially centrally of said base, and a plurality of longitudinally extending alley boards secured to said base smooth surface.

2,969,984
RACQUET
Michael C. Prosnick, 150—20 71st Ave., Flushing, N.Y.
Filed Jan. 20, 1958, Ser. No. 709,962
4 Claims. (Cl. 273—73)



4. A game racquet comprising a handle portion and a head portion, said last named portion including solid walls defining a channel having a constricted mouth portion, and integral grid means having a raised peripheral bead supported in distended condition within the channel of said head portion, said walls defining said mouth portion being crimped together substantially circumferentially over the inner portions of said peripheral bead in such close contact with said bead as to maintain said bead in said distended condition.

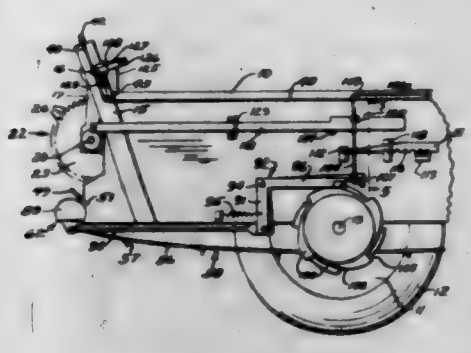
2,969,985
INSTALLATION FOR A DEXTERITY GAME
Hugo W. Batt, Neufeldstrasse 130, Bern, Switzerland
Filed Oct. 15, 1957, Ser. No. 690,234
Claims priority, application Switzerland Oct. 15, 1956
4 Claims. (Cl. 273—118)



1. A game apparatus of the character described comprising a substantially flat field, bars arranged in a rectangular frame bordering and resting upon said field, and a second system of bars resting upon said field and comprising a centrally disposed bar extending along the longitudinal axis of said frame to points adjacent to and spaced from the shorter sides of said frame, bars extending centrally at right angles from each longitudinal side of said frame to points adjacent to and spaced from said centrally disposed bar, and bars extending outwardly at right angles from each side of said centrally disposed bar from points thereon midway between its center and the adjacent shorter sides of said frame to points adjacent to and spaced from the longitudinal sides of said frame.

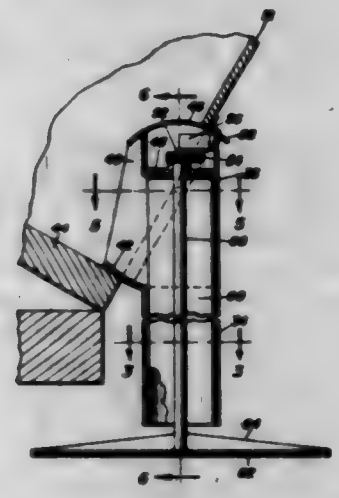
2,969,986
FERTILIZER SPREADER
Charles L. Dyke, 122 N. Sioux St., Orange City, Iowa; Lester Maris Dyke, Grace Elizabeth Tronnesmas, and Esther Gertrude Hicks, executors of the estate of said Charles L. Dyke, deceased, assignors to Esther G. Hicks
Filed Sept. 7, 1956, Ser. No. 608,611
5 Claims. (Cl. 275—6)

1. A fertilizer spreader comprising container means mounted on wheels, load moving apron means mounted on said container means, ratchet means operated by at least one of said wheels and connected to said load moving means whereby said wheels operate said load moving means, rotor means, means for swingably mounting said rotor means on said container means, drive means adapted to drive said rotor means in a diretcion rotating downwardly into said load, vanes on said rotor means, said vanes having teeth thereon adapted to cut into said load, and control means operably connected between said ratchet means and said means for mounting said rotor means whereby the position of said means for mounting



said rotor means controls the movement of said ratchet means and thereby of said load moving means.

2,969,987
MATERIAL SPREADER FOR USE ON A DUMP TRUCK
Charles P. de Biasi, Brannan Road, Waterford, Conn.
Filed July 16, 1957, Ser. No. 672,331
16 Claims. (Cl. 275—8)

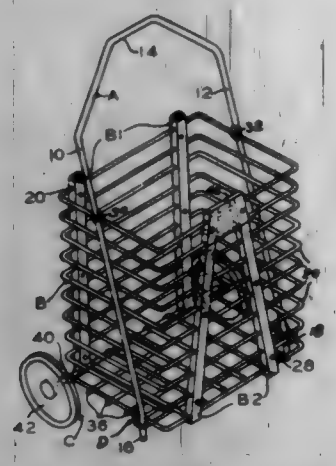


1. In combination with a dumpable body on a vehicle with the body having a tailgate with an aperture therein, a material spreading attachment, said aperture being defined by a rearwardly extending peripheral flange, said attachment comprising a depending tubular member freely pivotally suspended from the flange on the tailgate with the upper end thereof being received in the aperture whereby said tubular member is communicated with the interior of the body, rotatable broadcast means disposed below and supported from the tubular member for receiving material therefrom, and means disposed above the broadcast means for driving said broadcast means, the pivotal connection between the tubular member and the tailgate permitting the tubular member to be vertically disposed due to force of gravity during variations in the angle of inclination of the body.

2,969,988
SQUARE SHOPPING CART
Daniel Berlin, 4424 Paul St., Philadelphia, Pa.
Filed Mar. 10, 1958, Ser. No. 720,448
4 Claims. (Cl. 280—36)

1. In a collapsible cart, an unfolding basket comprising a plurality of rods maintained in vertical spaced relationship from each other by a plurality of vertical posts spaced from each other, said vertical posts each comprising a pair of interfitting channel elements having a plurality of complementary slots to pivotally support said

rods, a frame having legs extending to define feet, said basket being pivotally supported on said legs and a



bracket secured to said basket and slidably engaging each of said legs to limit unfolding of said basket.

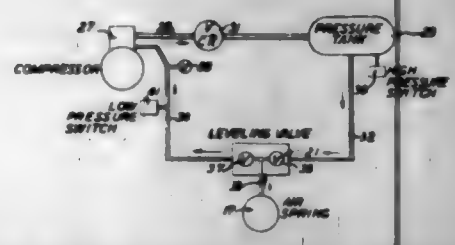
2,969,989
TRAILER
John W. Struthers, R.R. 1. Clearwater, Kans.
Filed Mar. 9, 1959, Ser. No. 798,118
2 Claims. (Cl. 280—43.11)



2. A trailer comprising, an elongated frame having a tubular member longitudinal thereof, a pair of wheels mounted on an axle in turn pivotally mounted on the rear end portion of said frame with said frame adjustable vertically relative to said wheels and axle, a trailer hitch having spaced leg portions and pivotally mounted in the forward end portion of said frame, a double acting servo-motor connectable in one end portion to said hitch in pivoting and operating relation thereto, connecting means having a rigid portion with an aperture therethrough and slidably mounted in said tubular frame member and with one end portion of said connecting means connected to the other end portion of said servo-motor, the other end portion of said connecting means attached to said axle, and pin means removably insertable in said aperture in said rigid portion of said connecting means to prevent relative movement between same and said tubular frame member, and said trailer constructed and operable to be disposed flush with the ground, to raise the rear end of said frame upon retraction of the piston rod of said servo-motor, and to engage one of the legs of said trailer hitch in the aperture of a vehicle hitch and to raise the front end of said frame with said pin means in said aperture in said connecting means upon extension of said servo-motor piston rod.

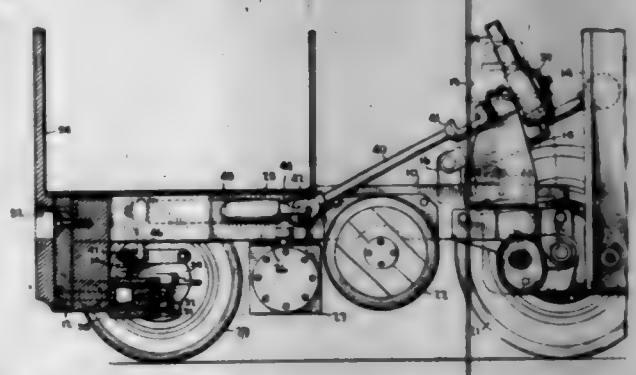
2,969,990
CLOSED AIR SUSPENSION SYSTEM FOR MOTOR VEHICLE
Henry T. Szostak, Dearborn, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Jan. 15, 1958, Ser. No. 709,009
11 Claims. (Cl. 280—124)

1. In a motor vehicle having a sprung member and an unsprung member, an air spring resiliently connecting said members, an air compressor, a pressure tank, leveling valve means, supply passage means establishing communication between the high pressure side of said compressor, said pressure tank and said leveling valve means, exhaust passage means establishing communication between said leveling valve means and the low pressure side of said compressor, passage means establishing communication between said leveling valve means and



said air spring, and control means responsive to pressure in said exhaust passage means above a predetermined value to actuate said compressor to pump air from said air spring to said pressure tank.

2,969,991
FRAME CONSTRUCTION FOR AN INDUSTRIAL TRUCK
Bronislaus I. Ulinski, Flossmoor, Ill., assignor to The Yale and Towne Manufacturing Company, Stamford, Conn., a corporation of Connecticut
Filed Nov. 6, 1958, Ser. No. 772,329
1 Claim. (Cl. 280—150)

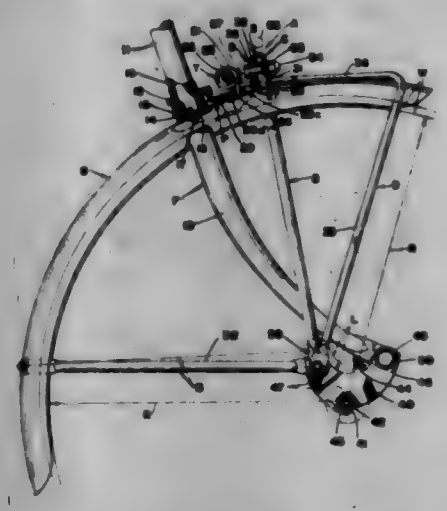


In a truck of the class described, a main frame comprising a pair of spaced longitudinal bars, a heavy transverse bar secured to one end of said longitudinal bars with the upper surface thereof substantially flush with the upper surfaces of said longiutdinal bars, a transverse counterweight plate detachably secured to said transverse bar, said counterweight plate having a portion thereof extending upwardly a substantial distance above said transverse bar and forming the outer rear wall of a compartment for the truck, and a plurality of counterweight plates interposed between said first mentioned counterweight plate and said transverse bar and detachably secured to said transverse bar, the upper surfaces of said plurality of counterweight plates being substantially flush with the supper surface of said transverse bar.

2,969,992
SPRING SUSPENSION FOR BICYCLE WHEEL
Gilbert B. Hahn, Nashville, Tenn., assignor to The Murray Ohio Manufacturing Company, Nashville, Tenn., a corporation of Ohio
Filed May 18, 1959, Ser. No. 813,718
7 Claims. (Cl. 280—277)

1. A spring type suspension for a wheel of a bicycle or like vehicle wherein said wheel is disposed parallelly between the two parallel prongs of a wheel mounting fork joined by a yoke above the wheel occupied space, said suspension comprising, in combination with said fork: a pair of generally parallel lever elements pivoted to the lower ends of respective prongs for supporting a wheel axle therebetween, a platform rigidly secured to the yoke region of said fork and projecting outwardly over the wheel, said platform including a pair of spaced apertured upward lugs at respective sides thereof, a pair of aligned oppositely helically wound torsion springs be-

tween said lugs, support rod means located in the lug apertures and internally supporting said springs, said springs each having one end fixed against rotation to the platform and the other end rotationally free, a pair of



parallel struts with bottom ends pivotally secured to respective said levers and extending upward beyond said platform, said struts having upper ends rigidly joined to form a strut member, and means pivotally securing the free spring ends commonly to said strut member.

2,969,993

MEANS FOR LOCKING ROAD TRAILERS AGAINST THEFT

Harley A. Jasper, 921 S. Elm St., Centralia, Ill.

Filed Jan. 15, 1959, Ser. No. 786,977
3 Claims. (Cl. 280—433)



1. In combination with a road trailer having a coupling on one end thereof provided with a shoulder on its outer end and a cylindrical shank constructed to have pivotal coupling with the fifth wheel of a pulling road vehicle, a bolt approximately equal in length to the distance said coupling is spaced from the end of the trailer having a U-shaped terminal hook which receives the cylindrical shank of the coupling and is supported by the shoulder thereof, a sleeve shorter than said bolt and adapted to slide thereon, a head integral with said sleeve adapted to complement said hook in embracing said shank, and means extendable through said bolt to prevent movement of said sleeve with respect thereto, whereby said coupling is locked against coupling action with said fifth wheel.

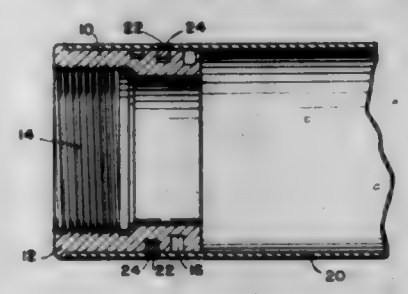
2,969,994

LOCK SPRING JOINT

John F. Jacobs, Fontana, John M. Holden, China Lake, and Arthur C. Ellings, Palos Verdes Estates, Calif., assignors to the United States of America as represented by the Secretary of the Navy

Filed Aug. 8, 1958, Ser. No. 754,118
7 Claims. (Cl. 285—34)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A lock spring joint for effecting connection between a tubular body member and a tubular sleeve member, one end of said body member being such as to closely fit within one end of said sleeve member, said end of the body member having a spiral groove cut therein, said end of the sleeve member having a series of elongated slots therethrough, said slots being spaced from one another and arranged in a spiral path coinciding in lead with that of the spiral groove in said body member, a lock spring member having a series of integral raised tabs of a disposition and size to fit said elongated slots, said



lock spring being of cross-sectional dimensions such that it and its tabs may be compressed to fit entirely in said groove to allow assembly of said body and sleeve members and disassembly thereof, said spring in its expanded position with the tabs projecting into said slots forms a screw threaded connection between said body and sleeve members.

2,969,995

SECTIONAL GASKET RING WITH RADIALLY EXTENDING FLANGE TO PREVENT AXIAL SEPARATION OF SECTIONS

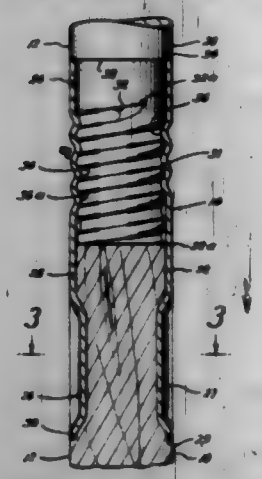
Roger C. Boughton, Alhambra, Calif., assignor to Joslyn Mfg. & Supply Co., Chicago, Ill., a corporation of Illinois

Filed June 17, 1957, Ser. No. 665,888
3 Claims. (Cl. 285—413)



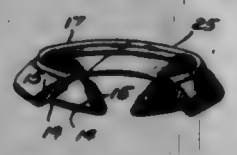
1. A spigot ring for engagement with the seam sealing gasket at the bell and spigot ends of pipe comprising; a plurality of circumferentially extending segments, one of the adjacent ends of each adjacent pair of segments being formed with a recess for receiving the other end of said adjacent ends in laterally overlapping relationship, said recess having an axially projecting side wall overlying an edge of said other end and complementarily formed recesses and projections on said side wall and along said edge providing a pair of rows of corresponding radially inwardly and radially outwardly facing, axially extending teeth respectively on said axially projecting side wall and along said edge of said other end, said rows extending circumferentially of said segments and the teeth of said rows being adapted to interfit when said segments are in circumferential alignment to secure said segments against circumferential movement relatively, said adjacent ends of said segments including said teeth thereon being radially movable apart and together free from axial movement relative to each other prior to bolting said adjacent ends together whereby said adjacent ends may be moved circumferentially of said ring relative to each other in the plane of said ring to different adjusted positions and said rows of teeth may then be moved radially into interfitting engaging relation when said adjacent ends are in the desired adjusted position, and bolts extending axially of said ring and removable therefrom for bolting said adjacent ends together in said adjusted position.

2,969,996
HANDLE CONNECTOR
Herbert C. White, Jr., Lufkin, Tex., assignor of fifty percent to Temple-White Company, Inc., Diboll, Tex., a corporation of Texas
Filed Jan. 7, 1959, Ser. No. 785,456
3 Claims. (Cl. 287—117)



1. A device for end-to-end connection of axially aligned cylindrical elements of substantially the same diameter, comprising a generally cylindrical tubular sleeve having a threaded portion at one end, a crimped portion at the other end, and a smooth-walled portion therebetween, a first cylindrical element having one end thereof disposed within said smooth-walled sleeve portion and extending through said crimped sleeve portion and held against withdrawal thereby, a second cylindrical element having a threaded end portion screwed into said threaded sleeve portion and therepast to abut firmly against said one end of said first cylindrical element at a point axially spaced from said threaded portion to cause longitudinal bias of said second element at engagement thereof with the threads of said threaded portion to prevent movement of both said elements away from axial alignment therebetween within said smooth-walled sleeve portion.

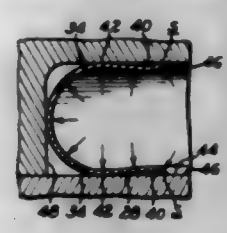
2,969,997
PACKING RING
Leslie A. Runton, Middle Haddam, and Henry C. Morton, Branford, Conn., assignors to The Russell Manufacturing Company, Middletown, Conn., a corporation of Connecticut
Filed Oct. 20, 1958, Ser. No. 768,100
2 Claims. (Cl. 288—17)



1. A one piece molded fabric packing ring comprising a woven fabric impregnated with a molding compound in cured state, said ring being V shaped in cross section, said fabric comprising a plurality of plies and having edge flaps folded inwardly to form the under contacting surface of said ring, the exposed surface of said folded flaps and the exposed edges thereof being composed of Teflon yarn, the remainder of said fabric being composed of a yarn which is bondable to said impregnating compound.

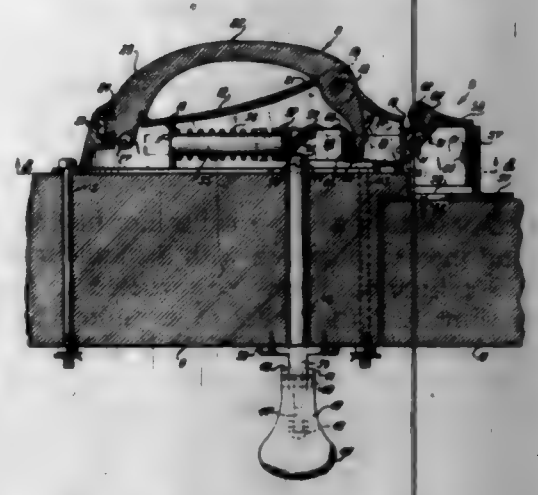
2,969,998
SEAL
Keith S. Rodaway, Pacoima, Calif., assignor to General Metals Corporation (Adel Precision Products Division), Burbank, Calif., a corporation of California
Filed June 24, 1957, Ser. No. 667,404
2 Claims. (Cl. 288—24)

1. A flexible and resilient annular seal of generally U-shaped cross section and of uniform thickness in cross section, said seal having axially spaced, radially extending, annular flanges which terminate in axially spaced, axially outwardly extending, annular lips which, in turn, terminate in axially spaced, axially outwardly facing, annular sealing surfaces in parallel planes perpendicular to the axis of said seal when said seal is unstressed, said flanges having a maximum external axial spacing in annular zones spaced radially from said sealing surfaces which is less than the axial spacing of said sealing surfaces by not more than 0.010 inch when said seal is



unstressed, whereby when said seal is subjected to internal pressure between axially spaced, parallel annular walls the axial spacing of which is not greater than said axial spacing of said sealing surfaces and not less than said maximum external axial spacing of said flanges, said sealing surfaces and said annular zones engage said annular walls to provide engagement between said seal and said annular walls in four annular areas and, at the same time, said sealing surfaces retain the parallel relation therebetween which obtains when said seal is unstressed.

2,969,999
DOOR LATCH
William B. Herman, Fullerton, Pa., assignor to The Dent Hardware Company, Fullerton, Pa., a corporation of Pennsylvania
Filed May 28, 1956, Ser. No. 587,534
18 Claims. (Cl. 292—92)



4. In a door latch having a housing adapted to be mounted on one face of a door, fastening means nonremovable from said one face for securing said housing to said one face, a spring biased bolt mounted in said housing for sliding movement substantially parallel to said one face, bolt engaging means mounted for movement on said housing to impart retractile sliding movement to said bolt, means for locking said bolt engaging means to said housing, a recess in the side of the bolt facing said one face of the door, said recess having as one end surface a cam surface angularly inclined with respect to the longitudinal axis of said bolt and extending in the direction of the longitudinal axis of the bolt a distance at least as great as the displacement of said bolt during retractile sliding movement thereof, means adapted to be mounted on the face opposite said one face of the door including a rigid bolt actuating member mounted for sliding movement through said door in a direction

substantially normal to the direction of sliding movement of said bolt and having one end abutting said cam surface and so formed as to provide a low friction connection whereby pushing movement of said rigid member toward said cam surface imparts direct retractile sliding movement to said bolt independently of movement of said bolt engaging means.

2,970,000
FULCRUMED LEVER TYPE DOOR LATCH MECHANISM
Francis J. Moore, 11 2nd St. SE., Minneapolis, Minn.
Filed July 18, 1957, Ser. No. 672,649
2 Claims. (Cl. 292—238)

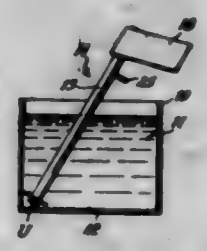
1. A door latch mechanism comprising an elongated lever constructed and arranged to be longitudinally inserted through a passage through a door of generally the same width as the transverse width of said lever, fulcrum means disposed a substantial distance from one side of such a door, said fulcrum means providing a fulcrum element underlying one end portion of said lever for fulcruming the same and permitting the other end of said lever to be raised upwardly out of latched position, said fulcrum means also providing a stop limiting longitudinal shifting of the lever in one direction, an upstanding actuating handle element fixed to the end of said lever adjacent to said fulcrum element, a latch element removably attached to the other end of said lever and disposed upon the other side of the door, said latch element being adjustable longitudinally upon said lever and having laterally extending stop means extending beyond the sides of the adjacent passage opening to limit longitudinal shifting of the lever in the other direction.

2,970,001
EASY RELEASE BALE HOOK
August Sobotka, Intake, Mont.
Filed Mar. 30, 1959, Ser. No. 802,935
14 Claims. (Cl. 294—26)



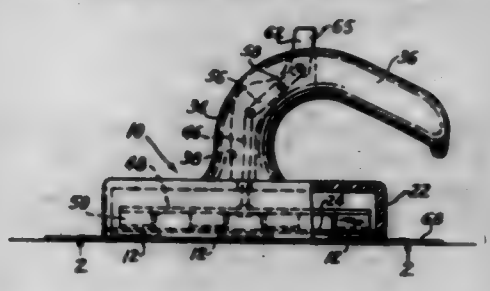
1. A bale hook comprising: a frame with a handle; a bill pivotally mounted on said frame and projecting therefrom, said bill being pivotable between a first load carrying position disposed towards said handle and a second position disposed away from said handle; overcenter linkage means connected between said frame and part of said bill for locking the bill in said first load carrying position, said overcenter linkage means being displaceable to permit the bill to be pivoted to said second position; said overcenter locking means being entirely disposed on a portion of the frame which is substantially opposite the part of the frame from which the bill projects.

2,970,002
MAGNETIC PICKUP
Samuel Laviano, 1004 N. Delaware St., Paulsboro, N.J.
Filed Jan. 20, 1959, Ser. No. 788,024
3 Claims. (Cl. 294—65.5)



3. In a magnetic pickup, a plastic tube having one end closed by a plug and the other end by a plastic cap-and-shield unit, said unit including a cap that is fitted over said tube with a friction fit and a circular shield extending radially outwardly therefrom, a cylindrical magnet reciprocally mounted in said bore at the end carrying said cap-and-shield unit, a pair of guides extending radially into said bore, a metallic rod slidably received in said guide and having one end connected to said magnet by magnetism, said tube being formed with a slot, a trigger connected to the other end of said rod and extending through said slot, a spring abutment carried by said tube, an expansion coil spring interposed between said spring abutment and said trigger, and a handgrip in the nature of a pistol grip formed with a recess receiving the plugged end of said tube.

2,970,003
MAGNETIC BINGO MARKER REMOVER
Charles M. Heath, Jr., and Lucille M. Reed, both of 5215 W. Adams St., Chicago, Ill.
Filed July 30, 1959, Ser. No. 830,554
1 Claim. (Cl. 294—65.5)



A magnetic device of the character described for simultaneously removing a number of magnetic markers from a gameboard such as Bingo, said device comprising a rectangular box of non-magnetic material having an imperforate non-magnetic box bottom wall, the top wall of said box having a hole substantially centrally thereof, an upstanding handle secured to said box top wall and having a shaftway communicating with said box top wall hole, a shaft extendible through said shaftway and said box top wall hole, means in said handle for retracting said shaft, said upstanding handle terminating in a bent handle grip, said shaftway continuing into said bent handle grip, said shaft retracting means comprising a link pivotally mounted in said bent handle grip within said shaftway, one end of said link being pivotally connected to the upper end of said shaft, and manually operable means pivotally connected to the other end of said link and extendible exteriorly of said grip, said box having said top wall and its depending side walls formed of integrally molded plastic material, said box bottom wall being an aluminum plate removably supported in two oppositely disposed side walls, a non-magnetic plate secured on the

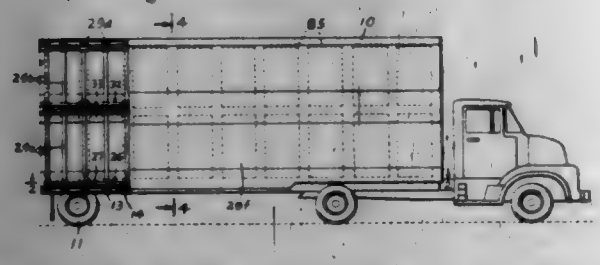
bottom end of said shaft within said box, and a plurality of magnets depending from said non-magnetic plate within said box, whereby said plurality of magnets may be extended to the bottom wall of said box to hold magnetic markers against said box bottom wall, or may be retracted from said box bottom wall to drop the magnetic markers held thereby.

2,970,004

SEMI-TRAILER BODY WITH FLOOR PLATE FIFTH WHEEL UNIT

Arthur Ratner, 559 Greene Place, and Marvin Ratner, 585 Barnard Ave., both of Woodmere, N.Y.

Filed Nov. 13, 1956, Ser. No. 621,688
6 Claims. (Cl. 296—28)



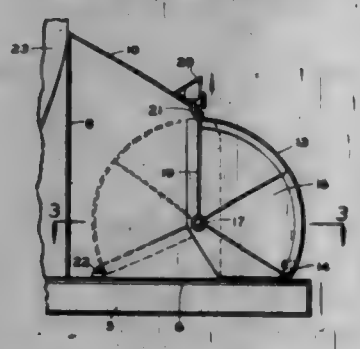
1. In a trailer body, the combination of a plate member forming the front floor portion of said body, means carried by said plate member for coupling said trailer body to trailer support means on a prime mover for said trailer body, said plate member having sufficient strength to serve as a support for said body and having an under surface of extensive area adapted to bear against said trailer support means when the prime mover is coupled to the trailer body, a rear bottom frame member adjoining said plate member and formed of interconnected longitudinal and lateral girders, said frame member extending forwardly only to the rear edge of said plate member and said plate member rear edge being secured to the front end of said frame member, a rear floor portion supported on said frame member, and upwardly extending side members secured at the forward end and sides of said plate member and at the sides of said frame member.

2,970,005

CABINET AND CLOSURE MEANS FOR DISPENSING TYPE VEHICLES

Jack Schillinger, 1225 NE. 93rd St., Miami, Fla.

Filed Mar. 18, 1959, Ser. No. 800,191
1 Claim. (Cl. 296—37)



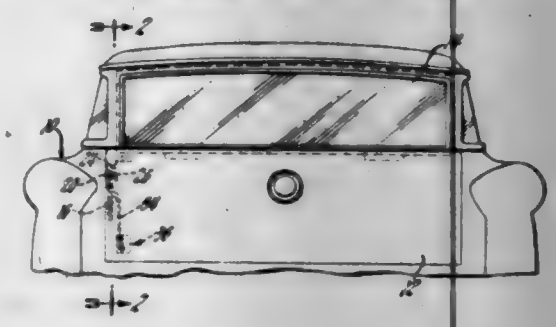
A utility compartment for the dispensing end of fuel dispensing trucks, the compartment being defined by a top having a weathering flange formed on a free edge, an inner wall, end walls and a bottom, the bottom constituting a deck for the reception of dispensing elements, the compartment being open rearwardly for its full width, a closure device for the opening that is co-extensive with the opening, the closure device being an arcuate cover having flat end walls that are pivotally supported upon the end walls of the compartment and whereby the cover is pivoted in a horizontal plane to be shiftable in a vertical plane to and from a covering position with respect to the opening of the compartment, one marginal edge of the cover having a contacting engagement with the deck when in a closure forming position, and means formed upon the opposite marginal edge of the cover to engage the weathering flange on the free edge of the top, the said arcuate cover upon one free edge being provided with an inwardly directed flange for its full width, the opposite free edge of the cover being provided with an outwardly directed flange for its full width and that contacts the flange of the top in full weathering engagement, the top being downwardly inclined to terminate in the flange and latch means carried by the top intermediate its width and with the latch having an inwardly directed latch dog which when extended lies in the path of movement of the outwardly directed flange formed on the cover, said dog, when extended, serving to confine the outwardly directed flange on the cover between it and the weathering flange to hold the cover in a closed position, and bumper devices carried upon the deck adjacent the inner wall and that are disposed in the path of movement of the first named flange of the cover.

2,970,006

TAIL GATE WINDOW REGULATOR LOCK-OUT

Alfonsas Velavicius, Detroit, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Sept. 8, 1959, Ser. No. 838,586
5 Claims. (Cl. 296—106)



1. A vehicle including an access opening, a tail gate pivotally mounted in said opening and adapted to close the lower portion theretof, a window slidably mounted within said tail gate member and adapted in its rolled up position to close the upper portion of said opening, a linkage mechanism adapted to limit the opening movement of said tail gate member, and a mechanism mounted on said tail gate and adapted to coact with said window to lock the same in a rolled down position when said tail gate is open, said mechanism including a striker member mounted on said window, a latch device mounted on the tail gate and including a latch member rotatably mounted on the tail gate, spring means adapted to bias the latch member into engagement with said striker member when the window is in its roll down position and the tail gate at least partially opened, lever means operatively connected to said rotatable latch member and adapted to coact with said tail gate linkage mechanism to move said latch member out of operative engagement with said striker when said tail gate is in a closed position.

2,970,007

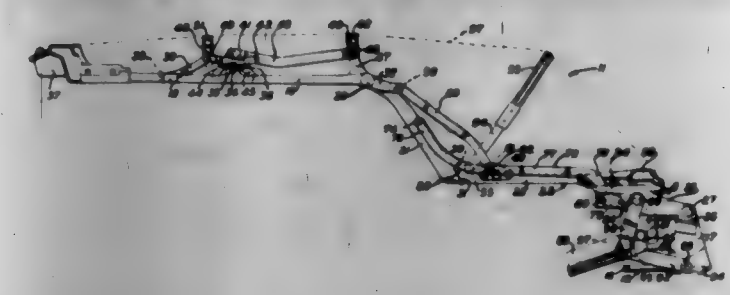
CONVERTIBLE TOP

Robert E. Hennessy, Allen Park, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Filed Feb. 3, 1959, Ser. No. 790,864
11 Claims. (Cl. 296—117)

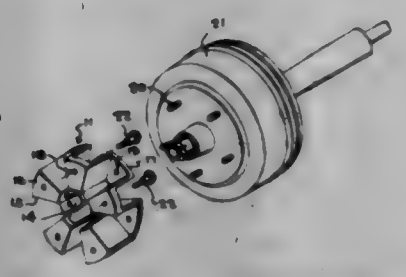
1. In a foldable top structure for a vehicle body, an articulated side rail having in top raised position substantially horizontal and forwardly extending front and

rear members joined by an upwardly and forwardly inclined intermediate member, means pivotally mounting said rear member at its rear end on a support member on said vehicle body, power means coupled to said rear member actuatable to swing the latter above and about said pivotal mounting means to a substantially horizontal and rearwardly extending top lowered position, and link means comprising balance arm means pivotally coupled



to selective ones of said members, said link means controlling the movement of the rail members relative to one another to cause said front and intermediate members to be folded against said rear member as the latter swings about its pivotal mounting to said top lowered position to thereby collapse said top, said front and intermediate members being stored beneath said rear member in top collapsed position.

2,970,008
SAFETY WHEEL ATTACHMENT FOR MOTOR VEHICLES
Kenneth J. Leach, South Gate, Calif.
(3213D Hill St., Huntington Park, Calif.)
Filed Oct. 6, 1959, Ser. No. 844,779
3 Claims. (Cl. 301—1)



1. In a motor vehicle, a plurality of transversely extending axle members, respective brake drum assemblies mounted on the outer ends of said axle members, respective spacer discs outwardly adjacent to said brake drum assemblies, said discs being of substantial axial length, respective wheels outwardly adjacent to said discs in outwardly spaced relation to said brake drum assemblies, each disc comprising a one-piece generally circular body formed with a central wheel hub opening and with equally spaced substantially radial corrugations having straight radial edges and substantially flat opposite outer surfaces defined between said edges and located in planes perpendicular to the axis of the disc, and means securing said discs to the wheels and brake drum assemblies at said flat outer surfaces.

2,970,009
WHEEL COVER
George Albert Lyon, 13881 W. Chicago Blvd.,
Detroit 28, Mich.
Filed Sept. 30, 1957, Ser. No. 686,991
9 Claims. (Cl. 301—37)

1. In a wheel structure including a wheel body supporting a multi-flange tire rim for carrying a pneumatic tire, the rim having a radially inwardly facing and axially extending flange with a generally axially outwardly facing shoulder at the axially outer end of said flange, a cover assembly for disposition over the outer side of the wheel including a circular cover member having a marginal portion for overlying the shoulder of the tire rim and provided therebehind with cover retaining terminal structure engageable in press-on, pry-off relation with said flange of the tire rim, and a tire sidewall simulating extension ring having a radially outer portion for overlying



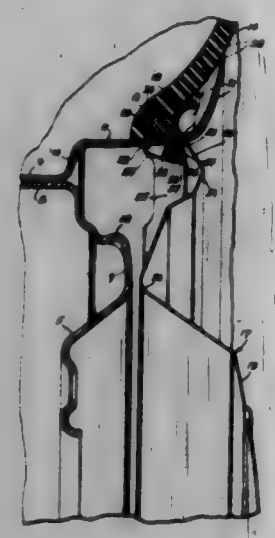
the tire sidewall and an inner marginal portion for underlying the margin of the cover and arranged to be clamped against the tire rim shoulder by said cover marginal portion, said inner marginal portion of the ring having inner terminal structure interlockingly gripped by said retaining terminal structure of the cover.

2,970,010
WHEEL COVER
George Albert Lyon, 13881 W. Chicago Blvd.,
Detroit 28, Mich.
Filed Sept. 30, 1957, Ser. No. 686,997
7 Claims. (Cl. 301—37)



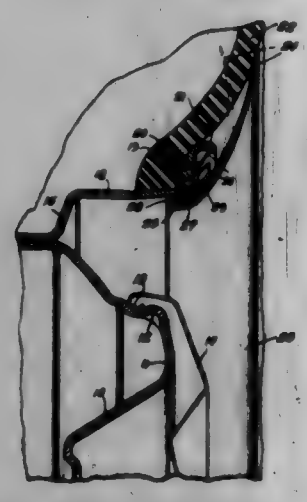
1. In a wheel structure including a wheel body and a multi-flange tire rim supported thereby for carrying a pneumatic tire, a trim assembly including a non-metallic tire sidewall simulating ring member having an inner margin engageable with the tire rim, and a metallic circular member having a radially outer marginal portion overlyingly disposed to said inner marginal portion of the sidewall ring member for clamping the same against the tire rim, said circular member having radially inwardly adjacent to said outer marginal portion an annular series of apertures from which material is derived and shaped to provide a series of retaining fingers turned under said outer marginal portion of the circular member and clampingly engaged with the inner marginal extremity of said sidewall simulating ring member and having portions thereof for assembly retaining engagement with the tire rim.

2,970,011
WHEEL COVER
George Albert Lyon, 13881 W. Chicago Blvd., Detroit 28, Mich.
Filed Oct. 7, 1957, Ser. No. 688,621
3 Claims. (Cl. 301—37)



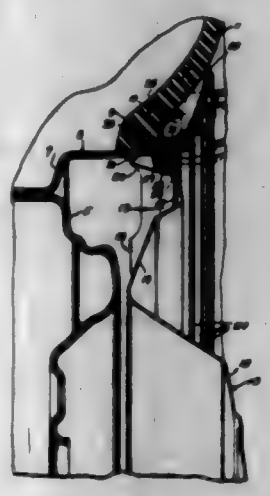
1. In a wheel structure including a tire rim having an intermediate flange and a terminal flange providing a shoulder at juncture thereof, a circular assembly for disposition over the outer side of the wheel including a circular sheet metal member having a turned margin providing a reentrant groove therebehind and a retaining flange projecting generally radially outwardly and axially inwardly and having terminal means engageable with the intermediate flange, and a tire sidewall simulating non-metallic ring member having a body portion for overlying the adjacent portion of the tire sidewall and the terminal flange and provided with an interlock rib on its inner margin engaged in said reentrant groove and clamped against said rim shoulder by said turned margin through the action of said terminal means engaging the intermediate flange and thus retaining the turned margin in clamping relation to said shoulder.

2,970,012
WHEEL COVER
George Albert Lyon, 13881 W. Chicago Blvd., Detroit 28, Mich.
Filed Nov. 12, 1957, Ser. No. 695,590
6 Claims. (Cl. 301—37)



1. In a wheel structure including a multi-flange tire rim including an intermediate flange and a terminal flange having a generally radially extending portion joining the intermediate flange on a rounded shoulder, a tire sidewall simulating non-metallic ring having a radially outer margin for engagement with the sidewall of a tire on the rim and a radially inner portion for overlying the terminal flange and at least the adjacent portion of the intermediate flange, and a member interlocked with said radially inner portion and retainingly engaging the terminal flange for retaining the ring on the wheel, said radially inner portion of the ring being conformed generally groove shape to seat on said shoulder between the intermediate and terminal flanges and said member having a portion engaging said radially inner portion of the ring and holding it in the seated relation on said shoulder.

2,970,013
WHEEL COVER
George Albert Lyon, 13881 W. Chicago Blvd., Detroit 28, Mich.
Filed Nov. 12, 1957, Ser. No. 695,743
4 Claims. (Cl. 301—37)



1. In a sidewall simulating ring member, a non-metallic ring body cross-sectionally contoured generally simulative of a tire sidewall and adapted for coacting with the radially inner portion of a tire sidewall to appear as a portion of such sidewall, said ring member body having on one face thereof a continuous radially spaced series of concentric ribs affording maximum thickness mass section areas and intervening minimum thickness mass section valleys, said ribs affording stiffness circumferentially and against localized deflection and said valleys facilitating generally diaphragm-like flexing of the ring member, said ring member body being of substantial thickness and generally tapering to a greater thickness inclusive of said ribs and said valleys toward its radially inner margin and having on its inner margin an angular flange of substantially thicker cross-section than the remainder of the body and joined to the remainder of the body on a connecting neck affording a groove adjacent to the radially innermost of said ribs.

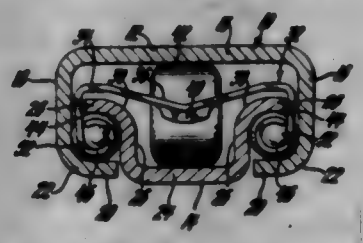
2,970,014
WHEEL COVER
George Albert Lyon, 13881 W. Chicago Blvd., Detroit 28, Mich.
Filed Nov. 22, 1957, Ser. No. 698,216
2 Claims. (Cl. 301—37)

1. In a cover and trim ring assembly, a sheet metal cover member having an outer margin with an underturned radially inwardly extending flange having an axially inwardly extending substantially straight portion with a plurality of circumferentially spaced cover retaining fingers with outwardly angled retaining terminals, and a trim ring member assembled with the margin of the cover and having a plurality of generally radially inwardly angled narrow retaining fingers having biting edges engageable with the axially extending flange portion and the ring member fingers being spaced apart substantially equivalent to the spacing of the retaining fingers of the cover but being substantially narrower than

the spacing between said cover fingers so as to be movable into assembly with the cover flange by relative axial movement with the retaining fingers of the ring located between the retaining fingers of the cover.



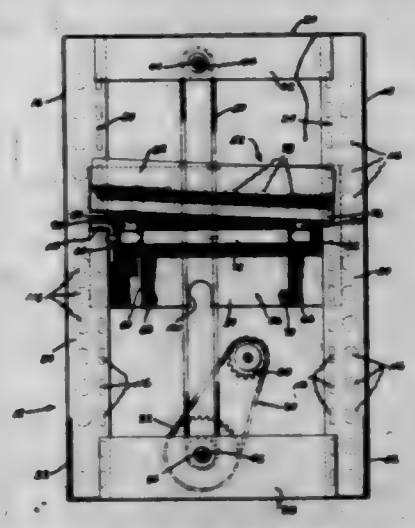
2,970,015
CAGE AND BEARING ASSEMBLY FOR SEAT ADJUSTER SLIDE STRUCTURES
La Verne B. Ragsdale, Dearborn, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Apr. 24, 1957, Ser. No. 654,774
2 Claims. (Cl. 308—6)



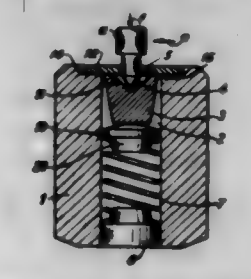
1. A cage and bearing assembly comprising, a cage having a base wall provided with an elongated opening therein for freely receiving a roller bearing, a laterally extending wall at opposite sides of said base wall terminating in a generally closed bead structure, each of said bead structures being slotted transversely thereof to provide pairs of spaced opposed openings, and a ball bearing having segmental portions thereof freely receivable within said pairs of spaced opposed openings for rotatably mounting and locating said ball bearings on said cage, said pairs of openings being spaced apart with respect to each other a distance greater than the distance between planes defining the segmental portions of said ball bearings whereby said ball bearings are permitted a slight degree of bodily shifting movement with respect to said cage both laterally and longitudinally thereof.

2,970,016
GUIDE RAIL STRUCTURE FOR LIFT PLATFORM
Egbert Woldring, Grand Rapids, Mich., assignor to The Rapids-Standard Company, Inc., Grand Rapids, Mich., a corporation of Michigan
Filed Apr. 18, 1958, Ser. No. 729,412
1 Claim. (Cl. 308—6)

A guide structure for a lift platform comprising: a supporting channel member having a web and a pair of flanges, channel-shaped rail means mounted on said web and on each of said flanges, spaced wheels protruding through said rail means and mounted on said rail means throughout the extent thereof, each wheel being rotatable about an axis parallel to the portion of said channel member on which its rail is mounted, and an elongated plate member fixedly attached to said lift platform, said plate member having three plane surfaces formed thereon for engagement with said wheels, each of said surfaces being simultaneously engageable with no less than four of said wheels throughout the travel of said lift platform so as to limit its movement toward any portion of said channel member.



2,970,017
SHOCK ABSORBING BEARING FOR MEASURING INSTRUMENT
Moise Zaslawsky, Neuchatel, Switzerland, assignor to Isico S.A., Geneva, Switzerland, a company of Switzerland
Filed Apr. 7, 1958, Ser. No. 726,712
Claims priority, application Switzerland May 7, 1957
5 Claims. (Cl. 308—159)

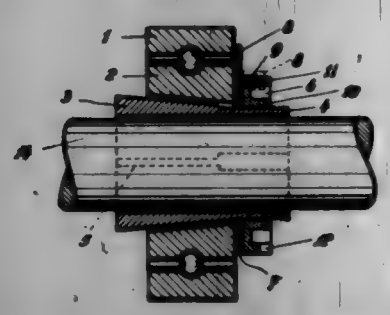


1. A shock absorbing bearing especially for measuring apparatus comprising a support having a bore therein, a frusto-conical thrust socket having a large base and a small base housed inside said bore, with the large base positioned to face outwardly of the bore, and provided with a recess in the large base thereof to receive the end of a shaft, an abutment provided at the outer end of the bore in said support for engaging the large base of the socket, a resilient return device comprising a spring housed inside said bore and acting on the small base of said thrust socket urging the socket outwardly of the bore against said abutment, said thrust socket being mounted in said bore in such a way as to be able on the one hand to slide axially in said bore and on the other hand to rock against the action of said resilient return device in order to absorb axial and radial shocks to which said shaft is subjected, and a thrust piece interposed between said spring and said small base of said conical thrust socket, one of the surfaces of said thrust socket and of said thrust piece which are in contact having the form of a portion of a sphere with a radius at least equal to the radius of said bore.

2,970,018
BALL BEARING CLAMPING STRUCTURE
Ernesto B. Ruttgers, El Espino 1267 (Por Vitacura), Santiago, Chile
Filed July 14, 1958, Ser. No. 748,418
Claims priority, application Germany July 16, 1957
1 Claim. (Cl. 308—236)

A ball bearing structure comprising an inner race and an outer race between which balls are supported, said

inner race having a frusto-conical inner surface, a clamping sleeve, a shaft, said sleeve being inserted in said inner race and secured on said shaft, said sleeve having an outer frusto-conical surface nested in said frusto-conical surface of said inner race, said sleeve having an externally threaded cylindrical extension, said extension having a longitudinal slot formed therein, a flat annular securing ring disposed on said extension, said ring having an inwardly radially extending lug engaged in the slot in said extension to prevent rotation of the ring thereon, said ring having an outwardly exteading lug, said ring being formed of bendable shape-retaining material, and a clamping nut threaded on said extension, said nut having a flat inner face abutting said ring, said nut having an



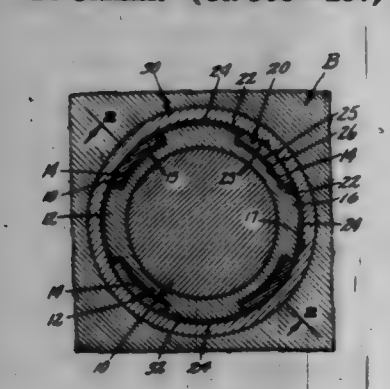
outer face formed with successive notches and detents for engaging a turning tool on the nut, said outer face of the nut being further formed with a circular groove and spaced inner and outer annular flanges so that the nut is U-shaped in cross-section with the bight portion abutting said ring, the outwardly extending lug of said ring being extensible over said outer annular flange with a portion engaged in one of said notches between a pair of adjacent detents to prevent the nut from turning on said extension, the free end portion of said outwardly extending lug terminating in said circular groove, whereby the nut is removable from said extension only by straightening said outer lug to disengage it from said clamping nut.

2,970,019

TEMPERATURE COMPENSATED JOURNAL BEARING

Robert G. W. Brown, Rockville, Conn., Lee P. Farnsworth, Lancaster, Mass., George P. Fulton, Bel Air, Md., Philip L. Gagner, Wilmington, Mass., and Jack M. Tarbox, Springvale, Maine, assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed Sept. 3, 1958, Ser. No. 758,737
14 Claims. (Cl. 308—237)



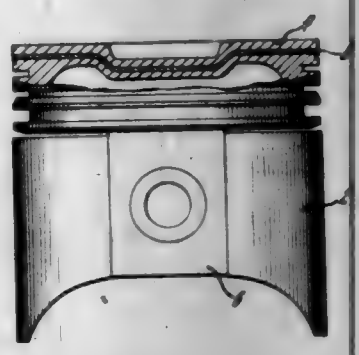
4. A journal assembly comprising a shaft, a sleeve on said shaft having a plurality of axial grooves spaced at intervals about its circumference, the side walls of said grooves lying on radii of said shaft, said shaft and said sleeve having a high coefficient of expansion, arcuate key blocks in said grooves having radial side walls which seat on the side walls of said grooves, the width of said key blocks being slightly greater than the width of said grooves so that the ends of said key blocks project slightly beyond the circumference of said sleeve, and a journal sleeve having a low coefficient of expansion surrounding and seated on the outer arcuate ends of said key blocks.

2,970,020

INTERNAL COMBUSTION ENGINE PISTON

Ralph H. Johnson, Dearborn, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Dec. 1, 1958, Ser. No. 777,435
4 Claims. (Cl. 309—9)



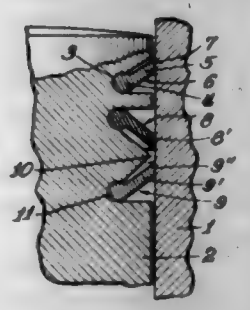
1. An internal combustion engine piston comprising a head and a skirt substantially of aluminum, the head having imbedded therein a reinforcing grate of heat resistant material extending from adjacent the sides of the head through the center area thereof.

2,970,021

DEVICE FOR SEALING RELATIVELY MOVABLE MACHINE PARTS

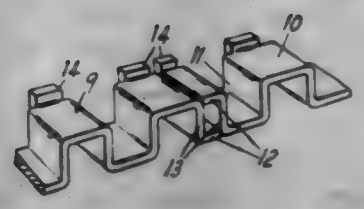
Wolfgang Glaser and Alfred Kleinmann, Burscheid, Germany, assignors to Goetzewerke Friedrich Goetze Aktiengesellschaft, Burscheid, near Koln, Germany, a German corporation

Filed June 16, 1958, Ser. No. 742,252
Claims priority, application Germany July 1, 1957
8 Claims. (Cl. 309—33)



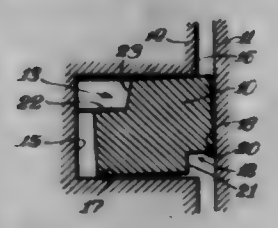
1. A device for sealing relatively movable machine parts, comprising two torsion rings each having a generally spherically shaped bulbous rear portion and a web extending therefrom having a transversely extending rectilinear outer edge, grooves of generally spherical outline being formed in one machine part for pivotally supporting the spherically shaped bulbous rear portions of the respective torsion rings with the webs thereof extending toward another machine part at converging angles to place said rectilinear outer edges of said webs throughout the extent thereof in engagement with said other machine part, said webs thereby cooperatively defining a sealing chamber therebetween which is adapted to receive a fluid acting thereon to apply pressure thereto resulting in forces transmitted by said webs to the respective pivotally supported bulbous rear portions and torsionally rotating said rear portions correspondingly, whereby said webs are spread apart to bring the rectlinear outer edges thereof into pressure sealing engagement with said other machine part.

2,970,022
PISTON RING ASSEMBLIES AND ELEMENTS THEREOF
Hugo F. Anderson, Hastings, Mich., assignor to Hastings Manufacturing Company, Hastings, Mich.
Filed July 5, 1960, Ser. No. 40,824
15 Claims. (Cl. 309—44)



15. An annular split springably expansible combined spacer and expander member for piston ring elements formed of a strip of ductile metal having longitudinally spaced lug-like projections on its inner edge, the strip being corrugated sidewise providing an annular series of ring element supporting bights and connecting reaches therefor, the lug-like projections on said bights being bent to project angularly and laterally outward therefrom and constituting ring element supports, said member terminating at its ends in bight portions, the end edge of one terminal bight portion at one end being in thrust engagement with the terminal reach at the other end when the member is under compression stress as in use.

2,970,023
PISTON RING
Bert Thompson, Hagerstown, Ind., assignor to Perfect Circle Corporation, Hagerstown, Ind., a corporation of Indiana
Filed Feb. 24, 1958, Ser. No. 717,115
1 Claim. (Cl. 309—44)



A piston ring having substantially parallel sides with an annular rabbet at the lower side of the face of the ring and another annular rabbet at the upper side of the inner periphery of the ring, the first-mentioned rabbet intersecting the face of the ring at an angle in the neighborhood of 90° to form a cylinder-contacting scraping edge at the lower side when the ring is twisted and said second-mentioned rabbet being a counterbore having a lower surface generally perpendicular to the inner periphery of the ring and an outer surface extending upwardly and outwardly to the upper side of the ring, said rabbets, when the ring is compressed for insertion in the cylinder, cooperating with each other and thereby tending to produce a twist dishing the ring downwardly at its inner periphery and upwardly at its face, the upper side of the face of the ring and the lower side of the inner periphery being so shaped as to have no material opposing affect on the twist produced by said rabbet.

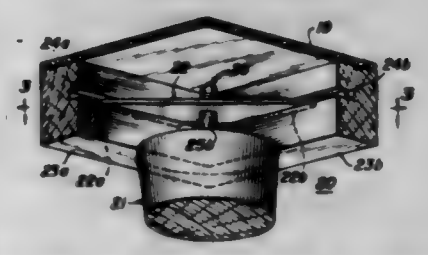
2,970,024
TABLE STRUCTURE
Wilbur J. Urban, River Forest, Ill., assignor to Hub Stamping and Manufacturing Company, Chicago, Ill.
Filed Sept. 25, 1958, Ser. No. 763,779
9 Claims. (Cl. 311—99)

1. The combination, comprising a table top, bracket structure including a base member secured to said table top and a bracket swivelably carried by said base member, a table leg having its upper end pivotally fastened to said bracket to be in universally swiveled relation to said table top, and releasable means for locking and bracing said leg in a predetermined table supporting position relative to said top, said releasable means comprising an elongated U-shaped brace secured at the closed end of the U to said table leg and having a pair of



laterally deflectable resilient legs and fastening means mounted on said table top in spaced relation to said bracket, the ends of said deflectable legs being engageable with and releasable from said fastening means by lateral deflection of said legs in opposite directions.

2,970,025
FURNITURE ASSEMBLY BRACKET
Forest Wilson, P.O. Box 6, Medinah, Ill.
Filed June 18, 1958, Ser. No. 742,856
9 Claims. (Cl. 311—114)

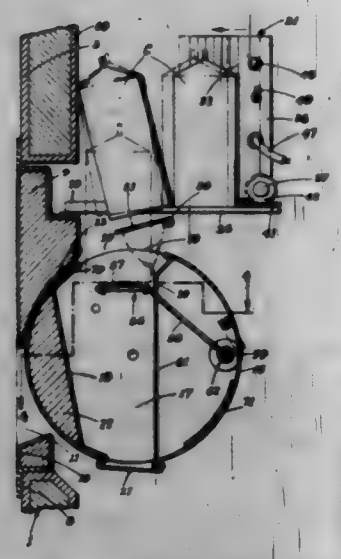


1. An apparatus for securing a furniture leg to an article of furniture defining a plurality of recesses, comprising a member having respective side edges thereof detachably mounted in said recesses, first means including a leg disposed adjacent said article with a portion of said article interposed between said member and said first means, and second means including a threaded element interconnecting said member and said first means for moving said member and said first means toward each other to compress said portion at said article.

2,970,026
VENDING MACHINE
William J. Smith, San Jose, Calif., assignor to S & S Vending Machine Co., San Jose, Calif., a corporation of California
Filed Jan. 27, 1958, Ser. No. 711,243
4 Claims. (Cl. 312—35)

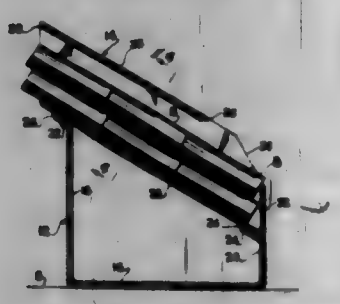
1. In an article vending machine which includes an enclosing cabinet having a wall provided with an access opening, a horizontal-axis rotor forming a closure for said access opening, means forming a pocket in the rotor open at one end to the periphery thereof, the rotor being normally disposed with the pocket-opening at the top and out of register with the access opening and into which pocket an article to be vended is then received from the machine, means journaling the rotor for turning to a position with the pocket opening in register with the access opening, means to so turn the rotor, said pocket forming means comprising walls extending chordally of the periphery of the rotor, and a lip projecting transversely of the pocket in overhanging relation to the pocket opening from the wall thereof which is on the side of the rotor nearest said cabinet wall and disposed at the open end of the pocket; said lip terminating from the opposite wall a distance greater than the width of the article; the access opening being disposed so that when

the pocket opening is in register therewith, said first named pocket wall will be disposed at a downward slope toward the access opening; and a shock absorbing device for the article as received in the pocket mounted



in the rotor and including an article-engaging plate tending to urge the article out of the pocket subsequent to a shock absorbing action and when the rotor is turned so that the pocket opening is in register with the access opening.

2,970,027
BOOK MATCH DISPENSER
John Bulger and John Conner, both of 156 Newton St., Brooklyn, N.Y.
Filed Aug. 18, 1958, Ser. No. 755,516
1 Claim. (Cl. 312—42)



A match book dispenser comprising a hollow metal stand having a bottom wall, and front and rear walls, the rear wall being longer than the front wall, rearwardly inclined extensions on the top of the front and rear walls, said extensions disposed in the same angular plane, a flat wall seated on and secured to said extensions whereby said flat wall is disposed at an angle to the horizontal, upstanding side walls along the side edges of said flat wall, an upstanding front wall along the front edge of said flat wall, said front wall terminating short of the top of the rear wall, a flat wall extending across the space between the top end edges of the side walls and constituting a top wall, said angular flat wall, side walls and top wall defining a housing for holding match books in stacked relation, said top wall terminating short of the front ends of said side walls providing a dispensing opening for the match books, said front wall serving as an abutment for said match books, the rear of said housing being open.

2,970,028
GRAPH DEVICE
Richard A. Helmer, Oklahoma City, Okla., assignor to Oklahoma State Highway Department, an agency of Oklahoma
Filed May 23, 1957, Ser. No. 661,177
4 Claims. (Cl. 346—25)

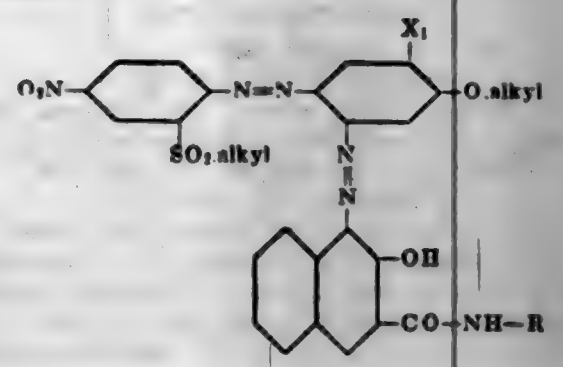


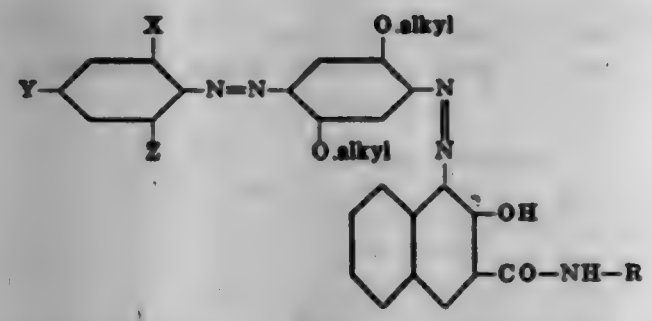
1. In combination with a vertical deflection beam for recording the vertical deflection of a roadway surface and the longitudinal movement of a load carrying vehicle causing such deflection on a graph, an attachment comprising a counterbalanced auxiliary beam, a supporting frame attached to the vertical deflection beam, bracket means pivotally supporting said auxiliary beam from the frame alongside the deflection beam, means interconnecting the auxiliary beam and the deflection beam for pivoting the auxiliary beam in response to pivotal movement of the deflection beam, a marking implement mounted on said auxiliary beam in longitudinally spaced relation to the bracket means for movement in a vertical plane in response to movement of the deflection beam, a supply of paper, means mounted on said frame supporting the paper and holding it against the marking implement, paper feeding means mounted on said frame and moving the paper in relation to the marking implement, said paper feeding means including a drum, a flexible element wound on said drum and having one end attached thereto, the other end of said flexible member being free for connection with a moving vehicle causing deflection of the roadway for moving the paper proportionate to the movement of the vehicle thereby plotting a graph on the paper, said feeding means including a pair of friction rollers receiving the paper therebetween and means drivingly connecting the drum to the rollers for driving said rollers in response to rotation of the drum, said drive means between the drum and roller including a manually operable clutch means for selectively disconnecting the drum from the rollers for rotation of the drum independently of the rollers.

CHEMICAL

2,970,029
MIXTURE OF WATER-INSOLUBLE DISAZO DYESTUFFS
Herbert Kracker, Hans Albert, and Hans Thaler, Offenbach (Main), Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany
No Drawing. Filed Dec. 1, 1958, Ser. No. 777,178
Claims priority, application Germany Dec. 3, 1957
6 Claims. (Cl. 8—26)

1. Water-insoluble azo-dyestuffs consisting of a mixture of azo-dyestuffs which correspond to the following two formulae:





wherein X represents a member selected from the group consisting of alkylsulfonyl and chlorine, X_1 represents a member selected from the group consisting of lower alkyl and alkoxy, Y represents a member selected from the group consisting of nitro and chlorine, Z represents a member selected from the group consisting of hydrogen and chlorine, and R represents a member selected from the group consisting of radicals of the benzene, naphthalene and diphenylene oxide series, and wherein the alkyl groups contain 1 to 3 carbon atoms.

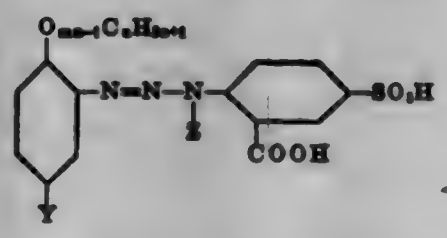
2,970,030

PROCESS FOR THE PRODUCTION OF NEUTRALLY DEVELOPABLE TEXTILE PRINTS

Albert Bolleter, Muttenz, and Eduard Moser, Basel, Switzerland, assignors to Ciba Limited, Basel, Switzerland, a firm of Switzerland

No Drawing. Filed Aug. 24, 1956, Ser. No. 605,935
Claims priority, application Switzerland Aug. 25, 1955
15 Claims. (Cl. 8—71)

1. In a process for the production of a water-insoluble azo dyestuff on the fiber by printing on of a coupling component and a stabilized diazo compound and development of the dyestuff by steaming with steam at a pH not above neutrality, the improvement of carrying out said process, in the absence of halogen fatty acids and their salts, with a coupling component suitable for the manufacture of ice-colors, an alkali in a quantity of more than 2 mol calculated on the quantity of the coupling component used and a labile diazo-amino compound of the formula



in which Y is an alkylated sulfonamide group, Z is a low molecular, branched alkyl radical having at most 4 C atoms and *m* and *n* are each a positive whole number of which the product is at most 2.

2,970,031

PROCESS FOR TANNING LEATHER

Daniel E. Nagy, Stamford, Conn., assignor to American Cyanamid Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Aug. 31, 1955, Ser. No. 531,830
6 Claims. (Cl. 8—94.27)

1. A process for tanning leather which comprises first soaking pickled hides in a water solution of a mineral tanning agent and then impregnating the resulting hides containing said mineral tanning agent with an aqueous alkali metal cyanate solution until a quantity of alkali metal cyanate has been absorbed sufficient to set the mineral tanning agent therein and convert the hides into leather.

2,970,032

STABLE SOLUTIONS OF COMPOUNDS OF TANNINS WITH BORIC ACID

Otto C. Jekel, 1 Freihammerstrasse, Salzburg-Obergnigl, Austria

No Drawing. Filed May 27, 1957, Ser. No. 661,593
2 Claims. (Cl. 8—94.33)

1. A tanning solution comprising a substantially stable clear solution of a tannin-boric acid compound in an equilibrium solvent mixture of ethyl acetate, ethyl alcohol, acetic acid and water in such proportions as to satisfy the equation

$$\frac{\text{(Molar concentration of acid)} \times \text{(molar concentration of alcohol)}}{\text{(Molar concentration of ester)} \times \text{(molar concentration of water)}} = 4$$

the quantity of acetic acid in said equilibrium solvent mixture not exceeding 4%.

2,970,033

PROCESS OF TANNING LEATHER AND PRODUCT THUS PRODUCED

Frank A. Edmonds, Arlington Heights, and Russell P. Doyle, Chicago, Ill., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Sept. 6, 1957, Ser. No. 682,323
2 Claims. (Cl. 8—94.33)

1. A process for tanning leather comprising soaking hides in an aqueous tanning liquor containing between about 0.5% and 10% by weight of dicyandiamide, between about 0.5% and 10% by weight of a water-dispersible methylated melamine-formaldehyde resin and between about 0.5% and 20% by weight of a lignosulfonate at a temperature between about 60° F. and 160° F. and at a pH between about 3 and 6 until said hides are tanned, said percentages being based on the weight of said hides.

2,970,034

METHOD OF PURIFYING GASES CONTAINING OXYGEN AND OXIDES OF NITROGEN

Holger C. Andersen, Morristown, and William J. Green, Newark, N.J., assignors, by mesne assignments, to Engelhard Industries, Inc., Newark, N.J., a corporation of Delaware

No Drawing. Filed Apr. 5, 1957, Ser. No. 650,860
7 Claims. (Cl. 23—2)

1. A process for the purification of waste gases from nitric acid processes containing oxygen and oxides of nitrogen which comprises contacting in a first reaction zone at reaction temperature the waste gases and a fuel selected from the group consisting of hydrogen, carbon monoxide and gaseous hydrocarbons, the latter being present in less than the stoichiometric quantity required for complete reaction of the oxygen in the waste gases, with a platinum group metal-containing catalyst, cooling the effluent gases, and contacting in a second reaction zone a mixture of the effluent gases and additional fuel, the latter being present in stoichiometric excess over the oxygen and oxides of nitrogen in the effluent gases, with a platinum group metal-containing catalyst at reaction temperature.

2,970,035

SEPARATION OF PLUTONIUM IONS FROM SOLUTION BY ADSORPTION ON ZIRCONIUM PYROPHOSPHATE

Raymond W. Stoughton, Oak Ridge, Tenn., assignor to the United States of America as represented by the United States Atomic Energy Commission

No Drawing. Filed Dec. 19, 1944, Ser. No. 568,901
4 Claims. (Cl. 23—14.5)

1. A method of separating plutonium from other substances present in a solution containing ions of a com-

pound of plutonium in which the plutonium is in its reduced, phosphate-insoluble state and ions of other substances which comprises contacting the solution with granular zirconium pyrophosphate whereby said plutonium ions are adsorbed leaving the ions of the other substances in solution.

2,970,036

METHOD OF RECOVERING CUPRATE ANIONS FROM THEIR METAL SALT SOLUTIONS

Frank E. Horton and Eldred C. Brace, Tucson, Ariz., assignors to Banner Mining Company, Tucson, Ariz., a corporation of Nevada

No Drawing. Filed Mar. 11, 1958, Ser. No. 720,549
4 Claims. (Cl. 23—55)

1. The method of producing a concentrated copper electrolyte from an alkaline solution containing cuprate anions which comprises contacting said solution with cotton in its hydroxyl form thereby selectively adsorbing the cuprate anions onto the cotton, and subsequently treating the cotton containing the adsorbed cuprate anions with an elutriant selected from the group consisting of sodium bicarbonate, sulphuric acid, and sodium bisulphate to obtain said concentrated electrolyte.

2,970,037

TRONA PROCESS

Ned A. Caldwell and William C. Bauer, Green River, Wyo., assignors to Food Machinery and Chemical Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Nov. 22, 1955, Ser. No. 548,549
4 Claims. (Cl. 23—63)

1. A cyclic process for the production of dense soda ash from crude trona comprising dissolving the trona in an aqueous solution of sodium carbonate and sodium bicarbonate having a greater concentration of normal carbonate than bicarbonate, crystallizing sodium sesquicarbonate by cooling, separating the sesquicarbonate crystals and the mother liquor solution, discarding a portion of the mother liquor solution to maintain the desired carbonate to bicarbonate ratio, recirculating the remainder of the mother liquor solution to dissolve more trona, calcining the sesquicarbonate crystals to light ash and recovering the sodium values in said discarded mother liquor by reacting a portion of the light ash with a portion of said mother liquor solution to form sodium carbonate monohydrate and calcining the sodium carbonate monohydrate to form dense ash and using only sufficient of said mother liquor to provide water to stoichiometrically react with the available sodium carbonate in said light ash and said mother liquor in a molar ratio of about 1:1 to form sodium carbonate monohydrate by rehydration and to replace the water evaporated in the hydration step.

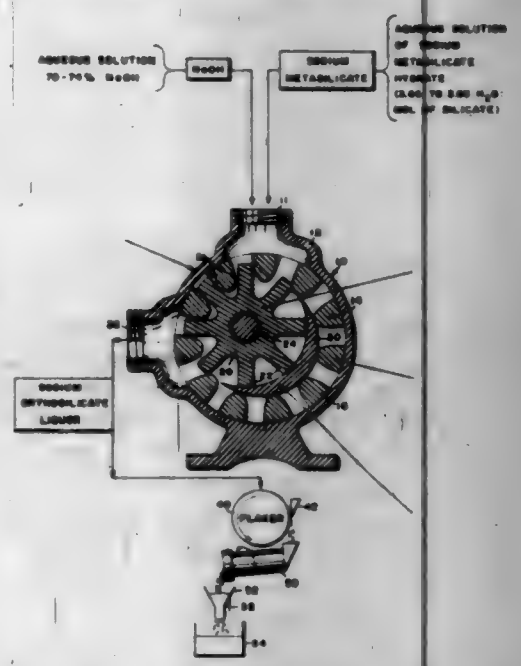
2,970,038

PREPARATION FOR THE PRODUCTION OF ALKALI METAL SILICATES

John P. Hyde, Euclid, Ohio, assignor to Diamond Alkali Company, Cleveland, Ohio, a corporation of Delaware

Filed Nov. 8, 1957, Ser. No. 695,367
10 Claims. (Cl. 23—110)

1. In the manufacture of solid, hydrated alkali metal silicates having an alkali metal oxide:SiO_2 molar ratio substantially within the range from about 1.75–2.25:1, from a mixture of an aqueous alkali metal metasilicate hydrate solution and the required amount of an alkali metal hydroxide to provide the desired alkali metal oxide:SiO_2 ratio within said range, by combining said alkali metal hydroxide and alkali metal metasilicate and agitating and heating the mixture to cause thermal crystallization of said hydrated silicate, the improvement which includes the steps of adding to said metasilicate hydrate solution an aqueous solution of an alkali metal hydroxide, agitating the mixture of said hydrate solution and said alkali metal hydroxide solution in a mixer-pump



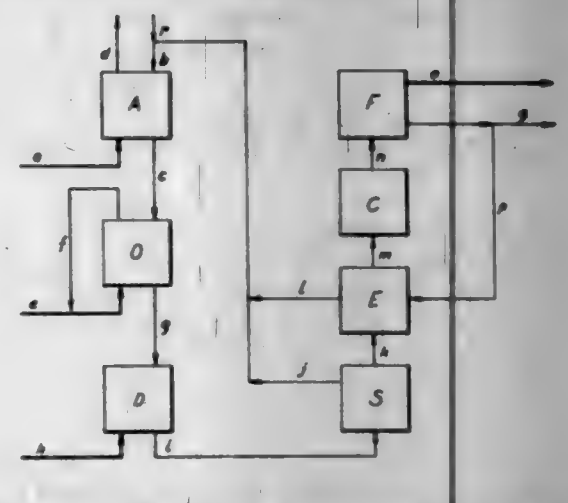
having at least one rotary toothed impeller, and heating the mixture sufficiently to cause thermal crystallization of the said hydrated silicate.

2,970,039

PROCESS FOR THE PRODUCTION OF AMMONIUM SULFATE

Angel Vian-Ortuño and Alicia Crespí-González, both of Plaza de Salamanca 8, Madrid, Spain

Filed Mar. 31, 1955, Ser. No. 498,418
Claims priority, application Spain Apr. 23, 1954
12 Claims. (Cl. 23—119)



1. A process of producing ammonium sulfate from sulfur dioxide-containing gas, comprising the steps of passing sulfur dioxide-containing gas through a liquid organic base weaker than ammonia, thereby binding said sulfur dioxide to said organic base; adding oxygen to the thus-formed sulfite of said organic base so as to substantially completely oxidize the same to the sulfate of said organic base without retaining any appreciable quantity of said sulfite of said organic base; treating said sulfate of said organic base with ammonia, thereby freeing said base and forming ammonium sulfate; and recovering the thus-formed ammonium sulfate.

2,970,040

PURIFICATION OF SILICON HALIDES

John B. Conn, Westfield, N.J., assignor to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Mar. 7, 1958, Ser. No. 719,751
6 Claims. (Cl. 23—205)

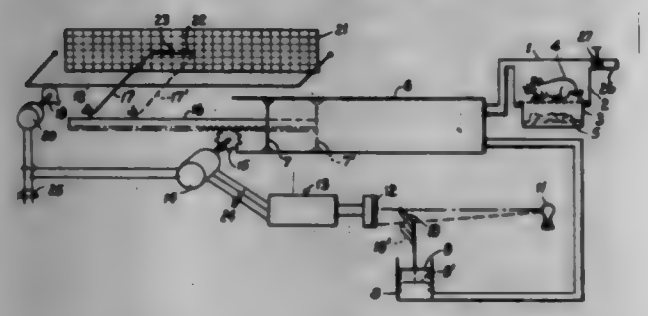
1. A process for purifying a silicon halide containing trace amounts of contaminating compounds which com-

prises contacting said silicon halide with a dinitrile compound of the formula—

NC—R—CN

wherein R is selected from the group consisting of aliphatic and aromatic divalent groups and separating substantially pure silicon halide from said dinitrile compound containing said contaminating compounds.

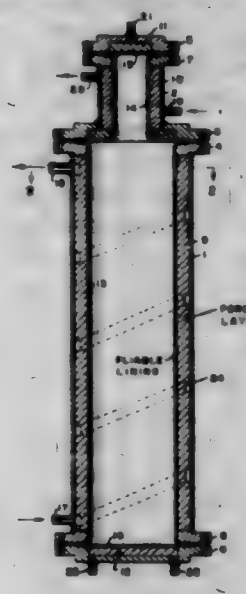
2,970,041
VOLUME-VARIATION MEASURING AND RECORDING APPARATUS
Norbert W. Burlis, St. Louis, and Milton J. Reinert, Ferguson, Mo., assignors to Custom Engineering and Development Co., a corporation of Missouri
Filed Mar. 9, 1960, Ser. No. 13,797
4 Claims. (Cl. 23—256)



1. A combination for measuring minute volume changes in a closed gas system consisting of a cylinder containing a gas of a given composition, a piston reciprocably mounted in said cylinder and sealing one end thereof, a rack gear carrying said piston, a chamber communicating with the opposite end of said cylinder in which a gas volume change reaction is taking place, a fluid reservoir provided with a port, a connecting fitting through said port extending above the fluid level in said reservoir, a counterbalanced inverted cup member disposed in said reservoir around said connecting fitting, said cup member communicating through said fitting with said cylinder and said chamber through the open bottom end of the cup and through said port, a light source and photosensitive resistor mounted on said reservoir, an opaque screen mounted on said cup member between said light source and said photosensitive resistor, a power supply and drive motor, an electrical network connected to said photosensitive resistor and said drive motor, a polarized relay and a voltage divider connected to said network to drive said rack gear and piston reciprocably with said motor in response to minute gas volume changes detected by movement of said inverted cup member, a recording pen mounted on said rack gear outside of said cylinder, said pen pivotable transverse to the direction of rack gear and piston travel in said cylinder, a pivotable U-shaped lifting bar against which said recording pen rests and a timing motor and associated cam in contact with said lifting bar to move said lifting bar and recording pen at regular time intervals transverse to the direction of pen and piston travel.

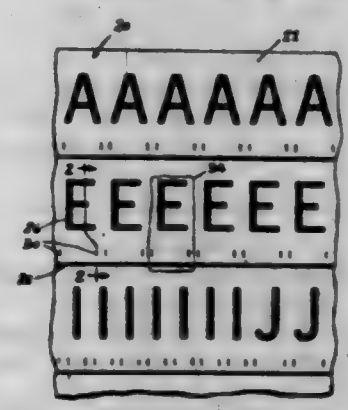
2,970,042
VESSEL WITH REPLACEABLE PLIABLE LINING
Anton A. F. Lagerwey, Amsterdam, Netherlands, assignor to Shell Oil Company, a corporation of Delaware
Filed Feb. 27, 1957, Ser. No. 642,715
Claims priority, application Netherlands Mar. 1, 1956
9 Claims. (Cl. 23—290)

1. A lined vessel including an outer, impervious confining wall defining a hollow vessel, a supporting layer of porous material on the inner surface of said wall, an impervious lining formed as a hollow body lying against said supporting layer, said porous material being cohesive, essentially rigid and pressure-resistant, and having an inner surface adjoining said lining which is substantially continuous save for small pore openings having diameters between 5 and 1000 microns, said pores being in communication with one another within said layer, and means for maintaining the pressure within said pores



lower than the pressure prevailing within the hollow lining body during use of the vessel, said lining being formed of thin material which is pliable throughout the extent thereof and being pressed against said supporting layer essentially without flow solely by the pressure difference prevailing between opposite surfaces of the lining.

2,970,043
TRANSPARENT CHARACTERS WITH SPACING AID
Robert F. Serafin, Palatine, Ill., assignor to Artype, Inc., Barrington, Ill., a corporation of Illinois
Continuation of application Ser. No. 803,231, Mar. 31, 1959. This application Aug. 30, 1960, Ser. No. 52,889
7 Claims. (Cl. 41—21)



1. An article of manufacture comprising, a flexible transparent sheet of material capable of being separated into parts of desired size and shape and having an adhesive backing, a plurality of characters of various configurations and of texture contrasting with said material formed on said sheet whereby the separated parts may each contain a single character and the characters may be aligned in horizontal groupings laterally spaced within the groupings for conveying intelligence, and the parts may be adhered to a layout surface one after the other to form said groupings, said sheet having a plurality of pairs of indicia thereon, a pair of such indicia being associated with and vertically spaced from each character and respectively having predetermined lateral spacing outside of the lateral edges of the respective characters, each separated part which has a single character thereon also adapted to have thereon the pair of indicia associated with said single character, the amount of said

lateral spacing from said respective opposite edges being so related to the particular configuration of the character with which each said pair of indicia is associated such that the characters of a grouping when formed on a layout will have substantially proper optical spacing between characters when the juxtaposed indicia of each contiguous pair of characters of said groupings have a substantially constant spatial relation to one another, with the same relationship existing between similarly located indicia of other groupings associated with said grouping, if any, and said sheet having guide means thereon, at least a portion of which is adapted to be also included with each single character when its part is separated from said sheet, for aligning the characters of a grouping along the same horizontal line on said layout, said characters being arranged on said sheet in a plurality of horizontal rows with the characters in each row aligned with one another, said guide means comprising an elongate horizontal bar formed on the said sheet below each row and each bar being equispaced from the associated row, the indicia of each character being located adjacent the said bar below the said character whereby after the formation of a grouping, the guide means and indicia thereof may be removed from said layout surface at the same time.

2,970,044
SOLUTION AND PROCESS FOR ETCHING INDIUM DOTS

Peter L. Ostapkovich, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Dec. 30, 1957, Ser. No. 705,826
3 Claims. (Cl. 41—42)

1. The method of preparing indium dots for use in alloying with germanium to form semi-conductor devices, comprising immersing said dots in an aqueous etching solution, the active ingredients of which consist of

½ to 20 parts commercial hydrofluoric acid (about 48% by weight HF)
½ to 20 parts glacial acetic acid
20 to 100 parts water,

all parts being by volume, wherein the proportion of either acid to the other acid is not more than about five to one, at a temperature of not over about 45° C. and for a time sufficient to clean the dots, but not over about 10 minutes.

2,970,045
CATALYZED OXYGEN-PRODUCING COMPOSITIONS

Martin Leatherman, Bel Air, Harford County, Md.

No Drawing. Filed July 18, 1958, Ser. No. 749,339
2 Claims. (Cl. 44—3)
(Granted under Title 35, U.S. Code (1952), sec. 266)

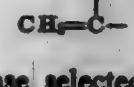
1. A composition consisting essentially of ammonium perchlorate intimately admixed with a substance capable of thermally decomposing ammonium perchlorate near the allomorphic transition point of 240° C., said substance being selected from zinc-containing materials capable of undergoing reaction with hydrogen chloride to form zinc chloride.

2,970,046
MANUFACTURE OF SOLID PROPELLANTS

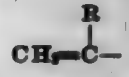
Howard G. Cutforth, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Dec. 13, 1954, Ser. No. 475,000
7 Claims. (Cl. 52—.5)

1. An improved method for producing a solid propellant composition which comprises blending from 7 to 200 parts by weight of a substantially dry solid, inorganic, strong, oxidizing salt having an average particle size of less than 200 microns with one part by weight of a substantially dry burning rate catalyst selected from the group consisting of complex cyanides of iron, ammonium dichromate, potassium dichromate, ferric oxide, and lead dioxide having an average particle size of less than 40 microns; and intimately admixing from 1 to 9 parts by weight of the resulting oxidant-catalyst blend with one part by weight of a rubbery binder composition comprising a copolymer prepared from a monomeric mixture comprising 50 to 95 parts by weight of a conjugated diene containing 4 to 8 carbon atoms per molecule, 5 to 50 parts by weight of a



heterocyclic nitrogen base selected from the group consisting of pyridine, quinoline, and alkyl substituted derivatives thereof wherein the total number of carbon atoms in the nuclear alkyl substituents is not more than 12 and wherein R is selected from the group consisting of hydrogen and an alkyl radical and where said



group is attached to a nuclear carbon atom, admixed with 0 to 35 parts by weight of carbon black per 100 parts of copolymer.

2,970,047
CONDUCTIVE PRIMING MIXTURE

Thomas Q. Ciccone, Langhorne, Pa., assignor to the United States of America as represented by the Secretary of the Army

No Drawing. Filed June 5, 1958, Ser. No. 740,170
3 Claims. (Cl. 52—2)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A conductive ammunition priming mixture consisting essentially of: About 25 parts by weight lead dioxide as a primary oxidizer and moderating conductor; about 7½ parts by weight zirconium powder having a particle size not larger than 5 microns, as a flame initiator; about 32½ parts by weight coarsely particulate zirconium in a range and distribution of particle sizes such that all particles pass through 100 mesh about 50 weight percent pass through 200 mesh, not more than 35 weight percent pass through 325 mesh, and minimum particle size is at least 10 microns, as a fuel; and about 35 parts by weight barium nitrate as a secondary oxidizer.

2,970,048
DEFOLIATING COMPOSITION AND METHOD

Philip C. Hamm, Webster Groves, Mo., and Robert E. Miller, Kettering, Ohio, assignors to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed July 11, 1956, Ser. No. 597,074
2 Claims. (Cl. 71—2.5)

1. A method of defoliating plants which comprises applying to the leaves of the plant having a crop nearing maturity, from 0.1 to 20 pounds per acre of pyridine-2-methanal methiodide phenylhydrazone, the application being in an amount such as to induce defoliation.

2,970,049
SOIL AMENDMENT AND NUTRIENT INCLUSION

Robert J. Dalton, San Bernardino, Calif.
(2723 Grayaby Ave., San Pedro, Calif.)

No Drawing. Filed Dec. 30, 1953, Ser. No. 401,375
4 Claims. (Cl. 71—63)

1. A soil amendment and nutrient inclusion comprising a converted concentrate of naturally occurring sulfides inclusive of a major portion of iron pyrite and minor

portions of trace elements as sulfides, said iron pyrite and other sulfides being characterized by having been converted through heating said concentrate of naturally occurring sulfides to at least a low red heat in a relatively non-oxygenous atmosphere and thereby converting the iron pyrite to a composition represented by the formula Fe_nS_{n+1}, wherein n is greater than 1, so as to form a readily usable, decomposable, magnetic iron sulfide and elemental sulfur, and converting the trace elements to readily usable simple sulfide compositions.

2,970,050

PROCESS FOR REMOVING NOBLE METALS FROM URANIUM

James B. Knighton, Nixon, N.J., assignor to the United States of America as represented by the United States Atomic Energy Commission

No Drawing. Filed July 22, 1958, Ser. No. 750,276
2 Claims. (Cl. 75—84.1)

1. A pyrometallurgical method for purifying uranium containing ruthenium and palladium comprising disintegrating the uranium by hydriding and dehydriding it, oxidizing the uranium by exposing it to air, extracting the ruthenium and palladium from the oxidized uranium with molten zinc, and recovering the uranium.

2,970,051

PROCESS FOR THE SEPARATION OF LEAD FROM SOLUTIONS

Vladimir Nicolaus Machiw and Nicolas Zubryckyj, Fort Saskatchewan, Alberta, Canada, assignors to Sherritt Gordon Mines Limited, Toronto, Ontario, Canada, a company of Ontario

No Drawing. Filed May 1, 1959, Ser. No. 810,268
7 Claims. (Cl. 75—120)

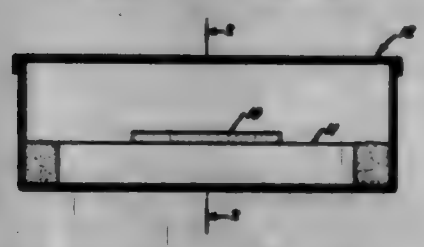
1. In a hydrometallurgical process for producing a non-ferrous metal selected from the group consisting of silver, copper, nickel and cobalt substantially free from lead from metal bearing material which contains values of lead and of at least one of said metals in which the metal bearing material is leached with a leach solution to extract and dissolve at least one of said metals in the solution and leach solution is separated from undissolved residue, the improvement which comprises the steps of contacting clarified leach solution with the hydroxide floc of a metal selected from the group consisting of titanium, vanadium, chromium, manganese and iron which is insoluble in the solution whereby lead present in the solution is adsorbed by the metal hydroxide floc, and thereafter separating leach solution from said metal hydroxide floc.

2,970,052

METHOD FOR HARDENING METALS

Donald L. Wood, Ballston Spa, and Arno Gatti, Schenectady, N.Y., assignors to General Electric Company, a corporation of New York

Filed July 7, 1958, Ser. No. 746,824
5 Claims. (Cl. 75—201)



1. A method for forming a metal body comprising a matrix having a second phase dispersion to increase the strength and resistance of the body to recrystallization, comprising preparing a powder mixture consisting of a compound of a matrix metal with a non-metal selected from the group consisting of oxygen, nitrogen, carbon, silicon and sulfur, and an alloy containing a major proportion of the matrix metal having a second metal in solid solution therewith which has a greater affinity for the non-metallic part of the matrix metal compound than does the matrix metal, compacting the mixture to form a body, sintering the compacted body, and thermally dissociating the matrix metal compound and diffusing the non-metallic part thereof through the matrix metal for reaction with the solid solution metal to form the second phase dispersion within the matrix metal, said sintering and said dissociation and diffusion being effected in an atmosphere selected from the group consisting of neutral atmospheres and atmospheres containing a partial pressure of the matrix metal compound.

2,970,053

OLEANDOMYCIN RESIN ADSORBATE

Edward G. Martin, East Northport, and Ward J. Haas, Bronxville, N.Y., assignors to Chas. Pfizer & Co., Inc., Brooklyn, N.Y., a corporation of Delaware

No Drawing. Filed Oct. 28, 1958, Ser. No. 769,993
3 Claims. (Cl. 99—2)

1. An animal feed composition comprising a nutritionally balanced animal feed together with an oleandomycin resin adsorbate wherein the oleandomycin is present as an adsorbate on a porous sulfonic acid type cation exchange resin of low toxicity.

2,970,054

SELF-GELATINIZING STARCH BEARING GRAINS AND METHOD OF PRODUCING SAME

Anthony J. Nugey, 428 Central Ave., and Anthony L. Nugey, 1271 Pierpont St., both of Rahway, N.J.

No Drawing. Filed June 15, 1953, Ser. No. 361,878
8 Claims. (Cl. 99—51)

1. Starch-bearing grains free of malt contaminants, for brewing fermented beverages, inoculated with heat-stable, odorless, soluble high-potency enzymes, and forming a substantially dry final product.

2,970,055

TRIGLYCERIDE SHORTENING COMPOSITION AND METHOD FOR PREPARING THE SAME

John J. Gleason, Cedar Falls, Iowa, assignor to The Rath Packing Company, Waterloo, Iowa, a corporation of Iowa

No Drawing. Filed Dec. 14, 1959, Ser. No. 859,135
10 Claims. (Cl. 99—118)

1. An improved edible shortening composition prepared by molecularly rearranging a triglyceride fat substantially free of mono- and diglycerides in the presence of an interesterification catalyst at a temperature at which at least some of the fat remains in the liquid phase, adding from 0.1% to 3% by weight of a hydroxycarboxylic acid taken from the group consisting of lactic, gluconic, tartaric, malic, glyceric and glycollic, and continuing the reaction under the same conditions to cause substitution of said hydroxy acid for some of the fatty acid radicals originally present in the triglyceride fat.

2,970,056

ANTI-CAKING POWDERED PREPARATION AND METHOD OF PREPARING THE SAME

William L. Benson, Woodbridge, and Raymond J. Lapierre, Iselin, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Nov. 28, 1958, Ser. No. 776,685
10 Claims. (Cl. 99—143)

1. The method of treating finely devided, solid, edible and medicinal materials having a tendency to self-agglomerate, to inhibit said tendency, which comprises applying to the particles of the material a coating of aerated silica gel in an amount within the range from about 0.1 percent to about 6 percent, by weight, of the total.

2,970,057
PROCESS FOR PRODUCING CRYSTALLINE SPRAY DRIED MATERIAL

John P. Terrett, San Francisco, John B. Shields, Sunnyvale, and Louis J. Nava, Redwood City, Calif., assignors, by mesne assignments, to Dairy Foods Incorporated, Los Angeles, Calif., a corporation of California

Filed July 6, 1956, Ser. No. 596,232
17 Claims. (Cl. 99—203)

1. A process for producing crystalline spray dried material by a procedure which employs the step of adding seed material to fluid material containing at least one crystallizable substance which is to be rendered crystalline during the process of spray drying, which comprises concentrating said fluid material, thereafter simultaneously introducing said concentrated fluid material and said seed material into an atomizer, atomizing the seeded concentrated fluid material into a drying atmosphere, drying in said atmosphere the resulting atomized particles of said material to a state of at least saturation with respect to said crystallizable substance to be rendered crystalline, and thereafter further drying said spray dried material to a moisture content productive of the desired keeping quality of the final dehydrated product.

2,970,058
PROCESS FOR PREPARING A FRUIT JUICE IN POWDER FORM

Luciano Nobile, Milan, Italy, assignor to Ledoga S.p.A., Milan, Italy, a company of Italy

No Drawing. Filed Feb. 18, 1960, Ser. No. 9,429
Claims priority, application Italy Dec. 4, 1959
8 Claims. (Cl. 99—206)

1. A process for preparing a fruit juice in powder form, comprising the steps of preparing a fruit in juice or pulp form admixing therewith a substantial amount of xylitol, evaporating the mixture so as to remove a substantial amount of water therefrom, and introducing the dried mixture into fluid-tight containers.

2,970,059
WAX-TYPE POLISH USING POLYCHLORO-ALKYLBENZENES

Edward A. Swakon, Hammond, Ind., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana

No Drawing. Filed Aug. 15, 1958, Ser. No. 755,146
7 Claims. (Cl. 106—8)

1. A wax-type polish composition consisting essentially of a polychloroalkylbenzene having a melting point between about 45° C. and about 100° C., between 1 and about 22 carbon atoms in each alkyl group and said chlorine being nuclear substituents an emulsifier and water.

2,970,060
BUILDING UNITS AND METHOD OF PRODUCING THE SAME

William H. Burnett, 14 W. 1st St., Hutchinson, Kans.

No Drawing. Filed Oct. 3, 1957, Ser. No. 688,097
12 Claims. (Cl. 106—71)

2. The method of producing a ceramic building unit having high strength to weight characteristics comprising the steps of admixing swelling bentonite, a pre-fired, finely divided, vesicular volcanic material and a particulate ceramic aggregate in the presence of sufficient water to produce a tacky mass, said aggregate being selected from the group consisting of pre-fired and bloated clays, shales, slags and volcanic rocks, said aggregate having a higher fusion point than the bentonite and said material, said bentonite constituting from approximately ½ to about 5 percent by weight of the total dry admixture, the volcanic material constituting from approximately 2 to about 10 percent by weight of the total dry admixture and the aggregate constituting substantially the remaining portion of said total admixture; forming the tacky admixture into a building unit; and firing the unit at a temperature sufficient to sinter only the bentonite and material to thereby effect permanent bonding of the particles of aggregate.

2,970,061
BUILDING UNITS AND METHOD OF PRODUCING THE SAME

William H. Burnett, 14 W. 1st St., Hutchinson, Kans.

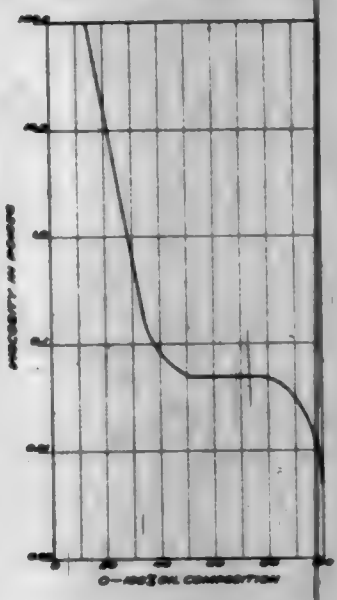
No Drawing. Filed Dec. 11, 1957, Ser. No. 701,976
11 Claims. (Cl. 106—71)

2. The method of producing a ceramic building unit comprising the steps of admixing swelling bentonite with a sufficient amount of water to produce a colloidal suspension of the bentonite in said amount of water to substantially its colloidal form; admixing the colloidalized bentonite with finely divided volcanic ash material and a particulate ceramic aggregate to form a tacky mass, said aggregate being selected from the group consisting of pre-fired, bloated, vesicular clays, shales, slags, slates, micas and volcanic rocks, the median fusion temperature of the particles of aggregate being higher than the median fusion temperature of the particles of bentonite and said material respectively, said bentonite constituting from approximately ½ to about 5 percent by weight of the total dry admixture, the volcanic ash material constituting from approximately 2 to about 10 percent by weight of the total dry admixture and the aggregate constituting substantially the remaining portion of said total admixture; forming the admixture into a building unit; and firing the unit at a temperature below said median fusion temperature of the aggregate and sufficiently high to sinter the bentonite and said material to thereby effect permanent bonding of the particles of aggregate.

2,970,062
URETHANE MODIFIED DRYING OIL

Hans M. Hauge, Depew, and Joseph A. Pawlak, Buffalo, N.Y., assignors to Spencer Kellogg and Sons, Inc., Buffalo, N.Y.

Filed Oct. 29, 1958, Ser. No. 770,372
10 Claims. (Cl. 106—123)



1. The method comprising (*a*) heating an ethylenically unsaturated vegetable oil selected from the group consisting of drying oils and semidrying oils at a temperature in the range 420° F. to 550° F. with 7% to 25% by weight of an aliphatic alcohol which is at least trifunctional, until alcoholysis has occurred and ester interchange to form a diol ester is completed, said diol ester having a hydroxyl value in the range 120 to 260, (*b*) then reacting the diol ester modified ethylenically unsaturated oil thus produced with a polyisocyanate by contact at a

temperature below about 130° F., the amount of polyisocyanate employed being substantially equivalent to the hydroxyl of the oil diol ester, until there is less than 20% of the polyisocyanate unreacted and thereafter heating the mixture to above 130° F. until there is less than 1% unreacted polyisocyanate.

2,970,063

PROCESS FOR MAKING DISPERSIBLE VEGETABLE GUMS

Wesley A. Jordan and William E. Skagerberg, Minneapolis, Minn., assignors to General Mills, Inc., a corporation of Delaware

No Drawing. Filed Mar. 12, 1958, Ser. No. 720,830
8 Claims. (Cl. 106—208)

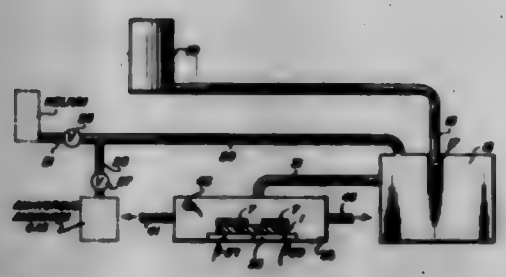
1. The process of improving the dispersability of finely divided gum particles which comprises mixing said gum particles with a quantity of an aqueous solution which will increase the moisture content of the gum particles by between about 20 and about 40 percent, said aqueous solution being capable of hydrating the gum particles at a rate not in excess of 50 percent of the rate at which water hydrates said gum particles, to effect a controlled hydration of the individual gum particles and to effect agglomeration of the individual gum particles into agglomerates, and then drying the agglomerates to form dry agglomerates which readily disintegrate in water to yield individual gum particles.

2,970,064

MASKING MATERIAL PARTICULARLY FOR GAS PLATING PROCESSES

Wilbur M. Bolton, Piqua, Ohio, assignor, by mesne assignments, to Union Carbide Corporation, New York, N.Y., a corporation of New York

Filed May 13, 1957, Ser. No. 658,568
4 Claims. (Cl. 117—5.5)



1. A process for the production of well delineated metallic deposits covering only a surface portion of an object which comprises applying to the object a masking agent to delineate on the object the contour of the deposit to be formed, said masking agent comprising a film former consisting of a viscous mass composed of dextran and a glycol vehicle releasable from the film former at temperatures below 500° F., said film former being water dispersible and capable of retaining its water dispersibility when subjected to heat, heating the object in an enclosed vessel to a temperature sufficiently high to decompose a metal-bearing heat decomposable gaseous compound and less than 500° F. to induce volatilization of the vehicle and to create a vapor pressure of the vehicle over the masking agent, passing a heat-decomposable gaseous compound which is decomposable at temperatures above 75° F. and below 500° F. to the object to be plated while the object is maintained at decomposition temperature and while said vehicle is being volatilized to thereby deposit on the delineated portion of the object metal while the deposition of metal on the masking agent is inhibited, removing the object from the vessel, and thereafter washing the masking agent from the object.

2,970,065

FORMING AN ALUMINUM-CONTAINING ALLOY PROTECTIVE LAYER ON METALS

Joseph L. Greene, Berkley, and James C. Holzwarth, Birmingham, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

No Drawing. Filed Dec. 31, 1956, Ser. No. 631,466
10 Claims. (Cl. 117—8)

1. A method of treating a turbine blade formed of a base metal selected from the class consisting of nickel base alloys and cobalt base alloys to increase its oxidation resistance at elevated temperature, said method comprising applying a coating metal selected from the class consisting of aluminum and aluminum base alloys to surfaces of said turbine blade, heating said blade to diffuse a portion of said coating metal into said base metal, treating the solidified coating on said surfaces with an aqueous acid pickling solution containing hydrochloric acid and an alkaline salt for a period of time sufficient to remove from said surfaces substantially all of said coating which has not diffused into said base metal, and thereafter heating said treated blade for a period of time sufficient to further diffuse said coating metal into said surfaces to form with the base metal of said blade an oxidation-resistant surface layer of an alloy of said coating metal and said base metal.

5. A method of providing a turbine blade formed of a nickel base alloy with a thin oxidation-resistant surface layer of aluminum-nickel alloy, said method comprising immersing said blade in a molten salt capable of dissolving aluminum oxides and applying a layer of aluminum to the blade, said salt being maintained at a temperature between approximately 1280° F. and 1400° F. while said blade is immersed therein to diffuse a portion of said aluminum into said nickel base alloy, removing said blade from said salt and permitting the molten aluminum on said blade to solidify, immersing said coated blade for one to two and one-half hours in an aqueous acid pickling solution containing 7% to 11% hydrochloric acid and a minor proportion of an alkaline salt buffer to remove substantially all of the solidified aluminum on said blade which has not diffused into said nickel base alloy, and thereafter heating said treated blade at a temperature of about 1700° F. to 2350° F. for one to six hours to further diffuse aluminum into said nickel base alloy and form an aluminum-nickel surface layer having a thickness of approximately 0.0005 inch to 0.0025 inch.

2,970,066

PROCESS OF TREATING POLYMERIC STRUCTURES AND PRODUCT THEREOF

Donald Eugene Brazure, Tonawanda, N.Y., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Aug. 31, 1959, Ser. No. 836,933
16 Claims. (Cl. 117—33.3)

1. A process which comprises coating the surface of an organic polymeric structure having an active-hydrogen-containing surface with a composition containing at least one organic compound having a plurality of isocyanate groups and at least one benzoyl compound, said benzoyl compound having substituted therein at least one ortho-hydroxyl group and at least one additional active-hydrogen-containing group besides said hydroxyl group, the ratio of the number of gram equivalents of isocyanate groups in said organic compound to the number of gram equivalents of active-hydrogen atoms in said additional active-hydrogen-containing groups of said benzoyl compound being at least 1:20; and causing said structure, said isocyanate compound and said benzoyl compound to interreact.

2,970,067
HALOGEN TREATMENT OF COMBUSTION CHAMBERS
Charles G. Grimes, 3735 N. College Ave., Indianapolis, Ind.
No Drawing. Filed Feb. 10, 1958, Ser. No. 714,057
1 Claim. (Cl. 117—62)

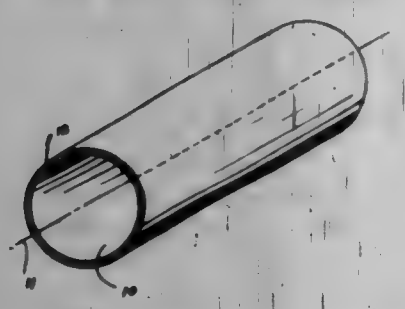
The process of treating the uncoated walls of metallic combustion chambers, comprising coating said walls with a mixture of graphite and spar varnish, allowing said coating to dry, heating the walls thus treated to temperatures ranging from 120 degrees C to 300 degrees C., continuing the heat within said ranges and applying to said walls by injection for a period of time not exceeding twenty minutes a halogenated organic compound at intervals of 15 to 30 seconds until 120 cc. to 160 cc. of said compound have been applied to said walls.

2,970,068
METHOD OF MAKING A COMPOSITE STOCK
Folcom E. Drummond, Washington, D.C., assignor, by mesne assignments, to Union Carbide Corporation, New York, N.Y., a corporation of New York
Filed Mar. 7, 1955, Ser. No. 492,706
2 Claims. (Cl. 117—71)



1. A method of bonding aluminum metal to the surface of tin metal to which aluminum metal does not firmly adhere, said method consisting in cleaning said tin metal surface, heating the cleaned tin metal, and contacting the same while heated with a gaseous heat-decomposable metal bearing compound of a metal selected from the group consisting of nickel, iron, chromium and copper, the temperature of said tin metal surface being high enough to cause decomposition of said metal bearing compound and deposition of a metal layer on said tin metal to provide an intermediate metal layer to which aluminum metal bonds, and thereafter gas plating aluminum metal on said intermediate metal layer to produce a composite metal body.

2,970,069
MAGNETIC RECORDING COMPOSITION AND DEVICE
Pierrepont Adams, Darien, Conn. (671 Hope St., Springdale, Conn.)
Filed July 17, 1957, Ser. No. 672,489
5 Claims. (Cl. 117—132)



1. A magnetic recording surface consisting of a metal base and a uniform, hard magnetic recording medium adhered thereto, said medium consisting essentially of a substantially uniform layer of a thermosetting resin selected from the group consisting of alkylated urea formaldehyde resins, alkylated melamine formaldehyde resins, alkylated benzoguanamine formaldehyde resins and mixtures thereof, said alkyl groups containing 3 to 8 carbon atoms, said thermosetting resin being blended with a glyceryl phthalate resin, said entire composition containing uniformly dispersed therein a magnetic iron oxide, said coating being of a uniform thickness within plus or minus 5 percent of nominal thickness which is from about 0.001 inch to about 0.005 inch.

2,970,070
COATED METAL ARTICLES
Sherman C. Lasken and William K. Schweitzer, Jr., Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Apr. 25, 1958, Ser. No. 730,852
9 Claims. (Cl. 117—132)



1. A method for protectively coating a metal surface which comprises applying to the surface a solution of a thermoplastic resinous copolymer having an average molecular weight in the range from about 150,000 to about 500,000 and consisting essentially of (*a*) from about 80 to 99 weight percent, based on the weight of the copolymer, of a monoalkenyl aromatic monomer of the formula: $CH_2=CRAr$, wherein R is selected from the group consisting of hydrogen and methyl and Ar is an aromatic radical of the benzene series containing from 6 to about 10 carbon atoms, and (*b*) from about 20 to 1 weight percent, based on the weight of the copolymer, of a monomeric carboxylic hydrocarbon olefin of the formula: $H_2C=CG—COOH$, wherein G is selected from the group consisting of hydrogen, methyl, nitrile, and halogens of atomic number from 9 to 35; then drying the solvent from said applied solution to deposit a continuous coating layer of said resinous copolymer on said metal surface.

2,970,071
REMOVAL OF COLORED BODIES FROM AQUEOUS CRUDE SUGAR SOLUTIONS
Leonard J. Lefevre and William I. Childs, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Feb. 19, 1959, Ser. No. 794,238
3 Claims. (Cl. 127—46)

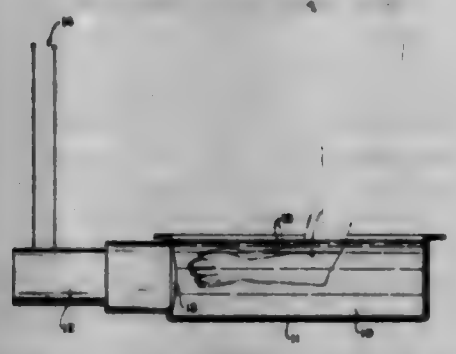
1. The method for preferentially absorbing and removing colored bodies from an aqueous crude sugar solution which method comprises contacting said solution with an insoluble crosslinked copolymer of a mixture of a monovinylaryl hydrocarbon having the vinyl group as its sole unsaturation and a copolymerizable crosslinking agent which contains at least 2 groups of the structure $CH_2:C:$, said crosslinking agent being present in molar amount equal to 0.2 to 20 percent of said monovinylaryl hydrocarbon, said copolymer having attached to the aryl nuclei thereof —CH_2—N-methylglucamine groups and removing the surrounding sugar solution from said copolymer.

2,970,072
MANUFACTURED TOBACCO PRODUCTS
Raymond R. Colton, 60 W. 68th St., and Irwin W. Scopp, 4 Stuyvesant Oval, both of New York, N.Y.
No Drawing. Filed Mar. 3, 1958, Ser. No. 718,485
7 Claims. (Cl. 131—17)

1. A manufactured tobacco product comprising as one component thereof a tobacco composition including a

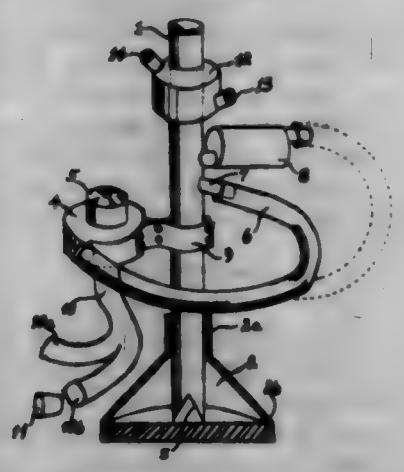
silicone as an impregnant therefor, the amount of said silicone being sufficient to reduce the rate of burning of said tobacco composition.

2,970,073
METHOD FOR ULTRASONIC SURGICAL CLEANING OF HUMAN BODY MEMBERS
Charles H. Prange, New York, N.Y., assignor to Howe Sound Company, New York, N.Y., a corporation of Delaware
Filed Oct. 28, 1959, Ser. No. 849,416
7 Claims. (Cl. 134—1)



1. A method of rendering a portion of the body selected from the scalp, torso, and limbs surgically clean which comprises preparing a solution of a germicide and a surfactant cleansing agent, immersing such portion of the body to be cleaned in said solution, and vibrating the solution at a frequency in the range from 10 to 200 kilocycles per second while said portion of the body is immersed therein.

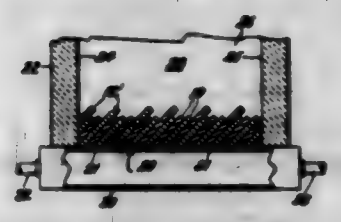
2,970,074
METHOD FOR CONDITIONING INTERNAL COMBUSTION ENGINES
John W. Shelburne, 2600 W. Hill St., Hannibal, Mo.
Filed July 26, 1956, Ser. No. 600,260
5 Claims. (Cl. 134—21)



5. A method of removing residues of combustion from an internal combustion engine comprising the steps of running said engine producing externally of said engine proper a suction in the exhaust from said engine, said suction being of a constant nature and exerting force continuously from the exhaust valves of said engine.

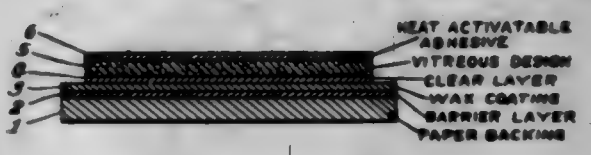
2,970,075
CAST INTERMEDIATE OR BLANK AND METHOD OF PREPARATION
Herbert E. Grenoble, Amsterdam, N.Y., assignor to General Electric Company, a corporation of New York
Filed Oct. 13, 1958, Ser. No. 767,859
6 Claims. (Cl. 148—110)

3. A method for producing a grain oriented casting of a body-centered cubic alloy consisting of not less than 92 percent iron, up to 5 percent silicon, up to 5 percent molybdenum and up to 8 percent aluminum comprising providing a seed slab made of a plurality of cube-on-edge grain oriented strips assembled in a manner that a majority of the strips are substantially commonly aligned, positioning the seed slab in the bottom of an ingot mold in a manner that two unit cube faces of the metal composing the seed slab are generally perpendicular to the



side walls of the mold, bringing a mass of molten metal of a composition corresponding to that of the seed slab into contact with the seed slab causing the surface thereof to melt, and thereafter extracting substantially all the superheat and latent heat from the mass of molten metal unidirectionally through the seed slab.

2,970,076
VITREOUS DECALCOMANIA AND METHOD OF DECORATING CERAMIC ARTICLES
Frank L. Porth, Glen Ellyn, Ill., assignor to The Meyercord Co., Chicago, Ill., a corporation of Illinois
Filed Jan. 14, 1957, Ser. No. 633,994
20 Claims. (Cl. 154—99)



1. A vitreous decalcomania comprising a paper backing having a substantially wax-impervious barrier coating, a wax layer comprising a normally solid high molecular weight polyethylene glycol over said coating, a vitreous design carried on the wax layer, and a thermoplastic material at the outermost surface of said design whereby upon application of heat said thermoplastic material is activated for adhering the vitreous design to an article and said wax is melted for simultaneously releasing the vitreous design from said backing, said vitreous design comprising a vitrifiable ceramic color in a resinous organic film which is readily releasable from said backing upon melting of said wax layer, and said film having a softening point not less than about 325° F. and being completely destructible upon firing while the firing temperature is below about 900° F. without passing through a relatively fluid and readily flowable stage during firing.

2,970,077
METHOD OF JOINING SURFACES
James H. Groves, Lombard, Ill., assignor to American Can Company, New York, N.Y., a corporation of New Jersey
No Drawing. Filed June 28, 1955, Ser. No. 518,673
1 Claim. (Cl. 154—129)

A method of uniting surfaces of metallic elements comprising applying to at least one of said surfaces a synthetic linear polyamide and the polymeric polyether reaction product of a polyhydric alcohol and an aliphatic epoxide, in which said linear polyamide is a condensation polymer of 11-amino undecanoic acid having a plurality of reactive hydrogen atoms and an intrinsic viscosity of at least 0.4 and said polyether reaction product having terminal epoxy glyceryl radicals and an epox-

ide equivalent of about from 140 to 375, heating said polyamide to a temperature between about 350° F. and 700° F. to melt said polyamide, holding said surfaces contiguous one another with the molten polyamide disposed therebetween, maintaining said polyamide in a molten state for from about 1 second to about 5 minutes to permit reaction between said polyamide and said polyether reaction product and to permit wetting of said surfaces by the reacted polyamide, and cooling said reacted polyamide to a temperature below its melting point.

2,970,078
POLYETHYLENE BOND AND METHOD THEREFOR

Alvin R. Nielsen, Hartford, Conn., assignor to Plax Corporation, West Hartford, Conn., a corporation of Delaware

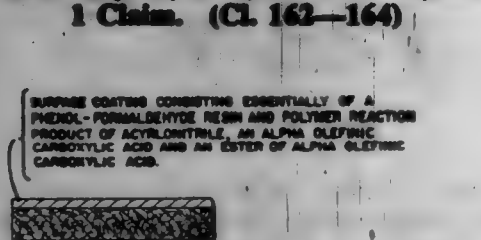
No Drawing. Filed May 6, 1954, Ser. No. 428,127
7 Claims. (Cl. 154—139)

1. The method of bonding two surfaces at least one of which is an ethylene polymer surface which comprises applying a coating of a substantially saturated aqueous solution of chromium trioxide to the surfaces, pressing the coated surfaces together while wet with the chromium trioxide solution, and drying the chromium trioxide coating between the contacting surfaces.

2,970,079
SURFACE COATED IMPREGNATED WATERLEAF

John Anthony Klaczmann, Newburgh, N.Y., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed May 22, 1956, Ser. No. 586,364
1 Claim. (Cl. 162—164)



A coated waterleaf comprising a sheet of polyacrylonitrile fibers uniformly impregnated throughout with a binder comprising the polymeric reaction product of a mixture of monomers comprising (A) acrylonitrile, (B) an alpha-olefinic carboxylic acid selected from the class consisting of acrylic, methacrylic, ethacrylic, phenyl acrylic, crotonic, itaconic, glutaconic, and maleic, and (C) an ester of said alpha olefinic carboxylic acids and a saturated aliphatic monohydric alcohol having 1–12 carbon atoms, the weight ratio of (A) to (C) being within the range 30:70 to 60:40, and (B) being present in an amount corresponding to 1.5% to 15% of the total weight of said monomer mixture, said impregnated sheet surface coated with a composition consisting essentially of said polymeric reaction product and a phenol-formaldehyde resin.

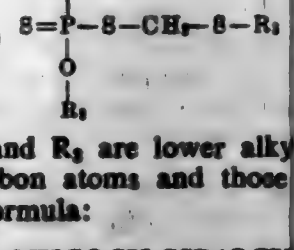
2,970,080
INSECTICIDE FORMULATIONS

Nicholas R. Oros, Trenton, and Richard D. Vartanian, Bound Brook, N.J., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Apr. 29, 1959, Ser. No. 809,614
6 Claims. (Cl. 167—22)

1. A stabilized insecticidal composition comprising a finely-divided solid carrier selected from the group consisting of kaolin clays, montmorillonite clays and attapulgite clays and an organic phosphate insect toxicant selected from the group consisting of those compounds represented by the formula:

(I)



wherein R_1, R_2 and R_3 are lower alkyl radicals of not more than 4 carbon atoms and those compounds represented by the formula:

(II) $\text{Alk-NHCOCH}_2\text{SSP(OCH}_3)_2$

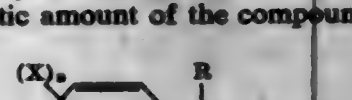
wherein Alk is an alkyl radical selected from the group consisting of methyl, ethyl, n-propyl, i-propyl and t-butyl and an effective amount of a polyalkylene glycol to prevent deactivation of said toxicant by said carrier, said polyalkylene glycol being selected from the group consisting of ethylene glycol, propylene glycol, butylene glycol, diethylene glycol, triethylene glycol and polyethylene glycol and being present to the extent of from about 1 to about 20% based on the weight of the carrier.

2,970,081
MYCOBACTERIOSTATS

Ernest Bryson McCall, Llangollen, Wales, and David Alexander Lindsay Seiler, Burnham, England, assignors to Monsanto Chemicals Limited, London, England, a British company

No Drawing. Filed July 31, 1958, Ser. No. 752,202
10 Claims. (Cl. 167—30)

1. A solid oranic composition selected from the group consisting of soaps, waxes, and plastics which have therein a bacteriostatic amount of the compound of the structure



wherein X is a halogen atom and R, R′, and R″ are selected from the group consisting of alkyl groups having up to 4 carbon atoms and halo substituted alkyl radicals of which the alkyl radical has up to 4 carbon atoms; wherein *m* and *n* are integers from zero (0) to two (2); and wherein M is an atom selected from the group consisting of hydrogen and salt forming metals.

2,970,082
ALUMINUM NICOTINATE COMPOSITIONS FOR HYPERCHOLESTEREMIA

Joseph P. Miale, New Rochelle, N.Y., assignor to Walker Laboratories, Inc., Mount Vernon, N.Y., a corporation of New York

No Drawing. Filed Oct. 7, 1958, Ser. No. 765,724
4 Claims. (Cl. 167—65)

1. An article of manufacture for the control of hypercholesteremia which comprises in dosage unit form an amount ranging from 50 to 2000 milligrams of aluminum nicotinate associated with a pharmaceutically acceptable carrier.

2,970,083
TWO PHASE DEODORANT-ANTIPERSPIRANT STICK

Saul A. Bell, Nutley, N.J., assignor, by mesne assignments, to Chesebrough-Pond's, Inc., New York, N.Y., a corporation of New York

No Drawing. Filed Mar. 6, 1958, Ser. No. 719,491
5 Claims. (Cl. 167—90)

1. A deodorant-antiperspirant stick comprising a solid antiperspirant core, said core comprising soap solidified alcohol and including a soap-compatible antiperspirant aluminum salt, and said core being surrounded by a solid

deodorant stick body comprising soap-solidified alcohol and including a soap-compatible skin antiseptic deodorant and perfume.

2,970,084

PRODUCTION OF CITRIC ACID BY FERMENTATION

Leonard B. Schweiger, Elkhart, Ind., assignor to Miles Laboratories, Inc., Elkhart, Ind., a corporation of Indiana

No Drawing. Filed Jan. 21, 1958, Ser. No. 710,202
8 Claims. (Cl. 195—36)

1. In the production of critic acid by submerged fermentation with *Aspergillus niger* of a medium prepared with organic nutrient derived from an impure carbohydrate source and containing not less than 0.2 part of iron per million parts of said medium, the method of controlling the cellular metabolism of said *Aspergillus niger* which comprises incorporating in said medium ionic copper in an amount between about 0.1 and about 500 parts per million parts of said medium, the entire amount of said copper being incorporated in said medium prior to the expiration of the initial growth period of said *Aspergillus niger*.

2,970,085

PREPARATION OF 11,17-DIHYDROXY STEROIDS

Eugene L. Dulaney, Metuchen, and William J. McAleer, Roselle, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Feb. 5, 1957, Ser. No. 638,227
6 Claims. (Cl. 195—51)

1. A process for the production of oxygenated steroids, which comprises subjecting a 11,17-desoxy pregnene under aerobic conditions for at least 48 hours to the action of an oxygenating enzyme produced by an oxygenating strain of a microorganism of the species *Dactylium dendroides* to produce the corresponding 11α,17α-dihydroxy pregnene and recovering said 11α,17α-dihydroxy steroid.

2,970,086

METHOD OF MAKING DEXTROSE USING PURIFIED AMYLOGLUCOSIDASE

Ralph W. Kerr, Riverside, Ill., assignor to Corn Products Company, a corporation of Delaware

No Drawing. Filed Dec. 30, 1957, Ser. No. 705,819
3 Claims. (Cl. 195—66)

1. In a process for producing dextrose from starch wherein the starch in aqueous system is hydrolyzed with an amyloglucosidase containing enzyme preparation to maximal D.E. and true dextrose contents, the hydrolyzate is clarified, concentrated by evaporation, and allowed to crystallize, and the crystallized dextrose is separated from the mother liquor, the improvement which consists in hydrolyzing the starch with an amyloglucosidase containing enzyme preparation which has been purified by treating an aqueous solution of said preparation with about 2 to about 5 percent of a water insoluble hydrous synthetic magnesium silicate, at a pH of about 3.8 to about 4.5, the mixture centrifuged and the liquid phase containing the amyloglucosidase is recovered; said hydrolysis resulting in a final hydrolyzate which has maximal D.E. values of about 95 to 96 percent and maximal true dextrose contents of about 93 to 94 percent, dry basis.

2,970,087

HYDROXYLATING 12a-DEOXYTETRACYCLINE WITH ASCOMYCETEAE

Donald Beck, Mystic, and Gilbert M. Shull, Old Lyme, Conn., assignors to Chas. Pfizer & Co., Inc., Brooklyn, N.Y., a corporation of Delaware

No Drawing. Filed June 9, 1960, Ser. No. 34,886
7 Claims. (Cl. 195—80)

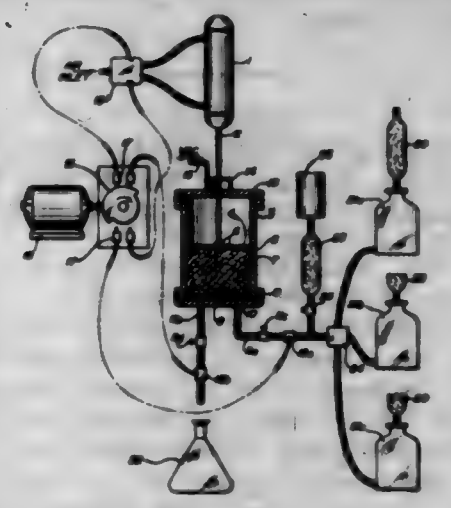
1. A process for the 12a-hydroxylation of a 12a-deoxy derivative of a tetracycline antibiotic which comprises contacting said derivative with the oxygenating activity of an Ascomycete selected from the group consisting of *Sporormia minima* and *Thielavia terricola*.

2,970,088

METHOD FOR THE CULTIVATION OF MICROORGANISMS

Robert R. Freeman, Pikesville, Md., assignor to the United States of America as represented by the Secretary of the Army

Filed Jan. 16, 1959, Ser. No. 787,312
5 Claims. (Cl. 195—142)
(Granted under Title 35, U.S. Code (1952), sec. 266)



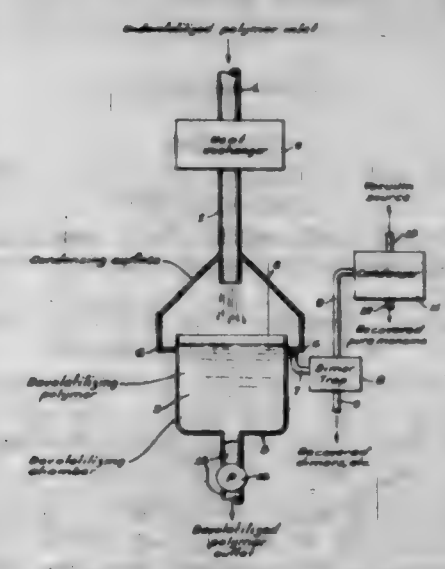
1. A process for the production of microorganisms which comprises the steps of saturating a sponge with a nutrient, removing the excess nutrient from the sponge so as to leave a coating of nutrient on the porous surfaces of said sponge, introducing inoculum to said sponge, draining excess inoculum, maintaining proper temperature and humidity during the incubation time, and removing from said sponge the microorganisms produced thereby.

2,970,089

DEVOLATILIZING POLYMERIC COMPOSITIONS

Wilson W. Hunt, Samuel G. Ladington, and James L. Amos, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed Jan. 9, 1957, Ser. No. 633,318
6 Claims. (Cl. 202—69)



1. The method for devolatilizing an undevolatilized liquid polymer composition that contains unpolymerized monomer and fugacious low molecular weight polymers among its volatile constituents which comprises feeding the undevolatilized polymer composition at a devolatilizing temperature into an enclosed devolatilizing chamber

having an overhead condensing surface therein; maintaining the condensing surface in said chamber at a temperature that, under the effective pressure that is present in said chamber, is greater than the condensing temperature of the monomer in the volatile constituents escaping from the polymeric composition being devolatilized but not in excess of a condensing temperature for the fugacious low molecular weight polymers in said escaping volatile constituents under said pressure in said chamber; withdrawing substantially pure monomer vapors from said chamber; withdrawing from said condensing surface in said chamber, as a liquid, the low molecular weight polymers that have been condensed from said volatile constituents; and withdrawing devolatilized polymer product from said chamber.

2,970,090

PLATING NICKEL ON ALUMINUM

James C. Withers, Fairfax, and Paul E. Ritt, Jr., Vienna, Va., assignors to Melpar, Inc., Falls Church, Va., a corporation of New York

No Drawing. Filed July 2, 1958, Ser. No. 746,867
3 Claims. (Cl. 204—33)

1. In a method of depositing an electroplate of a nickel group metal upon articles of aluminum and aluminum-base alloys, the steps which include degreasing the article; rinsing in water; subjecting the article to two etching actions, the first, dipping in hydrofluoric acid, rinsing in water, and the second, dipping in a solution of hydrochloric acid containing manganous sulfate, the total etching time varying from 10 to 80 seconds, rinsing in water; cathodically treating the article in an aqueous nickel bath comprising nickel sulfate, magnesium sulfate, ammonium chloride, and boric acid and subjecting the bath to a current density of circa 15 amperes per square foot for a period of approximately 10 minutes, electrodepositing a layer of nickel on the article and controlling the electrodeposition to produce a thickness which ranges from 0.0001 inch to 0.0005 inch; rinsing in water and then partially drying with an air blast; heat treating the composite plated article at a temperature of about 1000° F. for a period of 2½ to 5 minutes; then removing the light blue oxide that forms thereon during the heat treating step by anodically treating the composite plated article in a solution of sodium hydroxide and sodium carbonate; rinsing in water; subjecting the composite plated article to a reverse current treatment in sulfuric acid; rinsing in water; and thereafter electrically depositing a metal upon the composite plated article other than nickel.

2,970,091

METHOD OF ALLOYING ALUMINUM AND COPPER

Dean K. Hanink, Indianapolis, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

No Drawing. Filed Sept. 10, 1957, Ser. No. 683,008
2 Claims. (Cl. 204—38)

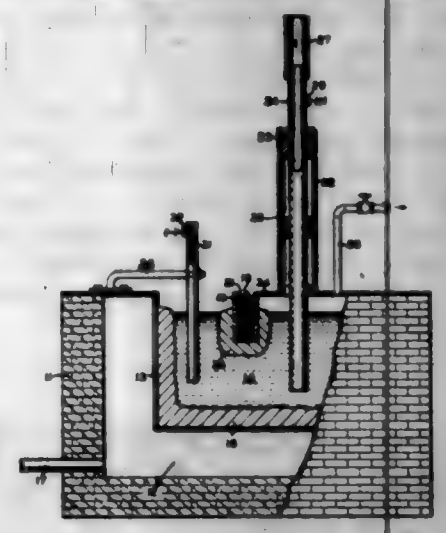
1. The method of forming a copper-aluminum alloy coating on the surface of a metal article which comprises the steps of applying a copper coating having a thickness of about 0.0005 inch to 0.003 inch to a surface of a metal article, applying to said copper coating a fused salt bath comprising, by weight, approximately 0.5% to 12% aluminum fluoride, 8% to 20% cryolite, 25% to 45% potassium chloride and 37% to 57% sodium chloride, said fused salt bath being at a temperature of approximately 1250° F. to 1600° F., inducing a negative potential on said article while it is in contact with said bath so as to electrodeposit aluminum onto said copper coating, the amount of aluminum so deposited not exceeding that which will alloy completely with the copper, diffusing said aluminum into said copper to completely alloy it therewith, cooling said article and removing any residual salts from the surface thereof.

2,970,092

PROCESS FOR THE PRODUCTION OF FLUORINE-CONTAINING COMPOUNDS

Kenneth J. Radimer, Little Falls, N.J., assignor, by mesne assignments, to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

Filed Apr. 24, 1956, Ser. No. 580,259
18 Claims. (Cl. 204—62)



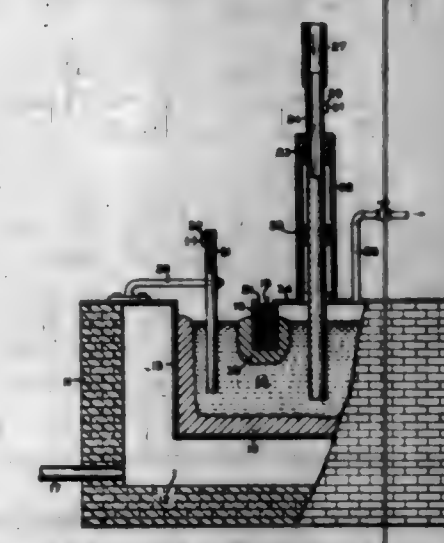
1. A novel process for the electrolytic production of a fluorobromocarbon which comprises electrolyzing a substantially oxygen free melt of an inorganic compound of fluorine containing at least one metal constitutent in contact with a cathode and a carbon anode, and introducing, as the sole remaining reactant, gaseous molecular bromine into the melt in the vicinity of the anode to produce a fluorobromocarbon and recovering the fluorobromocarbon thereby produced as a product of the process.

2,970,093

PROCESS FOR THE PRODUCTION OF FLUORINE-CONTAINING COMPOUNDS

William E. Hanford, Short Hills, N.J., assignor, by mesne assignments, to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

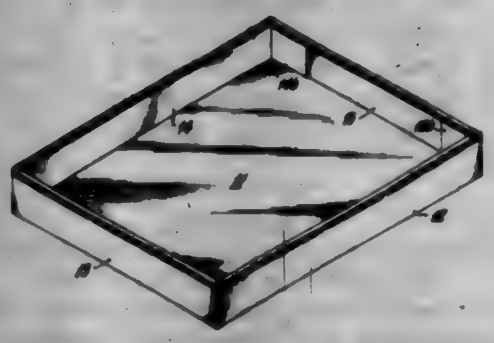
Filed Apr. 24, 1956, Ser. No. 580,277
16 Claims. (Cl. 204—62)



1. A novel process for the electrolytic production of a fluorohalocarbon which comprises electrolyzing a substantially oxygen free melt of an inorganic compound of fluorine containing at least one metal constituent in contact with a cathode and an anode comprising carbon and simultaneously introducing as the sole remaining reactant

a gaseous molecular halogen other than fluorine into the melt in the vicinity of the anode to produce a fluorohalocarbon and recovering the fluorohalocarbon thereby produced as a product of the process.

2,970,094
ROLLED EDGE METAL CONTAINERS
Patrick H. Reardon, 970 Club Road, Hagerstown, Md.
Filed June 3, 1960, Ser. No. 33,831
2 Claims. (Cl. 220—62)

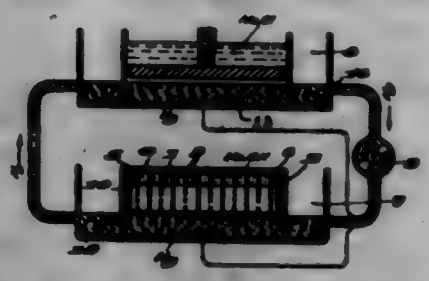


2. In a sheet metal structure having a sheet and walls separate from each other but integral with said sheet and extending at right angles therefrom, a corner construction comprising a tab projecting at an angle from one of said integral walls in overlapping relation to the inner face of an adjacent integral wall, said one wall, said adjacent wall, and said overlapping tab each having its edge portion remote from said sheet rolled inwardly to substantially circular section to form a hollow bead to hide the sharp edges of sheet metal, the rolled edge of said adjacent wall overlying and enveloping the rolled edge portion and the edge of said tab to hold said adjacent wall and tab against relative movement in any direction, said rolled edge portion of said one wall and of said adjacent wall abutting to define a mitered corner therebetween without substantial interruption of the continuity of the bead.

ERRATUM

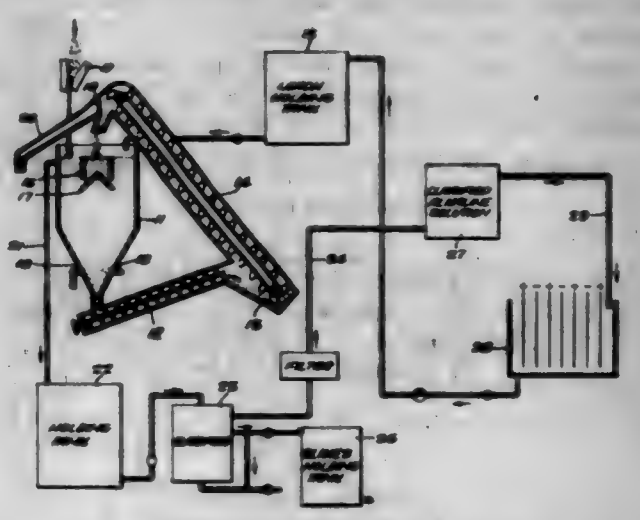
For Class 220—62 see:
Patent No. 2,970,094

2,970,095
METHOD AND APPARATUS FOR ELECTROLYTIC DECOMPOSITION OF AMALGAMS
Ludwig Knadler, 18 Brautigamstr., Munich-Solln, Germany, and Hans Vogt, Erlau, near Passau, Germany
Filed Oct. 3, 1955, Ser. No. 538,126
Claims priority, application Germany Oct. 7, 1954
15 Claims. (Cl. 204—99)



1. In an alkali-metal-chloride electrolysis process wherein an alkali metal chloride solution is electrolyzed in a primary cell having a graphite anode and a mercury cathode to form chlorine gas and an alkali metal amalgam, said amalgam being conducted to a secondary amalgam decomposition cell containing a hydroxide electrolyte and having a depolarization electrode from which hydrogen is liberated, said amalgam serving in said decomposition cell as an amalgam electrode at which the amalgam is decomposed to form alkali-metal ions and alkali-metal-free mercury, said alkali-metal-free mercury being returned to said primary cell for reuse as the mercury cathode thereof; the method of causing said decomposition cell to function as a voltage source to produce electrical energy to assist in the electrolysis of the solution in the primary cell, which comprises the steps of connecting the negative terminal of a direct-current voltage source to the depolarization electrode of said decomposition cell, connecting the positive terminal of said direct-current voltage source to the graphite anode of said primary cell, electrically connecting the amalgam electrode of said decomposition cell to the mercury cathode of said primary cell so that said decomposition cell will be connected as a current-supplying galvanic cell in series with said primary cell and said direct-current voltage source, and using as the depolarization electrode of said decomposition cell an electrode having a porous sintered electrically-conductive surface, said sintered surface consisting of at least one substance selected from the group consisting of nickel powder and iron powder.

2,970,096
PROCESS AND APPARATUS FOR TREATING OXIDIZED COPPER ORES
Frank E. Horton, Tucson, Ariz., assignor to Banner Mining Company, Tucson, Ariz., a corporation of Nevada
Filed June 26, 1958, Ser. No. 744,779
3 Claims. (Cl. 204—106)

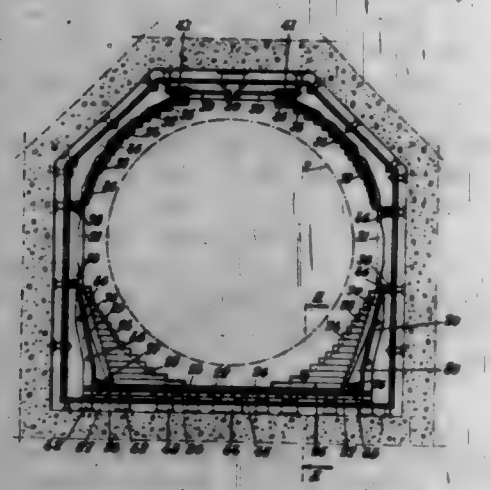


1. The method of extracting copper and preparing an electrolyte from oxidized copper ore particles containing substantial amounts of chrysocolla which ore particles are unsuitable for acid leaching because of the presence of calcium and/or magnesium carbonates, which method comprises leaching the ore particles with a water solution of one of the group consisting of sodium hydroxide and potassium hydroxide of a concentration of between 5 and 10 normal, thus producing a solution containing cuprate anions, and scrubbing the ore particles during the leaching to remove therfrom silica gels thus continually exposing the surfaces of the ore particles to continued leaching.

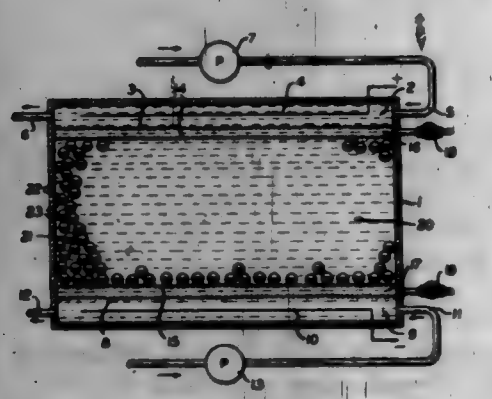
2,970,097
NUCLEAR REACTORS INCLUDING HORIZONTAL GRAPHITE BARS
Lazare Henri Correc, Paris, France, assignor to Commissariat a l'Energie Atomique, Paris, France, a society of France
Filed June 12, 1956, Ser. No. 590,920
Claims priority, application France June 16, 1955
16 Claims. (Cl. 204—193.2)

1. In a nuclear reactor which includes a graphite block formed by a plurality of juxtaposed contiguous parallel rows of horizontal graphite bars disposed end to end in pairs which are in line with one another, with an interval between their adjacent ends, said rows forming

the block, all the intervals in said pairs of rows of bars being in register so as to form a vertical gap extending transversely to said block, said block being provided with a plurality of horizontal channels parallel to said rows of bars for housing slugs of fissionable material, said reactor further including a shielding structure fixed to the ground surrounding said graphite block; a plurality of struts interposed between the rows of bars disposed on opopsite sides of said gap respectively, and resilient means interposed between said shielding structure and the ends of said rows located near said shielding structure, said resilient means being strong enough to overcome the friction forces existing between the bars of each row and the rows of bars adjoining said row.



2,970,098
ELECTRODIALYSIS APPARATUS
Cecil B. Ellis, 104 Grandview Ave., White Plains, N.Y.
Filed Nov. 4, 1957, Ser. No. 694,375
17 Claims. (Cl. 204—301)

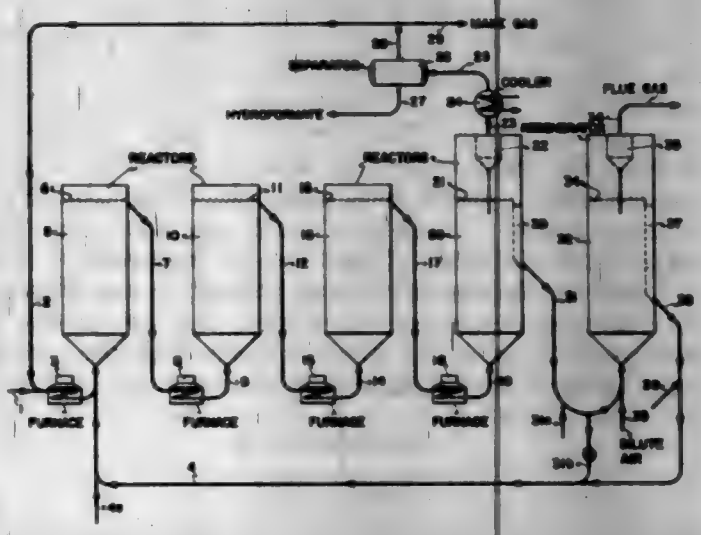


1. Electrodialytic liquid treatment apparatus comprising an electrodialytic cell having a pair of spaced electrodes, and a space for liquid treatment between the electrodes, a plurality of closed capsules disposed within the said space between electrodes and substantially filling the said space, the said capsules being of small size in all dimensions compared to the said space, and being so arranged that a line of current flow between electrodes passes through a plurality of such capsules and an equipotential surface also passes through a plurality of such capsules, each such capsule comprising opposed wall portions which are respectively selectively anion permeable and selectively cation permeable, the said capsules being arranged so that the anion permeable wall portions face toward one said electrode and the cation permeable wall portions face toward the other said electrode.

2,970,099
ALKYLATED ASPHALT COMPOSITION CONTAINING LUBRICATING OIL AND ALKYLATED ASPHALTENES
John C. Illman, El Cerrito, Calif., assignor to Shell Oil Company, a corporation of Delaware
No Drawing. Filed June 26, 1958, Ser. No. 744,645
6 Claims. (Cl. 208—23)

1. As a new composition of matter an asphalt comprising 5 to 50% by weight of an asphaltene fraction having a carbon-to-hydrogen atomic ratio between about 0.72 and about 0.84, said asphaltene being alkylated with 1–20 alkyl radicals per molecule, each alkyl radical having 16–40 carbon atoms and 95–50% by weight of non-asphalenic petroleum components having a boiling range at least as high as petroleum lubricating oil.

2,970,100
MECHANICAL STAGING OF DILUTE FLUID PLATINUM REACTOR BED
Karsten Herbert Moritz, East Baton Rouge, La., assignor to Esso Research and Engineering Company, a corporation of Delaware
Filed May 29, 1959, Ser. No. 816,838
10 Claims. (Cl. 208—65)

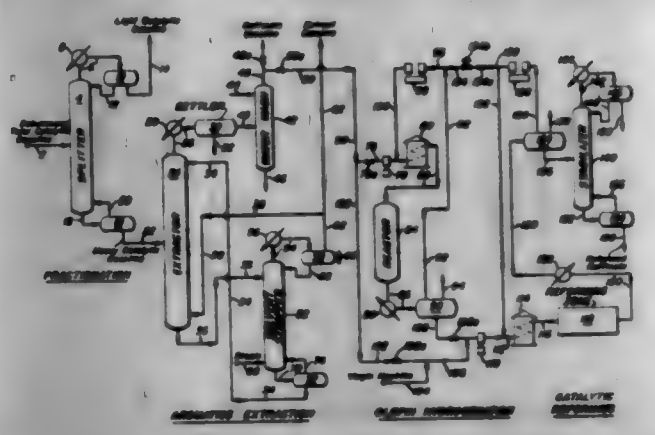


1. An improved method for effecting the catalytic conversion of hydrocarbons in a number of reaction zones in series which comprises supplying finely divided solid catalyst particles and vaporous reactants to the bottom of each reaction zone of the series controlling the superficial velocity of the reactant vapors through each reaction zone so that the majority of the solid catalyst particles in said reaction zones assume, under hindered settling, the form of a dense, turbulent, liquid-simulating bed having a defined surface level, withdrawing the vaporous reaction products and finely divided catalyst particles from the surface of the dense bed in each of the reaction zones except the last of the series and supplying the same to the bottom of the next reaction zone of the series, withdrawing solid catalyst particles essentially free of reactants from the dense bed in the last reaction zone of the series and separately withdrawing vaporous reaction products essentially free of catalyst particles overhead from the last of said reaction zones.

2,970,101
PREPARATION OF HIGH OCTANE NUMBER MOTOR FUEL BLENDING STOCKS
Carl C. Georgian, La Marque, Tex., assignor to The American Oil Company, Texas City, Tex., a corporation of Texas
Filed May 7, 1958, Ser. No. 733,695
24 Claims. (Cl. 208—70)

1. A process for producing high octane gasoline blending stocks from catalytic cracked gasoline which com-

prises fractionally distilling the cracked gasoline to obtain a light component substantially entirely boiling below 200° F. and having an octane number higher than the original catalytic cracked gasoline, and a heavy component substantially entirely boiling above about 200° F. and having an octane number lower than the original catalytic cracked gasoline, subjecting the heavy component to selective extraction to separate a high octane



aromatics rich extract from a low octane predominantly aliphatic raffinate, the volume of extract plus light high octane component being not more than about 77 percent of the catalytic cracked gasoline, and the extract alone comprising at least 40 volume percent of the heavy component, and subjecting the predominantly aliphatic raffinate to catalytic hydroforming in the presence of hydrogen gas and a catalyst effective to dehydrocyclize paraffins.

2,970,102

HYDROCRACKING CATALYST AND PROCESS FOR HYDROCRACKING OF HYDROCARBONS WITH SAID CATALYST COMPOSITE

Lloyd E. Gardner, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed July 3, 1958, Ser. No. 746,339
21 Claims. (Cl. 208—112)

16. A process for hydrocracking a gas oil boiling in the range of 350–1100° F. which comprises contacting said gas oil under hydrocracking conditions with a catalyst comprising the oxides of tungsten and potassium deposited on porous active alumina activated by treatment with a sulfiding gas at an elevated temperature.

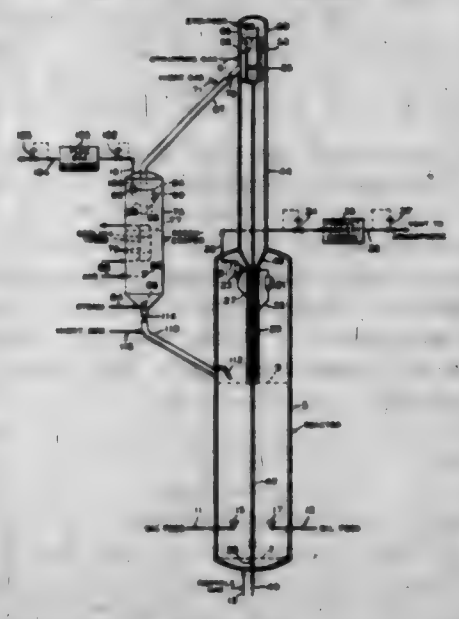
2,970,103

MINIMIZING PRESSURE SURGES IN A FLUIDIZED HYDROCARBON CONVERSION PROCESS

Joseph W. Jewell, Summit, N.J., assignor to The M. W. Kellogg Company, Jersey City, N.J., a corporation of Delaware

Original application July 1, 1953, Ser. No. 365,435, now Patent No. 2,891,907, dated June 23, 1959. Divided and this application Sept. 22, 1958, Ser. No. 762,370
5 Claims. (Cl. 208—164)

5. A hydrocarbon conversion process which comprises contacting a hydrocarbon reactant in the presence of hydrogen with a dense bed of finely divided solid contact material in a reaction zone at superatmospheric pressure to produce a vaporous reaction product, withdrawing a portion of said product from said reaction zone, passing the product thus withdrawn through a first transfer zone into a product recovery system, variably constricting said first transfer zone at a point between said reaction zone and said product recovery system to impose a pressure drop upon the system, withdrawing products from said recovery system through a second transfer zone, and variably constricting said second transfer zone at a point between said product recovery system and the point of product withdrawal from said second transfer zone to impose a pressure drop upon the system greater than that imposed by the constriction of said first transfer



zone and whereby the effect of pressure surges is significantly minimized.

2,970,104

METHOD FOR IMPROVING THE ODOR OF HYDROCARBON DISTILLATES WITH LEAD DIOXIDE

Robert W. Snyder, Sheffield Lake, and Richard J. De Gray, Shaker Heights, Ohio, assignors to The Standard Oil Company, Cleveland, Ohio, a corporation of Ohio

No Drawing. Filed June 25, 1957, Ser. No. 667,992
1 Claim. (Cl. 208—295)

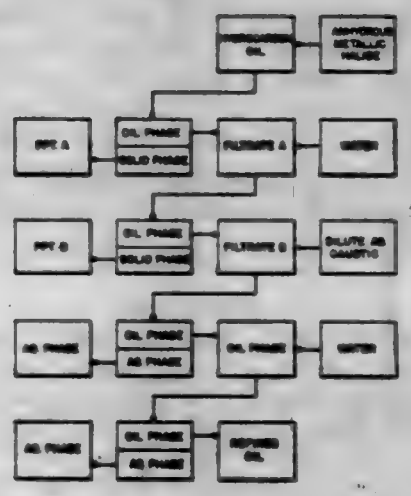
A process for improving the odor of a petroleum naphtha, boiling in the range between about 100 to about 400° F. and having a normally unpleasant odor, consisting of the step of contacting said naphtha in the liquid phase at a temperature of about 70° F. with a bed of lead dioxide in solid particle form so that the contact time is about 60 to about 120 minutes, whereby the odor of said naphtha is ameliorated.

2,970,105

TREATMENT OF HYDROCARBON OILS

Albert C. Condo, Jr., Newtown Square, and James B. Hunter, Havertown, Pa., assignors to The Atlantic Refining Company, Philadelphia, Pa., a corporation of Pennsylvania

Filed Aug. 11, 1958, Ser. No. 754,271
7 Claims. (Cl. 208—295)



1. A process for refining hydrocarbon oils which comprises treating said hydrocarbon oils with an anhydrous metallic halide wherein an oil phase and a solid phase

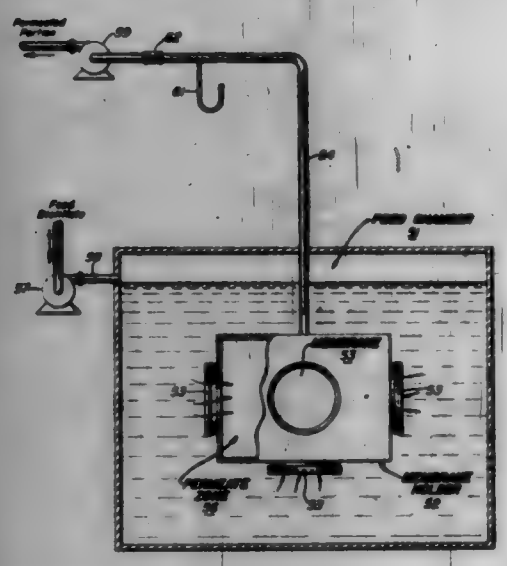
are formed, separating the solid phase from the oil phase, adding to the oil phase a critical amount of water, said amount of water having been previously determined by titration of an aliquot portion of the hydrocarbon oil to be treated with water until a maximum amount of precipitate is formed, which amount of precipitate is shown to be a maximum by the continuance of the titration of the aliquot portion of the hydrocarbon oil with water until the subsequent disappearance of the precipitate formed, to cause the formation of a second solid phase and an oil phase, separating said second solid phase from the oil phase, washing the oil phase with a dilute aqueous caustic solution to form an oil phase and an aqueous phase, separating the oil phase from the aqueous phase, washing the oil phase with water and recovering a refined oil product.

2,970,106

AROMATIC SEPARATION PROCESS

Robert C. Binning, Texas City, and Walker F. Johnston, Jr., La Marque, Tex., assignors to The American Oil Company, Texas City, Tex., a corporation of Texas

Filed Jan. 31, 1958, Ser. No. 712,450
12 Claims. (Cl. 208—347)



1. A process which comprises contacting a distillate charge aromatics-containing hydrocarbon mixture having a definite boiling range with one side of a plastic permeation membrane which preferentially permeates aromatics and non-aromatics separable therefrom by distillation, permeating a portion of the charge mixture through said membrane, said permeated portion comprising aromatics and reduced concentration of closely boiling non-aromatics, separately recovering permeated and non-permeated portions having higher and lower concentrations of aromatics respectively than the charge mixture, and distilling the permeated portion to separate a lower boiling fraction from a higher boiling fraction which higher boiling fraction has a higher concentration of aromatics than the permeated portion which is passed to the distillation step and a higher concentration of aromatics than could be obtained by only distilling the distillate charge.

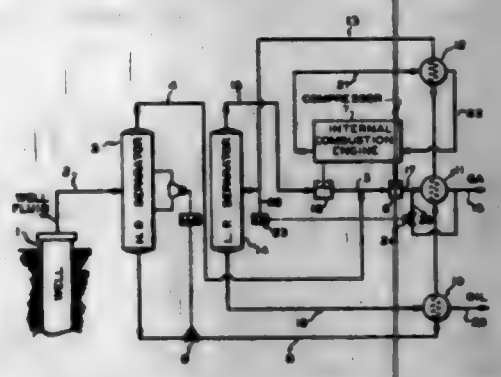
2,970,107

STABILIZATION OF OIL WELL FLUID

Forrest E. Gilmore, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed May 20, 1955, Ser. No. 509,850
6 Claims. (Cl. 208—361)

1. A method for stabilizing crude oil well fluid as it comes from a well at a pressure greater than about 30 to 100 p.s.i.g. comprising reducing the pressure on said crude oil to a pressure within about 30 to 100 p.s.i.g. in a first flashing operation, separating first flashed vapors from a first residue liquid, heating the first residue liquid and further reducing the pressure thereon to about 0 to 5 p.s.i.g. in a second flashing operation, separating second flashed vapors from a second residue liquid, compressing the first and second flashed vapors in an internal combustion engine powered compressor whereby in this compression operation the flashed vapors are heated and the engine coolant is also heated, said heating the first residue liquid being by indirect heat exchange with the compressed and heated flashed vapors and with the heated coolant from said engine, and removing the flashed vapors and the heat exchanged second residue liquid as products.



2,970,108

DRY, FREE FLOWING CONCENTRATE FOR PREPARING A CASING PACKER FLUID

Sam I. Kohen, Houston, Tex., assignor to Magnet Cove Barium Corporation, Houston, Tex., a corporation of Arkansas

No Drawing. Filed Mar. 26, 1956, Ser. No. 573,606
1 Claim. (Cl. 252—8.55)

A dry, free flowing concentrate for preparing a casing packer fluid comprising vegetable pitch dispersed on expanded perlite, said perlite being present in an amount sufficient to render the resulting admixture dry and free flowing and to provide a pitch to perlite weight ratio within the range of 1:5 to 1:1.5.

2,970,109

CAR WHEEL LUBRICANT COMPOSITION IN SOLID STICK FORM

Joseph F. May, 5938 Enright Ave., St. Louis, Mo.

No Drawing. Filed Jan. 12, 1956, Ser. No. 558,608
1 Claim. (Cl. 252—30)

A car wheel lubricating composition in solid stick form comprising, in combination, 80% to 95% of graphite, 6⅔% to 2½% of sulphur, and 13⅓% to 2½% of a phenol formaldehyde binder wherein the phenol to formaldehyde ratio is 90% to 95% to 10% to 5%, which has been formed by the thorough admixture of the graphite and sulphur in powdered form and the subsequent addition of the binder admixed with an ammonia catalyst in liquid form to produce a dough which is then solidified under heat and pressure.

2,970,110

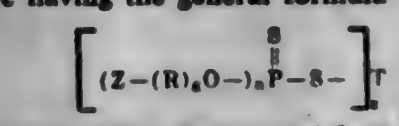
OLEAGINOUS COMPOSITIONS CONTAINING THIOPHOSPHORYL DERIVATIVES

Ellis Kirby Fields, Chicago, Ill., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana

No Drawing. Original application May 16, 1956, Ser. No. 585,158, now Patent No. 2,881,196, dated Apr. 7, 1959. Divided and this application Sept. 22, 1958, Ser. No. 762,218
12 Claims. (Cl. 252—32.7)

1. A lubricant composition comprising a major proportion of an oleaginous compound and from about 0.05% to about 10% of the total composition of a thiophos-

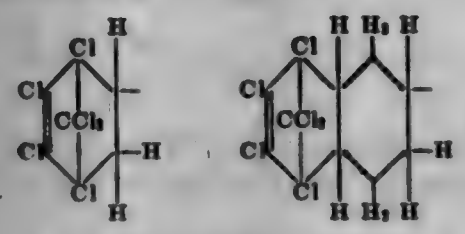
phoryl derivative selected from the group consisting of a derivative having the general formula



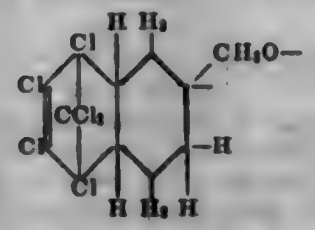
and a derivative having the general formula

$$(Z-(R)_g O-)_3 P=S$$

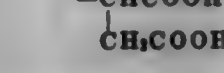
in which Z represents a hexachloro group selected from the class consisting of



and



R is an alkylene radical of from 1 to 11 carbon atoms, *g* is an integer of the group consisting of 0 and 1, *n* is an integer of the group consisting of 1 and 2, T is a constituent selected from the group consisting of hydrogen, a metal, a primary amine radical of from about 8 to about 18 carbon atoms, and the succinic acid radical



and *x* is an integer equivalent to the valence of T.

2,970,111

METHOD OF PRODUCING A ROD OF LOW-OHMIC SEMICONDUCTOR MATERIAL

Arnulf Hoffmann, Wolfgang Keller, and Konrad Reuschel, Pretzfeld, and Theodor Rummel, Munich, Germany, assignors to Siemens-Schuckertwerke Aktiengesellschaft, Berlin-Siemensstadt, Germany, a corporation of Germany

No Drawing. Filed Sept. 21, 1959, Ser. No. 841,026
Claims priority, application Germany Sept. 20, 1958
12 Claims. (Cl. 252—62.3)

11. A method for producing a rod of low-ohmic semiconductor material, for electrical semiconductor devices, having a predetermined conductance obtained by controlled doping, comprising subjecting a rod of previously measured impurity concentration to zone melting with simultaneously continuous relative drawing apart of the rod ends to thin it to provide a semiconductor rod of smaller cross section, precipitating upon the rod relatively purer semiconductor material of the same substance as the rod until the thickened cross section is a multiple of the original cross section and corresponds to the desired reduction ratio of the impurity concentration, the impurity concentration of the semiconductor rod thus thickened being thereafter distributed over the entire rod cross section by zone melting, the rod being thinned by drawing apart in the melting, precipitating said relatively purer semiconductor material on the thus thinned rod, and distributing the impurity concentration over the entire resulting cross section by zone melting, the rod ends being drawn apart relatively to again thin the rod, the semiconductor material being silicon, the precipitation being by decomposing a gaseous mixture of hydrogen and a halogenide of silicon passed in contact with the rod, the rod being heated to decompose the gas mixture to silicon by passage of an electric current through the rod.

2,970,112

FERROMAGNETIC MATERIALS WITH RECTANGULAR HYSTERESIS CYCLE AND METHOD FOR THEIR MANUFACTURE

André Pierrot, Yves C. E. Lescroel, and Bogdan Grabowski, all of Conflans Ste.-Honorine, France, assignors to Lignes Telegraphiques and Telephoniques, Paris, France

Filed Apr. 10, 1956, Ser. No. 577,327
Claims priority, application France May 3, 1955
8 Claims. (Cl. 252—62.5)

5. A ferromagnetic body of a ferrite type resulting from the process of compressing a homogeneous mixture of fine powders of metallic oxides and subjecting the mixture so compressed to a heat treatment carried out for 2 to 6 hours at a temperature between 1,200 and 1,300° C. in pure nitrogen with the addition of 0 to 2% by volume of oxygen, slowing cooling the compressed mixture for about 15 hours in an inert atmosphere, the said mixture being composed of ferric oxide, of manganese and cobalt oxides and oxide of zinc wherein in the said mixture the sum of the molecular percentage of the manganese oxide, conventionally related to the number of atoms of manganese and the percentage of cobalt oxide is between 22 and 47, the molecular percentage of cobalt oxide is between 1 and 6, the molecular percentage of zinc is between 0 and 25 and the molecular percentage of ferric oxide is between 50 and 56%, said ferric oxide varying between 53 and 56% when the zinc oxide is 0% and between 50 and 53% when 25% zinc oxide is used, the relationship of the ferric oxide to the zinc oxide varying linearly between these values whereby there is produced a rectangular hysteresis cycle such that the ratio of remanent flux density to maximum flux density is at least 0.80 for a maximum magnetising field between 5 and 10 oersteds.

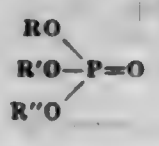
2,970,113

STABILIZATION OF 1,1,1-TRICHLOROETHANE

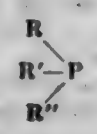
Howard J. Bachtel, Lake Jackson, Tex., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed May 31, 1957, Ser. No. 662,576
11 Claims. (Cl. 252—171)

1. A composition of matter consisting essentially of methyl chloroform containing a minor amount of 1,4-dioxane sufficient to stabilize the methyl chloroform against metal-induced decomposition and having dissolved therein a stabilizing amount, sufficient to stabilize the methyl chloroform containing the 1,4-dioxane against decomposition of the methyl chloroform in the presence of mineral oil, of an organic phosphorus compound selected from a group consisting of phosphates having the general formula:



and phosphines having the general formula:



wherein R and R′ are members of the group consisting of alkyl radicals containing atom 1 to 16 carbon atoms, the phenyl radical, and alkyl phenyl radicals having alkyl substituents of from 1 to 7 carbon atoms and wherein R″ is a member of the group consisting of hydrogen alkyl radicals containing from 1 to 16 carbon atoms, the phenyl radical, and alkyl phenyl radicals having alkyl substituents of from 1 to 7 carbon atoms.

2,970,114
STABILIZED AQUEOUS SOLUTIONS OF SODIUM BOROHYDRIDE

Robert W. Bragdon, Marblehead, Mass., assignor to Metal Hydrides Incorporated, Beverly, Mass., a corporation of Massachusetts

No Drawing. Filed Jan. 27, 1958, Ser. No. 711,154
4 Claims. (Cl. 252—188)

1. A reducing composition consisting of water, sodium borohydride and at least about 35 percent of sodium hydroxide by weight based upon the weight of the composition, said sodium borohydride and sodium hydroxide being dissolved in said water.

2,970,115
MANGANESE ACTIVATED CADMIUM AND ZINC CARBONATE PHOSPHORS AND THEIR PREPARATION

Paul Arthur, Jr., Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed July 5, 1957, Ser. No. 669,958
17 Claims. (Cl. 252—301.6)

1. Process for preparing a metal carbonate phosphor, which comprises heating at a temperature within the range of 100° to 800° C. and, in the presence of carbon dioxide, a compound selected from the group consisting of carbonates of cadmium and zinc oxides of said metals, hydroxides of said metals, hydrous oxides of said metals, basic carbonates of said metals, and salts of said metals with acids weaker than carbonic, in intimate admixture with an activating manganous compound in an amount equivalent to from 0.01 to 5% by weight calculated as manganous carbonate of the carbonate phosphor, the carbon dioxide pressure in the reaction zone being maintained at a value at least equal to the equilibrium decomposition pressure of manganous carbonate at the temperature of operation and as high as the equilibrium decomposition pressure for zinc carbonate at said temperature of operation when zinc carbonate is also present.

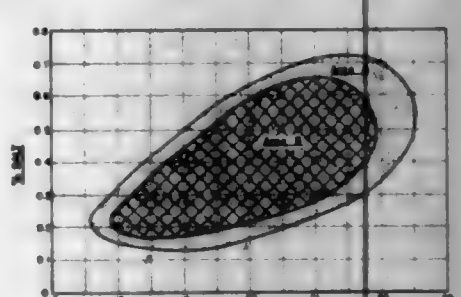
11. A phosphor selected from the class consisting of zinc carbonate and cadmium carbonate which is the product obtained by heating at a temperature within the range of 100° to 800° C. and, in the presence of carbon dioxide, a compound selected from the group consisting of carbonates of cadmium and zinc oxides of said metals, hydroxides of said metals, hydrous oxides of said metals, basic carbonates of said metals, and salts of said metals with acids weaker than carbonic, in intimate admixture with an activating manganous compound in an amount equivalent to from 0.01 to 5% by weight calculated as manganous carbonate of the carbon phosphor, the carbon dioxide pressure in the reaction zone being maintained at a value at least equal to the equilibrium decomposition pressure of manganous carbonate at the temperature of operation and as high as the equilibrium decomposition pressure for zinc carbonate at said temperature of operation when zinc carbonate is also present.

2,970,116
SOAPMAKING PROCESS

William A. Kelly, Teaneck, and Harry D. Hamilton, Montvale, N.J., assignors to Lever Brothers Company, New York, N.Y., a corporation of Maine

Filed July 16, 1957, Ser. No. 672,214
6 Claims. (Cl. 252—368)

1. A process for making a transparent soap bar having a translucency voltage of no greater than about 35, said process comprising working below about 110° F. a toilet soap mass having a very low level of free alkali wherein the mechanical energy is converted into heat energy by working to an extent great enough to cause the mixture to rise in temperature to within a range of from about 100° F. to about 110° F., the moisture and water-soluble, soap-compatible, alkali metal salt content having been adjusted prior to the end of the working step to lie within

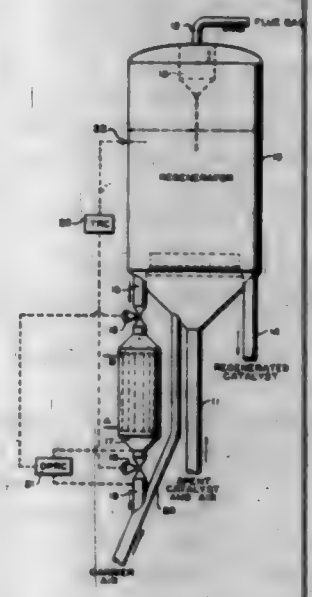


in the combined areas "A" and "B" of the drawing hereof in the finished bar, and plodding the soap mass into bar form.

2,970,117
CATALYST REGENERATION AND APPARATUS THEREFOR

Kenneth A. Harper, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed May 10, 1957, Ser. No. 658,303
4 Claims. (Cl. 252—417)



1. A method for controlling the regeneration of a fluidized catalyst which comprises admixing said catalyst with a regeneration fluid in proportions sufficient to convey said catalyst in a fluidized state and to cause regeneration of the same, passing the fluidized mixture thus obtained into a regeneration zone, in said zone causing regeneration of said catalyst to occur by maintaining in said zone a bed of fluidized mixture under regeneration conditions for a time sufficient that regeneration takes place, removing at least a portion of said fluidized mixture from said zone into a controlled flow transfer zone located below the level of the bed in said regeneration zone, passing fluidized mixture from said controlled flow transfer zone downwardly into and through a catalyst cooling zone and from said cooling zone through a controlled flow outlet zone into another transfer zone, in said last mentioned transfer zone admixing catalyst with a transporting medium, returning the admixture last obtained to said bed, controlling the amount of catalyst flowing from said cooling zone through said outlet zone by operating a flow through said outlet zone responsive to the temperature of the catalyst in the bed in the regeneration zone and controlling the amount of catalyst in said cooling zone by controlling the flow through said controlled flow transfer zone responsive to the pressure differential across said controlled flow outlet zone to

maintain said pressure differential below a predetermined maximum related to the head of catalyst desired to be maintained in said cooling zone.

2,970,118

CELLULAR POLYURETHANE RESIN AND PROCESS OF PREPARING SAME

Christopher L. Wilson, Sloatsburgh, and Henry George Hammon, Piermont, N.Y., assignors to Hudson Foam Plastics Corporation, Yonkers, N.Y., a corporation of New York

No Drawing. Filed July 8, 1954, Ser. No. 442,196
7 Claims. (Cl. 260—2.5)

1. A process for making a resilient, foamed, polyester resinous material comprising mixing together (1) a liquid polyester resin made substantially entirely by the reaction of an acid selected from the group consisting of straight chain saturated aliphatic dicarboxylic acids containing 2 to 8 carbon atoms between the carboxyl groups and saturated aliphatic dicarboxylic acids containing 2 to 8 carbon atoms and up to 2 non-adjacent ether oxygen atoms between the carboxy groups, a polyethylene glycol and an aliphatic polyhydroxy compound containing from 3 to 6 hydroxyl groups, the acid number of said resin being from about 1 to about 25, the sum of the acid and hydroxyl numbers of said resin being from about 40 to about 100 and the hydroxyl groups provided by said aliphatic polyhydroxy compound constituting from about 4.6% to about 21.9% of the total hydroxyl groups provided by said glycol and by said polyhydroxy compound, (2) a mixture of -2,4 and -2,6 toluene diisocyanates wherein the proportion of the -2,6 isomer ranges from about 10% to about 40% of said mixture, (3) a tertiary amine catalyst, and (4) a small amount of water, said mixture of said diisocyanates being substantially in excess of that reactive with the carboxyl and hydroxyl groups of said resin, and said water reacting with said diisocyanates to produce carbon dioxide gas for production of a foam.

2,970,119

POLYESTER-URETHANES DERIVED FROM DIALKYLMALONIC COMPOUNDS AND TEXTILE FABRIC COATED THEREWITH

John R. Caldwell, Kingsport, Tenn., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Feb. 21, 1958, Ser. No. 716,552
17 Claims. (Cl. 260—2.5)

9. In a process for preparing polyester-urethane foam made by the following general procedure comprising (A) reacting together at least the following ingredients (1) a liquid polyester of at least one dicarboxylic compound containing at least 3 carbon atoms and at least one glycol, said polyester having a hydroxyl number of from 30 to 140 and an acid number of from 0 to 15 and a weight average molecular weight of from about 700 to about 3500, (2) at least one organic polyisocyanate, comprising at least 50 mole percent of an organic diisocyanate, the equivalents of said polyester based on its hydroxyl content to said polyisocyanate being from about 2.5 to 5.0 and (3) water, there being from 0.8 to 1.5 equivalents of water for each equivalent of said polyisocyanate in excess of the equivalents of said polyester, said reacting of (1), (2) and (3) being accomplished with agitation for a short period in the presence of an emulsifier composition so as to form a foamed liquid, (B) allowing the foamed liquid reaction mixture to form a solid foamed product shaped according to a space in which it is contained, and (C) curing the foamed product at 50°–100° C., the improvement consisting of employing, as at least 50 mole percent of said dicarboxylic compound, a 2,2-dialkylmalonic compound wherein each alkyl radical contains from 1 to 4 carbon atoms.

2,970,120

FOAMED CARBAMIDE RESINS AND METHOD OF PREPARING SAME

Werner H. Kreidl, New York, N.Y., and Otto Vieli, Razuns, Switzerland, assignors to Vereinigte Chemische Fabriken Kreidl, Rutter & Co., Vienna, Austria, and Spumalit-Anstalt, Vaduz, Liechtenstein

No Drawing. Filed June 3, 1958, Ser. No. 739,481
Claims priority, application Austria June 3, 1957
7 Claims. (Cl. 260—2.5)

1. A process for preparing a resilient and moldable foamed mass of urea-formaldehyde resin having a specific weight of less than 10 kilograms per cubic meter comprising: foaming by blowing air into an aqueous resin product which is prepared by condensing in a first stage of reaction in an alkaline aqueous medium urea, formaldehyde and a basic substance selected from the group consisting of ammonia, triethanolamine and melamine, the ratio of urea to formaldehyde being between 1 mol of urea to 1.5–2.5 mols of formaldehyde, there being present from 0.002 to 0.2 mol of said basic substance per mol of urea, and by completing the condensation in a second stage of reaction with the aqueous medium adjusted to pH of 4–5 whereafter the mixture is neutralized; casting said foamed aqueous product and hardening said product.

2,970,121

MOLDING COMPOSITION COMPRISING A NOVOLAC RESIN, A FURAN DERIVATIVE, AND A FILLER, AND PROCESS FOR MAKING SAME

Robert A. Schmittberger, Annandale, N.J., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed July 3, 1957, Ser. No. 669,697
13 Claims. (Cl. 260—17.2)

1. A thermosetting molding composition comprising filler, a resinous novolac binder, a hardening agent for the novolac, and a furan derivative selected from the group consisting of furfural and furfuryl alcohol, said derivative constituting between about 1 and 7 percent by weight of the composition and said novolac resin binder constituting between about 20 and 68 percent by weight of the composition and containing at least 50 percent by weight thereof of a novolac methylene chained polyphenylol condensation product of phenol and formaldehyde in which a majority of the methylene groups are ortho-ortho attached to phenylol groups.

2,970,122

MIXED CATALYSTS FOR CURING SILICONE RESINS

Joseph R. McLoughlin, Burnt Hills, N.Y., assignor to General Electric Company, a corporation of New York

No Drawing. Filed Apr. 14, 1958, Ser. No. 728,028
5 Claims. (Cl. 260—18)

1. A composition of matter consisting essential of (1) an organopolysiloxane resin having on the average from 1.05 to 1.9 organic groups per silicon atom, said organic groups being selected from the class consisting of monovalent hydrocarbon radicals, cyanoalkyl radicals and halogenated aryl radicals, (2) from 0.01 to 1 percent, by weight, triethanolamine, and (3) from 0.01 to 1 percent, by weight, zinc in the form of zinc octoate, the weights of (2) and (3) being based on the weight of the organopolysiloxane resin.

2,970,123

ISOCYANATE MODIFIED ALKYDS STABILIZED WITH AN ALIPHATIC ALCOHOL

Michael S. Rhodes, New York, and Richard G. Spanburgh, East Aurora, N.Y., assignors to Allied Chemical Corporation, a corporation of New York

No Drawing. Filed Jan. 23, 1957, Ser. No. 635,612
8 Claims. (Cl. 260—22)

1. A method of preventing gelation during storage of an isocyanate treated oil-modified alkyd resin composi-

tion comprising the reaction product consisting essentially of an oil-modified alkyd resin wherein said oil is selected from the group consisting of linseed, perilla, soyabean, tung, corn, cottonseed, croton, castor, olive, coconut oils, or oil acids thereof, with 1–25% by weight of said oil-modified alkyd resin of an organic polyisocyanate wherein the isocyanate groups are the sole reacting groups, dissolved in an inert liquid solvent which comprises admixing with said solution of inert liquid solvent containing said reaction product as a gelation inhibitor 0.5–2% by weight of the oil-modified alkyd resin of an unsubstituted saturated aliphatic alcohol containing 1–10 carbon atoms.

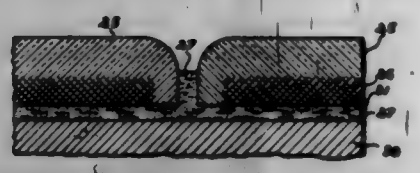
2,970,124

PLASTIC CEMENT COMPOSITION FOR LIGHTWEIGHT CERAMIC TILE

Folsom E. Drummond, Washington, D.C.

Original application Oct. 14, 1953, Ser. No. 385,953. Divided and this application Aug. 24, 1954, Ser. No. 451,868

2 Claims. (Cl. 260—23)



1. A resinous water-resistant, resilient, plastic cement for bonding lightweight ceramic tile to a supporting surface, said plastic cement consisting of the following composition:

	Parts by weight
Vinyl chloride-vinyl acetate copolymer resin	25–75
Dibutyl phthalate	10–20
Whiting (calcium carbonate)	5–10
Castor oil	2–5
Methyl ethyl ketone	15–40
Glass fibers	10–30

said copolymer resin consisting of 85% vinyl chloride units and 15% vinyl acetate units, and said glass fibers having a diameter of about 0.1 micron and of a length to provide a plastic resinous cement.

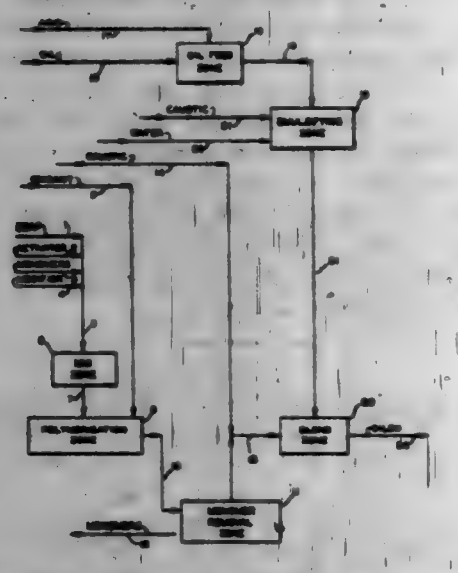
2,970,125

METHOD OF PREPARING A STABLE OIL EXTENDED LATEX

Bobbie H. Smith and Thomas J. Kennedy, Borger, Tex., assignors to Phillips Petroleum Company, a corporation of Delaware

Filed Aug. 9, 1956, Ser. No. 602,990

9 Claims. (Cl. 260—23.7)



1. In a process of preparing a blend of a snythetic rubber latex prepared by emulsion polymerization of monomers comprising at least 50 weight percent conjugated diene the remaining monomer being a copolymerizable compound having a polymerizable ethylenic unsaturation and a petroleum oil emulsion prepared with an emulsifying soap wherein the emulsifying soap of the oil emulsion is prepared in situ by saponification of an organic acid saponifiable with an alkali, the improvement comprising adding said acid to said oil, adding an alkali selected from the group consisting of sodium hydroxide and potassium hydroxide to the resulting oil acid mixture in an amount insufficient to saponify all of the acid, emulsifying the oil in water with the saponified acid, adding additional alkali of the aforesaid type to the rubber latex in an amount when added to the first the unsaponified alkali is at least equivalent to said acid and thereafter blending the latex and oil emulsion thereby saponifying the remaining acid.

2,970,126

WATER REPELLENT COMPOSITION CONTAINING ORGANOPOLYSILOXANE AND ORGANOTITANATE, AND LEATHER TREATED THEREWITH

Edgar D. Brown, Jr., Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

No Drawing. Filed June 12, 1958, Ser. No. 741,456

6 Claims. (Cl. 260—33.4)

1. A composition for the waterproofing of leather comprising, by weight, (1) from about 9 to 19 percent of a material comprising the product of intercondensation at temperatures of from about 100° C. to 150° C. of a mixture of ingredients composed essentially by weight of (A) one part of a cohydrolysis product of a mixture of ingredients consisting essentially of (*a*) a trialkyl hydrolyzable silane wherein the fourth valence of the silicon atom is attached directly to a hydrolyzable group, and (*b*) an alkyl silicate, the alkyl groups of the silane and silicate containing at most four carbon atoms, and said cohydrolysis product containing a plurality of silicon-bonded hydroxyl groups, there being employed a molar ratio of from about 1 to 2 mols of the alkyl silicate per mol of trialkyl hydrolyzable silane, and (B) from 0.5 to 6 parts of a linear high viscosity organopolysiloxane fluid of above 200,000 centipoises viscosity and containing terminal silicon-bonded hydroxyl groups, the organic groups being attached to silicon by carbon-silicon linkages and being selected from the class consisting of monovalent hydrocarbon radicals and halogenated aryl radicals, there being present an average of about two organic groups per silicon atom in the organo-polysiloxane fluid, said intercondensation proceeding through the medium of the silicon-bonded hydroxyl groups of (A) and (B), (2) from about 9 percent to 19 percent of acurable hydrolysis product having the formula

$$R_mSiO_{\frac{4-m}{2}}$$

of a mixture of hydrolyzable lower alkyl silanes, where R is a member selected from the group consisting of lower alkyl groups and mixtures thereof, and *m* is a number from 1.1 to 1.8, (3) from about 24 percent to 34 percent of a compound of the general formula $(R'''O)_4Ti$, where R''' is selected from the class consisting of alkyl groups having less than about 13 carbon atoms per molecule and mixtures thereof, and (4) from about 38 percent to 48 percent of a solvent.

2,970,127

GLASS REINFORCED GYPSUM COMPOSITION AND PROCESS OF PREPARATION

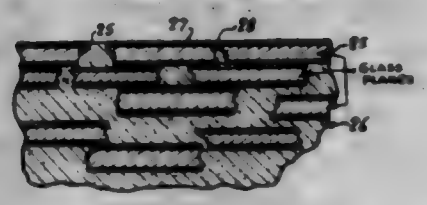
Games Slayter, Newark, and Richard F. Shannon, Lancaster, Ohio, assignors to Owens-Corning Fiberglas Corporation, a corporation of Delaware

Filed Dec. 28, 1954, Ser. No. 477,985

6 Claims. (Cl. 260—38)

1. A plaster mass comprising gypsum, a synthetic resin compatible with the gypsum, and from about 50 to 70

percent by weight of flakes of glass, said flakes lying substantially parallel with respect to one another within the plaster mass in overlapping layers to provide great



resistance to passage of vapor, moisture, and electrical charges through the mass, said synthetic resin being from the group consisting of melamine formaldehyde, phenol formaldehyde and urea formaldehyde.

2,970,128

IMPROVED ELASTOMER COMPOSITION CONTAINING ANTIOXIDANTS

Ernest Csendes, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Dec. 24, 1958, Ser. No. 782,669
5 Claims. (Cl. 260—41.5)

1. A cured elastomer selected from the group consisting of natural rubber and synthetic rubber made from conjugated dienes having incorporated therein, per 100 parts by weight of said elastomer, (*a*) from 0.1 to 5 parts by weight of a phenolic antioxidant, (*b*) from 0.1 to 5 parts by weight of an N-alkyl glucamine, said N-alkyl substituent having from 1 to 12 carbon atoms, and (*c*) from 50 to 100 parts by weight of an inorganic filler selected from the group consisting of calcium carbonate, barium sulfate, titanium dioxide and clay.

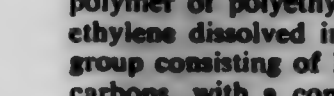
2,970,129

GRAFT COPOLYMER OF POLYETHYLENE AND POLYMERIZABLE ACRYLIC COMPOUNDS, PROCESS FOR PREPARING SAME, AND COMPOSITION THEREOF

Frank M. Rugg and James E. Potts, West Caldwell, N.J., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Nov. 15, 1956, Ser. No. 622,240
10 Claims. (Cl. 260—45.5)

1. A process for preparing a thermoplastic graft copolymer of polyethylene which consists in reacting polyethylene dissolved in solvent therefor, selected from the group consisting of hydrocarbons and chlorinated hydrocarbons, with a compound having the general formula:



wherein R is a member selected from the group consisting of hydrogen and methyl and X is a member selected from the group consisting of hydroxy and lower alkyl substituted amino radicals in the presence of a free radical polymerization catalyst.

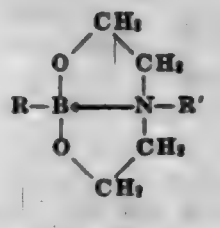
2,970,130

CATALYSTS FOR GLYCIDYL POLYETHERS, PRODUCTS PRODUCED THEREBY AND METHOD OF PRODUCING SAID CATALYSTS

Arnold B. Finestone, West Newton, Mass., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed Jan. 7, 1958, Ser. No. 707,468
8 Claims. (Cl. 260—47)

1. A composition of matter comprising (1) a reactive glycidyl polyether derived from an epihalohydrin and a polyhydric compound selected from the group consisting of polyhydric alcohols and polyhydric phenols and (2) a curing catalyst therefor comprising from 4% to 40% by weight, based on the weight of the polyether, of at least one N-substituted diethanolamine boronate ester having the structural formula



wherein R represents a radical selected from the group consisting of alkyl radicals having from 1 to 4 carbon atoms, phenyl, halogenated phenyl, methyl-phenyl, benzyl, cyclopentyl, and cyclohexyl radicals, and R′ represents a radical selected from the group consisting of hydrogen, alkyl radicals having from 1 to 4 carbon atoms, phenyl, halogenated phenyl, methyl-phenyl, benzyl, cyclopentyl, and cyclohexyl radicals.

2,970,131

POLYCARBONATE PROCESS

Wendell W. Moyer, Jr., New Brunswick, John Wynstra, Berkeley Heights, and John S. Fry, Somerville, N.J., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Mar. 9, 1959, Ser. No. 797,868
9 Claims. (Cl. 260—47)

1. A process for preparing substantially linear, thermoplastic polycarbonate resins which comprises reacting a di(monohydroxy-phenyl)-substituted aliphatic hydrocarbon, in which both hydroxy-phenyl groups are attached to the same carbon atom, with phosgene in the presence of an alkali metal hydroxide, said alkali metal hydroxide being present in an amount sufficient to impart to the reaction system a pH valve between about 10.5 and 11.55.

2,970,132

METHOD OF REACTING HETEROCYCLIC NITROGEN BASE POLYMERS WITH QUATERNIZING AGENT AND METAL OXIDE AND PRODUCT RESULTING THEREFROM

William B. Reynolds and James E. Pritchard, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed May 20, 1955, Ser. No. 510,034
16 Claims. (Cl. 260—86.1)

1. A polymeric organic composition formed by reacting, in the absence of elementary free sulfur, a polymer selected from the group consisting of (*a*) a homopolymer of a polymerizable heterocyclic nitrogen base compound selected from the group consisting of vinyl substituted and isopropenyl substituted pyridines and quinolines, and nuclear alkyl substituted derivatives thereof wherein the nuclear alkyl substituent contains from 1 to 8 carbon atoms, and (*b*) copolymers of said heterocyclic nitrogen base compound with a monoethylenically unsaturated monomer copolymerizable therewith, with (1) at least one organic non-acid quaternizing agent capable of forming fourth and fifth valence bonds between the heterocyclic nitrogen atoms of said polymer and atoms other than hydrogen of said quaternizing agent, and (2) at least one metal oxide selected from the group consisting of lead, zinc, magnesium, cadmium, mercury, tin, calcium, barium, strontium, vanadium, manganese, iron, cobalt, and nickel oxides.

2,970,133
POLYMERIZATION OF ETHYLENE WITH CATALYST CONSISTING OF ALUMINUM CHLORIDE AND TITANIUM TRIHALIDE

Thomas O. Sistrunk, Baton Rouge, La., assignor to Ethyl Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Jan. 4, 1956, Ser. No. 557,242
4 Claims. (Cl. 260—93.7)

3. A process for the production of a solid polymer selected from the group consisting of polyethylene and polypropylene which comprises contacting an olefin selected from the group consisting of ethylene and propylene with a catalyst at a temperature up to 98° C., said catalyst consisting of a titanium trihalide and aluminum chloride, the aluminum chloride to titanium trihalide molar ratio being less than 5:1.

2,970,134
DIENE POLYMERIZATION

William S. Anderson, Berkeley, Calif., assignor to Shell Oil Company, a corporation of Delaware

No Drawing. Filed Nov. 18, 1957, Ser. No. 696,942
12 Claims. (Cl. 260—94.3)

1. In the process for the polymerization of conjugated dienes at low temperatures and pressure in the presence of a low pressure catalyst, the improvement which comprises conducting the polymerization in the presence of added base selected from the group consisting of a metal hydroxide, alkali metal carbonate and alkali metal bicarbonate, the said catalyst being selected from the group consisting of A through C as follows: (A) the reaction product of (1) a compound of a metal selected from the group consisting of a transition metal of Group IV, V, VI and VIII of the Mendeleeff Periodic Table and manganese with (2) an organo-aluminum compound, (B) the reaction product of a compound as in (A)(1), above, and (2) a reducing agent selected from the group consisting of magnesium alkyl, zinc alkyl and Grignard compound, and (C) a metal halide selected from the group consisting of nickelous chloride and cobaltous chloride.

2,970,135
POLYMERIZATION PROCESS USING A SOLID CATALYST DISPERSION MEDIUM

William C. Lanning, John Paul Hogan, Robert L. Banks, and Clyde V. Detter, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

Filed Jan. 17, 1957, Ser. No. 634,754
17 Claims. (Cl. 260—94.9)

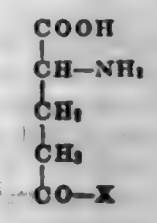
4. In a process for producing solid polymer which comprises contacting ethylene in the gaseous phase with a mobile particulate polymerization catalyst comprising chromium oxide, in which at least part of the chromium is hexavalent, associated with at least one oxide selected from the group consisting of silica, alumina, zirconia and thoria, said contacting occurring in a polymerization zone at a polymerization temperature below the softening point of said polymer and with the ethylene at a substantially non-fluidizing flow velocity and the concentration of catalyst in said polymerization zone being so low as to initially preclude distribution thereof through said polymerization zone by mechanical mixing in the absence of a catalyst dispersion medium, the improvement which comprises establishing in said polymerization zone a solid dispersion medium in addition to said catalyst and initially unpromoted with chromium oxide; and agitating said catalyst so as to maintain same dispersed in said solid medium and through said polymerization zone during said contacting of ethylene in the gaseous phase with said catalyst.

2,970,136
METHOD OF PREPARING γ-GLUTAMYL PEPTIDES AND INTERMEDIATES

Gaston Amiard, Noisy-le-Sec, Rene Heymes, Romainville, and Leon Velluz, Paris, France, assignors to UCLAF, Paris, France, a corporation of France

No Drawing. Filed Dec. 18, 1956, Ser. No. 628,976
Claims priority, application France Dec. 30, 1955
9 Claims. (Cl. 260—112)

1. In a process of producing γ-L-glutamyl peptides of the formula



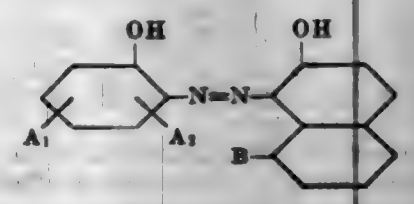
wherein X is the radical of an α-amino carboxylic acid linked to the —CO— group of glutamic acid by its α-amino nitrogen atom, said α-amino carboxylic acid being an acid occurring in natural peptides and proteins, the steps which comprise preparing a solution of N-trityl-L-glutamic acid in methylene chloride, adding to said solution dicyclohexyl carbodiimide as condensing agent and a lower alkyl ester of said α-amino carboxylic acid, allowing the mixture to stand at a temperature ranging from 0° C. to the boiling point of the solvent until condensation is completed, treating the reaction mixture at room temperature with dilute acetic acid to destroy unreacted dicyclohexyl carbodiimide, filtering off precipitated dicyclohexyl urea formed thereby, evaporating the filtrate to dryness, dissolving the residue in ethanol, adding N sodium carbonate solution to the resulting solution, heating the mixture to a temperature ranging from room temperature to 65° C. until saponification of the ester group is completed, recovering the resulting N-trityl peptide, heating said N-trityl peptide with about 50% aqueous acetic acid until the trityl group is split off, filtering off the precipitated triphenyl carbinol, and recovering the resulting γ-L-glutamyl peptide from the hydrolysis mixture.

2,970,137
METALLIZED MIXED AZO-DYESTUFFS

Herbert E. Whitlock, Clark, N.J., assignor to Verona-Pharma Chemical Corp., Bayonne, N.J., a corporation of New Jersey

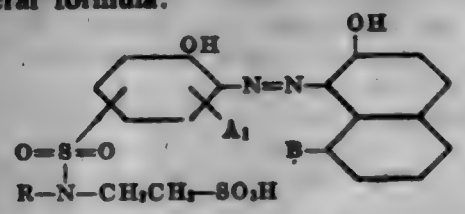
No Drawing. Filed Sept. 9, 1958, Ser. No. 759,857
2 Claims. (Cl. 260—145)

1. A chromiferous azo-dyestuff composition prepared by metalizing two molecules of different monoazo-dyestuffs with a chromium compound in such a manner that the ratio of the complexly bound chromium to that of the azo components is substantially one to two, and the ratio of the two different monoazo-dyestuffs to each other is substantially one to one, one monazo-dyestuff corresponding to the general formula:



where A_1 and A_2 are members of the group consisting of hydrogen, halogen, and the nitro radical and B is a member of the group consisting of hydrogen and the acetyl

amino radical; the other monoazo dyestuff corresponding to the general formula:



where A_1 and B are as above and R is a member of the group consisting of hydrogen, methyl, ethyl, hydroxyethyl, phenyl, and cyclohexyl radicals.

2,970,138

ION-EXCHANGE METHODS FOR THE PURIFICATION OF STREPTOMYCIN

Justin J. Murtaugh, Guilford, and Isidoro Caldas, Jr., Lawrenceburg, Ind., assignors to Schenley Industries, Inc., New York, N.Y.

No Drawing. Filed Dec. 28, 1955, Ser. No. 555,746
14 Claims. (Cl. 260—210)

1. Process for the purification of streptomycin that comprises contacting a relatively impure solution of streptomycin with a high-density sulfonic-acid type cation-exchange resin for a controlled period of time, whereby organic and inorganic impurities present in solution including histamine and histamine-like cation impurities are selectively adsorbed by said exchange resin to the substantial exclusion of streptomycin, and separating and recovering a relatively pure solution of streptomycin from the exchange resin.

2,970,139

5-FLUOROURACIL NUCLEOTIDES AND PREPARATION THEREOF

Robert Duschinsky, 11 Hawthorne Road, Essex Fells, N.J.; Walter G. Farkas, 586 Highland Ave., Upper Montclair, N.J.; and Charles Heidelberger, % McArdle Memorial Laboratory, University of Wisconsin, Madison 6, Wis.

No Drawing. Filed May 20, 1958, Ser. No. 736,477
20 Claims. (Cl. 260—211.5)

1. A compound selected from the group consisting of 5-fluorouracil nucleotides and salts thereof with pharmaceutically acceptable bases.

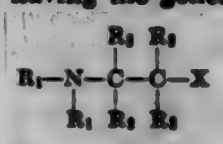
2,970,140

PROCESS FOR PREPARING AMINO ETHERS OF STARCH

Clifford H. Hullinger and Naoyuki H. Yui, Chicago, Ill., assignors to American Maize-Products Company, a corporation of Maine

No Drawing. Filed Aug. 9, 1957, Ser. No. 677,228
4 Claims. (Cl. 260—233.3)

1. The method of manufacturing amine starch in granular form which comprises the steps of forming a slurry of starch granules in water, adding between about 0.0001 mol to 0.11 mol of dialkyl beta amine reagent for each mol of starch, adding alkali to the slurry in an amount between about 0.04 mol to 0.12 mol of alkali for each mol of starch to establish reaction between the amine reagent and starch granules in the absence of inhibitors against starch granule gelatinization, maintaining the reaction mixture at a temperature below that at which starch granules gelatinize until reaction is complete, then after reaction has taken place neutralizing the reaction slurry with a suitable acid to a pH below 9.0 and then dewatering the reaction slurry and washing the reaction product to recover amine starch in the form of granules, said beta amine reagent having the general formula



in which R_1 is selected from the group consisting of a C_1–C_{18} alkyl radical, X is a halide having a molecular weight of at least 35 and R_3 is one of the group consisting of hydrogen and [illegible]–C_{18} alkyl radical.

2,970,141

PROCESS FOR PREPARING DEXTRAN PHOSPHATES

Alfred E. Bishop and Leo J. Novak, Dayton, Ohio, assignors to The Commonwealth Engineering Company of Ohio, Dayton, Ohio, a corporation of Ohio

No Drawing. Filed Sept. 24, 1954, Ser. No. 458,278
5 Claims. (Cl. 260—234)

1. The method of producing a substantially pure, white, granular product consisting essentially of a phosphate of a substance selected from the group consisting of (*a*) dextran having a molecular weight between about 60,000 and about 90,000 and (*b*) the sodium salt of the carboxylated polymer having a molecular weight between 5,000 and 50,000 produced as by-product in the production of said dextran from dextran of relatively higher molecular weight by hydrolysis of the latter by the enzyme elaborated by the mold *Aspergillus Wentii*, which comprises heating a reaction mixture consisting essentially of the substance selected from (*a*) and (*b*) and phosphorus oxychloride in a molar ratio of 0.5:1 to 1:1, in an inert organic liquid dispersant for the reactants, at a temperature between 50° C. and 90° C. for from 25 minutes to 3 hours, and under conditions which prevent access of moisture to the reactants, cooling the reaction mass to about 5° C., decanting off the inert dispersant, neutralizing the residue in water, adding a lower aliphatic alcohol to the neutral aqueous mass to precipitate the phosphate of the substance selected from (*a*) and (*b*), recovering the precipitate, dissolving the precipitate in water, neutralizing the solution, and adding a lower aliphatic alcohol to the neutral solution to precipitate the phosphate in pure condition as a white, granular powder.

2,970,142

PROCESS FOR PREPARING DRYING OILS FROM SUCROSE AND RAFFINOSE

Henry B. Haas, Summit, N.J., assignor to Sugar Research Foundation, Inc., New York, N.Y., a corporation of New York

No Drawing. Filed Sept. 28, 1956, Ser. No. 612,874
9 Claims. (Cl. 260—234)

1. The process of producing a drying oil which comprises treating a saccharide selected from the class consisting of sucrose and raffinose with an ester of a drying oil fatty acid and a volatile lower alcohol, employing at least about 6 moles of said ester for each mole of said saccharide, in the presence of an alkaline catalyst at a temperature of between about 20° C. and 120° C., until said saccharide contains at least 4 of said acid groups per molecule of saccharide.

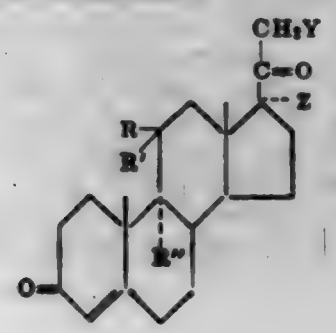
2,970,143

9α-ALKYL STEROIDS AND THEIR METHOD OF PREPARATION

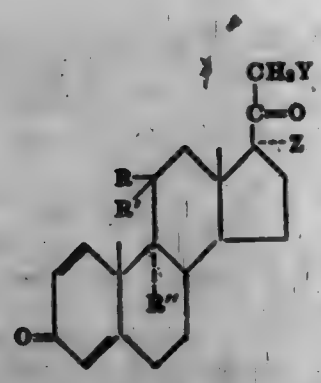
Gordon H. Thomas, New Brunswick, and Josef Fried, Princeton, N.J., assignors to Olin Mathieson Chemical Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed Nov. 18, 1957, Ser. No. 696,903
16 Claims. (Cl. 260—239.55)

1. A compound selected from the group consisting of steroids of the general formulae



and



wherein R is hydrogen, R' is selected from the group consisting of α-hydroxy, α-acyloxy, and β-hydroxy, and together R and R' is keto, R'' is lower alkyl, Y is selected from the group consisting of hydrogen, hydroxy, and acyloxy, and Z is selected from the group consisting of hydrogen and α-hydroxy.

9. 9α-methylcortisone 3,20-bis-ethylene ketal.

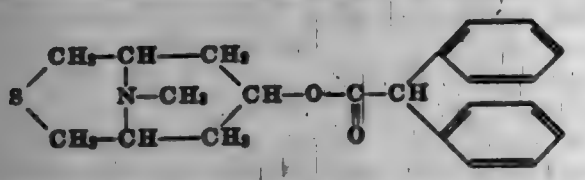
2,970,144

ESTERS OF 9-ALKYL-3-OXA AND 3-THIA-9-AZABICYCLO[3.3.1]-NONAN-7-OL

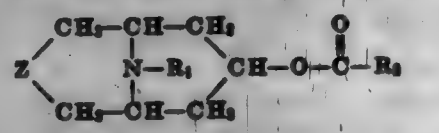
Charles L. Zirkle, Haddon Heights, N.J., assignor to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Dec. 11, 1957, Ser. No. 701,975
10 Claims. (Cl. 260—243)

3. A chemical compound having the structural formula:



10. Chemical compounds of the class consisting of a free base and the nontoxic, pharmacologically acceptable acid addition and quaternary ammonium salts thereof, the free base having the following structural formula:



in which Z is a member selected from the group consisting of oxygen and sulfur; R_1 is a lower alkyl group; and R_2 is a member selected from the group consisting of phenyl; thienyl; fluorenyl; biphenyl; xanthenyl; methoxy substituted phenyl; mono halogen substituted phenyl; mono amino substituted phenyl; 2,7-dibromofluorenyl; mono carboalkoxy substituted biphenyl, the carboalkoxy moiety having 2 to 3 carbons; phenylalkyl, methoxy ring substituted phenylalkyl, mono halogen ring substituted phenylalkyl, each of the said phenylalkyl moieties having 7 to 10 carbon atoms; phenyl hydroxyalkyl, mono halogen ring substituted phenyl hydroxyalkyl, each of the said phenyl hydroxyalkyl moieties having 7 to 10 carbon atoms; diphenylalkyl, methoxy ring substituted diphenylalkyl, mono halogen ring substituted diphenylalkyl, each of the said diphenylalkyl moieties having 13 to 16 carbon atoms; diphenyl hydroxyalkyl, methoxy ring substituted diphenyl hydroxyalkyl, mono halogen ring substituted diphenyl hydroxyalkyl, mono methyl ring substituted diphenyl hydroxyalkyl, each of the said diphenyl hydroxyalkyl moieties having 13 to 16 carbon atoms; phenyl cyclohexylmethyl; phenyl cyclohexylmethyl with the phenyl moiety methoxy substituted; and phenyl cyclohexyl hydroxyalkyl, phenyl cyclohexyl hydroxyalkyl with the phenyl moiety methoxy substituted, phenyl cyclohexyl hydroxyalkyl with the phenyl moiety mono halogen substituted, each of the said phenyl cyclohexyl hydroxyalkyl moieties having 13 to 16 carbon atoms.

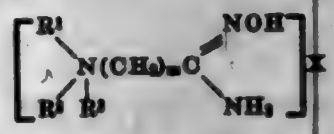
2,970,145

AMINOACETAMIDOXIMIC QUATERNARY AMMONIUM COMPOUNDS

Peter L. de Benneville, Philadelphia, Pa., assignor to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

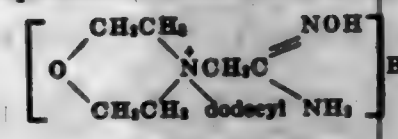
No Drawing. Filed Dec. 23, 1957, Ser. No. 704,332
6 Claims. (Cl. 260—247.5)

1. As a composition of matter the compound having the formula



in which R^1 and R^2 considered singularly are alkyl groups of 1 to 2 carbon atoms and considered collectively represent a divalent saturated chain that forms with the amino nitrogen atom a 5 to 6 membered heteromonocyclicamine selected from the group consisting of pyrrolidinyl, piperidino, morpholino, and thiomorpholino, R^3 is a member of the class consisting of alkyl of 1 to 18 carbon atoms, alkenyl of 3 to 18 carbon atoms, alkynyl of 3 to 18 carbon atoms, alkenoxyalkyl of 3 to 20 carbon atoms in which the alkenoxy group is located on the alkyl group in a position of remoteness of at least beta with respect to the amino nitrogen atom, alkoxyalkyl of 3 to 20 carbon atoms in which the alkoxy group is located on the alkyl group in a position of remoteness of at least beta with respect to the amino nitrogen atom, hydroxyalkyl of 2 to 18 carbon atoms in which the hydroxy group is located on the alkyl group in a position of remoteness of at least beta with respect to the amino nitrogen atom, alkoxyarylalkyl having up to 21 carbon atoms, aryloxyalkyl having up to 21 carbon atoms, alkylaryloxyalkyl having up to 21 carbon atoms, arylalkyl of 7 to 21 carbon atoms, alkylarylalkyl of 8 to 21 carbon atoms, arylalkenyl of 8 to 21 carbon atoms, carbamoylalkyl of 2 to 18 carbon atoms, alkoxycarbonylalkyl of 3 to 20 carbon atoms, acyloxyalkyl of 3 to 20 carbon atoms, alkylcarbonylalkyl of 3 to 20 carbon atoms and arylcarbonylalkyl of 8 to 20 carbon atoms, in which all of the aryl groups in R^3 are members from the class consisting of phenyl and naphthyl, *m* is an integer of 1 to 2 and X is an anion selected from the group consisting of chloride, bromide, iodide, sulfate, methosulfate, phosphate, acetate, lactate, hydroxide, tartrate, thiocyanate, nitrate, and pentachlorophenate.

3. A composition of matter having the formula



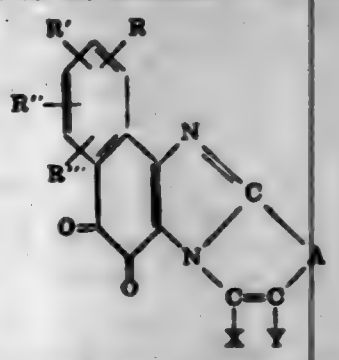
2,970,146

NEW HETEROCYCLIC ORTHOQUINONES

Richard J. Boyle, Neshanic, N.J., Oscar G. Birsten, New York, N.Y., and William L. Mosby, North Plainfield, N.J., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Apr. 4, 1958, Ser. No. 726,346
9 Claims. (Cl. 260—256.4)

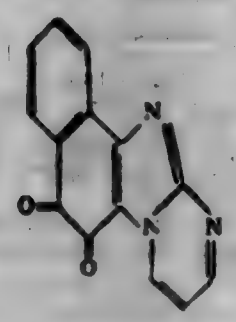
1. Compound of the formula:



in which A is selected from a group consisting of —S—, —CH=CH—, and —CH=N—, X and Y are selected

from the group consisting of hydrogen and lower alkyl and, taken together, the group —CH=CH—CH=CH—, and R, R', R'' and R''' are selected from the group consisting of H, Cl, Br, and nitro.

3. The compound of the formula:



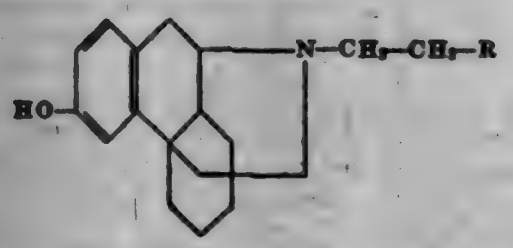
2,970,147

3-HYDROXY-N-(HETEROCYCLIC-ETHYL)-MORPHINANS

André Grüssner, Joseph Hellerbach, and Otto Schnider, Basel, Switzerland, assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey

No Drawing. Filed Nov. 26, 1958, Ser. No. 776,398
Claims priority, application Switzerland Dec. 4, 1957
5 Claims. (Cl. 260—285)

1. Compounds of the formula



wherein R is a member selected from the group consisting of 5-membered unsaturated heterocyclic rings and 6-membered unsaturated heterocyclic rings each consisting of carbon and hydrogen and a single heterocyclic atom of the group consisting of oxygen, sulfur and nitrogen, and acid addition salts thereof with therapeutically acceptable acids.

2,970,148

1-ISONICOTINYL-2-VERATRYLIDENE HYDRAZINE

Herman Herbert Fox, Passaic, N.J., assignor to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey

No Drawing. Original application Mar. 7, 1952, Ser. No. 275,250. Divided and this application Dec. 6, 1957, Ser. No. 700,987
1 Claim. (Cl. 260—295)

1-isonicotinyl-2-veratrylidenehydrazine.

2,970,149

CERTAIN 1-[(2-PYRIDYL)-LOWER ALKYL]-2-(TERT-AMINO-LOWER ALKYL)-INDAN-1-OLS, AND ACID ADDITION SALTS

Charles Ferdinand Huebner, Chatham, N.J., assignor to Ciba Pharmaceutical Products, Inc., Summit, N.J., a corporation of New Jersey

No Drawing. Filed Nov. 3, 1958, Ser. No. 771,225
7 Claims. (Cl. 260—296)

2. 1-[(2-pyridyl)-lower alkyl]-2-(N,N-di-lower alkyl-amino-lower alkyl)-indan-1-ol.

2,970,150

PROCESSES FOR THE REACTION OF SILANIC HYDROGEN-BONDED SILOXANES WITH UNSATURATED ORGANIC COMPOUNDS WITH A PLATINUM CATALYST

Donald L. Bailey, Snyder, N.Y., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Dec. 17, 1957, Ser. No. 703,246
22 Claims. (Cl. 260—348)

1. Process for the production of organosilicon compounds that comprises forming a reaction mixture comprising an unsaturated organic compound other than acrylonitrile and allyl amine containing at least one carbon to carbon multiple bond selected from the group consisting of olefinic and acetylenic bonds, a siloxane free of olefinically and acetylenically unsaturated radicals and containing at least one silanic hydrogen bond, and a platinum catalyst; heating said reaction mixture to cause the organic compound and siloxane to react under influence of said platinum catalyst to effect addition of the silanic hydrogen bond to respective carbon atoms of the carbon to carbon multiple bond, with the production of an organosilicon adduct of said organic compound and siloxane; and separating and recovering said adduct from the reaction mixture.

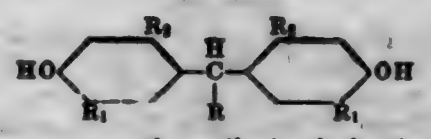
2,970,151

BENZYLIDENE BISCRESOLS

David J. Beaver, Richmond Heights, Mo., and Richard O. Zerbe, Nitro, W. Va., assignors to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Original application Oct. 26, 1951, Ser. No. 253,474. Divided and this application June 18, 1957, Ser. No. 666,465
5 Claims. (Cl. 260—395)

1. As a composition of matter a compound of the structure



where R is an aromatic radical of the benzene series, R_1 is an alkyl group containing at least 4 but not more than 12 carbon atoms and R_2 is an alkyl group containing less than 3 carbon atoms.

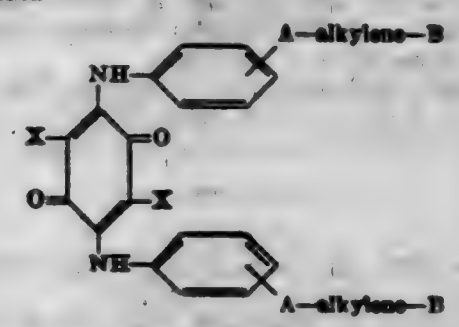
2,970,152

ANILINOBENZOQUINONE DERIVATIVES

Oscar Keller, Clifton, and Norbert Steiger, Nutley, N.J., assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey

No Drawing. Filed Mar. 10, 1959, Ser. No. 798,327
9 Claims. (Cl. 260—396)

1. A member of the group consisting of a compound of the formula



wherein A represents a member of the group consisting of oxygen and sulfur, B represents a tertiary amino group selected from the group consisting of di-lower alkylamino, piperidyl, morpholinyl and pyrrolidyl, and X represents halogen, and pharmacologically acceptable acid addition salts thereof.

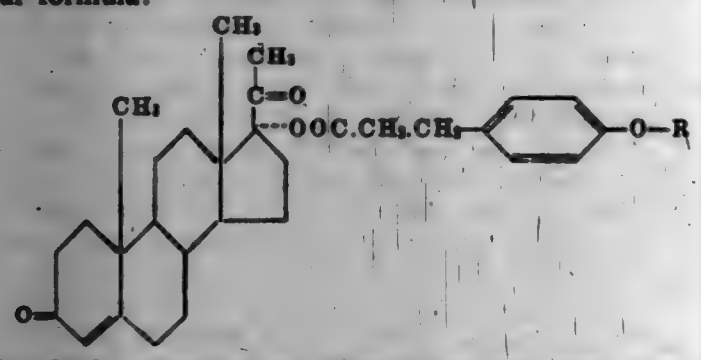
5. 2,5-bis[2-(3-dimethylaminopropyl)anilino]-3,6-dichlorobenzoquinone.

2,970,153
ALKOXYPHENYL-PROPIONYL ESTERS OF 17α-HYDROXYPROGESTERONE

Egon Richard Diczfalusy, Rosslinge, and Ove Birger Fernö, Hans Jakob Fex, and Knut Bertil Högberg, Halsingborg, Sweden, assignors to Aktiebolaget Leo, Halsingborg, Sweden, a Swedish firm

No Drawing. Filed July 27, 1959, Ser. No. 829,543
5 Claims. (Cl. 260—397.4)

1. Esters of 17α-hydroxyprogesterone having the general formula:



wherein R represents an alkyl group with from one to twelve carbon atoms inclusive.

2,970,154
AMINO DERIVATIVE

Lincoln Harvey Werner, Summit, and George de Stevens, New Providence, N.J., assignors to Ciba Pharmaceutical Products, Inc., Summit, N.J., a corporation of New Jersey

No Drawing. Filed Jan. 14, 1959, Ser. No. 786,687
3 Claims. (Cl. 260—397.7)

1. A member of the group consisting of 2,4-di-(N-ethylsulfamyl)-5-halogeno-aniline, and alkali metal salts thereof.

2,970,155
16α-METHYL-17α-HYDROXY-Δ⁹-PREGNENE-3,20-DIONE AND PROCESS FOR MANUFACTURE

Robert Joly, Montmorency, Julien Warnant, Neuilly-sur-Seine, and Leon Velluz, Paris, France, assignors to Les Laboratoires Francais de Chimiotherapie, Paris, France, a corporation of France

No Drawing. Filed May 12, 1960, Ser. No. 28,543
Claims priority, application France May 15, 1959
5 Claims. (Cl. 260—397.45)

1. 16α-methyl-17α-hydroxy-Δ⁹-pregnene-3,20-dione.

3. A process for producing 16α-methyl-17α-hydroxy-Δ⁹-pregnene-3,20-dione which comprises oxidizing 16α-methyl-3α,17α-dihydroxy-Δ⁹-pregnene-20-one with chromic acid.

2,970,156
6-ALPHA-METHYL-21-METHOXY-PROGESTERONES

Frank H. Lincoln and George B. Spero, Kalamazoo, Mich., assignors to The Upjohn Company, Kalamazoo, Mich., a corporation of Michigan

No Drawing. Filed Mar. 19, 1958, Ser. No. 722,393
1 Claim. (Cl. 260—397.45)

6α-methyl-11-keto-21-methoxyprogesterone.

2,970,157
PREPARATION OF 16-ALKYL-20-KETO STEROID ENOL ACYLATES

Frank A. Cutler, Jr., Westfield, N.J., James A. Hause, Turbotville, Pa., and Meyer Sletzinger, North Plainfield, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Sept. 8, 1958, Ser. No. 759,425
15 Claims. (Cl. 260—397.45)

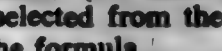
1. The process which comprises intimately contacting the 16 alpha lower alkyl-20-keto steroid metallic enolate obtained by reacting a Δ¹⁶-20-keto steroid of the group consisting of pregnane and allopregnane series with a member from the group consisting of a lower alkyl magnesium halide, a di-lower alkyl cadmium and a di-lower alkyl zinc with an acylating agent from the group consisting of lower alkanoyl halides and lower alkanoyl anhydrides to produce the corresponding 16α-lower alkyl-20-keto steroid enol acylate.

2,970,158
SURFACE ACTIVE AGENTS

William W. Levis, Jr., Wyandotte, Mich., assignor to Wyandotte Chemicals Corporation, Wyandotte, Mich., a corporation of Michigan

No Drawing. Filed May 31, 1957, Ser. No. 662,556
7 Claims. (Cl. 260—404.5)

1. A surface active agent consisting of the adduct of about 5 to about 75 weight percent of ethylene oxide and an aminoester having the formula



wherein R_1, R_2, R_3 and R_4 are monovalent radicals selected from the group consisting of radicals having the formulae $—CH_2CH(OH)CH_3$; $—CH_2CH(OOCR_5)CH_3$; $—CH_2CH(OH)CH_2CH_3$; $—CH_2CH(OOCR_5)CH_2CH_3$; $—CH(CH_3)CH(OH)CH_3$; and

$$—CH(CH_3)CH(OOCR_5)CH_3$$

wherein in said radical formulae R_5 is selected from the group consisting of aliphatic hydrocarbon radicals having from 8 to 20 carbon atoms and abietyl radical, at least 1 and not more than 2 of said R_1, R_2, R_3 and R_4 radicals containing an R_5 radical in its structure; and wherein R is a divalent radical selected from the group consisting of alkylene radicals having 2 to 6 carbon atoms, 2-hydroxy-1,3- propylene, and radicals represented by the formula $[—R_6N(R_1)—]_n$ wherein *n* is an integer not higher than 2 R_6 is a divalent radical selected from the group consisting of ethylene and propylene and R_1 is a monovalent radical as hereinbefore defined.

2,970,159
HYDRAZINE DERIVATIVES

Hugo Gutmann, Birsfelden, Otto Straub, Bottmingen, and Paul Zeller, Neuallschwil, Switzerland, assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey

No Drawing. Filed June 30, 1958, Ser. No. 745,278
Claims priority, application Switzerland July 3, 1957
4 Claims. (Cl. 260—404.5)

1. A compound selected from the group consisting of hydrazines having the formula

$$R_1—CO—NH—NH—R_2$$

wherein $R_1—CO$ represents a radical selected from the group consisting of linoleoyl, palmitoyl and stearoyl, and R_2 represents a member selected from the group consisting of isopropyl and benzyl,

and medicinally acceptable acid addition salts thereof.

2,970,160
PROCESS FOR MAKING AMPHOTERIC SURFACE ACTIVE AGENTS

Ruth A. Walker, New York, N.Y., assignor to Johnson & Johnson, a corporation of New Jersey

No Drawing. Continuation of application Ser. No. 717,313, Feb. 25, 1958. This application Feb. 11, 1959, Ser. No. 792,473
10 Claims. (Cl. 260—404.5)

1. The process of making an amphoteric surface active agent, which comprises rapidly adding a molten fatty amine condensate, derived from the reaction of a C_{18} to C_{18} carbon atom fatty acid with an hydroxyalkyl sub-

stituted alkylene diamine, in which the hydroxyalkyl is an alkylol radical of 2–4 carbon atoms and the alkylene radical contains 2–4 carbon atoms, until between 1.5 and 2 moles of water for each mole of fatty acid are volatilized off, to a dilute aqueous solution of sodium chloroacetate that has been derived from the neutralization of one mole of chloroacetic acid with at least 1.3 moles of sodium hydroxide, the sodium chloroacetate being present in at least a 30% molar excess over the fatty amine condensate, in the presence of water equal to at least 3 times the weight of the amine, while keeping the temperature at from 0–15° C., then gradually heating to about 95° C., adding at least 0.4 mole of sodium hydroxide per mole of sodium chloroacetate and heating at about 95° C. for 1–5 hours.

2,970,161
6-8-DIHALO OCTANOIC ACID ESTERS AND SALTS THEREOF

John A. Brockman, Jr., Pearl River, N.Y., assignor to American Cyanamid Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Nov. 6, 1953, Ser. No. 390,727
7 Claims. (Cl. 260—408)

1. Compounds of the group having the formula:



in which X and X′ are halogen, esters and salts thereof.

2,970,162
HIGH TEMPERATURE LUBRICANT AND PROCESS OF MAKING THE SAME

Edgar D. Brown, Jr., Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

No Drawing. Filed Aug. 16, 1956, Ser. No. 604,316
5 Claims. (Cl. 260—429.7)

1. A lubricating oil consisting of the residue obtained by vacuum stripping at temperatures of about 600° F. the product obtained by heating at a temperature of from 460° F. to 750° F. a mixture of (1) the fluid hydrolysis and condensation product of chlorophenylchlorosilanes and methylchlorosilanes and (2) from 1 to 10 percent of tin chloride, based on the weight of (1).

4. The process of preparing a lubricating oil which comprises adding to the fluid cohydrolysis and condensation product of, by weight, from 5 to 25 parts tetrachlorophenyltrichlorosilane, 55 to 92 parts dimethyldichlorosilane and 3 to 20 parts trimethylchlorosilane, from 1 to 10 per cent tin chloride based upon the weight of the cohydrolysis and condensation product, and heating the resulting mixture at temperature of from 460° F. to 750° F. and vacuum stripping the resulting reaction product at temperatures of about 600° F.

2,970,163
SALICYLIC ACID COMPOSITIONS AND METHOD OF REACTING SAME

Roy T. Gottesman, Glen Rock, N.J., and John E. Snow, Clearfield, Pa., assignors to Heyden Newport Chemical Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 27, 1957, Ser. No. 680,631
11 Claims. (Cl. 260—435)

1. In the process of preparing lead salicylate by adding salicylic acid to a suspension of litharge in an aqueous medium and reacting the salicylic acid with the litharge to form lead salicylate, the improvement comprising adding to such salicylic acid a hydroxy acid selected from the group consisting of citric acid, 4-hydroxyisophthalic acid, and mixtures thereof and carrying out said reaction in the presence of said hydroxy acid.

2,970,164
PREPARATION OF ESTERS BY PARTIAL OXIDATION OF PETROLEUM FRACTIONS

James L. Jezl, Swarthmore, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

No Drawing. Filed Sept. 7, 1956, Ser. No. 608,441
15 Claims. (Cl. 260—451)

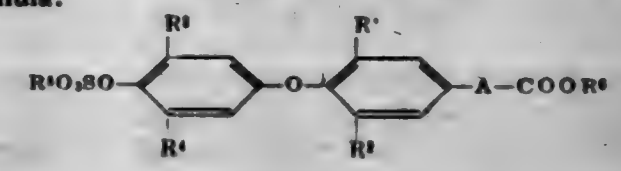
1. Process for partially oxidizing saturated aliphatic and naphthenic hydrocarbons which comprises contacting a petroleum fraction selected from the group consisting of wax and of oil from which aromatic hydrocarbons have been removed, in liquid phase with free-oxygen containing gas at a temperature in the approximate range from 200 to 400° F. and a pressure not greater than about 400 p.s.i.g. in the presence of 5 to 50 volume percent based on liquid hydrocarbon of an added aliphatic polyhydric alcohol thereby to increase the rate of saponification number increase over that obtained in the absence of the hydroxyl compound.

2,970,165
SULFATE COMPOUNDS

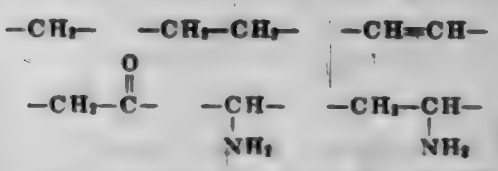
Raymond Michel, Paris, and Jean Roche, Bellevue, Meudon, France, assignors to Warner-Lambert Pharmaceutical Company, Morris Plains, N.J., a corporation of Delaware

No Drawing. Filed Oct. 1, 1957, Ser. No. 687,367
2 Claims. (Cl. 260—457)

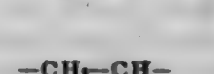
1. A process for the production of compounds of the formula:



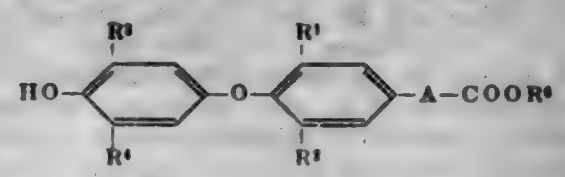
wherein R^1 is halogen, R^2 is selected from the group consisting of hydrogen and halogen, R^3 and R^4 are selected from the group consisting of hydrogen, halogen and methyl, R^5 is selected from the group consisting of hydrogen, alkali metals and alkaline earth metals, R^6 is selected from the group consisting of hydrogen and lower alkyl groups having 1 to 4 carbon atoms and A is selected from the group consisting of a direct linkage,



and



where acyl is selected from the group consisting of acetyl, formyl, carbamyl, glycyl and alanyl, which comprises reacting a compound of the formula:



wherein the substituents are as defined above with concentrated sulfuric acid while maintaining the temperature in the reaction mixture below 1° C., diluting the reaction mixture with water while maintaining the temperature of the mixture at below 1° C. and recovering the product from the solution.

2,970,166
PREPARATION OF TRIMETHYL PHOSPHITE AND TRIETHYL PHOSPHITE
Jacob Rosin, Maplewood, N.J., and Oscar G. Birsten, New York, N.Y., assignors to Mentrose Chemical Company, a corporation of New Jersey
No Drawing. Filed Oct. 20, 1959, Ser. No. 847,469
8 Claims. (Cl. 260—461)

1. A process for producing a lower trialkyl phosphite selected from the group consisting of methyl and ethyl phosphites comprising continuously adding an alkanol selected from the group consisting of methanol and ethanol to a reaction zone containing an aryl phosphite, said reaction zone being maintained at a temperature above the boiling point of the said alkanol and the trialkyl phosphite but below the boiling point of the aryl phosphite, all boiling points being measured under the conditions of the reaction zone, and continuously removing from said reaction zone a vapor stream containing trialkyl phosphite.

2,970,167
(ALKYLENEDISULFONYL)DIBENZOATES
Fritz Hostettler, Charleston, and Nelson R. Eldred, South Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Oct. 7, 1957, Ser. No. 688,412
10 Claims. (Cl. 260—470)

1. Compound having the general formula



wherein R′ is a saturated divalent alkylene hydrocarbon containing from two to ten carbon atoms, and the X's stand for members of the group consisting of hydrogen and saturated lower alkyl radicals.

2,970,168
(ALKYLENEDISULFONYL)DITOLUATES
Christian F. Horn, New York, N.Y., and Harry Vineyard, South Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Oct. 7, 1957, Ser. No. 688,414
12 Claims. (Cl. 260—470)

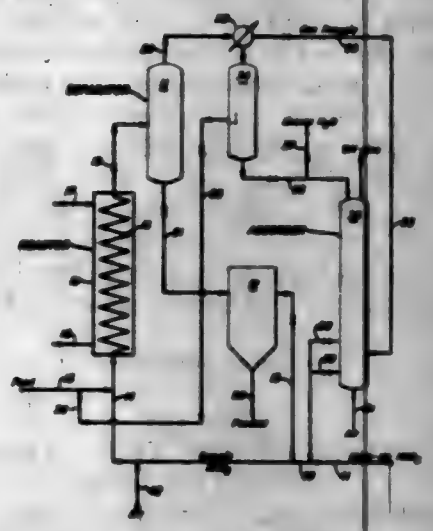
1. Compound having the general formula



wherein R is a saturated divalent alkylene hydrocarbon group containing from two to ten carbon atoms and the X's are members selected from the group consisting of hydrogen and lower alkyl radicals.

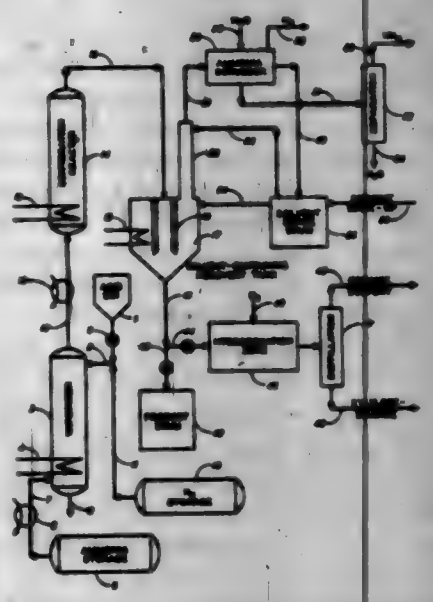
2,970,169
PRODUCTION OF POLYBASIC AROMATIC ACIDS
Herbert N. Friedlander, Homewood, and Richard H. Baldwin, Chicago, Ill., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana
Filed Aug. 25, 1954, Ser. No. 530,482
10 Claims. (Cl. 260—524)

1. A process for the production of polybasic aromatic acids by oxidation of an alkyl substituted aromatic feed stock which comprises circulating a stream of dilute nitric acid through a reaction zone to a separation zone, injecting the feed stock into the circulating stream in the reaction zone at a controlled rate maintaining a ratio of nitric acid to feed in excess of 50 mols of HNO_3 per mol of feed, maintaining a temperature of about 100° to 300° C. and a pressure of about 100 to 1000 p.s.i.g. in the reaction zone, separating polybasic acid product from the effluent acid stream from the reaction zone, recirculating the separated nitric acid fraction to the reaction zone and maintaining the concentration of the nitric acid



recirculating to the reaction zone in the range of about 5 to 40 weight percent.

2,970,170
PREPARATION OF XYLYLENEDIAMINES
Wilton H. Lind, Walnut Creek, Calif., assignor to California Research Corporation, San Francisco, Calif., a corporation of Delaware
Filed Mar. 22, 1957, Ser. No. 647,800
2 Claims. (Cl. 260—570.9)



1. A process which comprises continuously introducing at least two mols of gaseous ammonia and one mol of an acid selected from the group consisting of solid isophthalic acid, solid terephthalic acid and mixtures of said acids into a non-catalytic reaction-vaporization zone maintained at a temperature of about 500° F. to about 750° F. to react about 5% to about 70% of the carboxyl groups of said acid with ammonia, passing the resultant vapors into a catalytic reaction zone and contacting them with a dehydration catalyst maintained at a temperature of about 700° F. to about 900° F. to produce phthalonitrile as the principal dehydration product, quenching the hot effluent vapors from said zone by contacting them with an inert liquid organic solvent having a solubility parameter within about 2.5 of the solubility parameter of said phthalonitrile, separating gaseous components including unreacted ammonia and water from the hot solution of phthalonitrile, passing said solution together with hydrogen into a hydrogenation zone and into contact with a hydrogenation catalyst at a tem-

perature of about 180° F. to about 400° F. and recovering the amine product from the effluent from said hydrogenation zone.

2,970,171

AMMONOLYSIS OF 3-NITRO, 4-CRESOL

John Cryer, New Lenox, and Emmett H. Burk, Hazel Crest, Ill., assignors to The Sherwin-Williams Company, Cleveland, Ohio, a corporation of Ohio

No Drawing. Filed Feb. 24, 1958, Ser. No. 716,850
6 Claims. (Cl. 260—581)

1. A process for the continuous production of meta nitro para toluidine which comprises subjecting one molar proportion of meta nitro para cresol, in excess of one-half mol of ammonium chloride, a minimum of six mols of ammonia in an aqueous environment wherein the molar ratio of ammonia to water is greater in numerical value than 1:2 in an autoclave to the autogenous pressure developed therein at a temperature above 125° C. but less than 165° C. for a time in excess of five hours but insufficient to complete substantially the ammonolysis of said cresol, separating under pressure the reactant medium into a heavy oil phase and a lighter aqueous phase, maintaining the reaction vessel under pressure while bleeding off the heavy oil phase from the reaction vessel, recovering the meta nitro para toluidine from said oil phase, pressure feeding make-up quantities of ammonia, ammonium chloride and meta nitro para cresol to re-establish the minimum initial concentration conditions in the reaction vessel containing the reacted light aqueous phase and repeating the time-temperature schedule of reaction, heavy oil phase withdrawal and make-up addition in order as aforesaid.

2,970,172

PREPARATION OF CYCLOHEXANONE

Dario R. Cova, St. Louis, Mo., assignor to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Apr. 21, 1959, Ser. No. 807,763
10 Claims. (Cl. 260—586)

1. In a process for the preparation of cyclohexanone by the liquid phase catalytic dehydrogenation of cyclohexanol within a dehydrogenation zone, the steps comprising (1) removing from said dehydrogenation zone a vaporous mixture containing cyclohexanol and cyclohexanone, (2) passing said vaporous mixture into contact with water within a rectification zone, the quantity of water added to said zone being less than the quantity required to form water azeotropes with all of the cyclohexanone and cyclohexanol leaving the upper portion of said rectification zone, but above about the quantity required to provide 0.1 part by weight of water per part by weight of the cyclohexanol and cyclohexanone leaving the upper portion of the rectification zone, and (3) removing from said rectification zone a water, cyclohexanone and cyclohexanol fraction and a cyclohexanol fraction essentially free from water and cyclohexanone.

2,970,173

POLYFLUOROTHIOKETONES AND METHOD OF PREPARING SAME

Edward G. Howard, Jr., Hockessin, and William J. Middleton, Claymont, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Feb. 9, 1959, Ser. No. 791,857
10 Claims. (Cl. 260—607)

1. A polyfluorothioketone of the formula

$$RCF_2\underset{\underset{S}{\|}}{C}CF_2R'$$

wherein R and R' are selected from the group consisting of chlorine, lower alkyl, chlorofluoroloweralkyl and chlorofluorofluoroloweralkyl.

7. The process which comprises reacting a phosphorus polysulfide with a compound of the formula

$$R''CF_2CFICF_2R'''$$

wherein R'' and R''' are selected from the group consisting of chlorine, fluorine, lower alkyl, chlorofluoroloweralkyl, fluorofluoroloweralkyl and chlorofluorofluoroloweralkyl.

2,970,174

1,1,3-TRI-LOWER ALKOXY-4-METHYL-4-HEPTEN-6-YNE

Otto Isler and Marc Montavon, Basel, Rudolf Rüegg, Bottmingen, Gabriel Saucy, Riehen, Ulrich Schwieter, Basel, and Herbert Lindlar, Reinach, Basel Land, Switzerland, assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey

No Drawing. Filed Oct. 15, 1958, Ser. No. 767,272
Claims priority, application Switzerland Feb. 14, 1958
2 Claims. (Cl. 260—615)

1. 1,1,3-tri-lower alkoxy-4-methyl-4-hepten-6-yne.

2,970,175

PREPARATION OF POLYHALOMETHANOINDANS

Louis Schmerling, Riverside, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed May 20, 1959, Ser. No. 814,411
9 Claims. (Cl. 260—648)

1. A process for the preparation of a polyhalo substituted tetrahydromethanoindan which comprises contacting a halogen with a cyclopentadiene and subjecting the resultant dihalocyclopentene to a non-catalytic Diels-Alder condensation with a polyhalocycloalkadiene to form a polyhalo substituted tetrahydromethanoindan.

2,970,176

PYROLYSIS OF FLUOROCARBONS TO HEXAFLUOROPROPYLENE

Edward H. Ten Eyck, Parkersburg, W. Va., and George P. Larson, Elizabeth, N.J., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Oct. 31, 1957, Ser. No. 693,719
3 Claims. (Cl. 260—653.3)

1. A process for preparing hexafluoropropylene which comprises continuously feeding into a reaction zone maintained at a temperature of 700 to 900° C. and at a pressure of 0.2 p.s.i. to 65 p.s.i. for a contact time of at least 0.05 sec. a mixture of tetrafluoroethylene and higher boiling fluorocarbons of the class consisting of a mixture of C_nF_{2n+2}, $C_{n+2}F_{2(n+2)}$ and $C_{n+3}F_{2(n+2)}$ wherein n is a number from 1 to 10, the molar ratio of said higher boiling fluorocarbons to said tetrafluoroethylene being at least 0.05, cooling said reaction products, separating hexafluoropropylene therefrom, recycling the remaining fluorocarbons and continuously adding tetrafluoroethylene to said recycling fluorocarbons in the quantity of tetrafluoroethylene converted to hexafluoropropylene without substantially altering the amount of said higher boiling fluorocarbons.

2,970,177

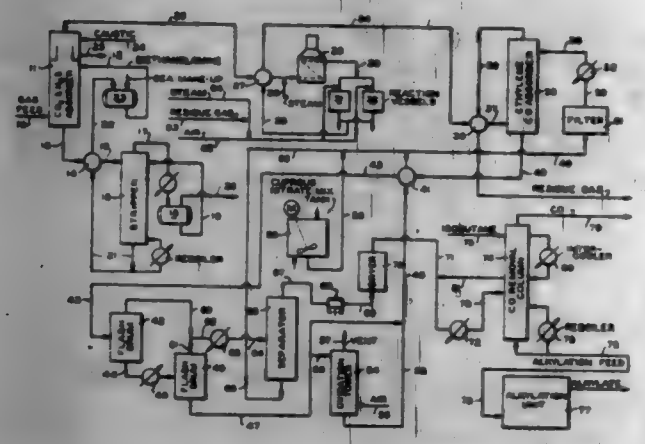
OLEFIN RECOVERY PROCESS

Joseph R. Cobb, Jr., Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Nov. 6, 1956, Ser. No. 620,750
12 Claims. (Cl. 260—677)

1. A process for the recovery of a normally gaseous olefin from a gas stream containing the same together

with other gases comprising carbon monoxide, carbon dioxide, acetylenes, and hydrogen sulfide, which comprises subjecting said gas stream to a purification step to remove therefrom hydrogen sulfide and carbon dioxide; subjecting the resulting hydrogen sulfide and carbon dioxide-free gas stream to a purification step to remove therefrom acetlyenes; contacting the last resulting gas stream with an aqueous cuprous salt-monoethanolamine solution to absorb therein carbon monoxide and said normally gaseous olefin; recovering said carbon monoxide and said normally gaseous olefin from said aqueous cu-



prous salt-monoethanolamine solution as a single gas stream; contacting said single gas stream with a saturated hydrocarbon absorption liquid having 3–12 carbon atoms per molecule selected from the group consisting of isoparaffins and cycloparaffins under conditions to separate said carbon monoxide from said normally gaseous olefin and to form an admixture of said normally gaseous olefin in said hydrocarbon absorption liquid; and recovering said admixture of said normally gaseous olefin in said hydrocarbon as a suitable feed for utilization in a subsequent process in which said normally gaseous olefin is reacted.

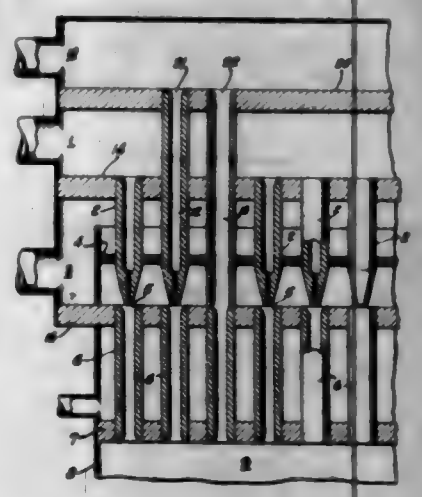
2,970,178

FURNACE FOR THE PRODUCTION OF UNSATURATED HYDROCARBONS

Frederic Francois Albert Braconier, Plainevaux, and Jean Joseph Lambert Eugene Riga, Liege, Belgium, assignors to Societe Belge de l'Azote et des Produits Chimiques du Marly, Liege, Belgium, a company of Belgium

Filed June 7, 1957, Ser. No. 664,400
Claims priority, application Great Britain June 27, 1956
14 Claims. (Cl. 260—679)

1. In a furnace for the production of unsaturated hydrocarbons by partial combustion of a gaseous mixture of a gaseous hydrocarbon reactant and a comburent gas reactant, the combination which comprises a combustion and reaction chamber in said furnace for said partial combustion of said gaseous mixture therein, a substantial plurality of mixing tubes for introducing said gaseous mixture into said combustion chamber, said mixing tubes having a substantially constant diameter substantially less than the length thereof and being positioned adjacent each other in a cluster-like arrangement extending transversely across said combustion chamber and with the axes of said mixing tubes substantially parallel to each other and to the axis of said combustion chamber, a first feed inlet chamber preposed to said combustion chamber and to said plurality of mixing tubes and in direct flow communication with said mixing tubes for supplying said gaseous hydrocarbon reactant simultaneously to all said mixing tubes for introduction therethrough into said combustion chamber, a second feed inlet chamber separate from said first chamber for supplying said comburent gaseous reactant for introduction into said combustion chamber through said mixing tubes, means including a plurality of supply nozzles substantially equal in number to said plurality of said mixing tubes and in flow communication with said second inlet chamber for supplying said comburent gaseous reactant from said second chamber into said mixing tubes, said supply nozzles having discharge ends of restricted cross-section substantially less than the internal cross-section of said mixing tubes and with each discharge end positioned directly adjacent the upstream end of one of said mixing tubes for directing high-velocity jets of said comburent gaseous reactant from said second feed inlet chamber into said mixing tube and for simultaneously drawing a supply of said hydrocarbon gaseous hydrocarbon reactant from said first feed inlet chamber into said mixing tubes for admixture of said gaseous reactants in said tubes as said two reactants are introduced into said combustion chamber, the aggregate open cross sectional area of all said mixing tubes being substantially less than the open cross-sectional area of said combustion chamber, a third gaseous inlet chamber and a plurality of supplementary supply nozzles in flow communication therewith for supplying a comburent gaseous reactant from said third chamber into said combustion chamber, the number of said supplementary



supply nozzles being substantially less than the number of said mixing tubes and of said supply nozzles from said second feed inlet chamber, and said supplementary supply nozzles being spaced substantially uniformly among said plurality of said mixing tubes for supplying said gaseous comburent reactant from said third feed inlet chamber at only spaced selected points across said combustion chamber.

10. A method for production of unsaturated hydrocarbons from a gaseous mixture of a gaseous hydrocarbon reactant and a comburent gas reactant by pyrolysis thereof, which comprises the steps separately preheating said gaseous reactants to a temperature near to but less than the combustion temperature of said mixture thereof, separately supplying said pre-heated gaseous reactants to a mixing zone, said gaseous comburent reactant being supplied as a high-velocity jet stream to said mixing zone for entraining said other gaseous reactant in said stream for intimate admixture of said reactants in said mixing zone, controlling the flow of said admixed reactants at said mixing zone in a substantial plurality of separate gas streams of high velocity in excess of the upstream flame propagation velocity of said mixture, expanding said gaseous mixture upon emerging from said separate stream mixing zones to reduce the velocity thereof below the flame propagation velocity thereof, and

establishing a partial combustion flame reaction in said expanded gases for said pyrolysis production of said unsaturated hydrocarbon.

2,970,179

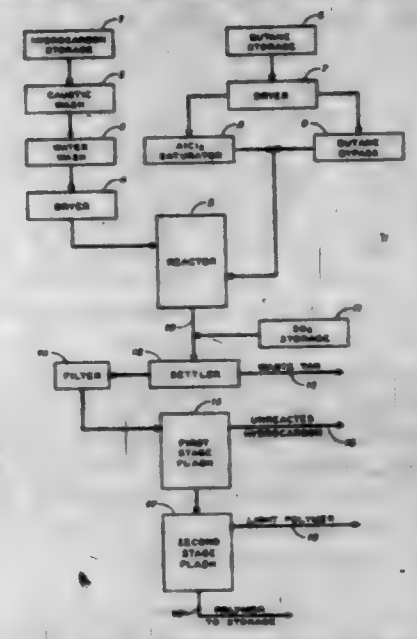
PRODUCTION OF BUTENE POLYMERS

Harry S. Glaze, Jr., San Rafael, Calif., assignor to California Research Corporation, San Francisco, Calif., a corporation of Delaware

Filed June 29, 1959, Ser. No. 823,684

6 Claims. (Cl. 260—683.15)

1. In a process for producing butene polymers of high viscosity by contacting in liquid phase a butene-containing hydrocarbon feed with aluminum chloride in a reaction zone, passing the effluent from the reaction zone comprising butene polymers, unreacted hydrocarbons, and aluminum-containing tars into a settling zone to separate a hydrocarbon phase and an aluminum chloride tar phase, and distilling the hydrocarbon phase to separate unreacted hydrocarbons overhead and butene polymers as a bottoms product, the method of producing a butene bottoms product having a narrow range of polymer molecular weights which comprises introducing a minor amount of sulfur dioxide into the effluent from



the reaction zone prior to completion of the separation of the aluminum chloride tar phase from the effluent.

ELECTRICAL

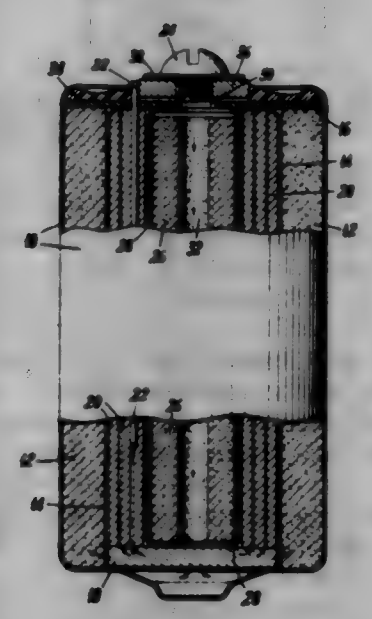
2,970,180

ALKALINE DEFERRED ACTION CELL

Lewis F. Urry, Parma, Ohio, assignor to Union Carbide Corporation, a corporation of New York

Filed June 17, 1959, Ser. No. 821,032

7 Claims. (Cl. 136—90)



1. A deferred action alkaline dry cell which may be activated and uniformly self-heated by the external addition of water to form a liquid electrolyte, which comprises a cupped container, and in said container an anode, a cathode, a separator between said anode and said cathode, a hollow cylinder of a caustic material chosen from the group consisting of potassium hydroxide, sodium hydroxide, barium hydroxide, calcium hydroxide, cesium hydroxide, lithium hydroxide, rubidium hydroxide and strontium hydroxide, a film of a gelling agent between said anode and said hollow cylinder capable of absorbing and immobilizing said liquid electrolyte on activation of said cell, and a gas and liquid tight closure for said container which may be partially removed to allow for the addition of said activating water.

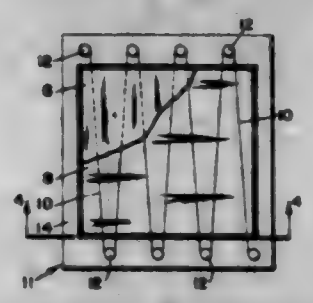
2,970,181

BATTERY SEPARATOR AND METHOD OF FORMING SAME

Sidney A. Correa, 163 Cherry St., Katonah, N.Y.

Filed Oct. 12, 1959, Ser. No. 845,922

12 Claims. (Cl. 136—143)



1. The method of forming a separator for a pair of battery electrodes employing composition type electrodes containing synthetic resin as a binder for the electrochemical constituents, comprising the steps of forming a continuous synthetic resin monofilament into a planar serpentine winding comprising a series of interconnected reversing loops, positioning said electrodes on opposite sides of said serpentine winding in the presence of an adhesive, with said loops outwardly extending from said electrodes, compressing said electrodes and said monofilament so as to bond said electrodes and said monofilament together, and removing said loops.

2,970,182

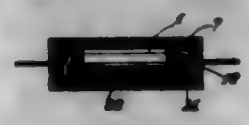
CASING FOR ELECTRONIC OR LIKE PARTS

Hermes Miquelis, 18 Rue du Congres, Nice (Alpes-Maritimes), France

Filed Dec. 3, 1957, Ser. No. 700,378

Claims priority, application France Dec. 4, 1956

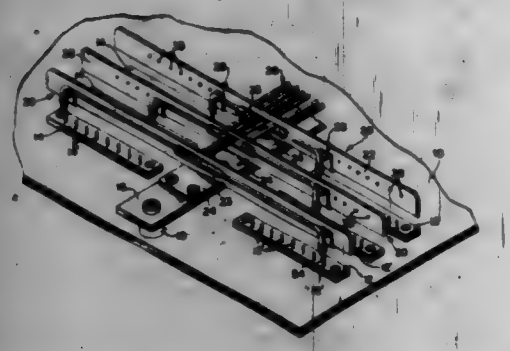
14 Claims. (Cl. 174—52)



1. A casing for an electrolytic condenser element having terminal means extending therefrom, comprising a sheath of thermoplastic material having at least one open

end, the portion of the sheath adjacent the open end extending beyond the element and having at least one of the terminal means extending therethrough, said portion of the sheath being of reduced thickness to provide an internal peripheral shoulder at the junction of said portion and the adjacent portion of the sheath, closure plug means of the same thermoplastic material as the sheath, said plug means having a diameter greater than the interior diameter of said portion of the sheath and having a thickness less than the length of the portion of the sheath of reduced thickness and being tightly fitted within said portion while bearing against said shoulder, said plug means being provided with at least one tightly fitted opening for passage of the terminal means therethrough, said open end of the sheath exteriorly of the plug means defining a recess, and an injected mass of the same thermoplastic material as the sheath and plug means in said recess exteriorly of the plug means welded to the sheath and plug means to form a one-piece casing and embedding the terminal means.

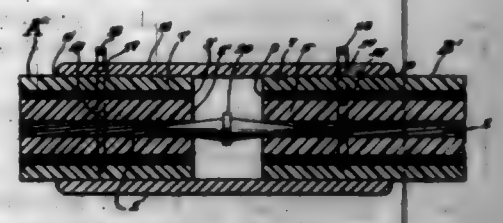
2,970,183
CABLE SUPPORT
William W. Anderson, Jr., Ridley Park, Pa., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Nov. 12, 1957, Ser. No. 695,946
5 Claims. (Cl. 174—78)



3. In electrical apparatus and the like having a panel and a plurality of connectors mounted thereon for terminal connection of coaxial cables, apparatus for supporting said cables comprising, a plurality of grounded conductive elements each having an aperture therein for forming and guiding a trunk of said cables along said panel in an elevated position and each having a cantilever boom extending over at least one of said connectors in an elevated position thereabove, each of said cables being fanned out from said trunk through the aperture of one of said elements and routed along the cantilever boom of said element to a respective one of said connectors, and conductive mounting clips secured to the terminal ends of said cables in conductive contact with the shielding thereof for rigidly attaching said terminal ends to said grounded conductive elements at places on the latter adjacent to and above the respective connectors.

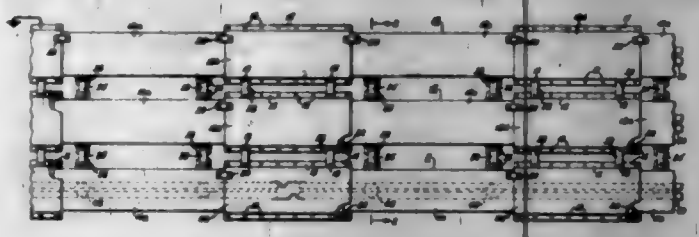
2,970,184
ELECTRIC CABLE CONNECTOR
Isaac S. Blonder, West Orange, N.J., assignor to Blonder-Tongue Electronics, a corporation of New Jersey
Filed Mar. 5, 1958, Ser. No. 719,325
8 Claims. (Cl. 174—88)

3. A connector splicing two sections of a coaxial cable each having inner and outer conductors insulated from one another and an outer insulation covering, the connector comprising a conductive cylindrical body having openings at opposite ends receiving and aligning the two sections of cable and two longitudinally spaced pairs of apertures, the apertures of each pair being transversely spaced apart on the surface of the connector a distance greater than the diameter of the inner conductor and less than the outer diameter of the outer conductor of the corresponding section of cable and a pair of U-shaped staples, one inserted within each pair of apertures, and each staple having at least a portion of the arms thereof



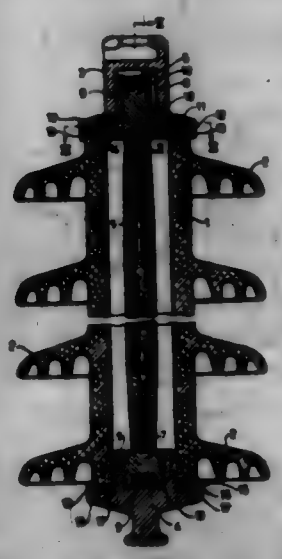
of cross-dimension slightly larger than that of the apertures inserted within the apertures into the said outer insulation and outer conductor of the corresponding section of cable, and means for connecting the inner conductors of the cable sections together within the said body.

2,970,185
ELECTRIC BUS DUCT APPARATUS
Nathan Swerdlow, Philadelphia, and Walter R. Wilson, Broomall, Pa., assignors to General Electric Company, a corporation of New York
Filed Oct. 31, 1958, Ser. No. 771,131
6 Claims. (Cl. 174—99)



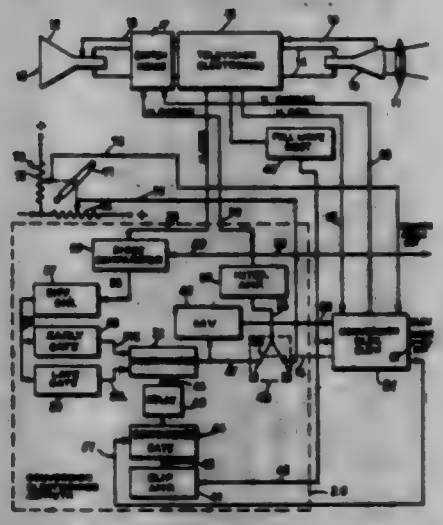
1. Isolated phase bus duct apparatus comprising a pair of side-by-side electrically conductive tubular ducts, a conductor mounted within each duct and electrically isolated therefrom, each of said ducts comprising a plurality of tubular duct lengths secured together in end-to-end relationship, insulating means between longitudinally-adjacent duct lengths for precluding the flow of current between said lengths, supporting structure at locations longitudinally spaced along said ducts for supporting said ducts, joints disposed between said ducts and said supporting structure and comprising insulation for precluding electrical current from flowing through said joints, bracing structure peripherally spaced from said joints and extending between said ducts for resisting distortion of the walls thereof during short circuit conditions, said bracing structure comprising for each set of laterally-adjacent duct lengths a rigid conductive member peripherally spaced from said joints and electrically connected between the duct lengths of said set at a single longitudinally-restricted location on each duct length, said bracing structure further comprising insulating means for precluding current flow between said duct lengths by all paths other than a path extending through said rigid conductive member, the connection between said rigid conductive member and at least one of its duct lengths being readily detachable so as to allow for quick electrical isolation of said laterally-adjacent duct lengths from each other, a ground return bus extending alongside one of said ducts, and means for electrically connecting each of the duct lengths of said one duct to said ground return bus comprising conductive structure mechanically connected to said latter duct lengths at only a single longitudinally-restricted location on each of said latter duct lengths.

2,970,186
HIGH TENSION SUSPENSION ELECTRIC INSULATORS
Baltzar Carl von Platen, Gotgatan 16, Stockholm, Sweden
Filed Feb. 2, 1959, Ser. No. 790,706
5 Claims. (Cl. 174—179)



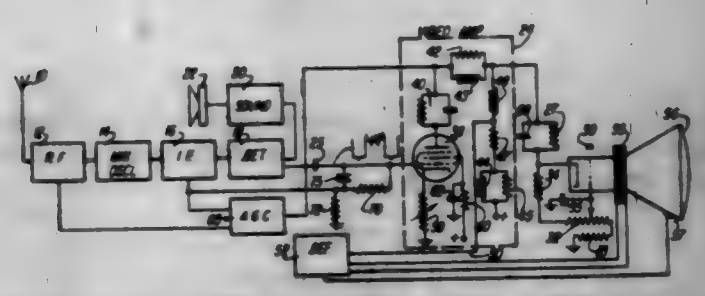
1. A suspension insulator comprising, a tubular vitreous body, metallic fixtures located at the opposite ends of the body, a rod-shaped insulating member composed of a number of vitreous wires the ends of which are held together by a binding agent, parallel plates between which the ends of the insulating member are clamped, the ends of the insulating member being substantially of circle-segmentary cross-section, with said ends having external threads, the metallic fixtures including parts having internal threads for engagement with the threads on said insulating member.

2,970,187
PASSIVE AUTOMATIC TRACKING DEVICE
Curtis V. Hinton, Cincinnati, Ohio, assignor to the United States of America as represented by the Secretary of the Navy
Filed Jan. 30, 1956, Ser. No. 562,354
9 Claims. (Cl. 178—6.8)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A passive automatic tracking television device comprising; a closed-loop television system including a camera tube in fixed position to have a cone of view over a target area, a picture tube, and an electronic means for transmitting and displaying target signals picked up on the camera tube to the picture tube and including a circular trace generator for producing a circular cursor display on the picture tube simultaneously with target signal displays; circuit means coupled to said electronic means to receive horizontal sweep, vertical sweep, and video voltage signals from the electronic means producing picture tube scan for developing intelligence signals proportional to the instantaneous position of the electron beam during the horizontal sweep voltage and the instantaneous position of the electron beam during the vertical sweep voltage at the intersection of the horizontal and vertical sweep voltages on said picture tube of a target picked up by said camera tube and transmitted to said picture tube with respect to a reference line concentric with the cone of view of said camera tube.

2,970,188
TELEVISION RECEIVER
Marlin G. Kroger, Oak Park, Ill., assignor to Motorola, Inc., Chicago, Ill., a corporation of Illinois
Filed June 29, 1955, Ser. No. 518,835
3 Claims. (Cl. 178—7.3)

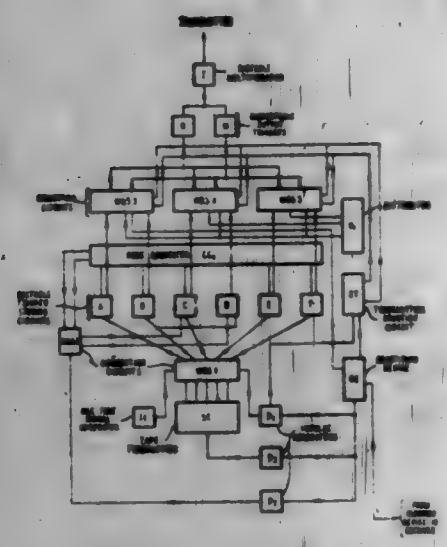


1. In a television receiver which utilizes a received carrier signal modulated by synchronizing components of reference level and video components, a system for maintaining the synchronizing components at a reference level related to the strength of the received carrier signal, including in combination signal translating means for utilizing the synchronizing components and the video components including an electron discharge valve to which the synchronizing components are applied with a polarity to cause decreased conduction thereof, clamping circuit means coupled to said electron discharge valve and including a storage capacitor, resistor means and a diode, said signal translating means applying the synchronizing components to said clamping circuit means so that the same develops a control potential directly related to the level of the synchronizing components, automatic gain control circuit means to develop a regulating potential related to the strength of the received carrier signal for gain control of said receiver, means coupling said automatic gain control circuit means to said clamping circuit means to establish the clamping level thereof as determined by the level of the received carrier signal.

2,970,189
ARHYTHMIC TELECOMMUNICATION SYSTEM
Christiaan J. van Dalen, The Hague, and Hendrik C. A. van Duuren, Wassenaar, Netherlands, assignors to De Staat der Nederlanden, ten deze vertegenwoordigd door de Directeur-Generaal der Posterijen, Telegrafie en Telefonie, The Hague, Netherlands
Filed July 25, 1956, Ser. No. 600,028
Claims priority, application Netherlands July 26, 1955
17 Claims. (Cl. 178—23)

1. An automatic error detection and correction device for frequency modulated multi-element code signals in a two-way arhythmic telecommunication system between two stations, each station having a receiver and a transmitter, said device comprising: means connected to the transmitter of at least one of said stations including means for generating signals and associating successive signals with different indications, means connected to the receiver of at least the other of said stations including means for receiving signals and including means for determining the indication associated with each signal received thereby, means connected to said receiving

means for printing received signals, and means connected to said receiver and also connected to and re-



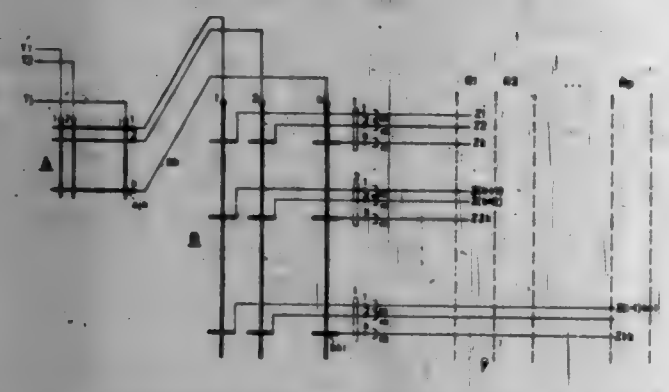
sponsive to said indication determining means including means for determining whether or not a received signal is to be printed by said printer.

2,970,190

EXTENDING CONNECTION PATHS IN A FIELD OF COUPLING POINTS

Siegfried Zahlhaas and Ralf Kähler, Munich, Germany, assignors to Siemens & Halske Aktiengesellschaft, Berlin and Munich, Germany, a corporation of Germany

Filed Jan. 7, 1959, Ser. No. 785,425
Claims priority, application Germany Jan. 15, 1958
14 Claims. (Cl. 179—22)



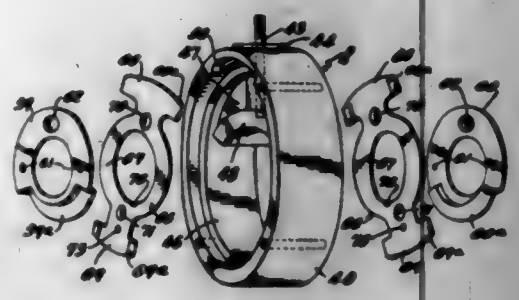
1. In a telephone system, a coupling field for extending calls to be established, said coupling field having an inlet coupling multiple and an outlet coupling multiple represented respectively by switching means operating in the nature of coordinate switches, trunk lines extending between said multiples, means forming coupling points in the respective multiples, the coupling points in said inlet multiple being multipled column-wise and row-wise and the coupling points in said outlet multiple being multipled solely column-wise and alloted to individual outlets disposed in groups, a routing network cooperatively associated with said coupling field, an arrangement for effecting the routing of a connection path between a predetermined inlet and an idle outlet in a desired outlet group, said arrangement comprising circuit means for connecting to idle outlets of a desired outlet group a potential signifying the idle condition thereof, means for connecting to all busy inlets a busy potential which dominates at the corresponding coupling points of the outlet coupling multiple over the potential signifying idle condition, and means for selecting, from the coupling points of the outlet coupling multiple carrying potential signifying idle condition, an outlet and thereby determining the routing of a connection path.

2,970,191

CIRCUIT SELECTOR FOR REVERSE GEAR OPERATING SYSTEM FOR MARINE ENGINES

John B. Parsons, 1210 River Road, Maumee, Ohio

Original application Nov. 17, 1955, Ser. No. 547,487, now Patent No. 2,916,031, dated Dec. 8, 1959. Divided and this application Apr. 8, 1959, Ser. No. 804,916
2 Claims. (Cl. 200—11)



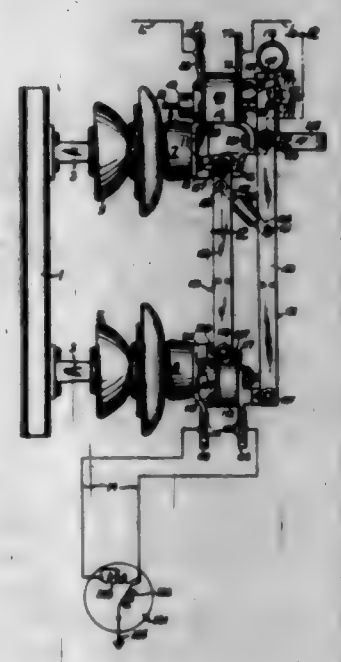
1. A circuit selector of the character described comprising a tubular open-ended housing means to hold said housing stationary, an actuator adapted to be mounted on a rotatable shaft for movement therewith and disposed within said housing, said actuator comprising a tubular cylinder adapted to be keyed to the shaft, an integral depending sector on said cylinder, pins projecting laterally from opposite ends and on opposite sides of said sector, end plates closing opposite ends of the housing and apertured to enable the shaft to extend therethrough, contact strips on said plates, and a pair of spring contact plates arranged in cross-wise relation, apertured to receive the shaft and engageable at their upper ends with said contact strips, a contact terminal in the lower portion of the housing recurrently engageable by the lower ends of said contact plates for electrically connecting same with said strips, and there being holes in said contact spring to receive said sector pins thereby to enable the actuator to rock said contact springs.

2,970,192

ELECTRIC SWITCH

Ronald P. Bridges, Centralia, Mo., assignor to A. B. Chance Company, Centralia, Mo., a corporation of Missouri

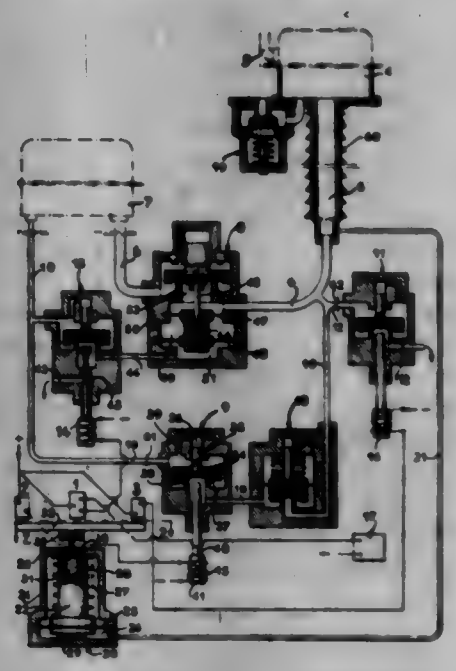
Filed June 16, 1958, Ser. No. 742,370
17 Claims. (Cl. 200—48)



1. An electric switch comprising spaced first and second pairs of conductive members each insulated from the

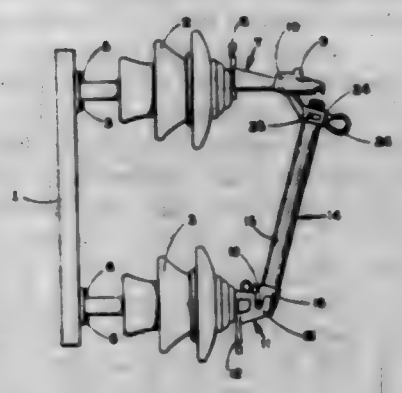
others, switch blades each of which is individually pivoted on and conductively connected with one of the second pair of conductive members, one blade lying over the other for substantially coplanar movements, insulating means operatively pivoted with and connecting said blades for conjoint operation therewith as a pinned linkage wherein the blades move relatively to one another when they pivot, main contacts on the first pair of insulated conductive members adapted to be engaged and disengaged by said switch blades respectively, a by-pass switch having means adapted electrically to disconnect and connect the members of said first pair of conductive members, actuating means between one of said blades and said by-pass switch means forming a driving connection adapted to open the by-pass switch means when the blades are moved toward closed position, and means adapted to force the by-pass switch means into position electrically connecting the members of said first pair of conductive members when said blades are moved toward open position.

2,970,193
PRESSURE FLUID CONTROL
Jean Louis Gratzmuller, 66 Blvd. Maurice Barres, Neuilly-sur-Seine, France
Filed Dec. 15, 1958, Ser. No. 780,307
Claims priority, application France Dec. 18, 1957
10 Claims. (Cl. 200—82)



1. A pressure fluid control comprising, in combination, a working chamber adapted to contain a given amount of pressure fluid which is capable of ensuring an operation of the apparatus to be controlled as long as its pressure remains within a predetermined narrow working range having a lower limit, a source of pressure fluid capable of continuously covering the needs of said working chamber in pressure fluid, a high-rate inlet valve means interposed between said source and said working chamber, a compensating system including a low-rate inlet valve means interposed between said source and means defining said working chamber and an outlet communicating with said working chamber, said compensating system being adapted to keep the pressure in said chamber lower than the upper limit of said working range and valve controlling means operable in response to the pressure in said working chamber to trigger the opening of said low-rate inlet valve means whenever said pressure drops down to a predetermined value above the lower limit of said working range and to also trigger the opening of said high-rate inlet valve means whenever said pressure drops down to the lower limit of said working range.

2,970,194
ELECTRIC FUSE
Thomas A. Burdeshaw, Hampton, Ga., assignor to Southern States Equipment Corporation, a corporation of Georgia
Filed Apr. 22, 1959, Ser. No. 808,073
5 Claims. (Cl. 200—114)



1. An electric fuse comprising a fuse tube, a fusible element mounted within said tube with one end thereof extending out of one end of said tube, a conducting element pivotally mounted to said one end of said tube, said one end of said fusible element being connected to said conducting element so as normally to form an electric connection therebetween, a toggle linkage interconnected between said one end of said tube and said conducting element and having a normal position approximating dead center and corresponding to the normal position of said conducting element relative to said tube, said one end of said fusible element normally being operably related with said toggle linkage adjacent the knee thereof to hold said linkage in its position approximating dead center, and toggle biasing means for causing said toggle linkage to move out of its position approximating dead center in coordination with the rupture of said fusible element.

2,970,195
THERMOSTATIC SWITCH
Fred S. Keefer, Jr., Chatham, N.J., assignor to The Chatham Controls Corporation, Chatham, N.J., a corporation of New Jersey
Filed Dec. 8, 1958, Ser. No. 778,929
1 Claim. (Cl. 200—138)



A thermostatic switch comprising: an elongated, substantially straight, terminally closed, air-containing, tubular casing composed of a metal possessing a high coefficient of thermal expansion; respective first and second electrical terminal members penetrating one end wall and the side wall of said casing respectively and having exteriorly projecting portions for connection to an electrical control circuit; means to insulate said first terminal member from said casing; an elongated, substantially straight, bimetallic thermostatic element having a free end and a base end electrically connected to said first terminal member and being supported thereby in axially extending position in such a manner as to be insulated from the casing, said bimetallic element being constructed and arranged in such a manner that the free end thereof will move radially in the casing under the bending influence of

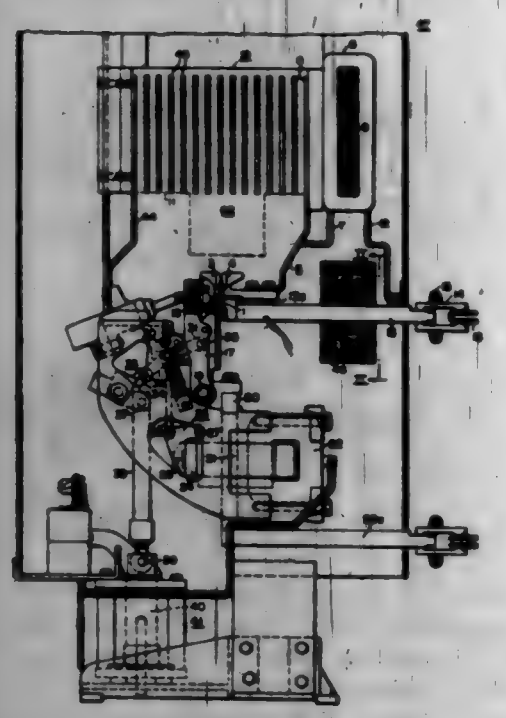
changes in ambient temperature; a movable electrical contact movable radially with the free end of the bimetallic element; a stationary contact connected electrically to said second terminal member in insulated relation to the casing and being in radial registration with the movable contact; the side wall of the casing having a radial opening substantially at the location of said second terminal member; a metallic bushing countersunk in said radial opening; a cylindrical metallic insert projecting radially from the interior of the casing through the center of said metallic bushing and being spaced from the latter and having said second terminal member affixed to the outer end thereof in electrical connection therewith; an insulating ring intervening between said metallic bushing and metallic insert in coaxial relation thereto; and a screw of electrical conducting material having screwthreaded engagement with said metallic insert in penetrating relation thereto and being arranged with its inner end in radial registration with the movable contact and its outer end exposed for engagement by a turning tool; the stationary contact being supported by the inner end of said screw; the construction and arrangement of the casing, the bimetallic element and the electrical contacts being such that conduction of heat between said casing and bimetallic element will be retarded sufficiently during each time period when the contacts are in closed condition that elongation of the casing through the influence of ambient temperature changes will cause axial rubbing of said contacts and consequent cleaning action.

2,970,196

CIRCUIT INTERRUPTERS

Maurice E. Reagan, Forest Hills Boro, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Jan. 22, 1957, Ser. No. 635,401
3 Claims. (Cl. 200—147)



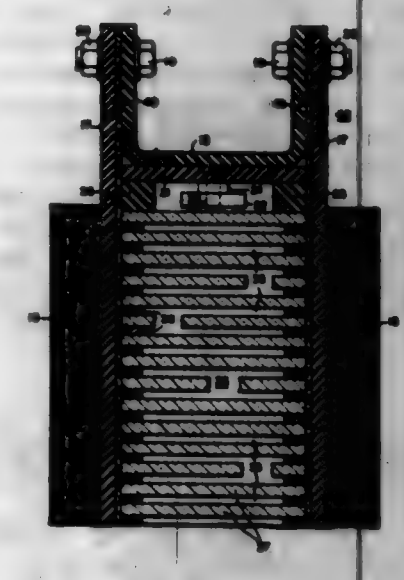
2. A circuit interrupter for interrupting an electrical circuit including a pair of separable main contacts, a pair of separable arcing contacts, a terminal stud connected to one of said main contacts, a blowout coil, means connecting one end of said blowout coil to one of said arcing contacts and the other end of said blowout coil to said terminal stud, and magnetic means separate from said electrical circuit encircling said terminal stud between said one main contact and the connection of said blowout coil to said terminal stud.

2,970,197

SHOCK-RESISTANT CIRCUIT INTERRUPTER

Russell E. Frink, Forest Hills, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Nov. 6, 1957, Ser. No. 694,881
4 Claims. (Cl. 200—147)



1. A circuit interrupter including means for establishing an arc, means for extinguishing said arc including a plate stack, said plate stack including a stack of spaced slotted insulating arcing plates and elongated strip-like insulating spacing means extending along opposite sides of the slotted insulating arcing plates, said elongated strip-like insulating spacing means being disposed between the slotted arcing plates to space the slotted arcing plates a proper distance apart from each other, a pair of spaced side insulating support plates disposed on opposite sides of the plate stack, a sheet-like glass mat disposed between each side support plate and the side edges of the slotted arcing plates, the glass mats also contacting the elongated strip-like insulating spacing means extending along opposite sides of the plate stack, and a cement impregnating said sheet-like glass mats to cause adherence between the spaced side support plates and the individual slotted arcing plates.

2,970,198

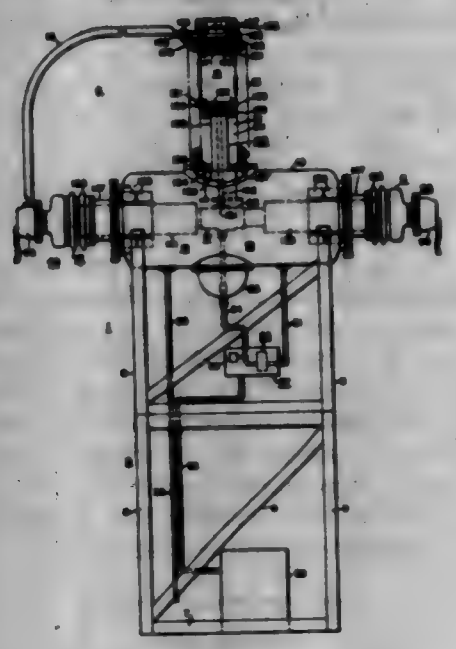
COMPRESSED-GAS CIRCUIT INTERRUPTER

Jack E. Schrameck, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Feb. 18, 1957, Ser. No. 640,861
19 Claims. (Cl. 200—148)

1. A compressed-gas circuit interrupter including a tank containing gas under high pressure, a pair of hollow terminal bushings extending into said tank having relatively stationary contacts supported adjacent their inner ends, a bridging interrupting assembly disposed interiorly within said high-pressure tank for electrically bridging the two relatively stationary contacts in the closed-circuit position of the circuit interrupter, the bridging interrupting assembly having a pair of movable contacts which make separable engagement with said two relatively stationary contacts, impedance means electrically shunting said bridging interrupting assembly and one of said relatively stationary contacts, means separating one of said movable contacts from said one relatively stationary contact and for extinguishing the arc drawn therebetween by a blast of high-pressure gas from the tank out through the hollow terminal bushing associated with said one relatively stationary contact, means for subsequently separating the other movable contact from the other relatively stationary contact to draw a residual

current arc therebetween, and means providing a blast of high-pressure gas out through the other hollow ter-



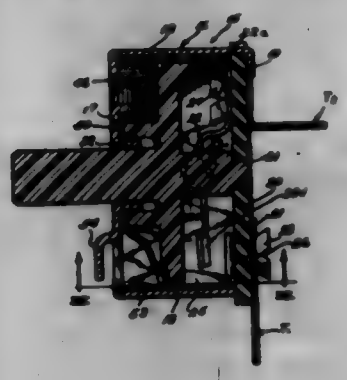
minal bushing to effect the extinction of the residual current arc.

2,970,199

ROTARY SWITCH ASSEMBLY

William B. Dull, Coldwater, and Patrick Eugene Daugherty, Grand Rapids, Mich., assignors to Kingston Products Corporation, Kokomo, Ind., a corporation of Indiana

Filed Mar. 25, 1958, Ser. No. 723,850
8 Claims. (Cl. 200—153)



7. A rotary switch comprising a substantially rectangular housing having a pair of spaced walls, one of which comprises a terminal member removably secured to said housing, the other of said walls having a pair of apertured embossments thereon, resilient contact arms attached to the terminal member and having detent portions spaced from said walls, an actuator member comprising a stem portion journalled in the terminal member and one of the apertured embossments in the other housing wall and a flange extending radially from said stem portion inwardly of opposite ends thereof, one side of said flange having cam surfaces formed thereon receiving the detent portions of the resilient contact arms during the rotation of the actuator member, the other side of the flange being provided with cam surfaces and stop means, and a resilient positioning member carried by one of the apertured embossments in the other housing wall and having a yoke portion surrounding the other embossment, said positioning member further including a tongue portion having a detent thereon engageable with the cam surfaces on the other side of the flange to index the actuator member, the tongue portion contacting the stop means to limit rotary movement of the actuator member.

2,970,200

CONTACT PILEUP

Wendell R. Walker and Edward J. Scholenburg, Danville, Ill., assignors to Time-O-Matic Company, Danville, Ill., a partnership

Filed May 6, 1957, Ser. No. 657,331
11 Claims. (Cl. 200—166)



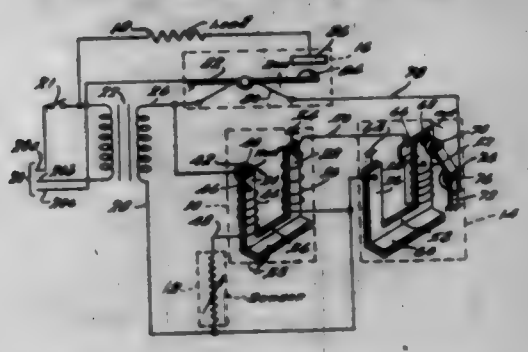
3. A contact pileup comprising a plurality of resilient leaves insulated and spaced one from another and in such fashion rigidly connected adjacent one end each to another, each of said leaves being provided with at least one registering electrical contact intermediate its said connected end and its other end, means for moving the free ends of said leaves relative to one another and said contacts into and out of engagement one with another, a support arm rigidly connected to and spaced from said connected ends of said leaves, a single screw threadedly engaged with said support arm and extending therefrom externally adjacent the free ends of said leaves, a plurality of nuts threadedly engaging said screw and positioned contiguous the ends of certain of said leaves for independent adjustment of the positions of their respectively contiguous leaves and associated contacts one to another, and means for adjusting simultaneously the position of said screw and said nuts relative to said support arm and thereby the positions of all of said leaves and associated contacts with respect to another reference without changing the positions of leaves and associated contacts with respect to contiguous leaves and associated contacts.

2,970,201

CONDITION-RESPONSIVE SYSTEM

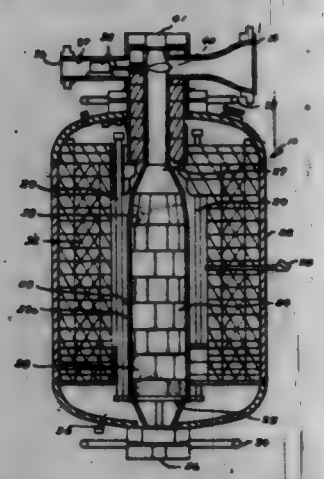
Gary F. Woodward, Ann Arbor, Mich., assignor to King-Seeley Corporation, Ann Arbor, Mich., a corporation of Michigan

Filed Nov. 24, 1958, Ser. No. 776,089
25 Claims. (Cl. 219—20)



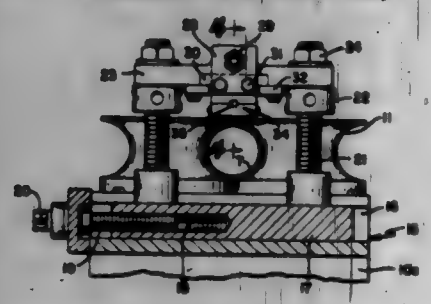
1. In a system energizable from a source of voltage for actuating a voltage responsive device in accordance with a condition, the combination of resistance means having a resistance which changes with changes of the condition, a pair of electrical contacts, polymetallic means for controlling said contacts, means including said contacts for controlling the voltage responsive device, first electrical heating means for said polymetallic means, means including said electrical contacts and said resistance means for controlling the energization of said first heating means from the source, second heating means for said polymetallic means, and circuit means including said electrical contacts for controlling the energization of said second heating means from the source.

2,970,202
FORCED-CONVECTION HEATER
Antonio Ferri, Rockville Centre, Paul A. Libby, Freeport, and Martin H. Bloom, Woodmere, N.Y., assignors to the United States of America as represented by the Secretary of the Air Force
Filed Mar. 13, 1957, Ser. No. 645,878
6 Claims. (Cl. 219—39)



1. A forced-convection heater comprising: an outer, insulated housing having a vertically disposed container therein with a closable gas inlet and convergent discharge passage for the upward, forced flow of air through said container, a plurality of ceramic, heat storing spherical pebbles of uniform diameter disposed within said container, said container having a lower support member for said pebbles, said pebbles being of a weight sufficient to remain substantially in place within said container against the upward flow of gas therethrough and capable of movement to facilitate convective heat transfer, a plurality of rod like resistance heating elements vertically disposed and surrounding said container to indirectly and cumulatively heat said pebbles to a predetermined temperature, and means to pressurize said container to a predetermined pressure.

2,970,203
UNIVERSALLY ADJUSTABLE GUIDE FOR TUBES IN A TUBE MILL
Veryl H. Sanner and Lewis H. Ruple, Toledo, Ohio, assignors to Abbey Etna Machine Company, Perrysburg, Ohio, a corporation of Ohio
Filed Mar. 2, 1959, Ser. No. 796,507
5 Claims. (Cl. 219—59)

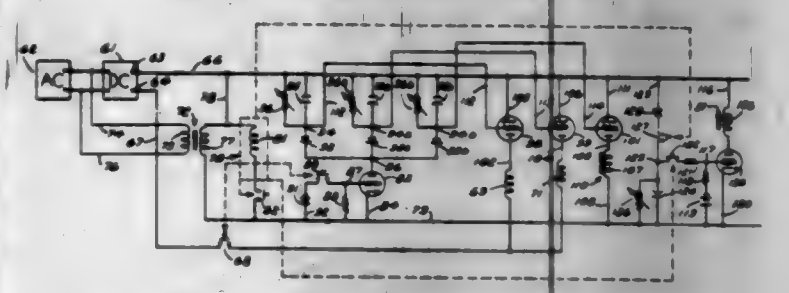


1. In a tube mill having spaced pairs of seam guide and welding rolls between which a formed tube passes with the edges thereof spaced apart until reaching the welding rolls and a welding unit disposed in advance of the welding rolls for fusing the metal at the tube edges before entering the welding rolls, a device engaging the tube edges between the pairs of rolls for guiding the same to the welding unit, said device comprising a holder, a pair of plates depending from said holder for entrance in the space between the tube edges, and means for removably mounting said plates in said holder, and a series of means for universally adjusting said tube engaging device for insuring the spacing and guiding of the tube edges properly relative to the welding unit and welding rolls.

2,970,204
ELECTRIC WELDING METHOD AND COMPOSITION
John G. Picea, Oak Park, Mich. (3830 Carriage Road, Birmingham, Mich.), and Melvin M. Gerson, New York, N.Y.; said Gerson assignor to said Picea
No Drawing. Filed Feb. 27, 1958, Ser. No. 717,815
15 Claims. (Cl. 219—92)

1. The method of protecting and welding ferrous metal structures which comprises coating to a thickness sufficient to protect said surface against substantial corrosion at least one surface thereof with an electrically conductive coating composition comprising a thixotropic vehicle and zinc dust, said vehicle containing a thixotropic condensation product of a polymerizable ester and polyamide obtained from a polymerized fatty acid and an alkylene polyamine, said zinc dust being in an amount sufficient to render the resulting coating conductive and comprising about 65 to 85 percent by weight of said coating composition and electrically welding said structures together at at least a portion of said coated surface.

2,970,205
ELECTRICAL CIRCUIT
Stuart C. Rockafellow, Plymouth, Mich., assignor to Robotron Corporation, Detroit, Mich., a corporation of Michigan
Filed Oct. 1, 1958, Ser. No. 764,571
5 Claims. (Cl. 219—108)

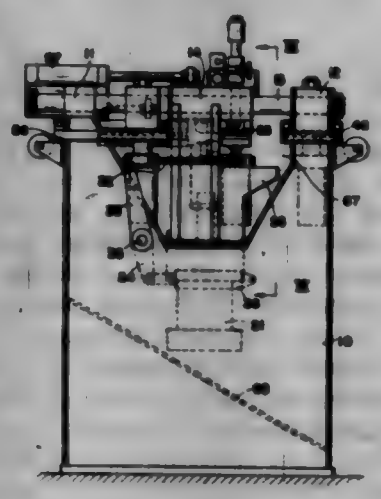


1. In circuitry for controlling the welding together of two fusible members, one of which is formed in part from a readily heat damageable material, comprising in combination: means initiatable at a selected reference point in time for simultaneously starting a plurality of timing means; a plurality of valves and means normally holding said valves blocked; a source of D.C. potential connected to selected ones of said valves; a source of A.C. potential connected to the remainder of said valves; means for rendering said valves conductive upon the timing out of said timing means; welding pressure applying means connected in series with said selected ones of said valves to said D.C. potential source for initiating application of welding pressure upon the rendering of said selected ones of said valves conductive regardless of the point in the cyle of said A.C. potential source at which said valves become conductive; and welding electrodes connected to said remainder of said valves and circuit means responsive to the conduction of said remainder of said valves for supplying welding current to said welding electrodes whereby weld pressure and weld current will be supplied completely independently of each other.

2,970,206
METAL JOINER, PARTICULARLY FOR STRIP
Michael C. Uhrain, Youngstown, Ohio, assignor, by mesne assignments, to The Taylor-Winfield Corporation, Warren, Ohio, a corporation of Ohio
Filed Apr. 2, 1959, Ser. No. 803,721
8 Claims. (Cl. 219—125)

1. In apparatus for joining strip and the like a base, a fixed strip clamp at one longitudinal end of the said base, a longitudinally slidable strip clamp at the other longitudinal end of said base, said strip clamps being so re-

lated as to clamp a pair of strip lengths in a common plane, a combined shear and welding unit slidably mounted for longitudinal movement on said base intermediate said clamps, said unit comprising a transverse fixed upper shear blade having its cutting edge immediately about said plane and closely adjacent parallel welding toe-clamps longitudinally spaced from each other to allow transverse passage of the electrode of an arc welding head, the bottom surfaces of said toe-clamps being substantially in the plane of the bottom edge of said



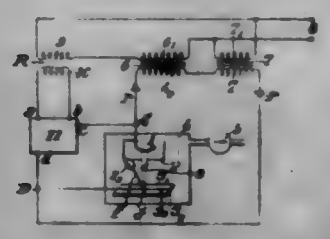
fixed shear blade, said unit also comprising a power-operated vertically movable lower shear blade and a closely adjacent vertically movable weld clamp adapted to underlie said toe-clamps, and means mounting said welding clamp for longitudinal movement with respect to said shear blades and said toe-clamps to provide for downward passage of croppings on the side of the shear adjacent said weld clamp, the parts being so oriented that said weld clamp is longitudinally intermediate the fixed strip clamp and the shear.

2,970,207

METHOD AND DEVICE FOR ARC WELDING

Jacques Andre Stohr, Bures-sur-Yvette, France, assignor to Commissariat a l'Energie Atomique, Paris, France, a state administration

Filed Nov. 20, 1958, Ser. No. 775,321
Claims priority, application France Nov. 21, 1957
9 Claims. (Cl. 219—131)



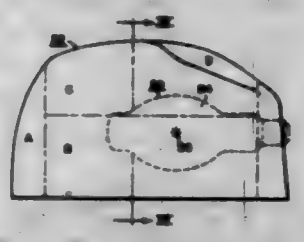
1. Device for arc welding a pair of metallic parts, comprising a chamber, means for evacuating said chamber, an arc electrode inside said chamber, a cathode disposed inside said chamber and adapted, when sufficiently negatively biased, to produce an electron beam, means for focalizing said electron beam in a restricted zone inside said chamber, means for supporting said metallic parts inside said chamber with the adjoining edges thereof along which the welding is to be carried on traversing said restricted zone, means for applying a low voltage between said metallic parts and said arc electrode, means adapted to apply a high potential on said cathode relatively to said metallic parts, means for rendering operative said last mentioned means when and only when no material ionization exists between said arc electrode and said arc ionization exists between said arc electrode and said metallic parts, and means for performing a relative displacement between said parts and said restricted zone.

2,970,208

LUMINAIRE OPTICAL SYSTEM

Merle E. Keck, Bay Village, Ohio, assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed July 26, 1957, Ser. No. 674,396
4 Claims. (Cl. 240—25)



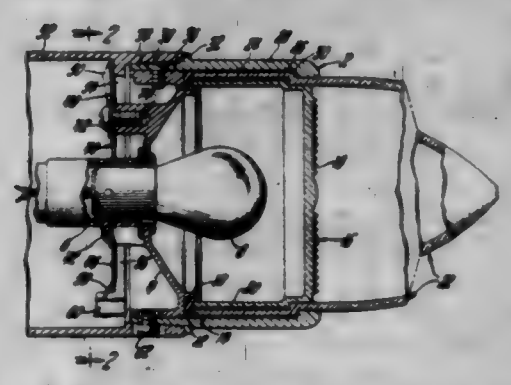
4. An optical system comprising a one-piece ovate reflector having opposite sides, opposite ends, a top portion and a bottom opening, an elongated light source in said reflector extending from one of said ends, said reflector having a pair of laterally opposed parabolic reflecting surface means disposed generally along said opposite sides for reflecting light beneath said source and generally toward the other one of said ends, said reflector having a first irregularly curved reflecting surface means disposed generally centrally of said top portion and above said source for reflecting substantially all of the light emitted from said source on to said first surface means around said source and on to said parabolic surface means, and said reflector having a second irregularly curved reflecting surface means disposed generally along said top portion surrounding said first irregularly curved surface means and joining said parabolic surface means for reflecting light downwardly below said source and generally toward said other one of said ends, and an ovate refractor having an open top mating with said reflector bottom opening, said refractor having a first prismatic surface means for diverging certain of the light passing therethrough and a second prismatic surface means for refracting certain of the light passing therethrough in a direction generally toward said other one of said ends of the reflector but inclined downwardly therefrom.

2,970,209

LAMP ASSEMBLY

Chester J. Glowzinski, Dearborn, and Joseph J. Rosalik, Detroit, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Aug. 14, 1958, Ser. No. 755,056
2 Claims. (Cl. 240—52.1)



1. The combination with a lamp assembly of the type comprising a lamp body and lens secured together and enclosing a light source, of means for mounting said assembly; said mounting means comprising yieldable means secured to the rear of said lamp assembly and including a plurality of spaced radially outwardly projecting locking fingers, one of said fingers being wider than the other of said fingers, a support wall defining an opening, a plurality of circumferentially spaced locking lugs on said wall projecting radially inwardly of said opening, the spacing of certain adjacent pairs of said

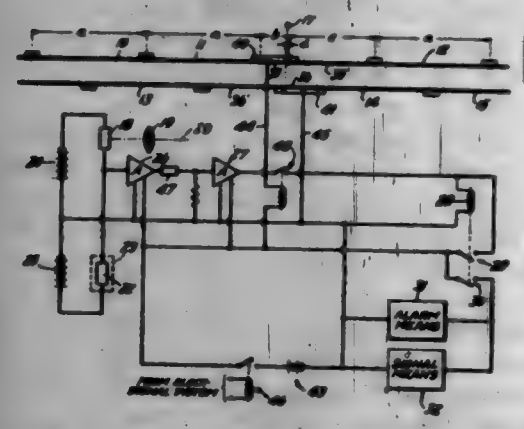
locking lugs being such as to receive the respective narrower locking fingers and prevent entry therein of said wider locking finger upon insertion of said assembly into said opening, the spacing of another adjacent pair of said locking fingers being such as to receive the wider locking finger, said assembly being rotatable within said opening whereby said locking fingers engage said locking lugs to retain said assembly within said opening, and a stop lug within said opening abuttable with one of said fingers to limit rotation of said assembly.

2,970,210

HOT-BOX DETECTOR

Frank G. Willey, Roslyn Heights, N.Y., assignor to Servo Corporation of America, New Hyde Park, N.Y., a corporation of New York

Filed June 27, 1955, Ser. No. 518,251
3 Claims. (Cl. 246—169)



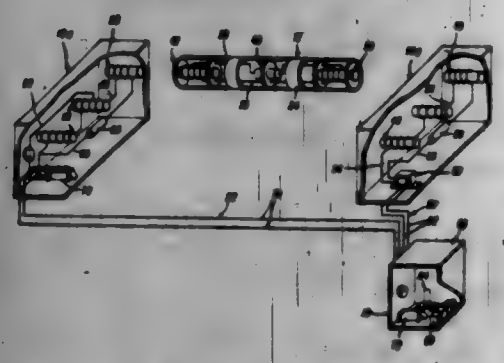
1. In a railroad hot-box detecting system including a normally inactive means including a heat-responsive cell mounted alongside a railroad track right of way and directionally aligned to observe passing journal boxes, means for activating said normally inactive means only when said journal boxes are in the field of view of said cell, comprising two electrically insulated longitudinally off-set rail sections at opposite sides of said right of way and having an overlap substantially equal to the effective width of a journal box, a control circuit completed only when opposite wheels of a railroad car are on the overlapping parts of said rail sections for activating said cell, and signal output means responsive to the output of said cell.

2,970,211

TRAIN-END SIGNALLING DEVICE

August Karolus, Zollikon, Switzerland, assignor to Societe Technique pour l'Industrie Nouvelle S.A. Stin, Vevey, Switzerland, a Swiss corporation

Filed Apr. 1, 1958, Ser. No. 725,657
1 Claim. (Cl. 246—249)



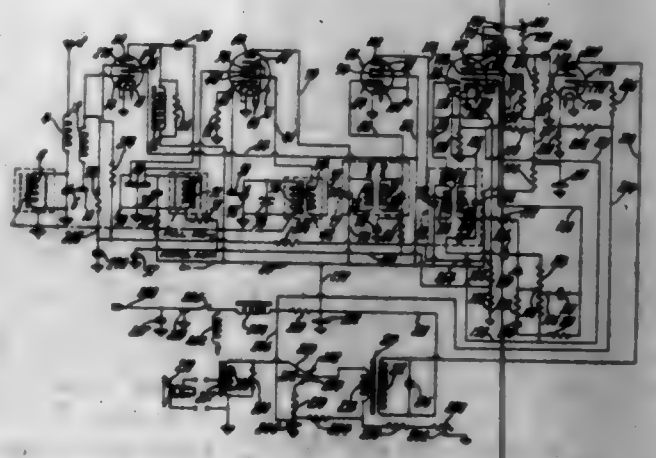
An apparatus for signaling the passage of a train along a track past a given check point, comprising a stationary transmitting unit at one side of said track, a stationary receiving unit opposite said transmitting unit at the other side of said track, and a train-borne coupling unit positioned for momentary operative alignment with both of said stationary units upon the movement of the rear end of said train past said check point; said transmitting unit comprising a first tuned resonant circuit including a plurality of first helically wound elongated ferrite core inductance coils, of a length substantially one-tenth the distance between said stationary units, electrically connected in series with one another, said coils being spaced along said track at a distance from one another of twice the length of one of said coils, and energizing means for supplying to said coils an alternating current of the frequency of said tuned resonant circuit; said receiving unit comprising a second tuned resonant circuit including a like plurality of second helically wound elongated ferrite core inductance coils, of the same length as said first coils, electrically connected in series with one another and having a capacitor connected across the end terminals thereof, positioned along said track with the same spacing as said first coils, with successive pairs of said first and second coils, respectively, having their longitudinal axes in the same plane, rectifier means connected at one side thereof to the electrical center of said plurality of series connected coils, and a signal means responsive to a voltage of predetermined magnitude induced in said second coils connected between the other side of said rectifier and an output lead extending from a common connection between said series connected coils and said capacitor; said coupling unit compriaing a third tuned resonant circuit including two series-connected helically wound elongated ferrite core inductance coils having the longitudinal axes thereof mutually parallel with the longitudinal axes of said first and second coils and positioned for simultaneous passage through successive pairs of said first and second coils, respectively; all of said tuned resonant circuits being resonant at the same frequency whereby the resulting repetitious coupling action between the plurality of spaced inductance coils in said transmitting and receiving means causes the voltage induced in the tuned resonant circuit of said receiver to build up to a steady state value and energize said signal means.

2,970,212

TRANSISTORIZED LOW VOLTAGE RECEIVER

James H. Guyton, Richard L. Jenkins, and Harry Rolland Buell, Kokomo, Ind., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

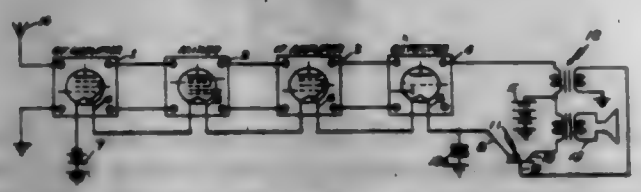
Filed Sept. 27, 1956, Ser. No. 612,388
5 Claims. (Cl. 250—20)



1. In low voltage radio receiving apparatus all components of which are supplied with electrical power of approximately 12 volts having high frequency amplifying means and a detector, a high frequency transformer including a tapped primary and a secondary winding, conductive circuit means connecting the output of the high frequency amplifying means across the tapped portion of the primary and conductive circuit means connecting the full primary to said detector to produce a control voltage in said last named conductive circuit means so that the

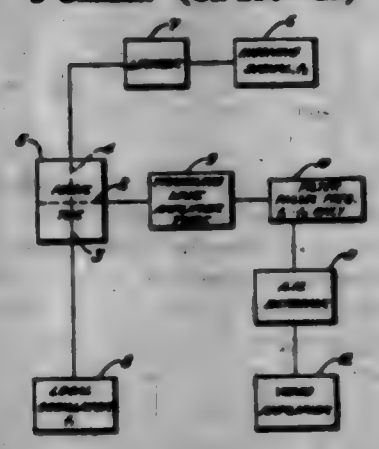
output of the high frequency amplifier provides a substantial gain for a usable control voltage and still retains high impedance.

2,970,213
HYBRID RADIO RECEIVING CIRCUITS
Francis M. Dukat, Waltham, Mass., assignor to Raytheon Company, a corporation of Delaware
Continuation of abandoned application Ser. No. 463,875, Oct. 22, 1954. This application Dec. 19, 1957, Ser. No. 703,943
4 Claims. (Cl. 250—20)



1. A radio receiving circuit comprising a plurality of stages for amplifying, mixing, and detecting an incoming radio frequency signal, at least one of said stages including a transistor and at least one of the remaining stages including an electronic tube, said tube stages having the heaters connected in series with each other, with a source of current, and with the emitter-base circuit of said transistor, and a source of voltage connected to the plates of said tube stages and to the collector of said transistor.

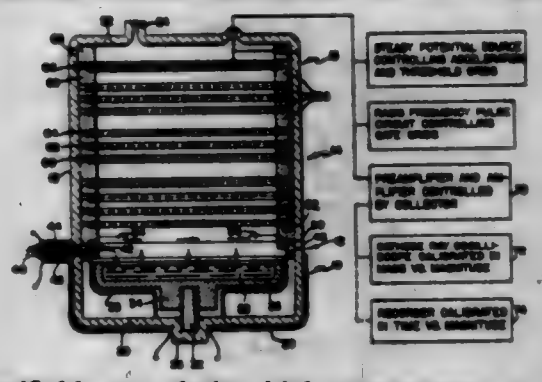
2,970,214
WIDE BAND MICROWAVE RECEIVER
Philip Parzen, Forest Hills, N.Y., assignor to the United States of America as represented by the Secretary of the Air Force
Filed Feb. 21, 1958, Ser. No. 716,827
3 Claims. (Cl. 250—29)



1. A wide band frequency modulation receiver comprising a limiter adapted to receive an incoming pulsed frequency modulated signal, a local oscillator generating a fixed frequency signal, a magic T adapted to receive the two said signals, a traveling wave tube amplifier receiving the resultant signal from said magic T, and said amplifier operating to amplitude modulate said resultant signal, filter means adapted to receive the output signal from said traveling wave tube amplifier, said filter means passing only said amplitude modulated signal, means to detect said amplitude modulated signals received from the output of said filter means, and video amplifying means for said detected signal.

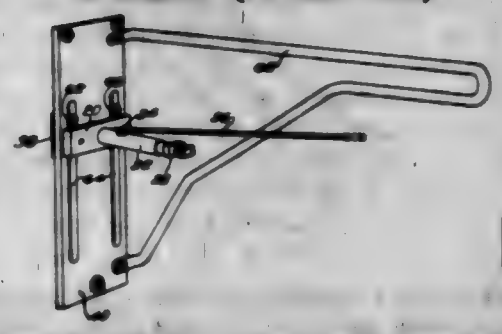
2,970,215
MASS SPECTROMETER
Henry S. Specil, Boston, Mass., assignor to Alloyd Research Corporation, Watertown, Mass., a corporation of Massachusetts
Filed Jan. 10, 1958, Ser. No. 708,323
8 Claims. (Cl. 250—41.9)

1. A mass spectrometer for determining the composition of an unknown specimen of relatively small mass, said mass spectrometer comprising a jacket and components within said jacket providing, in sequence, a vaporizing region, an ionizing region, an analyzing region and a collecting region, said ionizing region and said analyzing region providing a path between said vaporizing region and said collecting region, the components of said vaporizing region including a crucible containing a known



solid liquifiable at relative high temperature to provide a bath of relatively large mass, said specimen being soluble in said bath, said crucible being thermally isolated from adjacent portions of said jacket and preventing said bath from flowing to said adjacent portions of said jacket, said adjacent portions of said jacket being at relatively low temperature.

2,970,216
SAMPLE CELL FOR SPECTROSCOPIC APPARATUS
Richard A. Magrath, Boston, Mass., assignor to Baird-Atomic, Inc., Cambridge, Mass., a corporation of Massachusetts
Filed Aug. 7, 1958, Ser. No. 753,758
10 Claims. (Cl. 250—43.5)

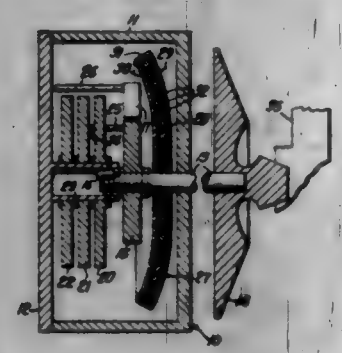


10. A sample cell for spectroscopic examination, said sample cell comprising a base for prepositioning and orienting said cell with respect to a photometric system, a body component having an elongated, small diameter capillary first bore of circular cross-section, said body component being secured to said base, for transmitting radiation from said system through a sample within said bore, a probe providing a capillary second bore communicating with one end of said first bore, and a syringe including a cylinder communicating with the other end of said first bore and a piston slidable in said cylinder, said body component including an insert that is transparent to said radiation, said bore being formed in said insert and a shell for said insert, said shell having opposed windows aligned with said first bore, the periphery of said insert being flattened at positions adjacent to said windows, the axis of said first bore and said second bore intersecting at an oblique angle.

2,970,217
ROTATING SCATTERING ELEMENTS FOR X-RAY PROOF LOCKS
Oleg C. Eaklestoff, Silver Spring, Md., assignor to Harry C. Miller Company, Rochester, N.Y., a partnership
Filed Oct. 29, 1958, Ser. No. 770,390
4 Claims. (Cl. 250—106)

1. In a combination lock of the type having a plurality of rotatable tumblers and a rotatable spindle for adjusting

the tumblers, the improvement comprising means for resisting compromise of the security of the lock by radiography techniques including a radiation scattering shield supported on the spindle in concentric relation therewith having radiation scattering means disposed in a pattern extending in forwardly shielding relation to the tumblers to intercept radiation energy directed through the tumblers



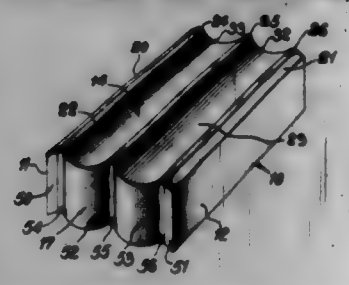
along radiation axes extending generally along the spindle which would yield a radiograph image of the tumblers and scatter the radiation energy to prevent recording of a readable image of the tumblers which would reveal their angular position, and means for coupling said scattering shield to such spindle to rotate synchronously with the spindle.

2,970,218

BRICK FOR RADIATION SHIELDS

Frederick A. C. Shaw, Long Branch, N.J., assignor to American Smelting and Refining Company, New York, N.Y., a corporation of New Jersey

Filed Oct. 29, 1958, Ser. No. 770,460
5 Claims. (Cl. 250—108)



1. A brick for a radiation shield, said brick having a male mating face on one side and a male mating face on one end thereof, each of said faces comprising a fluted portion and two straight, oppositely disposed and unaligned shoulder edge portions, and a corresponding reverse female mating face on the side and end opposite to said first mentioned side and end of said brick.

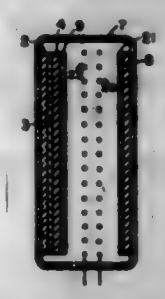
2,970,219

USE OF THIN FILM FIELD EMITTERS IN LUMINOGRAPHS AND IMAGE INTENSIFIERS

William L. Roberts, Monroeville, and William E. Newell, Penn Township, Allegheny County, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Aug. 18, 1955, Ser. No. 529,267
5 Claims. (Cl. 250—213)

1. An image display device comprising a large area electron source, an output screen on which the electrons from said source are projected and grid means positioned between said source and said output screen, said electron source comprising a first layer of electrical conductive material and a second layer deposited on said first layer on the side thereof facing said output screen of a material selected from the group consisting of magnesium oxide and aluminum oxide, means for impressing a uniform charge on the surface of said second layer to establish a high voltage gradient within said second layer to cause field emission of electrons from said source, means for projecting a radiation image onto said source to establish a charge pattern on the surface of said second layer corresponding to said light image and means for accelerating an electron image corresponding to said charge pattern from said source to said output screen, said grid means comprising a first grid and a second grid, said first grid



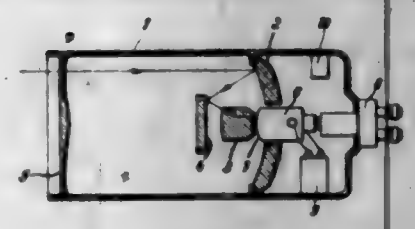
disposed nearer to said electron source than said second grid and having a potential applied thereto more positive than that applied to said electron source, said second grid having a potential applied thereto between the potential applied to said first grid and the potential assumed by said second layer under substantial radiation.

2,970,220

SYSTEM FOR OBSERVING OBJECTS UNDER POOR LIGHTING CONDITIONS

Albert Bouwers, The Hague, Netherlands, assignor to N.V. Optische Industrie "De Oude Delft," Delft, Netherlands

Filed July 7, 1958, Ser. No. 746,851
Claims priority, application Netherlands July 8, 1957
3 Claims. (Cl. 250—213)



1. A system for observing scenes under natural illuminating conditions at night comprising in combination a housing, an optical system in said housing having a diameter of the entrance pupil of at least 300 mm. and a relative aperture greater than 1/0.8, a brightness intensifier in optical alignment with said optical system having a primary image receiving surface and a final image reproducing surface, said image receiving surface being in the image surface of said optical system, the linear reduction in size of said final image with respect to said primary image of said brightness intensifier being at least 4, the ratio of the focal length of said optical system and said linear reduction factor being at least 5 times the effective diameter of said final image of said brightness intensifier, a concave spherical mirror whose optical axis is substantially perpendicular to the direction of view, and a plane mirror under an angle with said optical axis and reflecting the rays entering the system in the direction of said concave mirror, said plane mirror having a central aperture receiving a part of said brightness intensifier or giving passage to rays travelling from said concave mirror to said image receiving surface.

2,970,221

PHOTOELECTRIC METERING APPARATUS

Robert E. Jackson, West Covina, Calif., assignor, by mesne assignments, to Challenge-Cook Bros., Incorporated, La Mirada, Calif., a corporation of California

Filed Sept. 30, 1958, Ser. No. 764,381
1 Claim. (Cl. 250—218)

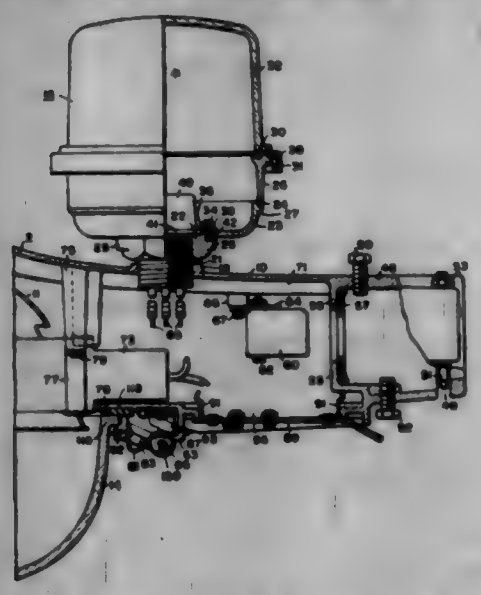
In a photoelectric liquid metering apparatus, the combination of: a reservoir; means for discharging liquid from said reservoir, including a valve; a vertical sight

tube at the same horizontal level as said reservoir and connected at its ends to said reservoir so that the liquid level in said sight tube is the same as the liquid level in said reservoir; an opaque float in said sight tube; a support movable vertically along said sight tube; a light source carried by said support adjacent said sight tube; a photoelectric cell carried by said support adjacent said



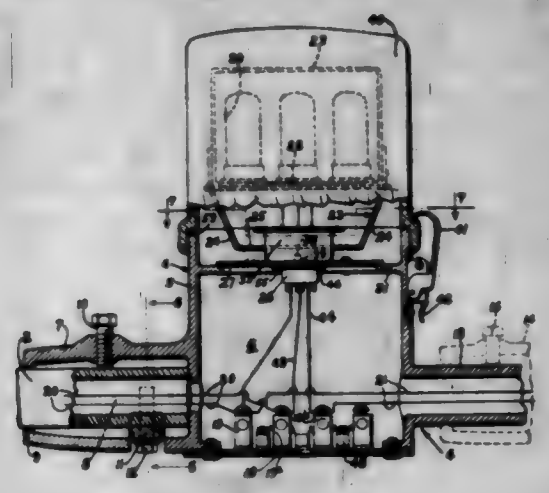
sight tube; means on said support providing a light path from said light source to said photoelectric cell through said sight tube, including slit-forming means on said support providing a narrow slit in a horizontal plane; means for opening said valve with said slit below said float; and means connected to said photoelectric cell for closing said valve in response to downward movement of said float into a position to obstruct said slit.

2,970,222
LUMINAIRE
Donald E. Husby and Thomas A. Jentner, Fairview Park, Ohio, assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed May 19, 1958, Ser. No. 736,042
6 Claims. (Cl. 250—239)



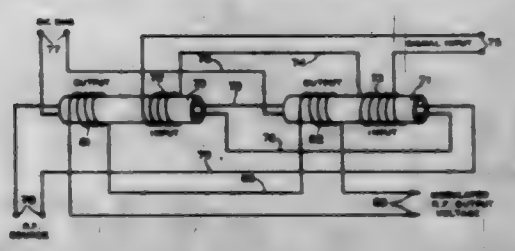
1. A luminaire comprising, an inverted cup-shaped reflector, an aperture located in said reflector, a lamp supporting means mounted adjacent said apertures for supporting a lamp in said reflector, an elongated housing located adjacent to and extending outwardly from the apertured portion of said reflector, support means on said housing opposite said reflector, an internally threaded aperture located on a portion of said elongated housing intermediate said reflector and said supporting means, an at least partially transparent enclosure having a base suitable for mounting electrical control components, electrical control components located in said enclosure being light sensitive, a threaded pipe support located in the base of said enclosure suitable for threadedly engaging the aperture, said pipe support being an electrical conduit between the interior of said housing and said enclosure, said electrical components located in said enclosure automatically energizing said luminaire.

2,970,223
OUTDOOR LIGHTING LUMINAIRE
William B. Elmer, Wheeler Reflector Co., 275 Congress St., Boston, Mass.
Filed June 11, 1958, Ser. No. 741,388
4 Claims. (Cl. 250—239)



1. An outdoor lighting unit comprising a laterally extending luminaire-supporting arm, a luminaire having a light source and also a laterally extending tubular support member, and an arm extension element separate from both the luminaire and the luminaire supporting arm and having means for detachably mounting it on the end of the luminaire-supporting arm and also having a lateral projection which simulates the end of the luminaire-supporting arm and on which the luminaire is detachably mounted, said arm extension element having a body portion provided with an open-topped chamber, a supporting plate stationarily mounted within said chamber and having an opening, a light sensitive control device provided with a light sensitive element and having a portion extending through said opening, which portion is provided with an external circumferential groove situated below said stationary plate and a split-bowed locking ring occupying said groove and locking the light sensitive control device to said supporting plate while permitting said control device to be oriented by turning it about the vertical axis of said opening.

2,970,224
CARRIER OPERATED TRANSVERSE MAGNETIC AMPLIFIER WITH CANCELLATION OF INTERACTION BETWEEN INPUT AND OUTPUT CIRCUITS
Daniel M. Lipkin and Richard W. Spencer, Philadelphia, Pa., assignors to Sperry Rand Corporation, a corporation of Delaware
Filed Mar. 17, 1955, Ser. No. 494,852
10 Claims. (Cl. 307—88)



1. A transverse magnetic amplifier having cancellation of interference between input and output comprising a

plurality of ferromagnetic cores having channels therethrough, a first winding threading said channels, means to apply a radio frequency current to said first winding for producing a magnetic field, a second winding threading said channels in the same direction in one core as said first winding and in the opposite direction in another of the cores as compared to said first winding, means to supply a direct current to said second winding, a signal input winding wound on both cores in a direction orthogonal to said first and second windings, a fourth winding on said cores means to apply an input signal to said signal input winding, the resultant magnetic field of said first, second, and input windings experiencing rotation and being sufficiently large to carry the material of said cores into the region of decreasing rotational hysteresis loss to cause the resultant magnetic flux to follow to a desired extent the movement of said resultant field and thereby to induce modulated radio frequency output voltage in said fourth winding carried by said cores, said opposite direction of threading said second winding functioning to cancel interaction between the circuits of said first winding and said signal input winding.

2,970,225

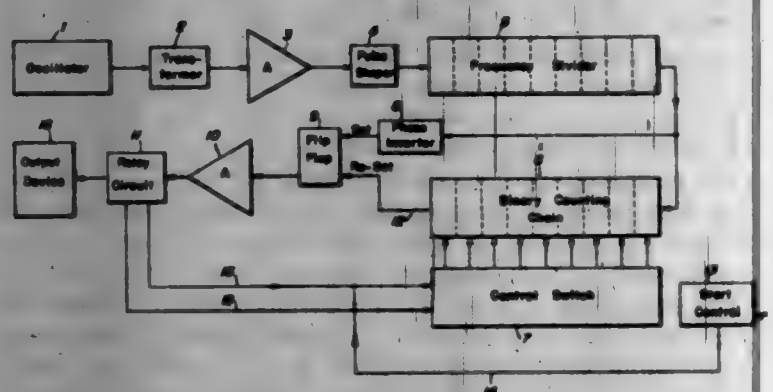
WITHDRAWN

2,970,226

ELECTRONIC TIMING DEVICE

Charles W. Skelton, Irving, and Jack S. Mason, Richardson, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Nov. 28, 1956, Ser. No. 623,385
14 Claims. (Cl. 307—88.5)



9. A timing device comprising an oscillator producing a constant frequency output, means responsive to the output of said oscillator for producing a waveform at a constant frequency, a counting means responsive to said waveform to count the cycles thereof and produce an output condition upon registering a predetermined count, means to selectively preset said counting means to register any desired count and thereby vary the number of cycles that are counted before said output condition is produced, output means operated in response to said output condition, and a clear switch to set said counting means to register a second predetermined count in said counting means.

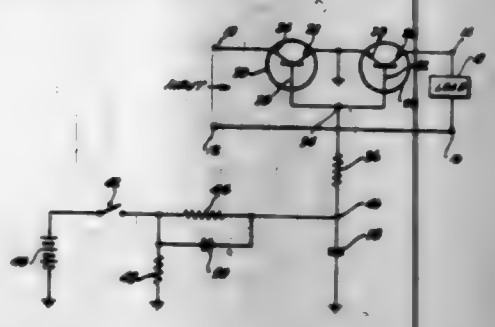
2,970,227

VOLTAGE TRANSFER SWITCH

William F. Horton, Pacific Palisades, and Samuel H. Auld, Jr., Canoga Park, Calif., assignors to Lear, Incorporated

Filed Apr. 30, 1957, Ser. No. 655,982
3 Claims. (Cl. 307—88.5)

1. A voltage transfer switch comprising first and second transistors each having emitter, collector and base electrodes, said base electrodes being directly connected, a first resistor and a capacitor connected in series between the junction of said base electrodes and a point of reference potential, a switching device, a second resistor connected between said switching device and the junction of said first resistor and said capacitor, a resistive connection between the junction of said switching device and said second resistor to said point of reference potential, a uni-



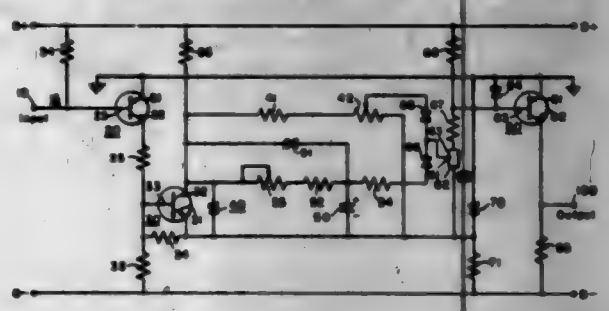
directionally conductive device shunting said second resistor, first and second pairs of terminals each having a respective load impedance connected therebetween, said emitter and collector electrodes being connected in series between respective terminals of each pair so that the emitter-collector paths of said transistor are in back-to-back relation, and means to provide D.-C. path from said emitter electrodes to the point of reference potential.

2,970,228

TIMING CIRCUIT

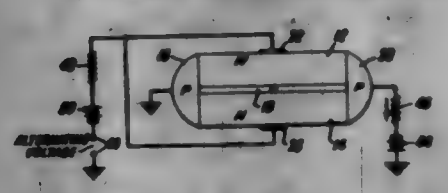
Marshall P. White, Grand Haven, Mich., and Robert D. Talbot, Hasaburg, N.Y., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Mar. 13, 1958, Ser. No. 721,273
5 Claims. (Cl. 307—88.5)



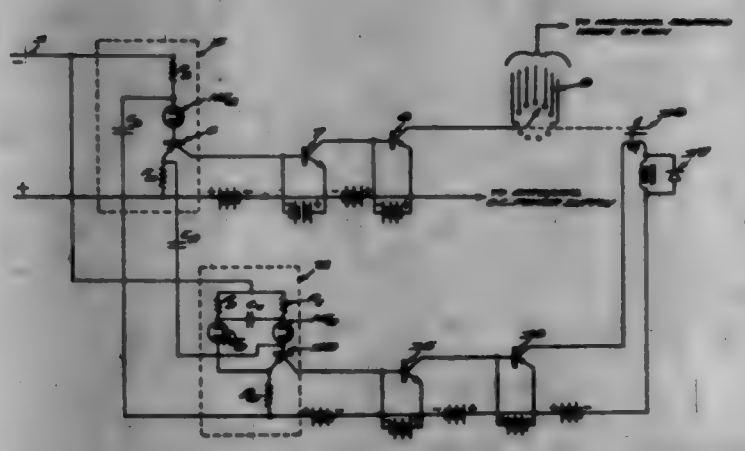
1. In a timing circuit, in combination; input means for applying a signal to said timing circuit; intermediate and output transistor means each having three electrodes; double base diode means having an emitter electrode, a first base electrode and a second base electrode; electrical energy storage means; and means connecting bias supply means to said timing circuit; said energy storage means being connected to charge from said bias supply means; said intermediate transistor means having two of its said three electrodes connected to discharge said energy storage means in response to a signal applied to said input means; said energy storage means upon discharge being connected through isolating rectifier means to regulate conduction between said first and second base electrodes of said double base diode means; said output transistor means being connected to said first and second base electrodes of said double base diode so that conduction therethrough controls the output state of said output transistor means; said bias supply being connected to supply bias potential to said intermediate transistor means, said output transistor means, and said double base diode means; said bias supply means being connected between said emitter and first base electrode means of said double base diode means through isolating rectifier means.

2,970,229
TEMPERATURE INDEPENDENT TRANSISTOR WITH GRAIN BOUNDARY
Herbert F. Mataré, Long Branch, N.J., Benjamin Reed, Flushing, N.Y., and Otto Weinreich, East Orange, N.J., assignors, by mesne assignments, to Sylvania Electric Products Inc., Wilmington, Del., a corporation of Delaware
Filed Oct. 10, 1958, Ser. No. 766,499
6 Claims. (Cl. 307—88.5)



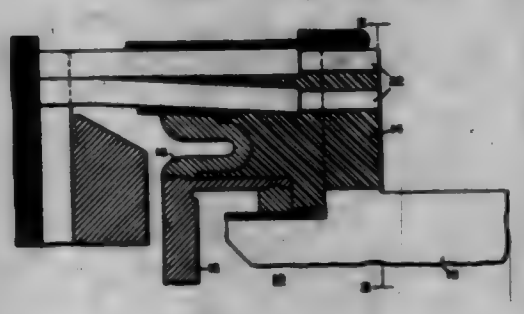
1. A transistor comprising a semiconductor bicrystal consisting of two joined semiconductor crystals of one conductivity type and a grain boundary interface of opposite conductivity common to both crystals and extending through said bicrystal between opposite ends thereof; first and second connections secured to corresponding ends of the bicrystal, each of said first and second connections being in rectifying contact with said semi-conductor crystals and in ohmic contact with said interface; and a third connection secured to an exposed crystal surface at a point intermediate the ends of the bicrystal, said third connection being in ohmic contact with said semiconductor crystals.

2,970,230
SEMI-CONDUCTOR CONTROL CIRCUIT FOR TUYERE PUNCHER
Fred Avery Adams, P.O. Box 863, Santa Rita, N. Mex.
Filed Jan. 8, 1959, Ser. No. 785,599
3 Claims. (Cl. 307—112)



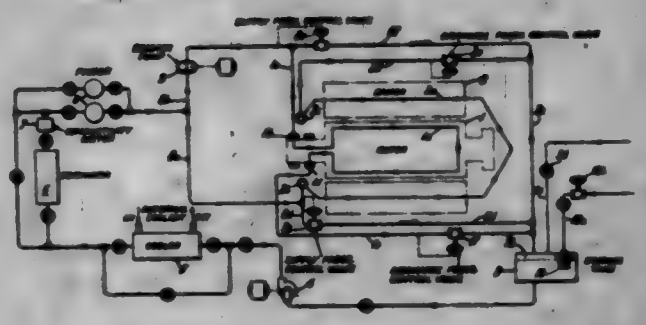
1. A control circuit for actuation of mechanical punchers and the like, comprising a multi-position rotary switch, an oscillator circuit including a gaseous discharge tube having two electrodes whose breakdown and current conduction is dependent upon the potential difference impressed between said two electrodes, a source of substantially constant D.-C. potential connected through a resistor to one electrode of said tube, means including a capacitor and a resistor in series connected in parallel with said tube for causing said tube to intermittently conduct current thereby delivering a first pulse, means for amplifying said first pulse including semi-conductor devices each having a base, an emitter, and a collector, means including said rotary switch for applying said first pulse to actuate said puncher and a mono-stable multi-vibrator circuit including a pair of gaseous discharge tubes each having two electrodes whose breakdown and current conduction is dependent upon the potential difference impressed between said two electrodes, means for applying said first pulse to one electrode of one of said tubes, means including a capacitor and a pair of resistors connected across the input electrodes of said tubes for causing said tubes to alternately and intermittently conduct current when said first pulse is applied whereby a second pulse is derived, means including semi-conductor devices each having a base, an emitter, and a collector for amplifying said second pulse, and means for applying said second pulse to step said rotary switch.

2,970,231
PACKING COMPOSITION FOR TURBINE GENERATOR EXCITER ROTORS
Dow A. Rogers, Jr., Wilkins Township, Allegheny County, and Robert J. Hillan, Pittsburgh, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 8, 1958, Ser. No. 765,968
1 Claim. (Cl. 310—43)



An electrical machine including, in combination, a rotating member and a body of tough flexible packing composition applied thereto, the packing composition comprising the hardened reaction product derived by heating at a temperature of from about 125° C.–150° C. (A) from 10 to 90 parts by weight of a reactive glycidyl polyether of a dihydric phenol, (B) from 90 to 10 parts by weight of at least one dimeric unsaturated fatty acid having a carbon atom chain length of from 10 to 24 carbon atoms per molecule, (C) up to 15% by weight, based on the weight of (A) of an amine curing catalyst, (D) at least one fibrous filler material selected from the group consisting of glass fibers, acrylic fibers, and polyester fibers, and (E) at least one inert filler selected from the group consisting of silica, silicates, carbonates, and aluminum oxide, said inert filler material having a particle size within the range of 100 to 325 mesh, the total weight of (D) and (E) being within the range of resin to filler ratio of 1.5:1 to 8:1.

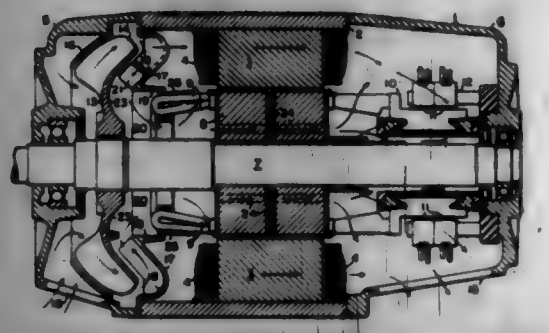
2,970,232
CONDUCTOR-COOLED GENERATOR
Charles E. Kilbourne, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York
Filed Oct. 21, 1958, Ser. No. 768,764
9 Claims. (Cl. 310—54)



1. In a conductor-cooled electro-magnetic device having at least one winding including cooling passages for removing heat directly from the electrical conductor, the

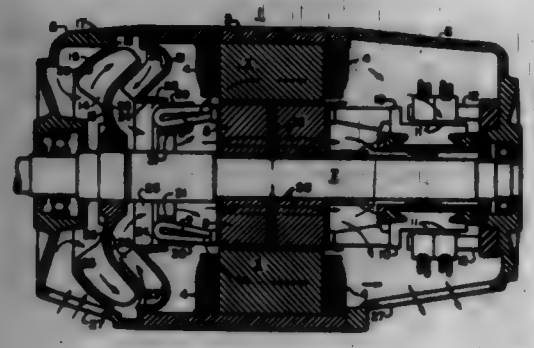
combination of a source of coolant liquid under pressure, means for supplying liquid coolant from said source to the winding at an inlet pressure adequate to maintain the coolant in the liquid state throughout all parts of the winding, and means for maintaining the coolant pressure at the outlet from the winding at a preselected minimum value such that the boiling point of the coolant at said outlet pressure is above the outlet temperature of the coolant, whereby the coolant experiences no substantial tendency to vaporize in any portion of the winding.

2,970,233
VENTILATING SYSTEM FOR A DYNAMO-ELECTRIC MACHINE
James H. Penney, East Amherst, N.Y., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Jan. 7, 1958, Ser. No. 707,526
4 Claims. (Cl. 310—63)



1. In a dynamoelectric machine having a rotor member and a stator member, a fan having a single set of blades coaxially mounted on said rotor member, and baffle means adjacent the discharge side of said fan for dividing and positively directing ventilating air through the machine so that a predetermined volume of the air passes at relatively low preasure over and through the stator member, and means for directing the remainder of the air at relatively higher pressure over and through said rotor member.

2,970,234
VENTILATING SYSTEM FOR A DYNAMO-ELECTRIC MACHINE
John W. Erickson, East Aurora, N.Y., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Jan. 24, 1958, Ser. No. 710,893
4 Claims. (Cl. 310—63)

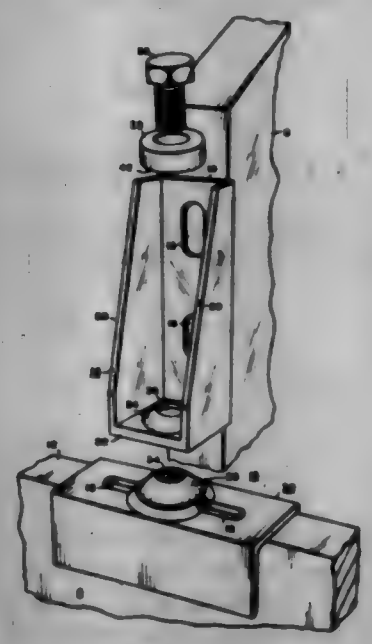


1. In a dynamoelectric machine having a stator member and a rotor member, said stator member including a stator frame, an air intake end bell at one end of said stator frame, an air exhaust end bell at the opposite end of said stator frame, a first annular baffle concentrically disposed around the inner circumference of said air intake end bell, said first baffle having a substantially concave surface facing the interior of the machine, a second annular baffle axially displaced inward from said first annular baffle and having a substantially concave side facing said first baffle, said second annular baffle having a reentrant cylindrical surface concentric with said rotor member forming a restricted passageway therewith, a plurality of radially disposed vanes on said substantially concave side of the second baffle, a fan mounted on said rotor member, said fan disposed between said first annular baffle and said second annular baffle and closely adjacent thereto, said fan having a second substantially concave surface facing the interior of the machine and displaced radially inward from said substantially concave side of the second baffle.

2,970,235
AGITATING APPARATUS
John A. Pike, Woodstock, N.Y., assignor to Tarrymount Inc., Cornwall Bridge, Conn., a corporation of Connecticut
Filed May 23, 1958, Ser. No. 737,363
2 Claims. (Cl. 310—83)

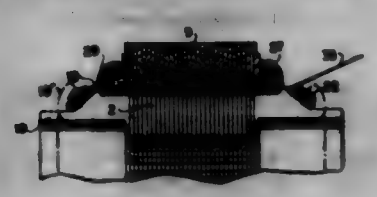
1. Agitating apparatus comprising a rigid support frame including a pair of spaced plates supported in relationship to one another by a plurality of substantially vertically extending support portions, driving motor means including a pair of laterally extending spaced field magnets disposed substantially parallel to one another, each of said field magnets being supported only at one end thereof by one of said support portions, the outer ends of said field magnets supporting a coil such that the motor extends substantially normally from said support portions and laterally of the support frame, said motor also including a rotor adjacent said one end portions of said field magnets and mounted for rotation upon a rotor shaft extending substantially parallel to said support portions and journaled within said frame, a plurality of intermeshing reduction gears drivingly connected to said rotor shaft and disposed in parallel planes extending substantially normally to said vertically extending support portions, a crank arm drivingly connected to said reduction gearing and extending in a plane substantially parallel with the planes of said reduction gears, said reduction gears being disposed between said plates and said crank arm being positioned on the opposite side of one of said plates from said reduction gearing, a relatively large output gear rotatably supported on said one side of said plate and disposed in a plane substantially parallel to that of the crank arm, and a connecting arm having a first end thereof connected to the outer end of said crank arm and the opposite end thereof connected to said output gear at a point spaced outwardly of the axis of rotation of said output gear, said connecting arm being connected between said crank arm and said output gear in such a manner that continuous rotation of said crank arm produces movement of the output gear in a first direction at a substantially constant speed whereupon further rotation of the crank arm results in a slight dwell or non-movement of the output gear and thence further rotation of the crank arm causes movement of the output gear in the opposite direction at an accelerated rate.

2,970,236
BASE MEMBER SUPPORT MEANS FOR DYNAMOELECTRIC MACHINES
Alesso S. De Paul, Churchill, and William H. Morse, Penn Hills Township, Allegheny County, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed May 29, 1958, Ser. No. 738,796
4 Claims. (Cl. 310—91)



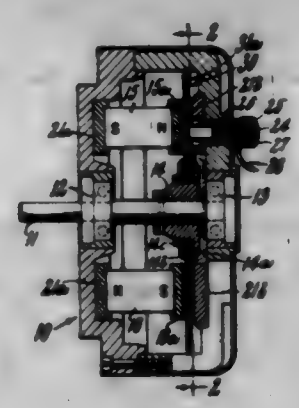
4. In a dynamoelectric machine having a base member, a rotor member supported on the base member, and a stator member, means for rigidly securing the stator member on the base member comprising a plurality of securing means, each of said securing means including an upper member adapted to be permanently attached to the stator member, a lower member adapted to be attached to the base, and clamping means for holding said upper and lower members together, one of said members having a concave spherical surface and the other of said members having a convex spherical surface, said spherical surfaces engaging each other to permit relative angular movement of the members prior to their attachment to the stator member and the base member, and a washer having a spherical surface engaging a corresponding spherical surface on the upper member, said clamping means engaging the washer and extending through the upper and lower members to normally clamp them rigidly together, the clamping means being removable to permit removal of the stator member from the base member and accurate replacement thereon in its original position as determined by said engaging spherical surfaces of all the securing means.

2,970,237
STATOR AND INTEGRAL COIL SUPPORT MEANS FOR PRECISION ELECTRICAL DEVICES
Henry J. Kent, West Englewood, N.J., assignor to General Precision, Inc., Wilmington, Del., a corporation of Delaware
Filed Sept. 19, 1957, Ser. No. 684,987
2 Claims. (Cl. 310—260)



1. A stator comprising a core body consisting of a stack of thin substantially circular laminations of a magnetizable material, each of said core laminations having a circular bore surrounded by a series of symmetrically spaced radially positioned integral teeth separated by radial slots, the sides of each of said radial teeth being substantially parallel to the radial centerline thereof, an end plate molded of a plastic material abutting the outer surface of each end lamination of the core, each of said end plates having a circular base with a substantially circular central opening therethrough attached to the adjacent end core lamination, and having a plurality of integral radially positioned horns extending outward beyond each end plate base, the horns being substantially radially aligned with the radial teeth of the core laminations and located substantially perpendicularly to the end plate base, the inner radial edge of each of said horns being substantially parallel to the longitudinal axis of the core body, each of said horns having a tip integral with the longitudinal outer end thereof, the outer radial edge of each of said horn tips being substantially parallel to the inner radial edge of the horn of which it forms a part, a plurality of parallel-sided oval-shaped outer coils fitted to said stator core, each end of said outer coils straddling a pair of horns on the adjacent end plate, each side of each of said outer coils being fitted through one of the radial slots through the core laminations, and a plurality of parallel-sided oval-shaped inner coils fitted to said stator core, each end of said inner coils straddling a pair of horns on the adjacent end plate, the inner coils being staggered relative to the outer coils, each side of each of said inner coils being fitted through one of the radial slots through the core laminations, the adjacent sides of adjoining pairs of inner and outer coils fitted to preselected slots through the core laminations extending over close to the entire width of the slot to which they are fitted, with a relatively narrow gap between the sides of adjacent coils, the tips of each of said horns being operative to be bent over to retain the adjacent inner coil ends in place, the end plates being molded of an incompletely cured thermosetting plastic material, the tips of the horns remaining ductile to facilitate bending thereof after the inner and outer coils are in place.

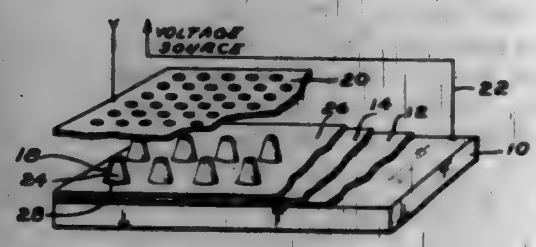
2,970,238
PRINTED CIRCUIT ARMATURE
Robert L. Swiggett, Huntington, N.Y., assignor, by mesne assignments, to Printed Motors Inc., New York, N.Y., a corporation of Delaware
Filed Feb. 12, 1959, Ser. No. 792,733
8 Claims. (Cl. 310—268)



2. An armature for an electrical rotating machine comprising: a thin sheet of insulating material having surfaces coated with conductive patterns which have substantially circular inner and outer boundaries and which have interconnections through said insulating material disposed in a plurality of substantially circular rows in said patterns near said boundaries, a group of said interconnections between said patterns being disposed in a plurality of substantially circular rows near said inner

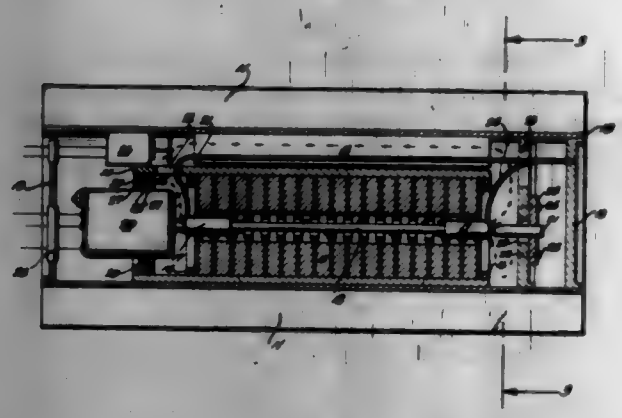
boundary, and a circular disk adherent to the conductive pattern on one surface of said sheet and electrically insulated therefrom for supporting said sheet.

2,970,239
ELECTROLUMINESCENT DEVICE AND METHOD
Theodore K. Rigden, Elmira, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed Oct. 23, 1959, Ser. No. 850,011
9 Claims. (Cl. 313—108)



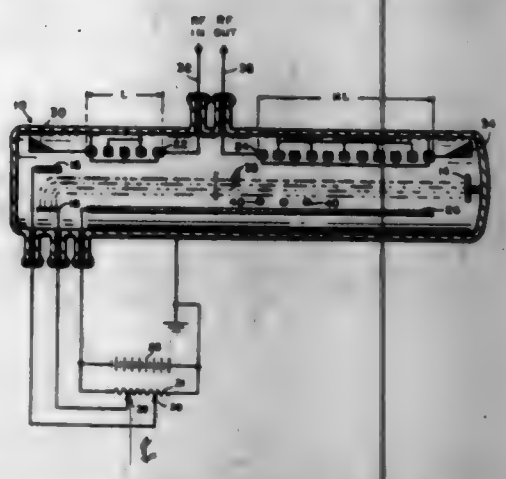
1. An electroluminescent device comprising a transparent first electrode, a layer of electroluminescent material in contact with one surface of said electrode, a pattern of dielectric pillars sealed to said electroluminescent layer by a layer of sealing glass which is of greater thickness intermediate the pillars than under the pillars, a variable resistance material carried on the walls of said pillars, a second electrode in contact with said dielectric pillars and means for producing an electric field between said electrodes.

2,970,240
LIQUID-COOLED TRAVELING WAVE TUBE
Arthur H. Iversen, Santa Monica, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Oct. 1, 1958, Ser. No. 764,538
4 Claims. (Cl. 315—3.5)



1. A high power traveling-wave tube comprising: a slow wave structure including an external slow wave structure envelope extending longitudinally along said tube; means including input and output coupling helices encompassing and radially separated from said slow wave structure envelope located at different points therealong; a cooling envelope encompassing said coupling helices and said slow wave structure envelope and having a central longitudinal axis which is eccentrically displaced with respect to said slow wave structure envelope, said cooling envelope defining a closed volumetric path for a circulating cooling medium, which path extends between said input coupling helix and said slow wave structure envelope, along said slow wave structure envelope and between said output coupling helix and said slow wave structure envelope; and means including a liquid coolant having a sufficiently high boiling point to operate without vaporization, circulating within said cooling envelope.

2,970,241
BACKWARD WAVE TUBE AMPLIFIER-OSCILLATOR
Gerald Klein, Neptune, N.J., assignor to the United States of America as represented by the Secretary of the Army
Filed Jan. 8, 1958, Ser. No. 707,834
3 Claims. (Cl. 315—3.6)
(Granted under Title 35, U.S. Code (1952), sec. 266)

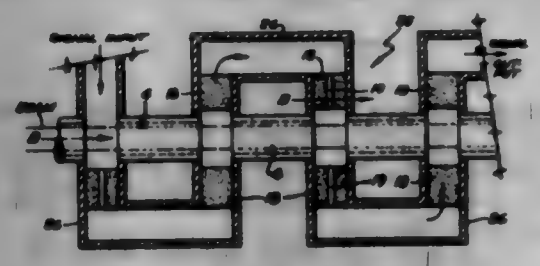


1. In backward-wave travelling-wave tube having crossed electric and magnetic fields and including a collector anode and means for directing an electron beam towards the collector anode in a direction perpendicular to the electric and magnetic fields at prescribed values of current; a first retardation line of given length and a second retardation line greater than said given length longitudinally spaced from each other and in coupling relationship with said electron beam, the first line being situated near the electron producing means and the second line being situated near the collector anode, said first and second lines having discrete start-oscillation currents, a sole plate parallel to said retardation lines and defining therewith an interaction space, said electric field being provided between said lines and said sole plate, the respective distal ends of said retardation lines being terminated by discrete matched loads and the respective proximal ends of said retardation lines being coupled to discrete microwave frequency energy terminals, the microwave frequency energy terminal of said first line being the input to said tube for introducing microwave energy into said first line and the microwave frequency energy terminal of said second line being the output to said tube for extracting microwave energy, the ratio of the lengths of said retardation lines being greater than $\sqrt{3}$ such that for a given electron beam current below the start-oscillation current for said first and second lines, microwave energy at a given frequency being introduced into the tube will be amplified and the amplified output will be available for extraction from said second line through its associated microwave frequency energy terminal, and for a beam current of approximately three times that of the start-oscillation current of said second line but below the start-oscillation current of said first line, high power microwave oscillation energy at said given frequency will be available for extraction from the terminal of said second retardation line.

2,970,242
HIGH FREQUENCY ELECTRON TUBE APPARATUS
Robert L. Jepsen, Los Altos, Calif., assignor to Varian Associates, San Carlos, Calif., a corporation of California
Filed Mar. 30, 1956, Ser. No. 575,161
2 Claims. (Cl. 315—5.39)

1. In an electron tube apparatus, a folded hollow waveguide for transmitting wave energy therethrough, a plurality of aligned apertures provided in the side walls

of said folded hollow waveguide and defining a path therethrough transverse to the direction of wave propagation within said folded waveguide, means for forming and projecting a beam of charged particles through said aligned apertures in said hollow waveguide for producing successive electromagnetic coupling between the electromagnetic fields within the hollow waveguide and the beam of charged particles passable therethrough, a ferrite slab disposed within said hollow waveguide and extending longitudinally therein, a strip of resistive material disposed within said hollow waveguide and extending longitudinally thereof, means for supplying a magnetic field



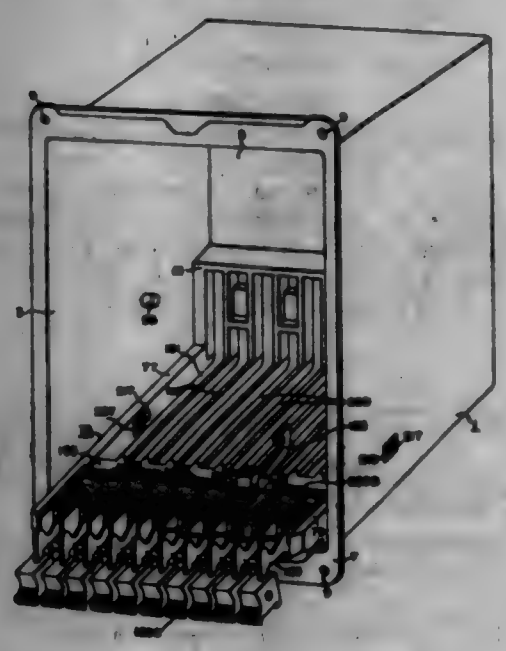
having a susbtantial component directed in the plane of the ferrite slab for displacing wave energy within said hollow waveguide propagating in the backward direction toward said resistive strip to more strongly attenuate backward traveling wave than waves traveling in the opposite direction, and said ferrite slab and resistive strip members being terminated short of a plurality of the beam field interaction gaps defined by the intersection of said hollow waveguide and said beam path whereby strong electric fields of the wave energy propagating within said hollow waveguide in the region of the interaction gaps are not displaced transversely out of the beam path.

2,970,243

ELECTRICAL INSTRUMENT MOUNTING

Kolman Riesz, Gillette, and William E. Rich, Chatham, N.J., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed July 30, 1957, Ser. No. 675,191
15 Claims. (Cl. 317—99)



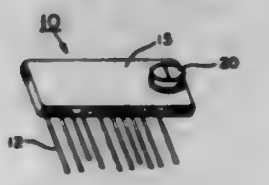
1. In an electrical instrument assembly, a supporting structure, electrical contact means mounted on and secured to said supporting structure, an electrical instrument supported in operative position by said supporting structure, said electrical instrument being movable from said operative position to a position displaced therefrom, and electrical contact means positioned on said electrical instrument and movable therewith between said positions, a first one of said electrical contact means comprising means operable with said electrical instrument in its operative position into and out of engagement with a second one of said electrical contact means, said instrument including a circuit conductor, said instrument contact means including an integral electro-conductive terminal element having a pair of spaced end portions and a portion intermediate the end portions extending at an angle relative to a line connecting the end portions, one of said end portions engaging said circuit conductor, the other of said end portions being accessible externally of said instrument assembly when said instrument is in operative position for connecting said circuit conductor to an external circuit, and the intermediate portion being secured to said electrical instrument for movement therewith.

2,970,244

VARIABLE RESISTOR

Merritt L. Beverly, Torrance, Calif., and Manfred Kahn, Williamstown, Mass., assignors to Sprague Electric Company, North Adams, Mass., a corporation of Massachusetts

Filed Jan. 11, 1956, Ser. No. 558,581
5 Claims. (Cl. 317—101)



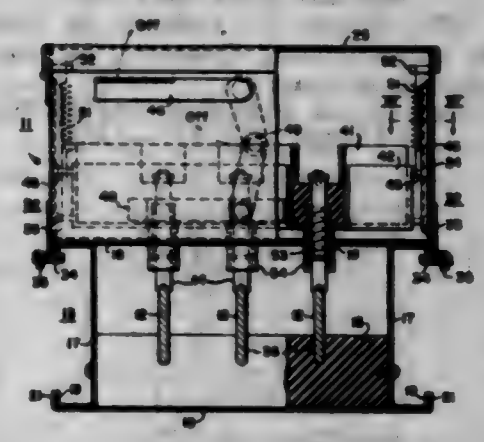
1. A variable resistor for a printed circuit comprising a base of dielectric material, a first arcuate coating of conductive material positioned on said base, a second arcuate coating of resistive material positioned on said base within said first arcuate coating, said first and second coatings being electrically connected to other printed circuit elements positioned on said base, a squat cylindrical sleeve mounted on said first coating and conductively connected thereto, a barrel rotatably secured within said sleeve, a wiper arm attached to said barrel and so constructed and arranged as to contact said resistive coating, means for rotating said barrel and said wiper arm so as to vary the amount of said resistive coating that is included in said printed circuit.

2,970,245

BUS DUCT STRUCTURES FOR ELECTRICAL DISTRIBUTION SYSTEMS

Charles L. Weimer, Patterson Heights, and Samuel S. Fouse, Aliquippa, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

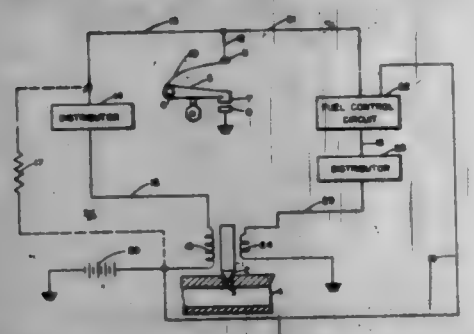
Filed Nov. 22, 1957, Ser. No. 698,187
5 Claims. (Cl. 317—120)



1. In a bus duct structure, in combination, a generally rectangular housing having spaced openings in at least

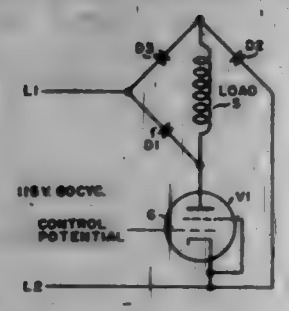
one side thereof, a plurality of elongated bus bars disposed inside the housing longitudinally of the housing, insulators disposed inside the housing for supporting the bus bars, each bus bar having an edge portion accessible through the openings in the housing, a plug-in unit having stab connectors extensible through one of said openings to engage said bus bars, an elongated carrier for the stab connectors, slotted guide means on the plug-in unit at the ends of the carrier, guide members on the ends of the carrier disposed in the slotted guide means to guide the carrier and the stab connectors in a straight line, actuating means connected to the carrier substantially midway between its ends for reciprocating the carrier, and each stab connector being a solid member with an end engaging the edge portion of a bus bar.

2,970,246
SOLENOID ACTUATING CIRCUIT
William F. Gunkel, Baltimore, Md., assignor to The Bendix Corporation, a corporation of Delaware
Filed Feb. 15, 1957, Ser. No. 640,369
6 Claims. (Cl. 317—123)



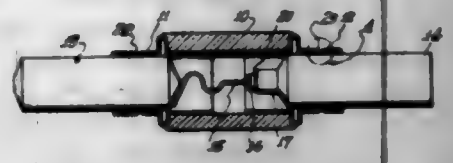
1. Means for magnetically actuating an armature from a first position to a second position and maintaining it in said second position for a predetermined time, comprising: induction means so positioned that the magnetic field generated by the energization thereof will actuate said armature, a source of direct current, a pair of circuits each connecting said source to said induction means, one of said circuits applying to said induction means a current sufficient to only partially energize it, means for periodically interrupting said one of said circuits, means in the other of said circuits, responsive to the application thereto of voltage of a selected value to generate and apply to said induction means a current impulse sufficient in magnitude to complete the energization thereof, and means connecting said generating means to a point in said one circuit the voltage of which attains said selected value upon the said interruption of said one circuit, the magnitude of said impulse being sufficient to maintain said armature in said second position but less than the magnitude required to actuate said armature.

2,970,247
AMPLIFIER CIRCUITS
Frank W. Hill, Moline, Ill., assignor, by mesne assignments, to The Gamewell Company, Newton, Mass., a corporation of Delaware
Filed July 23, 1958, Ser. No. 750,367
7 Claims. (Cl. 317—123)



1. An amplifier circuit for a control current which indirectly controls the functioning of a load circuit energized from an alternating current source, comprising, a load circuit responsive only to the rectified two half waves of alternating current, a half wave rectifying circuit containing two diode rectifiers supplying a half wave of current from the A.C. source to said load circuit at all times during the positive half cycles of the A.C. source, a second rectifying circuit containing a triode vacuum tube and a diode rectifier supplying alternate half waves of current from the A.C. source to said load circuit at controlled times during the negative half cycles of the A.C. source, a control circuit affixed to the grid of said triode vacuum tube to cause the rectified alternate half waves of current to be supplied to said load circuit.

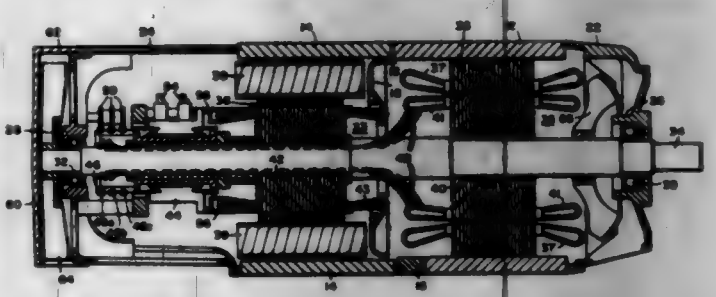
2,970,248
PIN MATERIAL FOR GLASS SEAL SEMICONDUCTOR RECTIFIER
Armen N. Sahagun, Los Angeles, Calif., assignor to Pacific Semiconductors, Inc., Culver City, Calif., a corporation of Delaware
Filed Nov. 12, 1957, Ser. No. 695,759
17 Claims. (Cl. 317—236)



9. In a semiconductor crystal diode of the type having large metal pins as electrodes hermetically sealed within an envelope subassembly wherein said subassembly consists of an annular glass sleeve having beaded metal tubes sealed within opposite ends thereof, said metal pins being resistance brazed to said tubes and consisting essentially of the following elements indicated based upon percentages by weight:

Silver	30–80
Copper	5–80
Indium	0.1–15
Zinc	0–30
Lithium	0.05–5

2,970,249
ADJUSTABLE SPEED ALTERNATING CURRENT MOTOR DRIVE
Victor N. Mazur, Tonawanda Township, Erie County, N.Y., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Apr. 15, 1958, Ser. No. 728,659
3 Claims. (Cl. 318—46)



1. In an adjustable speed motor drive, a wound rotor alternating current motor and a separately excited direct current motor disposed in a unitary housing including a first stator core having a primary winding thereon supported in said housing, a second stator core having a direct current field winding thereon supported in said housing and axially displaced from said first stator core, a shaft supported for rotation within said housing, a wound rotor secondary mounted on said shaft for rotation there-

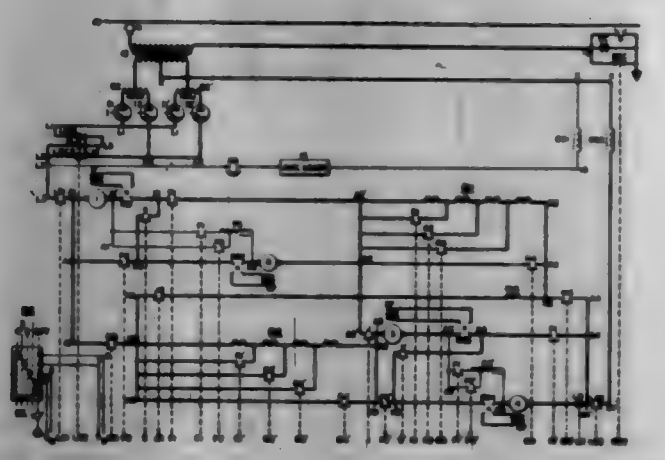
with within said first stator core, a direct current armature mounted on said shaft for rotation therewith within said second stator core, a commutator for said direct current motor and a plurality of slip rings, said commutator and slip rings mounted on said shaft adjacent each other, means on said shaft for receiving leads within the circumference thereof, semiconductor rectifier means, leads received in said lead receiving means for connecting said wound rotor secondary through said rectifier means to said slip rings, brush means for connecting the output of said slip rings to said commutator, an independent direct current power source for said field windings and means for varying the strength of said direct current field.

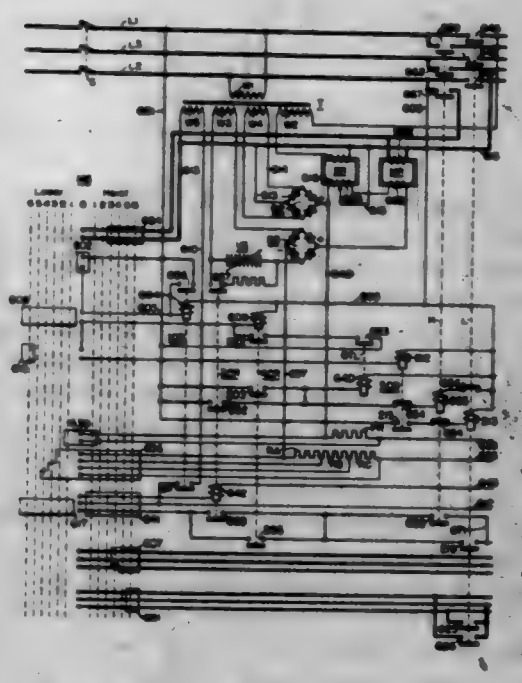
2,970,250

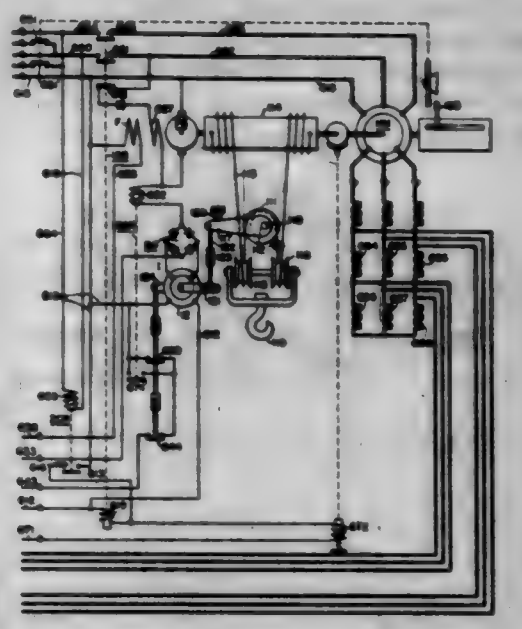
HIGH-SPEED ELECTRIC-CAR CONTROL

Lloyd J. Hibbard, Forest Hills, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed July 31, 1957, Ser. No. 675,481
12 Claims. (Cl. 318—90)







1. A control system for a plurality of direct current series traction motors comprising switching means for connecting said motors to a direct current power supply in a plurality of motor circuits having different numbers of motors in series and in parallel, accelerating means for progressively varying the voltage applied to each motor during operation in at least some of said motor circuits, control means for effecting operation of said switching means for changing from one motor circuit to another in a predetermined sequence and for effecting operation of said accelerating means in response to transition from one motor circuit to another, said control means including limit relay means responsive to the current of one of the motors for controlling the operation of the accelerating means to limit the motor current to a predetermined value, and means for changing the current setting of the limit relay means upon transition from a predetermined one of said motor circuits to the next.

2,970,251

ELECTRIC CONTROL FOR ALTERNATING-CURRENT MOTOR

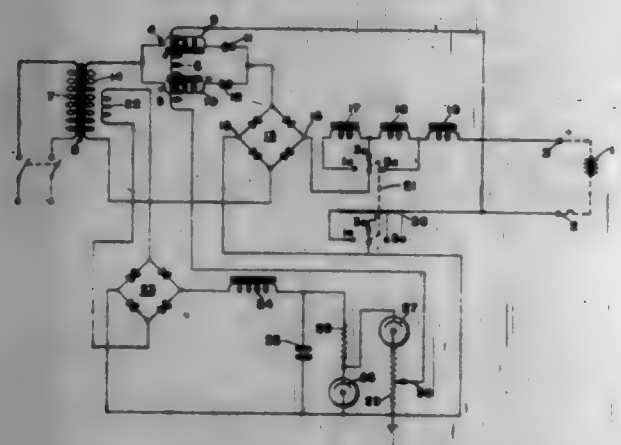
William R. Wickerham, Buffalo, N.Y., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Original application Mar. 21, 1952, Ser. No. 277,749, now Patent No. 2,774,923, dated Dec. 18, 1956. Divided and this application July 10, 1956, Ser. No. 596,944

4 Claims. (Cl. 318—207)

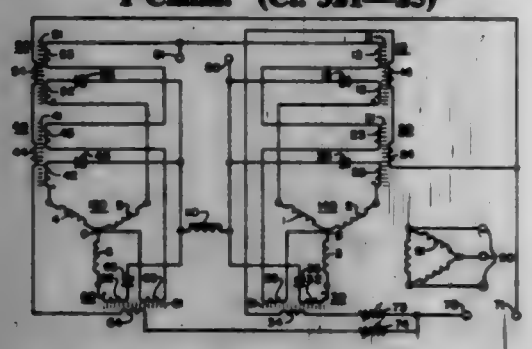
1. Apparatus for controlling the supply of power to a motor having first, second and third terminals from a three-phase supply having first, second and third phase conductors, comprising in combination a fourth conductor, means connecting said fourth conductor in a duplex interconnected three-phase source with said first, second and third conductors, said second and fourth and first and third conductors being at opposite-phase terminals of said source, a first inductor, a second inductor, each of said inductors having a control winding means and output winding means, means for connecting said first conductor to said first terminal, means for connecting said third conductor to said third terminal, means including said output winding means of said first inductor for connecting said second conductor to said second terminal, means including said output winding means of said second inductor for connecting said fourth conductor to said second terminal, biasing means connected to the control winding means of at least one of said inductors, and means connected to said control winding means of said inductors and to said motor so as to conduct current through both said control winding means simultaneously and responsive to an operative condition of said motor for varying the magnitudes of the impedance of both said inductors simultaneously, said motor responsive means conducting current through said control winding means of said one inductor opposing said biasing means and through said control winding means of said other inductor so as to decrease the impedance of said last-named inductor, whereby the magnitudes of the impedances of said first inductor is varied in opposite sense to the magnitude of the impedance of said second inductor for any setting of said motor responsive means.

2,970,252
CURRENT REGULATOR WITH SATURABLE CORE
Wallace J. Obenberger, Lakewood, and Charles E. Burgh, Long Beach, Calif., assignors to North American Aviation, Inc.
Filed June 17, 1955, Ser. No. 516,184
4 Claims. (Cl. 321—18)



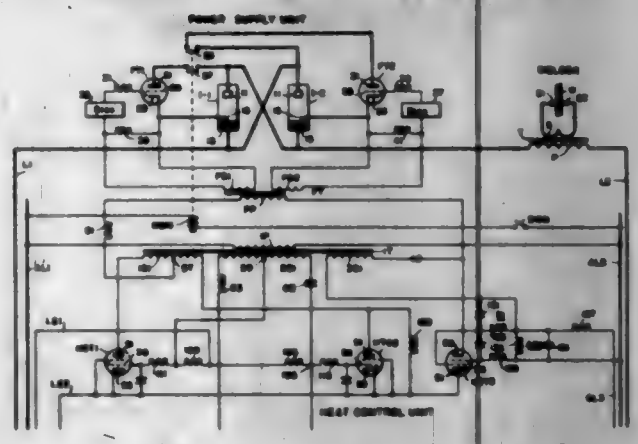
1. A current regulating device comprising a source of A.C. potential; a pair of self-saturating reactors, each of said reactors having a load winding and a control winding with a rectifier connected in series with said load winding, the load winding-rectifier series connections of said saturable reactors being connected in parallel with the polarity of said rectifiers in opposite directions; a full-wave bridge rectifier network having a pair of D.C. output terminals and connected in series with said parallel reactor network across said source of A.C. potential; a filter network; a resistor; a pair of load terminals; means connecting said filter, resistor and load terminals in series across said output terminals of said bridge network; a source of D.C. reference voltage; means connecting said D.C. reference voltage source and said control winding in series with said resistor and means subjecting the control windings of said saturable reactors to the voltage differential between said reference voltage and the voltage drop across said resistor.

2,970,253
AMPLIFIER CIRCUITS
Denis Bolton, London, England, assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Sept. 13, 1957, Ser. No. 683,837
1 Claim. (Cl. 321—25)



In a polyphase magnetic amplifier circuit, in combination, a rectifier system having a transformer with a plurality of Y-connected secondaries, each leg of each said Y-connected secondary being connected through a rectifying means to an output terminal, a choke coil connecting the outputs of said plurality of Y-connected secondaries, a saturable reactor for each leg of each said Y-connected secondary, each said saturable reactor comprising a magnetic core member having inductively disposed thereon a load winding, a feedback winding and a control winding, said saturable reactors being divided into groups corresponding to each said Y-connected secondary, each leg of each said Y-connected secondary having a load winding of one of said saturable reactors of said groups connected in series, said feedback windings of each said group of saturable reactors being connected in series between a return output terminal for said rectifier system and a center tap of said Y-connected secondary corresponding to said group, said control windings for each said group being connected in series with a resistance means for applying a control signal for said polyphase magnetic amplifier system, said resistance means being large enough to prevent interaction with other control winding groups.

2,970,254
ELECTRIC DISCHARGE REGULATING APPARATUS
Donald R. Scholtes, Eggertsville, and William E. Large, Lancaster, N.Y., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Feb. 17, 1955, Ser. No. 488,928
4 Claims. (Cl. 323—18)

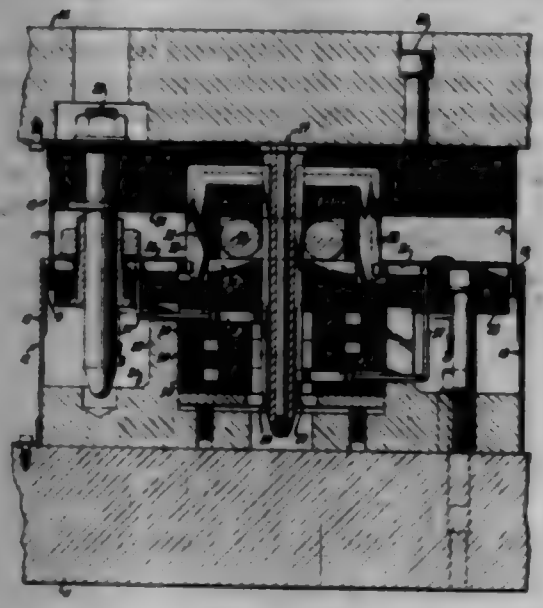


1. Apparatus for controlling the supply of power to a load that draws power intermittently during predetermined time intervals comprising in combination timing means to be connected to said load for impressing a signal to time the flow of said power during said intervals, means to be connected to said load responsive to the magnitude of the load current during said intervals for producing a potential dependent on said load current, a balanced network having input and output terminals, means connected to said magnitude responsive means for impressing said load-current dependent potential on said balanced network so that a resulting potential dependent on said load-current dependent potential is derivable from said output terminals, means to be connected to said load for compensating for variations in said load current, signaling means connected to said compensating means for impressing a correcting signal on said compensating means, at least one electric discharge device of the continuous-control type having an anode, a cathode, and a control electrode, means connecting in series said anode, said cathode, said signaling means and said output terminals, and means connected between the control electrode and the cathode of said device and said timing means for maintaining said device non-conducting during the stand-by condition of said apparatus, gradually increasing the conductivity of said device to a maximum magnitude on the start of a signal from said timing means and substantially abruptly rendering said device non-conducting when said signal stops.

2,970,255
CORE TESTING DEVICE
John M. Coffin, Menlo Park, and Raymond C. Graham, San Bruno, Calif., assignors to Lenkurt Electric Co., Inc., San Carlos, Calif., a corporation of Delaware
Filed Mar. 25, 1959, Ser. No. 801,874
5 Claims. (Cl. 324—34)

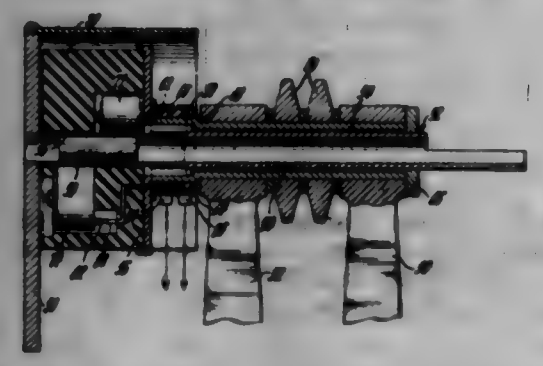
1. A core testing device comprising a lower member having a central opening therein and adapted to receive

a core atop same about said opening, a plurality of interior female electrical contacts disposed within said opening and consecutively staggered longitudinally of same circumferentially about said opening, a plurality of outer electrical contacts about the exterior of said lower member, means individually connecting said interior and exterior contacts, an upper member adapted for engagement with said lower member atop same for enclosing a core atop the latter and having a central depending pin adapted to fit within the central opening in said lower member through a core disposed thereon, a plurality of



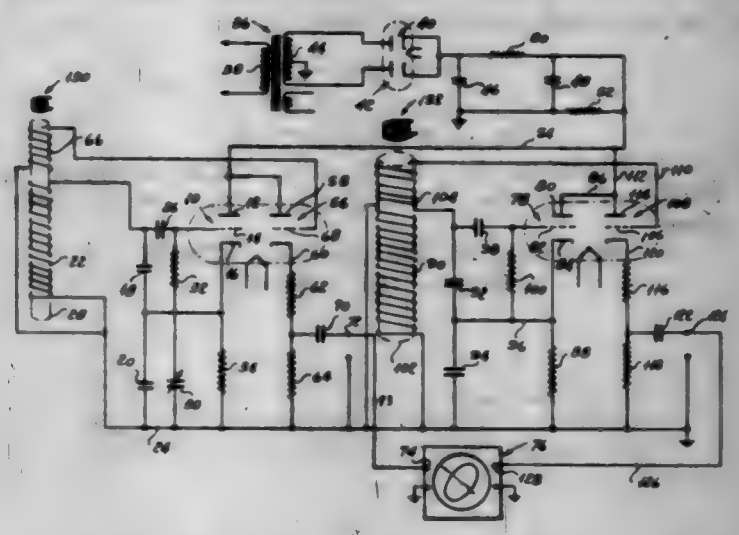
elongated electrical male contacts disposed longitudinally upon said depending pin and spaced circumferentially thereabout in insulated relationship therebetween, a plurality of electrical contacts depending from said upper member radially outward of said pin and adapted to engage the outer electrical contacts of said lower member upon engagement of said upper and lower members, and means alining said upper and lower members upon engagement thereof for alining the contacts of the upper member with those of the lower member of providing thereby a multi-turn electrical path about a core disposed therebetween.

2,970,256
SURFACE IRREGULARITY DETECTOR
John J. Sazynski, Baltimore, Md., and Joseph F. White, Oak Park, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Feb. 2, 1955, Ser. No. 485,742
2 Claims. (Cl. 324—37)



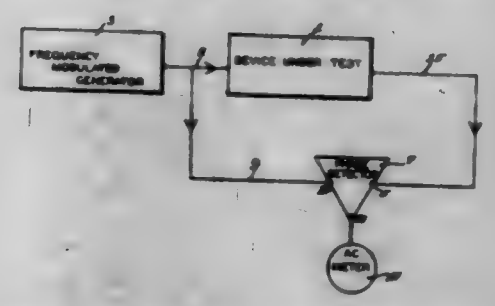
1. In testing apparatus, a support, a hollow tubular member mounted on said support, at least a portion of said tubular member being non-magnetic, means mounted for rotation around the non-magnetic portion of the tubular member, a magnet carried by said last-named means and a magnetic pickup mounted on said rotatable means in an axially spaced direction from said magnet so that the magnet may magnetize a part within the tubular member and the pickup scan a different section for irregular magnetic fields.

2,970,257
COIL TESTER
Charles J. Hauft, Jackson Heights, and Charles F. Jaeger, Yorktown Heights, N.Y., assignors, by mesne assignments, to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Mar. 26, 1957, Ser. No. 648,599
4 Claims. (Cl. 324—51)



1. A tester for testing first coils having a certain diameter and for testing second coils having a diameter which is greater than said certain diameter including in combination a first oscillator comprising a tuned circuit having a winding with an air core of a diameter intermediate the respective diameters of said first and second coils to permit introduction of said first coils into said first oscillator winding while preventing introduction of said second coils into said first oscillator winding, a second oscillator comprising a tuned circuit having a winding with an air core of a diameter greater than the diameter of said second coils to permit introduction of said second coils into said second oscillator winding, means for tuning said first oscillator and said second oscillator and indicating means responsive to said oscillations for producing an indication of a difference in the frequencies of said oscillations.

2,970,258
APPARATUS FOR MEASURING ENVELOPE DELAY
Donald B. Sinclair, Concord, Mass., assignor to General Radio Company, Cambridge, Mass., a corporation of Massachusetts
Filed Aug. 29, 1955, Ser. No. 531,126
12 Claims. (Cl. 324—57)



1. Apparatus for measuring the envelope delay introduced by an electrical system into an alternating-current wave of predetermined frequency that comprises means for varying the frequency of the wave at a predetermined rate between narrow frequency limits, means for transmitting the varying-frequency alternating-current wave along a first path containing the electrical system, means for simultaneously transmitting the varying-frequency alternating-current wave along a second path that produces a predetermined envelope delay, means for interacting the waves transmitted along the

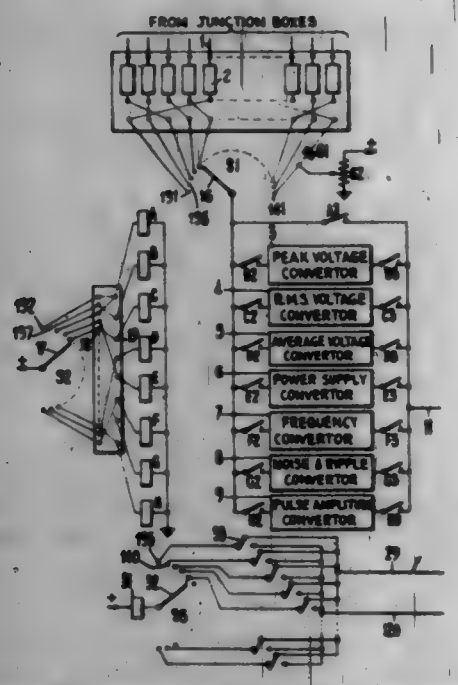
two paths to produce a voltage the magnitude of which is instantaneously proportional to the phase shift between the waves transmitted along the first and second paths and that may be resolved into a direct-current component and an alternating-current component of frequency corersponding to the said predetermined rate of variation, and means for indicating the said alternating-current component of the said voltage, thereby to indicate the envelope delay of the electrical system relative to the said predetermined envelope delay.

2,970,259
FLAME DETECTOR
Ross S. Marsden, Jr., Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Apr. 23, 1951, Ser. No. 222,325
1 Claim. (Cl. 324—71)



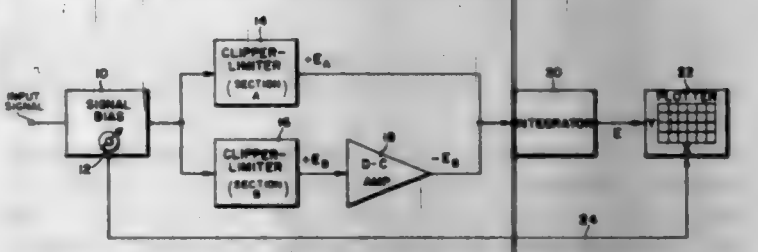
A flame detector comprising, in combination, an electrically conductive casing, an electrode positioned within and electrically insulated from said casing, a ceramic refractory tip connected across one end of said casing and making electrical contact with said casing and with said electrode, a voltage source and an impedance element connected in series relationship between said casing and said electrode, an amplifier, current indicating means connected to the output terminals of said amplifier, and means connecting the input terminals of said amplifier to respective end terminals of said impedance element.

2,970,260
APPARATUS FOR TESTING A GROUP OF ELECTRIC SIGNALS
Frederick Charles Flint, Stanmore, England, assignor to The General Electric Company Limited, Magnet House, London, England
Filed May 2, 1957, Ser. No. 656,549
Claims priority, application Great Britain May 4, 1956
24 Claims. (Cl. 324—73)



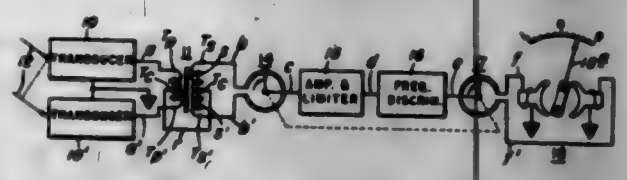
1. Apparatus for testing a group of electric signals which signals have, in the group, at least two different parameters to be tested, said apparatus comprising a plurality of input paths which carry the signals to be tested, a plurality of converting means which are less in number than the input paths and each of which operates to convert the value of a parameter of an electric signal supplied thereto into an electric test signal having a particular parameter the value of which is a measure of the said parameter of the signal supplied thereto, the said particular parameter being the same for all the converting means and the parameters of the electric signals converted thereby all being different, a test path, means selectively to set up a connection between any one of the input paths and the test path by way of one of the converting means so that when such a connection is established there is passed to the test path an electric test signal having a value of the said particular parameter which is a measure of the parameter of the signal under test carried by the appropriate input path, means to supply an electric check signal, means responsive to the value of the said particular parameter of the test signal on the test path lying to one side of a value signified by the said check signal, and means to vary the said check signal for the purpose of changing the tolerance limit from test to test.

2,970,261
SIGNAL ANALYZER
Daniel J. Zoll, 1215 S. N St., Oxnard, Calif.
Filed Feb. 9, 1959, Ser. No. 792,233
8 Claims. (Cl. 324—76)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. An amplitude-distribution analyzer for determining the percentage of time that a randomly-varying signal spends at a particular amplitude level, said analyzer comprising means for biasing said signal, a pair of clipper-limiters, one of said clipper-limiters acting in effect to sample said signal in one direction of polarity from the level set by said biasing means, the other of said clipper-limiters acting in effect to sample said signal in the remaining direction of polarity from such bias level, means for inverting the polarity of the signal output of one only of said clipper-limiters, means for combining the output of said inverting means with the output of the remaining clipper-limiter, means for integrating the energy so combined, and an indicator on which the integrated energy is displayed as a function of the output of said biasing means.

2,970,262
PHASE DETECTION
Wallace H. Haase, Northridge, Calif., assignor to The Bendix Corporation, a corporation of Delaware
Filed June 12, 1957, Ser. No. 665,151
11 Claims. (Cl. 324—83)



1. Apparatus for detecting phase difference between two electric waves of the same frequency comprising: frequency-discriminating means responsive to an input alternating potential to deliver zero output at a prede-

termined input frequency and a direct current output of one polarity at input frequencies above said predetermined frequency, of the other polarity at input frequencies below said predetermined frequency, and of amplitude proportional to the extent of departure of the input frequency from said predetermined frequency; and input switching means for alternately applying said two waves to said discriminating means at a repetition rate less than the frequency of said waves, whereby the output of the discriminator includes an alternating potential of the frequency of said repetition rate and amplitude proportional to the phase difference between said electric waves.

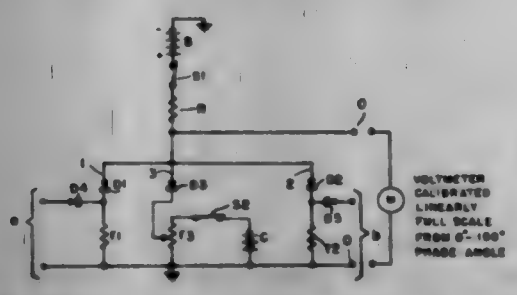
6. Apparatus for producing from two input alternating potentials differing in phase by one angle, two output alternating potentials differing by a second phase angle different from but a function of said one angle, said apparatus comprising: a common terminal, two output terminals, and a reference conductor; first means for developing from said input potentials a third potential of mean phase and applying it between said common terminal and said reference conductor; second means for developing from said input potentials and applying between said reference conductor and said respective output terminals fourth and fifth potentials in phase opposition with each other and in phase quadrature to said mean phase, whereby the output potential between said common terminal and one output terminal is the vector sum of said third and fourth potentials, and the output potential between said common terminal and the other output terminal is the vector sum of said third and fifth potentials.

2,970,263

PHASE ANGLE AND POWER FACTOR MEASURING AND INDICATING DEVICES

Emerson L. Frost, Manasquan, N.J., assignor to the United States of America as represented by the Secretary of the Army

Filed May 5, 1959, Ser. No. 811,232
8 Claims. (Cl. 324—87)
(Granted under Title 35, U.S. Code (1952), sec. 266)



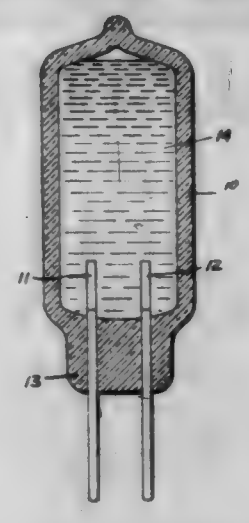
5. A device for accurately measuring and indicating the phase difference between two sinusoidal waves, said device comprising three parallel-connected branch circuits each including a like diode detector having a cathode and an anode, and an individual resistor in series therewith of substantially the same value in all said branch circuits; a common resistor of resistance value large in comparison with that of each of the individual resistors in said branch circuits; a source of direct current having a positive terminal connected through said common resistor to the anodes of all of said diode detectors in parallel and a negative terminal connected through common ground and the individual resistors in all of said branch circuits to the cathodes of the diode detectors therein; individual rectifier means for respectively impressing each of said waves with the same polarity across the individual resistor in a different one of two of said branch circuits; means for inserting in the third one of said branch circuits a threshold direct current voltage of adjustable value low in comparison to that of said source and a meter connected across said three branch circuits for indicating the average direct current voltage produced therein; said meter being calibrated linearly-full scale in phase angle from 0 to 180° and said threshold voltage being adjusted for full scale deflection of said meter when said sinusoidal waves are in phase with each other so as to indicate a phase angle of zero degrees.

2,970,264

ELAPSED TIME INDICATORS

Warren T. Eriksen, Wayland, Mass., assignor to Raytheon Company, a corporation of Delaware

Filed May 31, 1957, Ser. No. 662,756
4 Claims. (Cl. 324—94)



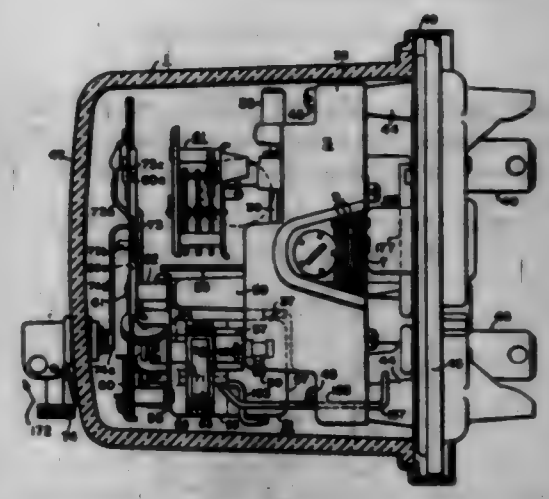
1. An integrating current-indicating device comprising a hermetically sealed envelope of transparent insulating material, a body of electrolyte consisting of an aqueous solution of a colored inorganic salt of a metal from the group consisting of copper, cobalt, nickel, iron, silver, manganese, titanium and vanadium, said solution including a small proportion of ethyl alcohol, and a pair of electrodes at least partially immersed in said body of electrolyte, one of said electrodes being the cation of the salt of the electrolyte, and the other of a material that does not react with the electrolyte.

2,970,265

ELECTRICAL MEASURING INSTRUMENTS

George W. Lipscomb, Raleigh, N.C., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Sept. 5, 1957, Ser. No. 682,146
14 Claims. (Cl. 324—106)



1. In a terminal device responsive to a variable electrical quantity, a shaft mounted for rotation about an axis, a thermoresponsive bimetallic spiral spring wound about said shaft effective when heated to rotate said shaft, and a heating element effective when energized for heating said spring, said heating element having a

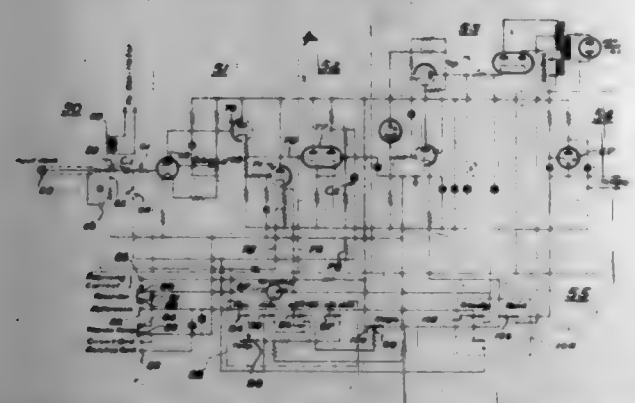
pair of spaced terminals to be energized in accordance with said electrical quantity, said heating element comprising a strip of resistance material having a plurality of strip portions intermediate said terminals spaced about said axis, said strip being disposed to surround said shaft and said spring with said strip portions spaced radially substantially equal distances from said axis to extend parallel to said axis.

2,970,266

SELF-ZEROING AMPLIFIER

Everett W. Molloy, Fullerton, and Noel B. Braymer, Garden Grove, Calif., assignors to Beckman Instruments, Inc., Fullerton, Calif., a corporation of California

Filed Jan. 22, 1957, Ser. No. 635,320
3 Claims. (Cl. 324—123)



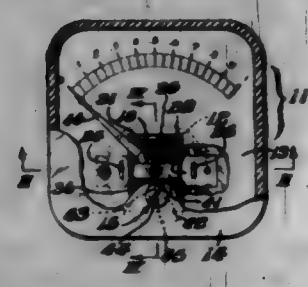
3. In an amplifier circuit for generating an output signal in response to an input signal, the combination of: amplifier means having an input and an output; a memory capacitor having first and second terminals, with said second terminal connected to said amplifier means input; first switch means for selectively coupling said first terminal of said memory capacitor to a reference point and to an input terminal; feedback circuit means for connecting at least part of the output signal in series with the input signal in cancelling relation to generate an error signal at said input terminal; a corrector capacitor coupled to said amplifier means output; second switch means for coupling said corrector capacitor to said amplifier means input; and means for activating said switch means for simultaneously switching said first terminal of said memory capacitor from said input terminal to the reference point and switching said corrector capacitor to said amplifier means input charging said memory capacitor from said amplifier means output through said corrector capacitor and providing a correction signal to said amplifier means input.

2,970,267

ELECTRICAL MEASURING INSTRUMENT

William E. Pfeffer, Perkasie, Pa., assignor to The Electro-Mechanical Instrument Company, Perkasie, Pa., a co-partnership

Filed May 6, 1959, Ser. No. 811,411
4 Claims. (Cl. 324—146)



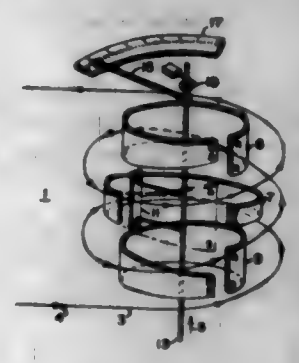
1. In an electrical measuring instrument having a casing with a flat top and a dial face, and a pendent cup-like portion: a removable self-contained movement fitting into said cup-like portion, said movement comprising an open rectangular bracket having a top bar with projecting ends overlying the flat top of the casing and notches respectively in opposite side edges of its verticals; securing cap screws of which the shanks pass through holes in the projecting ends of the top bar of the bracket and threadedly engage into the top of the casing; an arbor rotatably supported at its opposite ends respectively by pivot screws engaged in tapped apertures centrally of the top and bottom bars of the bracket; a pair of coaxially arranged coils disposed respectively at opposite sides of the arbor, said coils being wound about hollow cores of insulation having lugs at opposite sides thereof engaged in the notches of the bracket; a permanent magnet vane affixed to the arbor in the axis plane of the coils; a pointer affixed to the arbor and adapted to swing over the aforesaid dial face; and a U-shaped spring retaining member having its cross bar resting on the bottom cross bar of the bracket and centrally apertured to clear the bottom pivot screw for the arbor, and said spring member having projections at the tops of its verticals to fit and engage into the outer ends of the insulation cores of the two coils.

2,970,268

ELECTRICAL MEASURING INSTRUMENT

Bernard E. Leuchan, Bloomfield, N.J., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed June 20, 1957, Ser. No. 666,958
2 Claims. (Cl. 324—147)



1. In an electrical instrument, a winding, a pair of attraction magnetic elements each of arcuate configuration, said attraction elements each being positioned arcuate about an axis in the path of magnetic flux established by current flowing in the winding, said attraction elements being spaced along said axis, a magnetic part spaced from said axis positioned in the space between said attraction elements in the path of said magnetic flux, and means mounting said magnetic part for rotation about said axis relative to said attraction elements in response to forces developed between said attraction elements and said magnetic part by said magnetic flux, said attraction elements and magnetic part being arranged such that a line which extends parallel to said axis intersects said attraction elements and magnetic part at each position of the magnetic part in its path of travel.

2,970,269

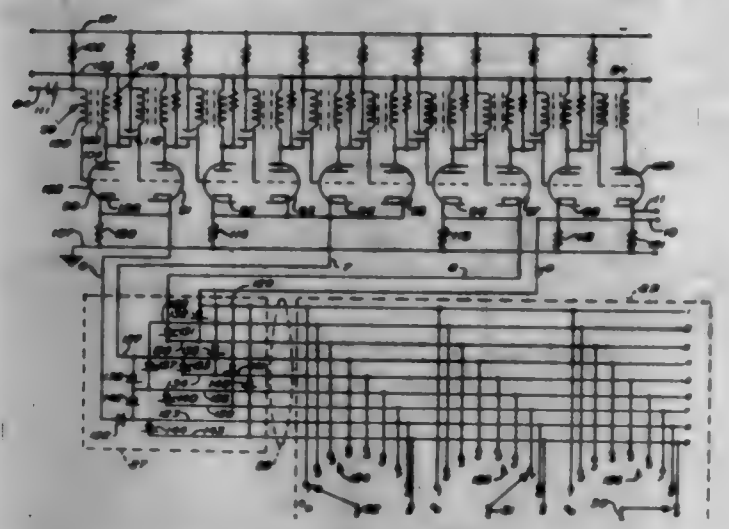
PULSE GENERATOR

Roger B. Williams, Jr., Toledo, Ohio, assignor, by mesne assignments, to Toledo Scale Corporation, Toledo, Ohio, a corporation of Ohio

Filed May 18, 1956, Ser. No. 585,787
10 Claims. (Cl. 328—38)

3. In a pulse generator system, in combination, a plurality of single cycle oscillators serving as pulse generators arranged to operate in sequence in response to an input pulse; said oscillators being divided into groups; a signal lead from each group wherein a first lead has one

pulse per input pulse, a second and a third lead each have two pulses per input pulse, and a fourth lead has four pulses per input pulse; a plurality of output leads, and switching means including unilateral conducting



means connecting the signal leads to the output leads in selectable combinations including no connection, whereby each output lead may have from zero to nine pulses per input pulse.

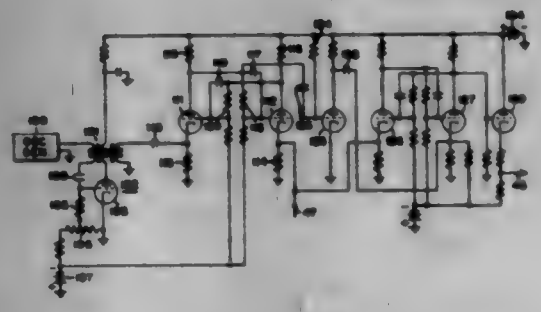
2,970,270

SWITCHING CIRCUIT

Wallace B. Watson, Clay, N.Y., assignor to General Electric Company, a corporation of New York

Original application Mar. 14, 1952, Ser. No. 276,533, now Patent No. 2,797,411, dated June 25, 1957. Divided and this application Oct. 29, 1956, Ser. No. 620,569

3 Claims. (Cl. 328—58)



1. In a system including a first source of a first sequence of trigger pulses having a first repetition period, a control generator comprising means for deriving a second sequence of trigger pulses having a second repetition period independent of and greater than said first period, a source of periodic waves having a third repetition period independent of said first repetition period, the output of said source being connected to said means to synchronize said second sequence of trigger pulses in reference to said periodic waves, a square wave generator coupled to said source and to said pulse and to said pulse-deriving means for producing a series of pulses having leading edge portions coinciding with consecutive ones of said second sequence of trigger pulses and trailing edge portions coinciding with non-consecutive ones of said first sequence of trigger pulses, and means coupled to said first source and to said square wave generator for deriving a series of output pulses for said generator having leading edge portions coinciding with said trailing edge portions of said first-mentioned series of pulses and each of said output pulses having a duration substantially equal to said first repetition period.

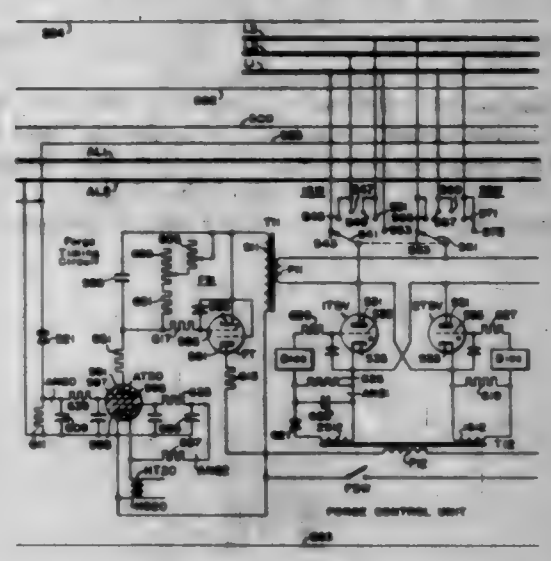
2,970,271

ELECTRIC DISCHARGE APPARATUS

Hubert W. Van Ness, Diablo, and Edward C. Hartwig, Walnut Creek, Calif., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Original application July 29, 1953, Ser. No. 370,997, now Patent No. 2,785,284, dated Mar. 12, 1957. Divided and this application June 28, 1956, Ser. No. 594,410

10 Claims. (Cl. 328—71)



1. In combination, a plurality of conductors adapted to be connected to a polyphase supply; a selector switch means having a plurality of settings connected to said source and including a first terminal adapted to be connected to any one of said conductors and a second terminal adapted to be connected to any one of said conductors, said terminals being ganged and being connected to different conductors in any setting of said switch means; a pair of electric discharge paths each defined by an anode and a cathode; a load means and means for connecting said paths in antiparallel between said terminals and said load means.

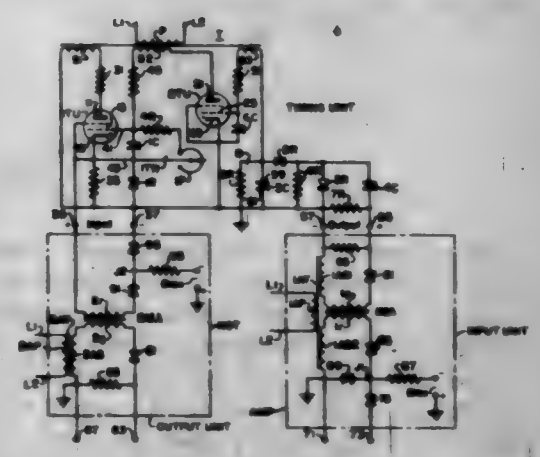
2,970,272

ELECTRONIC CONTROL APPARATUS WITH MAGNETIC INPUT AND OUTPUT LOGIC ELEMENTS

William E. Large, Clarence, N.Y., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Jan. 11, 1957, Ser. No. 633,620

7 Claims. (Cl. 328—74)



4. In combination a first electric discharge device having an anode, a cathode and a control electrode, a second discharge device having an anode and a cathode, an output resistor, means connecting one terminal of said resistor to said cathode of said first device, first alternating current potential supply means connected between the other terminal of said resistor and said anode of said first

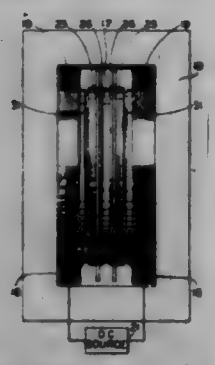
device, a time-constant network, second alternating current potential supply means, means connecting in series said second supply means, said anode and cathode of said second device and said network, and means connecting said network between said control electrode and cathode of said first device, said series connecting means including rectifier means bypassing said resistor.

2,970,273

METHOD OF PRODUCING LARGE CIRCULAR CURRENTS

Willard H. Bennett, 174 Chesapeake St. SW., Washington, D.C.

Continuation of application Ser. No. 698,315, Nov. 22, 1957, now Patent No. 2,905,842, dated Sept. 22, 1959. This application Sept. 22, 1959, Ser. No. 841,655
5 Claims. (Cl. 328—237)
(Granted under Title 35, U.S. Code (1952), sec. 266)



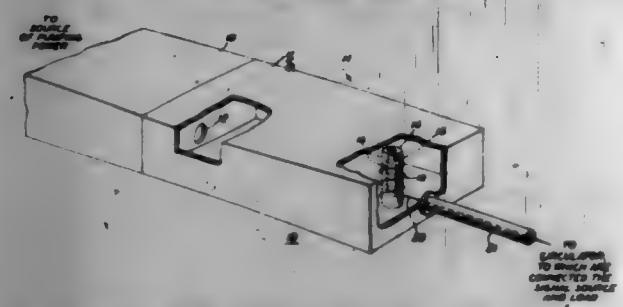
1. A method of producing large circular currents which comprises applying a magnetic guide-field symmetrically across a cylindrical chamber, injecting pulses of particles into said chamber near the inner surface thereof, increasing the magnetic field across said chamber for each of said particle injection pulses and more slowly decreasing said increased magnetic field to zero prior to the beginning of each successive particle injection pulse.

2,970,274

SOLID STATE AMPLIFIER

Kenneth M. Poole, New Providence, and Ping K. Tien, Chatham Township, Morris County, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Mar. 21, 1958, Ser. No. 722,879
3 Claims. (Cl. 330—5)



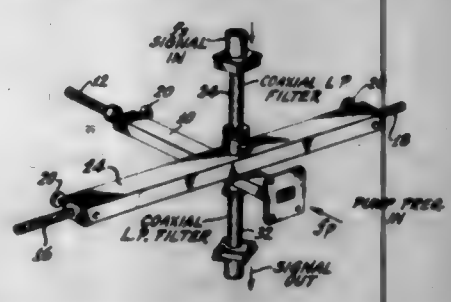
3. In combination, a hollow conductive cavity resonant at a pump frequency and a first multiturn helical conductor having its two ends free and positioned in said cavity at a region where the magnetic flux of said cavity is concentrated, the length of the conductor being such that the conductor is resonant at the signal frequency, the combination of said cavity and conductor also providing a resonance at the difference between said pump frequency and signal frequency, gyromagnetic means positioned along the axis of the helical conductor and adapted to exhibit gyromagnetic resonance with a narrow line width at the pump frequency, means for supplying a steady magnetic field to the gyromagnetic means for establishing gyromagnetic resonance therein at said pump frequency, the orientations of the steady magnetic field, the cavity and the conductor being such that the steady magnetic field has a component perpendicular to the magnetic field at the signal frequency, a component parallel to the magnetic field at the difference frequency and a component parallel to the magnetic field at the pump frequency, a source of input signals of said signal frequency, and a second multiturn helical conductor counterwound and coaxial with said first conductor and having one of its ends free and the other connected to said source of input signals.

2,970,275

PARAMETRIC AMPLIFIER DEVICE

Richard M. Kurzrok, Massapequa Park, N.Y., assignor to Radio Corporation of America, a corporation of Delaware

Filed May 5, 1959, Ser. No. 811,137
10 Claims. (Cl. 330—5)



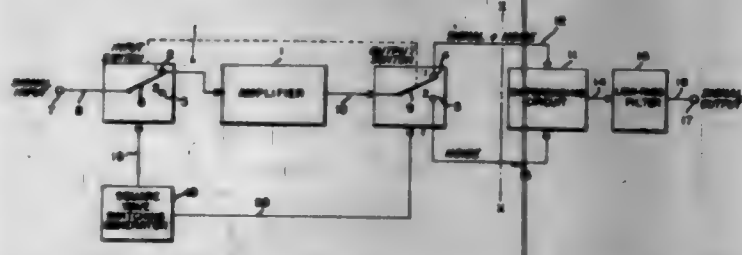
1. A low loss microwave parametric device comprising a waveguide cross consisting of a pair of waveguides extending at right angles to each other and coupled together in a region intermediate their ends, means for effectively tuning the lengths of both of said waveguides, a coaxial line low pass filter extending at right angles to both of said waveguides and terminating at said region, a diode operating as a non-linear reactance located in said region and extending into the space within both waveguides and coupled to one end of said coaxial line low pass filter, means for supplying a microwave input signal to the other end of said coaxial line low pass filter, means for supplying a microwave signal of a frequency higher than twice the frequency of said input signal to one of said waveguides, the other waveguide being tuned to a frequency which is the difference between the frequencies of said signals, and means for deriving from said device an output signal of a frequency related to the frequency of said input signal.

2,970,276

NOISE REDUCTION SYSTEMS

Kenneth Dollinger, Derry, N.H., assignor to Raytheon Company, a corporation of Delaware

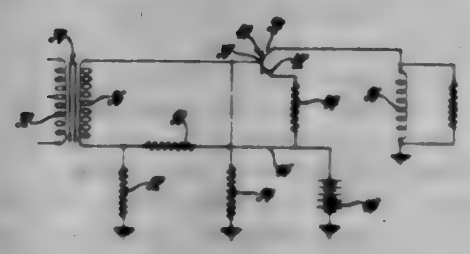
Filed July 3, 1958, Ser. No. 746,413
7 Claims. (Cl. 330—9)



1. A system for reducing internally generated noise in an electronic device including input and output terminals which comprises switching means connected to the device at its input terminals, switching means connected to said device at its output terminals, said input switching means including one terminal to close a circuit for an incoming signal to the device and an open terminal, said output switching means including a first and second terminal, means to simultaneously switch each

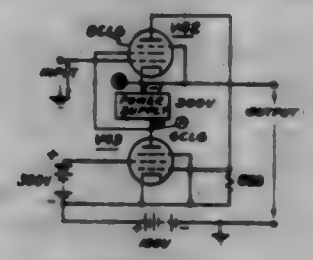
of said switching means from one terminal to the other of a frequency high with respect to the bulk of the noise spectrum and means to combine the output signals from the first and second output switching terminals in a subtractive manner to derive an output signal which is substantially free of noise generated within said device.

2,970,277
BRIDGE BIASING TRANSISTOR CIRCUIT
David W. Dodge, Kokomo, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Oct. 7, 1957, Ser. No. 688,461
2 Claims. (Cl. 330—40)



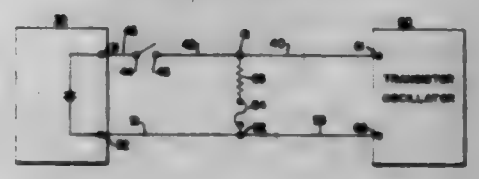
1. In amplifying means, a source of electrical power, first and second resistances connected in series across said source of power and forming one side of a bridge circuit, a transistor having a base, emitter and collector electrodes, a third resistance, said emitter and base electrodes and a fourth resistance being connected in series and across the source of electrical power in shunt to the first and second resistances and forming the other side of a bridge circuit and also supplying the required bias voltages to the transistor, the ratio of the impedance of the first resistance to the second resistance being approximately the same as the ratio of the impedance of the third resistance and the transistor between emitter and base electrodes to the impedance of the fourth resistor so that substantially no potential difference will be developed across the bridge circuits by currents flowing to develop required bias voltages for the transistor electrodes an input transformer connected across the bridge from the base of the transistor to a point intermediate the first and second resistances to apply incoming signals to the transistor and a load circuit connected to the collector electrode.

2,970,278
DIRECT-COUPLED AMPLIFIER CONSTRUCTION
John H. Reaver, McLean, Va., assignor to the United States of America as represented by the Secretary of Commerce
Filed May 9, 1955, Ser. No. 507,186
6 Claims. (Cl. 330—70)



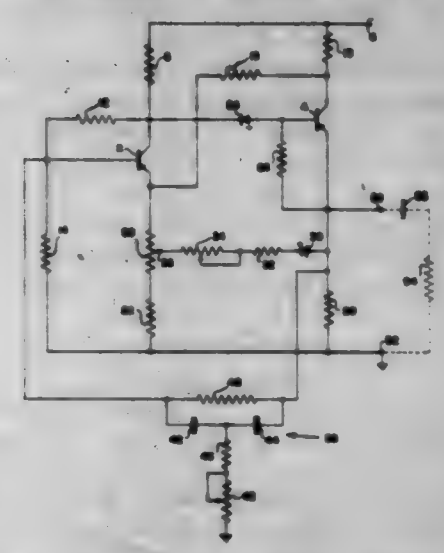
5. A direct-coupled amplifier comprising: a power source including a transformer having an open throat core of magnetic material, a primary positioned on said core and a secondary having a portion extending through the open throat of said core, the spacing between said core, primary and secondary being the maximum permitted by the geometry of the core, primary and secondary, an alternating current source connected across said primary, converting means directly connected to said secondary for converting the alternating current in said secondary into direct current potential, means for mounting said converting means in close proximity to said secondary and remote from said primary and said core, a first and second terminal, means for applying said direct current potential to said first and second terminal as a positive and negative potential, means for mounting said converting means in close proximity to said secondary and remote from said primary and said core, a first and second terminal, means for applying said direct current potential to said first and second terminal as a positive and negative potential, respectively, means interposed between said converting means and said first and second terminal for maintaining said direct current potential at a substantially constant level, a first and second electron tube, each including at least an anode, screen grid, control grid and cathode, means for applying only the positive potential appearing at said first terminal to the anode of said first electron tube and to the screen grid of said second electron tube, and means for connecting the cathode of said second electron tube to said second terminal.

2,970,279
STARTING CIRCUIT
Edward P. Donnelly, Jr., Seattle, Wash., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Oct. 21, 1957, Ser. No. 691,349
4 Claims. (Cl. 331—108)



1. In combination, transistor oscillator means, a power supply means for energizing said oscillator means, said power supply means having a slowly rising voltage characteristic upon activation; and circuit means connecting said power supply means in energizing relationship with said oscillator means, said circuit means including means for producing a current surge when the output voltage of said power supply means increases to a predetermined value so as to insure the starting of said oscillator means.

2,970,280
TRANSISTOR OSCILLATOR
Leon H. Dülberger, Hollcong, Pa., assignor to Fischer & Porter Company, Hatboro, Pa., a corporation of Pennsylvania
Filed Nov. 28, 1958, Ser. No. 777,081
4 Claims. (Cl. 331—110)



1. An oscillator comprising a first transistor amplifying stage, a second transistor amplifying stage, a con-

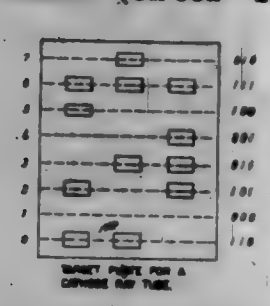
nection feeding amplified output signals from said first stage to the input of said second stage, a negative feedback connection from the second stage to the first stage, said feedback connection comprising a network having the property of substantially attenuating signals in the vicinity of only one frequency of a broad frequency range, and a positive feedback connection from the second stage to the first stage having the property of passing approximately uniformly signals of a broad frequency range including said one frequency, said positive feedback connection including a series diode providing a low alternating current impedance and providing a substantially constant direct potential between said stages.

2,970,281

PULSE CODE MODULATION SYSTEM

Wilhelm T. Runge, Bela Betrenhaemmer, and Ernst F. Henze, Ulm (Danube), Germany, assignors to Telefunken G.m.b.H., Berlin, Germany

Filed Mar. 2, 1959, Ser. No. 796,381
Claims priority, application Germany Mar. 7, 1958
2 Claims. (Cl. 332—13)



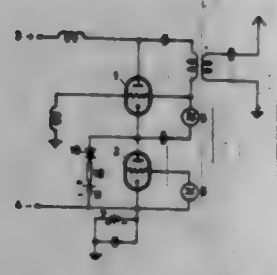
1. A method for converting information contained in a continuous function the polarity of which varies about a mean axis into discontinuous pulse groups, said method comprising the steps of periodically sampling the amplitude of the continuous function and expressing each amplitude in terms of one of 2^n discrete steps, separating said steps about said axis according to polarity such that one half of the steps represent one polarity and the other half of said steps represent the other polarity, and converting each step representing an amplitude of said continuous function into a binary number having n digits, said binary numbers being assigned to the opposite sides of said axis such that numbers representing the steps of one polarity contain an odd number of binary zeros and the binary numbers representing the steps of the other polarity contain an even number of zeros.

2,970,282

MODULATOR CIRCUIT ARRANGEMENT

Rudolf Hofer, Berlin-Siemensstadt, and Hans Tropper, Berlin-Halensee, Germany, assignors to Siemens & Halske Aktiengesellschaft, Munich and Berlin, Germany, a corporation of Germany

Filed Dec. 29, 1955, Ser. No. 556,378
Claims priority, application Germany Dec. 31, 1954
1 Claim. (Cl. 332—38)



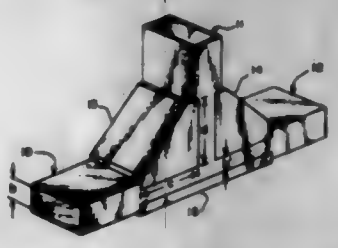
A high frequency modulator circuit comprising a modulator tube having a cathode, a control electrode connected with a source of modulating frequency, and an anode, a high-frequency amplifier tube having a cathode, a control electrode connected with a source of carrier frequency, and an anode, the cathode of said amplifier tube being operatively connected to the anode of said modulator tube as a load for the latter, an anode voltage supply source operatively connected to said amplifier anode and modulator cathode, whereby said modulator and amplifier tubes are in series across said voltage supply, a rectifier operatively connected to the anode of said modulator tube, a current source and a resistor operatively connected in series with said rectifier and therewith extending in series between the anode and cathode of said modulator tube and forming an auxiliary load therefor, the values, and polarity if any, of the components of said auxiliary load being based upon the conduction characteristics of said amplifier tube so that said rectifier begins to conduct when the operation of said high-frequency amplifier tube reaches the range of lower values of mutual conductance on its characteristic curve to provide an increase in effective load on said modulator tube through said auxiliary load for offsetting a decrease in the effective load on the modulator tube through said amplifier tube as a result of reduced mutual conductance of the amplifier tube, thereby tending to stabilize the output frequency of the modulator carrier.

2,970,283

BROADBAND SWITCHING JUNCTION

John W. E. Griemsmann, Queens Village, N.Y., assignor to the United States of America as represented by the Secretary of the Army

Filed Nov. 26, 1956, Ser. No. 624,479
2 Claims. (Cl. 333—9)



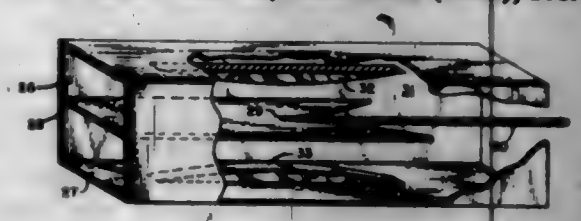
2. In combination in a signal duplexing system operating broadband, a signal transmitter, a signal receiver, a common transmitting and receiving antenna, three symmetrical transformer sections forming an E-plane T junction, each of said transformer sections being one half wave-length at the center frequency of the operating frequency band and having a characteristic impedance Z, wave guides connecting said receiver, said transmitter and said antenna to the respective transformer sections, each of said waveguides joining the respective transformer section symmetrically, and each of said waveguides having a characteristic impedance Z_0 greater than said impedance Z.

2,970,284

WAVEGUIDE-TO-COAXIAL LINE TRANSDUCER

Georg J. E. Gouban, Eatontown, N.J., assignor to the United States of America as represented by the Secretary of the Army

Filed July 3, 1958, Ser. No. 746,571
1 Claim. (Cl. 333—34)
(Granted under Title 35, U.S. Code (1952), sec. 266)



A transducer for electrically coupling a waveguide line to another line having a coaxial termination comprising two tandem-connected line junctions one having

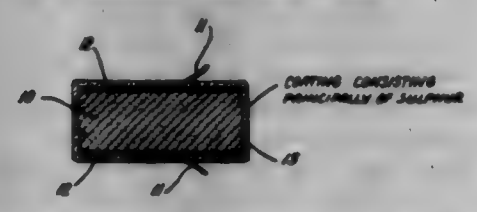
three waveguide ports and the other two waveguide ports and one coaxial line port, the waveguide ports of said other junction being respectively connected in wave transmission relation with a different one of two of the waveguide ports of said one junction through two sections of hollow-pipe line of identical cross-section having a common sidewall between them, the connection between the three waveguide ports of said one junction being such that the electromagnetic energy entering one port of that junction from said waveguide line is split into two equal portions which are respectively propagated through different ones of said two sections to the other two waveguide ports thereof with their electric fields oppositely directed with respect to said common wall, said common wall being partly eliminated beyond a point a given distance from the waveguide end of the transducer and a cylindrical conductor is connected to the center of that wall at said point and extending longitudinally to the coaxial line end of the transducer to form the inner conductor of said coaxial line port, the extended outer walls of said line section forming the outer conductor of said coaxial line port, the partial elimination of said common wall beyond said point being provided by cutting away that wall in tapered fashion on opposite sides of a center line to provide a more gradual transformation of the oppositely phased electric fields to increase the effective frequency bandwidth, the tapered cut beginning at the center point to which said cylindrical conductor is attached and extending lengthwise to the opposite outer edges of the common wall near the coaxial line end of the transducer, impedance matching between the coupled lines being provided by the use of a similar metal ridge section in the interior of each of said hollow-pipe waveguide sections attached to corresponding wall thereof at a point opposite the common wall, which ridge sections taper off gradually longitudinally in both directions, to reduce the phase velocity of the waves in the waveguide portions of the transducer to a velocity which is only a little higher than that in the coaxial line portion of the transducer.

2,970,285

INFRA-RED DETECTOR ELEMENTS AND METHODS OF MAKING SAME

Marvin E. Lasser, Elkins Park, and Philip H. Cholet, Levittown, Pa., assignors to Philco Corporation, Philadelphia, Pa., a corporation of Pennsylvania

Filed Aug. 13, 1957, Ser. No. 678,758
12 Claims. (Cl. 338—18)



1. An infra-red detector, comprising a doped semiconductor body which is electrically responsive when exposed to infra-red radiation, conductors electrically and mechanically connected to said body, and a coating consisting principally of sulphur completely enclosing said body.

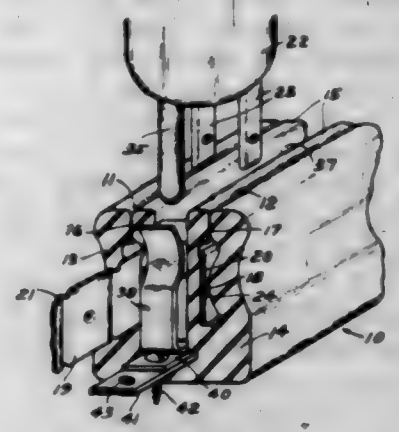
2,970,286

CONTINUOUS OUTLET STRIP

Henry J. Modrey, Eagle Drive, Stamford, Conn.

Filed Mar. 19, 1957, Ser. No. 647,108
7 Claims. (Cl. 339—14)

1. A continuous electrical outlet adapted to receive connector plugs having pole elements and connector plugs having pole elements and a grounding contact element, said outlet comprising a strip of insulation material having in one of its surfaces three parallel continuous longitudinal slots, a continuous contact strip inserted in each one of the two outer slots parallel to the lateral boundary walls thereof, said outer slots being adapted to receive the pole elements of said plugs in contact with the contact strips therein and having rims forming at least approximately self-closing lips expand-



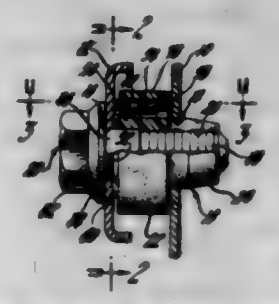
able for frictionally retaining the pole elements, a flat grounding contact strip placed flat upon the base of the center slot, and a grounding contact member for receiving the grounding contact element of a plug insertable in said center slot and attachable to the grounding strip therein at any selected point along the length thereof.

2,970,287

FASTENER ASSEMBLY

Donald H. Gill, St. Clair Shores, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Apr. 24, 1959, Ser. No. 808,637
2 Claims. (Cl. 339—14)



2. A fastener and ground strap assembly comprising a nut member having a head portion and a shank portion, said shank portion being receivable in a first panel, a bolt member receivable in said nut member and retaining said shank portion in said panel, said bolt member being receivable in a second panel such that said second panel is secured in relative spaced relation with respect to said first panel, said head portion lying between said first and second panels when in an assembled position, and a U-shaped metallic member receivable on said bolt member and having the base portion thereof between said second panel and said nut member and positively engaging said second panel, said head portion having a plurality of apertures therethrough to receive the legs of said U-shaped member, tabs extending from the ends of the leg portions of said U-shaped member and positively engaging said first panel member to provide an electrical connection between said first and second panel members.

2,970,288

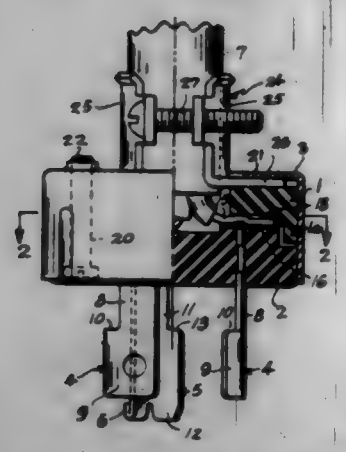
TOP WIRED ELECTRICAL CAP AND CONNECTOR

Harvey Hubbell and Benjamin C. Webster, Fairfield, Conn., assignors to Harvey Hubbell, Incorporated, Bridgeport, Conn., a corporation of Connecticut

Filed June 19, 1956, Ser. No. 592,297
2 Claims. (Cl. 339—174)

2. An electrical device comprising: a body of insulating material having upper and lower members; a plu-

rality of spaced stationary metallic electrical contacts mounted in said lower member; each of said contacts having an upper end adjacent the upper side of said lower member; a central opening in and extending longitudinally through said upper member for permitting passage of an end of a multi-wire electrical cable; means for simultaneously securing the bared ends of the individual conductor wires of the cable to said contacts comprising a plurality of substantially U-shaped yieldable metallic members, each being associated respectively with each of said contacts; each of said U-shaped members being in the form of a bent plate of substantially uniform width including a planar body portion which is secured to the upper end of one of said contacts and extends transversely thereof and a free end portion that is bent upwardly and backwardly from said body portion forming a planar clamping lug over said planar body portion and spaced therefrom to permit insertion of a bared



conductor wire end between said portions by movement of said bared conductor wire end in a direction longitudinally thereof from the open side of the U-shaped member toward the bent closed side thereof; the open sides of said U-shaped members facing inwardly toward each other and the opening in the upper member; and means for detachably securing said upper and lower members, said last named means being operative to draw said upper and lower members together to press the under side of the upper member against said planar clamping lugs to force and bend them downwardly toward said planar body portions to thereby clamp the bared conductor wire ends that are inserted between said body portions and said clamping lugs, whereby the bared conductor wire ends may be simultaneously clamped by said U-shaped members with planar metallic portions thereof on two opposite sides of each of the bared conductor wire ends.

2,970,289

CONNECTOR FOR PENDENT STRUCTURES AND THE LIKE

Robert C. Loomis, Los Angeles, Calif., assignor to Econolite Corporation, Los Angeles, Calif., a corporation of California

Filed Feb. 5, 1958, Ser. No. 713,335
3 Claims. (Cl. 340—84)



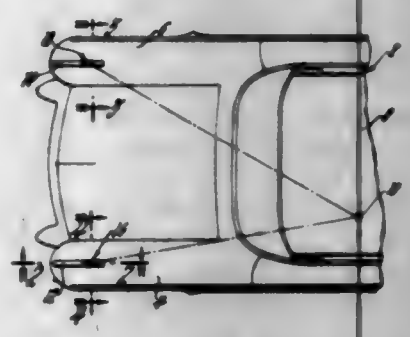
2. In combination with a pendent structure having at least two light head units to be fastened together, wherein the light units are to be aligned substantially vertically, and a mast having an elevated, substantially horizontal arm positioned at a predetermined height above a highway, wherein wiring for the light units extends through the mast and the mast arm, and wherein only one of the light units may extend below the arm, a connector comprising: a horizontal tubular member on the end of the arm, fastening means extending through said tubular member and the arm and locking said tubular member to the arm, said member having a flat end portion extending horizontally from the arm, said flat end portion having an opening therethrough on a vertical axis, said flat end portion extending between the light units, said opening providing a passageway through which wires pass from the arm through said tubular member and into the light units, and means securing said flat end portion to the light units.

2,970,290

FRONT FENDER TURN INDICATOR LAMP

David R. Holls, Warren, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Aug. 7, 1959, Ser. No. 832,251
2 Claims. (Cl. 340—85)



1. In combination, a vehicle including a driver's seat to one side of the longitudinal axis of the vehicle, and a turn signal indicator lamp assembly mounted on each side of said vehicle substantially equidistantly from the longitudinal axis thereof and forwardly of said driver's seat; each of said assemblies comprising a light source, a housing for each of said sources blocking projection of light rays directly forwardly of said vehicle and including an opening rearwardly of said sources, a lens mounted in each of said openings, and a plurality of optical elements on the interior surfaces of the respective lenses receiving and directing selected portions of the light rays from the respective light sources upwardly above the horizontal and rearwardly and inwardly at different angles relative to the longitudinal axis of the vehicle and directly at the occupant of said driver's seat, and said lenses directing other light rays rearwardly and outwardly from said vehicle.

2,970,291

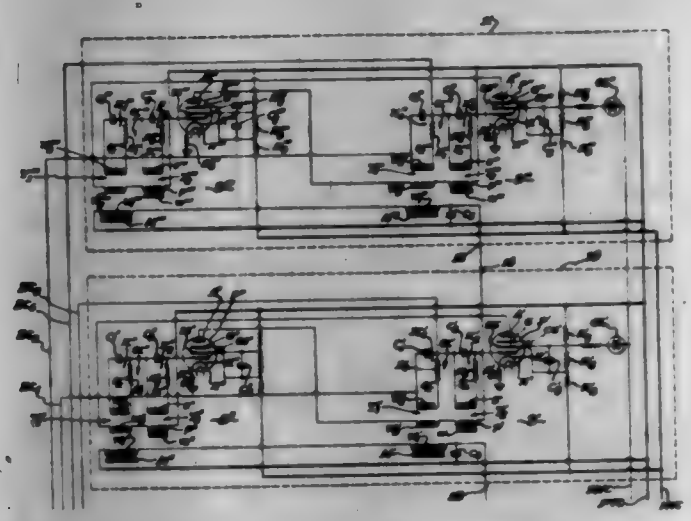
ELECTRONIC RELAY CIRCUIT

Frederick W. Viehe, Los Angeles, Calif., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Continuation of application Ser. No. 232,525, June 20, 1951, which is a continuation of application Ser. No. 751,422, May 29, 1947. This application June 28, 1954, Ser. No. 439,579
107 Claims. (Cl. 340—172.5)

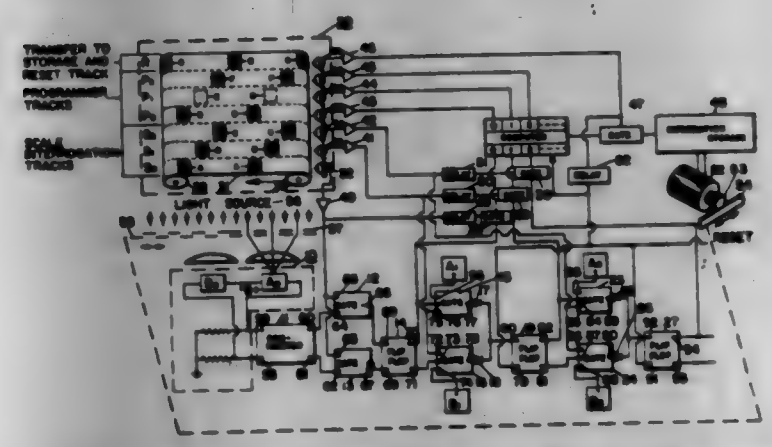
1. In combination: an electric circuit comprising a plurality of relay sections, each relay section having an operated condition and a restored condition while said circuit is energized; a set of memory devices associated with the respective relay sections, each of said devices being operable between a pair of conditions; means for coordinately operating and restoring said sections while said circuit is energized and for coordinately actuating

said memory devices in a related manner; means for de-energizing said circuit; and means controlled by the de-energization of said circuit for impressing upon said set



of memory devices a pattern of conditions representative of the last previous set of conditions of said sections prior to de-energization.

2,970,292
BINARY SCALE READING SYSTEM
Waldo H. Kliever, 2472 Overlook Road, Cleveland Heights, Ohio
Filed Oct. 22, 1956, Ser. No. 617,415
9 Claims. (Cl. 340—172.5)



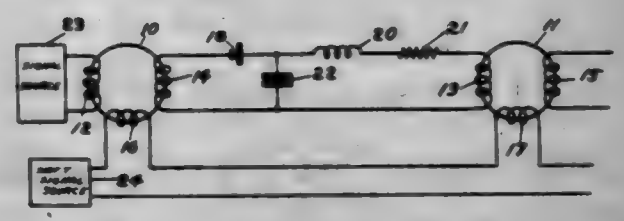
1. A binary scale reading system comprising comparator means for simultaneously comparing two signals each being representative of a different condition and developing an output voltage on one of two outputs thereof representative of the signal having the greater amplitude, first gate means for transmitting the output voltage developed in response to the application of the output voltage of the comparator means and an interrogation signal to the inputs of first gate means, the interrogation signal being applied to accomplish a reading function; a first flip-flop circuit means adapted to develop a voltage on one output in the absence of a transmitted output voltage from one output of said comparator means and to develop a voltage on another output in the presence of a transmitted output voltage from said one output of said comparator means, second gate means for transmitting an output voltage from said first flip-flop circuit means developed in response to the first flip-flop output voltage and an interrogation signal fed to said second gate means to accomplish a reading function and a second flip-flop circuit means having an input fed by a second gate means and adapted to develop a voltage on one output in the presence of a transmitted output voltage from a second gate means and to develop a voltage on another output in the absence of a transmitted output voltage from a second gate means.

2,970,293
BINARY COUNTER
John Presper Eckert, Jr., Philadelphia, Pa., assignor, by mesne assignments, to Sperry Rand Corporation, a corporation of Delaware
Filed May 10, 1954, Ser. No. 428,656
8 Claims. (Cl. 340—174)



1. A binary counter comprising a pulse type magnetic amplifier having an input winding circuit and an output winding circuit, a core of magnetic material exhibiting a substantially rectangular hysteresis loop, a coil wound on said core, energy storage means coupled to one end of said coil, the other end of said coil being connected to said amplifier output winding circuit, means for energizing said amplifier output winding circuit with spaced power pulses, means for selectively applying input pulses to the amplifier input circuit in the spaces between said power pulses whereby the application of an input pulse to the amplifier subsequently effects a power pulse to said coil, and low impedance means connected in the output winding circuit of said amplifier to absorb sneak currents therein, said energy storage means being connected alternately to store pulses passing through said coil from said amplifier in response to said selective input pulses and discharging pulses through said coil to said low impedance means between successive input pulses, thereby to alternate the operating point of said core on said hysteresis loop, said low impedance means including a diode, a resistor and a potential source, said diode connecting said output circuit to a point of reference potential and said resistor connecting said output circuit to said potential source, said low impedance means being connected to absorb said sneak currents occurring in said output circuit as well as pulses discharged from said energy storage means.

2,970,294
MAGNETIC CONTROL CIRCUITS FOR SHIFT REGISTERS
Sadia Sydney Guterman, Dorchester, Mass., assignor to Raytheon Company, a corporation of Delaware
Filed May 20, 1954, Ser. No. 431,129
4 Claims. (Cl. 340—174)



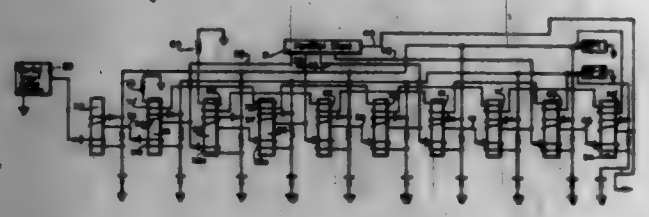
2. A magnetic control circuit comprising at least two magnetic cores, first, second, and third electrical windings on each of said cores, electrical circuitry for feeding signals from said third winding of a first of said cores to said first winding of a second of said cores comprising a rectifier, and a time delay circuit including a capacitor connected in series with the rectifier across the said third winding on the first core and an inductance and resistor connected in series with said capacitor across the first winding on said second core means for feeding said second winding on each of said cores in series from a source of actuating signals.

2,970,295

MEANS FOR ELIMINATING "SNEAK" CURRENTS IN CASCADED MAGNETIC AMPLIFIERS

Theodore H. Bonn, Philadelphia, Pa., assignor, by mesne assignments, to Sperry Rand Corporation, a corporation of Delaware

Filed June 28, 1954, Ser. No. 439,748
13 Claims. (Cl. 340—174)



1. A shifting register comprising a plurality of magnetic amplifiers connected in cascade, each amplifier having a core capable of assuming stable remanence conditions, a power winding and a control winding on each of said cores, the power winding of one amplifier being electrically connected to the control winding of the next amplifier, a first source for supplying a first series of spaced power pulses to the power windings of said amplifiers in odd-number positions thereby to apply first pulse-type magnetomotive forces to said odd amplifiers, a second source for spraying a second series of spaced power pulses to the power windings of said amplifiers in even-numbered positions, said second source supplying its pulses during the spaces between pulses of the first series of pulses thereby to apply second pulse-type magnetomotive forces to said even amplifiers in out-of-phase relation to said first pulse-type magnetomotive forces, winding means for applying additional pulse-type magnetizing forces to the even amplifier cores which additional pulse-type magnetizing forces are synchronized with the power pulses of the first source and which are out of phase with said second magnetomotive forces applied to said even cores thereby to neutralize the magnetizing forces in the even cores due to the "sneak" currents arriving from the power windings of the odd-numbered magnetic amplifiers during the application of said first magnetomotive forces to said odd numbered amplifiers, and winding means for applying additional magnetizing forces to odd amplifier cores which additional pulse-type magnetizing forces are synchronized with the power pulses of the second source and which are out of phase with said first magnetomotive forces applied to said odd cores thereby to neutralize the magnetizing forces in the odd cores applied by the "sneak" currents arriving from the power windings of the even amplifiers during the application of said second magnetomotive forces to said even numbered amplifiers.

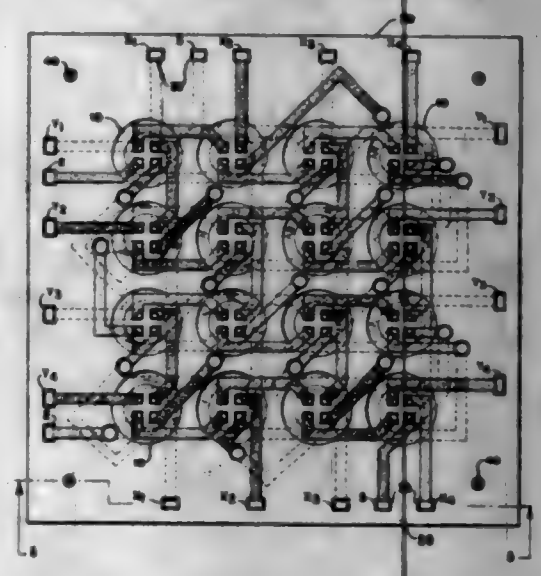
2,970,296

PRINTED CIRCUIT FERRITE CORE MEMORY ASSEMBLY

Paul V. Horton, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed May 10, 1955, Ser. No. 507,229
3 Claims. (Cl. 340—174)

1. A magnetic memory device comprising a single two dimensional plane of toroidal magnetic cores each capable of assuming stable remanence conditions, a plate of insulating material having a plurality of spaced ring shaped cavities within one surface thereof, cores within said cavities and encircling a pillar of said insulating material, a plurality of perforations extending through said pillars, an insulating potting material filling said cavities and embedding said cores, and electrically conductive regions defining windings and series circuits linking said cores, said regions being deposited upon opposite surfaces of



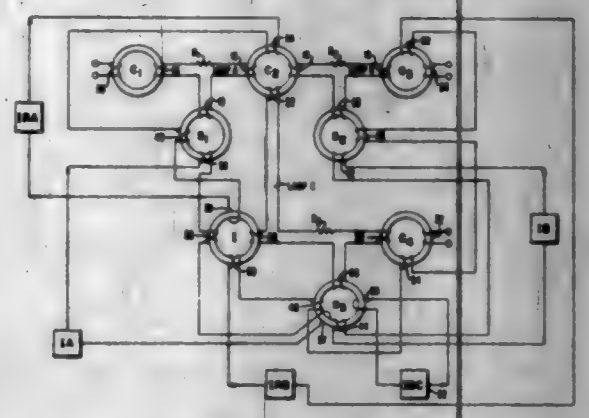
said plate and over said potting material as well as through said perforations.

2,970,297

MAGNETIC BRANCHING CIRCUIT

John A. Kauffmann, Hyde Park, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

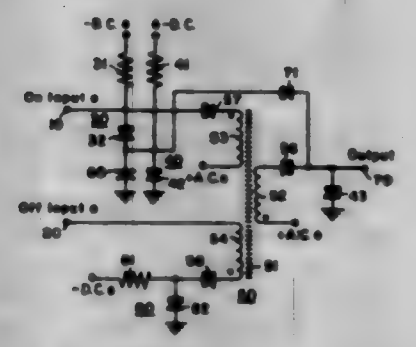
Filed Dec. 23, 1957, Ser. No. 704,462
8 Claims. (Cl. 340—174)



1. In a binary information handling system, a branching circuit comprising a first and a second magnetic storage core; control winding means on each of said cores; an input coupling core; a first and a second output coupling core; input and output winding means on each of said coupling cores; an inhibit core; output winding means on said inhibit core; circuit means including a first resistor series connecting one winding of said output winding means on said input coupling core with the control winding means on said first storage core and the input winding means on said first output coupling core; further circuit means including a second resistor series connecting a further winding of said output winding means on said input coupling core with the output winding means on said inhibit core with the control winding means on said second storage core and the input winding means on said second output coupling core; a first, a second, a third, and a fourth clock pulse source adapted to deliver a sequence of pulses displaced in time; winding means on said input coupling core and said inhibit core connected with said first clock pulse source so as to cause said input coupling core to shift to a datum residual state and cause said inhibit core to be biased toward an opposite residual state when energized; winding means on said first and second storage core connected with said second clock pulse source so as to cause said first storage core to shift to the datum residual state and to

cause said second storage core to shift to the opposite residual state when energized; winding means on said inhibit core and said first and second storage core and said first and second output coupling core connected with said third clock pulse source so as to cause said inhibit core and each of said storage cores and each of said output coupling cores to shift to the datum state when energized; winding means on said inhibit core and said second storage core connected with said fourth clock pulse source so as to cause said inhibit core to switch to the opposite state and to cause said storage core to be biased toward the opposite state when energized; and means for biasing said second storage core toward the datum residual state at all times.

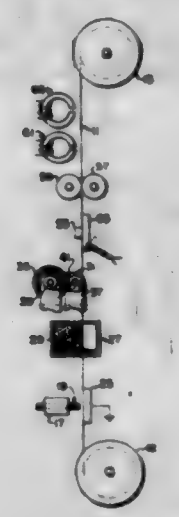
2,970,298
BISTABLE CIRCUIT
Frank J. Prines, Penn Hills Township, Allegheny County, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed June 13, 1958, Ser. No. 741,765
8 Claims. (Cl. 340—174)



1. In a magnetic amplifier, in combination, a saturable magnetic core having coupled thereto a gating circuit, a first reset circuit and a second reset circuit; said gating circuit and said first reset circuit adapted to be connected respectively to separate sources of alternating voltage of the same frequency but substantially 180° out of phase and of sufficient magnitude to cycle said saturable magnetic core between positive and negative saturation; means for applying an ON input signal of sufficient magnitude to said first reset circuit to block the resetting of said core by said first reset circuit; energy storage means connected to store energy from an output from said gating circuit and discharge said stored energy to block said resetting action on said core by said first reset circuit; and means for applying an OFF input signal to said second reset circuit of sufficient magnitude to reset said saturable magnetic core.

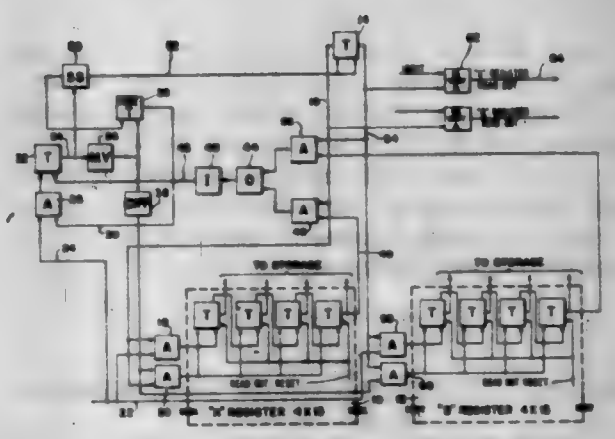
2,970,299
ELECTROGRAPHIC RECORDING WITH MAGNETIC MATERIAL
Herman Epstein, West Chester, and Oscar B. Stram, Paoli, Pa., assignors to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed May 20, 1955, Ser. No. 509,904
23 Claims. (Cl. 340—174.1)

15. In data recording and reproduction apparatus the combination of a record sheet capable of retaining electrostatic charges, means for advancing said sheet in uninterrupted succession and at a constant speed past recording and read-out means, respectively, said recording means comprising means for electrostatically depositing powdered magnetic material on said sheet in patterns of discrete dots representative of the data and means for magnetizing said dots according to a pattern cyclically repeated at a uniform rate in the direction of displacement of the sheet, said read-out means comprising means for generating alternating electrical signals responsive to the passage of the thus magnetized dots thereby and be-



ing characterized by a maximum response at the frequency of alternation of said signals.

2,970,300
SKEW ELIMINATION SYSTEM
Victor R. Witt, Poughkeepsie, Peter I. Prentky, Wappingers Falls, and Erwin K. Dudek, Poughkeepsie, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed June 30, 1958, Ser. No. 745,677
7 Claims. (Cl. 340—174.1)

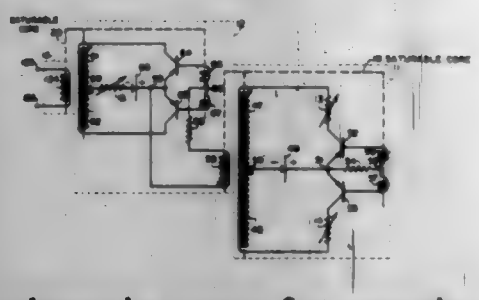


1. In a deskewing device for magnetic tape reading mechanism adapted to read a multi-channel tape record having recorded thereon blocks of the same pre-determined number of multi-bit characters and in which each such blocks of characters is followed by a synchronizing bit in each recording channel, a plurality of data storage registers each having interconnected character bit storage positions equal to the number of characters in a block of characters recorded on such tape and being adapted to receive and register magnetic tape originated pulses in each of the positions thereof, a line for conveying magnetic tape originated pulses connected to the first bit storage position of each of said registers, means for gating magnetic tape originated pulses on said line into the first bit position of one of said registers and for blocking entry thereof into the other of said registers, means including said interconnections for shifting pulses through said registers by applying a sequence of shift pulses to the bit positions thereof, means for sensing when a synchronizing bit is shifted through said registers, and means responsive to said sensing means when the same has sensed a synchronizing bit for gating said tape originated pulses on said line into another of said registers.

2,970,301
TELEMETERING SYSTEM

Robert W. Rochelle, Bucknell Manor, Va.
(943 Swarthmore Drive, Alexandria, Va.)

Filed Jan. 21, 1958, Ser. No. 710,374
10 Claims. (Cl. 340—183)
(Granted under Title 35, U.S. Code (1952), sec. 266)

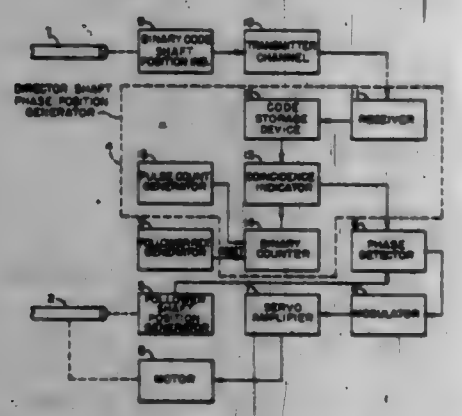


1. In a telemetering system, first generating means for generating a recurrent signal having two characteristic portions, said first generating means including a plurality of generating stages, a first plurality of switch means one of which is connected to each of the first said generating stages and first input means connected to one of the first said generating stages for encoding one portion of the low frequency signal; second generating means for generating a second signal of higher frequency than said recurrent signal including a plurality of generating stages, a second plurality of switch means one of which is connected to each of the second said generating stages and second input means connected to one of said generating stages of the second generating means for encoding the frequency of the high frequency signal; first control means connected to the output of the first generating means and responsive thereto for rendering the second generating means operative during the generation of one portion of the recurrent signal and inoperative during the generation of the other portion of the recurrent signal, and second control means for rendering one stage in each of the first and second generating means simultaneously operative and for rendering the other stages inoperative, the input of said second control means connected to the output of the first generating means and each of the outputs of said second control means connected to one switch means in one stage of each of the first and second generating means.

2,970,302
DIGITAL SYNCHRO DATA TRANSMISSION SYSTEM

Darrin H. Gridley, % Naval Research Laboratory, Anacostia Station, Washington, D.C.

Filed Dec. 8, 1950, Ser. No. 199,907
14 Claims. (Cl. 340—206)
(Granted under Title 35, U.S. Code (1952), sec. 266)

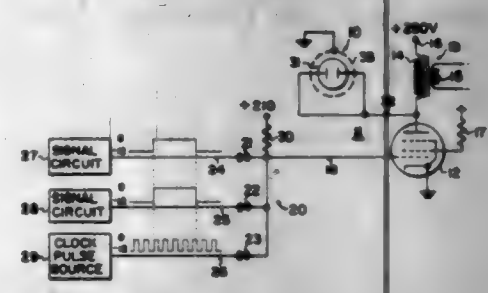


2. A telemetering system comprising the combination of means for generating a different coded group of pulses for each value of a given variable which is to be indicated at a remote location, means for transmitting said coded group of pulses to said remote location, means for storing said coded group of pulses at said remote location, an indicating means at said remote location, means for generating a different coded group of pulses corresponding to said first mentioned coded group of pulses for each position of said indicating means, means for changing the position of said indicating means whenever the second mentioned coded group of pulses indicate that said last named means is not indicating the value of said given variable.

2,970,303
NEON LAMP INDICATOR DEVICE

Robert J. Williams, Berwyn, Pa., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan

Filed Mar. 4, 1955, Ser. No. 492,248
1 Claim. (Cl. 340—248)

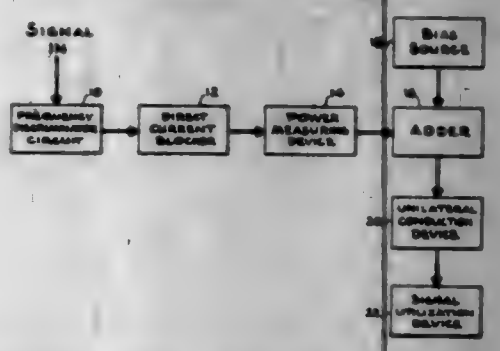


A circuit comprising in combination a vacuum tube amplifier, said tube having at least a cathode, an anode and a control grid, said anode coupled to a source of positive potential through a load device, said cathode being coup'ed to substantially ground potential, a coincidence gate comprising a plurality of unidirectional current conducting devices each having an anode and a cathode, said cathodes of said unidirectional devices coupled to a source of positive potential and to said control grid, a clock pulse source coupled to the anode of one of said unidirectional devices, a signal voltage source coupled to the anode of each of said remaining unidirectional devices, a gaseous tube having an envelope containing electrodes, a metallic external shield electrode disposed about said envelope, said metallic electrode being at substantially ground potential, and a coupling between said anode of said vacuum tube and said internal electrodes of said gaseous tube for causing ionization of the gas in said gaseous tube when a pulsating current appears at said anode of said tube in response to coincidence of signals applied to said control grid through said unidirectional devices from said clock pulse source and said signal pulse source.

2,970,304
SYSTEM FOR DETECTING A SIGNAL IN THE PRESENCE OF NOISE

Emory Lakatos, Los Angeles, Calif., assignor, by mesne assignments, to Thompson Ramo Wooldridge Inc., Cleveland, Ohio, a corporation of Ohio

Filed Feb. 12, 1958, Ser. No. 714,768
18 Claims. (Cl. 340—248)

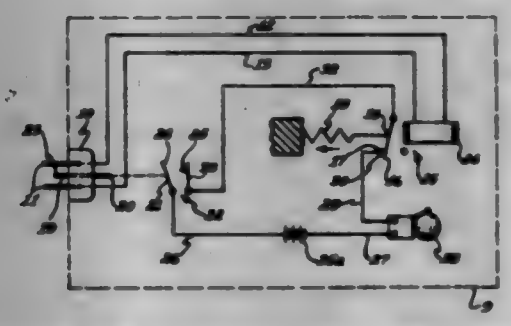


1. A detecting system, comprising: frequency selective means adapted to receive an input signal having noise

and information components and constructed to convert said input signal into a transformed signal having an alterating current component, representative of the noise component of said input signal, and a substantially direct current component representatives of said information component; blocking means connected to said frequency selective means for receiving said transformed signal therefrom and adapted to remove said substantially direct current component from said transformed signal and to pass said alternating current component which is varied an amount functionally related to the removed information component; power measuring means coupled to said blocking means for receiving said alternating current component therefrom and constructed to convert said alternating current component into a signal representative of the power in said alternating current component; a bias voltage source; and comparing means connected to receive a bias voltage from said voltage source and to receive said power representing signal from said power measuring means and constructed to provide an output signal representative of the larger of said bias and power signal levels.

2,970,305
CURRENT FAILURE INDICATOR
Henry G. Walters, 3146 E. Flower, Phoenix, Ariz.
Original application Aug. 1, 1957, Ser. No. 675,585, now Patent No. 2,931,019, dated Mar. 29, 1960. Divided and this application Feb. 4, 1960, Ser. No. 6,767

1 Claim. (Cl. 340—253)



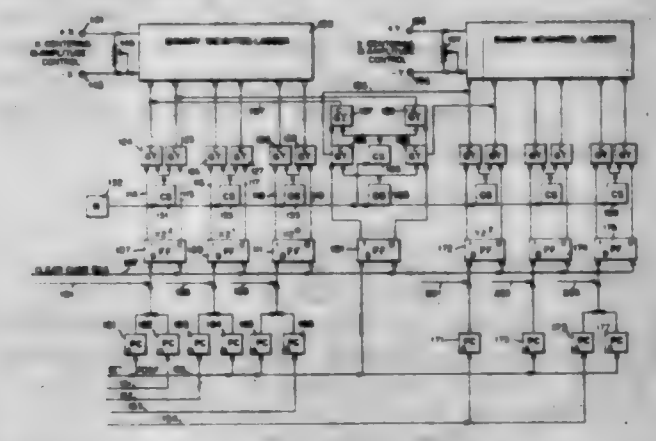
In a current failure indicator unit, a plug having prongs for insertion in a convenience outlet, a first switch having normally open contacts in said unit, a plunger in said plug adapted to engage the face of a convenience outlet when plugged in to close the contacts of said first switch, a second switch having normally closed contacts in said unit, electrically energized means in said unit connected to said prongs of said plug to hold said second switch contacts open, means connecting said first switch, said second switch, a battery in said unit, and an electrically energizable warning device in said unit in series

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2,970,306
DIGITAL TO ANALOGUE DECODER CIRCUITS
Henry E. Ziemann, Lexington, Mass., and Julius I. Woolf, Levittown, Pa., assignors to Research Corporation, New York, N.Y., a corporation of New York
Filed July 5, 1956, Ser. No. 595,993

9 Claims. (Cl. 340—347)

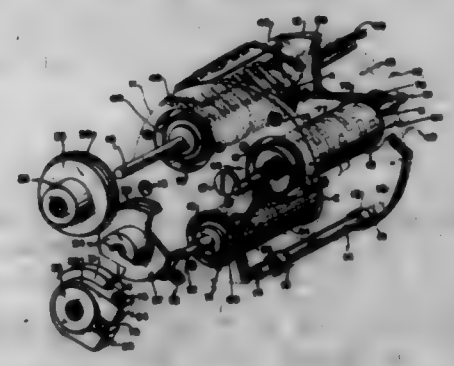
9. An electronic circuit for generating opposing deflection potentials for deflecting a cathode ray beam to a predetermined position defined by digital signals comprising, in combination, a source of digital signals including a storage register, said storage register comprising a plurality of bi-stable devices, each bi-stable device having a pair of output conductors, a current gate circuit associated with each of said output conductors, a constant current source associated with each pair of output conductors for conditioning the corresponding pair of current gate circuits, a plurality of binary weighted double-ended ladder attenuation systems, each of said systems comprising a first and second substantially identical attenuation network, each of said networks including a plurality of serially connected attenuation sections corresponding to the number of stages in said digital number, each attenuation section in each of said attenuation networks being substantially identical to a corresponding attenuation section in the other of said attenuation networks and having an input terminal associated therewith, the input to each pair of substantially identical attenuation sections being controlled by one of said output conductors of an associated bi-stable device in said storage register, a common output circuit associated with each first and second ladder attenuation network, one terminal of said output circuit being connected to the output of one of said attenuation circuits, the other terminal of



said output circuit being connected to the corresponding output of the other of said attenuation circuits, means for providing current from each said current source through one and only one of the pair of associated current gate circuits to selected attenuation sections in response to signals of a predetermined magnitude in said storage register and a variably terminated impedance connected across the output terminals of each pair of attenuation networks whereby the resulting current applied through said current gate circuits to selected attenuation circuits under the control of said bi-stable devices in said storage register causes deflection signals corresponding in magnitude to the digital signals applied to said storage register to be developed across said output terminals of said attenuation networks.

2,970,307
DIGITALIZERS
George P. Bentley, Franklin, and George C. McNabb, Attleboro, Mass., assignors to Instrument Development Laboratories, Inc., Attleboro, Mass., a corporation of New York
Filed Feb. 8, 1957, Ser. No. 639,090

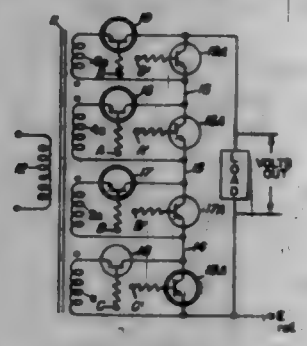
4 Claims. (Cl. 340—347)



1. A shaft position digitalizer comprising a pair of support walls, a series of cylindrical drums representing orders of increments rotatably mounted between said support walls, successive drums in said series representing successively higher orders of increments, the increments in said orders being represented by axially extend-

ing columns of conductive and nonconductive areas on the surfaces of said cylindrical drums, said areas being selectively axially located in accordance with a binary code, a plurality of axially aligned brush means mounted on said support walls for engagement with each of said drum surfaces for electrically reading out successively presented coded columns, means for driving the lowest order drum in said series at a predetermined speed related to the speed of a shaft whose angular position is to be digitalized, a plurality of intermittent motion transfer mechanisms respectively operatively connected between said drums in said series, each of said mechanisms comprising camming means driven by the lower order drum to intermittently accelerate and decelerate the higher order drum from a stationary condition through one increment and back to a stationary condition simultaneously with the passage of said lower order drum through the highest increment of an order represented thereby, and means on said higher order drums responsive to said camming means for rotating said higher order drums increment by increment.

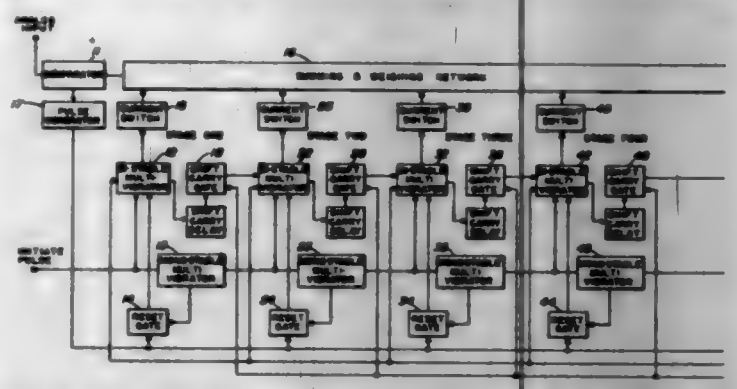
2,970,308
PARALLEL DIGITAL TO A.C. ANALOG CONVERTER
George S. Stringfellow and Erwin J. Emkjer, San Diego, Calif., assignors to General Dynamics Corporation, San Diego, Calif., a corporation of Delaware
Filed Aug. 7, 1957, Ser. No. 676,829
3 Claims. (Cl. 340—347)



1. A digital to analog converter comprising a plurality of voltage sources, said sources being a geometric progression of a reference voltage unit, said sources being serially connected to form a voltage source path, the source of highest progression being reversed in phase from the rest of said sources, a parallel by-pass path connected across each of said sources, and means for selectively connecting certain voltage sources and the associated parallel by-pass paths of the remaining of said voltage sources in circuit to form said voltage source path, said means comprising a transistor connected in series with each of said voltage sources and a complementary transistor connected in each of said parallel by-pass paths, and signal means for rendering one of said transistors electrically conductive and the other of said transistors electrically resistive.

2,970,309
ANALOG-TO-DIGITAL CONVERTERS
William B. Towles, Timonium, Md., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Sept. 25, 1957, Ser. No. 686,269
6 Claims. (Cl. 340—347)

1. An analog-to-digital converter comprising: a shift register having an input stage an intermediate stage and an output stage; said input stage having four inputs and three outputs, said input stage comprising a bistable multivibrator having three inputs and two outputs, a monostable multivibrator having an input and two outputs, a current switch having an input and an output, a reset gate having two inputs and an output, a shift carry gate having two inputs and an output, and a shift carry delay circuit having an input and an output; said bistable multivibrator having a first input coupled to a first of the four inputs of said input stage, a second input coupled to a second of the four inputs of said input stage, and a third input coupled to the output of said rest gate, one of said bistable multivibrator outputs being coupled to the input of said current switch and the other output being coupled to the input of said shift carry delay circuit, the output of the shift carry delay circuit being coupled to one of the inputs of said shift carry gate, the other of said shift carry gate inputs being coupled to the fourth of said four inputs of said input stage, the output of said shift carry gate being coupled to the first of said three outputs of said input stage, said reset gate having one of its inputs coupled to a third of the four inputs of said input stage, the other input of said reset gate being coupled to one of the outputs of said monostable multivibrator, the input of said monostable multivibrator being coupled to said first of the four inputs of said input stage and the other output of said monostable multivibrator being coupled to a second of the three outputs of said input stage, the output of said current switch being coupled to the third of said input stage outputs; said intermediate stage having five inputs and three outputs, said intermediate stage comprising a bistable multivibrator having four inputs and two outputs, a monostable multivibrator having an input and two outputs, a current switch having an input and an output, a reset gate having

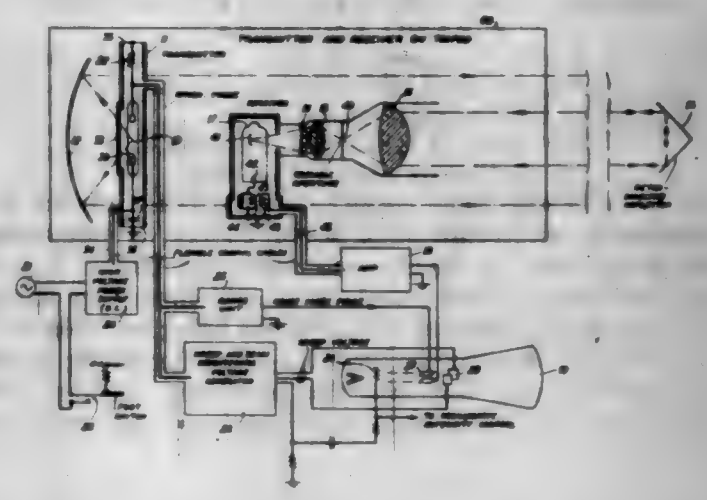


two inputs and an output, a shift carry gate having two inputs and an output, and a shift carry delay circuit having an input and an output; said bistable multivibrator having a first input coupled to a first of the five inputs of said intermediate stage, a second input coupled to a second of the five inputs of said intermediate input stage, a third input coupled to the output of said reset gate and a fourth input coupled to the fifth input of said intermediate stage, one of said bistable multivibrator outputs being coupled to the input of said current switch and the other output being coupled to the input of said shift carry delay circuit, the output of the shift carry delay circuit being coupled to one of the inputs of said shift carry gate, the other of said shift carry gate inputs being coupled to a fourth of said five inputs of said intermediate stage, the output of said shift carry gate being coupled to the first of said three outputs of said intermediate stage, said reset gate having one of its inputs coupled to a third of the five inputs of said intermediate stage, the other input of said reset gate being coupled to one of the outputs of said monostable multivibrator, the input of said monostable multivibrator being coupled to said first of the five inputs of said intermediate stage and the other output of said monostable multivibrator being coupled to a second of the three outputs of said intermediate stage, the output of said current switch being coupled to the third of said intermediate stage outputs; said output stage having four inputs and three outputs, a reset gate having two inputs and an output, a monostable multivibrator having one input and two outputs, a bistable multivibrator having four inputs and two out-

puts, and a current switch having an input and an output; a first of said bistable multivibrator inputs being coupled to a first of said output stage inputs, a second of said bistable multivibrator inputs being coupled to a second of said output stage inputs, a third of said bistable inputs being coupled to the fourth of said output stage inputs, said reset gate having one of its inputs coupled to a third of said output stage inputs, the output of said reset gate being coupled to the fourth input of said bistable multivibrator, said monostable multivibrator having an input coupled to the fourth input of said output stage inputs, one of the outputs of said monostable multivibrator being coupled to the other input of said reset gate, the other output of said monostable multivibrator being coupled to a first output of said output stage, one of said bistable multivibrator outputs being coupled to the input of said current switch, the other output of said bistable multivibrator being coupled to a second of said output stage outputs, the output of said current switch being coupled to the third output of said output stage; a summing and weighting network having an output and at least a first second and third input coupled respectively to the third output of said input stage, said intermediate stage and said output stage; a comparator circuit having two inputs and an output, one of said comparator inputs having an analog voltage applied thereto and the other of said inputs being coupled to the output of said summing and weighting network, the output of said comparator circuit being coupled to said third inputs of said input, intermediate and output stages; a shift circuit having two inputs and three outputs, said shift circuit comprising an output gate having two inputs and one output, an output pulse generator having an input and an output, a shift enable gate generator having an input and two outputs, and a gated shift oscillator having an input and an output; one of the inputs of said output gate being coupled to one of the impulse of said shift circuit, the output of said output gate being coupled to the input of said output pulse generator, the input of said shift enable gate generator being coupled to the other input of said shift circuit, one of said shift enable gate generator outputs being coupled to the input of said gated shift oscillator, the other output of said shift enable gate generator outputs being coupled to the input of said gated shift oscillator, the other output of said shift enable gate generator being coupled to a second of said shift circuit inputs, the output of said gated shift oscillator being coupled to a first of said shift circuit inputs; circuit means respectively coupling the first and second outputs of said input stage to the fifth and first inputs of said intermediate stage, circuit means respectively coupling the first and second outputs of said intermediate stage to the first and fourth inputs of said output stage, circuit means respectively coupling the first and second outputs of said output stage to the second and first inputs of said shift circuit, circuit means coupling the first output of said shift circuit to the second inputs of said stages, circuit means coupling the second output of said shift circuit to the fourth inputs of said input stage and said intermediate stage; means coupling an initiate pulse generating means to the first input of said input stage, whereby an output signal will be obtained at the output terminal of said output pulse generator which is the binary equivalent of said analog voltage.

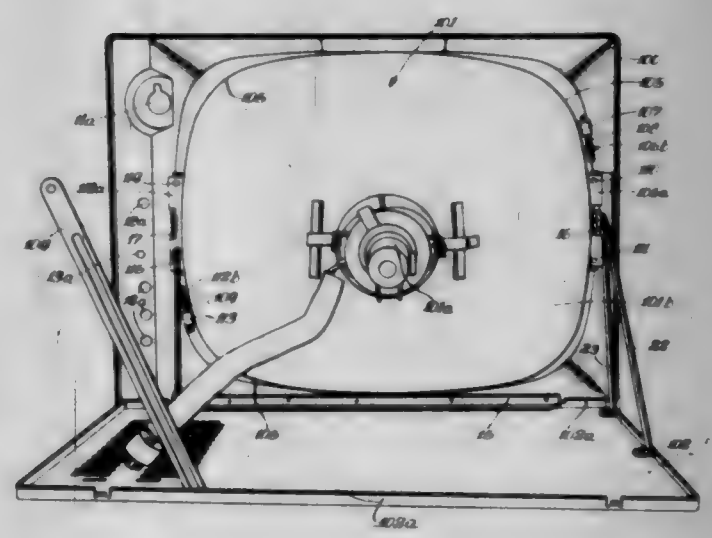
2,970,310
LIGHT PULSE GENERATOR
Edmond Bruce, Red Bank, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Sept. 23, 1947, Ser. No. 775,685
3 Claims. (Cl. 340—366)

1. Means for producing short light pulses comprising a discharge-producing flash-lamp, a cylindrical, open-ended, metal casing surrounding said flash-lamp in such a manner that the respective longitudinal axes are vertical and coaxial, whereby the flash lamp is electrically shielded and heat ventilated, a non-reflective lining on



the interior surface of said casing, a light filter window in one side only of said casing, and a light-directing member placed opposite said window in such a position that its focal point falls on a point in said lamp located in the discharge path thereof.

2,970,311
TELEVISION RECEIVER
Anthony C. De Napoli, Mount Prospect, and Edward E. Williamson, Chicago, Ill., assignors to Motorola, Inc., Chicago, Ill., a corporation of Illinois
Filed Dec. 1, 1955, Ser. No. 550,285
5 Claims. (Cl. 178—7.8)



1. A supporting structure for a cathode ray tube having a neck portion and a bulbous portion having a viewing screen surrounded by a rim portion, said structure including in combination, first and second elongated brackets extending along the rim portion on opposite sides of the tube, a first flat strap portion connecting said first and second brackets and extending therebetween about the rim portion of the tube, a second flat strap portion connecting said first and second brackets and extending therebetween about the rim portion of the tube, said first and second brackets and said first and second strap portions forming a continuous uniplanar band completely encircling the periphery of the bulbous portion of the tube about the rim portion thereof and forming the sole support for the tube, and support means con-

nected to said first and second brackets for supporting the same in fixed position, said support means forming the sole support for said brackets and said strap portions.

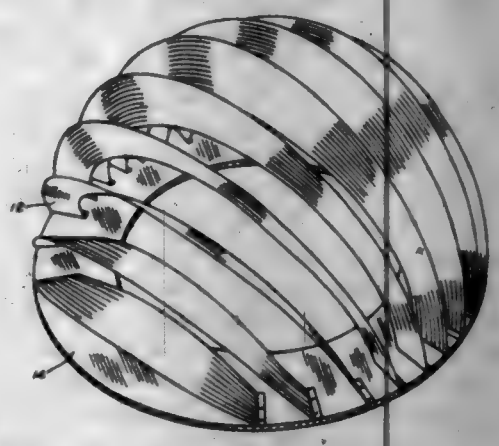
2,970,312

BROAD BAND CIRCULARLY POLARIZED C-BAND ANTENNA

Robert M. Smith, Moorestown, N.J., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Sept. 21, 1959, Ser. No. 841,423
3 Claims. (Cl. 343—756)

1. In a broad band circularly polarized antenna for propagating electromagnetic wave energy, a polarizing grid comprising: a ring-shaped mounting flange, a plurality of metallic fins attached to said mounting flange with the spacing between adjacent fins being variable with the maximum distance between adjacent fins being at the mid-point of said fins and the minimum distance between adjacent fins being at the mounting flange, said fins being oriented at 45 degrees to the electrical field of said antenna and normal to the phase front of said waves

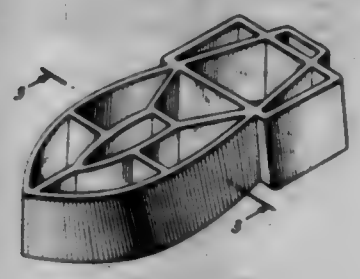


being propagated, the outer edges of said fins being positioned to form a hemispherical shell.

DESIGNS

JANUARY 31, 1961

189,660
MACARONI
Paul A. Vermylen, 15 Ramapo Lane, Hillsdale, N.J.
Filed Sept. 19, 1960, Ser. No. 62,192
Term of patent 14 years
(Cl. D8—1)



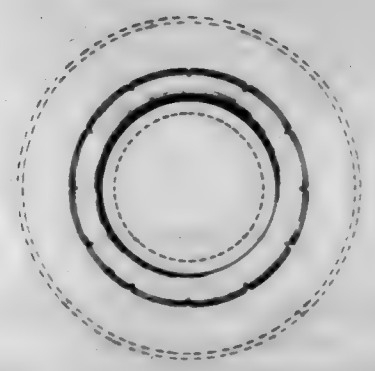
189,661
COMBINATION FEATHER DUSTER AND SACHET
David S. McMillan, 166 5th Ave., New York, N.Y.
Filed June 11, 1959, Ser. No. 56,313
Term of patent 3½ years
(Cl. D9—2)



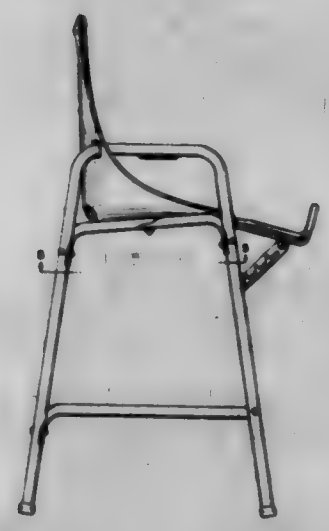
189,662
MOBILE HOT FOOD AND HEATED DISH CARRIER
William H. Frick, 850 Euclid Ave., Cleveland, Ohio
Filed Oct. 11, 1957, Ser. No. 48,061
Term of patent 14 years
(Cl. D14—3)



189,663
TIRE TRIM
Henry de S. Lauve, Grosse Pointe, Mich., assignor to Lyon Incorporated, Detroit, Mich., a corporation of Delaware
Filed Feb. 24, 1960, Ser. No. 59,507
Term of patent 14 years
(Cl. D14—30)



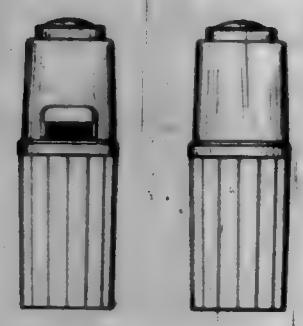
189,664
HIGH CHAIR
James F. Fulton, Center Line, Mich., assignor, by mesne assignments, to Trimble Products, Inc., Southern Pines, N.C., a corporation of North Carolina
Filed May 21, 1959, Ser. No. 56,010
Term of patent 14 years
(Cl. D15—1)



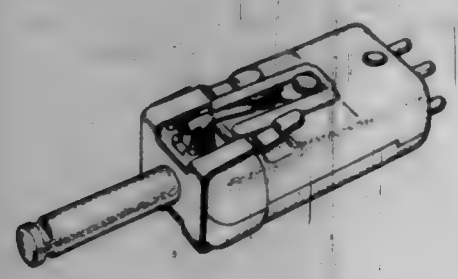
189,665
HANDLE FOR A UTILITY KNIFE
Thomas Lamb, Mariomi Road, New Canaan, Conn.
Filed Oct. 1, 1959, Ser. No. 57,747
Term of patent 14 years
(Cl. D22—3)



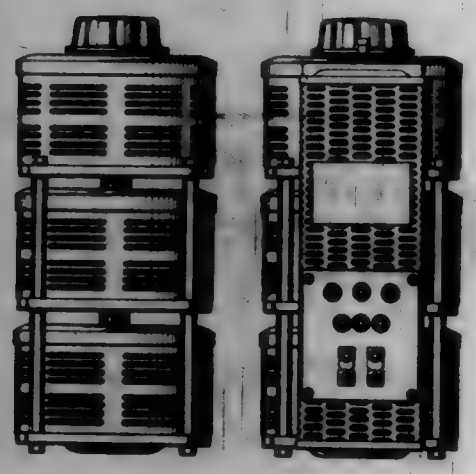
189,666
ELECTRIC SHAVER
Maximillian T. Edwards, Vancouver, British Columbia, Canada, assignor to Cutlaire, Inc., Seattle, Wash., a corporation of Nevada
Filed June 21, 1960, Ser. No. 61,058
Term of patent 14 years
(Cl. D22—3)



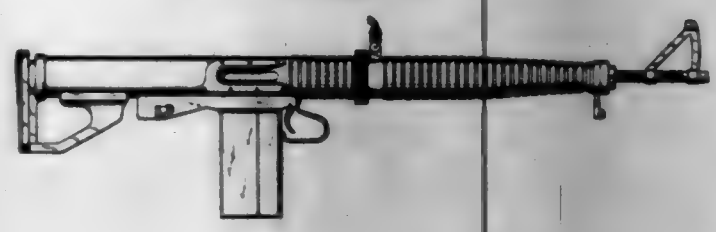
189,667
PHONOGRAPH PICKUP CARTRIDGE OR SIMILAR ARTICLE
Duane E. Punkar, Conneaut, Ohio, assignor to The Astatic Corporation, Conneaut, Ohio, a corporation of Ohio
Filed Aug. 21, 1959, Ser. No. 57,248
Term of patent 14 years
(Cl. D26—14)



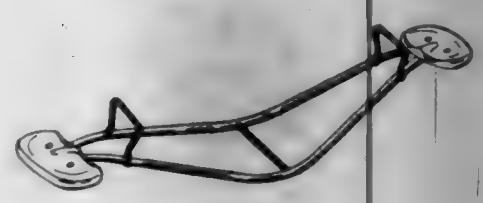
189,668
ADJUSTABLE ELECTRIC POWER SUPPLY
Eric W. Vaughan, Bristol, Conn., assignor to The Superior Electric Company, Bristol, Conn., a corporation of Connecticut
Filed Apr. 6, 1959, Ser. No. 55,358
Term of patent 14 years
(Cl. D26—15)



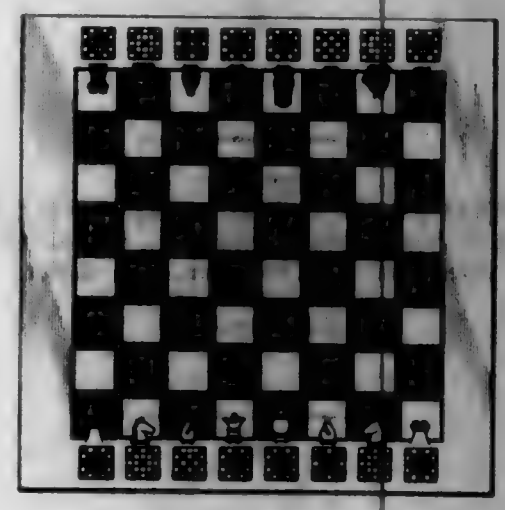
189,669
FIREARM
Wayne E. Lock, 27 Concord St., Ilion, N.Y.; Charles H. Morse, 517 Prescott St., Herkimer, N.Y.; Robert P. Kelly, 10 Spruce St., Ilion, N.Y.; James S. Martin, 4 Columbia Circle, Mohawk, N.Y.; and Paul Nasypany, 203 E. Zoller, Herkimer, N.Y.
Filed Feb. 5, 1960, Ser. No. 59,287
Term of patent 14 years
(Cl. D30—1)



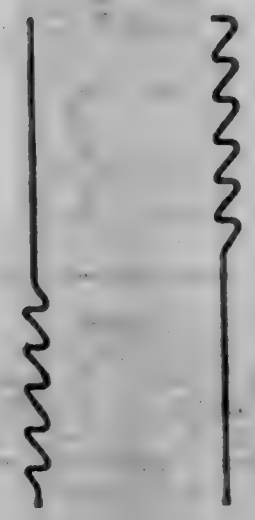
189,670
ROCKING GLIDER
Ralph E. Williams and Warren P. Miller, Anderson, Ind., assignors to American Playground Device Co., Anderson, Ind., a corporation of Indiana
Filed June 17, 1960, Ser. No. 61,014
Term of patent 14 years
(Cl. D34—5)



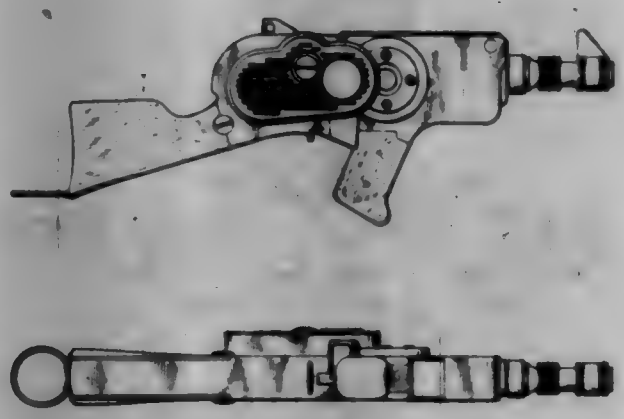
189,671
GAME BOARD
Jack E. Quinn, 617 10th St., Santa Monica, Calif.
Filed Mar. 31, 1960, Ser. No. 59,976
Term of patent 14 years
(Cl. D34—5)



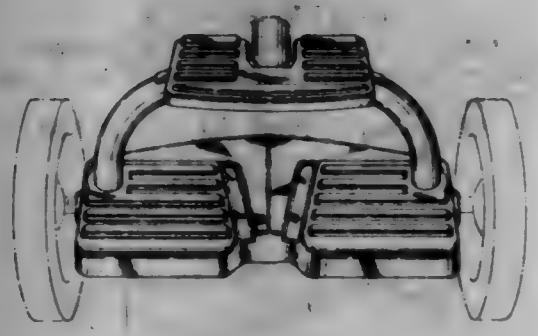
189,672
STILT
George E. Kidder Smith, 163 E. 81st St., New York, N.Y.
Filed Apr. 8, 1959, Ser. No. 55,413
Term of patent 14 years
(Cl. D34—5)



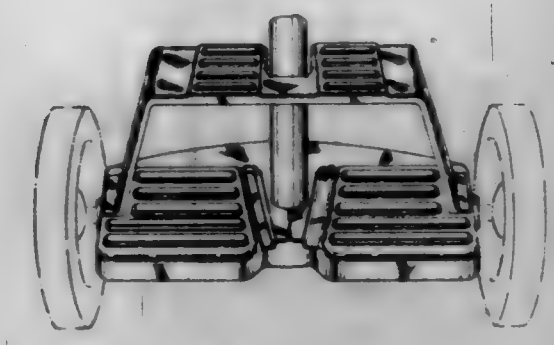
189,673
TOY GUN
Mahlon E. Hirsch, Fairview, Pa., assignor to Louis Marx & Company, Inc., New York, N.Y., a corporation of New York
Filed Sept. 21, 1960, Ser. No. 62,225
Term of patent 14 years
(Cl. D34—15)



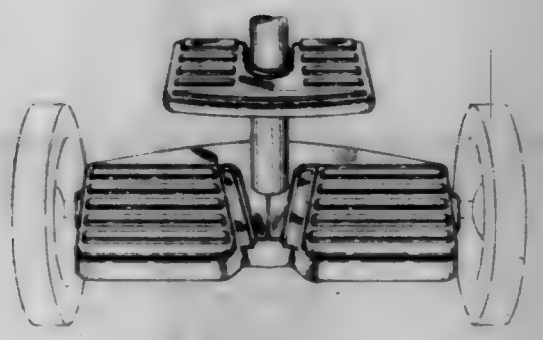
189,674
VELOCIPEDE
Viktor Schreckengost, Cleveland Heights, Ohio, assignor to The Murray Ohio Manufacturing Company, Nashville, Tenn., a corporation of Ohio
Filed Feb. 25, 1960, Ser. No. 59,527
Term of patent 14 years
(Cl. D34—15)



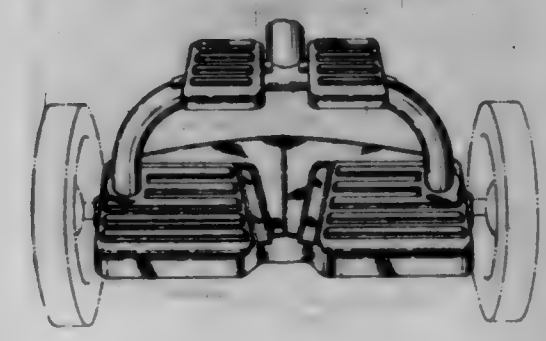
189,675
VELOCIPEDE
Viktor Schreckengost, Cleveland Heights, Ohio, assignor to The Murray Ohio Manufacturing Company, Nashville, Tenn., a corporation of Ohio
Filed Mar. 28, 1960, Ser. No. 59,914
Term of patent 14 years
(Cl. D34—15)



189,676
VELOCIPEDE
Viktor Schreckengost, Cleveland Heights, Ohio, assignor to The Murray Ohio Manufacturing Company, Nashville, Tenn., a corporation of Ohio
Filed Mar. 28, 1960, Ser. No. 59,915
Term of patent 14 years
(Cl. D34—15)



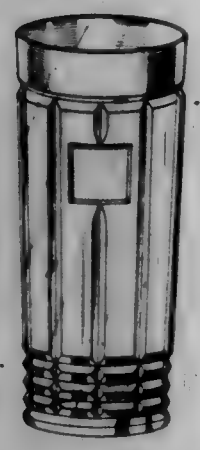
189,677
VELOCIPEDE
Viktor Schreckengost, Cleveland Heights, Ohio, assignor to The Murray Ohio Manufacturing Company, Nashville, Tenn., a corporation of Ohio
Filed Mar. 30, 1960, Ser. No. 60,046
Term of patent 14 years
(Cl. D34—15)



189,678
DRINKING TUMBLER OR THE LIKE
Jack Bloch, Leominster, Mass., assignor, by mesne assignments, to Foster Grant Co., Inc., Leominster, Mass., a corporation of Delaware
Filed Feb. 14, 1957, Ser. No. 44,873
Term of patent 14 years
(Cl. D36—8)



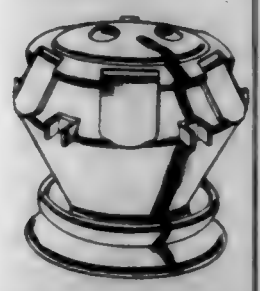
189,679
TUMBLER OR SIMILAR ARTICLE
Rudolph A. Sampson, Cleveland, Ohio, assignor of one-third to Webb C. Jennings, Rocky River, and one-third to Ira T. Swartwood, Lakewood, Ohio
Filed Feb. 25, 1960, Ser. No. 59,514
Term of patent 14 years
(Cl. D36—8)



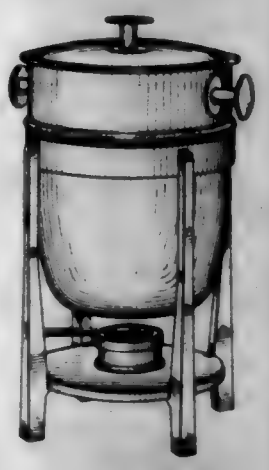
189,680
FOOD MIXER POWER UNIT
Dave Chapman and Robert C. Le Sueur, Chicago, Ill., assignors to Scovill Manufacturing Company, Waterbury, Conn., a corporation of Connecticut
Filed May 24, 1960, Ser. No. 60,710
Term of patent 14 years
(Cl. D44—1)



189,681
SUGAR BOWL
Paul P. Miano, Box 246, Garyville, La.
Filed Aug. 14, 1959, Ser. No. 57,184
Term of patent 14 years
(Cl. D44—15)



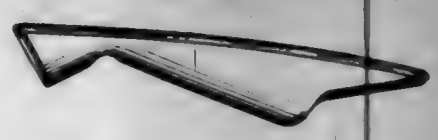
189,682
CHAFING DISH
Harold Bloomfield, Chicago, Ill., assignor to Bloomfield Industries, Inc., Chicago, Ill., a corporation of Illinois
Filed Aug. 19, 1960, Ser. No. 61,829
Term of patent 14 years
(Cl. D44—15)



189,683
DISPENSER RACK
Harold Bloomfield, Chicago, Ill., assignor to Bloomfield Industries, Inc., Chicago, Ill., a corporation of Illinois
Filed Aug. 17, 1960, Ser. No. 61,790
Term of patent 14 years
(Cl. D44—29)



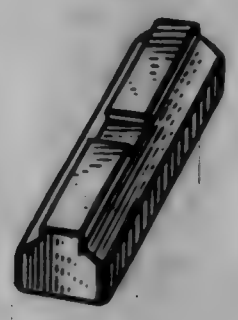
189,684
COVER HANDLE
Wayne F. Rudebeck, Two Rivers, Wis., assignor to Mirro Aluminum Company, Manitowoc, Wis., a corporation of New Jersey
Filed May 9, 1960, Ser. No. 60,500
Term of patent 14 years
(Cl. D44—29)



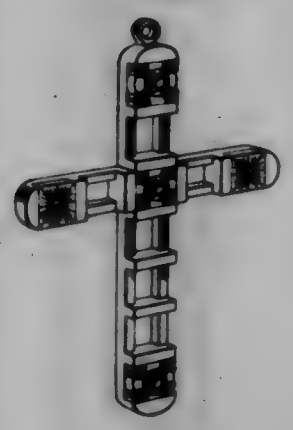
189,685
HANDLE FOR A SAUCE PAN
Wayne F. Rudebeck, Two Rivers, Wis., assignor to Mirro Aluminum Company, Manitowoc, Wis., a corporation of New Jersey
Filed May 9, 1960, Ser. No. 60,501
Term of patent 14 years
(Cl. D44—29)



189,686
LINK FOR AN EXPANSIBLE BRACELET OR SIMILAR ARTICLE
Nathan Goodman, Forest Hills, N.Y., assignor to Baldwin Bracelet Corporation, New York, N.Y., a corporation of New York
Filed Aug. 27, 1959, Ser. No. 57,332
Term of patent 7 years
(Cl. D45—4)



189,687
JEWELED CROSS
David E. McAllister, 11 Elm St., Woodsville, N.H.
Filed Mar. 2, 1960, Ser. No. 59,595
Term of patent 14 years
(Cl. D45—16)



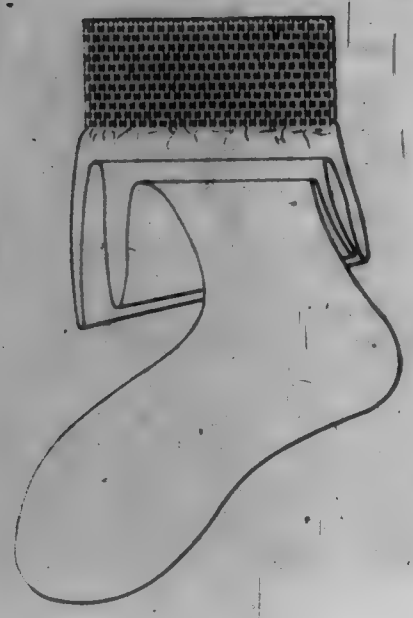
189,688
LACE FABRIC
David Nussbaum, Brooklyn, N.Y., assignor to D. Strauss Co., Inc., New York, N.Y., a corporation of New York
Filed Oct. 11, 1960, Ser. No. 62,440
Term of patent 7 years
(Cl. D47—6)



189,689
LACE FABRIC
David Nussbaum, Brooklyn, N.Y., assignor to D. Strauss Co., Inc., New York, N.Y., a corporation of New York
Filed Oct. 12, 1960, Ser. No. 62,457
Term of patent 7 years
(Cl. D47—6)



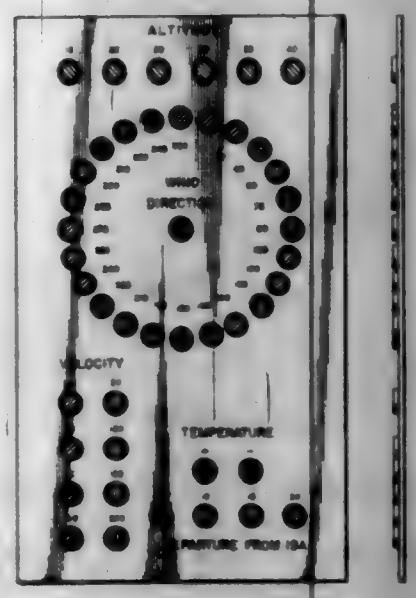
189,690
STOCKING
Richard B. Sheek, Winston-Salem, N.C., assignor to Hanes Hosiery Mills Company, Winston-Salem, N.C., a corporation of North Carolina
Filed Feb. 23, 1960, Ser. No. 59,470
Term of patent 14 years
(Cl. D47—7)



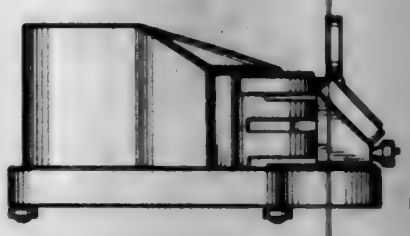
189,691
BASE FOR TABLE LAMPS
Edwin I. Cole, Eagle, Wis., assignor to The Stiffel Company, Chicago, Ill., a corporation of Illinois
Filed Nov. 16, 1959, Ser. No. 58,357
Term of patent 7 years
(Cl. D48—20)



189,692
FLIGHT WEATHER INDICATING PANEL
Robert H. Curtis, Denver, Colo., assignor to Continental Air Lines, Inc., Denver, Colo., a corporation of Nevada
Filed Jan. 19, 1959, Ser. No. 54,223
Term of patent 14 years
(Cl. D52—1)



189,693
PRESSURE GAGE FOR MEASURING FLUID PRESSURES OR THE LIKE
Willard E. Buck, P.O. Box 357, Boulder, Colo.
Filed Apr. 13, 1959, Ser. No. 55,478
Term of patent 3½ years
(Cl. D52—6)



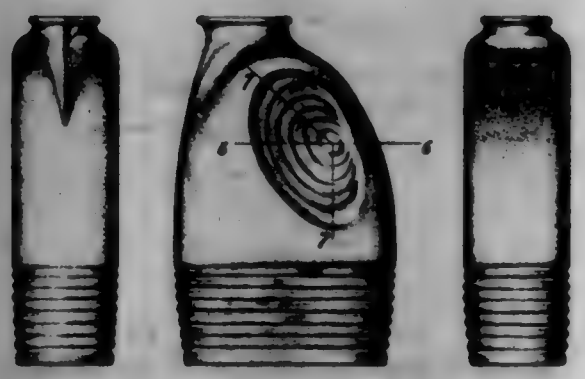
189,694
SPOON OR SIMILAR ARTICLE OF FLATWARE
Carl B. Sundberg, Meriden, Conn., assignor to The International Silver Company, Meriden, Conn., a corporation of Connecticut
Filed Dec. 22, 1959, Ser. No. 58,761
Term of patent 14 years
(Cl. D54—12)



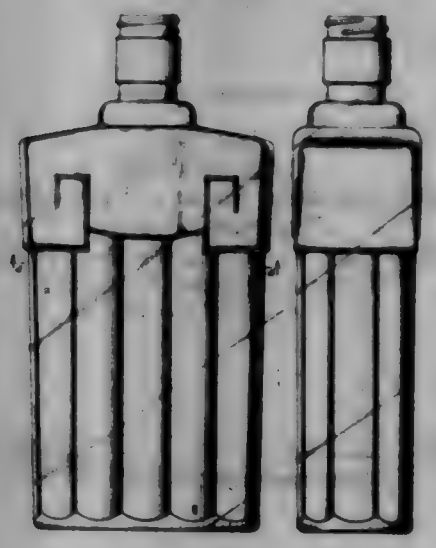
189,695
SPOON OR A SIMILAR ARTICLE
Lawrence Gill Copeland, Oneida, N.Y., assignor to Oneida Ltd., Oneida, N.Y., a corporation of New York
Filed Aug. 30, 1960, Ser. No. 61,957
Term of patent 14 years
(Cl. D54—12)



189,696
COMBINATION MILK BOTTLE AND PITCHER
Harvey Nagel, 22 17th St., Buffalo, N.Y.
Filed May 13, 1960, Ser. No. 60,565
Term of patent 14 years
(Cl. D58—6)



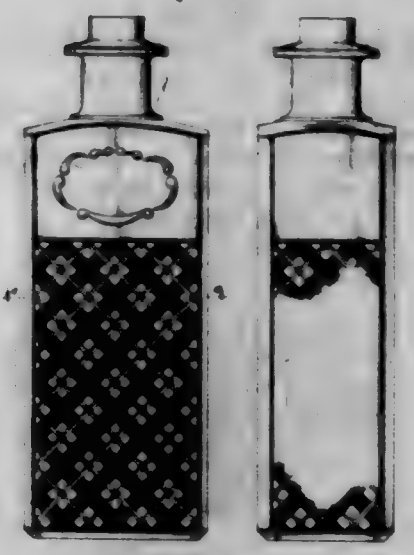
189,697
DECANTER
Ernest L. Du Pree, New York, N.Y., assignor to Schenley Industries, Inc., New York, N.Y., a corporation of Delaware
Filed Sept. 1, 1960, Ser. No. 61,980
Term of patent 14 years
(Cl. D58—6)



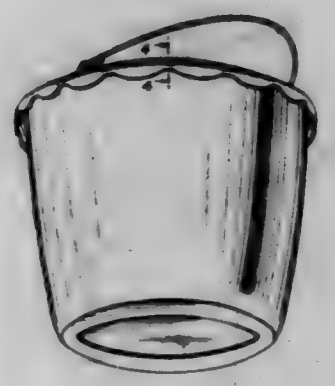
189,698
DECANTER
Ernest L. Du Pree, New York, N.Y., assignor to Schenley Industries, Inc., New York, N.Y., a corporation of Delaware
Filed Sept. 1, 1960, Ser. No. 61,981
Term of patent 14 years
(Cl. D58—6)



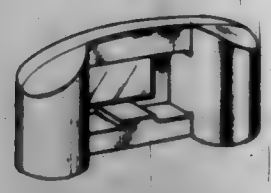
189,699
DECANTER
Ernest L. Du Pree, New York, N.Y., assignor to Schenley Industries, Inc., New York, N.Y., a corporation of Delaware
Filed Sept. 1, 1960, Ser. No. 61,982
Term of patent 14 years
(Cl. D58—6)



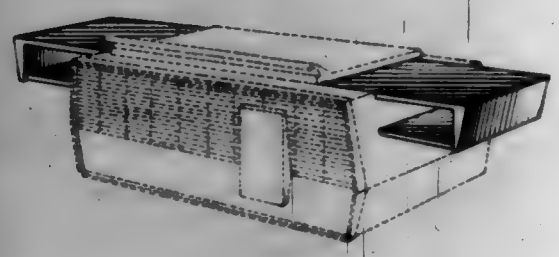
189,700
PLASTIC PAIL OR SIMILAR ARTICLE
Charles O. Bliss, 6674 Santa Monica Blvd., Los Angeles, Calif.
Filed Nov. 1, 1955, Ser. No. 38,674
Term of patent 14 years
(Cl. D58—17)



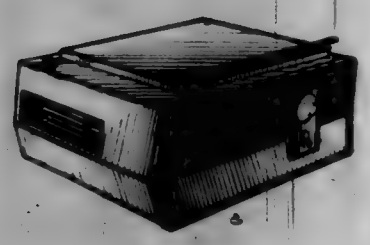
189,701
FILM STRIP CARTRIDGE
Gerald T. Thompson, 10533 Arrington Ave., Downey, Calif., and Richard P. Fuller, North Hollywood, Calif.; said Fuller assignor to said Thompson
Filed Aug. 29, 1960, Ser. No. 62,009
Term of patent 14 years
(Cl. D61—1)



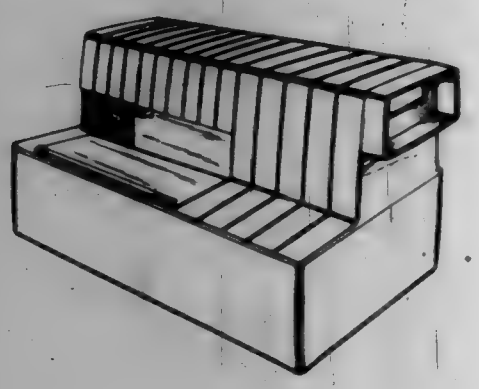
189,702
CONTACT EXPOSURE MACHINE OR SIMILAR ARTICLE
Joseph Palma, Jr., River Forest, Ill., assignor to Ditto Incorporated, Chicago, Ill., a corporation of Illinois
Filed Mar. 30, 1960, Ser. No. 59,936
Term of patent 14 years
(Cl. D61—1)



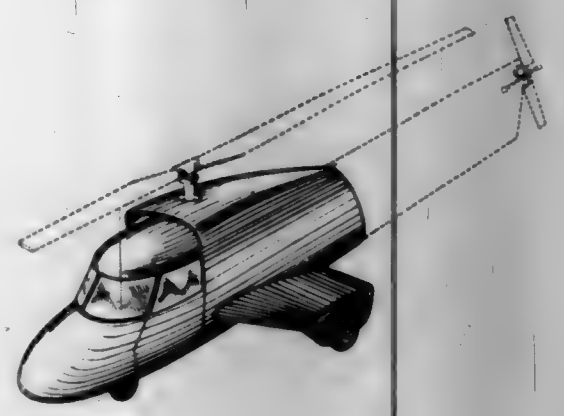
189,703
CASE FOR A CONTACT EXPOSURE MACHINE OR SIMILAR ARTICLE
Joseph Palma, Jr., River Forest, Ill., assignor to Ditto Incorporated, Chicago, Ill., a corporation of Illinois
Filed Mar. 30, 1960, Ser. No. 59,937
Term of patent 14 years
(Cl. D61—1)



189,704
ROOM AIR HUMIDIFIER
Roger Mark Singer, Queens, N.Y., assignor to Air-Shields, Inc., Hatboro, Pa., a corporation of Delaware
Filed Aug. 18, 1960, Ser. No. 61,805
Term of patent 14 years
(Cl. D62—4)



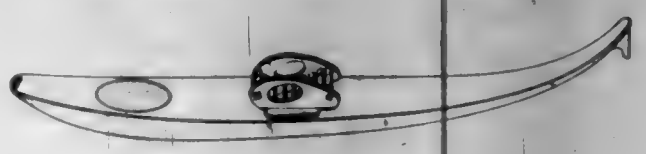
189,705
HELICOPTER
Irven H. Culver, Burbank, and Donald E. Walters, Calabasas, Calif., assignors to Lockheed Aircraft Corporation, Burbank, Calif.
Filed Feb. 3, 1960, Ser. No. 59,252
Term of patent 14 years
(Cl. D71—1)



189,706
BOAT
Robert R. Hammond, 6802 Daugherty, Austin, Tex.
Filed Apr. 8, 1959, Ser. No. 55,415
Term of patent 14 years
(Cl. D71—1)



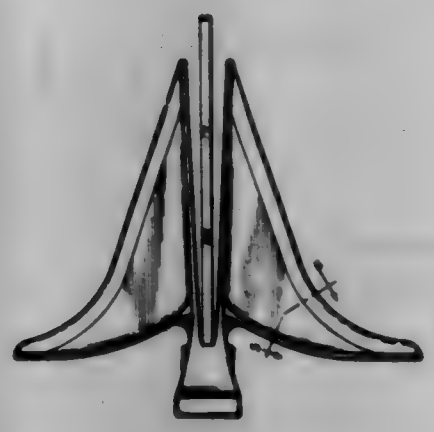
189,707
SURF-RIDING BOAT
Henri Fournillier, 86 Ave. Victor Dalbiez, Perpignan, France
Filed Apr. 16, 1958, Ser. No. 50,487
Term of patent 14 years
(Cl. D71—1)



189,708
SURF BOARD
Henri Fournillier, 86 Ave. Victor Dalbiez, Perpignan, France
Filed Apr. 16, 1958, Ser. No. 50,488
Term of patent 14 years
(Cl. D71—1)



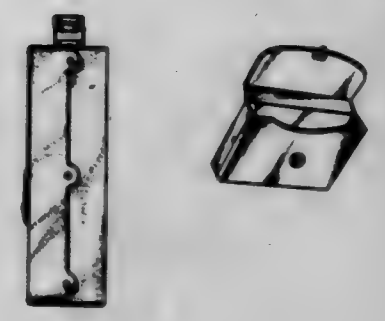
189,709
ANCHOR
Frederick P. Dickow, Auburn, N.Y., assignor to Eastern Malleable Iron Co., Naugatuck, Conn., a corporation of Connecticut
Filed Dec. 23, 1959, Ser. No. 58,777
Term of patent 14 years
(Cl. D71—1)



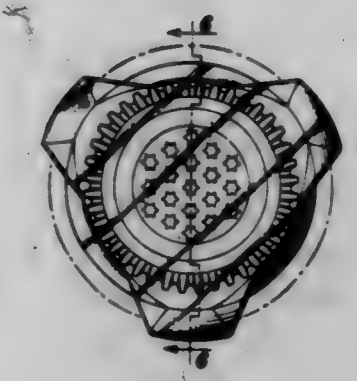
189,710
COMBINED STORAGE AND DISPENSING RACK FOR CANNED GOODS OR THE LIKE
Clyde M. Combe, United States Army
(4554 Brunsick Drive, San Diego, Calif.)
Filed Jan. 25, 1960, Ser. No. 59,164
Term of patent 14 years
(Cl. D80—9)
(Granted under Title 35, U.S. Code (1952), sec. 266)



189,711
ATTACHÉ CASE
Otto Mayer, R.F.D. 2, Lake Carmel, N.Y.
Filed Oct. 15, 1959, Ser. No. 57,954
Term of patent 14 years
(Cl. D87—5)



189,712
HANDLE FOR FAUCETS OR THE LIKE
Frederick David Chapman, Chicago, Ill., assignor to The Murray Corporation of America, Pittsburgh, Pa., a corporation of Delaware
Filed Jan. 15, 1960, Ser. No. 59,060
Term of patent 14 years
(Cl. D91—3)



LIST OF REISSUE PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 31ST DAY OF JANUARY, 1961

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

Davey, Paul H., ⅛ to P. H. Davey, Jr., and ⅛ to J. T. Myers. Light metal vane for rotary compressors. Re. 24,932, 1–31–61, Cl. 230—152.

Davey, Paul H., Jr.: *See*—
Davey, Paul H. Re. 24,932.

Marien, Melvin W., to Ramsey Corp. Piston ring. Re. 24,930, 1–31–61, Cl. 309—45.

Myers, Joseph T.: *See*—
Davey, Paul H. Re. 24,932.

Overton, William C., Jr., to Socony Mobil Oil Co., Inc. Acoustic well logging with end shielding. Re. 24,931, 1–31–61, Cl. 181—.5.

Ramsey Corp.: *See*—
Marien, Melvin W. Re. 24,930.

Socony Mobil Oil Co., Inc.: *See*—
Overton, William C., Jr. Re. 24,931.

LIST OF PLANT PATENTEES

Conrad-Pyle Co., The: *See*—
Swim, Herbert C., and Weeks. 2,017.
Swim, Herbert C., and Weeks. 2,018.

Fischer Greenhouses: *See*—
Reid, George A. 2,016.

Reid, George A., to Fischer Greenhouses. Azalea plant. 2,016, 1–31–61, Cl. 47—60.

Saratoga Horticultural Foundation, Inc.: *See*—
Van Rensselaer, Maunsell. 2,015.

Swim, Herbert C., and O. L. Weeks, to The Conrad-Pyle Co. Rose plant. 2,017, 1–31–61, Cl. 47—61.

Swim, Herbert C., and O. L. Weeks, to The Conrad-Pyle Co. Rose plant. 2,018, 1–31–61, Cl. 47—61.

Van Rensselaer, Maunsell, to Saratoga Horticultural Foundation, Inc. Magnolia grandiflora tree. 2,015, 1–31–61, Cl. 47—60.

Weeks, O. L.: *See*—
Swim, Herbert C., and Weeks. 2,017.
Swim, Herbert C., and Weeks. 2,018.

LIST OF DESIGN PATENTEES

Air-Shields, Inc.: *See*—
Singer, Roger M. 189,704.

American Playground Device Co.: *See*—
Williams, Ralph E., and Miller. 189,670.

Astatic Corp., The: *See*—
Punkar, Duane E. 189,667.

Baldwin Bracelet Corp.: *See*—
Goodman, Nathan. 189,686.

Bliss, Charles O. Plastic pail or similar article. 189,700, 1–31–61, Cl. D58—17.

Bloch, Jack, to Foster Grant Co., Inc. Drinking tumbler or the like. 189,678, 1–31–61, Cl. D36—3.

Bloomfield, Harold, to Bloomfield Industries, Inc. Chafing dish. 189,682, 1–31–61, Cl. D44—15.

Bloomfield, Harold, to Bloomfield Industries, Inc. Dispenser rack. 189,683, 1–31–61, Cl. D44—29.

Bloomfield Industries, Inc.: *See*—
Bloomfield, Harold. 189,682.
Bloomfield, Harold. 189,683.

Buck, Willard E. Pressure gage for measuring fluid pressure or the like. 189,693, 1–31–61, Cl. D52—6.

Chapman, Dave, and R. C. Le Suer, to Scovill Mfg. Co. Food mixer power unit. 189,680, 1–31–61, Cl. D44—1.

Chapman, Frederick D., to The Murray Corp. of America. Handle for faucets or the like. 189,712, 1–31–61, Cl. D91—3.

Cole, Edwin L., to The Stiffel Co. Base for table lamps. 189,691, 1–31–61, Cl. D48—20.

Combs, Clyde M. Combined storage and dispensing rack for canned goods or the like. 189,710, 1–31–61, Cl. D60—9.

Continental Air Lines, Inc.: *See*—
Curtis, Robert H. 189,692.

Copeland, Lawrence G., to Oneida Ltd. Spoon or similar article. 189,695, 1–31–61, Cl. D54—12.

Culver, Irven H., and D. E. Walters, to Lockheed Aircraft Corp. Helicopter. 189,705, 1–31–61, Cl. D71—1.

Curtis, Robert H., to Continental Air Lines, Inc. Flight weather indicating panel. 189,692, 1–31–61, Cl. D52—1.

Cutlaire, Inc.: *See*—
Edwards, Maxmillian T. 189,666.

Dickow, Frederick P., to Eastern Malleable Iron Co. Anchor. 189,709, 1–31–61, Cl. D71—1.

Ditto Inc.: *See*—
Palma, Joseph, Jr. 189,702.
Palma, Joseph, Jr. 189,703.

Du Pree, Ernest L., to Schenley Industries, Inc. Decanter. 189,697, 1–31–61, Cl. D58—6.

Du Pree, Ernest L., to Schenley Industries, Inc. Decanter. 189,698, 1–31–61, Cl. D58—6.

Du Pree, Ernest L., to Schenley Industries, Inc. Decanter. 189,699, 1–31–61, Cl. D58—6.

Eastern Malleable Iron Co.: *See*—
Dickow, Frederick P. 189,709.

Edwards, Maxmillian T., to Cutlaire, Inc. Electric shaver. 189,666, 1–31–61, Cl. D22—3.

Foster Grant Co., Inc.: *See*—
Bloch, Jack. 189,678.

Fournillier, Henri. Surf-riding boat. 189,707, 1–31–61, Cl. D71—1.

Fournillier, Henri. Surf board. 189,708, 1–31–61, Cl. D71—1.

Frick, William H. Mobile hot food and heated dish carrier. 189,662, 1–31–61, Cl. D14—3.

Fuller, Richard P.: *See*—
Thompson, Gerald T., and Fuller. 189,701.

Fulton, James F., to Trimble Products, Inc. High chair. 189,664, 1–31–61, Cl. D15—1.

Goodman, Nathan, to Baldwin Bracelet Corp. Link for an expansible bracelet or similar article. 189,686, 1–31–61, Cl. D45—4.

Hammond, Robert R. Boat. 189,706, 1–31–61, Cl. D71—1.

Hanes Hosiery Mills Co.: *See*—
Sheek, Richard B. 189,690.

Hirsch, Mahlon E., to Louis Marx & Co., Inc. Toy gun. 189,673, 1–31–61, Cl. D34—15.

International Silver Co., The: *See*—
Sundberg, Carl B. 189,694.

Jennings, Webb C.: *See*—
Sampson, Rudolph A. 189,679.

Kelly, Robert P.: *See*—
Leek, Wayne E., Morse, Kelly, Martin, and Nasypany. 189,669.

Lamb, Thomas. Handle for a utility knife. 189,665, 1–31–61, Cl. D22—3.

Lauve, Henry De S., to Lyon Inc. Tire trim. 189,663, 1–31–61, Cl. D14—30.

Leek, Wayne E., C. H. Morse, R. P. Kelly, J. S. Martin, and P. Nasypany. Firearm. 189,669, 1–31–61, Cl. D30—1.

Le Suer, Robert C.: *See*—
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Hirsch, Mahlon E. 189,673.

Mayer, Otto. Attaché case. 189,711, 1–31–61, Cl. D67—5.

McAllister, David E. Jeweled cross. 189,687, 1–31–61, Cl. D45—16.

McMillan, David S. Combination feather duster and sachet. 189,661, 1–31–61, Cl. D9—2.

Miano, Paul P. Sugar bowl. 189,681, 1–31–61, Cl. D44—15.

Miller, Warren P.: *See*—
Williams, Ralph E., and Miller. 189,670.

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Rudebeck, Wayne F. 189,684.
Rudebeck, Wayne F. 189,685.

Morse, Charles H.: *See*—
Leek, Wayne E., Morse, Kelly, Martin, and Nasypany. 189,669.

Murray Corp. of America, The: *See*—
Chapman, Frederick D. 189,712.

Murray Ohio Mfg. Co., The: *See*—
Schreckengost, Viktor. 189,674.
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Schreckengost, Viktor. 189,677.

Nagel, Harvey. Combination milk bottle and pitcher. 189,696, 1–31–61, Cl. D58—6.
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Leek, Wayne E., Morse, Kelly, Martin, and Nasypany. 189,669.
Nussbaum, David, to D. Strauss Co., Inc. Lace fabric. 189,688, 1–31–61, Cl. D47—6.
Nussbaum, David, to D. Strauss Co., Inc. Lace fabric. 189,689, 1–31–61, Cl. D47—6.
Oneida Ltd.: *See*—
Copeland, Lawrence G. 189,695.
Palma, Joseph, Jr., to Ditto Inc. Contact exposure machine or similar article. 189,702, 1–31–61, Cl. D61—1.
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Punkar, Duane E., to The Astatic Corp. Phonograph pickup cartridge or similar article. 189,667, 1–31–61, Cl. D26—14.
Quinn, Jack E. Game board. 189,671, 1–31–61, Cl. D34—5.
Rudebeck, Wayne F., to Mirro Aluminum Co. Cover handle. 189,684, 1–31–61, Cl. D44—29.
Rudebeck, Wayne F., to Mirro Aluminum Co. Handle for a sauce pan. 189,685, 1–31–61, Cl. D44—29.
Sampson, Rudolph A., ½ to W. C. Jennings, and ½ to I. T. Swartwood. Tumbler or similar article. 189,679, 1–31–61, Cl. D36—8.
Schenley Industries, Inc.: *See*—
Du Pree, Ernest L. 189,697.
Du Pree, Ernest L. 189,698.
Du Pree, Ernest L. 189,699.
Schreckengost, Viktor, to The Murray Ohio Mfg. Co. Velocipede. 189,674, 1–31–61, Cl. D34—15.
Schreckengost, Viktor, to The Murray Ohio Mfg. Co. Velocipede. 189,675, 1–31–61, Cl. D34—15.
Schreckengost, Viktor, to The Murray Ohio Mfg. Co. Velocipede. 189,676, 1–31–61, Cl. D34—15.
Schreckengost, Viktor, to The Murray Ohio Mfg. Co. Velocipede. 189,677, 1–31–61, Cl. D34—15.
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Singer, Roger M., to Air-Shields, Inc. Room air humidifier. 189,704, 1–31–61, Cl. D62—4.
Smith, George E. K. Stilt. 189,672, 1–31–61, Cl. D34—5.
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Superior Electric Co., The: *See*—
Vaughan, Eric W. 189,668.
Swartwood, Ira T.: *See*—
Sampson, Rudolph A. 189,679.
Thompson, Gerald T., and R. P. Fuller; said Fuller assor. to said Thompson. Film strip cartridge. 189,701, 1–31–61, Cl. D61—1.
Trimble Products, Inc.: *See*—
Fulton, James F. 189,664.
Vaughan, Eric W., to The Superior Electric Co. Adjustable electric power supply. 189,668, 1–31–61, Cl. D26—15.
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Walters, Donald E.: *See*—
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Williams, Ralph E., and W. P. Miller, to American Playground Device Co. Rocking glider. 189,670, 1–31–61, Cl. D34—5.

LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 31ST DAY OF JANUARY, 1961

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ACF Industries, Inc.: *See*—
Fuchs, Martin E., and Herthing. 2,969,785.
Highley, Wenford E. 2,969,964.
Johnson, Eldon A., and Compton. 2,969,745.
Smith, Russell F. 2,969,746.
Terlecky, Boris. 2,969,752.

Abbe, Carl H., and G. A. Goetz, Jr., to Chas. Pfizer & Co., Inc. Feeding and pick-off arrangement for tablet-forming machine. 2,969,753, 1–31–61, Cl. 107—1.

Abbey Etna Machine Co.: *See*—
Sanner, Veryl H., and Ruple. 2,970,203.

Acme Steel Co.: *See*—
Wilson, Allen B. 2,969,754.

Adams, Fred A. Semi-conductor control circuit for tuyere puncher. 2,970,230, 1–31–61, Cl. 307—112.

Adams, Pierrepont. Magnetic recording composition and device. 2,970,069, 1–31–61, Cl. 117—132.

Addressograph-Multigraph Corp.: *See*—
Rudd, Charles F., and Brisbin. 2,969,727.

Aero-Motive Mfg. Co.: *See*—
Becker, Rodger F. 2,969,932.

Af Ekenstam, Bo T., A. R. B. Furendal, and B. H. F. von Fieandt, to Aktiebolaget Bofors. Rigid supporting dressing. 2,969,791, 1–31–61, Cl. 123—90.

Agfa Aktiengesellschaft: *See*—
Schwartz, Hans. 2,969,722.

Aitchison, Frederick J., to Scovill Mfg. Co. Key holder hook. 2,969,668, 1–31–61, Cl. 20—458.

Aktiebolaget Bofors: *See*—
Af Ekenstam, Bo T., Furendal, and Von Fieandt. 2,969,791.

Aktiebolaget Hoganasnetoder: *See*—
Gummeson, Per E. 2,969,969.

Aktiebolaget Leo: *See*—
Dienfalusy, Egon R., Ferno, Fex, and Hogberg. 2,970,153.

Albert, Hans: *See*—
Kracker, Herbert, Albert, and Thaler. 2,970,029.

Allard, Harrie M., to Improved Machinery, Inc. Clamping mechanism for molding machines. 2,969,818, 1–31–61, Cl. 144—302.

Allbaugh, Weldon B.: *See*—
Skirvin, Clifford D., and Allbaugh. 2,969,800.

Allen, Earle F., and A. J. Haynes, to V. E. Macy, Jr. Method and apparatus for forming compound curvatures in sheet material. 2,969,826, 1–31–61, Cl. 153—2.

Allen, Howard G., to Bostitch Inc. Fastener-applying implement. 2,969,545, 1–31–61, Cl. 1—187.

Allers, Carl, Etablissement A-S: *See*—
Lemche, Johan H. 2,969,724.

Allied Chemical Corp.: *See*—
Rhodes, Michael S., and Spaunburgh. 2,970,123.

Allis-Chalmers Mfg. Co.: *See*—
Worrell, Robert L. 2,969,862.

Alloyd Research Corp.: *See*—
Spacil, Henry S. 2,970,215.

Aluminum Co. of America: *See*—
Milliken, Spencer R. 2,969,590.

American Can Co.: *See*—
Behrens, Herbert C. 2,969,901.
Carew, Herman, and Kinney. 2,969,682.
Groves, James H. 2,970,077.

American Crucible Products Co., The: *See*—
Kaatz, Herbert W. 2,969,740.

American Cyanamid Co.: *See*—
Boyle, Richard J., Birsten, and Mosby. 2,970,146.
Brockman, John A., Jr. 2,970,161.
Edmonds, Frank A., and Doyle. 2,970,033.
Nagy, Daniel B. 2,970,031.
Oroe, Nicholas R., and Vartanian. 2,970,080.

American Machine & Foundry Co.: *See*—
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Patterson, Morehead, and Zuercher. 2,969,982.

American Maize-Products Co.: *See*—
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American Oil Co., The: *See*—
Binning, Robert C., and Johnston. 2,970,106.
Georgian, Carl C. 2,970,101.

American Optical Co.: *See*—
Polanyi, Michael L., Johnston, and Brown. 2,969,708.

American Smelting and Refining Co.: *See*—
Shaw, Frederick A. C. 2,970,218.

American Thermos Products Co., The: *See*—
Darmstadt, Louis J., and Fuller. 2,969,887.

American Vitrified Products Co.: *See*—
Ceriat, Eugene. 2,969,836.

Amiard, Gaston, R. Heymes, and L. Vellus, to UCLAF. Method of preparing γ-glutamyl peptides and intermediates. 2,970,136, 1–31–61, Cl. 260—112.

Amos, James L.: *See*—
Hunt, Wilson W., Ludington, and Amos. 2,970,089.

Amplus, Inc.: *See*—
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Andersen, Holger C., and W. J. Green, to Engelhard Industries, Inc. Method of purifying gases containing oxygen and oxides of nitrogen. 2,970,034, 1–31–61, Cl. 23—2.

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Anderson, William W., Jr., to Burroughs Corp. Cable support. 2,970,183, 1–31–61, Cl. 174—78.

Andrews, Louis J., to Paul K. Guillow, Inc. Kite. 2,969,946. 1–31–61, Cl. 244—154.

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Anthony, Russel W., to National Broach & Machine Co. Indexing fixture. 2,969,697, 1–31–61, Cl. 74—823.

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Nye, Robert G., Brettell, and Apple. 2,969,599.

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Armour Research Foundation of Illinois Institute of Technology: *See*—
Bobb, Lloyd J. 2,969,584.

Armstrong Cork Co.: *See*—
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Arthur, Paul, Jr., to E. I. du Pont de Nemours and Co. Manganese activated cadmium and zinc carbonate phosphors and their preparation. 2,970,115, 1–31–61, Cl. 252—301.6.

Artype, Inc.: *See*—
Serafin, Robert F. 2,970,043.

Arutunoff Armais, to Reda Pump Co. Gas separator for submergible motor-pump assemblies. 2,969,742, 1–31–61, Cl. 103—113.

Atkin, Rupert L.: *See*—
Sinclair, Charles W., and Atkin. 2,969,825.

Atlanta Oak Flooring Co.: *See*—
Johnsa, Berry H. 2,969,816.

Atlantic Refining Co., The: *See*—
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Ault, Wayne E., to "Automatic" Sprinkler Corp. of America. Accelerator for dry pipe sprinkler systems. 2,969,842, 1–31–61, Cl. 169—17.

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Bachtel, Howard J., to The Dow Chemical Co. Stabilization of 1,1,1-trichloroethane. 2,970,113, 1–31–61, Cl. 252—171.

Bailey, Donald L., to Union Carbide Corp. Processes for the reaction of silanic hydrogen-bonded siloxanes with unsaturated organic compounds with a platinum catalyst. 2,970,150, 1–31–61, Cl. 260—348.

Baird-Atomic, Inc.: *See*—
Magrath, Richard A. 2,970,216.

Baldwin, Richard H.: *See*—
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Ball, Gaines L., and J. Hamrick, to Batson-Cook Co. Apparatus for sizing yarn. 2,969,579, 1–31–61, Cl. 28—28.

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Bamberg, Konrad: *See*—
Komenda, Erwin, and Bamberg. 2,969,847.

Banks, Robert L.: *See*—
Lanning, William C., Hogan, Banks, and Detter. 2,970,135.

Banner Mining Co.: *See*—
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Horton, Frank E., and Brace. 2,970,036.

Barden Corp., The: *See*—
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Barron, Curtis L. Expansion gasket for liquid conveyors. 2,969,615, 1–31–61, Cl. 50—155.

Bassett, Alice M. Pet bag. 2,969,767, 1–31–61, Cl. 119—1.

Batori Computer Co., Inc.: *See*—
Batori, Oscar E., and Nardin. 2,969,636.

Batori, Oscar E., and R. Nardin, to Batori Computer Co., Inc., and Nardin, Ulysse, S.A. Chronometer. 2,969,636, 1–31–61, Cl. 58—3.

Batson-Cook Co.: *See*—
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Batt, Hugo W. Installation for a dexterity game. 2,969,985, 1–31–61, Cl. 273—118.

Battaglia, Angelo F. Scintillating sign. 2,969,606, 1–31–61, Cl. 40—138.

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Osborne, Fred H., Bauer, and Tuttle. 2,969,704.
Bauer, William C.: *See*—
Caldwell, Ned A., and Bauer. 2,970,037.
Bauerlein, Carl C., to The Dole Valve Co. Automatic ice making apparatus. 2,969,651, 1–31–61, Cl. 62—135.
Bauschinger, Oscar H.: *See*—
Linn, Sidney S., and Bauschinger. 2,969,680.
Beasley, Thomas J., to Lear, Inc. Gyroscopic apparatus. 2,969,681, 1–31–61, Cl. 74—5.4.
Beaver, David J., and R. O. Zerbe, to Monsanto Chemical Co. Benzylidene biscresols. 2,970,151, 1–31–61, Cl. 260—395.
Beck, Donald, and G. M. Shull, to Chas. Pfizer & Co., Inc. Hydroxylating 12a-deoxytetracycline with ascomycetease. 2,970,087, 1–31–61, Cl. 195—80.
Becker, Philip D., to United-Carr Fastener Corp. Self-threading sheet metal nut. 2,969,705, 1–31–61, Cl. 85—36.
Becker, Rodger F., to Aero-Motive Mfg. Co. Reel lock with quick release. 2,969,932, 1–31–61, Cl. 242—107.7.
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Behrens, Herbert C., to American Can Co. Flat bottom paper container. 2,969,901, 1–31–61, Cl. 229—1.5.
Belcher, Harold H., to Rodney Hunt Machine Co. Liquid and gas mixing machine. 2,969,979, 1–31–61, Cl. 210—70.
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Haase, Wallace H. 2,970,262.
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Bennett, Willard H. Method of producing large circular currents. 2,970,273, 1–31–61, Cl. 328—237.
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Benson, William L., and R. J. Lapierre, to Merck & Co., Inc. Anti-caking powdered preparation and method of preparing the same. 2,970,056, 1–31–61, Cl. 99—143.
Bentley, George P., and G. C. McNabb, to Instrument Development Laboratories, Inc. Digitalizers. 2,970,307, 1–31–61, Cl. 340—347.
Bergvall, Royal C., to Westinghouse Electric Corp. Means for exploding bombs. 2,969,736, 1–31–61, Cl. 102—2.
Berlin, Daniel. Square shopping cart. 2,969,988, 1–31–61, Cl. 280—36.
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Runge, Wilhelm T., Betzenhammer, and Hense. 2,970,281.
Beurtheret, Charles A. E., to Compagnie Francaise Thomson-Houston. Electric discharge device cooling systems. 2,969,957, 1–31–61, Cl. 257—250.
Beverly, Merritt L., and M. Kahn, to Sprague Electric Co. Variable resistor. 2,970,244, 1–31–61, Cl. 317—101.
Bild, Charles F., to United States of America, Navy. Arming locking device for a fuse. 2,969,737, 1–31–61, Cl. 102—70.
Billen, Peter, and W. Linnerz, to Schloemann Aktiengesellschaft. Double-billet extrusion press. 2,969,873, 1–31–61, Cl. 207—4.
Binning, Robert C., and W. F. Johnston, Jr., to The American Oil Co. Aromatic separation process. 2,970,106, 1–31–61, Cl. 208—347.
Birsten, Oscar G.: *See*—
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Bischoff, Günther. Papermaker's screen with a wavy longitudinal shape and edges longer than the center portion thereof. 2,969,581, 1–31–61, Cl. 28—78.
Bishop, Alfred E., and L. J. Novak, to The Commonwealth Engineering Co. of Ohio. Process for preparing dextran phosphates. 2,970,141, 1–31–61, Cl. 260—234.
Blair, Robert, to Angelo American Corp. of South Africa Ltd. Lifting, lowering and hauling. 2,969,854, 1–31–61, Cl. 187—73.
Blais, Maurice E., to St. Regis Paper Co. Packing apparatus. 2,969,629, 1–31–61, Cl. 53—124.
Blake, Frederick H. Warp cord tensing means for looms. 2,969,813, 1–31–61, Cl. 139—104.
Blake, John T., to Scovill Mfg. Co. Fastener means. 2,969,574, 1–31–61, Cl. 24—219.
Blanchard, Winborne H. Heating, ventilating and cooling unit. 2,969,652, 1–31–61, Cl. 62—157.
Blass, George F., to The Garrett Corp. Universal joint suspension for nutating disks. 2,969,777, 1–31–61, Cl. 121—69.
Blocker, Wade, to Phillips Petroleum Co. Polynomial divider. 2,969,914, 1–31–61, Cl. 35—180.
Blonder, Isaac S., to Blonder-Tongue Electronics. Electric cable connector. 2,970,184, 1–31–61, Cl. 174—88.
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Blonder, Isaac S. 2,970,184.
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Bloom, Frederick S., and W. Rudin; said Rudin assor. to Bloom Engineering Co., Inc. Burner mechanism. 2,969,833, 1–31–61, Cl. 158—11.
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Bobb, Lloyd J., to Armour Research Foundation of Illinois Institute of Technology. Method of adjusting a magnetic head. 2,969,534, 1–31–61, Cl. 29—155.5.
Boice Mfg. Co., Inc.: *See*—
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Bolleter, Albert, and E. Moser, to Ciba Ltd. Process for the production of neutrally developable textile prints. 2,970,030, 1–31–61, Cl. 8—71.
Bolton, Denis, to Westinghouse Electric Corp. Amplifier circuits. 2,970,263, 1–31–61, Cl. 321—25.
Bolton, Wilbur M., to Union Carbide Corp. Masking material particularly for gas plating processes. 2,970,064, 1–31–61, Cl. 117—5.5.
Bonn, Theodore H., to Sperry Rand Corp. Means for eliminating "sneak" currents in cascaded magnetic amplifiers. 2,970,295, 1–31–61, Cl. 340—174.
Borch-Madsen, Andreas V. Multi-color printing on continuous metal bands. 2,969,733, 1–31–61, Cl. 101—181.
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Bottom, Theodore J. Building construction. 2,969,726, 1–31–61, Cl. 98—37.
Boughton, Roger C., to Joslyn Mfg. & Supply Co. Sectional gasket ring with radially extending flange to prevent axial separation of sections. 2,969,995, 1–31–61, Cl. 285—413.
Bouwers, Albert, to N.V. Optische Industrie "De Oude Delft." System for observing objects under poor lighting conditions. 2,970,220, 1–31–61, Cl. 250—213.
Boyle, Richard J., O. G. Birsten, and W. L. Mosby, to American Cyanamid Co. New heterocyclic orthoquinones. 2,970,146, 1–31–61, Cl. 260—256.4.
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Braconier, Frederic F. A., and J. J. L. E. Riga, to Societe Belge de l'Azote et des Produits Chimiques du Marly. Furnace for the production of unsaturated hydrocarbons. 2,970,178, 1–31–61, Cl. 260—679.
Bragdon, Robert W., to Metal Hydrides Inc. Stabilized aqueous solutions of sodium borohydride. 2,970,114, 1–31–61, Cl. 252—188.
Brasure, Donald E., to E. I. du Pont de Nemours and Co. Process of treating polymeric structures and product thereof. 2,970,066, 1–31–61, Cl. 117—93.3.
Braun, Adolph F., to General Motors Corp. Choke actuating mechanism. 2,969,783, 1–31–61, Cl. 123—119.
Braun, Adolph F., to General Motors Corp. Fuel metering pin. 2,969,965, 1–31–61, Cl. 261—39.
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Rudd, Charles F., and Brisbin. 2,969,727.
Brockman, John A., Jr., to American Cyanamid Co. 6-8-dihalo octanoic acid esters and salts thereof. 2,970,161, 1–31–61, Cl. 260—408.
Brodbeck, Willy, to Alfred Gauthier, G.m.b.H. Profile-milling and engraving machine. 2,969,716, 1–31–61, Cl. 90—13.
Brooks, Riley H. Holding device for fishing rods. 2,969,899, 1–31–61, Cl. 224—5.
Bross, Warren C.: *See*—
Vander Sande, John L., and Bross. 2,969,571.
Brown, Charles A., to National Lead Co. Compound angular ejection system. 2,969,569, 1–31–61, Cl. 22—92.
Brown, Edgar D., Jr., to General Electric Co. Water repellent composition containing organopolysiloxane and organotitanate, and leather treated therewith. 2,970,126, 1–31–61, Cl. 260—33.4.
Brown, Edgar D., Jr., to General Electric Co. High temperature lubricant and process of making the same. 2,970,162, 1–31–61, Cl. 260—429.7.
Brown Engine Products, Inc.: *See*—
Brown, Herbert K. 2,969,963.
Brown, Herbert K., to Brown Engine Products, Inc. Carburetor. 2,969,963, 1–31–61, Cl. 261—4.
Brown, Lacy C.: *See*—
Taylor, Lundy, and Brown. 2,969,886.
Brown, Morden G.: *See*—
Polanyi, Michael L., Johnston, and Brown. 2,969,708.
Brown, Robert G. W., L. P. Farnsworth, G. P. Fulton, P. L. Gagner, and J. M. Tarbox, to United Aircraft Corp. Temperature compensated journal bearing. 2,970,019, 1–31–61, Cl. 308—237.
Bruce, Edmond, to Bell Telephone Laboratories, Inc. Light pulse generator. 2,970,310, 1–31–61, Cl. 340—366.
Buckles, Dale R.: *See*—
Castine, William A., Jr., Buckles, and Dahlberg. 2,969,624.
Buell, Harry R.: *See*—
Guyton, James H., Jenkins, and Buell. 2,970,212.
Bührer, Erwin, and E. Boeshard, to Georg Fischer Aktiengesellschaft. Waste gas recuperator. 2,969,967, 1–31–61, Cl. 263—20.
Bulger, John, and J. Conner. Book match dispenser. 2,970,027, 1–31–61, Cl. 312—42.

Bulova Research and Development Laboratories, Inc.: *See*—
Fischer, Franz L. 2,969,675.

Burdeshaw, Thomas A., to Southern States Equipment Corp. Electric fuse. 2,970,194, 1–31–61, Cl. 200—114.

Burgess, Paul D., and H. F. Rothwell, to Delavan Mfg. Co. Multiple variable area orifice injector. 2,969,925, 1–31–61, Cl. 239—453.

Burgi, Charles E.: *See*—
Obenberger, Wallace J., and Burgi. 2,970,252.

Burk, Emmett H.: *See*—
Cryer, John, and Burk. 2,970,171.

Burke, Irvin D.: *See*—
Jensen, Raymond W., Burke, and Chelvin. 2,969,806.

Burlis, Norbert W., and M. J. Reinert, to Custom Engineering and Development Co. Volume-variation measuring and recording apparatus. 2,970,041, 1–31–61, Cl. 23—256.

Burnett, William H. Building units and method of producing the same. 2,970,060, 1–31–61, Cl. 106—71.

Burnett, William H. Building units and method of producing the same. 2,970,061, 1–31–61, Cl. 106—71.

Burnham, Troy T. Pouring bridge for concrete work. 2,969,720, 1–31–61, Cl. 94—39.

Burroughs Corp.: *See*—
Anderson, William W., Jr. 2,970,183.
Epstein, Herman, and Stram. 2,970,298.
Williams, Robert J. 2,970,303.

Burton, Mutual, Sr. School crossing guard rail. 2,969,604, 1–31–61, Cl. 39—92.

Bush, Arthur J.: *See*—
Zibritosky, George, and Bush. 2,969,710.

Butler, Gray L., to Otto Berns Co., Inc. Lawn sprinkler. 2,969,922, 1–31–61, Cl. 239—242.

Cage, James, to Reynolds Metals Co. Unitary sectional containers. 2,969,902, 1–31–61, Cl. 229—4.5.

Cahill, Daniel T., to Specialties, Inc. Fluid operated device. 2,969,772, 1–31–61, Cl. 121—46.

Caldas, Isidoro, Jr.: *See*—
Murtaugh, Justin J., and Caldas. 2,970,133.

Caldwell, John R., to Eastman Kodak Co. Polyester-urethanes derived from dialkylmalonic compounds and textile fabric coated therewith. 2,970,119, 1–31–61, Cl. 260—2.5.

Caldwell, Ned A., and W. C. Bauer, to Food Machinery and Chemical Corp. Trona process. 2,970,037, 1–31–61, Cl. 23—63.

California Research Corp.: *See*—
Glase, Harry S., Jr. 2,970,179.
Lind, Wilton H. 2,970,170.

Calumet & Hecla Inc.: *See*—
Fromson, Howard A. 2,969,589.

Camloc Fastener Corp.: *See*—
Newcomer, Jacob R., Jr., and Wheeler. 2,969,667.
Vander Sande, John L., and Bross. 2,969,571.

Campbell, Duncan S., to The Sheffield Corp. Apparatus for grinding toothed members. 2,969,621, 1–31–61, Cl. 51—95.

Campbell, Gordon W.: *See*—
Sulkin, Maurice A., Campbell, and Young. 2,969,939.

Campbell Taggart Associated Bakeries, Inc.: *See*—
Archer, Irving M. 2,969,633.

Canon Camera Co., Inc.: *See*—
Mukai, Jiro. 2,969,713.

Carew, Herman, and A. W. Kinney, to American Can Co. Automatic container dispensing, filling and capping machine. 2,969,632, 1–31–61, Cl. 53—283.

Cargill Detroit Corp.: *See*—
Cargill, Don A., Mason, Horvath, and Ducker. 2,969,883.

Cargill, Don A., A. Mason, R. A. Horvath, and W. H. Ducker, to Cargill Detroit Corp. Parts distribution and storage system. 2,969,883, 1–31–61, Cl. 214—16.

Carlstedt, Ragnar L., to The R. K. Le Blond Machine Tool Co. Control system for a boring machine. 2,969,696, 1–31–61, Cl. 77—3.

Carter, Benjamin W., to The Cincinnati Milling Machine Co. Hydraulic system for pattern controlled machine tools. 2,969,717, 1–31–61, Cl. 90—13.5.

Casselman, Robert C., D. P. Cooper, Jr., and W. C. Otis, to Polaroid Corp. Photoflash unit. 2,969,731, 1–31–61, Cl. 95—11.5.

Castine, William A., Jr., D. R. Buckles, and J. R. Dahlberg, to Pittsburgh Plate Glass Co. Edge seaming apparatus. 2,969,624, 1–31–61, Cl. 51—137.

Caudill, Howard F., to C. L. Guild Construction Co., Inc. Power hammer. 2,969,771, 1–31–61, Cl. 121—30.

Central Transformer Corp.: *See*—
Smith, George A. 2,969,585.

Ceriat, Eugene, to American Vitrified Products Co. Apparatus for forming tubular conduits from fibrous material. 2,969,536, 1–31–61, Cl. 162—295.

Challenge-Cook Bros., Inc.: *See*—
Jackson, Robert E. 2,970,221.

Chambers, John K., to The Seamless Rubber Co. Package for adhesive bandages and other articles. 2,969,872, 1–31–61, Cl. 206—63.2.

Chance, A. B., Co.: *See*—
Bridges, Ronald P. 2,970,192.

Chatham Controls Corp., The: *See*—
Keefer, Fred S., Jr. 2,970,195.

Cherin, Alvin A., and R. R. Johnson, to Hughes Aircraft Co. Circuits for selectively shifting, extracting, and inserting digital information. 2,969,913, 1–31–61, Cl. 235—157.

Cherry, Harry G. Extension pedal for vehicle light dimmer switch. 2,969,691, 1–31–61, Cl. 74—560.

Chesebrough-Pond's, Inc.: *See*—
Bell, Saul A. 2,970,083.

Chicago Railway Equipment Co.: *See*—
Soddy, Thomas C. 2,969,858.

Childs, William I.: *See*—
Lefevre, Leonard J., and Childs. 2,970,071.

Cholet, Philip H.: *See*—
Lasser, Marvin E., and Cholet. 2,970,285.

Chelvin, Robert L.: *See*—
Jensen, Raymond W., Burke, and Chelvin. 2,969,806.

Christenson, Howard W., M. E. Fisher, and U. A. Breting, to General Motors Corp. Transmission. 2,969,695, 1–31–61, Cl. 74—710.5.

Chrysler Corp.: *See*—
Cousino, Walter P. 2,969,714.
Ivan, Steve D. 2,969,690.

Chuba, Paul E., to Ford Motor Co. Vehicle air suspension system blowoff valve. 2,969,975, 1–31–61, Cl. 267—65.

Ciba Ltd.: *See*—
Bolleter, Albert, and Moser. 2,970,030.

Ciba Pharmaceutical Products Inc.: *See*—
Huebner, Charles F. 2,970,149.
Werner, Lincoln H., and De Stevens. 2,970,154.

Ciccone, Thomas Q., to United States of America, Army. Conductive priming mixture. 2,970,047, 1–31–61, Cl. 52—2.

Cincinnati Milling Machine Co., The: *See*—
Carter, Benjamin W. 2,969,717.
Horiacher, Herman. 2,969,808.
Mehlhope, Kenenth D., and Faulhaber. 2,969,623.

Claff, Chester E., and C. A. Moeller, to M. B. Claff & Sons, Inc. Reenforced box and box blank and method and machine for making the same. 2,969,906, 1–31–61, Cl. 229—50.

Claff, M. B., & Sons, Inc.: *See*—
Claff, Chester E., and Moeller. 2,969,906.

Clark, Chester G., to The Udylite Corp. Rack loading and unloading mechanism. 2,969,750, 1–31–61, Cl. 104—96.

Clark Equipment Co.: *See*—
Leonard, William F. 2,969,687.

Clarke Floor Machine Co.: *See*—
Petersen, William L. 2,969,557.

Claybourn, Carlton C., to Miehle-Goss-Dexter, Inc. Vacuum slow down device for sheet delivery mechanism. 2,969,980, 1–31–61, Cl. 271—68.

Clearman, Jack F., to Whirlpool Corp. Laundry machine pump. 2,969,739, 1–31–61, Cl. 103—3.

Clevite Corp.: *See*—
Rosenthal, Felix, Roberts, and Krejci. 2,969,827.

Clymer, Joseph D.: *See*—
Wright, George W., and Clymer. 2,969,741.

Cobb, Joseph R., Jr., to Phillips Petroleum Co. Olefin recovery process. 2,970,177, 1–31–61, Cl. 260—677.

Coberly, Clarence J., to Kobe, Inc. Pressure pulsation frequency indicator. 2,969,676, 1–31–61, Cl. 73—388.

Coffin, John M., and R. C. Graham, to Lenkurt Electric Co., Inc. Core testing device. 2,970,255, 1–31–61, Cl. 324—34.

Colby, Ralph S., to United Aircraft Corp. Radiator matrix design. 2,969,642, 1–31–61, Cl. 60—39.01.

Cole, Geoffrey: *See*—
McLeod, Thomas S., Deavin, and Cole. 2,969,875.

Coleman Co., Inc., The: *See*—
Newton, Alwin B. 2,969,788.

Collier, Dana M., L. A. Meeks, and J. P. Palmer, to United States of America, Atomic Energy Commission. Electronic multiplier. 2,969,915, 1–31–61, Cl. 235—194.

Collins, Russell E. Stanchion apparatus. 2,969,770, 1–31–61, Cl. 119—98.

Colorado Oil and Gas Corp.: *See*—
Gilbert, Richard, and Warkentien. 2,969,950.

Colton, Raymond R., and I. W. Scopp. Tobacco processing. 2,969,794, 1–31–61, Cl. 131—140.

Colton, Raymond R., and I. W. Scopp. Manufactured tobacco products. 2,970,072, 1–31–61, Cl. 131—17.

Columbus McKinnon Corp.: *See*—
Parker, Humphrey P., and Devonshire. 2,969,954.

Commissariat a l'Energie Atomique: *See*—
Correc, Lazare H. 2,970,097.
Stohr, Jacques A. 2,970,207.

Commonwealth Engineering Co. of Ohio, The: *See*—
Bishop, Alfred E., and Novak. 2,970,141.
Toulmin, Harry A., Jr. 2,969,751.

Compagnie de Saint-Gobain: *See*—
Lambert, Roger E., and Dubesset. 2,969,613.

Compagnie Francaise Thomson-Houston: *See*—
Beurtheret, Charles A. E. 2,969,957.

Compton, Donald R.: *See*—
Johnson, Eldon A., and Compton. 2,969,745.

Condo, Albert C., Jr., and J. B. Hunter, to The Atlantic Refining Co. Treatment of hydrocarbon oils. 2,970,105, 1–31–61, Cl. 208—295.

Conery, William J.: *See*—
Staats, William A., and Conery. 2,969,748.

Conn, John B., to Merck & Co., Inc. Purification of silicon halides. 2,970,040, 1–31–61, Cl. 23—205.

Conner, John: *See*—
Bulger, John, and Conner. 2,970,027.

Conville, John, to In-A-Wall Corp. Window construction. 2,969,834, 1–31–61, Cl. 160—101.

Cooper, Dexter P., Jr.: *See*—
Casselman, Robert C., Cooper, and Otis. 2,969,721.

Cope, Le Roy C., L. V. Nelson, and G. R. Meacham. Wash-up device for printing press. 2,969,735, 1–31–61, Cl. 101—425.

Corn Products Co.: *See*—
Kerr, Ralph W. 2,970,086.

Corning Glass Works: *See*—
Riggen, Theodore K. 2,970,239.

Cornish, Harry E., C. G. Graef, H. F. Groebe, and E. H. Simpson, to O & M Machine Co., Inc. Apparatus for running thread-jointed oil well strings into and out of oil wells. 2,969,702, 1–31–61, Cl. 81—53.

Corona Hair Net Corp.: *See*—
Herschensohn, Arthur M. 2,969,548.

Correc, Lazare H., to Commissariat a l'Energie Atomique. Nuclear reactors including horizontal graphite bars. 2,970,097, 1–31–61, Cl. 204—193.2.

Corren, Sidney A. Battery separator and method of forming same. 2,970,181, 1–31–61, Cl. 136—143.

Cottrill, Charles E., to Standard Packaging Corp. Carton with integral pouring spout and blank therefor. 2,969,904, 1–31–61, Cl. 229—17.

Cousino, Walter P., to Chrysler Corp. Adjustable mounting device for rear view mirrors. 2,969,714, 1–31–61, Cl. 88—98.

Cova, Dario R., to Monsanto Chemical Co. Preparation of cyclohexanone. 2,970,172, 1–31–61, Cl. 260—586.

Craig, Dwin R., to Logetronics, Inc. Photographic printing. 2,969,723, 1–31–61, Cl. 95—73.

Crespí-González, Alicia: *See*—
Vian-Ortuño, Angel, and Crespí-González. 2,970,039.

Croshier, Walter J., to Standard Gage Co., Inc. Squareness gage. 2,969,597, 1–31–61, Cl. 33—172.

Cryer, John, and E. H. Burk, to The Sherwin-Williams Co. Ammonolysis of 3-nitro, 4-cresol. 2,970,171, 1–31–61, Cl. 260—581.

Caendes, Ernest, to E. I. du Pont de Nemours and Co. Improved elastomer composition containing antioxidants. 2,970,128, 1–31–61, Cl. 260—41.5.

Cummins, Richard D., to Firewel Development Co. Regulator. 2,969,801, 1–31–61, Cl. 137—64.

Custom Engineering and Development Co.: *See*—
Burlis, Norbert W., and Reinert. 2,970,041.

Cutforth, Howard G., to Phillips Petroleum Co. Manufacture of solid propellants. 2,970,046, 1–31–61, Cl. 52—.5.

Cutler, Frank A., Jr., J. A. Hause, and M. Sletzinger, to Merck & Co., Inc. Preparation of 16-alkyl-20-keto steroid enol acylates. 2,970,157, 1–31–61, Cl. 260—397.45.

Dahlberg, John R.: *See*—
Castine, William A., Jr., Buckles, and Dahlberg. 2,969,624.

Dairy Foods Inc.: *See*—
Terrett, John P., Shields, and Nava. 2,970,057.

Dale, William S., and P. R. Haskell, to Remington Arms Co., Inc. Impact wrench control. 2,969,660, 1–31–61, Cl. 64—27.

Dallenbach, Frederick, to The Garrett Corp. Impulse axial-flow compressor. 2,969,908, 1–31–61. Cl. 230—117.

Dalton, Robert J. Soil amendment and nutrient inclusion. 2,970,049, 1–31–61, Cl. 71—63.

Dana Corp.: *See*—
Sharp, Everett H. 2,969,659.

Danly Machine Specialties, Inc.: *See*—
Danly, Philo H., and Georgeff. 2,969,871.

Danly, Philo H., and V. Georgeff, to Danly Machine Specialties, Inc. Method of operating a high speed shell forging press. 2,969,871, 1–31–61, Cl. 205—8.

Darmstadt, Louis J., and G. W. Fuller, to The American Thermos Products Co. Threaded pouring lip stopper combination for vacuum bottle. 2,969,887, 1–31–61, Cl. 215—13.

D'Audiffret, Adolph A., R. E. Reimund, and W. C. Lavely, to Ranney Method Water Supplies, Inc. Plastic well screen and wells utilizing the screens and method of operation. 2,969,840, 1–31–61, Cl. 166—205.

Daugherty, Patrick E.: *See*—
Dull, William B., and Daugherty. 2,970,199.

Dean, Sidney W., Jr. Casing compositions. 2,969,795, 1–31–61, Cl. 131—144.

Deavin, Christopher M.: *See*—
McLeod, Thomas S., Deavin, and Cole. 2,969,875.

De Benneville, Peter L., to Rohm & Haas Co. Aminoacetamidoximic quaternary ammonium compounds. 2,970,145, 1–31–61, Cl. 260—247.5.

De Biasi, Charles P. Material spreader for use on a dump truck. 2,969,987, 1–31–61, Cl. 275—8.

De Ganahl, Carl. Pipe structure. 2,969,812, 1–31–61, Cl. 138—25.

De Gray, Richard J.: *See*—
Snyder, Robert W., and De Gray. 2,970,104.

Delavan Mfg. Co.: *See*—
Burgess, Paul D., and Rothwell. 2,969,925.

De Matteo, Adolph J., to Farrel-Birmingham Co., Inc. Extrusion tools for non-circular sections. 2,969,874, 1–31–61, Cl. 207—17.

Demorest, Frank E., to Ford Motor Co. Motor vehicle brake. 2,969,855, 1–31–61, Cl. 188—106.

De Napoli, Anthony C., and E. E. Williamson, to Motorola, Inc. Television receiver. 2,970,311, 1–31–61, Cl. 340—367.

Dennison Mfg. Co.: *See*—
Long, William J. 2,969,665.

Dent Hardware Co., The: *See*—
Herman, William B. 2,969,999.

Denver Equipment Co.: *See*—
Finney, John H. V., Jr. 2,969,878.

De Paul, Alseno S., and W. H. Morse, to Westinghouse Electric Corp. Base member support means for dynamoelectric machines. 2,970,236, 1–31–61, Cl. 310—91.

De Spain, Thomas H., to Southern Textile Machinery Co., Inc. Yarn measuring device. 2,969,757, 1–31–61, Cl. 112—243.

De Staat der Nederlanden, ten deze vertegenwoordigd door de Directeur-Generaal der Posterijen, Telegrafie en Telefonie: *See*—
Van Dalen, Christiaan J., and Van Duuren. 2,970,189.

De Stevens, George: *See*—
Werner, Lincoln H., and De Stevens. 2,970,154.

Detter, Clyde V.: *See*—
Lanning, William C., Hogan, Banks, and Detter. 2,970,135.

De Vilbiss Co., The: *See*—
Peepa, Donald J. 2,969,926.

Devonshire, William H.: *See*—
Parker, Humphrey F., and Devonshire. 2,969,954.

De Vore, Paul A., Bowling alley construction. 2,969,983, 1–31–61, Cl. 273—31.

Diamond Alkali Co.: *See*—
Hyde, John P. 2,970,038.

Dienfalusy, Egon R., O. B. Ferno, H. J. Fex, K. B. Hogberg, to Aktiebolaget Leo. Alkoxyphenyl-propionyl esters of 17a-hydroxyprogesterone. 2,970,153, 1–31–61, Cl. 260—397.4.

Didrick, Edward J. Reinforced hollow concrete building panel. 2,969,619, 1–31–61, Cl. 50—437.

Distel, Joseph W., M. Parrish, Jr., and K. Maiershofer, to Polaroid Corp. Flattening and coating device for photographic prints. 2,969,766, 1–31–61, Cl. 118—503.

Dixie Wax Paper Co.: *See*—
Hubert, Warren N. 2,969,907.

Dixon Automatic Tool, Inc.: *See*—
Dixon, Paul H. 2,969,587.

Dixon, Joseph, Crucible Co.: *See*—
Seeley, Sherwood B. 2,969,568.

Dixon, Paul H., to Dixon Automatic Tool, Inc. Automatic assembling machine with size sensing arrangement. 2,969,587, 1–31–61, Cl. 29—200.

Dodge, David W., to General Motors Corp. Bridge biasing transistor circuit. 2,970,277, 1–31–61, Cl. 330—40.

Dole Valve Co., The: *See*—
Bauerlein, Carl C. 2,969,651.

Dollinger, Kenneth, to Raytheon Co. Noise reduction systems. 2,970,276, 1–31–61, Cl. 330—9.

Dolza, John, to General Motors Corp. Combustion chambers for engines. 2,969,786, 1–31–61, Cl. 123—191.

Donnelley, R. R., & Sons Co.: *See*—
McCahon, John O. 2,969,554.

Donnelly, Edward P., Jr., to United States of America, Navy. Starting circuit. 2,970,279, 1–31–61, Cl. 331—108.

Dorman, Bruce A.: *See*—
Dorman, Harley A. and Bruce A. 2,969,936.

Dorman, Harley A. and Bruce A. Aircraft with propeller enclosed in annular wing. 2,969,936, 1–31–61, Cl. 244—15.

Dow Chemical Co., The: *See*—
Bachtel, Howard J. 2,970,118.
Hunt, Wilson W., Ludington, and Amos. 2,970,089.
Lashua, Sherman C., and Schweitzer. 2,970,070.
Lefevre, Leonard J., and Childs. 2,970,071.

Dow, Joseph W., to United States of America, Navy. Velocity sensitive runout brake control system. 2,969,856, 1–31–61. Cl 188—110.

Doyle, Russell P.: *See*—
Edmonds, Frank A., and Doyle. 2,970,033.

Dresser Industries, Inc.: *See*—
Walton, George W. 2,969,951.

Drummond, Folsom E., to Union Carbide Corp. Method of making a composite stock. 2,970,068, 1–31–61, Cl. 117—71.

Drummond, Folsom E. Plastic cement composition for lightweight ceramic tile. 2,970,124, 1–31–61, Cl. 260—23.

Duany, Andres J. Concrete mixer. 2,969,962, 1–31–61, Cl. 259—169.

Dubesset, Michel: *See*—
Lambert, Roger E., and Dubesset. 2,969,613.

Ducker, William H.: *See*—
Cargill, Don A., Mason, Horvath, and Ducker. 2,969,883.

Dudek, Erwin K.: *See*—
Witt, Victor R., Prentky, and Dudek. 2,970,300.

Dudley, Edward C. Wobble plate pump. 2,969,510, 1–31–61, Cl. 137—625.15.

Dukat, Francis M., to Raytheon Co. Hybrid radio receiving circuits. 2,970,213, 1–31–61, Cl. 250—20.

Dulaney, Eugene L., and W. J. McAleer, to Merck & Co., Inc. Preparation of 11,17-dihydroxy steroids. 2,970,085, 1–31–61, Cl. 195—51.

Dülberger, Leon H., to Fischer & Porter Co. Transistor oscillator. 2,970,280, 1–31–61, Cl. 331—110.

Dull, William B., and P. E. Daugherty, to Kingston Products Corp. Rotary switch assembly. 2,970,199, 1–31–61, Cl. 200—153.

Dupler, Raymond E. Air-heater and safety feature for same. 2,969,787, 1–31–61, Cl. 126—92.

Du Pont de Nemours, E. I., and Co.: *See*—
Arthur, Paul, Jr. 2,970,115.
Brasure, Donald E. 2,970,066.
Caendes, Ernest. 2,970,128.
Howard, Edward G., Jr., and Middleton. 2,970,173.
Jacobson, Howard W. 2,969,852.
Klaesmann, John A. 2,970,079.
McCormick, Gordon R., and Read. 2,969,561.
Ten Eyck, Edward H., and Larson. 2,970,176.

Duschinsky, Robert, W. G. Farkas, and C. Heidelberger. 5-fluorouracil nucleotides and preparation thereof. 2,970,139, 1–31–61, Cl. 260—211.5.

Dye, Edward R. Protective head covering. 2,969,547, 1–31–61, Cl. 2—3.

Dyke, Charles L., deceased; L. M. Dyke, G. E. Trenneman, and E. G. Hicks, executors, to E. G. Hicks. Fertilizer spreader. 2,969,986, 1–31–61, Cl. 275—6.

Dyke, Lester M.: *See*—
Dyke, Charles L. and L. M., Trenneman, and Hicks. 2,969,986.

Eames, Charles, to Herman Miller, Inc. Side flexing shock mount. 2,969,831, 1–31–61, Cl. 155—191.

Eastman Kodak Co.: *See*—
Caldwell, John R. 2,970,119.
Robinson, Herbert T., Jungjohann, and Ewald. 2,969,711.

Eaves, Robert B.: *See*—
Gallagher, Charles E., and Eaves. 2,969,934.

Eckert, John P., Jr., to Sperry Rand Corp. Binary counter. 2,970,293, 1–31–61, Cl. 340—174.

Econolite Corp.: *See*—
Loomis, Robert C. 2,970,289.

Eddy, George G. Hull form. 2,969,760, 1–31–61, Cl. 114—66.5.

Edelmann, E., and Co.: *See*—
Edelmann, Robert B. 2,969,679.

Edelmann, Robert B., to E. Edelmann and Co. Anti-freeze tester. 2,969,679, 1–31–61, Cl. 73—443.

Edmonds, Frank A., and R. P. Doyle, to American Cyanamid Co. Process of tanning leather and product thus produced. 2,970,033, 1–31–61, Cl. 8—94.28.

Edmonds, Harvey, to Boice Mfg. Co., Inc. Gage setting and checking apparatus. 2,969,596, 1–31–61, Cl. 33—143.

Eichler, Ulrich T. B.: *See*—
Kiel, Wilhelm K. B., and Eichler. 2,969,911.

Eldred, Nelson R.: *See*—
Hostettler, Fritz, and Eldred. 2,970,167.

Electro-Mechanical Instrument Co., The: *See*—
Pfeffer, William E. 2,970,287.

Ellings, Arthur C.: *See*—
Jacobs, John F., Holden, and Ellings. 2,969,994.

Ellis, Cecil B. Electrodialysis apparatus. 2,970,098, 1–31–61, Cl. 204—301.

Elmer, William B. Outdoor lighting luminaire. 2,970,223, 1–31–61, Cl. 250—239.

Emanuel di Giuseppe e Roberto Emanuel & C.S.A.S.: *See*—
Menon, Stanislao. 2,969,743.

Emkjer, Erwin J.: *See*—
Stringfellow, George S., and Emkjer. 2,970,306.

Engelhard Industries, Inc.: *See*—
Andersen, Holger C., and Green. 2,970,034.

Enikeieff, Oleg C., to Harry C. Miller Co. Rotating scattering elements for X-ray proof locks. 2,970,217, 1–31–61, Cl. 250—106.

Epstein, Herman, and O. B. Stram, to Burroughs Corp. Electrographic recording with magnetic material. 2,970,299, 1–31–61, Cl. 340—174.

Erickson, John W., to Westinghouse Electric Corp. Ventilating system for a dynamoelectric machine. 2,970,234, 1–31–61, Cl. 310—63.

Eriksen, Warren T., to Raytheon Co. Elapsed time indicators. 2,970,264, 1–31–61, Cl. 324—94.

Eriksson, Allan H., to Husqvarna Vapenfabriks Aktiebolag. Sewing machines. 2,969,756, 1–31–61, Cl. 112—158.

Eschenburg, William A., and W. S. Taylor, to Yates-American Machine Co. Ice making and vending machine. 2,969,650, 1–31–61, Cl. 62—68.

Esso Research and Engineering Co.: *See*—
Morita, Karsten H. 2,970,100.

Ethyl Corp.: *See*—
Sistrunk, Thomas O. 2,970,183.

Ewald, William P.: *See*—
Robinson, Herbert T., Jungjohann, and Ewald. 2,969,711.

Ex-Cell-O Corp.: *See*—
Braun, Eric A. 2,969,905.

Faeber, Harry W., to Time, Inc. Signature handling apparatus. 2,969,961, 1–31–61, Cl. 271—82.

Fairchild Engine and Airplane Corp.: *See*—
Hunter, David U. 2,969,806.

Falk Corp., The: *See*—
Wellauer, Edward J. 2,969,658.

Falsone, Joseph S. Anti smog means. 2,969,782, 1–31–61, Cl. 123—119.

Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning: *See*—
Kracker, Herbert, Albert, and Thaler. 2,970,029.

Farkas, Walter G.: *See*—
Duschinsky, Robert, Farkas, and Heidelberger. 2,970,139.

Farnsworth, Lee P.: *See*—
Brown, Robert G. W., Farnsworth, Fulton, Gagner, and Tarbox. 2,970,019.

Farrel-Birmingham Co., Inc.: *See*—
De Matteo, Adolph J. 2,969,874.

Farwell, Claude C. Bass speaker enclosure. 2,969,848, 1–31–61, Cl. 181—31.

Faulhaber, Arthur H.: *See*—
Mehlhope, Kenneth D., and Faulhaber. 2,969,628.

Felts, Philip T. Hairline cutter. 2,969,592, 1–31–61, Cl. 30—208.

Ferno, Ove B.: *See*—
Dicsfalusy, Egon R., Ferno, Fex, and Hogberg. 2,970,153.

Ferri, Antonio, P. A. Libby, and M. H. Bloom, to United States of America, Air Force. Forced-convection heater. 2,970,202, 1–31–61, Cl. 219—39.

Ferris, Burton C., and M. H. Pond, to Kelsey-Hayes Co. Cope close-up mechanism. 2,969,567, 1–31–61, Cl. 22—31.

Fex, Hans J.: *See*—
Dicsfalusy, Egon R., Ferno, Fex, and Hogberg. 2,970,153.

Fields, Ellis K., to Standard Oil Co. Oleaginous compositions containing thiophosphoryl derivatives. 2,970,110, 1–31–61, Cl. 252—32.7.

Filper Corp.: *See*—
McClelland, Etheridge R. 2,969,867.

Finestone, Arnold B., to Westinghouse Electric Corp. Catalysts for glycidyl polyethers, products produced thereby and method of producing said catalysts. 2,970,130, 1–31–61, Cl. 260—47.

Finney, John H. V., Jr., to Denver Equipment Co. Belt type solid separator. 2,969,878, 1–31–61, Cl. 209—430.

Firewel Development Co.: *See*—
Cummins, Richard D. 2,969,801.

Fischer, Franz L., to Bulova Research and Development Laboratories, Inc. Altimeter. 2,969,675, 1–31–61, Cl. 73—386.

Fischer, Georg, Aktiengesellschaft: *See*—
Bührer, Erwin, and Bosshard. 2,969,967.

Fischer & Porter Co.: *See*—
Dölberger, Leon H. 2,970,280.

Fisher Governor Co.: *See*—
Rich, Herbert G. 2,969,802.

Fisher, Mark E.: *See*—
Christenson, Howard W., Fisher, and Breting. 2,969,695.

Flint, Frederick C., to The General Electric Co. Ltd. Apparatus for testing a group of electric signals. 2,970,260, 1–31–61, Cl. 324—78.

Food Machinery and Chemical Corp.: *See*—
Caldwell, Ned A., and Bauer. 2,970,037.

Ford Motor Co.: *See*—
Chuba, Paul E. 2,969,975.
Demorest, Frank E. 2,969,855.
Grace, Philip F., and Goy. 2,969,725.
Hennessy, Robert E. 2,970,007.
Szostak, Henry T. 2,969,990.

Forgó, László, to Licencia Talamanyokat Ertekesito Vallalat. Pipe joint for heat exchange devices. 2,969,956, 1–31–61, Cl. 257—224.

Forrester, Clive B., to Talon, Inc. Shoe fastening device. 2,969,573, 1–31–61, Cl. 24—207.

Foster, Leslie W., to McCulloch Corporation, Marine Products Division. Outboard motor oil filter tube arrangement. 2,969,768, 1–31–61, Cl. 115—18.

Fouse, Samuel S.: *See*—
Weimer, Charles L., and Fouse. 2,970,245.

Fox, Herman H., to Hoffmann-La Roche Inc. 1-isonicotinyl-2-veratrylidene hydrazine. 2,970,148, 1–31–61, Cl. 260—295.

Fraga, John B. Transmission. 2,969,696, 1–31–61, Cl. 74—789.

Frank, Mark H., to General Motors Corp. Combustion chamber and method of forming combustion chamber cavities. 2,969,718, 1–31–61, Cl. 90—15.

Freeman, Mathew L. Valves. 2,969,811, 1–31–61, Cl. 137—627.5.

Freeman, Robert R., to United States of America, Army. Apparatus for the cultivation of microorganisms. 2,970,088, 1–31–61, Cl. 195—142.

Fremion, Maurice. Water-mixing arrangement for shower baths. 2,969,928, 1–31–61, Cl. 239—415.

Fried, Josef: *See*—
Thomas, Gordon H., and Fried. 2,970,143.

Friedlander, Herbert N., and R. H. Baldwin, to Standard Oil Co. Production of polybasic aromatic acids. 2,970,169, 1–31–61, Cl. 260—524.

Frink, Russell E., to Westinghouse Electric Corp. Shock-resistant circuit interrupter. 2,970,197, 1–31–61, Cl. 200—147.

Fromson, Howard A., to Calumet & Hecla Inc. Method of making a panel structure. 2,969,589, 1–31–61, Cl. 29—421.

Frost, Emerson L., to United States of America, Army. Phase angle and power factor measuring and indicating devices. 2,970,268, 1–31–61, Cl. 324—87.

Fry, John S.: *See*—
Moyer, Wendell W., Jr., Wynstra, and Fry. 2,970,131.

Fuchs, Martin E., and H. J. Hertling, to ACF Industries, Inc. Choke system. 2,969,785, 1–31–61, Cl. 123—179.

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Darmstadt, Louis J., and Fuller. 2,969,887.

Fuller, Revilo, to Fullerform Continuous Pipe Corp. Continuous concrete pipe laying machine. 2,969,576, 1–31–61, Cl. 25—32.

Fullerform Continuous Pipe Corp.: *See*—
Fuller, Revilo. 2,969,576.

Fulton, George P.: *See*—
Brown, Robert G. W., Farnsworth, Fulton, Gagner, and Tarbox. 2,970,019.

Furendal, Allan R. B.: *See*—
Af Ekenstam, Bo T., Furendal, and Von Fieandt. 2,969,791.

Furrer, Rud., Sohne A.G.: *See*—
Fürrer, Werner H. 2,969,793.

Fürrer, Werner M., to Rud. Furrer Sohne A.G. Suspension file element with indicia carrier. 2,969,793, 1–31–61, Cl. 129—16.7.

Gagne, Archie R., to Amplus, Inc. Apparatus for casting concrete pipe. 2,969,575, 1–31–61, Cl. 25—30.

Gagner, Philip L.: *See*—
Brown, Robert G. W., Farnsworth, Fulton, Gagner, and Tarbox. 2,970,019.

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Gamewell Co., The: *See*—
Hill, Frank W. 2,970,247.

Gardner, Lloyd E., to Phillips Petroleum Co. Hydrocracking catalyst and process for hydrocracking of hydrocarbons with said catalyst composite. 2,970,102, 1–31–61, Cl. 208—112.

Garrett Corp., The: *See*—
Blass, George F. 2,969,777.
Dallenbach, Frederick. 2,969,908.
Jensen, Raymond W., Burke, and Cholvin. 2,969,806.

Garvin, John C., to Safety Sake Enterprises, Inc. Display device. 2,969,605, 1–31–61, Cl. 40—10.

Gatti, Arno: *See*—
Wood, Donald L., and Gatti. 2,970,052.

Gauthier, Alfred, G.m.b.H.: *See*—
Brodbeck, Willy. 2,969,716.

General Controls Co.: *See*—
Nason, Willis R. 2,969,917.
Shequen, Winston G. 2,969,916.

General Dynamics Corp.: *See*—
Stringfellow, George S., and Emkjer. 2,970,306.

General Electric Co.: *See*—
Brown, Edgar D., Jr. 2,970,126.
Brown, Edgar D., Jr. 2,970,162.
Giles, Walter B. 2,969,759.
Grenoble, Herbert E. 2,970,075.
Harle, Harold P. 2,969,654.
Kilbourne, Charles E. 2,970,232.
McLoughlin, Joseph R. 2,970,122.
Ogle, Hugh M. 2,969,674.
Schaefer, Robert H. 2,969,641.
Swerdlow, Nathan, and Wilson. 2,970,185.
Watson, Wallace B. 2,970,270.
Wood, Donald L., and Gatti. 2,970,052.

General Electric Co. Ltd., The: *See*—
Flint, Frederick C. 2,970,260.
General Metals Corp.: *See*—
Hoffer, James F. 2,969,744.
General Metals Corp. (Adel Precision Products Division): *See*—
Rodaway, Keith S. 2,969,998.
General Mills, Inc.: *See*—
Jordan, Wesley A., and Singerberg. 2,970,063.
General Motors Corp.: *See*—
Braun, Adolph F. 2,969,783.
Braun, Adolph F. 2,969,965.
Christenson, Howard W., Fisher, and Breting. 2,969,695.
Dodge, David W. 2,970,277.
Dolza, John. 2,969,786.
Frank, Mark H. 2,969,718.
Gill, Donald H. 2,970,287.
Glowzinski, Chester J., and Rosalik. 2,970,209.
Greene, Joseph L., and Holzwarth. 2,970,065.
Guyton, James H., Jenkins, and Buell. 2,970,212.
Hanink, Dean K. 2,970,091.
Harmon, Kenneth B., and Tuck. 2,969,694.
Harrold, Marshall C. 2,969,663.
Hauser, Robert L. 2,969,779.
Himka, John. 2,969,977.
Hirsch, Richard A., and McNamara. 2,969,685.
Holls, David R. 2,970,290.
Johnson, Ralph H. 2,970,020.
Kolbe, Adelbert E. 2,969,781.
Kuhn, Albert J., and Rector. 2,969,959.
Leslie, James D., and Sauer. 2,969,976.
Liebreich, Oscar P. 2,969,670.
Meredith, Neil F., and Schwartzwalder. 2,969,582.
Ragsdale, La Verne B. 2,970,015.
Sasynski, John J., and White. 2,970,256.
Velavicius, Alfonsas. 2,970,006.
Wrzalek, Floyd A. 2,969,780.
General Precision, Inc.: *See*—
Kent, Henry J. 2,970,237.
General Radio Co.: *See*—
Sinclair, Donald B. 2,970,258.
Gengler, Francis T. Aircraft exhaust thrust augmenter with an oil breather tube. 2,969,940, 1–31–61, Cl. 244—53.
Georgeff, Vasil: *See*—
Danly, Philo H., and Georgeff. 2,969,871.
Georgian, Carl C., to The American Oil Co. Preparation of high octane number motor fuel blending stocks. 2,970,101, 1–31–61, Cl. 208—70.
Gerson, Melvin M.: *See*—
Piceu, John G., and Gerson. 2,970,204.
Ghannoni, Roberto. Fog dispersal system, particularly for airport runways. 2,969,920, 1–31–61, Cl. 239—14.
Gilbert, Richard, and R. H. Warkentien, to Colorado Oil and Gas Corp. Valve apparatus. 2,969,950, 1–31–61, Cl. 251—61.
Giles, Walter B., to General Electric Co. Hydrodynamic drag reduction in vehicles through boundary layer control. 2,969,759, 1–31–61, Cl. 114—20.
Gill, Donald H., to General Motors Corp. Fastener assembly. 2,970,287, 1–31–61, Cl. 339—14.
Gilmore, Forrest E., to Phillips Petroleum Co. Stabilization of oil well fluid. 2,970,107, 1–31–61, Cl. 208—361.
Glaser, Wolfgang, and A. Kleissmann, to Goetzewerke Friedrich Goetze Aktiengesellschaft. Device for sealing relatively movable machine parts. 2,970,021, 1–31–61, Cl. 309—33.
Glass Developments Ltd.: *See*—
Sproule, Donald O. 2,969,671.
Glase, Harry S., Jr., to California Research Corp. Production of butene polymers. 2,970,179, 1–31–61, Cl. 260—683.15.
Gleason, John J., to The Rath Packing Co. Triglyceride shortening composition and method for preparing the same. 2,970,055, 1–31–61, Cl. 99—118.
Glowzinski, Chester J., and J. J. Rosalik, to General Motors Corp. Lamp assembly. 2,970,209, 1–31–61, Cl. 240—52.1.
Goetz, George A., Jr.: *See*—
Abbe, Carl H., and Goetz. 2,969,753.
Goetzewerke Friedrich Goetze Aktiengesellschaft: *See*—
Glaser, Wolfgang, and Kleissmann. 2,970,021.
Gogol, Mitchell. Means for reproduction of master shapes. 2,969,622, 1–31–61, Cl. 51—101.
Goldman, Felix B., to Texlon Corp. Reel for use on spindles of different diameters. 2,969,981, 1–31–61, Cl. 242—71.8.
Gordon, Barnett D. Knitted garmet with breast cups and method of making. 2,969,662, 1–31–61, Cl. 66—89.
Gottesman, Roy T., and J. E. Snow, to Heyden Newport Chemical Corp. Salicylic acid compositions and method of reacting same. 2,970,163, 1–31–61, Cl. 260—435.
Goubau, Georg J. E., to United States of America, Army. Waveguide-to-coaxial line transducer. 2,970,284, 1–31–61, Cl. 333—34.
Goy, Michael D.: *See*—
Grace, Philip F., and Goy. 2,969,725.
Grabowski, Bogdan: *See*—
Pierrot, Andre, Lescroel, and Grabowski. 2,970,112.
Grace, Philip F., and M. D. Goy, to Ford Motor Co. Motor vehicle air register. 2,969,725, 1–31–61, Cl. 98—2.
Grade, Tullio E., and J. Jackson, to American Machine & Foundry Co. Cigarette packaging machine. 2,969,631, 1–31–61, Cl. 53—192.
Graef, Charles G.: *See*—
Cornish, Harry E., Graef, Groebe, and Simpson. 2,969,702.
Graham, Raymond C.: *See*—
Coffin, John M., and Graham. 2,970,255.
Grant, Frank L. Animal exerciser and trainer. 2,969,788, 1–31–61, Cl. 119—29.
Grant, John E. Orchard vehicle. 2,969,840, 1–31–61, Cl. 182—2.
Grasmann, Josef, jun. Floor cleaning machine. 2,969,556, 1–31–61, Cl. 15—49.
Gratzmuller, Jean L. Pressure fluid control. 2,970,193, 1–31–61, Cl. 200—82.
Green, William J.: *See*—
Andersen, Holger C., and Green. 2,970,034.
Greene, Haskell M. Apparatus for forming a closure in a well bore. 2,969,839, 1–31–61, Cl. 166—63.
Greene, Joseph L., and J. C. Holzwarth, to General Motors Corp. Forming an aluminum-containing alloy protective layer on metals. 2,970,065, 1–31–61, Cl. 117—8.
Grenoble, Herbert E., to General Electric Co. Cast intermediate or blank and method of preparation. 2,970,075, 1–31–61, Cl. 148—110.
Gridley, Darrin H. Digital synchro data transmission system. 2,970,302, 1–31–61, Cl. 340—206.
Griemsmann, John W. E., to United States of America, Army. Broadband switching junction. 2,970,283, 1–31–61, Cl. 333—9.
Grimes, Charles G. Halogen treatment of combustion chambers. 2,970,067, 1–31–61, Cl. 117—62.
Grinnell Corp.: *See*—
Holmen, Torleif K. 2,969,972.
Groebe, Harold F.: *See*—
Cornish, Harry E., Graef, Groebe, and Simpson. 2,969,702.
Groves, James H., to American Can Co. Method of joining surfaces. 2,970,077, 1–31–61, Cl. 154—129.
Gruendler Crusher and Pulverizer Co.: *See*—
Gruendler, William S. 2,969,820.
Gruendler, William S., to Gruendler Crusher and Pulverizer Co. Shredding hammers. 2,969,820, 1–31–61, Cl. 146—123.
Grumbacher, Joseph, to M. Grumbacher, Inc. Combination artist's easel and canvas carrier. 2,969,607, 1–31–61, Cl. 45—129.
Crumbacher, M., Inc.: *See*—
Grumbacher, Joseph. 2,969,607.
Grunberg, Andrew. Apparatus for classifying particulate solid material. 2,969,877, 1–31–61, Cl. 209—144.
Grussner, André, J. Hellerbach, and O. Schnider, to Hoffmann-La Roche Inc. 3-hydroxy-N(heterocyclic-ethyl)-morphinans. 2,970,147, 1–31–61, Cl. 260—285.
Guild, C. L., Construction Co., Inc.: *See*—
Caudill, Howard F. 2,969,771.
Guillow, Paul K., Inc.: *See*—
Andrews, Louis J. 2,969,946.
Gummeson, Per E., to Aktiebolaget Hoganasnetoder. Reduction retorts. 2,969,969, 1–31–61, Cl. 266—24.
Gunkel, William F., to The Bendix Corp. Solenoid actuating circuit. 2,970,246, 1–31–61, Cl. 317—123.
Gurley, Jesse F., Jr., to Mobay Chemical Co. Mixing apparatus. 2,969,960, 1–31–61, Cl. 259—7.
Gustafson, David M., to Angeles Metal Trim Co. Trim member. 2,969,616, 1–31–61, Cl. 50—165.
Guterman, Sadia S., to Raytheon Co. Magnetic control circuits for shift registers. 2,970,294, 1–31–61, Cl. 340—174.
Gutmann, Hugo, O. Straub, and P. Zeller, to Hoffmann-La Roche Inc. Hydrazine derivatives. 2,970,159, 1–31–61, Cl. 260—404.5.
Guyton, James H., R. L. Jenkins, and H. R. Buell, to General Motors Corp. Transistorized low voltage receiver. 2,970,212, 1–31–61, Cl. 250—20.
Haas, Ward J.: *See*—
Martin, Edward G., and Haas. 2,970,053.
Haase, Wallace H., to The Bendix Corp. Phase detection. 2,970,262, 1–31–61, Cl. 324—83.
Hackelman, Denver E. Hand control for a servo system. 2,969,688, 1–31–61, Cl. 74—388.
Hadley, B. H., Inc.: *See*—
Skirvin, Clifford D., and Allbaugh. 2,969,800.
Hahn, Gilbert B., to The Murray Ohio Mfg. Co. Spring suspension for bicycle wheel. 2,969,992, 1–31–61, Cl. 280—277.
Hall, Harold S. Map marker. 2,969,734, 1–31–61, Cl. 101—287.
Hamilton Cosco, Inc.: *See*—
Hamilton, Earl F. 2,969,882.
Hamilton, Earl F., to Hamilton Cosco, Inc. Cart. 2,969,882, 1–31–61, Cl. 211—148.
Hamilton, Harry D.: *See*—
Kelly, William A., and Hamilton. 2,970,116.
Hamm, Philip C., and R. E. Miller, to Monsanto Chemical Co. Defoliating composition and method. 2,970,048, 1–31–61, Cl. 71—2.5.
Hammon, Henry G.: *See*—
Wilson, Christopher L., and Hammon. 2,970,118.
Hamrick, Jack: *See*—
Ball, Gaines L., and Hamrick. 2,969,579.
Hamrick, Wellington. Earth boring implement. 2,969,844, 1–31–61, Cl. 175—180.
Hanford, William E., to Minnesota Mining and Mfg. Co. Process for the production of fluorine-containing compounds. 2,970,093, 1–31–61, Cl. 204—62.
Hanft, Charles J., and C. F. Jaeger, to United Aircraft Corp. Coil tester. 2,970,257, 1–31–61, Cl. 324—51.
Hanink, Dean K., to General Motors Corp. Method of alloying aluminum and copper. 2,970,091, 1–31–61, Cl. 204—38.
Hansen, Gerhard, to Carl Zeiss. Method and means for automatically adjusting a measuring or observation instrument. 2,969,707, 1–31–61, Cl. 88—14.
Harle, Harold P., to General Electric Co. Automatic ice maker. 2,969,654, 1–31–61, Cl. 62—233.
Harmon, Kenneth B., and R. M. Tuck, to General Motors Corp. Transmission. 2,969,694, 1–31–61, Cl. 74—677.
Harper, Kenneth A., to Phillips Petroleum Co. Catalyst regeneration and apparatus therefor. 2,970,117, 1–31–61, Cl. 252—417.
Harrold, Marshall C., to General Motors Corp. Automatic sequential operation type clothes washing machine. 2,969,663, 1–31–61, Cl. 68—12.

Hart, Walter R. Apparatus for curling strips of thermoplastic material. 2,969,562, 1–31–61, Cl. 18—19.

Hartwig, Edward C.: *See*—
Van Ness, Hubert W., and Hartwig. 2,970,271.

Hasenkamp, William H. Portable clamp for elongated tubular articles. 2,969,701, 1–31–61, Cl. 81—41.

Haskell, Philip R.: *See*—
Dale, William S., and Haskell. 2,969,660.

Hass, Henry B., to Sugar Research Foundation, Inc. Process for preparing drying oils from sucrose and raffinose. 2,970,142, 1–31–61, Cl. 260—234.

Hastings Mfg. Co.: *See*—
Anderson, Hugo F. 2,970,022.

Hatherell, George A., and M. Padway, to The National Screw and Mfg. Co. Multiple spindle machine tool apparatus with improved work holding chuck means. 2,969,553, 1–31–61, Cl. 10—128.

Hauge, Hans M., and J. A. Pawlak, to Spencer Kellogg and Sons, Inc. Urethane modified drying oil. 2,970,062, 1–31–61, Cl. 106—123.

Hause, James A.: *See*—
Cutler, Frank A., Jr., Hause, and Sletzinger. 2,970,157.

Hauser, Robert L., to General Motors Corp. Internal combustion engine crankshaft sealing means. 2,969,779, 1–31–61, Cl. 121—194.

Hayes Engineers (Leeds) Ltd.: *See*—
Woodruff, Joseph B. 2,969,774.

Haynes, Artemas J.: *See*—
Allen, Earle F., and Haynes. 2,969,826.

Heath, Charles M., Jr., and L. M. Reed. Magnetic bingo marker remover. 2,970,003, 1–31–61, Cl. 294—65.5.

Heidelberger, Charles: *See*—
Duschinsky, Robert, Farkas, and Heidelberger. 2,970,139.

Heli Coil Corp.: *See*—
Stephens, Ronald B. 2,969,586.

Hell, Dr.-Ing. Rudolf. Kommanditgesellschaft: *See*—
Zeyen, Fritz-Otto, and Springstein. 2,969,709.

Hellerbach, Joseph: *See*—
Grüsemer, André, Hellerbach, and Schneider. 2,970,147.

Helmer, Richard A., to Oklahoma State Highway Dept. Graph device. 2,970,028, 1–31–61, Cl. 346—25.

Henderson, Ellis L. Apparatus for cleaning an air nozzle of a cotton gin. 2,969,564, 1–31–61, Cl. 19—59.

Hendry, James W., to Tube Turns Plastics, Inc. Plastic working process and apparatus. 2,969,563, 1–31–61, Cl. 18—30.

Hennessy, Robert E., to Ford Motor Co. Convertible top. 2,970,007, 1–31–61, Cl. 296—117.

Henry, Augustus P., to Kelsey-Hayes Co. Hydraulic valve-controlled servo device. 2,969,778, 1–31–61, Cl. 121—41.

Henry, Harold L. Fitting stool. 2,969,829, 1–31–61, Cl. 155—35.

Henze, Ernst F.: *See*—
Runge, Wilhelm T., Betzenhammer, and Henze. 2,970,281.

Herman, William B., to The Dent Hardware Co. Door latch. 2,969,999, 1–31–61, Cl. 292—92.

Herschensohn, Arthur M., to Corona Hair Net Corp. Capes for beauty parlors and barber shops. 2,969,548, 1–31–61, Cl. 2—52.

Hertling, Harry J.: *See*—
Fuchs, Martin E., and Hertling. 2,969,785.

Hester, Dewey S. Drill pipe saving device. 2,969,845, 1–31–61, Cl. 175—200.

Heuler, Harry R. Article support to span hump in an automobile floor. 2,969,900, 1–31–61, Cl. 224—29.

Heyden Newport Chemical Corp.: *See*—
Gottesman, Roy T., and Snow. 2,970,163.

Heym, Alfred W. Automatic stop for narrow fabric looms. 2,969,814, 1–31–61, Cl. 139—371.

Heymes, Rene: *See*—
Amiard, Gaston, Heymes, and Vellus. 2,970,186.

Hibbard, Lloyd J., to Westinghouse Electric Corp. High-speed electric-car control. 2,970,250, 1–31–61, Cl. 318—90.

Hicks, Esther G.: *See*—
Dyke, Charles L., and L. M. 2,969,966.
Dyke, Charles L. 2,969,986.

Higgins, William J. Frame structure for pallets. 2,969,948, 1–31–61, Cl. 248—120.

High, Carl F., to Borg-Warner Corp. Fuel injection mechanism. 2,969,784, 1–31–61, Cl. 123—189.

Highley, Wenford E., to ACF Industries, Inc. Automatic choke for carburetors. 2,969,964, 1–31–61, Cl. 261—39.

Hill, Frank W., to The Gamewell Co. Amplifier circuits. 2,970,247, 1–31–61, Cl. 317—123.

Hillen, Robert J.: *See*—
Rogers, Dow A., Jr., and Hillen. 2,970,231.

Hillis, Orvel N. Folding steps. 2,969,850, 1–31–61, Cl. 182—88.

Himka, John, to General Motors Corp. Window regulator. 2,969,977, 1–31–61, Cl. 268—124.

Hinton, Curtis V., to United States of America, Navy. Passive automatic tracking device. 2,970,187, 1–31–61, Cl. 178—6.8.

Hirsch, Richard A., and L. V. McNamara, to General Motors Corp. Control mechanism for variable pitch propellers. 2,969,685, 1–31–61, Cl. 74—89.

Hirschhorn, Isidor S., to Ronson Metals Corp. Abrasion testing apparatus. 2,969,669, 1–31–61, Cl. 73—7.

Hobart, Joe B., Jr., to United States of America, Navy. Air duct screen with locking device. 2,969,941, 1–31–61, Cl. 244—53.

Hofer, Rudolf, and H. Tropper, to Siemens & Halske Aktiengesellschaft. Modulator circuit arrangement. 2,970,282, 1–31–61, Cl. 332—38.

Hoffer, James F., to General Metals Corp. Gear motor or pump. 2,969,744, 1–31–61, Cl. 103—126.

Hoffmann, Arnulf, W. Keller, K. Reuschel, and T. Rummel, to Siemens-Schuckertwerke Aktiengesellschaft. Method of producing a rod of low-ohmic semiconductor material. 2,970,111, 1–31–61, Cl. 252—62.3.

Hoffmann-La Roche Inc.: *See*—
Fox, Herman H. 2,970,148.
Grussner, André, Hellerbach, and Schnider. 2,970,147.
Gutmann, Hugo, Straub, and Zeller. 2,970,159.
Isler, Otto, Montavon, Rüegg, Saucy, Schwieter, and Lindlar. 2,970,174.
Keller, Oscar, and Steiger. 2,970,152.

Hogan, John P.: *See*—
Lanning, William C., Hogan, Banks, and Detter. 2,970,135.

Hogberg, Knut B.: *See*—
Diesfalusy, Egon R., Ferno, Fex, and Hogberg. 2,970,153.

Holden, John M.: *See*—
Jacobs, John F., Holden, and Ellings. 2,969,904.

Holgate, Terence M., to International Business Machines Corp. Attachment for print head. 2,969,864, 1–31–61, Cl. 197—52.

Hollis, David R., to General Motors Corp. Front fender turn indicator lamp. 2,970,290, 1–31–61, Cl. 340—65.

Holmen, Torleif K., to Grinnell Corp. Balanced load hanger. 2,969,972, 1–31–61, Cl. 267—1.

Holub Industries, Inc.: *See*—
Shaw, Orson A., Jr. 2,969,953.

Holzwarth, James C.: *See*—
Greene, Joseph L., and Holzwarth. 2,970,065.

Horlacher, Herman, to The Cincinnati Milling Machine Co. Two-stage valve. 2,969,808, 1–31–61, Cl. 137—622.

Horn, Christian F., and H. Vineyard, to Union Carbide Corp. (Alkylenedisulfonyl) ditoluates. 2,970,168, 1–31–61, Cl. 260—470.

Horn, Ray. Method of embossing. 2,969,728, 1–31–61, Cl. 101—32.

Horton, Frank E., and E. C. Brace, to Banner Mining Co. Method of recovering cuprate anions from their metal salt solutions. 2,970,036, 1–31–61, Cl. 23—55.

Horton, Frank E., to Banner Mining Co. Process and apparatus for treating oxidized copper ores. 2,970,096, 1–31–61, Cl. 204—106.

Horton, Paul V., to International Business Machines Corp. Printed circuit ferrite core memory assembly. 2,970,296, 1–31–61, Cl. 340—174.

Horton, William F., and S. H. Auld, Jr., to Lear, Inc. Voltage transfer switch. 2,970,227, 1–31–61, Cl. 307—88.5.

Horvath, Robert A.: *See*—
Cargill, Don A., Mason, Horvath, and Ducker. 2,969,883.

Hostettler, Fritz, and N. R. Eldred, to Union Carbide Corp. (Alkylenedisulfonyl) dibenzoates. 2,970,167, 1–31–61, Cl. 260—470.

Houdaille Industries, Inc.: *See*—
Klopfer, Edward L. 2,969,778.

Howard, Edward G., Jr., and W. J. Middleton, to E. I. du Pont de Nemours and Co. Polyfluorothioketones and method of preparing same. 2,970,173, 1–31–61, Cl. 260—607.

Howard, Frank A. Safety pneumatic tire. 2,969,824, 1–31–61, Cl. 152—340.

Howe Sound Co.: *See*—
Prange, Charles H. 2,970,073.

Howlett, Thomas W., Jr., and A. R. Meyer, to Union Tank Car Co. Apparatus for contour forming. 2,969,758, 1–31–61, Cl. 113—44.

Hub Stamping and Mfg. Co.: *See*—
Urban, Wilbur J. 2,970,024.

Hubbell, Harvey, and B. C. Webster, to Harvey Hubbell, Inc. Top wired electrical cap and connector. 2,970,288, 1–31–61, Cl. 339—174.

Hubbell, Harvey, Inc.: *See*—
Hubbell, Harvey, and Webster. 2,970,288.

Hubert, Warren N., to Dixie Wax Paper Co. Reinforced bag. 2,969,907, 1–31–61, Cl. 229—55.

Hudson Foam Plastics Corp.: *See*—
Wilson, Christopher L., and Hammon. 2,970,118.

Huebner, Charles F., to Ciba Pharmaceutical Products, Inc. Certain 1-[(2-pyridyl)-lower alkyl]-2-(tert amino-lower alkyl)-Indan-1-ols, and acid addition salts. 2,970,149, 1–31–61, Cl. 260—296.

Huggins, Owen R., to Malleable Iron Fittings Co. Cross arm supporting gain. 2,969,859, 1–31–61, Cl. 189—33.

Hughes Aircraft Co.: *See*—
Cherin, Alvin A., and Johnson. 2,969,913.
Iversen, Arthur H. 2,970,240.

Hullinger, Clifford H., and N. H. Yui, to American Maize-Products Co. Process for preparing amino ethers of starch. 2,970,140, 1–31–61, Cl. 260—233.3.

Hunt, Rodney, Machine Co.: *See*—
Belcher, Harold H. 2,969,879.

Hunt, Wilson W., S. G. Ludington, and J. L. Amos, to The Dow Chemical Co. Devolatilizing polymeric compositions. 2,970,089, 1–31–61, Cl. 202—69.

Hunter, David U., to Fairchild Engine and Airplane Corp. Surge controller. 2,969,805, 1–31–61, Cl. 137—489.

Hunter, James B.: *See*—
Condo, Albert C., Jr., and Hunter. 2,970,105.

Husby, Donald E., and T. A. Jentner, to Westinghouse Electric Corp. Luminaire. 2,970,222, 1–31–61, Cl. 250—239.

Husqvarna Vapenfabriks Aktiebolag: *See*—
Eriksson, Allan H. 2,969,756.

Hyde, John P., to Diamond Alkali Co. Preparation for the production of alkali metal silicates. 2,970,038, 1–31–61, Cl. 23—110.

Illman, John C., to Shell Oil Co. Alkylated asphalt composition containing lubricating oil and alkylated asphaltenes. 2,970,099, 1–31–61, Cl. 208—23.

Immel, Ralph B., to Westinghouse Electric Corp. Adjustable-contour cam. 2,969,693, 1–31–61, Cl. 74—568.

Improved Machinery, Inc.: *See*—
Allard, Harrie M. 2,969,818.

In-A-Wall Corp.: *See*—
Conville, John. 2,969,834.

Instrument Development Laboratories, Inc.: *See*—
Bentley, George P., and McNabb. 2,970,307.
International Business Machines Corp.: *See*—
Brehm, Lyle W. 2,969,730.
Holgate, Terence M. 2,969,864.
Horton, Paul V. 2,970,296.
Jackowski, Charles S., and Saltz. 2,969,729.
Kauffmann, John A. 2,970,297.
Luhn, Hans P. 2,969,876.
Ostapkovich, Peter L. 2,970,044.
Reynolds, Andrew C., Jr. 2,969,912.
Viehe, Frederick W. 2,970,291.
Witt, Victor R., Prentky, and Dudek. 2,970,300.
Irmscher, Hans O., to National Tea Packing Co., Inc. Charge control mechanism in infusion package manufacture. 2,969,628, 1–31–61, Cl. 53—28.
Isico S.A.: *See*—
Zaslawsky, Moise. 2,970,017.
Isler, Otto, M. Montavon, R. Rüegg, G. Saucy, U. Schwieter, and H. Lindlar, to Hoffmann-La Roche Inc. 1,1,3-trilower alkoxy-4-methyl-4-hepten-6-ynes. 2,970,174, 1–31–61, Cl. 260—615.
Ivan, Steve D., to Chrysler Corp. Transmission shift lock. 2,969,690, 1–31–61, Cl. 74—477.
Iversen, Arthur H., to Hughes Aircraft Co. Liquid-cooled traveling wave tube. 2,970,240, 1–31–61, Cl. 315—3.5.
Jackowski, Charles S., and F. Saltz, to International Business Machines Corp. Multispeed indexing device. 2,969,729, 1–31–61, Cl. 101—93.
Jackson, John: *See*—
Grade, Tullio E., and Jackson. 2,969,631.
Jackson, Robert E., to Challenge-Cook Bros., Inc. Photoelectric metering apparatus. 2,970,221, 1–31–61, Cl. 250—218.
Jacobs, John F., J. M. Holden, and A. C. Ellings, to United States of America, Navy. Lock spring joint. 2,969,994, 1–31–61, Cl. 285—34.
Jacobson, Howard W., to E. I. du Pont de Nemours and Co. Process for removing niobium oxychloride from niobium pentachloride. 2,969,852, 1–31–61, Cl. 183—114.2.
Jaeger, Charles F.: *See*—
Hanft, Charles J., and Jaeger. 2,970,257.
Jaoul, Bernard: *See*—
Vaucher, Maurice, and Jaoul. 2,969,927.
Jasper, Harley A. Means for locking road trailers against theft. 2,969,993, 1–31–61, Cl. 280—433.
Jay, Kenneth W., to Orenda Engines Ltd. Fuel nozzles for large flow range. 2,969,924, 1–31–61, Cl. 239—436.
Jekel, Otto C. Stable solutions of compounds of tannins with boric acid. 2,970,032, 1–31–61, Cl. 8—94.33.
Jenkins, Richard L.: *See*—
Guyton, James H., Jenkins, and Buell. 2,970,212.
Jensen, Raymond W., I. D. Burke, and R. L. Cholvin, to The Garrett Corp. Pressure regulator and shutoff valve. 2,969,806, 1–31–61, Cl. 137—495.
Jentner, Thomas A.: *See*—
Husby, Donald E., and Jentner. 2,970,222.
Jepsen, Robert L., to Varian Associates. High frequency electron tube apparatus. 2,970,242, 1–31–61, Cl. 315—5.39.
Jet-Heet, Inc.: *See*—
MacCracken, Calvin D., and Smith. 2,969,747.
Jewell, Joseph W., to The M. W. Kellogg Co. Minimizing pressure surges in a fluidized hydrocarbon conversion process. 2,970,103, 1–31–61, Cl. 208—164.
Jesl, James L., to Sun Oil Co. Preparation of esters by partial oxidation of petroleum fractions. 2,970,164, 1–31–61, Cl. 260—451.
Johnsa, Berry H., to Atlanta Oak Flooring Co. Cylindrical cutter head having multi-drum axially aligned sections with angularly disposed blades. 2,969,816, 1–31–61, Cl. 144—117.
Johnson, Eldon A., and D. R. Compton, to ACF Industries, Inc. Mechanical fuel pump. 2,969,745, 1–31–61, Cl. 103—150.
Johnson & Johnson: *See*—
Walker, Ruth A. 2,970,160.
Johnson, Ralph H., to General Motors Corp. Internal combustion engine piston. 2,970,020, 1–31–61, Cl. 309—9.
Johnson, Robert E.: *See*—
Cherin, Alvin A., and Johnson. 2,969,913.
Johnston, James E.: *See*—
Polanyi, Michael L., Johnston, and Brown. 2,969,708.
Johnston, Walker F., Jr.: *See*—
Binning, Robert C., and Johnston. 2,970,106.
Joly, Robert, J. Warnant, and L. Vellus, to Les Laboratoires Français de Chimiotherapie. 16a-methyl-17a-hydroxy-Δ9-pregnene-3,20-dione and process for manufacture. 2,970,155, 1–31–61, Cl. 260—397.45.
Jordan, Wesley A., and W. E. Skagerberg, to General Mills, Inc. Process for making dispersible vegetable gums. 2,970,063, 1–31–61, Cl. 106—208.
Joslyn Mfg. & Supply Co.: *See*—
Boughton, Roger C. 2,969,995.
Joy Mfg. Co.: *See*—
Wyman, Robert A. 2,969,853.
Jungjohann, Vernon H.: *See*—
Robinson, Herbert T., Jungjohann, and Ewald. 2,969,711.
Kaatz, Herbert W., to The American Crucible Products Co. Pump control. 2,969,740, 1–31–61, Cl. 103—23.
Kahler, Ralf: *See*—
Zahlhaas, Siegfried, and Kahler. 2,970,190.
Kahn, Manfred: *See*—
Beverly, Merritt L., and Kahn. 2,970,244.
Kamborian, Jacob S. Method of end lasting. 2,969,555, 1–31–61, Cl. 12—145.
Kandler, Ludwig, and H. Vogt. Method and apparatus for electrolytic decomposition of amalgams. 2,970,095, 1–31–61, Cl. 204—99.
Kangas, Charles H., to Phillips Petroleum Co. Pumping system. 2,969,799, 1–31–61, Cl. 137—2.
Karnow, Paul. Self-oriented articulated support. 2,969,552, 1–31–61, Cl. 9—8.3.
Karolus, August, to Societe Technique pour l'Industrie Nouvelle S.A. Stin. Train-end signalling device. 2,970,211, 1–31–61, Cl. 246—249.
Kauffmann, John A., to International Business Machines Corp. Magnetic branching circuit. 2,970,297, 1–31–61, Cl. 340—174.
Kawneer Co.: *See*—
Muessel, Dan C. 2,969,666.
Keck, Merle E., to Westinghouse Electric Corp. Luminaire optical system. 2,970,208, 1–31–61, Cl. 240—25.
Keefer, Fred S., Jr., to The Chatham Controls Corp. Thermostatic switch. 2,970,195, 1–31–61, Cl. 200—138.
Keith, Clifford H., to The Mead Corp. Paperboard basket structure for fruit and the like. 2,969,903, 1–31–61, Cl. 229—16.
Keller, Oscar, and N. Steiger, to Hoffmann-La Roche Inc. Anilinobenzoquinone derivatives. 2,970,152, 1–31–61, Cl. 260—396.
Keller, Wolfgang: *See*—
Hoffmann, Arnulf, Keller, Reuschel, and Rummel. 2,970,111.
Kellogg, M. W., Co., The: *See*—
Jewell, Joseph W. 2,970,103.
Kellogg, Spencer, and Sons, Inc.: *See*—
Hauge, Hans M., and Pawlak. 2,970,062.
Kelly, William A., and H. D. Hamilton, to Lever Bros. Co. Soapmaking process. 2,970,116, 1–31–61, Cl. 252—368.
Kelsey-Hayes Co.: *See*—
Ferris, Burton C., and Pond. 2,969,587.
Henry, Augustus P. 2,969,773.
Sinclair, Charles W., and Atkin. 2,969,825.
Whitten, Owen M. 2,969,807.
Kendall, Fred E. Stencil manufacture. 2,969,731, 1–31–61, Cl. 101—128.3.
Kendall, Fred E. Stencil means and manufacture thereof. 2,969,732, 1–31–61, Cl. 101—128.3.
Kennedy, Thomas J.: *See*—
Smith, Bobbie H., and Kennedy. 2,970,125.
Kent, Henry J., to General Precision, Inc. Stator and integral coil support means for precision electrical devices. 2,970,237, 1–31–61, Cl. 310—260.
Kerr, Ralph W., to Corn Products Co. Method of making dextrose using purified amyloglucosidase. 2,970,086, 1–31–61, Cl. 195—66.
Keyser, Johann J., to Schiess Aktiengesellschaft. Setup of spinning machines in a row. 2,969,635, 1–31–61, Cl. 57—1.
Kiefer, Walter J., to Belvedere Products, Inc. Hydraulically operated chair. 2,969,645, 1–31–61, Cl. 60—52.
Kiel, Wilhelm K. B., and U. T. R. Eichler; said Kiel assor. Metall-Guss und Presswerk Heinrich Diehl G.m.b.H. Calculating machine actuator and carriage control. 2,969,911, 1–31–61, Cl. 235—63.
Kilbourne, Charles E., to General Electric Co. Conductor-cooled generator. 2,970,232, 1–31–61, Cl. 310—54.
King Container Corp.: *See*—
Rucki, Edward V., Jr. 2,969,895.
King-Seeley Corp.: *See*—
Woodward, Cary F. 2,970,201.
Kingston Products Corp.: *See*—
Dull, William B., and Daugherty. 2,970,189.
Kinney, Alfred W.: *See*—
Carew, Herman, and Kinney. 2,969,832.
Klaesmann, John A., to E. I. du Pont de Nemours and Co. Surface coated impregnated waterleaf. 2,970,079, 1–31–61, Cl. 162—164.
Klein, Gerald, to United States of America, Army. Backward wave tube amplifier-oscillator. 2,970,241, 1–31–61, Cl. 315—3.6.
Kleine, Werner K. M. Drill heads and cutting tools therefor. 2,969,689, 1–31–61, Cl. 77—68.
Kleissmann, Alfred: *See*—
Glaser, Wolfgang, and Kleissmann. 2,970,021.
Kliever, Waldo H. Binary scale reading system. 2,970,292, 1–31–61, Cl. 340—172.5.
Klingler, Karl A. Fluid control nozzle. 2,969,909, 1–31–61, Cl. 137—625.3.
Klingler, Karl A. Vacuum delivery belt. 2,969,869, 1–31–61, Cl. 198—180.
Klopfer, Edward L., to Houdaille Industries, Inc. Hydraulic rotary actuator. 2,969,778, 1–31–61, Cl. 131—99.
Klopp, Carl. Smoking implement with filter. 2,969,706, 1–31–61, Cl. 131—205.
Knecht, Forrest E. Arresting gear with sliding sheave, cable shock vibration damper and slack take-up mechanism. 2,969,944, 1–31–61, Cl. 244—110.
Knight, James T. Pail and paste brush stand. 2,969,949, 1–31–61, Cl. 248—230.
Knighton, James B., to United States of America, Atomic Energy Commission. Process for removing noble metals from uranium. 2,970,050, 1–31–61, Cl. 75—84.1.
Kobe, Inc.: *See*—
Coberly, Clarence J. 2,969,676.
Kohen, Sam I., to Magnet Cove Barium Corp. Dry, free flowing concentrate for preparing a casing packer fluid. 2,970,108, 1–31–61, Cl. 252—8.55.
Kolbe, Adelbert E., to General Motors Corp. Internal combustion engine. 2,969,781, 1–31–61, Cl. 123—41.69.
Komenda, Erwin, and K. Bamberg, to Dr.-Ing. Porsche, h.c.F., K.G. Cooling-air guide system for motor vehicles. 2,969,847, 1–31–61, Cl. 180—54.
Kornberg, Peter. Base for supporting a miniature railroad track affording power outlets therealong. 2,969,919, 1–31–61, Cl. 238—10.
Kortenbach & Rauh Kommanditgesellschaft: *See*—
Kremer, Julius. 2,969,798.
Kowalski, Bronislaw P. Aerial toy. 2,969,609, 1–31–61, Cl. 46—85.

Kracher, Herbert, H. Albert, and H. Thaler, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning. Mixture of water-insoluble disazo dyestuffs. 2,970,029, 1–31–61, Cl. 88—26.

Krause, Frank R., to Thompson Ramo Wooldridge Inc. Machine for rolling metal. 2,969,700, 1–31–61, Cl. 80—40.

Kreidl, Werner H., and O. Vieli, to Vereinigte Chemische Fabriken Kreidl, Rutter & Co., and Spumalit-Anstalt. Foamed carbamide resins and method of preparing same. 2,970,120, 1–31–61, Cl. 260—2.5.

Krejci, Robert F.: *See*—
Rosenthal, Felix, Roberts, and Krejci. 2,969,827.

Krellen, Harry I., to United States of America, Army. Convertible switch and load transferer for overland conveyor system. 2,969,868, 1–31–61, Cl. 198—78.

Kremer, Julius, to Kortenbach & Rauh Kommanditgesellschaft. Umbrella frame. 2,969,798, 1–31–61, Cl. 135—23.

Kroger, Marlin G., to Motorola, Inc. Television receiver. 2,970,188, 1–31–61, Cl. 178—7.3.

Kuhn, Albert J., and D. D. Rector, to General Motors Corp. Refrigerating apparatus. 2,969,959, 1–31–61, Cl. 257—278.

Kurtzrok, Richard M., to Radio Corp. of America. Parametric amplifier device. 2,970,275, 1–31–61, Cl. 330—5.

Laforest, Pierre. Rotative kiln for concrete blocks. 2,969,577, 1–31–61, Cl. 25—183.

Lagerwey, Anton A. F., to Shell Oil Co. Vessel with replaceable pliable lining. 2,970,042, 1–31–61, Cl. 23—290.

Lakatos, Emory, to Thompson Ramo Wooldridge Inc. System for detecting a signal in the presence of noise. 2,970,304, 1–31–61, Cl. 340—248.

Lambert, Roger E., and M. Dubesset, to Compagnie de Saint-Gobain. Apparatus for bending articles of glass or other thermoplastic materials. 2,969,613, 1–31–61, Cl. 49—7.

Landis, Oliver L. Portable vacuum and blower construction. 2,969,559, 1–31–61, Cl. 15—330.

Landis Tool Co.: *See*—
Snyder, Glenn M. 2,969,625.

Lannert, Melvin R. Rotary lawn mower blade. 2,969,634, 1–31–61, Cl. 56—25.4.

Lanning, William C., J. P. Hogan, R. L. Banks, and C. V. Detter, to Phillips Petroleum Co. Polymerization process using a solid catalyst dispersion medium. 2,970,135, 1–31–61, Cl. 260—94.9.

Lapierre, Raymond J.: *See*—
Benson, William L., and Lapierre. 2,970,056.

Large, William E.: *See*—
Scholtes, Donald R., and Large. 2,970,254.

Large, William E., to Westinghouse Electric Corp. Electronic control apparatus with magnetic input and output logic elements. 2,970,272, 1–31–61, Cl. 328—74.

Larsh, Everett P. Apparatus for winding coils. 2,969,928, 1–31–61, Cl. 242—1.1.

Larson, George P.: *See*—
Ten Eyck, Edward H., and Larson. 2,970,176.

Lasar, William. Band saw mounting for a meat cutting saw. 2,969,815, 1–31–61, Cl. 143—27.

Lashua, Sherman C., and W. K. Schweitzer, Jr., to The Dow Chemical Co. Coated metal articles. 2,970,070, 1–31–61, Cl. 117—132.

Lasser, Marvin E., and P. H. Cholet, to Philco Corp. Infrared detector elements and methods of making same. 2,970,285, 1–31–61, Cl. 338—18.

Lavely, William C.: *See*—
D'Andiffret, Adolph A., Reimund, and Lavely. 2,969,840.

Laviano, Samuel. Magnetic pickup. 2,970,002, 1–31–61, Cl. 294—65.5.

Layton-Greenfield, Inc.: *See*—
Reynar, John H. 2,969,837.

Leach, Kenneth J. Safety wheel attachment for motor vehicles. 2,970,006, 1–31–61, Cl. 301—1.

Lear, Inc.: *See*—
Beasley, Thomas J. 2,969,681.
Horton, William F., and Auld. 2,970,227.
Schoeppel, John F., Will, and Pittman. 2,969,682.

Leasure, William C. Method and apparatus for packaging. 2,969,627, 1–31–61, Cl. 53—28.

Leatherman, Martin. Catalyzed oxygen-producing compositions. 2,970,045, 1–31–61, Cl. 44—3.

Le Blond, R. K., Machine Tool Co., The: *See*—
Carlstedt, Ragnar L. 2,969,698.

Ledoga S.p.A.: *See*—
Nobile, Luciano. 2,970,058.

Leesona Corp.: *See*—
Whiting, Theodore A. 2,969,888.

Lefevre, Leonard J., and W. I. Childs, to The Dow Chemical Co. Removal of colored bodies from aqueous crude sugar solutions. 2,970,071, 1–31–61, Cl. 127—46.

Lembo, Frank. Expander for stretching a fabric and the like. 2,969,578, 1–31–61, Cl. 26—64.

Lemche, Johan H., to Carl Allers Etablissement A-S. Method for the production of printed matter together with typewriter and punching machine to be used in connection therewith. 2,969,724, 1–31–61, Cl. 95—85.

Lenehan, Bernard E., to Westinghouse Electric Corp. Electrical measuring instrument. 2,970,268, 1–31–61, Cl. 324—147.

Leukurt Electric Co., Inc.: *See*—
Coffin, John M., and Graham. 2,970,255.

Leonard, William F., to Clark Equipment Co. Shifter mechanisms for multi-shift transmissions. 2,969,687, 1–31–61, Cl. 74—335.

Lerner, Nathan B., to W. Brawa Co. Cap or closure for containers or tubes. 2,969,896, 1–31–61, Cl. 222—520.

Lescroel, Yves C. E.: *See*—
Pierrot, Andre, Lescroel, and Grabowski. 2,970,112.

Les Laboratoires Francais de Chimiotherapie: *See*—
Joly, Robert, Warnant, and Vellux. 2,970,155.

Leslie, James D., and A. B. Sauer, to General Motors Corp. Pivoted window regulator. 2,969,976, 1–31–61, Cl. 268—118.

Letendre, Roland. Bed spring. 2,969,550, 1–31–61, Cl. 5—211.

Lever Brothers Co.: *See*—
Kelly, William A., and Hamilton. 2,970,116.

Levis, William W., Jr. Surface active agents. 2,970,158, 1–31–61, Cl. 260—404.5.

Levy, Edward M., to Reflector Hardware Corp. Merchandise supporting and display background wall construction. 2,969,565, 1–31–61, Cl. 20—4.

Lewis, Alvin V., to Borg-Warner Corp. Stress adjusting apparatus. 2,969,677, 1–31–61, Cl. 73—398.

Libby, Paul A.: *See*—
Ferri, Antonio, Libby, and Bloom. 2,970,202.

Licencia Talamanyokat Ertekesito Vallalat: *See*—
Forgó, László. 2,969,956.

Liebreich, Oscar P., to General Motors Corp. Gauge for measuring accuracy of curvature. 2,969,670, 1–31–61, Cl. 73—37.5.

Lignes Telegraphiques and Telephoniques: *See*—
Pierrot, Andre, Lescroel, and Grabowski. 2,970,112.

Lilly, Patrick E. Clothes hanger rod for automobiles. 2,969,881, 1–31–61, Cl. 211—105.3.

Lincoln, Frank H., and G. B. Spero, to The Upjohn Co. 6-alpha-methyl-21-methoxyprogesterones. 2,970,156, 1–31–61, Cl. 260—397.45.

Lind, Wilton H., to California Research Corp. Preparation of xylylenediamines. 2,970,170, 1–31–61, Cl. 260—570.9.

Lindlar, Herbert: *See*—
Isler, Otto, Montavon, Rüegg, Saucy, Schwieter, and Lindlar. 2,970,174.

Linn, Sidney S., and O. H. Bauschinger, to Sperry Rand Corp., Ford Instrument Co. Division. Gyroscope utilizing inverted hydrodynamic bearings. 2,969,680, 1–31–61, Cl. 74—5.

Linners, Willi: *See*—
Billen, Peter, and Linners. 2,969,873.

Lipkin, Daniel M., and R. W. Spencer, to Sperry Rand Corp. Carrier operated transverse magnetic amplifier with cancellation of interaction between input and output circuits. 2,970,224, 1–31–61, Cl. 307—88.

Lipscomb, George W., to Westinghouse Electric Corp. Electrical measuring instruments. 2,970,265, 1–31–61, Cl. 324—106.

Liquefreeze Co., Inc.: *See*—
Morrison, Willard L. 2,969,649.

Livermore, Clifford S. Device for protecting a vessel. 2,969,762, 1–31–61, Cl. 114—240.

Logetronics, Inc.: *See*—
Craig, Dwin R. 2,969,723.

Long, William J., to Dennison Mfg. Co. Printing machine having ink-ribbon reinking means. 2,969,865, 1–31–61, Cl. 197—171.

Loomis, Robert C., to Econolite Corp. Connector for pendent structures and the like. 2,970,289, 1–31–61, Cl. 340—84.

Loree, William A. Apparatus for tree treatment and fertilizing. 2,969,612, 1–31–61, Cl. 47—1.

Ludington, Samuel G.: *See*—
Hunt, Wilson W., Ludington, and Amos. 2,970,089.

Ludw. von Roll'Schen Eisenwerke A.G.: *See*—
Bretscher, Otto. 2,969,620.

Luhn, Hans P., to International Business Machines Corp. Information searching device. 2,969,876, 1–31–61, Cl. 209—110.

Lundholm, Elsner C. and H. L. Filter. 2,969,880, 1–31–61, Cl. 210—388.

Lundholm, Harry L.: *See*—
Lundholm, Elsner C. and H. L. 2,969,880.

Lutz, Harold C., 40% to R. R. Vincent. Carriers or trailers. 2,969,885, 1–31–61, Cl. 214—500.

Lyon, George A. Wheel cover. 2,970,009, 1–31–61, Cl. 301—37.

Lyon, George A. Wheel cover. 2,970,010, 1–31–61, Cl. 301—37.

Lyon, George A. Wheel cover. 2,970,011, 1–31–61, Cl. 301—37.

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Lyon, George A. Wheel cover. 2,970,013, 1–31–61, Cl. 301—37.

Lyon, George A. Wheel cover. 2,970,014, 1–31–61, Cl. 301—37.

MacCracken, Calvin D., and E. M. Smith, to Jet-Heet, Inc. Heat actuated pumps. 2,969,747, 1–31–61, Cl. 103—255.

Mackiw, Vladimir N., and N. Zubryckyj, to Sherritt Gordon Mines Ltd. Process for the separation of lead from solutions. 2,970,051, 1–31–61, Cl. 75—120.

Macy, Valentine E., Jr.: *See*—
Allen, Earle F., and Haynes. 2,969,826.

Magnavox Co.: *See*—
Nelson, Alfred M., and Orner. 2,969,979.

Magnet Cove Barium Corp.: *See*—
Kohen, Sam I. 2,970,108.

Magrath, Richard A., to Baird-Atomic, Inc. Sample cell for spectroscopic apparatus. 2,970,216, 1–31–61, Cl. 250—43.5.

Mahan, John E., to Phillips Petroleum Co. Method for developing thrust by the combustion of bipropellants. 2,969,639, 1–31–61, Cl. 60—35.4.

Maiershofer, Karl: *See*—
Distel, Joseph W., Parrish, and Maiershofer. 2,969,766.

Maimon, Acharon. Scouring machine for scouring grain. 2,969,821, 1–31–61, Cl. 146—226.

Malleable Iron Fittings Co.: *See*—
Huggins, Owen R. 2,969,859.

Marsden, Ross S., Jr., to Phillips Petroleum Co. Flame detector. 2,970,259, 1–31–61, Cl. 324—71.
Martens, Jack E., to The Anderson Co. Motion-transmitting device. 2,969,689, 1–31–61, Cl. 74—424.8.
Martin, Edward G., and W. J. Haas, to Chas. Pfizer & Co., Inc. Oleandomycin resin adsorbate. 2,970,053, 1–31–61, Cl. 99—2.
Mason, Avrel: *See*—
Cargill, Don A., Mason, Horvath, and Ducker. 2,969,883.
Mason, Jack S.: *See*—
Skelton, Charles W., and Mason. 2,970,226.
Mataré, Herbert F., B. Reed, and O. Weinreich, to Sylvania Electric Products Inc. Temperature independent transistor with grain boundary. 2,970,229, 1–31–61, Cl. 307—88.5.
Mathela, Aloys J. Bucket mounted frost breaker. 2,969,966, 1–31–61, Cl. 262—14.
Matteo, Ralph. Guitar tailpiece. 2,969,703, 1–31–61, Cl. 84—299.
May, Joseph F. Car wheel lubricant composition in solid stick form. 2,970,109, 1–31–61, Cl. 252—30.
Mayer, Ernst. Rotatable and tiltable casement window. 2,969,566, 1–31–61, Cl. 20—53.
Mazur, Victor N., to Westinghouse Electric Corp. Adjustable speed alternating current motor drive. 2,970,249, 1–31–61, Cl. 318—46.
McAleer, William J.: *See*—
Dulaney, Eugene L., and McAleer. 2,970,085.
McCahon, John O., to R. R. Donnelley & Sons Co. Machine for simultaneously pressing and forming joints in the hinge areas of cased books. 2,969,554, 1–31–61, Cl. 11—1.
McCall, Ernest B., and D. A. L. Seiler, to Monsanto Chemicals Ltd. Mycobacteriostats. 2,970,081, 1–31–61, Cl. 167—30.
McClelland, Etheridge R., to Filper Corp. Fruit transfer apparatus. 2,969,867, 1–31–61, Cl. 198—33.
McCormick, Gordon R., and G. A. Read, to E. I. du Pont de Nemours and Co. Rectangular spinning pack. 2,969,561, 1–31–61, Cl. 18—8.
McCulloch Corporation, Marine Products Division: *See*—
Foster, Leslie W. 2,969,763.
McGavern, Sanford A., to Schwitzer Corp. Flexible coupling. 2,969,657, 1–31–61, Cl. 64—11.
McLeod, Thomas S., C. M. Deavin, and G. Cole, to The Plessey Co. Ltd. Automatic sorting devices. 2,969,875, 1–31–61, Cl. 209—81.
McLoughlin, Joseph R., to General Electric Co. Mixed catalysts for curing silicone resins. 2,970,122, 1–31–61, Cl. 260—18.
McMaster, James H. Channel clearing machine. 2,969,601, 1–31–61, Cl. 37—94.
McNabb, George C.: *See*—
Bentley, George P., and McNabb. 2,970,307.
McNamara, Lawrence V.: *See*—
Hirsch, Richard A., and McNamara. 2,969,685.
Meacham, Glenn R.: *See*—
Cope, Le Roy C., Nelson, and Meacham. 2,969,735.
Mead Corp., The: *See*—
Keith, Clifford H. 2,969,903.
Meeks, Leighton A.: *See*—
Collier, Dana M., Meeks, and Palmer. 2,969,915.
Mehlhope, Kenneth D., and A. H. Faulhaber, to The Cincinnati Milling Machine Co. Size gauging device. 2,969,623, 1–31–61, Cl. 51—103.
Melpar, Inc.: *See*—
Withers, James C., and Ritt. 2,970,090.
Meltzer, Jack. Shoe provided with elastic bridging element. 2,969,600, 1–31–61, Cl. 36—58.5.
Mends, David N.: *See*—
Voltaire, Paul, and Mends. 2,969,598.
Menon, Stanislao, to Emanuel di Giuseppe e Roberto Emanuel & C.S.A.S. Rotary slidable-vane machines. 2,969,743, 1–31–61, Cl. 103—121.
Merck & Co., Inc.: *See*—
Benson, William L., and Lapierre. 2,970,056.
Conn, John B. 2,970,040.
Cutler, Frank A., Jr., Hause, and Sletzinger. 2,970,157.
Dulaney, Eugene L., and McAleer. 2,970,085.
Mercury Engineering Corp.: *See*—
Zernov, Peter. 2,969,930.
Meredith, Neil F., and K. Schwartzwalder, to General Motors Corp. Spark plug and process for making the same. 2,969,582, 1–31–61, Cl. 29—25.12.
Metal Hydrides Inc.: *See*—
Bragdon, Robert W. 2,970,114.
Metall-Guss und Presswerk Heinrich Diehl G.m.b.H.: *See*—
Kiel, Wilhelm K. B., and Eichler. 2,969,911.
Meyer, Amel R.: *See*—
Howlett, Thomas W., Jr., and Meyer. 2,969,758.
Meyer, Dermot L. Mechanism for raising and lowering outboard motors. 2,969,764, 1–31–61, Cl. 115—41.
Meyercord Co., The: *See*—
Porth, Frank L. 2,970,076.
Miale, Joseph P., to Walker Laboratories, Inc. Aluminum nicotinate compositions for hypercholesteremia. 2,970,082, 1–31–61, Cl. 167—65.
Michel, Raymond, and J. Roche, to Warner-Lambert Pharmaceutical Co. Sulfate compounds. 2,970,165, 1–31–61, Cl. 260—457.
Michelier, Jean-Pierre M. Construction of pre-fabricated panels. 2,969,617, 1–31–61, Cl. 50—263.
Middleton, William J.: *See*—
Howard, Edward G., Jr., and Middleton. 2,970,173.
Miehle-Goss-Dexter, Inc.: *See*—
Claybourn, Carlton C. 2,969,980.
Miles Laboratories, Inc.: *See*—
Schweiger, Leonard B. 2,970,084.
Miller, George B., and R. D. Rynders, to Racine Hydraulics & Machinery, Inc. Variable volume pump hydraulic transmission. 2,969,646, 1–31–61, Cl. 60—53.
Miller, Harry C., Co.: *See*—
Enikeieff, Oleg C. 2,970,217.
Miller, Herman, Inc.: *See*—
Eames, Charles. 2,969,831.
Miller, Ralph R. Pneumatic scales. 2,969,958, 1–31–61, Cl. 265—47.
Miller, Robert E.: *See*—
Hamm, Philip C., and Miller. 2,970,048.
Milliken, Spencer R., to Aluminum Co. of America. Production of composite aluminous metal articles. 2,969,590, 1–31–61, Cl. 29—488.
Mills, Ernest R. Sink mounting. 2,969,549, 1–31–61, Cl. 4—187.
Milton, Charles J. Disposable syringe and detachable receptacle. 2,969,792, 1–31–61, Cl. 128—227.
Minneapolis-Honeywell Regulator Co.: *See*—
Watrous, Robert B. 2,969,678.
Minnesota Mining and Mfg. Co.: *See*—
Hanford, William E. 2,970,093.
Nelson, Donald E. 2,969,971.
Radimer, Kenneth J. 2,970,092.
Miquelis, Hermes. Casing for electronic or like parts. 2,970,182, 1–31–61, Cl. 174—52.
Mobay Chemical Co.: *See*—
Gurley, Jesse F., Jr. 2,969,960.
Reuter, Frans G. 2,969,656.
Modrey, Henry J. Continuous outlet strip. 2,970,286, 1–31–61, Cl. 339—14.
Moeller, Carl A.: *See*—
Claff, Chester E., and Moeller. 2,969,906.
Molloy, Everett W., and N. B. Braymer, to Beckman Instruments, Inc. Self-zeroing amplifier. 2,970,266, 1–31–61, Cl. 324—123.
Monsanto Chemical Co.: *See*—
Beaver, David J., and Zerbe. 2,970,151.
Cova, Dario R. 2,970,172.
Hamm, Philip C., and Miller. 2,970,048.
Monsanto Chemicals Ltd.: *See*—
McCall, Ernest B., and Seiler. 2,970,081.
Montavon, Marc: *See*—
Isler, Otto, Montavon, Rüegg, Saucy, Schwieter, and Lindlar. 2,970,174.
Montrose Chemical Co.: *See*—
Rosin, Jacob, and Birsten. 2,970,166.
Moore, Francis J. Fulcrumed lever type door latch mechanism. 2,970,000, 1–31–61, Cl. 292—238.
Morch, Ernst T. Respirator. 2,969,789, 1–31–61, Cl. 128—29.
Morgan, Gerard E., Jr., to John T. Riddell, Inc. Crown piece for helmets. 2,969,546, 1–31–61, Cl. 2—3.
Moritz, Karsten H., to Esso Research and Engineering Co. Mechanical staging of dilute fluid platinum reactor bed. 2,970,100, 1–31–61, Cl. 208—65.
Morrison, Willard L., to Liquefreeze Co., Inc. Method of superchilling frozen food. 2,969,649, 1–31–61, Cl. 62—64.
Morse, William H.: *See*—
De Paul, Aleeno S., and Morse. 2,970,236.
Morterol, Michel. Collapsible container. 2,969,889, 1–31–61, Cl. 220—6.
Morton, Henry C.: *See*—
Runton, Leslie A., and Morton. 2,969,997.
Mosby, Edgar T., to Re-Trac Mfg. Corp. Rear view mirror. 2,969,715, 1–31–61, Cl. 88—98.
Mosby, William L.: *See*—
Boyle, Richard J., Birsten, and Mosby. 2,970,146.
Moser, Eduard: *See*—
Bolleter, Albert, and Moser. 2,970,030.
Mosher, James K., to Schulz Tool and Mfg. Co. Center of gravity fuel control system. 2,969,803, 1–31–61, Cl. 137—98.
Moss, Norman: *See*—
Trowbridge, David R., and Moss. 2,969,653.
Motorola, Inc.: *See*—
De Napoli, Anthony C., and Williamson. 2,970,311.
Kroger, Marlin G. 2,970,188.
Moyer, Wendell W., Jr., J. Wynstra, and J. S. Fry, to Union Carbide Corp. Polycarbonate process. 2,970,131, 1–31–61, Cl. 260—47.
Muessel, Dan C., to Kawneer Co. Lock and latch assembly. 2,969,666, 1–31–61, Cl. 70—116.
Mukai, Jiro, to Canon Camera Co., Inc. Wide angle photographic objective. 2,969,713, 1–31–61, Cl. 88—57.
Mullen, James W., II, to United States of America, Navy. Screened igniter for ramjet burners. 2,969,643, 1–31–61, Cl. 60—39.11.
Murray Ohio Mfg. Co., The: *See*—
Hahn, Gilbert B. 2,969,992.
Murtaugh, Justin J., and I. Caldas, Jr., to Schenley Industries, Inc. Ion-exchange methods for the purification of streptomycin. 2,970,138, 1–31–61, Cl. 260—210.
Musgrave, Merrill N. Rhubarb trimmer. 2,969,866, 1–31–61, Cl. 198—29.
Myers, Clinton E. Towel or like folding and stacking machine. 2,969,978, 1–31–61, Cl. 270—85.
Myers, F. E., & Bro., Co., The: *See*—
Staats, William A., and Conery. 2,969,741.
N.V. Optische Industrie "De Oude Delft": *See*—
Bouwers, Albert. 2,970,220.
Nagy, Daniel E., to American Cyanamid Co. Process for tanning leather. 2,970,031, 1–31–61, Cl. 8—94.27.
Nardin, Raymond: *See*—
Batori, Oscar E., and Nardin. 2,969,636.
Nardin, Ulysse, S.A.: *See*—
Batori, Oscar E., and Nardin. 2,969,636.
Nason, Willis R., to General Controls Co. Space heating control system affected by external temperatures. 2,969,917, 1–31–61, Cl. 236—91.

Nasu, Kuniharu, and S. Niwa, to Sando Iron Works Co., Ltd. Apparatus for treating web material. 2,969,664, 1–31–61, Cl. 68—178.

National Breach & Machine Co.: *See*—
Anthony, Russel W. 2,969,697.

National Lead Co.: *See*—
Brown, Charles A. 2,969,569.

National Screw and Mfg. Co., The: *See*—
Hatherell, George A., and Padway. 2,969,553.

National Tea Packing Co., Inc.: *See*—
Irmscher, Hans O. 2,969,628.

Nava, Louis J.: *See*—
Terrett, John P., Shields, and Nava. 2,970,057.

Nelson, Alfred M., and A. Orner, to Magnavox Co. Card processing apparatus. 2,969,979, 1–31–61, Cl. 271—5.

Nelson, Donald E., to Minnesota Mining and Mfg. Co. Reinforced plastic springs. 2,969,971, 1–31–61, Cl. 267—1.

Nelson, La Verne: *See*—
Cope, Le Roy C., Nelson, and Meacham. 2,969,735.

Newcomer, Jacob R., Jr., and F. Wheeler, to Camloc Fastener Corp. Latch fastener. 2,969,667, 1–31–61, Cl. 70—134.

Newell, William E.: *See*—
Roberts, William L., and Newell. 2,970,219.

Newman Brothers, Inc.: *See*—
Newman, Elmer S. 2,969,955.

Newman, Elmer S., to Newman Brothers, Inc. Stair railing. 2,969,955, 1–31–61, Cl. 256—21.

Newton, Alwin R., to The Coleman Co., Inc. Solar energy collectors. 2,969,788, 1–31–61, Cl. 126—271.

Nielsen, Alvin R., to Plax Corp. Polyethylene bond and method therefor. 2,970,078, 1–31–61, Cl. 154—189.

Nilsson, Hans R., and P. W. S. Persson, to Svenska Rotor Maskiner Aktiebolag. Rotary devices, particularly rotary heat exchangers. 2,969,958, 1–31–61, Cl. 257—267.

Niwa, Susumu: *See*—
Nasu, Kuniharu, and Niwa. 2,969,664.

Nobile, Luciano, to Ledoga S.p.A. Process for preparing a fruit juice in powder form. 2,970,058, 1–31–61, Cl. 99—206.

North American Aviation, Inc.: *See*—
Obenberger, Wallace J., and Burgi. 2,970,252.
Sulkin, Maurice A., Campbell, and Young. 2,969,989.

Novak, Leo J.: *See*—
Bishop, Alfred E., and Novak. 2,970,141.

Nugey, Anthony J., and A. L. Self-gelatinizing starch bearing grains and method of producing same. 2,970,054, 1–31–61, Cl. 99—51.

Nugey, Anthony L.: *See*—
Nugey, Anthony J., and A. L. 2,970,054.

Nye, Robert G., G. A. Brettell, Jr., and L. T. Apple, to United States of America, Navy. Group trainer for operators of echo-ranging equipment. 2,969,500, 1–31–61, Cl. 35—10.4.

O & M Machine Co., Inc.: *See*—
Cornish, Harry E., Graef, Groebe, and Simpson. 2,969,702.

Obenberger, Wallace J., and C. E. Burgi, to North American Aviation, Inc. Current regulator with saturable core. 2,970,252, 1–31–61, Cl. 321—18.

O'Buckley, Mary E. Portable combination ironing board and luggage case. 2,969,603, 1–31–61, Cl. 38—112.

Ogle, Hugh M., to General Electric Co. Measuring apparatus and method. 2,969,674, 1–31–61, Cl. 73—359.

Oklahoma State Highway Dept.: *See*—
Helmer, Richard A. 2,970,028.

Olin Mathieson Chemical Corp.: *See*—
Thomas, Gordon H., and Fried. 2,970,143.

Olson, Donald M., to United States of America, Atomic Energy Commission. High temperature microscope and furnace. 2,969,712, 1–31–61, Cl. 88—39.

Orenda Engines Ltd.: *See*—
Jay, Kenneth W. 2,969,924.

Orner, Allan: *See*—
Nelson, Alfred M., and Orner. 2,969,979.

Oros, Nicholas R., and R. D. Vartanian, to American Cyanamid Co. Insecticide formulations. 2,970,080, 1–31–61, Cl. 167—22.

Osborne, Fred H., H. G. Bauer, and R. S. Tuttle, to The Wurlitzer Co. Mechanism for playing chords. 2,969,704, 1–31–61, Cl. 84—448.

Ostapkovich, Peter L., to International Business Machines Corp. Solution and process for etching indium dots. 2,970,044, 1–31–61, Cl. 41—42.

Otis, Wilbur C.: *See*—
Casselman, Robert C., Cooper, and Otis. 2,969,721.

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Slayter, Games, and Shannon. 2,970,127.

Pacific Semiconductors, Inc.: *See*—
Sahagun, Armen N. 2,970,248.

Padway, Martin: *See*—
Hatherell, George A., and Padway. 2,969,553.

Palmer, Frank R. Gun sight. 2,969,594, 1–31–61, Cl. 33—47.

Palmer, James P.: *See*—
Collier, Dana M., Meeks, and Palmer. 2,969,915.

Paragon Products Corp.: *See*—
Scholz, Michael P. 2,969,978.

Paris, August F. Garment air steam finisher. 2,969,997, 1–31–61, Cl. 223—67.

Parker, Humphrey F., and W. H. Devonshire, to Columbus McKinnon Corp. Electric hoist. 2,969,954, 1–31–61, Cl. 254—168.

Parkhurst, William R. Automobile-trailer coupling having automatic trailer-brake operating means. 2,969,857, 1–31–61, Cl. 188—112.

Parrish, Maxfield, Jr.: *See*—
Distel, Joseph W., Parrish, and Maierhofer. 2,969,766.

Parsons, John B. Circuit selector for reverse gear operating system for marine engines. 2,970,191, 1–31–61, Cl. 200—11.

Parsen, Philip, to United States of America, Air Force. Wide band microwave receiver. 2,970,214, 1–31–61, Cl. 250—20.

Paschall, L. W. Dog feeder. 2,969,769, 1–31–61, Cl. 119—56.

Patterson, Morehead, and J. Zuercher, to American Machine & Foundry Co. Ball delivery mechanism for bowling pin spotting machines. 2,969,982, 1–31–61, Cl. 273—49.

Pawlak, Joseph A.: *See*—
Hauge, Hans M., and Pawlak. 2,970,062.

Peeps, Donald J., to The De Vilbiss Co. Airless spray guns. 2,969,926, 1–31–61, Cl. 239—526.

Peeters, Martin. Constant weight feeder. 2,969,893, 1–31–61, Cl. 222—23.

Pemberton, Don M., to Universal Air Lift, Inc. Spring booster device. 2,969,974, 1–31–61, Cl. 267—28.

Penney, James H., to Westinghouse Electric Corp. Ventilating system for a dynamoelectric machine. 2,970,233, 1–31–61, Cl. 310—63.

Perfect Circle Corp.: *See*—
Thompson, Bert. 2,970,023.

Persson, Per Walther S.: *See*—
Nilsson, Hans R., and Persson. 2,969,958.

Petersen, William L., to Clarke Floor Machine Co. Powered floor scrubber. 2,969,557, 1–31–61, Cl. 15—50.

Petri, Hector D., and C. J. Symonds, to United-Carr Fastener Corp. Locking fastener. 2,969,570, 1–31–61, Cl. 24—16.

Pfarrwaller, Erwin, to Sulzer Freres, S. A. Cam drive. 2,969,692, 1–31–61, Cl. 74—567.

Pfeffer, William E., to The Electro-Mechanical Instrument Co. Electrical measuring instrument. 2,970,267, 1–31–61, Cl. 324—146.

Pfizer, Chas., & Co., Inc.: *See*—
Abbe, Carl H., and Goetz, Jr. 2,969,753.
Beck, Donald, and Shull. 2,970,087.
Martin, Edward G., and Haas. 2,970,053.

Phelps, Foster C. Solar heating control system. 2,969,918, 1–31–61, Cl. 237—1.

Philco Corp.: *See*—
Lasser, Marvin E., and Sholet. 2,970,285.
Saverio, Francois V. M. D. 2,969,665.

Phillips Petroleum Co.: *See*—
Blocker, Wade. 2,969,914.
Cobb, Joseph R., Jr. 2,970,177.
Cutforth, Howard G. 2,970,046.
Gardner, Lloyd E. 2,970,102.
Gilmore, Forrest E. 2,970,107.
Harper, Kenneth A. 2,970,117.
Kangas, Charles H. 2,969,799.
Lanning, William C., Hogan, Banks, and Detter. 2,970,135.
Mahan, John E. 2,969,639.
Marsden, Ross S., Jr. 2,970,259.
Reynolds, William B., and Pritchard. 2,970,182.
Sammons, George D. 2,969,638.
Smith, Bobbie H., and Kennedy. 2,970,125.

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Pierle, Charles G. Door return and check mechanism. 2,969,560, 1–31–61, Cl. 16—49.

Pierrot, Andre, Y. C. E. Lescroel, and B. Grabowski, to Lignes Telegraphiques and Telephoniques. Ferromagnetic materials with rectangular hysteresis cycle and method for their manufacture. 2,970,112, 1–31–61, Cl. 252—62.5.

Pike, John A., to Tarrymont Inc. Agitating apparatus. 2,970,235, 1–31–61, Cl. 310—83.

Pittman, Roland: *See*—
Schoeppel, John F., Will, and Pittman. 2,969,682.

Pittsburgh Plate Glass Co.: *See*—
Castline, William A., Jr., Buckles, and Dahlberg. 2,969,624.

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Plax Corp.: *See*—
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Plessey Co. Ltd., The: *See*—
McLeod, Thomas S., Deavin, and Cole. 2,969,875.
Trowbridge, David R., and Moss. 2,969,653.

Poe, Eloise M. Safety clamp. 2,969,572, 1–31–61, Cl. 24—87.

Polanyi, Michael L., J. E. Johnston, and M. G. Brown, to American Optical Co. Means for analyzing microscopic particles and the like. 2,969,708, 1–31–61, Cl. 88—14.

Polaroid Corp.: *See*—
Casselman, Robert C., Cooper, and Otis. 2,969,721.
Distel, Joseph W., Parrish, and Maierhofer. 2,969,766.

Pond, McDonald E.: *See*—
Ferris, Burton C., and Pond. 2,969,567.

Poole Foundry & Machine Co.: *See*—
Swanson, Arthur. 2,969,661.

Poole, Kenneth M., and P. K. Tien, to Bell Telephone Laboratories, Inc. Solid state amplifier. 2,970,274, 1–31–61, Cl. 330—5.

Porsche, Dr.-Ing. h.c.F., K.G.: *See*—
Komenda, Erwin, and Bamberg. 2,969,847.

Porth, Frank L., to The Meyercord Co. Vitreous decalcomania and method of decorating ceramic articles. 2,970,076, 1–31–61, Cl. 154—99.

Potts, James E.: *See*—
Rugg, Frank M., and Potts. 2,970,129.

Prange, Charles H., to Howe Sound Co. Method for ultrasonic surgical cleaning of human body members. 2,970,073, 1–31–61, Cl. 134—1.

Preeman, Marvin B., to Standard Steel Corp. Gas washing apparatus. 2,969,851, 1–31–61, Cl. 183—21.

Prentky, Peter I.: *See*—
Witt, Victor E., Prentky, and Dudek. 2,970,300.
Presnick, Michael C. Case finishing molding. 2,969,891, 1–31–61. Cl. 220—73.
Presnick, Michael C. Racquet. 2,969,984, 1–31–61, Cl. 273—73.
Price, Carl C. Convertible aircraft. 2,969,935, 1–31–61, Cl. 244—7.
Prines, Frank J., to Westinghouse Electric Corp. Bistable circuit. 2,970,298, 1–31–61, Cl. 340—174.
Printed Motors Inc.: *See*—
Swiggett, Robert L. 2,970,238.
Pritchard, James E.: *See*—
Reynolds, William B., and Pritchard. 2,970,132.
Pucill, Peter M. Specialties Development Corp. Smoke detection equipment. 2,969,765, 1–31–61, Cl. 116—117.
Pulver, Willis C., to Velten & Pulver Inc. Conveyor construction. 2,969,870, 1–31–61, Cl. 198—195.
Pursche, Harry A. Reversible plow. 2,969,843, 1–31–61, Cl. 172—224.
Racine Hydraulics & Machinery, Inc.: *See*—
Miller, George B., and Rynders. 2,969,646.
Raymond, Robert E. 2,969,647.
Rader, Eugene. Container opener. 2,969,591, 1–31–61, Cl. 30—16.
Radimer, Kenneth J., to Minnesota Mining and Mfg. Co. Process for the production of fluorine-containing compounds. 2,970,092, 1–31–61, Cl. 204—62.
Radio Corp. of America: *See*—
Kurzrok, Richard M. 2,970,275.
Ragsdale, La Verne B., to General Motors Corp. Cage and bearing assembly for seat adjuster slide structures. 2,970,015, 1–31–61, Cl. 308—6.
Ramsey, James C. Arrow holder. 2,969,898, 1–31–61, Cl. 224—1.
Ranco Inc.: *See*—
Salter, James A. 2,969,655.
Ranney Method Water Supplies, Inc.: *See*—
D'Audiffret, Adolph A., Reimund, and Lavely. 2,969,840.
Rapids-Standard Co., Inc., The: *See*—
Woldring, Egbert. 2,970,016.
Woldring, Egbert, and Weltevrede. 2,969,863.
Rath Packing Co., The: *See*—
Gleason John J. 2,970,055.
Ratner, Arthur and M. Semi-trailer body with floor plate fifth wheel unit. 2,970,004, 1–31–61, Cl. 296—28.
Ratner, George I., and R. Slater. Skylight. 2,969,618, 1–31–61. Cl. 50—267.
Ratner, Marvin: *See*—
Ratner, Arthur and M. 2,970,004.
Raun, David J. Variable-speed fluid clutch. 2,969,860, 1–31–61. Cl. 192—12.
Raymond, Robert E., to Racine Hydraulics and Machinery, Inc. Synchronising system. 2,969,647, 1–31–61, Cl. 60—97.
Raytheon Co.: *See*—
Dollinger, Kenneth. 2,970,276.
Dukat, Francis M. 2,970,213.
Eriksen, Warren T. 2,970,264.
Guterman, Sadia S. 2,970,294.
Read, George A.: *See*—
McCormick, Gordon R., and Read. 2,969,561.
Reagan, Maurice E., to Westinghouse Electric Corp. Circuit interrupters. 2,970,196, 1–31–61, Cl. 200—147.
Reardon, Patrick H. Rolled edge metal containers. 2,970,094, 1–31–61, Cl. 220—62.
Reaves, John H., to United States of America, Commerce. Direct-coupled amplifier construction. 2,970,278, 1–31–61, Cl. 330—70.
Rechtin, Eberhardt C., to Bethlehem Steel Co. Mobile drilling platform and method of operation. 2,969,648, 1–31–61, Cl. 61—46.5.
Rector, David D.: *See*—
Kuhn, Albert J., and Rector. 2,969,959.
Reda Pump Co.: *See*—
Arutunoff, Armais. 2,969,742.
Reddig, Phyllis. Surgical traction boot. 2,969,790, 1–31–61, Cl. 128—84.
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Reece, Franklin A. 2,969,755.
Reece, Franklin A., to The Reece Corp. Button sewing machine. 2,969,755, 1–31–61, Cl. 112—112.
Reed, Benjamin: *See*—
Matard, Herbert F., Reed, and Weinreich. 2,970,229.
Reed, Lucille M.: *See*—
Heath, Charles M., Jr., and Reed. 2,970,008.
Reed, Wendell E., to Solar Aircraft Co. Pressure ratio sensing, indicating, and controlling apparatus. 2,969,640, 1–31–61, Cl. 60—35.6.
Reflector Hardware Corp.: *See*—
Levy, Edward M. 2,969,565.
Reimund, Robert E.: *See*—
D'Audiffret, Adolph A., Reimund, and Lavely. 2,969,840.
Reinert, Milton J.: *See*—
Burlis, Norbert W., and Reinert. 2,970,041.
Remington Arms Co., Inc.: *See*—
Dale, William S., and Haskell. 2,969,660.
Research Corp.: *See*—
Zieman, Henry E., and Woolf. 2,970,306.
Re-Trac Mfg. Corp.: *See*—
Mosby, Edgar T. 2,969,715.
Reuschel, Konrad: *See*—
Hoffmann, Arnulf, Keller, Reuschel, and Rummel. 2,970,111.
Reustle, Frank A. Coating machine. 2,969,894, 1–31–61, Cl. 222—113.
Reuter, Franz G., to Mobay Chemical Co. Coupling device. 2,969,656, 1–31–61, Cl. 64—11.
Reuter, Paul L., to The Bendix Corp. Mach number and airspeed computer with correction differential. 2,969,910, 1–31–61, Cl. 235—61.
Reynar, John H., to Layton-Greenfield, Inc. Suction roll construction. 2,969,837, 1–31–61, Cl. 162—371.
Reynolds, Andrew C., Jr., to International Business Machines Corp. Error detecting and correcting circuits. 2,969,912, 1–31–61, Cl. 235—153.
Reynolds Metals Co.: *See*—
Cage, James. 2,969,902.
Reynolds, William B., and J. E. Pritchard, to Phillips Petroleum Co. Method of reacting heterocyclic nitrogen base polymers with quaternising agent and metal oxide and product resulting therefrom. 2,970,132, 1–31–61, Cl. 260—86.1.
Rhodes, Michael S., and R. G. Spaunburgh, to Allied Chemical Corp. Isocyanate modified alkyds stabilised with an aliphatic alcohol. 2,970,128, 1–31–61, Cl. 260—22.
Rich, Herbert G., to Fisher Governor Co. Direct operated reset pilot. 2,969,802, 1–31–61, Cl. 137—85.
Rich, William E.: *See*—
Riess, Kolman, and Rich. 2,970,243.
Riddell, John T., Inc.: *See*—
Morgan, Gerard E., Jr. 2,969,646.
Riester, William C., to Trico Products Corp. Fluid motor. 2,969,776, 1–31–61, Cl. 121—48.
Riess, Kolman, and W. E. Rich, to Westinghouse Electric Corp. Electrical instrument mounting. 2,970,243, 1–31–61, Cl. 317—99.
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Braconier, Frederic F. A., and Riga. 2,970,178.
Riggen, Theodore K., to Corning Glass Works. Electroluminescent device and method. 2,970,239, 1–31–61, Cl. 313—108.
Ritt, Paul E., Jr.: *See*—
Withers, James C., and Ritt. 2,970,090.
Roberts, Webster C.: *See*—
Rosenthal, Felix, Roberts, and Krejci. 2,969,827.
Roberts, William L., and W. E. Newell, to Westinghouse Electric Corp. Use of thin film field emitters in luminographs and image intensifiers. 2,970,219, 1–31–61, Cl. 250—213.
Robinson, Herbert T., V. H. Jungjohann, and W. P. Ewald, to Eastman Kodak Co. Automatic magazine slide projectors. 2,969,711, 1–31–61, Cl. 88—28.
Robotron Corp.: *See*—
Rockafellow, Stuart C. 2,970,205.
Roche, Jean: *See*—
Michel, Raymond, and Roche. 2,970,165.
Rochelle, Robert W. Telemetering system. 2,970,301, 1–31–61, Cl. 340—183.
Rockafellow, Stuart C., to Robotron Corp. Electrical circuit. 2,970,205, 1–31–61, Cl. 219—106.
Rodaway, Keith S., to General Metals Corp. (Adel Precision Products Division). Seal. 2,969,998, 1–31–61, Cl. 285—24.
Rogers, Dow A., Jr., and R. J. Hillen, to Westinghouse Electric Corp. Packing composition for turbine generator exciter rotors. 2,970,231, 1–31–61, Cl. 310—43.
Rohm & Haas Co.: *See*—
De Benneville, Peter L. 2,970,145.
Ronson Metals Corp.: *See*—
Hirschhorn, Isidor S. 2,969,660.
Rosalik, Joseph J.: *See*—
Glowinski, Chester J., and Rosalik. 2,970,209.
Rosenthal, Felix, W. C. Roberts, and R. F. Krejci, to Clevite Corp. Automatic wiring machine. 2,969,827, 1–31–61, Cl. 153—20.
Rosier, Raymond, and J.-M. Baluteau, to Societe d'Optique et de Mecanique de Haute Precision. Optical range-finder. 2,969,706, 1–31–61, Cl. 88—2.4.
Rosin, Jacob, and O. G. Birsten, to Montrose Chemical Co. Preparation of trimethyl phosphite and triethyl phosphite. 2,970,166, 1–31–61, Cl. 260—461.
Ross Gear and Tool Co., Inc.: *See*—
Thelen, Richard K. 2,969,775.
Rothwell, Henry F.: *See*—
Burgess, Paul D., and Rothwell. 2,969,925.
Rowekamp, Richard J. System for converting solar energy into mechanical energy. 2,969,637, 1–31–61, Cl. 60—26.
Rucki, Edward V., Jr., to King Container Corp. Container closure. 2,969,895, 1–31–61, Cl. 222—158.
Rudd, Charles F., and J. W. Briskin, to Addressograph-Multigraph Corp. Selective printing and punching machines. 2,969,727, 1–31–61, Cl. 101—19.
Rudes, George S. Disposable cleanser pads. 2,969,626, 1–31–61, Cl. 51—185.
Rudin, Walter: *See*—
Bloom, Frederick S., and Rudin. 2,969,838.
Rudzitis, Karl, to Telectro Industries Corp. Loading mechanism for a magnetic tape recorder cartridge or the like. 2,969,929, 1–31–61, Cl. 242—55.13.
Rüegg, Rudolf: *See*—
Isler, Otto, Montavon, Rüegg, Saucy, Schwieter, and Lindlar. 2,970,174.
Rugg, Frank M., and J. E. Potts, to Union Carbide Corp. Graft copolymer of polyethylene and polymerizable acrylic compounds, process for preparing same, and composition thereof. 2,970,129, 1–31–61, Cl. 260—45.5.
Rummel, Theodor: *See*—
Hoffmann, Arnulf, Keller, Reuschel, and Rummel. 2,970,111.
Runge, Wilhelm T., E. Betzenhammer, and E. F. Heuss, to Telefunken G.m.b.H. Pulse code modulation system. 2,970,281, 1–31–61, Cl. 332—13.

Runton, Leslie A., to The Russell Mfg. Co. V link transmission belt. 2,969,686, 1–31–61, Cl. 74—236.
Runton, Leslie A., and H. C. Morton, to The Russell Mfg. Co. Packing ring. 2,969,997, 1–31–61, Cl. 288—17.
Ruple, Lewis H.: *See*—
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Russell Mfg. Co., The: *See*—
Runton, Leslie A. 2,969,686.
Runton, Leslie A., and Morton. 2,969,997.
Ruttgers, Ernesto B. Ball bearing clamping structure. 2,970,018, 1–31–61, Cl. 308—236.
Rynders, Robert D.: *See*—
Miller, George B., and Rynders. 2,969,646.

S & S Vending Machine Co.: *See*—
Smith, William J. 2,970,026.
Safety Sake Enterprises, Inc.: *See*—
Garvin, John C. 2,969,605.
Sahagun, Armen N., to Pacific Semiconductors, Inc. Pin material for glass seal semiconductor rectifier. 2,970,248, 1–31–61, Cl. 317—236.
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Blais, Maurice E. 2,969,629.

Salmi, John V., to United States Steel Corp. Device for handling a repair piece for a furnace. 2,969,884, 1–31–61, Cl. 214—26.
Salter, James A., to Ranco Inc. Reversible heat pump system. 2,969,655, 1–31–61, Cl. 62—324.
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Jackowski, Charles S., and Saltz. 2,969,729.

Sammons, George D., to Phillips Petroleum Co. Solid propellant and propellant burning rate catalyst system. 2,969,638, 1–31–61, Cl. 60—35.4.
Sando Iron Works Co., Ltd.: *See*—
Nasu, Kuniharu, and Niwa. 2,969,664.

Sandvig, Robert L., to Thor Power Tool Co. Percussive drill bit for use in reverse flow flushing in soft rock drilling. 2,969,846, 1–31–61, Cl. 175—418.
San-Fran Products Co.: *See*—
Udell, Leslie E. 2,969,890.
Sanner, Veryl H., and L. H. Ruple, to Abbey Etna Machine Co. Universally adjustable guide for tubes in a tube mill. 2,970,203, 1–31–61, Cl. 219—59.
Saucy, Gabriel: *See*—
Isler, Otto, Montavon, Rüegg, Saucy, Schwieter, and Lindlar. 2,970,174.
Sauer, Alfred B.: *See*—
Leslie James D., and Sauer. 2,969,976.
Saverio, Francois V. M. D., to Philco Corp. Fabric washing machine. 2,969,665, 1–31–61, Cl. 68—184.
Sayynski, John J., and J. F. White, to General Motors Corp. Surface irregularity detector. 2,970,256, 1–31–61, Cl. 324—37.
Schachter, Friedrich. Ball point pen. 2,969,583, 1–31–61, Cl. 29—148.4.
Schaefer, Robert H., to General Electric Co. Aerodynamic nozzle. 2,969,641, 1–31–61, Cl. 60—35.6.
Schenley Industries, Inc.: *See*—
Murtaugh, Justin J., and Caldas. 2,970,188.

Schemerman, Charles M., to United States of America, Navy. Catapult return system. 2,969,942, 1–31–61, Cl. 244—63.
Schiess Aktiengesellschaft: *See*—
Keyser, Johann J. 2,969,635.
Schillinger, Jack. Cabinet and closure means for dispensing type vehicles. 2,970,005, 1–31–61, Cl. 296—37.
Schloemann Aktiengesellschaft: *See*—
Billen, Peter, and Linnerz. 2,969,873.

Schmerling, Louis, to Universal Oil Products Co. Preparation of polyhalomethanoindans. 2,970,175, 1–31–61, Cl. 260—648.
Schmittberger, Robert A., to Union Carbide Corp. Molding composition comprising a novolac resin, a furan derivative, and a filler, and process for making same. 2,970,121, 1–31–61, Cl. 260—17.2.
Schnider, Otto: *See*—
Grüssner, André Hellerbach, and Schnider. 2,970,147.
Schoeppel, John F., C. H. Will, Jr., and R. Pittman, to Lear, Inc. Rotative device. 2,969,682, 1–31–61, Cl. 74—5.7.
Scholtes, Donald R., and W. E. Large, to Westinghouse Electric Corp. Electric discharge regulating apparatus. 2,970,254, 1–31–61, Cl. 323—18.
Scholz, Michael P., to Paragon Products Corp. Dash-pot. 2,969,973, 1–31–61, Cl. 267—1.
Schomer, Robert T., to The Babcock & Wilcox Co. Liquid metal purifier. 2,969,970, 1–31–61, Cl. 266—37.
Schrameck, Jack E., to Westinghouse Electric Corp. Compressed-gas circuit interrupter. 2,970,198, 1–31–61, Cl. 200—148.
Schulenburg, Edward J.: *See*—
Walker, Wendell R., and Schulenburg. 2,970,200.
Schuls Tool and Mfg. Co.: *See*—
Mosher, James K. 2,969,803.

Schwartz, Hans, to Agfa Aktiengesellschaft. Photographic camera. 2,969,722, 1–31–61, Cl. 95—31.
Schwartz, Walter, to Thompson Ramo Wooldridge Inc. Flight vehicle control system. 2,969,943, 1–31–61, Cl. 244—77.
Schwartzwalder, Karl: *See*—
Meredith, Neil F., and Schwartzwalder. 2,969,582.

Schweiger, Leonard B., to Miles Laboratories, Inc. Production of citric acid by fermentation. 2,970,084, 1–31–61, Cl. 195—36.
Schweitzer, William K., Jr.: *See*—
Lashua, Sherman C., and Schweitzer. 2,970,070.
Schwieter, Ulrich: *See*—
Isler, Otto, Montavon, Rüegg, Saucy, Schwieter, and Lindlar. 2,970,174.
Schwitzer Corp.: *See*—
McGavern, Sanford A. 2,969,657.

Scopp, Irwin W.: *See*—
Colton, Raymond R., and Scopp. 2,969,794.
Colton, Raymond R., and Scopp. 2,970,072.
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Blake, John T. 2,969,574.
Seamless Rubber Co., The: *See*—
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Seeley, Sherwood B., to The Joseph Dixon Crucible Co. Stopper rod assemblies. 2,969,568, 1–31–61, Cl. 22—85.
Seiler, David A. L.: *See*—
McCall, Ernest B., and Seiler. 2,970,061.
Sell, Doyl E.: *See*—
Sell, Wayne E. and D. E. 2,969,672.
Sell, Wayne E. and D. E. Wind velocity and direction indicating device. 2,969,672, 1–31–61, Cl. 73—189.
Serafin, Robert F., to Artype, Inc. Transparent characters with spacing aid. 2,970,043, 1–31–61, Cl. 41—21.
Servo Corp. of America: *See*—
Willey, Frank G. 2,970,210.
Shaffer Tool Works: *See*—
Wilde, Arthur E. 2,969,838.
Shannon, Richard F.: *See*—
Slayter, Games, and Shannon. 2,970,127.

Shapiro, William J. Toy with a releasable load or bomb. 2,969,606, 1–31–61, Cl. 46—77.
Sharp, Everett H., to Dana Corp. Universal joint. 2,969,659, 1–31–61, Cl. 64—21.
Shaw, Frederick A. C., to American Smelting and Refining Co. Brick for radiation shields. 2,970,218, 1–31–61, Cl. 250—108.
Shaw, Orson A., Jr., to Holub Industries, Inc. Electrical fish tape winder. 2,969,953, 1–31–61, Cl. 254—134.3.
Shawmut, Inc.: *See*—
Wyner, Rudolph H. 2,969,580.
Sheffield Corp., The: *See*—
Campbell, Duncan S. 2,969,621.
Shelburne, John W. Method for conditioning internal combustion engines. 2,970,074, 1–31–61, Cl. 134—21.
Shell Oil Co.: *See*—
Anderson, William S. 2,970,134.
Illman, John C. 2,970,099.
Lagerwey, Anton A. F. 2,970,042.

Shenigo, Michael G., to West Virginia Pulp and Paper Co. Apparatus for packaging pallet-mounted bulky objects. 2,969,630, 1–31–61, Cl. 53—138.
Shenigo, Michael G., to West Virginia Pulp and Paper Co. Means for forming paperboard containers. 2,969,719, 1–31–61, Cl. 93—49.
Shequen, Winston G., to General Controls Co. System for controlling interior temperature. 2,969,916, 1–31–61, Cl. 236—68.
Sherman, Charles A., to Weyerhaeuser Co. Stick dropping mechanism. 2,969,892, 1–31–61, Cl. 221—210.
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Mackiw, Vladimir N., and Zubrycky. 2,970,051.
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Sherwood, Glenn L. Key holder. 2,969,823, 1–31–61, Cl. 150—40.
Shields, John B.: *See*—
Terrett, John P., Shields, and Nava. 2,970,057.
Shull, Gilbert M.: *See*—
Beck, Donald, and Shull. 2,970,087.
Siemens & Halske Aktiengesellschaft: *See*—
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Siemens & Halske Aktiengesellschaft Berlin and Munich: *See*—
Zahlhaas, Siegfried, and Kahler. 2,970,190.
Siemens-Schuckertwerke Aktiengesellschaft: *See*—
Hoffmann, Arnulf, Koller, Reuschel, and Rummel. 2,970,111.
Signal Oil and Gas Co.: *See*—
Thomas, Gerald B. 2,969,841.
Simpson, Edward H.: *See*—
Cornish, Harry E., Graef, Groebe, and Simpson. 2,969,702.
Sinclair, Charles W., and R. L. Atkin, to Kelsey-Hayes Co. Wheel rim. 2,969,825, 1–31–61, Cl. 152—410.
Sinclair, Donald B., to General Radio Co. Apparatus for measuring envelope delay. 2,970,258, 1–31–61, Cl. 324—57.
Sinclair, James A. Lawn and garden tools. 2,969,593, 1–31–61, Cl. 30—318.
Sistrunk, Thomas O., to Ethyl Corp. Polymerization of ethylene with catalyst consisting of aluminum chloride and titanium trihalide. 2,970,133, 1–31–61, Cl. 260—93.7.
Skagerberg, William E.: *See*—
Jordan, Wesley A., and Skagerberg. 2,970,063.
Skelton, Charles W., and J. S. Mason, to Texas Instruments Inc. Electronic timing device. 2,970,226, 1–31–61, Cl. 307—88.5.
Skirvin, Clifford D., and W. B. Allbaugh, to B. H. Hadley, Inc. Control means and method to maintain predetermined pressure in a pressure zone. 2,969,806, 1–31–61, Cl. 137—7.
Slater, Robert: *See*—
Ratner, George L., and Slater. 2,969,618.

Slayter, Games, and R. F. Shannon, to Owens-Corning Fiberglas Corp. Glass reinforced gypsum composition and process of preparation. 2,970,127, 1–31–61, Cl. 260—38.
Sletzinger, Meyer: *See*—
Cutler, Frank A., Jr., Hause, and Sletzinger. 2,970,157.
Smith, Bobbie H., and T. J. Kennedy, to Phillips Petroleum Co. Method of preparing a stable oil extended latex. 2,970,125, 1–31–61, Cl. 260—23.7.
Smith, Edward M.: *See*—
MacCracken, Calvin D., and Smith. 2,969,747.

Smith, George A., to Central Transformer Corp. Magnetic strip material for cores of transformers and method of manufacture of such strip material and cores. 2,969,585, 1–31–61, Cl. 29—155.57.

Smith, Jay, Jr.: *See*—
Snyder, William M., and Smith. 2,969,673.

Smith, John W. Ash tray. 2,969,797, 1–31–61, Cl. 131—242.

Smith, Kline & French Laboratories: *See*—
Zirkle, Charles L. 2,970,144.

Smith, Robert M., to United States of America, Navy. Broad band circularly polarized C-band antenna. 2,970,312, 1–31–61, Cl. 343—756.

Smith, Russell F., to ACF Industries, Inc. Fuel pump. 2,969,746, 1–31–61, Cl. 103—150.

Smith, William J., to S & S Vending Machine Co. Vending machine. 2,970,026, 1–31–61, Cl. 312—35.

Snider, Stanley R. Boat. 2,969,551, 1–31–61, Cl. 9—2.

Snow, John E.: *See*—
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Snyder, Glenn M., to Landis Tool Co. Control actuating means for machine element having a variable zone of movement. 2,969,625, 1–31–61, Cl. 51—165.

Snyder, Robert W., and R. J. De Gray, to The Standard Oil Co. Method for improving the odor of hydrocarbon distillates with lead dioxide. 2,970,104, 1–31–61, Cl. 208—226.

Snyder, William M., and J. Smith, Jr., to United States of America, Navy. Redmeter. 2,969,673, 1–31–61, Cl. 73—194.

Sobotka, August. Easy release bale hook. 2,970,001, 1–31–61, Cl. 294—26.

Societe Belge de l'Azote et des Produits Chimiques du Marly: *See*—
Braconier, Frederic F. A., and Riga. 2,970,173.

Societe d'Equipements Industriels et Laitiers: *See*—
Vaucher, Maurice, and Jacul. 2,969,927.

Societe d'Optique et de Mecanique de Haute Precision: *See*—
Rosier, Raymond, and Baluteau. 2,969,706.

Societe Technique pour l'Industrie Nouvelle S.A. Stin: *See*—
Karolus, August. 2,970,211.

Soddy, Thomas C., to Chicago Railway Equipment Co. Railway brake gear structure. 2,969,858, 1–31–61, Cl. 188—219.1.

Solar Aircraft Co.: *See*—
Reed, Wendell E. 2,969,640.

Sommariva, Gio B. Blading of an axial rotative compressor. 2,969,909, 1–31–61, Cl. 230—122.

Songer, Charles H. Door jamb straightedge bracket. 2,969,595, 1–31–61, Cl. 33—85.

Southern States Equipment Corp.: *See*—
Burdeshaw, Thomas A. 2,970,194.

Southern Textile Machinery Co., Inc.: *See*—
De Spain, Thomas H. 2,969,757.

Spacial, Harry S., to Alloyd Research Corp. Mass spectrometer. 2,970,215, 1–31–61, Cl. 250—41.9.

Spaunburgh, Richard G.: *See*—
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Specialties Development Corp.: *See*—
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Specialties, Inc.: *See*—
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Spencer, Richard W.: *See*—
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Sperry Rand Corp.: *See*—
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Sperry Rand Corp., Ford Instrument Co. Div.: *See*—
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Sprague Electric Co.: *See*—
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Zeyen, Fritz-Otto, and Springstein. 2,969,709.

Sproule, Donald O., to Glass Developments Ltd. Ultrasonic flaw detecting apparatus. 2,969,671, 1–31–61, Cl. 73—67.9.

Spumalit-Anstalt: *See*—
Kreidl, Werner H., and Viell. 2,970,120.

Staats, William A., and W. J. Conery, to The F. E. Myers & Bro. Co. Ejector. 2,969,748, 1–31–61, Cl. 103—271.

Stalker, Edward A. Rotary fluid machines with damped blades. 2,969,952, 1–31–61, Cl. 253—39.

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Standard Oil Co. (Indiana): *See*—
Fields, Ellis K. 2,970,110.
Friedlander, Herbert N., and Baldwin. 2,970,169.
Swakon, Edward A. 2,970,059.

Standard Oil Co. (Ohio), The: *See*—
Snyder, Robert W., and De Gray. 2,970,104.

Standard Packaging Corp.: *See*—
Cottrill, Charles E. 2,969,904.

Standard Steel Corp.: *See*—
Freeman, Marvin B. 2,969,851.

Steiger, Norbert: *See*—
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Stein, Leo. Briefcase with reinforced edge structure. 2,969,822, 1–31–61, Cl. 150—1.6.

Stephens, Ronald B., to Heli Coil Corp. Tool for inserting wire coils in bores. 2,969,588, 1–31–61, Cl. 29—240.5.

Stewart, Andrew H. Charge forming apparatus. 2,969,614, 1–31–61, Cl. 48—55.

Stohr, Jacques A., to Commissariat a l'Energie Atomique. Method and device for arc welding. 2,970,207, 1–31–61, Cl. 219—131.

Stoughton, Raymond W., to United States of America, Atomic Energy Commission. Separation of plutonium ions from solution by adsorption on zirconium pyrophosphate. 2,970,035, 1–31–61, Cl. 23—14.5.

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Gutmann, Hugo, Straub, and Zeller. 2,970,159.

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Struthers, John W. Trailer. 2,969,989, 1–31–61, Cl. 280—43.11.

Sugar Research Foundation, Inc.: *See*—
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Sulkin, Maurice A., G. W. Campbell, and L. C. Young, to North American Aviation, Inc. Asymmetrically variable supersonic inlet system. 2,969,930, 1–31–61, Cl. 244—53.

Sulmer, Fred U., to Westinghouse Electric Corp. Gyro erection cut-out method. 2,969,683, 1–31–61, Cl. 74—5.41.

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Svenska Rotor Maskiner Aktiebolag: *See*—
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Swakon, Edward A., to Standard Oil Co. Wax-type polish using polychloroalkylbenzenes. 2,970,059, 1–31–61, Cl. 106—8.

Swanson, Arthur, to Poole Foundry & Machine Co. Shear pin unit for flexible coupling. 2,969,661, 1–31–61, Cl. 64—28.

Swerdlow, Nathan, and W. R. Wilson, to General Electric Co. Electric bus duct apparatus. 2,970,185, 1–31–61, Cl. 174—99.

Swiggett, Robert L., to Printed Motors Inc. Printed circuit armature. 2,970,238, 1–31–61, Cl. 310—268.

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Taylor, Charles N. Tractor lift. 2,969,602, 1–31–61, Cl. 37—144.

Taylor, Landy, and L. C. Brown, Muck loading attachment for mine skips. 2,969,886, 1–31–61, Cl. 214—741.

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Ten Eyck, Edward H., and G. P. Larson, to E. I. du Pont de Nemours and Co. Pyrolysis of fluorocarbons to hexafluoropropylene. 2,970,178, 1–31–61, Cl. 260—653.3.

Terlecky, Boris, to ACF Industries, Inc. Car construction. 2,969,752, 1–31–61, Cl. 105—418.

Terrett, John P., J. B. Shields, and L. J. Nava, to Dairy Foods Inc. Process for producing crystalline spray dried material. 2,970,057, 1–31–61, Cl. 99—203.

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Thomas, Gerald B., to Signal Oil and Gas Co. Device for fracturing formations. 2,969,841, 1–31–61, Cl. 166—243.

Thomas, Gordon H., and J. Fried, to Olin Mathieson Chemical Corp. 9 α-alkyl steroids and their method of preparation. 2,970,142, 1–31–61, Cl. 260—239.55.

Thompson, Bert, to Perfect Circle Corp. Piston ring. 2,970,023. 1–31–61. Cl. 309—44.

Thompson, Burnett F. Multi-use article of juvenile furniture. 2,969,830, 1–31–61, Cl. 155—44.

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Tokheim Corp.: *See*—
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Williams, Roger, B., Jr. 2,970,209.
Tolkien, Fritz. Automatic valve for air pumps and the like. 2,969,304, 1–31–61, Cl. 137—269.5.
Tonneson, Floyd. Wreath support. 2,969,947, 1–31–61, Cl. 248—27.8.
Toulmin, Harry A., Jr., to The Commonwealth Engineering Co. of Ohio. Apparatus and method for land transportation. 2,969,751, 1–31–61, Cl. 105—74.
Towles, William B., to United States of America, Navy. Analog-to-digital converters. 2,970,209, 1–31–61, Cl. 340—347.
Treaneman, Grace E.: *See*—
Dyke, Charles L. 2,969,986.
Trico Products Corp.: *See*—
Riester, William C. 2,969,776.
Trojahn, Charles J. Aircraft rotor driving means. 2,969,937, 1–31–61, Cl. 244—17.19.
Tropper, Hans: *See*—
Hofer, Rudolf, and Tropper. 2,970,282.
Trowbridge, David R., and N. Moss, to The Plessey Co. Ltd. Auxiliary power systems associated with aircraft turbines. 2,969,653, 1–31–61, Cl. 62—172.
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Tuck, Robert M.: *See*—
Harmon, Kenneth B., and Tuck. 2,969,894.
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Udylite Corp., The: *See*—
Clark, Chester G. 2,969,750.
Uhrain, Michael C., to The Taylor-Winfield Corp. Metal joiner, particularly for strip. 2,970,208, 1–31–61, Cl. 219—125.
Ulbing, Otmar M. Fuel injector. 2,969,738, 1–31–61, Cl. 103—2.
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Union Carbide Corp.: *See*—
Bailey, Donald L. 2,970,150.
Bolton, Wilbur M. 2,970,064.
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United-Carr Fastener Corp.: *See*—
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Van Dalen, Christiaan J., and H. C. A. van Duuren, to De Staat der Nederlanden, ten deze vertegenwoordigd door de Directeur-Generaal der Posterijen, Telegrafie en Telefonie. Arhythmic telecommunication system. 2,970,189, 1–31–61, Cl. 178—23.
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Vieke, Frederick W., to International Business Machines Corp. Electronic relay circuit. 2,970,291, 1–31–61, Cl. 340—172.5.
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Vogt, Richard, to United States of America, War. Linking airplanes and wings of airplanes. 2,969,933, 1–31–61, Cl. 244—2.
Voltaire, Paul, and D. N. Mends, to The Barden Corp. Groove wobble and eccentricity gauge. 2,969,596, 1–31–61, Cl. 33—174.
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Walker, Ruth A., to Johnson & Johnson. Process for making amphoteric surface active agents. 2,970,160, 1–31–61, Cl. 260—404.5.
Walker, Wendell R., and E. J. Schulenburg, to Time-O-Matic Co. Contact pileup. 2,970,200, 1–31–61, Cl. 200—166.
Wallis, Barnes N., to Vickers-Armstrongs (Aircraft) Ltd. Variable sweepback airplane. 2,969,938, 1–31–61, Cl. 244—46.
Walters, Henry G. Current failure indicator. 2,970,205, 1–31–61, Cl. 340—253.
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Watrous, Robert B., to Minneapolis-Honeywell Regulator Co. Meter. 2,969,678, 1–31–61, Cl. 73—407.
Watson, Orin E. Liquid injector. 2,969,684, 1–31–61, Cl. 74—40.
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Whitlock, Herbert E., to Verona-Pharma Chemical Corp. Metallized mixed azodyestuffs. 2,970,137, 1–31–61, Cl. 260—145.
Whittemore, Harold E., to Armstrong Cork Co. Stenciling machine. 2,969,828, 1–31–61, Cl. 154—23.
Whitten, Owen M., to Kelsey-Hayes Co. Metering valve construction. 2,969,807, 1–31–61, Cl. 137—620.
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Williams, Roger B., Jr., to Toledo Scale Corp. Pulse generator. 2,970,269, 1–31–61, Cl. 328—38.
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Wilson, Allen B., to Acme Steel Co. Roof structure. 2,969,754, 1–31–61, Cl. 108—13.
Wilson, Christopher L., and H. G. Hammon, to Hudson Foam Plastics Corp. Cellular polyurethane resin and process of preparing same. 2,970,118, 1–31–61, Cl. 260—2.5.
Wilson, Forest. Furniture construction. 2,969,832, 1–31–61, Cl. 155—197.
Wilson, Forest. Furniture assembly bracket. 2,970,025, 1–31–61, Cl. 311—114.
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Witt, Victor R., P. I. Prentky, and E. K. Dudek, to International Business Machines Corp. Skew elimination system. 2,970,300, 1–31–61, Cl. 340—174.
Woldring, Egbert, and P. Weltevrede, to The Rapids-Standard Co., Inc. Conveyorized storage racks. 2,969,863, 1–31–61, Cl. 193—35.
Woldring, Egbert, to The Rapids-Standard Co., Inc. Guide rail structure for lift platform. 2,970,016, 1–31–61, Cl. 308—6.
Wood, Donald L., and A. Gatti, to General Electric Co. Method for hardening metals. 2,970,052, 1–31–61, Cl. 75—201.
Woodruff, Joseph B., to Hayes Engineers (Leeds) Ltd. Servo-control mechanism operating means. 2,969,774, 1–31–61, Cl. 121—41.
Woodward, Gary F., to King-Seeley Corp. Condition-responsive system. 2,970,201, 1–31–61, Cl. 219—20.
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Worrell, Robert L., to Allis-Chalmers Mfg. Co. Deflector. 2,969,862, 1–31–61, Cl. 193—4.
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Classification of Designs

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OFFICIAL GAZETTE • UNITED STATES PATENT OFFICE

January 31, 1961 Volume 762 Number 5

TRADEMARKS

NOTICES

Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 43,257 (STAR AND DESIGN), Kampfe Bro's., Razors and razor blades; **Reg. No. 43,258** (DESIGN OF THREE STARS), same; **Reg. No. 56,186** (STAR AND DESIGN), same; **Reg. No. 62,751**, same; **Reg. No. 62,752**, same, Safety razors, razor blades and safety corn knives; **Reg. No. 62,753** (DESIGN OF THREE STARS), same, filed Dec. 1, 1960, D.C.N.J. (Newark), Doc. 1008/60, *Philip Morris Incorporated* v. *Starr Associates, Inc. et al.*

Reg. No. 43,258. (See Reg. No. 43,257.)

Reg. No. 56,186. (See Reg. No. 43,257.)

Reg. No. 62,751. (See Reg. No. 43,257.)

Reg. No. 62,752. (See Reg. No. 43,257.)

Reg. No. 62,753. (See Reg. No. 43,257.)

Reg. No. 87,889 (DUBARRY), Richard Hudnut, Soap (solid and liquid); **Reg. No. 228,105** (DUBARRY PERFUME PATS), same, Perfume in a concentrated or solid form having a higher percentage of essential oils than is found in liquid perfume; **Reg. No. 282,468** (DUBARRY CHATELAINE), same, Rouge, lipstick and face powder; **Reg. No. 307,276** (DUBARRY), same, Perfumes, toilet water, sachet powder, talcum powder, dentifrices, etc.; **Reg. No. 385,779** (DUBARRY SUCCESS COURSE), same, Pamphlets comprising a course of exercises and beauty treatment; **Reg. No. 390,188** (DUBARRY SUCCESS KIT), same, Skin freshener, foundation lotion, skin cream, tissue softening cream, face powder, lipstick, lash beauty, eye shadow and rouge; **Reg. No. 390,413** (DUBARRY SUCCESS SCHOOL), same, Cleansing cream, foundation lotion, skin freshener and face powder; **Reg. No. 390,530**, same, Soap, filed Dec. 29, 1959, D.C., S.D. Calif. (Los Angeles), Doc. 1345/59–MC, *Richard Hudnut* v. *Du Barry of Hollywood, Inc.* Injunction granted (notice Nov. 30, 1960).

Reg. No. 228,105. (See Reg. No. 87,889.)

Reg. No. 282,468. (See Reg. No. 87,889.)

Reg. No. 307,276. (See Reg. No. 87,889.)

Reg. No. 385,779. (See Reg. No. 87,889.)

Reg. No. 390,188. (See Reg. No. 87,889.)

Reg. No. 390,413. (See Reg. No. 87,889.)

Reg. No. 390,530. (See Reg. No. 87,889.)

Reg. No. 507,068 (FRESH), The Pharma-Craft Corporation, Deodorant and nonperspirant; **Reg. No. 600,716**, same, Deodorant bath soap; **Reg. No. 621,438**, same, Pharma-Craft Corporation, Deodorant and nonperspirant, filed June 18, 1958, D.C., S.D.N.Y., Doc. 134/365, *Joseph E. Seagram & Sons, Inc. et al.* v. *Revlon, Inc.* Stipulation and order of discontinuance Dec. 5, 1960.

Reg. No. 600,716. (See Reg. No. 507,068.)

Reg. No. 621,438. (See Reg. No. 507,068.)

Reg. No. 662,492 (DETROITER), Detroiter Mobile Homes Mfg., Inc., Mobile homes; **Reg. No. 669,814** (DETROITER

CONDITION OF TRADEMARK APPLICATIONS AS OF NOVEMBER 30, 1960

Total number of applications awaiting action [excluding renewals and Sec. 12 (c)]	11,901
Date of oldest new application	June 3, 1960
Date of oldest amended application	June 1, 1960

J. H. MERCHANT, Director, Trademark Examining Operation

TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application: New	Oldest Application: Amended
(I) C. M. WENDT, Classes 2, 3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 39, 40, 41, 42, 43, 44, 50	6-17-60	7-4-60
(II) H. E. KASCHUB (Acting), Classes 1, 6, 18, 22, 37, 38, 45, 46, 47, 48, 49, 51, 52; Service Mark Classes 100, 101, 102, 103, 104, 105, 106, 107; Collective Membership Marks, Class 200; Certification Marks, Classes A and B	6-8-60	6-1-60
Renewals (All Classes)	11-10-60	11-30-60
Sec. 12 (c) Publications (All Classes)	11-1-60	11-30-60

Applications filed during the month of November 1960—1833

Registrations Issued	336—No. 710,382 to No. 710,717
Renewals Issued	62

The TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington 25, D. C., to whom all subscriptions should be made payable and all communications addressed; subscription price, $10.00 per annum, foreign mailing $3.75 additional; single copies, 20 cents each.

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 10 cents each. Address orders to the Commissioner of Patents, Washington 25, D.C.

TOPS THEM ALL AND DESIGN), same, filed Sept. 27, 1960, D.C., N.D. Okla. (Tulsa), Doc. 5020, *Detroiter Mobile Homes Mfg., Inc.* v. *Maverick Mobile Home Corporation et al.* Trademarks held valid; defendants enjoined Dec. 2, 1960.

Reg. No. 665,649 (BLUE SEAL), The Integrity Magnesia Corporation, Pharmaceutical preparations—namely, citrate of magnesia, isopropyl alcohol, wintergreen alcohol, witch hazel, cod liver oil, mouth wash and milk of magnesia, filed Dec. 8, 1960, D.C., E.D. Pa. (Philadelphia), Doc. 28/958, *Integrity Magnesia Corporation* v. *The Mifflin, McCambridge Company.*

Reg. No. 669,814. (See Reg. No. 662,492.)

MARKS PUBLISHED FOR OPPOSITION

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Notice of opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.
As provided by section 31 of said act, a fee of twenty-five dollars must accompany each notice of opposition.

Class 1—Raw or Partly Prepared Materials

SN 92,319. A. E. Staley Manufacturing Company, Decatur, Ill. Filed Mar. 7, 1960.

STAPON

Owner of Reg. Nos. 337,166 and 614,148.
For Synthetic Resins.
First use Mar. 2, 1960.

Class 2—Receptacles

SN 90,332. Joseph L. Hassmer, d.b.a. Hassmer Brothers, Chicago, Ill. Filed Feb. 4, 1960.

ACROSEAL

For Burial Caskets.
First use Nov. 5, 1959.

SN 90,544. The Mead Corporation, Dayton, Ohio. Filed Feb. 8, 1960.

HH

For Containers Made of Corrugated Board and Blanks Therefor.
First use about May 1951.

SN 99,334. M. Korn Packaging Co. Inc., New York, N.Y. Filed June 20, 1960.

POLY-RACK-PACK
PRP

For Plastic Bags.
First use June 3, 1960.

SN 100,452. Illinois Tool Works, Chicago, Ill. Filed July 7, 1960.

Cx

For Containers—Namely, Cups, Flower Pots, Relatively Small Plastic Packaging Receptacles, and Portable Carriers for Containers.
First use on or about Feb. 24, 1960.

SN 101,650. Specialty Sheet Metal Manufacturing Co., d.b.a. Speco Products, Chicago, Ill. Filed July 28, 1960.



For Household Storage and Dispensing Containers—Namely, Bread Cabinets, Condiment Cabinets, Canister Sets and Dispensers for Rolled Materials, Such as, Paper Towels, Aluminum Foil, Wax Paper and Plastic Wrappings.
First use Jan. 11, 1960.

SN 104,233. Columbia Basin Plastics Company, Hawthorne, Calif. Filed Sept. 12, 1960.

PLAN O BANS

For Sales Container for Young Plants.
First use Jan. 18, 1960.

SN 104,525. The Heekin Can Company, Cincinnati, Ohio. Filed Sept. 15, 1960.

TREZUR CHEST

For Portable Insulated Picnic Coolers.
First use Aug. 5, 1960.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

SN 102,248. Wallace M. L. Johnson, d.b.a. Kennel-Aire Mfg. Co., St. Paul, Minn. Filed Aug. 8, 1960.

"TRAVEL-AIRE"

For Animal Cage.
First use Feb. 9, 1960.

Class 4—Abrasives and Polishing Materials

SN 89,571. General Foods Corporation, White Plains, N.Y. Filed Jan. 25, 1960.

S.O.S

Owner of Reg. No. 128,961.
For Soap Pads.
First use Dec. 14, 1959; Jan. 1, 1919, in another display.

SN 103,227. Unimatic Manufacturing, Inc., Bay City, Mich. Filed Aug. 22, 1960.

UNIMATIC

For Honing Stones.
First use Mar. 5, 1959.

SN 103,482. Raybestos-Manhattan, Inc., Passaic, N.J. Filed Aug. 26, 1960.

FLEX-I-GRIT

For Coated Abrasive Sheets.
First use July 26, 1960.

SN 103,698. Armstrong Cork Company, Lancaster, Pa. Filed Aug. 31, 1960.

VINAFLOS

For Floor Polishing Composition.
First use Aug. 24, 1960.

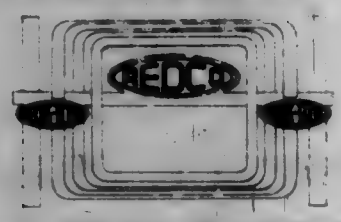
Class 5—Adhesives

SN 97,470. Field Paper Box Co., Chicago, Ill. Filed May 19, 1960.



The term "Sealing Process" is disclaimed apart from the mark as shown.
For Pressure Sensitive Adhesive Binders Used in the Manufacture of Paper and Fibreboard Products.
First use Feb. 26, 1960.

SN 100,931. Ernst C. Redmond, Jr., d.b.a. Mickey Redmond & Co., Dallas, Tex. Filed July 15, 1960.



No claim is made to the wording "Stik-Tite" apart from the mark.
For Rubber Cement.
First use Mar. 2, 1959.

SN 103,449. General Tape Corporation, St. Paul, Minn. Filed Aug. 26, 1960.

GENERAL

For Pressure Sensitive Adhesive Tapes.
First use July 2, 1960.

SN 104,999. Hiller Aircraft Corporation, San Carlos, Calif. Filed Sept. 22, 1960.

METLHESIVE

For Adhesive for Bonding Metal.
First use Jan. 12, 1960.

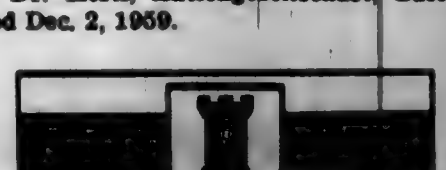
Class 6—Chemicals and Chemical Compositions

SN 77,875. Stauffer Chemical Company, New York, N.Y., assignee of Victor Chemical Works, Chicago, Ill. Filed July 16, 1959.

VICTAMIDE

For Water-Softening Compositions, Flameproofing Agents, Dispersing Agents, and Detergent Builders.
First use in or about July 1948.

SN 86,484. Dr. Hefti, Aktiengesellschaft, Zurich, Switzerland. Filed Dec. 2, 1959.



Applicant disclaims the exclusive rights to the use of the word "Sorbitol" apart from the mark as a whole. Owner of Swiss Reg. No. 177,129, dated Aug. 18, 1959.
For Hydrated Sugar for Industrial Purposes.

SN 91,794. Heyden Newport Chemical Corporation, New York, N.Y. Filed Feb. 29, 1960.

TERPOX

For Viscosity Reducing Agent for Use in Epoxy Resins.
First use on or about Oct. 26, 1959.

SN 92,455. Ferguson Fumigants, Inc., Hazlewood, Mo. Filed Mar. 9, 1960.



Owner of Reg. No. 624,265.
For Insecticides and Fumigants.
First use May 10, 1955; Oct. 24, 1949, as to "Dawson."

SN 92,769. Industrial Chemical Products Co., Detroit, Mich. Filed Mar. 14, 1960.

NO-REZ

For Soldering Flux.
First use Jan. 27, 1958.

SN 102,829. Consolidated Coatings & Chemicals, Inc., d.b.a. Seidlitz Paint & Varnish Co., Kansas City, Mo. Filed Aug. 17, 1960.

CONCHEMCO

For Chemical Preparations Used as Industrial Finishes and Components Thereof.
First use July 19, 1960.

Class 7—Cordage

SN 97,239. Norcross, Inc., New York, N.Y. Filed May 16, 1960.



Owner of Reg. No. 659,843.
For Ribbon and Twine for Decorative Tying.
First use July 15, 1956.

Class 8 — Smokers' Artides, Not Including Tobacco Products

SN 91,922. Philip J. Desjardins, d.b.a. Philip Desjardins & Son, Fall River, Mass. Filed Mar. 1, 1960.

JD

For Tobacco Smoking Pipes.
First use Jan. 1, 1955.

Class 9 — Explosives, Firearms, Equipments, and Projectiles

SN 66,540. Firearms International Corporation, Washington, D.C. Filed Jan. 27, 1959.

La Salle

For Shotguns.
First use July 24, 1958.

SN 76,026. "Star" Bonifacio Echeverria, S.A., Eibar, Guipuscoa, Spain. Filed June 18, 1959.

LANCER

Owner of Spanish Reg. No. 318,913, dated July 9, 1957.
For Firearms—Namely, Rifles, Hunting Guns, Revolvers, Pistols, and Anti-Aircraft Guns.
First use 1956; in commerce Apr. 1, 1957.

Class 10 — Fertilizers

SN 96,114. Germain's, Inc., Los Angeles, Calif. Filed Apr. 29, 1960.

GERMAIN'S

Owner of Reg. Nos. 508,904, 680,958, and others.
For Lawn and Garden Fertilizer.
First use Feb. 2, 1960.

SN 96,816. Societe des Usines Chimiques Rhone-Poulenc, Paris, France. Filed May 10, 1960.

TRYLONE

Priority claimed under Sec. 44(d) on French Reg. No. 484,753, dated Dec. 17, 1959 (Paris); Natl. Inst. No. 136,030.
For Phytohormones Compositions Used Particularly To Increase and Advance the Harvest or Crops of Fruits and Vegetables.

Class 12 — Construction Materials

SN 77,075. Clipco, Inc., Los Angeles, Calif. Filed July 6, 1959.

SPEE-DEE

For Lathing Clips for Attaching Lathing to Building Frame Structure, and to One Another.
First use on or about July 1, 1952.

SN 77,221. Theodore Pafundi, d.b.a. Ted Pafundi, Granville, N.Y. Filed July 7, 1959.

SLATILE

For Tiles.
First use June 2, 1959.

SN 88,663. Globe Roofing Products Co., Inc., Whiting, Ind. Filed Jan. 8, 1960.

SEAWAY

For Aluminum Siding.
First use Dec. 22, 1959.

SN 89,098. United States Ceramic Tile Company, Canton, Ohio. Filed Jan. 15, 1960.

UNITILE

For Glazed and Unglazed Floor and Wall Ceramic Tiles.
First use Aug. 18, 1959.

SN 89,240. Aluma-Vue Company, Milford, Mich. Filed Jan. 19, 1960.

ALUMA-VUE HORIZONTAL SLIDING ALUMINUM WINDOWS

The applicant disclaims the words "Horizontal Sliding Aluminum Windows" except as used with the mark. The lining on the drawing is indicative of shading rather than particular colors.
For Horizontal Sliding Windows.
First use February 1957.

SN 89,669. General Refractories Company, Philadelphia, Pa. Filed Jan. 26, 1960.

NITREX

Owner of Reg. No. 414,717.
For Silicon-Carbide Refractory Bricks and Brick Shapes.
First use Oct. 7, 1959.

SN 90,267. Oklahoma Cement Company, Tulsa, Okla. Filed Feb. 3, 1960.

OKLAHOMA

Applicant makes no claim to the exclusive appropriation of the word "Oklahoma" except in the precise relation and

association in which it appears in the drawing and description. The mark is lined for red and blue, but no claim is made to color.
For Cement Sacks.
First use Dec. 28, 1959.

SN 91,257. Harbor Plywood Corporation, Aberdeen, Wash. Filed Feb. 19, 1960.

HARBOR

Owner of Reg. Nos. 283,513, 557,996, and others.
For Plywood, Paneling, Hardboard, Doors, and Wood Veneer With Paper Overlay.
First use at least as early as January 1958 on plywood.

SN 91,607. Kinkead Industries, Incorporated, Chicago, Ill. Filed Feb. 25, 1960.

SAFE-TEE-FOLD

For Tub and Shower Enclosures.
First use Feb. 12, 1960.

SN 92,653. Shakertown Corporation, Cleveland, Ohio. Filed Mar. 11, 1960.

SILVARA

For Quarried Stone for Wall Facing Purposes and the Like.
First use 1954.

SN 99,055. The Gibson-Homans Company, Cleveland, Ohio. Filed June 15, 1960.

GLAZ-MATIC

For Window Glaze Sold in a Cartridge Which Has a Special Nozzle Designed To Control the Flow and the Spread of the Goods.
First use Apr. 1, 1960.

SN 101,358. Viscount Supply Co., Limited, Burlington, Ontario, Canada. Filed July 22, 1960.

VISCOUNT

Owner of Canadian Reg. No. 113,092, dated Jan. 30, 1959.
For Prime Windows, Storm Windows, Storm Doors and Screens.

SN 101,380. Douglas Fir Plywood Association, Tacoma, Wash. Filed July 25, 1960. COLLECTIVE MARK.

L1-11

Owner of Reg. Nos. 596,230, 582,995, and 591,009.
For Plywood.
First use July 8, 1960.

SN 101,422. Nickey Brothers, Inc., Memphis, Tenn. Filed July 25, 1960.

Heritage Hewn

For Hardwood Plywood Wall Paneling.
First use Feb. 2, 1960.

SN 101,758. Detfyenske Traelastkompagni Aktieselskab, Odense, Denmark. Filed Aug. 1, 1960.

DAMPA

Owner of Danish Reg. No. 2175–1958, dated Nov. 1, 1958.
For Acoustic Facings, Made of Metal.

SN 101,811. H. K. Porter Company, Inc., Pittsburgh, Pa. Filed Aug. 1, 1960.

MAGWAL

For Refractory Brick Used in High Temperature Furnace Linings.
First use June 30, 1960.

SN 101,812. H. K. Porter Company, Inc., Pittsburgh, Pa. Filed Aug. 1, 1960.

PORCO

For Refractory Brick Used in High Temperature Furnace Linings.
First use June 30, 1960.

SN 101,813. H. K. Porter Company, Inc., Pittsburgh, Pa. Filed Aug. 1, 1960.

KROMWAL

For Refractory Brick Used in High Temperature Furnace Linings.
First use June 30, 1960.

SN 102,410. National Metal Products Company, Pittsburgh, Pa. Filed Aug. 10, 1960.

KOLORLUM

For Weatherstrip.
First use May 6, 1960.

SN 102,411. National Metal Products Company, Pittsburgh, Pa. Filed Aug. 10, 1960.

PITTSBURGH-LOCK

For Sidings and Panellings of Structures, Such as Houses.
First use Apr. 25, 1960.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

SN 88,179. Rosán Engineering Corp., Newport Beach, Calif. Filed Dec. 29, 1959.

SLIMSERT

For Threaded Fastener Inserts.
First use Dec. 21, 1959.

SN 92,952. Bauer & Schaurte, Neuss (Rhine), Germany. Filed Mar. 16, 1960.



Owner of German Reg. No. 683,530, dated Oct. 29, 1955. For Fastening Devices for Metallic Objects—Namely, Screws, Bolts, Nuts, Rivets, Split Rivets, Clamps, Cramps and All Other Types of Formed Fastening Devices for Metallic Objects.

SN 92,953. Bauer & Schaurte, Neuss (Rhine), Germany. Filed Mar. 16, 1960.

VERBUS

Owner of German Reg. No. 669,715, dated Jan. 14, 1955. For Screws, Bolts, Nuts.

SN 101,317. Elkay Manufacturing Company, Chicago, Ill. Filed July 22, 1960.

TIARA

For Faucets.
First use Jan. 22, 1960.

SN 101,402. La Favorite Rubber Manufacturing Company, Hawthorne, N.J. Filed July 25, 1960.

FIELDLINK

For Rubber Lined Pipe, and Joints, Unions and Gaskets for Connecting the Same.
First use June 21, 1955.

SN 101,596. American Tube Products Inc., West Warwick, R.I. Filed July 28, 1960.

HAMMERTROL

For Hot Water Heating System Components—Namely, a Shock Suppressor.
First use June 10, 1959.

SN 101,766. Elkay Manufacturing Company, Chicago, Ill. Filed Aug. 1, 1960.

ELKAY

For Kitchen Sinks, Drainboards, Dish Tables, Scullery Sinks, Stainless Steel Specialty Items, Hospital Equipment, and Stainless Steel Table Tops.
First use July 30, 1957.

SN 101,987. United States Steel Corporation, Pittsburgh, Pa. Filed Aug. 3, 1960.

USS

Owner of Reg. No. 558,443.
For Bolts.
First use June 15, 1960.

Class 14—Metals and Metal Castings and Forgings

SN 100,279. Mid-West Forging and Manufacturing Company, Chicago, Ill. Filed July 5, 1960.

GAUTIER

For Rail Anchors.
First use July 1928.

SN 100,382. National-Standard Company, Niles, Mich. Filed July 6, 1960.

NASTAN

For Wire.
First use June 24, 1960.

SN 103,233. Alfried Krupp von Bohlen und Halbach, d.b.a. Fried. Krupp, Essen, Germany. Filed Aug. 22, 1960.

WISIL

Owner of German Reg. No. 423,061, dated Sept. 4, 1930. For Rust-Proof and Acid-Proof Iron- and Steel-Alloys.

Class 16—Protective and Decorative Coatings

SN 86,929. Chase and Sons, Inc., North Quincy, Mass. Filed Dec. 9, 1959.

CHASEWRAP

For Laminating Coating Materials in Sheet and Strip Form for Application to Pipes, Tubes and the Like.
First use on or about July 30, 1959.

SN 86,930. Chase and Sons, Inc., North Quincy, Mass. Filed Dec. 9, 1959.

CHASEFIL

For Preparatory Surface Coating Materials in Paste Form.
First use on or about July 30, 1959.

SN 86,931. Chase and Sons, Inc., North Quincy, Mass. Filed Dec. 9, 1959.

CORR-PREV

For Laminating Coating Materials in Sheet and Strip Form for Application to Pipes, Tubes and the Like, and Preparatory Surface Coating Materials in Liquid and Paste Form.
First use on or about Nov. 25, 1958.

SN 88,114. Joseph Waldman & Sons, Irvington, N.J. Filed Dec. 28, 1959.

E-KOTE

For Coating Composition, Particularly for Coating Electrical and Electronic Components.
First use Oct. 26, 1959.

SN 99,218. Ironside Manufacturing Co., Warren, Mich. Filed June 17, 1960.

NYWELD

For Epoxy Resin Paints, Coatings, Plastic Fillers, Boat Caulking Compounds, and Adhesives.
First use Aug. 27, 1959.

SN 102,828. Consolidated Coatings & Chemicals, Inc., d.b.a. Seidlitz Paint & Varnish Co., Kansas City, Mo. Filed Aug. 17, 1960.

CONCHEMCO

For Paints and Protective Coatings.
First use July 7, 1960.

Class 18—Medicines and Pharmaceutical Preparations

SN 50,174. Nutri-Bio Corporation, Beverly Hills, Calif. Filed Apr. 22, 1958.

NUTRI-PAK

For Containers and Packages Marketed With a Vitamin-Mineral Food Supplement.
First use Sept. 17, 1957.

SN 91,719. The Upjohn Company, Kalamazoo, Mich. Filed Feb. 26, 1960.

PANALBA DROPS

Applicant makes no claim for the word "Drops" apart from the mark as shown. Owner of Reg. Nos. 643,183, 637,945, and others.
For Antibiotic in Liquid Form.
First use Nov. 16, 1959.

SN 94,528. U.S. Vitamin & Pharmaceutical Corporation, New York, N.Y. Filed Apr. 6, 1960.

BACID

For Medicinal Preparation on the Order of the Bulgarian Bacillus, Specifically Lactobacillus Acidophilus for the Reduction of Putrefactive Organisms in the Intestinal Tract.
First use Nov. 27, 1917.

SN 100,825. Viobin Corporation, Monticello, Ill. Filed July 13, 1960.

VIOL

For Nutritional Supplement Consisting of Octacosanol and Refined Cottonseed Oil.
First use June 3, 1960.

SN 103,220. The Stuart Company, Pasadena, Calif. Filed Aug. 22, 1960.

HEPROFAX

For Combination of Liver Fraction 2 and Liver Fraction A Incorporated in a Vitamin Preparation.
First use July 1, 1960.

SN 103,261. C. H. Boehringer Sohn, Ingelheim (Rhine), Germany. Filed Aug. 23, 1960.

ZOYLIN

Owner of German Reg. No. 330,446, dated Mar. 16, 1925.
For Anti-Biotic.

SN 106,466. Baxter Laboratories, Inc., Morton Grove, Ill. Filed Oct. 17, 1960.

TRAVASE

For Enzyme Preparation for Debridement.
First use Sept. 29, 1960.

SN 106,471. Bristol-Myers Company, New York, N.Y. Filed Oct. 17, 1960.

PENSTAPHOCIDE

For Antibiotic Pharmaceutical Preparation.
First use Aug. 31, 1960.

SN 106,628. Pharmacal Products, Inc., Miami, Fla. Filed Oct. 18, 1960.

TRANFUSAN

For Vitamin and Mineral Tonic.
First use Sept. 22, 1960.

SN 106,798. Fleming and Company, Pharmaceuticals, St. Louis, Mo. Filed Oct. 20, 1960.

MARBLEN

For Antacid Composition.
First use July 1, 1960.

SN 106,925. Merck & Co., Inc., Rahway, N.J. Filed Oct. 21, 1960.

CAPROCID

Owner of Reg. Nos. 340,720 and 191,984.
For Medicinal Preparation for Use as a Hemostatic Agent.
First use Sept. 14, 1960.

SN 106,975. B. F. Ascher & Company, Inc., Kansas City, Mo. Filed Oct. 24, 1960.

CHYTRYP

For Injectable Solution for Use in Relieving Inflammation.
First use Apr. 12, 1960.

SN 107,051. Perry Medical Products, Inc., Portland, Oreg. Filed Oct. 24, 1960.

FLUORABON

For Chewable Sodium Fluoride Tablets.
First use June 1, 1960.

SN 107,056. Ravensberg GmbH Chemische Fabrik, Konstanz, Germany. Filed Oct. 24, 1960.

EVAZOL

Owner of German Reg. No. 622,750, dated June 28, 1952.
For Antibacterial and Antimycotic Pharmaceutical Preparations.

Class 19—Vehides

SN 62,556. Prospector Aktiebolag, Stockholm, Sweden, assignee of Björn Wilhelm Holmström and Göran Anders Folke Arbenius (joint owners), Stockholm, Sweden. Filed Nov. 17, 1958.



Owner of Swedish Reg. No. 88,368, dated Nov. 27, 1959.
For Mounting Devices Adapted To Be Fixed to the Ends of Non-Driving Shafts of Vehicle Wheels Outside Said Wheels To Carry Advertising or Sign Plates as Well as Such Plates.

SN 89,575. General Motors Corporation, Detroit, Mich. Filed Jan. 25, 1960.

REAR-VUE

For Window Defrosters for Automotive Vehicles.
First use Dec. 14, 1959.

SN 92,610. General Foundry & Mfg. Co., Flint, Mich. Filed Mar. 11, 1960.

GENRL

For Brake Drums and Wheels for Motor Vehicles and Trailers.
First use Mar. 1, 1959, on brake drums.

SN 100,408. The Hamilton Caster & Mfg. Co., Hamilton, Ohio. Filed July 1, 1960.

DURALAST

For Tires Sold as Components of Industrial Wheels.
First use Sept. 11, 1959.

SN 100,618. Lexco Engineering & Manufacturing Corporation, Souderton, Pa. Filed July 11, 1960.

LEXCO MOTELLER

For Linen Service Truck for Use in Hotels, Motels, Etc.
First use May 25, 1960.

SN 102,654. The Goodyear Tire & Rubber Company, Akron, Ohio. Filed Aug. 15, 1960.

Arctic

For Vehicle Seat Cushions.
First use Jan. 27, 1960.

SN 105,321. Robert D. Hall, d.b.a. R. D. Hall Manufacturing Co., North Hollywood, Calif. Filed Apr. 15, 1960.

THE ALCAN CAMPER IT RAISES IT LOWERS

The terms "Camper," "It Raises" and "It Lowers" are hereby disclaimed apart from the mark as shown.
For Telescoping Cabins for Trucks.
First use July 28, 1958.

Class 20 — Linoleum and Oiled Cloth

SN 103,434. Armstrong Cork Company, Lancaster, Pa. Filed Aug. 26, 1960.

CASTILIAN

For Plastic Tile.
First use Aug. 22, 1960.

Class 21 — Electrical Apparatus, Machines, and Supplies

SN 88,917. Hy-Arc, Inc., Detroit, Mich. Filed Jan. 13, 1960.

HY-ARC

For Electric Arc Welding Torch Attachments Consisting of Circular Hollow Rings With Perforations To Permit the Emission of Gas, the Rings Fitting Around the Heads of Electric Welding Torches of the Type in Which a Welding Rod Is Mounted at the End of the Head, Together With Hollow Tubes Attached to the Rings at One End Through Which Gas Is Forced Under Pressure.
First use Oct. 1, 1958.

SN 89,903. Electric & Musical Industries Limited, Hayes, England. Filed Jan. 29, 1960.

STEREOSCOPE

For Electrical Amplifiers for Use in Sound Reproduction.
First use September 1959; in commerce September 1959.

SN 99,428. Habitat, Inc., New York, N.Y. Filed June 21, 1960.

LUMACRYL

For Ceiling, Wall, and Floor Electric Lighting Fixtures, Shades, Globes, and Lamps, Particularly Those Having One or More Parts Thereof, Composed of a Synthetic Plastic, and Components Thereof.
First use on or about July 14, 1959.

SN 99,429. Habitat, Inc., New York, N.Y. Filed June 21, 1960.

QUADRUS

For Household and Commercial Electric Lamps, Shades, Globes, and Lighting Fixtures and Components Thereof.
First use on or about Mar. 31, 1960.

SN 99,931. Gelco Enterprises, Redwood City, Calif. Filed June 29, 1960.

LECTRA FLARE

For Electrically Operated Device for Ejecting a Lighted Signal Flare From a Vehicle.
First use June 3, 1960.

SN 99,996. Arco Electronics, Inc., New York, N.Y. Filed June 30, 1960.

ARCOLYTICS

Owner of Reg. Nos. 539,433 and 690,147.
For Electrical Capacitors for Electric and Electronic Equipment and Assemblies.
First use Sept. 16, 1958.

SN 100,103. Daystrom, Incorporated, Murray Hill, N.J. Filed July 1, 1960.

CHIPPEWA

For Amplifiers in Kit Form.
First use on or about Jan. 4, 1960.

SN 100,104. Daystrom, Incorporated, Murray Hill, N.J. Filed July 1, 1960.

LEGATO

For Loudspeaker Systems in Kit Form.
First use in or about February 1957.

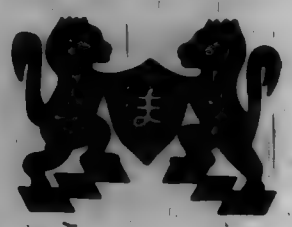
SN 100,117. Engelhard Hanovia, Inc., Newark, N.J. Filed July 1, 1960.

electrimatic

For Electrical Control and Mount Unit for Diagnostic Instruments.
First use Feb. 1, 1960.

SN 105,954. Canton-Son, Inc., New York, N.Y. Filed Oct. 7, 1960.

Crestline



For Radios and Flashlights.
First use Mar. 24, 1958.

Class 22 — Games, Toys, and Sporting Goods

SN 96,824. American Machine & Foundry Company, New York, N.Y. Filed May 11, 1960.

AMF

Owner of Reg. Nos. 168,740, 684,373, and others.
For Complete Line of Bowling Pin and Ball Handling Apparatus and Parts Therefor; Bowling Alley Equipment and Parts Therefor; Individual Equipment and Accessories Used in Connection With the Game of Bowling and Children's Cycles, Velocipedes and Children's Wheel Goods and Toys: Family Portable Pools, Children's Wading or Swimming Pools and Accessories Pertaining Thereto.
First use Aug. 22, 1945, on bowling pin and ball handling apparatus.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

SN 66,888. Holstein & Kappert Maschinenfabrik "Phonix" G.m.b.H., Dortmund, Germany. Filed Feb. 2, 1959.

PHONIX

Owner of German Reg. No. 291,781, dated Sept. 21, 1922.
For Cellerage Machinery, Apparatus and Implements for the Beverage Industry.

SN 75,068. Dakota Aviation Company, Huron, S. Dak. Filed June 4, 1959.

SPAFFLES

For Airplane Auxiliary Liquid Tanks Sold as Component Parts of Spraying Equipment.
First use Apr. 22, 1959.

SN 80,283. Timberline Equipment Company, Bradley, Ill. Filed Aug. 26, 1959.

BUSCHMASTER

For Tractor-Type Vehicles for General Maintenance of Forest Lands and Roads.
First use Mar. 29, 1959.

SN 87,477. The Cleveland Mixer Company, Bedford Heights, Ohio. Filed Dec. 17, 1959.

3-D

For Powered Mixing Apparatus for Industrial Process Materials.
First use November 1958.

SN 87,478. The Cleveland Mixer Company, Bedford Heights, Ohio. Filed Dec. 17, 1959.

BUILDING BLOCK

For Powered Mixing Apparatus for Industrial Process Materials.
First use January 1959.

SN 87,915. Schmieg Industries, Inc., Detroit, Mich. Filed Dec. 23, 1959.

CENTRI-JET

For Sewage Ejectors.
First use on or about Aug. 17, 1959.

SN 91,924. Edsbyns Industri Aktiebolag, Edsbyns, Sweden. Filed Mar. 1, 1960.

BUSHMAN

For Saws, Saw Blades, Saw Frames, Saw Handles, Wedges for Facilitating Sawing and Felling Trees (Felling Wedges), Barking Tools for Timber, Files and Rasps of All Kinds, Rakes, Picks and Mattocks of All Kinds, Axes, Knives, Tongs, Saw Setting Tools, Lifting Hooks, Link Locks, Lifting and Hauling Tongs for Timber, Saw Filing Vices.
First use Dec. 8, 1934; in commerce Dec. 8, 1934.

SN 91,994. Bauer & Schaurte, Neuss (Rhine), Germany. *Filed Mar. 2, 1960.



Owner of German Reg. No. 683,530, dated Oct. 29, 1955.
For Machine Tools—Namely, Grinding Machines.

SN 91,996. Bauer & Schaurte, Neuss (Rhine), Germany. Owner of German Reg. No. 669,716, dated Jan. 14, 1955.

VERBUS

For Machine Tools for Producing Screws, Bolts, Nuts, and Other Fasteners.

SN 93,921. Gunther Wagner, Hannover, Germany. Filed Mar. 29, 1960.

ROTAFIX

Owner of German Reg. No. 266,007, dated May 27, 1921.
For Reproducing Machines for Office Use, Tools for Such Machines and Articles Pertaining Thereto—Namely, Paints, Wax and Matrix Paper, Devices for Correcting Stencils, Developing Liquid, Glass Plates, Pen Wipers and Wipers for Paints and for Drying Purposes.

SN 94,214. White Sewing Machine Corporation, Lakewood, Ohio. Filed Apr. 1, 1960.



The drawing is lined for gold and red.
For Sewing Machines.
First use on or about Feb. 15, 1960.

SN 94,911. Nymanbolagen AB., Uppsala, Sweden. Filed Apr. 12, 1960.

CRESCENT

Owner of Swedish Reg. No. 63,882, dated Jan. 9, 1948.
For Motors and Engines—Namely, Outboard Motors and Parts Thereof.

SN 94,966. Curtiss-Wright Corporation, New York, N.Y. Filed Apr. 13, 1960.

STAR-PORT

For Steering Mechanism Units.
First use Mar. 23, 1960.

SN 95,807. Bishop Spools, Inc., New York, N.Y. Filed Apr. 26, 1960.

MULTI-TYPE

For Business Machine Ribbon Spools.
First use Apr. 20, 1960.

SN 96,353. Peltzer & Ehlers Kommandit Gesellschaft, Krefeld, Germany. Filed May 3, 1960.



Owner of German Reg. No. 731,385, dated Nov. 27, 1959.
For Machinery and Apparatus for the Production of Screws, Nuts, Rivets, and Small Iron Ware as Well as Parts of Said Machinery.

SN 97,188. Ellis Manufacturing & Distributing Company, d.b.a. Ellis Mfg. Co., Liberty, Mo. Filed May 16, 1960.



For Heated Asphalt Rollers.
First use Apr. 2, 1960.

SN 99,198. Richard C. Bradley, d.b.a. Plastic Engineering and Chemical Co., Fort Lauderdale, Fla. Filed June 17, 1960.

HOT SHOT

For Injection Guns for Spray Depositing Plastics Such as Polyester Resins and the Like.
First use Aug. 21, 1959.

SN 100,253. Hoover Ball and Bearing Company, Ann Arbor, Mich. Filed July 5, 1960.

hoover

For Balls and Bearings.
First use Mar. 3, 1958; Mar. 1, 1913, as to the word "Hoover."

SN 100,468. The Salem Tool Company, Salem, Ohio. Filed July 7, 1960.



For Tools, Lawn Spreaders, Wheelbarrows, Garden Tools and Hose Reels, Drills, Augers, Trench Drills, Vertical Auger Drills, Auger Coal Mining Machines, and Auger Mining Equipment, Ladles, Kettles and Skimmers, Butcher Tools, Sausage Stuffers, Lard Presses, Pickle Pumps, and Aluminum Scoops.
First use 1935.

SN 100,469. The Salem Tool Company, Salem, Ohio. Filed July 7, 1960.

SALEM

For Tools, Lawn Spreaders, Wheelbarrows, Garden Tools and Hose Reels, Drills, Augers, Trench Drills, Vertical Auger Drills, Auger Coal Mining Machines, and Auger Mining Equipment, Ladles, Kettles and Skimmers, Butcher Tools, Sausage Stuffers, Lard Presses, Pickle Pumps, and Aluminum Scoops.
First use Jan. 1, 1924.

SN 100,514. Herman Pneumatic Machine Company, Pittsburgh, Pa. Filed July 6, 1960.

MOLDMASTER

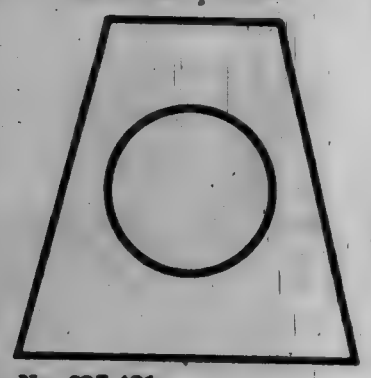
For Foundry Molding Machines.
First use Jan. 25, 1960.

SN 101,066. Whiting Corporation, Harvey, Ill. Filed July 18, 1960.

Uni-grip

For Vacuum Lifters and Component Parts Thereof for Handling Metal, Lumber, Glass, Concrete, Plastic and Other Similar Materials.
First use June 7, 1960.

SN 101,728. All-O-Matic Manufacturing Corporation, New Hyde Park, N.Y. Filed Aug. 1, 1960.



Owner of Reg. No. 697,421.
For Transmission Replacement Parts for Automotive Vehicles.
First use July 1, 1959.

SN 102,126. Clayton Mark & Company, Evanston, Ill. Filed Aug. 5, 1960.

SILVER TRITON

For Pumps and Water Well Supplies Related Thereto.
First use July 1, 1960.

SN 102,629. Ekco Products Company, Chicago, Ill. Filed Aug. 15, 1960.

VISCOUNT

For Cutlery, To-Wit, Paring Knives, Steak and Utility Knives, Roast Slicers, Cooks' Knives, Ham Slicers, and Butcher Knives.
First use Aug. 18, 1958.

SN 102,641. Ferro Powdered Metals, Inc., Salem, Ind. Filed Aug. 15, 1960.

FERRO-DAMP

For Cutting Tool and More Particularly the Shank or the Tool Itself Which Holds the Cutter Bit in Mill Cutters, Single Point Cutting Tools, Cut-Off Tools, Boring Bars, Wood Chipper Blades and Rock Drills.
First use Aug. 3, 1960.

SN 102,717. The Eimco Corporation, Salt Lake City, Utah. Filed Aug. 5, 1960.

THIXO

For Apparatus for the Treatment of Turbid Liquids.
First use Mar. 10, 1947.

SN 102,719. Process Engineers, Inc., San Mateo, Calif. Filed Aug. 12, 1960.

FLOTATOR

For Apparatus for Treatment of Turbid Liquids.
First use Apr. 13, 1956.

SN 104,695. Crest Engineering Company, Minneapolis, Minn. Filed Sept. 19, 1960.

MICROFLEX

For Adjustable Holder for Tools Used in Milling and Cutting Machines.
First use Aug. 19, 1960.

Class 26—Measuring and Scientific Appliances

SN 101,072. Alan-Lea International Inventions Corp., New York, N.Y. Filed July 19, 1960.



For Spirit Levels.
First use Apr. 11, 1960.

Class 27—Horological Instruments

SN 103,926. Hamilton Watch Company, Lancaster, Pa. Filed Sept. 6, 1960.

CHARM

For Watches.
First use Nov. 1, 1953.

SN 104,392. Jefferson Electric Company, Bellwood, Ill. Filed Sept. 13, 1960.

"880"

For Electric Clocks.
First use Aug. 12, 1960.

Class 28—Jewelry and Precious-Metal Ware

SN 93,567. Lindsey L. Vance, d.b.a. Lane Enterprises, Denver, Colo. Filed Mar. 23, 1960.

LUCKY SPIKE

For Personal Jewelry—Namely, Earrings, Pendants, Tie Clasps, and Cuff Links.
First use on or about Sept. 1, 1959.

Class 29—Brooms, Brushes, and Dusters

SN 100,868. H. Hertzberg & Son Inc., Middletown, N.Y. Filed July 6, 1960.

NOODLE

For Mops.
First use January 1956.

SN 100,585. Edward Don & Company, Chicago, Ill. Filed July 11, 1960.

RED TIGER

For Floor Mops.
First use April 1955.

Class 31 — Filters and Refrigerators

SN 86,021. Louis de Markus Corporation, Buffalo, N.Y. Filed Nov. 25, 1959.

CRYSTALFLO

For Filter Apparatus and Filter Material Such as Diatomaceous Earth.
First use Oct. 15, 1959.

SN 86,022. Louis de Markus Corporation, Buffalo, N.Y. Filed Nov. 25, 1959.

CRYSTALITE

For Filter Apparatus.
First use Oct. 15, 1959.

SN 87,284. Schumacher'sche Fabrik, Bietigheim, Wurttemberg, Germany. Filed Dec. 14, 1959.

SCHUMACHER

Owner of German Reg. No. 725,662, dated June 2, 1959.
For Candle-Type Filters, Including Filters for Drinking Water, Filters for Compressed Air, Sterilizing Filters; Diffuser Plate Containers, and Cylindrical Aerators and Dome Diffusers for Biologically Cleaning Sewage Water; Adsorbing Devices Utilizing Activated Carbon or Organic Gels; Filter Candles, Filter Cylinders, Filter Nozzles, Filter Plates, Porous Filling Bodies Serving as Catalyst Carrier and in Processes Involving Distillation, Adsorption and Filtration; Diaphragms for Electro-Chemical Installations.

SN 87,830. Sprague Engineering Corporation, Gardena, Calif. Filed Dec. 22, 1959.

MAGNA KOLD

For Refrigeration Apparatus.
First use Mar. 31, 1958.

SN 100,508. Fritz Feller, Berne, Switzerland. Filed July 8, 1960.

POLY ICE

Priority claimed under Sec. 44(d) on Swiss Reg. No. 179,612, dated Mar. 9, 1960.
For Artificial Skating-Rinks, Curling-Rinks, Refrigeration Plants, Cooling Elements and Parts of Such Plants Made of Plastic Material, Coatings Made of Plastic Material.

Class 32 — Furniture and Upholstery

SN 91,945. The I-XL Furniture Co., Inc., Goshen, Ind. Filed Mar. 1, 1960.

DREAMWOOD

For Kitchen Cabinets and Units Comprising Combination Dressing Table, Lavatory and Storage Chests.
First use on or about Jan. 11, 1960.

SN 99,468. United States Rubber Company, New York, N.Y. Filed June 21, 1960.

RAVAL

For Upholstered Cushions.
First use Apr. 1, 1960.

SN 105,103. Scroll, Inc., Miami, Fla. Filed Sept. 23, 1960.

UNI-FRAME

For Metal Furniture.
First use July 25, 1960.

SN 105,422. Danbar Enterprises Limited, Toronto, Ontario, Canada. Filed Sept. 29, 1960.

SPACE MAGIC

For Kitchen Storage Unit.
First use May 10, 1960; in commerce July 8, 1960.

SN 105,432. Futorian-Stratford Furniture Company, Chicago, Ill. Filed Sept. 29, 1960.

RELAX-a-RESTER

For Reclining Chairs.
First use July 15, 1960.

SN 106,102. Jason Industries Limited, Welshpool, Australia. Filed Oct. 10, 1960.

TELESPARE

Owner of Australian Reg. No. 154,383, dated June 15, 1959.
For Chairs.

SN 106,267. McKinney Bedding Co., Springfield, Mo. Filed Oct. 12, 1960.

FUTURAMA

For Mattresses and Box Springs.
First use July 11, 1957.

SN 106,314. Drexel Furniture Company, Drexel, N.C. Filed Oct. 13, 1960.

PINNACLE

For Bedroom, Dining Room, Occasional and Upholstered Furniture.
First use in September 1960.

SN 106,328. Bill Karpen Winberg and Co., City of Industry, Calif. Filed Oct. 13, 1960.

WINCRAFT FURNITURE

The drawing is lined for the color red; however the color forms no part of the mark. Use of the word "Furniture" is disclaimed apart from the mark.
For Furniture.
First use Aug. 15, 1960; December 1951 as to "Wincraft."

Class 33 — Glassware

SN 101,726. ABC Affiliated Distributors, Inc., Chicago, Ill. Filed Aug. 1, 1960.

THERMOTEST

For Glassware—Namely, Glass Tumblers.
First use Nov. 1, 1959.

Class 34 — Heating, Lighting, and Ventilating Apparatus

SN 72,993. Bell & Gossett Company, Morton Grove, Ill. Filed May 6, 1959.

REDLINE

For Heat Exchangers and Water Heaters.
First use Apr. 22, 1959.

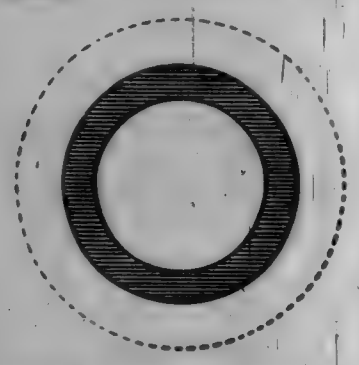
SN 98,647. General American Transportation Corporation, Chicago, Ill. Filed June 8, 1960.

LOUISVILLE

For Dryers and Coolers, Such as Rotary Dryers and Rotary Coolers Employed for Drying and Cooling a Variety of Products.
First use 1925.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 82,495. Flexitallic Gasket Company, Camden, N.J. Filed Oct. 1, 1959.



The mark consists of a spirally wound gasket of the type composed of a metallic strip wound with an asbestos strip separating the metal convolutions, the asbestos being colored blue and being exposed at the edges to provide a blue face for the gasket and the drawing is lined to indicate blue.
For Spiral Wound Gaskets for Packing, Pipe Joints or the Like.
First use Jan. 19, 1951.

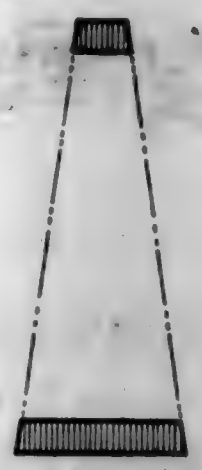
Class 36 — Musical Instruments and Supplies

SN 64,676. Audio Fidelity, Inc., New York, N.Y., by change of name from Audiofidelity, Inc., New York, N.Y. Filed Dec. 22, 1958.

1ST COMPONENT SERIES

No claim is made to the word "Series" apart from the mark as shown.
For Mechanically Grooved Phonograph Records.
First use Dec. 16, 1958.

SN 68,142. Humes and Berg Mfg. Co. Inc., East Chicago, Ind. Filed Feb. 20, 1959.



The mark consists of a red band or red bands around one or both ends or in the central portion, on a light colored background on mutes. The drawing is lined for red. Owner of Reg. No. 427,353.
For Mutes for Musical Instruments.
First use about January 1939.

SN 93,831. Modern Electronics Manufacturing Company, San Antonio, Tex. Filed Mar. 28, 1960.

MECOTAPE

For Tape Recorders and Playbacks for Use in a Teaching System.
First use Nov. 1, 1959.

SN 103,031. William Lewis and Son, Chicago, Ill. Filed Aug. 19, 1960.

LAUREL

For Cellos, Violins, Violas and String Basses.
First use on or about Apr. 4, 1960.

SN 103,181. Thomas H. Moore, d.b.a. Stenopack Business Machines, San Francisco, Calif. Filed Aug. 22, 1960.

STENOPACK

For Sound Recording and Reproducing Apparatus Particularly Tape Recording Devices.
First use Aug. 18, 1960.

SN 103,630. Henry O. Weeth, d.b.a. Timbre Recordings, Seattle, Wash. Filed Aug. 29, 1960.

TIMBRE

For Musical Recordings.
First use July 6, 1960.

SN 103,750. The Fred. Gretsch Mfg. Co., Brooklyn, N.Y. Filed Aug. 31, 1960.

CHAMPLAIN

Owner of Reg. No. 382,911.
For Clarinets.
First use Sept. 11, 1939.

Class 37 — Paper and Stationery

SN 75,683. American Photocopy Equipment Company, Evanston, Ill. Filed June 15, 1959.

APECO Electro-stat

Owner of Reg. No. 630,405.
For Copy Paper.
First use May 27, 1959.

SN 75,798. Sterling Pulp & Paper Company, Eau Claire, Wis. Filed June 15, 1959.

CO-ED

For Paper Toilet Tissue, Paper Towels, Waxed Paper, and Paper Napkins.
First use Jan. 27, 1959.

SN 82,278. Neisner Brothers, Inc., Rochester, N.Y. Filed Sept. 28, 1959.

ANITA LEWIS

The applicant disclaims the descriptive word "Quality" as the same appears on the drawing.
For Writing Paper and Envelopes, Toilet Tissue, Facial Tissue and Gift Wrappings.
First use May 20, 1958.

SN 90,098. Olie O. Orsino, d.b.a. Tele-Hold Company, Bridgeville, Pa. Filed Feb. 1, 1960.

TELE-HOLD

For Attachments in the Form of a Telephone Hook and Pad and Pencil Holder for Wall-Type Telephones.
First use Jan. 11, 1960.

SN 98,048. Adlerwerke vorm. Heinrich Kleyer A.G., Frankfurt am Main, Germany. Filed Apr. 29, 1960.

ADLER

Owner of German Reg. No. 730,457, dated Oct. 29, 1959.
For Writing, Drawing, Painting and Modelling Materials—Namely, Ledger Cards, Pocket Diaries, Ball Points, Stenographic Pencils, Erasers, Erasing Shields, Stenographic Pads; Diagrams, Charts.

Class 38 — Prints and Publications

SN 67,560. Miracle Adhesives Corporation, Bellmore, N.Y. Filed Feb. 11, 1959.

CONSTRUCTION BY ADHESION

For Bulletins.
First use Apr. 7, 1947.

SN 82,077. Bramson Publishing Co., Birmingham, Mich. Filed Sept. 25, 1959.

MASS PRODUCTION

Owner of Reg. No. 416,194.
For Periodic Reports on Production Trends and Operations.
First use April 1953.

SN 84,141. Institute of Visual Communication, Inc., New York, N.Y. Filed Oct. 28, 1959.

IVC

Owner of Reg. No. 443,853.
For Developed Films and Slides.
First use June 1959.

SN 89,745. Computer Control Company, Inc., Framingham, Mass. Filed Jan. 27, 1960.

3C PULSE

For Company Sales and News Bulletin.
First use Nov. 17, 1959.

SN 90,150. Credit Union National Association, Inc., Madison, Wis. Filed Feb. 2, 1960.

BRIDGE

For Credit Union Periodical Magazine.
First use June 1924.

SN 90,849. Loew's Incorporated, New York, N.Y. Filed Feb. 12, 1960.

METRO-GOLDWYN-MAYER

Owner of Reg. Nos. 123,995, 384,224, and others.
For Motion Picture Films With and Without Sound Recordings.
First use July 25, 1924; July 1916 as to "Metro"; about January 1917 as to "Goldwyn"; about June 5, 1924, as to "Metro-Goldwyn."

SN 92,194. Pilgrim Holiness Church Corp., Indianapolis, Ind. Filed Jan. 18, 1960.



For Printed Tracts.
First use Sept. 9, 1958.

SN 95,081. The Hearst Corporation, New York, N.Y. Filed Apr. 14, 1960.

OFFICE HOURS

For Series of One Panel Cartoons.
First use Sept. 10, 1959.

SN 95,815. AB Bonnierforetagen, Stockholm, Sweden. Filed Apr. 26, 1960.

CONTINENTAL KEY

For Internationally Distributed Magazine.
First use December 1959; in commerce December 1959.

SN 96,950. Edwards & Deutsch Lithographing Company, Chicago, Ill. Filed May 12, 1960.

GOOD LIVING

For Magazine.
First use during February 1957.

SN 97,236. Norcross, Inc., New York, N.Y. Filed May 16, 1960.



Owner of Reg. No. 659,843.
For Greeting Cards and Greeting Card Folders.
First use July 15, 1956.

SN 98,438. Collins Radio Company, Cedar Rapids, Iowa. Filed June 6, 1960.

COLLINS

Owner of Reg. Nos. 524,237 and 658,819.
For Prints and Publications—Namely, Instruction Books, Descriptive Specifications, Engineering Proposals, Engineering Reports, Interim Development Reports, and Company Magazines.
First use Mar. 15, 1962.

SN 98,558. Watt Publishing Company, Mount Morris, Ill. Filed June 6, 1960.

Broiler Business

Owner of Reg. Nos. 555,516 and 627,007.
For Trade Periodical Published Monthly.
First use June 1, 1960.

SN 98,776. Citizen's Publishing Corporation, New York, N.Y. Filed June 10, 1960.

NEW YORK CITIZEN-CALL

For Newspaper.
First use May 20, 1960.

SN 98,808. The National Key Company, Cleveland, Ohio. Filed June 10, 1960.

THE NATIONAL KEY-WAY

For Company Magazine.
First use on or about June 1, 1960.

SN 99,166. The National Key Company, Cleveland, Ohio. Filed June 16, 1960.



Owner of Reg. No. 647,439.
For Greeting Cards With Attached Key Chain.
First use on or about May 1, 1960.

SN 100,199. Alton A. Weigel, d.b.a. Artopages, Woodville, Ohio. Filed July 1, 1960.

ARTOPAGES

For Illustrated Historical Album Pages for Philatelic Use.
First use Apr. 1, 1960.

SN 100,230. John F. Dille Co., Chicago, Ill. Filed July 5, 1960.

BUCK ROGERS

Owner of Reg. No. 330,187.
For Newspaper Comic Strip.
First use Sept. 10, 1928.

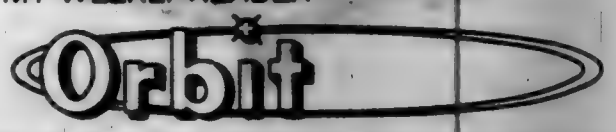
SN 100,822. Vintage Books, Inc., New York, N.Y. Filed July 5, 1960.



For Paper Backed Books.
First use Apr. 14, 1960.

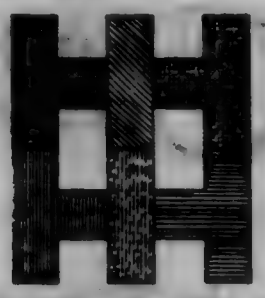
SN 100,326. Wesleyan University, Middletown, Conn. Filed July 5, 1960.

MY WEEKLY READER



Owner of Reg. Nos. 254,284, 658,548, and 699,849.
For Printed Newspaper-Type Publication of General Interest to Children of Grade School Age, Published Weekly for Ten Consecutive Weeks During the Months of June, July and August of Each Year.
First use June 13, 1960.

SN 100,364. Frank Holmes Laboratories, Inc., San Fernando, Calif. Filed July 6, 1960.



The solid panel is black. The other panels are lined for the colors green, yellow, red, purple and blue.

For Color Transparencies.

First use Feb. 1, 1954.

SN 100,407. World Vision, Inc., Pasadena, Calif. Filed July 6, 1960.

WORLD VISION

For Motion Picture Films.

First use September 1958.

Class 39 — Clothing

SN 45,876. Maurice Goldstone, Vancouver, British Columbia, Canada. Filed Feb. 14, 1958.



The drawing is lined for brown. No claim is made to the exclusive right of "Separates" or "of Great Britain" as used on the goods. Priority claimed under Sec. 44(d) on Canadian application filed Feb. 4, 1958; Reg. No. 113,946, dated May 1, 1959.

For Women's Sweaters, Cardigans, Blazers and Skirts.

SN 69,996. Sheffield Hosiery Mills, Inc., New York, N.Y. Filed Mar. 20, 1959.

CLIMATIZED

For Finish Applied to Women's and Misses' Hosiery.

First use Feb. 27, 1959.

SN 87,802. His-Tights, Inc., New York, N.Y. Filed Dec. 22, 1959.



For Men's Sportswear—Namely, Men's Tights.

First use Oct. 28, 1959.

SN 92,841. Wolff Shoe Manufacturing Co., St. Louis, Mo. Filed Mar. 14, 1960.



For Shoes for Women and Girls.

First use Jan. 15, 1960.

SN 95,235. C. H. Baker Corporation, Los Angeles, Calif. Filed Apr. 18, 1960.



The word "Originals" is disclaimed apart from the mark as shown.

For Women's Shoes.

First use Sept. 30, 1959.

SN 98,122. J J Newberry Co., New York, N.Y. Filed May 31, 1960.

NEWBELLE

Owner of Reg. No. 602,752.

For Girls' Shoes.

First use Nov. 16, 1959.

SN 98,263. A. S. Beck Shoe Corporation, New York, N.Y. Filed June 2, 1960.

"BOLERO SANDALS"

The word "Sandals" is disclaimed apart from the mark as shown.

For Women's Shoes and Slippers.

First use Dec. 7, 1936.

SN 98,390. Ortho-Vent Shoe Company, Inc., Salem, Va. Filed June 3, 1960.

ORTHO-VENT

For Men's, Women's, and Children's Shoes.

First use 1926.

SN 98,655. Arthur Jay Company, Inc., Milwaukee, Wis. Filed June 8, 1960.

ARTHURJAY

"Arthurjay" is a combination of the given name of one officer and surname of another officer of applicant corporation, whose consents are of record.

For Ladies' Clothing, Specifically Ladies' Coats, Suits, Skirts and Blouses.

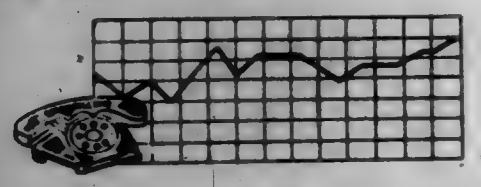
First use Dec. 22, 1950.

SN 99,254. The Great Atlantic & Pacific Tea Company, Inc., New York, N.Y. Filed June 17, 1960.

Mellowmood

For Nylon Hosiery for the Use of Women.
First use May 27, 1960.

SN 100,353. Joseph H. Cohen & Sons, Inc., New York, N.Y. Filed July 6, 1960.



For Men's and Boys' Outer Garments—Namely, Coats, Suits, Sport Coats, Jackets, Top Coats, Overcoats, Slacks, Trousers and Vests.
First use Apr. 16, 1957.

SN 100,687. Century Glove Corporation, Newark, N.J. Filed July 12, 1960.

COVERETTES

For Foot Sox, Shoe and Slipper Sox, Hosiery, Inner Shoe Soles of Cloth Material.
First use Jan. 12, 1960.

SN 100,713. McCrary Hosiery Mills, Inc., Asheboro, N.C. Filed July 12, 1960.

MODERN HEIRS

For Women's Hosiery.
First use July 1, 1960.

SN 100,806. Rugby Knitting Mills, Inc., Buffalo, N.Y. Filed July 13, 1960.

kiwi-coat by RUGBY

Owner of Reg. No. 234,586.
For Men's Jackets Used for Sportswear.
First use May 1, 1960.

SN 100,955. Washington Mills Company, Winston-Salem, N.C. Filed July 15, 1960.

MAYO SPRUCE

Owner of Reg. Nos. 105,517, 530,967, and 620,422.
For Men's and Boys' Undershirts and Drawers, Boys' Underwear Shorts, Men's and Boys' Sweat Shirts, Men's Sweat Pants, Boys' Union Suits, Men's and Boys' Pajamas, Infants' and Children's Sleepers, Boys' Sport Shirts and Men's Hosiery.
First use Mar. 14, 1955.

SN 101,169. Cathy J. Gobins, Phoenix, Ariz. Filed July 20, 1960.

Curl Cover

For Hairdo Covering Caps, Hoods and the Like.
First use June 3, 1960.

SN 101,389. Glamorise Foundations, Inc., New York, N.Y. Filed July 25, 1960.

V-ACTIVE

For Girdles, Corsets, Corselets and Brassieres.
First use Sept. 24, 1948.

SN 101,395. House of Worsted-Tex, Inc., Philadelphia, Pa. Filed July 25, 1960.

D/W

For Men's and Young Men's Suits.
First use on or about Mar. 2, 1959.

SN 101,435. Spats Bros., Inc., New York, N.Y. Filed July 25, 1960.

STATION WAGON

Owner of Reg. No. 396,250.
For Boys' and Men's Raincoats and Jackets.
First use July 15, 1940.

SN 101,706. Kent Scott, Inc., Easton, Pa. Filed July 29, 1960.

V-LASTIC

For Men's Trousers and Slacks.
First use July 19, 1960.

SN 102,621. H. Daroff & Sons, Inc., Philadelphia, Pa. Filed Aug. 15, 1960.

Carrara

For Men's and Young Men's Suits.
First use in or about September 1958.

SN 103,712. Easy Walker Shoe Company, Wilkes-Barre, Pa. Filed Aug. 31, 1960.

DUBL-PUFFS

For Shoes.
First use May 1960.

SN 103,861. Kresge-Newark, Inc., Newark, N.J. Filed Sept. 2, 1960.

TOWN TALK

Owner of Reg. No. 374,347.
For Dresses, Suits, Nightgowns, Underwear, Gloves, and Hats for Women and Girls, and Suits, Hats, Shirts, Gloves, Shoes and Pajamas for Men and Boys.
First use Mar. 12, 1929.

SN 103,967. Saks & Company, New York, N.Y. Filed Sept. 6, 1960.

PAULETTE

For Ladies' Hats.
First use Aug. 19, 1960.

SN 104,187. Poirette Corsets, Inc., New York, N.Y. Filed Sept. 9, 1960.

TWO-FOLD

Owner of Reg. Nos. 703,290 and 703,291.
For Girdles and Corsets.
First use Dec. 18, 1959.

SN 104,220. Air Baby Incorporated, Englewood, N.J. Filed Sept. 12, 1960.

AIR BABY

Owner of Reg. No. 609,709.
For Mittens and Gloves.
First use Sept. 15, 1955.

SN 104,262. Haymaker Sports, Inc., New York, N.Y. Filed Sept. 12, 1960.

LIGANTI

Owner of Reg. No. 637,235.
For Stockings.
First use Aug. 29, 1960.

SN 104,398. Walter W. Moyer Company, Inc., Ephrata, Pa. Filed Sept. 13, 1960.

SOFLON

For Underwear for Women, Girls, Children, Infants, Men, and Boys.
First use Aug. 23, 1960.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 94,923. Wm. Simpson, Sons & Co., Inc., New York, N.Y. Filed Apr. 12, 1960.

VARI-VOGUE CLOTH

Applicant makes no claim to the word "Cloth" apart from the mark as shown. Owner of Reg. No. 521,364.
For Cotton Print Cloth.
First use July 1948.

SN 95,857. J. P. Stevens & Co., Inc., New York, N.Y. Filed Apr. 26, 1960.

QUICKSILVER

For Nylon Tricot in the Piece.
First use Mar. 18, 1960.

SN 100,141. Midwest Textiles and Flameproofing Co., Inc., Chicago, Ill. Filed July 1, 1960.

TRIPLE EEE FABRICS

Applicant disclaims the word "Fabrics."
For Flameproofed Textile Fabrics.
First use Apr. 11, 1960.

SN 101,875. Jolo Plastics Corporation, New York, N.Y. Filed Aug. 2, 1960.

WHITE SHIELD

For Pillow Cases, Mattress Covers, and Yard Goods for Use in Making Pillow Cases, Mattress Covers, Table Cloths, Shower Curtains and the Like.
First use June 24, 1960.

SN 103,717. A. Gagniere & Company Limited, London, England. Filed Aug. 31, 1960.

TELEXTRA

Owner of British Reg. No. 427,175, dated June 19, 1922.
For Woollen and Worsted Piece Goods.

SN 103,893. Artel Textile Co., Inc., New York, N.Y. Filed Sept. 6, 1960.

Insulined

For Draperies and Curtains.
First use Aug. 10, 1960.

SN 104,039. M. Lowenstein & Sons, Inc., New York, N.Y. Filed Sept. 7, 1960.

FABRIC-ELLE

For Textile Piece Goods of Cotton and Synthetic Fibres and Mixtures Thereof for Making Articles of Wearing Apparel, Including Blouses, Dresses, Shirts, Skirts, and the Like.
First use June 15, 1960.

SN 104,073. Daido Keori Kabushiki Kaisha, d.b.a. Daido Worsted Mills Ltd., Chiyoda-ku, Tokyo-to, Japan. Filed Sept. 8, 1960.

POPS

Owner of Japanese Reg. No. 549,753, dated Mar. 23, 1960.
For Textile Fabrics (Woolen, Woolen Mixed and Woolen Mixture Yarn Textile Fabrics).

SN 104,081. Fieldcrest Mills, Inc., Spray, N.C. Filed Sept. 8, 1960.

Slumber Queen

For Bed Sheets and Pillow Cases.
First use July 21, 1960.

SN 104,293. The Millville Manufacturing Company, Philadelphia, Pa. Filed Sept. 12, 1960.

WINDROW

For Cotton Piece Goods.
First use July 20, 1960.

Class 43 — Thread and Yarn

SN 102,273. Spinnerin Yarn Co., Inc., South Hackensack, N.J. Filed Aug. 8, 1960.

EXPRESS

For Yarns of Synthetic Fiber for Handknitting.
First use July 25, 1960.

Class 44 — Dental, Medical, and Surgical Appliances

SN 104,949. Propper Manufacturing Company, Inc., Long Island City, N.Y. Filed Sept. 21, 1960.

VELKET

For Tourniquets.
First use Sept. 1, 1960.

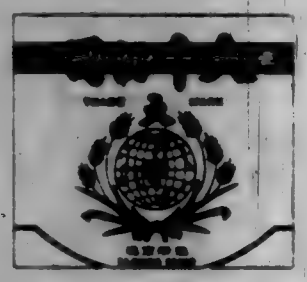
SN 105,007. Kidde Manufacturing Company, Inc., Bloomfield, N.J. Filed Sept. 22, 1960.

medic aire

For Containers of Gas Under Pressure, Such as Pressurized Freon Gas, for Inflating Surgical Tourniquets Used in Hospital Operating Procedures.
First use on or about Jan. 29, 1954.

Class 46 — Foods and Ingredients of Foods

SN 66,507. Ta Chung Co., Inc., San Francisco, Calif. Filed Jan. 26, 1959.



The characters at the top, across the horizontal line, mean "Ta-Chung Company"; the characters shown above and directly on the globe mean "Ta-Chung"; and the characters at the bottom mean "Ta-Chung Brand." All are references to the company's name.

For Canned Waterchestnuts, Canned Bamboo Shoots, Canned and Bottled Soy Sauces, Canned Fruits, Canned Vegetables, Preserved Chinese Vegetables and Fruits, Dried Bean Sticks and Paste, Rice Flour, Rice Sticks and Canned Rice, Salted and Canned Fish, and Packaged Tea.
First use Aug. 18, 1958.

SN 89,608. Richard Spencer, d.b.a. 20th Century Food Products, Chicago, Ill. Filed Jan. 25, 1960.

PAN-CA-LETT

For Dry Mixture for Making Batter for Hot Cakes, Waffles, Griddle Cakes and Pancakes.
First use on or about Jan. 1, 1959.

SN 95,270. General Mills, Inc., Minneapolis, Minn. Filed Apr. 18, 1960.

AIR SPUN

For Flour.
First use Mar. 16, 1960.

SN 97,295. Euclid Citrus Association, Porterville, Calif. Filed May 17, 1960.

EUCLID GOLD

For Fresh Citrus Fruits.
First use Nov. 20, 1959.

SN 97,507. Montalvo Farms, Montalvo, Calif. Filed May 19, 1960.

GREEN KING

For Vegetable Produce.
First use July 9, 1959.

SN 97,592. Leonard J. Vilutis, d.b.a. Lenvil & Co., Chicago, Ill. Filed May 20, 1960.



For Caramel Corn Confection Product.
First use Apr. 9, 1959.

SN 98,515. Norman Steak Co., Philadelphia, Pa. Filed June 6, 1960.



For Frozen Beef Steaks.
First use in or about May 1960.

SN 99,111. Wm. Wrigley Jr. Company, Chicago, Ill. Filed June 15, 1960.

SPEAR

Owner of Reg. Nos. 362,880 and 588,210.
For Chewing Gum.
First use Jan. 8, 1938.

SN 99,452. Quality Bakers of America Cooperative, Inc., New York, N.Y. Filed June 21, 1960. COLLECTIVE MARK.

"HOTREATS"

For Baked Goods—To Wit, Doughnuts.
First use Apr. 20, 1960.

SN 100,394. Sachs Nut Inc., Minneapolis, Minn. Filed July 6, 1960.

SNACK TIME

For Shelled Nuts.
First use May 23, 1960.

Class 47—Wines

SN 87,584. Societe Generale de Champagne, Ay-Champagne, Chateau de Mareuil-sur-Ay, France. Filed Dec. 18, 1959.

MONTEBELLO

For Champagne.
First use Dec. 31, 1912; in commerce Dec. 31, 1912.

SN 100,821. United American Company, d.b.a. Vintage Wine Co., Frankfort, Ky. Filed July 13, 1960.

VALLEY ROAD

For Wines.
First use Nov. 1, 1937.

Class 48—Malt Beverages and Liquors

SN 101,695. The National Brewing Co., Baltimore, Md. Filed July 29, 1960.

THE COLT

The drawing is lined for the colors blue and gold.
For Beer.
First use Aug. 31, 1959.

Class 49—Distilled Alcoholic Liquors

SN 70,186. Compania "Ron Bacardi," S.A., Santiago de Cuba, Cuba. Filed Mar. 25, 1959.

SUMMUM

For Rum.
First use on or about Jan. 27, 1959; in commerce on or about Jan. 27, 1959.

SN 100,714. Merchants Distilling Corporation, Terre Haute, Ind. Filed July 12, 1960.

WABASH VALLEY

Owner of Reg. No. 382,925.
For Whiskey.
First use Jan. 1, 1935.

Class 50—Merchandise Not Otherwise Classified

SN 84,380. Marjorie P. Baird, d.b.a. Century Laminating Company, La Grange, Ill. Filed Nov. 2, 1959.

FLIP MAT

No claim is made to the word "Mat" apart from the entire mark.
For Place Mats and Candle Mats, and Sets Including Place Mats, Candle Mats, and Paper Napkins.
First use Oct. 5, 1959.

SN 102,468. John Franklin Farr, Anderson, S.C. Filed Aug. 11, 1960.

MOTHER'S ANGEL

For Switches for the Correction of Deportment.
First use 1956.

SN 102,464. John Franklin Farr, Anderson, S.C. Filed Aug. 11, 1960.

ROUGHNECK

For Switches for the Correction of Deportment.
First use 1956.

SN 102,465. John Franklin Farr, Anderson, S.C. Filed Aug. 11, 1960.

CHILD KEEPER

For Switches for the Correction of Deportment.
First use July 21, 1960.

Class 51—Cosmetics and Toilet Preparations

SN 82,276. Neisner Brothers, Inc., Rochester, N.Y. Filed Sept. 28, 1959.

ANITA LEWIS

The applicant disclaims the descriptive word "Quality" as the same appears on the drawing.
For Lipsticks, Colognes, Shampoos, Bubble Bath, and Toilet Water.
First use May 20, 1958.

Class 52 — Detergents and Soaps

SN 90,127. Wyandotte Chemicals Corporation, Wyandotte, Mich. Filed Feb. 1, 1960.

ALNATE

For Cleaning Composition Especially Useful in Food and Drink Manufacturing and Processing Plants.
First use July 28, 1959.

SN 95,669. Adell Chemical Co., Holyoke, Mass. Filed Apr. 25, 1960.

LESTOIL

WASH'N BLEACH

No claim is made to the words "Wash 'N Bleach" apart from the mark as shown. Owner of Reg. Nos. 348,957, 636,572, and 702,036.
For Combination of Dry Bleach and Dry Detergent for Laundering.
First use Apr. 18, 1960.

SERVICE MARKS

Class 100 — Miscellaneous

SN 84,879. Fabri-Tek Company, Inc., Minneapolis, Minn. Filed Nov. 9, 1959.

FABRI-TEK

For Designing Electronic Components and Circuits and Consulting With and Advising Others in Regard to the Manufacture and Use Thereof.
First use at least as early as March 1954.

SN 88,739. Richard C. Duval, d.b.a. Garden Clinic, San Antonio, Tex. Filed Jan. 11, 1960.

garden Clinic

For Spraying Plants for Disease and Insect Control.
First use Mar. 10, 1959.

SN 98,428. Burger King of Florida, Inc., Jacksonville, Fla. Filed June 6, 1960.



For Drive-In Restaurant Services.
First use January 1954.

Class 102 — Insurance and Financial

SN 85,511. Mutual Fund Planning Corporation, New York, N.Y. Filed Nov. 17, 1959.



The drawing is lined for blue.
For Selling as Agent, Broker and Dealer Mutual Funds and Planning Mutual Fund Investment Programs to the Public at Large in Conjunction With Client's Life Insurance Portfolio.
First use Nov. 2, 1959.

SN 97,652. Gregory & Sons, New York, N.Y. Filed May 23, 1960.

WIRETAPS

For Furnishing Written Reports Concerning an Analysis of Investment Securities.
First use Apr. 6, 1960.

SN 97,653. Gregory & Sons, New York, N.Y. Filed May 23, 1960.

COUNTERPOINTS

For Furnishing Written Reports Concerning an Analysis of Investment Securities.
First use Apr. 14, 1960.

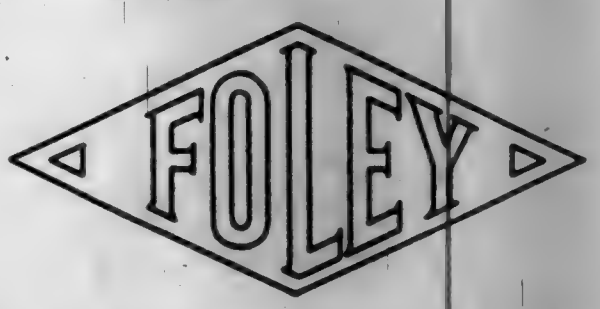
Class 103 — Construction and Repair

SN 72,220. McGraw-Edison Company, Elgin, Ill. Filed Apr. 24, 1959.

TOASTMASTER

Owner of Reg. Nos. 197,304, 666,524, and others.
For Repairing Electric Appliances.
First use at least as early as March 1941.

SN 88,378. The Howard P. Foley Company, Washington, D.C. Filed Jan. 4, 1960.



For Electrical and Mechanical Construction Services.
First use in 1919.

Class 105—Transportation and Storage

SN 55,794. Hertz Rent A Plane System, Inc., Chicago, Ill. Filed July 22, 1958.



Applicant disclaims the words "Rent A Plane" apart from the mark as shown in the drawing, with the understanding that applicant does not disclaim any common law rights which it may have in these words. Owner of Reg. Nos. 569,760 and 614,123.

For Rental of Airplanes.

First use on or about Apr. 30, 1958; since 1924 as to "Herts."

SN 80,636. Chicago and North Western Railway Company, Chicago, Ill. Filed Sept. 1, 1959.

CAR-FAX

For Railway Freight Transportation Services, Consisting of an Electronic Integrated Data Processing System, Which System Records and Reports the Freight Car and Freight Train Movements and Information Concerning Said Movements.

First use May 5, 1959.

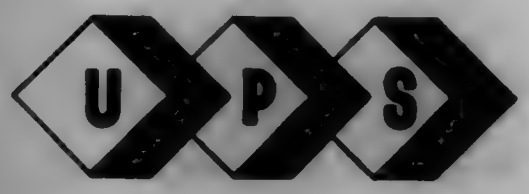
SN 80,637. Chicago and North Western Railway Company, Chicago, Ill. Filed Sept. 1, 1959.



For Railway Freight Transportation Services, Consisting of an Electronic Integrated Data Processing System, Which System Records and Reports the Freight Car and Freight Train Movements and Information Concerning Said Movements.

First use May 5, 1959.

SN 91,885. United Parcel Service of America, Inc., New York, N.Y. Filed Feb. 29, 1960.



Owner of Reg. Nos. 513,500 and 514,285.

For Transportation of Personal Property for Hire by Diverse Modes of Transportation.

First use May 18, 1959.

SN 95,558. Cargo Truck Leasing Inc., Atlanta, Ga. Filed Apr. 22, 1960.



Applicant disclaims the words "Cargo Truck Leasing Inc." apart from the mark as shown.

For General Leasing of Transportation Equipment.

First use Nov. 30, 1956.

SN 96,299. Walker-Wilson Travel, Ltd., Baltimore, Md. Filed May 2, 1960.



The mark consists of a representation of a balloon and a gondola.

For Travel Agency Services—Namely, Arranging Vacations and Travel Tours and Making Reservations in Connection Therewith.

First use Jan. 6, 1960.

SN 96,823. Watkins Motor Lines, Inc., Thomasville, Ga. Filed May 10, 1960.



No claim is made to any of the wording shown except "Watkins" and "Zippy Zero."

For Refrigerated Transportation by Trucks.

First use Sept. 15, 1957.

SN 97,981. Belair Tours, Inc., New York, N.Y. Filed May 27, 1960.



The drawing is lined for blue. Applicant disclaims exclusive right to the use of the word "Tours."

For Arranging and Conducting Tours for Tourists.

First use Dec. 24, 1954.

Class 106 — Material Treatment

SN 90,515. The Howard Company, Inc., Fort Wayne, Ind. Filed Feb. 8, 1960.

BZB

For Mail Order Photographic Film Developing and Printing Service.

First use Jan. 12, 1960.

SN 90,615. The Howard Company, Inc., Fort Wayne, Ind. Filed Feb. 8, 1960.



The drawing is lined for yellow; however, color is not claimed as a part of the mark. Applicant disclaims the representation of the rolls of film apart from the mark as shown.

For Mail Order Photographic Film Developing and Printing Service.

First use Jan. 12, 1960.

Class 107 — Education and Entertainment

SN 85,408. Joseph C. Simmons, d.b.a. Anatowind Clinic, Beloit, Wis. Filed Nov. 16, 1959.



The drawing is lined for red.

For Teaching Proper Muscular Coordination in the Playing of Musical Instruments Through Personal Demonstrations, Clinics, Reports, Etc.

First use January 1957.

COLLECTIVE MEMBERSHIP MARKS

Class 200

SN 91,224. Association of Regular Army Sergeants, Washington, D.C. Filed Feb. 19, 1960.



For Indicating Membership in the Association.

First use on or about Jan. 1, 1958.

TRADEMARK REGISTRATIONS ISSUED

PRINCIPAL REGISTER

Class 1—Raw or Partly Prepared Materials

710,382. SUPER TREATED. Armour and Company. SN 65,612. Pub. 11–15–60. Filed 1–12–59.

710,383. SOFTYON. Softexture Yarns, Inc. SN 75,959. Pub. 11–15–60. Filed 6–16–59.

710,384. VAN WAVEREN AND DESIGN. M. Van Waveren & Sons, Inc. SN 89,881. Pub. 11–15–60. Filed 1–28–60.

710,385. NEVAMAR DECORATOR DESIGNS AND DESIGN. The National Plastic Products Company. SN 96,133. Pub. 11–15–60. Filed 4–29–60.

Class 2—Receptacles

710,386. CCA-TEXTITE. Container Corporation of America. SN 43,146. Pub. 6–30–59. Filed 12–30–57.

710,387. LIQUI-LOK. Anaconda Aluminum Company, assignee of Cochran Continental Container Corporation. SN 49,419. Pub. 2–10–59. Filed 4–10–58.

710,388. STRETCH PAK. The Nevins Company. SN 63,957. Pub. 11–15–60. Filed 12–9–58.

710,389. DEKKOR. Wallace Silversmiths, Inc. SN 85,794. Pub. 11–15–60. Filed 11–20–59.

710,390. CHEF-PAK AND DESIGN. Potlatch Forests, Inc. SN 93,347. Pub. 11–15–60. Filed 3–21–60.

710,391. SHOWCASE. Poster Packaging, Inc. SN 93,853. Pub. 11–15–60. Filed 3–28–60.

710,392. GLITTERLINE. Hera Manufacturing Corporation. SN 98,581. Pub. 11–15–60. Filed 6–7–60.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

710,393. EXTENDO-BAR. Droutman Manufacturing Co., Inc. SN 91,673. Pub. 11–15–60. Filed 2–26–60.

710,394. INSERTO-PAK. Droutman Manufacturing Co., Inc. SN 91,674. Pub. 11–15–60. Filed 2–26–60.

710,395. U.S. BASKET AND DESIGN. U.S. Basket Company, Inc. SN 94,630. Pub. 11–15–60. Filed 4–7–60.

Class 4—Abrasives and Polishing Materials

710,396. ALUMI-GLO. Commonwealth Products, Inc. SN 39,949. Pub. 9–29–59. Filed 11–1–57.

710,397. TYROLIT. Tyrolit Company, Inc. SN 96,900. Pub. 11–15–60. Filed 5–11–60.

710,398. MYCO AND DIAMOND DESIGN. Masury-Young Company. SN 97,498. Pub. 11–15–60. Filed 5–19–60.

Class 5—Adhesives

710,399. FURSET. The Quaker Oats Company. SN 99,963. Pub. 11–15–60. Filed 6–29–60.

Class 6—Chemicals and Chemical Compositions

710,400. BOOSTER. Services Industries. SN 57,978. Pub. 11–15–60. Filed 8–27–58.

710,401. PRESERVE-A-TREE. Harold W. Evans. SN 66,780. Pub. 11–15–60. Filed 1–30–59.

710,402. ODEX. The Stamford Chemical Company. SN 78,156. Pub. 11–15–60. Filed 7–21–59.

710,403. D-TROL. Du Bois Chemicals, Inc., assignee of The Du Bois Co. Inc. SN 79,228. Pub. 11–15–60. Filed 8–10–59.

710,404. NITROSAN. E. I. du Pont de Nemours and Company. SN 81,885. Pub. 11–15–60. Filed 9–28–59.

710,405. ORJEL. W. A. Scholten's Chemische Fabrieken N.V. SN 83,912. Pub. 11–15–60. Filed 10–23–59.

710,406. MICHROME. Edward Gurr Limited. SN 83,969. Pub. 11–15–60. Filed 10–26–59.

710,407. RATOREX. McConnon & Company, d.b.a. The Mackwin Company. SN 87,127. Pub. 11–15–60. Filed 12–11–59.

710,408. ICEMASTER. Michigan Chemical Corporation. SN 87,818. Pub. 11–15–60. Filed 12–22–59.

710,409. CARBACRYL. Carbic-Hoechst Corporation. SN 89,329. Pub. 11–15–60. Filed 1–20–60.

710,410. VIRGINAIRE. Virginaire Products, Inc. SN 92,942. Pub. 11–15–60. Filed 3–15–60.

710,411. GARDANE. Lien Chemical Company. SN 94,674. Pub. 11–15–60. Filed 4–8–60.

710,412. "KNOCK 'EM DOWN" AND DESIGN. EMT Chemical Corporation. SN 94,882. Pub. 11–15–60. Filed 4–12–60.

710,413. EASY-ENZ. Corn Products Company. SN 95,363. Pub. 11–15–60. Filed 4–19–60.

Class 7—Cordage

710,414. HUSKY AND DESIGN. Sam Atkinson, d.b.a. McLeansboro Twine Co. SN 94,133. Pub. 11–15–60. Filed 4–1–60.

Class 8—Smokers' Articles, Not Including Tobacco Products

710,415. VISCOUNT. Rogers, Inc. SN 86,681. Pub. 11–15–60. Filed 12–4–59.

Class 9—Explosives, Firearms, Equipments, and Projectiles

710,416. BAR-V. Benjamin Air Rifle Company. SN 85,206. Pub. 11–15–60. Filed 11–13–59.

710,417. BAR-O. Benjamin Air Rifle Company. SN 85,207. Pub. 11–15–60. Filed 11–13–59.

710,418. FLOGEL. Hercules Powder Company. SN 94,892. Pub. 11–15–60. Filed 4–12–60.

Class 10—Fertilizers

710,419. SURESTAND. Howerton Gowen Company, Inc. SN 94,669. Pub. 11–15–60. Filed 4–8–60.

Class 12—Construction Materials

710,420. HEARTH PATCH. Basic Incorporated. SN 72,275. Pub. 11–15–60. Filed 4–27–59.

710,421. TENIFLEX. F. C. Feise Company. SN 79,401. Pub. 11–15–60. Filed 8–12–59.

710,422. SMOOTHAWAL. National Gypsum Company. SN 90,263. Pub. 11–15–60. Filed 2–3–60.

710,423. PREFLEX. Preflex, Procédés Nouveaux de Construction, S.A. SN 91,439. Pub. 11–15–60. Filed 2–23–60.

710,424. PREFLEX AND DESIGN. Preflex, Procédés Nouveaux de Construction, S.A. SN 91,440. Pub. 11–15–60. Filed 2–23–60.

710,425. R ETC. AND DESIGN. Oro Manufacturing Company. SN 94,687. Pub. 11–15–60. Filed 4–8–60.

710,426. FLIX AND DESIGN. Joseph H. Gibson, Sr., d.b.a. Cross Lake Boat and Fiberglass Co. SN 96,852. Pub. 11–15–60. Filed 5–11–60.

710,427. GEOMETRIC DESIGN. Stanray Corporation. SN 97,260. Pub. 11–15–60. Filed 5–16–60.

710,428. LA HONDA. Simpson Redwood Company. SN 97,712. Pub. 11–15–60. Filed 5–23–60.

710,429. MORTARITE. The Woodville Lime Products Company. SN 97,797. Pub. 11–15–60. Filed 5–24–60.

710,430. STRYTEX. Keasbey & Mattison Company. SN 99,064. Pub. 11–15–60. Filed 6–15–60.

710,431. DECO. Decatur Engineering Company. SN 102,907. Pub. 11–15–60. Filed 8–18–60.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

710,432. BARPAD. L. J. Barwood Manufacturing Co., Inc. SN 97,373. Pub. 11–15–60. Filed 5–18–60.

710,433. DYNAMETRIC. Kohler Co. SN 97,493. Pub. 11–15–60. Filed 5–19–60.

710,434. HAPPY NUMBERS. Associated Events Co. SN 97,538. Pub. 11–15–60. Filed 5–20–60.

710,435. LONE STAR. Lone Star Steel Company. SN 99,341. Pub. 11–15–60. Filed 6–20–60.

Class 14—Metals and Metal Castings and Forgings

710,436. METALONICS. Philips Electronics and Pharmaceutical Industries Corp. SN 92,802. Pub. 11–15–60. Filed 3–14–60.

Class 15—Oils and Greases

710,437. POLYVEL. Velsicol Chemical Corporation. SN 100,321. Pub. 11–15–60. Filed 7–5–60.

710,438. SAFFIRE. Saffire Saw & Mfg. Co., d.b.a. Saffire Manufacturing Co. SN 100,395. Pub. 11–15–60. Filed 7–6–60.

Class 16—Protective and Decorative Coatings

710,439. NU-KOTE AND DESIGN. Pressure Pak, Inc., assignee of National Chemical Laboratories, Inc. SN 59,635. Pub. 7–14–59. Filed 9–26–58.

710,440. HUGHSON AND DESIGN. Lord Manufacturing Company. SN 90,532. Pub. 9–6–60. Filed 2–8–60.

710,441. HUGHSON. Lord Manufacturing Company. SN 90,533. Pub. 9–6–60. Filed 2–8–60.

710,442. DEPOT. Federal Paint Mills, Inc. SN 98,071. Pub. 11–15–60. Filed 5–31–60.

710,443. TRC ETC. AND DESIGN. Texas Refinery Corp. SN 98,245. Pub. 11–15–60. Filed 6–1–60.

Class 17—Tobacco Products

710,444. STEUBEN. Steuben Cigarette Co., Inc. SN 80,758. Pub. 11–15–60. Filed 9–2–59.

710,445. WESTMINSTER. Jack Schwartz. SN 97,251. Pub. 11–15–60. Filed 5–16–60.

Class 18—Medicines and Pharmaceutical Preparations

710,446. VISAN. Visan Nutritional Laboratories, assignee of Gordon K. Woodard, d.b.a. Vi-San Company. SN 44,943. Pub. 3–17–59. Filed 1–29–58.

710,447. VISAN ETC. AND DESIGN. Visan Nutritional Laboratories, assignee of Gordon K. Woodard, d.b.a. Vi-San Company. SN 44,944. Pub. 3–17–59. Filed 1–29–58.

710,448. HESICAPS. Geigy Chemical Corporation. SN 57,261. Pub. 11–15–60. Filed 8–15–58.

710,449. ATROPISOL. The Iso-Sol Company, Inc. SN 60,734. Pub. 11–15–60. Filed 10–16–58.

710,450. BONMIOTIN. The Iso-Sol Company, Inc. SN 60,735. Pub. 11–15–60. Filed 10–16–58.

710,451. CARBAMIOTIN. The Iso-Sol Company, Inc. SN 60,736. Pub. 11–15–60. Filed 10–16–58.

710,452. ESROMIOTIN. The Iso-Sol Company, Inc. SN 60,737. Pub. 11–15–60. Filed 10–16–58.

710,453. PSORIACIDE. Abel Moreau. SN 62,584. Pub. 11–15–60. Filed 11–17–58.

710,454. SCRIPT WON AND DESIGN. Sandoz, Inc. SN 71,307. Pub. 11–15–60. Filed 4–10–59.

710,455. SPARKS AND DESIGN. Samuel G. Sparks, d.b.a. Sparks Professional Veterinary Supply Co. SN 86,843. Pub. 11–15–60. Filed 12–7–59.

710,456. FIGURE CONTROL AND DESIGN. Amco Cosmetics, Inc. SN 87,775. Pub. 11–15–60. Filed 12–22–59.

710,457. KLOSTERFRAU VITALITY CAPSULES. Maria Clementine Martin, Klosterfrau K.G. SN 88,928. Pub. 11–15–60. Filed 1–13–60.

710,458. VET-CARE. Metals Processing & Welding Corp. SN 89,074. Pub. 11–15–60. Filed 1–15–60.

710,459. FRENODIN. Crinos Industria Farmacobiologica S.p.A. SN 90,234. Pub. 11–15–60. Filed 2–3–60.

710,460. LURIDE LOZI-TABS. Hoyt Pharmaceutical Corporation (Massachusetts corporation), assignee of Hoyt Pharmaceutical Corporation (Delaware corporation). SN 93,313. Pub. 11–15–60. Filed 3–21–60.

710,461. PARYTMID. Aktiebolaget Bofors. SN 94,944. Pub. 11–15–60. Filed 4–13–60.

710,462. CIRCULADE. The Wander Company, d.b.a. Smith-Dorsey. SN 95,339. Pub. 11–15–60. Filed 4–18–60.

710,463. ASSURE. Grove Laboratories Incorporated. SN 95,719. Pub. 11–15–60. Filed 4–25–60.

710,464. PRIMADERM-B. Arrow Medical Co., Inc. SN 95,794. Pub. 11–15–60. Filed 4–5–60.

710,465. LANTHOL-7. Arrow Medical Co., Inc. SN 95,795. Pub. 11–15–60. Filed 4–5–60.

710,466. PRIMADERM. Arrow Medical Co., Inc. SN 95,796. Pub. 11–15–60. Filed 4–5–60.

710,467. AROGUENT. Arrow Medical Co., Inc. SN 95,797. Pub. 11–15–60. Filed 4–5–60.

710,468. EN-CEBRIN. Eli Lilly and Company. SN 96,234. Pub. 11–15–60. Filed 5–2–60.

710,469. PATHOCIL. American Home Products Corporation, d.b.a. Wyeth Laboratories. SN 96,914. Pub. 11–15–60. Filed 5–12–60.

710,470. DOW AND DESIGN. The Dow Chemical Company. SN 97,635. Pub. 11–15–60. Filed 5–23–60.

710,471. COPLEXEN. Smith Kline & French Laboratories. SN 97,961. Pub. 11–15–60. Filed 5–26–60.

710,472. MUSCATONE. Knaust Brothers, Inc., d.b.a. Knaust Bros. Laboratories. SN 98,105. Pub. 11–15–60. Filed 5–31–60.

710,473. ELANCO AND DESIGN. Eli Lilly and Company. SN 98,110. Pub. 11–15–60. Filed 5–31–60.

710,474. BALNETAR. Foster-Milburn Company. SN 99,135. Pub. 11–15–60. Filed 6–16–60.

710,475. BALNAR. Foster-Milburn Company. SN 99,136. Pub. 11–15–60. Filed 6–16–60.

710,476. HARVEST HEALTH. Harvest Health, Inc. SN 99,143. Pub. 11–15–60. Filed 6–16–60.

710,477. SYNSTAPHLIN. Bristol-Myers Company. SN 99,409. Pub. 11–15–60. Filed 6–21–60.

710,478. ORADUCT. E. Fougera & Co., Inc. SN 100,445. Pub. 11–15–60. Filed 7–7–60.

710,479. ENCARE. The Norwich Pharmacal Company. SN 100,719. Pub. 11–15–60. Filed 7–12–60.

710,480. DIORAPIN. Standex Laboratories, Inc. SN 100,731. Pub. 11–15–60. Filed 7–12–60.

710,481. SPANOREX. Cooper, Tinsley Laboratories, Inc. SN 100,762. Pub. 11–15–60. Filed 7–13–60.

710,482. DARANIDE. Merck & Co., Inc. SN 100,921. Pub. 11–15–60. Filed 7–15–60.

Class 19—Vehicles

710,483. CV. Cleveland Electric Vehicle Company, assignee of Cleveland Vehicle Company. SN 80,310. Pub. 10–11–60. Filed 8–27–59.

710,484. VAGABOND. Vagabond Coach Manufacturing Company. SN 90,718. Pub. 11–15–60. Filed 2–10–60.

710,485. CENTRONIC. Grumman Boats, Inc. SN 94,396. Pub. 11–15–60. Filed 4–5–60.

710,486. WALK N TOTE. Ginna Corporation. SN 96,893. Pub. 11–15–60. Filed 6–13–60.

710,487. TOPPER. Harley-Davidson Motor Co. SN 96,898. Pub. 11–15–60. Filed 6–13–60.

710,488. VII. Vought Industries, Inc. SN 96,953. Pub. 11–15–60. Filed 6–13–60.

710,489. UNITED SKIFF. United Marine, Inc. SN 99,106. Pub. 11–15–60. Filed 6–15–60.

710,490. SLIP-FIT. Anzick Manufacturing Co. SN 99,270. Pub. 11–15–60. Filed 6–20–60.

710,491. DRI-FLO CHEM. General American Transportation Corporation. SN 99,510. Pub. 11–15–60. Filed 6–22–60.

Class 20—Linoleum and Oiled Cloth

710,492. PATRICIAN. Armstrong Cork Company. SN 99,035. Pub. 11–15–60. Filed 6–15–60.

Class 21—Electrical Apparatus, Machines, and Supplies

710,493. MOVIELUX. Indola N.V. SN 45,052. Pub. 10–14–58. Filed 1–31–58.

710,494. RED DOT AND DESIGN. L. E. Mason Co. SN 50,711. Pub. 6–16–59. Filed 4–30–58.

710,495. LIBERTY BELL. Carlos A. Montgomery, d.b.a. Liberty Bell Promotion Company. SN 60,233. Pub. 11–15–60. Filed 11–3–58.

710,496. KLEER-BRITE. Hoffman Electronics Corporation. SN 77,826. Pub. 11–15–60. Filed 7–16–59.

710,497. FURNACEMASTER. Penn Controls, Inc. SN 78,497. Pub. 11–15–60. Filed 7–27–59.

710,498. AMFLITE. American Machine & Foundry Company. SN 78,674. Pub. 11–15–60. Filed 7–30–59.

710,499. NEUMANN AND DESIGN. Gotham Audio Development Corp. SN 78,783. Pub. 11–15–60. Filed 7–31–59.

710,500. CAVITATOR. Mettler Electronics Corporation. SN 78,888. Pub. 11–15–60. Filed 8–3–59.

710,501. UNIVERSAL. Universal Mfg. Corp. SN 79,030. Pub. 11–15–60. Filed 8–4–59.

710,502. TRANSPOLARIZER. Charles F. Pulvari. SN 79,285. Pub. 11–15–60. Filed 8–10–59.

710,503. HERMETEZE. Phelps Dodge Copper Products Corporation. SN 79,352. Pub. 11–15–60. Filed 8–11–59.

710,504. SOLATROL. Solarsonic Devices, Inc. SN 81,341. Pub. 11–15–60. Filed 9–14–59.

710,505. FIDELI-KRAFT. H. L. Dalis, Inc. SN 83,166. Pub. 11–15–60. Filed 10–13–59.

710,506. A.D.T. SYSTEM AND DESIGN. American District Telegraph Company. SN 86,097. Pub. 11–15–60. Filed 11–27–59.

710,507. ADT. American District Telegraph Company. SN 86,390. Pub. 11–15–60. Filed 12–1–59.

710,508. A.D.T. American District Telegraph Company. SN 86,470. Pub. 11–15–60. Filed 12–2–59.

710,509. BLUE RIBBON. Jefferson Electric Company (Delaware corporation), by merger and change of name from Jefferson Electric Company (Illinois corporation). SN 89,168. Pub. 11–15–60. Filed 1–18–60.

710,510. TRILUX AND DESIGN. Lenze K. G. Lichttechnische Spezialfabrik. SN 89,775. Pub. 11–15–60. Filed 1–27–60.

710,511. SYMMETRA-PEAK. Kahn Research Laboratories, Inc. SN 89,923. Pub. 11–15–60. Filed 1–29–60.

710,512. VOICEPLEX. Kahn Research Laboratories, Inc. SN 89,924. Pub. 11–15–60. Filed 1–29–60.

710,513. UNI-CHARGER. Outboard Marine Corporation. SN 90,938. Pub. 11–15–60. Filed 2–15–60.

710,514. METALONICS. Philips Electronics and Pharmaceutical Industries Corp. SN 92,801. Pub. 11–15–60. Filed 3–14–60.

710,515. DYNA. The Brown-Brockmeyer Co. SN 91,235. Pub. 10–18–60. Filed 2–19–60.

710,516. TRUSTY WARNS. Karl O. Niedermeyer, d.b.a. K. C. Joylin Company. SN 94,910. Pub. 11–15–60. Filed 4–12–60.

710,517. 3M. Minnesota Mining and Manufacturing Company. SN 95,841. Pub. 11–15–60. Filed 4–26–60.

710,518. AQUATHERM. Circle Wire and Cable Corporation. SN 96,196. Pub. 11–1–60. Filed 5–2–60.

710,519. L & K. L & K Manufacturing Company. SN 96,235. Pub. 11–15–60. Filed 5–2–60.

710,520. GONSET. Young Spring & Wire Corporation. SN 96,450. Pub. 11–15–60. Filed 5–4–60.

710,521. DOW AND DESIGN. The Dow Chemical Company. SN 97,634. Pub. 11–15–60. Filed 5–23–60.

710,522. RA AND RAIL DESIGN. Railroad Accessories Corporation. SN 98,143. Pub. 11–15–60. Filed 5–31–60.

Class 22—Games, Toys, and Sporting Goods

710,523. NUMBERS MAGIC. Tibor Rado. SN 91,117. Pub. 11–15–60. Filed 2–17–60.

710,524. FUN-TIME-FAVORITE. Earl and Arlington, Inc. SN 97,385. Pub. 11–15–60. Filed 5–18–60.

710,525. FIX-IT. Ideal Toy Corporation. SN 97,558. Pub. 11–15–60. Filed 5–20–60.

710,526. BIG POPPA. Wood Manufacturing Company, Inc., d.b.a. Wood Manufacturing Company. SN 97,796. Pub. 11–15–60. Filed 5–24–60.

710,527. FLEX-O-LINK. Silva Industries, Inc. SN 98,241. Pub. 11–15–60. Filed 6–1–60.

710,528. ELLSWORTH ELEPHANT. Selchow & Righter Company. SN 98,309. Pub. 11–15–60. Filed 6–2–60.

710,529. BETTY. Alexander Doll Company, Inc., d.b.a. Madame Alexander. SN 98,326. Pub. 11–15–60. Filed 6–3–60.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

710,530. AUGUSTA AND DESIGN. Augusta Absauganlagen Ernst Jacobi, assignee of Lendt & Company, Inc. SN 36,302. Pub. 1–26–60. Filed 8–27–57.

710,531. REPRESENTATION OF MAN WITH HAMMER. Superior Pneumatic & Manufacturing, Inc. SN 73,059. Pub. 11–15–60. Filed 5–6–59.

710,532. SILVER GLORY. United Nations Trading Co., Inc. SN 76,354. Pub. 11–15–60. Filed 6–23–59.

710,533. WINDMILL DESIGN. Werner Machinery Company. SN 85,940. Pub. 11–15–60. Filed 11–23–59.

710,534. SHELL-O-MATIC AND DESIGN. Shell-O-Matic, Inc. SN 89,808. Pub. 7–5–60. Filed 1–27–60.

710,535. HEPWORTH. Scott & Williams, Incorporated. SN 90,366. Pub. 11–15–60. Filed 2–4–60.

710,536. ROVACTOR. Continental Copper & Steel Industries, Inc. SN 74,931. Pub. 11–22–60. Filed 6–2–59.

710,537. SEAL-A-ROUND. Sealaround Corporation. SN 97,100. Pub. 11–15–60. Filed 5–13–60.

710,538. HYDRO-LINE AND DESIGN. Hydro-Line Manufacturing Co. SN 97,210. Pub. 11–15–60. Filed 5–16–60.

710,539. MBC ETC. AND DESIGN. Michigan Bearing Company. SN 97,227. Pub. 11–15–60. Filed 5–16–60.

710,540. DEMING. The Deming Company. SN 97,464. Pub. 11–15–60. Filed 5–19–60.

710,541. GERSON MULTIPLATER. Multiplater Machine Corporation. SN 97,510. Pub. 11–15–60. Filed 5–19–60.

710,542. C-SHUR. Beloit Iron Works. SN 97,614. Pub. 11–15–60. Filed 5–23–60.

710,543. VICTOR. Alexander F. Victor Enterprises, Inc. SN 97,792. Pub. 11–15–60. Filed 5–24–60.

710,544. HI-PRO-SPIN. Davis & Furber Machine Company. SN 97,827. Pub. 11–15–60. Filed 5–25–60.

710,545. MAINLINER. Roto-Rooter Corporation. SN 97,877. Pub. 11–15–60. Filed 5–25–60.

710,546. RA AND RAIL DESIGN. Railroad Accessories Corporation. SN 98,144. Pub. 11–15–60. Filed 5–31–60.

710,547. MICROMECH. Micromech Manufacturing Corp. SN 98,230. Pub. 11–15–60. Filed 6–1–60.

710,548. ORTHO. California Spray-Chemical Corporation. SN 98,339. Pub. 11–15–60. Filed 6–3–60.

710,549. ROOTS. Dresser Industries, Inc. SN 98,349. Pub. 11–15–60. Filed 6–3–60.

710,550. SYNCRO CONTINUCOIL. Syncro Machine Company. SN 100,783. Pub. 11–15–60. Filed 7–12–60.

710,551. DART BUTTRESS. The DoAll Company. SN 100,892. Pub. 11–15–60. Filed 7–15–60.

710,552. DART. The DoAll Company. SN 100,893. Pub. 11–15–60. Filed 7–15–60.

710,553. DART PRECISION. The DoAll Company. SN 100,894. Pub. 11–15–60. Filed 7–15–60.

710,554. CHALLENGER. Highway Equipment Company. SN 100,905. Pub. 11–15–60. Filed 7–15–60.

710,555. ALECO. Allied Eastern Corporation. SN 100,965. Pub. 11–15–60. Filed 7–18–60.

Class 26—Measuring and Scientific Appliances

710,556. DISTRIBUTAPE. Monroe Calculating Machine Company. SN 66,072. Pub. 11–15–60. Filed 1–19–59.

710,557. NORDEN AND DESIGN. United Aircraft Corporation. SN 70,684. Pub. 11–15–60. Filed 4–1–59.

710,558. REDA TEMP-ALARM. Edward E. Reda. SN 74,061. Pub. 11–15–60. Filed 5–19–59.

710,559. THROMBELASTOGRAPH. Haemoscope Corporation. SN 77,539. Pub. 11–15–60. Filed 7–13–59.

710,560. HALDA AND DESIGN. Halder Aktiebolag. SN 78,131. Pub. 11–15–60. Filed 7–21–59.

710,561. LECTRO-SYNC. American Speedlight Corporation. SN 81,962. Pub. 11–15–60. Filed 9–24–59.

710,562. DOMOTOR. Worthington Corporation. SN 83,340. Pub. 11–15–60. Filed 10–15–59.

710,563. CECO AND DESIGN. Calculator Equipment Corporation. SN 83,462. Pub. 11–15–60. Filed 10–19–59.

710,564. INTERELECTRONICS. Interelectronics Corporation. SN 84,665. Pub. 11–15–60. Filed 11–5–59.

710,565. NALGE. Nalge Company, Inc. SN 85,895. Pub. 11–15–60. Filed 11–23–59.

710,566. TEMPLINE. Industrial Electronics Laboratories, Inc. SN 87,493. Pub. 11–15–60. Filed 12–17–59.

710,567. PENTI. VEB Kamera- und Kinowerke Dresden. SN 88,189. Pub. 10–11–60. Filed 12–29–59.

710,568. PENTAKA 8. VEB Kamera- und Kinowerke Dresden. SN 88,190. Pub. 10–11–60. Filed 12–29–59.

710,569. PENTONA. VEB Kamera- und Kinowerke Dresden. SN 88,191. Pub. 10–11–60. Filed 12–29–59.

710,570. TIME TOTALIZER AND DESIGN. Standard Instrument Corporation. SN 88,627. Pub. 11–15–60. Filed 1–7–60.

710,571. LKB. LKB-Produkter Fabriksaktiebolag. SN 90,926. Pub. 11–15–60. Filed 2–15–60.

710,572. ECONOPAC. Low X-Ray Corporation. SN 91,098. Pub. 11–15–60. Filed 2–17–60.

710,573. VIDIAC. Columbia Broadcasting System, Inc. SN 91,238. Pub. 11–15–60. Filed 2–19–60.

710,574. MONROE. Monroe Calculating Machine Company. SN 91,612. Pub. 11–15–60. Filed 2–25–60.

710,575. CHEMIPHARM AND DESIGN. Chemical & Pharmaceutical Industry Co., Inc. SN 93,595. Pub. 11–15–60. Filed 3–24–60.

710,576. GEOMETRICAL DESIGN. B & H Instrument Company, Inc. SN 94,878. Pub. 11–15–60. Filed 4–12–60.

710,577. DL AND DESIGN. Diffraction Limited, Inc. SN 95,700. Pub. 11–15–60. Filed 4–25–60.

710,578. ADJUST-ANGLE. Weksler Instruments Corporation. SN 95,955. Pub. 11–15–60. Filed 4–27–60.

710,579. DAGOR. C. P. Goerz American Optical Company. SN 96,065. Pub. 11–15–60. Filed 4–28–60.

710,580. SC AND DESIGN. Sanborn Company. SN 96,528. Pub. 11–15–60. Filed 5–5–60.

710,581. CALCU-TAX. Robert O. Thomas, Jr., d.b.a. Thomas Associates. SN 96,640. Pub. 11–15–60. Filed 5–6–60.

710,582. GCI AND DESIGN. General Computers, Inc. SN 97,196. Pub. 11–15–60. Filed 5–16–60.

710,583. PULSATRON. The Kaman Aircraft Corporation. SN 98,293. Pub. 11–15–60. Filed 6–2–60.

710,584. HAYDON. General Time Corporation. SN 98,354. Pub. 11–15–60. Filed 6–3–60.

710,585. WONDERCHROME. Dynacolor Corporation. SN 98,779. Pub. 11–15–60. Filed 6–10–60.

710,586. MULTICHROME. Dynacolor Corporation. SN 98,780. Pub. 11–15–60. Filed 6–10–60.

710,587. STELLACHROME. Dynacolor Corporation. SN 98,781. Pub. 11–15–60. Filed 6–10–60.

710,588. OCUPAK. General Optics, Inc. SN 98,786. Pub. 11–15–60. Filed 6–10–60.

710,589. RAY-LITE. Bausch & Lomb Optical Company. SN 98,852. Pub. 11–15–60. Filed 6–13–60.

710,590. MINIRATOR. Fischer & Porter Company. SN 98,983. Pub. 11–15–60. Filed 6–14–60.

710,591. ZIPPO. Zippo Manufacturing Company, Inc. SN 99,183. Pub. 11–15–60. Filed 6–16–60.

710,592. REPRESENTATION OF TWO GROTESQUE FIGURES TESTING THE STRENGTH OF MATERIAL. Instron Engineering Corporation. SN 99,217. Pub. 11–15–60. Filed 6–17–60.

710,593. FLEETWOOD. National Presto Industries, Inc. SN 99,354. Pub. 11–15–60. Filed 6–20–60.

710,594. WATAMETER. Voss Photo Corporation. SN 99,382. Pub. 11–15–60. Filed 6–20–60.

710,595. WATA AND DESIGN. Voss Photo Corporation. SN 99,383. Pub. 11–15–60. Filed 6–20–60.

710,596. WATER-MINDER. Ansan Tool and Manufacturing Company, Inc. SN 99,404. Pub. 11–15–60. Filed 6–21–60.

710,597. UNISET. Bolsey Corporation of America. SN 99,484. Pub. 11–15–60. Filed 6–22–60.

710,598. AMERESCO. Ameresco, Inc. SN 99,903. Pub. 11–15–60. Filed 6–29–60.

710,599. SPACO. Space Instrumentation Corp. SN 100,165. Pub. 11–15–60. Filed 7–1–60.

710,600. MICRO-BELLOWS. Research Appliance Company. SN 100,290. Pub. 11–15–60. Filed 7–5–60.

710,601. SERAPHIN. Seraphin Test Measure Co. SN 100,302. Pub. 11–15–60. Filed 7–5–60.

710,602. PYRO-EYE. Instrument Development Laboratories, Inc. SN 100,368. Pub. 11–15–60. Filed 7–6–60.

710,603. MITRALUX ANDREOLI. Spacelight, Inc. SN 100,397. Pub. 11–15–60. Filed 7–6–60.

710,604. SPACELIGHT. Spacelight, Inc. SN 100,398. Pub. 11–15–60. Filed 7–6–60.

710,605. PORTASPEC. Philips Electronics and Pharmaceutical Industries Corp. SN 100,723. Pub. 11–15–60. Filed 7–12–60.

710,606. GP AND DESIGN. General Precision, Inc. SN 100,775. Pub. 11–15–60. Filed 7–13–60.

Class 28 — Jewelry and Precious-Metal Ware

710,607. FLEXOLUX. Rodi & Wienenberger Aktiengesellschaft. SN 54,964. Pub. 12–23–58. Filed 7–8–58.

710,608. "KEYLINKS." Lil Gafer. SN 88,747. Pub. 11–15–60. Filed 1–11–60.

710,609. GOLDSPUN. Speidel Corporation. SN 94,845. Pub. 11–15–60. Filed 4–11–60.

Class 29 — Brooms, Brushes, and Dusters

710,610. TIP TOP. Tip-Top Brush Co., Inc. SN 83,189. Pub. 11–15–60. Filed 10–13–59.

710,611. DIXIE LILY. Buhler Mills, Inc. SN 94,255. Pub. 11–15–60. Filed 4–4–60.

Class 30 — Crockery, Earthenware, and Porcelain

710,612. TRIOMPHE AND DESIGN. Flintridge China Company. SN 86,274. Pub. 6–7–60. Filed 11–30–59.

Class 32 — Furniture and Upholstery

710,613. TILT-A-BED. The Seng Company, assignee of Serta Associates, Inc. SN 80,128. Pub. 8–9–60. Filed 8–24–59.

710,614. SLEEP-R-DAV. National Furniture Manufacturing Co., Inc. SN 89,936. Pub. 11–15–60. Filed 1–29–60.

710,615. QUILTBILT. Southern Spring Bed Company. SN 94,365. Pub. 11–15–60. Filed 4–4–60.

710,616. SLUMBER SLOPE. American Foam Rubber Corporation. SN 96,654. Pub. 11–15–60. Filed 5–9–60.

710,617. CAP-DIVID-O. The Hopp Press, Inc. SN 97,058. Pub. 11–15–60. Filed 5–13–60.

710,618. T TRIMBLE. Trimble Products Incorporated. SN 97,892. Pub. 11–15–60. Filed 5–25–60.

710,619. MASTERACK. Southern Spring Bed Company. SN 96,031. Pub. 11–15–60. Filed 5–27–60.

710,620. WATERFALL AND DESIGN. Herman J. Hauck, d.b.a. Hauck's. SN 96,089. Pub. 11–15–60. Filed 5–31–60.

710,621. DOT ON CIRCLE. United-Carr Fastener Corporation. SN 98,173. Pub. 11–15–60. Filed 5–31–60.

710,622. ENCIRCLED DOT SYMBOL. United-Carr Fastener Corporation. SN 98,174. Pub. 11–15–60. Filed 5–31–60.

Class 33 — Glassware

710,623. CRAMWELL AND DESIGN. Eisenberg-Lozano, Incorporated. SN 99,850. Pub. 11–15–60. Filed 6–28–60.

Class 34 — Heating, Lighting, and Ventilating Apparatus

710,624. MAX-O-KOOK. Max-O-Kook, Inc. SN 95,509. Pub. 11–15–60. Filed 4–21–60.

710,625. SENTINEL. The Siegler Corporation. SN 97,185. Pub. 11–15–60. Filed 5–13–60.

710,626. DURA-TOP. Dura-Vent Corporation. SN 97,294. Pub. 11–15–60. Filed 5–17–60.

710,627. HADCO. Hadco Aluminum Products Company. SN 97,307. Pub. 11–15–60. Filed 5–17–60.

710,628. LENNOX. Lennox Industries Inc. SN 97,673. Pub. 11–15–60. Filed 5–23–60.

Class 36 — Musical Instruments and Supplies

710,629. WHITEHALL. David Werler & Co. SN 80,609. Pub. 2–23–60. Filed 8–31–59.

710,630. CECO AND DESIGN. Calculator Equipment Corporation. SN 83,461. Pub. 11–15–60. Filed 10–19–59.

710,631. V (FANCIFUL). Calculator Equipment Corporation. SN 95,476. Pub. 11–15–60. Filed 4–21–60.

710,632. MEDALLION AND DESIGN. Medallion Records. SN 96,014. Pub. 11–15–60. Filed 4–28–60.

710,633. HEARTBEAT. Heartbeat Music Publishing, Inc. SN 97,054. Pub. 11–15–60. Filed 5–13–60.

Class 37 — Paper and Stationery

710,634. STENCIL-MAT. Speedry Chemical Products, Inc., by consolidation from Speedry Products, Inc. SN 76,737. Pub. 11–15–60. Filed 6–29–59.

710,635. KOKRAFT. Asher & Boretz, Inc. SN 90,618. Pub. 11–15–60. Filed 2–9–60.

710,636. MEDIC-AIDE. Printing Services of Philadelphia, Inc. SN 93,630. Pub. 11–15–60. Filed 3–24–60.

710,637. TWINDOW. Atlantic Advertising, Inc. SN 97,441. Pub. 11–15–60. Filed 5–19–60.

Class 38 — Prints and Publications

710,638. ANNIVERSARY ROSE. Norcross, Inc. SN 96,722. Pub. 11–15–60. Filed 5–9–60.

710,639. MATCH MATES. Norcross, Inc. SN 96,723. Pub. 11–15–60. Filed 5–9–60.

Class 39 — Clothing

710,640. AROMINK. A. Alper Inc. SN 88,965. Pub. 7–15–58. Filed 10–16–57.

710,641. MISS UNIVERSE. Catalina, Inc. SN 72,011. Pub. 11–15–60. Filed 4–22–59.

710,642. MISS UNIVERSE. Catalina, Inc. SN 72,022. Pub. 11–15–60. Filed 4–22–59.

710,643. THOM McAN'S PRINCESS LACE. Melville Shoe Corporation. SN 75,760. Pub. 12–29–59. Filed 6–15–59.

710,644. HAGGAR SLACKS FLITEWEIGHT AND DESIGN. Haggar Company. SN 79,570. Pub. 4–26–60. Filed 8–14–59.

710,645. CHANGEWAY. Pioneer Industries, Inc. SN 82,289. Pub. 11–15–60. Filed 9–28–59.

710,646. LADY CAPRICE. Peck & Peck. SN 82,779. Pub. 11–15–60. Filed 10–6–59.

710,647. BOBABY. Societe Anonyme de l'Ancienne Maison Devaud, Kunstle & Co. SN 83,188. Pub. 11–15–60. Filed 10–12–59.

710,648. TWIN TONE. Twin Tone Tap Company, Inc. SN 94,219. Pub. 11–15–60. Filed 4–1–60.

710,649. GSW AND DESIGN. G.S.W. Hosiery Corp. SN 94,287. Pub. 11–15–60. Filed 4–4–60.

710,650. JOHNNYE JR. Korach Bros. Company. SN 99,754. Pub. 11–15–60. Filed 6–27–60.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

710,651. KLING FORM. Pres-Stick, Inc. SN 68,424. Pub. 10–4–60. Filed 2–25–59.

710,652. CRIMPLON. Imperial Chemical Industries Limited. SN 82,115. Pub. 11–15–60. Filed 9–25–59.

710,653. VIVA-VEL. Crompton Company. SN 96,397. Pub. 11–15–60. Filed 5–4–60.

710,654. MICRO-VENT. Fellowcraft Engineering, Inc., d.b.a. Herculite Protective Fabrics Company. SN 97,192. Pub. 11–15–60. Filed 5–16–60.

710,655. EVER GRIP. Burlington Industries, Inc., d.b.a. Charm Tred Mills. SN 97,813. Pub. 11–15–60. Filed 5–25–60.

Class 44—Dental, Medical, and Surgical Appliances

710,656. HI! JEANIE. Viceroy Manufacturing Company Limited. SN 75,814. Pub. 11–15–60. Filed 6–15–59.

710,657. MINNISCAN. Isotope Accessories Co., Inc., d.b.a. Isotope Accessories Co. and The Isotope Accessories Company. SN 82,428. Pub. 4–5–60. Filed 9–30–59.

710,658. UNI-DENT. Nu-Dent Porcelain Studio Inc. SN 86,442. Pub. 11–15–60. Filed 12–1–59.

710,659. PRINCESS BEAUTY. H. G. Enterprises, assignee of Piper Brace Sales Corporation, d.b.a. Piper Brace Co. SN 91,436. Pub. 11–15–60. Filed 2–23–60.

710,660. GEL GUIDE. Larré Laboratories, Inc. SN 92,780. Pub. 11–15–60. Filed 3–14–60.

710,661. B ETC. AND DESIGN. Oro Manufacturing Company. SN 94,684. Pub. 11–15–60. Filed 4–8–60.

710,662. VERVE. Relaxacisor, Inc. SN 95,938. Pub. 11–15–60. Filed 4–27–60.

710,663. VIP AND DESIGN. Visual Improvement Products, Inc. SN 102,594. Pub. 11–15–60. Filed 8–12–60.

710,664. ACTIVATOR. American Hearing Aid Co., Inc. SN 103,001. Pub. 11–15–60. Filed 8–19–60.

710,665. MOLECTRON. Otarion Listener Corporation. SN 103,044. Pub. 11–15–60. Filed 8–19–60.

710,666. RAD-A-LERT. United States Radium Corporation. SN 103,229. Pub. 11–15–60. Filed 8–22–60.

Class 45—Soft Drinks and Carbonated Waters

710,667. BLAIR HOUSE. Rock Creek Ginger Ale Co., Inc., d.b.a. Blair House Beverages. SN 96,141. Pub. 11–15–60. Filed 4–29–60.

Class 46—Foods and Ingredients of Foods

710,668. NUTRI-SAVER. Pabst Brewing Company. SN 87,071. Pub. 11–22–60. Filed 12–10–59.

710,669. PENN QUALITY. Penn Fruit Co., Inc. SN 61,850. Pub. 10–25–60. Filed 11–3–58.

710,670. 31 AND DESIGN. Huntington Ice Cream Co., d.b.a. Baskin-Robbins Ice Cream. SN 66,443. Pub. 11–15–60. Filed 1–26–59.

710,671. MISS UNIVERSE. Catalina, Inc. SN 72,017. Pub. 11–15–60. Filed 4–22–59.

710,672. LIVESTOCK BINDER. Kadison Laboratories, Inc. SN 72,507. Pub. 11–15–60. Filed 4–29–59.

710,673. GRANDMA BURNS. Burns-Alton Corporation, by change of name from Alton Canning Co., Inc. SN 88,508. Pub. 11–15–60. Filed 1–6–60.

710,674. SMILIN TOM AND DESIGN. Peres Bros. SN 96,255. Pub. 11–15–60. Filed 5–2–60.

710,675. KING CROW AND DESIGN. Peres Bros. SN 96,256. Pub. 11–15–60. Filed 5–2–60.

710,676. ORESTIMBA AND DESIGN. Peres Bros. SN 96,259. Pub. 11–15–60. Filed 5–2–60.

710,677. SAMBO. Chix Confectionery Company Limited. SN 96,671. Pub. 11–15–60. Filed 5–9–60.

710,678. CAPTAIN KIDD. Aunt Nellie's Foods Incorporated. SN 96,921. Pub. 11–15–60. Filed 5–12–60.

710,679. PEK-O-WAY. Foremost Dairies, Inc., d.b.a. Western Condensing Company. SN 96,953. Pub. 11–15–60. Filed 5–12–60.

710,680. WELCOME ARRIVAL. Welcome Arrival Products Co., Inc. SN 97,151. Pub. 11–15–60. Filed 5–13–60.

710,681. MEAT LOAF MAGIC. Daniel A. Nidess, d.b.a. Leah's Foods. SN 97,233. Pub. 11–15–60. Filed 5–16–60.

710,682. SOUTHERN SUN. H. P. Hood & Sons, Inc. SN 98,481. Pub. 11–15–60. Filed 6–6–60.

710,683. STAR-KIST AND DESIGN. Star-Kist Foods, Inc. SN 98,551. Pub. 11–15–60. Filed 6–6–60.

710,684. TEXAS STAR. Western Shell Fish Co., Inc. SN 98,561. Pub. 11–15–60. Filed 6–6–60.

710,685. ORBIT. Channel Islands Packing Corp. SN 98,573. Pub. 11–15–60. Filed 6–7–60.

710,686. FRANKS-A-LOT. Louis Burk Company. SN 98,632. Pub. 11–15–60. Filed 6–8–60.

710,687. BIG SHOTS. Seiler's Inc. SN 98,678. Pub. 11–15–60. Filed 6–8–60.

Class 48—Malt Beverages and Liquors

710,688. WBCO ETC. AND DESIGN. Wausau Brewing Company. SN 96,055. Pub. 11–15–60. Filed 4–28–60.

Class 49—Distilled Alcoholic Liquors

710,689. BOURBON STREET. Mr. Boston Distiller Inc. SN 88,069. Pub. 11–15–60. Filed 12–28–59.

710,690. SUNNY BROOK. National Distillers and Chemical Corporation, d.b.a. National Distillers Products Co. and as The Old Sunny Brook Company. SN 94,508. Pub. 11–15–60. Filed 4–6–60.

Class 50 — Merchandise Not Otherwise Classified

710,691. SALES DARTER. Close and Patenaude. SN 78,000. Pub. 11–15–60. Filed 7–20–59.

710,692. IDENTA-KEY. J.B.M. Achievements, Inc., assignee, by mesne assignment, of Charter House Manufacturing Co., Inc. SN 83,055. Pub. 11–15–60. Filed 10–12–59.

710,693. PERMA PINE. Novelty Wreath Company. SN 90,354. Pub. 11–15–60. Filed 2–4–60.

710,694. LAMAR. Morgan Adhesives Company. SN 93,835. Pub. 11–15–60. Filed 3–28–60.

710,695. MILMAR. Morgan Adhesives Company. SN 93,837. Pub. 11–15–60. Filed 3–28–60.

Class 51 — Cosmetics and Toilet Preparations

710,696. PIERRE CARDIN SUITE 16. Picaso-Anstalt. SN 94,218. Pub. 11–15–60. Filed 3–28–60.

Class 52 — Detergents and Soaps

710,697. SHAMPRO. Viviane Woodard Corporation, by change of name from Viviane Woodard Cosmetics. SN 74,626. Pub. 11–15–60. Filed 5–27–59.

710,698. SIS-T! Fast Chemical Products Corp. SN 79,475. Pub. 11–15–60. Filed 8–13–59.

710,699. STAT. Winfield Brooks Company, Inc. SN 85,546. Pub. 11–15–60. Filed 11–17–59.

710,700. BISSELL. Bissell Inc. SN 93,266. Pub. 11–15–60. Filed 3–21–60.

710,701. BARRIER. Colgate-Palmolive Company. SN 94,739. Pub. 11–15–60. Filed 4–11–60.

710,702. EDEE. L & R Manufacturing Company, d.b.a. Edee Products Division. SN 96,012. Pub. 11–15–60. Filed 4–28–60.

710,703. MYCO AND DIAMOND DESIGN. Masury-Young Company. SN 97,500. Pub. 11–15–60. Filed 5–19–60.

Service Marks

Class 100 — Miscellaneous

710,704. WB AND DESIGN. Weavers' Beaver. SN 64,124. Pub. 11–15–60. Filed 12–11–58.

710,705. PA MA ALLEN AND DESIGN. Pure Milk Association. SN 67,632. Pub. 11–15–60. Filed 2–12–59.

710,706. LASSITER. Lassiter Corporation. SN 75,145. Pub. 11–15–60. Filed 6–4–59.

710,707. NAMSB STABILITY AND DESIGN. National Association of Mutual Savings Banks, Assn. SN 88,540. Pub. 11–15–60. Filed 10–19–59.

710,708. ADT. American District Telegraph Company. SN 86,389. Pub. 11–15–60. Filed 12–1–59.

710,709. GOLDEN CHICKEN. Golden Chicken Products Inc. SN 91,723. Pub. 11–15–60. Filed 2–26–60.

Class 101 — Advertising and Business

710,710. UNITED RENT-ALLS. United Rent-Alls, Inc. SN 82,306. Pub. 11–15–60. Filed 9–28–59.

Class 102 — Insurance and Financial

710,711. I.M. Fiduciary Trust Company of New York. SN 80,520. Pub. 11–15–60. Filed 8–31–59.

Class 103 — Construction and Repair

710,712. PACKARD-BELL. Packard-Bell Electronics Corporation. SN 80,578. Pub. 11–15–60. Filed 8–31–59.

Class 106 — Material Treatment

710,713. C AND DESIGN. Callen Manufacturing Corporation. SN 86,260. Pub. 11–15–60. Filed 11–30–59.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

710,714. Peelquik Co. Inc., New Rochelle, N.Y. SN 94,516. Filed P.R. 4–6–60; Am. S.R. 11–30–60.

Peelquik

For Vegetable and Fruit Peeler Adapted To Be Installed in Sink Drain Opening and To Be Driven by Disposal Unit. First use Oct. 21, 1959.

Class 25 — Locks and Safes

710,715. Meilink Steel Safe Co., Toledo, Ohio. SN 94,125. Filed P.R. 4–1–60; Am. S.R. 11–21–60.

SAFE-T-VAULT

For Lockable, Fully-Openable, Sheet-Metal-Side, Fire-Resistant Filing Cases of One Cubic Foot Capacity and Less. First use May 1, 1948.

Class 28 — Jewelry and Precious-Metal Ware

710,716. Smartstyle Jewelry Inc., New York, N.Y. SN 83,182. Filed P.R. 10–13–59; Am. S.R. 10–19–60.

THE PEARL THAT GLOWS

For Unset Cultured Pearls. First use Sept. 15, 1959.

Class 39 — Clothing

710,717. Curtis-Stephens-Embry Co., Inc., Reading, Pa. SN 61,109. Filed P.R. 10–22–58; Am. S.R. 11–23–60.

Jama boots

For Babies' and Children's Slippers. First use Oct. 1, 1958.

TRADEMARK REGISTRATIONS RENEWED

136,709. BLUE DIAMOND AND DESIGN. Cl. 46. 11-2-20.
137,475. HORN. Cl. 23. 11-23-20.
137,625. VIM OAK. Cl. 35. 11-30-20.
137,849. IVORY FLAKES. Cl. 52. 12-7-20.
137,966. HILLCREST. Cl. 46. 12-14-20.
138,148. XPEDITE. Cl. 23. 12-14-20.
138,493. REPRESENTATION OF RAM'S HEAD. Cl. 23. 12-28-20.
138,586. INANDOUT. Cl. 40. 1-4-21.
139,228. GERM. Cl. 15. 1-25-21.
140,859. KLEINERT'S. Cl. 39. 3-29-21.
141,450. LA DAINTY. Cl. 51. 4-19-21.
141,948. ARISTOCRAT. Cl. 37. 5-3-21.
141,964. BETTER MAID AND DESIGN. Cl. 39. 5-3-21.
142,282. RAINBOW. Cl. 16. 5-10-21.
142,284. KLEINERT THE BEST. Cl. 39. 5-10-21.
142,508. DOROTHY DODD. Cl. 40. 5-17-21.
142,593. THRIFT. Cl. 16. 5-17-21.
142,614. DANDY. Cl. 29. 5-17-21.
142,708. QUEEN QUALITY. Cl. 40. 5-17-21.
142,850. YALE IN PANEL. Cl. 25. 5-17-21.
380,683. SCOOP AND DESIGN. Cl. 46. 8-27-40.
381,287. BUNNYLAND. Cl. 42. 9-17-40.
382,621. RUSSO'S. Cl. 46. 11-5-40.
382,854. TREOPAX. Cl. 6. 11-12-40.
383,099. BRISTOL'S. Cl. 26. 11-19-40.
383,136. ROSA MIA DESIGN. Cl. 46. 11-26-40.
383,210. TANDEM. Cl. 37. 11-26-40.
383,211. WESCRAFT. Cl. 37. 11-26-40.
383,212. WESTEX. Cl. 37. 11-26-40.
383,295. TUPA ISIDORO AND PATORUZU. Cl. 38. 12-3-40.
383,306. DAIMON. Cl. 21. 12-3-40.
383,317. NOCORODAL. Cl. 34. 12-3-40.
383,387. MORNING GLORY. Cl. 46. 12-3-40.
383,446. OAKY DOAKS. Cl. 38. 12-10-40.
383,451. HALEX. Cl. 22. 12-10-40.
383,485. TRADEMARK DESIGN OF A BELL. Cl. 14. 12-10-40.
383,902. DAISY CHAIN. Cl. 51. 12-24-40.
384,142. BAKER'S AND SHELL DESIGN. Cl. 45. 1-7-41.
384,149. TEMPLAR AND DESIGN. Cl. 44. 1-7-41.
384,205. BLUSURF. Cl. 42. 1-7-41.
384,217. WIEDEMANN. Cl. 48. 1-7-41.
384,252. ICEBERG. Cl. 51. 1-7-41.
384,425. CYNCRO. Cl. 39. 1-21-41.
384,475. SPITFIRE. Cl. 51. 1-21-41.
384,494. UNICO. Cl. 6. 1-21-41.
384,823. ISOTON. Cl. 18. 2-4-41.
384,826. COXCOMB. Cl. 51. 2-4-41.
384,921. CRYPT-SEAL. Cl. 2. 2-11-41.
385,177. ERWIN SUPERB. Cl. 42. 2-18-41.
385,377. PHANTOM DOORMAN. Cl. 21. 2-25-41.
385,478. HYCAR. Cl. 1. 3-4-41.
385,670. OCTAGON DESIGN. Cl. 26. 3-11-41.
386,445. EMPIRE. Cl. 32. 4-8-41.
386,446. LIBERTY. Cl. 32. 4-8-41.
386,557. PENDARVON. Cl. 18. 4-15-41.
386,739. BROWNIE AND REPRESENTATION OF A BROWNIE. Cl. 29. 4-22-41.
386,740. BROWNIE. Cl. 29. 4-22-41.
386,741. REPRESENTATION OF A BROWNIE. Cl. 29. 4-22-41.
386,824. TRANS-CORD. Cl. 35. 4-22-41.
387,494. AMERICAN BOY. Cl. 39. 5-20-41.
387,531. PETRI AND DESIGN. Cl. 47. 5-20-41.
387,763. ARAMINE. Cl. 6. 5-27-41.

TRADEMARK REGISTRATIONS CANCELED

Section 8

196,671. REPRESENTATION OF A DIAMOND. Cl. 13. 3-24-25.
196,672. DIAMOND. Cl. 13. 3-24-25.
436,569. REPRESENTATION OF A LEAPING REINDEER AND DESIGN. Cl. 42. 2-10-48.
437,834. REPRESENTATION OF A LEAPING REINDEER AND DESIGN. Cl. 32. 3-30-48.
440,421. THE GOTHIC LINE. Cl. 52. 8-31-48.
596,791. BEAMITE AND DESIGN. Cl. 38. 10-12-54.

The following registrations issued Dec. 14, 1954

599,208. CORALUX. Cl. 1.
599,209. COBON. Cl. 1.
599,210. COBONITE. Cl. 1.
599,221. BAVON. Cl. 1.
599,225. GENII PAK AND DESIGN. Cl. 2.
599,235. DIS-A-PEER. Cl. 4.
599,239. DYPRAL. Cl. 6.
599,253. BRAVO. Cl. 6.
599,258. WORTENDYKE W AND DESIGN. Cl. 7.
599,260. TANRA. Cl. 8.
599,261. SELECTON. Cl. 8.
599,263. SELECTRITE. Cl. 8.
599,264. SELECTRO. Cl. 8.
599,267. HANDYMAN AND DESIGN. Cl. 12.
599,270. ALL SET. Cl. 12.
599,278. ESTABLISHED 1889 AND DESIGN. Cl. 18.
599,279. LITTLE SCAMP. Cl. 13.
599,281. EVEREDY LUCKY DUCK SERVER. Cl. 13.
599,290. CINEBEAM TV AND DESIGN. Cl. 21.
599,293. OCEAN. Cl. 21.
599,297. WEAR WELD. Cl. 23.
599,306. WORCESTER SWEEP MASTER AND DESIGN. Cl. 23.
599,313. VISHUILE AND DESIGN. Cl. 26.
599,321. UNIVERSAL STEEL EQUIPMENT CORPORATION AND DESIGN. Cl. 32.
599,323. GOB SHOPS. Cl. 32.
599,324. COUNTRY TERRACE. Cl. 32.
599,326. WOODCREST. Cl. 32.
599,329. WEATH'R-DIAL. Cl. 34.
599,337. BASE-AIRE. Cl. 34.
599,338. REPRESENTATION OF A CAT ON A KEY. Cl. 37.
599,342. WHIRL (FANCIFUL). Cl. 37.
599,349. SANOLIN. Cl. 37.
599,354. SELEKUT. Cl. 37.
599,357. RITE A MILE. Cl. 37.
599,364. WINDOW OF FASHION. Cl. 38.
599,365. BEHIND THE WORLD NEWS. Cl. 38.
599,368. GLO-QUIZ. Cl. 38.
599,371. HOBBY & CRAFT CORNER. Cl. 38.
599,372. ISA JOURNAL AND DESIGN. Cl. 38.
599,377. IN OTHER WORDS. Cl. 38.
599,383. REEVE'S SHOES AND DESIGN. Cl. 39.
599,387. NAME-DATES ETC. AND DESIGN. Cl. 39.
599,389. TAK-A-BABE. Cl. 39.
599,397. PIN-A-FORM BY WHITE ANGEL AND DESIGN. Cl. 39.
599,401. SILVER SPUR. Cl. 39.
599,403. CLAIR BEE. Cl. 39.
599,404. STRAT-O-WATE. Cl. 39.
599,405. HARRIET LEE AND B WITHIN DESIGN. Cl. 39.
599,406. MALAYACREPE. Cl. 39.
599,409. SUMNER AND DESIGN. Cl. 39.
599,410. SUMNER NOTE-ABLES AND DESIGN. Cl. 39.
599,411. COMANCHE BY FAVORITE. Cl. 39.
599,416. SCALP BELT. Cl. 39.
599,417. DON. Cl. 39.
599,418. MARFIELD. Cl. 39.
599,419. HI-SPORTS. Cl. 39.
599,420. FLOYD'S OF TO-MORROW. Cl. 39.
599,424. DATE TIME. Cl. 39.
599,425. WIZARD ETTE. Cl. 39.
599,430. BANCO-BRITE. Cl. 42.

599,434. GOLDEN VALLEY BEVERAGES AND DESIGN. Cl. 45.
599,440. HEBREW NATIONAL AND DESIGN. Cl. 46.
599,443. "THE GOLDEN TRIANGLE." Cl. 46.
599,447. EVAPORINE. Cl. 46.
599,448. DINNER TIME AND DESIGN. Cl. 46.
599,455. COCK-OF-THE-WALK. Cl. 46.
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J.B.M. Achievements, Inc., from Charter House Mfg. Co., Inc., New York, N.Y. 710,692, pub. 11–15–60. Cl. 50.
Jackson, Albert M., d.b.a. In Other Words, Becket, Mass. 599,377, canc. Cl. 38.
Jefferson Electric Co., Wilmington, Del., by merger and change of name from Jefferson Electric Co., Bellwood, Ill. 710,509, pub. 11–15–60. Cl. 21.
Johnston, R. F., Paint Co., The, to The Foy Paint Co., Inc., Cincinnati, Ohio. 142,282, ren. 1–31–61. Cl. 16.
Johnston, R. F., Paint Co., The, to The Foy Paint Co., Inc., Cincinnati, Ohio. 142,598, ren. 1–31–61. Cl. 16.
Joylin, K. C., Co.: *See*—
Niedermeye, Karl O.
Justman, C. S.: *See*—
Justman & Co., Inc.
Justman & Co., Inc., to C. S. Justman, El Centro, and New York, N.Y., to C. S. Justman, Brawley, Calif. 380,683, ren. 1–31–61. Cl. 46.
Kahn Research Laboratories, Inc., Freeport, N.Y. 710,511–12, pub. 11–15–60. Cl. 21.
Kaidson Laboratories, Inc., Chicago, Ill. 710,672, pub. 11–15–60. Cl. 46.
Kaman Aircraft Corp., The, Bloomfield, Conn. 710,583, pub. 11–15–60. Cl. 26.
Kaplan, Samuel X.: *See*—
Pioneer Iron Works.
Keasbey & Mattison Co., Ambler, Pa. 710,430, pub. 11–15–60. Cl. 12.
Kelly, Gerard W., East Orange, N.J. 599,368, canc. Cl. 38.
Kleinert, I. B., Rubber Co., New York, N.Y. 140,859, ren. 1–31–61. Cl. 39.
Kleinert, I. B., Rubber Co., New York, N.Y. 142,284, ren. 1–31–61. Cl. 39.
Knaust Bros. Laboratories: *See*—
Knaust Brothers, Inc.
Knaust Brothers, Inc., d.b.a. Knaust Bros. Laboratories, Catskill, N.Y. 710,472, pub. 11–15–60. Cl. 18.
Kohler Co., Kohler, Wis. 710,433, pub. 11–15–60. Cl. 13.
Korach Bros. Co., Chicago, Ill. 710,650, pub. 11–15–60. Cl. 39.
LKB Produkter Fabriksaktiebolag, Stockholm, Sweden. 710,571, pub. 11–15–60. Cl. 26.
L & K Mfg. Co., Denver, Colo. 710,519, pub. 11–15–60. Cl. 21.
L & R Mfg. Co., d.b.a. Edee Products Division, Kearny, N.J. 710,702, pub. 11–15–60. Cl. 52.
La Rosa, V., & Sons, Inc.: *See*—
Russo, A., & Co., Inc.
Larro Laboratories, Inc., Denver, Colo. 710,660, pub. 11–15–60. Cl. 44.
Lassiter Corp., Charlotte, N.C. 710,706, pub. 11–15–60. Cl. 100.
Laury, Hervé, Paris, France. 599,313, canc. Cl. 28.
Leah's Foods: *See*—
Nideau, Daniel A.
Lehn & Fink Products Corp., Bloomfield, N.J. 599,478, canc. Cl. 51.
Lendt & Co., Inc.: *See*—
Augusta Absauganlagen Ernst Jacobi.
Lennox Industries Inc., Marshalltown, Iowa. 710,628, pub. 11–15–60. Cl. 34.
Lentheric, Inc., New York, N.Y., to Helene Curtis Industries, Inc., Chicago, Ill. 383,902, ren. 1–31–61. Cl. 51.
Lentheric, Inc., New York, N.Y., to Helene Curtis Industries, Inc., Chicago, Ill. 384,252, ren. 1–31–61. Cl. 51.
Lentheric, Inc., New York, N.Y., to Helene Curtis Industries, Inc., Chicago, Ill. 384,475, ren. 1–31–61. Cl. 51.
Lenze K.G. Lichttechnische Spezialfabrik, Nebelmhuesten, Germany. 710,510, pub. 11–15–60. Cl. 21.
Liberty Bell Promotion Co.: *See*—
Montgomery, Carlos A.
Lien Chemical Co., Franklin Park, Ill. 710,411, pub. 11–15–60. Cl. 6.
Lilly, Eli, and Co., Indianapolis, Ind. 710,468, pub. 11–15–60. Cl. 18.
Lilly, Eli, and Co., Indianapolis, Ind. 710,473, pub. 11–15–60. Cl. 18.
Little Chief Footwear, Inc., Brooklyn, N.Y. 599,387, canc. Cl. 39.
Little Scamp Corp., Covington, Ky. 599,279, canc. Cl. 13.
Lone Star Steel Co., Dallas, Tex. 710,435, pub. 11–15–60. Cl. 13.
Lord Mfg. Co., Erie, Pa. 710,440–1, pub. 9–6–60. Cl. 16.
Low X-Ray Corp., New York, N.Y. 710,572, pub. 11–15–60. Cl. 26.
Mackwin Co., The: *See*—
McConnon & Co.
MacLean, John R.: *See*—
MacLean, John.
MacLean, John, d.b.a. Whirl Binder Co., to John R. MacLean, administrator of said John MacLean, deceased, Pueblo, Colo. 599,342, canc. Cl. 37.
Madame Alexander: *See*—
Alexander Doll Co., Inc.
Marshall Field & Co., Chicago, Ill. 599,418, canc. Cl. 39.
Martin, Maria Clementine, Klosterfrau K.G., Bensberg, near Koln, Germany. 710,457, pub. 11–15–60. Cl. 18.
Mason, L. E., Co., Hyde Park, Mass. 710,494, pub. 6–16–59. Cl. 21.
Massasoit Co.: *See*—
Massasoit Mfg. Co.
Massasoit Mfg. Co., Fall River, Mass., to Massasoit Co., Laurelton, N.J. 142,614, ren. 1–31–61. Cl. 29.
Masury-Young Co., Boston, Mass. 710,398, pub. 11–15–60. Cl. 4.
Masury-Young Co., Charlestown, Mass. 710,703, pub. 11–15–60. Cl. 52.
Max-O-Kook, Inc., Fremont, Nebr. 710,624, pub. 11–15–60. Cl. 34.
McConnon & Co., d.b.a. The Mackwin Co., Winona, Minn. 710,407, pub. 11–15–60. Cl. 6.
McLeansboro Twine Co.: *See*—
Atkinson, Sam.
Medallion Records, New York, N.Y. 710,632, pub. 11–15–60. Cl. 36.
Mellink Steel Safe Co., Toledo, Ohio. 710,715. Cl. 25.
Melville Shoe Corp., New York, N.Y. 710,643, pub. 12–29–59. Cl. 39.
Merck & Co., Inc.: *See*—
Sharp & Dohme, Inc.
Merck & Co., Inc., Rahway, N.J. 710,482, pub. 11–15–60. Cl. 18.
Merwin, Jack, & Co.: *See*—
Pioneer Tea Co.
Metals Processing & Welding Corp., Columbus, Ind. 710,458, pub. 11–15–60. Cl. 18.
Mettler Electronics Corp., Pasadena, Calif. 710,500, pub. 11–15–60. Cl. 21.
Michigan Bearing Co., Detroit, Mich. 710,589, pub. 11–15–60. Cl. 23.
Michigan Chemical Corp., St. Louis, Mich. 710,406, pub. 11–15–60. Cl. 6.
Miller-Jones Co.: *See*—
Godman, H. C., Co., The.
Minnesota Mining and Mfg. Co., St. Paul, Minn. 710,517, pub. 11–15–60. Cl. 21.
Mircomech Mfg. Corp., Union, N.J. 710,547, pub. 11–15–60. Cl. 28.
Mr. Boston Distiller Inc., Boston, Mass. 710,689, pub. 11–15–60. Cl. 49.
Mitchell Mfg. Co., Chicago, Ill. 599,329, canc. Cl. 34.
Moe, Evah E., Kenosha, Wis. 599,389, canc. Cl. 39.
Monroe Calculating Machine Co., Orange, N.J. 710,556, pub. 11–15–60. Cl. 26.
Monroe Calculating Machine Co., Orange, N.J. 710,574, pub. 11–15–60. Cl. 26.
Montgomery, Carlos A., d.b.a. Liberty Bell Promotion Co., Atlanta, Ga. 710,495, pub. 11–15–60. Cl. 21.
Moreau, Abel, Brussels, Belgium. 710,453, pub. 11–15–60. Cl. 16.
Morgan Adhesives Co., Stow, Ohio. 710,694–5, pub. 11–15–60. Cl. 50.
Morris, Philip, & Co. Ltd., Inc., New York, N.Y. 599,261, canc. Cl. 3.
Morris, Philip, & Co. Ltd., Inc., New York, N.Y. 599,262–4, canc. Cl. 3.
Mosinger Brothers, St. Louis, Mo., to Craddock-Terry Shoe Corp., Lynchburg, Va. 387,494, ren. 1–31–61. Cl. 39.
Multiplater Machine Corp., New York, N.Y. 710,541, pub. 11–15–60. Cl. 28.
Nalge Co., Inc., Rochester, N.Y. 710,565, pub. 11–15–60. Cl. 26.
National Associated Advertisers, Inc., Chattanooga, Tenn. 599,506, canc. Cl. 101.
National Association of Mutual Savings Banks, New York, N.Y. 710,707, pub. 11–15–60. Cl. 100.
National Chemical Laboratories, Inc.: *See*—
Pressure Pac, Inc.

National Distillers and Chemical Corp., d.b.a. National Distillers Products Co., and as The Old Sunny Brook Co., New York, N.Y. 710,690, pub. 11–15–60. Cl. 49.
National Distillers Products Co.: *See*—
National Distillers and Chemical Corp.
National Furniture Mfg. Co., Inc., Evansville, Ind. 710,614, pub. 11–15–60. Cl. 32.
National Gypsum Co., Buffalo, N.Y. 710,422, pub. 11–15–60. Cl. 12.
National Lead Co.: *See*—
Titanium Alloy Mfg. Co., The.
National Plastic Products Co., The, Odenton, Md. 710,385, pub. 11–15–60. Cl. 1.
National Presto Industries, Inc., Eau Claire, Wis. 710,593, pub. 11–15–60. Cl. 26.
National Shoe Co., Ltd., Los Angeles, Calif. 599,383, canc. Cl. 39.
Nevins Co., The, Clifton, N.J. 710,388, pub. 11–15–60. Cl. 2.
Nidess, Daniel A., d.b.a. Leah's Foods, Denver, Colo. 710,681, pub. 11–15–60. Cl. 46.
Niedermeyer, Karl O., d.b.a. K. C. Joylin Co., Wood Dale, Ill. 710,516, pub. 11–15–60. Cl. 21.
Norcross, Inc., New York, N.Y. 710,638–9, pub. 11–15–60. Cl. 38.
Norris Candy Co.: *See*—
Norris Inc.
Norris Inc., d.b.a. Norris Candy Co., Atlanta, Ga. 599,455, canc. Cl. 46.
Norwich Pharmacal Co., The, Norwich, N.Y. 710,479, pub. 11–15–60. Cl. 18.
Novelty Wreath Co., Philadelphia, Pa. 710,693, pub. 11–15–60. Cl. 50.
Nu-Dent Porcelain Studio Inc., New York, N.Y. 710,658, pub. 11–15–60. Cl. 44.
Nutrition Research Laboratories, Chicago, to Whittier Laboratories, Inc., Evanston, Ill. 386,557, ren. 1–31–61. Cl. 18.
Old Sunny Brook Co., The: *See*—
National Distillers and Chemical Corp.
One-Der Frame Corp., Birmingham, Ala. 599,270, canc. Cl. 12.
Ormerod, John, & Sons Ltd., Castleton, England. 138,493, ren. 1–31–61. Cl. 23.
Oro Mfg. Co., Adrian, Mich. 710,425, pub. 11–15–60. Cl. 12.
Oro Mfg. Co., Adrian, Mich. 710,661, pub. 11–15–60. Cl. 44.
Otarion Listener Corp., Ossining, N.Y. 710,665, pub. 11–15–60. Cl. 44.
Outboard Marine Corp., Waukegan, Ill. 710,513, pub. 11–15–60. Cl. 21.
Owens-Illinois Glass Co., Toledo, Ohio. 599,490–1, canc. Cl. 33.
Pabst Brewing Co., Chicago, Ill. 710,668, pub. 11–22–60. Cl. 46.
Packard-Bell Electronics Corp., Los Angeles, Calif. 710,712, pub. 11–15–60. Cl. 103.
Peck & Peck, New York, N.Y. 710,646, pub. 11–15–60. Cl. 39.
Peelquik Co. Inc., New Rochelle, N.Y. 710,714. Cl. 23.
Penn Controls, Inc., Goshen, Ind. 710,497, pub. 11–15–60. Cl. 21.
Penn Fruit Co., Inc., Philadelphia, Pa. 710,669, pub. 10–25–60. Cl. 46.
Perez Bros., Crows Landing, Calif. 710,674–6, pub. 11–15–60. Cl. 46.
Petri Cigar Co., Inc., also d.b.a. Petri Wine Co., to United Vintners, Inc., San Francisco, Calif. 387,531, ren. 1–31–61. Cl. 47.
Petri Wine Co.: *See*—
Petri Cigar Co., Inc.
Phelps Dodge Copper Products Corp., New York, N.Y. 710,503, pub. 11–15–60. Cl. 21.
Philips Electronics and Pharmaceutical Industries Corp., New York, N.Y. 710,436, pub. 11–15–60. Cl. 14.
Philips Electronics and Pharmaceutical Industries Corp., New York, N.Y. 710,514, pub. 11–15–60. Cl. 21.
Philips Electronics and Pharmaceutical Industries Corp., New York, N.Y. 710,605, pub. 11–15–60. Cl. 26.
Piatt Products Corp., Lansing, Mich. 599,293, canc. Cl. 21.
Picaso-Anstalt, Vaduz, Lichtenstein. 710,696, pub. 11–15–60. Cl. 51.
Pioneer Industries, Inc., Darby, Pa. 710,645, pub. 11–15–60. Cl. 39.
Pioneer Iron Works, to Samuel X. Kaplan, Sioux City, Iowa. 665,613, new cert. Cl. 13.
Pioneer Tea Co., d.b.a. Jack Merwin & Co., to Jack Merwin Co., Duluth, Minn. 599,505, canc. Cl. 52.
Piper Brace Sales Corp.: *See*—
H.G. Enterprises.
Plant, Thomas G., Co., Boston, Mass., to International Shoe Co., St. Louis, Mo. 142,708, ren. 1–31–61. Cl. 40.
Poster Packaging, Inc., Chicago, Ill. 710,391, pub. 11–15–60. Cl. 2.
Potlatch Forests, Inc., Lewiston, Idaho. 710,390, pub. 11–15–60. Cl. 2.
Preflex, Procedes Nouveaux de Construction, S.A., Brussels, Belgium. 710,423–4, pub. 11–15–60. Cl. 12.
Press Dress & Uniform Co., Hummelstown, Pa. 599,397, canc. Cl. 39.
Pres-Stick, Inc., Haverhill, Mass. 710,651, pub. 10–4–60. Cl. 42.
Pressure Pak, Inc., from National Chemical Laboratories, Inc., West Palm Beach, Fla. 710,439, pub. 7–14–59. Cl. 16.
Printing Services of Philadelphia, Inc., Philadelphia, Pa. 710,636, pub. 11–15–60. Cl. 37.
Procter and Gamble Co., The, Cincinnati, Ohio. 137,849, ren. 1–31–61. Cl. 52.
Pulaski Bottling Works The, Farrell, Pa. 599,434, canc. Cl. 45.
Pulvari, Charles F., Washington, D.C. 710,502, pub. 11–15–60. Cl. 21.
Pure Milk Association, Chicago, Ill. 710,705, pub. 11–15–60. Cl. 100.
Quaker Oats Co., The, Chicago, Ill. 710,399, pub. 11–15–60. Cl. 5.
Railroad Accessories Corp., New York, N.Y. 710,522, pub. 11–15–60. Cl. 21.
Railroad Accessories Corp., New York, N.Y. 710,546, pub. 11–15–60. Cl. 23.
Rand Rubber Co., Inc.: *See*—
Brooklyn Shield & Rubber Co.
Ratner, Lee, d.b.a. Ratner Mfg. Co., Chicago, Ill. 599,476, canc. Cl. 51.
Ratner Mfg. Co.: *See*—
Ratner, Lee.
Realistic Co., The, Cincinnati, Ohio. 599,469, canc. Cl. 51.
Red Spot Paint & Varnish Co. Inc., Evansville, Ind. 440,421, canc. Cl. 52.
Reda, Edward E., San Jose, Calif. 710,558, pub. 11–15–60. Cl. 26.
Reibman Mfg. Co.: *See*—
Reibman, Samuel.
Reibman, Samuel, d.b.a. Reibman Mfg. Co., Chicago, Ill. 599,496, canc. Cl. 39.
Relaxacizor, Inc., Los Angeles, Calif. 710,662, pub. 11–15–60. Cl. 44.
Renner Co., The, Youngstown, Ohio. 599,458, canc. Cl. 43.
Research Appliance Co., Allison Park, Pa. 710,600, pub. 11–15–60. Cl. 26.
Reymer & Brothers, Inc., Pittsburgh, Pa. 599,443, canc. Cl. 46.
Rock Creek Ginger Ale Co., Inc., d.b.a. Blair House Beverages, Washington, D.C. 710,667, pub. 11–15–60. Cl. 45.
Rodi & Wienenberger Aktiengesellschaft, Pforzheim, Germany. 710,607, pub. 12–23–58. Cl. 28.
Rogers, Inc., New York, N.Y. 710,415, pub. 11–15–60. Cl. 8.
Rosaen Co., to Nils O. Rosaen, d.b.a. The Rosaen Co., Hazel Park, Mich. 661,039, new cert. Cl. 31.
Rosaen Co., The: *See*—
Rosaen Co.
Rosaen, Nils O.: *See*—
Rosaen Co.
Roto-Rooter Corp., Des Moines, Iowa. 710,545, pub. 11–15–60. Cl. 23.
Roxborough Co., The, Philadelphia, Pa. 599,420, canc. Cl. 39.
Russo, A., & Co., Inc., Chicago, Ill., to V. La Rosa & Sons, Inc., Brooklyn, N.Y. 382,621, ren. 1–31–61. Cl. 46.
Ryan & Burke Machine Co. Inc., Lynn, Mass. 599,225, canc. Cl. 2.
Saffire Mfg. Co.: *See*—
Saffire Saw & Mfg. Co.
Saffire Saw & Mfg. Co., d.b.a. Saffire Mfg. Co., Alhambra, Calif. 710,438, pub. 11–15–60. Cl. 15.
Sanborn Co., Waltham, Mass. 710,580, pub. 11–15–60. Cl. 26.
Sandoz, Inc., Hanover, N.J. 710,454, pub. 11–15–60. Cl. 18.
Savage Arms Corp., Utica, N.Y. 599,306, canc. Cl. 23.
Scholten's, W. A., Chemische Fabrieken N.V., Groningen, Netherlands. 710,405, pub. 11–15–60. Cl. 6.
Schundler, F. E., & Co. Inc., Joliet, Ill. 599,208, canc. Cl. 1.
Schwartz, Jack, Chicago, Ill. 710,445, pub. 11–15–60. Cl. 17.
Scott & Williams, Inc., Laconia, N.H. 710,585, pub. 11–15–60. Cl. 23.
Sealaround Corp., Chicago, Ill. 710,537, pub. 11–15–60. Cl. 23.
Seiler's Inc., Philadelphia, Pa. 710,687, pub. 11–15–60. Cl. 46.
Selchow & Righter Co., Bay Shore, N.Y. 710,528, pub. 11–15–60. Cl. 22.
Seng Co., The, from Serta Associates, Inc., Chicago, Ill. 710,613, pub. 8–9–60. Cl. 32.
Seraphin Test Measure Co., Philadelphia, Pa. 710,601, pub. 11–15–60. Cl. 26.
Serta Associates, Inc.: *See*—
Seng Co., The.
Services Industries, Philadelphia, Pa. 710,400, pub. 11–15–60. Cl. 6.
Sharp & Dohme, Inc., Philadelphia, Pa., to Merck & Co., Inc., Rahway, N.J. 387,763, ren. 1–31–61. Cl. 6.
Shell-O-Matic, Inc., Irvington, N.J. 710,534, pub. 7–5–60. Cl. 23.
Siegler Corp., The, Pasadena, Calif. 710,625, pub. 11–15–60. Cl. 34.
Silva Industries, Inc., New York, N.Y. 710,527, pub. 11–15–60. Cl. 22.
Silver Spur Boot Co.: *See*—
Cooper, David D.
Simpson Redwood Co., Seattle, Wash. 710,428, pub. 11–15–60. Cl. 12.
Sindicato Dante Quinterno, to Editorial Dante Quinterno Sociedad Anonima, Buenos Aires, Argentina. 383,295, ren. 1–31–61. Cl. 38.
Smartstyle Jewelry Inc., New York, N.Y. 710,716. Cl. 28.
Smith-Dorsey: *See*—
Wander Co., The.
Smith Kline & French Laboratories, Philadelphia, Pa. 710,471, pub. 11–15–60. Cl. 18.
Societe Anonyme de l'Ancienne Maison Devaud Kunstle & Co., Geneva, Switzerland. 710,647, pub. 11–15–60. Cl. 39.
Softexture Yarns, Inc., Newark, N.J. 710,583, pub. 11–15–60. Cl. 1.
Solarsonic Devices, Inc., Hicksville, N.Y. 710,504, pub. 11–15–60. Cl. 21.
Southern Spring Bed Co., Atlanta, Ga. 710,615, pub. 11–15–60. Cl. 32.
Southern Spring Bed Co., Atlanta, Ga. 710,619, pub. 11–15–60. Cl. 32.
Space Instrumentation Corp., Santa Monica, Calif. 710,599, pub. 11–15–60. Cl. 26.

Spacelight, Inc., Hereford, Tex. 710,603–4, pub. 11–15–60. Cl. 26.
Sparks Professional Veterinary Supply Co.: *See*—
Sparks, Samuel G.
Sparks, Samuel G., d.b.a. Sparks Professional Veterinary Supply Co., Des Moines, Iowa. 710,455, pub. 11–15–60. Cl. 18.
Speedry Chemical Products, Inc., by consolidation from Speedry Products, Inc., Richmond Hill, N.Y. 710,634, pub. 11–15–60. Cl. 37.
Speedry Products, Inc.: *See*—
Speedry Chemical Products, Inc.
Speicher, Daniel E., to The Cyclone Seeder Co., Inc., Urbana, Ind. 137,475, ren. 1–31–61. Cl. 23.
Speidel Corp, Providence, R.I. 710,609, pub. 11–15–60. Cl. 28.
Spencer, Charles, Ltd., Redditch, England. 384,149, ren. 1–31–61. Cl. 44.
Stamford Chemical Co., The, Stamford, Conn. 710,402, pub. 11–15–60. Cl. 6.
Standard Instrument Corp., New York, N.Y. 710,570, pub. 11–15–60. Cl. 26.
Standard Oil Co. of New York, to The American Oil Co., New York, N.Y. 197,924, new cert. Cl. 15.
Standex Laboratories, Inc., Columbus, Ohio. 710,480, pub. 11–15–60. Cl. 18.
Stanray Corp., Chicago, Ill. 710,427, pub. 11–15–60. Cl. 12.
Star-Kist Foods, Inc., Terminal Island, Calif. 710,683, pub. 11–15–60. Cl. 46.
Sterling Stores Corp., now by change of name Gob Shops of America, Inc., Pawtucket, R.I. 599,323, canc. Cl. 32.
Steuben Cigarette Co., Inc., New York, N.Y. 710,444, pub. 11–15–60. Cl. 17.
Stewart Hartshorn Co., New York, N.Y. 436,569, canc. Cl. 42.
Stewart Hartshorn Co., New York, N.Y. 437,834, canc. Cl. 32.
Sumner Hosiery Mill, Gastonia, N.C. 599,409–10, canc. Cl. 39.
Superior Pneumatic & Mfg., Inc., Garfield Heights, Ohio. 710,531, pub. 11–15–60. Cl. 23.
Swack, Harvey R., Mansfield, Ohio. 599,371, canc. Cl. 38.
Syncro Machine Co., Perth Amboy, N.J. 710,550, pub. 11–15–60. Cl. 28.
Tanra Mfg. Co., Orange, N.J. 599,260, canc. Cl. 8.
Texas Refinery Corp., Fort Worth, Tex. 710,443, pub. 11–15–60. Cl. 16.
Thomas Associates: *See*—
Thomas, Robert O., Jr.
Thomas, Robert O., Jr., d.b.a. Thomas Associates, Birmingham, Ala. 710,581, pub. 11–15–60. Cl. 26.
Tibor Rado, Columbus, Ohio. 710,523, pub. 11–15–60. Cl. 22.
Tip-Top Brush Co., Inc., New York, N.Y. 710,610, pub. 11–15–60. Cl. 29.
Titanium Alloy Mfg. Co., The, Niagara Falls, to National Lead Co., New York, N.Y. 382,854, ren. 1–31–61. Cl. 6.
Topic Foods, Inc., Chicago, Ill., to Carnation Co., Los Angeles, Calif. 599,447, canc. Cl. 46.
Trenton Foods, Inc., Kansas City, Mo. 599,448, canc. Cl. 46.
Trimble Products Inc., Southern Pines, N.C. 710,618, pub. 11–15–60. Cl. 32.
Twin Tone Tap Co., Inc., Philadelphia, Pa. 710,648, pub. 11–15–60. Cl. 39.
Tyrolit Co., Inc., New York, N.Y. 710,397, pub. 11–15–60. Cl. 4.
Tyson & Co., Inc.: *See*—
Tyson & Co.
Tyson & Co., to Tyson & Co., Inc., Paris, Tenn. 141,450, ren. 1–31–61. Cl. 51.
United Aircraft Corp., East Hartford, Conn. 710,557, pub. 11–15–60. Cl. 26.
United Co-operatives, Inc., Alliance, Ohio. 384,494, ren. 1–31–61. Cl. 6.
United Marine, Inc., Millville, N.J. 710,489, pub. 11–15–60. Cl. 19.
United Nations Trading Co., Inc., New York, N.Y. 710,532, pub. 11–15–60. Cl. 23.
United Rent-Alls, Inc., Lincoln, Nebr. 710,710, pub. 11–15–60. Cl. 101.
United Shoe Machinery Corp.: *See*—
United-Xpedite Finishing Co.
U.S. Basket Co., Inc., New York, N.Y. 710,395, pub. 11–15–60. Cl. 3.
United States Radium Corp., Morristown, N.J. 710,666, pub. 11–15–60. Cl. 44.
United Vintners, Inc.: *See*—
Petri Cigar Co., Inc.
United-Carr Fastener Corp., Boston, Mass. 710,621–2, pub. 11–15–60. Cl. 32.
United-Xpedite Finishing Co., Portland, Maine, and Boston, to United Shoe Machinery Corp., Boston, Mass. 138,148, ren. 1–31–61. Cl. 23.
Universal Mfg. Corp., Paterson, N.J. 710,501, pub. 11–15–60. Cl. 21.
Universal Salad Oil Co.: *See*—
Corrao, Antonio.
Universal Steel Equipment Corp., Long Island City, N.Y. 599,321, canc. Cl. 32.
VEB Kamera- und Kinowerke Dresden, Dresden, Germany. 710,567–9, pub. 10–11–60. Cl. 26.
Vagabond Coach Mfg. Co., New Hudson, Mich. 710,484, pub. 11–15–60. Cl. 19.
Van Waveren, M., & Sons, Inc., Totowa, N.J. 710,384, pub. 11–15–60. Cl. 1.
Velsicol Chemical Corp., Chicago, Ill. 710,437, pub. 11–15–60. Cl. 15.
Viceroy Mfg. Co. Ltd., Toronto, Ontario, Canada. 710,656, pub. 11–15–60. Cl. 44.
Victor, Alexander F., Enterprises, Inc., Carmel-by-the-Sea, Calif. 710,543, pub. 11–15–60. Cl. 23.
Virginaire Products, Inc., Charlottesville, Va. 710,410, pub. 11–15–60. Cl. 6.
Vi-san Co.: *See*—
Visan Nutritional Laboratories.
Visan Nutritional Laboratories, Panorama City, Calif., from Gordon K. Woodard, d.b.a. Vi-san Co., Burbank, Calif. 710,446–7, pub. 3–17–59. Cl. 18.
Visual Improvement Products, Inc., New York, N.Y. 710,663, pub. 11–15–60. Cl. 44.
Viviane Woodard Corp., by change of name from Viviane Woodard Cosmetics, Panorama City, Calif. 710,697, pub. 11–15–60. Cl. 52.
Viviane Woodard Cosmetics: *See*—
Viviane Woodard Corp.
Voss Photo Corp., Yonkers, N.Y. 710,594–5, pub. 11–15–60. Cl. 26.
Vought Industries, Inc., Dallas, Tex. 710,488, pub. 11–15–60. Cl. 19.
Wallace Silversmiths, Inc., Wallingford, Conn. 710,389, pub. 11–15–60. Cl. 2.
Wander Co., The, d.b.a. Smith-Dorsey, Chicago, Ill. 710,462, pub. 11–15–60. Cl. 18.
Wausau Brewing Co., Wausau, Wis. 710,688, pub. 11–15–60. Cl. 48.
Wear Weld Products Co., Portland, Oreg. 599,297, canc. Cl. 23.
Weavers' Beaver, Salt Lake City, Utah. 710,704, pub. 11–15–60. Cl. 100.
Weksler Instruments Corp., Freeport, N.Y. 710,578, pub. 11–15–60. Cl. 26.
Welcome Arrival Products Co., Inc., Minneapolis, Minn. 710,680, pub. 11–15–60. Cl. 46.
Wells, Henry M., London, England, to Continental Oil Co., Ponca City, Okla. 139,228, ren. 1–31–61. Cl. 15.
Werner Machinery Co., Grand Rapids, Mich. 710,533, pub. 11–15–60. Cl. 23.
West Chemical Products, Inc.: *See*—
West Disinfecting Co.
West Disinfecting Co., to West Chemical Products, Inc., Long Island City, N.Y. 383,210–12, ren. 1–31–61. Cl. 37.
West Seneca Building Co., Inc., Buffalo, N.Y. 599,267, canc. Cl. 12.
Western Condensing Co.: *See*—
Foremost Dairies, Inc.
Western Shell Fish Co., Inc., Harlingen, Tex. 710,684, pub. 11–15–60. Cl. 46.
Wexler, David, & Co., Chicago, Ill. 710,629, pub. 2–23–60. Cl. 36.
Whirl Binder Co.: *See*—
MacLean, John.
Whittier Laboratories, Inc.: *See*—
Nutrition Research Laboratories.
Wiedemann, Geo., Brewing Co., Inc., The, to The Geo. Wiedemann Brewing Co., Newport, Ky. 384,217, ren. 1–31–61. Cl. 48.
Wiedemann, Geo., Brewing Co., The: *See*—
Wiedemann, Geo., Brewing Co., Inc., The.
Williamson-Dickie Mfg. Co., Fort Worth, Tex. 599,417. Cl. 39.
Winfield Brooks Co., Inc., Woburn, Mass. 710,699, pub. 11–15–60. Cl. 52.
Wolter, Bernard G.: *See*—
Wolter Bros.
Wolter Bros., to Bernard G. Wolter, Peoria, Ill. 136,709, canc. Cl. 46.
Wood Mfg. Co.: *See*—
Wood Mfg. Co., Inc.
Wood Mfg. Co., Inc., d.b.a. Wood Mfg. Co., Conway, Ark. 710,526, pub. 11–15–60. Cl. 22.
Woodard, Gordon K.: *See*—
Visan Nutritional Laboratories.
Woodcrest, Inc., Bellevue, Wash. 599,326, canc. Cl. 32.
Woodville Lime Products Co., The, Toledo, Ohio. 710,429, pub. 11–15–60. Cl. 12.
Worthington Corp., Harrison, N.J. 710,562, pub. 11–15–60. Cl. 26.
Wyeth Laboratories: *See*—
American Home Products Corp.
Yale & Towne Mfg. Co., New York, N.Y. 385,377, ren. 1–31–61. Cl. 21.
Yale & Towne Mfg. Co., The, Stamford, Conn., to The Yale & Towne Mfg. Co., New York, N.Y. 142,850, ren. 1–31–61. Cl. 25.
Young Spring & Wire Corp., Beverly Hills, Calif. 710,520, pub. 11–15–60. Cl. 21.
Zenith Radio Corp., Chicago, Ill. 599,290, canc. Cl. 21.
Zippo Mfg. Co., Inc., Bradford, Pa. 710,591, pub. 11–15–60. Cl. 26.

U.S. GOVERNMENT PRINTING OFFICE: 0——1961

OFFICIAL GAZETTE • UNITED STATES PATENT OFFICE

February 7, 1961 Volume 763 Number 1

PATENTS

NOTICES

Board of Appeals Decisions Rendered in the Month of December 1960

Examiner affirmed	160
Examiner affirmed in part	24
Examiner reversed	45
Total	229

Erratum

All references to Patent No. 2,969,199 to Claud C. Riemenschneider for Equipment for Storing and Handling Carpeting and the Like, appearing in the OFFICIAL GAZETTE of January 24, 1961, should be deleted as the application was withdrawn from issue and the patent was not issued.

Disclaimers

2,735,011.—*Arthur H. Dickinson*, Greenwich, Conn. OSCILLATING CIRCUIT. Patent dated Feb. 14, 1956. Disclaimer filed Dec. 19, 1960, by the assignee, *International Business Machines Corporation*.

Hereby enters this disclaimer to claim 3 of said patent.

2,897,279.—*John Edward Flood* and *Ronald S. Hopkins*, London, England. AUTOMATIC TELEPHONE EXCHANGE SYSTEMS. Patent dated July 28, 1959. Disclaimer filed Dec. 27, 1960, by the assignee, *Associated Electrical Industries (Woolwich) Limited*.

Hereby enters this disclaimer to claim 1 of said patent.

Dedication

2,848,789.—*Ernest J. Friedline*, Mount Pleasant Township, Westmoreland County, Pa. CUTTING TOOLS. Patent dated Aug. 26, 1958. Dedication filed Dec. 30, 1960, by the assignee, *Kennametal Inc.*

Hereby dedicates to the public the entire terminal part of the term of said patent from and after Dec. 1, 1960.

Adverse Decisions in Interferences

In the designated interferences involving the indicated claims of the following patents final decisions have been rendered that the respective patentees were not the first inventors with respect to the claims listed.

Pat. 2,800,964, D. A. Garrick, Recovery of lost circulation in a drilling well, decided Sept. 15, 1960, Interference No. 90,057, claims 1 and 2.

Pat. 2,803,460, M. Meltendorf, Sheet feeding, decided Oct. 31, 1960, Interference No. 89,104, claims 1, 2, 3, and 5.

Pat. 2,830,808, J. N. Graber, Pulley hold-down for traverse rods, decided Dec. 21, 1960, Interference No. 89,822, claims 1, 2, 5, and 6.

Pat. 2,849,771, P. G. Rohland, Rope clamps undetachably pressed onto wire ropes and such like, decided Oct. 27, 1960, Interference No. 89,954, claim 3.

Pat. 2,876,818, A. M. Raff et al., Polyethylene bottle, decided Dec. 6, 1960, Interference No. 90,455, claim 1.

Pat. 2,894,854, A. J. MacIntyre, Jr., et al., Electroluminescent device, decided Dec. 27, 1960, Interference No. 90,788, claims 8 and 9.

New Applications Received During December 1960

Patents	7,061
Designs	366
Plant Patents	9
Reissues	18
Total	7,474

Issue

Patents	881	No. 2,970,313 to No.	2,971,193, incl.
Designs	26	No. 189,713 to No.	189,738, incl.
Plant Patents	5	No. 2,019 to No.	2,023, incl.
Reissues	1	No. 24,933	
Total	913		

CONDITION OF PATENT APPLICATIONS AS OF NOVEMBER 30, 1960

Total number of pending applications (excluding Designs)	189,708
Total number of pending Design applications	5,579
Total number of applications awaiting action (excluding Designs)	87,872
Total number of Design applications awaiting action	1,405
Date of oldest new application	June 17, 1959
Date of oldest amended application	June 18, 1959

M. C. ROSA, Director, Patent Examining Operation

PATENT EXAMINING GROUPS, AND SUPERVISORY EXAMINERS	DIVISIONS
(I) STONE, I. G., CHEMICAL AND RELATED ARTS	6, 21, 26, 42, 46, 59, 58, 59, 60, 62, 64.
(II) EVANS, N. H., COMMUNICATIONS, RADIANT ENERGY AND ELECTRICAL ARTS	16, 26, 37, 41, 42, 44, 48, 51, 54, 55.
(III) YUNG KWAI, B., MECHANICAL MANUFACTURING, MACHINE ELEMENTS AND DESIGNS	2, 12, 13, 14, 21, 24, 57, 58, 61, 81, 82.
(IV) SPINTMAN, S., MATERIAL HANDLING AND TREATING, OPTICS, RAILWAYS AND AMUSEMENT DEVICES.	7, 11, 17, 27, 34, 35, 39, 52, 62.
(V) HULL, J. S., STATIC STRUCTURES AND INSTRUMENTS OF PRECISION	5, 8, 29, 30,32, 36, 49, 53, 66.
(VI) MURPHY, T. F., AGRICULTURE, CALCULATORS, PUMPS AND MOTORS, TRANSPORTATION	1, 4, 9, 10, 18, 22, 28, 33, 45, 47.
(VII) KAUFFMAN, H. E., HEATING AND COOLING, PLASTIC SHAPING AND COATING, SEPARATION AND MIXING, BODY TREATMENT AND CARE.	3, 15, 19, 23, 30, 32, 40, 55, 67.
(CLASS.) GORECKI, G. A., ARTS UNDERGOING RECLASSIFICATION AS LISTED UNDER CLASSIFICATION DIVISIONS.	91, 92, 93, 94, 95.

DIVISIONS, EXAMINERS AND SUBJECTS OF INVENTION (Roman numerals in parentheses indicate Examining Group)	Oldest Application: New	Oldest Application: Amended
1. (VI) GOLDBERG, A. J., Brakes; Planting; Plant Husbandry; Scattering Unloaders; Earth Working	5-4-60	5-9-60
2. (III) STONE, A., Fishing, Trapping and Vermin Destroying; Presses; Tobacco; Textile Wringers; Buckles, Buttons and Clasps	6-1-60	5-25-60
3. (VII) MARMELSTEIN, N., Metal Founding and Treatment; Metallurgy (Process and Apparatus); Alloys; Electrical Resistors	4-25-60	4-11-60
4. (VI) FALLER, E. A., Hoists; Power Driven Conveyors; Handling Apparatus; Elevators; Pneumatic Dispatch; Store Service; Conveyors, Chutes, Skids, Guides and Ways	3-11-60	3-18-60
5. (V) ROBINSON, C. W., Harvesters; Unearthing Objects; Threshing; Knotters; Animal Husbandry; Bee Culture; Dairy; Butchering; Vegetable and Meat Cutters and Comminutors; Fences; Gates; Music; Signals and Indicators; Acoustics	10-20-60	11-13-60
6. (I) LIDOFF, H. J., Carbon Chemistry (part), e.g., Heterocyclic, General Organic Processes, Amides	12-29-59	2-8-60
7. (IV) ANDERSON, E. G., Optics	3-10-60	3-23-60
8. (V) BREHM, G. L., Beds; Chairs and Seats; Cabinets; Tables; Miscellaneous Furniture; Fire Escapes; Ladders; Deposit and Collection Receptacles; Scaffolds	5-10-60	6-1-60
9. (VI) BRANSON, J. H., Pumps; Fans; Turbines	3-16-60	4-4-60
10. (VI) HORTON, A. M. (acting), Firearms; Ordnance; Ammunition; Explosive Charge Making	4-14-60	4-13-60
11. (IV) BENHAM, E. V., Boots, Shoes and Leggings; Shoe and Leather Manufacture; Button, Eyelet and Rivet Setting; Nailing, Stapling and Clip Clinching; Card, Picture and Sign Exhibiting; Cutlery; Pipes and Tubular Conduits	3-23-60	3-7-60
12. (III) DURHAM, B. G. (acting), Machine Elements; Engine Starters; Interrelated Clutch and Motor Controls	4-5-60	3-25-60
13. (III) BEALL, T. E., Gear Cutting; Electric Lamp and Tube Manufacture; Needle and Pin Making; Metal Working (part), e.g. Special Work, Forging, Plastic Working, Drawing, Sawing, Milling, Planing, Turning	3-9-60	3-14-60
14. (III) WILTZ, W. A., Metal Working (part) e.g. Sheet Metal; Metal Bending, Miscellaneous Processes, Assembly and Disassembly Apparatus; Wire Fabrics	3-1-60	12-21-59
15. (VII) BRINDISI, M. V., Plastics; Plastic Block and Earthenware Apparatus	3-7-60	3-2-60
16. (II) ANDRUS, L. M., Telephony; Recorders (part)	10-8-59	10-15-59
17. (IV) LEIGHEY, R. A., Packaging; Typewriters; Printing; Type Casting and Setting; Sheet Material Associating or Folding; Sheet Feeding or Delivering	4-5-60	4-8-60
18. (VI) BLUM, A., Power Plants; Fluid Transmissions; Servomotor Systems; Jet Motors; Combustion Turbines; Speed or Acceleration	6-1-60	5-27-60
19. (VII) PATRICK, P. L., Stoves and Furnaces; Boilers; Fluid Fuel Burners; Heating Systems; Miscellaneous Heating; Automatic Temperature and Humidity Regulation; Illuminating Burners	3-16-60	3-18-60
20. (V) SEERS, J. D., Miscellaneous Hardware; Closure Fasteners; Locks; Safes; Bank Protection; Bread, Pastry and Confection Making; Tents and Canopies; Umbrellas; Canes; Undertaking; Electrical Connectors	6-3-60	6-3-60
21. (III) MADER, E. C., Textiles	4-18-60	4-18-60
22. (VI) BUCHLER, M. B., Aeronautics; Boats; Buoys; Ships; Marine Propulsion; Propellers; Windmills; Fluid Diaphragms and Bellows	3-23-60	3-9-60
23. (VI) SMILOW, L., Data Processors; Digital and Analog Computers; Calculators; Bookkeeping Machines; Cash and Fare Registers; Voting Machines; Counters	6-17-60	6-18-60
24. (III) HICKEY, T. J., Apparel (except Corsets and Brassieres); Apparel Apparatus; Sewing Machines; Textiles, Ironing or Smoothing; Clutches and Power-Stop Control; Work Holders	4-1-60	4-1-60
25. (VII) NEVIUS, R. D., Coating—Processes, Miscellaneous Products and Apparatus; Distillation; Wood Treating Apparatus; Paper Making	1-18-60	12-21-59
26. (II) RADER, O. L., Electricity—Generation, Motive Power, Transmission Systems, Voltage and Phase Control Systems, Furnaces, Battery Charging and Discharging, Arc Lamps, Prime Mover Dynamo Plants; Elevators (part), e.g. Miscellaneous Electric Control Mechanisms; Inductors; Transformers	3-18-60	1-14-60
27. (IV) JAMES, S., Brushing, Scrubbing and General Cleaning; Brush, Broom and Mop Making; Textiles, Fluid Treating Apparatus; Cleaning and Liquid Contact With Solids	5-20-60	5-11-60
28. (VI) BRAUNER, R. H., Internal Combustion Engines; Expansible Chamber Motors; Fluid Servomotors; Spring, Weight and Animal Powered Motors; Cylinders; Pistons; Drive Shafts; Flexible-Shaft Couplings; Chucks or Sockets; Fluid Current Conveyors; Pressure Modulating Relays; Wheel Substitutes	4-29-60	3-1-60
29. (V) FRITZ, M. M., Tools; Woodworking; Button, Barrel and Wheel Making; Baggage; Cloth, Leather and Rubber Receptacles; Package and Article Carriers; Valved Pipe Couplings; Rod Joints; Tool-Handling Fastenings	3-21-60	3-11-60
30. (VII) O'LEARY, R. A., Comminutors; Refrigeration; Fluid Sprinkling, Spraying and Diffusing, Separating and Assorting Solids (part)	6-7-60	6-9-60

DIVISIONS, EXAMINERS AND SUBJECTS OF INVENTION (Roman numerals in parentheses indicate Examining Group)	Oldest Application	
	New	Amended
31. (I) SULLIVAN, A. M. (acting), Carbon Chemistry (part), e.g., Urea Adducts, Silicon Containing Carbon Compounds, Hydrogenation of Carbon Oxides, Partial Oxidation of Non-Aromatic Hydrocarbon Mixtures, Hydrocarbons, Halogenated Hydrocarbons; Synthetic Resins (part) (e.g., Oil-Modified; Stabilized); Mineral Oils	5-8-60	5-8-60
32. (VII) BERMAN, H., Gas and Liquid Contact Apparatus; Heat Exchange; Agitation; Fire Extinguishers; Centrifugal Bowl Separators; Liquid Separation or Purification (part)	2-26-60	2-26-60
33. (V) MUSHAKE, W. L., Bridges; Hydraulic and Earth Engineering; Roads and Pavements; Building Structures	1-13-60	1-13-60
34. (IV) QUACKENBUSH, L., Railways—Draft Appliances, Switches and Signals, Surface Track, Rolling Stock, Track Sanders; Electricity, Transmission to Vehicles; Dumping Vehicles; Vehicle Fenders; Hand and Hoist Line Implements	1-11-60	1-13-60
35. (IV) DEMBO, L. J., Dispensing; Filling Receptacles; Toilet; Severing by Tearing or Breaking; Coin Controlled Apparatus; Dispensing Cabinets; Article Dispensing; Coin Handling	4-12-60	4-4-60
36. (V) EVANS, R. L., Measuring and Testing (part)	3-22-60	3-5-60
37. (II) LEVY, M. L., Electricity—Switches, Welding, Heating, Photo-Cell Circuits	1-26-60	2-4-60
38. (I) PARKER, C. B., Carbon Chemistry (part), e.g., Azo, Carbocyclic or Acyclic Compounds (part), e.g., Anthrones, Triarylmethanes, Esters, Acids, Ketones, Aldehydes, Ethers, Phenols, Alcohols, Proteins, Amines, Natural Resins	12-14-59	1-11-60
39. (IV) WEIL, L., Fluid-Pressure Regulators; Valves; Fluid Handling (except Pressure Modulating Relays, Float Valves, Diaphragms and Bellows)	4-26-60	4-26-60
40. (V) DRUMMOND, E. J., Receptacles—Metallic, Paper, Wooden, Glass; Special Receptacles and Packages	5-3-60	5-3-60
41. (II) LOVEWELL, N. N., Recorders (part); Sound Recording; Television; Telegraphy (part)	4-21-60	3-21-60
42. (II) REYNOLDS, E. R., Electric Signaling; Telegraphy (part)	3-21-60	3-21-60
43. (I) KNIGHT, W. B. (WOLK, M. O., acting), Medicines, Poisons, Cosmetics; Sugar and Starch; Skins and Leathers; Preserving, Sterilizing and Disinfecting (except Wood Treatment Apparatus); Bleaching, Dyeing, Fluid Treatment of Textiles	11-30-59	10-30-60
44. (II) JUSTUS, C. L., Directive Radio Systems; Nuclear Batteries; Nuclear Resonant Devices; Radar; Sonar; Torpedoes	11-30-59	11-6-60
45. (VI) MANIAN, J. A., Wheels, Tires and Axles; Railway Wheels and Axles; Lubrication; Bearings and Guides; Belt and Sprocket Gearing; Spring Devices; Animal Draft Appliances; Excavating	5-5-60	4-20-60
46. (I) WILES, W. G. (CAMPBELL, R. L., acting), Actinide Series (e.g., Fissionable) Compounds; Sintered Metal Stock; Explosives; Power Plants (part); Metallurgy (part); Radioactive Medicines; Nuclear Reactions; Carbon Chemistry (part)	3-8-60	3-8-60
47. (VI) KANOF, W. J., Mining, Quarrying, and Ice Harvesting; Motor Vehicles; Land Vehicles; Education	5-24-60	5-16-60
48. (II) BERNSTEIN, S., Electricity—Convention Systems, Protective Systems; Measuring and Testing (except Meters); Switchboards, Relays, Magnets, Condensers, Transistors, Barrier Layer Rectifiers	3-8-60	2-8-60
49. (VII) BENDETT, B., Drying and Gas or Vapor Contact With Solids; Ventilation; Wells; Concentrating Evaporators; Earth Boring	2-29-60	1-8-60
50. (I) ARNOLD, D., Carbon Chemistry (part), e.g., Synthetic Resin Compositions (part), Synthetic Rubber Compositions, Natural Rubber; Synthetic Resins (part) (e.g., Butadiene Polymers and Copolymers, Polyacrylonitriles, Acrylate Polymers and Copolymers)	2-1-60	1-15-60
51. (II) WESTBY, G. N., Modulators; Piezoelectric Devices; Antennas; Oscillators; Miscellaneous Electron Space Discharge Device Systems; Radio Detectors	3-7-60	3-1-60
52. (V) LE ROY, C. A., Supports and Racks; Separating and Assorting Solids (part)	4-1-60	4-7-60
53. (IV) NINAS, G. A., Label Pasting and Paper Hanging; Books and Book Making; Manifolding; Printed Matter; Stationery; Paper Files and Binders; Flexible or Portable Closures or Partitions; Doors, Windows, Awnings, and Shutters; Harness; Whip Apparatus; Food Apparatus; Closure Operators; Illumination	5-31-60	4-15-60
54. (II) NILSON, R. G., Electric Lamps; Electronic Tubes; Miscellaneous Discharge Devices; Lamp, Cathode Ray and Gas Discharge Device Circuits; Ray Energy (e.g., X-Ray, Ultraviolet, Radioactive) Applications; Mass Spectrometers	3-21-60	4-20-60
55. (VII) WHITMORE, H. B. (acting), Surgery; Dentistry; Artificial Body Members	3-7-60	3-22-60
56. (I) SPECK, J. R., Abrading Compositions; Batteries; Coating or Plastic Compositions; Electrical and Wave Energy Chemistry	3-21-60	3-8-60
57. (III) TOMLIN, C. W. (acting) Bolt, Nut, Rivet, Nail, Screw, Chain, and Horseshoe Making; Drives and Screw Fastenings; Nut and Bolt Locks; Jewelry; Pipe Joints or Couplings; Cutting	2-15-60	3-3-60
58. (III) BRONAUGH, F. H., Rolls and Rollers; Making Metal Tools and Implements; Stone Working; Abrading Processes and Apparatus; Baths, Closets, Sinks, and Spittoons; Boring and Drilling; Paper Manufactures; Selective Cutting	3-31-60	3-21-60
59. (I) BRINDISI, M. A., Inorganic Chemistry; Fertilizers; Gas, Heating and Illuminating	12-30-59	11-23-59
60. (I) MANGAN, P. E., Carbon Chemistry (part), e.g., Synthetic Resins (part); Miscellaneous Polymers (e.g., Vinyl Polymers); Synthetic Resin Compositions (part), Synthetic Rubber; Photographic Processes and Products	4-4-60	4-1-60
61. (III) STRIZAK, J. P., Winding and Reeling; Pushing and Pulling; Horology; Railway Mail Delivery; Feeding of Indefinite Lengths	3-19-60	3-23-60
62. (IV) LOWE, D. B. (FULLER, E. E., acting), Games; Toys; Amusements and Exercising Devices; Mechanical Guns and Projectors; Photographic Apparatus	4-1-60	4-19-60
63. (I) WINKELSTEIN, A. H., Foods and Beverages; Fermentation; Carbon Chemistry (part), e.g., Lignins, Carbohydrate Derivatives, Fats, Sulfurized Compounds; Heavy Metal Compounds	3-8-60	2-17-60
64. (I) GREENWALD, J., Fuels; Miscellaneous Compositions	2-1-60	4-1-60
65. (II) SAX, E. J., Wave Guides; Electric Motors; Conductors; Insulators; Amplifiers	4-21-60	4-11-60
66. (V) LISANN, L., Geometric Instruments; Measuring and Testing (part)	11-18-60	11-18-60
67. (VII) KRAFFT, C. F., Liquid Separation or Purification (part); Laminated Fabrics	3-3-60	2-12-60
81. (III) MONCURE, J. A., Industrial Arts	3-7-60	3-14-60
82. (III) HUNTER, E. H., Household, Personal and Fine Arts	3-13-60	3-21-60
91. KENT, A. P. (acting), Ornamentation; Glass	3-2-60	4-26-60
92. GAUSS, H., Radio Transmitters, Receivers and Tuners	3-15-60	7-23-60
93. WAHL, R. A., Wire Working	3-27-60	3-21-60
94. BERLOWITZ, W., Gas Separation	3-20-60	3-11-60
95. ANGEL, C. D., Metallic Building Structures; Packed Rod Joints; Joint Packings	4-8-60	3-28-60
M. E. DIV. A (I) GASTON, L. H., Carbon Chemistry (part), e. g., Steroids; Synthetic Resins (part), i. e., Polyethylenes	4-6-60	3-4-60

EXPIRATION OF PATENTS

The patents within the range of numbers indicated below expire during January 1961, except those which may have been extended under the provisions of the Veterans Patent Extension Act (64 Stat. 316 as amended by 66 Stat. 321) and those which may have expired earlier due to shortened terms under the provisions of Public Law 593. A list of Veterans' patents which have been extended appears in the *Annual Index of Patents—1952*.

Patents..... Numbers 2,955,661 to 2,969,295, inclusive
Plant Patents..... Numbers 611 and 612

DECISIONS IN PATENT AND TRADEMARK CASES

In the United States Patent Office Before the Board of Appeals

Ex parte Reed

Appeal No. 77-18. Decided May 29, 1959

1. Patentability—Invention—Novelty.

Held that "* * * it is well established that novelty alone is not sufficient to impart patentability to a claim" and that "The different structure to be patentable must embody an inventive concept as by a showing of some new and unexpectedly improved result * * *."

2. Same—Same—Substitution of Equivalents.

On the matter of substituting a spiral auger-type of conveyor for a conveyor including an endless chain and spaced flights, *Held* that "Both types of conveyor for transporting articles are conventional and well known and the substitution of one type for the other type does not involve an inventive concept since it is merely the substitution of equivalent structures, one for the other, without obtaining thereby any new and unexpected result."

3. Same—Same—Analogous Art.

With respect to a reference patent, *Held* that "the fact that the auger conveyor is shown * * * to convey articles to a heat treatment chamber, is not material because its function of conveying articles is the same without regard to the place to which the articles are conveyed," and that in this sense the patent disclosure is pertinent and is available for general use in the conveying art for moving articles from one place to another.

4. Same—Particular Subject Matter—Elevating Conveyor.

Claims to an elevating conveyor *Held* not to define an inventive advance over the cited prior art.

Appeal from the Examiner.

AFFIRMED.

Before Kheel and Manian, *Examiners-in-Chief*, and Gonsalves, *Acting Examiner-in-Chief*

Manian, *Examiner-in-Chief:*

This is an appeal from the final rejection of claims 1 to 8, inclusive, which are the only claims remaining in the case.

Claims 1 and 8 are reproduced as illustrative of the appealed claims and read as follows:

1. An elevating conveyor for large objects and granular materials comprising, a sectional trough having a semi-cylindrical bottom portion with outwardly diverging side walls on the edges of the bottom portion, means releasably connecting the adjacent ends of the sections of said trough, a mobile carriage tiltably adjustably supporting said trough, a sectional spiral auger disposed longitudinally in the bottom portion of said trough and projecting above the top of the bottom portion, a sectional drive shaft for said auger, bearings for said drive shaft mounted at the ends of the sections of said trough and engaging said shaft at the joints thereof to support said auger in spaced relation to the bottom of said trough, and a motor mounted on the lower section of said trough and connected to said shaft to drive the same.

8. An elevating conveyor for large objects and granular materials comprising, a sectional trough having an upwardly concave bottom portion with outwardly diverging side walls on the edges of the bottom portion, means releasably connecting the adjacent ends of the sections of said trough, a mobile carriage supporting said trough, a sectional spiral auger disposed longitudinally in the bottom portion of said trough and projecting above the line of intersection of the planes of said side walls, a sectional drive shaft for said auger, bearings for said drive shaft mounted in said trough to support said auger in said trough, and a motor mounted on said trough and connected to said shaft to drive the same.

The references relied upon by the Examiner are:

Lorenz, 559,388, April 28, 1896.
Szemerey, 1,125,411, January 19, 1915.
Graf, 2,446,472, August 3, 1948.

The disclosure relates to an elevating conveyor of the type commonly employed on farms to elevate farm produce to barns and silos. It is admitted by the appellant that the major elements of the conveyor set forth in the claims are old. These elements include the mobile carriage for supporting a sectional trough, a conveyor means in the trough, and a power means for driving the conveyor means. The asserted invention is succinctly stated in the following paragraph on page 8 of the brief:

"Invention is submitted to reside in the relative shaping of the conveyor way and the position of the spiral screw that locates the lower portion of the screw so that it will convey or advance granular material while leaving the upper portion of the trough shaped way open with outwardly flared side walls so that bulky articles can also be handled by the elevator conveyor."

Claims 1 and 8 reproduced above are the two forms presented in the claims on appeal with respect to the definition of the cross-sectional shape of the trough, the auger, and the structural relationship therebetween. Claims 7 and 8 combine the trough definition of claim 1 with structural relationship recited in claim 3 between the auger and the trough.

The patent to Graf, the principal reference relied upon by the Examiner, discloses the general combination of a mobile, elevating conveyor that is set forth in the claims.

Claims 1, 2, 3, and 7 distinguish over Graf by the recitation of "sectional" troughs, augers and drive shaft, the sections of each member being connected together. The reference discloses each of these members to be unitary. Appellant admits this sectional feature to be old. Moreover, sectional troughs are shown to be old in Lorenz and this disclosure in the reference is suggestive of sectional conveying means to correspond with the sectional troughs. Accordingly, this sectional feature recited in claims 1, 2, 3, and 7 has no patentable significance.

Graf discloses an endless chain provided with spaced flights located in the trough for elevating material and objects placed thereon. This structure differs from the claimed structure of a spiral auger located in a semi-cylindrical (claims 1, 2, 7, and 8) or upwardly concave (claims 3, 4, 6, and 6) bottom portion of the trough.

Appellant has presented no convincing argument to show wherein the specific structures of the trough and the auger present any new and unexpectedly improved results over the corresponding structures shown in Graf. The patent to Graf contemplates movement of either granular or bulky material along the trough (column 2, lines 6 to 11). Also, to accommodate and facilitate the movement of large objects, the sides of the trough in Graf are flared (column 2, lines 14 to 19), similarly to the sides of the trough that are recited in the claims. We are not impressed with the arguments advanced by the appellant relative to the shape of the bottom portion of the trough because the said shape is normally made to conform with the shape of the conveying means mounted therein. Thus, in Graf the trough bottom is rectangular in cross section to conform with and accommodate the rectangular paddles (see Fig. 3) used therein. In the instant case the trough bottom is semi-circular in

cross section to conform with and accommodate the spiral auger in the instant case.

Nor are we impressed with the limitations in claims 1 and 2 which define the auger as projecting above the bottom portion of the trough, because this relationship is a matter that is determined by the nature and shape of the articles to be conveyed and, in our opinion, such determination only involves routine experiment and the exercise of ordinary mechanical skill. We note that the aforementioned relationship of the auger projecting above the bottom portion of the trough is not necessarily present in the structure that is set forth in claims 3 through 8. Referring to Fig. 2 of the instant case, the line of intersection of the diverging walls is below the shaft 9 and while the auger may project above this line, in accordance with the language of these claims, the auger need not be above the top of the bottom portion of the trough.

It is apparent from the above considerations that as to the structures and features relied upon by the appellant for patentability, the claims recite novel structure over the Graf disclosure. [1] However, it is well established that novelty alone is not sufficient to impart patentability to a claim. The different structure to be patentable must embody an inventive concept as by a showing of some new and unexpectedly improved result which, as we have noted above, has not been convincingly established by the appellant. Under the circumstances we are of the opinion that the claims do not distinguish patentably over the Graf disclosure. *In re Harding*, 40 CCPA 1005; 1953 C.D. 319; 98 USPQ 161; 676 O.G. 907; 205 F.2d 171, *In re Hass et al.*, 31 CCPA 895; 1944 C.D. 234; 563 O.G. 576; 141 F.2d 122; 60 USPQ 544, *In re Lyon*, 27 CCPA 1244; 1940 C.D. 582; 521 O.G. 527; 112 F.2d 822; 46 USPQ 75.

Moreover, we are in full agreement with the Examiner that invention was not required in substituting a spiral auger-type conveyor, such as shown in Szemerey, for the Graf conveyor including an endless chain and spaced flights. [2] Both types of conveyor for transporting articles are conventional and well known and the substitution of one type for the other type does not involve an inventive concept since it is merely the substitution of equivalent structures, one for the other, without obtaining thereby any new and unexpected result. Our views expressed above with respect to the shape of the bottom portion of the trough conforming to the shape of the conveyor and the disposition of the conveyor relative to the trough are applicable here. Necessarily, with a spiral auger substituted for the conveyor shown in Graf, the bottom portion of the latter's trough will be made semi-cylindrical to conform to the cross-sectional shape of the auger. [3] The fact that the auger conveyor is shown in Szemerey to convey articles to a heat treatment chamber, is not material because its function of conveying articles is the same without regard to the place to which the articles are conveyed. In this sense the Szemerey disclosure is pertinent and is available for general use in the conveying art for moving articles from one place to another.

Claim 5 by its terms is directed to Fig. 2 wherein the auger is in spaced relation to the bottom of the trough and claim 7 is directed to Fig. 4 wherein the auger rests on the bottom of the trough. Appellant admits there is no patentable distinction between these two forms (see page 2 of the brief, last sentence in the full paragraph) and Szemerey discloses in Fig. 3 the form recited in claim 5.

We have considered all of the arguments presented in the brief and reply brief as well as the authorities cited therein but are not convinced thereby that the claims on appeal define an inventive advance over the art before us for the reasons we have given above. We will accordingly sustain the rejection of claims 1 through 8.

Our holding above with respect to the lack of invention over Graf considered alone is not a new ground of rejection under the doctrine established in *In re Cowles*, 33 CCPA 1236; 1946 C.D. 574; 591 O.G. 509; 156 F.2d 551; 70 USPQ 419.

[4] The decision of the Primary Examiner is affirmed.

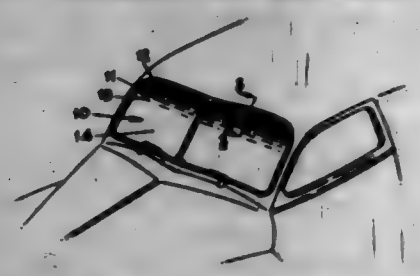
AFFIRMED.

REISSUES

FEBRUARY 7, 1961

Matter enclosed in heavy brackets [ ] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates additions made by reissue.

24,933
GLARE SCREEN
Joseph D. Ryan and Paul T. Mattimoe, Toledo, Ohio, assignors to Libbey-Owens-Ford Glass Company, Toledo, Ohio, a corporation of Ohio
Original No. 2,636,420, dated Apr. 28, 1953, Ser. No. 60,725, Nov. 18, 1948. Application for reissue Feb. 1, 1960, Ser. No. 3,473
2 Claims. (Cl. 154—2.65)



1. A window having a built-in glare screen and comprising in combination a sheet of thermoplastic material having a colored area of gradually *increasing* [decreasing] light transmission from an edge of said sheet toward the middle thereof, and a sheet of a soda-lime-silica glass of substantially the following composition:

	Percent
SiO_2	72.06
Al_2O_3	.33
Fe_2O_3	.50
TiO_2	.032
CaO	11.18
MgO	2.10
Na_2O	13.6
SO_3	.20
Co_3O_4	.00112

bonded to said plastic sheet on the side thereof that is toward the outside of the window.

PLANT PATENTS

GRANTED FEBRUARY 7, 1961

Illustrations for plant patents are usually in color and therefore it is not practicable to reproduce the drawing.

2,019
CHRYSANTHEMUM PLANT
Elizabeth B. Parker, 2937 Glendower Ave., Los Angeles, Calif.
Filed Mar. 7, 1960, Ser. No. 13,408
1 Claim. (Cl. 47—60)

A new and distinct variety of chrysanthemum plant, substantially as shown and described herein, characterized particularly as to novelty by the pronounced sweet musk-like fragrance of its flowers, the relatively long duration of the fragrance, and the distinctive coloration of the petals of the open flower, having in the proximal portion of the petals a Capucine Yellow color tonality shading into Orange-Buff at the distal portion of the petals is approached.

2,020
ROSE PLANT
Gordon J. Von Abrams, Portland, Oreg., assignor to Eldon Pinkney Dering, Scappoose, Oreg.
Filed Feb. 26, 1960, Ser. No. 11,392
1 Claim. (Cl. 47—61)

A new and distinct variety of rose plant of the "hybrid tea" class characterized particularly by its unique flower color, the large size and high-centered form of the flower in full bloom, the contrasting dark color of the foliage, and the bushy upright growth of the plant.

2,021
AZALEA PLANT
George Albert Reid, Linwood, N.J., assignor to Fischer Greenhouses, Linwood, N.J., a corporation of New Jersey
Filed Mar. 17, 1960, Ser. No. 15,777
1 Claim. (Cl. 47—60)

A new and distinct variety of azalea plant, substantially as herein shown and described, characterized particularly as to novelty by the unique combination of extremely good winter-hardiness of both the plant and buds, an evergreen habit, large flower size, an interesting and complicated semi-double hose-in-hose flower form, a bright, Strong Purplish Red general color tonality of the flowers, and a suitability for early greenhouse forcing, with a general blooming range extending from the latter part of December to approximately mid-May.

2,022
ROSE PLANT
Alfonso C. Sodano, Newtown, Pa., assignor to A. Sodano & Son, Newtown, Pa., a partnership
Filed Apr. 4, 1960, Ser. No. 19,974
1 Claim. (Cl. 47—61)

A new and distinct variety of rose plant of the floribunda class, substantially as herein shown and described, characterized particularly as to novelty by the unique combination of foliage which is glossier and darker than the foliage of the variety "Elfe" (unpatented) and comparable in color to the foliage of English holly, said foliage being borne relatively close together on the stems, a larger flower size and greater petalage than the flowers of the variety "Elfe," with the flowers borne on stems having a shorter neck and greater rigidity, a more uniform texture of the flowers, a distinctive deeper pink general color tonality of the flowers, a more outstanding flower fragrance, and good keeping qualities of the flowers when cut.

2,023
CHRYSANTHEMUM PLANT
Orville O. Dunham, Rte. 4, Niles, Mich.
Filed Sept. 16, 1959, Ser. No. 840,483
1 Claim. (Cl. 47—60)

A new and distinct variety of chrysanthemum plant substantially as herein disclosed, characterized as to novelty by strong reddish purple to light purplish pink color of its blooms, the small honeycomb-like globular form thereof, the compact shape of the plant, and its better, early, continuous and long blooming habit.

PATENTS

GRANTED FEBRUARY 7, 1961

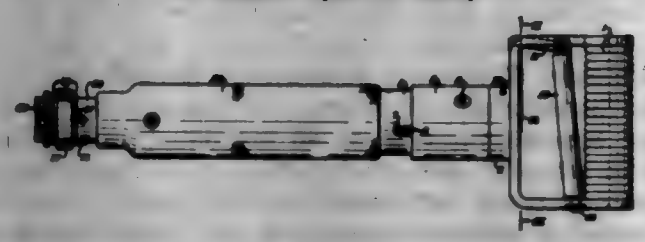
GENERAL AND MECHANICAL

2,970,313
STAPLE IMPROVEMENT
Charles B. Goodstein, 43 Hilldale Road, West Hartford, Conn.
Filed Feb. 18, 1959, Ser. No. 794,175
3 Claims. (Cl. 1—56)



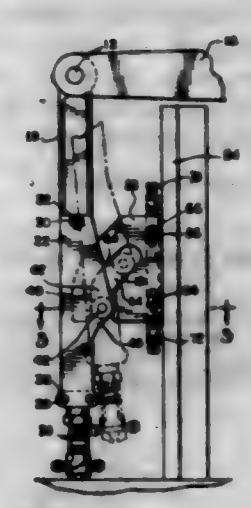
1. An improved fastener cartridge of the character described comprising a plurality of vertically stacked strips of staple elements, the staple elements of each of said strips being disposed in closely adjacent side by side arrangement, each of said staple elements including a depending intermediate crown portion having upwardly outwardly inclined side arms and colinearly aligned legs projecting laterally outwardly from the upper ends of said arms, and means separably connecting said stacked staple elements in each of said strips, the crown portion of said staple elements nesting in the crown portion of the staple elements of the next successive strip.

2,970,314
EXPLOSIVELY ACTUATED NAIL DRIVING TOOL
Stanley A. Temple, Dallas, Tex., and Ernest E. Temple, Murrysville, and Robert Temple, Swissvale, Pa., assignors, by mesne assignments, to Mine Safety Appliance Company, Pittsburgh, Pa., a corporation of Pennsylvania
Original application Apr. 9, 1957, Ser. No. 651,718, now Patent No. 2,930,042, dated Mar. 29, 1960. Divided and this application Mar. 26, 1958, Ser. No. 727,019
1 Claim. (Cl. 1—106)



An explosively actuated driving tool comprising a stock, a tube projecting rigidly from the front of the stock, a breechblock slidably mounted in the tube and provided with an axial passage therethrough, a spring urging the breechblock forward in the tube, a barrel connected with the front end of the breechblock and projecting from the tube, the stock being movable forward toward the breechblock against the resistance of said spring when the barrel is held stationary and being provided with an opening in line with said axial passage, a firing pin support slidably mounted in said opening and projecting from its front end, a firing pin slidably mounted on the front end of said support and projecting forward therefrom, said pin being adapted to be driven forward in said passage to detonate an explosive cartridge, said pin support normally being retracted in said opening to keep said pin from projecting through said passage in case the stock and breechblock are accidentally moved toward each other, a collar slidably mounted on said pin support behind the pin and engageable with the pin, a coil spring behind the collar urging it forward with the stock toward the barrel, means supported by the breechblock for arresting forward movement of said collar while the stock is being moved forward toward the barrel to compress said coil spring a predetermined amount, means releasing said arresting means from said collar when forword movement of said stock is continued after the coil spring has been compressed said predetermined amount, a lever pivotally connected with the stock, means operatively connecting one end of the lever to the rear end of said pin support for sliding it forward in said opening a predetermined distance, and means operatively connected to the opposite end of said lever and adapted to be actuated manually for swinging said one end of the lever forward so that said pin can project through said passage when the stock has been moved toward the breechblock and said collar has been released, the maximum distance that the stock can be moved away from the breechblock being less than the distance axially of the tool between said released arresting means and released collar while said pin support and stock are in their forward positions, whereby said lever must be released before the tool can be cocked again.

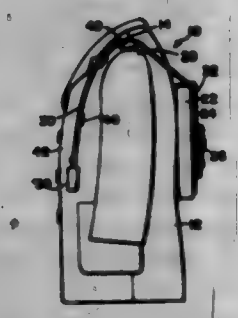
2,970,315
RAM GUIDE FOR HOOK AND EYE MEMBER SETTING MACHINES
William V. De Nicola, Chicago, Ill., assignor, by mesne assignments, to The North & Judd Manufacturing Co., a corporation of Connecticut
Filed Dec. 20, 1957, Ser. No. 704,110
4 Claims. (Cl. 1—325)



1. In a hook and eye setting machine having a ram pivotally supported at its upper end for free rocking movement in a forward and rearward direction, a ram head on the end of the ram for carrying one of the members, including a hook member and an eye member and means for actuating the ram in vertical movement between raised and lowered positions, and means operatively engaging the ram for guiding the ram in rocking movement about its pivot between backward and forward positions responsive to movement of the ram between its raised and lowered positions comprising a guide plate having a guide slot extending upwardly substantially verti-

cally for a short distance from the lower edge of the guide plate intermediate its ends and continuing in an inwardly and upwardly direction into the plate and a pin, one of which is rigid with the ram and the other of which is mounted on the machine, and in which the guide slot is dimensioned to have a width corresponding to the cross-section of the pin to enable the pin to be displaced therethrough and to have a length in the vertical direction greater than the vertical displacement of the ram to enable the pin to be retained within the slot during movement of the ram between raised and lowered positions.

2,970,316
COMBINATION JACKET AND SCHOOL BAG
Jacob Silin, 8616 Hull Drive, Philadelphia 18, Pa.
Filed Aug. 21, 1957, Ser. No. 679,370
4 Claims. (Cl. 2—94)



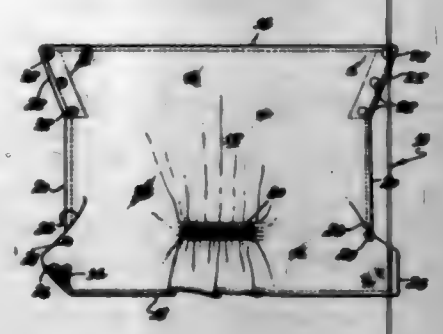
1. A combined article of clothing and accessory comprising a jacket, a pouch school bag having a rear wall bearing against the back of the jacket, a front wall spaced from and connected to said rear wall and an open upper end, a flap having one edge hingedly secured to said rear wall adjacent said open upper end and arranged to overlap said front wall to close said open upper end, means removable securing said overlapping flap portion to said front wall, a pair of straps, each of said straps having one end secured to said flap in laterally spaced relation to each other and extending over the shoulders to the front of said jacket, epaulets secured across the shoulders of said jacket adjacent the corresponding jacket sleeve in positions to laterally engage said straps, thereby restraining them from slipping off the shoulders, means removably securing said straps to the front and on the outside of said jacket, and pouches on the front of the jacket receiving the free ends of said straps.

2,970,317
GLOVE AND METHOD OF MANUFACTURE THEREOF
Jonathan Winson, New York, N.Y.
Filed July 22, 1960, Ser. No. 46,865
24 Claims. (Cl. 2—169)



1. The method of making an electronically heat-sealed glove of thermoplastic material which comprises providing palm and rear sides, providing a fourchette with palm adjacent and rear adjacent surfaces which after heat sealing form outwardly turned edges, interposing the fourchette between the palm and rear sides, interposing heat seal prevention material between the palm and rear adjacent surfaces of the fourchette, maintaining the heat seal prevention materially wholly outside of what is to be the body of the finished glove, providing a die electrode having a shape corresponding to the desired periphery of the finished glove, maintaining the die electrode wholly outside of what is to be the body of the finished glove, and using the die electrode to simultaneously shape and weld the peripheral edge of the glove while using the heat seal prevention material to block the heat sealing of the fourchette edges to each other along at least a portion of their surfaces, whereby the fourchette provides fullness between the palm and rear sides of the glove.

2,970,318
HOODS
Selma Nordling, 179 La Brea, Laguna Beach, Calif.
Filed Apr. 3, 1958, Ser. No. 726,221
1 Claim. (Cl. 2—203)

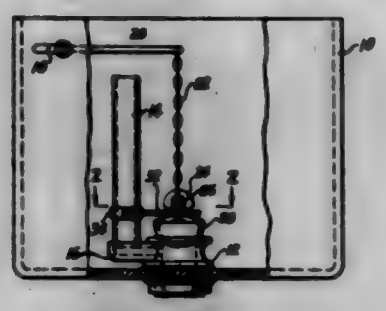


A hood adapted to be worn by an individual which comprises: a single piece of generally rectangular knitted material the bias of which extends diagonally across said piece of material, said piece of material being capable of stretching to conform to the shape of the head of an individual, said piece of material having a front edge, a back edge and side edges, said side edges adjacent the front diverging from one another toward said front edge in being provided with a tuck adjacent to and spaced from said back edge so as to diverge from one another toward said back edge; snap means located on said diverging portions of said side edges adjacent to said front edge whereby said front edge may be secured in the form of a band around the head of an individual by securing said snap means to one another at the back of the head of an individual; snap means located on the tucks of said side edges adjacent to said back edge whereby said piece of material adjacent to the back edge thereof may be secured in the form of a band around the neck of and beneath the chin of an individual, said piece of material when so secured providing a fold over the ears of an individual; and elastic shirring means formed on said piece of material adjacent to and spaced from said back edge and intermediate the ends thereof so as to provide a shoulder covering portion along said back edge capable of lying smoothly around the back of the neck, said elastic shirring means being spaced from said back edge substantially the same distance as said tucks, said elastic shirring means gathering said piece of material at the back of the head of an individual when said piece of material is secured by both of said means so as to closely fit said piece of material to the head of an individual.

2,970,319
FLUSH TANK VALVE ASSEMBLY
Harmon D. Lassiter, 1723 Austin, Levelland, Tex.
Filed Mar. 23, 1959, Ser. No. 801,133
1 Claim. (Cl. 4—57)

A flush control unit comprising a collar of resilient, stretchable, contractible, non-metallic material arranged for firmly engaging around a flush tank overflow pipe, said collar having a pair of ears offset outwardly thereon

at diametrically opposite positions with diametrically aligned pivot apertures in said ears, a yoke member formed with a pair of symmetrical leg portions jointed at one end and extending adjacent the joined ends thereof in relatively closely spaced parallel relation providing a slot therebetween for a substantial length and then spreading to terminate at inwardly angled pivot arm portions releasably fitting into said pivot apertures with the inwardly extending ends abutting the inner ends of said



apertures, and a ball valve secured at the closely spaced length of said leg portions by fastening means extending centrally from said ball valve and between said leg portions and seated on a clamping washer overlapping said slot, said fastening means comprising a threaded stud extending centrally from said ball valve through said slot, a wing nut threaded on said stud and clamping said washer against said leg portions, and a lift chain secured at one end centrally of said wing nut.

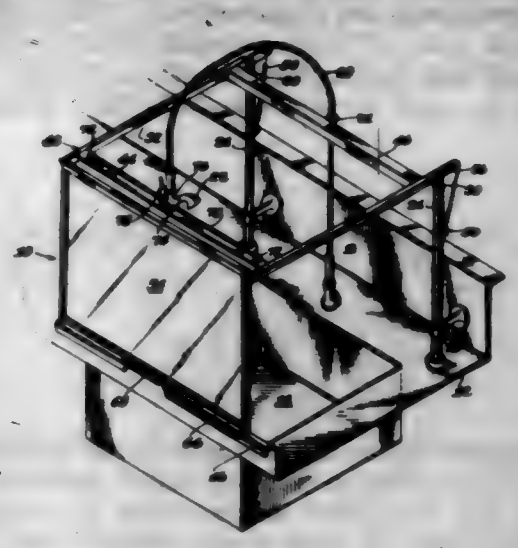
2,970,320
COMBINATION SWIMMING POOL COVER AND FLOOR
Murry P. Karp, Allentown, Pa., assignor, by mesne assignments, to Lifeguard Swim Pool Corporation, Allentown, Pa., a corporation of Pennsylvania
Filed Jan. 12, 1959, Ser. No. 786,366
5 Claims. (Cl. 4—172)



1. In a swimming pool having sides and a bottom, a combination swimming pool cover and floor which is adjustable as to depth in the pool, said combination comprising a platform, a floor plate mounted on said platform, ballast tanks mounted on said platform for raising and lowering it, projections mounted on and extending from the side of said platform, means mounted on the sides of said pool for receiving said projections to position said platform at desired depths in the pool, a source of water, a source of compressed air, a system of conduits connecting the water and compressed air sources to said ballast tanks for raising and lowering said platform, and actuating means positioned in said system of conduits between said ballast tanks and said water and air sources for controlling immediate operation of said ballast tanks for raising and lowering said platform.

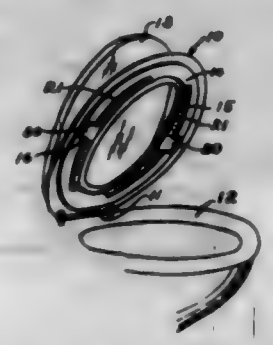
2,970,321
PROTECTIVE SPRAY SHIELD APPARATUS
Alfred Bovell, P.O. Box 1654, and Joseph F. Kordas, P.O. Box 2156, both of Lakeland, Fla.
Filed Jan. 6, 1959, Ser. No. 785,187
8 Claims. (Cl. 4—187)

1. A spray shield apparatus for preventing liquid being directed into a sink from splashing over an edge of said sink comprising a shield, a frame, said shield depending from one end of said frame, means to move said frame and the shield depending therefrom between a shielding



position and another position affording manual access to said sink, means normally biasing said frame to said other position, and quick releasable means for holding said frame in said shielding position against said bias.

2,970,322
DEODORIZER FOR TOILET AND THE LIKE
Clarence E. Vause, Rte. 2, Leonardtown, Md.
Filed Jan. 9, 1959, Ser. No. 785,875
6 Claims. (Cl. 4—229)



1. In a deodorizing device, the combination of a toilet seat having a cut away portion in the underside thereof and a recess extending from said cut away portion, an elongated channel shaped deodorizing member having an open face normally abutting the underside of said toilet seat in said cut away portion, a deodorizing element in said deodorozing member, a lug secured to said deodorozing member and offset from the plane of said deodorizing member pivotally mounted in said recess whereby pressure on said seat compresses said lug between the underside of said seat and the rim of a toilet bowl to tilt said deodorizing element out of said cut away portion to expose said open face and release deodorant from said deodorizing element.

2,970,323
AUTOMOBILE BUNK
George H. Griffith, 237 E. Crescent, Elmhurst, Ill., and Richard T. Griffith, 6022 Sherwin, Chicago, Ill.
Filed Apr. 15, 1959, Ser. No. 806,582
3 Claims. (Cl. 5—118)

1. An automobile bunk for mounting on the inside of an automobile body, said body having ledges on the sides of the inside thereof and a forward seat having a back rest, the said automobile bunk comprising a frame having a pair of side rails and first and second end bars supporting a fabric structure therebetween, said end bars

having substantially right angle turns at their ends for telescopic connection with the respective ends of said side rails whereby said frame may be readily assembled and disassembled, the improvement comprising a pair of legs, one each of which depends obliquely from each end of said first end bar, a pair of arcuate feet attached one each to each of said legs, said feet engaging said



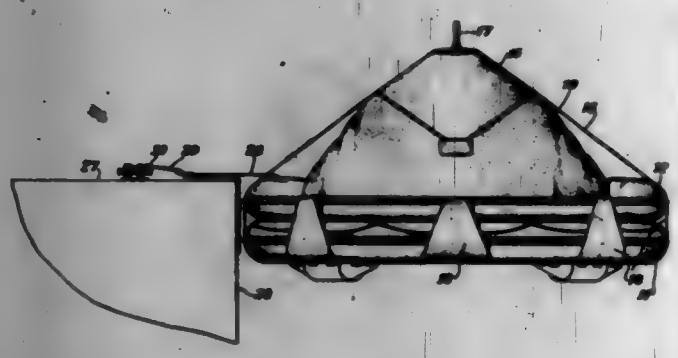
ledges partially on the top and partially on the sides thereof, thereby providing a wedging action between the said legs and the respective ledges under the influence of weight provided by said bunk whereby said bunk is rigidly supported at one end thereof, means for lateral adjustment of said legs, and means for supporting the other end of said bunk on said back rest.

2,970,324

INFLATABLE LIFE-RAFTS OR LIKE CRAFT

Ronald James Phillips, Wormley, England, assignor to R.F.D. Company Limited, Godalming, England

Filed Apr. 30, 1959, Ser. No. 810,869
Claims priority, application Great Britain May 2, 1958
10 Claims. (Cl. 9—11)



1. An inflatable life-raft comprising: a floor of flexible waterproof material, a tubular gunwale surrounding said floor, a plurality of elongated ties secured at one end to said life-raft and spaced symmetrically around the periphery of said gunwale, further elongated ties secured at one end to said floor at spaced apart locations between said gunwale and the center of said floor, said peripheral ties and said further ties being adapted for suspension above the life-raft remote from said secured end, so as to enable it to be suspended in a substantially upright position by suspension means.

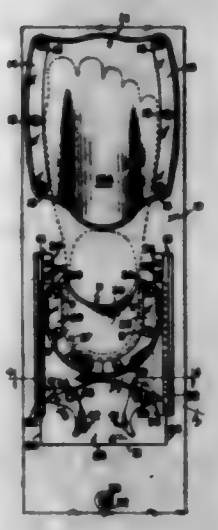
2,970,325

WATER SKI HARNESS

Harry A. Moline, Duluth, Minn., and Eddie Martin, Superior, Wis., assignors to Moline, Inc., a corporation of Minnesota

Filed Feb. 6, 1958, Ser. No. 713,720
8 Claims. (Cl. 9—310)

1. A ski harness for holding a foot in place on a ski comprising a forward flexible covering to be mounted on the forward portion of the ski for holding the forward portion of a foot, a slide plate to be slidably mounted for longitudinal movement with respect to said ski, a heel engaging flexible covering mounted on said slide plate, a pair of gibs to be mounted on the ski rearwardly of the forward flexible covering such that the heel engaging flexible covering may be moved into and out of engagement with the heel of a foot and means mounted on the slide plate for engaging each of the gibs to hold the slide plate in an adjusted position, said means including elongated gib engaging means for simultaneously engaging both gibs to restrain movement of the slide plate in a rearward direction longitudinally with respect to the forward flexible covering, said engaging means being movable to freely permit rearward



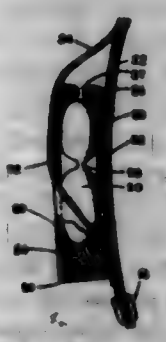
movement of said slide plate, an actuator connected to each opposite end portion of the gib engaging means for moving said gib engaging means to disengaged condition relative to the gibs, and for each actuator, means pivotally securing the respective actuator on the slide plate for movement to permit the adjacent end portion of the gib engaging means being moved to alternately restrain movement of the slide plate in a rearward direction and freely permit movement of the slide plate in a rearward direction.

2,970,326

SELF OPERATED EMERGENCY LIFE SAVING DEVICE

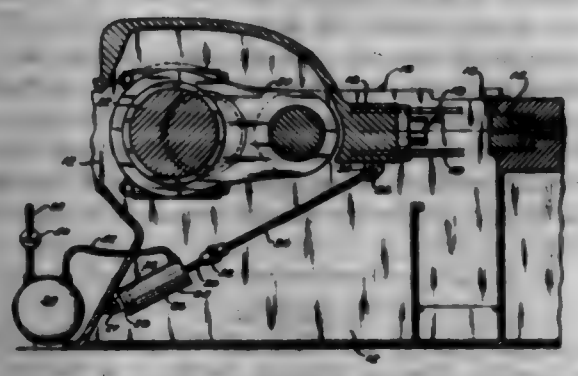
Robert P. Keefe, 8 Gardner St., Amesbury, Mass.

Filed June 2, 1958, Ser. No. 739,381
4 Claims. (Cl. 9—316)



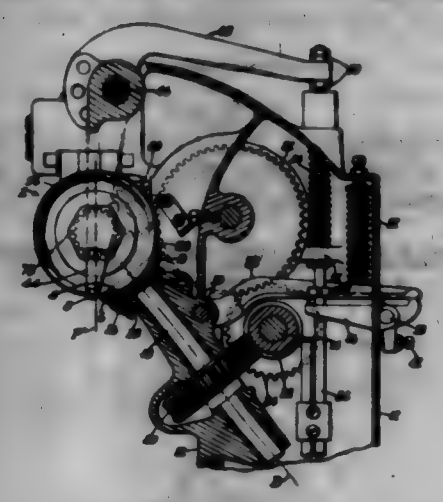
3. An inflatable neckband, comprising a narrow thin flat tubular band comprising a relatively heavy flexible inelastic neck engaging backing portion, and a thin highly elastic outer portion extending substantially the length of the band, and sealed at its ends, an elongated cell mounted within said tubular band and containing liquified gas, a flexible air-tight tube closely surrounding said cell and disposed in said band, and having one end extending through an end of said thin elastic outer portion in sealed relation thereto, said tube being open at its other end within said band, and having an air-tight removable closure in its one end whereby cells may be replaceable.

2,970,327
HEADER SLIDE COUNTER-BALANCE APPARATUS
Robert G. Friedman, Tiffin, Ohio, assignor to The National Machinery Company, Tiffin, Ohio, a corporation of Ohio
Filed Apr. 10, 1957, Ser. No. 651,924
5 Claims. (Cl. 10—15)



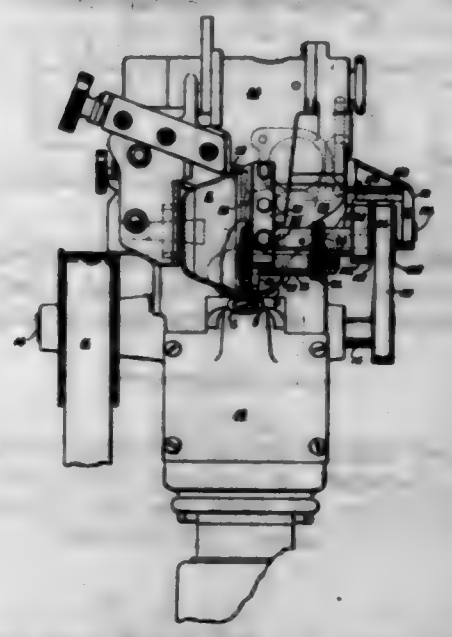
1. In a header including a bed-frame having a die breast and guideways, a header slide reciprocably mounted in said guideways for movement toward and away from said die breast, and a crankshaft journaled on said bed-frame and connected by a pitman to said header slide to reciprocate the same, counter-balancing apparatus comprising spring means connected at one point on said bed-frame and at another point on said header slide, a line through said connecting points intersecting said header slide at an acute angle at all times during the reciprocation of said header slide, said spring means applying a force on said header slide in a direction to exert a component force on said slide urging the same away from said die breast at least throughout the deceleration of said slide in approaching said die breast.

2,970,328
TRIMMING MACHINES
Joseph C. Cantley, Beverly, Mass., assignor to United Shoe Machinery Corporation, Flemington, N.J., a corporation of New Jersey
Filed Apr. 7, 1959, Ser. No. 804,827
2 Claims. (Cl. 12—4.3)



1. An inseam trimming cutter having inner and outer clamping members, each of which has formed thereon cooperating clamping surfaces substantially conical in configuration, a saw blade having a portion arranged to be clamped between said clamping surfaces and a cutting portion having cutting teeth formed thereon, said cutting portion having a diameter at least as great as both said clamping portion and said clamping members.

2,970,329
TRIMMING MACHINES
Charles F. Fitzgerald, Beverly, Mass., assignor to United Shoe Machinery Corporation, Flemington, N.J., a corporation of New Jersey
Filed Apr. 15, 1959, Ser. No. 806,673
8 Claims. (Cl. 12—4.3)



1. In a shoe trimming machine, a rotary cupped trimming knife for severing surplus material from a shoe in strips, and means within the knife for chopping the strips into small chips for easy removal from the machine.

2,970,330
AUTOMATIC CONTROL FOR UPHOLSTERY AND LASTING MACHINES
Jacob S. Kamborian, 133 Forest Ave., West Newton 65, Mass.
Filed July 23, 1958, Ser. No. 750,533
3 Claims. (Cl. 12—8.3)

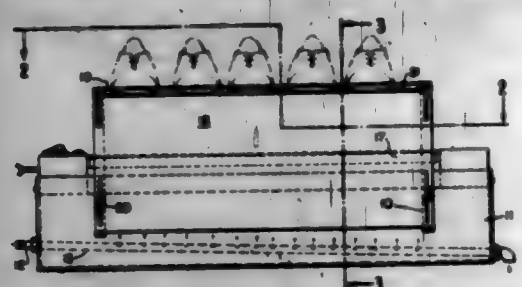


1. In a machine of the kind in which a pair of rolls turning in opposite directions continuously and uninterruptedly apply pulling and feeding stresses to the margin of a flexible material applied to one side of a form, driving connections for effecting continuous rotation of the rolls, means mounting the rolls for relative movement to and from each other without interrupting the continuous rotation thereof, means operable to effect movement of the rolls to and from each other and sensing means operable by the presence of a course of the margin at the ingoing side of the rolls automatically to effect operation of the last means to effect movement of the rolls together to grip the margin and in the absence of the margin automatically to effect operation of said last means to effect movement of the rolls apart.

2,970,331
SHOE HEATER
John Harold Gaquin, Haverhill, Mass., assignor to Beckwith-Arden Inc., Watertown, Mass., a corporation of New Hampshire
Filed Nov. 5, 1958, Ser. No. 771,981
2 Claims. (Cl. 12—59.7)

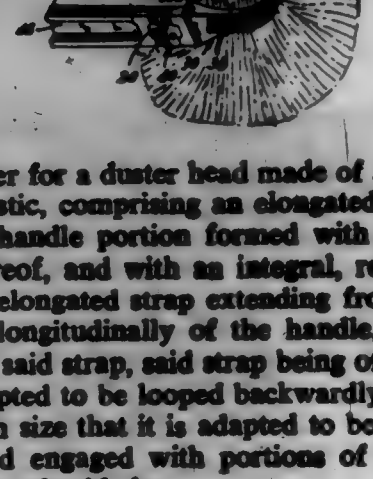
1. A shoe heater comprising a frame containing a steam chamber, supporting means for positioning an un-

finished shoe above the steam chamber, said chamber having a top wall with ports formed therein, said top wall being upwardly concave in cross section whereby steam



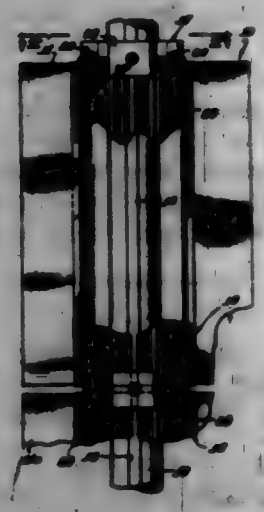
passing through said ports is generally directed towards the axis of curvature of said wall, and a heating element mounted above said wall in the general vicinity of said axis.

2,970,332
HAND HELD SWAB OR MOP HOLDER
Milton A. Zelinkoff, 4 Lakeside Blvd., Wichita, Kans.
Filed Jan. 15, 1959, Ser. No. 787,024
13 Claims. (Cl. 15—147)



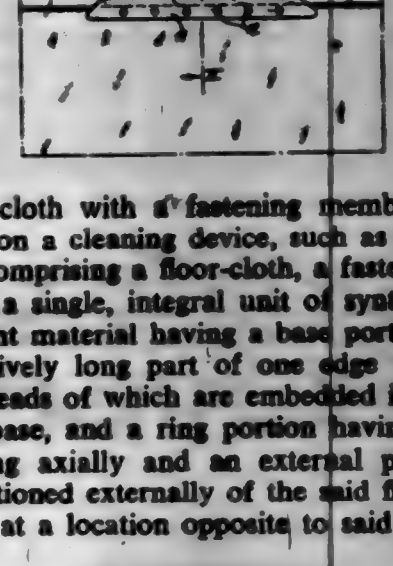
1. A holder for a duster head made of a single piece of synthetic plastic, comprising an elongated relatively rigid and thicker handle portion formed with a slot adjacent one end thereof, and with an integral, relatively flexible and thinner elongated strap extending from said end coaxially and longitudinally of the handle, a head at the outer end of said strap, said strap being of such flexibility that it is adapted to be looped backwardly, and said head being of such size that it is adapted to be passed through said slot, and engaged with portions of the handle, on opposite sides of said slot.

2,970,333
QUICK-CHANGE BRUSH MEANS
Lloyd E. Jones, Arcadia, Calif., assignor to Industrial Brush Company, Arcadia, Calif., a corporation of California
Filed Aug. 18, 1955, Ser. No. 529,277
12 Claims. (Cl. 15—183)



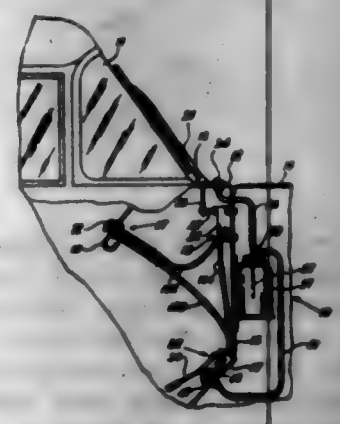
4. In a quick-change brush means, the combination of: a shaft; support means fixed to said shaft in longitudinal spaced relation, each support means including an external cylindrical surface; a plurality of longitudinally disposed brush strip holding means positioned on said support means in end-to-end relation, each holding means encircling said shaft and including a pair of semi-cylindrical segments having internal semi-cylindrical end surfaces for seating on a portion of the external cylindrical surface on said support means, each segment being provided with longitudinally extending parallel external retaining ribs for brush strips, certain of said retaining ribs providing lock-engagement means; and means to removably lock adjacent ends of said semi-cylindrical brush segments to each support means, said locking means including a locking member overlying said adjacent ends of said segments and provided with lock-engagement portions cooperable with the lock-engagement means on certain of said external ribs.

2,970,334
FLOOR-CLOTH WITH FASTENING MEANS
Xavier Burckle, Thann, France, assignor to Société dite: Filature et Tissage du Territoire, Thann, France, a company
Filed Dec. 22, 1958, Ser. No. 781,953
Claims priority, application France Dec. 23, 1957
4 Claims. (Cl. 15—247)



1. A floor-cloth with a fastening member permitting its mounting on a cleaning device, such as a floor brush or the like, comprising a floor-cloth, a fastening member consisting of a single, integral unit of synthetic thermoplastic resilient material having a base portion extending along a relatively long part of one edge of said floor-cloth, the threads of which are embedded into the material of said base, and a ring portion having an internal part extending axially and an external part extending radially, positioned externally of the said floor-cloth and split radially at a location opposite to said base portion.

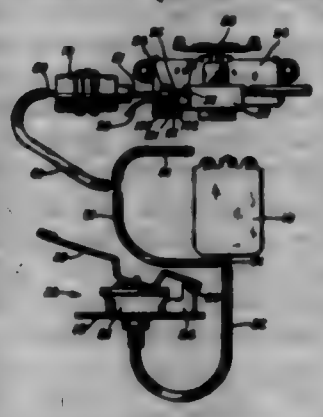
2,970,335
WINDSHIELD CLEARING SYSTEM
Edmond F. Webb, Franklin, Mich., assignor to The Delman Company, Cookeville, Tenn., a corporation of Tennessee
Filed Jan. 23, 1958, Ser. No. 710,997
2 Claims. (Cl. 15—250.02)



1. For use with a vehicle having a windshield wiping unit including wipers and an electric motor for operating

said wipers through a mechanism, and a windshield washing unit including a nozzle device for directing a fluid against the windshield and a foot-operated pump device for supplying fluid under pressure to said nozzle device in response to a depressing movement of a two-position lever, a circuit having a source of power for said units and open when said wipers are in a parked position, first switch means in said circuit for selectively controlling the direction of current through the field of said motor relative to the direction of current through the armature thereof, whereby to control the direction of rotational output of said motor and the movement of said wipers in either an operating direction or a parking direction, and second switch means in said circuit having movable and stationary parts for selectively controlling the direction of current through said motor field relative to that of said motor armature independently of said first switch means, said second switch means including contacts on respective ones of said parts movable relative to contacts on respective others of said parts dependent upon the position of said lever.

2,970,336
WINDSHIELD CLEARING SYSTEM
Edmond F. Webb, Franklin, Mich., assignor to The Delman Company, Cookeville, Tenn., a corporation of Tennessee
Filed May 7, 1958, Ser. No. 733,621
7 Claims. (Cl. 15—250.02)



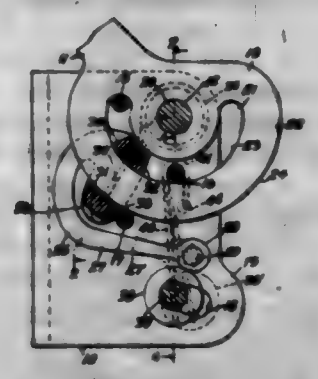
1. A vehicle windshield clearing system comprising, a nozzle device for spraying a fluid onto the windshield, fluid reservoir means, pump means, operator controlled means for operating said pump means, fluid transmitting means interconnecting said nozzle device, said reservoir means, and said pump means, said pump means operable to discharge said fluid through said nozzle device and to withdraw said fluid from said reservoir means, a windshield wiper motor, and time delay means including flexible means interposed in said fluid transmitting means and responsive to the discharge flow of fluid therethrough, hydraulic means responsive to said flexible means, and actuating means mechanically associated with said wiper motor and responsive to the said hydraulic means, said hydraulic means movable in one direction at a first rate whereby to force said actuating means to start said wiper motor, and movable in an opposite direction at a second rate slower than said first rate whereby to stop said motor subsequent to the stopping of said fluid discharge.

2,970,337
WINDOW CLEANING DEVICE
Leiser Presser, 1367 46th St., Brooklyn, N.Y.
Original application Mar. 13, 1956, Ser. No. 571,169, now Patent No. 2,885,708, dated May 12, 1959. Divided and this application Mar. 13, 1959, Ser. No. 799,301
4 Claims. (Cl. 15—250.04)

1. In a device for cleaning a window, a plurality of wiper elements, a plurality of carrier members, a rotatable threaded carrier rod, means to rotate said rod, an elongated guide rod parallel to said carrier rod, said carrier members having a plurality of arms each swingably and slidably mounted on said guide rod and each supporting one of said wiper elements, said carrier members having two open-ended apertured portions, said two rods extending through said two apertured portions, respectively, said carrier members being in threaded engagement with said carrier rod and in slidable engagement with said guide rod, whereby the operative rotation of said carrier rod will cause an operative movement of said carrier members with the said arms and wiper elements in the direction of the longitudinal extent of said guide rod, means to hold said arms in operative positions at which the respective wiper elements are in engagement with said window, water reservoir means supported by and movable with said carrier means, and conduit means communicating with and extending from said reservoir means to the respective regions of said wiper elements.



2,970,338
FLAT HOLD-OPEN HINGE
Louis H. Morin, Bronx, N.Y.
(125 Beechwood Ave., New Rochelle, N.Y.)
Filed Dec. 4, 1958, Ser. No. 778,253
16 Claims. (Cl. 16—141)



1. A hinge of the character described, comprising a stationary butt having parallel side plates, a movable butt arranged between said side plates, a pintle fixed to the side plates of the stationary butt, forming a pivotal axis for the movable butt in the stationary butt, said movable butt having an arc-shaped segment, including spaced bearing surfaces, a pair of grippers yieldably supported upon the pintle axis and operatively engaging said bearing surfaces of the segment, a spring controlled roller movably supported in the side plates of the stationary butt, and means coupled with said grippers and operatively

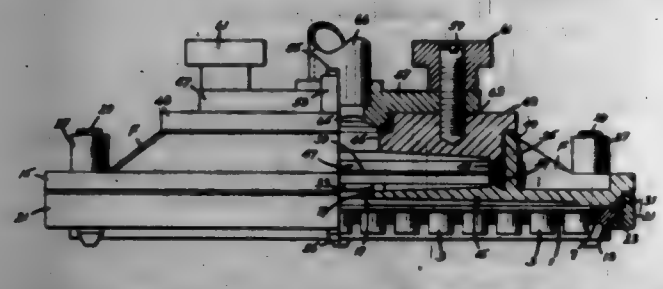
engaging said roller in actuating said grippers to check closing movement of the movable butt in said stationary butt.

2,970,339
CALENDER ROLL HAVING ADJUSTABLE CROWN
John M. Hansmann, 3581 Edgewood Drive, Stow, Ohio
Filed Sept. 12, 1957, Ser. No. 683,579
4 Claims. (Cl. 18—2)



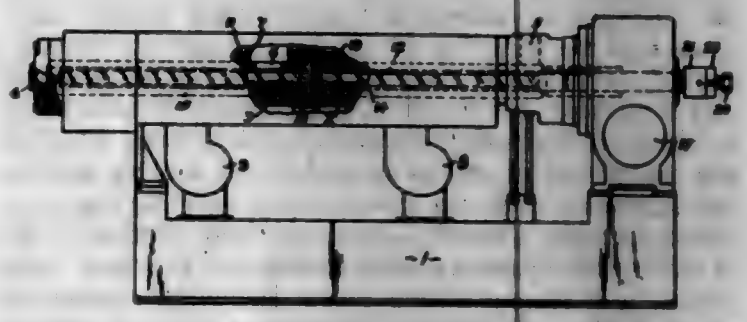
1. A cylindrical metal roll for rolling deformable material into sheets of accurate thickness and having a chamber underlying its working face and having walls decreasing in thickness towards the center of the roll, said roll and its walls being rigid and of sufficient strength to withstand normal operative forces applied thereto, uncompressible but flowable material positioned within and filling said chamber, and means engaging said material for applying pressure thereto for expanding the roll to provide it with a crown intermediate the ends thereof, said means connecting to said material and being able to vary the pressure exerted thereon when the roll is rotating.

2,970,340
MULTI-JET COUPLINGS
Henry J. McDermott, Collingdale, Pa., assignor to American Viscose Corporation, Philadelphia, Pa., a corporation of Delaware
Filed Apr. 3, 1958, Ser. No. 726,898
9 Claims. (Cl. 18—8)



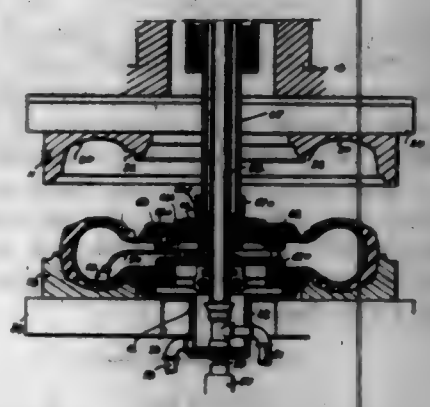
1. A multi-spinneret coupling for use in spinning artificial yarn comprising a base plate, a plurality of spinnerets extending through and beyond the outer face of the base plate, a raised scalloped border extending around the peripheral portion of the inner face of the base plate for directing the peripheral flow of a yarn-spinning solution into the peripherally disposed spinnerets, a base plate support positioned around and cooperating with the outer edge of the base plate, a centrally apertured divider plate supported by the base plate support to extend over the inner face of the base plate in spaced-apart relationship therewith whereby a cavity is provided between the base plate and the divider plate with said aperture of the divider plate leading into said cavity, a centrally apertured head secured to the divider plate and base plate support to lie adjacent and to extend across the divider plate in spaced-apart relationship therewith to form a second cavity with said aperture of the head leading into said second cavity, and a spinning solution filter medium supported between opposing surfaces of the head and divider plate to extend through and across the second cavity.

2,970,341
EXTRUDER WITH ADJUSTABLE CHOKE
Edwin E. Mallory, Cuyahoga Falls, and Eugene E. Heston, Robert H. Kline, and Raymond L. Christy, Akron, Ohio, assignors to National Rubber Machinery Company, Akron, Ohio, a corporation of Ohio
Filed Nov. 27, 1957, Ser. No. 699,357
8 Claims. (Cl. 18—12)



1. An extruder for plastic and like material comprising a cylinder; a feed screw rotatable in said cylinder and formed with a hub and with a helical flight therearound to feed plastic material from one end toward the other end of said cylinder; and an adjustable choke between the ends of said cylinder and feed screw providing a choke passage of variable size through which the material flows as it is fed through the cylinder to thereby build up a desired back pressure on the material ahead of said choke passage; said adjustable choke comprising a lateral enlargement of the cylinder bore that intersects such bore at axially spaced regions, a circular rib around the hub of said feed screw disposed between said regions that is of diameter approximately equal to that of the cylinder bore and of the adjacent flight portions of said feed screw whereby said feed screw may be axially withdrawn from either end of said cylinder and of axial length that is less than the distance between said regions, and means for relatively axially shifting said rib and enlargement to vary the size of the choke passage as defined between an edge of said rib and one of said regions.

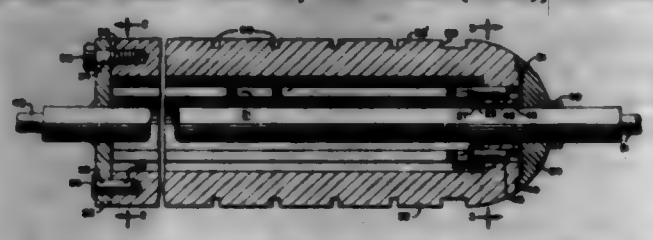
2,970,342
VULCANIZING PRESS
Adolf Fröhlich and Edward J. Harris, Akron, Ohio, assignors to The Cleveland Trust Company, Cleveland, Ohio
Filed Oct. 17, 1957, Ser. No. 690,675
10 Claims. (Cl. 18—17)



1. A vulcanizing press of the character described, comprising; a first mold section; a second mold section; means for moving said mold sections relatively of each other between open and closed positions, with said mold

sections defining an annular tire curing cavity when positioned in said closed position; a pneumatic former having a projecting end and being carried by said first mold section and being positioned within said cavity when said mold sections are closed; fluid supply means carried by said second mold sections and including a discharge opening; the projecting end of said former being guided into concentricity with said second mold section upon contact with said discharge opening, whereby said fluid supply means can deliver fluid from said second mold section to the interior of said former that is carried by said first mold section.

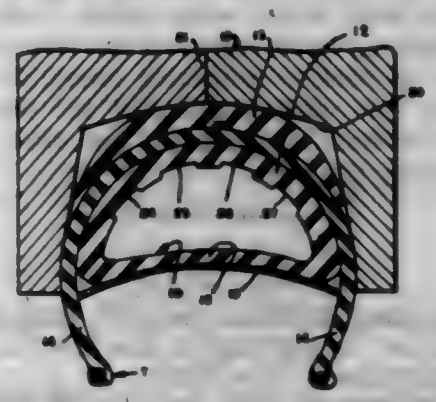
2,970,343
APPARATUS FOR MAKING WOUND PLASTICS STRUCTURE
Walter T. Johnson and Fredrick R. Barnet, Kensington, Md., assignors to the United States of America as represented by the Secretary of the Navy
Filed Dec. 18, 1957, Ser. No. 703,716
5 Claims. (Cl. 18—45)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A collapsible mandrel for forming a plastics structure comprising; a shaft, a first pair of mandrel segments disposed on diametrically opposite sides of said shaft and spaced therefrom, each of said segments having a laydown surface remote from said shaft and a tapered, substantially flat surface adjacent to said shaft, a second pair of mandrel segments disposed on opposite sides of said shaft between said first pair of segments and each having a laydown surface, segment guide means carried by said shaft, means integral with each of said segments extending inwardly toward said shaft and cooperating with said guide means to support the mandrel segment pairs at a predetermined radial distance from said shaft, at which distance the mandrel segments form a hollow mandrel about the shaft and the lay down surfaces of segments are contiguous and define a shaped surface suitable for forming an open-ended plastics structure thereon, means releasably locking said shaft to an end of each of said segments, each of said second pair of segments having a pair of inwardly tapering flat surfaces each mating with one of the tapered flat surfaces of said first pair of segments, whereby the taper of the mating surfaces permits at least one of said second pair of segments to be moved radially inwardly toward said shaft to initiate collapse of said hollow mandrel to facilitate separate withdrawal of the mandrel segments through an open end of a plastics structure formed on said mandrel after the locking means is released and the shaft is withdrawn from the hollow interior of the mandrel.

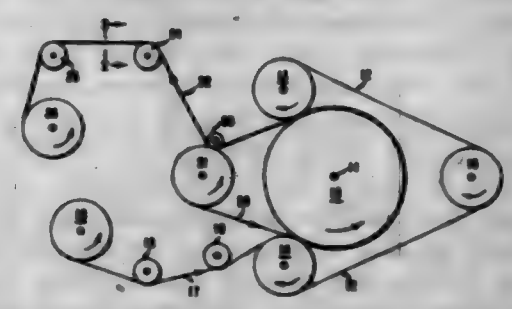
2,970,344
TIRE CURING BAG CONSTRUCTION
William T. Morris, Warren, Ohio
(R.D. 2, Park Road, Conneaut Lake, Pa.)
Filed Nov. 6, 1958, Ser. No. 772,285
3 Claims. (Cl. 18—45)

1. A resilient pressure bag for insertion within a tire casing and designed to be inflated to press the tread portion of the tire casing into a mold cavity, said bag having a circumferentially extending, transversely flexible crown conforming to the inner surface of said tire casing adjacent its said tread portion, said crown having a central circumferentially continuous annular portion and circumferentially continuous annular portions of reduced thickness on opposite sides of said central portion, said crown portions of reduced thickness imparting greater transverse flexibility to the crown of said bag so that



the latter may more readily expand and press said tire casing into said mold cavity.

2,970,345
PROCESS FOR EMBOSSING AND VENTING A RESIN COATED FABRIC
Philip F. Wagner, Jr., Newburgh, N.Y., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed May 24, 1957, Ser. No. 661,344
4 Claims. (Cl. 18—56)



1. A continuous process of embossing and venting a thermoplastic resin coated fabric which comprises continuously pressing a heated moving wire belt embossing element into and through heat softened thermoplastic coating on a fabric substrate, continuing the pressing at 50 to 100 p.s.i. for at least 10 seconds in a moving pressure zone, cooling said heat softened coating to a more solid condition while it is embedded within the interstices of the moving wire belt embossing element and thereafter continuously separating the wire belt from said coating.

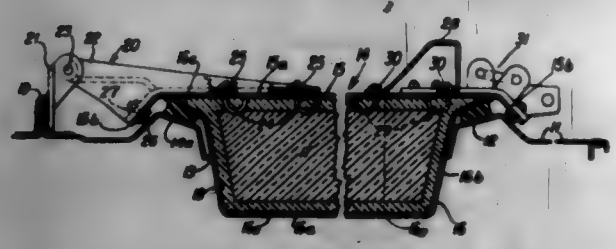
2,970,346
HEATING UNIT MOUNT FOR A TIRE MOLD MATRIX
John J. Fennen, Lodi, Calif., assignor to Super Mold Corporation of California, Lodi, Calif., a corporation of California
Filed Mar. 23, 1959, Ser. No. 801,175
1 Claim. (Cl. 18—38)



In a tire vulcanizing matrix having a circular tire embracing body, an electric heating unit having separated ends surrounding the body in engagement therewith, and including a housing and a heating element therein, a circumferential endless channel formed in the outer periphery of the body, there being a groove in the bottom of the channel to receive the housing of the heating unit, flexible terminal wires connected at one end to and projecting from the heating unit, enlarged pockets open to the periphery of the body and

to which the groove at its ends opens; said pockets projecting away from each other laterally of the body and the connected ends of the wires being disposed in the pockets; a retaining band seated in the channel over the heating unit; the pockets projecting laterally beyond the band whereby the outer portions of the terminal wire may extend substantially radially out from the body without disturbing the band.

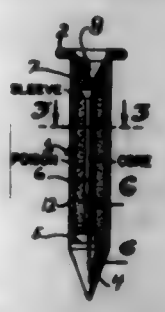
2,970,347
HATCH PLUGS
Carl F. Massopust, Highland Park, Ill., assignor to General American Transportation Corporation, Chicago, Ill., a corporation of New York
Filed May 16, 1957, Ser. No. 659,619
1 Claim. (Cl. 20—35)



A hatch plug for a refrigerator car roof, comprising complementary outer and inner sections, said inner section having a substantially pan-like configuration and including a boundary wall carrying an out-turned marginal rim, said outer section having a substantially cover-like configuration and including an out-turned marginal rim, said sections being arranged in assembled facing relation and defining a cavity therebetween and with the rim of said inner section engaging said outer section and with the rim of said outer section embracing the rim of said inner section, the rims of said sections cooperating with each other to provide a composite flange surrounding said hatch plug and adapted to carry a sealing gasket for cooperation with the associated car roof, each of said sections being of rigid molded structure and formed essentially of synthetic organic resin and having a high impact strength, a self-supporting heat-insulating body arranged between said sections and substantially completely filling said cavity and securing said sections together in assembled relation, said body being of composite construction including an inner core element and an outer shell element intimately bonded thereto, said shell element also being intimately bonded to said sections, said inner core element having high tensile strength and being formed essentially of foamed polystyrene and said outer shell element having high tensile strength and being formed essentially of foamed synthetic organic resin including polyurethane, and a pair of spaced-apart securing devices respectively arranged in a pair of spaced-apart holes provided in said outer section, the inner ends of said securing devices projecting inwardly from said outer section into said cavity and being so embedded in the outer shell element that the outer shell element bonds said inner ends of the securing devices to the inner core element and the outer section, the outer ends of said securing devices projecting outwardly from said outer section and being adapted to be respectively secured to a pair of spaced-apart hinges carried by the associated car roof.

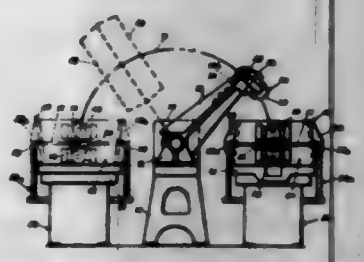
2,970,348
TERMITE POISON APPLICATOR
Robert E. Imus, 893 Woodland Drive, Sierra Madre, Calif., and Everett E. Crowder, 314 Linwood Ave., Monrovia, Calif.
Filed Oct. 13, 1958, Ser. No. 766,918
3 Claims. (Cl. 21—73)

1. A termite poison applicator adapted for cooperation with a nail, comprising: a rigid tubular shell adapted to contain a poison; a core element including a pointed end closing one end of said shell, a piston closing the other end thereof, and a collapsible stem extending therebetween; said pointed end cooperating with said shell



whereby said shell may be driven into a body of wood; said core and poison adapted to be driven from said shell by a nail and said core tending to collapse to permit further penetration of the nail into the body of wood.

2,970,349
METHOD AND APPARATUS FOR MOLDING
Russell J. Hines, Lakewood, Ohio, assignor to The Hines Flask Company, Cleveland, Ohio, a corporation of Ohio
Filed Sept. 26, 1958, Ser. No. 763,582
9 Claims. (Cl. 22—33)

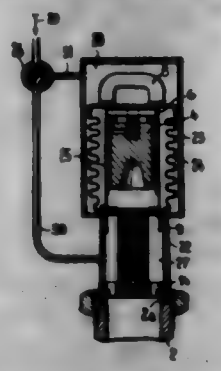


1. In a mold making apparatus for producing two-part sand molds by the match plate method comprising, a base, a pair of laterally spaced arms mounted on a common horizontally extending axis on said base for synchronous swinging movement in generally vertical planes and through arcs of movement of substantially 180°, support means disposed generally stationary with respect to said arms and on opposite sides of said arms, said support means being adapted to receive and support a match plate flask assembly thereon, mold drawing means associated with each of said support means for movement in generally vertical directions for separating the upper flask section from the underlying match plate and lower flask section, reciprocal socket means on each of said arms for movement in directions transverse of the plane of movement of the respective arm, power means for selectively actuating said socket means, said socket means upon actuation thereof being adapted to receive complementary projecting means on opposite ends of the flask sections of the flask assembly for clamping the flask sections and match plate in assembled substantially fixed relation to said arms during swinging movement of the latter to transfer the flask assembly from one of said support means to the other of said support means.

2,970,350
METHOD OF AND DEVICE FOR THE EVACUATION OF CHILL MOULDS
Heinrich Feichtinger, Schaffhausen, Switzerland, assignor to Georg Fischer Aktiengesellschaft, Schaffhausen, Switzerland, a company of Switzerland
Filed June 2, 1958, Ser. No. 739,308
Claims priority, application Switzerland June 1, 1957
7 Claims. (Cl. 22—73)

1. Apparatus for evacuating a chill mould having a mould body including a mould cavity and a cover clos-

ing said mould cavity airtight when in sealing position with said mould body; comprising a vessel having an evacuating chamber and an open end communicating with said chamber, respective supporting means for said mould body and for said cover in said evacuating chamber and arranged to hold said mould body and said cover in spaced apart position when placed in said evacuating chamber, said supporting means for said mould body being movable in said chamber relative to said supporting means for said cover, said chamber including an elastic bellows, suction means connected to said open end of said vessel for evacuating said chamber and producing a vacuum therein when said mould body and said



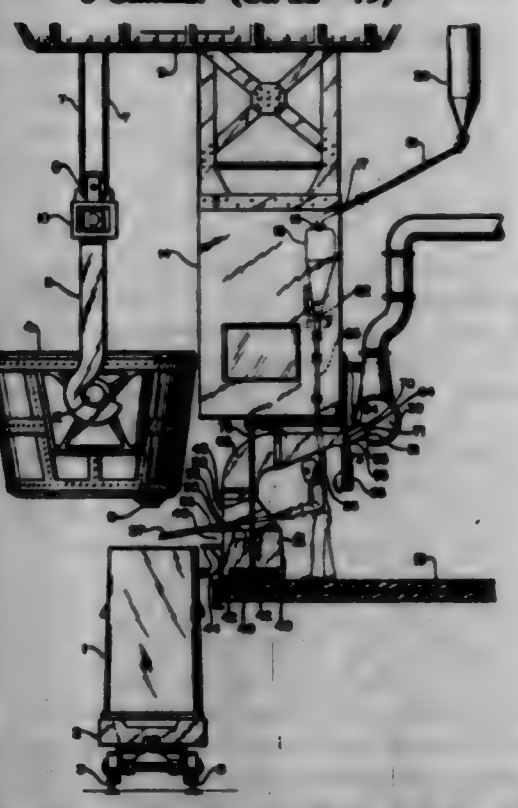
cover are in said spaced apart position, releasing means operatively associated with said supporting means of said mould body and arranged for operation from the outside of said vessel to release said mould body for movement relative to said cover from said spaced apart position into said sealing position through said supporting means of said mould body, whereby said mould cavity may be closed upon establishing a vacuum therein, and air supply means connected to said chamber for relieving said vacuum therein after said mould cavity has been closed by said cover to thereby permit removal of said chill mould when evacuated from said vessel through said open end thereof.

2,970,351

APPARATUS FOR CASTING METAL INGOTS

Frank Rice, Aliquippa, Pa., assignor to Jones & Laughlin Steel Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Nov. 18, 1955, Ser. No. 547,660
3 Claims. (Cl. 22—79)



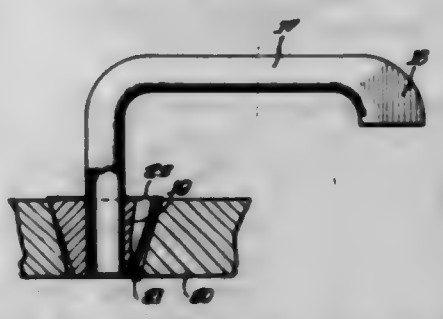
1. Apparatus for casting ingots in a plurality of upright ingot molds arranged in a row from a laddle supported by overhead crane means for movement along and above said row comprising a track positioned alongside the row of ingot molds, a separate wheeled buggy movable along the track and detachably connected to the overhead crane means, a chamber on the buggy having an elongated opening in its side adjacent to the ingot molds at the level of the tops thereof, and an exhaust pipe movable with the chamber and movably connected into stationary means for continuously exhausting the chamber.

2,970,352

DEVICE FOR SUPPORTING TUBES IN CORE BOX ASSEMBLIES

John A. Halgren, Downers Grove, and Robert H. Pinkel and Alex Filinovitz, Chicago, Ill., assignors to International Harvester Company, Chicago, Ill., a corporation of New Jersey

Filed Nov. 3, 1958, Ser. No. 771,325
5 Claims. (Cl. 22—160)



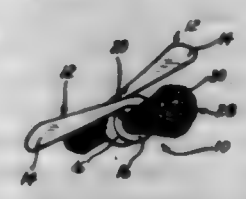
5. A mold box assembly having walls forming a molding cavity, one of said walls having a tapered bore, supporting means within said bore adapted to support an object within said cavity during molding whereby said object is embedded within a mold comprising; a supporting element having a generally cylindrical body, and a cylindrical tapering wall on said body, means on said body for supporting an object within said cavity, said cylindrical tapering wall tapering generally in similar manner as said tapered bore but more acutely, whereby during the mating of said supporting means with said bore, said body is supported within said bore to seal said bore from said cavity, said supporting means being readily removable from said bore with a mold as it is removed from said cavity.

2,970,353

CLAMP

Claire E. Stone, 9715 Creemore Drive, Tujunga, Calif., assignor of one-half to Jack L. Perrin, Los Angeles, Calif.

Filed Aug. 25, 1958, Ser. No. 756,844
2 Claims. (Cl. 24—16)



1. In a clamp, the combination of: a first, elongated leg having a free outer extremity and a curvilinear inner extremity, said curvilinear inner extremity having a length greater than that of a semi-circle, said inner extremity of said first leg curving back on itself; and a second, elongated leg having a free outer extremity co-operative with the outer extremity of said first leg and having a curvilinear inner extremity corresponding to that of said first leg, said inner extremity of said second leg curving back on itself, said curvilinear extremity of said second leg being of greater length than a semi-circle and underlying the corresponding curvilinear extremity of said first leg, said curvilinear extremities being pivotally connected to each

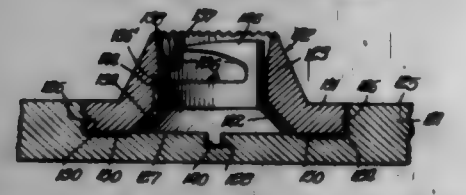
other at the ends thereof, and said pivotal connection being located on a line drawn along the longitudinal axis of said clamp between the free outer extremities of said legs and said pivotal connection being located inwardly of the overlying curvilinear extremities of said legs.

2,970,354
FASTENING DEVICE FOR A TRIM MOLDING OR THE LIKE
Charles W. Grant, Grosse Pointe Shores, Mich., assignor to Fourslides, Inc., Detroit, Mich., a corporation of Michigan
Filed Apr. 21, 1958, Ser. No. 729,810
6 Claims. (Cl. 24—73)



2. A one-piece fastener having a base adapted to be attached to a molding or the like, said base comprising a main elongate rectilinear base member joined at opposite ends thereof to transverse end sections, one thereof terminating in a relatively long base section extending in a direction toward the other end section, said sections terminating in inwardly bent portions forming adjacent curved molding engaging members, said inwardly bent portions extending in a direction toward the main base member and terminating in reversely bent fastener portions disposed substantially normal to the plane of the base, said relatively long base section extending in diverging relation to the main base member and having its terminal molding engaging member spaced further from said main base member than the adjacent molding engaging member.

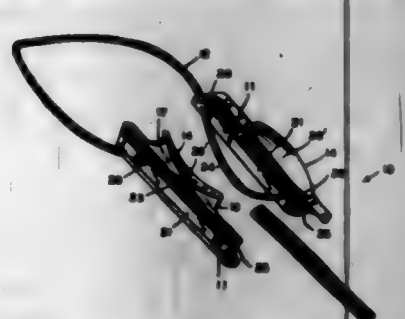
2,970,355
BUTTON
Lon Henson, 7736 N. Eastlake Terrace, Chicago 26, Ill.
Filed Feb. 18, 1958, Ser. No. 715,947
11 Claims. (Cl. 24—103)



1. A button fastening device to be joined to fabric which comprises, a body having a hollow shank projecting from one side thereof, the hollow interior of said shank being accessible through one open end thereof, a fastening member mounted in the hollow interior of said shank for rotation relative to the latter, means locking said fastening member against axial displacement, prong means formed on said fastening member and disposed wholly within the axial confines of said shank for engaging fabric inserted into said open end thereof, and means for positively effecting relative rotation between said fastening member and said shank to drive said prong means into said fabric within said shank.

2,970,356
CABLE CLAMP AND CONNECTOR
Noble Wellington Crosby, R.R. 1, Trenton, Ontario, Canada
Filed Apr. 25, 1958, Ser. No. 731,004
10 Claims. (Cl. 24—115)

8. A clamp device comprising a pair of elongated clamping members each presenting an upper surface and a lower clamping surface and having front and rear ends, each of said clamping members having an aperture formed therethrough adjacent to the rear end and at one side, a flexible linear element secured at one end to the front end of one of said clamp members and at the other end to the front end of the other of said clamp members, the flexible linear element passing through the apertures and below the lower clamping surface of the clamp member to define longitudinal loop portions therewith, each clamp



member having an elongated guideway formation disposed in spaced substantially parallel relation to its loop portion and having an extent corresponding to the spacing between said aperture and the point of securement of said linear element to its front end, said guideway formations being adapted to removably receive and engage with the loop portion of the opposing clamp member when said clamp members are arranged in opposing offset clamping relation.

2,970,357
LINE CLAMP
Abraham Pinson, 26 Hunter Ave., New Rochelle, N.Y., and Bernard Stoudt, Elmont, N.Y.; said Bernard Stoudt assignor to said Abraham Pinson
Filed May 26, 1959, Ser. No. 815,980
11 Claims. (Cl. 24—126)

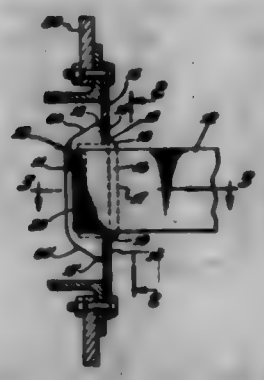


1. A line clamping device comprising a hollow housing, an eccentrically pivoted drum disposed within one end of said housing said drum being provided with a helically grooved side wall and a reciprocable wedge disposed within the other end thereof, the enlarged end of said wedge being in confronting relation with a portion of the periphery of a line reeved around said drum whereby when said drum is pivoted in one direction, the abutting contact between said peripheral portion and the enlarged end of said wedge causes said wedge to be moved into wedging engagement with interior walls of said housing, said drum permitting the wedge to be moved in the opposing direction and out of such wedging engagement when pivoted in the opposing direction, said device being adapted to receive one end of a line reeved around said drum and disposed in the space between a wall of said wedge and the interior of a wall of said housing whereby said line may be clamped against movement, a force applied to said line in one direction causing said drum and wedge to be moved in said one direction thereby preventing the movement of said line through said housing and clamping the same, the application of force to said line in the opposing direction causing said drum and wedge to be moved in the opposing direction thereby releasing said line from clamped condition and permitting it to be drawn through said housing.

2,970,358
SLOTTED T FASTENER

Edwin C. Elsner, Glendale, Calif., assignor to Aeroquip Corporation, Jackson, Mich., a corporation of Michigan

Filed June 6, 1958, Ser. No. 740,430
1 Claim. (Cl. 24—201)



The combination of an anchor member comprising a rigid plate portion having an elongated closed end slot therein and seating surfaces adjacent the ends of the slot; a wide, flexible strap or webbing; and a one-piece, substantially flat, elongated securing member having projecting ears defining shoulders, said securing member having an elongated closed end slot for the reception of said strap or webbing, being of substantially the same width as said strap or webbing, and being positioned between said ears, and a shank having a length substantially the same as said first mentioned slot, said strap or webbing extending through said slot in the securing member and being looped to form a bight around the shank, the shank and looped strap being adapted for disposition in the slot of the anchor member with the shoulders of said securing member engaging the seating surfaces of the plate portion in a transverse relationship, and the securing member and strap being adapted for insertion and withdrawal through the slot in the anchor member by laterally distorting the flexible strap or webbing and by canting the securing member relative to the plane of said plate portion.

2,970,359
LOCKING MEANS FOR PLASTIC STRAP

Horace W. Dryden, P.O. Box 951, Modesto, Calif.

Continuation of application Ser. No. 480,233, Jan. 6, 1955. This application Sept. 19, 1956, Ser. No. 610,762
1 Claim. (Cl. 24—213)

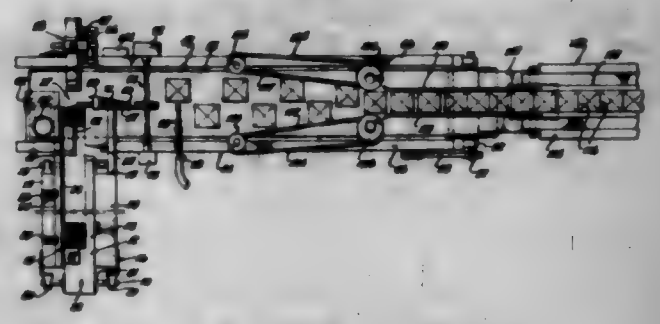


In a pair of overlapping strap end portions of a unitary plastic wing marker or badge for chickens or the like, said strap ends being curved and biased toward each other and having thereon and therebetween interengaging fastening means; the improvement in which one of said strap end portions is provided with a longitudinally disposed rectangular aperture and a substantially correspondingly shaped and sized stud projecting laterally from the other of said end portions for insertion in said aperture, said stud having a body of substantially uniform thickness outwardly from its connection with its strap end portion and terminating in a laterally offset and enlarged free end with respect to the size and shape of said aperture, the thickness of said body being substantially the same as the width of the aperture and the longitudinal dimensions thereof increasing outwardly from its connection with its strap end portion to a length substantially greater than the length of said aperture, whereby said stud carried strap end portion may be readily snapped into tightly engaged and fastened position with said apertured end portion and thus retained against accidental separation in use by their oppositely biased connection with their unitary marker or badge.

2,970,360
APPARATUS FOR HANDLING SEPARATED TILE BODIES

Norman W. Cabell, La Crescenta, and Joseph E. Randall, Los Angeles, Calif., assignors to Gladding, McBean & Co., Los Angeles, Calif., a corporation of California

Filed Feb. 4, 1959, Ser. No. 791,142
6 Claims. (Cl. 25—2)

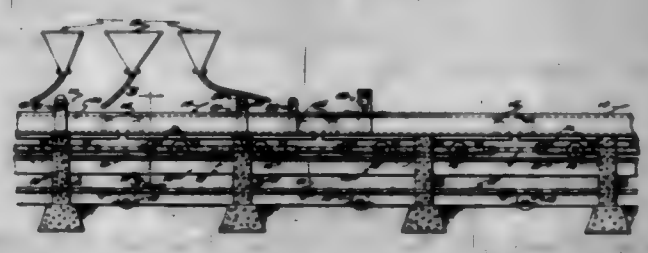


1. An apparatus for separating and handling a plurality of fired tile in face-to-face and back-to-back stuck relation advanced to a separation zone and separated by heat, and a conveyor means to receive and move individual separated tile out of said zone; the combination of: guide means at the separation zone for retaining each separated tile in edgewise upright relation upon separation and holding said tile in upright relation for a selected distance; an air-jet means spaced from the end of said guide means a distance not greater than the width of tile separated; means at the end of the guide means responsive to a passage of a tile; said air-jet means and said responsive means being cooperably connected whereby passage of a tile at the end of said guide means in preselected sequence with respect to other passing tile actuates said air-jet means to direct a burst of air at said selected tile to urge said selected tile into horizontal relation on said conveyor means.

2,970,361
MOLDING MACHINE

Robert Abernathy Brown, Northridge, Calif., assignor to Marie A. Brown

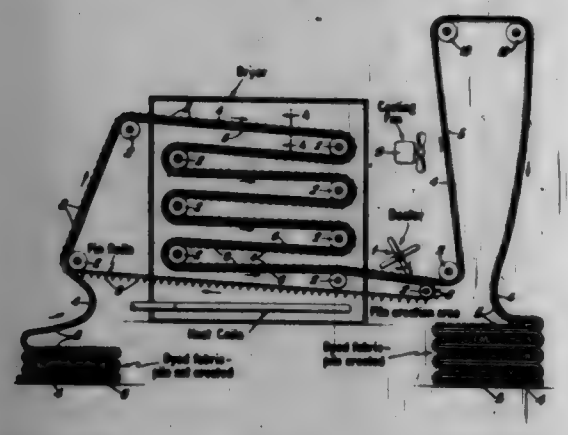
Filed June 17, 1957, Ser. No. 666,188
4 Claims. (Cl. 25—99)



1. A molding apparatus comprising a horizontally elongated supporting structure having a front and a rear end, said structure comprising a row of spaced apart piers extending along each side thereof, a riser L-shaped in cross-section extending along each side of said structure with its base supported by the piers at its side of the structure, substantially horizontal cross plates supported by and bridging the space between said risers at intervals along the length of the structure, a plurality of spaced apart arms attached to and extending downwardly from each of said cross plates, a set of parallel, substantially horizontal core tubes mounted upon said supporting structure and extending lengthwise thereof, said core tubes being supported by said arms and having pointed

ends directed toward the rear end of said supporting structure, a substantially horizontal track mounted upon said structure and extending lengthwise thereof in a subjacent relation to said tubes, a plurality of pallets mounted upon said track to travel therealong, said pallets having bottoms supportable subjacent to said tubes, means mounted upon the said supporting structure to move said pallets from rear to front therealong, and means carried by said supporting structure to feed a plastic self-hardening substance to the advancing pallets in a sufficient quantity to submerge said tubes.

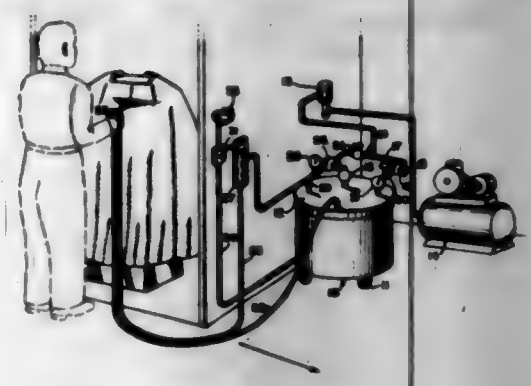
2,970,362
METHOD OF TREATING PILE FABRICS
William W. Rankin, Harry K. Townsley, and Theophilus A. Feild, Jr., Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York
Filed June 12, 1956, Ser. No. 590,874
3 Claims. (Cl. 26—2)



1. The method for erecting the pile of fabrics having a face pile of thermoplastic fibers, wherein the pile contains yarns of a thermoplastic acrylonitrile-containing resin, which comprises softening said pile fabrics by heating said pile fabric at a temperature of from about 200° F. to about 300° F., beating the back side of said heated fabric perpendicularly thereto at a frequency of from about 250 to about 10,000 beats per minute, the rate of beating being inversely proportional to the temperature, while said fabric is deflected from about 0.1 inch to about 3 inches from a straight line at the point at which the beating occurs, said frequency of beating being inversely proportional to said deflection, while said fabric is maintained at a tension of at least about one half pound per inch of fabric width, for a period of from about 1 to about 30 seconds, and then cooling the pile fabric to a temperature below the softening point of the thermoplastic fibers.

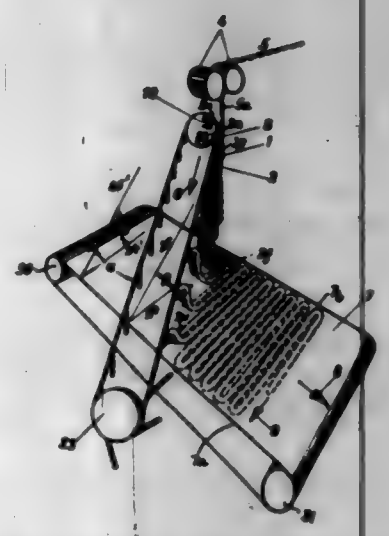
2,970,363
PILE FABRIC WATER-REPELLING AND FINISHING PROCESS
Harold Krauss, 243 Nesbit Terrace, Irvington, N.J.; Hugo Moses, 30 Roberts Lane, Syosset, N.Y.; and Edward Liebman, 3223 90th St., Jackson Heights, N.Y.
Filed Mar. 29, 1957. Ser. No. 649,532
1 Claim. (Cl. 26—2)

A method of treating synthetic pile fabric material to render it water repellent and give it a luster finish which consists of spraying with a spray gun a combined water repellent and luster liquid together with heated air at a pressure from twenty-five to thirty-five pounds per square inch depending upon the speed with which the gun is used by the operator upon the fabric material by working the gun with strokes or passes over the pile fibers, subjecting the sprayed material to a flow thereover of drying air of a temperature from one hundred degrees to one hundred and fifty degrees Fahrenheit for a period of five to twenty minutes, thereafter working the fibers with an air nozzle by blowing hot air of a temperature ranging from one hundred and twenty-five degrees to one hundred and seventy-five degrees Fahrenheit



over the fibers to separate the individual fibers and work a bloom into the fibers to give a luster thereto, and finally placing the material in a room through which is circulated dry air at room temperature to dry and cool the same.

2,970,364
CABLE DEPOSITING APPARATUS
Wolfgang Friedel, Egelsbach, Germany, assignor to Firma Fleissner & Sohn, G.m.b.H., Egelsbach-Frankfurt am Main, Germany, a German firm
Filed Oct. 1, 1958, Ser. No. 764,686
Claims priority, application Germany June 16, 1958
8 Claims. (Cl. 28—1)



1. A cable depositing apparatus comprising the combination of elongated conveyor means having front and rear longitudinal edges and moving in a substantially horizontal plane at a first predetermined speed, with elongated endless belt means spaced apart from said conveyor means and moving at a second predetermined speed from a predetermined first location, said location being situated at a predetermined height above said conveyor means and generally above said rear edge, means guiding said endless belt means further to a second predetermined location situated slightly above said conveyor means and generally above and forwardly of said front edge, thereby to extend at a predetermined angle of inclination with respect to said conveyor means, a plurality of substantially equidistantly spaced pegs secured to said belt means and extending therefrom at substantially equal predetermined angles therewith, and means for feeding at a predetermined third speed substantially greater than said second speed a continuous length of said cable from above said first location downwardly for engagement with said pegs, successively, said cable by virtue of the difference of said second and third speeds forming a plurality of pairs of cable lengths on each peg,

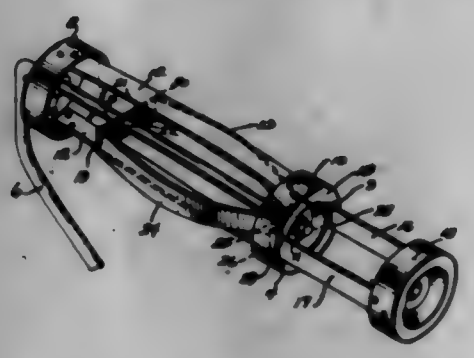
whereby said pairs of cable lengths are looped over each one of said pegs and depend respectively from the rear toward the front edge of said conveyor means, each dependent cable length forming a free loop for deposit adjacent said rear edge of said conveyor means, said pegs carrying said cable lengths looped on said pegs during movement of said belt means downwardly and depositing said cable lengths in parallel and closely spaced relation on said conveyor means at a preselected angle to the direction of movement of said conveyor means, so that the free loops contact the latter and are deposited adjacent said rear edge while the peg-supported loops are deposited adjacent said front edge upon slipping off of their associated pegs at said second location.

2,970,365
NEEDLED FABRIC AND METHOD
David Morgenstern, 1056 5th Ave., New York 28, N.Y.
Filed Aug. 4, 1958, Ser. No. 752,937
9 Claims. (Cl. 28—72.2)



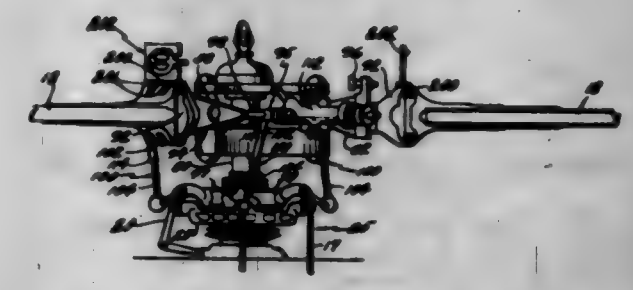
9. Method of producing a needled fabric which comprises applying a coating of liquid adhesive to a surface of at least one of a plurality of substantially flat fleeces consisting wholly of loose fibrous material so that some of the surface fibers of the fibrous material of the fleece are bonded to each other to form a thin surface layer of adhesively bonded fibers, assembling the fleeces with the adhesive-carrying surface of the coated fleece in contact with another fleece, drying the adhesive, and then needling the laminate whereby some of the fibers of the fleece are randomly arranged and some of the fibers extend substantially normal to the planar surfaces of the laminate and through the dry adhesive layer and then heating the needled laminate whereby the normally extending fibers are bonded to the adhesive layer.

2,970,366
EXTENSIBLE PAINT ROLLER CORE
Frank W. Gill, 941 Baker St., Wisconsin Rapids, Wis.
Filed Mar. 18, 1958, Ser. No. 722,291
9 Claims. (Cl. 29—110)



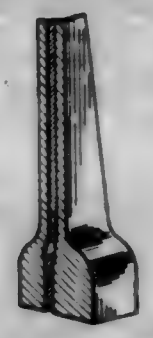
1. In a device of the character described for supporting paint roller applicator sleeves of differing lengths, the combination with a spindle, of a first sleeve supporting core means rotatably mounted on the spindle and an extension sleeve supporting core means having means supporting it on the spindle and on the first core means for sliding axially of the spindle between a sleeve supporting retracted position on the spindle respecting the first core means and a sleeve supporting extended position on the spindle with respect thereto.

2,970,367
METHOD OF MOUNTING BALANCED ROTOR BLADES
Walter J. Crump, Milford, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Sept. 3, 1957, Ser. No. 681,548
5 Claims. (Cl. 29—156.8)



1. The method of balancing and mounting blades whose dynamic and aerodynamic balance may vary for installation on rotary wing aircraft having blade pitch controls comprising the steps of, dynamically and aerodynamically balancing each blade until it tracks with a reference, after balancing and blades are in track measuring the pitch angle of each blade, recording on each balanced blade the angular measurement of each blade to a reference, mounting blades so measured on a rotary wing aircraft, maintaining said blade pitch controls in a locked position, placing a first blade over a reference point, measuring the pitch angle of said blade, placing a second blade over said reference point and adjusting its pitch angle at that point to include the previously determined differential angular measurement between the recorded measurement on the first blade and the second blade, placing each other blade over said reference point and adjusting its pitch angle at that point to include the previously determined differential angular measurement between the recorded measurement on the first blade and the blade being mounted.

2,970,368
HOLLOW TURBINE OR COMPRESSOR BLADES
Campbell Clouston Horne, Giffnock, Scotland, assignor to The International Nickel Company, Inc., New York, N.Y., a corporation of Delaware
Filed May 15, 1958, Ser. No. 735,503
Claims priority, application Great Britain May 23, 1957
3 Claims. (Cl. 29—156.8)



1. A process for the production of a fluid-cooled turbine blade blank which comprises providing an elongated billet having a predetermined blade portion and a predetermined root portion, forming and filling a plurality of blind holes substantially parallel to the axis of said billet and lying in a straight line across a section of said billet so that the holes extend through the blade portion of said billet and into the root portion thereof, forming and filling a plurality of smaller holes lying substantially in a straight line across sections of the root portion of the billet, said line being substantially parallel to the line of the larger formed and filled holes and each of said smaller holes extending substantially axially from the free end of the root portion to connect with the blind

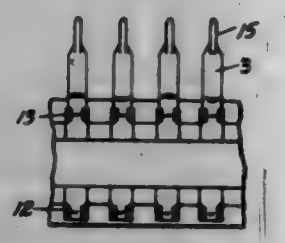
end of one of said larger filled holes, thereafter partially extruding said billet with blade portion leading to provide an extruded blade portion having filled holes lying in a straight line across a section having a substantially plano-convex shape and having the cross-sectional area required in the final blade and to provide an unextruded root portion and thereafter, forging said extruded blade portion to provide a blade blank having an airfoil section blade portion with holes lying substantially on an arc and an integral root with holes lying substantially on a straight line.

2,970,369

ASSEMBLY APPARATUS FOR ELECTRIC CIRCUIT ASSEMBLIES

James H. Foster and Philip E. Sterner, Erie, Pa., assignors to Erie Resistor Corporation, Erie, Pa., a corporation of Pennsylvania

Filed June 19, 1956, Ser. No. 592,400
16 Claims. (Cl. 29—203)



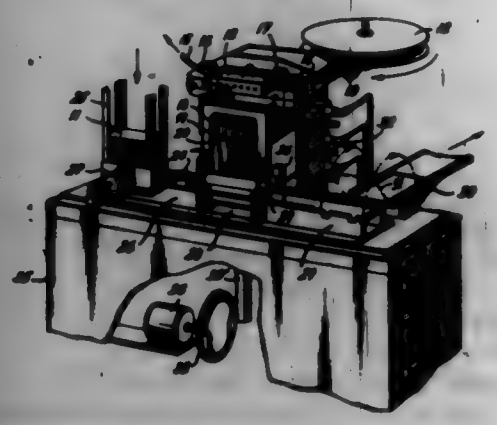
1. An assembly press comprising a lower platen having a plurality of upwardly facing grooves side by side, a plurality of side by side chutes, each chute feeding into one end of each groove, a magazine having a plurality of side by side tubes respectively aligned with the chutes for receiving components in end to end relation, whereby any desired grouping of components can be fed from the magazines through the chutes into the grooves, said components having terminals at each end, an upper platen having means for holding a strip of insulating material having fixed thereto pairs of clips respectively presented toward and registering with the terminals of components in the grooves, means for closing and opening the press whereby as the press is closed the clips grip the components and as the press is opened the clips lift the components out of the grooves.

2,970,370

FABRICATION OF ELECTRICAL DEVICES

Calvin R. Weaver, Mount Ephraim, N.J., and George C. Heil, Morton, Pa., assignors to Philco Corporation, Philadelphia, Pa., a corporation of Pennsylvania

Filed Nov. 19, 1957, Ser. No. 697,378
5 Claims. (Cl. 29—203)



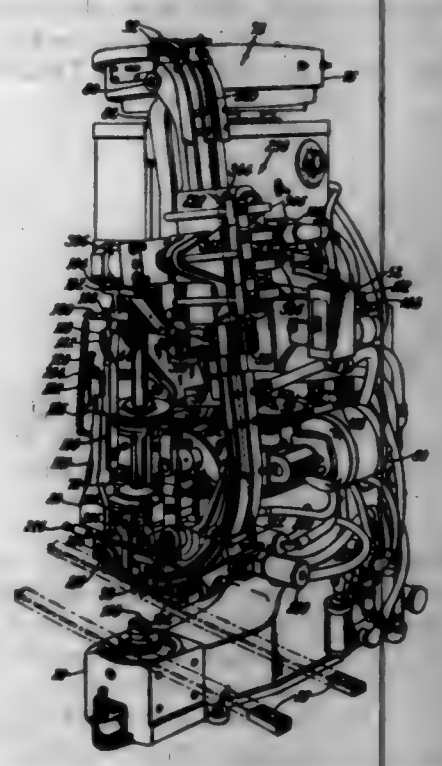
1. In apparatus for mounting electrical components, such as connector lugs, in apertures of circuit panels, a plate system consisting of three horizontal plate units, generally overlying one another and comprising: an upper plate, horizontally movable to slightly different positions, said plate having insertion ports vertically extending through the plate and located in a pattern similar to that of the panel apertures; an intermediate, vertically movable plate, having alignment ports vertically extending through the latter plate and located in a pattern similar to that of the panel apertures, said intermediate plate having means for receiving and holding one of said panels with the panel apertures and the plate alignment ports in registry so that in an insertion position of the plate system, with the intermediate plate raised and the upper plate in one of its positions, registered and continuous apertures extend through the upper plate, the panel and the intermediate plate for insertion of components into positions extending from said insertion ports, through the panel, into said alignment ports; a lower, vertically movable plate having punch elements secured thereto, upstanding therefrom and vertically slidable in the alignment ports of the intermediate plate, for staking engagement with the undersides of components inserted in the panel; means for effecting cycles of horizontal reciprocating motions of said upper plate to said different positions and coordinated vertical reciprocating motions of said lower and intermediate plates, each cycle including initial upward motion of the lower and intermediate plates, with a panel thereon, to establish said insertion position, subsequent downward motion of the lower and intermediate plates with the panel and inserted components, followed by horizontal motion of the upper plate to register the components, and the punch elements for staking them, with unported areas of the upper plate adapted to bear against the components, and renewed upward motion of the intermediate and lower plates, with the panel and inserted components, for said staking engagement; and flexible connector means, enabling and forcing the punch elements on the lower plate upwardly to override the intermediate plate, toward the panel, in the establishment of said staking engagement.

2,970,371

ARTICLE HANDLING AND INSTALLING MACHINES

Charles P. Cardani, Hamilton, Leland A. Cole, Beverly, and Andrew Eppler, Jr., Lynn, Mass., assignors to United Shoe Machinery Corporation, Flemington, N.J., a corporation of New Jersey

Filed Feb. 26, 1958, Ser. No. 717,724
10 Claims. (Cl. 29—203)



1. In a machine of the type having a reciprocable inserter for installing resilient terminals of articles in pre-

determined arrangement, a frame, a raceway movably mounted on the frame and adapted to deliver the articles successively into the path of the inserter for transfer thereto, mechanism for moving the raceway toward and from its delivery position in time relation to the operating strokes of the inserter, and means mounted on the raceway and controlled by said mechanism for uniformly spacing for assembly the terminals of successive articles, respectively, preparatory to their transfer and installation according to said arrangement.

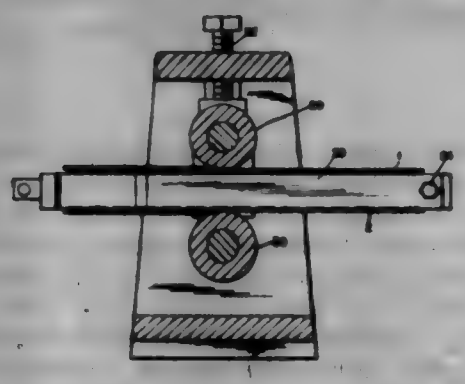
2,970,372
METHOD AND MACHINE FOR MAKING BELTS
Walter Bernum, 97 Wooster St., Yonkers, N.Y.
Filed Feb. 6, 1956, Ser. No. 563,689
16 Claims. (Cl. 29—407)



1. A machine for making belts of the type having time sequential embossing, stamping, back punching, measuring, front punching and bevelling positions, and also including means for moving the belt strip, means for embossing the belt strip whilst it is being moved, stamping means acting on the moving belt strip after embossing, means to stop the movement of the belt strip after embossing and stamping preparatory to punching means to back punch the belt strip, means to measure the length of the strip after back punching, means to front punch the belt strip after said back punching and measuring and final means to move the belt after front and back punching and means to bevel the belt during said final movement.

15. A method of making belts comprising the steps of moving the belt strip while embossing said belt strip, then stamping said moving strip of belt material, stopping the movement of said belt strip, then back punching said belt strip, measuring said strip and then front punching said belt strip, and finally moving the belt strip while bevelling said belt strip.

2,970,373
PROCESS OF PREPARING PANELS
Everard F. Kohl, Lakewood, Ohio
(12210 Triskett Road NW., Cleveland 11, Ohio)
Filed June 22, 1959, Ser. No. 822,007
8 Claims. (Cl. 29—423)



1. The method of preparing panels which comprises interposing between upper and lower metal sheets a plurality of thin metal core strips, each of which has a body portion and a plurality of spaced projections in its upper and lower margins which are harder than the metal of which the sheets are composed and in which approximately half of the projections in the upper and lower margins of each core strip are tapered in one direction and the remaining projections are tapered in the opposite direction from the body portion and are arranged in alternate symmetrical relation with the projections tapered in the first-mentioned direction and each of said core strips being so thin in cross section that supporting means is required to prevent collapse of any portion of the core strips when sufficient pressure is applied to the opposite faces of the sheets to force a substantial portion of the tapered projections in the opposite margins of each core strip into the metal of the respective sheets, arranging on the opposite sides of each core strip supporting means for the core strips which are of sufficiently less height than the core strips to enable them to be removed after the pressing operation but which are of sufficient height to engage the opposite sides of each of the core strips over substantially the entire area of the core strip inwardly of the projections and which have sufficient strength to prevent collapse of any portion of the core strips under pressure necessary to force at least a portion of the projections in the upper and lower margin of each core strip into the respective sheets, applying sufficient pressure to the opposite faces of the sheets to move the sheets toward each other to force at least a portion of each of the projections in the upper margin of each core strip into the upper sheet and to angularly embed it within the metal of the upper sheet in a direction corresponding to the direction it is tapered to provide a strong mechanical connection between the core strips and the upper sheet and to force at least a portion of each projection in the lower margin of each core strip into the metal of the lower sheet and to angularly embed it within the metal of the lower sheet in a direction corresponding to the direction it is tapered to provide a strong mechanical connection between the core strips and the lower sheet, and then withdrawing the supporting means from between the sheets.

2,970,374
METHOD OF MANUFACTURING PEG TYPE HARROW TOOTH ASSEMBLIES
Serge Kamarovsky, Chicago, Ill., assignor to International Harvester Company, Chicago, Ill., a corporation of New Jersey
Filed June 26, 1957, Ser. No. 668,167
1 Claim. (Cl. 29—471.1)



A method of fastening a peg type harrow tooth having a generally quadrilaterally shaped elongated body with a pointed part at its normally lower end and a securing part adjacent its normally upper end, to a transversely extending supporting beam having a normally vertical surface and upper and lower horizontal surfaces, comprising the steps of providing a recessed portion on said securing part including a flat surface being disposed downwardly from the upper end and disposed inwardly from a corner formed by the junction of two sides of said body, whereby a plane perpendicular to the plane of said flat surface intersects an imaginary vertical line coincident with said corner, providing said recessed portion with opposed arcuate surfaces sloping from the

flat surface and terminating at said corner, placing said vertical surface of said supporting member in engagement with said flat surface whereby said arcuate surfaces overlap said horizontal surfaces to form therewith oppositely disposed fillets, and securing said tooth to said supporting member by filling said fillets with a weld material.

2,970,375

HAND OPERATED METAL CUTTING DEVICE

Benjamin A. Kawahara, P.O. Box 859, and Terry Haruo Shinkawa, 1171 Alewa Drive, both of Honolulu, Hawaii

Filed May 31, 1960, Ser. No. 32,682
3 Claims. (Cl. 30—23)



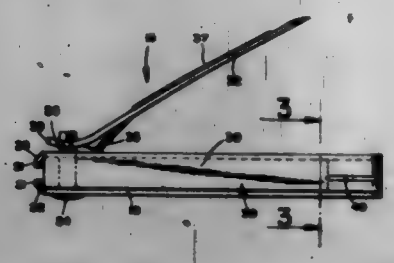
1. A sheet metal cutting device comprising a plate having an upturned front end and having an elongated aperture therein extending in the direction of said plate from the front to the rear thereof, said plate having a downwardly opening groove in the bottom thereof extending rearwardly from the rear end of said elongated aperture to the rear of said plate, a post on the top of said plate, a handle pivoted to said post, a cutting blade on said handle extending through said elongated aperture, stop means on said post movably mounted thereon for movement into and out of a position in which it is engageable with said handle for limiting the movement of said handle in the direction in which said blade is moved upwardly through said aperture, and stop means on said blade engageable with said plate at the rear end of said aperture for limiting the movement of said handle and blade in the downward direction toward said plate.

2,970,376

NAIL CLIPPERS

Chi Sheng Kuo, 10 Tunis Ave., Yonkers, N.Y.

Filed Mar. 16, 1960, Ser. No. 15,359
1 Claim. (Cl. 30—28)



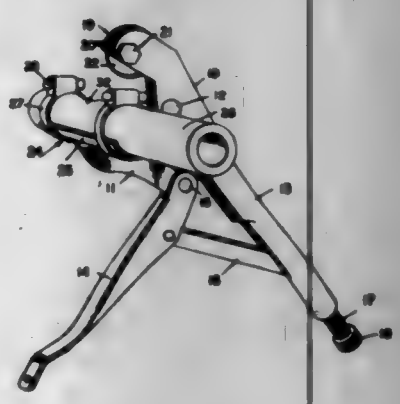
A nail clipper device comprising, in combination, a pair of normally parallel upper and lower blade members of equal width, a block integrally connecting one end of said blade members together, the opposite ends of the blade members being deformed toward each other and defining cutting edges, a mounting pin carried by one of said blade members and extending freely through the other one of said blade members adjacent to said opposite end thereof to accommodate relative movement of said opposite ends of said blade members toward and away from each other, a lever pivotally connected at one end to said pin adjacent to the outer side of the other one of said blade members for effecting movement of said cutting edges of said blade members toward each other, a U-shaped closure member normally closing the sides of the device between said blade members consisting of two parallel legs and a yoke portion connecting the legs, the legs having a width equal to the distance between the blade members and a length equal substantially to the length of the blade members, said block having longitudinal grooves in the sides thereof, said legs having complementary longitudinal ridges on the opposed inner surfaces thereof, said closure member being slidably mounted on the device with said ridges registering in said grooves with said yoke portion normally engaging said block, said closure member together with said blade members and said block normally defining a storage compartment for storing removed nail portions therewithin.

2,970,377

PRE-SPLICING TOOL FOR REMOVING COVERING FROM CABLE

Olger B. Olsen, Karlstad, Minn.

Filed Aug. 31, 1959, Ser. No. 837,110
9 Claims. (Cl. 30—102)



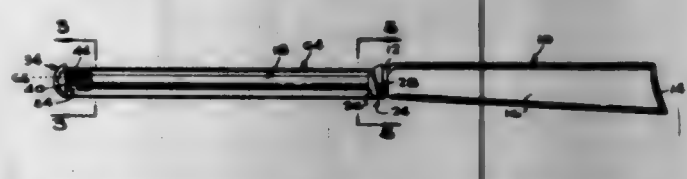
1. A pre-slicing tool for removing the covering from a conductor cable including a gauge sleeved on the cable and provided with a notch to fix the depth of penetration of an incision made in the cable covering, and an assembly embracing the cable-contained gauge, the assembly comprising a cutter and a support, the cutter being engageable in said notch, opposite the support, to effect cutting the covering when the assembly is moved in an orbital path around the cable.

2,970,378

SLICER FOR CHEESE AND THE LIKE

Carl J. Fahlberg, 175 Grovers Ave., Bridgeport, Conn.

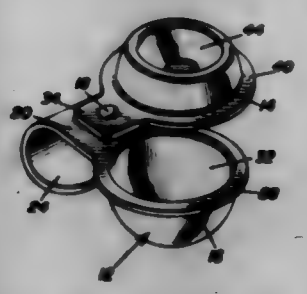
Filed Jan. 8, 1960, Ser. No. 1,378
4 Claims. (Cl. 30—117)



1. A slicer comprising a handle, a longitudinally elongated shaft having a free forward end and a rear end fixed to the handle, a knob fixed on the shaft adjacent to the handle, said knob being larger in diameter than the shaft, a longitudinally adjustable head assembly mounted on the shaft at its forward end, and a cutter component comprising a length of wire having a midlength portion secured to the knob and extending crosswise of the knob, said wire having first and second flights extending forwardly along and parallel spaced from different sides of the shaft, said flights having forward ends secured to the

head assembly at opposite sides thereof, said head assembly comprising a head to which the flights are secured, a threaded pin fixed to and extending rearwardly from the head, said shaft having a threaded socket in its forward end in which said pin is freely engaged, key means precluding rotation of the pin in said socket, and a nut threaded on the pin and bearing rotatably against the forward end of the shaft.

2,970,379
FINGER-SUPPORTED DENTAL TRAY
James F. Hardgrove, Collegeville, Pa., assignor to Universal Products Corporation, Norristown, Pa., a corporation of Pennsylvania
Filed Oct. 12, 1959, Ser. No. 845,895
7 Claims. (Cl. 32—1)



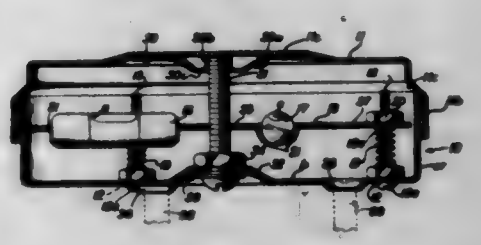
1. A finger-supported dental tray comprising an adjustable finger ring, a first compartment-forming part connected with said finger ring and having an upwardly opening bowl that forms the first compartment, a second compartment-forming part pivotally related to said first compartment-forming part and constituting a closure for said first compartment.

2,970,380
SHOTGUN SIGHT
Russell C. Hill, Room 640, Bedell Bldg., San Antonio, Tex.
Filed Dec. 19, 1958, Ser. No. 781,584
2 Claims. (Cl. 33—51)



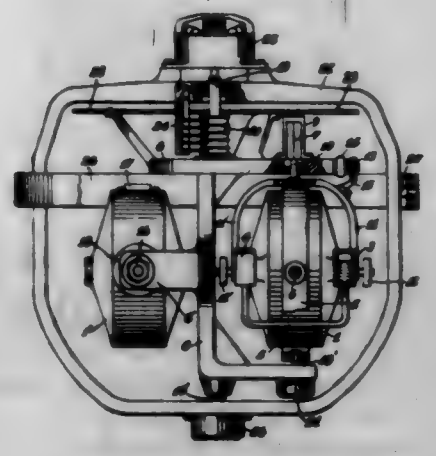
1. A shotgun sight comprising a base adapted to be mounted to lie lengthwise on a shotgun barrel near the muzzle thereof, a straight line sighting post mounted on said base at its end remote from the muzzle, and a shot pattern and range device mounted on the end of said base nearest to the gun muzzle, said shot pattern and range device comprising a shot pattern measuring ring of a diameter such that at a maximum range the effective area of the shot pattern is visible within said ring, and a Y-shaped sighting post having its arms forming a semi-circle mounted within said shot pattern measuring ring the diameter of the semi-circle of the arms of said Y-shaped sighting post being a fixed proportion of the diameter of the shot pattern measuring ring to provide a measure for comparison with the apparent size of the target to indicate whether the target is within the effective range of the shotgun, adjustable means to mount said base on said gun barrel whereby said base with its sighting post and measuring ring may be selectively mounted on the gun barrel at the position on the gun barrel to accurately measure the effective area of the shot pattern according to the characteristics of the gun on which it is mounted.

2,970,381
ADJUSTABLE LEVEL POSITION INDICATOR FOR OBJECTS SUBJECT TO MOVEMENT
George W. Pierce, 64 Hawthorne St., Eugene, Oreg.
Filed Feb. 27, 1959, Ser. No. 796,173
3 Claims. (Cl. 33—207)



1. As a new article of manufacture, a removably attachable position-indicator device for objects subject to movement comprising a flat container having a bottom wall and a side wall having at least a circular upper rim marginal portion and a circular lid having a flanged edge adapted to removably fit over and around the rim of the circular portion of said side wall, said lid having a boss axially positioned on its underside and formed with a central threaded opening surrounded by a converging guiding surface; a level support disposed transversely of and within said container and including two spirit-level vials positioned thereon at right angles to each other and mounted on the container for adjustment to bring said spirit-levels to a level position; and a threaded stud within the container and fast to and rising from its bottom wall through said level support to align and interengage with said threaded boss on said lid, when the flange of said lid surrounds the rim of the container, whereby the stud is guided to said threaded opening in said boss and, by relative rotation of said container and lid in one direction, said lid is brought into tight sealing engagement with said container and, by relative rotation in the other direction, said lid may be removed for inspection and/or adjustment of said level support.

2,970,382
GYRO-COMPASS
Jiro Notomi, Tokyo, Japan, assignor to Tokyo Keiki Seizosho Company, Ltd., Tokyo, Japan, a corporation of Japan
Filed Jan. 14, 1954, Ser. No. 404,104
4 Claims. (Cl. 33—226)



1. A gyro-compass comprising, in combination, an azimuth indicating frame means mounted to rotate about a substantially vertical azimuth axis and rotatable to a neutral north-indicating position, a free gyro unit in neutral equilibrium and in a position representative of a north indicating position, and a gravity-controlled gyro unit in equilibrium in a position representative of a north indicating position for detecting deviation of the free

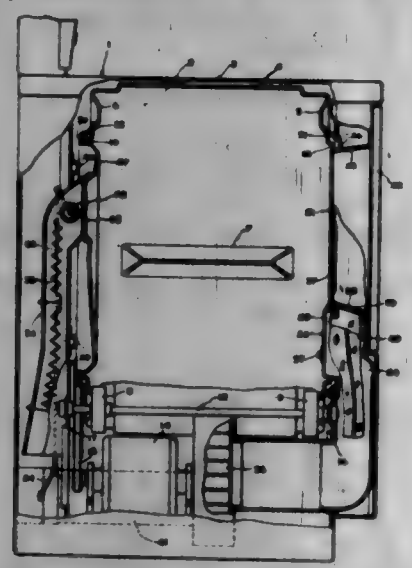
gyro unit and the frame means from said position representative of said north indicating position, each of said gyro units being separately mounted on the frame means for angular rotation around respective horizontal axes substantially normal to the first-mentioned axis, means mounting the gravity-controlled gyro unit on said frame means with its horizontal axis displaced to one side of said vertical axis of the frame means and including elastic means pendulously mounting the gravity-controlled gyro unit for rotational movement about a second vertical axis to allow angular displacement relative to said frame means, means for applying to the free gyro unit about its horizontal axis a torque in a direction to effect a precession in a direction tending to impart a north-seeking property to the frame means as a whole, said last-mentioned means comprising means under control of the gravity-controlled gyro unit for sensing said displacement relative to said north indicating position and for causing said last-mentioned means in response to said angular displacement to impress said torque on said free gyro unit in an amount related to the magnitude of angular displacement, and means fixed to the frame means mounting the free gyro unit on said frame means for rotation about its horizontal axis and for transmitting rotational forces generated during said precession to said frame means tending to impart said north-seeking property thereto so that during said precession the free gyro unit applies damping forces to said gravity-controlled unit as the last-mentioned unit oscillates on its vertical axis.

2,970,383

AIR FLOW REGULATING SYSTEM FOR CLOTHES DRYERS

Philip G. Hughes, Anchorage, Ky., assignor to General Electric Company, a corporation of New York

Filed Mar. 24, 1958, Ser. No. 723,439
3 Claims. (Cl. 34—45)



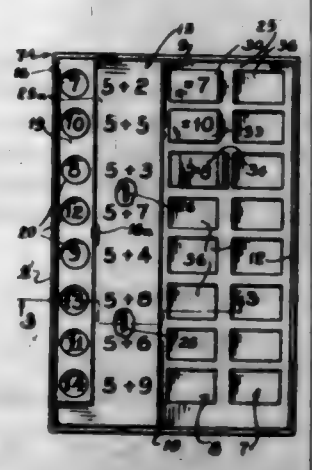
1. A clothes dryer comprising clothes tumbling means including a drum; means for circulating a stream of air through said drum comprising inlet and outlet conduit means respectively communicating with said drum, and air moving means in one of said conduit means; means in said inlet conduit means for heating the air before it reaches said drum; control means comprising first thermostatic means downstream of the junction of said drum and said inlet conduit means for sensing an air temperature which varies with that of the clothes, and a timing mechanism, switch means controlled by said timing mechanism and said thermostatic means and arranged to control operation of said air heating means and said air moving means, said thermostatic means and said timing mechanism being arranged in cooperative relation to cause said switch means to shut off said air heating means and said air moving means after the clothes in said dryer are substantially dry as indicated by a rise in the air temperature sensed by said thermostatic means; second thermostatic means for sensing air temperature downstream of said heating means and upstream of the interior of said drum; flow regulating means positioned in one of said inlet and outlet conduit means; and means connecting said second thermostatic means to control said flow regulating means, said second thermostatic means causing said flow regulating means to decrease flow in response to decreases in the temperature sensed by said second thermostatic means and to increase flow in response to increases in the temperature sensed by said second thermostatic means so as to maintain substantially constant the temperature of the air introduced into said drum whereby variations in the temperature sensed by said first thermostatic means reflect only changes in the rate of vaporization of moisture from the clothes in said drum.

2,970,384

EDUCATIONAL PROBLEM AND ANSWER DEVICE

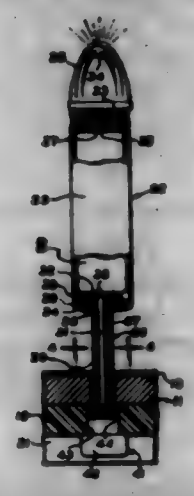
Albert H. Merrill, Los Angeles, Calif.
(13118 Desmond St., Pacoima, Calif.)

Filed July 30, 1954, Ser. No. 446,807
4 Claims. (Cl. 35—9)



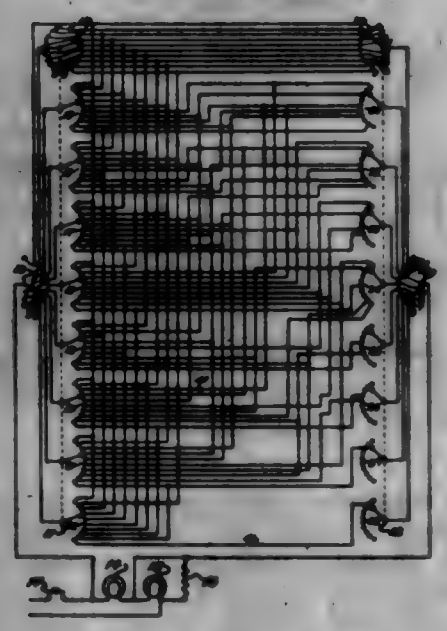
4. In combination, a tray having a floor and end walls upstanding from said floor and a side wall upstanding therefrom, a plate overlying said floor, means whereby said plate is maintained in its operative position with one of its edge portions in an adjacent spaced relation to said side wall, said plate having through it a plurality of openings extending in a row in a widely spaced parallel relation to said wall, a slip overlying the space between said row of openings and that edge of said plate which is adjacent to said side wall, a column of continuously observable problems carried by said slip extending lengthwise thereof, the problems of said column being adjacent to and transversely alining with said openings, a column of answers to said problems on said strip extending lengthwise thereof, said problems being located between said answers and row of openings, each answer transversely alining with the problem which it answers, blocks bearing answers to said problems, said blocks being removably seatable within said openings through said plate, and an elongated channel shaped cover with a web located between said side wall and said edge portion of said plate and a lower flange slidably positioned between said floor and said edge portion of said plate, said cover being shorter than the space between said end walls and having an upper flange with a row of spaced apart windows extending therealong through which answers may be read when said cover is abutted against one of said end walls, said upper flange having between the said windows opaque portions which conceal said answers when said cover is abutted against the other end wall of the tray.

2,970,385
EDUCATIONAL DEVICE AND PROBE THEREFOR
George B. Bringmann, 3355 Decatur Ave., Bronx, N.Y.
Filed Apr. 8, 1958, Ser. No. 727,214
3 Claims. (Cl. 35—9)



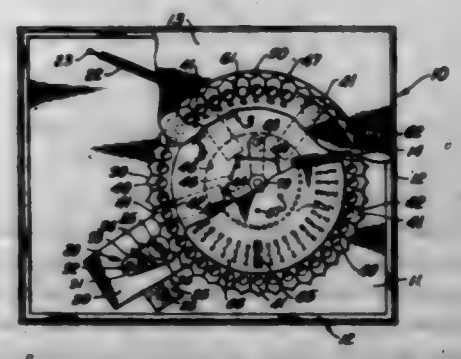
1. An electric educational device comprising an electric signal means, a sensing probe operatively connected to said signal, a panel member having a front face, a rear face and an insulating portion, a plurality of sockets in said panel member, each of said sockets having a mouth portion at the front face of said panel member and being spacially extended in a predetermined arrangement and of a depth effectively to conceal visually portions of the sockets which lie inwardly of the mouth portion, and deformable conductor means arranged to be positionally spaced from the mouth portion of said sockets upon the rear face of said panel member in a predeterminedly selected number of said sockets, said sensing probe comprising an extended couple of separately insulated conductors whose termini are adapted for insertion within said sockets from the mouth portion to the conductor means, whereby when said sensing probe is inserted in any of said sockets having said conductor means, to come into contact with said conductor means, said signal means is energized.

2,970,386
ARITHMETIC INSTRUCTING AID CIRCUIT
Richard E. Knutson, 1804 Anderson Place SE., Albuquerque, N. Mex.
Filed Nov. 26, 1958, Ser. No. 776,477
9 Claims. (Cl. 35—9)



1. An arithmetic instruction aid circuit for the practice of engaging two digits in an arithmetic computation to secure an answer, comprising: a first switch having a deck with a movable contact and a plurality of stationary contacts corresponding to the number of desired choices of digits for one of said computing digits; a second switch having a plurality of decks each with a movable contact and a plurality of stationary contacts corresponding to the desired choices of digits for the other of said calculating digits; a third switch having a deck with a movable contact and a plurality of stationary contacts corresponding to the possible digits representing the tens of the answer; a fourth switch having a plurality of decks each with a movable contact and a plurality of stationary contacts corresponding to the possible digits representing the units of the answer; interconnecting conductors between the four switches providing continuity between the movable contact of the first switch and the movable contact of the third switch when the third and fourth switches are correctly set to the answer of the computation engaging the computing digits set by means of the first and second switches; and means for indicating the presence of said continuity.

2,970,387
QUESTION AND ANSWER DEVICE
Ralph L. Dean, 234 Terrace St., Altadena, Calif.
Filed Jan. 29, 1959, Ser. No. 789,883
7 Claims. (Cl. 35—9)

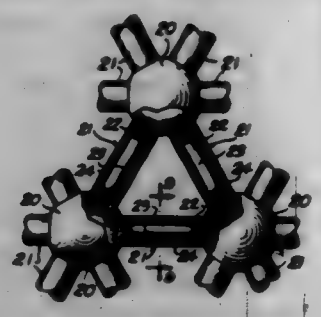


1. In an educational device, the combination of: a base; a wheel rotatably mounted on said base, said wheel including a plurality of manually engageable actuators for rotation of said wheel in a first direction; a wheel control member carried on said base and engageable with said wheel, said control member including resilient means urging said control member to a first position with said wheel being rotatable past said first position, said control member being movable in said first direction away from said first position by said wheel with said resilient means returning said control member and wheel to said first position, whereby the momentum of said wheel carries it past said first position; and a cover plate overlying said wheel, said plate having an opening providing access to some of said wheel actuators, said plate having stop means for preventing rotation of said wheel when an actuator is engaged through said opening, with one of said accessible actuators being manually movable relative to said wheel and plate to bypass said stop means and move said wheel and control member in said first direction.

2,970,388
EDUCATION DEVICE
Edward H. Yonkers, 757 Bluff St., Glencoe, Ill.
Filed May 7, 1956, Ser. No. 583,048
6 Claims. (Cl. 35—18)

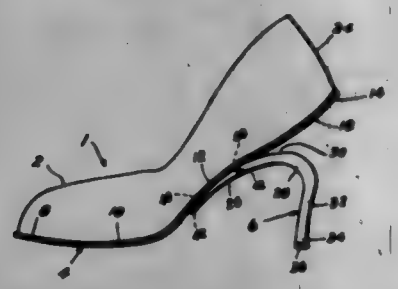
2. An educational device comprising a plurality of spherical, magnetically attractive members of substantially the same diameter and a plurality of rigid interconnecting bars of substantially the same length with the ends thereof generally complementary to the surface of the spherical members, each bar formed of a

sheath of magnetic material and housing magnetic means and having its ends in engagement with the surface of



said spherical members, whereby the bars are freely slidable over the surface of the spheres.

2,970,389
SHOE HEEL CONSTRUCTION
Purvis Era Milster, 1211 Clara, St. Louis 12, Mo.
Filed Dec. 22, 1958, Ser. No. 782,162
3 Claims. (Cl. 36—2.5)



1. A shoe which comprises a sole portion, a heel portion, a shank portion, and a heel that has an attaching portion which underlies and is secured to said shank portion of said shoe, said shank portion having a metal stiffener overlying said shank portion and extending into said heel portion, said attaching portion of said heel being spaced forwardly of said heel portion of said shoe whereby said heel portion of said shoe extends rearwardly and upwardly in cantilever fashion from said attaching portion of said heel, the ground-engaging portion of said heel being disposed below the level of, but in general vertical registry with, said heel portion of said shoe whenever said shoe is in upright position, said attaching portion of said heel being disposed above the level of, and being disposed forwardly of, said ground-engaging portion of said heel whenever said shoe is in upright position, said heel coacting with said sole to support said shoe and applying its support to said shank portion and thus intermediate said sole and said heel portion, said heel portion of said shoe being adapted to yield and to bend whenever the wearer's weight is applied to said heel portion of said shoe and thereby enable said shoe to conform closely and intimately to the bottom of the wearer's foot.

2,970,390
OVERSHOE
Wayne S. Brough, 5228 Brockwood Ave., Long Beach, Calif., and Donald R. Stanforth, 4316 Hackett Ave., Lakewood, Calif.
Filed June 22, 1959, Ser. No. 821,909
5 Claims. (Cl. 36—7.3)



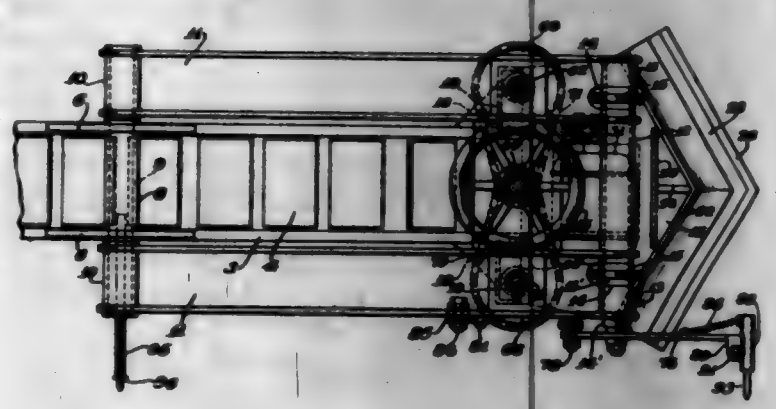
1. An overshoe for positioning over a shoe having sole, heel, and upper portions, the sole and heel of which have a plurality of surface engaging protuberances projecting therefrom, comprising a body portion, a sole portion, and a heel portion, said sole and heel portions each being provided with an opening through which said surface engaging protuberances may extend, a bead extending around the periphery of the lower part of said body portion positioned to fit in the groove formed by the sole of the shoe and the upper at the welt area, a second bead formed at the edge of the sole opening and extending around the edge of said sole opening, said second bead being conformable to the shape of said shoe sole.

2,970,391
FOUNDATION SOLES OF SHOES
Vincent Violano, 1675 Southern Blvd., and Sydney Germansky, 1161 Shakespeare Ave., both of Bronx, N.Y.
Filed Feb. 3, 1958, Ser. No. 712,886
5 Claims. (Cl. 36—17)



1. In a shoe, in combination, an inner foundation sole having a bottom face having a marginal portion and including at least one layer of juxtaposed convolutions of first strands of comparatively soft flexible fibrous material adhesively and flexibly bonded together, and a layer of flexible filler material applied to at least a portion of the bottom face of said layer and flexibly bonded thereto, for equalizing said face and for adapting it to receive an outer sole, and at least one cord means flexibly bonded to the outer contour of said layer and including second strands of fibrous material having comparatively tighter texture and lesser transverse yieldingness than said first strands, and including a number of strands superimposed one upon the other; an upper having a marginal attachment portion, means for securing said marginal portion to the corresponding marginal portion of the bottom face of said inner foundation sole; and an outer sole secured to said inner foundation sole at the bottom face thereof and to said marginal portion of said upper.

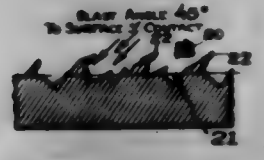
2,970,392
STRIP SUBGRADER FOR ROADS
Glen E. Perkins, 1428 40th Ave., and George W. Dale, 1919 16th St., both of Rock Island, Ill.
Filed Oct. 22, 1957, Ser. No. 691,760
6 Claims. (Cl. 37—171)



1. A strip subgrader which comprises in combination, a frame having a front and rear portion, a pair of spaced arms pivotally mounted at corresponding ends upon said frame and having their opposite ends extending toward the front portion of said frame, a support pivotally carried at said opposite end portions of said arms and depending substantially vertically therefrom, a cutter blade carried by said support, and control means

carried by said arms and bearing on said frame for vertically moving said arms relative to said frame to raise and lower said cutter blade relative to said frame, said control means comprising screw means journalled in said arms and threadedly engaging said frame, shaft means carried by said arms for manipulating said screw means to change the position of said arms relative to the frame, said shaft means comprising a rotatable shaft, sprocket wheels carried by said shaft, sprocket wheels threadedly carried by said screw means, sprocket chains respectively engaging said shaft sprocket wheels and said screw sprocket wheels, and separate means for locking each of said screw sprocket wheels upon said screw means.

2,970,393
PRESS PLATE AND METHOD OF MAKING SAME
David A. Freeman, The Drake Hotel, 140 E. Walton St., Chicago, Ill.
Filed Mar. 29, 1957, Ser. No. 649,526
4 Claims. (Cl. 38—66)



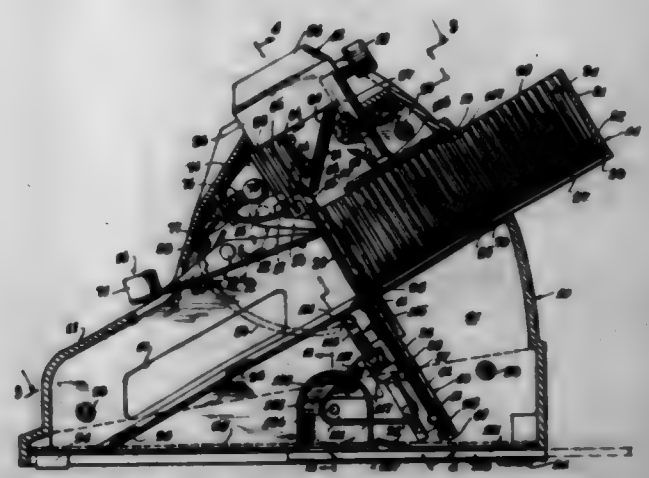
1. In a press plate for assembly with a fabric and garment pressing mechanism and for engaging and pressing fabric work pieces having a rough or non-glossy texture or appearance; a plate of cold workable, substantially rigid yet flowable material configurated to conform to the shape of the portion of the pressing mechanism to which it is to be attached, said plate having an inner surface to be disposed adjacent to the portion of the pressing mechanism on which it is to be mounted, and an outer pressing surface, the outer pressing surface of said plate being roughened by having disposed thereon and therein irregularly distributed hollows and upstanding peaks of irregular configuration formed of the material of the plate and integral therewith, said upstanding peaks being formed of material which is upstruck and displaced from the hollows and being sufficiently tall and numerous to cause said pressing surface of said plate to be rough to the touch, further said upstanding peaks having a sharp jagged structure.

2,970,394
ELECTRIC IRON
Eugene S. Brumbaugh, Park Drive, Greenville, Ohio
Filed Oct. 29, 1958, Ser. No. 770,331
5 Claims. (Cl. 38—77)



1. An electric iron comprising a front soleplate and a rear soleplate extending entirely to the rear of said front sole plate, means rigidly connecting said front and rear soleplates to form a unitary base for said iron, a first heater for said front soleplate, a second heater for said rear soleplate, and means for supplying heat selectively either to said first heater alone or to both said heaters.

2,970,395
VIEWER
Carl G. Gross, Mount Vernon, N.Y., assignor to Airequipt Manufacturing Co., Inc., New Rochelle, N.Y., a corporation of New York
Filed Jan. 18, 1956, Ser. No. 559,892
5 Claims. (Cl. 40—79)

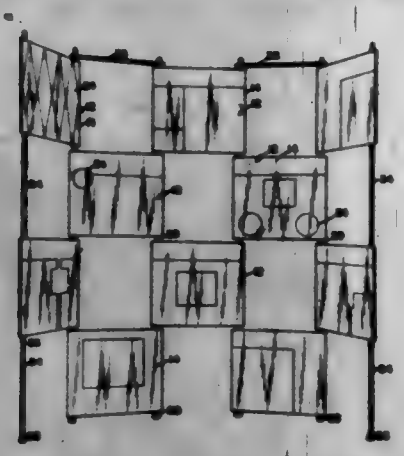


1. Apparatus for viewing slides comprising a frame, an inclined member supported by said frame and having an opening therein, a magazine having a plurality of slide holding compartments with each compartment having an opening in the bottom thereof, stationary means for slidably aligning said magazine on said inclined member, a reciprocably mounted slide feeding member movable through the openings in said inclined member and generally parallel with said magazine compartment, said feeding member being movable through a compartment when the latter is centered over the last said member to move a slide outwardly of said magazine and into a viewing position, a plurality of spaced ratchet members on said magazine, a pawl engaging said ratchet members to align said compartments with the feeding member, magazine locking means carried by said feeding member for engaging said ratchet members when a slide is moved into the viewing position to lock said magazine against movement until the slide is returned to its compartment, slide guiding means slidably retained and carried by said feeding member for limited movement relative to said feeding member, said guiding means cooperating with said feeding member to hold each slide in a predetermined position as it is moved from its compartment and for engaging each slide on the return movement of the feeding member for positively effecting its return to its compartment, an actuating member slidably mounted for movement transversely of said feeding member, and means coupling said feeding and actuating members whereby reciprocation of said actuating member will effect reciprocation of said feeding member.

2,970,396
PORTABLE AND VERSATILE MULTI-UNIT DISPLAY DEVICE
Norman L. Worrell, 259 5th St. NW., Atlanta, Ga.
Filed Aug. 29, 1958, Ser. No. 758,877
4 Claims. (Cl. 40—125)

1. In a display device of the type described for presenting information visually, a plurality of lightweight frames each having elongated frame members connected together in a closed geometrical shape, a flat panel on each of said frames on which panel advertising and informational material may be exhibited, each of said frames having a connective means thereon complementary to and engageable with another connective means on another frame whereby each of said frames may be connected to another frame to form a series of frames connected together above the floor, vertical spacer members having connective means selectively connected to said

frame members vertically therebetween to fill in between spaced panel members for completing vacant spaces therebetween, and horizontal spacer members having connective means selectively connective to said frame members horizontally therebetween to fill in between spaced



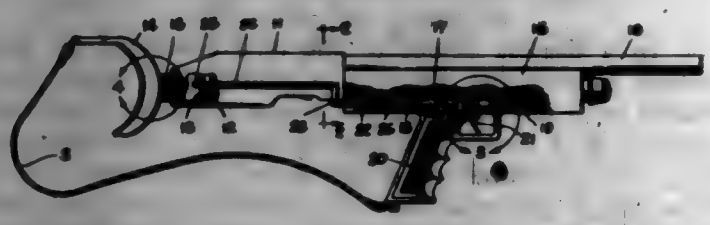
panel members for completing vacant spaces therebetween, by virtue of which a display arrangement may be created from flat panels connected together in one unitary arrangement according to whatever relationship of panels is desired.

2,970,397
FRAME
Milton Roseman, Baltimore, Md., assignor to Lok-Tite Industries, Inc., Baltimore, Md., a corporation of Maryland
Filed Mar. 3, 1960, Ser. No. 12,602
17 Claims. (Cl. 40—156)



1. A frame having interconnected opposed peripheral elements, each of said elements comprising a channel member having a web, an outer flange extending from a surface of said web, a plurality of pairs of anchoring flanges extending from said surface, and an adjustable inner flange having a base selectively engageable with said pairs of anchoring flanges to adapt said frame to panels of different thicknesses.

2,970,398
MECHANISM TO ENABLE FIRING OF SHOTGUN WITH ONE ARM
Alfred H. Crouch, 21236 Cabrillo Highway, Malibu, Calif., assignor of one-half to Rudolph A. Donatelli, Santa Monica, Calif.
Filed July 15, 1959, Ser. No. 827,383
4 Claims. (Cl. 42—69)



1. A shotgun comprising, in combination: a barrel terminating in a breech structure at its rear end, said breech structure including a sear; a yoke member; means securing said yoke member to the end of said breech structure; a fore-end member cradling a portion of the underside of said barrel, said fore-end member having a longitudinal dove-tail shaped groove running along its underside; a pistol grip handle including an upper dove-tail shaped slidable member receivable in said groove whereby said pistol grip handle extends downwardly and is positionable along the underside of said fore-end; a trigger pivotably mounted in said handle and having an engaging end extending upwardly through said slidable member into said groove; and an actuating rod having one end portion movable within said slidable member and engaged by said engaging end of said trigger and its other end portion extending out the rear end of said groove adjacent to said breech to engage said sear, whereby actuation of said trigger moves said rod to trip said sear and enable firing of said shotgun with one arm.

2,970,399
UNDERWATER WEAPON
Willy O. Frohlich and Harry W. Frohlich, both of 975 Sanger St., Philadelphia 24, Pa.
Filed Feb. 26, 1959, Ser. No. 795,673
8 Claims. (Cl. 43—6)

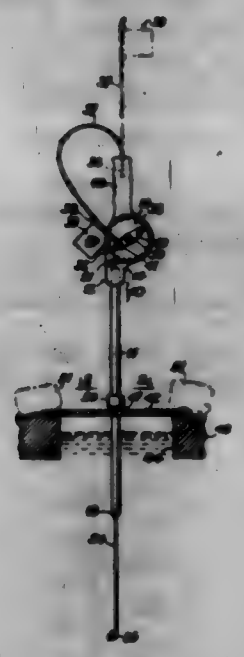


5. An underwater weapon comprising a body having a cavity therein to support a flask containing gas under pressure, said body having a bore, a shank mounted for reciprocation in said bore and having a longitudinal passageway therein, means registered with said passageway in said shank for establishing communication between said passageway and said cavity, piercing means connected to said shank and maintained poised adjacent to the flask so that upon movement of said shank in one direction with reference to said cavity body the flask is pierced thereby releasing gas under pressure therefrom which passes through said passageway, and said passageway having a gas discharge opening registered therewith, a head, means separably connecting said head to said shank, a portion of said passageway extending through at least a portion of said head, and gas sealing means operatively fixedly connected with said head on the exterior surface thereof to engage an underwater fish or the like and to prevent the escape of gas when said head penetrates the same, said body containing said cavity having a pair of separably connected sections so that said flask may be removed and replaced.

2,970,400
FISHING APPARATUS
Earl W. Nolin, R.R. 2, W. 179, S. 6729, Muskego, Wis.
Filed Aug. 5, 1958, Ser. No. 753,271
7 Claims. (Cl. 43—17)

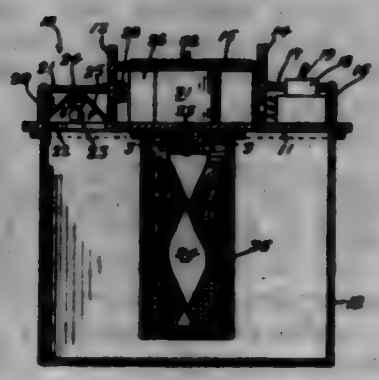
1. Fishing apparatus, comprising a fishing rod having a handle with a tubular shaft attached thereto at one end thereof and with a reel carried by said handle and provided with driving means including a crank handle, said tubular shaft adapted to pass a fishing line therethrough, said rod handle having a socket extending longitudinally in its outer end, a supporting member for said fishing rod adapted to rest over and cover an ice hole to minimize freezing of the water in said hole and detachably clamped to said fishing rod at a region below said reel for disposing said shaft in a position to extend downwardly into the ice hole, and a resilient signal wire having one end portion detachably inserted and retained in said socket and the other end portion being deflectable

for engagement with said crank handle to releasably hold the reel against rotation and to permit release of said wire



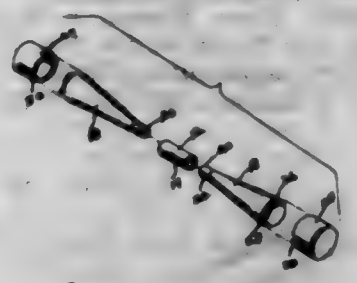
to a signalling position upon rotation of the reel by a pull on the line.

2,970,401
LIVE BAIT AERATOR
Lawrence S. Hays, 503 Seguin Road, Converse, Tex.
Filed July 2, 1958, Ser. No. 746,186
1 Claim. (Cl. 43—57)



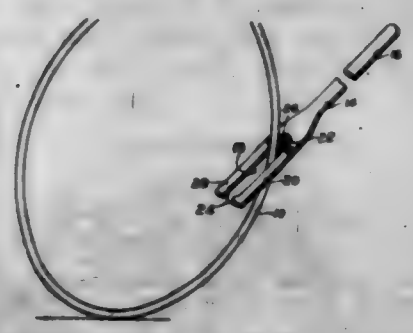
A live bait aerator comprising an upstanding generally cylindrical container having the upper end thereof open, a generally flat horizontal platform mounted on said open end of said container, said platform having a vertical bore extending therethrough adjacent the edge thereof, an electric motor mounted centrally on the top of said platform, a pair of spaced apart parallel upstanding walls fixedly secured to the upper side of said platform, said motor being disposed intermediate said walls, a horizontal wall fixedly secured to and extending between the upper edges of said upstanding walls and overlying said motor, a shaft extending through said motor, one end of said shaft extending through said horizontal wall, the other end of said shaft extending through said platform into said container, a twisted agitator blade fixedly secured to and depending from said other end of said shaft for rotation therewith, a substantially cylindrical wire cage fixedly secured to and depending from the bottom of said platform, said cage encompassing said agitator blade, a light mounted on said platform above said bore for illuminating the interior of said container, a pair of dry cell batteries disposed intermediate said upstanding walls for supplying power to said motor and a switch mounted on said platform for selectively controlling the flow of current from said dry cell batteries to said light and said motor.

2,970,402
WHISTLE WHIRL TOY
Joseph A. Benocci, Noreton Heights, Conn.
(82 West Ave., Darien, Conn.)
Filed Sept. 3, 1958, Ser. No. 758,816
3 Claims. (Cl. 46—63)



1. A whistle toy construction comprising a cylindrical shaped hub with opposite end portions, said hub embodying a pair of closely spaced transverse openings extending through the mid-portion thereof for receiving a rotating wind-up string, said wind-up string forming the axis of rotation of said hub during rotation thereof; a pair of conical shaped shank means each having a small circular end and a large circular end, the small circular ends of said shank means secured to the opposite end portions of said hub; and a pair of whistle constructions of cylindrical shape made wholly of plastic material and of greater diameter than that of said hub, one whistle construction carried by each of the large circular ends of each of said shank means for whistling during rotation of said hub upon said string, wherein said whistle construction includes a hollow cylindrical shaped sound chamber in each one of said pair, each of said sound chambers having a longitudinal slot extending through the cylindrical side wall thereof for producing sound as air rushes over said slot during rapid alternate rotation of the sound chamber; wherein said slots are disposed with the longitudinal axis generally disposed radially to the wind-up string extending through the transverse holes in said hub and forming the axis of rotation thereof.

2,970,403
HOOP ROLLER
Elvin S. Land, 1013 N. 33rd St., Fort Smith, Ark.
Filed Nov. 24, 1958, Ser. No. 775,954
1 Claim. (Cl. 46—220)

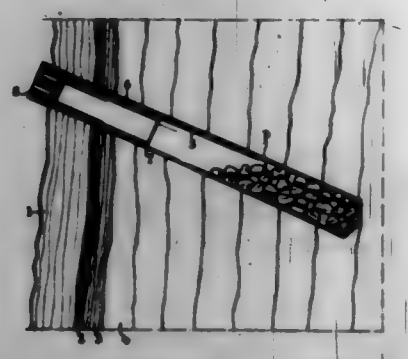


A hoop roller comprising an elongated flexible body having a grip portion at one end thereof and a notch wider than the hoop at the opposite end thereof whereby to provide a U-shaped portion having a pair of legs flexible in diverging and converging directions and a bight to straddle the hoop when being rolled, said legs each having an inwardly directed ear cooperating with the bight to confine the hoop within the U-shaped portion, and a roller disposed between said legs and adjacent said bight to engage the hoop as the same is rolled, said roller being mounted upon an axle bridging the space between the legs and having a pair of oppositely directed shoulders formed thereon and bearing against the proximal edges of the legs to hold the same against movement toward each other.

2,970,404
METHOD OF TREATING TREES AND MEANS FOR CARRYING OUT THIS METHOD

Edmond Roger Bocuse and René Henri Courrut, Paris, France, assignors to L'Union Financiere d'Extreme-Orient, Djibouti (Cote Francaise des Somalis), a French company, and Societe Auxiliaire de l'Institut Francais du Caoutchouc, Paris, France, a French company

Filed July 28, 1958, Ser. No. 751,306
Claims priority, application Vietnam Oct. 10, 1957
3 Claims. (Cl. 47—57.5)

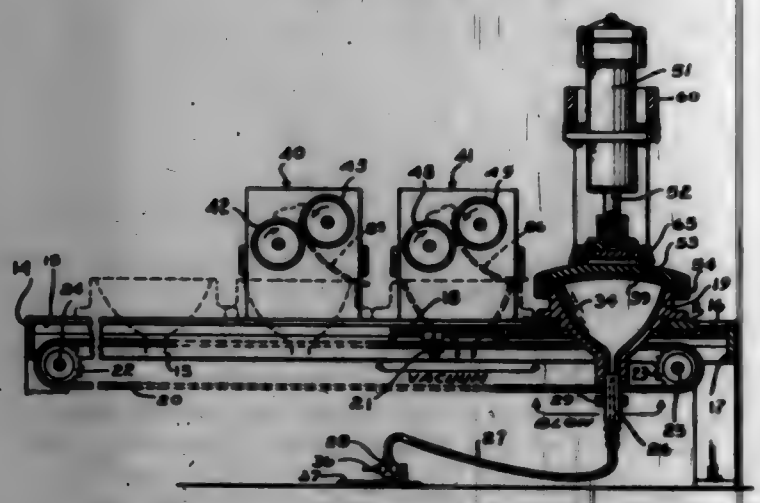


2. Method of treating trees with treating products comprising the steps of: forming in the trees a bore which is downwardly inclined inwardly of the trees through the sensitive layers of the tree, that is, the bark, the inner bark and the cambium and into the wood proper, inserting into this bore a rigid tube made of plastic material which is chemically neutral and inattackable by atmospheric agents and by the sap of the tree, said tube having a length greater than the total thickness of said sensitive layers and such cross-sectional size that the tube is in contact with said sensitive layers, introducing the required treating products into the tube, closing the outer end of the tube relative to the tree by means of a plug and leaving this tube and plug in the bore whereby the sensitive layers are protected from the contact of the said treating products.

2,970,405
GLASS FORMING

James W. Giffen, Corning, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York

Filed Feb. 18, 1957, Ser. No. 640,825
7 Claims. (Cl. 49—79)



1. The method of forming a hollow glass article having an opening therein which comprises closing a first opening of a hollow mold having a second opening therein by arranging a sheet of molten glass over said first opening with border portions of the sheet projecting beyond the outer border of said first opening, connecting a vacuum line to said second opening to create the necessary negative pressure within its cavity to conform a portion of such sheet to the cavity wall contour of such mold and to form a passage therethrough at the location of said second opening, arranging a second sheet of molten glass over that first arranged over the mold to close the cavity formed in said first sheet, with border portions of said second sheet projecting beyond the outer border of said first opening, and adjusting the pressure within the cavity to impart to the second sheet the shape desired.

2,970,406
ANCHORAGES OF ROD SHAPED TIE MEMBERS OF PRESTRESSED CONCRETE

Ulrich Finsterwalder, Munich, Germany, assignor to Dyckerhoff & Widmann Kommanditgesellschaft, Munchen, Germany

Filed June 15, 1955, Ser. No. 515,699
2 Claims. (Cl. 50—128)



1. In a prestressed concrete structure, an anchoring tie rod construction comprising, in combination, an elongated stressable tie rod member of steel having threads adjacent one end, an annular locking member engaging the threaded end of said rod over a large cylindrical area along the threaded surface of said rod and having the shape of two frusto-cones integrally connected at their bases and having in cross-section at each side a triangular confine with the vertex of the triangle approximately midway between the terminal surfaces of said locking member, the sides converging at said vertex forming an angle of between 30° and 60° with respect to the axis of said tie rod member, the shape of said annular locking member transmitting stress forces from said tie rod member radially outwardly and a spiral reinforcing member surrounding said tie rod member for receiving transverse tensile strength stresses in said concrete after hardening, and frictional locking means formed at both end portions of said spiral member near one end of said rod to prevent at said one end displacement of said spiral member relative to said rod, the remaining portion of said spiral member being unattached to said rod.

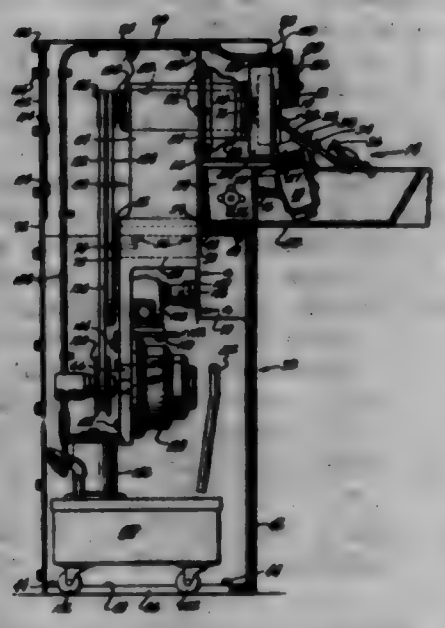
2,970,407
DRILL POINT GRINDING MACHINE

Joseph H. Postell, Dartmouth, Mass., assignor to Van Norman Industries, Inc., Springfield, Mass., a corporation of Massachusetts

Filed Feb. 10, 1959, Ser. No. 792,368
3 Claims. (Cl. 51—55)

1. In a drill grinding machine of the type which includes a drill holder adapted to present the point ends of twist drills or the like to the radial surface of a grinding wheel for grinding of the same, the combination comprising a main frame, a vertically elongated secondary frame member supported between its upper and lower end portions by the main frame for oscillation in a vertical plane, a grinding wheel having a radial grinding surface supported at the upper end portion of said secondary frame member for rotation about a horizontal axis normal to the plane of oscillation of said secondary frame member, an electric motor mounted on the lower end portion of said secondary frame member, first power

transmitting means connecting the output shaft of said electric motor in driving relation with said grinding wheel, and means for oscillating said secondary frame member in said vertical plane whereby to oscillate said grinding wheel radially during grinding operations and distribute wear on the radial grinding surface thereof, said last mentioned means comprising cam means supported by said secondary frame member for rotation about a horizontal axis and operatively associated with a cam engaging member supported and secured against horizontal movement by said main frame and also comprising second power transmitting means driven by said electric motor and speed reducing means on said secondary frame member operated by said power transmitting means and rotatably driving said cam means.

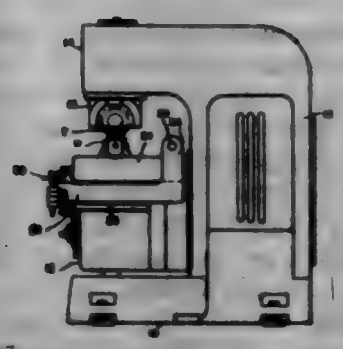


2,970,408

GEAR FINISHING MACHINE

Kenneth J. Davis, Detroit, Mich., assignor to National Broach & Machine Company, Detroit, Mich., a corporation of Michigan

Filed Mar. 17, 1958, Ser. No. 721,914
9 Claims. (Cl. 51—71)



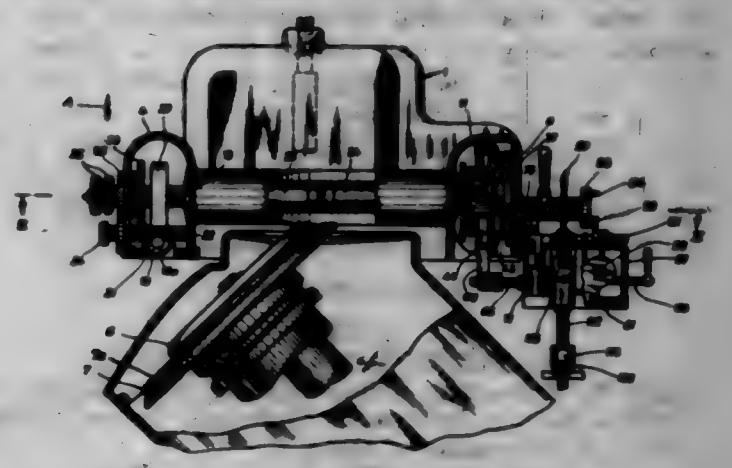
1. A gear finishing machine comprising a frame, a work support member on said frame, a tool support member on said frame, means mounting one of said members for swinging movement on said frame substantially radially toward and away from said other member, motive means connected between said frame and said movable member effective to urge said movable member toward said other member with a constant controlled force, said motive means comprising a lever mounted on said frame for rocking movement about a horizontal pivot axis, a weight on said lever, said lever having an actuating arm extending from its pivot axis and directly engageable with said movable member and a loading arm extending from the pivot axis to said weight, the effective length of the loading and actuating arms of said lever and the distance from the axis of swinging movement of said movable support member to the point of engagement with said actuating arm being variable to maintain a substantially constant force between work and tool elements carried by said support members during movement of said lever.

2,970,409

GRINDING MACHINE, ESPECIALLY FOR GRINDING SPECTACLE GLASSES

Alfred K. Soirig, Duesseldorf, and Hans-Joachim Struneck, Koln, Germany, assignors to Wernicke & Co. K.G., Duesseldorf-Eller, Germany

Filed Feb. 5, 1959, Ser. No. 791,345
Claims priority, application Germany Feb. 7, 1958
19 Claims. (Cl. 51—101)



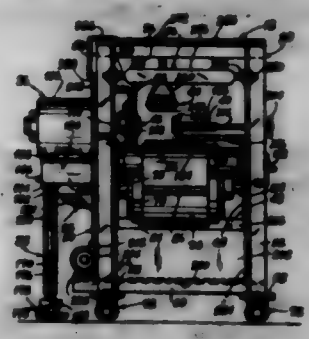
1. In a grinding machine, especially for grinding spectacle glasses: a plurality of rotatable substantially parallel grinding discs, work piece supporting means for supporting the work piece to be ground, said work piece supporting means being movable from a level higher than said discs toward said discs and also being movable in the opposite direction, said work piece supporting means also being shiftable about an axis and in a direction transverse to the direction of movement of said supporting means toward and away from said discs, a reciprocable control member operable selectively to lift or to lower said supporting means for lifting a work piece thereon off or lowering the same onto the respective grinding disc therebelow, control means operatively connected to said control member for actuating the latter, and shifting means operatively connected to said work piece supporting means and operable by said control means for turning said work piece supporting means about said axis from a position above one of said discs to a position above another one of said discs.

2,970,410

APPARATUS FOR USE IN MANUFACTURING PLASTIC FACED BUILDING UNITS

William G. Gittins, Ladue, Mo., assignor to Veiz Aristocrat Plastics, Inc., St. Louis, Mo., a corporation of Missouri

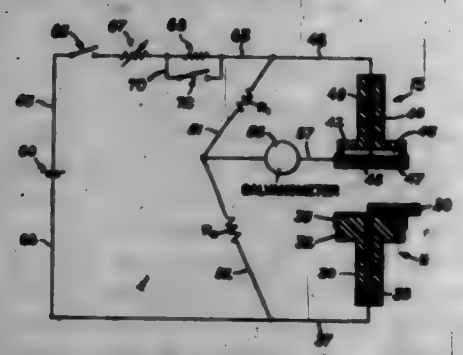
Filed Nov. 24, 1958, Ser. No. 775,906
8 Claims. (Cl. 51—110)



8. In apparatus for use in the manufacture of a plastic faced concrete building unit, means for finishing said

plastic face by shearing therefrom three successive layers of material each having a width not exceeding one thirty-second of an inch, said means comprising in combination: spaced first, second, and third motor driven stone cutter discs, said first disc being of comparatively coarse composition, said second disc being of comparatively fine composition, said third disc being of extremely fine composition, and all of said discs having a sharp circular cutting edge; a conveyor belt provided with spaced transverse cleats for propelling said unit past the cutter discs; a manually operable mechanism associated with each cutter disc for controlling the disposition thereof relatively to said conveyor belt; a supporting plate for the upper stretch of said belt; guide means suspended above the conveyor belt for engaging the face of the unit opposite the plastic face thereof as the unit is propelled past the cutter discs; lateral pressure application roller assemblies biasing the unit toward the guide means as it enters and leaves the cutting zone that extends from said first to said third cutter disc; downward pressure application roller assemblies engaging the top surface of the unit as it enters, passes through, and leaves said cutting zone; and means for continuously spraying each cutter disc with water during shearing operations.

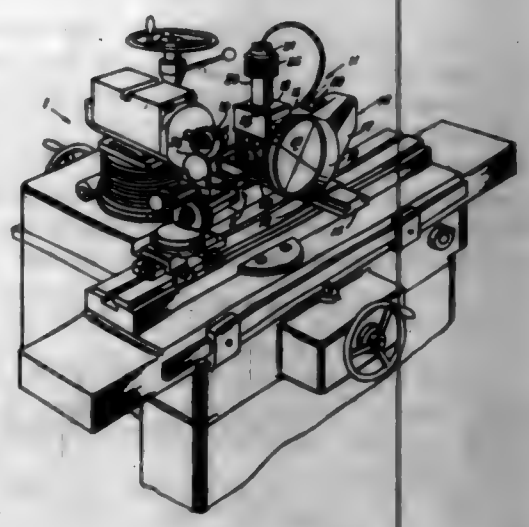
2,970,411
THERMISTOR STANDARDIZING
Hardy W. Trolander, Yellow Springs, Ohio, assignor to Yellow Springs Instrument Company, Yellow Springs, Ohio, a corporation of Ohio
Filed July 1, 1958, Ser. No. 745,958
7 Claims. (Cl. 51—165)



7. Apparatus for processing thermistors to standardize the thermal response characteristics thereof to close tolerances, comprising means for mounting a non-standard thermistor to be operated upon including a control thermistor of standard thermal-electrical response characteristics arranged to be held in thermal conductive relation to the non-standard thermistor, means for reducing the physical size of the non-standard thermistor while it is in such close thermal conductive relation with said standard thermistor to equalize substantially the heating effects of the reducing operation and thus to nullify comparative changes in electrical resistance of the two thermistors due to temperature changes, and measuring means including said standard thermistor and contacts for connection to the non-standard thermistor operable to determine when the non-standard thermistor is changed to have thermal-electrical response characteristics corresponding to the standard thermistor.

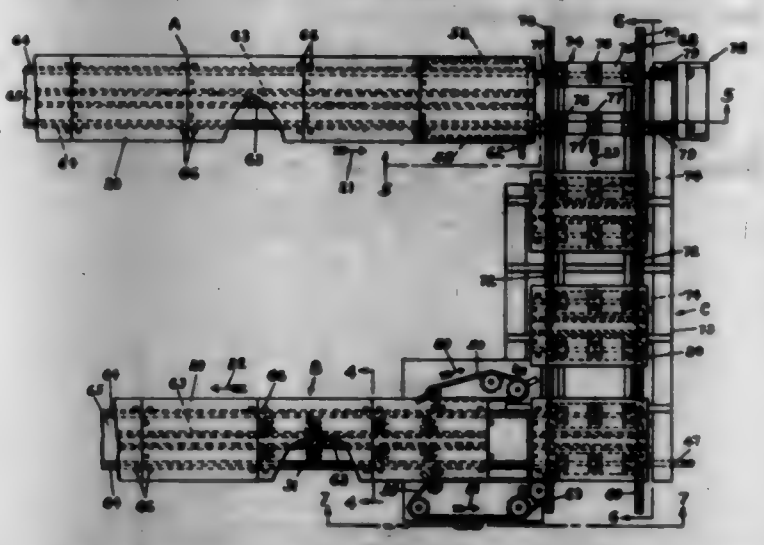
2,970,412
PROFILE PROJECTOR OR COMPARATOR FOR CUTTING MACHINE TOOLS
Thomas J. Ellis, 9777 Fermoon Circle, Dallas, Tex., assignor of fifty percent to Homer F. Diven, Pasadena, Tex.
Filed Feb. 6, 1959, Ser. No. 791,729
1 Claim. (Cl. 51—165)

In combination with a cutting machine tool having an adjustable work holding fixture and a cutting tool adapted to be positioned above the work and adjustable vertically relative thereto, a projection device including a housing having means removably and adjustably connecting it to the work holding fixture and adapted to be secured in predetermined fixed position rearwardly of the work, a window in the housing in opposed relation to the work, a viewing screen in the housing in laterally spaced relation to the window, a concave mirror having means supporting it in spaced apart relation to the housing, forwardly of the window, whereby it is adapted to be placed on the opposite side of the work from the housing, facing the work, comprising a socket having the mirror received therein and a pair of elongated supporting elements connected at their ends to the housing and the socket, the supporting elements being spaced apart from each other and being adapted to straddle the work, means in the housing for projecting a beam of light forwardly, through the window, against the work and the concave mirror behind it simultaneously, whereby the work is illuminated episcopically as well as diascopically, comprising a light source in the top of the housing and a circular mirror below the light source, rearwardly of the window, the mirror having a round opening in its center and being inclined at an angle of 45 degrees relative to the vertical and horizontal planes, facing upwardly and forwardly, a focusing lens in the housing, in the path of light reflected by the work and the concave mirror,



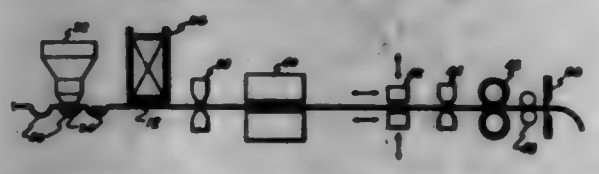
and reflecting means in the housing, in the path of such reflected light, rearwardly of the lens, adapted by a succession of steps to fold the light upwardly, and then laterally, and finally, forwardly, whereby an enlarged image of the work is projected on the viewing screen, and the image as projected on the viewing screen is fully resolved by the action of the reflecting means, comprising a pair of identical prisms having the shape of right triangles having two equal sides, as viewed in transverse section, arranged horizontally, one upon the other, with their right angles adjoining, the hypotenuses of the prisms being positioned rearwardly thereof and being arranged at right angles to each other and inclined at an angle of 45 degrees relative to the vertical and horizontal planes, two equal sides of the respective prisms facing each other and two other equal sides thereof being disposed vertically, in alignment with each other, at an angle of 45 degrees relative to the path of such reflected light, the lower prism being arranged in said path and the arrangement being such that the light is folded upwardly by the action of the lower prism, and forwardly and laterally by the action of the upper prism, and a planar mirror in the path of light reflected by the upper prism, the last mentioned mirror being disposed vertically, and being inclined at an obtuse angle relative to the vertical sides of the prisms, whereby light reflected by the last mentioned mirror is projected on the viewing screen.

2,970,413
APPARATUS FOR SURFACING GLASS SHEETS
Martin Mikiosek, Toledo, Ohio, assignor to Libbey-Owens-Ford Glass Company, Toledo, Ohio, a corporation of Ohio
Filed Aug. 28, 1959, Ser. No. 836,691
9 Claims. (Cl. 51—240)



1. In an apparatus for surfacing flat glass blanks resting on a plurality of individual tables and having two spaced parallel surfacing tracks for carrying the tables along under surfacing tools and two spaced transfer tracks, each of said transfer tracks connecting the adjacent ends of the surfacing tracks for moving the tables from one surfacing track to the other surfacing track and wherein the tables are controlled while moving from a surfacing track onto a connected transfer track by a first Geneva gearing and controlled while moving from the transfer track to the other connected surfacing track by a second Geneva gearing, said second Geneva gearing including an input shaft, and output shaft, a Maltese cross member having four equally spaced radial slots, said Maltese cross member mounted on a first shaft and geared to said output shaft of said second Geneva gearing and a driving member mounted onto a second shaft, said driving member being geared to said input shaft of said second Geneva gearing, said drive member including at least one flange member, said flange member having two diametrically opposite ways, roller drive assemblies mounted in said ways, said assemblies adapted to enter into the radial slots in said Maltese cross member wherein the constant input into said second Geneva gearing, through said input shaft, is transformed into intermittent motion of said output shaft which intermittent motion has an initial acceleration phase followed by a subsequent deceleration phase, the improvement comprising means for modifying at least one of the phases of each intermittent stage of the motion of said second Geneva gearing to cause said phase to proceed at a greater rate and means for controlling the moment at which said motion modifying means become operative.

2,970,414
METHOD AND APPARATUS FOR BLISTER PACKAGING
Howard A. Rohdin, 397 Forest Ave., Glen Ridge, N.J.
Filed Dec. 18, 1958, Ser. No. 781,395
18 Claims. (Cl. 53—29)



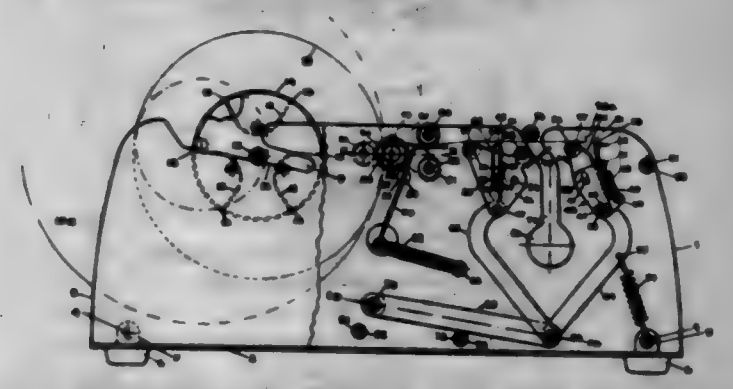
8. A method of packaging comprising: advancing a continuous web of plastic material; forming in said web consecutive rows of blisters; slitting said web into strips of consecutive blisters; severing said strips into rows of individual blisters; separating the blisters of each row, guiding the individual blisters thus severed into pockets in a conveyor, and while the blisters are in said pockets placing at least one object in each blister, applying a cover to each blister and sealing each cover to its associated blister.

2,970,415
ELECTRIC HEATERS
Joseph McOrily, Wilkinsburg, Pa., assignor to Edwin L. Wiegand Company, Pittsburgh, Pa., a corporation of Pennsylvania
Continuation of application Ser. No. 524,480, July 26, 1955. This application Dec. 10, 1958, Ser. No. 779,499
17 Claims. (Cl. 53—36)



17. The method of making a tubular electrical heating element of the type having a resistance wire embedded in powdered insulating material and disposed within a tubular sheath, which comprises disposing the resistance wire longitudinally within an upright and unfilled sheath and supporting said wire in centered relation at opposite ends of said sheath and in generally taut lengthwise condition, and causing a relative circular shifting between said resistance wire and the interior surface of an intermediate portion of said sheath during filling of said sheath with said insulating material from an upper end thereof.

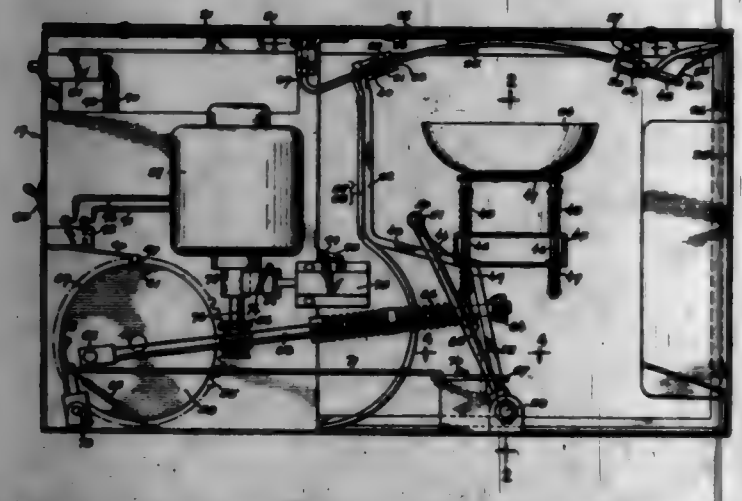
2,970,416
STRIP SERVING AND APPLYING DEVICE
Theodore H. Krueger, Stratford, and Everett E. Sharpe, Shelton, Conn., assignors to Better Packages, Incorporated, a corporation of New York
Filed June 7, 1955, Ser. No. 513,688
8 Claims. (Cl. 53—198)



1. In a machine for applying an adhesive tape band, means for holding a tape supply, movable front and rear sector assemblies each carrying a tape clamping element, means for guiding an article to which the tape is to be applied between said elements, a platform carried by

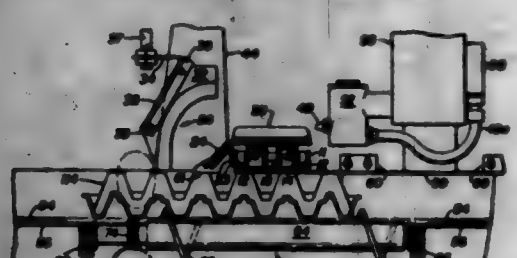
one of said sector assemblies over which the tape passes tacky side up and against which the non-tacky side of the tape is pressed by the article when moved between said elements, linkage connected to the sector assemblies for causing the sector assemblies to move when the article is pressed against the tape on the platform thereby depressing the platform, said linkage causing said elements to be moved towards each other so as to form a loop of tape around the article and a cutting knife carried by one of the tape clamping members for cutting off the tape below the point at which it is clamped.

2,970,417
MACHINE FOR WRAPPING
Merwin S. Parks, 11520 Bothell Way, Seattle, Wash., assignor of one-half to Theodore E. Nelson, Seattle, Wash.
Filed Jan. 3, 1956, Ser. No. 556,860
5 Claims. (Cl. 53—226)



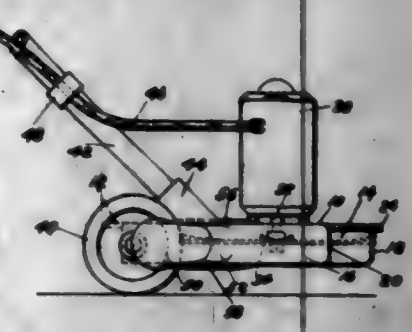
1. In a wrapping machine, a basket arranged to receive and support a sheet of fusible wrapping material with a head of lettuce thereon, electrically heated opposed plates functioning as the jaw complements of a hot press mounted for opening and closing movements immediately above the basket, two arms working with the jaws of the hot press in opposed paths approximately at right angles to the path of travel of the jaws for gathering side edges of the wrapping sheet to enable the jaws to close upon the same and fuse the gathered edges together, a source of power, and means driven from said power source and having operative connection with the jaws and with the arms causing the jaws and the arms to operate in concert.

2,970,418
EGG HANDLING DEVICE
Richard B. Mulvany, Berkeley, and Gilbert R. Berr, Burlingame, Calif.; said Berr assignor to said Mulvany
Filed Mar. 6, 1958, Ser. No. 719,621
18 Claims. (Cl. 53—251)



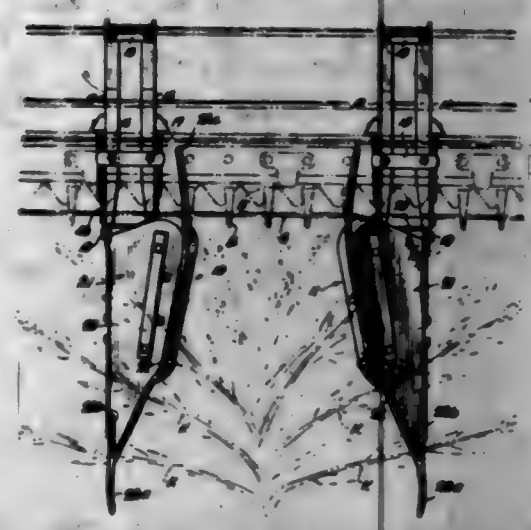
1. In an egg handling machine, the combination comprising: a single file conveyer for advancing a series of eggs; a conduit mounted adjacent said conveyer for receiving an egg; means mounted opposite said conduit for directing an air blast against an egg carried by said conveyer whereby to urge said egg into said conduit; a second conveyer for a multicell package adjacent the discharge end of said conduit; means for continuously advancing said second conveyer; a helix mounted beneath said second conveyer, said helix being of sufficient height to engage an egg pocket of an egg package; and means for intermittently rotating said helix whereby to provide for successive registration between rows of cells of egg cartons and said conduit.

2,970,419
TURF EDGE TRIMMER AND HEDGE CLIPPER
Samuel Lieberman, 42 Oak Hill, Newton Center, Mass.
Filed Oct. 7, 1958, Ser. No. 765,822
1 Claim. (Cl. 56—25.4)



A machine of the class described comprising a frame consisting of a generally circular plate which is normally horizontal, said plate having along its forward edge a series of deep rearwardly extending slots forming a series of forwardly projecting teeth, said plate also having a rearward extension, a skirt projecting down from the side edges of said plate and rearward extension, said skirt extending tangentially forward from one side of the circular plate, a motor shaft extending through the center of said plate, a motor carried by said plate and connected to the upper end of said shaft, a rotary blade secured at its mid point to the lower end of said shaft at a level above the bottom edge of said skirt, a pair of wheels journalled on said skirt at said rearward extension of the plate to turn about a horizontal axis, a pair of ears projecting horizontally from said skirt on the same side of the plate as said tangential extension of the skirt, a roller mounted between said ears to rotate about a vertical axis, said roller projecting outward slightly beyond said tangential extension, and an elongated handle member extending upward and rearward from said plate.

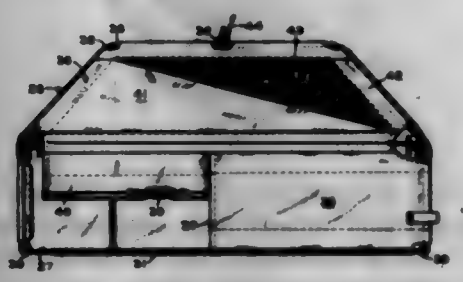
2,970,420
CROP PICKUP ATTACHMENT FOR COMBINES
Rudolf B. Schmidt, Rte. 1, Box 236, Walton, Kans.
Filed Sept. 22, 1958, Ser. No. 762,568
6 Claims. (Cl. 56—98)



1. Row crop pickup apparatus adapted to be mounted ahead of the cutter bar of a harvesting machine compris-

ing a pair of plant lifting and guide elements having forward pickup ends adapted to be disposed ahead of and below the level of said cutter bar and upwardly inclined lifting and engaging surfaces extending from the pickup ends to points above and behind the cutter bar and converging toward one another, said lifting and engaging surfaces lying in planes inclined from the horizontal and converging toward one another in an upward direction, each said plane intersecting the cutter bar along a line substantially normal to the cutter bar.

2,970,421
GRASS CATCHER
Ralph W. Krewson, Webster Groves, Mo.
(% Perfection Mfg. Co., 2701 N. Leffingwell, St. Louis 6, Mo.)
Filed Feb. 20, 1959, Ser. No. 794,648
4 Claims. (Cl. 56—202)



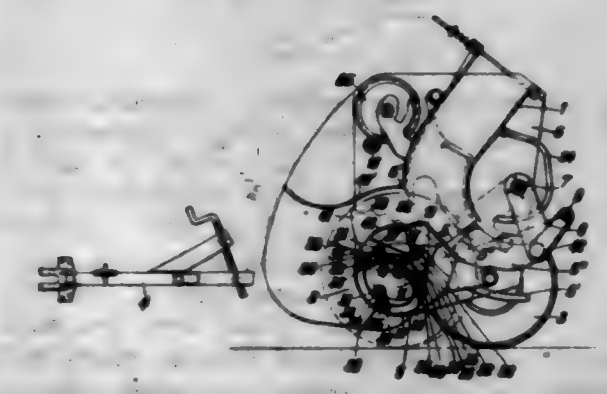
1. A grass catcher comprising a box-like enclosure having an elongate substantially U-shaped front frame, a substantially trapezoidal bottom wall hingedly connected to the bottom of the said front frame, a second U-shaped frame substantially trapezoidal in shape hingedly connected to the top of said front frame and extending rearwardly above the bottom wall, a canvas covering partially covering the front frame to provide a front wall and extending between the second U-shaped frame and bottom wall to provide side walls converging rearwardly, the front wall being provided with an intake opening at one end, a third U-shaped frame hingedly connected to the top of the front frame and overlying the second said U-shaped frame, and a canvas covering the third said U-shaped frame to provide a top wall, the top wall being provided with an air outlet opening at its rear diagonally opposite the intake opening provided in the front wall.

2,970,422
COLLECTION BAG ATTACHMENT FOR LAWN MOWERS
Harley Emerson Kroll, Hopkins, and Herbert Frank Horner, Minneapolis, Minn., assignors to Toro Manufacturing Corporation, Minneapolis, Minn., a corporation of Minnesota
Filed Mar. 26, 1959, Ser. No. 802,176
6 Claims. (Cl. 56—202)



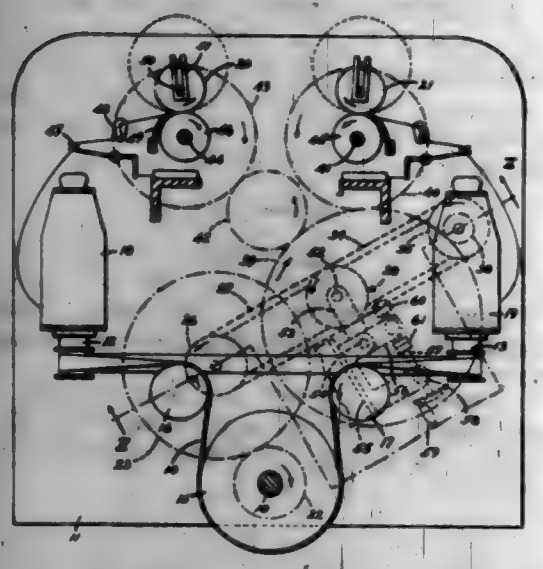
1. A clipping-collection bag for lawn mowers adapted for attachment to a tubular discharge element provided by the mower comprising a bag constructed of flexible, readily air-pervious material, said bag having a closed outer end, a restricted forward mouth portion detachably surrounding and substantially sealed with the outer end of said discharge element, said bag further having a substantially forwardly extending air-discharge opening at the forward end thereof and disposed in eccentric relation to said discharge element whereby air entering the bag with relatively high velocity and carrying clippings, will reverse its course in curved manner within the outer end of the bag depositing such clippings in the rear of the bag and then exhaust, at least in part, through said open air discharge at the forward end of the bag.

2,970,423
PICK-UP BALER
Alfred Wenzel, Wolfenbuttel, Germany, assignor to Gebrüder Welger, Maschinenfabrik, Wolfenbuttel, Germany
Filed Aug. 7, 1957, Ser. No. 676,788
Claims priority, application Germany Jan. 12, 1957
8 Claims. (Cl. 56—341)



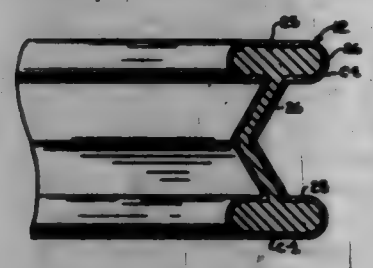
1. A pick-up mechanism for a pick-up baler comprising a frame, a baling chamber within said frame, a plunger within said baling chamber, motive means operatively connected to said plunger for reciprocating said plunger within said chamber, said baling chamber having an inlet opening in one wall thereof, said wall forming the bottom of said chamber, pick-up means adjacent to said baling chamber, a slotted wall substantially enclosing at least one group of pick-up fingers of said pick-up means but allowing said pick-up means at least during a part of their movement to extend through the slots in said wall, at least one wall of said frame and said slotted wall together defining a partly open collecting chamber for accumulating a material picked off the ground by said pick-up means, said inlet opening of said baling chamber being adapted to be temporarily closed by said plunger relative to said collecting chamber during the compression stroke of said plunger, control means connected to said pick-up means for controlling the movement of said pick-up means to lift the material off the ground and convey the same into said collecting chamber, said pick-up means comprising a plurality of pick-up fingers for picking said material off the ground and conveying it into said collecting chamber, said pick-up means further comprising pick-up and feeding fingers for also picking said material off the ground and conveying it into said collecting chamber, and for then conveying said material accumulated by all of said fingers within said collecting chamber through said inlet opening into said baling chamber and into the path of movement of said plunger while said plunger moves back to its starting position and thereby frees said inlet opening into said baling chamber, said control means comprising means for maintaining said pick-up fingers in a conveying position during the lifting movement thereof and for pivoting said pick-up and feed fingers during the entry thereof into said collecting chamber so as to draw said pick-up fingers behind said slotted wall.

2,970,424
YARN TWISTING
Ernest K. Bauer, Mendville, Pa., assignor to American Viscose Corporation, Philadelphia, Pa., a corporation of Delaware
Filed Nov. 13, 1958, Ser. No. 773,595
4 Claims. (Cl. 57—93)



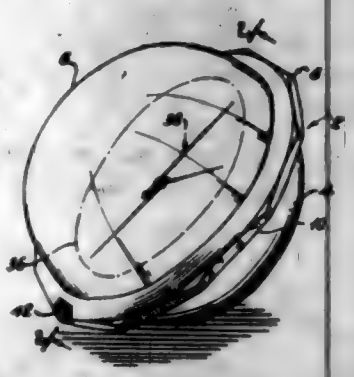
1. In a yarn twisting machine, a rotatable support for a yarn package, means for drivingly connecting a yarn package to said support, wind-up means for withdrawing yarn from a package mounted on said support and forming the yarn into a second package, drive means for rotating said support to impart twist to the yarn being withdrawn from the package mounted thereon, a driving train connecting said drive means to said wind-up means, said driving train comprising speed control means normally set to rotate said wind-up means at a predetermined speed less than the speed of said support so that a relatively high predetermined number of turns of twist will be inserted into the yarn, and manual means for adjusting said speed control means to cause an increase in the speed of said wind-up means whereby the number of turns of twist may be reduced prior to stopping the machine and thereby avoid the formation of loops in the yarn between the package and the wind-up means which would ensue from stopping the machine with highly twisted yarn between the package and the wind-up means.

2,970,425
PLATED SPINNING RING AND METHOD OF MAKING SAME
John H. Foard, Box 574, Newton, N.C., assignor of fifty percent to Walter A. Klattz, Gastonia, N.C.
Filed May 21, 1956, Ser. No. 586,228
4 Claims. (Cl. 57—119)



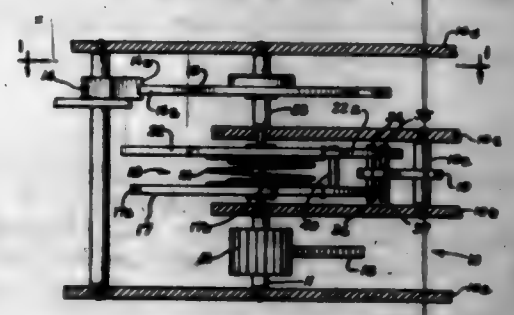
1. A ring for spinning and twisting machines comprising an annular metallic core having a macroscopically smooth surface, said macroscopically smooth surface exhibiting depressions and protuberances thereon when viewed under a microscope, a coating of nickel on said macroscopically smooth surface, said coating being deposited on said macroscopically smooth surface by electroplating the nickel from a bath containing a leveling catalyst, said nickel coating filling the depressions and protuberances on the macroscopically smooth surface of said metallic core and presenting an outer hard microscopically smooth surface for said ring having a surface roughness value no greater than 2.6 root mean square.

2,970,426
PORTABLE CLOCK
Guido Kottmann, Kapuzinerstrasse, Solothurn, Switzerland
Filed Apr. 21, 1959, Ser. No. 807,954
5 Claims. (Cl. 58—2)



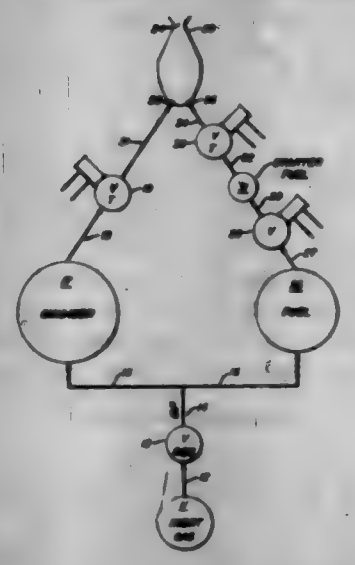
1. A clock comprising: a casing formed by a front lens portion, a rear lens portion and an annular rim portion positioned between the peripheries of said lens portions, said lens portions having inner lens surfaces which are spaced from each other to form a cavity; a central frame rigidly attached to said rim portion and positioned within said cavity; a plurality of radial arms connecting said central frame to said rim portion; and, a clock works positioned within said cavity and mounted upon said central frame and having a face exposed behind said front lens portion whereby said face may be viewed through said front lens portion.

2,970,427
CONSTANT TORQUE ESCAPEMENT
Paul W. Douglass, Goshen, Ind., assignor to General Time Corporation, New York, N.Y., a corporation of Delaware
Filed Mar. 28, 1957, Ser. No. 649,846
9 Claims. (Cl. 58—117)



7. In a constant torque escapement for a time device driven by a power source, the combination comprising, a slave escapement mechanism connected to regulate the movement of said time device, and means for controlling the motion of said slave escapement mechanism including a master escapement wheel, means for transmitting to said master escapement wheel a substantially constant, light torque derived from said power source, balance means for controlling the motion of said master escapement wheel, and cam means connected to said slave escapement mechanism and continuously coupled to the master escapement wheel so that movement of said master escapement wheel between positions of impulse to said balance means and independently of the latter controls the motion of said slave escapement mechanism in accord with the timekeeping rate of the master.

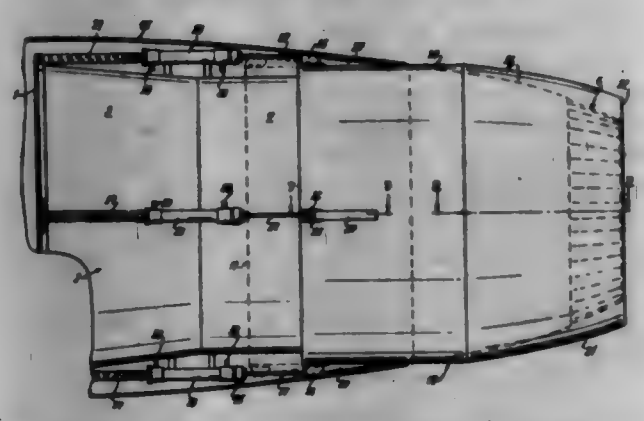
2,970,428
TRITHIOBORATE ROCKET FUEL
Alex Zletz, Park Forest, and Don R. Carmody, Crete, Ill., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana
Filed Oct. 25, 1952, Ser. No. 316,898
10 Claims. (Cl. 60—35.4)



1. A rocket propulsion method, which method comprises injecting separately and simultaneously into the combustion chamber of a rocket motor a hypergolic fuel consisting essentially of an alkyl trithioborate having the empirical formula, R_9S_3B wherein B represents the element boron, S represents the element sulfur and R represents alkyl radicals containing from 1 to 4 carbon atoms, and a nitric acid oxidizer which contains not more than about 20 weight percent of non-acidic materials, in an amount and at a rate sufficient to initiate a hypergolic reaction with and to support combustion of the fuel.

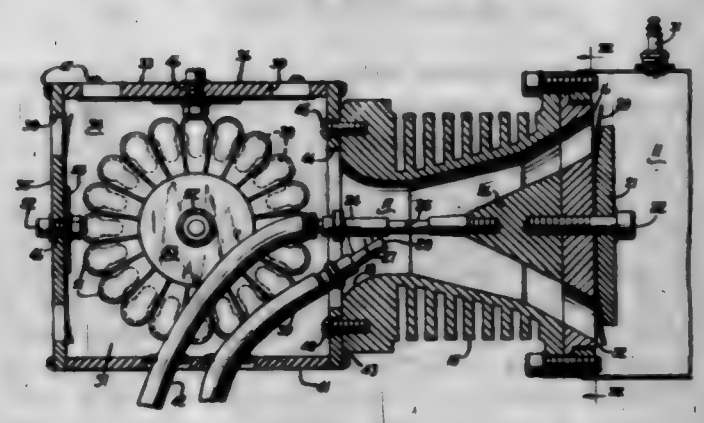
10. A novel composition of matter consisting essentially of a mixture of not more than about 50 volume percent of a hydrocarbon oil and the remainder essentially a trialkyl trithioborate wherein each alkyl group contains 1 to 4 carbon atoms.

2,970,429
MOVABLE SHROUD FOR VARIABLE JET ENGINE EXHAUST NOZZLES
Raymond F. Dreifke, St. Louis, Mo., assignor, by mesne assignments, to Westinghouse Electric Corporation, a corporation of Pennsylvania
Filed Aug. 11, 1952, Ser. No. 303,775
7 Claims. (Cl. 60—35.6)



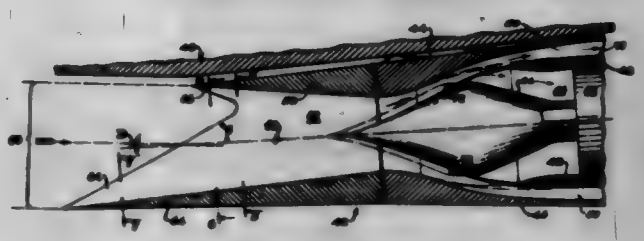
6. In a jet engine afterburner having a combustion chamber exit portion, the combination of an adjustable shroud longitudinally movable relative to the combustion chamber exit portion between extended and retracted positions having minimum base drag respectively corresponding with afterburner operation and non-afterburner operation, and means for varying the discharge diameter of the exit portion in accordance with the blast cone for afterburner operation and non-afterburner operation respectively, said means including a plurality of nozzle segments movably carried by the combustion chamber exit portion within said shroud in both of its positions and a plurality of flap elements movably connected between said nozzle segments and said shroud for transmitting movement to said nozzle segments upon shroud movement.

2,970,430
AUXILIARY INLET VALVE FOR RESONANT PULSE JET ENGINES
Russell R. Curtis and Albert Ray Osburn, Bedford, Ind., assignors to Curtis Automotive Devices, Inc., Bedford, Ind., a corporation of Ohio
Filed Mar. 4, 1958, Ser. No. 719,898
4 Claims. (Cl. 60—35.6)



1. In a pulse jet apparatus, means defining a combustion chamber, a housing having a plurality of air inlet ports, a fuel and air mixing chamber joining said housing and said combustion chamber, a pulse valve between said mixing chamber and said combustion chamber, resilient one-way air inlet valves overlying said ports for admitting air to said housing, and means for feeding fuel to said mixing chamber for mixing with air from said ports and for cooperating therewith to supply a fuel and air mixture to the combustion chamber under control of said pulse valve.

2,970,431
ROTATING INLET FOR JET ENGINES
Daniel L. Harshman, Forest Park, Ohio, assignor to Curtiss-Wright Corporation, a corporation of Delaware
Filed Jan. 2, 1959, Ser. No. 784,495
15 Claims. (Cl. 60—35.6)



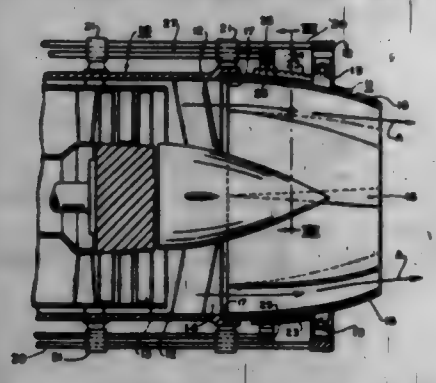
6. A combination ramjet and turbojet power plant comprising a front end portion having a forwardly directed air entrance passage for the ramjet and a forwardly directed air entrance passage for the turbojet; and a hollow member forming a forward extension of said front end portion and providing an air inlet for both said passages; said hollow member being rotatable and its axis of rotation being inclined to at least a portion of its leading edge so that, with air approaching said hollow member at an angle inclined to said axis, rotation of said member is effective to vary the inlet capture area.

2,970,432

JET ENGINE THRUST REVERSING NOZZLE

Anthony E. Cocoros, Prairie Village, Kans., and Russell L. Mathias, Pittsburgh, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Jan. 22, 1958, Ser. No. 710,518
5 Claims. (Cl. 60—35.54)



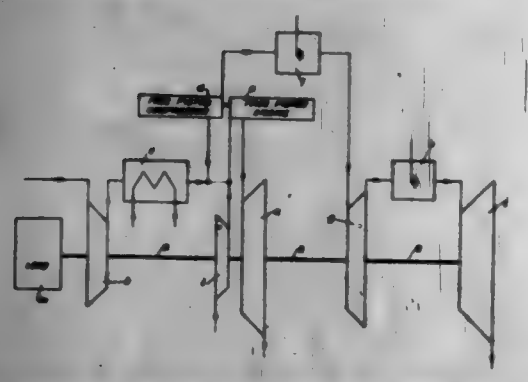
1. An exhaust nozzle structure for a jet propulsion engine including a tubular shell structure defining the outer periphery of an exhaust gas passageway, an annular array of mutually lapping segments disposed downstream of said shell structure in the direction of gas flow and defining the outer periphery of a rearwardly directed gas outlet, common actuating means for jointly translating said leaf segments in a direction parallel to the axis of said shell structure, said common actuating means including a unison ring carrying said leaf segments and disposed in encompassing relation therewith, said shell structure having a rear radially outwardly offset marginal portion having an inner circular surface and at least one of said leaf segments being movable into and out of registry with said inner surface by said common actuating means, means pivotally connecting said one leaf segment to said common actuating means, and second actuating means for rotating said one leaf segment about said pivotal connecting means when said one leaf segment is disposed out of lapping relation with the inner surface of said marginal wall portion, said one leaf segment having a guide member and a slidably supported bracket mounted thereon, said bracket being disposed forwardly of said pivotal connecting means and operatively connected to said second actuating means.

2,970,433

COMPOUND GAS TURBINE PLANTS

Johann Endres, Wackersberg, near Bad Tolz, Germany, assignor to The Messerschmitt A.G., Augsburg, Germany

Filed June 10, 1957, Ser. No. 664,623
Claims priority, application Germany June 11, 1956
1 Claim. (Cl. 60—39.17)



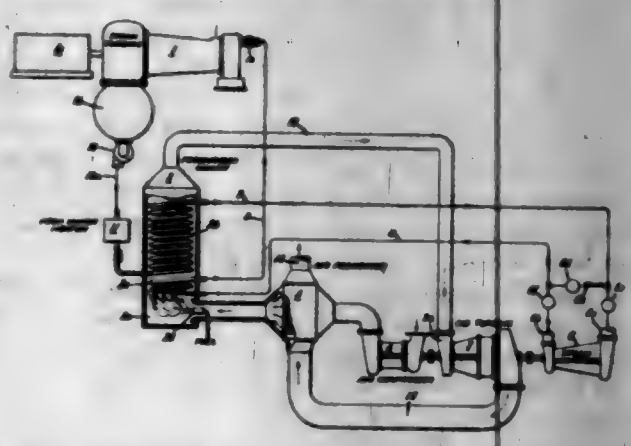
A compound gas turbine plant comprising a main turbine shaft for driving a load, a low pressure compressor driven by said shaft, a high pressure free piston compressor, a free piston engine driving said high pressure compressor separately from said shaft, said low pressure compressor supplying air under an intermediate pressure to said high pressure compressor, a high pressure turbine mounted on said shaft for driving said shaft, a high pressure combustion chamber interconnected between said high pressure compressor and said high pressure turbine for heating air under high pressure from said high pressure compressor and for supplying said high pressure heated air to said high pressure turbine, a low pressure turbine mounted on said shaft for further driving said shaft, a low pressure combustion chamber interconnected between said high pressure turbine and said low pressure turbine for heating partially expanded gases from said high pressure turbine and supplying heated gases to said low pressure turbine, an exhaust gas turbine mounted on said shaft further driving said shaft, said exhaust gas turbine being connected to said free piston engine so that exhaust gases of combustion from said free piston engine serve to drive said exhaust gas turbine, an intercooler interconnected between said low pressure compressor and said high pressure compressor, and an engine supercharger driven by said shaft for supplying air for supercharging and scavenging said free piston engine.

2,970,434

STEAM-GAS TURBINE POWERPLANT WITH STEAM COMPRESSOR

Glenn B. Warren, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

Filed June 28, 1955, Ser. No. 518,612
5 Claims. (Cl. 60—39.18)



1. In a steam and gas turbine powerplant, the combination of at least one steam turbine and means for generating high pressure steam including a combustion chamber for burning fuel under pressure and first and second heat exchanger means, the first heat exchanger being constructed and arranged to produce steam at a pressure substantially below the inlet pressure of the steam turbine and the second heat exchanger being connected to supply steam at said inlet pressure to the steam turbine, means for supplying air under pressure to the combustion chamber including an air compressor driven by a gas turbine, first conduit means connected to supply hot gas from the combustion chamber to drive the gas turbine, a steam compressor connected to be driven by said gas turbine, second conduit means connected to supply steam from the outlet of the first heat exchanger to the inlet of the steam compressor, and third conduit means connected to supply compressed steam from the outlet of the steam compressor to the inlet of the second heat exchanger.

2,970,435

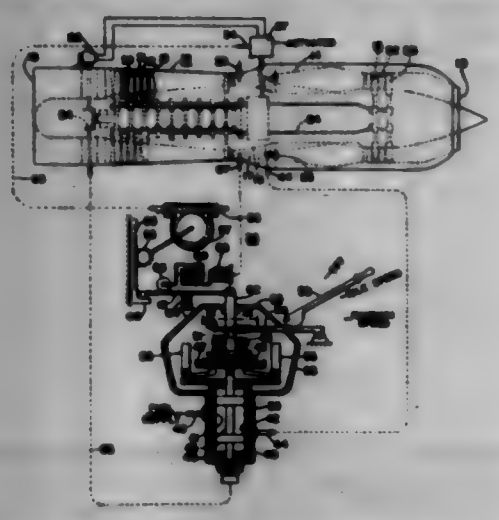
COMPRESSOR FLOW CONTROL MECHANISM

Donald F. Winters, Overland Park, and Gerald W. Niemeyer, Prairie Village, Kans., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Nov. 27, 1957, Ser. No. 699,244
4 Claims. (Cl. 60—39.28)

1. In an aviation gas turbine engine having an air compressor, a gas turbine in driving relation with said com-

pressor, fuel combustion apparatus for providing said gas turbine with hot motive gases, a variable fuel control mechanism for varying the rate of fuel delivery to said combustion apparatus in a manner to vary the rotational speed of said turbine and said compressor, regulating means movable in one direction to decrease the speed setting of said control mechanism and in another direction to increase the speed setting of said control mechanism, and mechanism for varying the geometry of said compressor in accordance with said rotational speed to avoid stalling of said compressor; a feed back mecha-



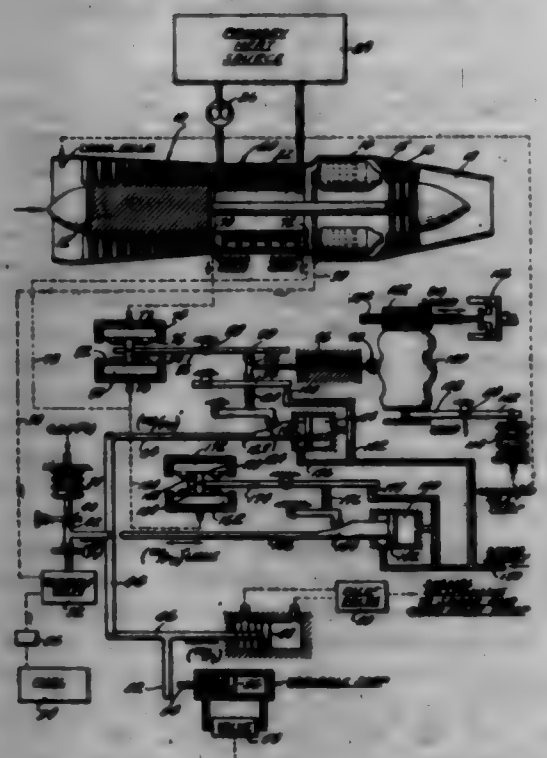
nism jointly movable with said compressor geometry varying mechanism and having a member operatively connected to said fuel control mechanism, said member being movable by said feed back mechanism to limit the minimum speed of said turbine and compressor to a value above the value attainable by said regulating means in accordance with the position of said compressor geometry varying mechanism regardless of movement of said regulating means in said one direction, and said regulating means being effective to control the speed of said turbine and compressor above said minimum speed.

2,970,436

FUEL CONTROL FOR DUAL HEAT SOURCE POWER PLANT

James S. Sims, Jr., Simsbury, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed June 26, 1958, Ser. No. 744,778
16 Claims. (Cl. 60—39.28)



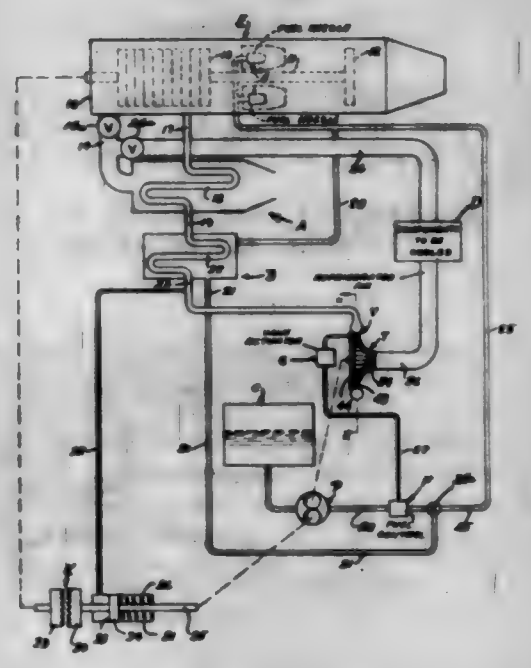
1. In an air breathing power plant having working fluid passing therethrough, a combustion chamber, a source of fuel under pressure, means responsive to at least one variable of power plant operation for regulating the flow of fuel from said source to said combustion chamber, heat exchange means for varying the heat of the power plant working fluid at a point upstream of said combustion chamber, and means responsive to the temperature change through said heat varying means for continuously modifying the amount of fuel flow regulated by said regulating means in response to said change of heat while said heat exchange means is varying the heat of the power plant.

2,970,437

HIGH TEMPERATURE PUMPING SYSTEM WITH VARIABLE SPEED PUMP AND REFRIGERATION BY-PRODUCT

Robert J. Anderson, Wickliffe, Ohio, assignor to Thompson Ramo Wooldridge, Inc., a corporation of Ohio

Filed Feb. 28, 1956, Ser. No. 568,337
6 Claims. (Cl. 60—39.66)



1. A combination fuel pumping and refrigeration system for turbojet engines and the like comprising: an air turbine; conduit means for introducing bleed air from the compressor of said turbojet engine to said air turbine; fuel pump means driven by said air turbine; a heat exchanger for said conduit means; conduit means for introducing ram air into said heat exchanger; conduit means leading from said air turbine and communicating with said heat exchanger; temperature critical components in heat exchange relationship with said conduit means leading from said air turbine and in communication with said heat exchanger, and means for selectively admitting ram air or air from said means leading from said air turbine communicating with said heat exchanger into said heat exchanger to provide a suitable temperature for said temperature sensitive components.

2,970,438

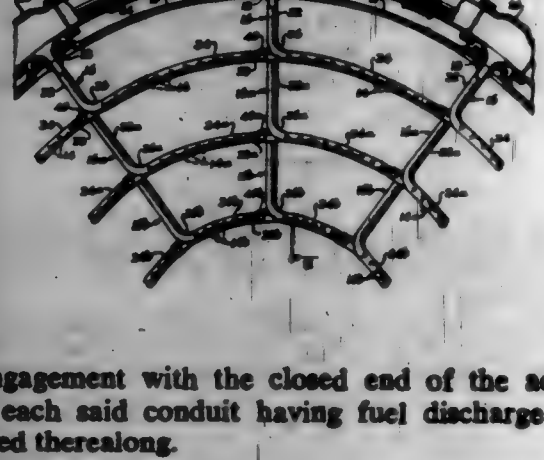
CIRCULAR FUEL SPRAY BARS

Werner E. Howald, Ridgewood, N.J., assignor to Curtiss-Wright Corporation, a corporation of Delaware

Filed Mar. 4, 1958, Ser. No. 719,162
6 Claims. (Cl. 60—39.74)

1. In combination; a combustion chamber housing; a plurality of generally L-shaped fuel discharge conduits disposed within said housing; means disposed outside said housing and secured to an end of each of said conduits through openings in said housing for supplying fuel thereto and detachable connecting said conduit ends to said housing, the other end of each L-shaped conduit

being closed and terminating at the elbow of an adjacent L-shaped conduit; and means connected to the elbow of each L-shaped conduit and having detachable inter-



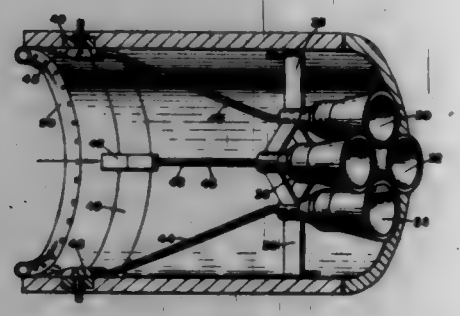
fitting engagement with the closed end of the adjacent conduit, each said conduit having fuel discharge openings spaced therealong.

2,970,439

CATALYTIC IGNITER FOR RAM-JET BURNER

Walter G. Berl, Silver Spring, Md., assignor to the United States of America as represented by the Secretary of the Navy

Filed Sept. 13, 1949, Ser. No. 115,368
6 Claims. (Cl. 60—39.82)



1. An igniter for an athodyd burner through which a combustible air-fuel mixture passes, comprising, a body mounted in the burner and having a chamber containing a porous catalyst, a plurality of bores communicating with said chamber, a central bore connecting said chamber to a source of catalytically ignitable fuel, and a plurality of orifices in the upstream end of said body through which a portion of air-fuel mixture passes into said chamber, and through the pores of the catalyst to be ignited thereby, and a frusto-conical skirt mounted on the downstream end of said body.

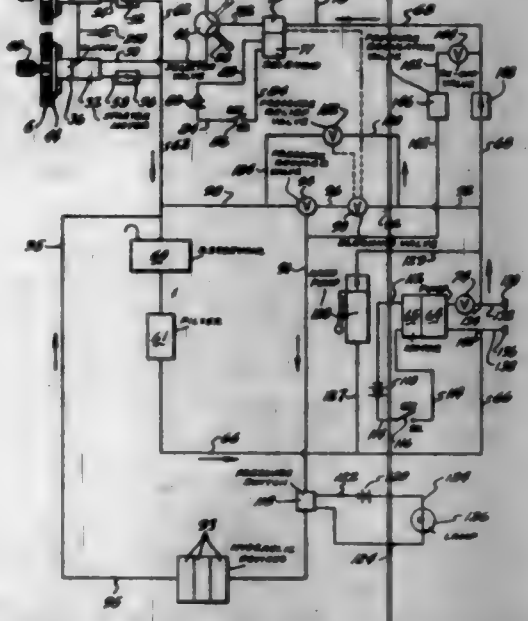
2,970,440

STARTING SYSTEM FOR ENGINES

George A. Dmitroff, Trumbull, and Edgar Robitaille, Jr., Bridgeport, Conn., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed Sept. 2, 1958, Ser. No. 758,401
22 Claims. (Cl. 60—51)

1. In combination, a motor, an accumulator for operating said motor, first valve means connecting said accumulator to said motor, a fluid supply under pressure, first means connecting said accumulator to said fluid supply under pressure, said first means including a check valve, a hydraulically driven device, second means connecting said hydraulically driven device to said fluid supply under pressure, said last named means including a blocking valve, a pressure relief valve, third means connecting said pressure relief valve to said fluid supply under pressure, means for opening said blocking valve when said pressure relief valve opens, and means for releasing



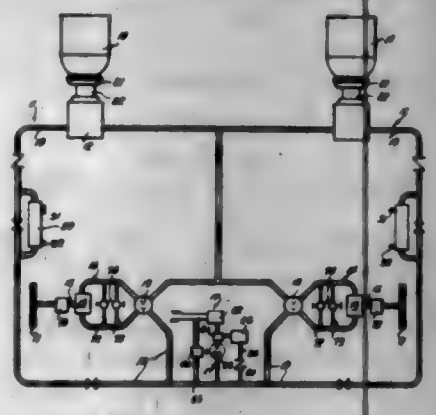
said blocking valve for movement to a closed position when said first valve means opens.

2,970,441

HYDRAULIC POWER PLANT

Walter H. Marsh, Pittsburgh, Pa., assignor to Rockwell Manufacturing Company, Pittsburgh, Pa., a corporation of Pennsylvania

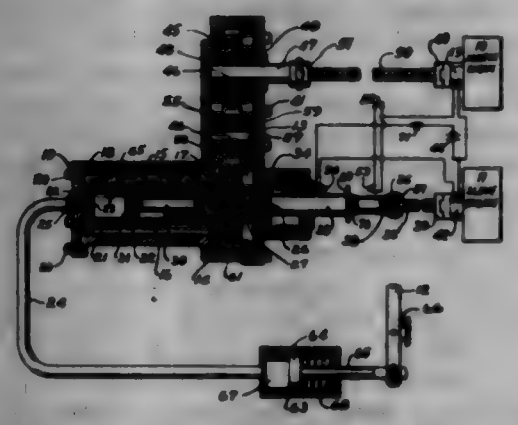
Filed Oct. 4, 1955, Ser. No. 538,313
4 Claims. (Cl. 60—53)



1. A hydraulic power plant having at least two prime movers; unidirectional hydraulic pump means individual to each of said prime movers drivingly connected to its respective prime mover and having respective fluid inlet and outlet connections; at least two hydraulic motor means each having a pair of fluid connections and a power takeoff shaft; fluid supply conduit means including a high pressure manifold having branches equal in number to the number of said hydraulic pump means each branch being connected to the respective outlet connections of said hydraulic pump means and also including a low pressure manifold having branches equal in number to the number of said hydraulic motor means; a respective throttling and reversing valve means individual to each hydraulic motor means and each having an inlet connection connected to said high pressure manifold, supply connections connected to a respective hydraulic motor means and outlet connections connected to said low pressure manifold; fluid return conduit means including low pressure manifold branch connections equal in number to the number of said hydraulic pump means connected to the inlet connections of said hydraulic pump means and a connection connected to said low pressure manifold to complete respective intercommuni-

cating closed fluid circuits for transmitting fluid from the outlet connections of said hydraulic pump means to said hydraulic motor means through said respective valve means and returning fluid from said hydraulic motor means to said hydraulic pump means through said respective valve means and said fluid return conduit means; and pressurizing means comprising a single outlet connection directly connected to said fluid return conduit means, a closed fluid filled tank having a check valve controlled conduit connected to said fluid return conduit means to permit fluid flow to said tank upon an increase of the fluid pressure in said fiud return conduit means and a charge pump and a check valve in said single outlet connection effective to supply fluid to said fluid return conduit means and pressure responsive power means for selectively driving said charge pump to supply fluid to said fluid return conduit means upon a decrease of the fluid pressure in said fluid return conduit means whereby pressurized fluid may be supplied to the respective fluid inlets of said hydraulic pump means to maintain a full supply of fluid to said hydraulic pump means and thereby eliminate cavitation induced inefficiencies in the power plant.

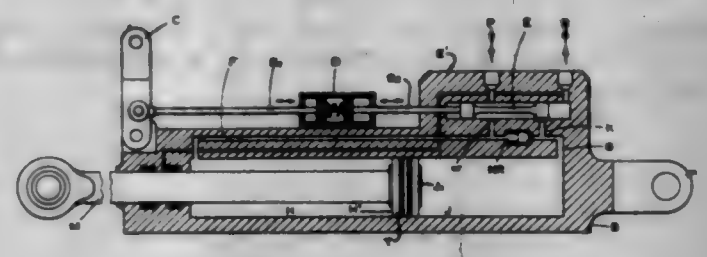
2,970,442
ENGINE SYNCHRONIZING MECHANISM WITH HYDRAULIC ACTUATION
S Blackwell Tayler, Cleveland, Ohio
(21850 S. Woodland Road, Shaker Heights 22, Ohio)
Filed July 9, 1958, Ser. No. 747,469
10 Claims. (Cl. 60—54.6)



5. A hydraulic actuator comprising a housing, a cylindrical member rotatably supported in said housing and having a bore therein providing a chamber for fluid, closure means for one end of the chamber, a second member rotatably supported by said cylindrical member and having a portion in sealed engagement therewith, said portion providing a movable wall at the other end of said chamber, a duct through said closure means and leading from said chamber to the exterior of said cylindrical member, means associated with each of said members whereby said members may be rotated independently of each other, means interconnecting said members whereby a differential in their speeds of rotation when rotating in the same direction will cause relative rectilinear movement therebetween whereby said movable wall will move toward or away from said chamber to decrease or increase the volume of said chamber depending upon which member is rotating the fastest.

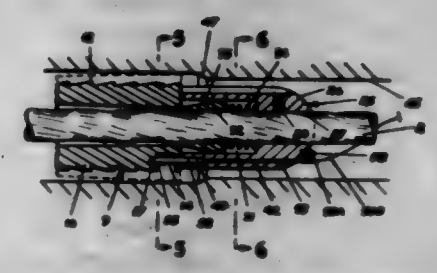
2,970,443
HYDRAULIC POWERED FLYING CONTROLS
John Springham, Brough, England, assignor to Blackburn and General Aircraft Limited, Brough, England, a British company
Filed Nov. 19, 1958, Ser. No. 775,068
Claims priority, application Great Britain Dec. 16, 1957
4 Claims. (Cl. 60—97)

1. In a hydraulic powered flying control system, three parallel differential pressure type piston jacks, each jack comprising a ram and a body, means supplying pressurised hydraulic fluid to said jacks, a servo valve for each of said jacks for controlling the supply of fluid, each of said jack bodies including a cylinder with a piston therein movable by a ram, said piston dividing the cylinder into two chambers, each body having a duct opening into said chambers at opposite ends of the cylinder, a non-return valve disposed in the duct, inlet and outlet ports in the



body communicating with said duct at opposite sides of the non-return valve, said servo-valve being located in a path of said fluid between said ports and said duct, a mechanical part for simultaneously actuating said servo valves, a control member, means connecting said control member to said part, a control surface operating member, and means for imparting the movement of said jacks to said operating member.

2,970,444
EXPANDING WEDGE TYPE CABLE OR BOLT ANCHOR
Hewton Peter, 7271 Greenwood St. N., Burnaby, British Columbia, Canada
Filed Mar. 24, 1958, Ser. No. 723,344
2 Claims. (Cl. 61—45)



1. The combination with an anchor adapted for securing in a drill hole having a shoulder, said anchor including a tension member having a wedge secured to its innermost end and extending longitudinally thereof, said wedge tapering towards its outer end, and coacting wedge shaped segments mounted for free sliding movement on the wedge and adapted for radial expansion as the wedge and the coacting segments are moved in one direction relative to each other to create gripping engagement with the wall of the drill hole forward of said shoulder and remote from the open end of the drill hole, a tapered collar slidably mounted on the tension member adjacent the outer ends of the wedge shaped segments, an abutment secured to the tension member, means carried by the abutment and supporting the outer ends of the wedge

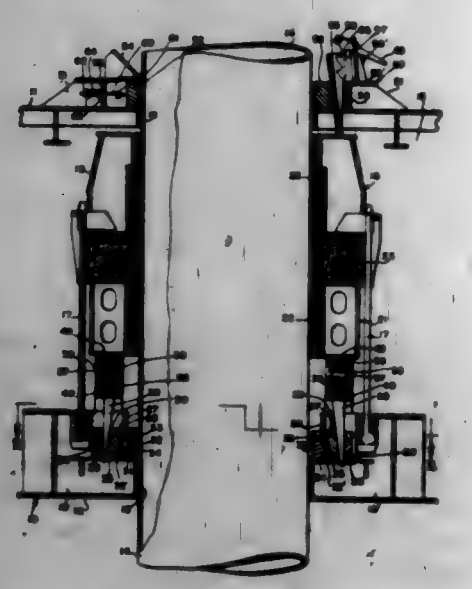
shaped segments in spaced relation to the tension member, a spring interposed between the abutment and the tapered collar, said spring urging the tapered collar between the wedge shaped segments and the tension member, the outer end of one of the segments having a transverse groove, a cartridge extending across the transverse groove, said segments having circumferential grooves adjacent the outer ends thereof, a wire loop received in the circumferential groove and having overlapping ends, said ends being secured to the cartridge in the transverse groove and means for electrically detonating the cartridge.

2,970,445

SELF-ENERGIZING MECHANICAL GRIPPERS AND WEDGING RING ASSEMBLY

George E. Suderow, New York, N.Y., assignor to De Long Corporation, New York, N.Y., a corporation of Delaware

Filed Feb. 21, 1956, Ser. No. 566,806
15 Claims. (Cl. 61—46.5)



1. A platform-like buoyant body having at least one supporting leg mounted for substantially vertical movement relative to said body; fluid pressure operable jack mechanism mounted on said body for effecting and maintaining solely by pressure a releasable grip on said leg and for selectively effecting or restraining substantially vertical step-by-step relative movement between said body and said leg; slip means mounted on said body and engageable with said leg for supporting said body thereon independently of the jack mechanism; means for constantly urging said slip means into engagement with said leg; fluid-pressure-operated means for overcoming said urging means to permit said slip means to be moved out of engagement with said leg; and means for supplying pressure fluid to said fluid-pressure-operated means concurrently with, and from the same source as, the supply of pressure fluid to said jack mechanism, whereby should the supply of pressure fluid to said jack mechanism fail, said slip means will automatically engage.

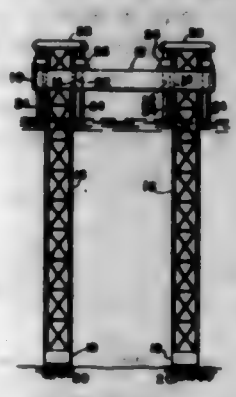
2,970,446

DEEP WATER MOBILE MARINE PLATFORM

George E. Suderow, New York, N.Y., assignor to De Long Corporation, New York, N.Y., a corporation of Delaware

Filed May 15, 1956, Ser. No. 585,021
3 Claims. (Cl. 61—46.5)

1. In a mobile offshore marine platform for erection at marine sites of predetermined water depth and including: a platform-like, buoyant body; openwork towers for stably supporting the body on the marine bottom at a selected marine site, the towers being of greater height than the water depth at the site and guide means on the body mounting the towers for vertical movement relative to the body, the combination comprising: controllable-buoyancy tank means secured to the lower end of each of the towers for selectively floating each tower in a position wherein the major portion of its length is above water or sinking each tower to any selected depth between said position and a position wherein the tower engages the marine bottom; a set of elongated upright supporting members, of less height than the towers disposed uniformly about each of the latter, the length of said members being greater than the draft of said body; guide means on the body mounting said members for



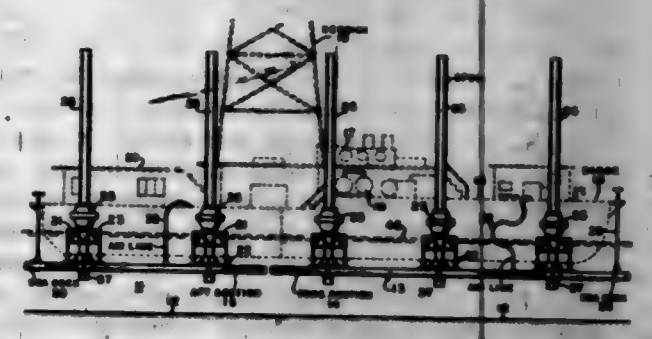
vertical movement relative to the body; means for detachably connecting the upper ends of the members of each of said sets with the upper end of the corresponding tower when said member and tower ends are on the same level; and power-operated means mounted on the body for selectively effecting or restraining said member movement in order to raise or lower said members relative to the body and in order to raise the body out of the water or lower the body back down to the water on said members when the latter are connected to the towers and the latter are engaged with the marine bottom, said power-operated means being separate from said members and mechanically engageable therewith.

2,970,447

MARINE APPARATUS AND METHOD FOR RAISING AND LOWERING SAME

William A. Castille, Houston, Tex., assignor, by mesne assignments, to Jersey Production Research Company, Tulsa, Okla., a corporation of Delaware

Filed Apr. 1, 1957, Ser. No. 649,725
8 Claims. (Cl. 61—46.5)



1. Apparatus for use in a body of water which comprises a buoyant mat having a fore section and an aft section separable from the fore section, said aft section being symmetrical fore and aft, means for varying the buoyancy of the mat, vertically arranged horizontally spaced apart pairs of cylindrical spuds on said mat attached to the mat for limited vertical movement relative to the mat, a cradle on each pair of said spuds, a jack movably arranged on each of said spuds, each of said jacks being connected to one of said cradles for imparting vertical movement to said cradles, a first pin transversely arranged in each of said spuds below said mat, said first pins being adapted to securely fix said spuds to the bottom of said body of water, and a second pin transversely arranged and adjustable vertically in each of

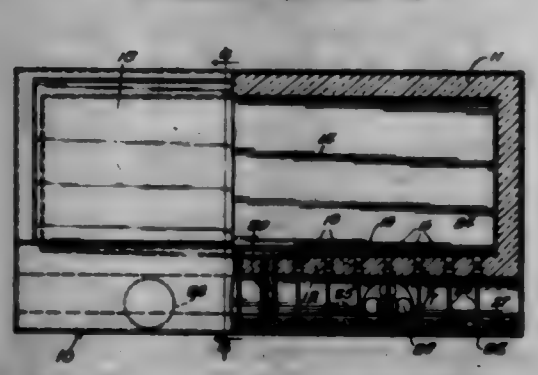
said spuds above said mat for transferring the weight on the cradles from the spuds to the mat, a drilling barge provided with well drilling facilities arranged in said cradles for vertical movement therewith from a floating position in said body of water to a raised position above said body of water and vice versa, and means for releasably attaching said barge in said cradles.

2,970,448
BELT SUPPORTED DIVING BALLAST
Carl J. Di Julio, 104 La Paix Lane, Towson, Md.
Filed Mar. 11, 1958, Ser. No. 720,582
6 Claims. (Cl. 61—70)



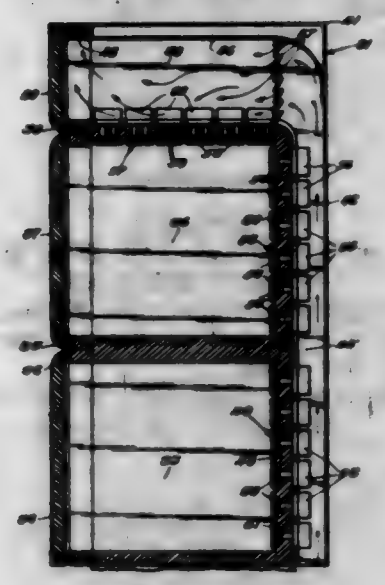
1. A diving ballast for a belt made of compressible and flexible material, comprising, structure defining a block of weighty material having marginal surfaces, said block having a pair of slots provided therein and extending from opposite faces of said block, said slots being arranged as a continuation of each other but at an angle thereto, one of said slots communicating with one of said marginal surfaces of said block so that said block can be inserted on the belt of a diver, the other of said pair of slots having a straight surface and an opposite surface bowed toward said straight surface of said other slot, with the thickness of said second slot where the straight and curved surfaces are closest together at its narrowest point being slightly less than the thickness of said belt, whereby said ballast can be securely mounted on said belt.

2,970,449
THERMOELECTRIC REFRIGERATING APPARATUS
Robert L. Eichhorn, Benton Harbor, Mich., assignor to Whirlpool Corporation, a corporation of Delaware
Filed Apr. 25, 1958, Ser. No. 730,908
2 Claims. (Cl. 62—3)



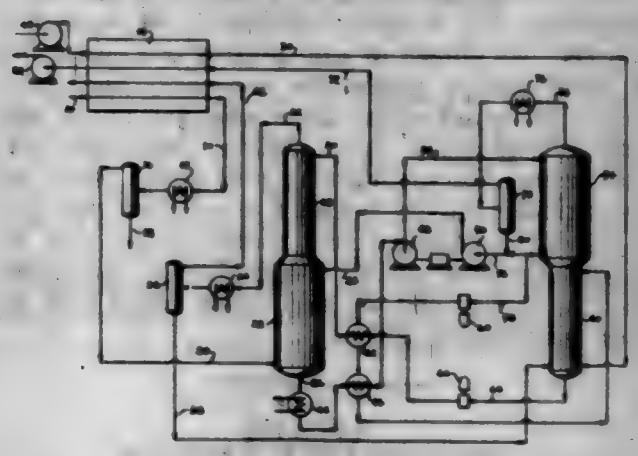
1. Refrigerating means, comprising: an enclosure; thermoelectric means having a plurality of cold junctions in heat absorbing relationship with the interior of the enclosure and a plurality of hot junctions exteriorly of the enclosure; a plurality of heat dissipating fins associated with the hot junctions for conducting heat therefrom; a container into which the fins extend; means for conveying condensate from said enclosure to said container for cooling said fins; and means for forcing a stream of cooling air in thermal transfer association with said fins and the condensate in the container, the fins being arranged edgeways to said stream of cooling air.

2,970,450
REFRIGERATING APPARATUS INCLUDING WARMING MEANS
John Reeder, Jr., Benton Harbor, and John G. Oakley, Coloma, Mich., assignors to Whirlpool Corporation, a corporation of Delaware
Filed Apr. 28, 1958, Ser. No. 731,418
1 Claim. (Cl. 62—3)



A food storage means, comprising: a first chamber; first thermoelectric means having a hot junction, and a cold junction associated with the first chamber to withdraw heat therefrom and cause the temperature therein to be suitable for refrigerating food therein; a second chamber; second thermoelectric means having a hot junction, and a cold junction associated with the second chamber to withdraw heat therefrom and cause the temperature therein to be suitable for storage of frozen food therein; a third chamber, the hot junction of at least one of said thermoelectric means being disposed in direct heat transfer association with said third chamber; and means for associating a body of air with said hot junctions of the first thermoelectric means and delivering the body of air to said third chamber.

2,970,451
ABSORPTION-DESORPTION IN ABSORBER LIQUID
Stanley W. Ehrlich, Far Rockaway, and Morgan C. Sze, Garden City, N.Y., assignors to Hydrocarbon Research, Inc., New York, N.Y., a corporation of New York
Filed Feb. 4, 1958, Ser. No. 713,190
11 Claims. (Cl. 62—17)



1. A process for separating at least one component of mixed gases by absorption in and desorption from absorber liquid which comprises flowing said mixed gases at elevated pressure and a stripping gas at close to atmospheric pressure through a heat exchange zone in indirect heat exchange relation with purified product gas

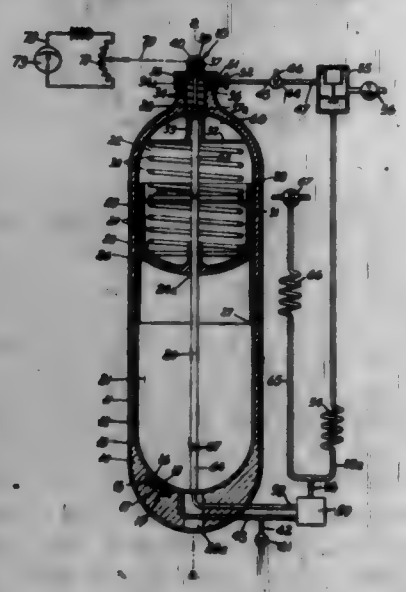
and waste stripping gas to cool said mixed gases and said stripping gas, passing the cooled mixed gases at elevated pressure through an absorption zone in countercurrent contact with said absorber liquid to enrich said absorber liquid by absorption of said component and yield said purified product gas, stripping the absorbed component from the enriched absorber liquid by passing the cooled stripping gas in countercurrent contact therewith through a stripping zone to yield said absorber liquid for reuse in said absorption zone and said waste stripping gas containing the desorbed component, and drawing said waste stripping gas through said heat exchange zone at sub-atmospheric pressure.

2,970,452

METHOD AND APPARATUS FOR SUPPLYING LIQUEFIED GAS

John H. Beckman and Eugene H. Kemp, Indianapolis, Ind., assignors to Union Carbide Corporation, a corporation of New York

Filed Apr. 1, 1959, Ser. No. 803,466
14 Claims. (Cl. 62—51)



1. A portable container for storing and dispensing from any container position, a pressurized liquefied gas having a boiling point below 233° K., comprising an inner vessel for storing a body of said pressurized liquefied gas; an outer shell enclosing and separating said inner vessel from the atmosphere to define an insulating space under a vacuum pressure between said inner vessel and said outer shell; a piston transversely positioned across the cross-sectional area of the inner vessel so as to substantially fill such area, and being arranged and constructed to slidably move in a direction parallel to the longitudinal axis of such container so as to separate the liquid and gas phases of said pressurized liquefied gas in said inner vessel; means for separably and gas-tightly sealing said liquid phase from said gas phase while allowing substantially free sliding movement of said piston; means for maintaining said liquid phase under a slight artificial gravity pressure at all container positions and gravity conditions, said means comprising at least one compressible spring longitudinally positioned between the upper end of said inner vessel and the top side of said slidable piston.

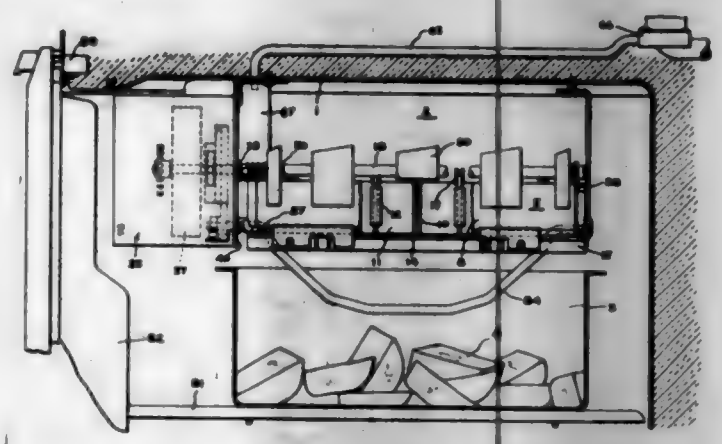
2,970,453

AUTOMATIC ICE MAKER

Harold P. Harle, Stephen Balogh, and Henry J. Loewenthal, Louisville, Ky., assignors to General Electric Company, a corporation of New York

Filed May 18, 1959, Ser. No. 813,790
15 Claims. (Cl. 62—135)

1. An ice maker comprising an ice mold, partition means including a movable divider dividing said mold into adjacent compartments in which water is to be frozen into ice pieces, said movable divider being composed of a material of lower heat conductivity than the material forming the remaining surfaces of said compartments whereby upon the application of heat to said mold the ice pieces will continue to adhere to said movable divider after melting of the bond between the ice pieces and the remaining surfaces of said compartments, means for heating said mold to break the bond between the surfaces of the mold and ice pieces formed therein, means for mounting said movable divider for pivotal movement of said divider and the ice pieces adhering to the opposed faces thereof out of said mold and over one side of said mold about an axis adjacent one side of said mold and bumpers positioned along said side of said mold and on each side of said divider for engaging said ice pieces and separating said pieces therefrom.

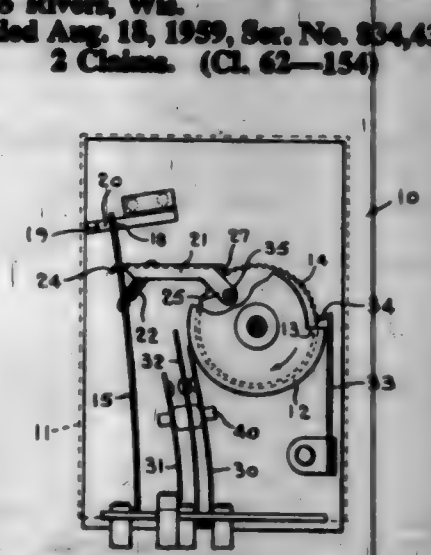


2,970,454

ELECTRIC SWITCHES AND SYSTEMS CONTROLLED THEREBY

Joseph J. Everard, Manitowoc, and Roger D. Rubsh, Two Rivers, Wis., assignors to Paragon Electric Company, Two Rivers, Wis.

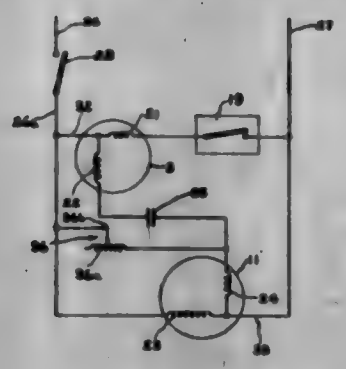
Filed Aug. 18, 1959, Ser. No. 834,436
2 Claims. (Cl. 62—154)



1. An electric switch comprising a cam, a first contact arm and a contact carried thereby, a second contact arm and a contact carried thereby, a power contact arm located between said first and said second contact arms and having a contact, said arms being rigidly supported at one of their ends and having their other ends movable, a ratchet wheel rigid with said cam and adapted to rotate said cam, a thermal element having a fixed end and a movable end, a ratchet dog pivoted on and carried by the movable end of said thermal element and arranged to move said ratchet wheel for each cycle of heating and cooling of said thermal element, said cam controlling the movable ends of said power contact arm and said second contact arm and controlling the alternate engagement and disengagement of the contact of said power

contact arm with the contact of said first and said second contact arms, and a shouldered insulating spacer passing freely through said power contact arm and acting as a spacer for said first and second contact arms.

2,970,455
AIR CONDITIONING APPARATUS
John P. Slattery, Louisville, Ky., assignor to General Electric Company, a corporation of New York
Filed Dec. 21, 1959, Ser. No. 861,023
3 Claims. (Cl. 62—199)



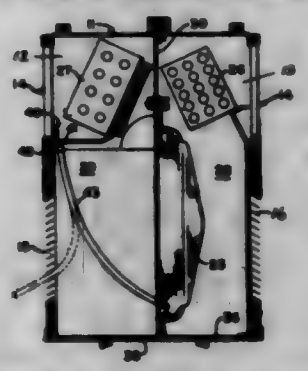
1. In an air conditioning unit having a fan means for moving air through said unit and a refrigeration system including a compressor, the combination comprising a compressor motor, a fan motor, each of said motors having a main winding and an auxiliary winding, said auxiliary winding of said fan motor consisting of at least equal ampere-turns as said main winding thereof, power supply connectors for energizing said motors, said main windings of each of said motors connected in parallel with each other across said power supply connectors, said auxiliary windings of each said motors being connected in series across said power supply connectors, a capacitor connected in series with and between said auxiliary windings of said motors and serving as a starting and running capacitor of both of said motors, an inductive reactor connected in parallel with said main winding of said fan motor and having one end connected between said capacitor and said auxiliary winding of said fan motor, and means for selectively varying said inductive reactor so that the speed of said fan motor is changed with only negligible effect on the electrical characteristics of said compressor motor.

2,970,456
AUTOMOBILE COOLING UNIT
Jessie A. Rice, 2102 S. Monticello, Big Spring, Tex., assignor of twenty-five percent to Charles R. Blake, Big Spring, Tex.
Filed July 2, 1958, Ser. No. 746,199
1 Claim. (Cl. 62—244)



An air cooling unit for installation in an automotive vehicle having a trunk compartment with a top package shelf forming a part of the passenger compartment, said cooling unit comprising an elongated casing mounted in the trunk compartment with air intake ends facing opposite sides of the compartment, a central vertical partition in said casing dividing the casing into a pair of compartments, a pair of cool air ducts extending from the pair of compartments respectively upwardly through said shelf into the passenger compartment at opposite sides thereof, a pair of fans in said compartments at opposite sides of the partition connected to said ducts for drawing in air through said ends of the casing into said compartments and blowing the air through the cool air ducts and into the passenger compartment, a motor in said casing extending through and fitted in said partition between said fans and operatively connected thereto, means in said casing for humidifying the air drawn into said ends of the casing into said pair of compartments in response to operation of said fans, an exhaust duct depending from said shelf through the bottom of the vehicle and including an upwardly and rearwardly beveled discharge end, and a fan in said exhaust duct for evacuating the passenger compartment of air whereby to provide for circulation of air from the first named ducts through the passenger compartment.

2,970,457
SELF-CONTAINED AIR CONDITIONING UNIT
David Earle MacLeod and Francis De Haven Stevens, Syracuse, N.Y., assignors to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware
Filed Sept. 22, 1958, Ser. No. 762,303
1 Claim. (Cl. 62—279)

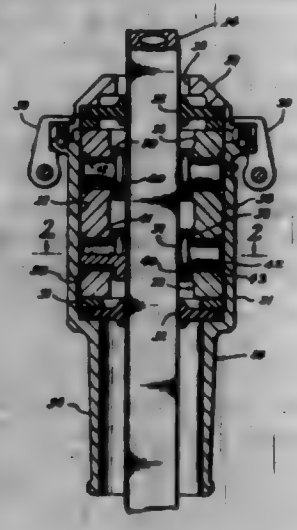


An air conditioning unit of the window mounted type comprising an evaporator, a compressor, a condenser, means forming an apertured enclosure for said unit, a partition separating said evaporator and said condenser to form an evaporator chamber and a condenser chamber, said partition having an opening therein, means for supplying separate streams of air over the evaporator and condenser, means for mounting said unit in a window whereby either the evaporator or condenser may be placed in heat transfer relation with air within the area served by the unit, means placed beneath said evaporator for collecting condensate draining from said evaporator, flexible conduit means extending in said evaporator compartment, said flexible conduit means having a first end fixedly connected to said condensate collection means, the body of said conduit means extending through said evaporator compartment and terminating in a free end removably extending through said partition opening for delivering condensate to a predetermined position within the condenser compartment, said free end being removable from said partition opening upon dismounting said unit from the window for the purpose of employing the unit as a dehumidifier so that the body extends in the opposite direction through one of said enclosure apertures to discharge condensate through the free end outside said unit.

2,970,458
KELLY DRIVE BUSHING
Archie R. McLerran, Beaumont, Tex., assignor, by mesne assignments, to Dresser Industries, Inc., Dallas County, Tex., a corporation of Delaware
Filed May 1, 1957, Ser. No. 656,432
9 Claims. (Cl. 64—23.7)

1. A Kelly drive bushing, comprising a housing adapted to be received within a rotary table for rotation

therewith, said housing including a body having a bore therethrough for receiving a kelly and a plurality of openings therein intersecting the bore, a plurality of cages each including a sleeve movable longitudinally into one of said openings from the exterior of the body, means releasably connecting the sleeves to the body when the same are disposed in said openings, and a roller mounted in the sleeve of each cage for rotation about an axis disposed perpendicularly of the axis of



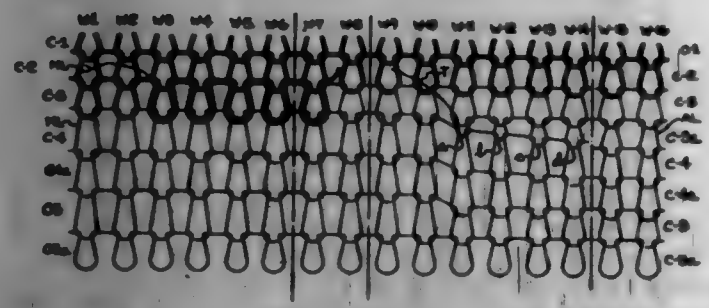
the bore through the body, the inner end of each roller being smaller than said openings but enlarged to provide a working surface engageable with a side of a kelly received within the bore to rotate the kelly within the housing and rotate the rollers about their axes upon movement of said kelly vertically within said bore, and each roller being removable with the cage in which it is mounted upon disconnection of the sleeve of said cage from the body.

2,970,459

METHOD AND MEANS FOR PREVENTING FORMATION OF EYELETS IN CIRCULAR KNITTING

Gene E. Hart and Howard F. Metcalf, Charlotte, N.C., assignors to Carolina Knitting Machine Corporation, Charlotte, N.C., a corporation of North Carolina

Filed Jan. 2, 1957, Ser. No. 632,106
23 Claims. (Cl. 66—42)



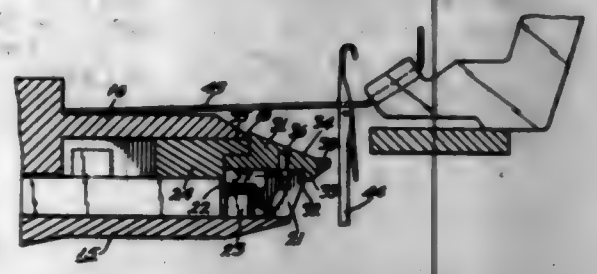
1. In a method of knitting seamless hosiery having a first portion knit from at least one first yarn and a second portion knit from at least one second yarn and at least one third yarn, the steps of knitting a plurality of courses of regular stitches solely from the first yarn to form said first portion, knitting a few regular stitches from the first and second yarns, continuing knitting solely from the second yarn, then knitting a few stitches from the third yarn independently of the second yarn, commencing with at least one extremely small stitch and gradually increasing the size of the stitches until the stitches formed are of said regular size, and then knitting successive circular courses of regular stitches solely from the third yarn and solely from the second yarn in alternation.

2,970,460

TOOTHED YARN CONTROLLER

Peter A. Mahler, Philadelphia, and Kerwin R. Beyer, Gilbertsville, Pa., assignors, by mesne assignments, to Singer-Fidelity, Inc., Philadelphia, Pa., a corporation of Delaware

Filed Apr. 15, 1960, Ser. No. 22,554
6 Claims. (Cl. 66—140)



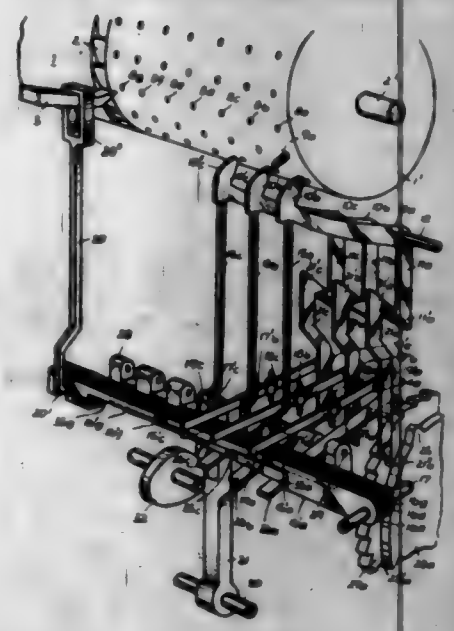
1. In a circular knitting machine having a rotary dial, a stationary dial cap, and a needle circle surrounding said dial and cap; a yarn controller comprising an annular ring mounted on said dial for rotation therewith and projecting outwardly therebeyond, said ring having a plurality of teeth disposed around its outer periphery, the leading faces of said teeth being substantially radial of said dial, said ring being mounted to overlie the peripheral edge of said dial and to engage under said dial cap, the upper surface of said ring inclining inwardly and terminating at its inner end in a shoulder adapted to slidably receive the outer peripheral edge of said dial cap, said surface projecting above the uppermost edge of the outer periphery of the dial cap to deflect yarns from the clearance between said controller ring and said dial cap.

2,970,461

CAM CONTROL FOR KNITTING MACHINES

Karl Hoffmann, Eichenderffstrasse 71, Kirchheim, Teck, Wurttemberg, Germany

Filed May 27, 1959, Ser. No. 816,157
Claims priority, application Germany May 28, 1958
16 Claims. (Cl. 66—155)



1. In an automatic knitting machine, a cam control comprising, in combination, a main control member for controlling automatically operated parts of the machine, shifting means, driving means for moving said shifting means continuously so as to shift said control member in a step-by-step movement, a supporting member operatively connected to said main control member for synchronous movement therewith, said supporting member having a plurality of surface parts spaced from each other and arranged in rows and lines, said rows crossing the direction of the movement of the surface of said sup-

porting member, said lines being parallel to said direction of movement, each of said parts being adapted to be changed from one condition to another condition, one of said conditions being an active condition and the other an inactive condition, scanning means associated with each of said lines and adapted to be actuated by any one of said surface parts in said active condition within said line, transmitting means comprising a plurality of members functionally interposed between said scanning means and said shifting means, each of said scanning means being associated with at least some of said transmitting members of one of said transmitting means for changing said transmitting members from an inactive position to an active position when a scanning means is acted upon by one of said surface parts in said active condition, each of said transmitting members in said active position being adapted to interrupt the shifting action of said shifting means, means for returning said transmitting members from said active position to said inactive position, a member movable in a continuous succession of cycles in timed relation with said driving means, a plurality of counters operatively connected to said movable member, each of said counters being associated with the surface parts in the active position in one of said lines for counting a predetermined number of said cycles of said movable member, each of said scanning means comprising means for starting the operation of the counter associated therewith, means associated with each counter for delaying the action of said returning means until each actuated counter has completed its counting operation and for then releasing said returning means, and means for retaining at least one of several actuated counters in an inoperative condition as long as another counter operates so that said actuated counters operate successively.

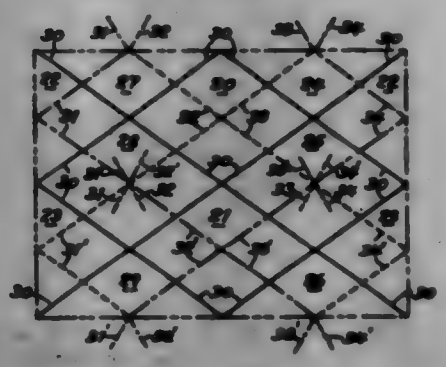
2,970,462

OVERPLAID ARGYLE HOSIERY

Nathan Levin, 722 Edgewood Ave., Trenton 8, N.J.

Original application Apr. 30, 1959, Ser. No. 809,996, now Patent No. 2,941,385, dated June 21, 1960. Divided and this application May 11, 1960, Ser. No. 28,462

1 Claim. (Cl. 66—179)



A tubular hose having a leg portion formed of a plurality of suture joined diamond shaped fabric areas wherein, a pair of walewise disposed upper and lower front diamond shaped body fabric areas is at the front of said leg, a pair of walewise disposed upper and lower rear diamond shaped body fabric areas is at the rear of said leg, and an upper half diamond and a middle diamond and a lower half diamond shaped body fabric area is at each side of said leg between and suture joined to said front and to said rear diamond areas in such manner as to provide walewise extending zig-zag shaped suture line paths therebetween, said leg forming fabric areas being decorated with an overplaid design of the four yarn type wherein, a first yarn forms an overplaid line extending from the center portion of a first of the upper half diamond areas on one side of said leg to the center portion of said upper rear diamond area and to the center portion of a first of the middle diamond areas on said one side of said leg, a second yarn forms an overplaid line extending from the center portion of said first middle diamond area to the center portion of said lower rear diamond area and to the center portion of a first of the lower half diamond areas on said one side of said leg, a third yarn forms an overplaid line extending from the center portion of said first upper half diamond area to the center portion of said upper front diamond area and to the center portion of said first middle diamond area, a fourth yarn forms an overplaid line extending from the center portion of said first middle diamond area to the center portion of said lower front diamond area and to the center portion of said first lower half diamond area, a fifth yarn forms an overplaid line extending from the center portion of the second of said upper half diamond areas to the center portion of said upper front diamond area and to the center portion of the second of said middle diamond areas, a sixth yarn forms an overplaid line extending from the center portion of said second middle diamond area to the center portion of said lower front diamond area and to the center portion of the second of said lower half diamond areas, a seventh yarn forms an overplaid line extending from the center portion of said second upper half diamond area to the center portion of said upper rear diamond area to the center portion of said second middle diamond area, and an eighth yarn forms an overplaid line extending from the center portion of said second middle diamond area to the center portion of said lower rear diamond area and to the center portion of said second lower half diamond area, the overplaid line of each of said yarns extending uninterruptedly across the sutures between the diamond areas it decorates, the arrangement being such that when said first, fourth, sixth and seventh yarns are of a first color and when said second, third, fifth and eighth yarns are of a second color, that then the overplaid lines of said upper front and lower rear diamond areas are of said second color and the overplaid lines of said upper rear and lower front diamond areas are of said first color while the overplaid lines of said side diamond areas are of both of said colors and are of crossed colors in the middle diamond areas thereof.

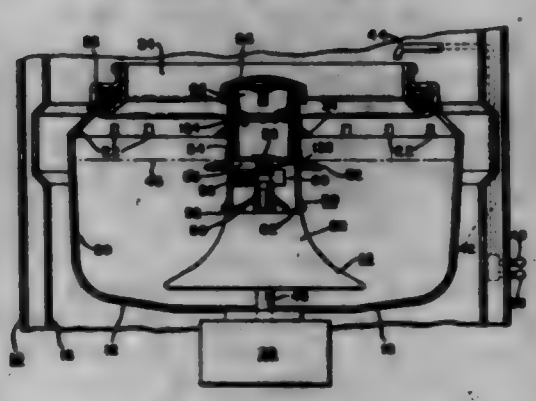
2,970,463

CLOTHES WASHING MACHINE HAVING A DISPENSING DEVICE

John R. Johnston, Covington, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Feb. 2, 1959, Ser. No. 790,459

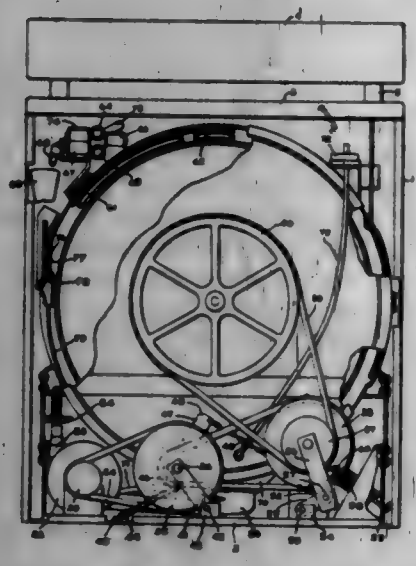
3 Claims. (Cl. 68—17)



1. A centrifugally actuated dispensing device for a washer tub comprising, a container having top and bottom walls and adapted to contain a laundry substance, means for selectively reciprocating and rotating said container inside said washer tub, said bottom wall having an opening, means for closing said opening, means for latching said closing means during said reciprocation and for unlatching said closing means during said rota-

tion, a shaft depending from said top wall for continuously venting said container to the atmosphere during said reciprocation thereby to equalize pressures between the exterior and interior of said container, said shaft including an axial passageway from said top wall to a point adjacent the inner end of said shaft, and a second passageway at an angle to said first passageway, said shaft extending above the surface of said substance when said container is inverted.

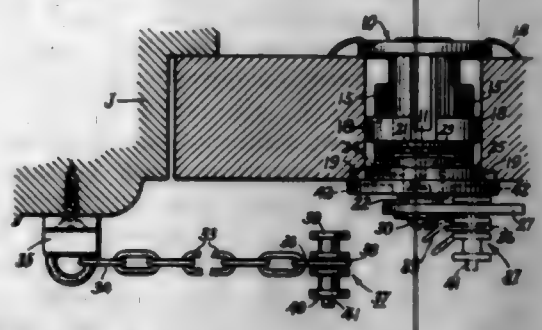
2,970,464
COMBINATION WASHER AND DRYER WITH IMPROVED CLOTHES RECEPTACLE
John W. Toma, Louisville, Ky., assignor to General Electric Company, a corporation of New York
Filed Dec. 19, 1958, Ser. No. 781,778
7 Claims. (Cl. 68—19)



1. In a laundry machine, a clothes receptacle having a perforated substantially cylindrical peripheral wall formed to limit surface contact with clothes in said receptacle to a maximum of approximately sixty percent of its inner area, said receptacle being rotatable on a non-vertical axis, means for rotating said receptacle at a first speed below that required to exert a centrifugal force of one G and at a second speed exerting a centrifugal force of at least 21 G's at the inner surface of the peripheral wall of said receptacle, said first speed being effective to tumble clothes in said receptacle, said second speed being effective to extract sufficient liquid from the clothes to prevent appreciable dripping of the clothes when they are removed from said receptacle, means for introducing liquid into said receptacle, control means for controlling the speed of said rotating means, to rotate said receptacle at said first speed in the presence of liquid for clothes treating purposes and at said second speed to extract liquid from the clothes, and means for heating clothes in said receptacle subsequent to rotation of said receptacle at said second speed.

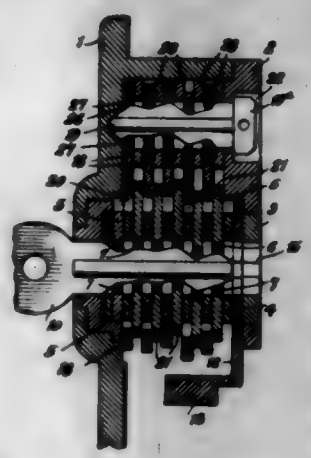
2,970,465
CHAIN FASTENER DEVICE
Morris Falk, Jr., Highland Park, Ill., and Bernard S. Falk, Leominster, Mass., assignors to Independent Lock Company, Fitchburg, Mass., a corporation of Massachusetts
Filed Aug. 26, 1958, Ser. No. 757,355
8 Claims. (Cl. 70—93)

8. A door chain fastener consisting of a key operable mortice lock plug cylinder assembly adapted to be mounted without alteration on right or left handed doors with the keyway therefor exposed on the outside face of said door, and said cylinder assembly including laterally directed draw bolt receiving ears, a bitted back plate arranged to be nested against the inside face of the door including draw bolt mounting means and draw bolts mounted on said mounting means cooperating with the draw bolt ears of the lock plug cylinder assembly to cause said bitted back plate to bite into and hold the said assembly against rotation relative to the door, a trunnion rotatably mounted on said back plate, a bar extending from said lock plug cylinder assembly and separably connected to said trunnion, said



bar being keyed to said trunnion and adapted to rotate the latter on operation of said lock plug cylinder assembly, said trunnion having keyed thereto a clevis plate, said clevis plate being disposed on the inside face of the door, the walls of said clevis plate defining a slot displaceable approximately 180° to each side of said trunnion, a chain having an end adapted to be anchored to a door jamb, and a free end arranged to be loosely slidably received in said slot of said clevis plate.

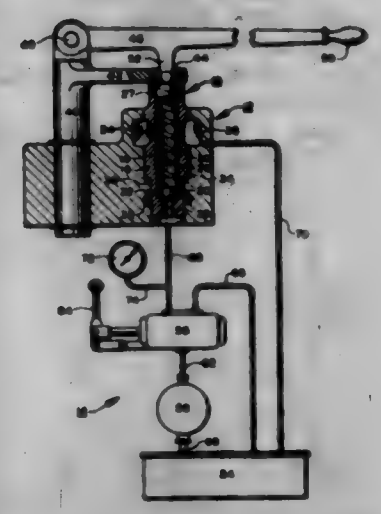
2,970,466
LOCKS
John F. Wellekens, New York, N.Y., assignor to Sonic Dynamics, Inc., Staten Island, N.Y., a corporation of New York
Filed Jan. 27, 1959, Ser. No. 789,378
2 Claims. (Cl. 70—339)



1. A lock having a casing, a cylinder mounted for rotative movement, a bolt-operating element, the cylinder being coupled to the bolt-operating element in a manner to cause retracting movement of the bolt operated by said element upon rotative movement of the cylinder, the cylinder having a plurality of slots extending through it, tumbler plates extending through the slots and having projecting spurs provided with shoulders, the tumbler plates having key-hole openings, the cylinder having a key-hole opening, a bolt-operating key extendable through the key-hole openings in the tumbler plates and cylinder and adapted by its shape to cause selective projection of the spurs beyond the periphery of the cylinder, a plurality of slidable stop plates contained in the casing and adjustable toward the tumbler plates, each of the stop plates being provided at one end with a lug for positioning in the path of movement of one of the spurs, the casing and the stop plates having key-hole openings, and a non-rotative combination key inserted through said key-hole openings to thereby selectively locate the stop plates

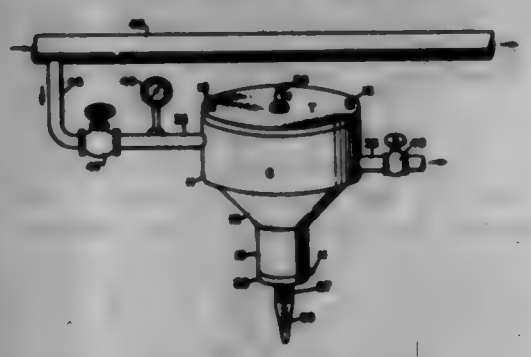
with their lugs in blocking position for the tumbler plates unless the stop plates and tumbler plates are complementarily positioned by the use of the combination key.

2,970,467
VALVE ASSEMBLY AND CALIBRATION
Raymond B. Pettibone, Detroit, Mich., assignor to Vickers Incorporated, Detroit, Mich., a corporation of Michigan
Filed Nov. 1, 1954, Ser. No. 465,799
1 Claim. (Cl. 73—4)



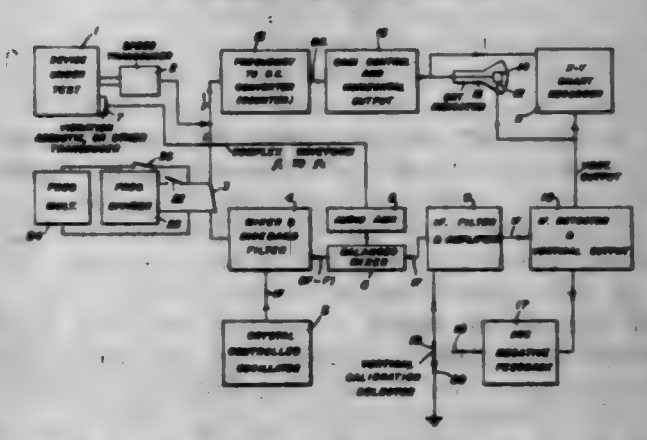
A method of assembly and calibration for a pressure responsive valve of the type having a body, a seat member, a valve element having an area subjected to fluid pressure to shift said element away from the seat member, a spring to bias the valve element against such shifting, a spring retaining member, a chamber in said body for said spring, the chamber having said seat member at one end and said spring retaining member at the other end, said spring retaining member having a press fit relation with a length of said chamber, said method comprising: connecting said valve to a source of fluid pressure so that pressure is applied to said element through said seat member and the shifting of said element controls the pressure of said source, said source being capable of developing the desired calibration pressure and having pressure indicating means in conjunction therewith; and concurrently assembling and calibrating said valve by pressing said spring retaining member into engagement with said length of said chamber until a desired pressure magnitude is produced in said source and indicated by said pressure indicating means and thereupon terminating the pressing operation.

2,970,468
CELL FOR TESTING HYDROCARBON FUEL
Harold A. Price, Lafayette, Calif., assignor to Dorr-Oliver Incorporated, Stamford, Conn., a corporation of Delaware
Filed Dec. 27, 1956, Ser. No. 630,841
14 Claims. (Cl. 73—53)



1. A device for indicating the quantity of entrained solids and of water in a hydrocarbon fuel, which comprises an enclosed generally funnel-shaped casing having a covered cylindrical body portion and a depending hoppered portion, a liquid-permeable septum extending transversely of the body portion, a foraminated support therefor, means for distributively feeding fuel into the body portion above the septum, a downwardly opening hood means below the septum for collecting and flowing fuel from the body portion, and means extending axially from the hoppered portion for collecting water droplets settling thereinto from the hoppered portion, said septum including means for entrapping on its upper surface fuel-entrained solids, and means for selectively treating fuel-entrained water particles passing through the septum with the fuel to coalesce them into droplets large enough to be subject to gravity separation, whereby the dirt of the fuel is segregated on top of the septum and the water of the fuel is segregated in the water-collecting means extending from the hoppered portion.

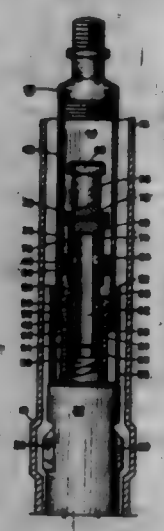
2,970,469
PANORAMIC HETERODYNE SYNCHRONOUS COMPONENT ANALYZER
Edward F. Feldman, New Rochelle, N.Y., assignor to Panoramic Radio Products, Inc., Mount Vernon, N.Y., a corporation of New York
Filed Mar. 8, 1957, Ser. No. 644,830
3 Claims. (Cl. 73—67.2)



1. A panoramic system for analyzing a complex wide band spectrum of mechanical frequencies deriving from motion of a device under test, comprising a transducer for translating said spectrum of mechanical frequencies to a corresponding spectrum of electrical wave frequencies, speed transducer means for converting a component of periodic motion of said device into a generally sinusoidal electrical wave signal of inconstant amplitude and impure wave shape having a period fixedly related to the period of said periodic motion and corresponding with a frequency NF, where N is a constant, means for squaring said electrical wave signal to derive repetitive square waves, means for deriving from said repetitive square waves repetitive pulses occurring one for each cycle of said square waves, said repetitive pulses arranged to have all equal energy for all values of F, means for integrating said repetitive pulses comprising an integrating device, a visual indicator having means for generating an indication movable in two coordinate directions, means for moving said indication in one of said coordinate directions as a function of integrated product of said integrating device, means for shaping said repetitive square waves into pure sinusoidal waves of constant amplitude and of frequency NF for all values of NF, a source of constant frequency IF, means for heterodyning said frequencies NF and IF to derive a difference frequency *IF—NF*, a balanced mixer, means for applying to said balanced mixer for heterodyning therein said difference frequency *IF—NF* and a frequency spectrum derived from said transducer, means for deriving from said balanced mixer an intermediate frequency signal spectrum, filter means for selecting a narrow band of frequencies

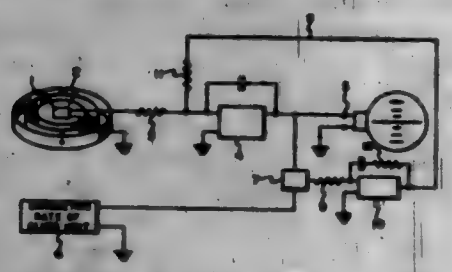
from said intermediate frequency signal spectrum, and means responsive to the amplitude of response of said filter means for actuating said indication in the other of said coordinate directions.

2,970,470
METHOD AND APPARATUS FOR USE IN WELLS
John W. Kennedy, Houston, Tex., assignor, by mesne assignments, to Jersey Production Research Company, Tulsa, Okla., a corporation of Delaware
Filed Feb. 24, 1958, Ser. No. 717,071
7 Claims. (Cl. 73—151)



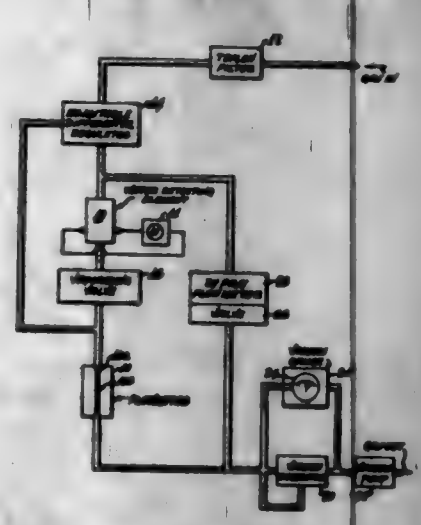
1. A system for use in a cased well having a tubing string permanently arranged therein with its lower extremity above producing formations comprising: a running tool, said running tool have a hollowed out portion extending upwardly from the lower extremity thereof and in fluid communication with the hydrostatic head within the tubing string; a tubular extension member having a continuous passageway formed therein releasably connected to the running tool; packing means mounted on the extension member for setting against the tubing string; means for isolating the pressure within the tubular extension member from the hydrostatic head within the tubing string against pressure applied from any direction to permit pressure testing of the packing means; and means responsive to upward movement of the running tool for equalizing the pressure within the tubular extension member with the hydrostatic head within the tubing string.

2,970,471
RATE OF CLIMB METER
Frederick Arthur Summerlin, Isleworth, England, assignor to The Sperry Gyroscope Company Limited, Brentford, England, a British company
Filed Sept. 8, 1958, Ser. No. 759,614
5 Claims. (Cl. 73—179)



1. In an aircraft rate of climb instrument, an accelerometer for sensing acceleration of the craft in a vertical direction, integrating means controlled by the accelerometer providing an output in accordance with the instantaneous rate of vertical climb of the craft, and means for monitoring the accelerometer to reduce the error thereof to null including barometric means providing an output in accordance with the rate of change of altitude of the craft, comparing means providing an output in accordance with the difference between the outputs of said integrating means and said barometric means, and a feedback circuit including an integrator for the output of said comparing means connected to said integrating means to provide a monitoring input thereto.

2,970,472
GAS FLOW RATE INDICATING AND CONTROLLING SYSTEM
William R. Jones, New Britain, and Gustav Bergson, Jenkintown, Pa.; said Jones assignor to Manufacturers Engineering and Equipment Corporation, a corporation of Pennsylvania
Filed Dec. 3, 1958, Ser. No. 777,900
1 Claim. (Cl. 73—199)

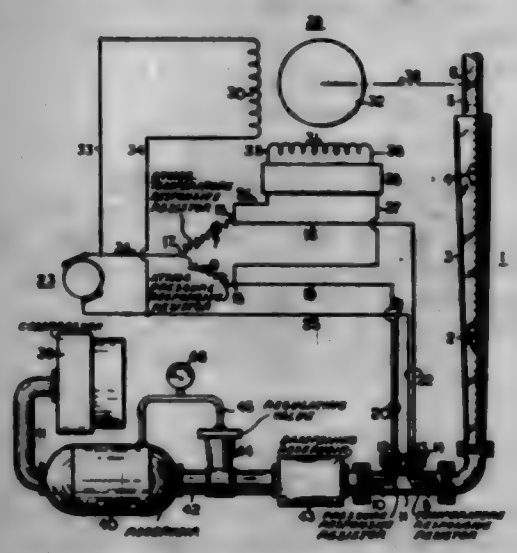


A gas flow controlling and indicating system comprising a differential pressure regulator, means for passing gas through said regulator, a fine needle valve and a flowmeter of the type including a tapered tube and a float connected in series to receive a portion of the gas from said regulator, said fine needle valve adjustable to restrict the flow rate of gas therethrough to rates on the order of 1 cc./minute, means providing a bypass valve also connected to receive gas from said regulator in parallel with said fine needle valve and flowmeter, said bypass valve means adjustable to provide a total flow rate through said regulator at which said regulator exhibits stable operation, said regulator being connected to maintain a constant pressure across said needle valve, and means for maintaining a partial vacuum at the outlet ports of said flowmeter and said bypass valve, the indication on said flowmeter being expanded by a factor approximately proportional to an inverse function of the vacuum at said outlet ports measured in atmospheres.

2,970,473
TEMPERATURE COMPENSATED GAS FLOW METER
Robert M. Kendig, Trafford, Pa., assignor to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania
Filed May 21, 1957, Ser. No. 660,588
3 Claims. (Cl. 73—209)

2. A metering device for measuring the rate of flow of a gas, comprising, in combination, a transparent sight tube disposed vertically and having disposed therein a float means movable into different vertical positions within said tube to give a visible reading of the rate of flow therethrough responsively to volume of flow of gas therethrough, said tube having an inlet port at the bottom end thereof and a discharge port at the top end thereof, valve means in said tube adjacent the discharge port of said tube effective when moved toward a closed position to restrict flow through the discharge port and thus to correspond-

ingly increase the pressure of gas flowing through the tube with corresponding lowering of the position of said float means and a consequent decrease in the indication of rate of flow registered by the float means, motor means for operating said valve means, and control means for said motor means, said control means including temperature responsive means responsive to an increase in temperature of the gas entering said tube for effecting a corresponding operation of said motor means to operate said valve means toward a closed position to cause an increase in pressure of gas flowing through the said tube to act

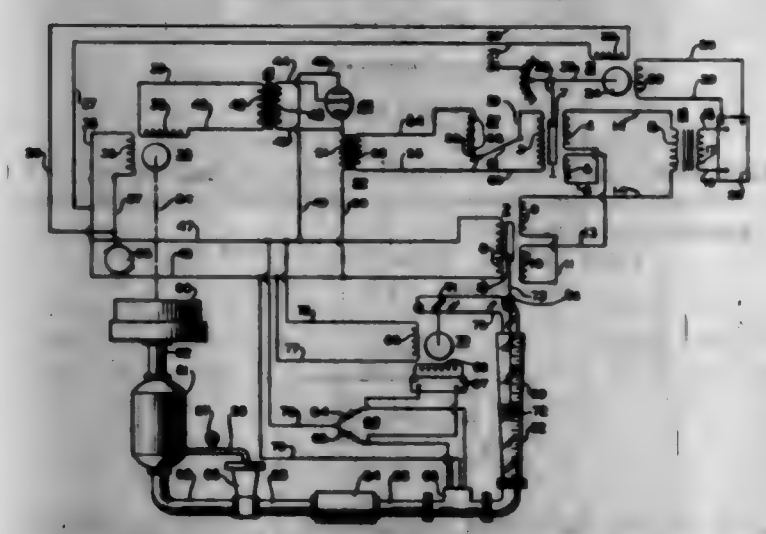


on the said float means in a downward direction to compensate for the increased amount of flow which tends to be registered by the said float means within said tube due to the increase in temperature of the gas entering the said tube, and pressure responsive means responsive to said increase in pressure of the gas flowing through said tube for effecting cessation of operation of said motor means to stop operation of said valve means toward a closed position and cause said float means to locate at a position indicative of the rate of flow through said tube means notwithstanding variations of temperature of the gas flowing therethrough.

2,970,474
COMPRESSOR EFFICIENCY DETERMINING APPARATUS

Robert M. Kendig, Trafford, Pa., assignor to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania

Filed Aug. 29, 1957, Ser. No. 681,090
2 Claims. (Cl. 73—112)

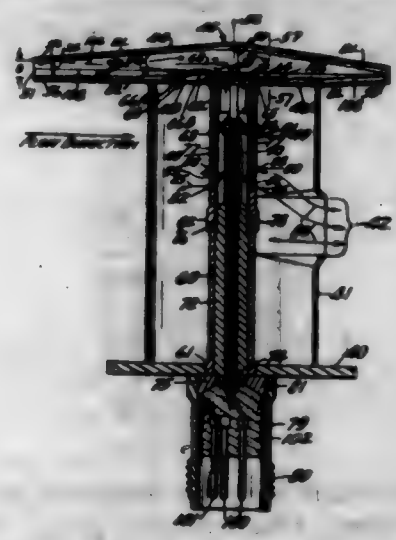


1. Apparatus for automatically determining and continuously indicating the efficiency of a compressor of the type utilized for compressing non-combustible gases, said apparatus comprising in combination, automatic gas flow metering means including flow indicator means operative to measure the rate of flow of gas supplied by said compressor and operatively responsive to said rate of flow to position said flow indicator in a position indicative of said rate of flow, tachometer means operatively responsive to the speed of said compressor to supply a first alternating current voltage proportional to the speed of said compressor, circuit means including auto-transformer means manually adjustable according to different compressor displacement ratings operative responsively to said first alternating current voltage to develop a second alternating current voltage proportional to the mathematical product of the speed of said compressor as indicated by said first alternating current voltage and the displacement rating of said compressor as indicated by the manual adjustment of the auto-transformer, a first linear variable differential transformer means operatively responsive to said second alternating current voltage, a second linear variable differential transformer means operatively responsive to variations in positioning of said flow indicator of said flow metering means to develop a third alternating current voltage, second circuit means including said first and said second linear variable differential transformer means connected in opposing voltage relationship to develop a fourth alternating current voltage proportional to the mathematical quotient of the second alternating current voltage and the opposing third alternating current voltage, efficiency indicating means, and electrical controlling means operatively responsive to said fourth alternating current voltage to effect equalization of said opposing voltages in said second circuit means to reduce said fourth alternating current voltage to a null voltage and simultaneously causing said efficiency indicating means to indicate the compensated efficiency of said compressor when said null voltage occurs.

2,970,475
GAS TEMPERATURE PROBE

Frank D. Werner, Rosemount, Minn., assignor to Rosemount Engineering Company, Rosemount, Minn., a corporation of Minnesota

Filed Oct. 8, 1956, Ser. No. 614,583
15 Claims. (Cl. 73—339)

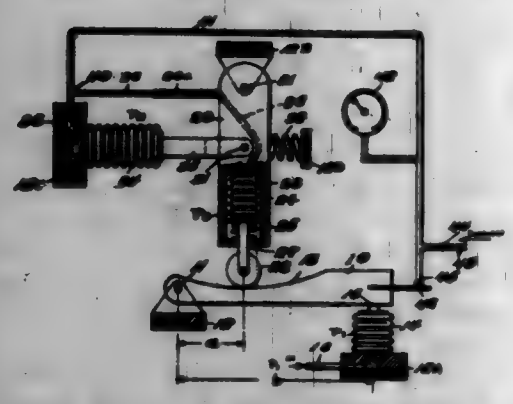


1. A total temperature probe comprising a conduit constructed for passage therethrough of a sample flow of gaseous fluid, said conduit having an inlet which is adapted to be directed forwardly and an outlet which is smaller than the inlet and which is spaced from the inlet in the direction of flow of the sample through the conduit, a temperature sensor mounted in the conduit and out of contact with the conduit walls and at a location along the direction of flow of the sample and between the inlet and outlet of the conduit, said conduit being provided with a plurality of restricted fluid flow passageways therethrough in that portion of the conduit from adjacent the inlet to adjacent the sensor for outflow of the boundary layer gaseous fluid from such portion of the interior of the conduit.

2,970,476
PNEUMATIC PRESSURE RATIO APPARATUS

Francis H. Cary, Warwick, R.I., assignor to B-I-F Industries, Inc., a corporation of Rhode Island

Filed June 19, 1956, Ser. No. 592,288
5 Claims. (Cl. 73—407)

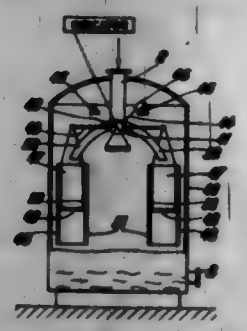


1. A pressure converting apparatus comprising an arm pivoted at one end and having a longitudinal arcuate edge, a pressure responsive device positioned to exert a force at the other end of said arm, a second arm pivoted at one end at a location in the plane of movement of the first arm, the pivoting axis of said second arm forming the center of the arcuate edge of said first arm, said second arm including a second pressure responsive device exerting a force between the pivot point of said second arm and said arcuate edge, a third pressure responsive device positioned to exert a force intermediate said second arm to adjust the moment arm of said second device on the first arm, said first pressure responsive device creating an opposing moment arm.

2,970,477
DEVICE FOR DETERMINING THE SPECIFIC GRAVITY OF LIQUIDS WHICH CONTAIN GASES SUCH AS MORE PARTICULARLY CRUDE PETROLEUM

Gerhard Winter, Hindenburgstrasse 5, Quakenbruck, Germany

Filed Feb. 25, 1957, Ser. No. 641,892
Claims priority, application Germany Feb. 24, 1956
1 Claim. (Cl. 73—435)

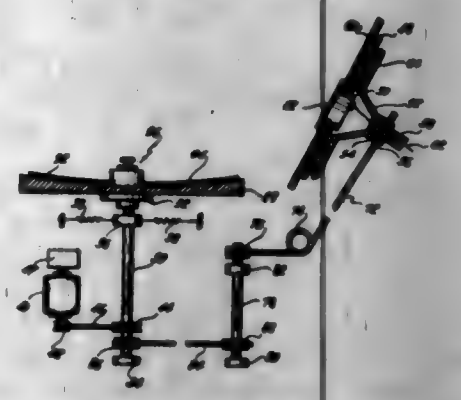


A device for determining the weight of petroleum and other liquid streams which contain gases, comprising a conduit for conducting a liquid stream constantly under pressure; a pressure vessel inserted in said conduit and having its inlet opening for liquid at its upper end and a discharge opening for liquid at its lower end, for permitting separation of gas and liquid and formation of a liquid layer on the bottom of the pressure vessel and a gas-filled space above said liquid layer, in the pressure vessel; means for measuring the weight of streaming liquid, said means being arranged in the gas-filled space in the pressure vessel and means for transmitting measurings of said measuring means to an indicating device; said measuring means including an inlet pipe extending to the interior of the pressure vessel through said inlet opening and a two-way rotary valve mounted at the inner end of the inlet pipe and a shaft for said rotary valve; a balance beam carried at its centre by said shaft; a lever attached to said shaft and having an adjustable counterweight movable between stationary stop elements provided in the pressure vessel; an upright measuring cylinder carried by each end of said balance beam, each of said measuring cylinders being provided with an opening in its peripheral surface near its bottom; each of said measuring cylinders being arranged to slide liquid-tight in an upright stationary cylinder which is open at both ends and provided at its lower end with a port, in order to permit discharge of liquid from the measuring cylinder through said opening and port, upon movement of the measuring cylinder to registering position of said opening and port.

2,970,478
BALANCING MACHINE

Arthur R. Crawford, Theodore Oggero, Wallace R. Rushin, and Robert E. Ellis, Columbus, Ohio, assignors to International Research and Development Corp., Columbus, Ohio, a corporation of Ohio

Filed Nov. 18, 1955, Ser. No. 547,689
2 Claims. (Cl. 73—467)

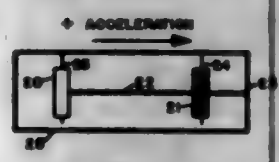


1. In a balancing machine for balancing a rotating object, a vertical spindle having a horizontal turn table carried thereby, said turn table having a concave upper surface, a resilient pad on said upper surface having a high coefficient of friction and a softness of no more than approximately 10 durometer, a motor for driving said spindle, a pick-up actuated by the vibration of said spindle, light producing means mounted in a generally circular configuration, said light producing means being controlled by said pick-up, and means adjacent said light producing means driven in synchronism with said turn table for making visible to the eye of an observer a discrete light at a position on said circle determined by the relative position of the unbalance weight in an object on said turn table with respect to said spindle.

2,970,479
WIDE RANGE ACCELEROMETER

Arne Wikstrom, North Scituate, R.I., assignor to AVCO Manufacturing Corporation, Cincinnati, Ohio, a corporation of Delaware

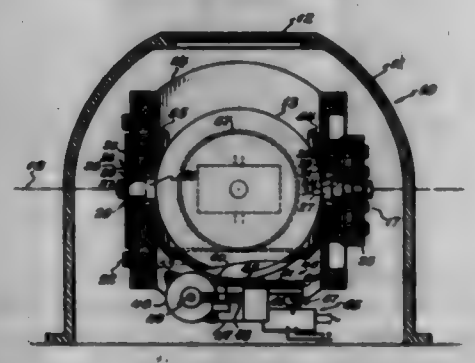
Filed Feb. 25, 1958, Ser. No. 717,513
16 Claims. (Cl. 73—514)



15. An accelerometer comprising a vibrating element means operatively connected to said element for changing a parameter of said vibrating element for changing its natural frequency of vibration in response to acceleration, and a second means spaced from said vibrating element for changing a parameter of said vibrating element for changing its natural frequency of vibration in

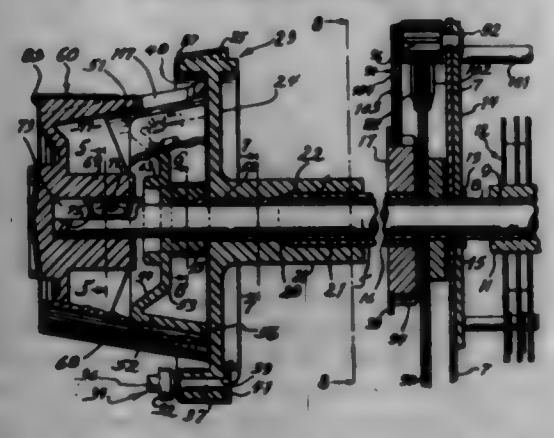
response to acceleration at a rate different from that of said first-mentioned means said aforementioned means acting simultaneously and independently on said vibrating element.

2,970,480
ANTI-FRICTION SUPPORT MECHANISM FOR GYROSCOPIC DEVICES
Edgar L. Zeigler, Glen Cove, and Martin S. Klemes, New York, N.Y., assignors to Sperry Rand Corporation, Great Neck, N.Y., a corporation of Delaware
Filed Sept. 24, 1956, Ser. No. 611,737
28 Claims. (Cl. 74—5)



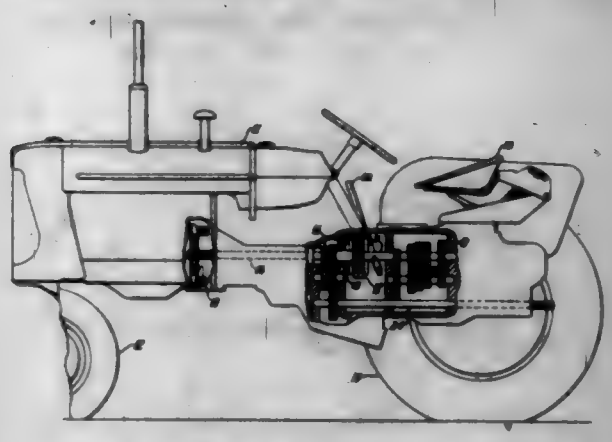
1. In a gyroscope having a casing and a rotor journalled in said casing, suspension means for permitting freedom of movement of the casing about an axis comprising a frame having a pair of diametrically opposed bearing surfaces, trunnions on said casing coaxial with said bearing surfaces, rings interposed between each of said trunnions and said frame bearing surfaces, anti-friction means interposed between said rings and said bearing surfaces and additional anti-friction means interposed between said rings and said trunnions, and means for rotating said rings in opposite directions with respect to one another and periodically reversing the direction of rotation thereof.

2,970,481
TUNER CONTROL
William H. Summerer, Des Plaines, Ill., assignor to Admiral Corporation, Chicago, Ill.
Filed Apr. 5, 1956, Ser. No. 576,436
1 Claim. (Cl. 74—10.45)



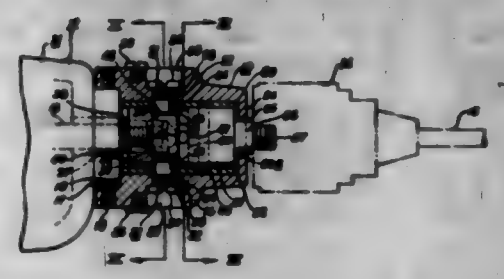
Tuning control apparatus for a television receiver operable in both the U.H.F. and V.H.F. ranges, comprising, a first control knob manually operable to coarse tune the receiver in the V.H.F. range, a second control knob manually operable to tune the receiver in the U.H.F. range and simultaneously to fine tune the receiver in the V.H.F. range, a first shaft connecting said first control knob to a first tuning means for coarse tuning in the V.H.F. range, a second shaft operably associated at one end thereof with a second tuning means for tuning in the U.H.F. range, an indicator means positioned at the other end of said second shaft for indicating the position of said second tuning means, a third shaft connected to said second control knob, reduction drive means continuously connecting said second and third shafts for reduced speed rotation of said second shaft when said third shaft is rotated by said second control knob, and coupling means operably associated with said second shaft and a third tuning means for fine tuning in the V.H.F. range, said first, second and third shafts coaxially mounted and rotatable relative to each other.

2,970,482
VEHICLE POWER TRAIN OF THE QUICK SHIFT TYPE
Walter F. Strehlow, Wauwatosa, and Robert Carlin, Greenfield, Wis., assignors to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Feb. 25, 1958, Ser. No. 717,461
4 Claims. (Cl. 74—15.84)



1. A vehicle power train comprising: a main engine clutch; a main change speed transmission; a first drive shaft connected to said main engine clutch for selective torque transmitting engagement therewith; a countershaft gear train connected in constant driven relation to said first drive shaft; a second drive shaft connected in constant driven relation to said gear train and revolving relative to said first drive shaft; first and second friction clutches selectively connecting said first and second drive shafts, respectively, in power transmitting relation to said main change speed transmission through elements having power transmitting frictional engaging surfaces; and means for selectively engaging said clutches while said engine clutch is engaged and said vehicle is in motion including a control member movable into a first position wherein said first clutch is engaged, a second position wherein said second clutch is engaged and a third position wherein said first and second clutches are disengaged.

2,970,483
ROTARY DRILL AND IMPACT TOOL
Wilbur T. Schrum, Sr., Derry, Pa., assignor to Impact Rotor Tool Inc., Latrobe, Pa., a corporation of Pennsylvania
Filed Feb. 17, 1959, Ser. No. 793,726
8 Claims. (Cl. 74—22)



3. In a rotary drill and impact tool, apparatus comprising, in combination, a cylindrical housing, a rotatable and selectively reciprocable member in said housing, said member having endless surface means extending peripherally around said member with portions at selectively

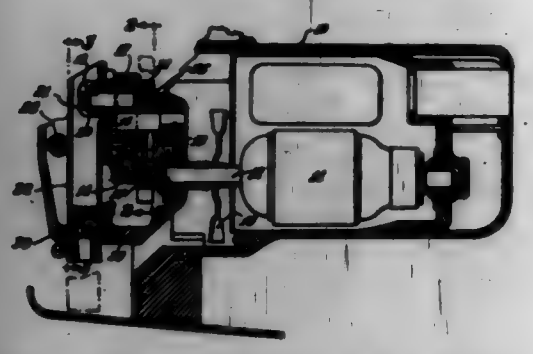
varied axial distances from a plane normal to the axis of said member, projection means movably connected to said housing for selective transverse movement into the path of and behind said portions, means for operatively connecting the back portion of said member in axially slidable non-rotatable relation to a rotatable prime mover shaft, means for operatively connecting the front portion of said member to a bit holder to move therewith in aligned relation, and means to limit the axial movement of said member in said housing.

2,970,484

BALANCING MECHANISM FOR SABRE SAWS AND THE LIKE

William E. Springer, Springfield, Ohio, assignor to Robbins & Myers, Inc., Springfield, Ohio, a corporation of Ohio

Filed Apr. 20, 1959, Ser. No. 807,696
3 Claims. (Cl. 74—50)



1. In a device wherein an electric motor having a shaft drives a reciprocating member through a pinion and gear and a crank pin on one face of said gear cooperating with a slot on said reciprocating member; a counterbalancing means comprising an eccentric hub on said gear diametrically opposed to said crank pin on the opposite face of said gear, and having a mass and eccentricity to substantially counterbalance the mass and eccentricity of said crank pin, and a counterweight having a slot accommodating said eccentric hub, a stub shaft fixedly mounted on said motor parallel to and spaced from said motor shaft, said gear being mounted on said stub shaft, a slot in said counterweight through which said stub shaft passes in guiding relation, and a slot in said counterweight through which said motor shaft passes in guiding relation, said last named slots being parallel to a line through the axes of said stub shaft and motor shaft and confining the movement of said counterweight to a line parallel to the movement of said reciprocating member, the weight and extent of movement of said counterweight substantially counterbalancing the weight and extent of movement of said reciprocating member.

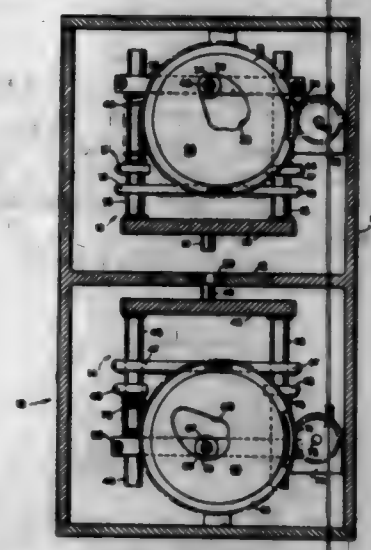
2,970,485

DRIVING MECHANISM FOR RECIPROCATING PRESS MEMBERS AND THE LIKE

Raymond G. Frank, Ambler, Pa., assignor to F. J. Stokes Corporation, Philadelphia, Pa., a corporation of Pennsylvania

Filed Feb. 7, 1957, Ser. No. 638,760
2 Claims. (Cl. 74—55)

1. In a press including a press member mounted for reciprocating movement, the improvement which includes a cam body mounted for oscillating movement about an axis in a plane perpendicular to the direction of reciprocating movement of said press member, said cam including an internal cam profile, said cam profile including a portion offset from the axis of oscillation of said cam body through a limited sector of said body having the form of an involute generated from a circle having its center on said axis of oscillation, a cam follower mounted on said press member in contact with the involute portion of said cam profile, said cam follower being reciprocable with said press member centered on a fixed plane tangent to said circle of genera-



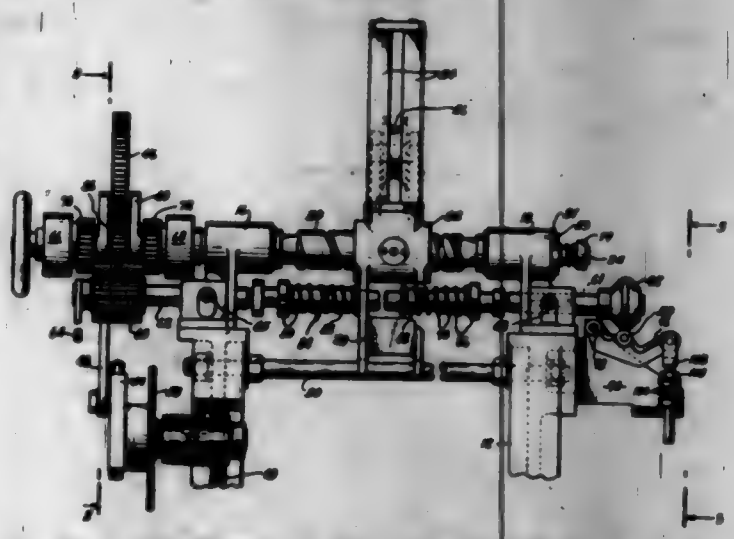
tion, and means for oscillating said cam body about said axis to carry contact of said follower from any one position to any other position along said involute portion of said profile within said sector.

2,970,486

DISTRIBUTOR DRIVE

Carl O. Bruestle, Metuchen, N.J., assignor to Syncro Machine Company, Perth Amboy, N.J., a corporation of New Jersey

Filed Sept. 6, 1957, Ser. No. 682,344
4 Claims. (Cl. 74—59)



1. In a distributor of the type described for heavy cable, a rotatably mounted lead screw, a reciprocable guide having a nut engaging said lead screw, driving means including a pair of oppositely acting unidirectional overrunning clutches for applying a series of successive driving pulses to said lead screw to rotate it alternatively in opposite directions for each successive series, and snap action means actuated by said guide for selectively actuating said clutches to cause said alternative rotations at precise intervals, said snap action means including a slidable bar, a pair of spring loaded members on said bar and engageable by said guide, and a spring loaded detent for both resisting and then aiding movement of said bar in either direction.

2,970,487

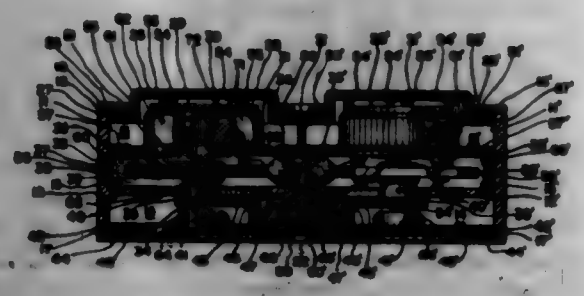
MECHANICAL VIBRATION GENERATOR

Theodore Ongaro, Columbus, Ohio, assignor to International Research and Development Corporation

Filed Oct. 30, 1959, Ser. No. 849,777
2 Claims. (Cl. 74—61)

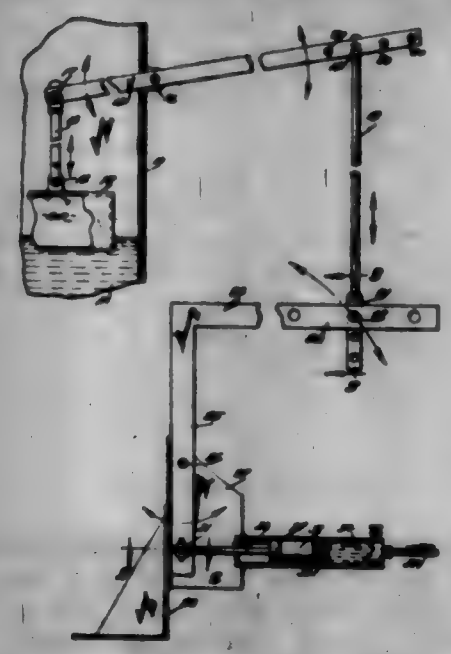
1. A vibration generator comprising a casing having two parallel bores, each of said bores being axially sepa-

rated sequentially into an enclosed working chamber, a ball race chamber and a synchronizing chamber, a rotatable shaft coaxially mounted within each bore, gearing means carried by each shaft within each synchronizing chamber and further communicating between the said bores to maintain a constant reversed angular relationship of the said shafts, a circular raceway for rolling movement of equal masses in each said ball race chamber, a mass-moving arm in each said ball race chamber carried by and extending radially from each shaft, equal masses



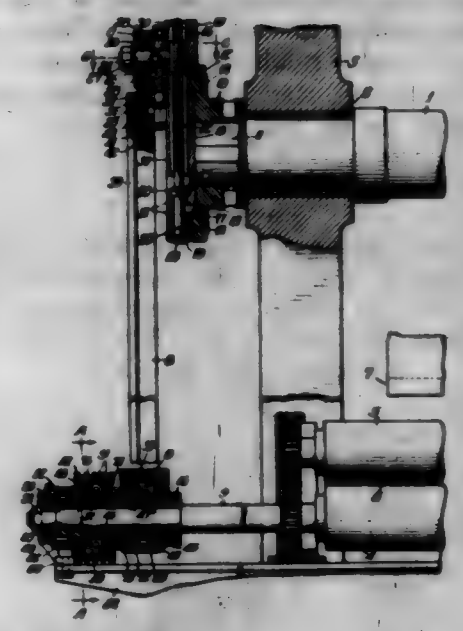
carried by but disconnected from each of said mass-moving arms in rolling engagement with each said circular raceway, a fluid driven rotor secured to each of said shafts within each said enclosed working chamber, a passageway in said casing for introducing pressurized working fluid into each said working chamber in working relationship with each said rotor, a fluid passageway extending along each bore from the enclosed working chamber through said ball race chamber and said synchronizing chamber, and a passageway in said casing communicating with each said synchronizing chamber for withdrawing working fluid.

2,970,488
CONTROL SYSTEM
Marvin V. Skillings, Lance Creek, Wyo.
Filed Jan. 3, 1958, Ser. No. 707,032
2 Claims. (Cl. 74—110)



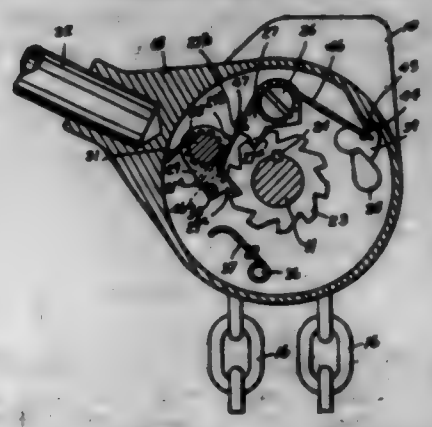
1. In a control system, a tank having a quantity of liquid therein, a movable float in said tank, an arm extending upwardly from said float and connected thereto, a lever pivotally connected to said tank and having one end pivotally connected to the upper end of said arm, a link having its upper end pivotally connected to said lever and the lower end of said link being bifurcated, an L-shaped body member connected to the bifurcated end portion of said link, a stationary bracket providing a pivotal support for said body member, a first cylinder secured to said bracket, a shank having one end connected to said body member, a movable piston arranged in said cylinder and connected to said shank, a second cylinder spaced from said first cylinder, a second piston movably mounted in said second cylinder, a conduit connecting said first and second cylinders together and said conduit having hydraulic fluid therein, a rod connected to said second piston, a support member secured to said second cylinder, a plate mounted on said rod, eye bolts connected to said support member and plate, coil springs extending between said eye bolts and connected thereto, a pivotally mounted base piece connected to said rod, and a throttle control member connected to said base piece.

2,970,489
ROLL FEED MECHANISM
Clarence M. Essen, Waukesha, Wis., assignor to Industrial Clutch Corporation, Waukesha, Wis., a corporation of Wisconsin
Filed Aug. 26, 1959, Ser. No. 836,095
18 Claims. (Cl. 74—120)



1. In a roll feed mechanism of the class wherein a roll feed rack having driving and return strokes and operated by a crank pin drives feed roll means for advancing a strip of stock, the combination with said mechanism of clutch means through which the drive is transmitted from said roll feed rack to said feed roll means, and an actuating cam on said crank pin for effecting release and application of said clutch means at the ends of the driving and return strokes of said roll feed rack.

2,970,490
HOIST STRUCTURE
Robert L. Whisnand, R.R. 2, Box 158D, Covington, Ind.
Filed Jan. 29, 1959, Ser. No. 789,969
9 Claims. (Cl. 74—142)



1. A hoist structure including a housing mounting a shaft, a load supporting wheel on said shaft, a coaxial offset ratchet wheel thereon, a pin carried by said housing, a load pawl pivotally supported on said pin for ratcheting

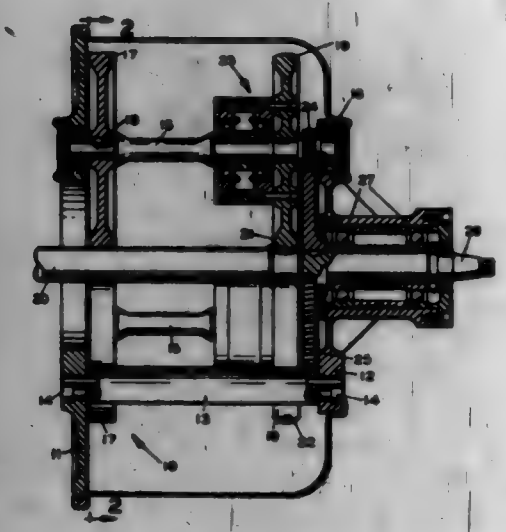
engagement with said ratchet wheel, a torsion spring coiled about said pin and having its opposite end portions extending tangentially therefrom, one end portion being anchored to said load pawl and having its terminal portion extending beyond said load pawl, a selector member supported on said housing and manually movable from the exterior thereof between a first and second position, connecting means between the other end portion of said torsion spring and said selector member whereby with said selector member in said first position said spring biases said load pawl into ratcheting engagement with said ratchet wheel and out of ratchet engagement therewith when said selector member is in said second position, an operating handle pivoted on said housing in coaxial relation to said ratchet wheel, a handle pawl pivotally supported on said handle and biased into ratcheting engagement with said wheel, a member carried by said handle adapted to displace said terminal portion of said torsion spring as said handle is moved in one direction with relation to said housing, whereby said load pawl is biased into ratcheting engagement with said ratchet wheel notwithstanding the disposition of said selector member in its said second position.

2,970,491

BEARING AND SPEED REDUCTION MECHANISM

Josef A. Bertsch, Reading, Pa., assignor to Dana Corporation, Toledo, Ohio, a corporation of Virginia

Filed July 2, 1959, Ser. No. 824,733
9 Claims. (Cl. 74—206)



1. A combined bearing and speed reduction mechanism comprising, an input shaft having an annular groove at its one extremity, a plurality of countershafts circumferentially spaced around said input shaft, a wheel rotatably mounted on each of said countershafts having crowned peripheries for cooperating with said circular groove of the input shaft, thereby axially restraining said input shaft, a second wheel fixedly secured to each of said countershafts and being adapted to bear on the surface of the input shaft for frictional contact therewith, the wheels further being of a different diameter than said input shaft, whereby said wheels journal the input shaft and transmit rotary motion from the input shaft to the countershafts at a different rate.

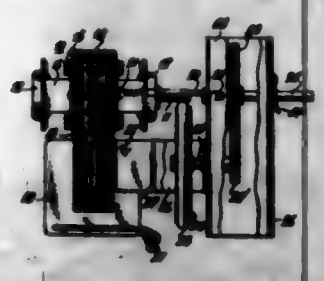
2,970,492

FRICTION DRIVE TRANSMISSION

Robert Gerlipp, Ridgewood, N.Y., assignor to Haft & Sons, Inc., Brooklyn, N.Y., a corporation of New York

Filed May 11, 1959, Ser. No. 812,332
2 Claims. (Cl. 74—209)

1. A display actuating transmission comprising a driving shaft, a driven shaft in alignment with said driving shaft and longitudinally spaced therefrom, a frame in which each shaft is rotatably mounted, the frames overlapping and being pivoted together by a pintle located below said shafts, a friction wheel rotatably mounted in the driven shaft frame by a stub shaft, a pinion gear on said stub shaft meshing with a gear on said driven shaft, said driving shaft having a free end normally in contact with the periphery of said friction wheel, whereby rota-



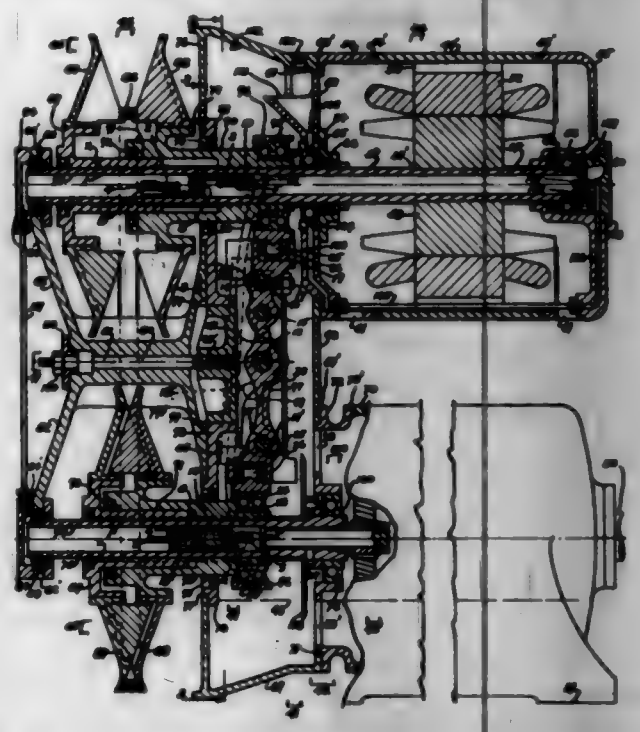
tion of said driving shaft causes rotation of said driven shaft through said friction wheel and gears, and a helical spring mounted at about the level of said shafts with its ends secured to said frames and being located above said pintle to tend to maintain constant frictional conditions during driving contact while permitting pivoting of said frames about said pintle and allowing driving contact to be made and broken.

2,970,493

VARIABLE RATIO TRANSMISSION MECHANISM

John D. Rieser, 369 Pine St., San Francisco, Calif.

Filed Nov. 3, 1958, Ser. No. 771,255
13 Claims. (Cl. 74—230.17)

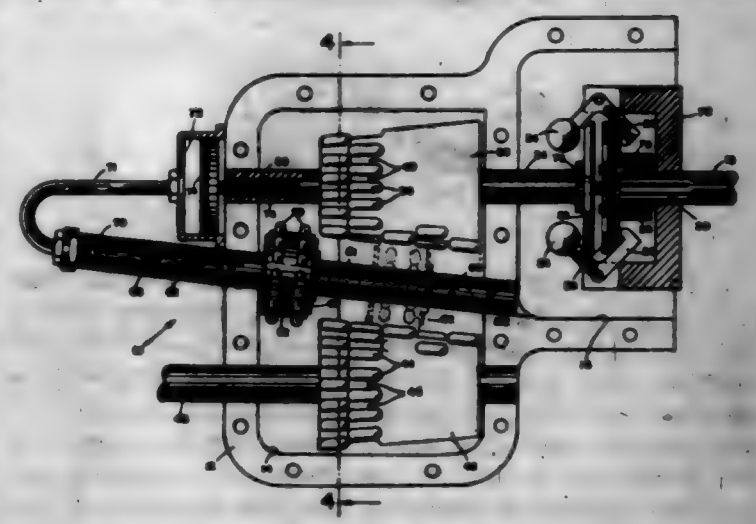


1. In a variable ratio transmission mechanism including a housing, said housing having a fluid inclosure and having operable mounting means for a motor, a pair of shafts in spaced parallel relationship, intermediate the spacing of said shafts, each side wall of said inclosure having an opening with a speed indicator scale bracket that includes surface means to form a closure for each said opening, variable effective diameter pulleys mounted in opposed cooperative positions on said shafts, each of said pulleys comprising a pair of sections having opposed inclined belt engaging faces externally beyond said inclosure and forming, by relative axial adjustment variable effective diameters, for an endless V-belt in active driving relationship to said pulleys, spline means, said spline means being disposed externally on said shafts and correspondingly within hub members of said pulleys and forming the drive means between the pulleys and the shafts, control means for mechanically varying said

ratio, a portion of said control means being disposed within said inclosure with linkage means operably attached thereto while extending between said control means portion and said pulleys, said portion including a nut member disposed intermediate of said shafts and having internal screw threads and a pair of oppositely inclined curved grooves, disposed in direction transverse to the longitudinal axis of said shafts, a thrust bearing with its casing and operably attached control roller mounted fixedly onto each of said hub members that extends into said inclosure, said nut member being mounted slidably onto a guide rod means, and each said control roller being disposed so as to extend into one of said pair of curved grooves, so that the side walls of each of said curved grooves form a sloped curved track for its respective control roller thereby, upon causing a transverse movement of said nut member its oppositely inclined curved grooves cause one of said control rollers to move toward said V-belt while simultaneously the other roller is caused to move a correlative amount oppositely, thereby causing said axial adjustment while maintaining said driving relationship, a lead screw, said lead screw extending threadingly through said nut member and being journally supported for rotation while being fixed against endwise movement, so that a rotative actuation of the lead screw causes said transverse movement, a speed indicator stem, said stem extending through said nut member and having a spiral groove into which extends a dog point of a setscrew, that is anchored onto said nut member, so that effecting said transverse movement causes a rotative movement of said stem by an external surface of said point engaging a side wall of said spiral groove, said stem, said rod means and said lead screw extending through and beyond each said bracket, and the outward ends of said stem mounting a pointer means, said pointer means indicating on the scale the transverse position of said nut member and consequent speed adjustment of said mechanism at each outward side of said inclosure, and the outward ends of said rod means being provided with screw threads and nuts so that upon tightening up of said nuts causes clamping of said surface means against corresponding surfaces adjacent to said openings and effect said closure, while on at least one of said outward ends of said lead screw is mounted means for effecting said rotative actuation, and a fluid lubricant within said inclosure, a fluid propulsion means mounted within said inclosure operably connected to at least one of said shafts, said propulsion means extending to said fluid so that upon operation of said mechanism it causes part of said fluid being continually propelled above the normal level of the fluid pool within the inclosure and thereby causing wetting of surfaces of said portion of the control means and said indicator stem within said inclosure by part of said propelled fluid.

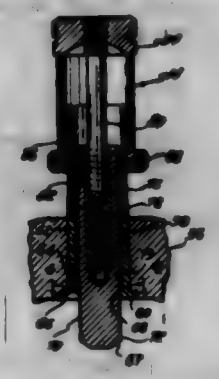
2,970,494
AUTOMATIC TRANSMISSIONS
Francis J. Lynch, 14 Beach Road, Great Neck, N.Y.
Filed Apr. 13, 1960, Ser. No. 21,932
5 Claims. (Cl. 74—336.5)

1. A variable speed transmission comprising a housing, a drive shaft and a driven shaft rotatably mounted in the housing in spaced parallel relationship, a conical drive gear secured on the drive shaft and a substantially identical conical driven gear secured on the driven shaft, each of said gears having a plurality of longitudinally spaced circumferential courses of lugs extending radially therefrom, an idler shaft supported in the housing between the drive shaft and the driven shafts, an idler gear comprising a cylindrical casing slidably mounted on the idler shaft for reciprocating longitudinal movement, said casing having an inner race rotatably mounted therein having a plurality of radially outwardly extending drive pins for meshing engagement with the lugs of said drive gear and said driven gear, the drive gear and the driven gear having their facing surfaces mutually parallel and parallel with the idler shaft, the idler gear being normally positioned at idling speed of the drive shaft adjacent one end of the drive gear and the driven gear,



change speed means for moving the idler gear toward the other end of the drive gear and the driven gear a distance proportionate to the increase of speed of the drive shaft, and means for returning the idler gear to normal position upon return of the drive shaft to idling speed.

2,970,495
WORK RESTS FOR LATHES AND THE LIKE
David D. Pettigrew, Pittsburgh, Pa., assignor to Rockwell Manufacturing Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Dec. 12, 1955, Ser. No. 552,455
2 Claims. (Cl. 74—424.8)



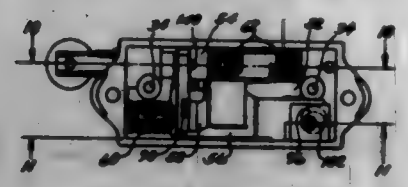
1. An adjusting assembly comprising a mounting sleeve having one end externally threaded and its interior wall adjacent the other end reduced in diameter to provide a cylindrical support portion terminating at said other end in an open ended cross slot, a movable jaw element elongated in an axial direction and providing opposed cylindrical segments adapted to cooperate with said support portion of said sleeve and opposed flats adapted to slidingly cooperate with the walls of said slot and nonrotatably associate said jaw element and said sleeve and having a blind tapped bore extending inwardly from its outer end, a hollow adjusting knob internally threaded to cooperate with the external threads of said mounting sleeve and carrying a coaxially disposed elongated stem terminating at its free end in an enlarged threaded section of substantially lesser length than said blind tapped bore adapted to threadedly engage in said blind bore, said external sleeve threads and said blind bore threads being of opposite hand whereby upon threading of said knob along said mounting sleeve said jaw will be displaced by both of said threads, and a locking member threaded on said mounting sleeve and adapted to bear against the adjacent end of said hollow adjusting knob to frictionally lock the latter in adjusted position.

2,970,496

ACTUATOR

Rudolf H. Kloesling, Milwaukee, Wis., assignor to Square D Company, Detroit, Mich., a corporation of Michigan

Filed Feb. 13, 1959, Ser. No. 793,114
11 Claims. (Cl. 74—503)



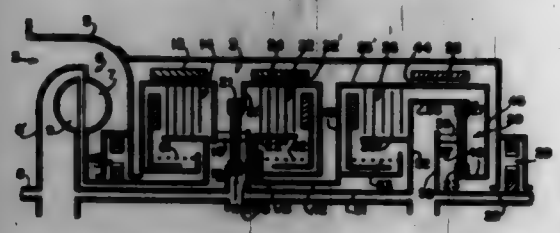
1. In an actuating mechanism, the combination comprising; a housing having an internal chamber with a pair of axially aligned bores at opposite ends of the chamber with one of the bores extending between the chamber and the exterior of the housing, a reciprocal actuating plunger rod slideably and rotatably mounted in the bores and having an end projecting through said one bore external to the housing, a disk rotatably mounted on said end, a member slideable on the rod within the chamber, resilient means arranged for constantly urging the member toward the disk, and means reacting between the member and rod for preventing relative rotation between rod and housing from either one of two predetermined rotative positions.

2,970,497

CHANGE SPEED GEAR, ESPECIALLY FOR MOTOR VEHICLES

Hans-Joachim M. Foerster, Stuttgart-Bad Cannstatt, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany

Filed Oct. 14, 1957, Ser. No. 689,822
Claims priority, application Germany Oct. 13, 1956
23 Claims. (Cl. 74—677)



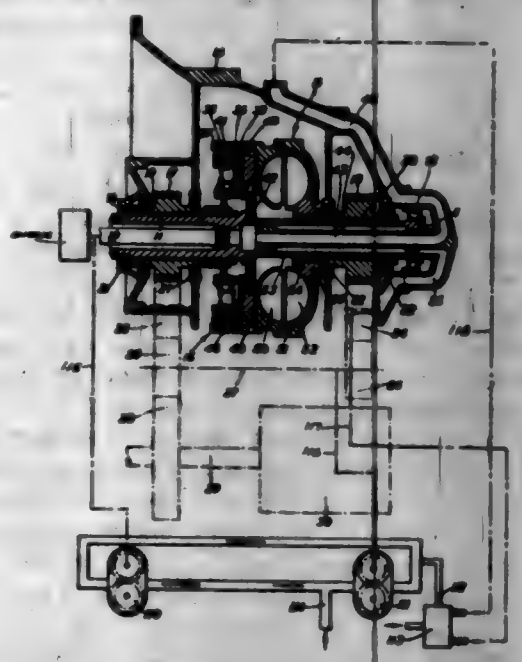
1. A change speed transmission comprising a hydrodynamic unit including a hydrodynamic device having a driving member and a driven member, a mechanical change speed gear unit operatively connected with said hydrodynamic unit, said gear unit including two gear sets each essentially consisting of a plurality of meshing rotatable elements, engageable by-pass clutch means connected between said driving member and one of said rotatable elements of one of said gear sets of said mechanical change speed gear unit for effectively by-passing said hydrodynamic device, said last-mentioned one element of said one gear set serving as torque transmitting input transmitting essentially all the torque from said driving member to said other gear set over said one gear set with said clutch means engaged one of the rotatable elements of the other of said gear sets being connected with said driven member for common rotation therewith at all times, said engageable by-pass clutch means being located spatially separated from said hydrodynamic unit within said mechanical unit, means operatively connecting one of the rotatable elements of the other gear set with a rotatable element of said one gear set other than the rotatable element thereof with which said driven member is connected, and output means operatively connected with another rotatable element of said other gear set.

2,970,498

POWER TRANSMISSION MECHANISM INCLUDING HYDRAULIC AND FRICTION CLUTCHES

George H. Murray, Pinner, and Adrian L. Catford, Hampton, England, assignors to D. Napier & Son Limited, London, England, a British company

Filed Jan. 21, 1958, Ser. No. 710,271
Claims priority, application Great Britain Jan. 30, 1957
5 Claims. (Cl. 74—731)



1. Power transmission mechanism for starting a load from an engine comprising an input shaft, an output shaft, a hydraulic coupling connecting said input and output shafts, said coupling being of the type in which the input and output torques are substantially equal to each other at different rotational speeds of the said shafts, a friction clutch connecting said input and output shafts in parallel with said hydraulic coupling, speed responsive means responsive to the relative speeds of said input and output shafts, friction clutch actuating means, and an operative connection between said speed responsive means and said friction clutch actuating means to initiate the engagement of said friction clutch automatically when the speed of said output shaft is raised to have a predetermined relationship with the speed of said input shaft as sensed by said speed responsive means, said speed responsive means being responsive to a difference in speeds between said input and output shafts and influencing said friction clutch operating means to engage said friction clutch when said difference in speed falls below a predetermined value, said speed responsive means comprising a differential mechanism having first and second input members and an output member, said first and second input members cooperating with said output member whereby rotation of said first and second input member in opposite directions at the same speed holds said output member stationary while a difference in rotational speeds of said input members produces rotation of said output member proportional to said difference, a connection between said input shaft and said first input member of said differential mechanism, a connection between said output shaft and said second input member of said differential mechanism, and a connection between said output member and said operative connection between said speed responsive means and said friction clutch actuating means.

2,970,499

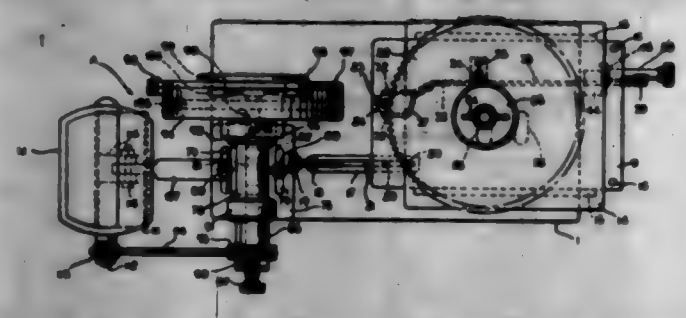
SAW SHARPENING APPARATUS

William F. Pridemore, 5520 N. Traymore Ave., Covina, Calif.

Filed Aug. 14, 1957, Ser. No. 678,861
11 Claims. (Cl. 76—43)

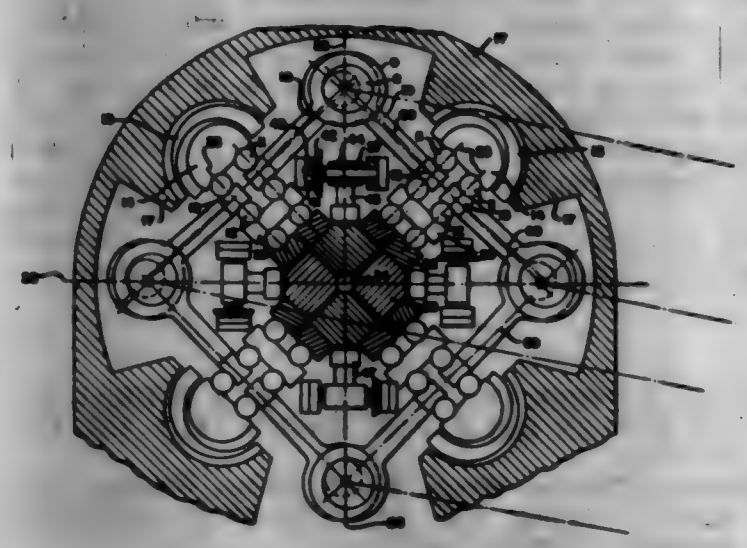
1. In combination, a portable base plate, a power driven grinding wheel mounted on said base plate for

rotation in a given plane, a saw supporting structure mounted on said base plate and including saw supporting plate for supporting a saw in a plane intersecting said first mentioned plane and extending radially of the axis of said wheel, said supporting plate being movable in either of two directions radially relative to the axis of



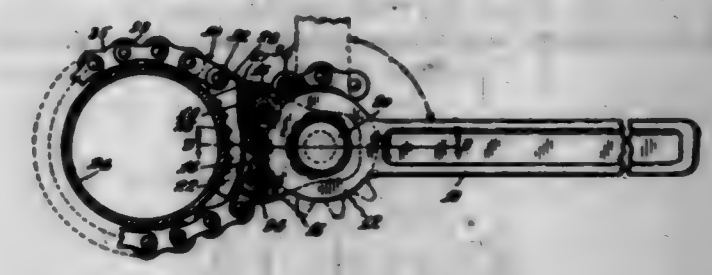
said grinding wheel, a saw tooth locating pin movably carried by said saw supporting structure and movable through said plane into saw tooth engaging position, and manually operable means carried by said support and engaged with said pin for moving said pin into and out of saw tooth locating position disposed between said saw and wheel.

2,970,500
FORMING MACHINES
Gerhard H. Appel, Belle River, Ontario, Canada, assignor to Appel Process, Ltd., Oshawa, Ontario, Canada
Filed Sept. 18, 1958, Ser. No. 760,268
8 Claims. (Cl. 78—22)



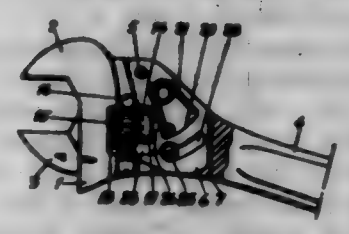
1. In a forming machine having means for feeding an elongated workpiece longitudinally along the workpiece axis; at least three dies spaced equally around and equally distant from the workpiece axis with each die having an inner face formed as the working face and having two angularly related outer faces opposing the working face; with these outer faces of each die being at angles of not over 120° to each other and with adjacent outer faces of adjacent dies being co-planar; the dies being movable on radial die axes towards and away from the workpiece axes; die movers equal in number to the dies and outside of them and spaced equally around and equally distant from the workpiece axis but further away from the workpiece axis than the dies, and movable on radial die mover axes towards and away from the workpiece axis; the die axes being midway between the die mover axes and the die mover axes being midway between the die axes; each die mover being wide enough to straddle and simultaneously engage and move the coplanar adjacent outer faces of two adjacent dies; and each die being wide enough to straddle and be engaged by and moved simultaneously by two die movers on its two outer faces; and means for simultaneously moving all die movers and dies radially on their axes.

2,970,501
WRENCH
Fred T. Miller, 547 Tennessee St., Indianapolis, Ind.
Filed Nov. 14, 1958, Ser. No. 773,906
3 Claims. (Cl. 81—69)



1. A wrench, comprising an elongated handle, a plurality of arcuately disposed sprocket teeth projecting outwardly from one end of said handle, a link pivotally mounted on said handle adjacent the handle end carrying said teeth, an arcuate shoe fixed on said link normal thereto and extending through the plane of said teeth, and a link-chain having pins and side plates forming openings for engagement over said teeth, said chain being pivotally mounted on one end of said shoe and adapted to be wrapped around a work-piece and interposed between said shoe and teeth for engagement with said teeth, said shoe being positioned to engage the work-piece and extending directly opposite said teeth to form a passage to receive a portion of the chain engaged by the teeth thereby retaining said chain portion in engagement with the teeth, whereby rotational movement of the teeth with respect to said shoe will cause said chain to slide along said passage and draw the work-piece against an edge face of the shoe to bindingly grip said work-piece for imparting rotational movement thereto.

2,970,502
SLIDABLE SIDE JAW WRENCH
Simon Nils Nordgren, Centralvagen 14, Rimbo, Sweden
Filed Nov. 17, 1958, Ser. No. 774,395
10 Claims. (Cl. 81—126)



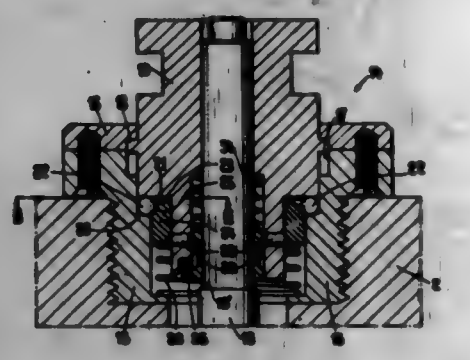
1. A wrench comprising a head including a fixed jaw, and a second jaw carried by said fixed jaw and mounted for movement relative thereto between a closed position wherein said jaws are adapted for turning the work and an open position wherein said jaws are adapted for moving about the work without turning the same, a handle mounted upon said fixed jaw for pivotal movement relative to said head, and means for releasably maintaining said jaws closed on the work when a force is applied to said handle for effecting a working stroke and releasing said jaws for opening thereof by said work when a force is applied to said handle in the opposite direction for effecting a non-working stroke, said fixed jaw being provided with a tongue extending a substantial distance into, and embraced by the walls of, a groove formed in said handle, said tongue and groove being disposed in a plane normal to the axis of the pivotal connection between said fixed jaw and handle for guidance of said handle during movement thereof and said fixed jaw being provided with a pair of shoulders at the root, and upon opposite sides respectively, of said tongue adapted for abutting the groove defining walls of the handle respectively during execution of a working stroke.

2,970,503

PUNCH TOOL DRIVE MEANS YIELDABLE UPON UNDUE THICKNESS OF MATERIAL BEING PUNCHED

René Chevallier, Ville-la-Grand, France, assignor to Ebauches S.A., Neuchatel, Switzerland

Filed Feb. 26, 1957, Ser. No. 642,558
Claims priority, application Switzerland Mar. 2, 1956
7 Claims. (Cl. 83—61)



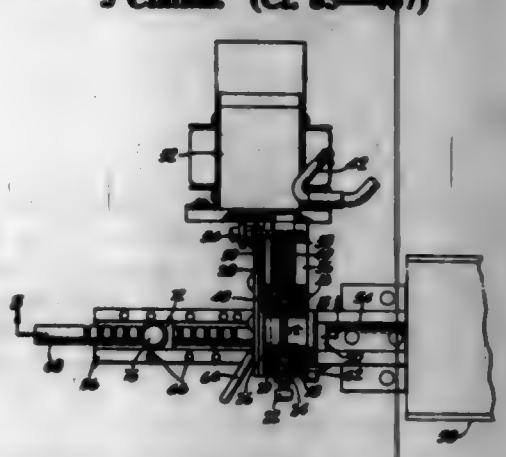
1. A protecting device for a punching or stamping tool, comprising in combination two relatively displaceable tool portions attached to relatively displaceable parts of a press, one of the said tool portions comprising an ejector displaceable in the said one tool portion, a mounting part in the said one tool portion adapted for attachment to one of the said press parts and a working part separate from the said mounting part, annular pressure transmitting surfaces on the said mounting part and on the said working part, pressure transmitting rollers between such pressure transmitting surfaces, a pressure transmitting direction substantially perpendicular to the said pressure transmitting surfaces, at least one of the said pressure transmitting surfaces having an inclination relatively to a plane perpendicular to the said pressure transmitting direction so that the said rollers tend to leave the said pressure transmitting surfaces when pressure is transmitted, an axially displaceable locking ring comprising a locking surface engaging the said pressure transmitting rollers and having an inclination relatively to the displacing direction of the rollers between the said pressure transmitting surfaces, a locking position and an unlocked position for the said locking ring and spring means for maintaining the said locking ring in its locking position, locking bolts adapted to maintain the said locking ring in its locking position, a control sleeve displaceable with the said ejector in operative engagement with the said locking bolts, a normal position for the said control sleeve for which it engages and supports the said locking bolts and a safety position to which the said control sleeve is displaced on occurrence of an overthickness of the workpiece and in which safety position the control sleeve leaves and releases the said locking bolts, perpendicular displacing directions for the said locking ring and locking bolts respectively and control surfaces on the locking ring and locking bolts respectively, such control surfaces engaging each other and being inclined relatively to the said displacing directions of the locking ring and locking bolts, the said rollers, the said locking ring and the said locking bolts being displaced by pressure transmission from the said rollers through the said locking surface of the locking ring and the said control surfaces of the locking ring and locking bolts respectively when the said control sleeve releases the said locking bolts, whereby pressure transmission between the pressure transmitting surfaces of the said mounting part and working part respectively is broken due to displacement of the said pressure transmitting rollers off the said pressure transmitting surfaces, but the said pressure transmitting rollers being maintaned in pressure transmitting position between the said pressure transmitting surfaces when displacement of the said rollers the said locking ring and the said locking bolts is prevented by the said control sleeve.

2,970,504

POWER OPERATED CUTOFF SHEAR MECHANISM ADJUSTABLE AS A UNIT ALONG A FRAME

Lewis Anthony Kingsley, Beverly Hills, Calif.
(% Kingsley Stamping Machine Co., 850 Calsenega Blvd., Hollywood 38, Calif.)

Filed Oct. 26, 1956, Ser. No. 618,492
5 Claims. (Cl. 83—467)



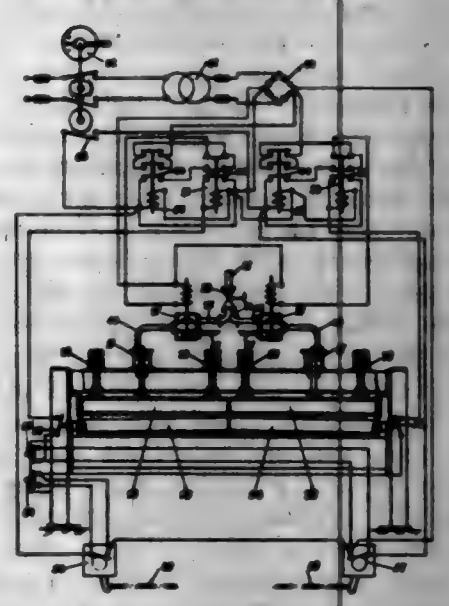
1. A shearing mechanism for wire or tubing comprising: a body having a transverse bore, a guide bushing inserted into said bore through which wire or tubing to be severed is fed, a knife reciprocable within said body across one end of said guide bushing, power means supported by said body and connected with said knife for reciprocating said knife, means forming a channel, said channel forming means including a mounting bracket for attaching said shearing mechanism to the base of a wire or tubing stamping machine, the axis of said bushing being disposed parallel with and directly above the longitudinal axis of said channel, and a block on said body secured to said body, said block fitting within said channel, thereby confining movement of said body and said guide bushing along the path of said channel.

2,970,505

WOOD VENEER CUTTER HAVING A PLURALITY OF KNIVES OPERABLE SEPARATELY OR TOGETHER

Johannes Geenen, Weeze, Lower Rhine, Germany, assignor to Muller A.G. Bregg, Bregg, Switzerland, a company of Switzerland

Filed Sept. 5, 1958, Ser. No. 759,342
Claims priority, application Switzerland Sept. 5, 1957
4 Claims. (Cl. 83—549)



1. A cutter for web type structures comprising a frame having a lower beam extending substantially horizontal-

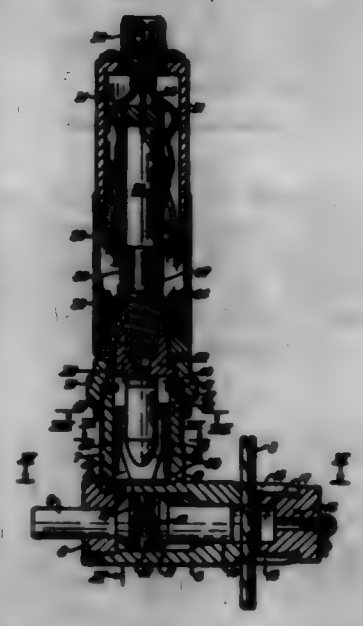
ly with respect to said frame and being rigidly supported thereby, a pressure beam rigidly connected with said frame and extending parallel to and above said lower beam, a lower cutting knife supported on said lower beam and having an upwardly directed cutting edge, downwardly extending guide means supported by said pressure beam, a plurality of upper beams intermediate said pressure beam and said lower cutting knife and arranged for upward and downward movement along said guide means independently of each other, said upper beams extending in a common vertical plane with said lower beam, locking means connected to said upper beams for selectively effecting interconnection and disconnection of said upper beams with each other, respective upper cutting knives for each of said upper beams and connected to the latter, said upper cutting knives having downwardly directed cutting edges for cooperation with the cutting edge of said lower cutting knife, the adjacent ends of said upper cutting knives meeting to present a continuous edge, the sum of the length of said cutting edges of said upper knives corresponding substantially to the length of said cutting edge of said lower knife, and respective actuating means for said upper knives operatively connected with said upper beams to move said upper cutting knives with said cutting edges thereof into and out of cooperation with said cutting edge upon operation of said actuating means, independently of each other, to thereby permit cutting a plurality of strips of said web type structure, each of said actuating means including a piston and a cylinder.

2,970,506

EXPLOSIVELY ACTUATED CABLE CUTTING TOOL USING A LIVE CARTRIDGE FOR PRODUCING GASEOUS PRESSURE

Robert Temple and Ernest E. Temple, Pittsburgh, Pa., assignors, by mesne assignments, to Mine Safety Appliances Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed June 22, 1956, Ser. No. 593,069
4 Claims. (Cl. 83—639)



1. In a cable cutting tool, the combination with a barrel, means including an anvil for holding a cable transversely of one end of the barrel, a cutting member slidably mounted in the barrel and including a piston, means normally retaining said member retracted with its piston adjacent the end of the barrel opposite said anvil, and a cartridge chamber communicating with the inside of the barrel behind said piston, of a hollow holder in said chamber having a continuous side wall and a closed front end defining a bore therein, said holder being mounted with the front end thereof adjacent the barrel and being adapted to snugly receive a cartridge containing a bullet, said holder substantially completely enclosing said cartridge on the front and sides thereof, means in said chamber cooperating with said holder to prevent axial movement of the holder in the chamber, means providing a backing surface for the end of the cartridge opposite the front end of said holder, means behind the chamber for firing a cartridge in said holder, and passage means connecting said bore with said barrel and of sufficient size that the gases created by the cartridge explosion will rupture the cartridge case at said passage means and escape therethrough to said barrel to drive said cutting member toward said anvil.

2,970,507

ORGAN REED PIPE

Ralph E. Bolton, deceased, late of Weston, Mass., by Evelyn M. Bolton, administratrix, Weston, Mass., assignor to Aeolian-Skinner Organ Company, Inc., South Boston, Mass., a corporation of Massachusetts

Filed Nov. 10, 1958, Ser. No. 772,832
5 Claims. (Cl. 84—350)



1. In an organ reed pipe, a sound generating apparatus comprising a reed tongue adapted to be vibrated by air pressure, and a shallot open at one end and having a longitudinal aperture cut through a portion of the wall thereof, said aperture having edge portions which define a smothly curved plane surface, the curve of said surface being defined by the equation:

$$Y=\exp\left[.405(X-X_0)\left(\frac{32}{L}\right)^{.86}\right]-1$$

said reed tongue being adapted to be secured in position relative to said surface such that it overlies the edge portions of said aperture and is adapted to roll down smoothly into progressive abutment with said edge portions when it is vibrated.

2,970,508

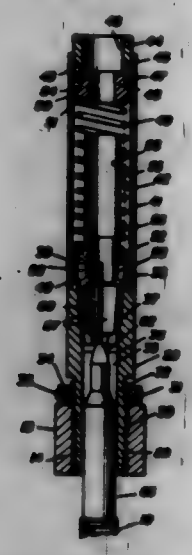
AUTOMATIC BULLET PULLER

William K. Wicks, 210 W. Main, Lewistown, Mont.

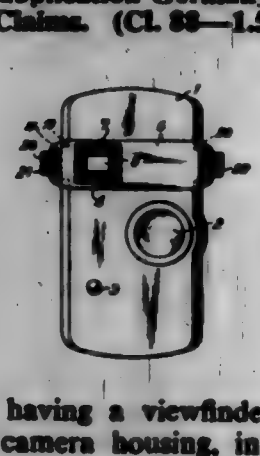
Filed Sept. 10, 1958, Ser. No. 760,156
3 Claims. (Cl. 86—23)

1. For use with a device for reworking a cartridge composed of a shell and a bullet including means to raise and lower the cartridge, a bullet puller comprising a casing provided with securing means adapted to secure the puller to the device in a substantially vertical position, said casing having a passageway extending from the lower end thereof the intermediate portion of which is downwardly convergingly tapered, a gripping device within said tapered portion of the passageway and extending thereabove for longitudinal movement therein, said gripping device having an opening in its lower end for reception of the bullet, the lower end portion of the passageway adapted to receive the cartridge when the means to raise the cartridge is actuated, said gripping device having spring fingers at said lower end, means in said passageway comprising a compression spring for holding said spring fingers in the lower part of the tapered portion of the passageway for yieldably resisting the

raising of the fingers and adapted to be placed under progressively increased compression by the raising movement of the gripping device in said tapered portion of the passageway so that when the raising movement of the raising and the lowering means is arrested and the raising and lowering means is actuated to move the cartridge downwardly from the passageway the spring due to said increased compression will also automatically move the gripping device downwardly into the lower narrow part of the tapered portion of the passageway to more forcibly engage the fingers with the bullet.

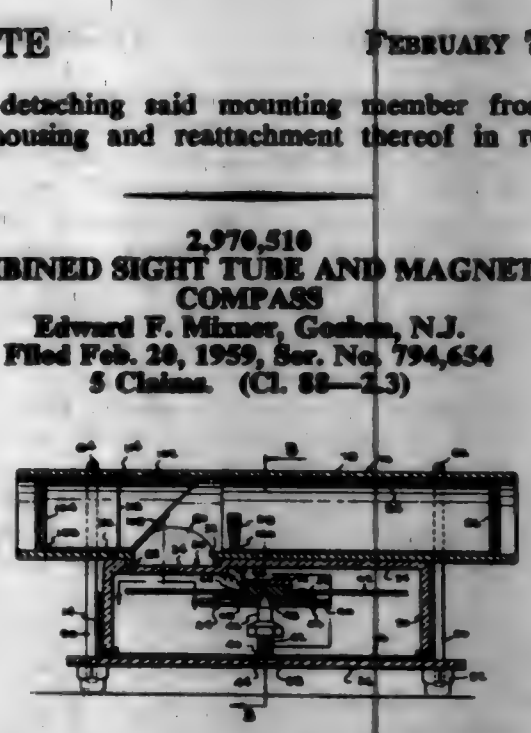


2,970,509
CAMERA VIEWFINDER ATTACHMENT FOR VARYING THE FIELD OF VIEW
Otto Berthruff, Stuttgart, Germany, assignor to Eugen Bauer G.m.b.H., Stuttgart-Unterturkheim, Germany
Filed Apr. 17, 1956, Ser. No. 578,837
Claims priority, application Germany Apr. 18, 1955
2 Claims. (Cl. 88—1.5)



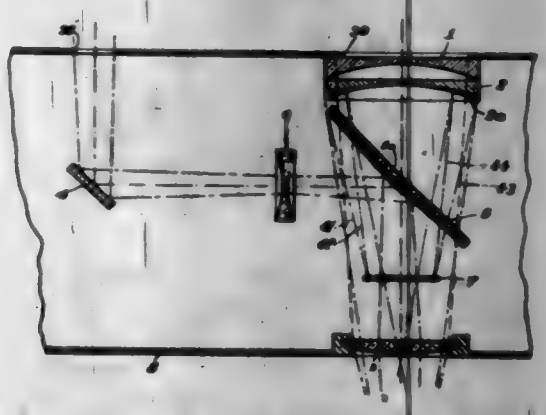
2. In a camera having a viewfinder opening in the front wall of the camera housing, in combination, attaching means on the camera housing; an independent elongated reversible mounting member formed from resiliently flexible material and having a pair of opposite end portions adapted to be resiliently attached to said attaching means to attach thereby said elongated mounting member in two positions, namely, in a first position in which a portion of said mounting member is located in the region of said viewfinder opening and—after detachment—in a second through 180° reversed position in which a second portion of said mounting member is located in the region of said viewfinder opening; first view varying means on said mounting member in said first portion of said mounting member so as to be located in front of the viewfinder opening when said mounting member is in said first position thereof; and second view varying means on said mounting member in said second portion thereof so as to be located in front of said viewfinder opening when said mounting member is in said second reversed position thereof, whereby said two view varying means may be placed alternatively in front of said viewfinder opening by flexing said mounting member for detaching said mounting member from said camera housing and reattachment thereof in reversed position.

2,970,510
COMBINED SIGHT TUBE AND MAGNETIC COMPASS
Edward F. Mixner, Goshen, N.J.
Filed Feb. 20, 1959, Ser. No. 794,654
5 Claims. (Cl. 88—2.3)



1. An optical device comprising a substantially hollow cylindrical housing having a transparent wall extending across one end thereof, a disc having magnet means thereon and being supported for rotation within said housing, said disc having compass indicia thereon adjacent its circumferential marginal edge, said disc being supported adjacent to but spaced from said wall, a telescope sighting tube formed of opaque non-magnetic material fixedly secured to said wall and having a pair of sighting systems therein, a sight wire hairline extending vertically in said tube in one of said sighting systems, said tube having a throat portion projecting laterally therefrom and towards said transparent wall for engagement therewith, said throat opening above the path of movement of said indicia, and a mirror in said sighting system, said mirror being disposed within said tube and inclined at an acute angle with respect to the longitudinal axis thereof and being disposed over said indicia to reflect the same through said second sighting system, said mirror having a transparent space thereon vertically aligned with said wire hairline, said hairline being visible across said reflected indicia to provide a compass reading, and means releasably securing said tube on said housing.

2,970,511
LUMINOUS FRAME VIEWFINDER-RANGEFINDER
Hans Ruhle, Stuttgart, Germany, assignor to Zeiss Ikon A.G., Stuttgart, Germany
Filed Dec. 10, 1957, Ser. No. 701,900
Claims priority, application Germany Dec. 14, 1956
4 Claims. (Cl. 88—2.4)



1. A luminous frame viewfinder-rangefinder including a casing, means within said casing forming a viewfinder, said means including an objective, a mirror lens having a concave reflecting surface and an ocular all arranged in axial alignment, said mirror lens being directed with its concave reflecting surface toward said ocular, said reflecting surface being formed by a light preserving mirror

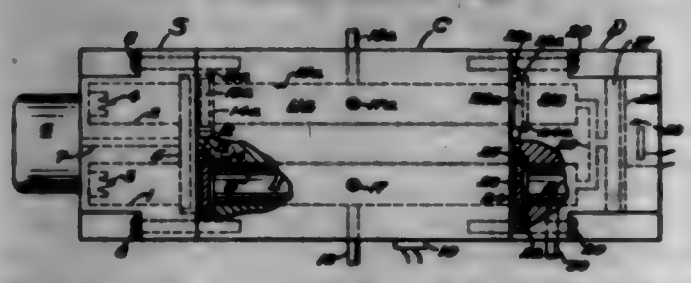
layer decreasing in thickness gradually from the circumference of said lens toward the center thereof, a picture area limiting frame arranged in the air space between said mirror lens and said ocular, and means forming a rangefinder in said casing and including two mirrors forming the base of said rangefinder and a lens therebetween, said base extending substantially at right angles to the axis of said viewfinder, one of said mirrors being arranged between said frame and said mirror lens at an angle with respect to the optical axis of said viewfinder, said one mirror being pervious to light and having a mirror layer thereon the thickness of which decreases gradually from the center of the mirror toward the outer edge thereof.

2,970,512

APPARATUS FOR ANALYSIS OF MATERIALS

James L. Waters, Framingham, and Arthur W. Stokinson, Holliston, Mass., assignors, by direct and mesne assignments, to Mine Safety Appliances Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Mar. 25, 1957, Ser. No. 648,944
4 Claims. (Cl. 88—14)



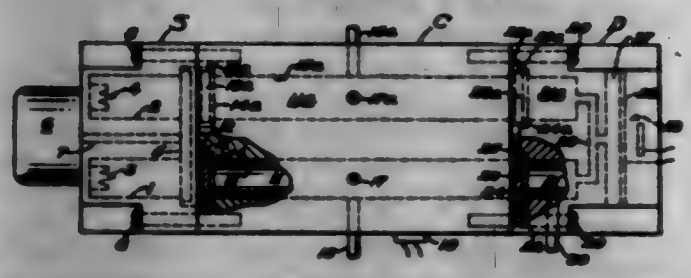
1. A multi-beam optical analyzer for the analysis of materials comprising a single metal block light source unit having passage means for directing light beams, a single metal block cell unit having at least two chambers extending therethrough, said chambers being along side of each other and optically aligned with said passage means, at least one of said chambers adapted to contain an analysis material and at least another of said chambers adapted to contain a reference material, a single metal block detector unit having detector means optically aligned with said chambers, said cell unit constituting the only unit between said source and detector units, and said units having parallel end surfaces rigidly connected in abutting relationship with each other to thereby provide thermal conduction and stable light transmission through the analyzer.

2,970,513

APPARATUS FOR ANALYSIS OF MATERIALS

James L. Waters, Framingham, Mass., assignor to Mine Safety Appliances Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Mar. 25, 1957, Ser. No. 648,945
6 Claims. (Cl. 88—14)



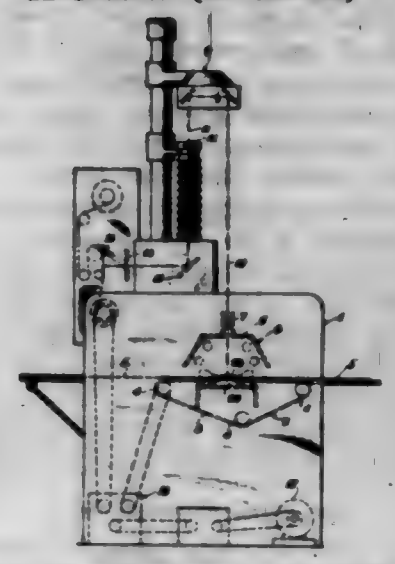
1. A multi-beam optical analyzer for the analysis of materials comprising a light source unit having passage means for directing light beams, a single metal block analysis unit having two chambers extending therethrough and optically aligned with said passage means, one of said chambers adapted to contain an analysis material and the other of said chambers adapted to contain a reference material, said unit having a third chamber communicating with the reference chamber and optically aligned with the analysis chamber, light transmitting means sealing the end of the reference chamber adjacent said source unit and both ends of the analysis chamber, and detector means contained within said analysis unit in fluid communication with said reference and third chambers for detecting the light absorbed therein.

2,970,514

LIGHT INTENSIFYING MEANS FOR COPYING CAMERA

Carroll B. Collins, Cochranton, Pa., assignor to Peerless Photo Products, Inc., Shoreham, N.Y., a corporation of New York

Filed Mar. 28, 1956, Ser. No. 572,666
12 Claims. (Cl. 88—24)



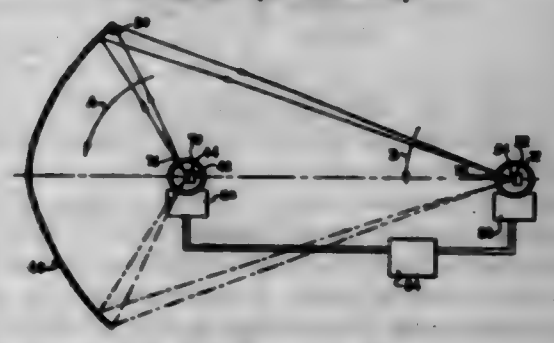
4. A document handling means for a flow-type copying camera comprising a horizontal conveyor means having a plurality of parallel conveyor strips, a drive means for said conveyor means to move said strips in synchronism comprising spaced end rollers, a reflector platen intermediate said rollers and positioned transversely of said conveyor strips and having an aperture therethrough for each one of said conveyor strips, said reflector platen having a relatively flat reflective top surface in the plane of the drive roller top edges, and said platen apertures being positioned adjacent to the upper surface of said platen but therebelow whereby said conveyor strip passes beneath the platen surface and whereby documents on said conveyor strip pass over the upper surface of the platen.

2,970,515

PHOTOGRAPHIC PRINTING METHOD AND APPARATUS THEREFOR

George R. Simpson, South Woodstock, Conn., assignor to American Optical Company, Southbridge, Mass., a voluntary association of Massachusetts

Filed July 19, 1956, Ser. No. 598,810
7 Claims. (Cl. 88—24)



5. The method of photographically producing a distortion-containing film image of a relatively wide angle scene with the distortional characteristics of said image being so controlled that same may be subsequently projected in conventional fashion from a given theater projection position and at a given angle of tilt onto the concave side of a wide angle theatre viewing screen of appreciable predetermined horizontal concave curvature and viewed from an optimum viewing position facing the concave side of said screen as a nearly distortion-

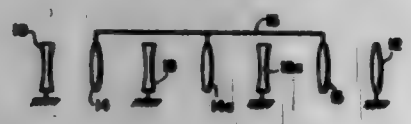
free screen image, said method comprising positioning a first projector at a predetermined projector position in front of the concave side of a copying screen having shape characteristics substantially similar to those of said theater viewing screen, said first projector position being so spaced from said copying screen as to correspond approximately to the center of perspective of the photographed wide angle scene, said first projector having an objective having characteristics simulating substantially the optical characteristics of the camera objective employed for obtaining the photographed wide angle scene, positioning a copying camera at such a predetermined copying position so spaced relative to said copying screen and at such an angle of tilt relative thereto as to geometrically correspond to the position and angle of tilt to be used by the theater projector when subsequently projecting the distortion-containing film image obtained by the copying camera onto the theater viewing screen, optically projecting successive narrow vertically disposed strip-like portions of the photographed scene by said first projector onto said copying screen and simultaneously exposing the film in the copying camera to said strip-like portions of the projected image on said copying screen, whereby the resulting film image so obtained will be a distortion-containing film image which may be thereafter projected onto said wide angle theater screen and viewed as a nearly distortion-free picture.

2,970,516

MULTIPLE ELEMENT VARIFOCAL SYSTEM

Frank G. Back, Lattingtown, N.Y., and Herbert Lowen, 11 LaMarcus Ave., Thompson Park, Glen Cove, N.Y.

Filed Jan. 14, 1957, Ser. No. 633,865
1 Claim. (Cl. 88—57)



A varifocal lens system comprising in axial alignment in the order of the light path, a front lens to receive light from the object and form a stationary image of fixed size, a first movable variator lens to receive light from the front lens and to form an image of variable size and position the image formed by the front lens, a fixed first erector lens adapted to receive light from the first variator and invert the image formed by the first variator, a second movable variator lens adapted to receive light from the first erector and further change the size and position of the image formed by the first erector lens, a second stationary erector lens adapted to receive light from the second variator and to invert the image formed by the second variator, a movable compensator lens adapted to receive the light from the second stationary erector lens and keep the image of variable size and position formed by the second erector lens substantially stationary in space, a relay lens adapted to receive light from the said compensator and to form an image of the stationary image formed by the compensator in the film plane, said movable lenses having a total movement of 80 mm. whereby the focal length is varied from 12.9 mm. to 300 mm. corresponding to a range of 1:23.3 with a maximum image shift of 0.65 mm., and in which the lens elements have the following powers:

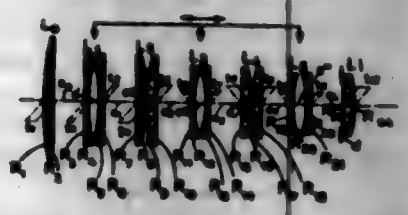
	Diopters
Front lens	− 3.751
First variator	+ 6.573
First erector	−11.031
Second variator	+13.554
Second erector	−28.986
Compensator	+13.554
Relay	+ 4.906

2,970,517

VARIABLE FOCUS OPTICAL SYSTEM

Jean-Michel Baistrocchi, Paris, France, assignor to Societe d'Optique et de Mecanique de Haute Precision, Paris, France, a company of France

Filed May 7, 1957, Ser. No. 657,398
Claims priority, application France May 7, 1956
1 Claim. (Cl. 88—57)



A variable focus optical system for continuous variation between two limits of the size of the image of an object at a fixed distance, comprising five alternately convergent and divergent lens groups axially aligned and air spaced apart, the second and fourth lens groups being fixed with a fixed distance between them and the second lens group having the same sign as the fourth lens group and the first, third and fifth lens groups being integrally connected for displacement together along the optical axis without change in the distances between them and said first, third and fifth lens groups each having the same sign which is the opposite sign to that of the second and fourth lens groups, the object being at a fixed distance from the second lens group and the image being at a fixed distance from the fourth lens group, whereby movement of said movable lens groups as a unit between their extreme positions passes the image six times through the same position, the system having optical characteristics of the following order wherein R is the radii of the lens refracting surfaces, *t* is the axial thickness of the lens elements, *e* is the axial spacing of the lens elements, N is the refractive index of the several lens materials and V is the dispersion ratio of the lens materials:

Radii of curvature (in millimetres)	Thicknesses of glass and air (in millimetres)	n_D or N	$\frac{n_D-1}{n_F-n_c}$ or V
R_1 = +102	t_1 = 3.306	1.62	57
R_2 = ∞	e_0 = 0.4798 to 21.4798		
R_3 = +400	t_2 = 0.8	1.62	60
R_4 = +66.3009	e' = 4		
R_5 = −78.2395	t_3 = 0.8	1.62	44.8
R_6 = +399.289	e_1 = 21.0831 to 0.0831		
R_7 = ∞	t_4 = 3.31	1.62	57
R_8 = −82.5516	e'' = 0		
R_9 = +82.5516	t_5 = 3.31	1.62	57
R_{10} = ∞	e_2 = 0.26 to 21.26		
R_{11} = ∞	t_6 = 0.8	1.62	60
R_{12} = +30.3731	e''' = 3.5		
R_{13} = −30.3731	t_7 = 0.8	1.62	36
R_{14} = ∞	e_3 = 21.26 to 0.26		
R_{15} = ∞	t_8 = 3.31	1.62	57
R_{16} = −82.5516	e'''' = 0		
R_{17} = +82.5516	t_9 = 3.31	1.62	57
R_{18} = ∞	e_4 = 0 to 21		
R_{19} = ∞	t_{10} = 0.8	1.62	44.8
R_{20} = +65.8285	e''''' = 4		
R_{21} = −65.8285	t_{11} = 0.8	1.62	60
R_{22} = ∞	e_5 = 21.0830 to 0.0830		
R_{23} = ∞	t_{12} = 3.306	1.62	57
R_{24} = −102			

2,970,518
CATOPTRIC SYSTEM

Karl F. Ross, 1521 Post Road, Riverdale, N.Y.

Filed Dec. 29, 1958, Ser. No. 783,538
6 Claims. (Cl. 88—57)



1. A catoptric doublet comprising a circularly convex first reflecting element and a circularly concave second reflecting element axially aligned with said first element, the curved surfaces of said elements facing each other and having substantially the same radius of curvature $2p$, the spacing between the centers of curvature of said surfaces being substantially equal to $d+p$ wherein

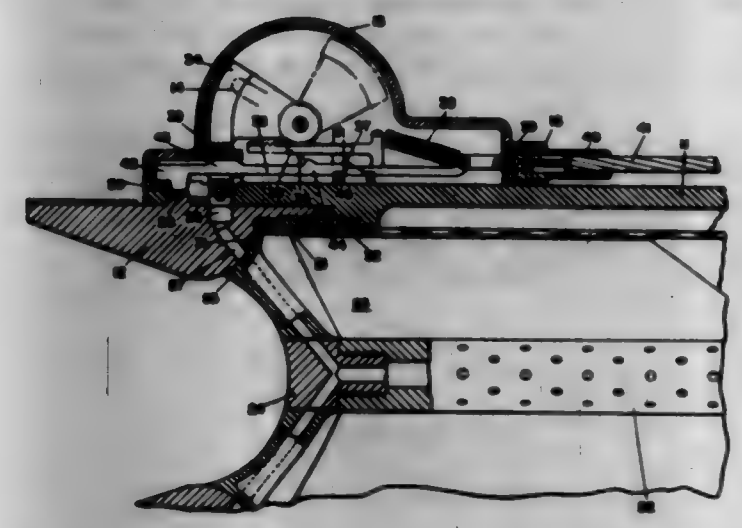
$$d=kp/(1-k)$$

k being a positive factor of a magnitude less than unity.

2,970,519
RECOILLESS RIFLE

C Walton Musser, Beverly, and Kenneth R. Wadleigh, Belmont, Mass., assignors to the United States of America as represented by the Secretary of the Army

Filed Nov. 26, 1958, Ser. No. 776,653
4 Claims. (Cl. 89—1.7)



1. In combination with a gun barrel, a chamber having a front end affixed to and communicating with the back end of said barrel, locking threads around a rear end of said chamber, a cartridge including a perforated casing for reception within said chamber and a projectile boom axially of said casing, a pressure plug screw-threadedly mounted to the rear portion of said boom, a pressure-sensitive frangible closure mounted about said plug, a circular nozzle disposed in contacting relation and rearwardly of said closure, said nozzle being exteriorly threaded intermediate its ends to co-operate with the locking threads of said chamber for rotating said nozzle to a predetermined position, a plurality of spaced primers disposed around the periphery of said nozzle, each of said nozzles having a passageway leading from said primers, a plurality of passageways disposed in said frangible closure, each of said frangible closure passageways being capable of registering with each of said nozzle passageways, a plurality of passageways disposed in said pressure plug, each of said pressure plug passageways being capable of registering with each of said passageways in said frangible closure, said cartridge having a propellant disposed between its perforated casing and said boom, an igniting powder within said boom for igniting said propellant and wherein one of said primers is in communicating relation with the igniting powder through a passageway in said frangible closure and pressure plug.

2,970,520
RECOILLESS RIFLE BREECH

Andrew J. Grandy, North Hills, Pa., assignor to the United States of America as represented by the Secretary of the Army

Filed July 10, 1959, Ser. No. 826,377
4 Claims. (Cl. 89—1.7)
(Granted under Title 35, U.S. Code (1952), sec. 266)

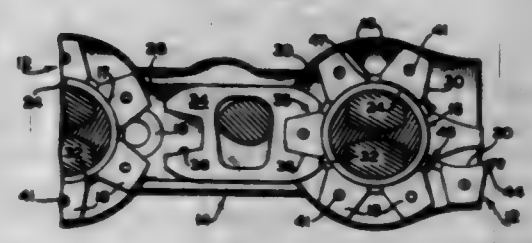


1. In a recoilless rifle having a chamber attached at one end to a barrel and at the other end to a tubular extension, the combination therewith of means including a plurality of segmental members supported in said extension and formed with their adjacent edges angularly disposed with respect to the diametrical dimension of said extension, and means including a spring arranged between the breech end of said chamber and the breech ends of said members to bias said members to a position where they form a venturi opening out of said chamber with their adjacent edges overlapping one another, said members being extensible into said chamber to enlarge said opening upon compression of said spring.

2,970,521
COMBINED FIREARM AND CARTRIDGE STRUCTURE PROVIDING FOR DISCHARGE OF THE CARTRIDGES WHILE LINKED

Charles R. Bell, Canoga Park, Calif., and Eugene S. Wenzel, La Grange, Ill., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Army

Filed Aug. 26, 1957, Ser. No. 680,371
2 Claims. (Cl. 89—33)

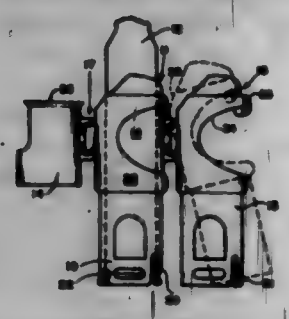




1. In combination, a cartridge of quadrangular cross-section including a longitudinally disposed base portion, connector portions extending laterally from said base portion to provide means for hingedly connecting a plurality of cartridges at said base portions to form a belt jointed for pivotal displacement thereof, and a firearm comprising a bolt mounted for lateral reciprocation therein and including a recess in one of the opposite ends for laterally receiving that portion of said cartridge extending from said base portion, a sprocket-wheel rotatably disposed in the firearm in alignment with the path of travel of said bolt, a cylindrical portion of said sprocket-wheel rotatably disposed adjacent the recess carrying end of said bolt, a plurality of sprockets symmetrically

disposed around said cylindrical portion for engaging said base portions of said cartridges in said belt between successive pairs of said sprockets to rotatably carry said cartridges into position to be received by said recess, the pairs of said sprockets being disposed for engagement by the recess carrying end of said bolt to form therewith a firing chamber for the discharge of the inclosed one of said cartridges, said sprockets being extensively terminated at said base portion for engagement by said bolt adjacent thereto, an outside surface of said base portion curved to mate with said cylindrical portion for positioning said connector portions adjacent said cylindrical portion when said cartridges are in engagement with said sprocket-wheel, and a clearance cut in each of said sprockets for receiving said connector portions.

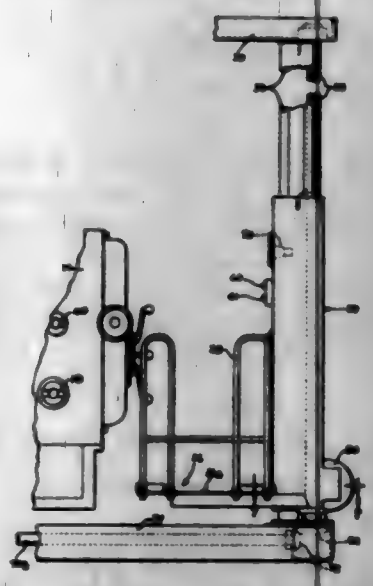
2,970,522
DISINTEGRATING LINK ASSEMBLY FOR CARTRIDGE BELT
Samuel S. Brady, Baltimore County, Md., assignor to Aircraft Armaments, Inc., Cockeysville, Md., a corporation of Maryland
Filed Apr. 16, 1959, Ser. No. 806,898
4 Claims. (Cl. 89—35)



1. A cartridge belt link assembly adapted to cooperate with other similar links for forming a disintegrating cartridge belt comprising, a generally semicylindrical housing having an open side, a generally semicylindrical attachment link having an open side, said housing and attachment link being in side-by-side relationship with the openings facing in the same direction, and connector means connecting said attachment to said housing, said connector means including an axially extending first flange on said housing having an outwardly directed first portion parallel to the plane defined by the axes of the housing and attachment link, a second portion directed normal to the plane and an outwardly directed third portion parallel to the plane, and an axially extending outwardly directed second flange on said attachment link parallel to the plane, said second flange having an axially extending slot in which said second portion of the first flange is engaged, said slot being wider at its axial ends than at its center, the width of the slot at its center being substantially equal to the thickness of said second portion so that said housing is pivotal with respect to said attachment about each axis of a coordinate trihedral whose origin is intermediate the center of said slot, the engagement of said second portion of said first flange in said axial slot constituting the sole connection between the housing and the attachment link.

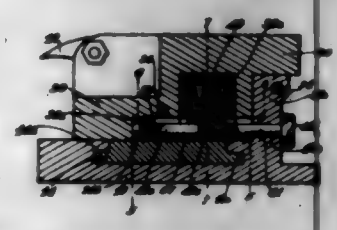
2,970,523
OPERATOR ELEVATOR FOR MACHINE TOOLS
Garner H. Schuerger, Fond du Lac, Wis., assignor to Giddings & Lewis Machine Tool Company, Fond du Lac, Wis., a corporation of Wisconsin
Original application May 13, 1954, Ser. No. 429,578, now Patent No. 2,816,485, dated Dec. 17, 1957. Divided and this application Sept. 20, 1957, Ser. No. 685,301
7 Claims. (Cl. 90—11)

4. In a machine tool having an upright column and a headstock movable vertically along the column, an elevator support for an operator comprising, in combination, bracket members rigidly fixed to the top and bottom of the column and projecting horizontally therefrom, a lead screw held in a vertical position adjacent the column and supported at its upper and lower ends by the extremities of said brackets, a platform adapted to carry an operator, means for guiding said platform



for vertical movement independently of the headstock and between said brackets, a nut carried by said platform and engaged with said screw, power means for effecting relative rotation of said nut and screw in selectively opposite directions to raise and lower said platform, and control means movable with said platform and accessible to an operator thereon for operating said power means.

2,970,524
TAIL STOCKS FOR MILLING MACHINES
Erick Meen, 9400 Whitcomb, Detroit, Mich.
Filed Dec. 10, 1954, Ser. No. 474,326
3 Claims. (Cl. 90—23)

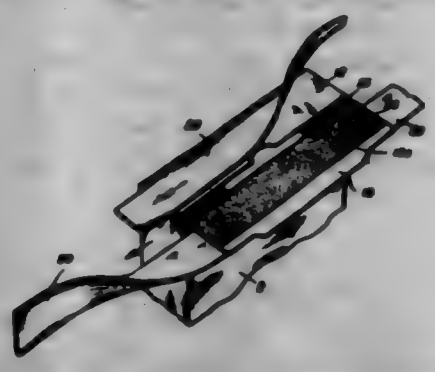


1. A tail stock for milling machines comprising a base, a slide mounted in the same for transverse movement, a pair of laterally spaced side walls carried by the slide, a block between the walls and having means to engage the work, other means to move the block vertically between the walls, a rear wall connecting said side walls, said other means originating with a longitudinal shaft extending in a similarly positioned bottom recess of the block, one bearing for said shaft being in said rear wall, and another bearing for such shaft comprising a cross-member carried by the slide and seating in a cross-branch of said recess.

2,970,525
SEALED CARTON AND METHOD OF FORMING
Clarence F. Klein, Hartsdale, N.Y., and G Stuart Sexton II, Louisville, Ky., assignors, by mesne assignments, to The Lord Baltimore Press, Incorporated, New York, N.Y., a corporation of Maryland (1959)
Filed July 18, 1956, Ser. No. 598,669
2 Claims. (Cl. 93—36)

1. The method of continuously sealing moving wax impregnated paperboard cartons having a plurality of foldable overlapping end flaps which have their adjoining edges joined together adjacent to their fold lines which

comprises moving said cartons successively past a heating means and heating the end flaps of each moving carton freeing the paperboard fibers from the impregnating wax, thereafter applying a thermoplastic adhesive to at least one surface of the heated end flaps of each carton, successively folding the end flaps along their fold lines into an overlapping position thereby severing at least a portion of the connected portion between adjacent end flaps and drawing inwardly the corner portions of the cartons



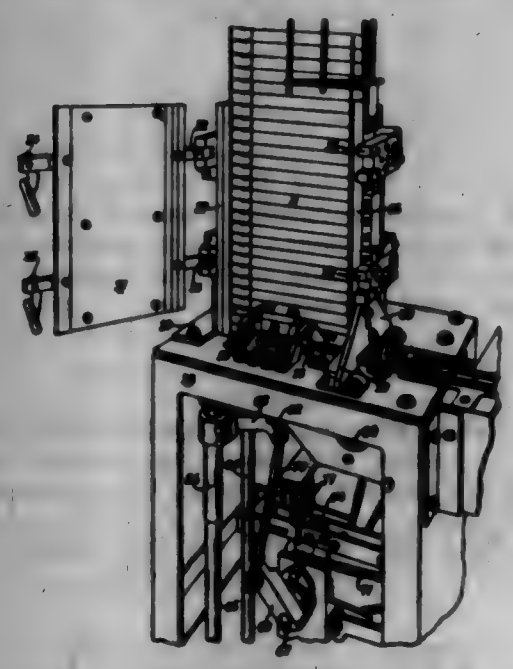
adjacent the severed portions to form a tight corner and a dam for the thermoplastic adhesive at the corner, heating and pressing the end flaps of each moving carton together and forcing the molten thermoplastic adhesive to flow into said inwardly drawn corners and the dams formed thereat, and thereafter cooling the end flaps of the moving cartons while holding them under pressure to solidify the thermoplastic adhesive whereby an airtight seal is provided for the carton.

2,970,526

PRESSURE SECTIONS FOR BOX FORMING AND BOX CLOSING MACHINES

Kenneth Clyde Gebelet, Redwood City, Calif., assignor to Baljak Corporation, Wilmington, Del., a corporation of Delaware

Filed Dec. 18, 1958, Ser. No. 781,313
23 Claims. (Cl. 93—36)



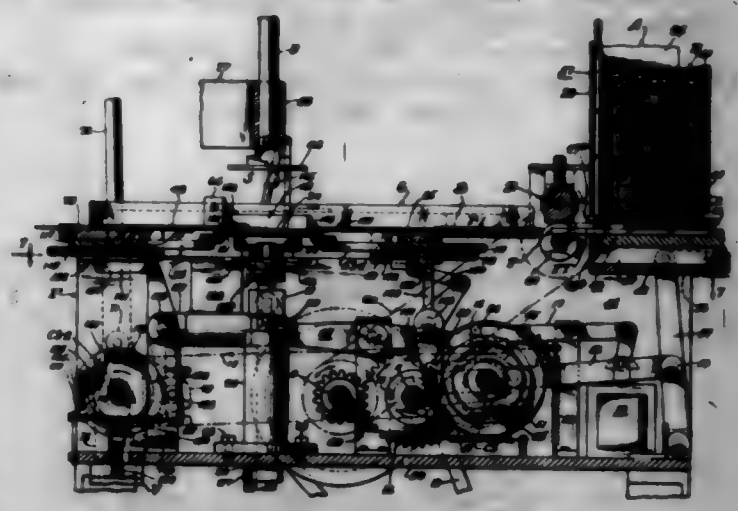
1. A compression unit for a folding and gluing machine for folding boxes, the unit comprising, in combination, means forming a passageway at an upward angle to the horizontal; means for feeding glued boxes into the passageway at the bottom and lifting the boxes in the passageway by the height of a box, said passageway including two opposite substantially parallel pressure plates of a vertical dimension sufficient to accommodate between them more than two vertically stacked boxes at the same time; means for normally urging said plates together to compress simultaneously the boxes between the plate surfaces; and means for periodically separating said plates to release the boxes in the passageway for a period sufficient to admit a further box into said passageway between said plates.

2,970,527

FLANGE BENDING MACHINE FOR UNSTAYED SET-UP BOX MANUFACTURE

Charles T. Fisher, Batavia, N.Y., assignor to Harvey M. Crockett, Willow Grove, Pa.

Filed Mar. 20, 1958, Ser. No. 722,764
6 Claims. (Cl. 93—51)



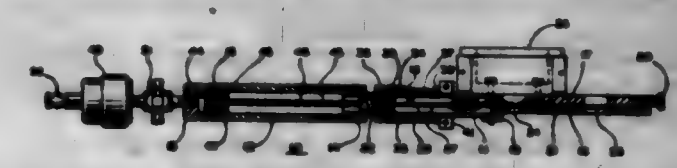
1. A box forming machine comprising means for feeding flat blanks to a box forming station, plunger means for preforming the blanks into a box having a base and side and end flanges, means on said plunger means to support the base of said box blank, a pair of opposed slides for bending the side flanges inwardly into overlying relation with said base, a second pair of opposed slides for bending the end flanges inwardly into overlying relation with said base, said slides cooperating with said support means to provide definite folds for the flanges, a movement-imparting means adapted to reciprocate said side flange slides into said overlying relation when said end flange slides are out of overlying relation, and adapted to reciprocate said end flange slides into said overlying relation when the said side flange slides are out of said overlying relation.

2,970,528

HIGH SPEED STREAK SHUTTER

Darwin A. Gildner, District Heights, Md., and Fitzhugh L. Brauer, Alexandria, Va., assignors to the United States of America as represented by the Secretary of the Navy

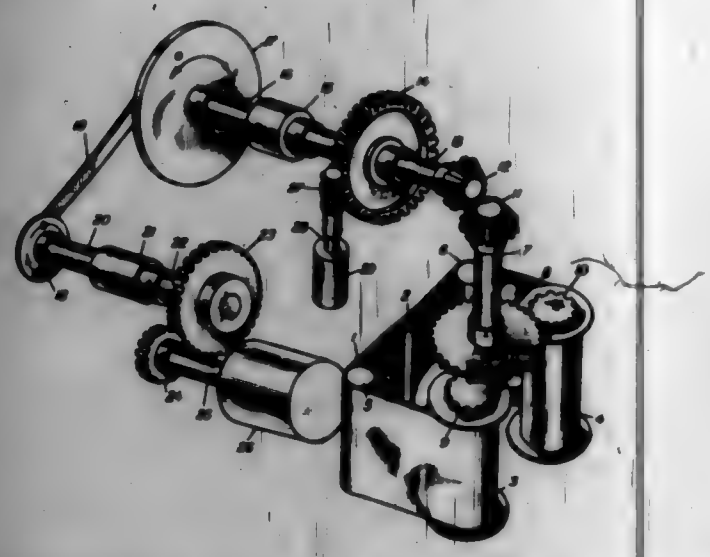
Filed Dec. 19, 1958, Ser. No. 781,814
4 Claims. (Cl. 95—54)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A high speed light shutter device which comprises a housing, said housing including a pressure chamber, a piston cylinder, and a shutter blade guide all in axial alignment therein, at least one axially disposed elongated aperture extending through said housing along said shutter blade guide perpendicular to the axis of said housing to provide a light path therethrough, said piston cylinder and said shutter blade guide being constructed to respectively receive a piston and a shutter blade integrally secured to said piston, said shutter blade having at least one aperture therein and movable along said guide by pressure on said piston, valve means positioned within

said pressure chamber operative to admit fluid into said pressure chamber and controllable by said piston to close said pressure chamber against admittance of fluid pressure into said chamber when said piston is in an unloaded position and to admit fluid pressure into said chamber when said piston is in a loaded position and a loading means for holding said piston in a loaded position.

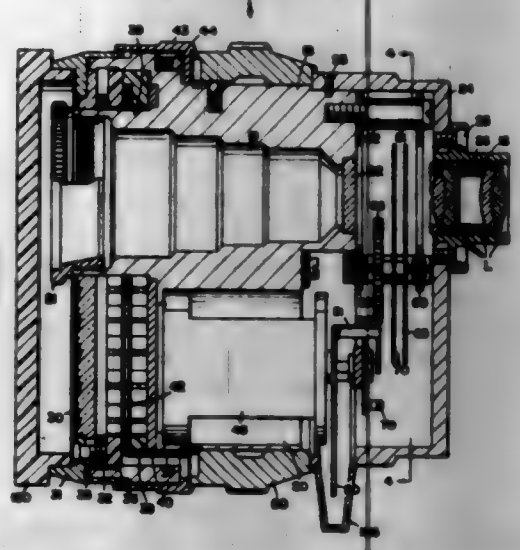
2,970,529
FOCAL PLANE SHUTTER
Hendricus Jacobus Cornelis Nieuwenhoven, Rijswijk, Netherlands, assignor to N.V. Optische Industrie "de Oude Delft," Delft, Netherlands
Filed Jan. 11, 1957, Ser. No. 633,579
Claims priority, application Netherlands Jan. 12, 1956
4 Claims. (Cl. 95—57)



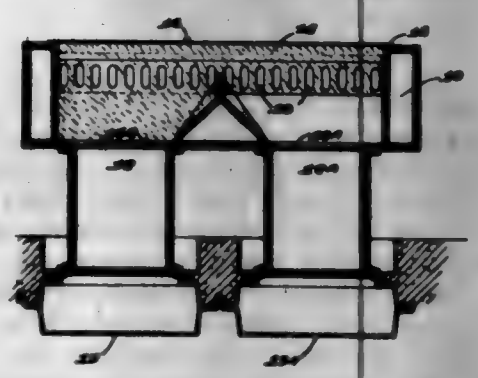
1. Motor-driven focal plane curtain-shutter comprising a flexible curtain having an exposure aperture, rollers upon which the curtain is wound, an electric motor, a driving mechanism for connecting said motor in driving relation with both of said rollers so as to cause said rollers to rotate in unison alternately in one direction and in the reverse direction for successive exposures, said driving mechanism comprising a first shaft connected to said motor for continuous unidirectional rotation by said motor, a second shaft connected with said rollers, means connecting said second shaft and said first shaft for translating the continuous unidirectional rotational speed of said first shaft into an alternating rotational speed of said second shaft substantially sinusoidally varying with time, said curtain having its maximum speed both in the forward and in the reverse direction at the time said exposure aperture is substantially halfway between said rollers.

2,970,530
EXPOSURE CONTROL UNIT FOR PHOTOGRAPHIC CAMERAS
Eugene Miller, Rochester, N.Y., assignor to Eigeet Optical Company, Inc., Rochester, N.Y., a corporation of New York
Filed July 31, 1959, Ser. No. 830,893
3 Claims. (Cl. 95—64)

1. A device intended to be used in place of the ordinary removable objective lens mount in a camera, which camera has both a viewfinder opening and a lens opening in its front face, said lens opening being closely adjacent said viewfinder opening, said device comprising a housing which is generally circular in cross-section, an objective lens system containing a plurality of axially-spaced lenses, said lens system being mounted in said housing eccentrically of said housing, a pair of diaphragm blades mounted in front of at least one of said lenses of said lens system for oscillation on spaced, parallel axes and lying in parallel planes, each of said blades having an aperture therethrough, the apertures in the two blades overlapping and being identical but reversed with reference to one another to form a diaphragm opening varying with the angular positions of the two blades, and means for automatically oscillating the two blades simultaneously about their respective axes comprising a light-sensitive cell for producing a current varying in accordance with light conditions, a galvanometer having a rotary coil electrically connected to said cell to rotate to different angular positions in accordance with variations in the current generated by said cell, said coil being positioned in said device at one side of said lens system with its axis of rotation parallel to said lens system, toothed gearing connecting said coil to one of said blades to rotate said blade on rotation of said coil, and toothed gearing connecting said one blade to the other blade to rotate said other blade in the opposite direction from said one blade but in the same direction as said coil, on rotation of said one blade, said device being a self-contained unit and having means for removably securing it to the front face of a camera with said device abutting against the front face of the camera and with said lens system in alignment with the lens opening of the camera and with said coil disposed further away from said viewfinder opening than said lens system, said housing being of a diameter greater than the distance from said lens opening to the viewfinder opening whereby the device may be mounted with said lens system in alignment with said lens opening in a position such that the device does not obscure the viewfinder opening.



2,970,531
OUTLET BOX FOR AIR CONDITIONING SYSTEM
Bernard E. Curran, Sewickley, Pa., assignor to H. H. Robertson Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Mar. 14, 1957, Ser. No. 646,838
7 Claims. (Cl. 98—36)



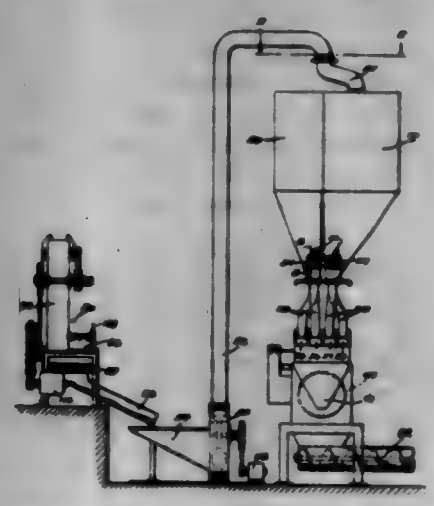
1. An air outlet for an air distributing structure, comprising: a sill box having an air-receiving chamber and

being provided with a plurality of air inlet openings for receiving differently conditioned air from a source of supply thereof and being provided with an air outlet opening for discharging said air to an area to be conditioned, said inlet and outlet openings being in different walls of said sill box, and an elongated baffle unit mounted in said sill box in alignment with said outlet opening, said baffle unit having end walls, and parallel side wall portions extending inwardly from adjacent said outlet opening and having outwardly diverging wall portions connected with the innermost part of said parallel wall portions, said parallel and diverging wall portions forming a mixing chamber in said baffle unit, said diverging wall portions having openings therein, at least a portion of the air stream entering said sill box chamber through the air inlet openings being deflected by a diverging wall portion toward a wall of said sill box chamber for subsequent discharge through the openings in said diverging wall portions into said mixing chamber to be discharged through the outlet opening.

2,970,532
APPARATUS FOR AUTOMATIC PROPORTIONED MIXING AND GRINDING

Robert F. Skelton, Racine, Wis., assignor to Belle City Manufacturing Company, Racine, Wis., a corporation of Wisconsin

Filed Feb. 8, 1954, Ser. No. 408,744
13 Claims. (Cl. 99—235)



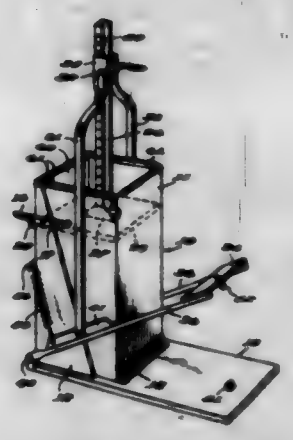
1. Apparatus for preparing a batch of stock food comprising in combination a grinding and mixing device having a feeding opening, a plurality of feeding conveyors discharging into said opening, hoppers from which the respective conveyors operate for the delivery of contents of the respective hoppers into the opening of said device, intermittent driving means to the several conveyors including means for predetermining the relative rate of operation thereof by selectively varying the time duration of intermittent drive to said conveyors, and motor means operatively connected with said driving means and with said device and having a time control whereby said device and driving means may be set for a predetermined period of operation.

2,970,533
TRASH BASKET

Steve R. Allen, 2209 Southside Drive, Montebello, Calif.

Filed Nov. 6, 1958, Ser. No. 772,266
4 Claims. (Cl. 190—226)

1. A waste container comprising: a substantially rigid open top container, said container including a first fixed section and a second hinged section which is pivotally connected to a base, said base supporting said container; means for selectively securing said second section to said first section; a disposable bag; means for selectively fixedly securing said bag within said conttainer; a ram head whose shape is substantially coincident with that of said bag; a foot treadle pivotally hinged to said base; a connecting arm extending perpendicularly from said ram



head; and means interconnecting said foot treadle and said connecting arm, whereby when said foot treadle is depressed and said ram head is placed within said bag, waste deposited therewithin will be compressed.

2,970,534
PLANOGRAPHIC PRINTING PLATES AND METHODS FOR MANUFACTURING SAME

Thomas U. Marron, Glenview, Ill., assignor to A. B. Dick Company, Niles, Ill., a corporation of Illinois

Original application Mar. 27, 1952, Ser. No. 278,871, now Patent No. 2,800,077, dated July 23, 1957. Divided and this application Apr. 12, 1957, Ser. No. 659,450
5 Claims. (Cl. 101—149.4)



1. A structure for use in the manufacture of an imaged hectograph plate comprising a base sheet and a layer on the base sheet formed of a polyphase system having a water and spirit insoluble film forming material as the continuous phase, and a color-containing water and alcohol soluble imaging material dispersed therein as the discontinuous phase.

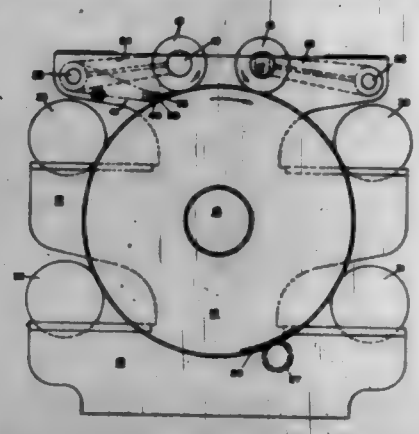
2,970,535
ROTARY DEVICE FOR PRINTING, SLITTING AND REWINDING ELONGATED WEBS

Julius Schmutz, Glenview, Ky., assignor to Schmutz Manufacturing Company, Incorporated, Louisville, Ky., a corporation of Kentucky

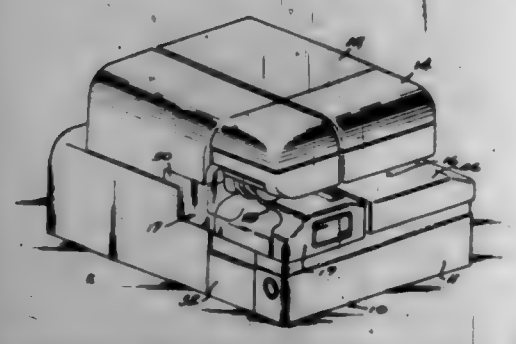
Filed June 13, 1955, Ser. No. 514,940
16 Claims. (Cl. 101—178)

1. A rotary "deformable-web" printing device comprising: a massive frame; a rotary cluster including a massive impression cylinder and web supply and rewind rolls for said deformable-web, all mounted on said frame for rotation about parallel axes, said impression cylinder having a relatively large diameter and weight in comparison with the diameters and weights of the supply and rewind rolls when they are empty of web, said rolls also being mounted for movement bodily toward and away from adjacent peripheral sections of said large impression cylinder; means yieldably holding each roll in nonslipping interperipheral web-transferring engagement with its particular section of said large cylinder;

over one half of the periphery of said large cylinder providing a substantially continuous web supporting surface from one area of interperipheral engagement to the other; frame-mounted means for mechanical printing engagement with the web on said web supporting surface; and drive means for continuously rotating said large cylinder, said interperipheral engagements being operative to rotate the other members thereof and to maintain all peripheral speeds of said cluster members at the same value so that web unwound from one roll and simultaneously deposited on said large cylinder at the same lineal speed and under the same tension that it is removed from said large cylinder and simultaneously deposited on the other roll.



2,970,536
POSTAGE METER MACHINES
John William Bach, Stamford, Conn., assignor to Pitney-Bowes, Inc., Stamford, Conn., a corporation of Delaware
Filed Feb. 19, 1958, Ser. No. 716,056
1 Claim. (Cl. 101—227)



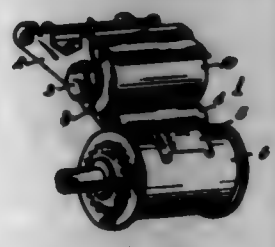
The combination with a machine having a postage printing drum and impression roller operable for printing postage impressions on envelopes when passed therebetween or on gummed tape which is guided by guide means from a source of supply at the introductory side of the machine to and between the printing drum and impression roller and to a moistening position at the delivery side of the machine; of a closure framing the impression roller and tape guide means; said closure including a pivotally positioned envelope flap moistening device disposed above and blocking access to a portion of the tape supply and guide means when in position at the introductory side of the machine to receive the envelope while advancing toward the printing drum, a pivotally positioned tape moistening device blocking access to another portion of the tape guide means when in position to moisten tape at the delivery side of the machine, and a detachable letter guiding deck plate disposed above and blocking access to a further portion of the tape guide means; whereby, upon pivoting the moistening devices about their pivotal positions and removing the deck plate, the tape supply and tape guide means are entirely exposed in a manner which will facilitate servicing of tape jams by the operator of the machine.

2,970,537
MAIL HANDLING MECHANISM
Frederick Schuyler Wardwell, Darien, and Victor E. Johnson, Norwalk, Conn., assignors to Pitney-Bowes, Inc., Stamford, Conn., a corporation of Delaware
Filed June 12, 1957, Ser. No. 665,336
1 Claim. (Cl. 101—232)



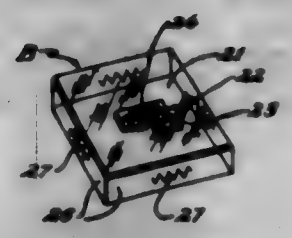
In a device for cancelling mail, the combination with a mail supply table having a conveyor adapted to receive letters on edge and including a channel to guide said letters, of a cancelling machine in the path of said channel for cancelling stamps on said letters as delivered thereto, a plurality of separator stations along said channel, each separator station including a letter feed roller and a separator element cooperating therewith, each separator station also being spaced a sufficient distance apart to allow the trailing end of one letter to move beyond the feed roller of one station before the leading end reaches the feed roller of the succeeding separator station, a driven conveyor between each separator station, and means to move each successive conveyor at an increased speed starting with the first conveyor to receive letters, whereby letters may advance to the first station in the channel in a bunched or overlying order and become debunched as the letters pass from one separator station to another so as to be finally restricted to a single letter before reaching the cancelling machine.

2,970,538
INKING DEVICE FOR ROTARY STAMPS
Friedrich Heil, Frankfurt am Main, Germany, assignor to Telefonbau und Normalzeit G.m.b.H., Frankfurt am Main, Germany, a German firm
Filed Aug. 28, 1957, Ser. No. 680,760
Claims priority, application Germany Mar. 20, 1957
2 Claims. (Cl. 101—357)



1. An inking device for rotary stamps comprising a cylindrical porous ink-distributing surface, a pair of substantially disc-shaped closing members for said surface to form an ink-receiving space on the inside of said surface, means for transferring ink from said ink-receiving space to the outside of said surface, bearing means for rotatably supporting said pair of closing members and said surface, one of said pair of closing members defining a relatively narrow ink-filling duct, an auxiliary ink-receiving receptacle loosely arranged inside said ink-receiving space and open at the side thereof juxtaposed to said ink-filling duct, the size of said receptacle being large in comparison to the size of said ink-filling duct so as to normally preclude passage of said receptacle through said ink-filling duct, said receptacle being made of a sufficiently pliable and compressible elastomer to permit said receptacle to be compressed to the extent required for insertion thereof through said ink-filling duct into said ink-receiving space, and means for closing said ink-filling duct.

2,970,539
TRANSPARENT SYMBOL STAMPS
John P. Griffin, 2157 James Ave., St. Paul, Minn.
Filed Mar. 20, 1953, Ser. No. 343,670
1 Claim. (Cl. 101—368)



A symbol stamp including a rectilinear, multi-sided body of transparent Plexiglas material having a pair of oppositely facing transparent surfaces, the remaining sides being roughened to render them translucent, identifying indicia carried by at least one of said translucent sides, and transparent Vinylite symbol means projecting from one of said transparent surfaces which is visible through the block from the other transparent surface thereof.

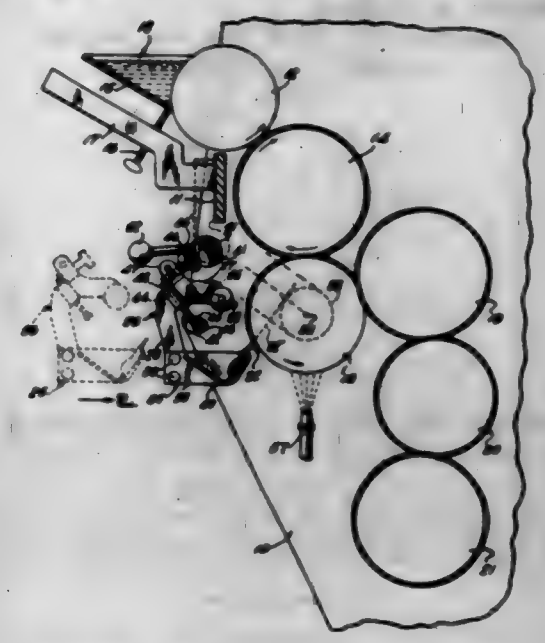
2,970,540
SADDLE FOR SUPPORTING THIN PRINTING PLATES
Emil Richard Wirth, Oak Park, Ill., assignor to Miehle-Goss-Dexter, Incorporated, Wilmington, Del., a corporation of Delaware
Filed Sept. 16, 1958, Ser. No. 761,353
5 Claims. (Cl. 101—415.1)



1. A saddle for supporting a thin printing plate comprising, in combination, a pair of rigid arcuate sections defining a cylindrical surface and being hinged together about an axis lying generally along an element of the surface, means for locking said sections against relative movement about said axis when they form a continuous arc, said sections having opposite straight edges, means defining a slot along each one of said straight edges for receiving the opposite ends of a printing plate, and spring means adjacent one of said slots for tensioning a plate fitted into said slots against the arcuate sections.

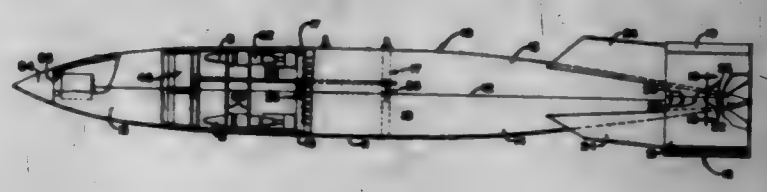
2,970,541
MACHINE FOR CLEANING OF PRINTING ROLLERS
Harold W. Gegenheimer, Darien, Conn., assignor to William Gegenheimer Co., Inc., Brooklyn, N.Y., a corporation of New York
Filed Apr. 17, 1958, Ser. No. 729,147
15 Claims. (Cl. 101—425)

1. Roller cleaning apparatus comprising an elongated flexible blade and means supporting each end of said blade for movement of said blade into and out of engagement with said roller with the plane of said blade when in engagement with the roller being substantially tangential to a curve described about the axis of the roller and at a distance therefrom approximately equal to one half the radius of the roller, at least the edge portion



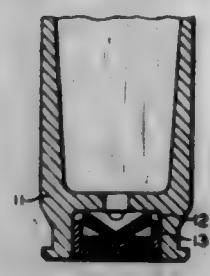
of said blade when out of engagement with said roller being curved inwardly from each end toward said roller.

2,970,542
BOMB RELEASE DEVICE
George L. Pigman, Homewood, Ill., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed July 13, 1956, Ser. No. 597,831
2 Claims. (Cl. 102—7.2)



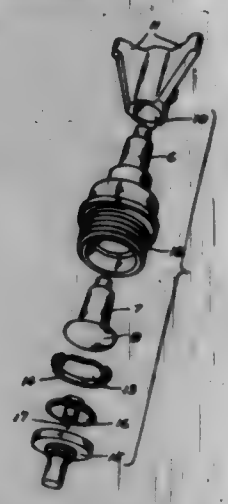
1. A carrier bomb adapted to contain a plurality of miniature missiles comprising a casing comprising a pair of normally locked semicylindrical members, a pair of oppositely disposed shafts rotatably supported within said members, a plurality of latches associated with each of said shafts for locking said members and movable to a release position to unlock the members, a plurality of detents pivotally mounted on one of said members in engagement with said latches respectively for maintaining said latches in a locked condition and adapted to move said latches to said release position as said detents are moved a predetermined amount, means on said shaft for moving said detents upon rotation of said shafts, a housing having a pair of separable elements disposed within said casing and carried by said members respectively, an explosive charge arranged within one of said elements, a plunger releasably locked to one element and movable to a release position within the other element in response to an explosive force applied thereto, means for firing said charge and applying said force to said plunger, rack means on said plunger, and complementary means on each of said shafts in engagement with said rack means for rotating said shafts as said plunger is moved to said release position, said plunger being adapted when in said release position to forcibly separate said members subsequently to the release of said latches thereby to disperse said missiles upon a target.

2,970,543
AMMUNITION
Albert J. Duffield, Rosewood Heights, Ill., assignor to Olin Mathieson Chemical Corporation, East Alton, Ill., a corporation of Virginia
Filed Sept. 13, 1954, Ser. No. 455,745
1 Claim. (Cl. 102—45)



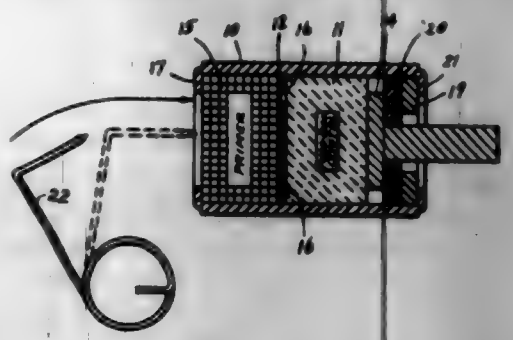
A round of centerfire ammunition comprising an aluminum case and head, a primer pocket in said head, an annealed copper base alloy primer cup seated in said pocket, the sidewall of the primer cup having a hardness not in excess of the hardness of the primer pocket.

2,970,544
FUSE FOR ANTI-TANK MINE
Karl Olof Bertil Malm, Stockholm, Sweden, assignor to Aktiebolaget Bofors, Bofors, Sweden, a Swedish company
Filed Feb. 6, 1958, Ser. No. 713,595
5 Claims. (Cl. 102—70)



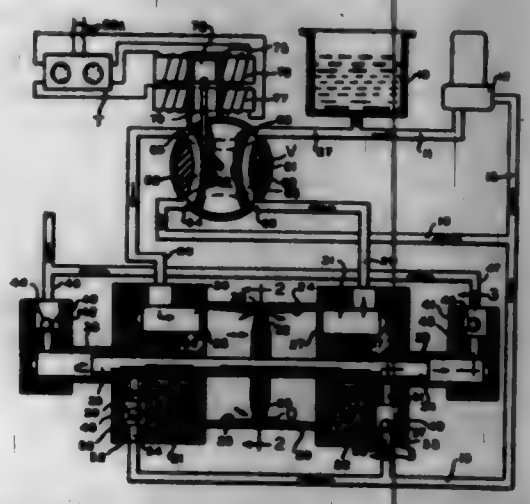
1. A self-contained fuse for insertion into a pressure detonated land mine comprising, in combination, a non-metallic housing having a pair of longitudinally spaced apart end parts and a central part interposed therebetween, one of said end parts containing a primer charge, the other one of said end parts comprising a resilient sleeve, all of said end and central parts being integrally connected together for insertion as a unit into a land mine, an actuating pin longitudinally mounted within said resilient sleeve, said actuating pin having an end facing said one end part and terminating in a convexly curved surface, a frangible disc interposed within said central part between said pin end and said one end part, said disc being in proximity with said curved pin surface, a dished springy disc interposed within said central part of said housing between said frangible disc and said one end part, said springy disc being movable into positions of opposite curvature in response to an axial pressure applied thereto, and a firing pin depending from said dished disc toward the primer charge, said springy disc being sprung into the position of curvature in which said firing pin is remote from the primer charge, movement of said springy disc into the position of opposite curvature causing penetration of said firing pin into the primer charge for detonating the latter, whereby flexing of said resilient sleeve in response to a substantially longitudinal directed component of an actuating force causes movement of said actuating pin against said frangible disc causing fracturing thereof and snapping of said springy disc into said position of opposite curvature.

2,970,545
ENERGY CONVERTING DEVICE
Richard C. Howe, Fort Wayne, Ind., assignor to The Magnavox Company, Fort Wayne, Ind., a corporation
Filed Jan. 23, 1956, Ser. No. 561,377
2 Claims. (Cl. 102—70.2)



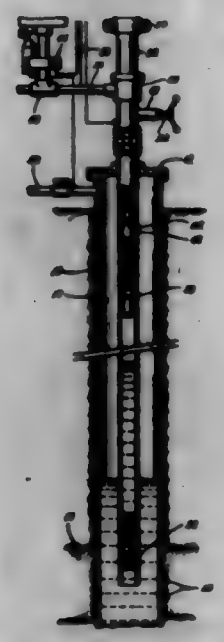
1. A detonator comprising a casing, an explosive primer disposed in one end thereof, a firing pin supported adjacent said primer for initiating firing thereof, pressure responsive pulse generating means comprising a piezo electrical crystal supported within said casing adjacent said primer, an electrical contact terminal between said primer and said crystal consisting of a spring member in pressure contact with said primer and one surface of said crystal, a second electrical contact terminal engaging another surface of said crystal and including an extension protruding from said casing, an insulator between said second contact and said casing, and a retaining plate disposed between the end of said casing and said insulator to clamp said second contact in firm engagement with said crystal.

2,970,546
FLUID PRESSURE SYSTEMS
Howard T. White, Melrose Park, Pa. (% Chempump Corp., 1360 E. Mermaid Lane, Philadelphia 18, Pa.)
Filed Apr. 23, 1958, Ser. No. 730,487
9 Claims. (Cl. 103—51)



1. A fluid pressure system having a source of fluid under pressure, a motor cylinder, a motor piston mounted in said cylinder for reciprocation therein, the periphery of said motor piston and the interior wall of said cylinder having a fluid passageway therebetween at all positions of said piston, a valve connected by a fluid connection to said source, fluid connections from said valve to said motor cylinder for selectively applying said fluid at opposite ends of said cylinder, a timing mechanism for actuating said valve, and a plunger connected to and actuated by said motor piston.

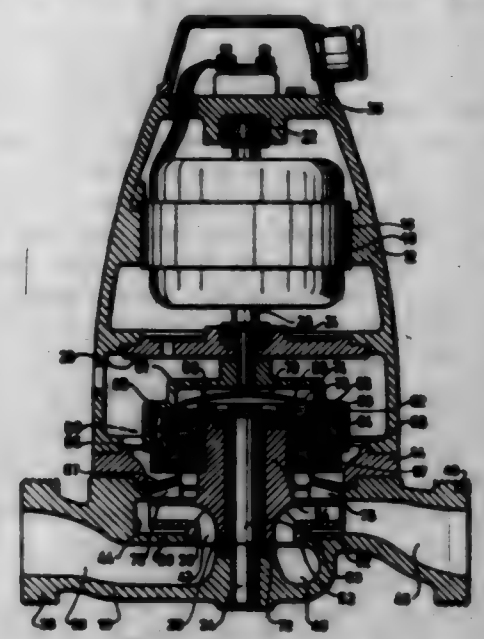
2,970,547
WELL PUMPING APPARATUS OF THE FREE PISTON TYPE
Everett D. McMurry, 600 Hedwig Road, Houston, Tex.
Filed May 15, 1958, Ser. No. 735,636
7 Claims. (Cl. 103—52)



1. Well pumping apparatus comprising a well tubing having an inlet and an outlet above the inlet, a valve for controlling the flow of fluid through the outlet, means for periodically opening and closing the valve, a plunger loosely fitted into the tubing for movement in the tubing between the inlet and outlet and movable upwardly in response to pressure in the tubing beneath the plunger when the valve is open and downwardly under the influence of gravity when the pressure above and beneath the plunger is equalized, means on the plunger positioned to close the outlet when the plunger reaches the limit of its upward movement to cause a decrease in the pressure in the outlet, and means for causing the valve to close upon the occurrence of a decrease in the pressure in the outlet to permit the pressure beneath the plunger to bypass the plunger to equalize the pressure above and beneath the plunger.

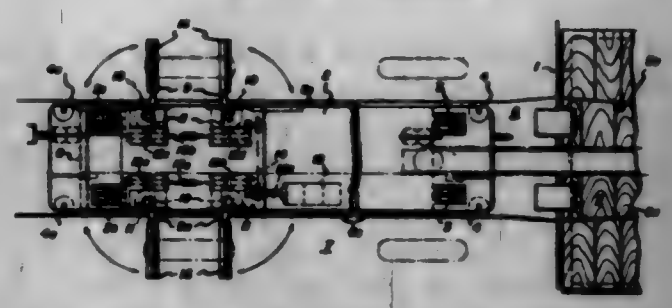
2,970,548
MAGNETICALLY DRIVEN PUMP
Sven Gustav Vilhelm Berner, Molndal, Sweden, assignor to Aktiebolaget Pumpindustri, Goteborg, Sweden, a corporation of Sweden
Filed June 23, 1958, Ser. No. 743,832
3 Claims. (Cl. 103—87)

1. A pump operative within a hermetically sealed casing by a source of power exterior of the casing comprising a hollow cylindrical cup closed at one end and having an outwardly projecting flange at its other end, a portion of the casing housing fixedly sealed to the outer periphery of said flange, a fixed shaft mounted in said casing and projecting to adjacent the inner surface of the closed end of the cylindrical housing, an impeller hub rotatably mounted on said shaft and having radially extending fluid passages, a first non-magnetic ring mounted on said hub, a plurality of axially arranged radially displaced magnets fixed to the outer periphery of said first ring in closely spaced relation, a motor rotatably mounted exterior of said casing and having a shaft in substantially axial alignment with said fixed shaft, a non-magnetic ring mounted on said motor shaft and substantially concentric and radially outward of said first ring on said hub, a plurality of axially arranged and radially displaced magnets spaced from the axis of said motor shaft and corresponding in number to the magnets of said first ring but disposed to have opposite polarity to the magnets of said first ring, said magnets



of said second ring being mounted on the inner periphery of said second ring.

2,970,549
TRANSPORT CARRIAGE FOR VEHICLES
Heinrich Velk, Mainz, and Arnulf Dechent, Gustavsburg, Germany, assignors to Maschinenfabrik Augsburg-Nurnberg A.G., Nurnberg, Germany
Filed July 8, 1957, Ser. No. 670,618
Claims priority, application Germany Sept. 11, 1956
2 Claims. (Cl. 104—50)

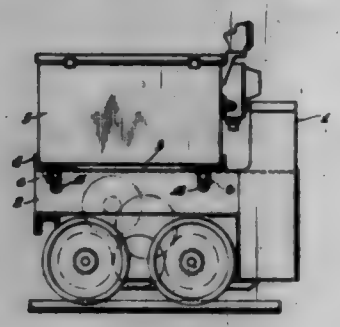


1. A motor vehicle transfer carriage for a vehicle parking system and comprising a wheeled frame, two pairs of shafts mounted on both longitudinal edges of said frame opposite from each other, said shafts being inclined from the vertical toward a central vertical plane passing through the longitudinal axis of said frame, two pairs of catch levers pivotally mounted on said shafts, a cylindrical roller journaled on each of said catch levers, means for pivoting said catch levers from an inoperative resting position substantially parallel to the frame longitudinal edges to an operative position wherein said levers extend outwardly of said frame at substantially right angles to their inoperative positions so that each pair of levers engages one of a pair of coaxial wheels on a motor vehicle, the free ends of said catch levers being inclined upwardly from the horizontal when in operative position, and means connected with said pivoting means for stopping the pivoting movement of said levers to their operative position when said levers encounter a pre-determined resistance.

2,970,550
LOCOMOTIVE BATTERY CHANGING MECHANISM
William T. Petterson, % Bicroft Uranium Mines Ltd., R.R. 3, Bancroft, Ontario, Canada
Filed June 8, 1959, Ser. No. 818,718
2 Claims. (Cl. 105—50)

2. A storage battery locomotive including a wheeled chassis including a pair of longitudinally extending side

frame members, a horizontally extending floor supported upon said side frame members and having a flat planar upper surface which is completely unobstructed from side to side thereof, a retaining frame mounted upon and extending above said floor for supporting a storage battery, said floor having a pair of parallel slots therethrough, extending transversely thereof and terminating adjacent said side frame members, a pair of guide means carried by and rising above said retaining frame, extending transversely entirely across said floor and disposed on the relatively remote sides of said pair of slots for limiting movement of a storage battery when disposed between said guide means to movement transversely of said floor, a pair of guide members having each a vertical guide surface and secured in depending relation to the underside of said floor and being supported solely by the latter and being disposed parallel to and adjacent the relatively remote sides of said pair of slots, said side frame members having pairs of oppositely aligned sleeves secured to the inside of a frame member and having ends opening through the outside of said frame members, each pair of opposed sleeves projecting from said frame members towards each other and having alined axes lying in the



same vertical plane with one of said slots, a pair of roller assemblies each including a casing having a vertical surface slidingly engaging said vertical guide surface of a guide member, each casing being disposed beneath one of said slots, a plurality of longitudinally, spaced and alined rollers each having its entire peripheral surface of cylindrical shape and journaled in each casing and with their top surfaces projecting above said casing, a pair of shafts each having its ends terminating within and being journaled for rotation in a pair of said opposed sleeves and having a connection on one end of each shaft for receiving a crank through the opening in said frame member for rotating said shaft, a pair of eccentrics fixedly mounted against rotational and axial movement of each shaft, each eccentric being closely adjacent to one of said pair of sleeves in which said shaft is journaled, said casings resting upon the eccentrics of said shafts, the position of said shafts and the throw of said eccentrics being such that the casings and rollers are selectively movable between a lowered position with the rollers retracted below said retaining frame and a raised position with the rollers projected upwardly through said slots for lifting a storage battery thereon above said retaining frame.

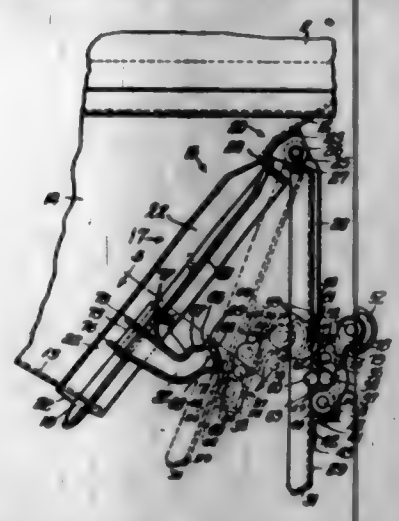
2,970,551

VERTICALLY MOVEABLE LATCH FOR SWINGING HOPPER CAR DOORS

George B. Dorey, Westmount, Quebec, Canada, assignor to Enterprise Railway Equipment Company, Chicago, Ill., a corporation of Illinois

Filed Aug. 14, 1957, Ser. No. 678,066
12 Claims. (Cl. 105—253)

1. In a railway car having a hopper with a discharge opening, side walls terminating at the sides of said discharge opening, a sloping floor terminating at the bottom of said discharge opening, and a door hinged to said hopper adjacent an upper side of said opening and swingable under the effect of gravity to an open position, in combination, a shouldered keeper rigidly mounted on each of said side walls and extending beyond the respective sides of said door when closed, a shaft extending parallel to the hinge axis of said door on the side thereof away from said opening and adjacent the edge furthest removed from said hinge axis and projecting at its ends beyond the sides of said door and engaging the keepers when said door is closed to hold said door closed, bracket means on said door between said shaft and said edge of said



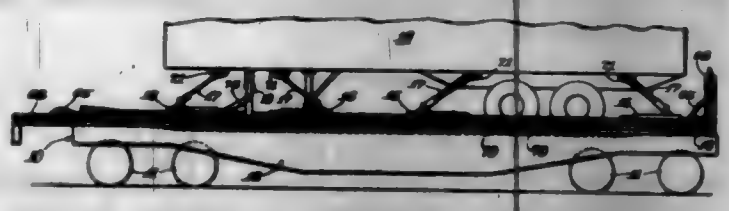
door carrying lugs in parallel space relation and equally spaced from said edge and extending outwardly from said door, a pair of parallel arms extending radially in the same direction from and rigidly secured to said shaft in alignment with said lugs, a pair of laterally spaced link members straddling each lug and the respective arm and pivoted thereto about parallel axes, and guide means on said door mounting said shaft for movement toward or away from said hinge axis.

2,970,552

CARGO SECURING APPARATUS

Claude B. Baker, Chicago, Ill., assignor to Illinois Central Railroad Company, Chicago, Ill., a corporation of Illinois

Filed Feb. 26, 1959, Ser. No. 795,862
9 Claims. (Cl. 105—368)



1. In a cargo-securing means, the combination of an elongated anchor rail, an adjustable hold-down anchor slidably mounted on said rail, said rail and said anchor having cooperating apertured portions adapted to be brought into registry by movement of the anchor to a selected position along the rail, and means for releasably locking said anchor in said position comprising a ring having a gap therein, said ring being rotatable to a locked position with the ring projecting through the registered apertured portions of said rail and said anchor, and said ring also being rotatable to a released position with the gap in the ring aligned with the apertured portion of the said rail, whereby said anchor is freely movable along the rail.

2,970,553

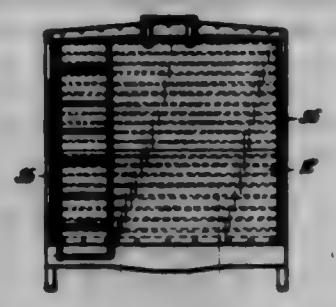
TRUSS PANEL

John W. Allen, La Grange, Ill., assignor to Stanray Corporation, a corporation of Delaware

Filed Feb. 6, 1958, Ser. No. 713,759
7 Claims. (Cl. 105—410)

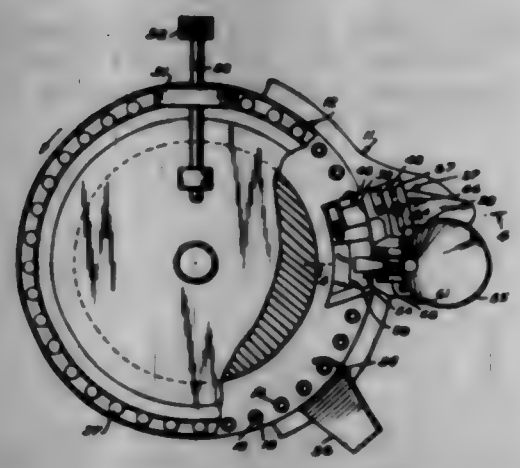
1. A composite truss panel comprising a flat metallic sheet, a corrugated metallic plate, the corrugations of

which are parallel, spaced, and extend from side to side of the plate, a plurality of substantially sinuous, spaced, parallel, elongated rods between said sheet and plate, the crests of said rods being secured to said sheet and plate, angles at the sides of the panel, each angle having an arm normal to said panel and an arm extending outwardly parallel thereto, said flat metallic sheet extend-



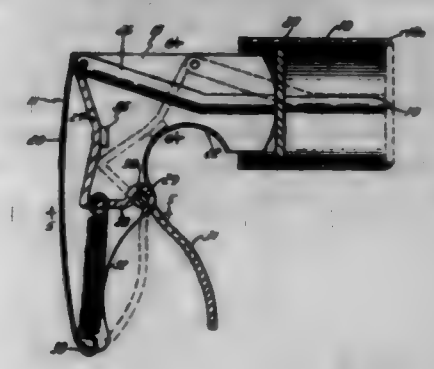
ing to and secured to the edges of said arms disposed normal thereto, turned thereover and secured to said parallel arms, and said corrugated plate and said sinuous rods extending between and secured to said arm disposed normal thereto within the bounding planes thereof, the arms of said angles and the included portion of the flat metallic sheet forming a hollow box section at the sides of the panel.

2,970,554
TABLET PRESS
Richard R. Haupt, Salem, N.J., assignor to Bristol-Myers Company, New York, N.Y., a corporation of Delaware
Filed Jan. 9, 1959, Ser. No. 785,958
1 Claim. (Cl. 107—17)



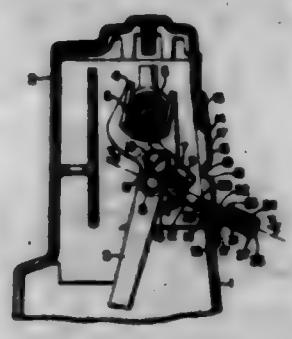
An improved tableting apparatus comprising a fixed base, a circular table rotatably mounted upon said base, said table having a plurality of die cavities adjacent the periphery thereof and extending therethrough, upper and lower punches mounted upon said table and reciprocably movable into and out of said die cavities, a feed frame secured to said base and positioned above and adjacent said die cavities, said feed frame defining a completely enclosed well, a powder feed hopper mounted upon said base and positioned above said table, a spout on said hopper extending into said well adjacent to the side of the feed frame from which the die cavities are first introduced within said well upon rotation of the table and spaced from said table above the path of travel of said die cavities, means to rotate said table so that the die cavities are successively positioned beneath said spout to receive powder from said hopper, means to lower said lower punches after powder has been received in the die cavities from said spout, means to thereafter elevate said lower punches, a rigid spring-biased first doctor blade mounted on said feed frame adjacent the side of said frame from which the die cavities move out of the well upon rotation of the table and bearing against the upper surface of said table whereby excess powder is scraped from said cavities after said lower punches are elevated, a resilient second doctor blade for retaining and directing the flow of the scrape-off powder within said feed frame, said second blade being secured at one extremity thereof to said feed frame above said well and having a depending portion thereof extending into said well and substantially completely thereacross at an angle to said table, a free extremity of said depending portion resting upon said table adjacent said first blade whereby the scrape-off powder is directed by said second blade into the die cavities wherein the lower punches are lowered, means for adjusting the special relationship between said hopper and said die cavities in the powder-receiving position thereof whereby the amount of powder received in said die cavities and, consequently, the amount of scrape-off powder accumulated within the feed frame may be controlled, and means to reciprocate said upper and lower punches to compress the powder in said die cavities into tablet form.

2,970,555
DISPENSING SCOOP
Mayo J. Baker and Tom F. Mason, both of N. 2822 Division, Spokane, Wash.
Filed Mar. 31, 1958, Ser. No. 725,410
3 Claims. (Cl. 107—48)



2. A dispensing scoop comprising a cylinder open at both ends, a disk therein slidable lengthwise in the cylinder from a position near one end of the cylinder to the other end of the cylinder, a handle rigidly attached to the cylinder, means carried by the handle and connected to the disk for moving said disk, a pair of rigid fingers spaced apart within the cylinder and extending the length thereof, said fingers each being adjacent to and parallel to the cylinder wall and spaced therefrom throughout their length and being rigidly attached to said handle, said disk having two spaced apart apertures therein through which said fingers extend.

2,970,556
STITCH LENGTH ADJUSTING MEANS FOR SEWING MACHINES
Ralph E. Johnson, Mountainside, N.J., assignor to The Singer Manufacturing Company, Elizabeth, N.J., a corporation of New Jersey
Filed Feb. 21, 1958, Ser. No. 716,696
6 Claims. (Cl. 112—210)



1. In the feeding mechanism of a sewing machine including a frame having an opening, a pivotally mounted

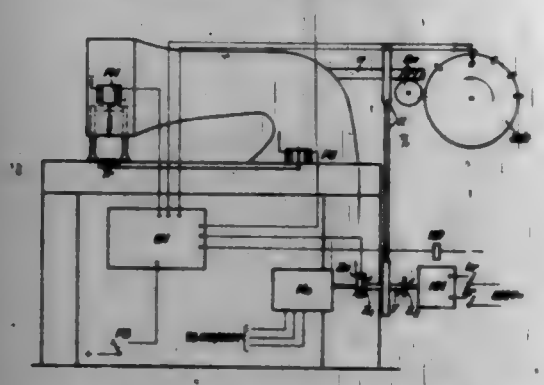
stitch length adjusting lever extending through said opening, said opening having a side edge arranged parallel and closely adjacent to the path of travel of the adjusting lever and a depression in the side edge, the depression having surfaces inclined lengthwise of the side edge of the opening, said lever having a slot extending axially inwardly from the free end thereof, a slide element slidably mounted in said slot and having a finger extending laterally from said lever into cooperation with said side edge of the opening and the depression therein, a manually rotatable member mounted upon the free end of said lever for rotation, means for confining said rotatable member against axial movement, and operative connections between said rotatable member and said slide element for shifting said slide element axially of said lever upon rotation of the rotatable member, said laterally extending finger on said slide element being arranged to cooperate with the side edge of the opening adjustably to limit the pivotal movement of the lever and to cooperate with the inclined surfaces of the depression in a cam-like fashion to effect a fine adjustment of the lever upon movement of the slide element axially of the lever.

2,970,557

CONTROL DEVICE FOR THE OPERATION OF SEWING MACHINES

Max Schwab, deceased, late of Schwetzingen in Baden, Germany, by Brunhilde Schwab, heir, Verlaengerte Scheffelstrasse 55, Schwetzingen, Baden, Germany; Herbert Palloch, Schwetzingen, Baden, and Richard Kurz, Stuttgart, Germany; said Palloch and said Kurz assignors to Brunhilde Schwab

Filed Feb. 12, 1957, Ser. No. 639,691
8 Claims. (Cl. 112—219)



1. A sewing machine including a motor drive, circuit interrupting means controlling the operation of said motor drive, a drive shaft operatively connected to said motor drive, a needle bar, a presser foot, a feed dog operatively associated with said drive shaft and automatically operative control means enabling the operator of said sewing machine to predetermine the number and the direction of the stitches produced by said machine; said control means comprising schedule setting means operated in synchronism with said motor drive and including a member actuated by said drive shaft and corelating means including relays and magnets associated with and operative to shift said presser foot, reverse said feed dog and shift said circuit interrupting means to start, stop and change the movements of said motor drive in response to the operation of said schedule setting means.

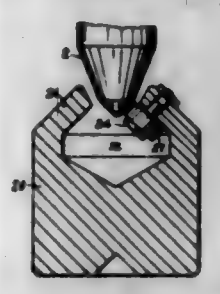
2,970,558

DEVICE FOR RESHAPING THE TIPS OF BALL POINT PENS

Sauro A. Albertini, Via Pazzalino, Lugano-Viganello, Switzerland

Filed Dec. 17, 1956, Ser. No. 628,655
2 Claims. (Cl. 113—32)

1. A device for reshaping the tip of a ball point pen comprising a cylindrcal support having a substantial cavity in one end thereof and inwardly converging projections about said cavity, the inner faces of said projections defining an interrupted frustro-conical surface, a plurality of cantilever bolts mounted on said projections and extending inwardly into said cavity, said bolts being normal to said frustro-conical surface, spaced equally circumferentially thereabout and spaced an equal distance from the tip of said surface, the inward extensions of said bolts intersecting in a common point on the axis of said support, a plurality of cylindrical rollers rotatably mounted on the free ends of said bolts, said device being adapted to be brought adjacent the tip of said ball point pen with the support in axial alignment with the pen and the cylindrical rollers bearing against the frustro-conical surface of the pen tip whereby the heat generated by the friction due to the slippage of said rotating cylindrical rollers on said frustro-conical surface of said pen will be retained by said cavity and facilitate deformation of the material of the tip of said pen about the ball therein.

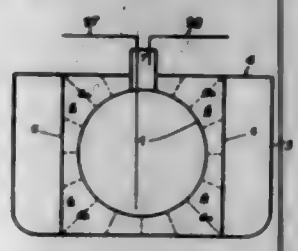


2,970,559

VESSELS FOR THE TRANSPORT OF LIQUEFIED GASES

René Leroux, 23 Rte. de Paris, Nantes-Chantenay, France

Filed Dec. 23, 1957, Ser. No. 704,537
Claims priority, application France Oct. 1, 1957
2 Claims. (Cl. 114—74)



1. A ship for transporting pressure liquefied gas, comprising a hull having bow and stern sections, spaced longitudinal bulkheads extending fore and aft between said bow and stern sections, at least one pressure-resistant cylindrical tank disposed lengthwise within said ship and between said longitudinal bulkheads, said tank being subject to longitudinal and radial expansion and contraction, a plurality of water-tight transverse flexible bulkheads mounted in spaced relation between said longitudinal bulkheads and secured to said longitudinal bulkheads and to said hull, each of said transverse bulkheads being formed with a circular opening for engaging and radially supporting said tank, said bulkheads being adapted to accommodate radial and longitudinal expansion and contraction of said tank.

2,970,560

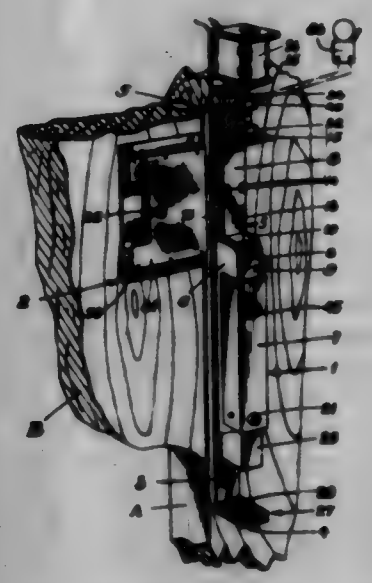
ANTI-BURGLAR ELECTRO SOUND ALARM SYSTEM

Jean L. F. Perrin, Quebec, Quebec, Canada (6 Rue Jean-Moulin, Mainvilliers-Chartres (Eure et Loir), France)

Filed Oct. 1, 1958, Ser. No. 764,655
4 Claims. (Cl. 116—88)

1. An anti-burglar device for use on two cooperating structural closure members; a first member being fixed and a second member being pivotally movable out of

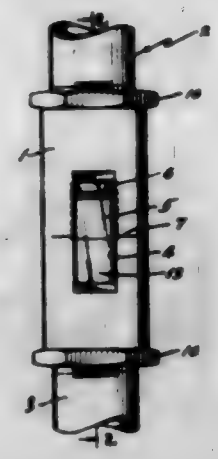
the plane of the first, said device comprising: an upstanding housing attached to one of said members and open at the top thereof; said housing having a back wall, a striking plunger telescopically vertically displaceable within said housing and having a depth, normal to said back wall, smaller than the depth of said housing, leaving a space therebetween; an abutment lip formed on a vertical extension of the back wall and having a forward extent smaller than said space; an abutment plate on said striking plunger co-acting with said lip to maintain said plunger in an inoperative position; spring means between said plunger and housing compressed when said plate and lip are in mutual engagement; a lever vertically upstanding from the top of said striking plunger in spaced parallel relationship with said vertical back wall extension; an electrical circuit comprising an alarm-sounding device and a switch; means on the upper end of said



lever for opening said switch upon contact therewith when said lip and plate are in mutual engagement; a firing pin at the lower end of said plunger; a cartridge holder and a cartridge blank therein located within said housing below said plunger; a trigger mechanism fixed to said other closure member and provided with an elongated substantially horizontal trigger finger; both said trigger mechanism and said housing being positioned along adjacent edges of said closure members with said horizontal trigger finger located between said back wall extension and lever; whereby upon an unauthorized opening of said closure member, said trigger will push said lever and move said plate off said abutment lip and said striking plunger will be moved downwardly by the action of said spring means to strike said blank cartridge, and said lever upper means will be released from said switch to close the sounding device electrical circuit and sound an alarm.

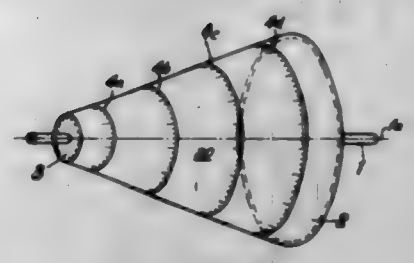
2,970,561
FLUID FLOW INDICATORS
George A. Ashwood, Minneapolis, Minn., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Apr. 3, 1959, Ser. No. 804,856
4 Claims. (Cl. 116—117)

1. A fluid flow indicator comprising a conduit having two spaced apart sections of identical bores, an intermediate conduit interconnecting said conduit sections, said intermediate conduit having a bore of larger cross section than that of said conduit sections and being of transparent material, an indicator in said intermediate section of a cross sectional area greater than that of said conduit sections but less than that of said intermediate section and



holding means interconnecting said conduit sections, said holding means having a viewing window therein.

2,970,562
DIAL STRUCTURE
Hans-Joachim Löffelbein, Ulm (Danube), Germany, assignor to Telefunken G.m.b.H., Berlin, Germany
Filed Feb. 10, 1959, Ser. No. 792,369
Claims priority, application Germany Feb. 18, 1958
4 Claims. (Cl. 116—124.1)

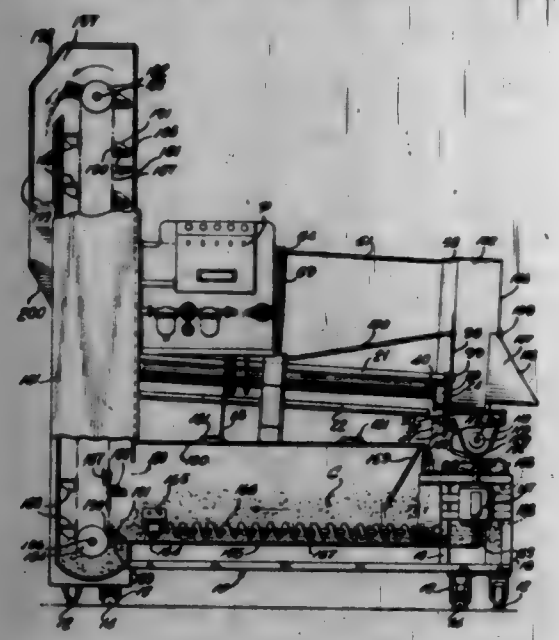


1. A dial for indicating the frequency to which a frequency-selective member is tuned, which member is tunable over at least two frequency bands, said dial comprising a substantially conical carrier having an axis and at least two spaced frusto-conical zones corresponding, respectively, with said bands over which said member is tunable, each zone having an indicia scale in the form of a circle which is concentric with said axis with each scale having approximately the same frequency interval per unit length of scale.

2,970,563
COATING APPARATUS FOR COMESTIBLES
Herbert T. Hunter, Catonsville, Md., assignor to DCA Food Industries Inc., New York, N.Y., a corporation of New York
Filed Oct. 16, 1957, Ser. No. 690,482
4 Claims. (Cl. 118—19)

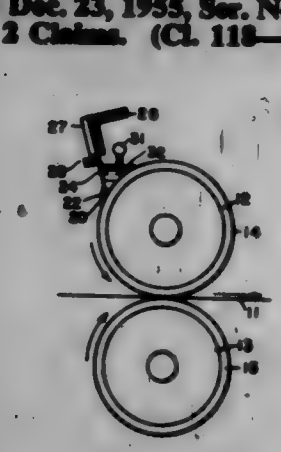
1. An improved apparatus for applying a finely divided material to a comestible comprising a longitudinally extending rotatable drum having a feed opening and a discharge opening, means adjacent said discharge opening for separating the non-adhering finely divided material from the comestible, a bin located below said drum and extending longitudinally for substantially the full length of said drum and having a leading end and a trailing end disposed adjacent to the said drum discharge opening and feed opening respectively, a sifter located between said drum discharge opening and said bin leading end, a first endless conveyor adapted to transport finely divided material from the leading end toward the

trailing end of said bin, and a second endless conveyor adapted to transport said finely divided material from



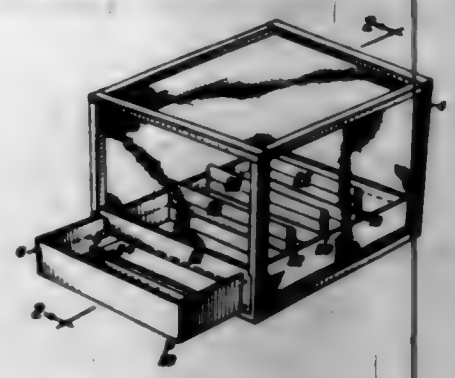
the trailing end of said bin into the feed opening of said drum.

2,970,564
APPARATUS FOR COATING PAPER
Edgar Warner, Middletown, Ohio, assignor to The Champion Paper and Fibre Company, Hamilton, Ohio, a corporation of Ohio
Filed Dec. 23, 1955, Ser. No. 554,970
2 Claims. (Cl. 118—249)



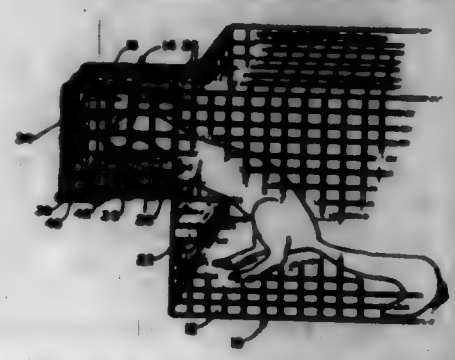
1. In a device for producing coated paper by applying a preformed film of coating composition comprising adhesive and mineral pigment in aqueous dispersion to at least one surface of a travelling web of paper: a pair of rolls with approximately true cylinderical resilient surfaces which are adapted to be held together under a modicum of pressure while being rotated to carry a web of paper therebetween; means for applying an excess of fluid coating composition to an exposed portion of the cylindrical surface of at least one of said rolls; surplus removing means in contact with the cylindrical surfaces thereof for removing the surplus of the fluid coating composition from the surface of each roll to which an excess has been applied; said surplus-removing means comprising: a flexible small diameter doctor rod, a plate-like spring steel support rigidly mounted along one of its edges, for pressing said doctor rod with substantially uniform yieldable pressure throughout its working length against the surface of the roll from which the surplus is to be doctored; a flexible holder continuous throughout the working length of said doctor rod, wherein said rod is rotatably mounted, which holder is formed of two arcuate portions of rust resisting thin sheet metal which together grasp said doctor rod around more than half of its circumference and holds it adjacent the other edge of said plate-like spring support; a flat sheet of said rust resisting sheet metal overlying and completely covering that surface of said plate-like spring steel support which lies towards the surplus coating composition which is being wiped off, said sheet being integral with that arcuate portion of said holder which lies on the side of the doctor rod away from the surplus coating composition which it is adapted to doctor from the roll surface.

2,970,565
MOSQUITO EGG HARVESTER
Daniel J. Reynolds, Cleveland, Ohio, assignor to the United States of America as represented by the Secretary of the Army
Filed Jan. 27, 1960, Ser. No. 5,979
3 Claims. (Cl. 119—17)
(Granted under Title 35, U.S. Code (1952), sec. 266)



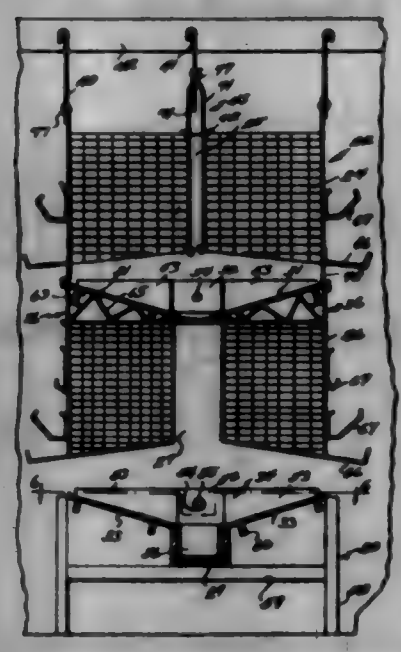
1. A mechanism for harvesting mosquito eggs comprising a perforated mosquito tight cage, a tray in the bottom of said cage, water partially filling said tray, said tray extending beyond the cage on one side thereof forming a moat, the side of the cage extending down into said moat forming a seal when the tray is partially filled with water, a U-shaped plate positioned in the bottom of said tray, one leg of said plate projecting above the water within the cage, the other leg of said plate projecting upward in the moat outside of said cage to permit the entire plate to be inserted and withdrawn through the water seal in the moat.

2,970,566
MINK CAGE FEEDER PLATE
Harold Detrick, Box 258, Montara, Calif.
Filed Nov. 28, 1958, Ser. No. 775,285
4 Claims. (Cl. 119—18)



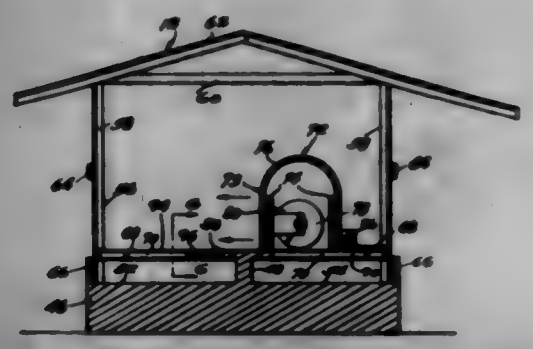
1. A feeder plate of the type described comprising a unitary member having an upper flat plate element and a lower reversely directed tab element disposed beneath said plate in slightly spaced relation therewith, said tab terminating in a tip which is disposed out of the plane of said tab and which is directed away from both said plate and said tab elements, said tab, except for said tip, being uni-planar and being pre-stressed so as to normally incline said tab out of parallel with and toward said upper plate element said unitary member being formed of yieldingly flexible material, whereby said plate and tab elements may be disposed on opposite sides of a lower planar wall portion of a cage in parallel relation with each other and have a clamping action with respect to a substantial area of said wall portion.

2,970,567
LITTER CLEANER FOR CAGES
Sol Rubin, Farmingdale, N.J.
Filed Sept. 2, 1959, Ser. No. 837,654
6 Claims. (Cl. 119—22)



1. In combination, spaced parallel rows of fowl cages having perforated bottoms through which droppings may pass, a synclinal plate structure for each pair of rows, said plate structure being disposed below said rows with its respective plates underlying said bottoms in spaced relation thereto, the medial portion of said plate structure being in the form of a trough disposed between said rows, a scraper means having a center portion of the shape of and fitted in said trough and inclined wing portions each having an edge slidable along one of said plates, and mechanical means for reciprocating said scraper blade.

2,970,568
VARIABLE FLOW LIVESTOCK FEEDER
Roy J. Johnson, R.F.D., Dawson, Minn.
Filed Jan. 30, 1959, Ser. No. 790,121
4 Claims. (Cl. 119—52)



1. An animal feeder comprising a horizontal base upstanding on a yard surface having longitudinally spaced separate feeding areas extending along opposite sides of the base, said base having an upper surface, an upstanding partition wall on and extending medially along the upper surface of the base and defining feeding troughs at opposite sides of the partition wall, a platform supported on said partition wall and spaced above the upper surface of the base, said platform being narrower than the base and extending at opposite sides of the partition wall and partially across said troughs and spaced from the sides of the base, longitudinally spaced horizontal rails extending across the base and supported above the surface of the base on a level with said platform, single open bottom conveyor housing extending longitudinally of the base and along the base, means slidably mounting the housing on said rails, the open body of the housing being of a width to be closed by said platform in a central position of the housing, an auger conveyor mounted within and extending along the housing, means for rotating the conveyor, a feed supply assembly located at one end of and in supply relation to the conveyor housing, and means connected to the conveyor housing for shifting the conveyor crosswise of the base from its central position to positions over either of the troughs.

2,970,569
WRITING IMPLEMENTS
Hans Felix Heyman, deceased, late of Los Angeles, Calif., by Erika Elsa Heyman, executrix, Pacific Palisades, Calif., assignor to Erika Elsa Heyman, Pacific Palisades, Calif.
Filed Mar. 26, 1958, Ser. No. 724,135
3 Claims. (Cl. 120—9)

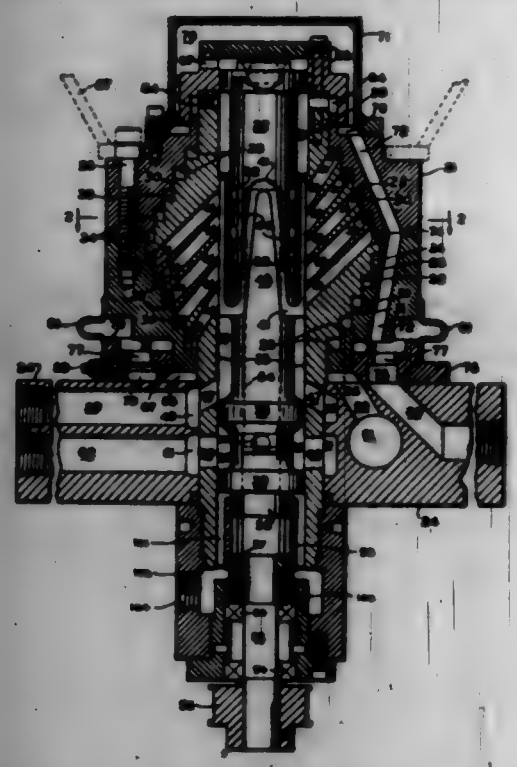


1. A writing implement comprising, in combination, an elongated housing of oblong substantially rectangular cross-sectional contour having a forward end, a rear end, a through bore between said ends and a pair of substantially parallel major surfaces; a cylindrical lead guide having a flattened end in said bore, a second end projecting from the forward end of said housing, and an axial aperture; a transverse shaft in the second end of said guide; a marking roller rotatably mounted on said shaft, said roller having a peripheral zone of uniform width and a pair of substantially parallel major surfaces; a lead slidably received in the aperture of said guide and having an end in contact with the peripheral zone of said roller; lead-feeding means in said bore for resiliently urging the lead into contact with the periphery of said roller; a member rigidly held in said housing, said member having a slotted portion extending into said bore and receiving the flattened end of said guide for holding the latter against axial and angular displacements with respect to said bore in such a way that the major surfaces of said roller are parallel with the major surfaces of said housing; and means for releasably holding the flattened end of said guide in engagement with said member.

2,970,570
HYDRAULIC VIBRATOR
Gilbert F. Hill, Skaneateles, N.Y., assignor to L.A.B. Corporation, Skaneateles, N.Y., a corporation of New Jersey
Filed Mar. 23, 1959, Ser. No. 801,179
16 Claims. (Cl. 121—16)

1. In a device of the character described, a stator member, a valve element rotatably mounted in the interior of said stator member, piston means engaging the exterior of said stator member, said piston means being mounted on said stator member for reciprocable movement relative

thereto, a source of hydraulic fluid under pressure, and coacting means in said valve element and stator mem-



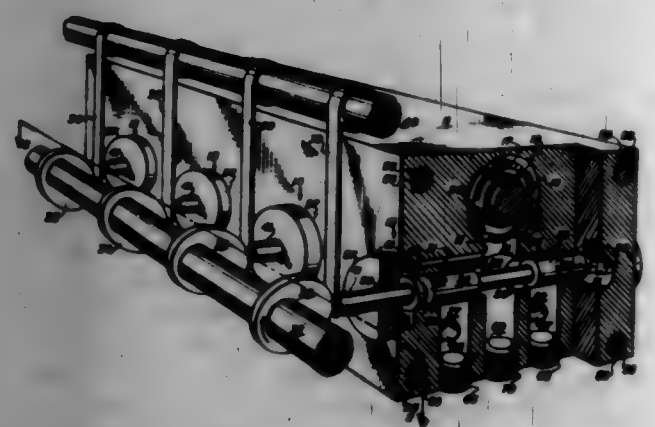
ber operable when the element is rotating to alternately direct fluid to opposite sides of said piston means and cause reciprocation of same.

2,970,571

HYDRAULIC STEPPING MECHANISM

Paul L. Pecchenino, San Jose, Calif., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed June 20, 1958, Ser. No. 743,379
6 Claims. (Cl. 121—38)



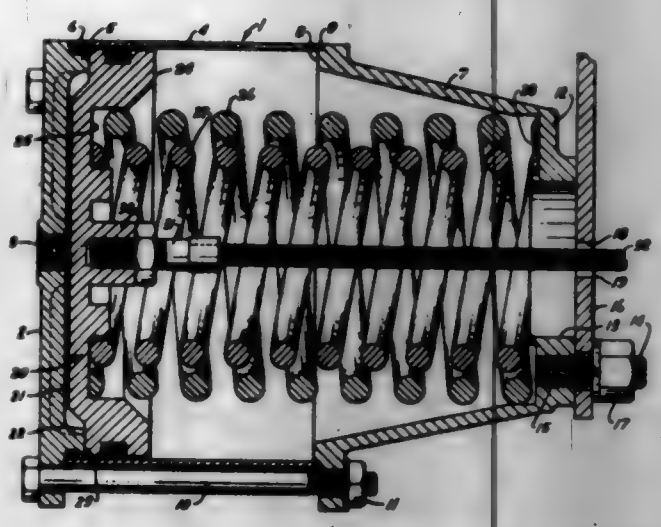
1. A bistable valve for controlling flow of hydraulic fluid to actuate a device, said valve comprising a valve body having a bore therein, a spool movable within the bore having enlarged and reduced portions forming a centrally disposed cavity and two end cavities, means hydraulically connecting the central cavity to the actuating device, an exhaust port associated with the bore and positioned to hydraulically connect with the central cavity when said spool is in a first position, a pressure port associated with the bore and positioned to hydraulically connect with the central cavity when the spool is moved from the first position, a means hydraulically connecting the central cavity with a first of the end cavities whereby the spool will be hydraulically urged to a second position to pass fluid under pressure to the actuating device, and means for cyclically admitting fluid under pressure into the second end cavity to return the spool to the first position.

2,970,572

PARKING BRAKE CHAMBER

Harold L. Doberkin, Highland Park, and Victor Mastis, Chicago, Ill., assignors to Berg Airlectro Products Co., Chicago, Ill., a corporation of Illinois

Filed Oct. 17, 1958, Ser. No. 767,994
2 Claims. (Cl. 121—38)



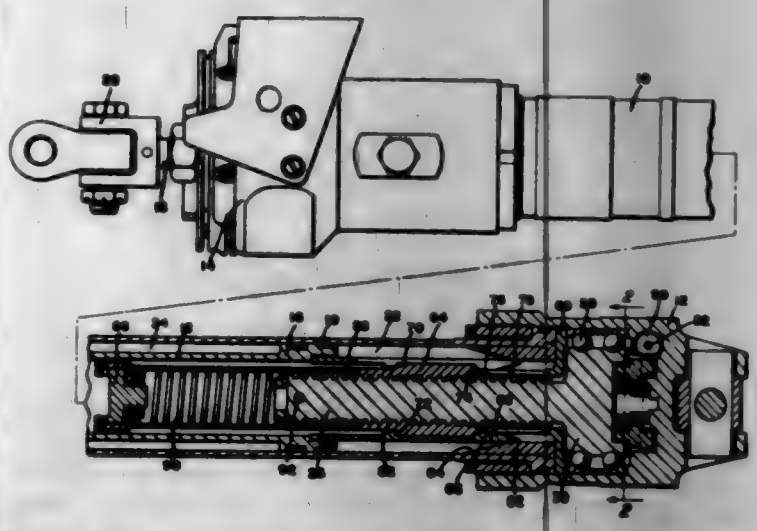
1. A parking brake chamber comprising a housing, a fluid pressure inlet at one end of said housing, a piston reciprocal within said housing between said fluid pressure inlet and the opposite end of said housing, a pair of coiled springs, of differential strength, axially disposed in said housing and having their opposite ends in engagement with said piston and said opposite end of said housing, and a flexible cable secured to said piston on its side opposite from that opposed to said inlet and extending through said opposite end of said housing.

2,970,573

ACTUATOR WITH STROKE END LOCKS

Howard M. Geyer, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Feb. 18, 1959, Ser. No. 794,113
20 Claims. (Cl. 121—40)

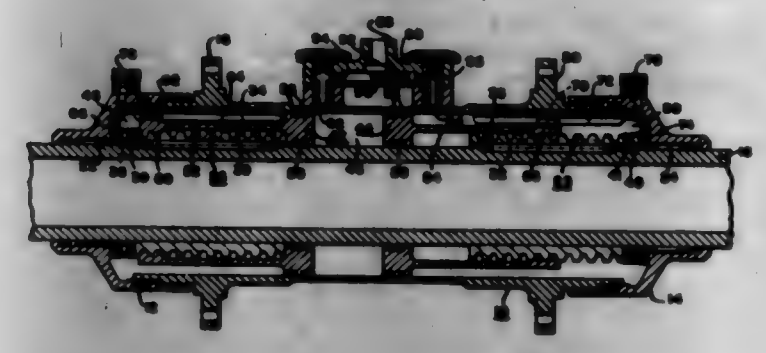


1. A fluid pressure operated actuator including, a cylinder, a reciprocable piston disposed in the cylinder, a member rotatably journalled in said cylinder, a reciprocable and nonrotatable element engaging said member whereby reciprocation of said element is dependent upon and effects the rotation of said member, first releasable locking means operatively engageable with said member for preventing rotation thereof, and second releasable locking means operatively interconnecting said element and said piston at one stroke end of said piston for locking the piston against movement in one direction when said first locking means are engaged.

2,970,574
DUAL PISTON HYDRAULIC CENTERING ACTUATOR

Howard M. Geyer, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Apr. 14, 1959, Ser. No. 806,315
10 Claims. (Cl. 121—40)

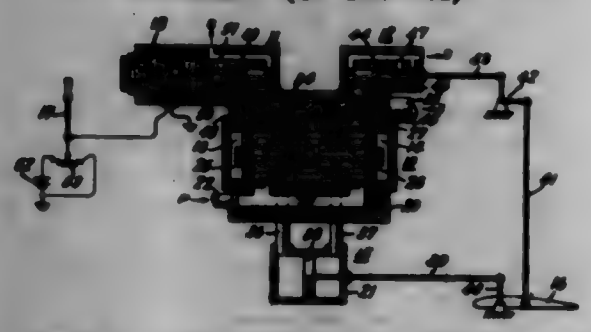


1. A hydraulically operated centering actuator comprising, a cylinder, a shaft rotatably journalled in said cylinder and extending outside thereof, a pair of opposed reciprocable pistons disposed within said cylinder and dividing said cylinder into a central damping chamber and a pair of opposed end chambers connected to drain, said damping chamber being subjected to hydraulic fluid under pressure urging said pistons apart so as to maintain the shaft in a centered position, a helical connection between each piston and said shaft, means interconnecting one of said pistons and said cylinder so as to preclude relative rotation thereof in one direction and permit rotation thereof in the opposite direction when the shaft is in the centered position, and means operatively interconnecting the other piston and said cylinder to preclude rotation of the other piston in the opposite direction and permit rotation thereof in said one direction when the shaft is in the centered position whereby rotation of said shaft in either direction away from the centered position will impart reciprocation to one or the other of said pistons which movement is opposed by the hydraulic fluid in the damping chamber.

2,970,575
MULTIPLE INPUT HYDRAULIC AMPLIFIER

Hansjoerg Stern, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

Filed Dec. 30, 1954, Ser. No. 478,664
5 Claims. (Cl. 121—41)

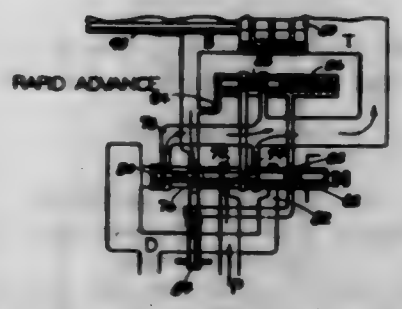


1. A steering control system for a dirigible craft comprising a steering member to be positioned, a hydraulic motor connected to position said steering member, a valve connected to control said positioning motor, said control valve comprising a housing enclosing two separate control pressure chambers and a piston reciprocably mounted within said housing between said chambers, said piston including reduced diameter end portions defining capillary passages for the admission of hydraulic pressure fluid into said chambers respectively associated therewith, said capillary passages being inversely variable in length and flow resistance upon piston movement, a first variable flow valve connected to control the discharge of fluid from one of said chambers in accordance with a control signal, a second variable flow valve connected to control the discharge of fluid from the other of said chambers, and a mechanical linkage connection with said steering member for positioning said second variable flow valve to provide a follow-up signal.

2,970,576
VALVE FOR CONTROL OF ADVANCE AND RETURN OF A PISTON UNDER HYDRAULIC POWER

Eric J. Hirvonen, Worcester, Mass., assignor to Leland-Gifford Company, Worcester, Mass., a corporation of Massachusetts

Original application Oct. 30, 1950, Ser. No. 192,864, now Patent No. 2,748,629, dated June 5, 1956. Divided and this application Oct. 20, 1955, Ser. No. 541,590
1 Claim. (Cl. 121—45)



Apparatus of the class described comprising a cylinder and piston, a main valve for controlling hydraulic fluid to and from both sides of the piston to provide a rapid advance, slow feed, and rapid return cycle, a valve stem for said valve providing a direct passage for fluid from the drain side of the piston to the pressure side thereof to increase the fluid volume at the pressure side, a source of pressure, said valve stem providing a passage therefrom to the pressure side of the piston simultaneously with the opening of said direct passage, with the valve stem set at rapid advance, a regulating valve, the pressure source being controlled by the regulating valve only in feed position of the main valve stem to provide regulated pressure at the pressure side of the piston, the drain side thereof being connected to the drain, and means tending to urge the regulating valve to a position wherein the pressure source is not affected thereby at all other positions of the valve stem of the main valve.

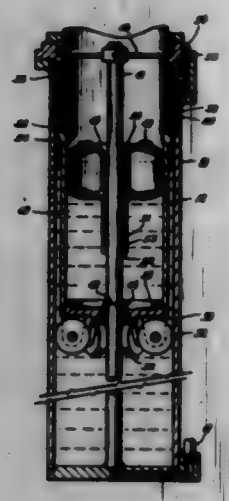
2,970,577
HYDRAULIC LIFT

Alfred C. Sinclair, Houston, Tex., assignor to Anderson, Clayton & Co., Houston, Tex., a corporation of Delaware

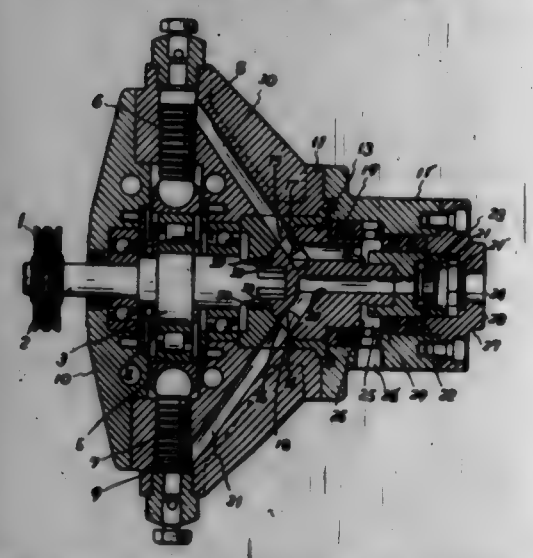
Filed Jan. 28, 1958, Ser. No. 711,716
7 Claims. (Cl. 121—46)

6. A lift comprising, a cylinder closed at its lower end and open at its upper end, a hollow ram slidably mounted in the cylinder, the upper end of the ram being closed and its lower end having a restricted passage into the cylinder, liquid pressure-tight packing between the cylinder and ram, an air pressure line extending from the lower end of the cylinder through the restricted passage and having an air pressure inlet opening into the ram above the level of hydraulic liquid therein whereby air pressure from said air line may provide air pressure acting upwardly on the upper closed end of the ram and force the hydraulic liquid through the restricted passage into the cylinder, a float in the ram floating on the surface of the hydraulic fluid, and a valve assembly, a valve seat in said valve assembly positioned circumferentially around the periphery of the restricted passage, a valve element connected to the float and so arranged and con-

structed as to seat on the valve seat and close the restricted passage when the hydraulic fluid reaches a predetermined low level in the ram thereby preventing air from escaping into the cylinder from the ram.

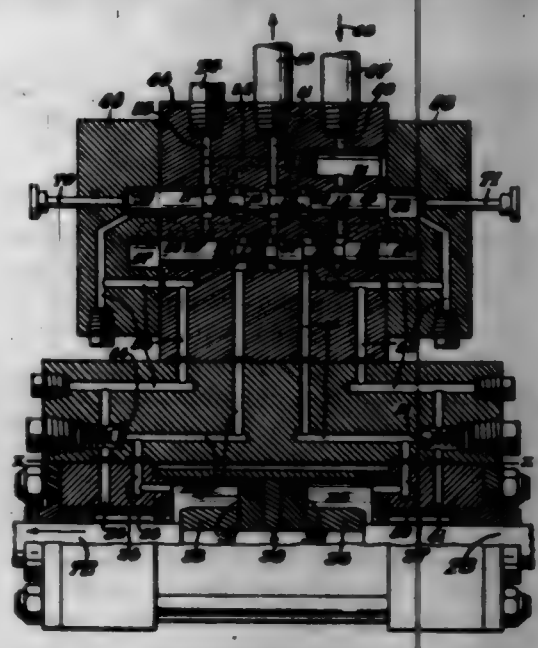


2,970,578
OIL PRESSURE MOTOR
Teizo Kohtaki, 3028—2 Shimokasuki Ushibuse, Numazu, Japan
Filed May 21, 1958, Ser. No. 736,822
Claims priority, application Japan June 24, 1957
2 Claims. (Cl. 121—121)



1. An oil pressure motor comprising a housing having a plurality of cylinder bores therein, a shaft rotatably mounted in said housing, an eccentric wheel in said housing keyed to said shaft, a plurality of plungers arranged radially of said shaft in said bores drivingly connected to said eccentric wheel for rotation of said shaft, a rotary valve assembly including a valve body rotatably mounted in said housing rotating synchronously with said shaft and having a first oil passage axially located in said body and a second oil passage eccentrically disposed in said body, said valve body being splined to said shaft, conduits in said housing connected to said cylinders and for connecting said cylinders to said passages, said housing being provided with a conical valve seat, said valve body having a conical slide face engaging said conical valve seat for closing said conduits, said valve body having a stem, a connecting piece fixed to said stem and defining with said valve body and said housing a first oil chamber, said valve body having a surface defining said first oil chamber forming a first face against which oil under pressure supplied to said first oil chamber exerts a force acting to press said conical slide face of said valve body against said housing, an end piece rotatably mounted on said connecting piece, and an end cover fixed to said housing and spaced from said end piece to define therebetween a second oil chamber, said end piece having a surface forming a second face against which oil under pressure supplied to said second oil chamber exerts a force on said end piece transmitted through said connecting piece to said valve body acting to press said conical slide face against said housing.

2,970,579
HYDRAULIC REVERSING CONTROL
Thomas H. Paris, Trenton, N.J., assignor to Tomlon Corporation, Trenton, N.J., a corporation of New Jersey
Filed Nov. 23, 1959, Ser. No. 854,933
5 Claims. (Cl. 121—158)

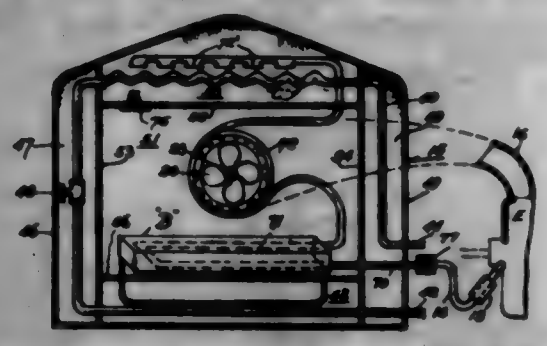


1. A hydraulic reversing control for controlling the conversion of primary fluid pressure into a reciprocating mechanical motion, comprising; fluid-directing means; means for applying primary fluid pressure to said fluid-directing means to establish said fluid-directing means in one of two conditions; means for applying primary fluid pressure by way of said fluid-directing means to one face of a movable piston as determined by the condition of said fluid-directing means, thereby to move said piston in one direction; means responsive to said piston passing a selected point in its stroke for developing an intensified fluid pressure substantially greater than the applied primary fluid pressure, said means for developing said intensified pressure comprising a plunger extending from the face of said piston and of substantially smaller cross-sectional area than said piston, and a chamber for receiving said plunger; and means, including a coupling from said chamber to said fluid-directing means, for applying said intensified fluid pressure to said fluid-directing means to over-ride the primary fluid pressure applied thereto and to change said fluid-directing means to its other condition, thereby to direct primary fluid pressure to the opposite face of said movable piston and thereby to effect reversal of movement of said piston.

2,970,580
RADIATED REFRIGERATION ENGINE COOLING
Patrick H. P. Berry, 219 St. Benedicts Road, Small Heath, Birmingham, England
Filed July 10, 1959, Ser. No. 826,355
8 Claims. (Cl. 123—41.19)

4. A cooling system for internal combustion engines, comprising a refrigerator housing, an internal combustion engine embodying an internal air chamber and an external wall jacket associated therewith, said refrigerator housing having a refrigerating chamber, a cooling chamber, and a condenser compartment therein, a condenser in said condenser compartment, a plurality of air jets in said condenser compartment, a primary refrigerant pipe extend-

ing through said refrigerating chamber and encirculating the internal periphery of said housing and connected with said condenser in said condenser compartment, a brine tank with liquid brine therein arranged within said cooling chamber, brine piping coils connected with said brine tank and extending into, through and out of said refrigeration chamber, whereby said liquid brine is cooled, an air pipe extending into said cooling chamber and through said brine tank therein and extending into said condenser compartment and connected with said air jets in said condenser compartment, pressure air valve means connect-



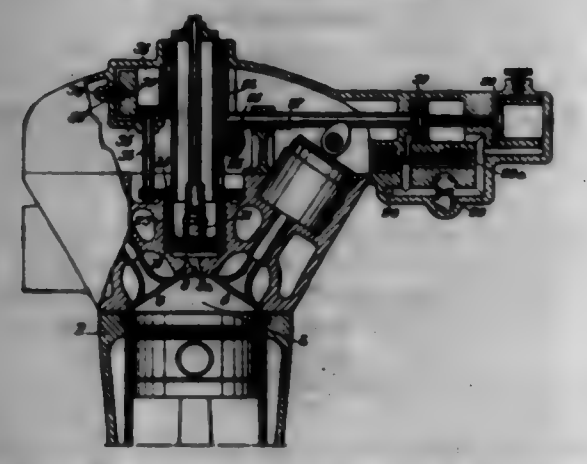
ing said condenser compartment with said cooling chamber for admitting air from said condenser compartment into said cooling chamber, an exit tunnel connected with said cooling chamber, a hose means connecting said tunnel with an inlet in said wall jacket, a second hose means connecting said air pipe extending into said cooling chamber with an outlet means in said wall jacket, whereby air heated by radiation from the engine is directed through said refrigeration housing and cooled therein before being directed again to said internal combustion engine for cooling the same.

2,970,581

INTERNAL COMBUSTION ENGINES THE COMPRESSION RATIO OF WHICH IS ADJUSTABLE IN OPERATION

Raymond Georges, 67 Ave. Foch, Paris, France

Filed Nov. 12, 1958, Ser. No. 773,498
Claims priority, application France Nov. 15, 1957
4 Claims. (Cl. 123—48)



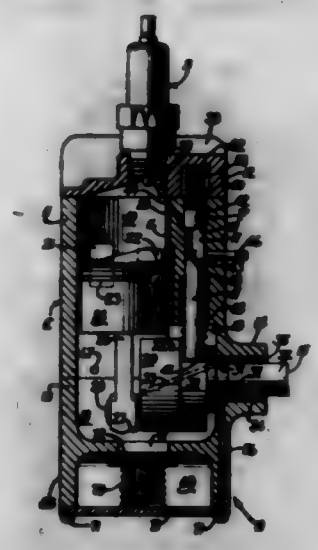
1. An internal combustion engine which comprises, in combination, at least one cylinder, a cylinder head carried by said cylinder, a piston reciprocable in said cylinder, said cylinder head being provided with a hollow space of cylindrical shape in communication with said main combustion chamber, a cylindrical sleeve fitting slidably against the inner wall of said hollow space with a gas-tight fit, a cylindrical plunger piston fitting slidably against the inner wall of said sleeve with a gas-tight fit, means for varying the position of said plunger piston with respect to said cylinder head, and means interposed between said cylinder head and said sleeve for constantly reciprocating said sleeve in said cylinder head to keep a permanently sliding contact between said plunger piston and said sleeve, whereby said plunger piston is prevented from sticking in the position it occupies with respect to said cylinder head.

2,970,582

ENGINE

Roy W. Hull, Painesville, Ohio, assignor to Thompson Ramo Wooldridge Inc., a corporation of Ohio

Filed Dec. 16, 1957, Ser. No. 703,171
8 Claims. (Cl. 123—69)



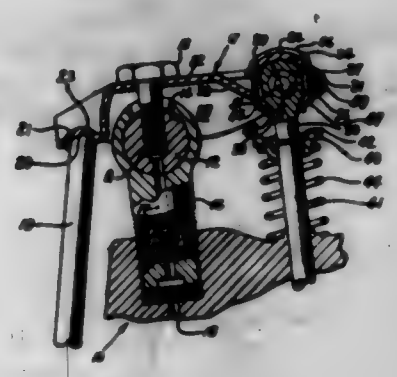
1. A gas engine which comprises a first cylinder, a piston slidably mounted in said first cylinder, a crankshaft driven by said piston, a cam on said crankshaft, a second cylinder, a plunger slidable in said second cylinder driven by said cam, means for feeding gas fuel to said second cylinder, said plunger being effective to pump gas in said second cylinder into the first cylinder, and a valve controlled by pressure under said piston to regulate flow of gas fuel into said second cylinder.

2,970,583

VALVE GEAR

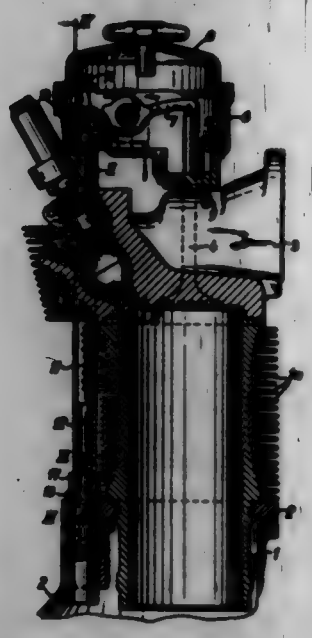
John E. Knobleck, Detroit, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Filed July 27, 1959, Ser. No. 829,773
16 Claims. (Cl. 123—90)



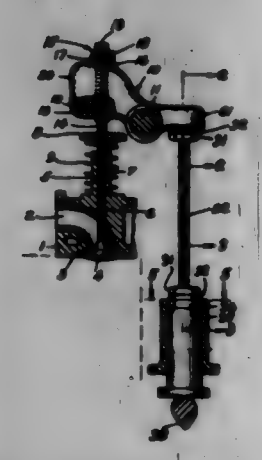
1. In an overhead valve mechanism for an internal combustion engine, a rocker arm, said rocker arm having means for taking up slack in a valve train, said slack take up means comprising a cylindrically shaped ramp extending transversely of the rocker arm and formed at one end of the rocker arm, an adjuster having a complementary surface to said cylindrically shaped ramp yieldably mounted upon said rocker arm for movement along said ramp, and a helical spring having one end positioned against a portion of the rocker arm and the opposite end positioned against said adjuster and urging said adjuster unidirectionally along said ramp.

2,970,584
VALVE CONTROL FOR INTERNAL COMBUSTION ENGINES
Adolf Wünsche, Ulm (Danube), and Josef Lerch, Leibi, Germany, assignors to Klöckner-Humboldt-Deutz Aktiengesellschaft, Koln, Germany
Filed Oct. 23, 1959, Ser. No. 848,462
Claims priority, application Germany Oct. 24, 1958
4 Claims. (Cl. 123—90)



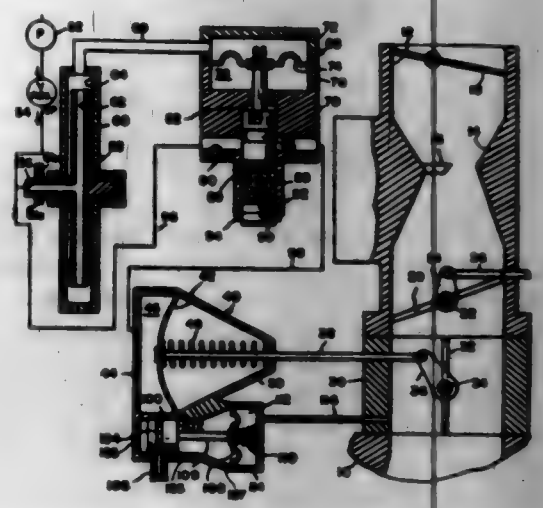
1. In an internal combustion engine: a crank-case, a cylinder connected to said crank-case, a cylinder head supported by said cylinder, an inlet valve associated with said cylinder head, an outlet valve associated with said cylinder head, a plurality of rocker arms for respectively actuating said inlet and outlet valves, supporting means common to and supporting said rocker arms and resting at one side on said cylinder head, a plurality of push rods respectively arranged for actuating said rocker arms, tubular members respectively surrounding said push rods and extending from the other side of said supporting means to said crank-case, and bridge means interconnecting the upper ends of said tubular members, said bridge means being supported by and pivotally connected to said supporting means.

2,970,585
ROCKERARM ASSEMBLY FOR INTERNAL COMBUSTION MOTORS
Leo Lombardi, 907 W. 17th St., Los Angeles, Calif.
Filed Dec. 7, 1959, Ser. No. 857,976
2 Claims. (Cl. 123—90)



1. A rockerarm assembly for internal combustion motors, the internal combustion motor being of the type which includes a camshaft, a tappet to be moved by the camshaft and a push rod together with a valve assembly, the valve of which is to be opened and closed to a valve seat; said rockerarm being mounted on a shaft, a ball and socket connection between one end of said rockerarm and one end of the push rod and a ball and socket connection for the opposite end of the push rod and the tappet, the opposite end of the rockerarm being weighted to counterbalance the weight of the push rod, tappet and ball and socket connections.

2,970,586
HYDRAULIC GOVERNOR RAPID RESPONSE UNLOADING AND LOADING DEVICE
Thomas F. Cramer, Warren, Mich., assignor to Holley Carburetor Company, Van Dyke, Mich., a corporation of Michigan
Filed May 26, 1958, Ser. No. 737,777
10 Claims. (Cl. 123—103)



1. An engine speed control system for a vehicle internal combustion engine having an intake manifold and an engine control throttle, said system comprising a fluid motor connected to the throttle, speed responsive means controlling the application of actuating fluid to said motor, and means responsive to manifold vacuum of the engine for controlling the effectiveness of the application of fluid pressure to said motor.

2,970,587
ADJUSTING MECHANISM
Eugene Edward Estes, Rte. 2, Brentwood, Tenn.
Filed July 21, 1958, Ser. No. 749,817
4 Claims. (Cl. 123—195)

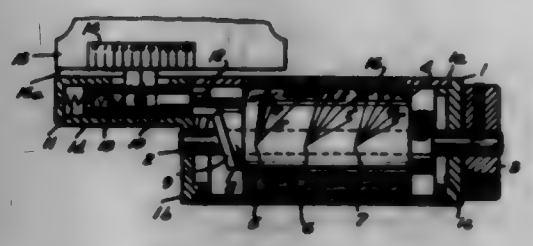


3. In an automotive vehicle having an engine block with one or more pulleys journaled for rotary movement thereon, a generator beside the engine block and having a drive pulley, and a drive belt connecting said pulleys together, the combination therewith, of a support arm mounted on the engine block and extending outwardly therefrom, a stud member extending from side to side of said support arm and carried thereby, means on one end portion of the stud member for supporting the generator, a screw member connected with the stud member at the opposite side of the support arm for holding the generator in an adjusted position relative to the engine block, said support arm having an elongated slot therethrough with the stud member extending through said slot, and threaded means forming said connection at said opposite end of the stud member for effecting lengthwise adjustment of the stud member relative to the arm.

2,970,588
ADJUSTMENT APPARATUS FOR DRESSING TOOL SUPPORT

Günter Achilles, Berlin-Mariendorf, Germany, assignor to Firma R. Stock & Co., Spiralbohrer-, Werkzeug- und Maschinenfabrik Aktiengesellschaft, Berlin-Marienfelde, Germany

Filed Feb. 18, 1960, Ser. No. 9,466
Claims priority, application Germany Feb. 19, 1959
15 Claims. (Cl. 125—11)



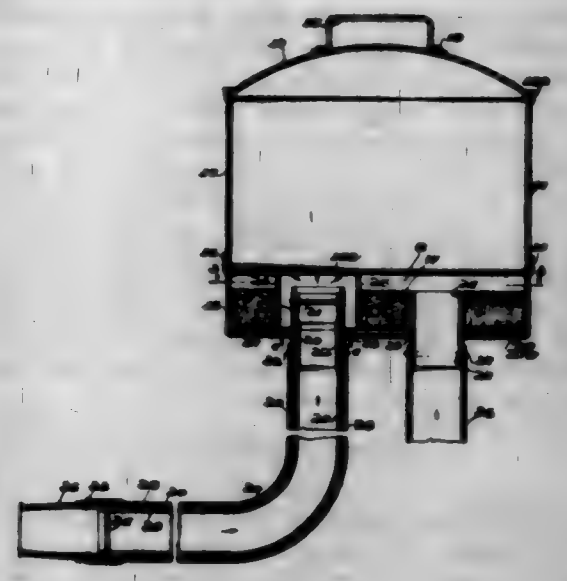
1. In an apparatus of the type described, in combination, a first movable member for supporting a dressing tool; a second member movable relative to said first member, one of said members having a scale, and the other of said members having a zero mark for said scale, the position of said scale relative to said zero mark representing the position of the dressing tool in relation to a grinding wheel; a first means having first indicia thereon; a second means having second indicia thereon and being movable relative to said first means between a plurality of positions in which said first and second indicia are in different relative positions corresponding to factors influencing the required relative position between the grinding wheel and the dressing tool; operating means for moving said second means relative to said first means until said first and second indicia assume a selected relative position; and means for operatively connecting said second means to said second member for movement therewith for displacing the latter relative to said first member a distance proportional to the movement of said second means so as to change the relative position between said scale and said zero mark whereby by setting of said first member according to said relatively shifted zero mark, the relative position between the dressing tool and the grinding wheel is corrected in accordance with the selected relative position of said first and second indicia.

2,970,589
FOOD HYDRATION AND COOKING ASSEMBLY

Walton W. Cashmore, Webb City, Mo.
(6428 Lamar Drive SE., Washington 22, D.C.)

Filed Feb. 25, 1958, Ser. No. 717,537
2 Claims. (Cl. 126—19.5)
(Granted under Title 35, U.S. Code (1952), sec. 266)

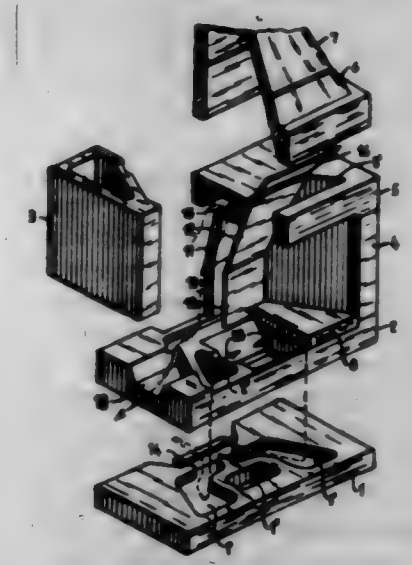
1. In a portable food hydration and cooking assembly whose heat is derived from the exhaust gases of an engine having a conventional exhaust manifold, the combination of a hollow base, a food-receiving receptacle mounted on said hollow base and having a bottom wall within the base, inlet conduit means attached to the base and adapted to be connected to the engine exhaust manifold for conducting exhaust gases into the hollow base, separate outlet means also attached to the base for conducting the exhaust gases away from said base, and foraminous baffle means including a disk-like perforate plate attached to and supported by the receptacle bottom wall and being disposed within the base in substantial parallelism to and spaced above the bottom wall of said base for directing and distributing the exhaust gases throughout said hollow base, said base containing a body of liquid which is maintained at a substantially constant level by the condensation of liquid in the exhaust gases and through which the incoming gases must pass before escaping therefrom whereby to provide a rapid heat build-up and maintain the temperature of said liquid at substantially the boiling point of water for hydration purposes.



2,970,590
INDOOR FIRE-PLACES

Hans Fauser, Flamatt, Switzerland, assignor to Superpart S.A., Romont, Switzerland

Filed Mar. 21, 1957, Ser. No. 647,562
Claims priority, application Switzerland Mar. 23, 1956
2 Claims. (Cl. 126—121)



1. An indoor fire-place comprising, in combination, a bed plate; a hearth plate located over said bed plate and extending in abutting relationship over the top surface thereof; a pair of side plates projecting in vertical direction respectively from opposite sides of said hearth plate; a cover plate extending substantially parallel to said bed plate between the upper free ends of said side plates; a hood structure mounted on said cover plate, said cover plate being formed with an opening communicating with the interior of said hood structure, said plates being formed from prefabricated self-supporting structural elements carrying said hood structure without additional bracing; a heat transmitting liner covering at least part of the inner side faces of said side plates and extending transversely thereto spaced from the front and the rear face of said side plates between said side plates and the upper edge portions of said liner being flush with the walls defining said opening in said cover plate thus dividing the space between said hearth plate and

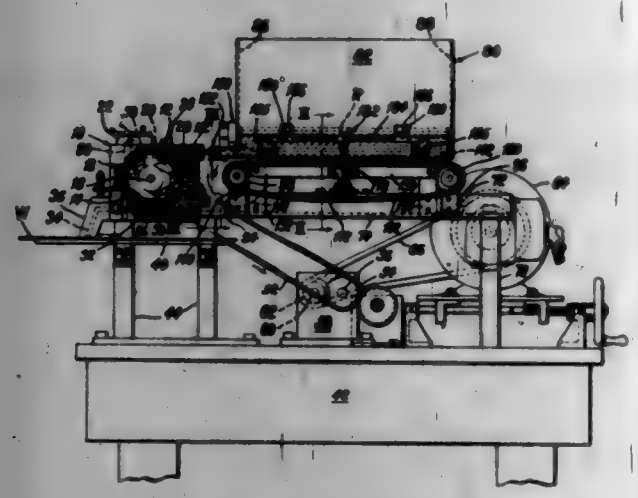
said cover plate into a combustion chamber open to the front of the fire-place and a rear chamber; and a partition located in said rear chamber extending transversely between said side plates and in vertical direction between said hearth plate and said cover plate and dividing said rear chamber into first air guide means and second air guide means located between said partition and said liner, said cover plate being formed with a passage establishing communication between said first and said second air guide means, said bed plate being formed with rearwardly extending passages communicating with said first air guide means, said hearth plate being formed with passages communicating with front portions of said passage formed in said bed plate and said combustion chamber, and said second air guide means being formed with openings located at the bottom thereof communicating with the room in which the fire-place is located.

2,970,591

CEMENT HANDLING APPARATUS

Hans C. Paulsen, Lexington, Mass., assignor to United Shoe Machinery Corporation, Flemington, N.J., a corporation of New Jersey

Filed July 31, 1956, Ser. No. 601,168
6 Claims. (Cl. 126—343.5)



1. A cement handling apparatus having, in combination, a device for melting cement in rod form and for feeding the molten cement to a point of use, said device comprising a casing having a rotary melting and feeding disk therein and provided with an inlet passage, and means for heating the casing and disk, a receptacle for receiving and storing a plurality of sticks of cement in rod form, mechanism including a chain having a pair of feed lugs thereon for removing said sticks of cement in rod form from said receptacle in succession and for feeding successive sticks of cement in rod form into the inlet passage of said melting and feeding device, and a common drive means for rotating said melting and feeding disk and for driving said chain.

2,970,592

SPINAL COLUMN IMPACT DEVICE

Tancou H. David, 5480 Aileen Way, Sacramento, Calif.

Filed Jan. 29, 1959, Ser. No. 789,895
1 Claim. (Cl. 128—69)

In an impact device the combination of a cylindrical housing, a shaft reciprocally mounted within said housing, spring bias means connected to said shaft and said housing to urge said shaft and housing to an extended position; a pair of ears mounted on the bottom of said housing extending in opposite directions outwardly from the central axis of said housing, pads adjustably mounted on said ears for relative movement toward and away from the central axis of said housing, said shaft being formed with a plurality of apertures, and a pin selectively mounted in one of said apertures, the top of said housing forming an abutment against which said pin engages when said shaft is forced downwardly.

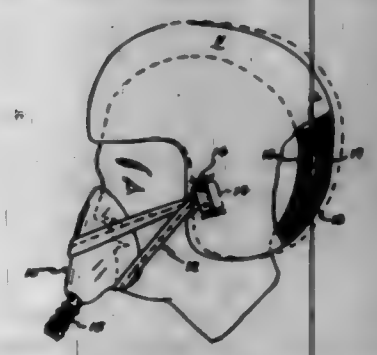


2,970,593

MASK-HARNESS TENSION COMPENSATING DEVICE

Henry W. Seeler, Dayton, Ohio, assignor to the United States of America as represented by the Secretary of the Air Force

Filed May 6, 1957, Ser. No. 657,461
4 Claims. (Cl. 128—142)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. In combination, a headgear, a breathing mask, harness means connecting the mask to the lower front portion of said headgear, and resilient means affixed to the inside, rearwardmost portion of the headgear and adapted to be disposed between the interior of the headgear and the occipital area of the wearer to increase of decrease automatically the tension of the harness means as the pressure correspondingly increases or decreases, said resilient means affixed to said headgear comprising an open cell foam rubber member and an impervious rubber coating enclosing said foam rubber member so that air is trapped within said foam rubber.

2,970,594

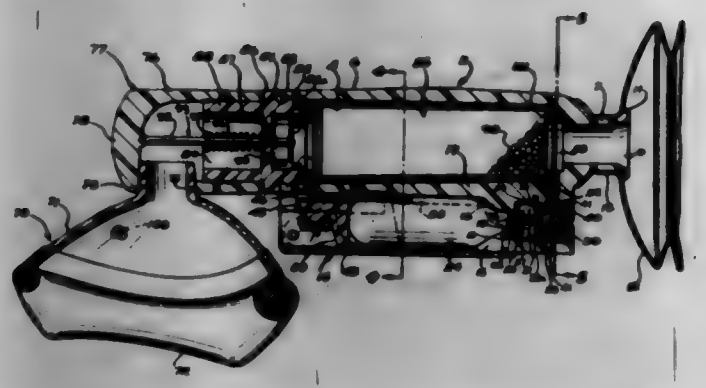
RESPIRATOR DEVICES FOR ADMINISTERING OXYGEN OR OTHER GASEOUS AGENTS

James C. Denk, 26807 Detroit Road, Westlake, Ohio, assignor of one-fourth each to Walter S. Sutowski, Brecksville, Fred J. Mingo, Westlake, and Francis B. Douglass, Shaker Heights, Ohio

Filed Apr. 25, 1958, Ser. No. 730,905
5 Claims. (Cl. 128—203)

1. A respirator device for administering oxygen or like gaseous agent, comprising a housing mounting a facial mask on its one end, an expansible container mounted on the opposite end of said housing, a chamber formed in said housing and communicating with said mask and container, a breech provided in said housing and arranged to receive a sealed cartridge containing a

compressed gaseous agent, closure means swingably attached to said housing and adapted to extend over said breech, a valve cavity formed in said housing communicating with said breech, a passageway in said housing communicating with said valve cavity and said chamber, valve means in said cavity and including a piercing element for said cartridge, means carried by said closure means being movable therewith to engage said cartridge



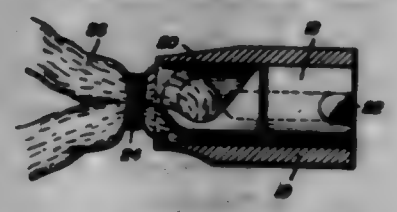
and force the same into piercing engagement with said element being effective to cause the actuation of said valve means and provide a flow of gaseous agent to said valve cavity and connected expansible container, and means operable in response to the actuation of said facial mask to a first position to connect the latter in circuit with said container and effect a flow of gaseous agent therebetween.

2,970,595
BABY NIPPLES
Carl Blanchett, New York, N.Y.
(Warren Hills Apt. 28A, Gail Drive, Nyack, N.Y.)
Filed Feb. 12, 1959, Ser. No. 792,768
3 Claims. (Cl. 128—252)



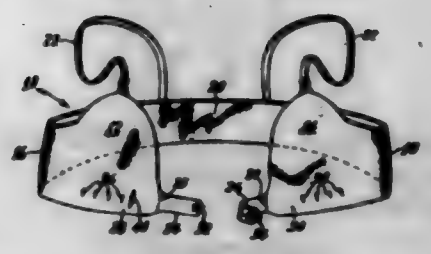
1. In combination, a baby nipple having an oval-shaped body in conjunction with a three dimensional sinusoidal rim creating a nipple which fits the baby's mouth when the long axis of the oval is placed transversely in the mouth and concurrently the apices of the sinusoidal rim placed in the corners of the mouth with an integral tubular air valve placed in the long axis below the apices of the sinusoidal rim so that the ends or air intakes are held unobstructed in the corners of the baby's mouth when sucking.

2,970,596
HEMOSTATIC INSTRUMENT
Louis F. Hamilton, 210 S. Roselawn, Artesia, N. Mex.
Filed Jan. 28, 1957, Ser. No. 636,585
3 Claims. (Cl. 128—326)



1. A hemostatic instrument for tying umbilical cords comprising a cylinder having a tapered end flat on one tapered side, said cylinder being slotted at its other end, a piston member slidably mounted in said cylinder and having handle means extending through said slots, and a hook on the end of said piston other than the end to which said handle means are attached.

2,970,597
BODY ENCIRCLING GARMENTS
Jack Milton Michel, North Hollywood, Calif., assignor to Jantzen Inc., Portland, Oreg., a corporation of Nevada
Filed May 5, 1959, Ser. No. 811,068
2 Claims. (Cl. 128—482)

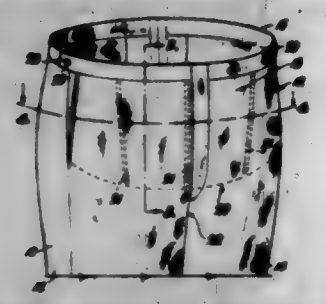


1. A brassiere of the character described, comprising, a longitudinally extending member provided at the opposite ends thereof with a pair of free breast pocket defining portions, said member defining the back and sides of the brassiere and being adapted to encircle a wearer's body with said breast pocket defining means being positioned at the front of the wearer, each of said breast pocket defining portions comprising a breast pocket and a securing part below the central portion of the breast pocket, one of said breast pocket defining portions being provided with an aperture adjacent to and outwardly of the securing part thereof, a short tab extending outwardly from the apertured breast pocket defining portion, and adapted to overlie the securing part of the other breast pocket defining portion, a short tab extending outwardly from said other breast pocket defining portion and adapted to be passed through said aperture and overlie the securing part of the apertured breast pocket defining portion, and cooperating means on said tabs and said securing parts, respectively, for releasably securing each tab to the underlying securing part in a selected one of an infinite number of securing positions thereof, whereby to define a front closure for said brassiere having an infinite number of closed conditions thereof, corresponding to an infinite number of spacings between the breast pockets thereof, said cooperating means comprising a first strip of velvet type fabric having a multitude of outwardly extending loops provided on each tab and a second strip of velvet type fabric having a multitude of outwardly extending hook shaped material engaging sections provided on each securing part, said hook shaped sections being adapted to engage at least some of said loops anywhere along the longitudinal extent of said first strip for releasably securing each tab to the underlying securing part in anyone of an infinite number of positions of the tab relative to the securing part, said loops and hook shaped sections imparting stiffness to said tabs and securing parts, respectively, for giving added support to the wearer's breasts at the lower central portion thereof.

2,970,598
GARMENT
Joseph Becklar, 121 Ward Parkway, Kansas City, Mo.
Filed May 4, 1959, Ser. No. 810,772
3 Claims. (Cl. 128—519)

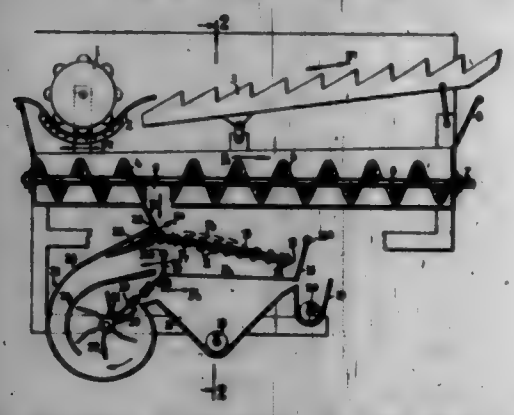
1. A garment in the nature of trousers with a conventional crotch and having a hip and lower abdomen encircling portion with a marginal edge encircling the waist of the wearer, a polygonal, elastic section formed in said abdomen portion and integral therewith along a line proximal to said crotch and substantially parallel with said marginal edge, said section having an upper edge and opposed sides being separable from said portion permitting said section to be swingable about said line, said upper edge being proximal to said marginal edge and said sides being proximal to the hipbone regions of the wearer;

and means on said edges for releasably securing said section to said portion, which means when released permits



downward swinging of the section about said line, said section being held taut when secured in place to lend support to the abdomen of the wearer.

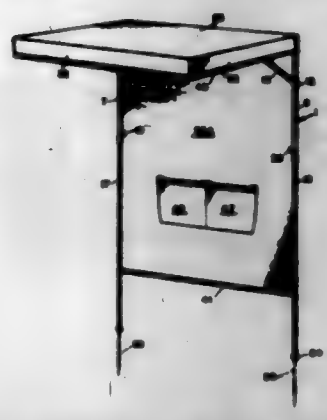
2,970,599
GRAIN CLEANING DEVICE FOR THRESHING MECHANISMS
Emile Mathurin Marie Prosper Jeanfil, Rte. de l'Hermitage (Ille-et-Vilaine), Mordelles, France
Filed June 18, 1958, Ser. No. 742,902
Claims priority, application France June 21, 1957
2 Claims. (Cl. 130—27)



1. In a threshing mechanism for threshers and harvester-threshers, comprising a thresher cylinder, separating means and conveying means; grain cleaning means arranged at the outlet of the conveying means to receive grain, mixed with husk and chaff, from the separating means, said grain cleaning means comprising a rotary grid consisting of adjacent rotary rollers parallel with one another, each of said rollers comprising a rotative shaft, plates fixed on said shaft in planes substantially perpendicular to the latter and in spaced relation to one another, and rods parallel with said shaft and fixed to said plates so as to form a rigid cylindrical cage, the distance between the bars being suitable for the type of grain being treated, and roll driving means operatively connected to said shaft; said rollers of said rotary grid penetrating one another, each of the plates of a roller extending into the space between the plates of an immediately adjacent roller; said grain cleaning means further comprising grid rotating means operatively connected to said roll driving means.

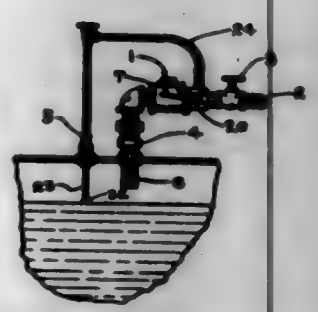
2,970,600
COLLAPSIBLE AND PORTABLE SHELTERS
Herman E. Schultz, Portland, Oreg.
(9050 Washington Ave., Fairchild AFB, Wash.)
Filed Sept. 8, 1958, Ser. No. 759,520
1 Claim. (Cl. 135—5)

A shelter comprising a rigid horizontal top frame made of a single bar of metal formed into front and rear members and side members, hollow vertical tubular supporting members having top and bottom ends, means provided at the top end of said supporting members for attachment to the rear corners of said top frame, diagonal braces permanently attached to said supporting members below the top ends thereof and attached at their opposite ends to said side members of said top frame, hollow vertical tubular leg members having top and bottom ends and adapted at their top ends for limited insertion into the bottom end of said hollow tubular supporting members, stakes having top and bottom ends and adapted at their bottom ends for insertion into the ground and at their top ends for engagement within the bottom ends of said vertical tubular leg members for maintaining the shelter in a vertical position, annular flange means integrated with said stakes intermediate the



ends thereof whereby to limit the extent of insertion of the stakes into the ground and whereby to provide a solid footing for said leg members, and a unitary covering attached to said front and side members of said top frame, extending downwardly therefrom into a backdrop and attached to said supporting members and to said leg members to thereby stabilize said top frame and said supporting members and said leg members all relative to each other and whereby said backdrop will prevent the botom ends of said leg members from splaying outwardly.

2,970,601
AUTOMATIC SHUTOFF DEVICE
Harry J. Williams, Elk City, Okla., assignor to The Bastian-Blessing Company, Chicago, Ill., a corporation of Illinois
Filed Oct. 11, 1955, Ser. No. 539,721
12 Claims. (Cl. 137—13)



8. A method for controlling the flow of liquefied gas into a storage tank comprising the steps of manually conducting a column of liquefied gas in its liquid phase to said tank, normally educting liquefied gas in its vapor phase from the tank and educting liquefied gas in its liquid phase from the tank when it has been filled to a predetermined level, expanding such educted liquefied gas in its liquid phase to effect a change of state from liquid to vapor, sensing such change in state and terminating the flow of said column when such change in state is sensed.

2,970,602
POSITIVE PRESSURE DEMAND REGULATOR
Charles David Cupp, Lancaster, N.Y., assignor to Scott Aviation Corporation, Lancaster, N.Y., a corporation of New York
Filed Apr. 23, 1956, Ser. No. 579,778
5 Claims. (Cl. 137—63)

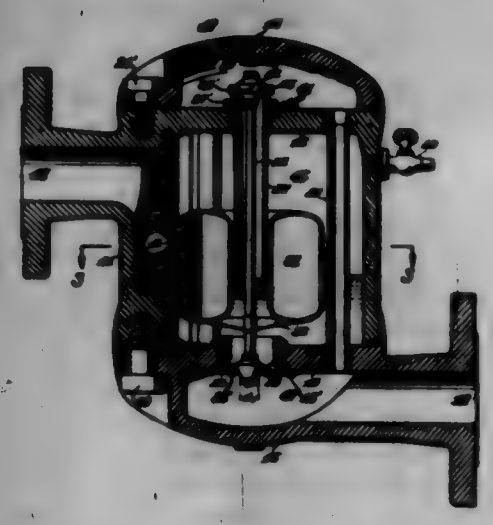
1. A positive pressure demand regulator for a breathing apparatus comprising: a casing; a demand valve ar-

ranged in said casing and supplied with breathing fluid under pressure; a diaphragm connected with said casing and adapted to actuate said demand valve whenever the user inhales; resilient means having a variable spring



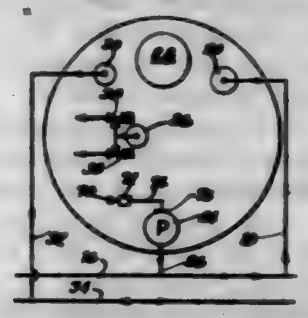
rate interposed between said casing and said diaphragm and arranged to urge said demand valve toward its open position; and linkage of the dead-center type connecting said resilient means with said casing.

2,970,603
STEAM TRAP
Chiyomatsu Maeda, 2-158 Hamahoshiku, Nishinomiya, Hyogo, Japan
Filed Oct. 22, 1957, Ser. No. 691,583
Claims priority, application Japan Apr. 17, 1957
8 Claims. (Cl. 137—194)



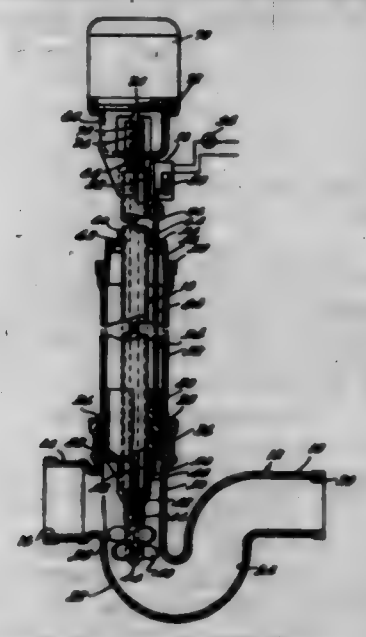
1. A steam trap comprising a casing having inlet and outlet openings, upper and lower horizontal partitions dividing said casing into an upper chamber, a middle chamber and a lower chamber, said inlet opening leading into said middle chamber, said outlet opening leading from said lower chamber, a balanced valve assembly in said casing, said valve assembly forming parallel flow paths comprising an upper valve seat in said upper horizontal partition and a lower valve seat in said lower horizontal partition, a balanced valve cooperating with said valve seats, a float connected to said balanced valve having buoyancy with respect to a liquid level in said middle chamber, a drain pipe extending downwardly from said upper valve seat to a point spaced from said lower valve seat for passing the liquid therethrough when pressure applied to said liquid level is greater than the liquid head required to fill said drain pipe, and at least one pressure equalizing pipe providing communication between said upper and lower chambers.

2,970,604
LIQUID STORAGE TANKS AND ATTACHMENTS
James J. Henry, New York, N.Y., assignor, by mesne assignments, to Conch International Methane Limited, Nassau, Bahamas, a corporation of the Bahamas
Filed June 24, 1958, Ser. No. 744,226
4 Claims. (Cl. 137—266)



1. In the transmission of a cold boiling liquefied gas into and out of a storage vessel the combination comprising a storage vessel adapted to be maintained within a predetermined range of pressure above and below atmospheric pressure, a source of supply of said liquid for transmission to said storage vessel at one station and a receiver for said liquid in said storage vessel at another station, means for communicating the source of supply with said storage vessel for filling the vessel and for communicating the storage vessel with said receiver for discharging, valve means in said communicating means between said source of supply and the storage vessel for controlling the flow of fluid, pumping means for discharging fluid from said storage vessel into said communicating means, a pressure responsive means communicating with said storage vessel, means responsive to said pressure responsive means and operatively connected to said pumping means for rendering same inoperative when the pressure within the storage vessel is below a predetermined value during discharge of the liquid and other means responsive to said pressure responsive means operatively connected to said valve means for stopping the flow of fluid through said communicating means when the pressure in the storage vessel exceeds a predetermined value during filling, and pressure and vacuum relief means in communication with said storage vessel for the relief of pressure beyond a predetermined maximum and for the relief of vacuum beyond a predetermined minimum.

2,970,605
PUMPING APPARATUS
Albert M. Sargent, 19224 Parkside, Detroit 21, Mich.
Filed Feb. 5, 1958, Ser. No. 713,384
3 Claims. (Cl. 137—247.41)



1. In a sewage system having a sewer conduit provided with an outlet opening communicating with a street sewer

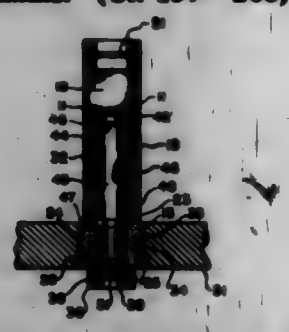
whereby sewage flows from said conduit to said street sewer under normal conditions, apparatus for counteracting a reverse flow of sewage from said street sewer through said sewage conduit as a result of flood conditions, said apparatus comprising, in combination, impeller means mounted within said sewer conduit and reacting in line with the longitudinal axis thereof in a direction toward said outlet opening so that the back pressure in said conduit resulting from flood conditions is directly counteracted by the pressure resulting from actuation of said impeller means, means supporting said impeller means in said sewer conduit, drive means carried by said support means and operatively connected to said impeller means, and means including electric switch means responsive to the level of fluid in said sewer conduit for actuating said drive means so as to drive said impeller means during flood conditions.

2,970,606

VALVE AND CORROSION INHIBITOR ASSEMBLY

Joel H. Williams, Fort Worth, Tex., assignor to General Dynamics Corporation, San Diego, Calif., a corporation of Delaware

Filed Oct. 29, 1958, Ser. No. 770,518
9 Claims. (Cl. 137—268)



1. A composite fitting comprising a substantially longitudinal housing having an exterior and an interior, said housing having first and second end portions, said housing insertable in an aperture from one side thereof until said first end portion is flush with the one side of the aperture and said second end portion protrudes from the opposite side, a threaded section on said first end portion for securing said housing in a threaded aperture, locking means used in conjunction with said first end portion for positively locking said housing in place, an opening in said first end portion, a ball disposed in said housing interior and movable therein, said ball sealing said opening when seated thereagainst, means positioned at the second end portion of the housing for maintaining the ball therein, means for admitting fluid from the exterior to the interior of said housing, a substantially longitudinal sleeve insertable in said opening with a portion extending into said housing interior, said sleeve unseating said ball upon entry into said housing interior, means on said sleeve and said housing for securing said sleeve to said housing alternatively in a first substantially fully inserted position and in a second partially inserted position means in said sleeve for providing a fluid passageway between said housing interior and the area externally adjacent said first end portion of said housing and sealing means for blocking said passageway only when said sleeve is positioned in said first substantially fully inserted position.

2,970,607

SAFETY SHUT-OFF DEVICE FOR HYDRAULIC BRAKES

Gordon H. Peck, Box 486, and Anton Hasenader, Plains Road, both of New Paltz, N.Y.

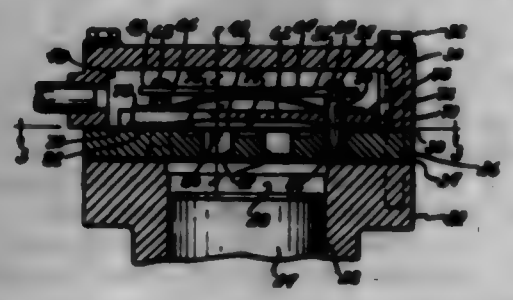
Filed Sept. 19, 1958, Ser. No. 761,991
2 Claims. (Cl. 137—456)

1. A safety shut-off device for a hydraulic brake system of the type including a master cylinder and a line extending from said cylinder, said device comprising a hollow casing having a wall at one end with an inlet therein, said casing having an outlet at the other end thereof, piston means in said casing dividing the same into a fluid inlet chamber communicating with said inlet and a fluid outlet chamber communicating with said outlet, a stem projecting forwardly from the piston means in the outlet chamber toward said outlet, a locking means adjacent said outlet adapted to engage said stem for locking the piston means in an extreme forward position, and valve means providing a passage between said inlet and outlet chambers through said piston means, said valve means being adapted to close said passage on forward movement of said stem responsive to application of pressure in said inlet chamber on said piston means, said valve means comprising a valve housing and a valve block in the inlet chamber, said housing and valve block normally engaging the end wall of said casing, said valve block being secured to one end of the piston means and adapted to move in said valve housing for opening and closing said passage, said locking means comprising a generally U-shaped spring detent member with legs having outwardly bowed portions, said stem having a head with a groove portion adapted to engage in said bowed portions of the spring detent member, said casing having a radial bore, said spring detent member disposed in said bore, a plug removably disposed in said bore and engaging the bight of the detent member, said detent member being removable and replaceable through said bore upon removal of said plug, said piston means having a forwardly extending block



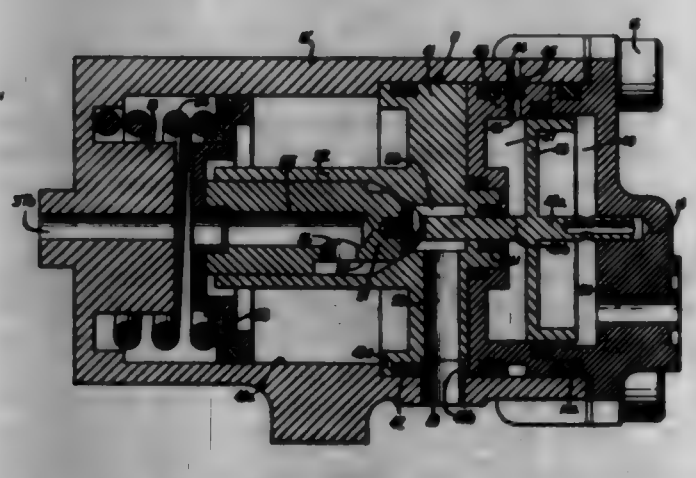
in said outlet chamber, a first coil spring engaged on said block and seated on a forward end of said outlet chamber for retracting said piston means upon disengagement of said spring detent member from the head of the stem to its normal position, said piston means carrying a washer at the forward end of said inlet chamber, another coil spring weaker than the first spring seated on said washer and engaging said valve housing for moving said housing to normal position against the end wall of the casing in the normal position of the piston, said valve housing being a cup-shaped member having an internal diameter greater than the external diameter of said valve block to define an annular passage normally communicating with the inlet chamber, said valve block having a plurality of short, narrow passages therein extending inwardly and laterally from the face of the block to the axis thereof, said passages connected to each other at their inner ends and connected to said annular passage, and a valve element in the housing engageable with the face of the block to close the passage therein, said valve block having a forwardly extending stem with a bore therethrough communicating with the inner ends of the block passages, the first-named stem having a bore communicating with the bore in the forwardly extending stem, so that the first-named passage between the inlet and outlet chambers is defined by the bores in the stems, the short narrow passages in the valve block and said annular passage, said other coil spring moving said housing valve element into engagement with said valve block in the forward position of said piston to close the passages in the valve block.

2,970,608
REFRIGERATING APPARATUS
Ralph W. Deeg, Detroit, Mich., assignor to American Motors Corporation, Detroit, Mich., a corporation of Maryland
Filed June 25, 1958, Ser. No. 744,379
5 Claims. (Cl. 137—516.11)



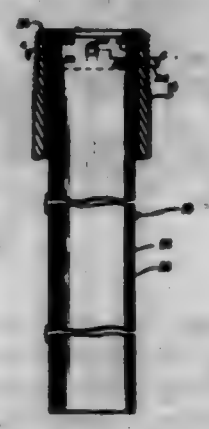
1. A discharge valve for refrigerant compressors comprising a valve plate having a substantially flat planular surface and a pair of outlet ports extending therethrough, a closure strip overlying and controlling said outlet ports, said closure strip formed of relatively thin resilient material having a body section and a pair of leg sections formed integrally therewith, said leg sections extending oppositely from opposed ends of said body section in a downward outward direction therefrom, means to mount said closure strip to said valve plate relative to said outlet ports, said closure strip mounted with said leg sections extended towards said planular surface to resist the movement of said body section thereupon, and pressure means applied to said leg sections in a direction whereby said legs are flexed to impose a force to urge said body section to assume a position upon said planular surface to close said outlet ports.

2,970,609
SHUT-OFF VALVE
Donald G. Beremand, Bay Village, Ohio, assignor to Thompson Ramo Wooldridge Inc., a corporation of Ohio
Filed Jan. 7, 1958, Ser. No. 707,431
1 Claim. (Cl. 137—540)



In a valve for controlling fluid flow, the improvement of: a housing having a main flow passage, the ends of which define inlet and outlet ports, said passage including a generally cylindrical valve-receiving recess, and a generally cylindrical spring-receiving recess of a larger diameter communicating directly therewith, said housing having a valve seat at one end of said valve-receiving recess directed toward the other end thereof and toward said spring-receiving recess; a poppet valve slidably received and guided directly by said housing in said valve-receiving recess for sealing engagement with said seat; circular spring-retaining means having an axial extent less than its diameter, and disposed in said spring-receiving recess, said retaining means continually directly engaging the other end of said poppet valve and having an axial projection telescopically received within said other end of said valve for effecting cocking-preventing guidance of said spring-retaining means by said valve; a helical spring of a diameter intermediate that of said recesses and received in said spring-receiving recess, and operative between said housing and said spring-retaining means to continually urge said retaining means against said other end of said valve and to bias said poppet valve toward said seat; and said spring-retaining means having a portion directed axially away from said valve for engaging an axially spaced wall of the housing at a point radially within said spring to limit therewith the movement of said poppet valve in an opening direction.

2,970,610
WATER HEATER INLET TUBE
William E. Johnston, Jr., Santa Barbara, Calif., assignor, by mesne assignments, to The Borden Company, New York, N.Y., a corporation of New Jersey
Filed May 2, 1955, Ser. No. 505,230
4 Claims. (Cl. 137—592)

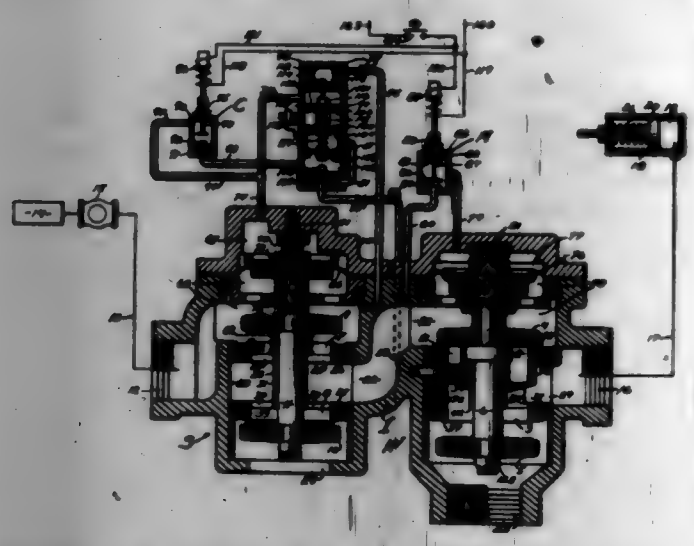


1. A cold water inlet tube for a hot water heater, including: a rigid plastic tubing; and a ferrule having a body telescopically connected to one end of said tubing and having an outwardly extending, annular flange adapted to seat on a cold water inlet fitting of the water heater to suspend said tubing within the water heater, the outside diameter of said flange exceeding the maximum outside diameter of said ferrule body, and said ferrule body being provided with integral prongs which extend through said tubing and which are clinched to secure said ferrule to said tubing, said annular flange being at the upper end of said ferrule body when said annular flange is seated on the cold water inlet fitting of the water heater, said end of said tubing being located between the ends of said ferrule so that said tubing does not project above said annular flange when said annular flange is seated on the cold water inlet fitting of the water heater.

2,970,611
VALVE APPARATUS AND CONTROLS
Robert Hatcher Hoge, Gates Mills, Ohio, assignor to The Clark Controller Company, Cleveland, Ohio, a corporation of Ohio
Filed Aug. 6, 1956, Ser. No. 602,212
15 Claims. (Cl. 137—620)

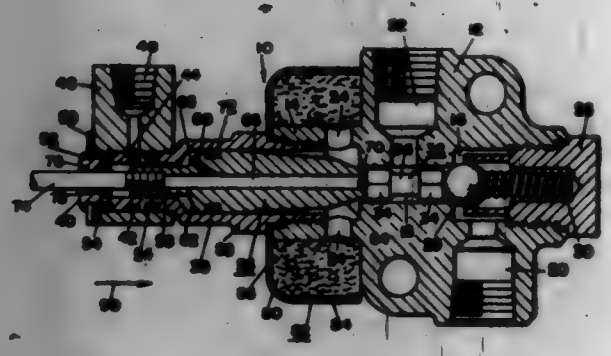
1. A valve device comprising first and second air pressure chambers and a movable wall between them, reciprocable by difference of pressure in the chambers, and connected to first and second main valves, to reciprocate the valves to first and second positions; first and second valve parts disposed to be opened and closed respectively by the main valves upon reciprocation to the first position, and closed and opened respectively by the main valves upon reciprocation to the second position; spring means normally counterbalancing the weight of the main valves and biasing them toward said first position; a permanently open restricted exhaust outlet from the second chamber; means for communicating air pressure from

an air pressure source to the first chamber and to a portion of the movable wall and supplementing the biasing spring and holding the main valves reciprocated to said first position; an actuable control valve device comprising a port, and a port valve operable to hold the port closed when the control valve device is actuated; a control air conduit, having conduit communication with the second chamber through the port of the control valve device, control means for actuating the control valve device to operate the valve to hold the port closed, and the pressure in the control conduit being communicated to the second chamber and to a greater portion of the area of the



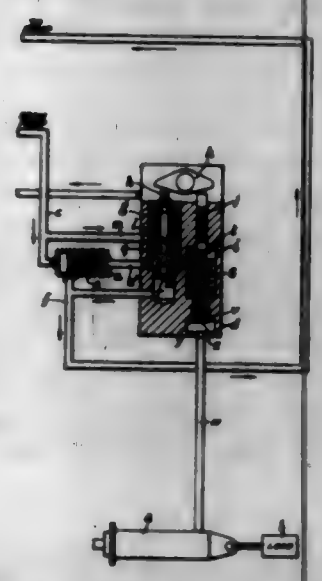
movable wall, through the port of the control valve device, upon failure of the control valve device to operate and hold the port closed when actuated, to cause pressure in the second chamber to reciprocate the movable wall and initiate movement of the main valves toward said second position; duct means arranged to communicate source pressure to the second chamber; and a duct valve operable to close the duct by movement of the main valves to said second position, and operable to open the duct valve by said initiated movement of the main valves to render said duct communication effective and complete the movement of the main valves to said second positions.

2,970,612
VALVE
Frank C. Lernitze, Pawtucket, R.I., assignor to Pantex Manufacturing Corp., Pawtucket, R.I., a corporation of Delaware
Filed Aug. 19, 1959, Ser. No. 834,756
19 Claims. (Cl. 137—628)



1. A valve comprising a body, a passageway in said body, an inlet port in said body in communication with one end of said passageway, an outlet port in said body opening into said passageway between the ends of said passageway, an exhaust opening through said body in communication with the other end of said passageway, a ball resiliently seated in the one end of said passageway to block the path between the inlet and outlet ports, a cylinder connected to said body adjacent the other end of said passageway and in alignment with said passageway, a valve stem slidably disposed within said cylinder, one end of said valve stem being adapted to seat in the other end of said passageway to block the path between the outlet port and the exhaust opening, a spacer member within said passageway between said valve stem and said ball, said spacer member being of a length so that when the valve stem is seated in the other end of the passageway the valve stem forces the spacer against the ball to unseat the ball from the one end of the passageway and thereby open the path between the inlet port and the outlet port, means utilizing line pressure in said valve body passageway for maintaining said valve end seated against said other end of said body passageway when said inlet port and said outlet port are in communication, and means for moving said valve stem toward and away from said passageway.

2,970,613
CONTINUOUSLY VARIABLE MECHANICAL TRANSMISSIONS
Frederick Baines, Swindon, England, assignor to The Plessey Company Limited, Ilford, England, a British company
Filed Sept. 3, 1957, Ser. No. 681,866
Claims priority, application Great Britain Sept. 6, 1956
5 Claims. (Cl. 137—621)



1. A hydraulic flow control device for use with a positive-flow-source of pressure liquid, comprising a valve housing formed with a valve chamber, a valve inlet connected to said source, a working outlet connected to the valve chamber, and a low-pressure outlet connected to a point at low pressure, a restricted first connection and a second unrestricted connection between the inlet and valve chamber and an unrestricted spill connection between the valve chamber and low pressure outlet, an inlet-control valve member movable in said housing between a first position in which said second connection is closed and said first connection and spill connection are open, a second position in which said first connection is open and said second connection and spill connection are closed, and a third position in which first and second connections are open and said spill connection is closed, a spill passage leading from said source to a point at low pressure, and a spill control valve in said spill passage, said spill control valve comprising a valve element, a spring urging the valve element to a position closing the said spill passage, and a hydraulic piston means for actuating said valve element in conjunction with said spring, one operative surface of said piston means being connected to said source to receive pressure from said source tending to urge said valve towards the open position against the action of said spring, and an opposite surface of said piston means being connected to the valve chamber and subjected to the pressure in

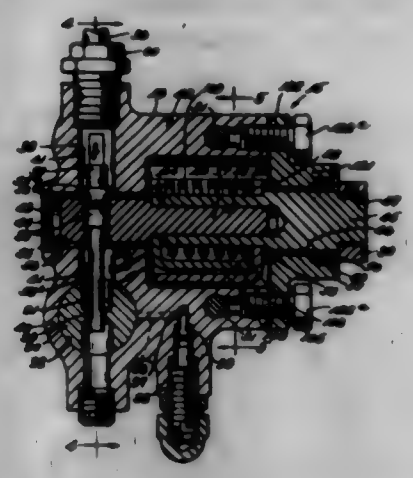
the valve chamber to counteract pressure from said source so that the spill control valve will substantially limit pressure from said source to a value exceeding the pressure in the valve chamber to a fixed value determined by the pre-loading of said spring.

2,970,614

CONTROL DEVICE FOR VEHICLE SUSPENSION

Norman B. Christensen, North Olmsted, Ohio, assignor of one-half to Republic Manufacturing Co., Cleveland, Ohio, a corporation of Ohio, and one-half to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

Filed Mar. 3, 1958, Ser. No. 718,826
5 Claims. (Cl. 137—627.5)



1. A control device comprising, a housing having a first bore, a second bore intersecting said first bore transversely thereof, opposed valve means at one end of said second bore, damping means at the other end of said second bore having a predetermined rate of movement, a plug rotatable in said first bore and extending transversely of said second bore, a rigid member in said second bore attached to said plug and having opposite ends adapted for engagement with said valve means and damping means, a shaft rotatable in said first bore and coaxially disposed to said plug, a first lever means attached to said shaft, a second lever means attached to said plug, and a coiled torsion spring resiliently connecting said levers whereby synchronous movement of said levers is limited by the rate of movement of said damping means upon actuation of said shaft.

2,970,615

AUTOMATIC TENSIONING DEVICE FOR LOOMS

Archie W. Campbell, Rte. 4, Box 262, Kannapolis, N.C.

Filed June 30, 1958, Ser. No. 745,504
5 Claims. (Cl. 139—212)



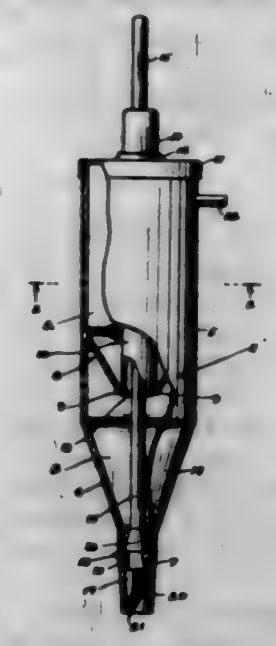
2. The combination of a shuttle for a loom and a tensioning device, said shuttle having an elongated bobbin-receiving portion and a cavity communicating therewith whereby the thread can be led from the bobbin through said cavity from said shuttle, said cavity being open to the exterior of said shuttle, said tensioning device comprising a pivotally suspended body having a mounting portion and a thread-engaging portion, said mounting portion being pivotally secured to said shuttle at one side of said cavity above the path of the thread from the bobbin, the pivotal axis of said mounting portion of said body being substantially parallel to the length of said shuttle, said thread-engaging portion being disposed partially over the width of said cavity, said thread-engaging portion being located in the path of travel of the thread and being of such proportions and weight that it will be elevated by the thread when the latter is under tension while being dispensed and such thread engaging portion will be moved by gravity downwardly to take up slack and continue by its weight to bear upon the thread when the tension thereon is eased, said thread-engaging portion having its external surface engageable with the thread over a relatively small area.

2,970,616

CONTROLLED POWDER ADDITION FUNNEL

Bela Vithal Shetty, Philadelphia, Pa., assignor to American Home Products Corporation, New York, N.Y., a corporation of Delaware

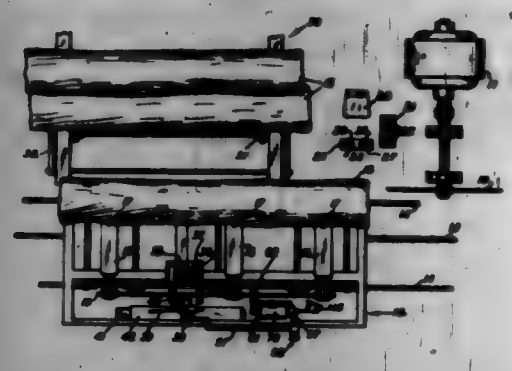
Filed Mar. 13, 1958, Ser. No. 721,294
3 Claims. (Cl. 141—344)



1. A controlled powder addition funnel which comprises, in combination: an outer tubular member formed with an upper, generally cylindrical portion, and with a tapered, frusto-conical lower portion, said frusto-conical lower portion being provided with graduation marks to indicate various volumes of material therewithin, and said tapered frusto-conical lower portion, at its lower extremity, being tapered so as to be capable of being seated in the neck opening of a receptacle with which said controlled powder addition funnel is in communication; an apertured lid positioned on and serving to close the upper portion of said tubular member; a frusto-conical dividing partition in said tubular member, said partition being provided with a valve opening in its lowermost portion, and said partition serving to divide the interior of said tubular member into an upper chamber which may be placed in communication with the outer atmosphere, and into a lower chamber which may be placed in communication with said receptacle; vertically displaceable valve means extending through the aperture in said lid and into said upper chamber, said valve means being adapted to fit in and close said valve opening in said partition, thereby controlling communication between said chambers; a longitudinally extending rod within said vertically displaceable valve means, said rod extending through both of said chambers, and being provided, at its lowermost end, with an enlarged portion acting as a valve closure means, said enlarged portion closely fitting within said lower extremity of said tapered, frusto-conical lower portion, but being displaceable vertically with respect thereto, thereby controlling the discharge of powder from said lower chamber; and a curved scraper rod extending from said enlarged portion of said rod into said lower extremity of

said tapered frusto-conical lower portion, said scraper rod being formed with an outwardly-curved end portion adapted to contact the interior surface of said lower extremity, said graduation marks on said frusto-conical lower portion serving to permit estimating the quantity of powdered material which is discharged from said funnel into said receptacle with which it is in communication.

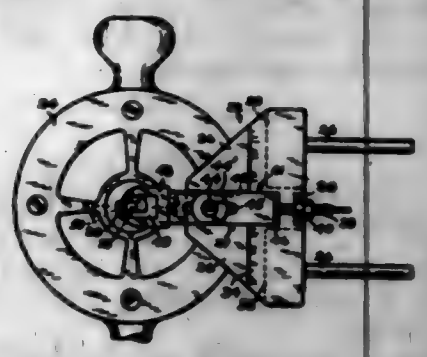
2,970,617
SAWMILL CARRIAGE PRESET SYSTEM
Milton H. Muter, 520 S. 1st St., Corvallis, Oreg.
Filed May 19, 1958, Ser. No. 736,306
9 Claims. (Cl. 143—120)



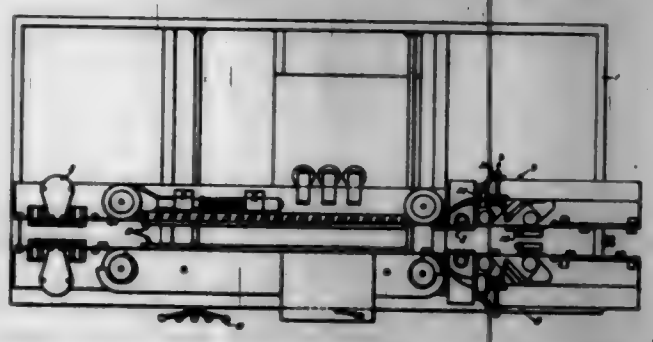
8. A setworks for controlling the movement of the knees on a sawmill carriage including a motor for moving said knees and a brake for said motor, said setworks comprising an electrical control circuit for said motor including a brake operating means comprising a relay having opposed operating coils including a first, brake neutralizing coil and a second, brake applying coil, said relay having a first position in which said brake is maintained in neutral position and a second position in which said brake is moved to motor braking position, a first plurality of resistors, a second plurality of resistors, a source of electrical energy, switch means for starting said motor and selectively operable to connect said first coil to said source with a predetermined number of said first resistors in series with one of said coils, said switch means also connecting said second coil to said source with said second resistors in series with said second coil, said second resistors having a total resistance greater than that of said first resistors whereby said relay initially operates to brake neutralizing position, and means operatively connected to said knees for progressively lessening the number of resistors in series with said second coil as said knees move in response to said motor so that the voltage applied to said second coil will increase upon movement of said knees and at a predetermined point said second coil will overcome said first coil to move said relay to brake applying position and this effect actuation of said brake to stop said motor.

2,970,618
GUIDE MEANS FOR HAND ROUTERS
William L. Mitchell, Lafayette, La.
Continuation of application Ser. No. 324,783, Dec. 8, 1952. This application Dec. 31, 1956, Ser. No. 631,810
6 Claims. (Cl. 144—136)

1. In combination with a router having a work engaging base portion and a rotatively driven bit extending below said base portion, template guide means comprising rigid guide rods extending outwardly from said base portion, a carriage movable mounted on said guide rods for adjustment toward and away from said router bit, guide means provided on said carriage, a template contactor support mounted by said guide means for radial adjustment relative to said bit, and a template contactor rigid with said support having a template engaging portion convexly curved on a radius greater than the cutting radius of said bit, said template contactor contacting the template along a vertical line adjacent said bit and substantially perpendicular to the radial line of adjustment of said template contactor support.

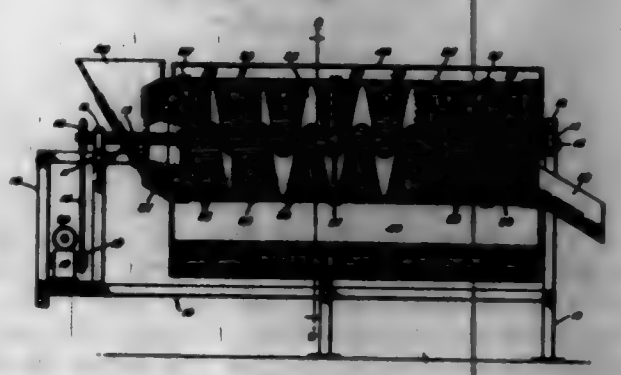


2,970,619
MACHINE FOR APPLYING STRIPS OF VENEER OR MOLDING TO THE EDGES OF AN ELONGATED WORKPIECE
Walter Köhler, Gütersloh, Germany, assignor to Erich Kleemann, Gütersloh, Germany
Filed July 5, 1957, Ser. No. 670,101
7 Claims. (Cl. 144—279)



4. In a machine for applying a strip of veneer or molding to an edge of a workpiece, in combination, a reservoir adapted to contain an adhesive therein; an adhesive applying roller having an outer plastic coating formed with grooves and turnably supported at said reservoir for receiving adhesive therefrom; and a spiral member carried by said reservoir and coiled about and spaced from said roller, the distance between said spiral member and said roller controlling the thickness of the layer of adhesive on said roller, so that a predetermined thickness of adhesive will be applied to a workpiece.

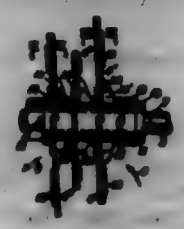
2,970,620
APPARATUS FOR REMOVING UNDESIRABLE MATERIAL FROM ROOT CROPS PRIOR TO PROCESSING
Richard A. Coleman and Lawrence H. Long, Harrisburg, Pa., assignors to I. D. Ferry Co., Inc., Harrisburg, Pa., a corporation of Pennsylvania
Filed July 28, 1958, Ser. No. 751,422
7 Claims. (Cl. 146—55)



1. Apparatus for dislodging and separating sprouts, stems and other undesirable material from potatoes and

similar vegetables preparatory to the peeling, slicing or other processing thereof, said apparatus comprising a horizontally disposed drum structure mounted for rotation about its longitudinal axis, the peripheral wall of such structure comprising a multiplicity of transversely spaced longitudinally extending shear elements provided with cutting edges; means connected to said drum for rotating the same; means mounted adjacent to and co-operating with one end of the drum for feeding vegetables into the latter; means mounted within the drum arranged to positively move the vegetables from said drum end to the other end thereof as the drum is rotated, with the outer portions of the vegetables in constantly changing engagement with said cutting edges of the shear elements, whereby to detach the undesirable matter from the vegetables for escape of such material through the spaces between the shear elements; and means mounted adjacent to and co-operating with said other end of the drum for receiving the sheared vegetables therefrom.

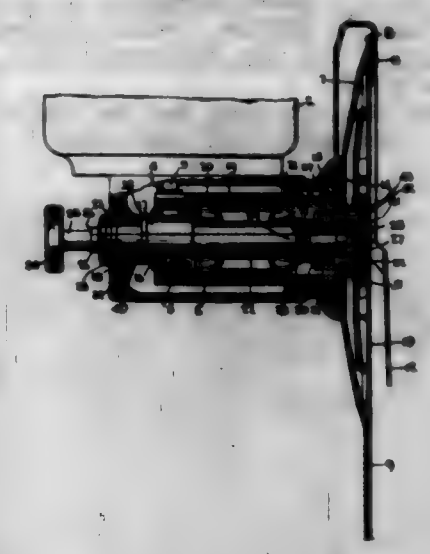
2,970,621
MEAT MINCING MACHINE
Karl Böhm, 109 Stormstrasse, Hamburg 6, Germany
Filed Jan. 13, 1959, Ser. No. 786,573
7 Claims. (Cl. 146—96)



1. A meat mincing machine comprising a dish rotatable about a vertical axis, a horizontal knife shaft with a part thereof extending over the dish and having a uniform circular cross section, means for effecting rotation of the dish and the knife shaft, a collar and a nut spaced from one another on said shaft, counter-rings between the collar and the nut and adjacent the collar and the nut respectively, a plurality of hub rings journaled on the shaft between the counter-rings and having adjacent to faces of the counter-rings clamping faces which are of stepped screw thread-like form and are complementary to said faces of the counter-rings, a plurality of mincing knives secured to the hub rings and extending radially outwards with a generally screw-like inclination, and a dish cover pivotable relatively to the dish to partly overlie the mincing knives, said counter-rings and hubs being automatically clamped against said nut due to counter-torque on the knives during operation of the machine.

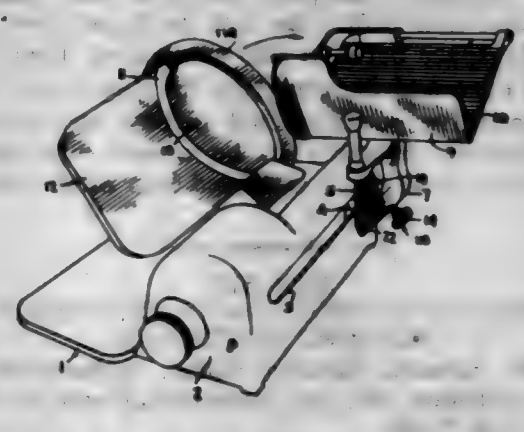
2,970,622
ADJUSTING GUARDS OF SLICING MACHINES
Arnold W. Lundell, Byram, Conn., assignor to Globe Slicing Machine Co., Inc., Stamford, Conn., a corporation of New York
Filed Mar. 18, 1959, Ser. No. 800,188
5 Claims. (Cl. 146—102)

1. The combination of a power driven rotary knife for a slicing machine, the periphery of said knife constituting the cutting edge, the portion of said knife adjacent to said cutting edge receding from the plane of said cutting edge, a housing, a motor mounted in said housing, a cylindrical bar extending through and fixed to said housing, a rod extending through said cylindrical bar, a hub rotatably mounted on said bar, said knife fixed to said hub, a knife guard having an intermediate central portion screw threadedly connected to said rod and extending through said knife, a nut screw threadedly connected to said cylindrical bar, an enlarged collar fixed against rotation with said cylindrical bar and disposed adjacent to and connected to said guard, a seal forming a lateral bearing between said enlarged collar and said hub, adjustable shims mounted on said cylindrical bar and interposed between said collar and said nut, said seal cooperating with said enlarged collar and



hub to shut off communication from the inside of said knife to said shims, a collar on said rod engaging the outer end of said cylindrical bar to serve as an abutment, and a knurled nut on the outer free end of said rod ot draw said guard, enlarged collar and shims toward said nut and in turn toward said collar to aline said intermediate central portion with said cutting edge.

2,970,623
SUPPORTS FOR CHUTES ON A SLICING MACHINE
Arnold W. Lundell, Byram, Conn., assignor to Globe Slicing Machine Co., Inc., Stamford, Conn., a corporation of New York
Filed Mar. 18, 1959, Ser. No. 800,189
6 Claims. (Cl. 146—102)



1. The combination of a slicing machine having a frame, a first arm slidably mounted in said frame and extending therefrom, a bracket on the free outer end of said first arm, a second arm, a pivotal connection pivotally connecting said second arm to said bracket, a chute mounted on the outer free end of said second arm, a rotary knife rotatably mounted in said frame and disposed in a plane inclined to the vertical, said chute extending substantially vertically to the plane of the knife wtih its lower end just clear of said knife in operative position, a first stop on the lower end of said second arm, a second stop on said bracket to oppose said first stop and define the position of said second arm when said chute is swung away from said knife to afford access to said knife, a locking bolt having a tapered portion, there being an opening in said second arm to receive said locking bolt and having a conical seat to receive said tapered portion, said locking bolt cooperating with said bracket to anchor said second arm to said

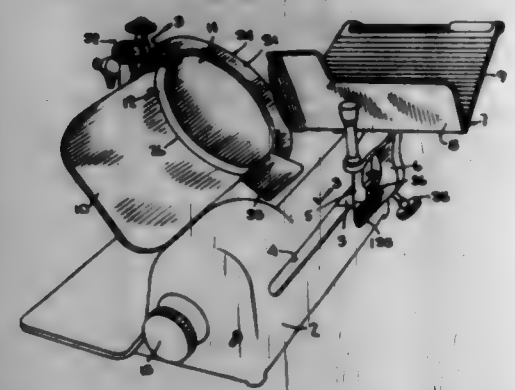
bracket, said conical seat and tapered portion cooperating with one another effectively to lock said second arm to said bracket.

2,970,624

GUARDS FOR ROTARY KNIVES OF SLICING MACHINES

Arnold W. Lundell, Byram, Conn., assignor to Globe Slicing Machine Co., Inc., Stamford, Conn., a corporation of New York

Filed Mar. 18, 1959, Ser. No. 800,272
8 Claims. (Cl. 146—102)



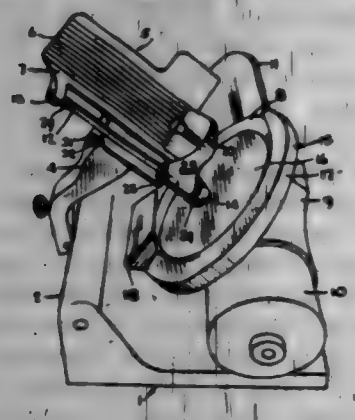
1. The combination of a power driven rotary knife for a slicing machine, the periphery of said knife constituting a cutting edge, a housing, a fixed shaft, a shaft rotatably mounted on said fixed shaft in said housing and fixed to said knife, a sharpening assembly, means pivotally mounting said sharpening assembly on said housing adjacent the outer portion of said cutting edge, a knife guard mounted on said fixed shaft including an arcuate portion normally enclosing said outer portion of said cutting edge and interposed between said sharpening assembly and said cutting edge in the operative position of said guard and in the inoperative position of said sharpening assembly, and rotating means for rotatably mounting said guard concentric to said shaft to move from its operative position between said sharpening assembly and said knife edge into its inoperative position clearing the space between said sharpening assembly and said knife edge and in turn from its inoperative position into its operative position, said pivotal means enabling said sharpening assembly to be moved into operative position when said guard is moved into inoperative position.

2,970,625

END WEIGHT SUPPORTS AND CONTROLS FOR SLICING MACHINES

Arnold W. Lundell, Byram, Conn., assignor to Globe Slicing Machine Co., Inc., Stamford, Conn., a corporation of New York

Filed Mar. 18, 1959, Ser. No. 800,336
10 Claims. (Cl. 146—102)



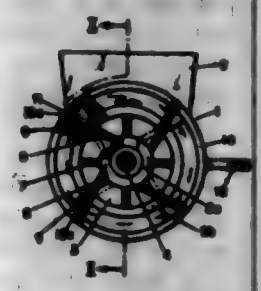
1. The combination of a slicing machine having a frame, a first arm slidably mounted in said frame and extending therefrom, a chute mounted on the end of said arm and comprising a first wing and a second wing substantially rectangular in contour and forming a dihedral angle with one another inclined to the vertical, a rotary knife substantially perpendicular to said wings, said first wing having a lateral edge, a first ear extending from the upper end of said edge, a second ear extending from the lower end of said edge, an extension on said first wing between said ears constituting an intermediate abutment, an upper cam on the upper end of said abutment and a lower cam on said first wing adjacent the lower end of said abutment, a rod mounted in said ears, a guard around the outer portion of said cutting knife, an end weight having a journal rotatably mounted on said rod between said ears and comprising a second arm extending from said journal, pins extending down from said second arm to grip an article disposed in said chute, a projection formed on and extending down from said journal, and a boss extending laterally from said journal, said projection engaging, and benig raised by said lower cam to enable said second arm to clear said guard when swung from an operative position in said chute around to the rear of said chute into inoperative position, said projection engaging said upper cam still further to raise said second arm to clear said first arm when said end weight is swung into inoperative position, said boss engaging said intermediate abutment to prevent swinging said second arm into inoperative position, until said boss clears said abutment.

2,970,626

APPARATUS FOR BRUISING AND COMMINUTING GREEN FODDER

Herbert Vissers, Nieuw Vennep, Netherlands, assignor to Landbouwwerktuigen- en Machinefabriek H. Vissers N.V., Nieuw Vennep, Netherlands

Filed Nov. 28, 1958, Ser. No. 776,887
Claims priority, application Netherlands Dec. 14, 1957
1 Claim. (Cl. 146—186)



A grid for use with a fodder bruising device including, a casing and a screw, said screw being rotatably mounted relative to said grid, said grid including a hub, a rim mounted on the casing, a movable ring concentric to said screw, and fixed bars interconnecting said hub and rim, at least one adjustable bar adjacent to at least one fixed bar, said adjustable bar having pivotal connection with said rim and operative engagement with said hub and said ring, whereby movement of said ring circumferentially of said screw will cause pivotal movement of said bar to change its angular relation with respect to said hub.

2,970,627

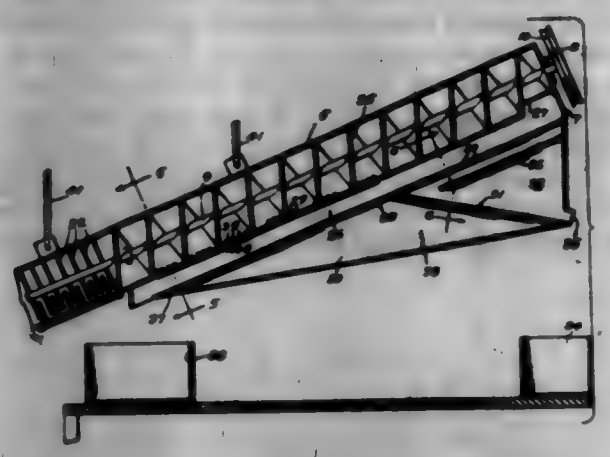
BARLEY DEBEARDER AND SEED CLEANER

Walter E. Wiesenthal, 6862 S. Broadway, Wichita, Kans.

Filed Dec. 22, 1958, Ser. No. 782,053
1 Claim. (Cl. 146—238)

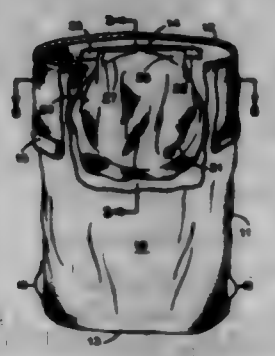
An apparatus for debearding and cleaning barley seeds, comprising an elongated inclined tubular body having an elevated discharge end, bearings at the ends of said tubular body, a power shaft extending throughout the length of said tubular body mounted in said bearings, spaced helical conveyor blades mounted on said shaft, said tubular body having openings in the wall thereof between certain of said groups speced a substantial distance from

the elevated discharge end of said conveyor blades, groups of rotary spikes secured to said shaft and disposed between said helical conveyor blades, removable closer plates normally closing said openings in the wall of the body, groups of stationary spikes secured to said plates, arranged in predetermined spaced relation with respect to each other, throughout a portion of the length of said



inclined tubular body and extending into said body, said stationary spikes being disposed between said rotary spikes, said body having a feed opening through which seeds are delivered to said body, said body having a series of screening openings through which foreign seeds and extraneous material are directed, said helical conveyor blades and spikes operating to move seeds to be cleaned through said body.

2,970,628
HAMPER BAG WITH HINGED COVER
Daniel Tames, 3500 N. Lake Shore Drive, Chicago, Ill.
Filed Aug. 28, 1959, Ser. No. 836,666
4 Claims. (Cl. 150—1)



1. A fabric hamper bag for soiled linen having front and rear sides stitched to each other along their longitudinal edges, and a circular bottom stitched to the lower edges of said sides to provide an open top hamper arranged to be supported in filling position by folding its upper portion outwardly and downwardly over a closed curvilinear support rail; and a fabric cover including a rim stitched along part of its free periphery to the inner surface of said rear side below the top of the hamper bag to form a hinge connection of the cover to the bag; whereby, when the hamper bag is so supported, the hinge connection is exposed and below the then upper edge of the hamper bag for swinging of the cover into and out of embracing closing relation with such then upper edge of the hamper bag during filling of the latter.

2,970,629
GOLF STICK CARRYING CASE
Milton E. Masten, Oceanside, N.Y.
(2661 Terrell Ave., Rockville Centre, N.Y.)
Filed Feb. 1, 1960, Ser. No. 5,764
5 Claims. (Cl. 150—1.5)

1. A golf club carrier comprising an elongated round rod, a laminated plate member secured to each end of the rod, each laminated plate member consisting of an outer plate, an inner plate spaced therefrom and a ring interposed between the plates along the margins thereof, one of said plate members having a number of spaced aligned openings in the outer and inner plates thereof, the other of said plate members having spaced openings in its inner plate aligned with the openings in said one

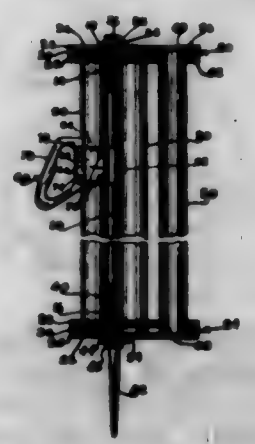


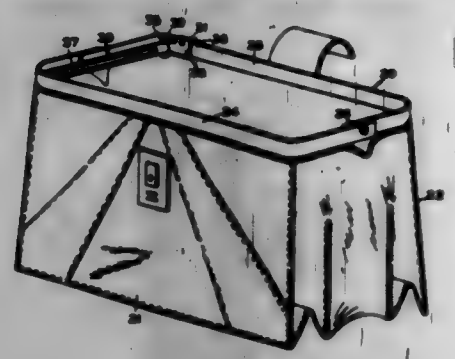
plate member, a number of spaced parallel tubes interposed between the plate members with their ends seated in the openings in the inner plates, a spike carried by and depending from the end of said rod and a handle on the rod intermediate its ends, and annular beads on one end of said tubes to prevent withdrawal of the tubes through the openings in the outer plate of said one plate member.

2,970,630
OUTING ACCESSORIES
Erling Larsen, 419 E. Broadway, and Hyman A. Gantz, 207 Wisconsin Ave., both of Waukesha, Wis.
Filed July 12, 1957, Ser. No. 671,492
3 Claims. (Cl. 150—28)



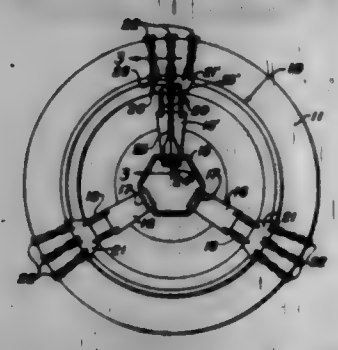
1. An outing accessory comprising a rod adapted to be selectively body-supported and ground-supported and having a reduced ground-penetrating end, a flexible bag, and a suspension draw cord for closing said bag and flexibly connecting said bag with the upper portion of said rod to support the bag above the ground when the rod is driven into the ground, the upper portion of said rod having means slidably receiving said draw cord therethrough to bring the closed end of the bag adjacent to said rod and to suspend said bag at selected elevations.

2,970,631
BRIEF CASE SPREADER
Roy P. Wilson and Martha A. Wilson, both of 810 Wedgewood Drive, Columbus, Ohio
Filed Jan. 30, 1959, Ser. No. 790,235
1 Claim. (Cl. 150—29)



A brief case comprising, in combination, laterally movable side walls defining an opening; a bracket attached to one of said side walls, said bracket including an inturned flange defining a first latch portion; and a brace pivotally mounted on said bracket and movable about a vertically extending pivotal axis between a first position coextensive with said one side wall and a second position wherein an end of said brace engages the other of said side walls and maintains said side walls in an open configuration, said brace including a second latch portion engageable with said first latch portion when said brace is in said first position.

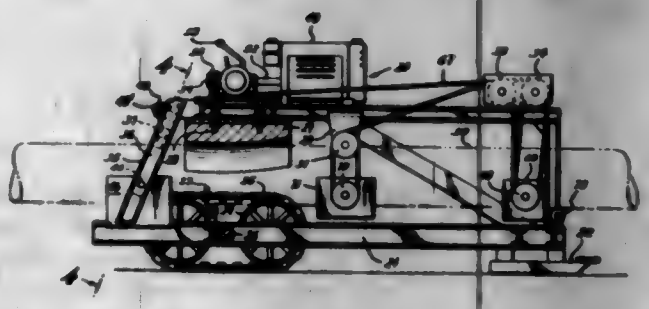
2,970,632
VEHICLE WHEEL CHAIN
Simon F. Kuc, South Amboy, N.J.
(2413 W. 4th St., Chester, Pa.)
Filed May 28, 1959, Ser. No. 816,481
3 Claims. (Cl. 152—241)



1. In a unit device of the character described, a chain arranged contiguous to one side of a vehicle wheel and including a plurality of links connected together, a hook member detachably connecting certain of said links together, a hexagonal shaped bracket contiguous to the other side of the wheel, a plurality of plates connected to said bracket with one of said plates being adjustably connected to said bracket, springs connected to certain of said plates and links connected to certain of said plates, body members connected to said springs and links, and cross members extending between said body members and chain.

2,970,633
PIPE BENDING MACHINE
Sam L. Ballard, 613 Memory Lane, Houston, Tex.
Filed Feb. 21, 1956, Ser. No. 566,946
6 Claims. (Cl. 153—32)

1. A pipe bending machine comprising a frame, a bending die on said frame curved transversely to receive one side of a pipe to be bent and curved longitudinally about an axis remote from said frame to receive a bent length of pipe, a holding shoe on said frame substantially shorter longitudinally than said bending die and substantially spaced from one end of said die and disposed on the opposite side of the pipe from said die and curved transversely to receive the said opposite side of the pipe, a bending shoe also disposed on the opposite side of the pipe from said bending die and substantially shorter longitudinally than said bending die and curved transversely to receive the said opposite side of the pipe and substantially spaced from the opposite end of the bending die a distance substantially equal to the spacing of the holding shoe from the bending die, a leverage shoe also disposed on the opposite side of the pipe from said die and curved transversely to receive the said opposite side of the pipe and spaced a substantially greater distance than said bending shoe on the opposite side of the bending shoe from the bending die, and motive means including means pivotally mounting said bending shoe, means swingably connecting said mounting means to said frame, means to swing said bending shoe pivotal mounting means and said bending shoe therewith in direction to contact the pipe to be bent and to apply a bending force to bend the pipe into the curvature of the bending die, said motive means also including means spaced from said bending shoe pivotally mounting said leverage shoe, means swingably connecting said leverage shoe pivotal mounting means to said frame to swing said leverage shoe independently of movement of said bending shoe pivotal mounting means to change the distance between the pivotal axes of both of said mounting means before bending begins and to move said leverage shoe in direction to contact the pipe to be bent so as to apply a leverage force to complete the bending of the pipe into the longitudinal curvature of the die.



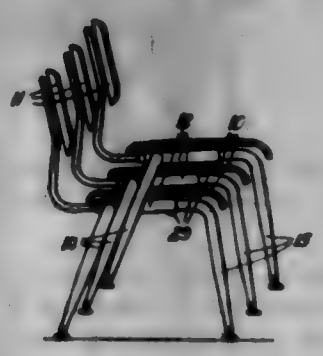
2,970,634
METHOD AND APPARATUS FOR APPLYING COVER MATERIAL TO BOOK CORES AND CASES
George Hantsche, Tuckahoe, N.Y., assignor to George Hantsche Company Inc., a corporation of New York
Filed July 13, 1955, Ser. No. 521,699
14 Claims. (Cl. 154—1.3)



14. In apparatus for making a cover assembly having a core and a facing on at least one side and folded about the edges of the core, means for folding the trailing edge of material comprising a stop, means for moving said cover assembly against said stop, means for moving the

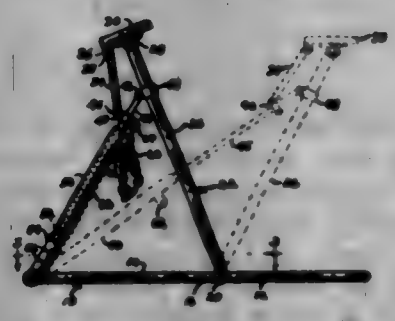
trailing edge of said assembly downwardly, means for engaging the web extending from the trailing edge of the core to displace it relative to the core during said downward motion, and roller means for engaging the trailing edge of said cover assembly with the partially folded web portion to move said assembly in a direction opposite to its movement against said stop and fold said web portion tightly about the core.

2,970,635
CHAIR
Clesent O. Fields, New Castle, Ind., assignor to Peabody Seating Company, Inc., North Manchester, Ind., a corporation of Indiana
Filed Nov. 28, 1958, Ser. No. 776,826
9 Claims. (Cl. 155—2)



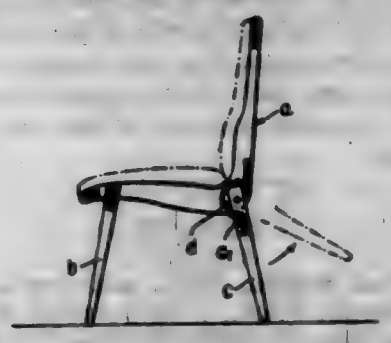
6. In a chair of the type having a seat and an understructure for supporting the seat, a horizontally disposed box-like bracket of generally rectangular form which is characterized by vertically spaced horizontally extending upper and lower walls and is provided adjacent its corners with four horizontally facing openings, with the front openings spaced substantially from the rear openings, separate tubular front legs and separate tubular rear legs which extend downwardly from the bracket and which are provided with horizontally bent upper ends which are of subsantially the same diameter as the height of the inside of the bracket and which extend through said openings and are rigidly secured within the bracket to the upper and lower walls of the same at a plurality of points spaced longitudinally of the horizontally bent upper ends of the legs, and a seat secured to the upper surface of the upper wall of the bracket.

2,970,636
STARTER FOR WATER SKIERS
Earl W. Haugland, Hampden, N. Dak.
Filed Jan. 26, 1959, Ser. No. 789,152
10 Claims. (Cl. 155—2)



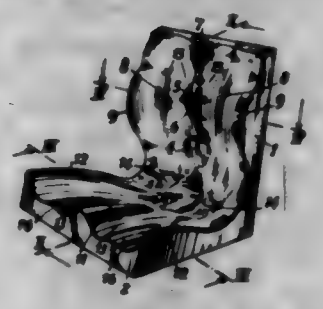
1. A starting device for water skiers comprising a base, an elongated unit having its lower end pivotally connected to a forward portion of the base, a seat on the upper end of the unit, and telescoping means having its lower end pivotally connected to a rearward portion of the base and its upper end pivotally connected to said elongated unit nearer the upper end thereof.

2,970,637
SEATS AND FITTINGS THEREFOR
Hugo Degen, Oetlingerstrasse 152, Basel, Switzerland
Filed Oct. 31, 1958, Ser. No. 771,142
Claims priority, application Switzerland Nov. 7, 1957
1 Claim. (Cl. 155—77)



An article of furniture comprising a rigid unit including a back frame, a seat frame and two front legs, a rear section including two rear legs and a cross-bar rigidly interconnecting said rear legs, means for pivotally securing said rear section to said unit adjacent the lower end of said back frame and the rear end of said seat frame, said means including two slidingly interengaging members, a first of said members being secured to said unit adjacent the rear end of said seat frame, said first member being of sector shape and being provided with side edges interconnected by an arcuate edge facing away from the other member and being provided with inwardly bent teeth along said arcuate edge, said other member being secured to the upper end of one of said rear legs, said other member being provided with projecting lugs selectively engaging the teeth on the first member and with an inwardly bent abutment between said lugs, a slot and pin joint connecting the two members and including a pin secured to said first member, said one of said rear legs having a slot therethrough receiving said pin and having a bore therein extending normal to said slot, and a spring in said bore and fitted between the pin and said abutment urging said lugs selectively over said teeth, said abutment extending parallel to said teeth and normal to said lugs and overlying said bore, said first member having a pair of oppositely disposed inwardly bent stops along said side edges, said stops being engageable by said second member to limit movement of said rear section relative to said unit.

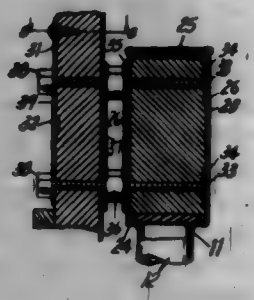
2,970,638
SEAT AND BACKREST CONSTRUCTION
Ludwig Halter, Hebenlebestrasse 38, Wildbad, Black Forest, Germany
Filed Jan. 6, 1958, Ser. No. 707,248
Claims priority, application Germany Feb. 5, 1957
9 Claims. (Cl. 155—191)



1. A seat device adapted to the shape of the body comprising a seat portion and a back rest, said seat portion being shaped generally to the form of the seat and thighs of a person sitting in normal relaxed position, and the back rest being shaped generally to the form of the back of a person sitting in normal relaxed position, said seat portion being provided at its central portion near the rear of said seat portion with a slightly protruding

area forming a firm support for the ischium tubers only of the seated person, and the back rest being provided with a slightly protruding area located centrally of said back rest to form a firm support for the os sacrum only of the seated person, whereby the major support of the seated person is by means of the ischium tubers and os sacrum, the distance of protrusion of said protruding areas being sufficient to assure that the muscular portions of the seat, thighs and back of the seated person bear less heavily on the remaining areas of the seat portion and of the back rest.

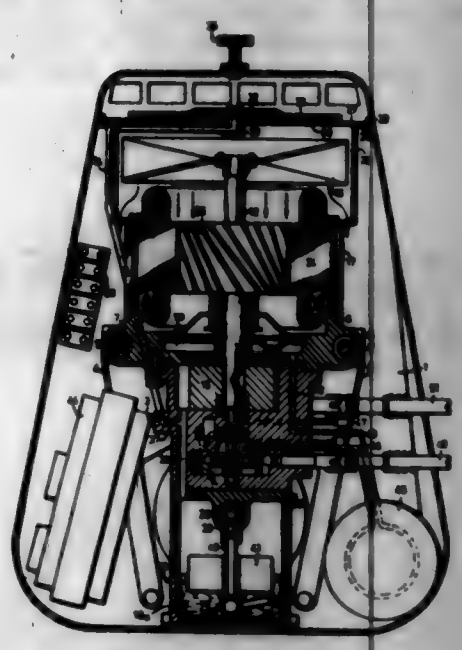
2,970,639
CHAIR
Wayne W. Good, Sturgis, Mich., assignor to Harter Corporation, Sturgis, Mich., a corporation of Michigan
Filed Mar. 21, 1958, Ser. No. 723,014
3 Claims. (Cl. 155—191)



3. A unitary chair seat, back and arm supporting frame including laterally spaced front and rear members disposed transversely of the chair and each having upwardly projecting arm uprights on the ends thereof, crosspieces fixedly secured to said front and rear members, arm supporting bars fixedly secured to the upper ends of said arm uprights, said front and rear members, said arm uprights and said arm supporting bars being fixedly connected and constituting an integral unit, a seat bottom panel mounted on said supporting frame between said uprights in supported relation to said front and rear frame members and projecting forwardly and rearwardly therefrom and secured to the said crosspieces, arm members disposed on and secured to said arm supporting bars, and a back disposed between the rear ends of said arm members and supportedly connected thereto.

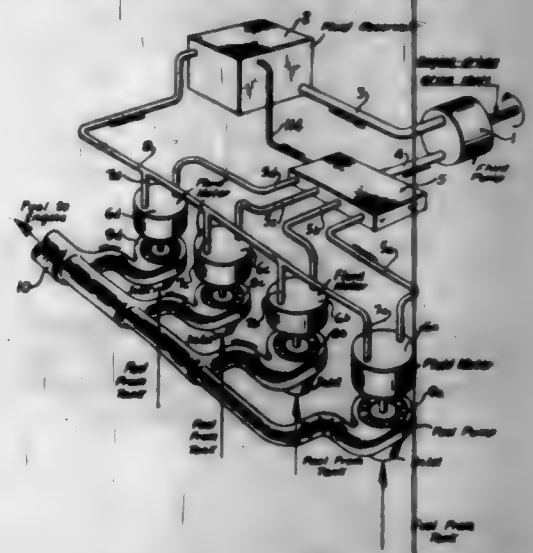
2,970,640
OIL FUEL FIRING ASSEMBLIES
Hans Erik Ekland, Malmo, Sweden, assignor to Aktiebolaget Ljungmanns Verkstader, Malmo, Sweden, a corporation of Sweden
Filed Apr. 7, 1958, Ser. No. 726,763
Claims priority, application Sweden May 5, 1957
6 Claims. (Cl. 158—36.3)

1. In an oil burner assembly, a housing including a fixed back portion and a removable front cover portion, a horizontal air blast tube extending from said fixed back portion at the rear thereof, oil and air conveying means and oil atomizing nozzle means positioned within said tube, fixed guide support means within said housing protruding from said fixed back portion thereof, a mounting block slidably supported on said guide support means to be withdrawable in a forward direction, blowing means for drawing air into said housing and delivering it to said air blast tube and said nozzle means, pump means for propelling fuel oil from a supply to said nozzle means, an electric motor connected to said blowing means and said pump means, said blowing means, said pump means and said motor being supported on said mounting block in axial alignment, with said motor positioned near said block and said blowing means positioned adjacent said motor remote from said block, and forming together with said block a structural unit having its axis at right angles to the direction of withdrawal of said block, said oil and air conveying means and said oil atomizing nozzle means being mounted on said unit, means for peripherally sealing said unit to said housing adjacent said blowing means for forming a closed space



in said housing inside of said sealing means, said housing being open to the atmosphere outside of said sealing means to admit air to the suction side of said blowing means, and means on said guide support means for releasably clamping said unit on said guide support means.

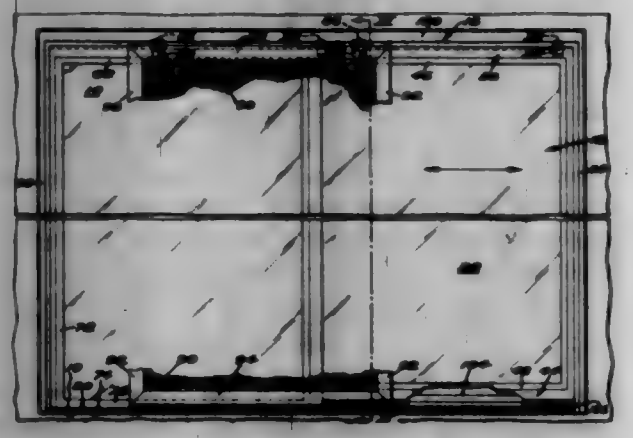
2,970,641
APPARATUS FOR PUMPING FUEL AT VARYING RATES
Inge Rosen and Sten Gunde Schalletrom, Linkoping, Sweden, assignors to Svenska Aeroplan Aktiebolaget, Linkoping, Sweden, a corporation of Sweden
Filed Aug. 1, 1956, Ser. No. 601,525
8 Claims. (Cl. 158—36.4)



3. Apparatus for efficiently pumping fuel or the like at widely varying rates proportional to varying speeds of rotation of a drive mechanism, said apparatus comprising: a plurality of pumps, each having a small range of optimmum pumping rates, and all connected in parallel between a source of fluid to be pumped and a manifold into which fluid is to be pumped from said source; a plurality of hydraulic motors, each drivingly connected with one of said pumps; a variable output hydraulic pump drivingly connected with said drive mechanism and adapted to pump hydraulic fluid from a source thereof at rates proportional to the speed of rotation of the drive mechanism; and means for supplying fluid from the hydraulic pump to said hydraulic motors and for limiting the speed at which said motors are driven to a predeter-

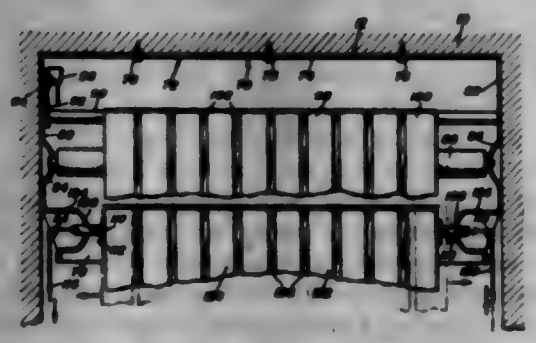
mined value corresponding to the optimum pumping rates of the pumps driven thereby, said means comprising valve means responsive to a function of the rate of flow of hydraulic fluid from the hydraulic pump to one hydraulic motor to connect another hydraulic motor with the hydraulic pump when the speed of said one motor reaches said predetermined value.

2,970,642
SLIDING CLOSURE
Nelson D. Parsons, Cowlesville, N.Y., assignor to Fleet of America, Inc., Buffalo, N.Y.
Filed Dec. 31, 1958, Ser. No. 784,156
4 Claims. (Cl. 160—40)



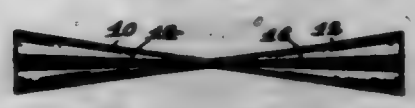
1. A closure comprising in combination, a frame having a top rail, a fixed sash mounted in the frame, a movable screen and a movable sash suspended from the top rail of said frame, said frame including a bottom sill plate extending across the width of the frame, said sill plate having an integral vertically turned upstanding flange portion extending along one longitudinal edge thereof and terminating in a free top edge, a threshold strip extending along the length of said flange and having a channel removably slip fitted downwardly upon and over the said upstanding flange, said strip having another channel paralleling the first channel and forming a hood portion facing downwardly, a weather strip bracket fixed to and along the bottom edge portion of said removable sash and carrying an upwardly projecting flange extending within the channel of said hood portion, and resilient weather strip means disposed within the interior of said hood portion channel and forming a weather sealing sliding connection between said sill structure and said movable sash.

2,970,643
WINDOW SHADE
Nikolay W. Adamsky, 9 Schenck Ave., Apt. 1H, Great Neck, N.Y., assignor of twenty-five percent to Helen Jane Adamsky and twenty-five percent to Valeria Adamsky, both of New Hyde Park, N.Y.
Filed Oct. 22, 1956, Ser. No. 617,429
4 Claims. (Cl. 160—121)



4. A shade construction comprising two shade rollers, means supporting said shade rollers for independent rotation about spaced and substantially parallel axes, said support means disposed at the extremities of said rollers and engaging the ends thereof, said rollers having attached to each one end of a flexible sheet, means independent of roller rotation for adjusting vertical relationship of said shades while maintaining the shades in fixed lateral position relative to each other, the extended portions of said shade sheets adjacent at least one of said rollers being disposed in vertically extending sliding contacting relation relative to each other, said adjusting means including an elongated support element mounted above said rollers and over which one shade sheet passes, and means for adjustably mounting at least a portion of said support element for movement to increase and decrease its elevation above said rollers.

2,970,644
LIQUID DISPERSION CONDUIT
David Richan Webster, Mount Royal, Quebec, Canada (1070 Graham Blvd., Apt. 1, Montreal 16, Quebec, Canada)
Filed June 2, 1958, Ser. No. 739,093
15 Claims. (Cl. 162—338)



1. A stock inlet for a paper machine comprising a pair of opposed identical fluid delivery conduits, each conduit having a quadratically decreasing internal cross-sectional area tapering from a base portion toward an apex, said conduits being disposed symmetrically at each side of a center line extending in the machine direction with their apices directed towards each other and having a common surface aligned in a horizontal plane, the said common surface of each of said conduits being provided with a fluid discharge slot of isosceles triangular outline with the base portion of each slot disposed at the respective base portion of each of said opposed conduits, the center line of each of said slots being in a horizontal line at right angles to the said center line between said opposed conduits, said base portions of said conduit being open and constituting fluid inlets adapted to receive stock under pressure, whereby by reason of said decreasing cross-sections of said conduits and said triangular formation of said discharge slots said stock flow is diverted in direction towards said discharge slots and discharged from said slots at a constant velocity along the length thereof.

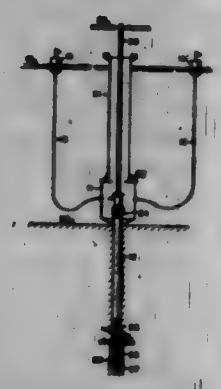
2,970,645
PRODUCING MULTIPLE FRACTURES IN A WELL
Eugene D. Glass, Tulsa, Okla., assignor to Pan American Petroleum Corporation, Tulsa, Okla., a corporation of Delaware
Filed Mar. 6, 1957, Ser. No. 644,369
5 Claims. (Cl. 166—42)

1. A method of hydraulically fracturing a formation penetrated by a well at a multiplicity of selected elevations comprising in sequence undercutting said formation at the lowest of said selected elevations for a substantial distance around said well to produce an undercut having an area A″ in a plane substantially perpendicular to the axis of said well, undercutting said formation at at least one of said selected elevations above said lowest elevation for a substantial distance around said well to produce an undercut having an area A′ in a plane substantially perpendicular to the axis of said well, said area A″ being substantially greater than said area A′, injecting a first quantity of fracturing fluid into said well and into said undercuts in said formation, simultaneously applying sufficient pressure to said fracturing fluid in said undercuts to produce and extend a first fracture at said

area A'' into said formation, temporarily sealing said first fracture to an extent sufficient to withstand subsequent fracturing pressures in said well, injecting a second quantity of fracturing fluid into said well and into said formation under sufficient pressure to produce and extend a second fracture at said area A', and producing said well.



2,970,646
METHOD FOR INSTALLING CONTROLS TO AND OPERATING AN UNDERWATER WELL
Richard P. Knapp and James R. Sims, Houston, and Frank T. Focht, Bellaire, Tex., assignors, by mesne assignments, to Jersey Production Research Company, Tulsa, Okla., a corporation of Delaware
Filed Jan. 30, 1958, Ser. No. 712,145
16 Claims. (Cl. 166—45)



1. A method for installing controls to and operating an underwater well which comprises connecting lines to the exterior surface of a vessel at the water's surface, sinking said vessel at the site of a well, connecting a caisson which extends to above the water's surface to the upper end of sunk vessel, removing water from said caisson and sunk vessel, thereafter drilling said well through said caisson and the sunk vessel to penetrate a subterranean productive zone, placing a valved production well head on said well, operatively connecting said well head to said lines from the interior of said vessel, and then producing fluids and the like from said well through one of said lines by operating said valved well head through another of said lines with energy provided from an accessible remote location.

2,970,647
FIRING HEAD FOR FORMATION TREATING APPARATUS
Lyle E. Scott, South Gate, Calif., assignor, by mesne assignments, to BJ Service, Inc., Long Beach, Calif., a corporation of Delaware
Filed Feb. 5, 1957, Ser. No. 638,375
15 Claims. (Cl. 166—63)

1. In well treating apparatus comprising a container of gas-generating material adapted to be disposed in a well adjacent to earth formation to be treated, means for initiating the release of gas generated by said material into the well, including means responsive to a percussive blow, and mechanism for striking such a percussive blow, that improvement wherein the striking means includes an axially moveable support, a punch assembly extending from said support towards said blow responsive means,



said punch assembly including a pin engaged with said blow responsive means, an elongated barrel connected to said support and embracing said pin, said barrel being axially shiftable relative to said pin, and means within the barrel for exerting a hammer blow on said pin upon movement of said support beyond a predetermined limit towards said blow responsive means.

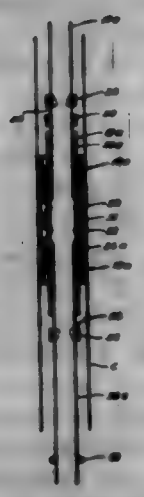
2,970,648
CROSSOVER APPARATUS FOR OIL AND GAS WELLS
Douglas E. Daffin and Harold E. McGowen, Jr., Houston, Tex., assignors, by mesne assignments, to Sid W. Richardson, Inc., Fort Worth, Tex., a corporation of Texas
Filed July 2, 1956, Ser. No. 595,260
9 Claims. (Cl. 166—115)



1. A dual completion well apparatus of the character described comprising a string of well tubing extending into the well, spaced from the well, providing an annular space surrounding the tubing and extending to the top of the well, said well having upper and lower production zones below the string of tubing, a tubing section connected at its upper end to the lower end of the string of well tubing, and having an enlarged portion

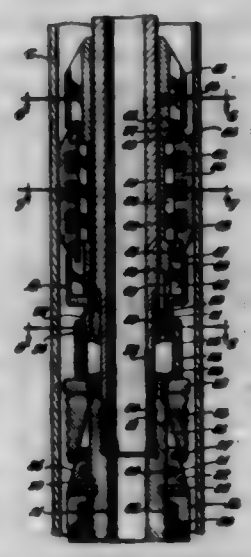
below its upper end of greater internal cross-sectional area than the internal cross-sectional area at its point of connection to the well tubing, said section comprising a hollow body member enclosing a pair of parallel tubular receivers for flow control inserts, one of said receivers being in line with and of substantially the same cross-sectional area as the well tubing, and the other receiver being laterally offset therefrom, said parallel receivers having inter-communicating port means, and outlet port means through one of said receivers extending to the exterior of the special tubing section and to said outer annular space, one of said receivers having a tubular extension extending to the upper production zone and the other having a separate tubular extension extending to the lower production zone, packing means surrounding said extensions above the upper production zone and below said inter-communicating and outlet port means and adapted to seal between the extensions and the surrounding well wall, other packing means surrounding the extension extending to the lower production means and adapted to seal between said last named extension and the surrounding well wall, and being located between the upper and lower production zones, and latching portions in each of said tubular receivers adapted to coact with latching means carried by removable flow controlling inserts to releasably secure said inserts in said tubular receivers.

2,970,649
PRESSURE SEALED PACKER
Cicero C. Brown, % Brown Oil Tools Inc., P.O. Box 19236, Houston, Tex.
Continuation of application Ser. No. 403,328, Jan. 11, 1954. This application Aug. 18, 1958, Ser. No. 755,523
7 Claims. (Cl. 166—121)



1. A well packer comprising a tubular body adapted for insertion into a well bore on an operating string, upper and lower hollow annular resilient sealing elements surrounding said body, an end ring on the adjacent end of each sealing element, means securing both end rings to the body, a plurality of circumferentially disposed slips secured to the outer surfaces of said sealing elements adjacent said end rings, tongue and slot connections between said slips and said end rings permitting radial movement but preventing vertical movement of said slips, an upper portion of said upper sealing element extending above the slips thereon and a lower portion of said lower sealing element extending below the slips thereon flaring outwardly to increased diameters greater than the diameter of said slips in their retracted positions, means communicating with the bore of the tubular body establishing fluid flow from the bore of the well through the tubular body to the exterior thereof by which the fluid pressure on the respective sealing elements is equalized, and valve means secured to the operating string and cooperable with said fluid flow establishing means to open or close said means whereby when said valve means is closed differential fluid pressure is created in the well bore above and below the sealing elements to cause the higher fluid pressure to radially expand one of said sealing elements into sealing engagement with the well bore and to radially move the slips secured thereto into anchoring engagement with the wall of the well bore.

2,970,650
SUBSURFACE APPARATUS FOR OPERATING WELL TOOLS
Reuben C. Baker, deceased, late of Coalinga, Calif., by Reuben Carlton Baker, Jr., and Thelma Baker Anderson, Los Angeles County, Aaron A. Baker, Fresno County, David K. Anderson, Ventura County, and Security-First National Bank of Los Angeles, Los Angeles County, Calif., executors, assignors to Baker Oil Tools, Inc., Los Angeles, Calif., a corporation of California
Filed Jan. 27, 1958, Ser. No. 711,328.
12 Claims. (Cl. 166—124)

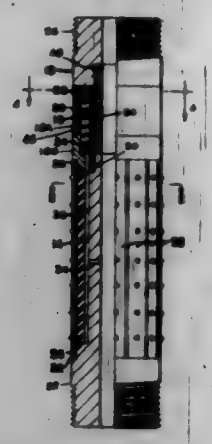


1. In well apparatus adapted to be lowered in a well conduit and adapted to operate a tool in the well conduit: a member adapted to be attached to the tool; means on said member for operating the tool, said means comprising first instrumentalities movable relative to said member and engageable with the well conduit to resist rotary movement of said first instrumentalities therewithin, second instrumentalities engageable with the tool and rotatable relative to said first instrumentalities, an axial cam connection securing said second instrumentalities to a portion of said first instrumentalities, rotary movement of said portion being resisted by the well conduit, and an axial cam connection securing said member to said first instrumentalities, whereby rotation of said member and second instrumentalities relative to said first instrumentalities relatively feed said member and second instrumentalities longitudinally of said first instrumentalities.

2,970,651
HYDRAULICALLY INFLATABLE ANCHORS
Alan P. Roberts, Tulsa, Okla., assignor, by mesne assignments, to Jersey Production Research Company
Filed Aug. 21, 1957, Ser. No. 679,491
5 Claims. (Cl. 166—212)

2. An inflatable anchor unit for use in a well bore which comprises a tubular support having an exterior recessed section, a slidable annular member surrounding said recessed section, an expansible sleeve below said annular member and surrounding said recessed section with one end of said sleeve circumtiguously affixed to said annular member and the other end circumtiguously affixed to said tubular support, at least two rows of over-

lapping bands placed longitudinally along the periphery of said sleeve with those ends of said bands near said annular member affixed to said annular member and the opposite ends being affixed to said tubular support, resilient means of a character to force said annular member



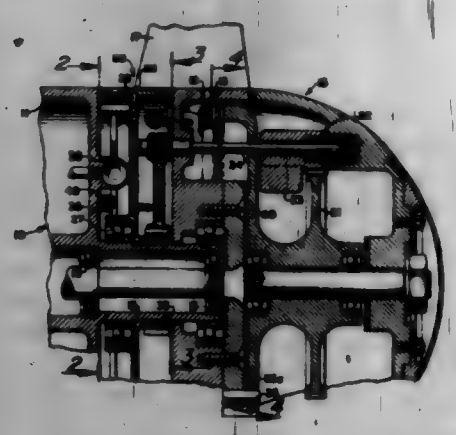
longitudinally along said recessed section and in an opposite direction from where said sleeve is affixed to said tubular support, and port means establishing fluid communication between the interior of said support and the interior of said sleeve.

2,970,652

CONTROL MECHANISM FOR RAM AIR TURBINE

Darlton K. Breaux, Torrance, and Robert M. Belanus, Los Angeles, Calif., assignors to The Garrett Corporation, Los Angeles, Calif., a corporation of California

Filed Jan. 10, 1957, Ser. No. 633,421
3 Claims. (Cl. 170—68)



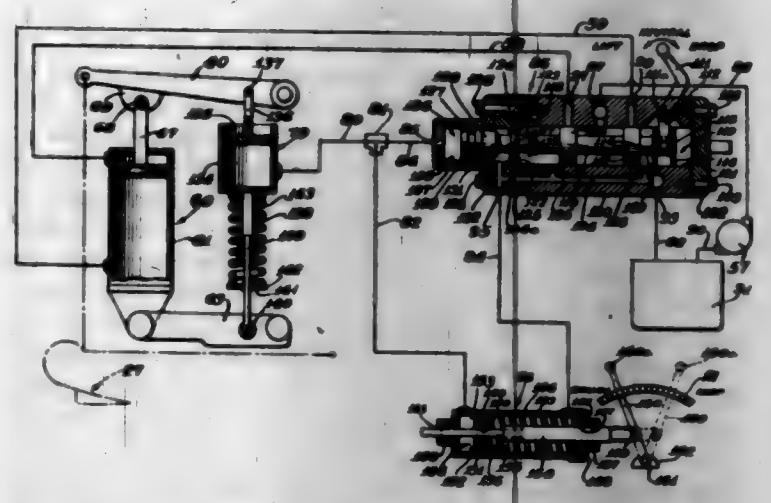
1. In a ram air turbine, a rotatable blade assembly having governor means disposed thereon, said governor means being responsive to centrifugal force to feather the blades on said blade assembly to limit the latter to a predetermined speed of rotation, said governor means having torsion means normally tending to oppose the centrifugal force and maintain said blades at an initial pitch; first means disposed on said turbine for relieving said governor means of control and interrupting the rotation of said blade assembly, said first means having a first element rotatable with and relative to said blade assembly; a second element supported against rotation, said second element being movable to engage said first element and resist rotary movement thereof, the tendency of said blade assembly to continue to rotate causing movement thereof relative to said element; and second means mounted on said first means and responsive to such relative movement between said blade assembly and said first element to move the torsion means of said governor means in the same direction as the centrifugal force to feather said blades to a predetermined degree.

2,970,653

HYDRAULIC DEPTH CONTROL APPARATUS

Gordon L. Hershman, Chicago, Ill., assignor to International Harvester Company, Chicago, Ill., a corporation of Delaware

Filed Aug. 6, 1957, Ser. No. 676,683
6 Claims. (Cl. 172—4)



1. In a fluid pressure system for controlling the elevation of a tool of which the elevation is adjustable with respect to a mobile frame, a draft structure carrying the tool and adapted for pivotal mounting on the mobile frame, lift arms pivotally mounted on the frame and operatively connected to said draft structure, a source of hydraulic pressure, a hydraulic ram operably connected between the frame and the lift arms for changing the elevation of the tool when the ram is subjected to hydraulic pressure from said source, a control valve interposed between said source and the ram and having a movable element therein slidably operative for conditioning said valve into its opened, closed and neutral positions and operative for controlling the flow of hydraulic pressure from said source to said ram, said valve containing a fluid-receiving section having a piston member reciprocable therewithin which piston is operative when said section is subjected to fluid pressure in excess of a predetermined value for operatively engaging said movable element for restoring the valve from a set position wherein communication is established thereby between the source and the ram to a neutral position terminating communication between the source and ram, a fluid-containing control circuit communicating with the fluid-receiving section of said valve and having intercommunicative chambers respectively variable in fluid capacity, one of said chambers containing a capacity-changing element positively connected for movement with the ram and operable thereby to diminish the capacity of such chamber attendant the operation of the ram for moving the tool in a downward direction, the other of such hydraulic control circuit chambers having an element manually settable to selectively vary the capacity of such latter chamber for predetermining the amount of ram operation necessary in a downward direction to create hydraulic pressure in such control circuit which is effective to impose said pressure upon the piston member of the fluid-receiving section of said valve for restoring the valve to a neutral position.

2,970,654

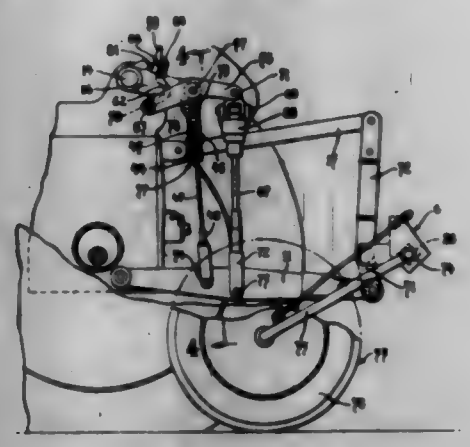
MOUNTING MECHANISM FOR IMPLEMENTS

Everett W. Todd, Dearborn, Mich., assignor to Massey-Ferguson Inc., a corporation of Maryland

Filed Oct. 17, 1956, Ser. No. 616,512
4 Claims. (Cl. 172—239)

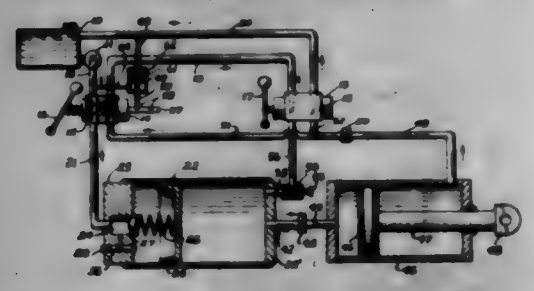
1. In a mounting mechanism for coupling an agricultural implement to a tractor comprising, in combination, a pair of laterally spaced draft links extending rear-

wardly and being independently pivoted on said tractor, a power operated lift arm structure movable vertically on said tractor above said draft links, a one-way link connection between each of said draft links and said lift arm structure for coupling said links to said structure when the latter moves upwardly past a selected point so as to uniformly raise the links thereafter, and a flexible



member extending between said draft links and having its intermediate portion movably received by said lift arm structure, said flexible member being of sufficient length to maintain a direct, vertical-load bearing connection between each of said draft links and said lift arm structure when the latter is below said selected point so that the arms are supported by the flexible member while swinging oppositely up and down.

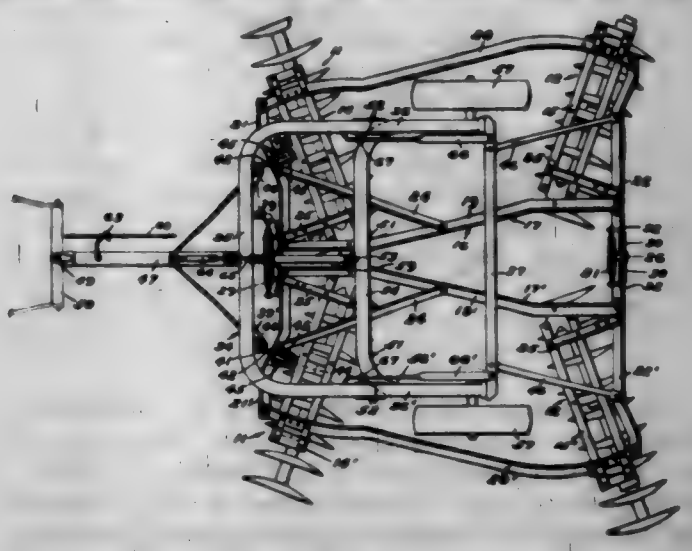
2,970,655
STROKE CONTROLS FOR HYDRAULIC SYSTEMS
Russel D. Acton, Joliet, Ill.
(1219 Robinson St., Danville, Ill.)
Filed July 23, 1956, Ser. No. 599,621
36 Claims. (Cl. 172—316)



24. In combination with a tractor having a power plant and an implement removably connected thereto and having a part to be adjusted, a pump driven by the power plant of the tractor, a reservoir, valve structure, conduits connecting the pump, the reservoir and the valve structure, a stroke control unit mounted on the tractor and including a cylinder and a free piston therein, conduit means to connect one end of said cylinder to the valve structure, a hydraulic motor mounted on the implement and connected to the implement part to be adjusted, disconnectible conduit means to connect said motor to said cylinder, and conduit means operatively associated with said valve structure for bypassing said stroke control unit and delivering fluid directly to said motor.

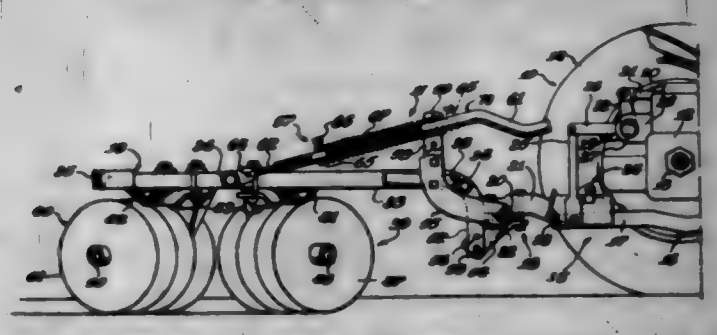
2,970,656
HARROW
Dwight F. Kampe, Birmingham, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Mar. 17, 1958, Ser. No. 721,859
9 Claims. (Cl. 172—413)

1. A wheel transport tandem disc harrow having a generally horizontal sub-frame, pairs of opposed front and rear disc gangs, gang frames supporting the disc gangs and mounted on the sub-frame, a main frame generally above the level of the sub-frame, a tongue extending forwardly from the main frame for connection to a tractor, a draft transmitting connection extending between the main frame and the sub-frame, a wheel frame pivotally mounted on the main frame for rotation



about a transverse axis and rotatably supporting a pair of transport wheels, a hydraulic cylinder for rotating the wheel frame about its axis to force the wheels downwardly into ground engaging position and raise the harrow for transport, and a lock strap pivotally connected with the main frame and movable into position engaging the wheel frame to retain the wheel frame in wheel-lowered position.

2,970,657
DISK HARROW
Wayne G. Toland, Stockton, Calif., assignor to International Harvester Company, Chicago, Ill., a corporation of New Jersey
Filed June 24, 1957, Ser. No. 667,368
4 Claims. (Cl. 172—455)



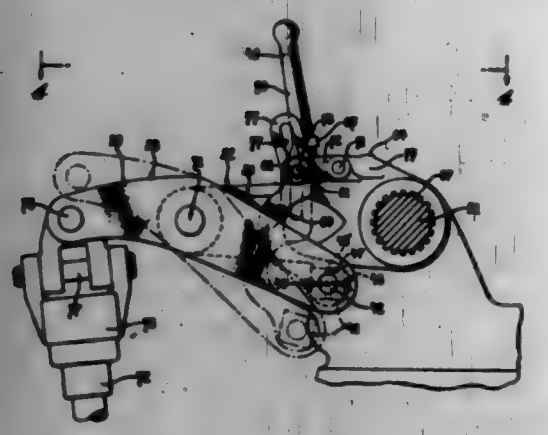
1. A tractor-implement combination comprising a draft structure forming a part of the tractor and mounted thereon for vertical floating, power lift means on the tractor connected to said draft structure for raising and lowering the latter, said lift means including means accommodating said floating of the draft structure, a disk harrow comprising a tool-carrying frame having a pair of longitudinally spaced disk gangs mounted thereon, a hitch frame having means thereon releasably cooperable with said draft structure to form an integral association therewith, whereby said hitch frame floats and is raised and lowered therewith, means pivotally connecting the tool-carrying frame to the hitch frame to accommodate vertical floating thereof relative to the hitch frame, means in the connection of said tool-carrying frame to said hitch frame accommodating free downward swinging of the tool frame but yieldably resisting upward swinging relative thereto, and optionally operable means carried by the tool-carrying frame and engageable with the hitch frame for holding the connection therebetween rigid against downward swinging of the tool-carrying frame relative to the hitch frame.

2,970,658
HARROW TRANSPORT
Arnold F. Kopaska, Guthrie Center, Iowa
Filed Dec. 22, 1955, Ser. No. 554,790
2 Claims. (Cl. 172—456)



1. An implement carrier comprising in combination, an implement supporting frame, means mounting said frame for movement about a horizontal axis from a lowered position when the implement is in ground engaging position to a vertical position extending upwardly from said axis when the implement is being transported, said frame including a central section and a pair of end sections, and hinge means connecting said sections for upward swinging movement of the end sections relative to the central section when the frame is in lowered position and for horizontal swinging movement of the end sections relative to the central section to a position in angular relation to the central section when the frame is in vertical transport position.

2,970,659
IMPLEMENT LIFT ARRANGEMENT FOR TRACTORS
Ernest V. Bunting, Detroit, and Robert V. Mathers, Livonia, Mich., assignors to Massey-Ferguson Inc., a corporation of Maryland
Filed Oct. 17, 1956, Ser. No. 616,433
8 Claims. (Cl. 172—501)



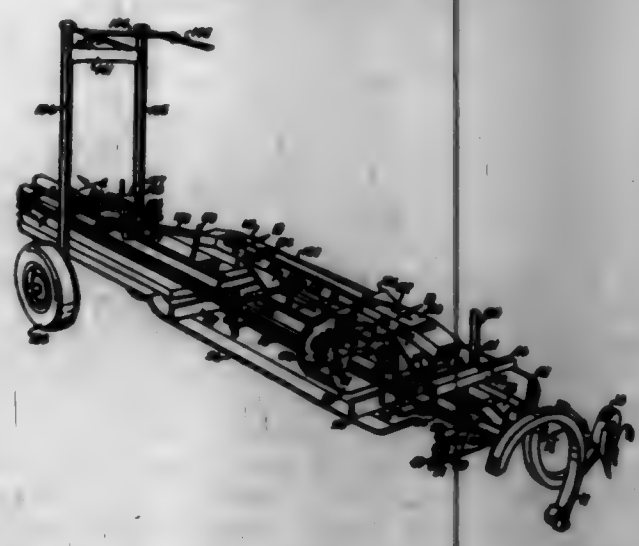
1. In an implement lift structure for a tractor, the combination comprising, an actuating arm adapted to be mounted for up and down swinging movement on said tractor, a lift arm pivotally connected at an intermediate portion to the free end of said actuating arm for swinging movement relative to each other, a one-way lift connection between said actuating arm and one end of said lift arm, a lever pivoted on said actuating arm, a link having opposite ends connected to said lever and to said lift arm, respectively, said lever being swingable from a first position in which said lift arm is free to swing relative to said actuating arm to a second position in which said lift arm is retained in position for said one-way connection to be effective to swing said arms as a unit.

2,970,660
POLYPHASE SONIC EARTH BORE DRILL
Albert G. Bodine, Jr., Van Nuys, Calif.
(13120 Moorpark St., Sherman Oaks, Calif.)
Filed July 12, 1954, Ser. No. 442,805
31 Claims. (Cl. 175—55)



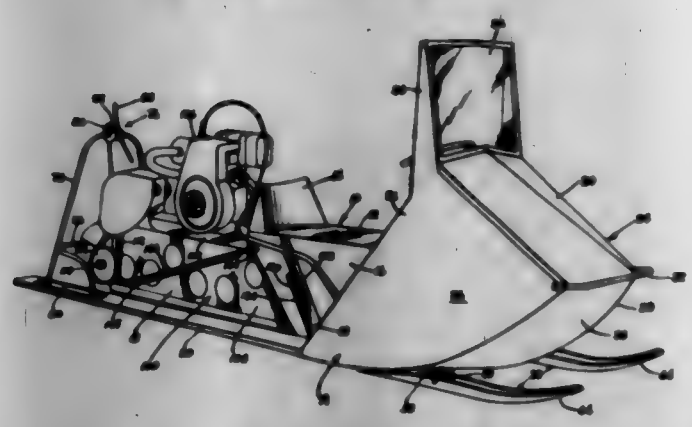
7. A polypole sonic drill comprising a plurality of substantially parallel elastic longitudinally vibratory rods of like resonant frequency, arranged with corresponding ends in close proximity, a bit on at least one of said rod ends, and means for setting said rods into longitudinal elastic vibration at said resonant frequency in symmetrical polyphase relationship to one another.

2,970,661
TWIN AUGER TUNNELING MACHINE
Neil Houtcooper, Rte. 1, Winthrop, Miss.
Filed Feb. 5, 1957, Ser. No. 638,394
3 Claims. (Cl. 175—166)



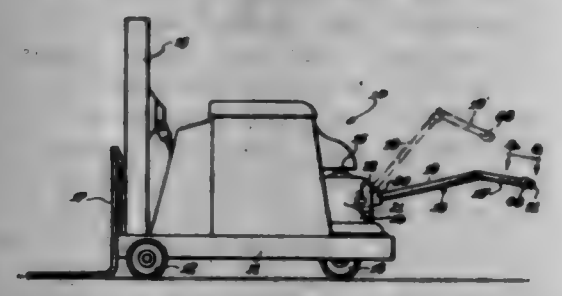
1. In a twin auger tunneling machine, the combination which comprises horizontally disposed laterally spaced longitudinally positioned stationary tubes, telescoping tubes slidably mounted in the stationary tubes, first and second shafts carried by said telescoping tubes, spiral fingers carried by extended ends of the shafts providing augers, longitudinally disposed shoes secured to and depending from the extended ends of the shafts for supporting the shafts and augers at a constant elevation, meshing gears mounted on the shafts whereby the second shaft is rotated by the first shaft, a chassis for supporting said tubes, wheels connected to said chassis, power means mounted on said chassis and operatively connected to said first shaft, and control levers on said chassis.

2,970,662
MOTOR PROPELLED SLED
Edgar E. Hetteen, Roseau, Minn., assignor to Polaris Industries, Inc., Roseau, Minn., a corporation of Minnesota
Filed Sept. 8, 1958, Ser. No. 759,584
10 Claims. (Cl. 180—5)



1. A snow and ice vehicle comprising a sledge unit including a body portion for supporting the operator of the vehicle, a pair of rearwardly directed, laterally spaced base runners mounted in fixed relation to said body portion, a nose portion inclining forwardly and inwardly from the forward ends of said base runners to form an angularly configured bow having a centrally located apex when viewed in cross section, a pair of laterally spaced steering runners subjacent said nose portion, means mounting said steering runners for pivotal movement in both horizontal and vertical planes relative to said nose portion, an elongated traction unit disposed between said base runners, means mounting the forward end of the traction unit for relative forward and vertical movements on the sledge unit, means interposed between said traction unit and said sledge unit to impart a downward thrust to a forward portion of the traction unit when said sledge unit is propelled forwardly by said traction unit, and an upstanding winch supported on and bridging the rear ends of said base runners for maintaining the rear end of said traction unit at a preferred elevation with respect to said base runners.

2,970,663
COLLAPSIBLE CONTROL MAST FOR FORK-TYPE LIFT TRUCKS
E. Melvin Rugg, Chicago, Ill., assignor to International Harvester Company, Chicago, Ill., a corporation of New Jersey
Filed Apr. 7, 1958, Ser. No. 726,769
1 Claim. (Cl. 180—19)



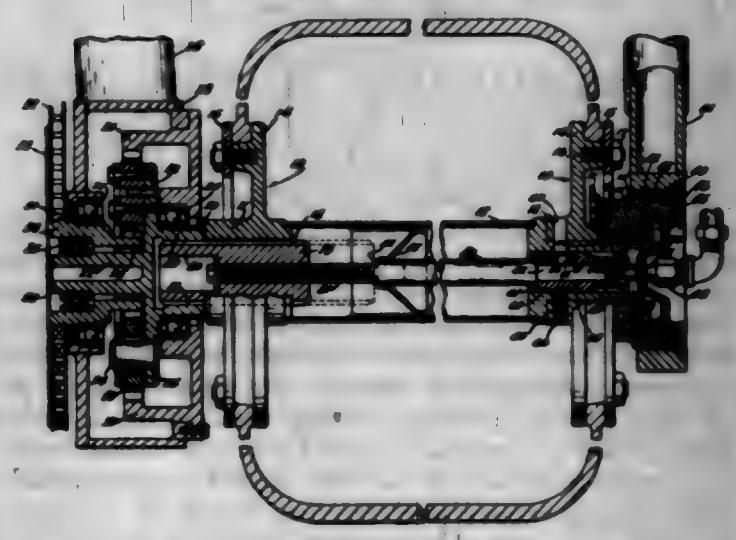
For a truck having a body, laterally spaced power driven wheels on one end of said body, a steerable ground wheel on the opposite end of said body, and a steering column for rotating said steerable ground wheel; a control mast comprising a first tubular member, means pivotally connecting one end of said first tubular member to said steering column for pivotal movement about a horizontal axis, a first connecter member connected at one end to the opposite end of said first tubular member, said first connecter member having a generally U-shaped aperture at its opposite end, said aperture being defined by laterally spaced side walls, a top wall connecting said side walls, said aperture being open at its front and bottom, a second tubular member, a second connecter member having a tongue projecting into the open aperture, said tongue having a transversely extending bore, said side walls having aligned openings, the axes of which are transverse with respect to the axis of said first tubular member, a pin extending through said openings and said bore, a coil spring on said pin, said coil spring having one end engaging said first connecter member and a second end engaging said second connected member whereby said second tubular member is resiliently maintained in a substantially extended position relative to said first connecter member, and a handle on said second tubular member adapted to contain operator's control means, said second tubular member being adapted to jackknife relative to said first tubular member during movement of said truck in a direction whereby said mast encounters an obstacle.

2,970,664
MINE HAULAGE VEHICLE
Merle L. Hoover and James W. Woolf, Franklin, Pa., assignors to Joy Manufacturing Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed June 9, 1958, Ser. No. 740,829
13 Claims. (Cl. 180—41)



1. In a mine haulage vehicle, a vehicle body having articulated body sections pivotally connected together substantially midway between the ends of the vehicle, a material receiving compartment extending along said sections lengthwise of said body, steering wheels at the ends of the vehicle body, respectively, traction wheels intermediate said steering wheels near the pivotal connection between the body sections, and means operatively associated with the steering wheels and a section of the vehicle body for tilting said section relative to the said steering wheels and the other body section to vary the elevation of the outer end thereof.

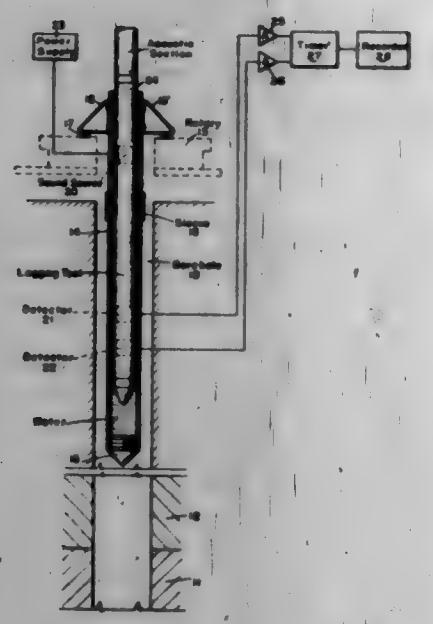
2,970,665
WHEEL MOUNTING AND DRIVING MEANS
Leveret C. Rueter, Bryan Wright, and John D. Martin, Clintonville, Wis., and Walter J. Frisch, Campbell, Calif., assignors to FWD Corporation, a corporation of Wisconsin
Filed May 16, 1958, Ser. No. 735,858
10 Claims. (Cl. 180—70)



8. A vehicle comprising a wheel, a vehicle support adjacent each side of said wheel, a bearing between the

first said vehicle support and said wheel, said bearing being secured in said first vehicle support for movement between a wheel engaging position and a retracted position for removal of said wheel from the vehicle, a retractable member detachably connecting said second support member and said wheel, and means operable from said first support member to retract said retractable member, said retractable member comprising a stub axle axially movable from a position wholly within said wheel to a position partly within said wheel and partly within said second vehicle support.

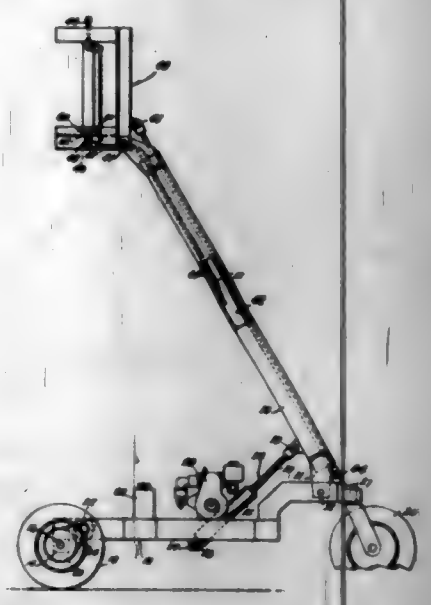
2,970,666
APPARATUS FOR CALIBRATING SEISMIC VELOCITY LOGGERS
Jack C. Smith, Houston, Tex., assignor, by mesne assignments, to Jersey Production Research Company, Tulsa, Okla., a corporation of Delaware
Filed Oct. 8, 1958, Ser. No. 766,036
3 Claims. (Cl. 181—.5)



1. A portable device for use in calibrating a tool used in measuring the velocity of sound through subsurface formations, the tool including at least one sound detector longitudinally spaced from the sound source including: a hollow member completely closed at one end so as to be adapted to receive an acoustic coupling fluid; and a sleeve member clamped around the outside of the hollow member and positioned so as to be between the sound source and the detector when the tool has been placed in the tubular member.

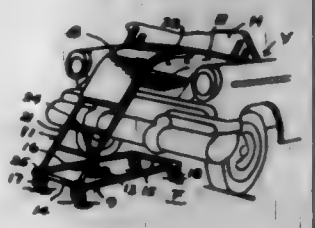
2,970,667
SELF PROPELLED AERIAL PLATFORM AND HYDRAULIC CONTROL SYSTEM THEREFOR
Willis M. Bereaw, Benton Harbor, Mich.
Filed June 18, 1958, Ser. No. 742,898
1 Claim. (Cl. 182—2)

A hydraulic control system for a self-propelled aerial platform having a support frame adapted to travel over the ground, a single boom pivotally mounted on said frame about a generally horizontal axis, said axis being located at one end of said frame and said boom extending from said axis and directly over said frame, a pair of laterally spaced traction wheels on said frame, and a platform at the free end of said boom for vertical adjustment relative to said frame, said platform being substantially directly above said traction wheels in a longitudinal direction when said platform is in a fully raised position, said system comprising, a hydraulic ram connected between said frame and said boom for vertically positioning the latter, a control valve for said ram, a reversible fluid motor drivingly connected to each of said wheels, a control valve for each of said motors for operating said motors selectively and independently of one another in either direction, a flow divider in said system, a pump in said system, a selector valve for selec-



tively directing all of the pressure fluid from said pump through each of said motors to place the latter in series, or for directing said flow through said divider whereby one-half of said flow is directed through each of said motors to place the latter in parallel for a slow speed operation.

2,970,668
MECHANIC'S SCAFFOLD
Linus S. Snyder, San Joaquin County, Calif.
(Rte. 1, Box 48L, Jacksonville, Oreg.)
Filed Oct. 25, 1956, Ser. No. 618,242
4 Claims. (Cl. 182—116)



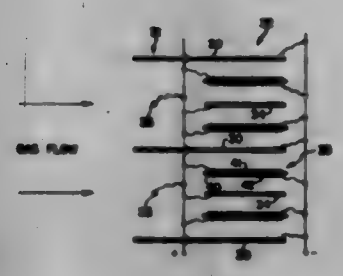
1. In a mechanic's scaffold of the character described, an elongated rigid base element arranged for its disposal upon a supporting surface in fixed angular relation to the surface, an elongated rigid upper body support element hingedly attached to an end of said base element for its forward extension in overlying relation to the base element and providing rear ladder and forward body-rest portions, a strut member swingably attached to the base element at a point intermediately of its length and releasably engageable with the ladder portion of the upper element at a point intermediately of its length for the support of the latter element in raised overlying relation to the base element in position for the direct supported disposal of the body of a mechanic in prone position upon the body-rest portion of the upper element for a working use of the arms of the supported mechanic in the space below the level of the mechanic, and a second strut member swingably and coaxially attached to the base element in fixed angular relation to the first strut member and alternatively engageable with the rest element at said point for a support of the latter in a lowered and substantially coplanar relation to the base element and in spaced relation to the supporting surface.

2,970,669
CONDENSING FILTER
Gustav Bergson, Philadelphia, Pa.
(York Road and Sunset Lane, Hatboro, Pa.)
Filed June 21, 1957, Ser. No. 667,264
12 Claims. (Cl. 183—2)



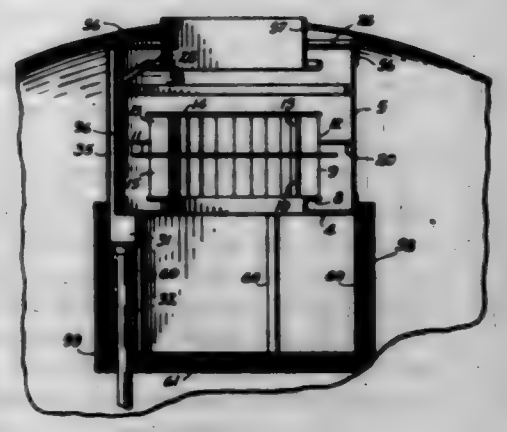
5. A condenser comprising a tubular housing enclosing a spiral passageway extending along the length of said housing, means providing an opening extending axially through said passageway and said housing, wick means extending through said opening, means providing an inlet opening for a gas near one end of said tubular housing, and means providing an outlet opening for said gas near the other end of said housing.

2,970,670
FLUID CLEANING APPARATUS
Keith M. Nodolf, Minneapolis, Minn., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed Aug. 6, 1958, Ser. No. 753,472
2 Claims. (Cl. 183—7)



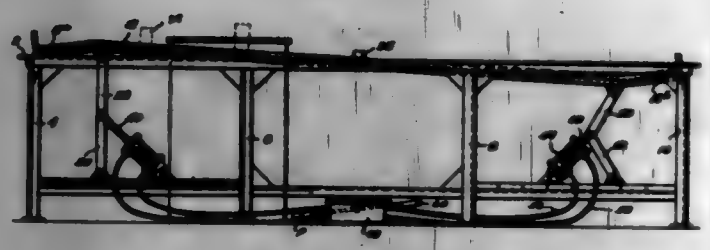
1. In a gas cleaning apparatus, an ionization unit for charging particles of foreign material contained in the gas, a particle collecting unit for collecting said charged particles to remove said particles from the gas, and circulating means for moving the gas first through said ionization unit and then through said collecting unit, said collecting unit comprising; a plurality of parallel plates, a source of power having two output terminals with a voltage difference between them, means supporting said plates in spaced relationship so that gas is free to flow parallel thereto with no gas flow restriction by said last mentioned means, at least one of said plates being made up of an insulating plate having a conductive layer attached on both sides, and means for electrically connecting all of said plates and said layers on opposite sides of said one plate to said terminals of said source of power whereby a voltage difference exists between said layers on opposite sides of said plate.

2,970,671
SEPARATOR FOR REMOVING LIQUIDS AND SOLIDS FROM VAPORS
Otto P. Warner, 13422 Harlon Ave., Lakewood, Ohio
Filed Dec. 17, 1953, Ser. No. 398,715
2 Claims. (Cl. 183—34)



1. In an apparatus having a wall provided with an exit opening and means for conducting vapors flowing by a differential in pressure through the apparatus to the exit opening, a separator arranged in said apparatus for removing entrained liquid and solids from vapors passing to the exit opening, said separator including a cylindrical casing having an inlet opening for receiving vapors flowing at a low velocity to the inlet opening of the casing and an outlet opening which communicates with the exit opening of said apparatus, means arranged within the casing for imparting a centrifugal motion to vapors passing through the casing to separate entrained liquids and solids therefrom and the outlet opening of said casing being of such size that vapors passing from the outlet opening of the casing to the exit opening of said apparatus will flow at a velocity which is not less than the velocity at which they flow through the inlet opening of the casing, and means including a wire mesh filter associated with said casing and arranged in the path of the vapors when they are flowing at a low velocity for coalescing entrained liquids and solids in said vapors without appreciably affecting the pressure of vapors flowing through the filter, said wire mesh filter having a free volume for the passage of vapors ranging from approximately 88% to 99% of the total free volume flow through the casing and the wires in said filter being arranged in such close relation to each other that they provide baffles on which liquids entrained with the vapors impinge and coalesce, the wire mesh filter including a cylindrical roll having the upper end secured to said casing and extending downwardly from the outer periphery of the casing and a circular wire mesh pad arranged over the lower inlet end of the cylindrical roll to close the opening therein, the combined surface areas of said roll and said pad being substantially greater than the area of the inlet opening of said casing, and means secured to the outer periphery of said casing for supporting the cylindrical roll and said pad in position to coalesce entrained liquids and solids from vapors flowing at a comparatively low velocity toward the inlet opening of the casing, at least a portion of which coalesced liquids and solids are carried by the vapors into the casing and are removed from the vapors within the casing by the centrifugal motion imparting means therein.

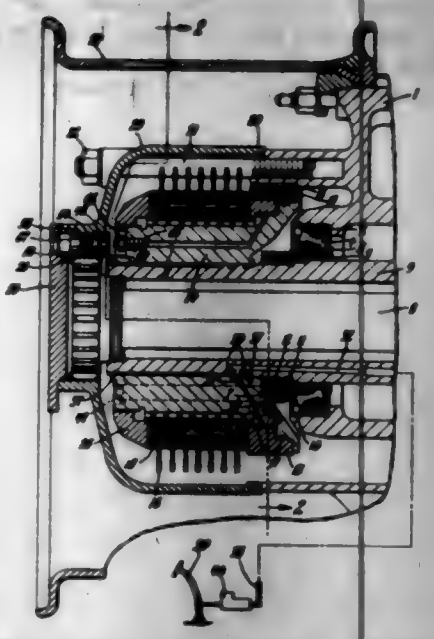
2,970,672
APPARATUS FOR HANDLING PACKAGES
Douglas P. Govoni, 317 Cabot St., Beverly, Mass.
Filed May 13, 1959, Ser. No. 812,919
7 Claims. (Cl. 186—1)



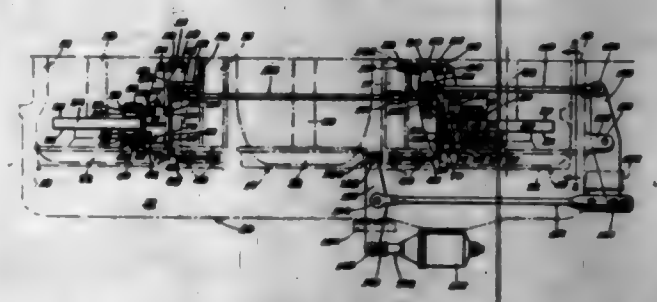
1. Apparatus for use in checking out self-service merchandise in a supermarket, comprising, in combination, a cash register stand for supporting a cash register in a raised position to constitute a checking-out station, a merchandise conveying device for intermittently moving merchandise toward and away from said checking-out station, said conveying device including an elongated rectangularly shaped frame located closely adjacent to one side of the cash register stand and having its upper surface occurring in a horizontal position to support merchandise at approximately the level of the said stand, a gravity operated multi-roller conveyor unit comprising a roller support and spaced roller elements transversely mounted in the roller support for free rotative movement, said roller support being pivotally supported in the frame to provide for tilting the roller support from a horizontal position into an inclined position along an axis of turning which extends in spaced relation to the front of said cash register stand to define an operator station, a stop bar transversely secured between opposite sides of the roller support immediately above the said axis of turning, said stop bar projecting upwardly to receive and temporarily hold merchandise on the roller elements at a point just ahead of the cash register stand and in close proximity to the operator station, fluid cylinder operated mechanism for moving the roller support and roller elements through varying tilting angles in accordance with the size and weight of merchandise to be advanced along the conveyor.

2,970,673
COMBINATION TOOL AND FITTING FOR BLEEDING A BRAKE AND ADJUSTING A WHEEL BEARING
Donald K. Isbell, Pontiac, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Feb. 12, 1958, Ser. No. 714,776
9 Claims. (Cl. 188—18)

1. A device for bleeding a brake and adjusting a bearing comprising in combination; a hollow cylinder, a handle on the rearward portion relative to the operator when said device is in the operating position and a non-cylindrical head extending axially forward from said cylinder, a second hollow cylinder mounted concentrically within and arranged for axial and rotative movement relative to said first cylinder, a handle on the rearward portion and a lug extending outward from the forward portion of said second cylinder, a brake assembly including, a slidable sleeve, a brake housing to carry said slidable sleeve, a forward socket and a rearward socket in said sleeve, an internally-threaded center portion in said sleeve, a threaded valve member mounted within said internally-threaded center portion of said sleeve, means in said valve for receiving said lug of said secondary cylinder for transmitting controlling movement to said valve in response to manual movement of said second cylinder, said rearward socket of said sleeve adapted for receiving a mating head of said first cylinder, said forward socket of said sleeve adapted for selectively receiving for rotating a head of a bearing adjusting member and a head of a bleeder screw.

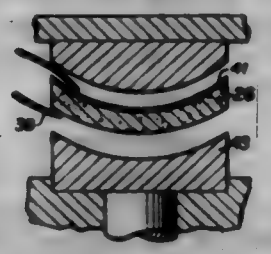


2,970,674
ROTOR BRAKE ARRANGEMENT
Simon P. Postma, Highland, Ind., assignor to American Steel Foundries, Chicago, Ill., a corporation of New Jersey
Filed Sept. 12, 1958, Ser. No. 760,579
1 Claim. (Cl. 188—59)



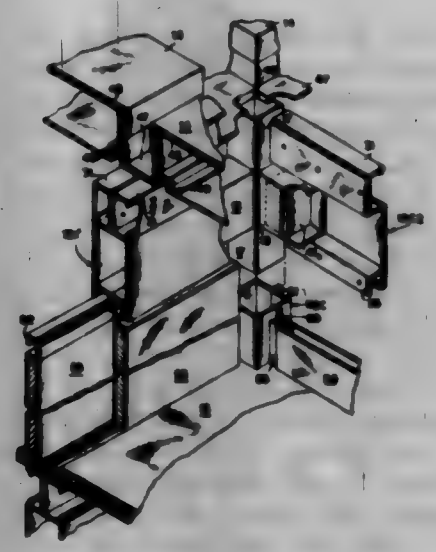
In a brake arrangement for a railway vehicle truck having a truck frame including longitudinally extending side rails interconnected at their ends and intermediate their ends by end rails and transoms, respectively, and a pair of supporting wheel and axle assemblies each having a pair of axially spaced rotatable friction surfaces, the combination of: a power cylinder mounted on one of the side rails of the truck frame; brake supports mounted on the frame adjacent the friction surfaces of the respective assemblies; friction means disposed for engagement with the surfaces of the respective assemblies; pairs of brake levers fulcrumed to the respective supports and connected to the related friction means; a pair of dead actuating levers fulcrumed intermediate their ends to the respective supports and operatively connected to the related brake levers; a pair of operating levers operatively connected at their lower ends to the respective actuating levers, one of said operating levers being a dead lever fulcrumed intermediate its ends to one transom of the frame, the other of said operating levers being a live lever; a first pull rod directly interconnecting the upper ends of the operating levers; a dead truck lever fulcrumed intermediate its ends to one end rail of the frame; a dead cylinder lever fulcrumed at its inboard end to the frame and connected at its outboard end to the power cylinder; a second pull rod interconnecting the live operating lever intermediate its ends and the inboard end of the truck lever; and a third pull rod interconnecting the cylinder lever intermediate its ends and the outboard end of the truck lever.

2,970,675
BRAKE BLOCK
Robert W. Biggs, Shaker Heights, Ohio, assignor to The S. K. Wellman Company, Bedford, Ohio, a corporation of Ohio
Original application July 27, 1956, Ser. No. 600,531, now Patent No. 2,892,787, dated June 30, 1959. Divided and this application July 29, 1957, Ser. No. 674,932
2 Claims. (Cl. 188—251)



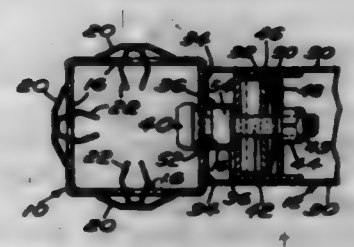
1. A curved brake block at least ¾" thick radially and extending over an arc of at least 30° made from a sintered compact of predominantly metallic powders and characterized by substantially uniform density along the axial dimension of the block.

2,970,676
FRAMEWORK CONSTRUCTION
George Maciunas, New York, N.Y., assignor to Olin Mathieson Chemical Corporation, New York, N.Y., a corporation of Virginia
Filed Jan. 27, 1958, Ser. No. 711,449
1 Claim. (Cl. 189—1)



A framework for a building or the like which includes a plurality of open-ended hollow upright columns, a plurality of beams, each said beam including an open-ended hollow central portion extending lengthwise thereof having generally a rectangular cross-section defining four faces thereon, a flange extending lengthwise centrally along one face of said central portion perpendicular to the plane of said face, a pair of flanges extending lengthwise along the edge of said first named flange remote from said central portion and on opposite sides of said first named flange perpendicular thereto, the outer edges of said pair of flanges terminating in the plane of the opposite faces of said central body portion adjacent to said one face whereby said first named flange, said pair of flanges and said one face of said central portion define troffers on opposite sides of said beam extending lengthwise thereof, a fourth flange extending lengthwise of said central portion centrally of the face thereof opposite said one face and perpendicular to said last named face, a pair of flanges extending lengthwise of said central portion, one along each edge of said last named face and perpendicular thereto and said fourth flange and each of said second named pair of flanges terminating at their edges remote from said central portion in a common plane parallel to said last named face, and a third pair of flanges one extending lengthwise of each of said second named pair of flanges perpendicular thereto along said edges remote from said central portion, said third pair of flanges extending toward said fourth flange, a plurality of hollow joint members, each said joint member including first means receiving an end of a said column with the hollow interior thereof in communication with the hollow interior of said joint member and second means receiving an end of a said beam with the hollow interior thereof in communication with the hollow interior of said joint member, said beams being positioned spanning between said columns forming a unitary framework structure with each joint member receiving an end of a said column on said first means and an end of a said beam on said second means whereby the hollow interiors of said beam and columns are in open communication thereby defining a plurality of intercommunicating passages within said framework, and panels including fixed panels and sliding panels, said fixed panels being mounted directly to said columns and beams and said sliding panels being hung on said third pair of flanges on said beams for sliding movement there along.

2,970,677
METALLIC PARTITIONING DEVICES
Otis A. Springs, Jr., and Lynne R. Smith, Salamanca, N.Y., assignors, by mesne assignments, to The General Fireproofing Company, Youngstown, Ohio, a corporation of Ohio
Filed Dec. 9, 1955, Ser. No. 552,959
2 Claims. (Cl. 189—34)



1. In a metal partition construction including a post having a keyhole slot, the combination, comprising, a panel having opposite spaced side walls whose ends adjacent the post are turned inwardly at right angles to the said side walls and thence are turned inwardly toward the body of the panel to provide spaced walls defining a groove, and means connecting the panel with the post, said means comprising a channel whose web is coextensive with the space between the spaced walls and provides a bottom for said groove, the web of said channel having an opening and also having spaced side flanges disposed parallel to the inner face of the spaced side walls of the panel and secured thereto, a stud including a shank passing through said groove and the opening in the web of the channel, a head at one end of the shank exposed beyond the mouth of said groove and engaging with the edges of the keyhole slot, said shank having screw threads at its end opposite the head to receive a nut, and an enlarged portion on the shank of the stud located between the head and the threaded portion thereof, said enlarged portion fitting snugly between the walls defining said groove to stabilize the stud against lateral movement upon force being applied to an exposed side of the panel.

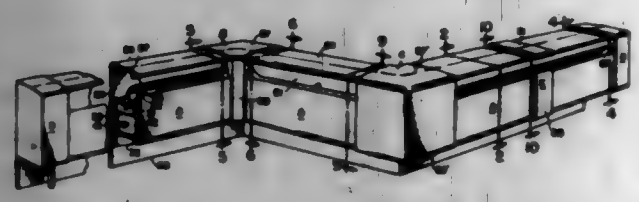
2,970,678

SUPPORT-HOUSING FOR BASE-BOARD CONVECTORS

Paul F. Brinen, Racine, Wis., assignor to Young Radiator Company, Racine, Wis., a corporation of Wisconsin

Original application Sept. 3, 1954, Ser. No. 454,186. Divided and this application June 23, 1958, Ser. No. 743,905

7 Claims. (Cl. 189—85)



1. A base-board convector supporting-housing comprising, a sheet-metal mounting having right angularly-disposed back and top anchorable to a wall to dispose the top in predetermined spaced relationship above the floor, a pair of brackets each having flanges extending transversely outwardly from a base bonded to the mounting below the top, a vertically-disposed core-concealing front panel secured to the bracket flanges in predetermined horizontally-spaced relationship from the mounting back and in spaced relationship from the mounting top to provide an air-flow channel upwardly between the mounting and the panel, a trim section comprising a right-angle upright-support, a transverse top member bonded to the upper end of the support, and a bracket secured to the upper outer corner of the support and having an offset ledge with its inner end spaced from the support to form a first vertical slot and with its upper face spaced from the opposed face of the top member to form a second horizontal slot, the trim section being positoned on the mounting with the end edges of the mounting back and top telescopically received in the first and second slots respectively.

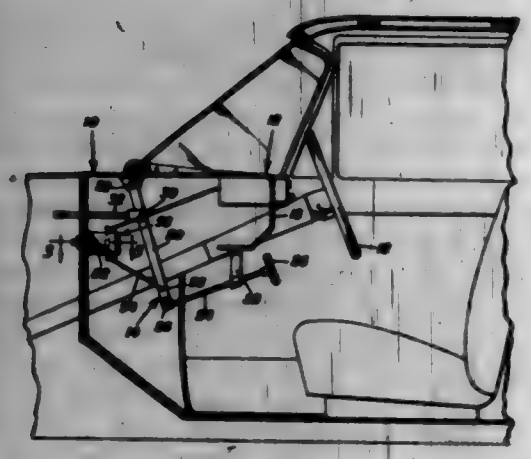
2,970,679

AUTOMATIC TRANSMISSION GEAR SELECTOR SAFETY DEVICE

William J. Suller, 174 Hemingway Ave., East Haven, Conn., and John M. Fernandez, 17 Woodside Path, West Haven, Conn., assignors of one-third to Edward L. Reynolds, East Haven, Conn.

Filed Oct. 26, 1959, Ser. No. 848,745

7 Claims. (Cl. 192—4)



1. In combination with a motor vehicle having an emergency brake mechanism including an operating lever or arm and an automatic transmission mechanism having a plurality of push-button assemblies for selectively engaging the transmission in one gear position while simultaneously disengaging it from another gear position, each of said push button assemblies being movable forwardly of said vehicle to position the transmission in the corresponding gear position and said brake lever or arm having at least a portion thereof movable rearwardly of said vehicle to apply the brakes, a gear selector safety device for moving a selected one of said button assemblies forwardly of said vehicle upon movement of said lever or arm portion rearwardly of said vehicle comprising an elongated flexible member having one end portion secured to said one button assembly and the other end portion attached to said lever or arm portion, and guide means secured to said vehicle forwardly of said push button assemblies and said lever or arm portion, slidably receiving the mid-portion of said flexible member and laterally deflecting said flexible member whereby rearward movement of said lever or arm portion will effect a forward pull on said one button assembly.

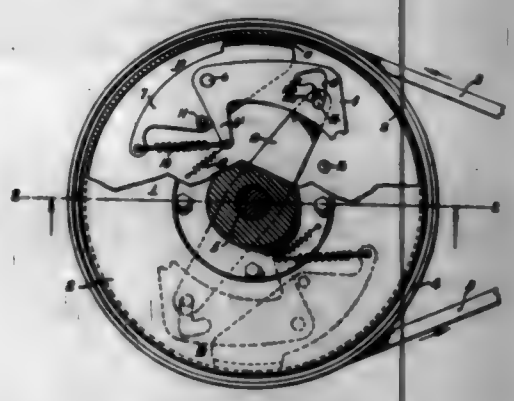
2,970,680

TORQUE LIMITING CENTRIFUGAL CLUTCH

Dallas E. Cain, Scotia, N.Y., assignor to General Electric Company, a corporation of New York

Filed Feb. 7, 1958, Ser. No. 713,950

2 Claims. (Cl. 192—105)



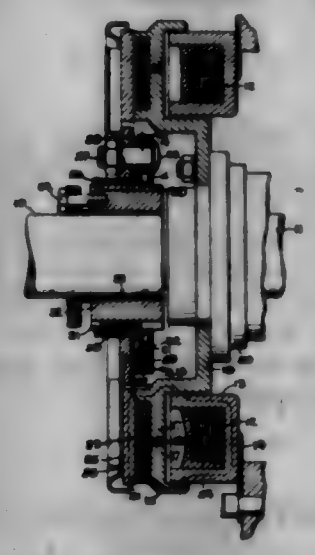
1. A clutch mechanism, including, in combination, a driving means rotatable in either a forward or a reverse direction and arranged to be accelerated from a low speed to either a first operating speed or a second, substantially higher operating speed, a driven means including a torque-transmitting drum including a cylindrical wall coaxial with said driving means for rotation relative thereto, a clutch member pivotally mounted on said driving means within the area thereof encompassed by said drum wall, said member having an arcuate end portion in adjacent facing relation to said drum wall, a centrifugal member rotatably mounted on said driving means, said centrifugal member being eccentrically weighted for centrifugally-induced rotation upon rotation of said driving means, a yoke mounted on said driving means in coaxial relation thereto, means including a pin and slot engagement between said yoke and said centrifugal member, said slot having a portion substantially concentric with said centrifugal member and being of a length permitting rotation of said centrifugal member between a first position representative of a low rotational speed of said driving means in one direction and a second position representative of a throw-out speed of said driving means relatively close to but below said lower operating speed, and a spring resiliently coupling said clutch member and said centrifugal member whereby said clutch member is normally out of torque-transmitting engagement with said drum wall and centrifugally-induced rotation of said centrifugal member rotates said clutch member to engage the arcuate wall thereof against said drum wall, the respective members being so mutually related and the clutch member being positioned relative to said drum wall that when said centrifugal member is intermediate its said first and second positions the arcuate wall portion of said clutch member is in frictional driving engagement with said drum wall and continued rotation of said centrifugal member to its said second position elongates said spring to increase the frictional engagement of said clutch mem-

ber with said drum wall until at the throw-out speed position of said centrifugal member said spring attains maximum tension to establish maximum torque-transmitting engagement between said clutch member and said drum wall; the force gradient of said spring with changing elongation thereof being larger than the centrifugal force gradient of said centrifugal member with the changing radius of the center of gravity thereof relative to said driving means axis, whereby to effect at said throw-out speed a sharp transition between the speed-dependent torque as determined by centrifugal force on said centrifugal member and constant torque as determined by the said maximum tension of said spring.

2,970,681
WEAR ADJUSTER FOR MAGNETIC FRICTION DEVICES

Wesley E. Tinnucke, Beloit, Wis., assignor to Warner Electric Brake & Clutch Company, South Beloit, Ill., a corporation of Illinois

Filed Feb. 20, 1959, Ser. No. 794,542
6 Claims. (Cl. 192—111)



1. In a magnetic torque producing device, the combination of, two relatively rotatable rings adapted to be drawn into axial gripping engagement, magnetic means for drawing said rings into abutment under a predetermined force, one of said rings being axially fixed, a member supporting the other ring for axial sliding along the member into and out of abutment with the fixed ring, an annulus of resilient sheet metal and channel cross-section encircling said member and having axially projecting inner and outer flanges, said outer flange being substantially continuous and said inner flange being of arcuate cross-section, a plurality of angularly spaced groups of circumferentially spaced slits splitting said inner flange and extending outwardly across the channel bottom whereby to form radially flexible sectors frictionally gripping said member, and a plurality of tangentially projecting angularly spaced resilient fingers stamped out of the bottom of said channel between said groups of sectors and bearing at their free ends against said movable ring, said fingers being flexed during magnetic attraction of said rings together under said force and acting upon release thereof to separate said rings by a predetermined gap.

2,970,682
RECIPROCATING GRAVITY CONVEYER

Robert W. Fisk, Sunnyvale, Calif., assignor to Mathews Conveyer Company, Ellwood City, Pa., a corporation of Pennsylvania

Filed Nov. 13, 1957, Ser. No. 696,219
3 Claims. (Cl. 193—35)

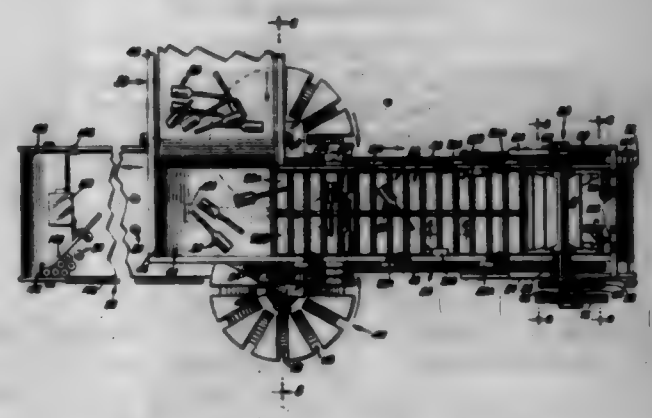
1. A conveyer assembly comprising an elongate conveyer frame having a plurality of load supporting elements mounted therein for free rotation about axes extending transversely of said frame, said load supporting elements defining an article conveying surface inclined longitudinally toward one end of said frame to gravitationally urge articles on said conveying surface toward said one end of said frame, and means for driving said frame in longitudinal reciprocation to facilitate the movement of articles along said conveying surface under the influence of gravity.



2,970,683
ARTICLE HANDLING APPARATUS

Alton L. Crosby, Austin, and Henry W. Roeber, Emporium, Pa., assignors to Sylvania Electric Products Inc., a corporation of Delaware

Filed July 2, 1959, Ser. No. 824,495
6 Claims. (Cl. 198—33)



1. In an apparatus for aligning and erecting tubulated envelopes for use in the production of electron discharge devices the combination of an inclined tubulated envelope conveyor including a plurality of horizontal compartmented carriers for tubulated envelopes mounted for upright and inverted movement, means for supplying unoriented tubulated envelopes to said conveyor at the lowermost end thereof, means for aligning said tubulated envelopes in said compartments intermediate the upper and lower ends of said conveyor, means for removing unaligned envelopes from said carriers at said upper end of said conveyor, means to retain said aligned envelopes in said compartments when said carrier is inverted by said conveyor, means to store a plurality of said envelopes in an erected position, and means to receive said aligned envelopes from said inverted carrier, erect said envelopes and deliver said envelopes to said erected envelope storage means.

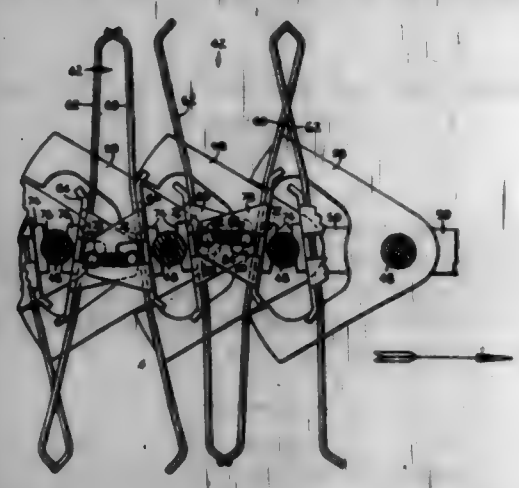
2,970,684
MAIL CONVEYING DEVICE

Elmar W. Tangard, Norwalk, Conn., assignor to Pitney-Bowes, Inc., Stamford, Conn., a corporation of Delaware

Filed Jan. 12, 1959, Ser. No. 786,134
16 Claims. (Cl. 198—131)

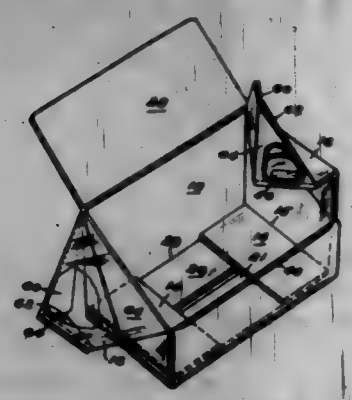
1. In combination: a conveyor including a plurality of pockets successively arranged therealong; each of said pockets comprising a pair of opposing members; yieldable over-center means carried for movement with each of said pairs of opposing members for alternatively urging the members of each pair to one of two pivotal positions of stability relative to each other; each pair of opposing members being closed adjacent its lower end and open adjacent its upper end when in one of said pivotal posi-

tions, and being open adjacent said lower end and closed adjacent said upper end when in the other of said pivotal positions; and said pockets being adapted to receive and



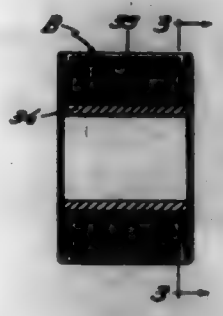
carry articles when the members thereof are in said one position and being adapted to discharge said articles when the members thereof are moved to said other position.

2,970,685
SHIPPING AND DISPLAY CARTON
Louis Mayer, Jackson Heights, N.Y., assignor to Owens-Illinois Glass Company, a corporation of Ohio
Filed June 26, 1960, Ser. No. 37,372
7 Claims. (Cl. 206—44)



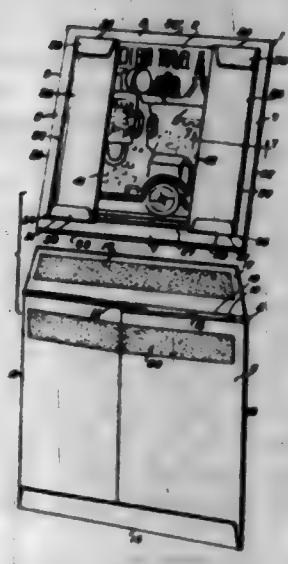
1. In a four-sided carton of the type having front, rear and end walls, a bottom, and a top formed by flaps hinged to said walls, means for retaining the top flaps of said end walls and said front wall in an open position whereby said carton can be employed as a display container, comprising a score line extending across said front wall parallel and in spaced relation with the lower edge thereof, means for separating the portion of said front wall above said score line from said end walls, means whereby the top flap and upper portion of said front wall above said score line may be folded outwardly, downwardly and inwardly to place at least a portion of said front wall top flap under said bottom; each of said end walls being provided with a hinge line extending from the upper rear end wall corner downwardly to the edge between the end wall and said front wall at the level of the said score line thereon, said hinge line forming an acute angle with the vertical end wall edge at said upper rear corner; a fold line on each end wall top flap extending from said upper rear end wall corner at an angle to said end wall hinge line equal to said acute angle; a second fold line on each end wall top flap, said second fold line extending at right angles to said first fold line and being located at a distance from said upper rear end wall corner a distance substantially equal to the end wall height, said first and second fold lines defining a pair of corner panels and a corner panel tab which are adapted to be folded outwardly of the plane of said end wall top flap, interlocking means on said corner panel tab for retaining said pair of corner panels in a corner structure; and said corner structure being foldable about said end wall hinge line to place said corner structure in overlapping engagement with said front wall top flap and the bottom and rear wall of said carton.

2,970,686
TAPE ROLL HOLDER
William M. Tolzac, St. Paul, Minn., assignor to Waldorf Paper Products Company, St. Paul, Minn., a corporation of Minnesota
Filed Mar. 26, 1959, Ser. No. 800,871
3 Claims. (Cl. 206—52)



1. A tape roll holder comprising a generally rectangular sleeve, flaps foldably connected to the ends of two opposed walls of said sleeve, a tape roll, a core within said tape roll and projecting beyond said tape roll, the ends of said core abutting the inner surfaces of said two walls and held from axial movement thereby, said flaps being folded inwardly of the walls to which they are hinged, the free ends of said flaps engaging the projecting ends of said core.

2,970,687
HOLDER FOR PACKAGING PHONOGRAPH RECORDS
Jerome E. Johnson, Westwood, N.J., assignor to Tension Envelope Corporation, South Hackensack, N.J., a corporation of New York
Filed Mar. 3, 1958, Ser. No. 718,652
2 Claims. (Cl. 206—63)



1. In combination with a jacket for containing a phonograph record therein and said jacket having edges in tangential relation with respect to the periphery of the record, a holder for shipping the jacket with the phonograph record therein, said holder comprising a substantially rigid backing board conforming to the general shape of the jacket and of larger dimensions to provide relatively wide

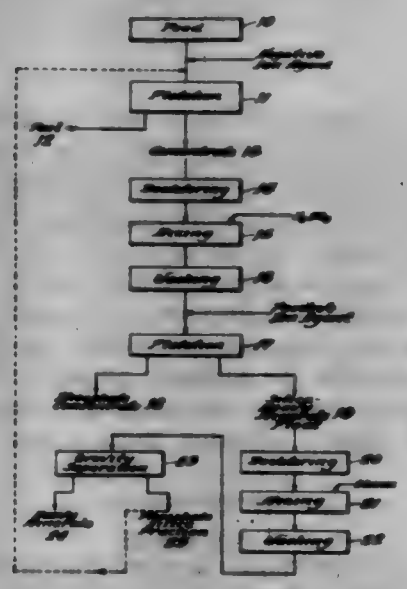
marginal portions surrounding the edges of the jacket when the jacket with the record therein is backed by said board, means providing spaced apart pockets on the board, each of said means consisting of front and back panels connected together by a side fold and one of said panels having a bottom flap folded over the bottom edge of the other panel, adhesive connecting the bottom flap with the said other panel, adhesive fixing one of the panels of each pocket forming means to a face of the backing board with the side folds inset from respective opposite side edges of the backing board and spaced apart in accordance to width of the jacket and said ends of the panels inset from the respective other edges of the backing board, said panels of the pocket forming means being unconnected along the other sides and top edges to pass the jacket with the phonograph record therethrough with opposite side edges of the jacket sliding within and along the side folds to seat a bottom edge of the jacket upon the folds of the bottom flaps, sealing flaps on the unconnected ends of the panels which are fixed to the backing board and having gum portions foldable over the corresponding ends of the other panels to be sealed thereto for immovably retaining the jacket with the record therein within the margins of the backing board.

2,970,688

METHOD FOR RECOVERY OF MINERALS

Homer E. Uhland, Lakeland, Fla., assignor to International Minerals & Chemical Corporation, a corporation of New York

Filed June 28, 1957, Ser. No. 668,801
5 Claims. (Cl. 209—12)



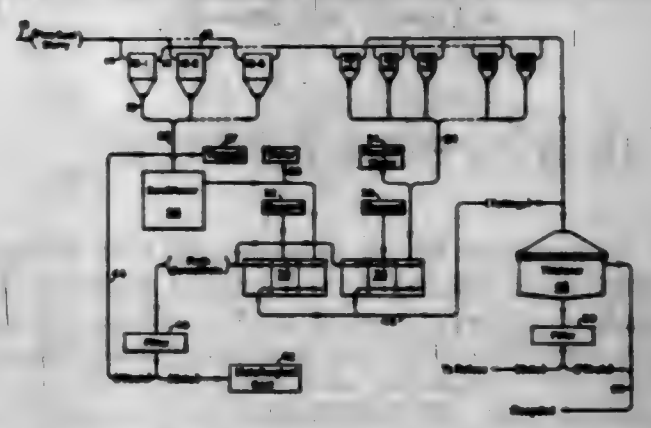
1. A process for the recovery of base metal oxide type metallic mineral from phosphate-silica ores containing the metallic minerals in minor amounts which comprises subjecting the ore in a finely divided state to a flotation operation employing anionic reagents having an affinity for phosphate to recover a phosphate-metallic mineral concentrate and a throwaway silica tail, removing the anionic reagents from said phosphate concentrate, subjecting the phosphate concentrate after removing the anionic reagents to a flotation operation employing cationic reagents to recover a final phosphate concentrate and a silica-metallic mineral froth product, removing said cationic reagents from said silica-metallic mineral product, diluting the silica-metallic minerals product after removing said cationic reagents with water, subjecting the diluted silica-metallic mineral product to gravitational separation thereby stratifying the minerals according to their specific gravities, recovering a strata rich in metallic minerals, and recycling the silica-phosphate strata to the feed to the anionic flotation.

2,970,689

COAL TREATING PROCESS

Melvin C. Chang and John Dasher, Pittsburgh, Pa., assignors to Crucible Steel Company of America, Pittsburgh, Pa., a corporation of New Jersey

Filed Mar. 27, 1958, Ser. No. 724,367
5 Claims. (Cl. 209—12)



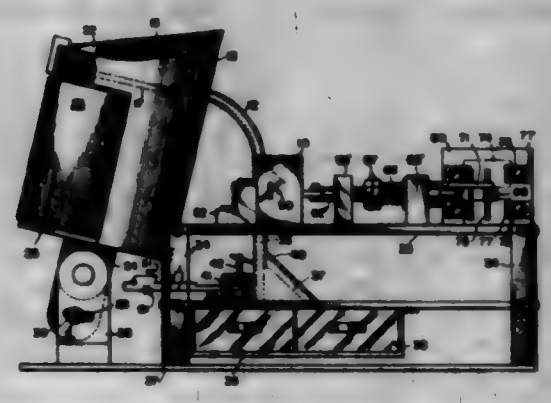
5. A method for beneficiating minerals slurry which comprises passing said slurry through a plurality of series-connected sets of cyclone separators, each of said sets comprising a number of parallel-connected cyclones with the cyclones in one set having different diameters than those in another set whereby the underflows from the respective sets of cyclones are in different size ranges, subjecting the underflows from the respective sets of cyclone separators to separate froth flotation processes, and combining the froth concentrates from the separate flotation processes.

2,970,690

TESTING APPARATUS

Anton Werner, Philadelphia, Pa., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan

Filed Dec. 24, 1956, Ser. No. 630,217
15 Claims. (Cl. 209—72)



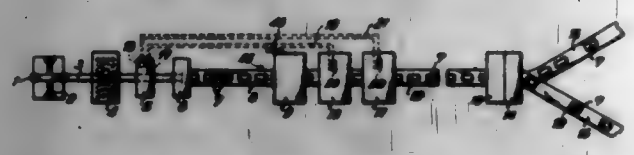
1. An apparatus for testing the characteristics of magnetic cores comprising, the combination of a core positioning member having a core receiving slot and two aligned holes spaced by said slot, means for feeding cores in single file into said slot, means operatively associated with said feeding means for successively stopping said cores in register with said holes, a normally open primary circuit, terminal contacts for said primary circuit juxtaposed to a testing position for a core, a normally open secondary circuit, terminal contacts electrically interconnecting said secondary circuit spaced from said primary contacts and also juxtaposed to the testing position for a core, a plunger operatively associated with the feeding means insertable through said holes and a positioned core, contactors carried by said plunger to close the respective circuits when said plunger is inserted through said core to complete windings respectively about said core for testing the magnetic coupling of said core, and means for reciprocating said plunger in timed relation to the positioning of a core.

2,970,691

PLANT FOR SORTING STRIPS OF MATERIAL DIFFERING FROM ONE OR MORE REFERENCE CHARACTERISTICS

Fritz Ungerer, Pforzheim-Brotzingen, Germany

Filed July 21, 1954, Ser. No. 444,857
Claims priority, application Germany May 12, 1954
4 Claims. (Cl. 209—82)



3. An apparatus for use in connection with sorting of sectional strips differing from a selected reference characteristic; comprising a set of marking devices arranged next to each other and along a predetermined path, each marking device including electromagnetic means, a roll of marking paper of predetermined color corersponding to a respective deviation from said selected reference characteristic, feed and cutting means operable by said electromagnetic means, respectively, for cutting a piece of marking paper from the respective paper roll and applying said piece to said sectional strips, respectively, thereby to visually and permanently indicate the respective reference characteristic on said sectional strips, means for deviating from said path said successive sectional strips marked by said marking devices, respectively, in a direction according to the respective color of said pieces of marking paper applied to said strips, and means for conveying said sectional strips from said feed and cutting means to said deviating means.

2,970,692

FLOTATION OF BARITE

Raymond A. Henderson, Hot Springs, and Orlando J. Beaston, Malvern, Ark., assignors to National Lead Company, New York, N.Y., a corporation of New Jersey

No Drawing. Filed Dec. 31, 1956, Ser. No. 631,407
6 Claims. (Cl. 209—166)

1. In a froth flotation of barite from its ores, wherein an aqueous suspension of comminuted barite ore is agitated and aerated, the step which comprises carrying out said flotation in the presence of an alkali metal salt of an alkyl half sulfate ester having from 8 to 20 carbon atoms in the alkyl portion thereof, and of an alkali metal salt of a fatty acid having from 8 to 20 carbon atoms, said ester and said fatty acid being present in a weight ratio in the range of from 20:1 to 1:2, and said sulfate ester salt and said fatty acid salt constituting the flotation agent for said barite.

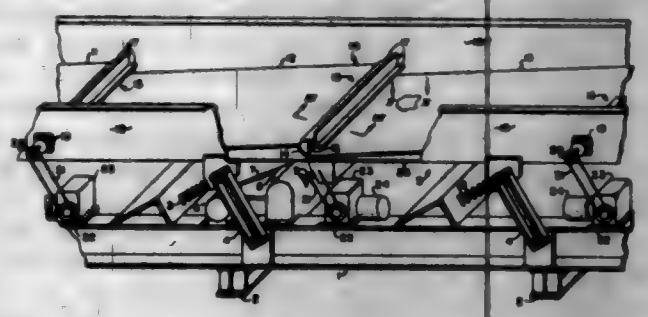
2,970,693

APPARATUS FOR SEPARATING GRANULAR AND PULVERULENT PARTICLES FROM FLAKY MATERIALS

John M. Morris, Louisville, Ky., assignor, by mesne assignments, to Chain Belt Company, Milwaukee, Wis., a corporation of Wisconsin

Filed Nov. 12, 1958, Ser. No. 773,318
5 Claims. (Cl. 209—265)

1. Apparatus for separating granular and pulverulent particles from material consisting of substantially flat pieces comprising, in combination; a vibratory conveyor adapted to convey said material from an upstream receiving end to a downstream discharge end; said conveyor having a deck including preceding and succeeding sections; a downstream end of said preceding section being disposed in step fashion with respect to an upstream end of said succeeding section; inverting means for said material disposed in said step between sections including a rotating paddle; the axis of rotation of said paddle being so disposed with respect to said preceding screen that as said paddle sweeps past said downstream end of said preceding section it constitutes a substantially



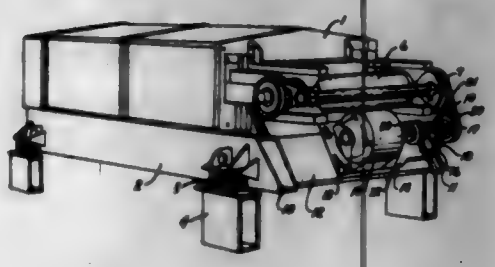
horizontal continuation of said section whereby said flat pieces of material are conveyed onto said paddle retaining their horizontal positions.

2,970,694

DRIVE AND COUPLING FOR SCREENS

David J. Klyce, North Hollywood, Calif., assignor to Nordberg Manufacturing Company, Milwaukee, Wis., a corporation of Wisconsin

Filed Apr. 18, 1958, Ser. No. 729,307
5 Claims. (Cl. 209—367)



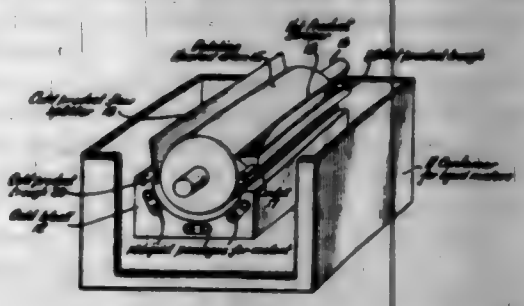
1. In combination in a screen assembly, a screen, flexible means for supporting the screen from any suitable base, and an unbalanced vibrator assembly carried by the screen, said vibrator assembly including a motor mounted off the longitudinal center of the screen and a vibrator located a substantial distance from the motor operable to furnish an unbalanced impulse to the screen, and power transmitting and coupling means for transferring power from the motor to the vibrator along a non-linear path, said power transmitting and coupling means including a motor shaft and a vibrator shaft joined by a flexible coupling.

2,970,695

THERMAL DIFFUSION SEPARATION PROCESS AND APPARATUS THEREFOR

Robert L. Murphey, Groves, Marshall R. McClure, Jr., Port Arthur, and Calvin F. Rueping, Groves, Tex., assignors to Texaco Inc., a corporation of Delaware

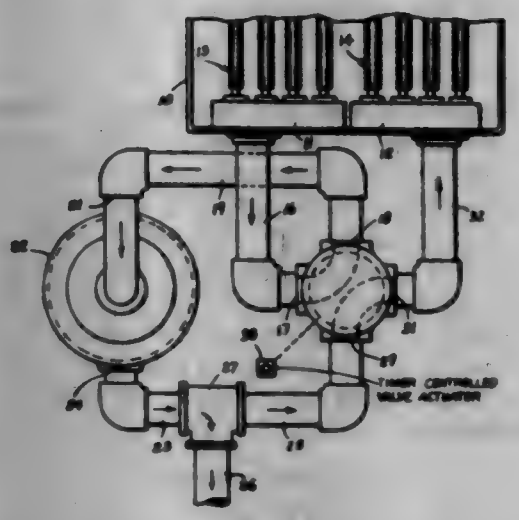
Filed May 7, 1958, Ser. No. 733,581
9 Claims. (Cl. 210—72)



4. A method of fractionating a liquid mixture by thermal diffusion which comprises contacting said liquid mixture with a relatively hot surface while maintaining part of said liquid mixture relatively cool with respect to said relatively hot surface, moving said relatively hot

surface out of contact with said liquid mixture with a portion of liquid from said mixture immediately adjacent said hot surface retained thereon, mechanically splitting away from said portion retained on said hot surface another more remote portion of liquid from said liquid mixture, recovering said liquid remaining on said hot surface following said mechanical splitting step, and separately withdrawing from said liquid mixture at substantially the point of withdrawal of said relatively hot surface from said liquid that portion of said liquid mixture mechanically separated from said hot surface.

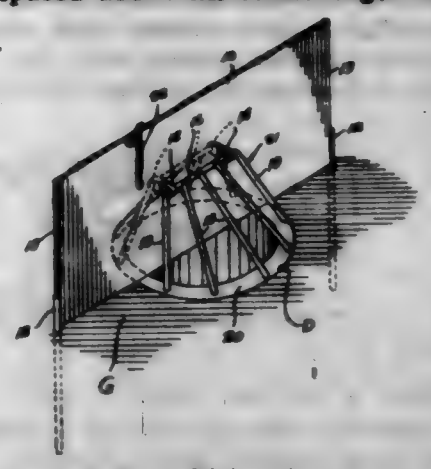
2,970,696
DUAL MANIFOLD FILTER
John R. Mummert, Indianapolis, Ind., assignor, by mesne assignments, to Indiana Commercial Filters Corporation, Lebanon, Ind., a corporation of Indiana
Filed Feb. 17, 1958, Ser. No. 715,656
4 Claims. (Cl. 210—138)



1. A liquid filtering apparatus including in combination a filter tank providing a reservoir of unfiltered liquid, dual headers each accommodating a bank of filter elements extending into said tank, a fluid pump, a discharge line for said pump, a delivery line coupled to said discharge line for dispensing filtered liquid, a backwash line communicating with the junction of said discharge line and said delivery line, means including a four-way valve coupled to said backwash line, the suction end of said pump, and said filters, and adapted in one position to connect one of said headers to the suction end of said pump and the other of said headers to said backwash line, and in another position to reverse the connections of said headers, and control means for periodically operating said four-way valve between one or the other of its said positions, whereby upon operation of said pump liquid is alternately filtered through one of said filter tanks as the other filter bank is backwashed with the backwash liquid being returned to said filter tank.

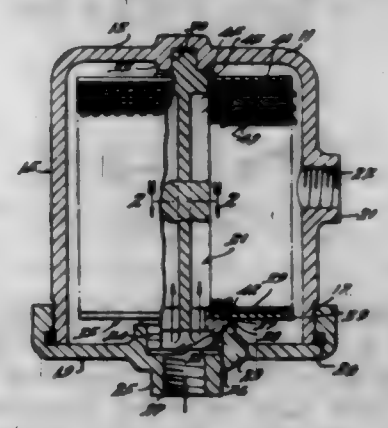
2,970,697
RETRACTABLE SWIRL PLATE AND VERMIN CONTROL GUARD FOR DRAIN TILE INTAKES
Ellsworth L. Larson, Lawrence L. Larson, and Andy M. Larson, all of Dawson, Minn.
Filed Aug. 19, 1958, Ser. No. 756,043
8 Claims. (Cl. 210—163)

5. In combination, a horizontal support, a drain opening to said support and having an upper end, a vertical plate extending medially across the upper end of the drain, said plate having a lower edge located close to the upper end of the drain, support-engaging means fixing the plate in place, a downwardly and laterally outwardly angled guard grill having an upper end and a lower end, means securing the upper end of the grill to one side of said plate at a location spaced above the lower edge of the plate,



with the lower end of the grill bearing upon and extending around the drain at the said one side of the plate.

2,970,698
FILTERING DEVICE
Rex C. Darnell, Dexter, Mich., assignor to Dynamic Filters, Inc., Detroit, Mich., a corporation of Michigan
Filed Mar. 28, 1958, Ser. No. 724,715
2 Claims. (Cl. 210—347)

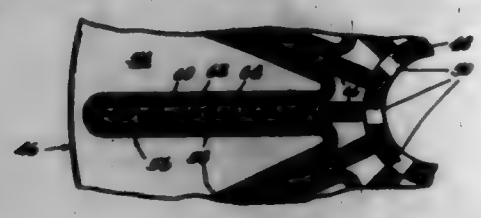


1. In a filtering device, a housing having fluid inlet and outlet ports, a spindle in said housing, a plurality of centrally apertured filtering units stacked in said housing on said spindle with the apertures thereof in communication with each other and with one of said ports, each of said filter units comprising a pair of centrally apertured filtering elements spaced by a rigid apertured spacer member interposed therebetween, the filtering elements of each filter unit being joined at their inner peripheries within the aperture of their associated spacer member, each of said spacers being corrugated to provide a series of channels disposed radially of said spindle and extending to the outer periphery of the filter unit, means associated with the outer peripheries of said filter units operable to space the adjacent filtering elements of adjacent filter units apart and prevent the flow of unfiltered fluid therethrough whereby fluid entering said one port is free to flow through the apertures of said filter units, between said filter units, through the filtering elements into the channels of said spacers and thence out of the filter unit stack to the other of said ports.

2,970,699
FILTER
Edward G. Leutheuser, Glen Ellyn, Ill., and Edmund P. Klein, 4115 N. Menlor, Chicago 34, Ill.; said Leutheuser assignor to said Klein
Filed Dec. 24, 1956, Ser. No. 630,109
1 Claim. (Cl. 210—457)

A filter for use in systems characterized by large flow rates and appreciable pressures comprising: a central pipe having apertured walls; a pair of centrally apertured discs secured one about each end of said pipe; a first

rigid, coarse mesh support element disposed about said pipe extending between said discs to be formed into a series of radial folds; a second rigid, coarse mesh support element disposed about said pipe extending between said discs inwardly of said first support element



to be spaced a uniform distance apart from said first support element; a plurality of third coarse mesh, rigid support elements, each disposed inwardly in one of the folds of said second support element; and a fabric filter element sandwiched between said first and said second support elements.

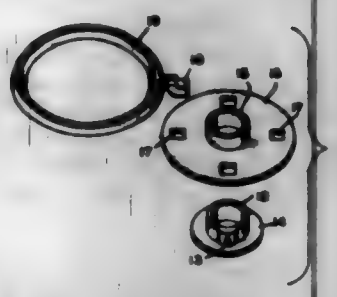
2,970,700
COMMUNION CUP WASHING APPARATUS
Glenn B. Lacy, 5661 Grandview Drive, and Deloris B. Holt, 340 S. Downey Ave., both of Indianapolis, Ind.
Filed May 1, 1958, Ser. No. 732,282
4 Claims. (Cl. 211—74)



1. An apparatus for washing communion cups or the like adapted to be used with a tray having positionally arranged apertures therein for receiving the base portion of the cups, said apparatus comprising means for removing the cups from said tray without altering the relative positional relation thereof and without requiring handling of the cups, said means comprising a transfer plate having apertures therein adapted to register with said tray apertures, elements on said transfer plate adapted to extend into the open ends of said cups whereby said transfer plate may be placed in overlying relation to said tray and said tray and plate inverted to deposit said cups on said transfer plate, a holding plate having apertures therein sized to accommodate the base portion of said cups and registering with said transfer plate apertures, and means for removably clamping said holding plate in overlying relation to said transfer plate with said cups disposed therebetween, said means comprising a shaft extending through aligned openings in said plates and protruding substantially beyond the plane thereof, a resilient means carried on said shaft and acting against one of said plates to retain said cups and plates in assembled relation, the protruding portion of said shaft providing a handle whereby the assembly formed by said cups and plates may be immersed in a washing solution or otherwise processed without requiring handling of said cups.

2,970,701
HOLDER ON UPRIGHT SUPPORT OF DETACHABLE ROTATABLE TRAYS
Helen A. Fetter, 470 Gulfview Blvd., Clearwater Beach, Fla.
Filed Jan. 27, 1960, Ser. No. 4,994
1 Claim. (Cl. 211—78)

A device for rotatably supporting a series of holders at different elevations and rotational positions comprising a collar of a size and shape to fit about an upright member such as the shaft of a beach-type umbrella, a set screw carried by said collar for securing the latter in fixed position on said upright member, said collar having at its upper end an outwardly extending annular flange forming with said collar a smooth upper surface on which a mounting plate is adapted to rest, a mounting plate rotatably supported on said flange and comprising a collar and an outwardly extending relatively thin annular flange with a series of rectangular openings each having one of its sides close to the outer periphery of the mounting plate, a series of holder rings having depending lugs of a size and configuration to be comple-



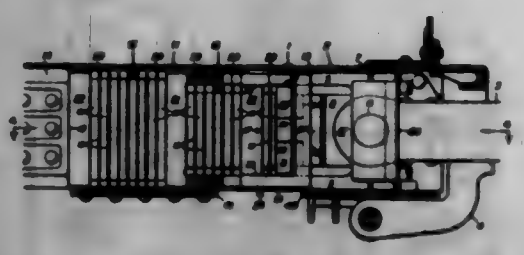
mentarily received within said rectangular openings and with hook portions extending away from and spaced from said rings a distance corresponding to the thickness of the flange of said mounting plate, the weight of said holder rings maintaining them in fixed relation to the mounting plate but permitting them to be readily detached, said mounting plate collar providing an extended bearing surface for contact about an upright member for permitting free rotation thereof on said mounting flange, said holder rings being adapted to removably receive holding receptacles.

2,970,702
STRUCTURAL UNIT FOR SHELVING
Louis Maslow, N. Washington St. and George Ave., Wilkes-Barre, Pa.
Filed Mar. 11, 1958, Ser. No. 720,799
9 Claims. (Cl. 211—148)



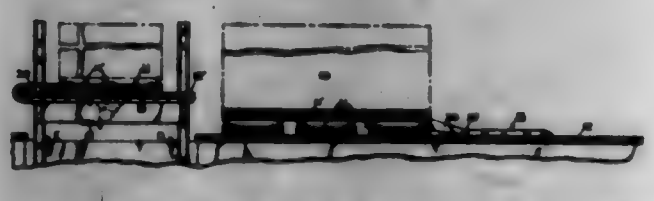
2. A structural unit adapted to be assembled with similar structural units to form shelving, said structural unit comprising side members disposed in parallel spaced relation and longitudinal members disposed intermediate said side members, a cross member disposed transversely of said side members securing said side and longitudinal members in position, end members disposed adjacent the ends of said side and longitudinal members and secured thereto, each of said end members being provided with a gap therebetween, adjacent longitudinal members being secured to said end members on each side of the gaps in said end cross members whereby the ends of said side members may be flexed toward and away from each other, locking means disposed across said gaps and slidably mounted on said adjacent longitudinal members for movement toward and away therefrom, said locking means when disposed remote from said gaps permitting the ends of said side members to be flexed and preventing such flexure when disposed adjacent to said gaps to thereby lock the ends of said side members a fixed distance apart.

2,970,703
RUBBER DRAFT GEAR
Emil H. Blattner, deceased, late of Williamsville, N.Y., by Elizabeth Blattner, executrix, Rochester, N.Y., assignor to Symington Wayne Corporation, Salisbury, Md., a corporation of Maryland
Filed Mar. 4, 1959, Ser. No. 797,151
12 Claims. (Cl. 213—46)



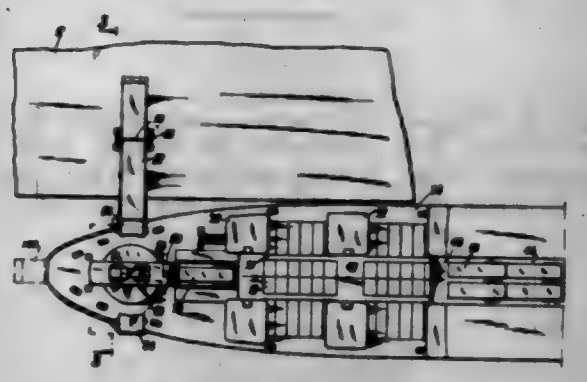
1. A rubber draft gear installable in a draft gear pocket between front and rear stop lugs for cushioning buffing and draft forces of a coupler, comprising a yoke connectable for forward and relative rearward movement to said coupler, intermediate and rear followers normally engageable respectively with said front and rear stop lugs, an intermediate rubber cushioning unit interposed and acting between said intermediate follower and a rear wall of said yoke, a rear rubber cushioning unit interposed and acting between said rear wall and rear follower, a front follower movable longitudinally relative to said yoke and intermediate follower and carrying means engageable with said coupler, and a front rubber cushioning unit interposed and acting between said front and intermediate followers for normally urging said front follower into engagement with said coupler, said several cushioning units cooperating to cushion buffing forces and said rear cushioning unit being inoperative to cushion draft forces.

2,970,704
DISCHARGING ASSEMBLY FOR KILN LOADS OF LUMBER
Arthur H. Beckley, Portland, Oreg., assignor to Moore Dry Kiln Company, North Portland, Oreg., a corporation of Oregon
Filed Oct. 10, 1958, Ser. No. 766,449
3 Claims. (Cl. 214—8.5)



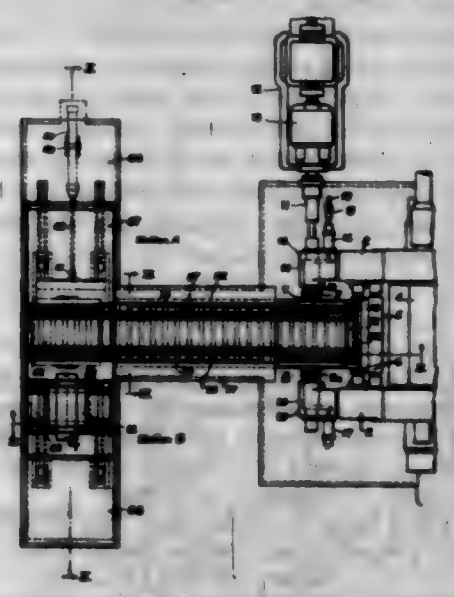
1. In a lumber discharging assembly of the character described having an unstacker lift and lumber load-carrying trucks mounted on guide rails and movable onto and off of said lift, a load pusher for pushing lumber loads onto said lift, said pusher movable beneath the load-carrying trucks when moving in a direction away from said lift, spring-controlled engaging means mounted on and extending forwardly and upwardly from said pusher for engaging a load in front of said pusher when said pusher is moving towards said lift, electrically-operated means for moving said pusher towards or away from said lift, a control circuit for actuating said electrically-operated means, a rear limit switch in said circuit limiting the travel of said pusher when said pusher is moving away from said lift, a forward limit switch in said control circuit operated by said pusher limiting the maximum travel of said pusher towards said lift, a lift-operating motor, a control circuit for said lift-operating motor, a make and break in said latter mentioned circuit operated by said forward limit switch, whereby movement of said lift will be prevented when said forward limit switch is engaged by said pusher, and load-positioning means on said lift, said load-positioning means including an endless chain arranged in a substantially vertical plane, the upper course of said chain riding on a spring-supported guideway and adapted to be engaged by a load-carrying truck when the truck is pushed onto said lift, a reversible motor on said lift for operating said chain, and a remote control switch for said latter mentioned motor.

2,970,705
CARGO SHIPS
Clarence M. De Witt, Jr., Bellerose, and Paul E. Kingston, New York, N.Y., assignors to United States Lines Company, New York, N.Y., a corporation of New Jersey
Filed Feb. 25, 1959, Ser. No. 795,427
9 Claims. (Cl. 214—14)



1. A cargo ship comprising a strength deck, tween deck storage compartments beneath said deck, a ramp, a runway extending along the deck, a turntable rotatably mounted on the deck contiguous to both said ramp and said runway, and elevator means operable between said runway and said tween deck storage compartments, said deck being provided with a plurality of hatch coamings defining hatches and hatch covers extending across said hatch coamings, said hatch covers forming a part of said runway.

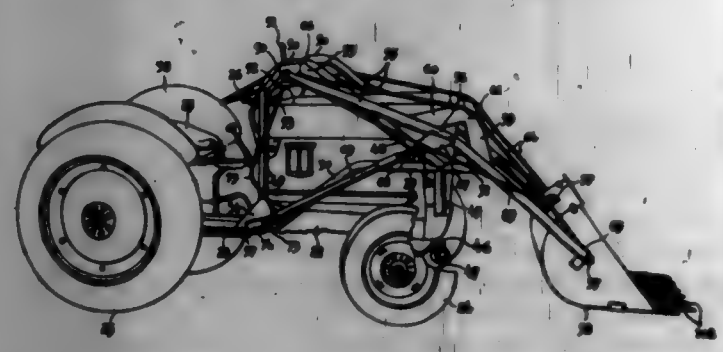
2,970,706
COIL HANDLING APPARATUS
Howard F. Schrecker, Natrona Heights, and Thomas C. Singleton, New Kensington, Pa., assignors to Aluminum Company of America, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Nov. 26, 1956, Ser. No. 624,329
14 Claims. (Cl. 214—89)



1. A work handling apparatus of the character described comprising the combination of a carrier normally positioned under a working station having a horizontal work operating axis to receive a load therefrom, a trackway for said carrier extending horizontally from said

working station, a transfer car disposed in right angle relation to the outer end of said trackway and adapted to receive two such carriers spaced apart in side-by-side relation thereon and dispose them alternately in-line with said trackway by successive movements of said car to alternate end positions, each constituting a load station, at opposite sides of said trackway, a second carrier on said transfer car in one of said end positions thereof and out of registry with said trackway for loading and unloading during a working operation at said axis, means to retract said first carrier into position on said transfer car alongside said second carrier after the former has received a load from said axis, and means to shift said transfer car to its other end position thereby moving said first carrier out of and bringing said second preloaded carrier into registry with said trackway for advancement to said working station.

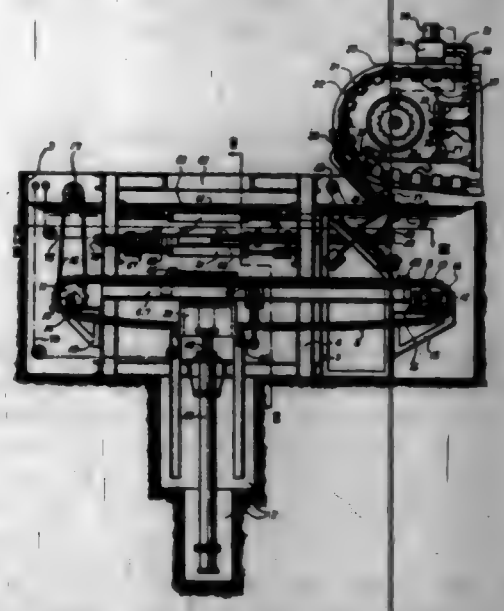
2,970,707
LOADER
Adolph A. Wagner, Milwaukee, and Arnold J. Wernet, Elm Grove, Wis., assignors to Wagner Iron Works, Milwaukee, Wis., a corporation of Wisconsin
Filed May 10, 1955, Ser. No. 507,278
4 Claims. (Cl. 214—140)



1. A loader frame for a tractor having a rear axle and an operator's station spaced forwardly and upwardly therefrom, said frame comprising a base frame having substantially horizontal side members connected to said rear axle and extending forwardly therefrom at a level below said driver's station and being upwardly inclined forwardly of said driver's station whereby to leave clear the lateral approaches to said station for boarding personnel, the connection of said base frame to said rear axle comprising a bracket shoe disposed on top of the rear axle and having a downwardly projecting leg at the front side of the rear axle and to which a horizontal side frame member of the base frame is connected at a level below the top of the rear axle, said downwardly projecting leg and the horizontal side member being provided with bolts by which they are releasably connected, said top bracket being provided with means for connecting it to the axle in a plurality of positions with respect to the longitudinal axis of the tractor.

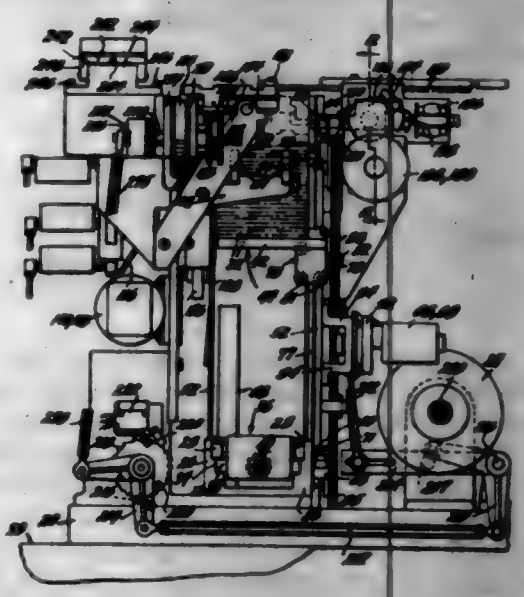
2,970,708
INGOT STACKING MACHINE AND METHOD
Koichi Watanabe, Okitsu-machi, Ihara-gun, Shizuoka-ken, and Kosuke Asano and Shuichiro Hara, Niigata-shi, Japan, assignors to Nippon Light Metal Co., Ltd., Tokyo, Japan, a company of Japan
Filed Sept. 4, 1958, Ser. No. 758,936
Claims priority, application Japan Oct. 7, 1957
13 Claims. (Cl. 214—152)

1. The method of stacking ingots having the length of their longitudinal axis longer than the length of their transverse axis which comprises the steps of grouping aligned ingots together in a horizontal plane until the accumulated length of their transverse axes is substantially equivalent to the length of the longitudinal axis of the ingots, raising in turn each accumulated group vertically and engaging the under side of the preceding group to stack and lift the same, depositing each raised group of ingots to independently support the stack, and



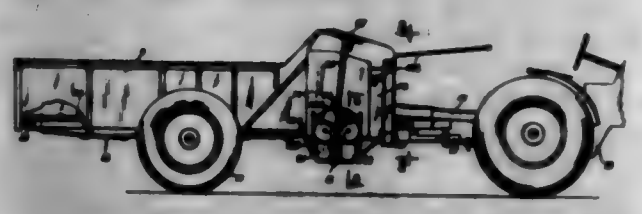
horizontally revolving alternate groups in turn to dispose their longitudinal axes in subjacent layers at an angle to each other before they are raised to engage the under side of the preceding group.

2,970,709
ARTICLE FEED MECHANISM
Stanley J. Gartner and La Rue V. Regelman, Emporium, Pa., assignors, by mesne assignments, to Sylvania Electric Products Inc., Wilmington, Del., a corporation of Delaware
Filed Dec. 15, 1958, Ser. No. 780,331
14 Claims. (Cl. 214—301)



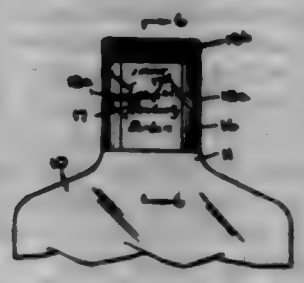
1. Means for feeding articles arranged in rows and columns in a compartmented tray to a machine comprising means to receive a stack of trays containing said articles, an invertible plate mounted on a fixed axis, means to transfer a top tray from off the stack of trays against the underside of the plate, means to invert the plate and tray to dump the articles in the tray onto the now top surface of the plate, a pusher operative to slide the tray and the articles entrained in the compartments of the tray laterally off the edge of the plate whereby the articles may drop from off its plate, a conveyor below the plate adjacent the edge thereof to receive the dropped articles and drive mechanism to move the conveyor.

2,970,710
ATTACHMENT FOR SPREADER
Melvin E. Jensen, Rte. 2, Nyssa, Oreg.
Filed Mar. 14, 1957, Ser. No. 646,059
2 Claims. (Cl. 214—519)



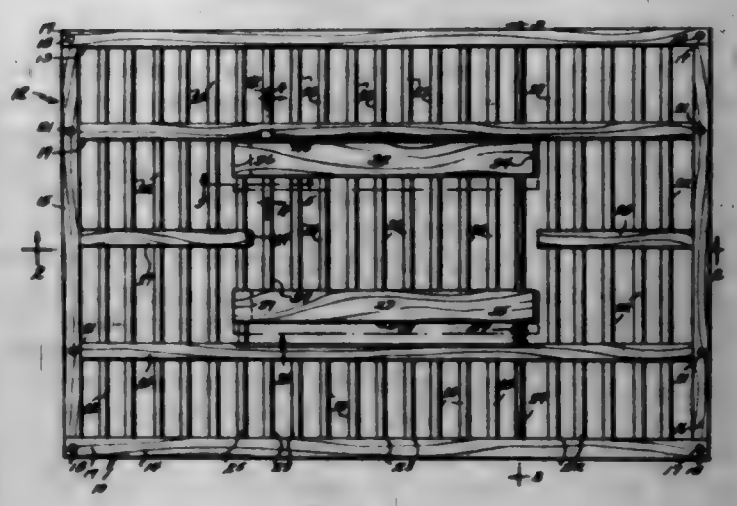
1. In combination with a spreader of the type including a wheeled vehicle having a box for containing the material to be handled, said spreader also having means for conveying said material from the rear end to the front end of said box in a direction longitudinally of said vehicle, said box having outlet openings in the bottom and sides thereof at said front end and means mounted on the front end wall of said box for slinging material through said bottom and side outlet openings, a lateral feeding attachment for said box, said attachment comprising an open top trough member, means detachably securing said trough member to the underside of said box to receive material from the bottom opening, said trough member having a portion disposed in contiguous relation to the bottom of said box at the rear edge of said bottom opening and another transverse portion disposed in contiguous relation with respect to the front end wall of said box to confine the material leaving said box to entry into said trough member, and separate plates detachably secured over the side outlet openings of said box to close the same and confine the material leaving said box to entry into said trough member, said trough member having a pair of ears at the inlet end thereof bolted to the side of said box adjacent the inlet end of said trough member, a strap at the opposite side of said box extending beneath said trough member and bolted to said box whereby said trough member may be removed by unbolting said ears and strap, and upon removal of said separate plates, said spreader may be operated in its original form.

2,970,711
BOTTLE CLOSURE WITH PROJECTIONS FOR SEVERING SEAL
Daniel Goldstein, New York, N.Y., assignor to Schenley Industries, Inc., New York, N.Y., a corporation of New York
Filed May 20, 1958, Ser. No. 736,480
14 Claims. (Cl. 215—46)



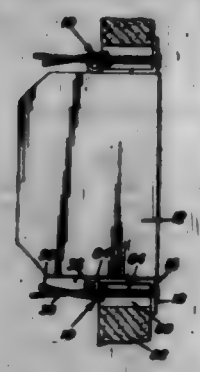
1. Closure means for a container having a neck with a top opening, said closure means comprising a cap, means rotatably mounting said cap upon said neck so as to close said top opening, and a soft, protective, severable, flexible sleeve extending clingingly and conformingly about the periphery of said cap and about said neck below said cap, said cap being accessible above said sleeve for turning said cap and interrupting the surface of said sleeve, said cap having at least one unitary projection extending radially outwardly of the periphery thereof and extending circumferentially around a minor portion only of the periphery thereof and extending at least to the level of the lower face of said cap, said projection pressing against said sleeve and being sized to rupture and sever said sleeve circumferentially upon rotary movement of said cap.

2,970,712
CHICKEN COOP
Ose F. Carpenter, Brightwood, Va.
Filed Mar. 9, 1959, Ser. No. 793,047
1 Claim. (Cl. 217—57)



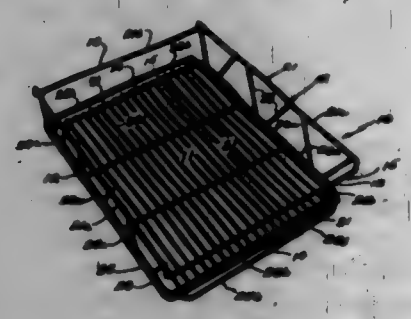
In a chicken coop a top panel comprising a pair of spaced apart parallel longitudinal frame members, a pair of spaced apart parallel transverse frame members extending between the opposite ends of said longitudinal frame members, a second pair of spaced apart parallel longitudinal frame members spaced inwardly of and parallel to said first pair of longitudinal frame members, a plurality of spaced parallel rods supported in said frame members, said rods being arranged in a pair of spaced apart groups with each group arranged adjacent to and parallel a respective one of said transverse frame members, said second pair of longitudinal frame members and the innermost of said plurality of rods delineating a generally rectangular access opening in said top panel, the edges of said second pair of longitudinal frame members adjacent the access opening being rounded to prevent bruising of poultry moved through said access opening, a door, means pivoting said door on said longitudinal frame members, said last named means mounting said door for limited transverse sliding movement, a bar extending between the centers of said rods in each group of rods with said bars being arranged in axial alignment intermediate and parallel to said second pair of frame members with the bar at the end of said top panel opposite the pivotal end of said door having the inner end thereof rounded adjacent the access opening, resilient means normally urging said door toward one of said second pair of longitudinal frame members, there being a bore in said one of said second pair of longitudinal frame members, one of said parallel rods disposed adjacent to and having an end portion extending into said bore, a metallic keeper embodying an elongated flat bar, an upwardly and outwardly sloping cam portion integrally formed on one end of said bar, a downwardly offset flange integrally formed on the end of said cam portion piercingly engaging the adjacent supporting frame member, the other end of said bar being wedgingly engaged in said bore by said parallel rod end portion, and a rigid latch rod mounted on said door for cooperative engagement with said keeper for securing said door in closed position.

2,970,713
SWITCH AND OUTLET BOX CLAMP
Theodore R. Kellberg, Garland Station, W. Garland and N. Madison St., Spokane, Wash.
Filed May 13, 1959, Ser. No. 812,985
6 Claims. (Cl. 220—3.6)



1. A mounting bracket assembly for an electrical box which has a wall, said assembly comprising a mounting plate, means for attaching said mounting plate to said wall, said mounting plate having a hinge butt, a lock having at least one hinge butt, a hinge pin connecting said hinge butts to constitute a hinge by which said lock is hingedly connected with said mounting plate, means operatively connected with said mounting bracket and in contact with said lock for hingedly actuating said lock, including an operator, at least one screw, said operator having a tapped opening in which said screw is received, said mounting plate also having an opening through which said screw passes, said operator having at least one ear in sliding contact with one surface of said lock so that upon rotation of said screw said operator is moved causing said operator ear to slide on the surface of said lock and hingedly move said lock.

2,970,714
WIRE RECEPTACLE CONSTRUCTION
Lewis E. Glenn, Cleveland, Ohio, assignor to Mid-West Metallic Products, Inc., Cleveland, Ohio, a corporation of Ohio
Filed Dec. 21, 1959, Ser. No. 860,900
8 Claims. (Cl. 220—19)



1. A receptacle adapted for tiering and nesting with receptacles of like construction comprising rigidly interconnected parts including a bottom load supporting part, and side parts rigidly connected with said bottom part, said aforementioned parts including upper tiering support members rigidly connected with said side parts, said aforementioned parts including lower tiering support members rigidly connected with said bottom part, said upper support members being above corresponding lower support members, one of said tiering support members comprising a bar and one of said tiering support members comprising a hook means, whereby the lower support members of one receptacle are adapted to engage and rest upon the corresponding upper support members of a second like receptacle in tiering relationship, there being clearways provided between said aforementioned parts enterable by said load supporting part of an upper like receptacle by manipulation after which said load supporting part of said upper receptacle may pass downwardly in said clearways to nesting relationship in said lower receptacle, said aforementioned parts being so constructed that the hook means engages said bar on a like receptacle in at least one of said positions to prevent relative movement between said receptacles in at least one direction, said hook means including two generally U-shaped elements with the U-legs of one element passing through the U-shape of the other element and secured to the U-cross bar of the other element so that each U-shaped element forms a portion of the hook means.

2,970,715
BOTTLED BEVERAGE CARRYING CASE
Henry C. Kappel, Elmhurst, and Lee J. Martin, Chicago, Ill., assignors to The Richardson Company, Melrose Park, Ill., a corporation of Ohio
Filed Nov. 17, 1958, Ser. No. 774,532
1 Claim. (Cl. 220—21)



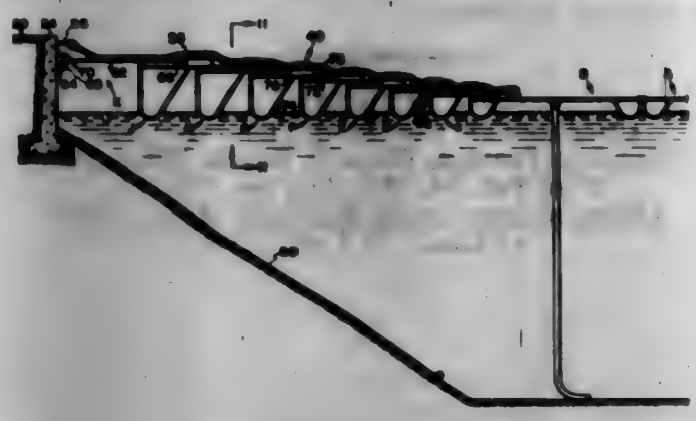
An integrally molded one-piece plastic beverage bottle case comprising four walls each having a straight portion and rounded end portions, said walls integrally connected at said end portions, a bottom, said case having twenty-four compartments formed by a series of eight independent portions extending at an angle across said case, the shortest two of said partitions being arcuate and the remaining portions being sinusoidal, said compartments having opposed integral vertically extending ribs molded on either side of said portions in back to back relationship for providing a snug fit for the bottles disposed in the compartments, the bottom of said compartments having a plurality of small projections to prevent the bottom of a bottle disposed in the compartments from resting flush with the bottom of said compartment, two vertically spaced outwardly projecting flanges extending continuously around the upper and lower external perimeter of said case, each flange comprising an integral part of said walls, two horizontally spaced ribs comprising an integral part of each wall and extending between said flanges and connecting said flanges, said spaced ribs being located on either end of the straight portion of each wall and before the rounded end portions, said flanges and said ribs forming between them recesses at the corners and on the sides of said case, raised advertising indicia disposed in said recesses, and integral with walls, the maximum projection of said indicia from the surface of said walls not exceeding the projection of said flanges and ribs, and handle openings provided in two opposing walls, said opening being bounded at the tops by the upper of said projecting flanges and a third curved flange extending around the remaining perimeter of said opening and connected at its ends to said upper flange, a recess extending around the lower external perimeter of the lowermost flange and adapted to receive the upper edge of a case when said cases are stacked in an unloaded condition, said bottom having on its under side a plurality of recesses adapted to receive the tops of the bottles disposed in a lower case when a plurality of cases are stacked in a loaded condition, at least two of said portions being recessed at one end at the place of connection of said two portions with said wall at said handle openings, and all of said walls, partitions, flanges, ribs, recesses, projections, bottom and openings, having smooth rounded edge surfaces.

2,970,716

FLOATING ROOF FOR OIL STORAGE RESERVOIR

George A. McCammon, Caracas, Venezuela, assignor to Jersey Production Research Company, a corporation of Delaware

Filed Dec. 29, 1958, Ser. No. 783,516
5 Claims. (Cl. 220—26)



1. In combination with a reservoir having a central section and at least one sloping side wall, a floating roof which comprises: a central buoyant section of approximate size of the central portion of said reservoir; at least one side section having inner and outer edges including a plurality of overlapping telescoping floating members, the inner floating member being hinged to said central portion of said roof; hinge attachment means between the outer edge of said side section and the reservoir wall surface; each floating member including a pontoon element, a deck on and rigidly attached to its pontoon element, said deck extending beyond said pontoon member toward the central portion of said reservoir; means to limit the overlap of the deck of one floating member with the adjacent floating member; cable anchoring means on the reservoir wall, on the top side of each said deck and on said central buoyant section; a cable extending sequentially from said cable anchoring means on the reservoir wall to the cable anchoring means on the floating member adjacent said reservoir wall to the cable anchoring means on the next floating member inwardly therefrom and so on to the cable anchoring means on said central section, said runs of cable being of such length as to all be slack when the roof is at its greatest elevation corresponding to the condition of the reservoir having its full design content of liquid and to go taut sequentially as each of said side floating members come into contact with said reservoir wall from the reservoir being drained of liquid and the roof accordingly lowered.

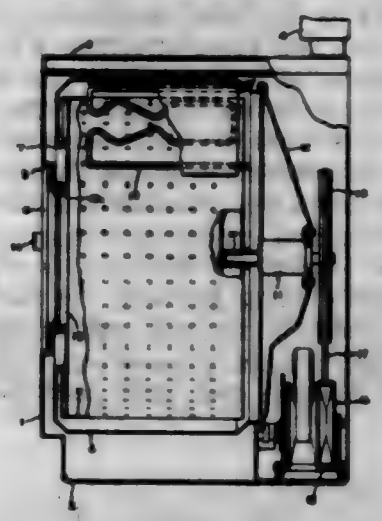
2,970,717

DOOR GASKETING ARRANGEMENT

Roger E. Walker, Louisville, Ky., assignor to General Electric Company, a corporation of New York

Filed Jan. 14, 1959, Ser. No. 786,777
4 Claims. (Cl. 220—46)

1. In combination, a receptacle having a face with an opening formed therein; a gasket comprising a first portion rigidly secured to said receptacle about said opening, a second flexible portion extending inwardly into said opening therearound, said second portion being secured at its outer end to said first portion and being otherwise substantially unrestrained, a third generally tubular portion extending around at the inner end of said second portion, and a coiled tension spring secured for tension extending around within said tubular portion; and a door movable to a closed position covering said opening, said door including an oblique inner surface portion converging into said opening, said door surface portion being arranged on said door to engage said gasket tubular portion and pivot said tubular portion and said second portion about said rigidly secured portion when said door closes



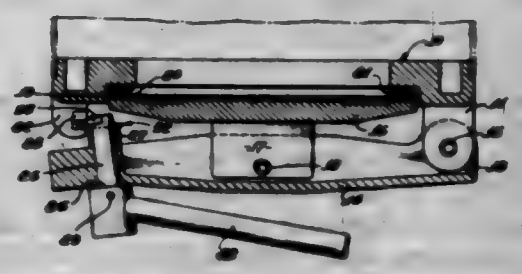
thereby to add tension to said spring and thus provide a sealing force.

2,970,718

STERILIZER DOOR

Harry C. Jennings, Jr., Los Angeles, Calif., assignor to Everest & Jennings, Inc., Los Angeles, Calif., a corporation of California

Filed Sept. 28, 1959, Ser. No. 842,986
2 Claims. (Cl. 220—55.3)



1. A door for a pressure vessel adapted to contain a fluid under pressure, said door having a resilient sealing means around its edges urging the door to open and sealing the door against leakage around its edges, a swingable bar on which the door is pivotally mounted, a latch rotatably mounted on the swinging end of the bar for rotation about an axis extending generally in the direction of swing of the swinging end of the bar, a keeper engageable by the latch to releasably hold the bar and door in door-closing position, said latch having a helical cam extending partially around the inner end of the latch engageable with the keeper to hold the bar and door in closed position and on rotation of the latch to disengage the keeper whereby the door may be opened, said cam having a shoulder adjacent one end thereof engageable with the keeper and preventing rotation of the latch into keeper-disengaging position unless it is possible to force the door inwardly in the absence of material pressure in the vessel and compress the sealing means.

2,970,719

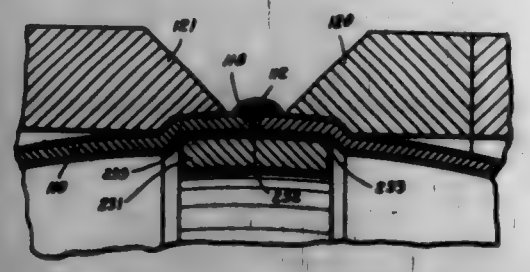
WELDED TANK STRUCTURE AND METHOD OF MAKING SAME

Francis E. Brady, Jr., R.R. 6, Muncie, Ind.

Filed May 14, 1957, Ser. No. 659,457
4 Claims. (Cl. 220—75)

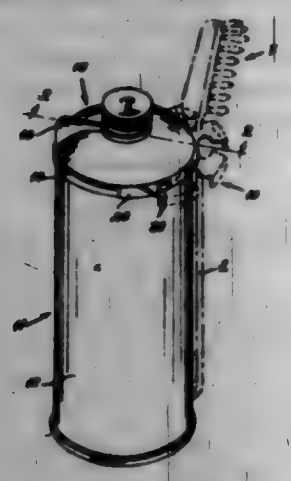
1. A welded tank structure comprising a pair of tubular metal shells having mating ends of uniform diameter provided upon their inner and outer surfaces with a protective metallic coating susceptible of melting and vaporizing at a relatively low temperature compared to the metal of the shells, a metal chilling member having

a coating of the same characteristics and engaged within said shell ends and having an outer transversely convex surface, said mating ends originally have the same inner diameter as the outer surfaces of the lateral edges of said member and being stretched under tension over the outer surface of said member with their extremities disposed adjacent to one another at the mid-portion of said member and with the inner surfaces of said ends in tight face-to-face contact with the underlying surfaces of said member, and a weld formed at a temperature higher than the melting and vaporizing temperature of the coating metal and joining the mating ends of said shell portions, said shells being fused to the facing surfaces of said chilling member by said coating metal when said weld is applied to form a continuous metallic heat conductive path between said shell ends and said chilling member.



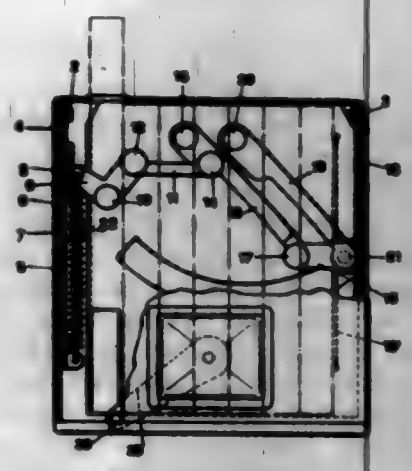
3. The method of forming a tank from a pair of open ended tubular metal sections coated on the inner and outer surfaces at and adjacent their meeting edges with a metal susceptible of melting and vaporizing at a relatively low temperature compared to the metal of the sections, and a metal chill member having a coating of the same characteristics and the outer surface of which is transversely convex and of greater diameter at its mid-section than that of said sections, comprising the steps of forcing the open ends of said sections over the exterior surface of said chill member whereby expansion of said meeting edges will occur midway of the member and the adjoining shell surfaces will be in intimate contact with the surface of said member from the mid-portion thereof to its lateral edges, and welding the meeting edges of the sections together at a temperature substantially higher than the melting and vaporizing temperature of the coating metal to join the abutting edges of said shells and melt the coatings adjacent to the weld to form a continuous metallic heat conductive path between said section ends and said chill member.

2,970,720
DISAPPEARING ARTICLE HOLDING DEVICE
William T. Dooley, Jr., 134 Park Road, Webster Groves 19, Mo.
Filed June 30, 1958, Ser. No. 745,690
4 Claims. (Cl. 220—85)



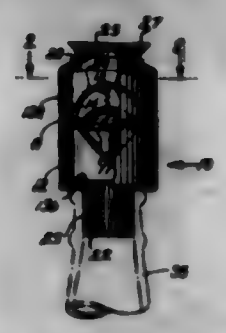
1. In combination with a container, a holding device comprising a guide portion and a holding portion, said guide portion including an elongated slot slidably received on said container for limited movement of said device in one direction relative to said container, and said holding portion including means for holding an article, and flange abutment means at the outer periphery of said holding portion for limiting movement of said device relative to the container in a direction opposite to said slot limiting movement.

2,970,721
CIGARETTE DISTRIBUTING HOLDER
Giampiero Fontana, Piazza S. Babila, Milan, Italy
Filed Feb. 24, 1958, Ser. No. 716,971
Claims priority, application Italy Mar. 8, 1957
4 Claims. (Cl. 221—227)



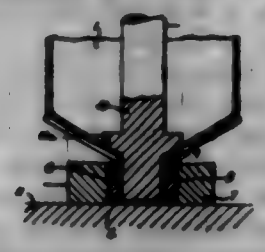
1. A cigarette-distributing holder, comprising an outer case provided with a longitudinal opening along one edge, an inner case carried inside the outer case, provided with a longitudinal opening registering with the opening in the case, said inner case being adapted to carry a plurality of cigarettes in side-by-side relationship and the bottom of said inner case being provided with a port aligned with the location of the extreme cigarette at one end of the plurality of cigarettes in the inner case, a lid hinged to said outer case to one side of the opening therein, adapted to close the latter and provided with a port aligned coaxially with the location of said extreme cigarette at one end of the plurality of cigarettes filling the inner case and through which said extreme cigarette is adapted to project, means urging said plurality of cigarettes towards the first-mentioned extreme cigarette through a thrust exerted on the extreme cigarette at the other end of the said plurality to shift the first-mentioned extreme cigarette into registry with said port in the lid, means adapted to control said last-mentioned means, an arm pivotally secured to the inside of the outer case, adapted to rock round an axis perpendicular to the general plane of the case and including a transverse projection at its free end and located in registry with the port in the inner case, a push button on the outside of the outer case carried coaxially with the rotary axis of said arm, a socket carried by the push button and adapted to slide along the rotary axis of the arm upon depression of the push button, a stud radially carried by said socket, a member coaxially rigid with the arm and provided with a helical groove engaging the stud whereby the depression of the push button produces an angular shifting of the socket and of the arm, a spring urging the socket back into its outer inoperative position with the push button, the shifting of the arm raising its transverse projection to urge through the port in the inner case the first-mentioned extreme cigarette registering therewith through the port in the lid.

2,970,722
PRESSURE SEAL FOR PRESSURIZED LIQUID CONTAINER
Jordan S. Levenson, Los Angeles, Calif., assignor of one-tenth part to Gadget-Of-The-Month Club Inc., North Hollywood, Calif., a corperation of California
Filed July 7, 1958, Ser. No. 746,950
2 Claims. (Cl. 222—62)



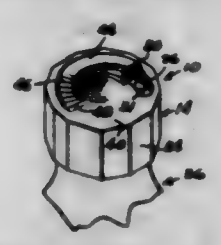
1. A pressure seal for pressurized liquid containers, comprising, in combination, a main body portion having an outlet at one end and an inlet at the opposite end provided with engaging means adapted to be removably sealingly engaged with a container for pressurized liquid, valve means intermediate the opposite ends of said main body portion controlling the passage of pressurized liquid therethrough, a removable closure cap carried by said outlet end of said main body portion, said valve means comprising an integral partition wall effectively transversely dividing the interior of said main body portion into a pair of separate compartments, one of said pair of separate compartments comprising an outlet compartment associated with said outlet and the other one of said pair of separate compartments comprising an inlet compartment associated with said inlet, said partition wall defining a central opening, and a bulbous partially spheroidal hollow valve member having effective average density less than the density of pressurized liquid adapted to be carried in a container removably engaged with said engaging means, said bulbous partially spheroidal hollow valve member releasably engaging and closing said central opening and extending substantially into said inlet compartment, a bridge supported within said outlet compartment and extending over said central opening longitudinally spaced from the partially spheroidal portion of said bulbous hollow valve member, and a tension spring connected between said bridge and said bulbous hollow valve member extending through said central opening, said bulbous hollow valve member being floatable upon a quantity of liquid within said inlet compartment into a position out of closing engagement with said central opening in response to rotation of said main body portion out of its normal vertical orientation into a tipped position having a substantial transverse directional component.

2,970,723
MANUFACTURE OF COLLAPSIBLE TUBULAR CONTAINER MADE OF FLEXIBLE MATERIALS
Valer Flax, Place Malcousine, Vic-Fezzance, France
Filed Apr. 6, 1953, Ser. No. 347,130
Claims priority, application France Dec. 16, 1952
5 Claims. (Cl. 222—107)



1. A tubular container for fluid substances formed of thermoplastic material, said container at one end being flattened and heat sealed edge to edge along a straight line to form a reinforcing seam in one plane, and being at the other end flattened and heat sealed edge to edge along an irregular sealing line to form a reinforcing seam in a plane transverse to that at the first end, said last-named reinforcing seam having a central axially extending nipple and two opposing angular shoulders extending from the periphery of the nipple to the respective edges of the other end and a cylindrical tip having an interior bore juxtaposed and heat sealed onto the exterior surface of the nipple.

2,970,724
NON-REMOVABLE DISPENSING CLOSURE
Stanford E. Lacy, Box 322, Sandy Springs, Ga.
Filed Mar. 7, 1958, Ser. No. 719,792
4 Claims. (Cl. 222—484)



1. A dispensing closure for a container neck, comprising a disc to be engaged in closing relation to the container neck, said disc having thereon an upstanding cylindrical tubular mouth having an upper end above the surface of the disc, a rotary cap adapted to be mounted securably and rotatably on the neck around said disc, said cap having a top wall, said top wall being mutilated so as to provide a downwardly opening circumferential channel having a top wall and having closed and open ends, the top wall of the cap having a circumferential slot at and extending beyond the open end of the channel, through which said mouth rises, said channel top wall being inclined from the closed to the open end of the channel, said mouth being uncovered by the channel when the cap is rotated in a direction away from the mouth and being closed by engagement of the upper end of the mouth by the channel top wall when the cap is rotated in a direction toward the mouth.

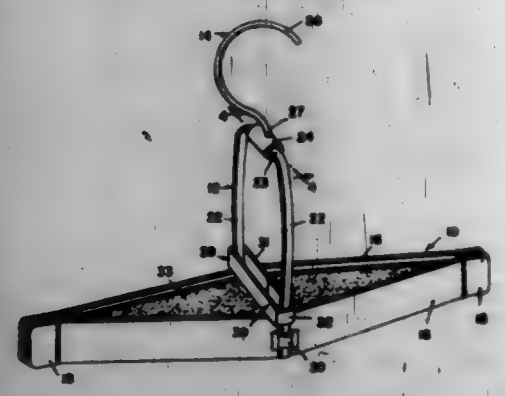
2,970,725
GARMENT HANGER
Giacomo M. Bonaldi, 3655 Nerlega St., San Francisco, Calif.
Filed Jan. 2, 1958, Ser. No. 706,620
1 Claim. (Cl. 223—88)



A garment hanger having a pair of shoulder supporting arms and a hook for the said shoulder supporting arms between the outer ends thereof for suspending the same, each of said shoulder supporting arms being formed of a stretch of relatively stiff but resilient material, each stretch between the hook and the outer ends being offset and forming an outer lower portion extending along a line spaced from but parallel to the portion of the arm adjacent the hook, each stretch then reversely extending with respect to the said outer lower portion so as to depose the free end portions of the stretch parallel to the said outer lower portions, the free ends of the stretch

being adjacent to but spaced from the first bend of the offset portions and the said free end portions extending as a continuation of the portion of the stretch adjacent the hook, the space between the free end portions and the outer lower portions adjacent thereto being of a size to receive a belt loop of a pair of trousers, and the combined width of the said free end portions and the outer lower portions being such as to permit the belt loops of a pair of trousers to slip thereover.

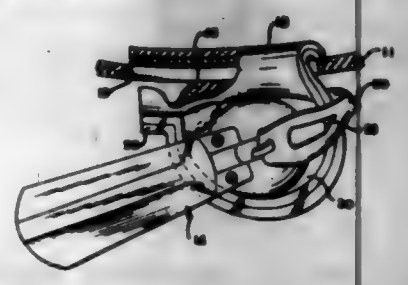
2,970,726
GARMENT HANGERS
Norman E. Brooke, 3232 Rittenhouse St., Washington 15, D.C.
Filed Nov. 13, 1956, Ser. No. 621,640
2 Claims. (Cl. 223—96)



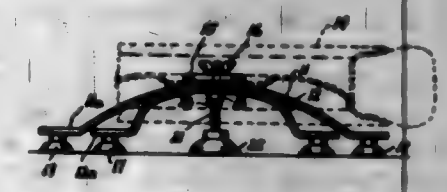
1. In a garment hanger, the new combination of a pair of opposing jaw members, a spring unit embodying a single length of spring metal of inverted substantially U-form, having resilient side legs, the legs having free ends and being biased to move away from one another and the unit having an intermediate portion defining a wide, substantially flat arch, means operatively securing each of said legs adjacent to the free end thereof to a jaw member, a suspension element having a screw threaded shank end, a hollow coupler body between said unit and said suspension element, said coupler body being in the form of a short cylindrical tube having an opening axially therethrough, the said arch portion of the unit extending through the opening axially of the cylindrical tube which forms said hollow body and having opposite longitudinal sides supported at the two ends of the cylindrical tube upon end edge portions of the tube and upon opposite sides of the tube, the hollow coupler body having a tapped opening in the wall thereof above the said arch portion, the said screw threaded shank of the suspension element being threaded in and through the tapped opening and engaging and applying pressure upon said arch portion and forcing the said opposite, longitudinal sides of the arch portion tightly against the said end edge portions of the said two ends of the cylindrical tube which forms the hollow body and thereby locking and securing the unit against movement relative to the hollow body, the said wide substantially flat arch having a length approximating the distance between the free ends of the legs of the unit when the jaws are in closed relation, and means slidably connected with said unit legs for flexing the legs toward one another to draw the jaws to said closed relation.

2,970,727
QUICK-DRAW HOLSTER
Edward H. Bohlin, 602 S. Lucerne Blvd., Los Angeles, Calif.
Filed Jan. 13, 1959, Ser. No. 786,472
3 Claims. (Cl. 224—2)

1. In a revolver holster comprising a strip of material folded longitudinally upon itself to provide a forwardly curved edge portion, a curved inner wall portion and an oppositely curved outer wall portion, each said curved wall portion terminating in a flat rear longitudinal edge portion stitched together in opposed relation and providing between said curved wall portions an open ended pocket, and one end of said inner wall portion having a longitudinally and rearwardly extending flap adapted to be attached at its free end to the opposite end of said inner wall portion and providing therebetween a return bend for the reception of a supporting belt; the improvement comprising a longitudinally elongated and transversely convex rib member projecting obliquely into said pocket from said stitched edge portions and from the adjacent inner wall portion thereof, and said curved inner wall comprising two-plies with said rib member disposed between the plies thereof, whereby a revolver inserted into said open ended pocket of said holster will engage said transversely curved rib immediately forwardly of the trigger guard of the revolver at one side thereof and angularly positioning and supporting same obliquely within said pocket, facilitating quick draw of the revolver.



2,970,728
AUXILIARY SPARE TIRE CARRIERS
Adam Hass, Jr., Kansas City, Kans.
Filed July 11, 1957, Ser. No. 671,362
1 Claim. (Cl. 224—42.12)



In an auxiliary spare tire carrier for positioning exteriorly on an automobile body deck and the like, the combination of a pair of crossed arms having arched intermediate portions and flat co-planar end portions, a fulcrum member connecting the intermediate portions of said arms together at their point of crossing, said fulcrum member comprising a vertical stud pivotally connecting said arms and having an enlarged base in abutment with the underside of the crossed arms and also having an externally screw-threaded upper end portion projecting above the arms to receive a spare tire wheel, a wheel retaining nut provided on said upper end portion of the stud and preventing the stud from sliding downwardly through the arms when the stated wheel is in position, said stud being provided with a screw-threaded axial bore having an open lower end, a screw-threaded stud element adjustably positioned in said bore and projecting downwardly therefrom, a lock nut provided on said stud element in abutment with the lower end of said stud for locking the stud element in a selected position relative to the stud whereby the extent of downward projection of the stud element relative to the stud and the relation of the lower end of the stud element to the plane of the co-planar flat end portions of said arms may be varied, and a set of deck engaging suction cups provided at the underside of said end portions of said arms and at the lower end of said stud element, the suction cup on said stud element being vertically adjustable relative to the

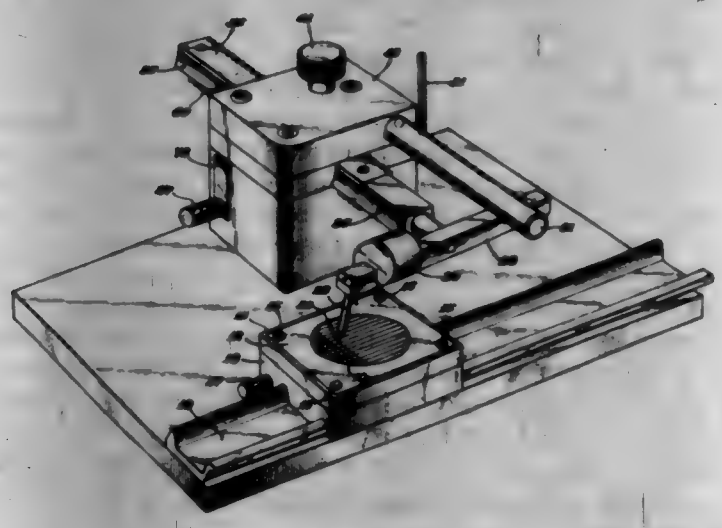
cups on said arms upon selected adjustment of the stud element in said stud, whereby all the suction cups in the set may fit and adhere to a deck of a predetermined contour.

2,970,729
CARRIERS
Jefferson H. Allen, 421 Highland Ave., Passaic, N.J.
Filed May 7, 1959, Ser. No. 811,644
3 Claims. (Cl. 224—55)



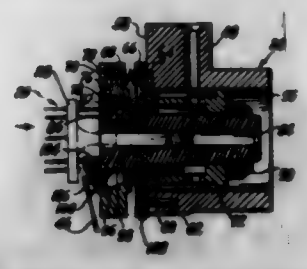
1. A bottle carrier comprising a handle, a thong having one end attached to said handle and the other end provided with an eye and a tab defining said eye, said thong having a portion trained through said eye and cooperating with said other end to define a bottle neck embracing noose for disposal about the neck of a bottle or the like for carrying the latter by said handle when said noose is disposed in closed condition about said neck, said tab engaging said portion and cooperating therewith to maintain said noose in said condition.

2,970,730
DICING SEMICONDUCTOR WAFERS
Friedrich W. Schwarz, Phoenix, Ariz., assignor to Motorola, Inc., a corporation of Illinois
Filed Jan. 8, 1957, Ser. No. 633,151
11 Claims. (Cl. 225—2)



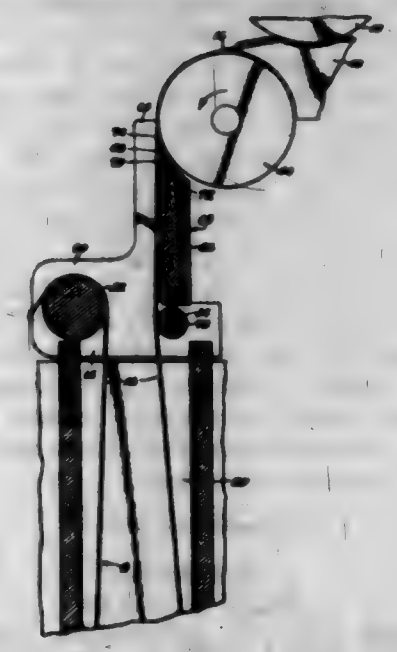
1. A method of scratch-dicing semiconductor wafers which incudes, mounting a semiconductor wafer to be diced to one face of a sheet of flexible material, scratching the wafer along parallel lines extending in one direction, scratching the wafer in parallel lines normal to the first mentioned parallel lines, and flexing the sheet with the wafer secured thereon on a supporting surface to break the wafer along one of the lines while retaining the severed pieces on the sheet.

2,970,731
WIRE BREAK-OFF MECHANISM
Charles L. Miller, Clinton, and Gail K. Weaver, Reberrburg, Pa., assignors to Sylvania Electric Products Inc., a corporation of Delaware
Filed May 6, 1959, Ser. No. 811,342
9 Claims. (Cl. 225—93)



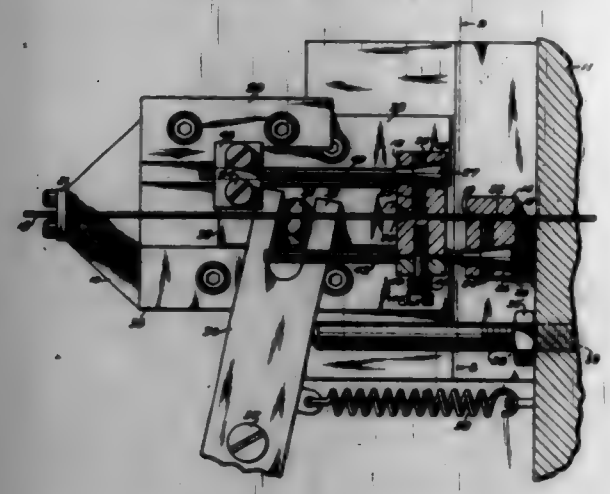
2. Wire break off mechanism for breaking away excess wire from a dummy wire traversing a stem, said stem being comprised of a base with lead-in wires passing through the base and perpendicular to a surface thereof and with at least one said dummy wire, said dummy wire being weakened at that surface, said mechanism including a chuck having a face with unobstructed apertures therethrough to receive said lead-in wires, said chuck being further provided with a breaker, said breaker having a face inclined to the face of the chuck occluding one of the apertures in the face and a stem held within said occluded aperture of the chuck and in line with the on-coming dummy wire as the lead-in wires of the stem are fed into the apertures of the chuck, to bend and break off said dummy wire at said weakened portion.

2,970,732
TAPE STABILIZING APPARATUS
Richard B. Lawrance, Winchester, and Robert A. Pendleton, Dedham, Mass., assignors to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed Mar. 7, 1958, Ser. No. 719,877
9 Claims. (Cl. 226—50)



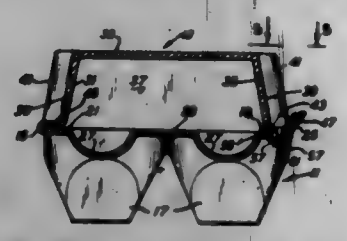
1. Tape handling apparatus for a record tape comprising a pair of contra-rotating driving capstans, means for placing the record tape into driving relation with respect to one or the other of said driving capstans to effect movement of the tape in one direction or the other, and dynamic stiffening means positioned immediately adjacent each of said driving capstans for damping lateral movements of the tape as it is driven away from said capstans, said dynamic stiffening means comprising a plate formed with a generally flat surface at a side thereof remote from said capstans and a concave arcuate surface at a side thereof adjacent said capstans.

2,970,733
WIRE FEEDING APPARATUS
George W. Soderman, Alpine, N.J., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Oct. 2, 1958, Ser. No. 764,987
1 Claim. (Cl. 226—149)



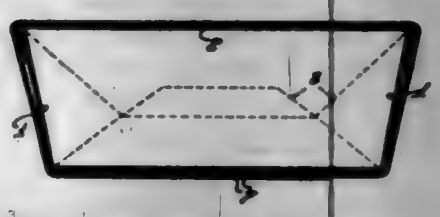
A wire feeding apparatus comprising a fixed position unit with an aperture for a wire to be fed in a given direction therethrough, a carriage mounted for reciprocable feeding and reverse movements toward and away from the fixed unit, a movable unit mounted on the carriage, reciprocable therewith toward and away from the fixed unit and having an aperture for the wire aligned with the aperture of the fixed unit, a holder having opposing inner and outer ends movably disposed in each unit so that their inner ends may engage the portions of the wire in the apertures of their units and normally lie free of any applied force adjacent the wire portions, an element movable in each unit between an operated position, where the element will have engaged the outer end of its holder and forced the holder so that the inner end thereof will hold the wire portion against movement in the aperture, and a normal position where its holder will be free of applied force to free the wire to move in the aperture, projections of the elements extending beyond their units, a gripper for the projection of the element for the movable unit mounted at a fixed position adjacent the carriage to cause the element to force the holder in the movable unit against the wire at the start of the movement of the carriage in the feeding direction and to force the element into its normal position at the start of the return movement of the carriage in the reverse direction, and a gripper for the projection of the element for the fixed unit movable with the carriage to force the element into normal position at the start of the feeding movement of the carriage and to cause the element to force the holder in the fixed unit against the wire at the start of the return movement of the carriage.

2,970,734
EGG CARTON
Hillis H. Heath, 1232 SW. Jefferson St., Portland 1, Oreg.
Filed Aug. 4, 1958, Ser. No. 752,839
1 Claim. (Cl. 229—2.5)



A molded pulp fiber egg carton having a body section for holding a plurality of eggs and a cover section hinged at one of its edges to an edge of the body section and movable to and from a position covering the eggs in the body section, the edge portions of said body and cover sections remote from the mentioned edges being contiguous when said cover section is closed, one of said edge portions having a lug projecting in a direction which is generally at right angles to the plane between the meeting edges of said body section and cover section in the closed position of the cover section, the other of the just-mentioned edge portions being formed with an opening to receive said lug, the margins defining said opening being inclined downwardly to provide inwardly projecting corners to engage said lug, said opening being of a size slightly smaller than the lug so that the lug fits snugly into the opening to slightly expand the opening in a downwardly and outwardly direction so that the mentioned corners bite into the sides of the lug to retain the lug against accidental withdrawal, said cover section having an upwardly extending lip remote from the hinge between the body and cover section to enable the cover section to be readily opened by grasping said lip and pulling upwardly, the body section also having a lip remote from said hinge and extending upwardly beyond the cover lip to encourage lifting the carton by grasping the carton at the hinge and body section lip.

2,970,735
FOOD CONTAINER FOR FREEZING AND HEATING
Raymond E. Jacke and Clarence F. Manning, Louisville, Ky., assignors to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed May 10, 1954, Ser. No. 428,662
1 Claim. (Cl. 229—3.5)

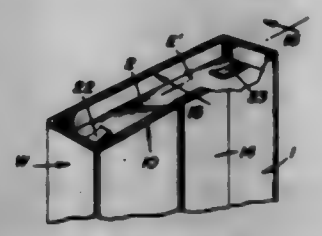


In a foodstuff enclosure for frozen foods and the like, an integral open top aluminum foil tray having side and end walls, the metal being folded at each corner to form reinforcing opposed inwardly directed double wall areas of triangular form at said corners, the folds lying against walls of the container and the tray being further folded downwardly at its top margin of each wall to form reinforcing flanges, said flanges being free for outward movement, a rigid lid member having a major flat wall resting on said flanged areas and having a downwardly extending flap at each edge of said rectangular flat wall overlying corresponding walls of said tray, and an imprevious heat sealable overwrap covering and sealing said tray and lid, said overwrap consisting of an outer layer of aluminum foil, an intermediate layer of heat sealing plastic composition, and an inner layer of foraminous tissue immediately adjacent to the surfaces of the tray and lid, said inner layer of tissue releasably engaging said adjacent tray surfaces for instant removal therefrom, and said foil hermetically sealing the interior of said tray.

2,970,736
CONTAINER SYSTEM
Drury H. Baughan, Richmond, Va., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed Oct. 24, 1957, Ser. No. 692,092
3 Claims. (Cl. 229—3.5)

1. A liquid impervious container for freezing, storing, and heating of foods comprising a laminated tubu-

lar side wall having an outer layer of metal foil bonded to an inner layer of thermoplastic material; a laminated end closure telescoped into said tubular side wall and comprising a layer of foil and a layer of thermoplastic material bonded to each side thereof, said closure having a central flat portion and an outwardly turned peripheral flange, said side wall having a fold over said flange, and both layers of thermoplastic material of the closure being heat bonded to the thermoplastic layer of

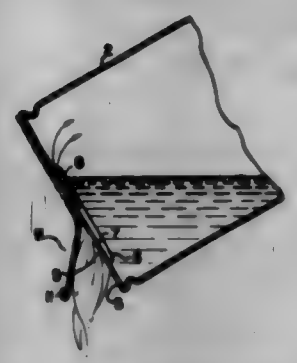


the container side wall at the said fold; and a closure removal strip adjacent the inner side of said end closure and extending outwardly thereof, said removal strip comprising laminations of thermoplastic materials bonded on each side of a foil layer, one of said laminations comprising a strong durable material whereby the exertion of pulling force on an end of said strip will serve to break the seal between the closure and side wall to open the container.

2,970,737
SELF-SEALING CONTAINER

Alviet V. Rice, Falls Church, Va.
(6021 Attecatee Road, Springfield, Va.)

Filed June 19, 1959, Ser. No. 821,411
4 Claims. (Cl. 229—7)



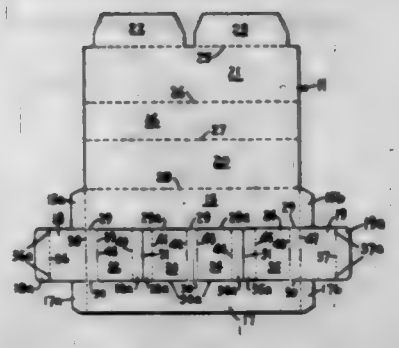
1. A container for liquids comprising top, bottom, and side walls, said top wall including a dispensing opening and at least one integrally formed open channel, with said channel being disposed with a first terminus adjacent the opening and a second terminus disposed at a position substantially removed from said opening, and a closure of flexible material secured to the top wall and overlaying said dispensing opening and said open channel thereby sealing the opening and said first channel terminus under the force of gravity in a generally upright attitude of the container and swinging to a dispensing position under the pressure of the liquid dispensed from the opening and its own weight when said container is tilted, with said channel directing air to the interior of the container behind the liquid during dispensing.

2,970,738
SECTIONED CONTAINER AND BLANK THEREFOR

William M. Strange, Neenah, Wis., assignor to John Strange Carton Company, Menasha, Wis., a corporation of Wisconsin

Filed Nov. 16, 1959, Ser. No. 853,078
6 Claims. (Cl. 229—27)

1. In a blank of stiff, foldable, flexible paperboard comprising a plurality of score lines dividing said blank into a plurality of panel portions, said panel portions including a bottom panel, front and back panels contiguous thereto, a partition panel and a back overlap panel, a cover panel having tabs integral therewith, end tabs on each end of said front and back overlap panels, end

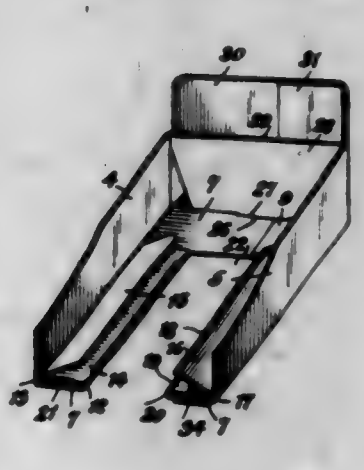


covers on each end of said partition panel, said end covers having end tabs integral therewith, wherein said end cover end tabs are insertable between a portion of said partition panel and said bottom panel for flush closure of said blank into a container.

2,970,739
CARTONS

David Levkoff, 8 Linford Road, Great Neck, N.Y., assignor of one-fourth to Evelyn S. Levkoff, one-fourth to Henry S. Levkoff, and one-fourth to Edith L. Sennet, all of Great Neck, N.Y.

Filed Oct. 23, 1958, Ser. No. 769,157
2 Claims. (Cl. 229—31)



1. A carton having side walls and a bottom, the bottom being composed of a pair of overlapped, adhesively-united wings, one of said wings being wider than the other wing, said wider wing being provided with a slit wholly surrounded by the material of said wing, said slit being in the form of a flattened U-shape thereby defining a first flap out of the body of said wing, said flap being foldable on parallel lines to thereby provide a strip adhesively secured to the wing on which said first flap is formed, the second wing having a second flap extending from one of its edges, said second flap being foldable on parallel lines, one of said fold lines being located adjacent to the longitudinal edge of the second wing, the second wing when foldable on its parallel fold lines, providing a strip overlying and adhesively attached to the second wing, each of the flaps having a free portion hinged at the juncture of a side wall with the part of the wing on which the particular flap is formed, said free portions providing hinged supports for goods placed in the carton, the bottom having an aperture located between the flaps, the free edges of the flaps being located adjacent to the edges of the aperture.

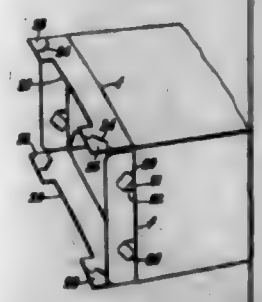
2,970,740
SELF-ERECTING DISPENSING CARTON
Irving H. Fowle and Francis J. Emminger, Binghamton, N.Y., assignors to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware
Original application June 7, 1957, Ser. No. 664,286. Divided and this application Apr. 30, 1958, Ser. No. 731,966
3 Claims. (Cl. 229—38)



1. In a carton having spaced opposed front and rear walls and a pair of spaced opposed side walls, a top cover for said carton consisting of a flap joined to the upper edge of the rear wall, said cover flap extending upwardly from said upper edge in the plane of said rear wall and having first, second and third score lines and an outer edge spaced successively upwardly from, and parallel to, said upper edge; said opposed front and rear walls, said upper edge and second score line, and said second and third score lines all being equally spaced, said upper edge and said first score line defining a first cover flap section, said first and second score lines defining a second cover flap section, said second and third score lines defining a third cover flap section, and said third score line and said outer edge defining a fourth cover flap section; in a first position of said cover flap, said first and second sections being foldable downwardly along said upper edge at a right angle to said rear wall, and said third section being foldable downwardly along said second score line at a right angle to said first and second sections to provide a closure for the upper end of said carton; and in a second position of said cover flap, said second section being foldable downwardly to overlie said first section, said third section being foldable upwardly along said second score line at a right angle to said first and second sections, and said fourth section being foldable downwardly along said third score line at a right angle to said third section, said third and fourth sections providing a closure for the upper end of said carton, and said first and second sections providing an upwardly extending shoulder from which to suspend said carton.

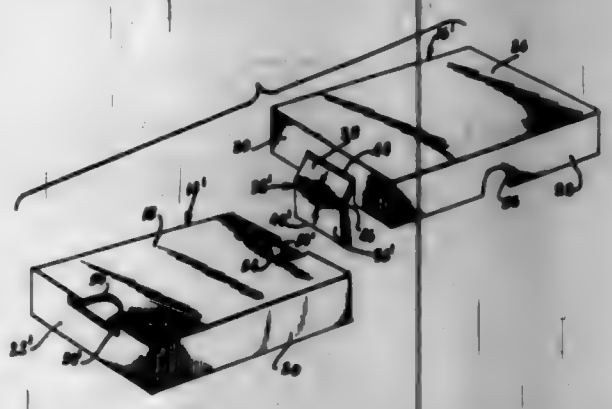
2,970,741
CLOSURE FOR FOLDING PAPERBOARD CARTONS
Orison W. Stone, Valley Cottage, N.Y., and Laurie H. Campbell, New London, Conn., assignors to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Continuation of abandoned application Ser. No. 602,254, Aug. 6, 1956. This application Sept. 22, 1959, Ser. No. 841,489
10 Claims. (Cl. 229—41)

1. A carton construction comprising a tubular body of generally rectangular form having four body panels, a partial end flap extending from each side of each body panel, said partial end flaps being foldable inwardly to form a continuous flange extending around the periphery of each carton end with adjacent end flaps overlapping at the corners of the carton, and a construction for locking the overlapping portions of said end flaps together when the carton is loaded which includes a tongue projecting from each corner of one of each pair of overlapping end flaps and a slot in the overlapped portions of the corresponding end flap, each tongue being folded bodily inwardly of the



carton about the edge of its complementary slot when the end flaps are in their normal closed positions at right angles to the sides of the carton body.

2,970,742
PAPER BOXES FOR MAILING
Charles J. Fleisig, 3824 Fillmore Ave., Brooklyn, N.Y.
Filed Jan. 28, 1959, Ser. No. 789,658
1 Claim. (Cl. 229—45)



A mailable paper box comprising a shallow rectangular cardboard sectional body, the sections of the body constituting a pair of tray-like portions, one of said tray-like portions constituting a rectangular bottom section and including a bottom wall, upstanding side walls and upstanding end walls, the other tray-like portion constituting a top cover section and including a rectangular flat top wall longer and wider than said bottom wall, depending side walls and depending end walls, the bottom section being disposed within the top cover section in telescopic fashion, the side and end walls of both sections being substantially equal in width, the end walls of said bottom section having elongated slots extending along the junction between the end walls and the bottom wall, the end walls of the top cover section having flexible elongated tongue units, each tongue unit including a flexible portion of the end wall and a tongue portion hinged thereto and forming a prolongation thereof, the hinged tongue portion insertable into and interlockable with the slots in the bottom section for frictionally holding the tray-like portions in telescopic fashion, the bottom wall of the bottom section having an opening at each end thereof communicating with the adjacent slot in the end wall of said bottom section, whereby the finger of the user of the box may press against the inserted tongue portion for withdrawing the tongue portion, the tongue portions of the tongue units each having a straight free end edge, each tongue unit being scored transversely intermediate its end, one of the tongue units being adapted to serve as a hinge for pivotally connecting the ends of the bottom and top sections, said one tongue unit being adapted to be bent to bring the top section on to a level with the bottom section, said bottom wall and said top wall being then coplanar.

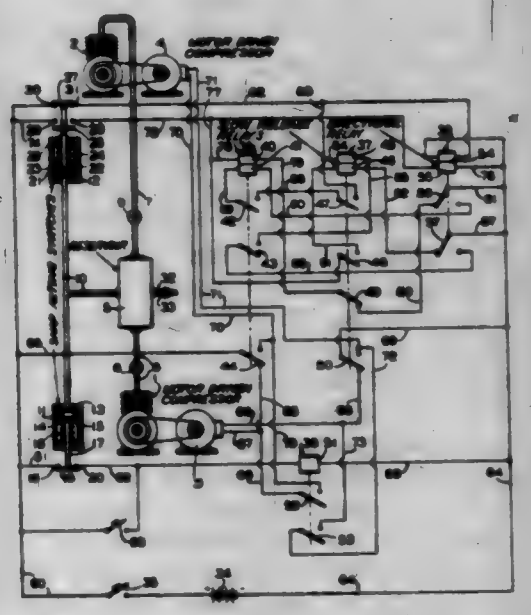
2,970,743
CARTON
Maurice J. Joseph, Massapequa Park, Wilbert L. Cox, Riverdale, and Clarence F. Klein, Hartsdale, N.Y., assignors, by mesne assignments, to The Lord Baltimore Press, Incorporated, New York, N.Y., a corporation of Maryland
Filed Jan. 27, 1956, Ser. No. 561,895
2 Claims. (Cl. 229—51)



1. In an easy opening tight sealing top closure for a carton having an inner top flap articulated to one side of the carton, an outer top flap articulated to the opposite side of the carton and folded over said inner top flap, the free edge margin of said outer top flap being tightly adhered to said inner top flap, the portion of the outer top flap between said tightly adhered portion and its articulated edge being relatively weakly attached to said inner top flap, and a tear line being provided across said outer top flap, the improvement which comprises positioning the tear line entirely within a zone of appreciable width and confined to the weakly attached portion of said outer top flap along the entire length of said line and generally parallel to and spaced from the articulated edge of said outer top flap, said tear line having perforated portions at an angle to the length of said zone in a sawtooth arrangement with imperforate portions of the line between adjacent ends of the perforated portions being spaced apart on parallel lines defining the margins of said zone whereby the tear line has a high resistance to accidental rupture due to vertical forces on the top closure such as the weight of a superposed carton in a stack, and said relatively weak attachment between said flaps comprising a printed layer on one flap and a facing layer of adhesive on the other flap whereby a weak bond is obtained and adhesive penetrates the perforations in the tear line in sealing relation thereto.

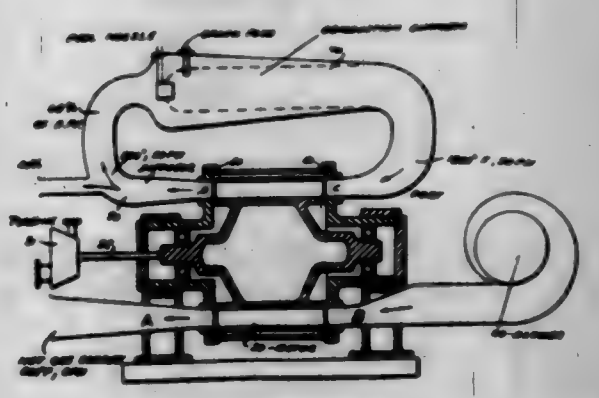
2,970,744
CONTROL APPARATUS FOR DUAL COMPRESSORS
Claude M. Hines, Verona, Pa., assignor to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania
Filed Sept. 22, 1958, Ser. No. 762,629
2 Claims. (Cl. 230—2)

1. A dual-compressor installation comprising in combination, a first compressor having a first driving motor means and a second compressor having a second driving motor means, a common reservoir charged with fluid under pressure delivered by both said first and second compressors, a source of current supply, a first power circuit for said first motor means effective when energized to cause said first motor means to drive said first compressor, a second power circuit for said second motor means effective when energized to cause said second motor means to drive said second compressor, a first current-responsive control relay and a second current-responsive control relay, said first and said second control relays being operative cooperatively when deenergized to establish said first power circuit, said first and said second control relays being operative cooperatively when said first control relay is energized and said second control relay is deenergized to cause interruption of said first power circuit, said first and said second control relays being operative cooperatively when both are energized to establish said second power circuit, said first and said second control relays being operative cooperatively when said first control relay is deenergized and said second control relay is energized to cause interruption of



said second power circuit, and means including pressure responsive switch means effective upon successive reductions of the pressure in said reservoir to below a certain value for so controlling energization and deenergization of said first and second control relays as to cause said control relays to establish said first power circuit and said second power consecutively and repeatedly, and effective upon successive increases of the pressure in said reservoir to above said certain value to interrupt said first power circuit or said second power circuit depending on which is established.

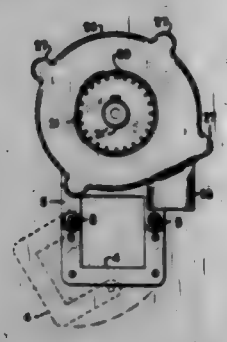
2,970,745
WAVE ENGINE
Max Berchtold, Paoli, Pa., assignor to I-T-E Circuit Breaker Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Sept. 8, 1954, Ser. No. 454,774
22 Claims. (Cl. 230—69)



1. A wave engine comprising a rotor, a plurality of channels carried by said rotor, said channels extending substantially parallel to the axis of the rotor; means for rotating said rotor about its axis at high speed; said channels each being open at each end; a first stationary end plate on a first side of the rotor closing the channel

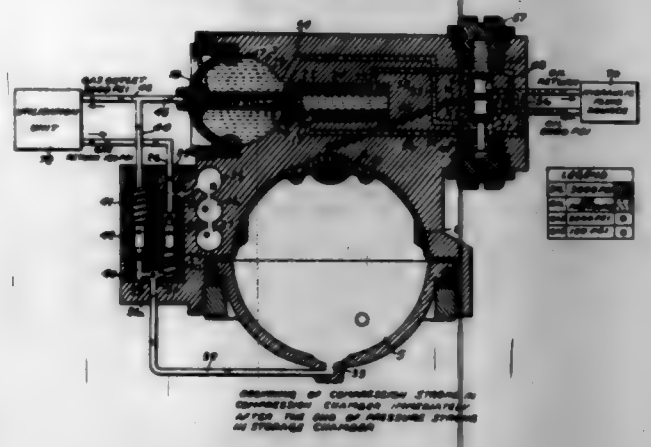
end on the first side; a second stationary end plate on the second side of the rotor closing the channel ends on the second side; a first port in said first end plate comprising an operative fluid inlet; a second port in said second end plate comprising a compressed fluid pick-up; a third port in one of said two end plates comprising an inlet for fluid to be compressed; a fourth port in said end plate opposite to that in which said third port is located comprising a low pressure exhaust; said channel ends registering with said ports during rotation of the rotor; said first, second, third and fourth ports being angularly positioned and proportioned with respect to each other to provide the following cycle of operation; each channel passing the fourth port and being closed at the end registering with the plate having the fourth port before it passes the third port; each channel traversing the third port until the pressure wave generated by the introduction of intake fluid reaches the plate in which the third port is located; said channel passing the third port and being closed when said pressure wave reaches said plate; said channel thereafter passing said first port; the opening of said channel to said first port producing a compression wave in said channel downstream of said operative fluid toward the second plate; said channel reaching said second port when the compression wave reaches said second plate; said channel passing said second port when the interface between the operative fluid and the fluid to be compressed in the channel reaches said second plate; an expansion wave generated within said channel when said channel is closed by the lagging edge of said first port; said channel leaving said first port at an interval of time preceding the channel leaving said second port; said interval being equal to the time necessary for the expansion wave generated by said closing of the first port to overtake the interface at the closing edge of the second port, said expansion wave comprising a group of waves; said channel being closed by passing the second port when the velocity of the gas in that port has been reduced to one-fifth of the initial undisturbed velocity.

2,970,746
COOLING DEVICE FOR ALTERNATING CURRENT EQUIPMENT
Raymond N. Rowe, Plainville, Conn., assignor to General Electric Company, a corporation of New York
Filed Mar. 13, 1958, Ser. No. 721,113
4 Claims. (Cl. 230—117)



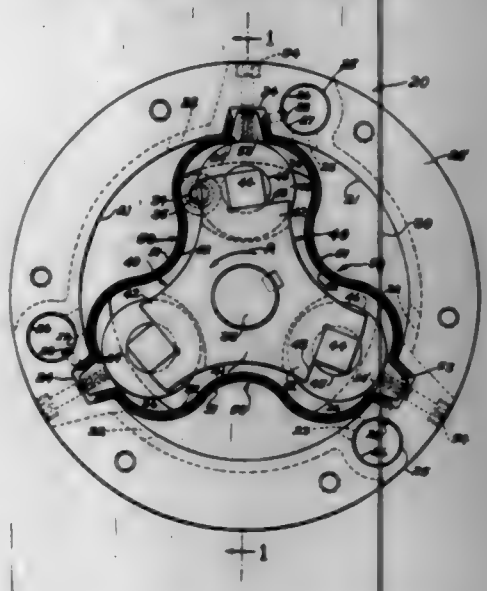
1. A device for cooling electrical apparatus comprising: a laminated stator forming a simple magnetic loop about a central window and having an air gap therein, a portion of said stator remote from said air gap being hinged to open said magnetic circuit for the introduction of an alternating current carrying conductor into said window; an induction rotor mounted in said air gap for rotation therein; and an air impeller fixed adjacent said stator and connected to be operated by said induction rotor, whereby alternating currents in said conductor in excess of a predetermined amount operate said impeller to produce a flow of air for cooling purposes.

2,970,747
COMPRESSOR SYSTEM
Josef Kaspar, Sepulveda, and Alex J. Bielski, Woodland Hills, Calif., assignors to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland
Filed Sept. 9, 1958, Ser. No. 759,900
15 Claims. (Cl. 230—162)



1. A compressor system for substantially continuous delivery of a first fluid at high pressure comprising compression means, storage means, first means to introduce said first fluid at low pressure into said compression means, a source of high pressure second fluid, second means to apply said second fluid at high pressure to said compression means to compress said first fluid to said high pressure, means responsive to said first fluid when it reaches a condition of said high pressure to discharge said high pressure first fluid from said compression means including means to deliver said high pressure first fluid to said storage means, said second means coupling said source of high pressure second fluid to said storage means and including means responsive to the storage of a predetermined amount of said high pressure first fluid in said storage means to apply said high pressure second fluid to said storage means to discharge said high pressure first fluid from said storage means.

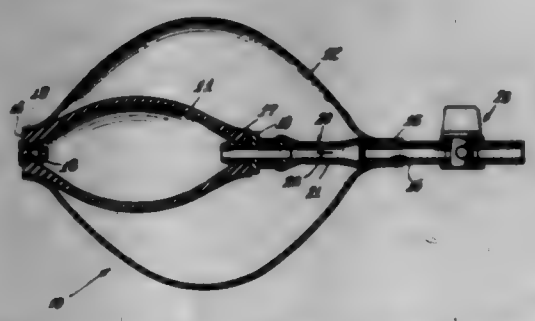
2,970,748
ROTARY COMPRESSORS
Wilfrid H. Bendall, New York, N.Y.
(3 Gold St., Stonington, Conn.)
Filed July 15, 1958, Ser. No. 748,692
11 Claims. (Cl. 230—168)



1. In a rotary compressor, a casing including end plates and having a cylindrical inner surface with adjacent intake and discharge ports angularly disposed in pairs around said surface, a rotary displacer coaxial with said

casing, and a plurality of laminated spring band elements interposed between the casing inner surface and said displacer and attached to the casing inner surface at axially disposed lines between each pair of ports, each of said band elements having an external and an internal working surface and being movable away from said casing inner surface between the lines of attachment thereto and the end plates to form an external compression space of variable volume between said inner surface and the band element and an internal compression space of variable volume enclosed between the internal surfaces of said band elements and said end plates, the movable portions of said band elements having a free circumferential length substantially equal to the circumferential length of the casing inner surface between said lines of attachment and the portions of said band elements adjacent to said lines of attachment being initially performed to curve freely away from said inner surface, said rotary displacer having a plurality of wedge-mounted and angularly spaced rollers in radially wedged rolling contact with said internal surface of the band elements.

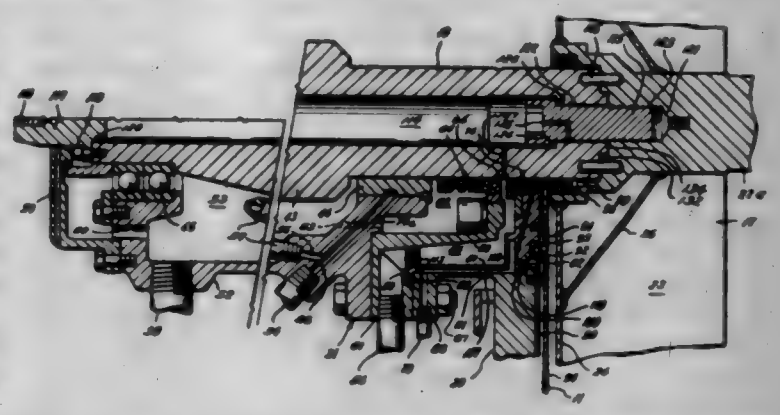
2,970,749
DILATING DEVICE
Joseph F. Montague, 104, E. 40th St., New York, N.Y.
Filed Oct. 20, 1958, Ser. No. 768,187
8 Claims. (Cl. 230—169)



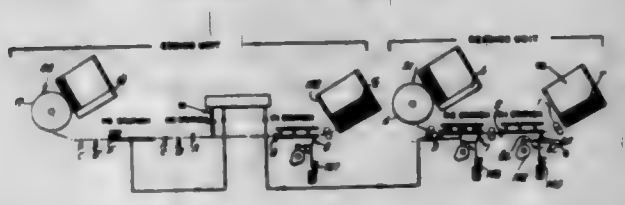
1. A handpowered device for providing a substantially constant and controllable flow of low pressure compressible fluid comprising a squeezable bulb construction including flexible inner and outer bulbs, said inner bulb being positioned in said outer bulb and having opposite wall portions thereof in contact with opposed wall portions of said outer bulb whereby when pressure is applied to said outer bulb at that portion thereof in contact with said inner bulb, said pressure will be transmitted to said inner bulb for the squeezing thereof, said inner bulb having valved means opening to an external source of fluid supply and valved means opening to the interior of said outer bulb; and means comprising a fluid line connected to said outer bulb, through which fluid may discharge from the outer bulb, said outer bulb being constituted of a relatively thin membrane of elastic material and being distensible and expanded in response to the introduction of fluid therein under pressure by the inner bulb whereby the said fluid may be discharged through said fluid line by the force exerted on it by said outer bulb in returning to its non-stretched condition.

2,970,750
CENTRIFUGAL GAS COMPRESSION
Judson S. Swearingen, San Antonio, Tex.
(12401 W. Olympic Blvd., Los Angeles 64, Calif.)
Filed Feb. 6, 1956, Ser. No. 563,692
14 Claims. (Cl. 230—204)

1. In centrifugal compressor apparatus having a housing, a shaft rotatable within the housing, impeller wheels on the shaft within the housing, and a lubricated mechanical seal for the shaft mounted outside the housing and spaced apart therefrom; means for protecting the mechanical seal from fluid being compressed within the housing, said protecting means comprising three spaced apart annular restrictions arranged in series axially of the shaft, two of said annular restrictions being disposed exteriorly of the housing in the space between said mechanical seal and housing and the other of said annular restrictions being disposed within the housing intermediate the impeller wheels and said two exterior annular restrictions, a flow passage connecting the space between said inner annular restriction and the exterior annular restriction adjacent thereto with a point upstream from the impeller wheels, means for introducing a sealing fluid into the space between said two exterior restrictions, and means for withdrawing fluid from the space between said mechanical seal and the annular restriction adjacent thereto.



2,970,751
CARD HANDLING APPARATUS
George F. Daly, Endicott, and James A. Weidenhammer, Poughkeepsie, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Dec. 30, 1957, Ser. No. 706,067
19 Claims. (Cl. 234—29)

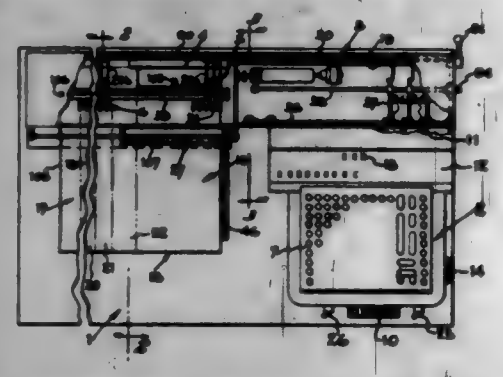


1. An apparatus for handling record cards which are divided into a plurality of information receiving areas comprising a card coding station, coding mechanism at the coding station for impressing information in a record card, a card sensing station, means for feeding cards to said stations in sequence, a series of card stops at said coding station, one stop for each information receiving area, means for selectively actuating said card stops to move a selected card stop into the path of a record card, means for imparting reciprocatory motion to said selected card stop to move the record card and the information receiving area thereof relatively to the coding station, and means for moving the selected card stop out of the path of the record card.

2,970,752
CODE PUNCHING APPARATUS FOR CALCULATING MACHINES
Carlos Wittenmyer, 6314 7th Ave. S.,
St. Petersburg, Fla.
Original application Aug. 8, 1957, Ser. No. 677,071. Divided and this application Nov. 21, 1958, Ser. No. 775,573
5 Claims. (Cl. 234—99)

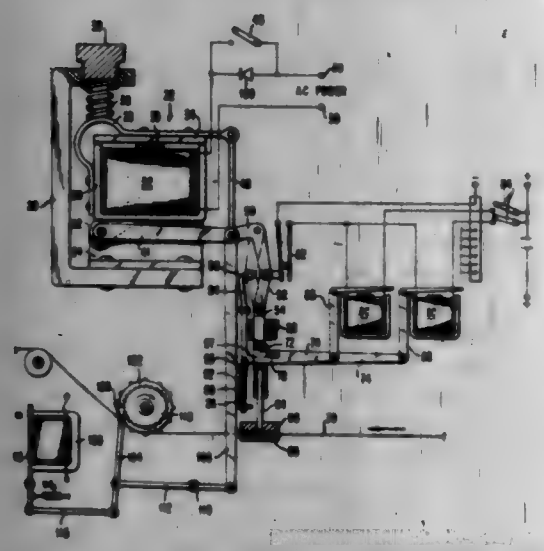
1. A punching apparatus for a calculating machine having a result indicator which indicates the result of the calculation, said apparatus punching in a record sheet a coded hole pattern representing said result, said punching apparatus comprising a punch cage, a group of punches

slidably mounted in said cage, said punches having cutting ends, a shiftable punch selector mounted relative to said cage, said selector having a series of backing surfaces, said backing surfaces delineated by elongated recesses formed in said selector, said elongated recesses extending lengthwise in the direction of motion of the shiftable punch selector, said backing surfaces being disposed in endwise relation to the elongated recesses, said punches having respective contact portions residing in registry with said backing surfaces, means connecting said punch selector to said result indicator, whereby said result indicator



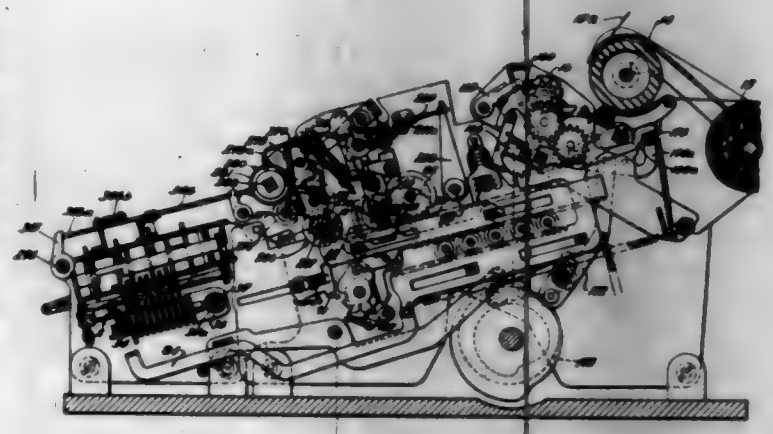
shifts the punch selector relative to said punches, said backing surfaces contacting the contact portions of selected punches and said recesses deactivating the remaining punches, a die plate residing in spaced relationship to the cutting ends of said punches, said die plate having a hole pattern which registers with said cutting ends, and power means connected to the die plate for shifting the same upon the cutting ends of said punches, whereby a pattern of holes corresponding to said activated punches is perforated in a record sheet interposed between said die plate and said cutting ends.

2,970,753
TAPE PUNCH
Joseph E. Lisinski, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Oct. 2, 1957, Ser. No. 687,663
2 Claims. (Cl. 234—115)



1. A tape punch comprising, in combination, motive means including, an electromagnet, a supply of A.C. voltage connected to said magnet, a frame, a bail mounted for reciprocation having a plurality of openings therein, a crank mounted for pivotal movement on said frame, means coupling said motive means to said crank for rocking the latter about its pivot in response to movement of said motive means, a die, a link pivotally connected between said crank and said bail, a plurality of punches, each having an end slidably received to said die and another end slidably received in a respective one of said openings in said bail, circuits including a plurality of magnets, each associated with a respective one of said punches, effective to be energized and de-energized in response to data signals, means including interposers, one for each of said punches and its associated magnet and each extendable within a respective one of said bail openings to couple said bail and the corresponding punch for reciprocation in response to operation of the associated magnet, and means operated in response to movement of said crank and including a mechanism movable to one or the other of two stable positions for restoring extended interposers after magnets associated therewith have been de-energized.

2,970,754
MULTIPLICATION CONTROL MEANS FOR TEN KEY CALCULATING MACHINES
Herman Gang, Morris Plains, N.J., assignor to Monroe Calculating Machine Company, Orange, N.J., a corporation of Delaware
Filed Oct. 25, 1956, Ser. No. 618,231
31 Claims. (Cl. 235—60)

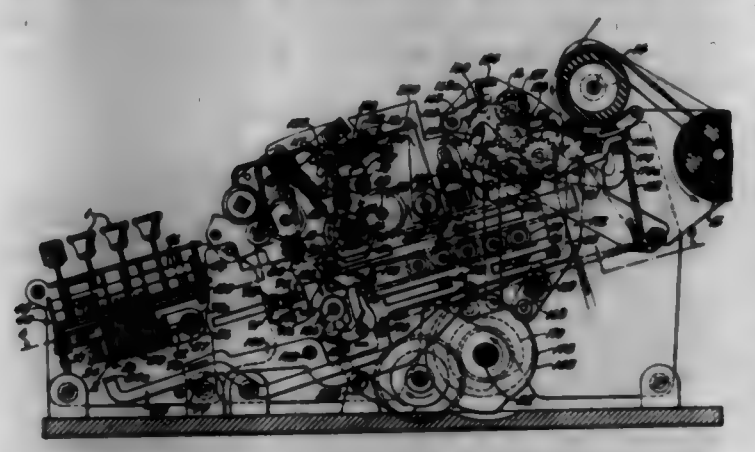


1. In a motor driven calculating machine having a product register, and reciprocatory cyclically operable actuating means for said register relatively adjustable with respect thereto for idle operation, or for registering operation during one or both strokes of each cycle of operation; multiplication control mechanism including means for initiating operation of said actuating means and for terminating operation thereof at the end of predeterminted numbers of cycles of operation, and means for controlling adjustment of said actuating means for registering operation during both strokes of predetermined cycles of said predetermined numbers of cycles, and for registering operation during one stroke and idle operation during the opposed stroke of other predetermined cycles of said predetermined numbers of cycles.

2,970,755
REGISTRATION CONTROL MEANS FOR ADDING-SUBTRACTING LISTING MACHINES
Herman Gang, Morris Plains, N.J., assignor to Monroe Calculating Machine Company, Orange, N.J., a corporation of Delaware
Filed Oct. 25, 1956, Ser. No. 618,230
18 Claims. (Cl. 235—60.2)

15. In a machine of the class described having a register adapted to accumulate positive or negative totals including an ordinal series of register wheel gears; the combination with reciprocatory cyclically operable actuating means for said gears, adjustable means for engaging and disengaging said actuating means and gears, said adjustable means being adjustable to a first engaging position wherein said gears will be rotated subtractively during the initial stroke of a cycle of operation, to a second engaging position wherein said gears will be rotated subtractively during the return stroke of said

cycle and to a disengaging position wherein said actuating means is idly operable, printing mechanism operable between the initial and return strokes of a cycle of operation of said actuating means including type members adjustable in accordance with the movements of said actuating means, and total taking devices comprising, a total key, means operable in response to depression of said key to adjust said adjustable means to said first engaging position and to initiate a cycle of operation of said actuating means thereby zeroizing said register wheels during the initial stroke of said actuating means, and means operable subsequent to said initial stroke to adjust said adjustable means to said disengaging position for idle operation of said actuating means during the return stroke of said cycle; of negative total taking devices operable to change the character of a total taking operation of a negative total registered complemental in response to movement of the highest order register wheel to zero in said operation, comprising means operable to disable said printing mechanism, means operable to adjust said adjustable means to said second engaging position thereby registering the true negative total during the return stroke of said actuating means, means for initiating a second cycle of said actuating means, means for adjusting said adjusting means to said first engaging position thereby zeroizing said register during the initial stroke of said actuating means in said second cycle, means for enabling said printing mechanism thereby printing said true negative total, and means operable subsequent to said initial stroke of said actuating means in said second cycle for adjusting said adjustable means to said disengaging position for idle operation of said actuating means during the return stroke of said second cycle.

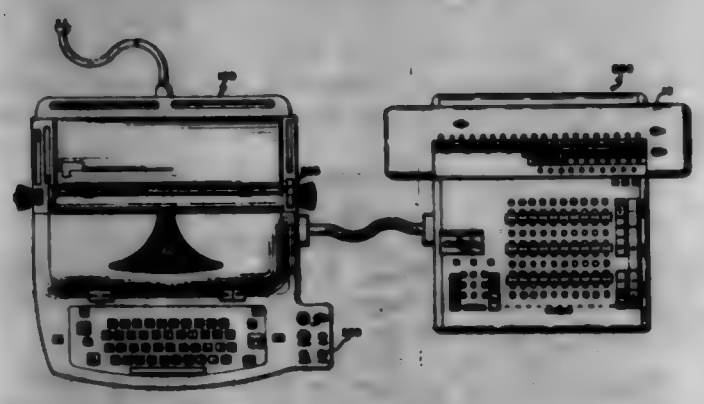


2,970,756

ELECTRO-MAGNETIC SELECTING APPARATUS

Gilbert J. Specock, San Lorenzo, and Donald L. Rolph and Charles S. Balaz, Hayward, Calif., assignors to Friden, Inc., a corporation of California

Filed Feb. 23, 1954, Ser. No. 412,042
12 Claims. (Cl. 235—60.12)



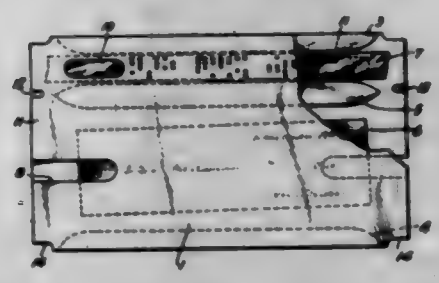
12. In a printing calculator apparatus comprising, in combination, a key controlled typewriter, a calculator and an electrical system operating as a means of communication between said typewriter and said calculator, a selecting apparatus comprising a pair of movable selecting slides arranged in parallel spaced relation, in said calculator, each selecting slide in said pair being separately movable, means to move said selecting slides, apertures formed in edge portions of said selecting slides at spaced intervals along said selecting slides, the apertures in a selecting slide being of different length dimensions, the spacing of the corresponding apertures in said selecting slides being the same in all respects, said apertures in each selecting slide being in paired relation with the apertures in the other selecting slide of said pair, latch means pivotally supported on said selecting slides, fixed plate means engageable by said latch means and cooperating therewith to normally hold said selecting slides against movement, a plurality of spring-urged apertured bolt members operable to move into the apertures in said selecting slides, latch members normally holding said bolt members retracted from the apertures in said selecting slides, a plurality of electromagnetic devices to selectively control the operation of said selecting slides by operating to release said latch means and said latch members, key controlled switch means for differentially and selectively controlling the operation of said electromagnetic devices, a bail member common to said selecting slides to restore said selecting slides to normal latched position, electromagnetic means to operate said bail member and adjustment screw members adjustably supported in said bail member and operable to be adjusted to engage said selecting slides when said bail member is operated.

2,970,757

DOCUMENT CARRIER FOR MECHANIZED PROCESSING

Eric Malcolm Swift McWhirter, Mount Vernon, N.Y., assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed Mar. 24, 1954, Ser. No. 418,394
3 Claims. (Cl. 235—61.12)



1. A carrier for transporting a document and a processing strip during automatic machine processing operations of the document in accordance with machine-control processing indicia on the processing strip, said carrier comprising a first and a second sheet of transparent material, spacing means positioned between said sheets and secured to each sheet to provide a unitary structure having a first compartment for receiving said document and a second compartment for receiving said processing strip.

2,970,758

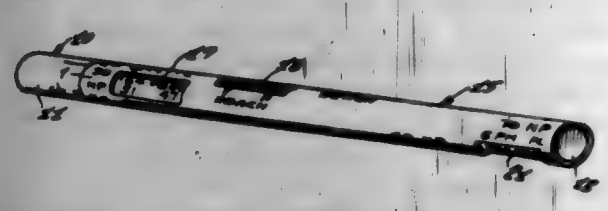
DEVICE FOR CALCULATING FIRE DEPARTMENT HYDRAULICS

Frank Anthony Abbate, Pleasantville, N.Y.
(407 Louis Ave., South Floral Park, N.Y.)

Filed May 3, 1956, Ser. No. 582,601
1 Claim. (Cl. 235—87)

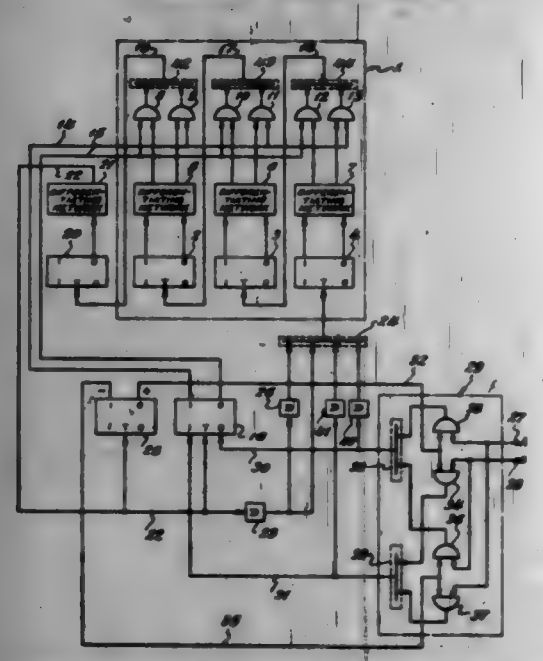
A device for calculating fire department hydraulics, including the combination of an elongated cylindrical drum terminating at one end in a cylindrical base portion and having a shaft portion axially alined with the base portion and of lesser diameter than that of the latter, a cylindrical sleeve rotatably mounted upon the shaft portion

and coextensive therewith and at one end abutting the base of said drum and being of substantially equal external diameter as that of the drum so as to present a single continuous cylindrical surface therewith, the base having a first index scale thereon while the mutually abutting portions of the sleeve together forming a second index scale and the shaft having a plurality of predetermined data groups thereon in predetermined arrangement, said sleeve defining a plurality of longitudinally and circumferentially spaced open windows for exposing selected ones of said data groups in response to each



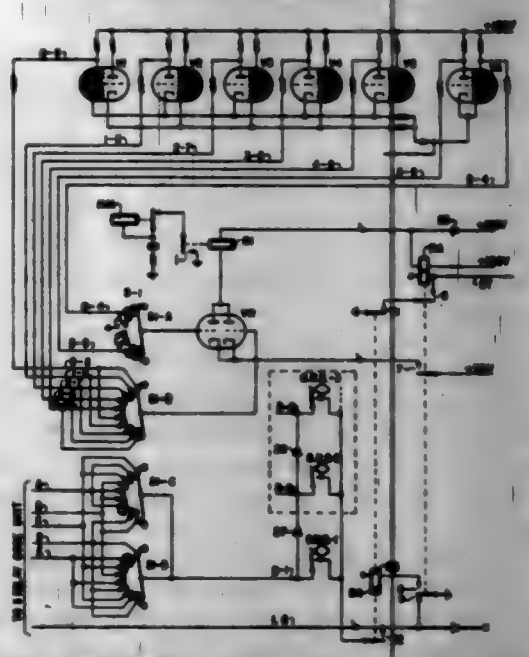
setting of the second index scale relative to the first index scale, the windows of the sleeve being corelated with said second index scale while said data groups on said shaft are corelated with said first index scale, said windows and data groups all being disposed in longitudinally spaced relationship respectively along said sleeve and said shaft and readable in the direction parallel to the longitudinal axis of the shaft, the end of said shaft remote from said cylindrical base portion terminating in a plane coinciding with that of the respectively adjacent end of the sleeve in order to determine the correct assembly of said sleeve with said shaft for accurate operative relationship.

2,970,759
ABSOLUTE VALUE REVERSIBLE COUNTER
Walter C. Lanning, Plainview, N.Y., assignor to Sperry Rand Corporation, a corporation of Delaware
Filed May 14, 1957, Ser. No. 659,016
1 Claim. (Cl. 235—92)



Apparatus comprising reversible counting means having a trigger input and first and second control inputs whereby said counting means is operative to count the number of data pulses applied to said trigger input in a sense determined by which of said control inputs is activated, first bistable means having first and second reset terminals and a trigger terminal, second bistable means having a trigger terminal, each said first and second bistable means producing first and second output signals respectively representing opposite states thereof, means for applying said first and second output signals of said first bistable means to respective ones of said first and second control inputs, means connected to said counting means for sensing the change in the value of the count stored in said counting means from a zero value to a maximum value and for producing a third output signal upon the occurrence thereof, means for applying said third output signal to the trigger terminal of each said first and second bistable means, switching means having a pair of output terminals and first and second control terminals, said switching means applying first and second data pulses to selected respective ones of said output terminals in dependence upon which of said control terminals is activated, means for applying said first and second output signals of said second bistable means to respective ones of said first and second control terminals, each of said output terminals of said switching means being connected to a respective one of said first and second reset terminals of said first bistable means, first and second delay means for connecting respective ones of said output terminals of said switching means to said trigger input of said counting means, and third and fourth delay means for separately applying said third signal to the last-named trigger input, said third and fourth delay means delaying said third signal by different amounts.

2,970,760
CODE TRANSLATING SYSTEM
Alfred H. Faulkner, Chicago, Ill., assignor to Automatic Electric Laboratories, Inc., a corporation of Delaware
Filed Sept. 9, 1954, Ser. No. 454,960
7 Claims. (Cl. 235—92)

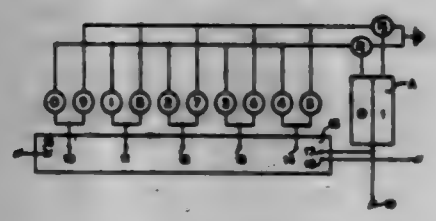


1. A code translating system for use in translating a count registered in an electronic valve counting circuit to an indicating means of the type requiring the coincidental operation of at least two electromagnets corresponding to a registered count among a plurality of more than two electromagnets for operating said indicating means to indicate a count corresponding to the count registered in said counting circuit, the improvement comprising: a switch operated in accordance with a count registered in said counting circuit to select two electromagnets corresponding to said count among said plurality, and means rendered effective by said operated switch for coincidentally operating said selected electromagnets without connecting the operating magnets to said counting circuit.

2,970,761
DIGIT INDICATOR
Raymond Berenger, Paris, France, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Oct. 9, 1958, Ser. No. 766,312
Claims priority, application France Nov. 4, 1957
3 Claims. (Cl. 235—92)

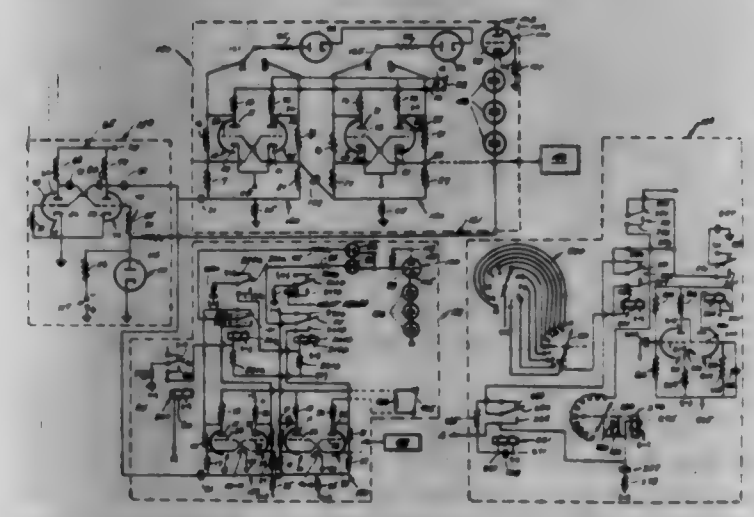
1. A digit indicator comprising: a shift register having five output terminals and ten indicating members for ex-

hibiting digits in the decimal system, only one of said output terminals delivering an output voltage at a given time, each output terminal being connected to two indicating members, a change-over switch, a supply source for said indicating members, any two indicating members connected to one output terminal being coupled to said supply source through said change-over switch, only a particular indicating member being energized which is connected to an output terminal delivering an output voltage and whose supply circuit is completed through the change-over switch, the two indicating members connected to one output terminal indicating digits one of which is the 9-complement of the other, means for applying a continuous pulse



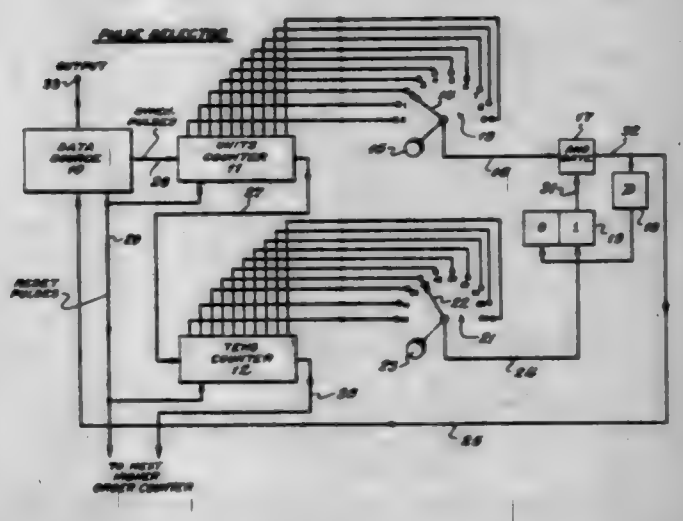
train to said shift register, the voltage on one output terminal moving to the next adjacent output terminal in a forward or backward direction on the receipt of each pulse of said train depending on the position of said change-over switch, said voltage remaining on the extreme forward output terminal and on the extreme backward output terminal during the receipt of two succeeding pulses of said train, while each time the second of said two pulses is received while the voltage is on the extreme forward or backward output terminal a pulse is produced which switches over the change-over switch, any digit indicated by the digit indicator being replaced by its 9-complement by the switching over of the change-over switch.

2,970,762
INTERPOLATING DEVICE
Erich F. Feigl, Los Angeles, Calif., assignor to Standard Coil Products Co., Inc., Los Angeles, Calif., a corporation of Illinois
Filed Feb. 2, 1953, Ser. No. 334,690
5 Claims. (Cl. 235—132)



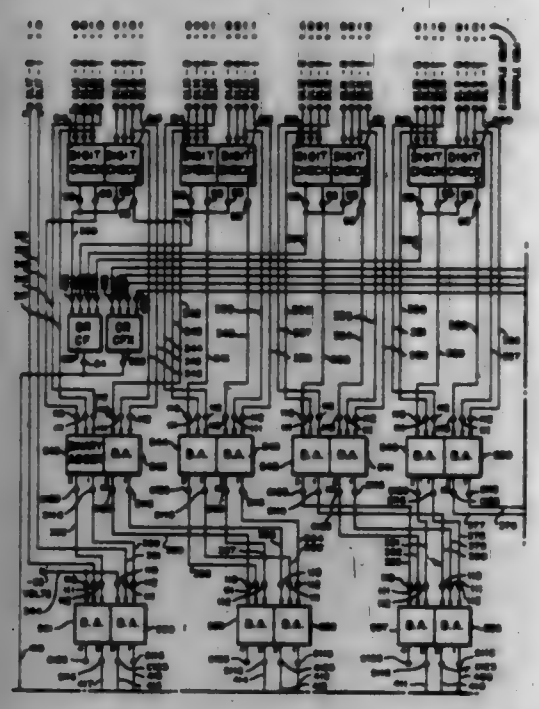
1. An interpolating device of the character described comprising first and second counters each having presetting switch means for setting up predetermined signal pulse counting totalizations in its respective counter, an output device individually connected to the output of each of said counters, circuit means for translating each counter totalization into a signal for actuating its respective device, and a signal pulse generator connected to the input of each of said counters to establish simultaneous counting by both said counters, whereby a predetermined ratio of actuations is effected upon the respective devices in accordance with the said setting up of the respective signal pulse counting totalizations in the associated counters, and further embodying means including circuit connections from one of said counters to said signal pulse generator for stopping the generator signal pulse output upon said one counter attaining its said counting totalization.

2,970,763
PREDETERMINED PULSE SELECTOR
Herbert Freeman, Great Neck, N.Y., assignor to Sperry Rand Corporation, a corporation of Delaware
Filed Feb. 28, 1957, Ser. No. 643,051
2 Claims. (Cl. 235—132)



1. Means for selecting from a repetitive sequence of pulses a predetermined pulse having a fixed order of sequence relative to a reference pulse, said means comprising a plurality of pulse counters connected in cascade, each counter having an unambiguous capacity equal to the base of the numbering system employed, the first of said counters being adapted to receive said sequence of pulses, each said counter corresponding to a different order significant figure of the total number of pulses in said repetitive sequence, each said counter having an input and producing an output pulse on a discrete output terminal for every number stored therein, each higher order counter being adapted to receive an output pulse from an immediately preceding lower order counter when the unambiguous count of said lower order counter is exceeded, a plurality of selectable switching means corresponding in number to the number of said counters, each switching means having a plurality of inputs and an output and being connected to a respective counter so that each of said inputs is connected to a respective one of said discrete output terminals, each said switching means producing an output pulse upon the concurrence of the position of said switch and a pulse on a predetermined one of said discrete output terminals, an AND gate having first and second inputs and producing an output signal, said first input of said AND gate being connected to the output of the switching means coupled to a lower order counter and said second input of said AND gate being connected to the output of a bistable gate generating means, a first input of said gate generating means being connected to the output of the switching means coupled to a higher order counter and being responsive to the output pulse of said last-named switching means for rendering operative said AND gate, and means for applying said output signal of said AND gate to a second input of said gate generating means, said gate generating means being oppositely responsive thereto relative to the response of said gate generating means to said output signal of said last-named switching means coupled to said higher order counter.

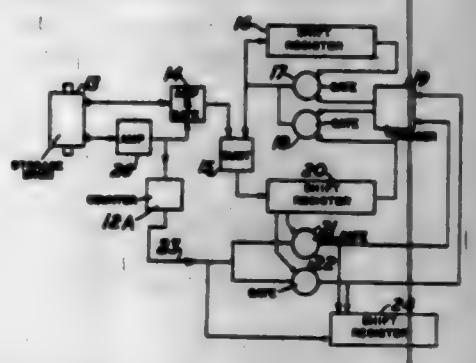
2,970,764
CHECKING CIRCUIT
William J. Deerhake, Dumont, Byron L. Havens, Closter, and Kenneth E. Schreiner, Harrington Park, N.J., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed June 4, 1954, Ser. No. 434,548
20 Claims. (Cl. 235—153)



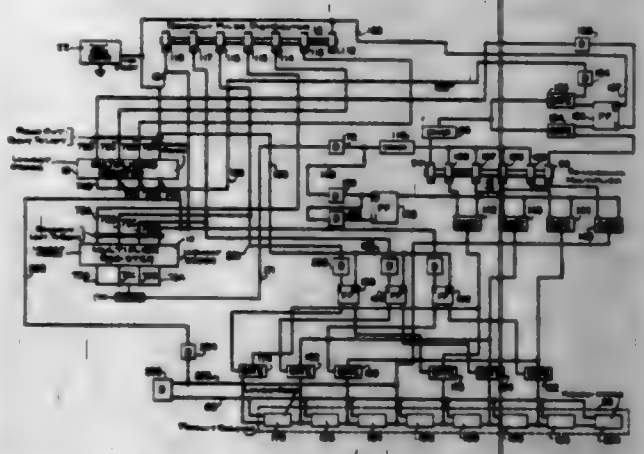
1. A checking circuit for determining whether a multi-decimal position word expressed in binary-decimal notation and the indicator of said word are in accord comprising, a plurality of groups of decimal position terminals, each group including a "1" bit terminal, a "2" bit terminal, a "4" bit terminal and an "8" bit terminal, digit check circuit means including a digit check circuit for each decimal position, means so interconnecting each digit check circuit with a corresponding group of decimal position terminals that the "2" bit, "4" bit and "8" bit values will be impressed on said digit check circuit, a first plurality of binary adders, means for connecting each binary adder of said first plurality of binary adders to a respective digit check circuit and the "1" bit and "2" bit decimal position terminals corresponding to said digit check circuit, a second group of binary adders, means connecting said first group of binary adders with said second group of binary adders, means for introducing the indicated bit count into the sum rendered by said second group of adders, delay means interconnecting the output of said second group of adders with a third group of adders, means including inverter circuit means connecting said third group of adders with a group of modified binary adders, and means responsive to the output of said group of modified binary adders for indicating whether or not the word and its indicated bit count are consistent.

2,970,765
DATA TRANSLATING APPARATUS
Raymond Bird, Letchworth, England, assignor to International Computers and Tabulators Limited, a British company
Filed Oct. 21, 1953, Ser. No. 387,468
Claims priority, application Great Britain Nov. 4, 1952
3 Claims. (Cl. 235—155)

1. Apparatus for translating a number from a first radix to a second radix of notation, said apparatus comprising a first store for registering signals representing a number in the first radix; a cyclically operable, serial-mode second store for storing a plurality of groups of signals representing in said first radix the equivalents of predetermined values in said second radix, said predetermined values being such that any desired number in the second radix may be expressed as combinations of such values; a subtracting circuit having a first and a second input and one output responsive to serial-mode signals respecting members in the first radix applied to the inputs thereof to form difference representing signals at the output thereof; means to apply signals read during successive cycles from said second store to the first input of said subtracting circuit; a third store to register successive difference signals during successive cycles of operation; control means to apply signals read-out from said third store to the second input of said subtracting circuit and to said first store when said third store contains a positive number, and to apply signals read-out from said first store to the second input of said subtracting circuit and to said first store when said third store contains a negative number; and a fourth store to store a record of the sequence of operation of said control means.



2,970,766
BINARY MULTIPLIER EMPLOYING A DELAY MEDIUM
Herman Epstein, West Chester, Pa., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed May 14, 1954, Ser. No. 429,791
29 Claims. (Cl. 235—165)



1. An electronic multiplier comprising a multiplier receiving device for receiving a multiplier, a multiplicand receiving device for receiving a multiplicand, each of the multiplier and multiplicand receiving devices including a plurality of digit representing elements having two stable conditions and connected in parallel, means for setting each of said elements in a preselected starting condition, means for delivering a plurality of sensing pulses to each of the digit representing elements of the multiplicand and multiplier receiving devices respectively, an acoustic delay element, an input transducer positioned at one end section of the acoustic delay element and arranged to convert an electrical pulse delivered therein to a propagating acoustic pulse, an output transducer positioned on the acoustic delay element at a predetermined distance from the input transducer and arranged to re-convert a

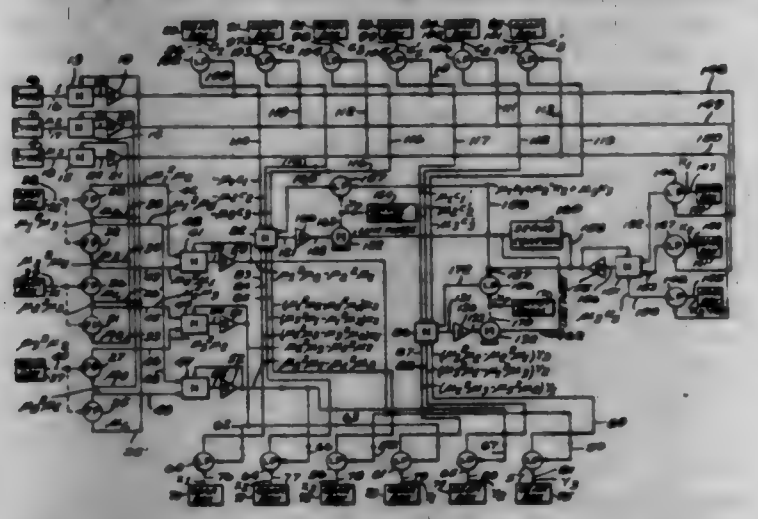
propagating acoustic pulse to an electrical pulse, a plurality of sensing means positioned along the acoustic delay element at predetermined distances between said input and said output transducers, the sensing means arranged to receive an acoustic pulse and provide an electrical output pulse upon coincidental arrival of the electrical pulse and an acoustic pulse propagating within the acoustic delay element, controlled means to transfer the digit pulses read out of the multiplicand receiving device by the sensing pulses to the input transducer of the acoustic delay element, further controlled means to successively transfer the digit pulses read out of the multiplier receiving device by the sensing pulses to each of said coincidence transducers a predetermined time interval after the last multiplicand digit pulse has been transferred to said acoustic delay element and during the time intervals the travelling sonic pulses are positioned at separate coincidence transducers, means to recirculate the electrical pulses derived from the output transducer to the input transducer during the intervals between successive transfers of the multiplier digit pulses to the coincidence transducers, and a final product register for receiving and accumulating the output pulses from the outputs of said coincidence transducers, the final product register including a plurality of digit representing elements having two stable conditions and connected in cascade so that a change of each element to one stable condition causes a change in the stable condition of the next higher one.

2,970,767

FOUR-STATION PHASE COMPARISON

Norman J. Zabb, Brooklyn, and Herbert W. Bomzer, New Hyde Park, N.Y., assignors to Sperry Rand Corporation, Ford Instrument Company Division, Long Island City, N.Y., a corporation of Delaware

Filed June 24, 1957, Ser. No. 668,280
3 Claims. (Cl. 235—187)



1. An analog computation device for converting plane hyperbolic coordinates to plane rectangular coordinates comprising means for continuously mechanizing and solving the equation having the basic form:

$$X_p=y_1(u_2^2u_3-u_3^2u_2)+y(u_3^2-u_1^2u_3)+y_3(u_1^2u_2-u_2^2u_1)+u_1C_1^1+u_2C_2^1+u_3C_3^1/2[u_1k_1+u_2k_2+u_3k_3]$$

$$Y_p=-[x_1(u_2^2u_3-u_3^2u_2)+x_2(u_3^2u_1-u_1^2u_3)+x_3(u_1^2u_2-u_2^2u_1)-u_1C_1-u_2C_2-u_3C_3]/2[u_1k_1+u_2k_2+u_3k_3]$$

to obtain continuously the rectangular coordinate quantities X_p and Y_p of a point P which are related to four reference points I, II, III and IV, a rectangular coordinate system having an X and a Y axis with the origin at the said point IV, the scalar distance between the points I and IV being A_1, the scalar distance between the points II and IV being A_2, the scalar distance between the points III and IV being A_3, the rectangular coordinates of the point I being x_1 and y_1, the rectangular coordinates of the point II being x_2 and y_2, and the rectangular coordinates of the point III being x_3 and y_3 the point P having hyperbolic coordinates u_1, u_2 and u_3 relative to points I, II, III and IV and being at a distance D from the rectangular coordinate origin, the scalar distance between the point P and I being d_1, the scalar distance between the points P and II being d_2, the scalar distance between the points P and III being d_3, and wherein u_1 is equal to (d_1-D), u_2 is equal to (d_2-D), u_3 is equal to (d_3-D), C_1^1 is equal to the computation quantity $(y_2A_3^2-y_3A_2^2)$, C_2^1 is equal to the computation quantity $(y_1A_3^2-y_3A_1^2)$, C_3^1 is equal to the computation quantity $(y_3A_1^2-y_1A_3^2)$, k_1 is equal to the computation quantity $(x_2y_3-x_3y_2)$, k_2 is equal to the computation quantity $(x_3y_1-x_1y_3)$ and k_3 is equal to the computation quantity $(x_1y_2-x_2y_1)$, and the said computation device comprising means for continuously mechanizing and solving the said equations including means responsive to said u_1, u_2, u_3, C_1^1, C_2^1 and C_3^1 for obtaining the computation quantities $(u_1C_1^1)$, $(u_2C_2^1)$ and $(u_3C_3^1)$, means responsive to said u_1, u_2, u_3, y_1, y_2 and y_3 for obtaining the computation quantities $(u_1^2u_2-u_2^2u_1)y_3$, $(u_3^2u_1-u_1^2u_3)y_2$ and $(u_2^2u_3-u_3^2u_2)y_1$, means responsive to said u_1, u_2, u_3, k_1, k_2 and k_3 for obtaining the computation quantity $(u_1k_1+u_2k_2+u_3k_3)$, addition-division means connected to the said $(u_1C_1^1)$ computing means, the said $(u_2C_2^1)$ computing means, the said $(u_3C_3^1)$ computing means, the said $(u_1^2u_2-u_2^2u_1)y_3$ computing means, the said $(u_3^2u_1-u_1^2u_3)y_2$ computing means, the said $(u_2^2u_3-u_3^2u_2)y_1$ computing means and the said

$$(u_1k_1+u_2k_2+u_3k_3)$$

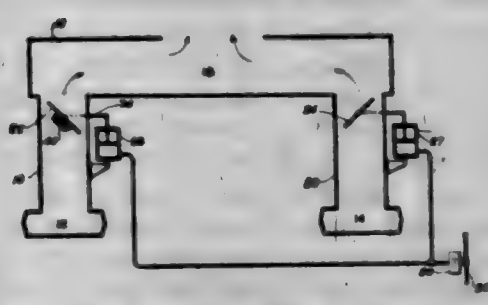
computing means for adding the six computation quantities $(u_1C_1^1)$, $(u_2C_2^1)$, $(u_3C_3^1)$, $(u_1^2u_2-u_2^2u_1)y_3$, $(u_3^2u_1-u_1^2u_3)y_2$ and $(u_2^2u_3-u_3^2u_2)y_1$ and dividing this sum by the computation quantity $(u_1k_1+u_2k_2+u_3k_3)$ for obtaining the computation quantity X_p.

2,970,768

DAMPER CONTROL APPARATUS FOR DUAL DUCT AIR CONDITIONING SYSTEM

Bernard E. Curran, Sewickley, Pa., assignor to H. H. Robertson Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Apr. 9, 1957, Ser. No. 651,621
9 Claims. (Cl. 236—1)



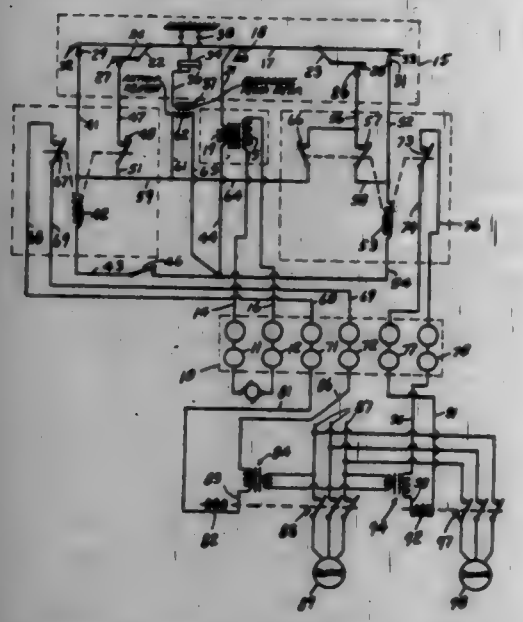
1. In a dual duct air conditioning system, an air distributing outlet box having dual inlet ducts adapted for connection to dual air supply ducts, a damper pivotally mounted in each inlet duct, said dampers being disposed substantially at right angles to each other under one set of conditions, thermostatically controlled means for operating said dampers to effect opening of one damper while the other damper is closing, and thermoresponsive means mounted on one damper responsive to variations in the temperature of air passing through its inlet duct for rotating said damper to a new position substantially parallel with relation to the other damper under a second set of conditions whereby to effect simultaneous opening and closing of the dampers under the influence of said thermostatically controlled means.

2,970,769

CONTROL CIRCUIT FOR HEATING AND COOLING APPARATUS

Ralph S. Penn, Goshen, and Henry O. Denman, Jr., Elkhart, Ind., assignors to Penn Controls, Inc., Goshen, Ind., a corporation of Indiana

Filed July 6, 1959, Ser. No. 825,001
2 Claims. (Cl. 236—1)



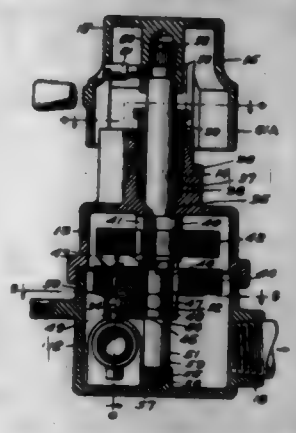
1. A control circuit for controlling both heating and cooling means for an enclosure, said circuit comprising: a transformer having a secondary winding serving as a source of power for the control circuit, a switching mechanism movable between a first position wherein a first set of contacts are closed, a second position wherein a second set of contacts are closed, a third position wherein a third set of contacts are closed and a fourth position wherein a fourth set of contacts are closed, an actuator having a sensing element responsive to the enclosure temperature, means including said actuator for moving said switching mechanism between its said first and second positions on a predetermined increase in enclosure temperature and between its said third and fourth positions on a predetermined decrease in enclosure temperature, an electromagnetic operator adapted when energized to operate the enclosure heating means, a further electromagnetic operator adapted when energized to operate the enclosure cooling means, a first normally open holding switch moved to closed position by energization of said heating means operator, a second normally open holding switch moved to closed position by energization of said cooling means operator, an anticipating electric heater disposed adjacent said sensing element to affect the response thereof, a normally closed anticipating heater control switch moved to open position by energization of said cooling means operator, said heating means operator being connected across said transformer secondary through a circuit branch including said first set of contacts and said first holding switch and through a circuit branch including only said second set of contacts, said cooling means operator being connected across said transformer secondary through a circuit branch including said third set of contacts and said second holding switch and through a circuit branch including only said fourth set of contacts, said anticipating heater being connected across said secondary by three circuit paths, one including only said second set of contacts, another including said first set of contacts and said first holding switch, and the other including said third set of contacts and said anticipating heater control switch, whereby said anticipating heater applies false heat to said sensing element for a period measured by the time interval between the closing of said second set of contacts and the opening of said first set of contacts upon rising enclosure temperature and further applies false heat to said sensing element for a period measured by the time interval between closing of said third set of contacts and closing of said fourth set of contacts upon falling enclosure temperature.

2,970,770

THERMOSTATIC MIXING VALVE

Lawrence E. Bowman, Warwick, R.I., and Frederick C. Coppage, Melbourne, Fla., assignors to Leonard Valve Company, Cranston, R.I., a corporation of Rhode Island

Continuation of application Ser. No. 368,635, July 17, 1953. This application Apr. 28, 1959, Ser. No. 809,574
4 Claims. (Cl. 236—12)



1. In a thermostatic regulator, a housing having a mixing chamber, two laterally positioned inlets and an outlet, a cylindrical valve seat, having a central partition and two oppositely disposed flow passageways, secured on opposite ends in said two laterally positioned inlets, a set of aligned circumferentially spaced flow ports for each passageway for conducting hot and cold fluids from said two laterally positioned inlets to said mixing chamber, a control valve slidably mounted on said cylindrical valve seat and movable to increase flow through one set of flow ports and to simultaneously decrease flow through the other set of flow ports, said control valve having a ball joint pin fixed thereto and extending radially outward therefrom, a valve stem rotatably mounted in said housing, a cylindrical bearing stud fixed in said housing, a connecting member comprising an upper cylindrical portion rotatably mounted for independent rotation on said cylindrical bearing stud, a lateral foot projecting from said cylindrical portion having a substantially cylindrical socket opening of a size to closely engage said ball joint pin entirely about a great circle thereof in a pivotal connection, said great circle lying in a plane that is substantially at right angles to a plane passing through the longitudinal axis of the ball joint pin and the longitudinal axis of the valve seat, whereby rotation of said connecting member passes said socket opening through an arc of rotation to move said ball joint pin both linearly and circumferentially to impart a helical sliding movement to the control valve on the cylindrical valve seat, and a thermostatic coil in the mixing chamber having one end connected to the valve stem and the other end connected to the connection member whereby expansion or contraction of the thermostatic coil imparts rotation to said connecting member.

2,970,771

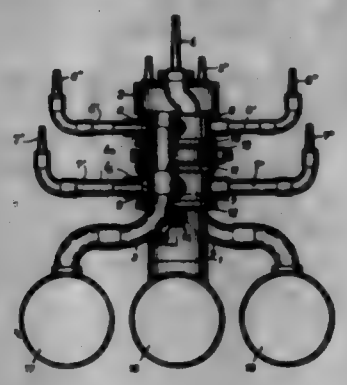
NOZZLE ARRANGEMENT FOR FOUNTAIN DISPLAYS

Otto Przystawik, Berlin-Lichterfelde-Ost, Germany, assignor to Dancing Waters, Inc., New York, N.Y., a corporation of New York

Filed Jan. 8, 1957, Ser. No. 633,943
Claims priority, application Germany Nov. 9, 1956
16 Claims. (Cl. 239—17)

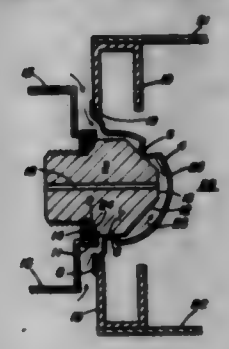
1. A nozzle assembly for a fountain display, said assembly comprising a plurality of separate groups of

nozzles, the respective nozzles of each group being disposed on the circumference of a geometric pattern, the geometric patterns of the different groups being similar and of different sizes, means supporting all of said groups with the circumference of any given group, except the largest circumference, wholly located within the larger circumference of another group, the nozzles of each group being arranged to emit streams of water upwardly in a substantially vertical direction, means mounting at



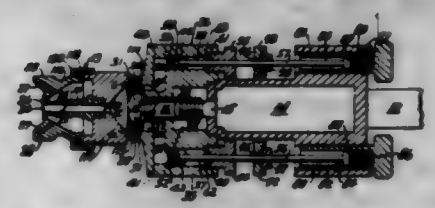
least one of said groups for rotation about a substantially vertical axis with respect to the remaining groups, remotely actuated drive means connected to said rotatably mounted group for rotating the same, conduit means terminating at said groups for feeding water under pressure to said groups, and valve means in said conduit means for individually controlling the flow of water to at least one of said groups whereby the sizes of streams emitted by the nozzles of said one group may be regulated.

2,970,772
FUEL NOZZLE ANTI-COKING CAP
Thomas H. Boosinger, Kansas City, Kans., and Ervin J. Sweet, Hamilton, Ohio, assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Apr. 14, 1960, Ser. No. 22,378
4 Claims. (Cl. 239—105)



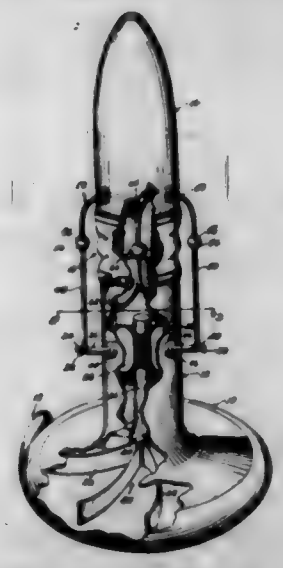
1. The combination of a combustion chamber, an anti-coking cap and a fuel injection nozzle, said fuel injection nozzle comprising a fuel injection nozzle head with a fuel passage therethrough and an anti-coking cap releasably attached thereto, said nozzle head having a hexagonal portion and a cone portion, a detent in each face of said hexagonal portion, a first air guide operatively connected to said nozzle head, a second air guide, said second air guide formed by a flange and an inner radial portion of said air cap, a plurality of securing dimples in said cap engaging said hexagonal portion of said nozzle head, a plurality of aligning dimples in said cap engaging said cone portion of said nozzle head, said aligning dimples being spaced in such a manner as to constitute a reduced flow area thus causing the velocity of the air in that area to increase just prior to its striking the face of the nozzle, an outlet in said cap which is in axial alignment with said fuel passage, said cap being imperforate except for said outlet opening, sealing means and fuel supply means operatively connected to said nozzle head, air passage means formed by said air guides for supplying air to said nozzle head, said anti-coking cap directing the flow of air under increased velocity over the face of the nozzle head whereby the products of combustion are prevented from adhering thereto.

2,970,773
FLUID MIXING AND APPLYING APPARATUS AND METHOD
Horace Theodore Keryluk, Boulder, Colo., and Tadie Kyryluk, Detroit, Mich., assignors to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed Oct. 19, 1959, Ser. No. 845,061
17 Claims. (Cl. 239—142)



7. A device for intimately and uniformly mixing a plurality of components, said device comprising: a frame; a mixing chamber of circular cross section within said frame, the wall of said chamber serving as an outer race; an inner race of circular cross section within said chamber for rotating concentrically within the latter, means for rapidly rotating said inner race, a series of spaced rollers of circular cross section disposed about said inner race and within the confines of said outer race, said rollers rotating about their respective axes and traveling planetarily about said inner race when said inner race rotates; a plurality of entry passages opening at the inner ends thereof at spaced points at one end of said mixing chamber, said passages being respectively associable with supply lines for supplying to said device components to be mixed; actuatable valve means for controlling fluid flow in each of said passages; and a discharge orifice extending from the end of said chamber opposite said one end and terminating in an outlet orifice through which mixed materials are discharged from the device.

2,970,774
LAWN SPRINKLER
Yao T. Li, 28 Orchard St., Watertown 12, Mass.
Filed Oct. 24, 1956, Ser. No. 618,103
7 Claims. (Cl. 239—240)



5. Apparatus of the class described comprising a base, means secured to the base for introducing fluid into the base, a conduit connected to and leading upwardly from the base, a nozzle mounted for pivotal movement on

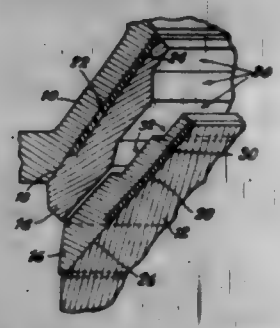
the conduit, actuating means connected to the nozzle and including cranks driven at different speeds in response to the fluid entering the base for applying moments to the nozzle about substantially mutually perpendicular axes normal to the nozzle axis, and means provided as part of the actuating means for varying the effective length of the crank arms to vary the distance through which the moments are exerted on the nozzle.

2,970,775

METHOD OF BACKING CRUSHER PARTS

Everett Chapman, West Chester, Pa., assignor to Nordberg Manufacturing Company, Milwaukee, Wis., a corporation of Wisconsin

Filed May 2, 1958, Ser. No. 732,651
5 Claims. (Cl. 241—30)



1. A method of supporting a wearing element in a material reduction machine, including the steps of positioning such a wearing element in a material reduction machine in closely spaced relation to a supporting part of the machine, and in position so that one surface of the wearing element defines at least a part of the material reduction zone in the machine, while the other surface of the element is opposite the supporting part, at least partially supporting the wearing element in such position in the material reduction machine by providing thermosetting plastic spacing means between the said other surface of the wearing element and the supporting part of the material reduction machine, with the wearing element otherwise substantially completely out of contact with the supporting part of the material reduction machine to thereby define a relatively thin wall cavity between the wearing element and the supporting part of the machine, sealing the lower opening of the thus defined thin wall cavity to provide a closed bottom open topped thin wall chamber between the wearing element and the supporting part of the machine, introducing a thermosetting plastic compatible with the thermosetting plastic spacing means, in liquid form, into the thus defined chamber to substantially completely fill the chamber, and allowing the thus introduced liquid plastic to solidify.

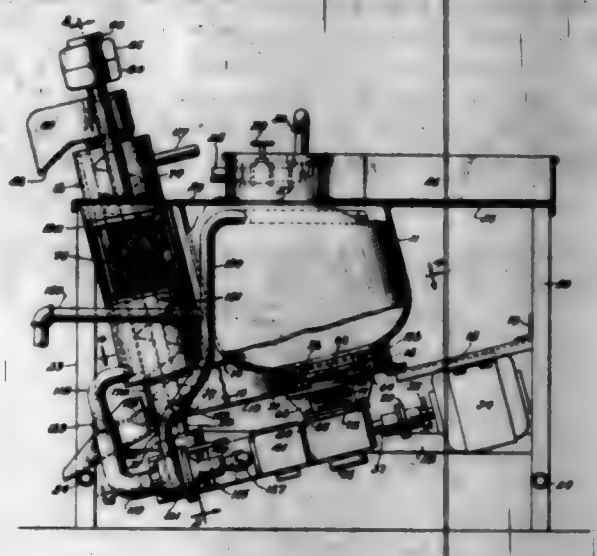
2,970,776

WASTE DISINTEGRATING MACHINES

Wayne T. Buckman, Smithtown, Pa., assignor to Mell & Worthington, Inc., Hatboro, Pa., a corporation of Pennsylvania

Filed June 27, 1957, Ser. No. 668,494
8 Claims. (Cl. 241—46)

2. In a machine of the character described, having a tub for wet waste, an extractor, comprising a foraminous tube extending upwardly, having a feed connection near its bottom to receive wet material from said tub and adapted to deliver a partially-dried pulp, a lifting screw in said tube comprising a central cylindrical member and a peripheral flight closely fitting said tube, means at the bottom of said screw to facilitate pick-up of material, means at the top of said member to facilitate discharge of solids; the said screw being substantially self-clearing by virtue of one or more of the features of its close fit, its pick-up-facilitating means and its discharge-facilitating means, and a rotatable disintegrating impeller associated with the tub, a common power device for actuating said impeller and said screw, and transmission



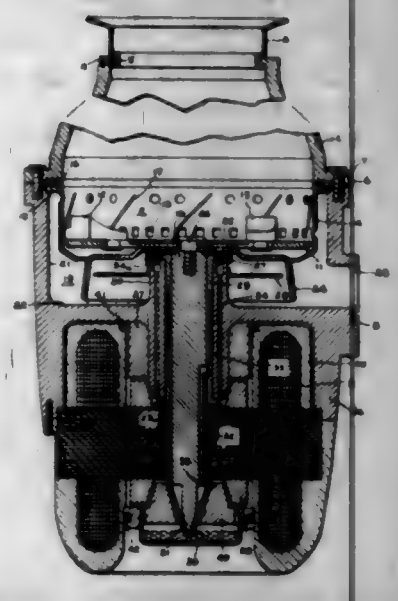
means between said device on the one hand and said impeller and screw on the other hand and including means providing for driving said screw at a lesser r.p.m. than that of said impeller.

2,970,777

WASTE DISPOSAL APPARATUS

Albert L. Hardy, Louisville, Ky., and Thomas T. Woodson, La Canada, Calif., assignors to General Electric Company, a corporation of New York

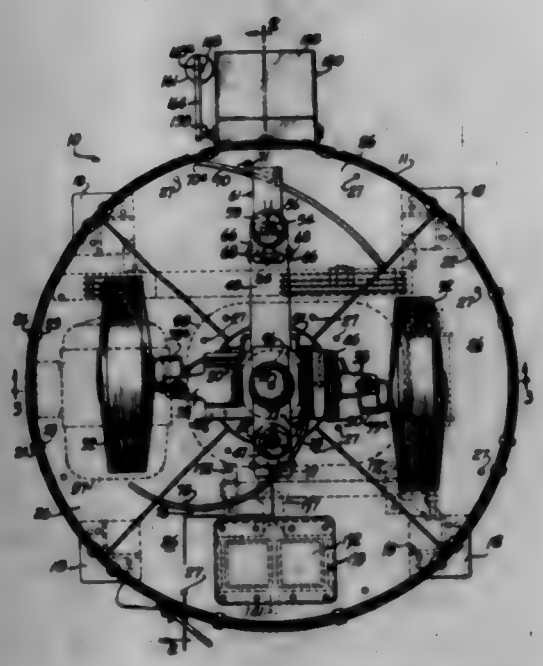
Filed Apr. 6, 1959, Ser. No. 804,238
4 Claims. (Cl. 241—46)



1. Waste disposal apparatus comprising a housing providing a grinding chamber having at its upper end an inlet opening for water and waste material, grinding means including a rotary plate at the bottom of said chamber, wall means forming an annular drainage chamber underlying said rotary plate, an electric motor supported below said drainage chamber, said motor having a housing with a rotor and a stator, the rotor having a shaft extending through said drainage chamber in driving engagement with said rotary plate, said motor housing including air tight sealing means forming an enclosed air space within the portion of the housing occupied by said rotor and shaft, and a liquid sealing means including a relatively large diameter inverted cup-shaped member within said drainage chamber secured in airtight relation to said shaft for rotation therewith to provide a large air chamber, the volume of air space within said large air chamber being substantially greater than the volume of the enclosed air space within said motor housing, whereby water entering

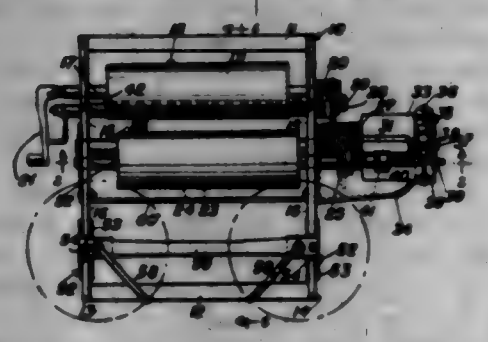
this chamber at the bottom acts like a large piston compressing the air in the chamber and the inverted cup-shaped member functions as a diving bell to prevent water from entering the motor.

2,970,778
METHOD AND APPARATUS FOR MIXING AGGLOMERATIVE MATERIALS
Robert L. McIlvaine, Winnetka, Ill., assignor to Herbert Simpson Corporation, Chicago, Ill., a corporation of Illinois
Filed Nov. 25, 1957, Ser. No. 698,511
5 Claims. (Cl. 241—97)



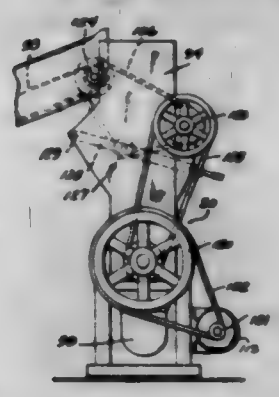
1. In a mixer having a rotatable muller and a rotatable plow co-operable to mull material within a crib having an apertured wall, means for breaking up a mass of material built up in front of the plow comprising a crib extension covering the aperture in said wall, a pivoted closure adapted to be moved into a first position in registry with said aperture and into a second position extending into said crib extension, and means operable in synchronism with the rotation of said plow for moving said pivoted closure into its second position at a predetermined period prior to passage of said plow past said aperture, thereby to permit a portion of said mass to enter said crib extension, and for moving said pivoted closure into its first position after passage of said plow beyond said aperture, thereby to force said portion of said mass back into said crib for commingling with the material in the crib.

2,970,779
GRINDING MACHINE
John B. Duty, 300 Iowa St., San Francisco, Calif.
Filed Sept. 27, 1957, Ser. No. 686,682
4 Claims. (Cl. 241—101)



1. In a grinding machine, a frame including a pair of spaced parallel vertically disposed end walls and a pair of spaced parallel vertically disposed side walls, a first shaft journaled between said side walls, a first roller mounted on said first shaft, a first gear member connected to an end of said first shaft, drive means connected to the other end of said first shaft, there being a cut-out in the upper portion of each of said side walls, a support member movably mounted in each of said cut-outs, adjusting means for moving said support members, a second shaft journaled between said support members, a second roller mounted on said second shaft and said second roller being mounted for movement towards and away from said first roller, a second gear member connected to said second shaft, a third shaft journaled between said side walls, a third gear member connected to said third shaft, a fourth shaft journaled in one of said side walls, a fourth gear member connected to said fourth shaft, said fourth gear member meshing with said first and third gear members, said second gear member meshing with said third gear member, a shaft extension of reduced diameter extending from an end of said third shaft, a spacer member mounted on said shaft extension, a worm gear mounted on said shaft extension and abutting said spacer member, a base positioned below said shaft extension, a fifth shaft supported above said base and said fifth shaft having a worm wheel thereon meshing with said worm gear, an eccentric pin extending from said worm wheel, a rod having one end connected to said eccentric pin, and a universal joint connecting said rod to said second shaft.

2,970,780
CORN SHELLING AND COB GRINDING MECHANISM
Ralph R. Bowen, 704 Florence St., Racine, Wis.
Filed Nov. 15, 1957, Ser. No. 696,661
4 Claims. (Cl. 241—101)

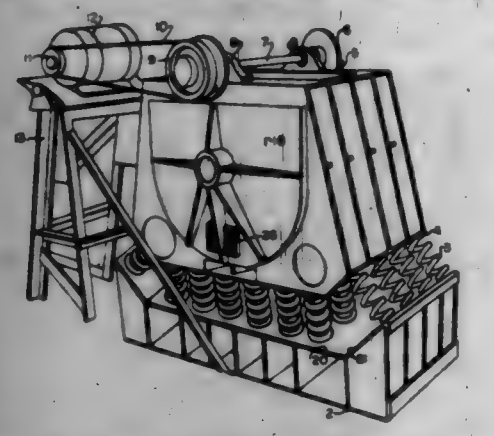


1. A corn shelling and cob grinding device comprising a rotatable cylinder, protuberances spaced about the periphery of said cylinder, a fixed housing surrounding said cylinder, an intake port in said housing adjacent one end of said cylinder, said housing being provided with a foraminous lower portion, a plate having an edge profile relieved to accommodate the profile of the protuberances on said cylinder, means mounting said plate for movement toward and away from the vicinity of the periphery of said cylinder, a helical baffle extending longitudinally at the upper portion of said housing and above said cylinder, and a movable gate in said housing adjacent said baffle.

2,970,781
VIBRATORY MILL
John M. Morris, Louisville, Ky., assignor, by mesne assignments, to Chain Belt Company, Milwaukee, Wis., a corporation of Wisconsin
Filed Aug. 7, 1957, Ser. No. 676,742
6 Claims. (Cl. 241—175)

1. In apparatus for doing work by vibration, in combination, a container, a subbase integral with the container, distributed means rigidly interconnecting and supporting the walls of the container from the subbase, a

main base at least coextensive in area with the subbase and spaced in opposed relation to the subbase, a plurality of springs arranged substantially in rows of at least three springs each interposed between and interconnecting the opposed marginal portions of the subbase and base, and other springs connecting those portions of the subbase and base bounded by the marginal portions, each of said springs having a spring rate that is gener-



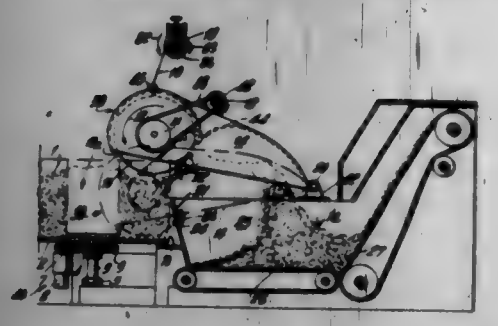
ally proportional to that portion of the total mass of the container and subbase that is supported by that spring, whereby vibratory bending stresses in said subbase are minimized, and means for applying vibratory force to the container at a frequency generally equal to the natural frequency of the container and subbase and said springs.

2,970,782

MACHINE FOR DISINTEGRATING A BLOCK OF COMPRESSED FIBROUS AND LIKE MATERIAL

Hans Fleissner, Wolfgartenstr. 6, Egelsbach, Germany

Filed Nov. 7, 1958, Ser. No. 772,537
Claims priority, application Germany Jan. 9, 1958
4 Claims. (Cl. 241—279)



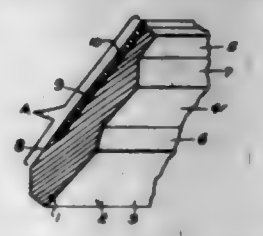
1. A system for separating resilient fibrous material from a block; comprising a collector bin, means located within the confines of and for conveying material out of said bin, a horizontally disposed rotatable turntable supporting said block and disposed adjacent said bin in side by side relationship, first drive means for imparting rotation to said block on said turntable about a vertical axis thereof and at a first predetermined speed, a cover member overlying said collector bin and pivotally mounted about a horizontal axis to perform a movement towards and away from said block on said turntable, a prong-equipped wheel rotatable about a horizontal axis and mounted in said cover member for acting on and penetrating the uppermost layer of said block material, arcuate guide means carried by said cover member, second drive means carried by said cover member for rotating said wheel at a second predetermined speed substantially greater than said first speed so that the prongs of said wheel separate fibrous material from said uppermost layer of said block and propel the separated fibrous material under centrifugal action against said arcuate guide means and thence into said bin therebelow, said separated material being allowed to expand and assume its inherent dimension, and means suspending said cover member for gradually lowering said cover member towards said block at a third predetermined speed substantially less than said first speed so that said fibrous material is separated from said block layer by layer and is propelled toward and into said bin.

2,970,783

COMPOSITE WEARING PARTS FOR CRUSHERS AND THE LIKE

David A. Cheyette, Milwaukee, Wis., assignor to Nordberg Manufacturing Company, Milwaukee, Wis., a corporation of Wisconsin

Filed May 1, 1958, Ser. No. 732,199
7 Claims. (Cl. 241—300)



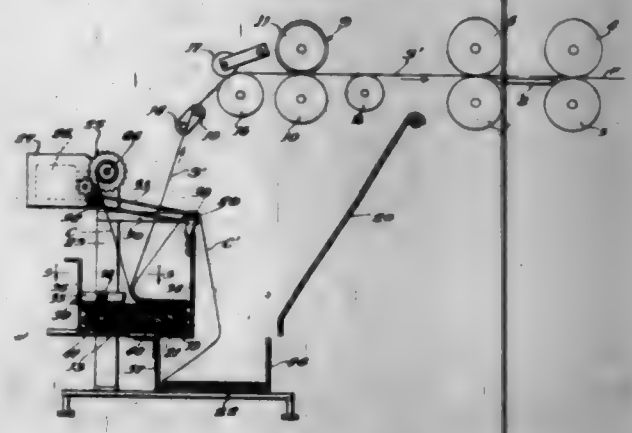
1. For use in gyratory crushers and the like, a generally fruso-conic annular wearing element having a body portion of metal and a backing portion adhering to and conforming closely to a generally conic surface of said body portion, said backing portion being formed from an epoxy resin with high dimensional stability and having a modulus of elasticity of the order of from 1–3% of that of steel and a compressive strength on the order of from 8–12 thousand p.s.i., the backing portion having a thickness of not more than ½ inch and extending continuously circumferentially about said body portion and conforming precisely to said conic surface of the body portion throughout its entire area and being adhesively secured thereto.

2,970,784

METHOD OF DELEAVING AND BURSTING CONTINUOUS FORM STATIONERY

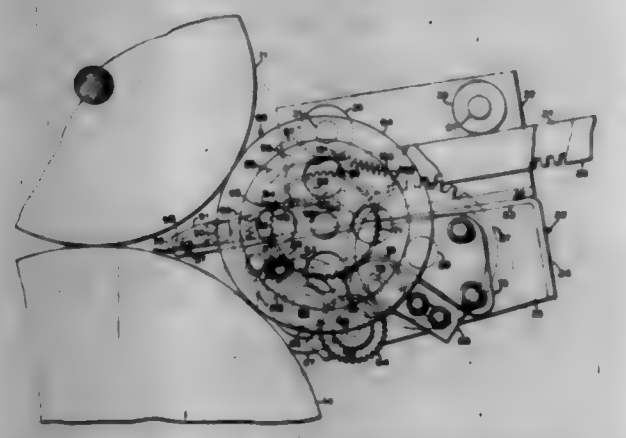
Jack J. Kessler, Chicago, Ill., assignor to Narco, Incorporated, a corporation of Illinois

Filed Oct. 19, 1956, Ser. No. 617,077
3 Claims. (Cl. 242—56.2)



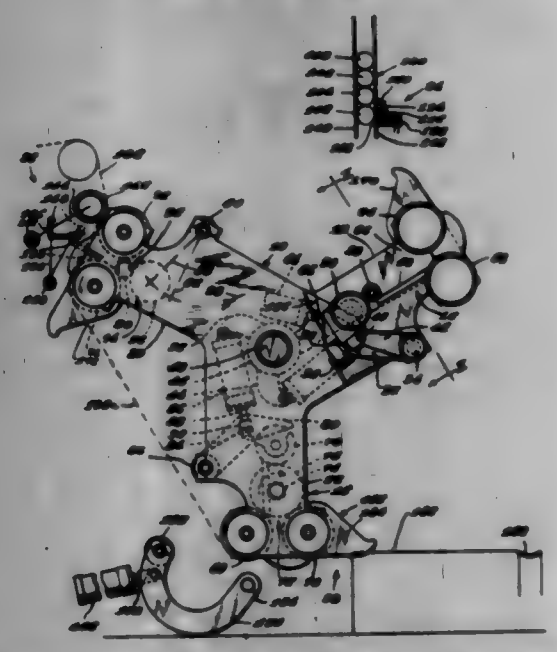
1. The method of deleaving and bursting marginally punched continuous form stationery interleaved with one-time carbon, comprising in sequence the steps of advancing the interleaved stationery toward bursting rolls; simultaneously trimming the punched margins from all the interleaved strips; feeding the top stationery strip into the bursting rolls immediately following said trimming; deflecting the balance of the interleaved stationery and carbon strips away from the top strip and folding said balance in a zigzag pack; then separately gripping and pulling the carbon and stationery strips upwardly from the pack in timed relation causing the remaining interleaved strips to turn over into an adjacent refolded pack; discarding the carbon strip and bursting said uppermost stationery strip in said bursting rolls.

2,970,785
CUTTING APPARATUS
Robert N. Eichorn and Henry A. Hendrich, Endicott, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Aug. 1, 1956, Ser. No. 601,564
15 Claims. (Cl. 242—56.6)



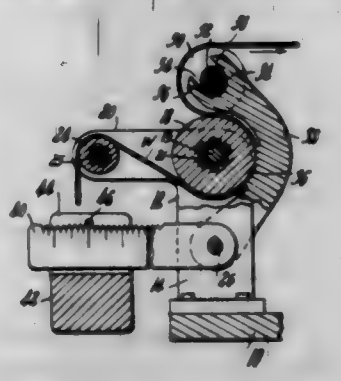
14. In an apparatus for cutting and coiling a web of paper, a pair of rollers having parallel axes located at different levels disposed to form a bite and rotatable in opposite directions; a cutting means movable toward and away from said rollers, the length of travel of said cutting means being of a distance so that the web of paper passing between the rollers and partially around one of the rollers and over the cutting means will be severed along a transverse axis and the cut edge remaining will be presented to the bite as the cutting means terminates its travel toward the rollers; retractable holding means for holding the end of the transversely cut web of paper against the periphery of one of said rollers when the web is presented to the bite, said holding means being capable of driving said web into the bite; means for actuating said holding means to drive said web into the bite; and means for retracting said retractable holding means upon the same driving said web into the bite.

2,970,786
AUTOMATIC ROLL WINDER
Edgar J. Justus and Gerald W. Karr, Beloit, Wis., assignors to Beloit Iron Works, Beloit, Wis., a corporation of Wisconsin
Filed May 22, 1958, Ser. No. 737,012
6 Claims. (Cl. 242—64)



1. A winding machine for automatically winding a supply web such as wrapping paper into successive heavy rolls comprising a rotatable reel having a plurality of radially disposed circumferentially spaced inwardly facing holding stations thereon, pairs of supporting rolls defining said holding stations therebetween and mounted on fixed axes at each of the holding stations with each supporting roll of a pair substantially equidistant from the reel axis for supporting and rotating rolls of material, means for driving each of said supporting rolls, a single rider roll at each of said stations for caging the rolls of material and holding them outwardly against the supporting rolls and movable radially inwardly to accommodate the build-up of material against the fixed supporting rolls, a core delivering station for delivering cores to be wound into rolls of material, a transfer station for starting the end of web material on a fresh core, a winding and ejecting station at a location where said supporting rolls are horizontally opposed and positioned directly below the reel axis so that the weight of a roll of material is fully supported and substantially equally shared by said supporting rolls, said reel being rotatable to move the supporting rolls successively to said delivering, transfer, and winding and ejecting stations, and means for ejecting rolls of material at said ejecting station by forcing the rolls of material out of the holding station over one of the supporting rolls.

2,970,787
TENSION DEVICE FOR FEEDING ELASTIC WEBS OR STRANDS
Carl F. Libby, 1212 West St., Stoughton, Mass., assignor to John D. Riordan, Hopkinton, Mass., and Gertrude C. Libby, Stoughton, Mass., trustees of the Libby family trusts
Filed Feb. 2, 1959, Ser. No. 790,469
3 Claims. (Cl. 242—75.2)

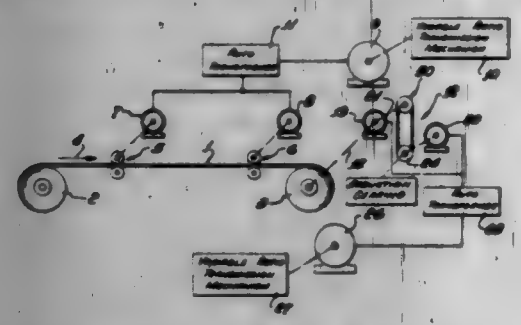


1. A tension device for narrow elastic webbing, comprising a frame, a tension roll supported by said frame for free rotation about a horizontal axis, a freely rotatable press roll resting upon said tension roll, frictional braking means engaging said tension roll, and means supporting both said braking means and said press roll and movable by movement of said press roll at an angle to the line of centers between said rolls to change the pressure of said braking means against the tension roll.

2,970,788
WINDUP DRIVE SYSTEM UTILIZING INDUCTION MOTORS
William R. Warnecke, Milford, Conn., assignor to U.S. Electrical Motors, Inc., Los Angeles, Calif., a corporation of California
Filed Dec. 2, 1957, Ser. No. 700,102
10 Claims. (Cl. 242—75.51)

1. A takeup mechanism for a windup roll: a plurality of induction motors; a drive connection from one of the motors to the windup roll; and an overrunning clutch connected between the other motor and the one motor, said other motor output being initially at lower speed than the said one motor, to cause the overrunning clutch to be effective only when the speed of the windup roll is

reduced to a value corresponding to that of the output of the said other motor, whereby the speed-torque characteristic of the windup drive approximates the relationship that the speed is inversely proportional to the torque.

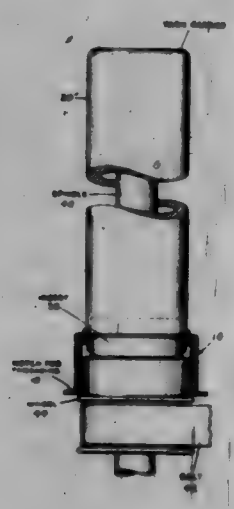


2,970,789

WASTE SEGREGATION SPOOL

Robert A. Binns, Petersburg, Va., assignor to Allied Chemical Corporation, a corporation of New York

Filed Nov. 7, 1957, Ser. No. 695,070
4 Claims. (Cl. 242—125.1)



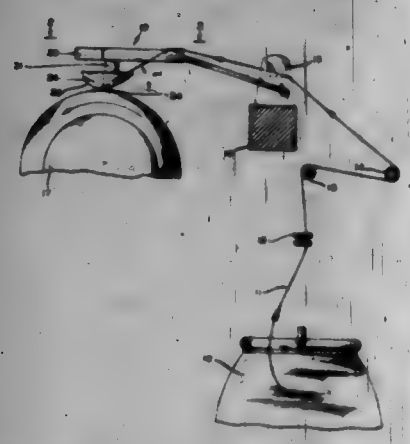
1. A waste segregation spool adapted for use in combination with a yarn carrier, said spool comprising a collarlike element about which yarn can be wound provided with a slitted portion extending partially through the axial length of said spool from the top end and adapted to frictionally engage one end of said yarn carrier, a flared edge at its bottom end only forming an outwardly extending rim and a cleat formed in said rim.

2,970,790

PRESSURE THREAD GUIDE

Richard D. Neal, West Asheville, N.C., assignor to American Enka Corporation, Enka, N.C., a corporation of Delaware

Filed Oct. 30, 1958, Ser. No. 770,649
4 Claims. (Cl. 242—157)



1. A thread collection device comprising a take-up spool mounted for rotation about a horizontal axis, a pre-positioning guide mounted for reciprocation parallel to the axis of said take-up spool, a positioning bar pivotally supported from said pre-positioning guide and extending outwardly therefrom to overlie said take-up spool, said positioning bar having legs defining a longitudinal slot open at one end, a control head having a V-shaped notch secured to said positioning bar and suspended in spaced relationship therebelow, and V-shaped notch facing the open end of said longitudinal slot, and supply means from which thread may be passed through said pre-positioning guide, the longitudinal slot in said positioning bar and the V-shaped notch in said control head to said take-up spool.

2,970,791

PNEUMATIC CONVEYOR SYSTEM

William J. Hafner, Berkley, Mich., and Gordon H. Cork, 1187 Southlawn Ave., Birmingham, Mich.; said Hafner assignor to said Cork

Filed July 19, 1954, Ser. No. 444,274
17 Claims. (Cl. 243—16)



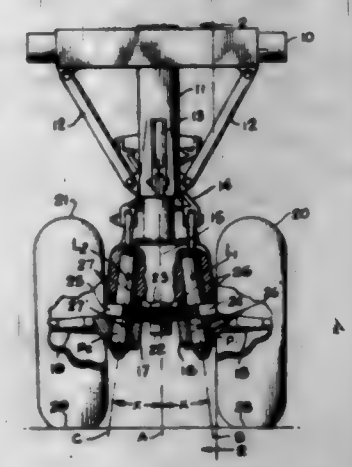
1. In a message carrier system, a carrier adapted to travel along a conduit means, a guideway extending axially of said carrier, and a plurality of magnetic slugs polarized radially of said carrier and shiftable axially with respect to each other along said guideway.

2,970,792

AIRCRAFT LANDING GEAR

Tracy S. Holmes, 649 Hightree Road, Santa Monica, Calif.

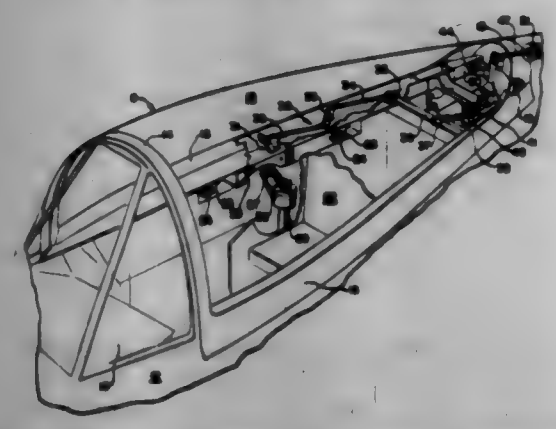
Filed Sept. 28, 1956, Ser. No. 612,752
2 Claims. (Cl. 244—50)



1. An aircraft landing gear comprising, in combination: a pair of wheels; a central housing including a steering coupling mechanism disposed between said wheels and having a central axis inclined in a fore and aft plane such that projection of said axis intercepts the ground at a given angle at a point forward of the center of contacts of the wheels with the ground; individual axles mounting said wheels for rotation respectively; and individual turning means rotatably mounted to said housing and connected to said axles respectively, said turning means also being coupled to said steering coupling mechanism for turning said wheels about separate turning axes converging towards each other in an upward direction, said turning axes also lying in a plane including said central axis so that said plane intercepts the

ground at said given angle whereby the locus of points defining movement of said axles describe arcs, said axles being positioned at the upper portions of said arcs respectively when said wheels are aligned in a fore and aft direction.

2,970,793
AIRCRAFT
Donald W. Beem, Gahanna, and Ramon E. Conrad, Westerville, Ohio, assignors to North American Aviation, Inc.
Filed Feb. 14, 1958, Ser. No. 715,285
6 Claims. (Cl. 244—121)



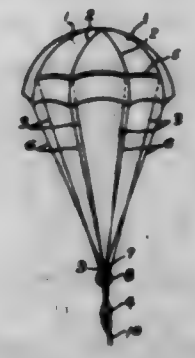
4. In an airplane having a canopy positioned over a crew compartment, having engaged latch means connected to said canopy and to the airplane structure, and having a pivot connection between said canopy and the airplane structure, canopy jettison means comprising: a powered ejection seat in the airplane crew compartment, driver means secured to said ejection seat, and follower means secured to said canopy for cooperation with said driver means, said follower means having a concave cam surface extending transverse the ejection path of said driver means, and said driver means being aligned with said cam surface but more adjacent one extreme of said cam surface, whereby said engaged latch members are disengaged as said driver means moves relatively from said cam surface one extreme toward an intermediate cam surface position, and whereby said canopy is pivoted relative to aircraft structure when said driver means moves relatively from said intermediate cam surface position toward the other extreme of said cam surface.

2,970,794
INFLATABLE DE-ICING BOOT
Herbert C. Johnson, Minneapolis, Minn., assignor to the United States of America as represented by the Secretary of the Air Force
Filed May 24, 1957, Ser. No. 661,555
4 Claims. (Cl. 244—134)



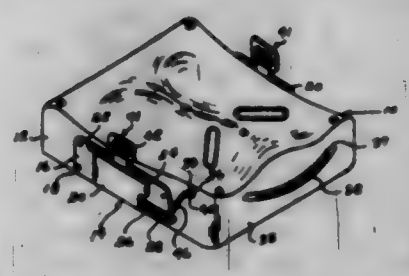
1. In combination, an aircraft wing member having releasably attached thereto an inflatable boot and a rigid auxiliary leading edge extending over said boot, said boot including a tube portion having forward and back walls forming a chamber, and adapted to be forwardly distended upon inflation, separable means communicating with said inflatable boot for conducting pressurized fluid to the tube portion of said boot, said means operating to inflate said boot so that its forward distension results in the separation and release of itself and said auxiliary leading edge from said wing member to permit the air stream around the aircraft to carry away said released boot and auxiliary leading edge.

2,970,795
BI-AREA PILOT PARACHUTE
David Gold, 10007 Pali Ave., Tujunga, Calif.
Filed June 12, 1959, Ser. No. 819,785
6 Claims. (Cl. 244—142)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. In a pilot parachute, a canopy having an inner permanent drag area, an outer drag area surrounding the inner drag area, permanent suspension lines connecting the periphery of the inner permanent area to a common load sustaining point, a plurality of failable suspension lines connecting the periphery of the outer drag area to said common load sustaining point including common break cord means connected between the failable suspension lines and said common load sustaining point.

2,970,796
QUICK RELEASE MECHANISM
Orval A. Ross, 1568 Hillcrest Lane, Anchorage, Alaska
Filed Oct. 27, 1958, Ser. No. 769,954
6 Claims. (Cl. 244—151)
(Granted under Title 35, U.S. Code (1952), sec. 266)

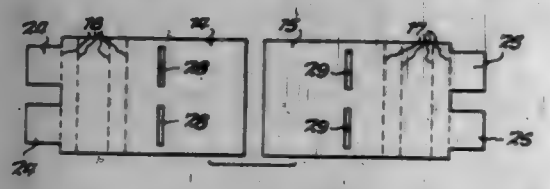


2. A device adapted for attaching a survival kit to and quickly releasing it from a parachute harness comprising a plate permanently attached to each of a pair of parachute harness D-rings, a pair of rocking latches positioned in housings adapted to be located on each of the opposite sides of said kit, means on said plates for rocking said latches, means for locking said latches in rocked position and retaining said plate in engagement with said kit, a single cable extending across the front of said kit and attached to each of said locking means and operable by one hand of an operator for releasing said locking means, spring means for returning said latches to unrocked condition thus releasing said plate from said kit.

2,970,797
PALLET
Theodore J. Desbois, 423 Hyde Park Blvd., Niagara Falls, N.Y.
Filed Mar. 2, 1959, Ser. No. 796,360
7 Claims. (Cl. 248—120)

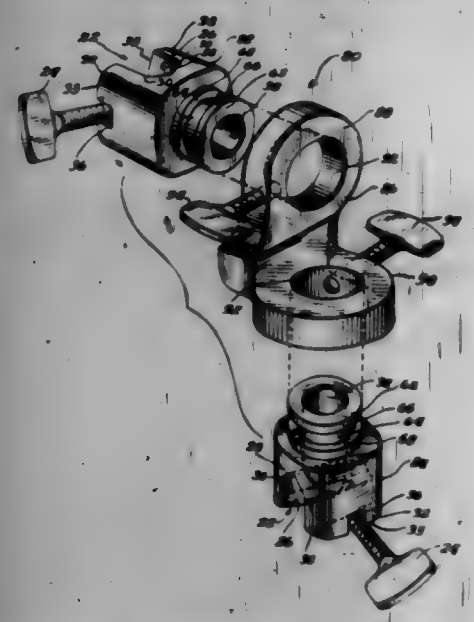
7. A pallet of corrugated board or the like adapted for use with fork-lift trucks which comprises a rectangular, load-receiving platform formed of a sheet, a pair

of loops adapted to receive the fork of a fork-lift truck extending longitudinally of said platform along the sides thereof, and a pair of laterally spaced longitudinal supporting members within each of said loops adapted to support said platform and maintain said loops open, each of said loops being formed in part by a plurality of panels



and a flap, said panels and flaps being integral with said sheet, said flaps projecting through said platform to the upper face thereof and extending outwardly on said platform substantially to the respective adjacent side edges thereof, thereby to form bridges across said supporting members within each of said loops.

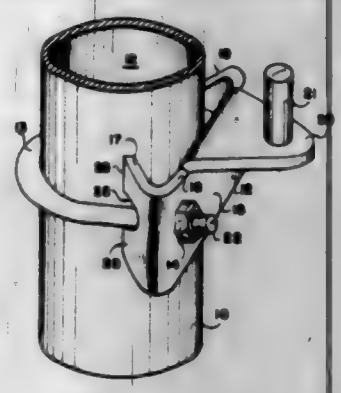
2,970,798
LABORATORY CLAMPS
Frank P. Fritchle, Santa Ana, Calif., and Manning S. Reynolds and Earl K. Takata, Chicago, Ill., assignors to Central Scientific Co., Chicago, Ill., a corporation of Illinois
Filed Oct. 23, 1956, Ser. No. 617,772
7 Claims. (Cl. 248—229)



1. A clamp for attachment to a rod-like object comprising a main body having an axial bore therethrough and formed with an open-ended slot extending transversely across one end of the body and intersecting said bore, said slot being defined in part by flanking parallel walls symmetrical with respect to said bore and with one of said flanking walls merging with an oblique wall extending substantially to the axis of said bore, said oblique wall and the adjoining flanking wall forming an obtuse angle, and a screw clamp extending through and having a threaded connection with the other of said flanking walls with the axis of said screw clamp being substantially directed to the apex of said obtuse angle.

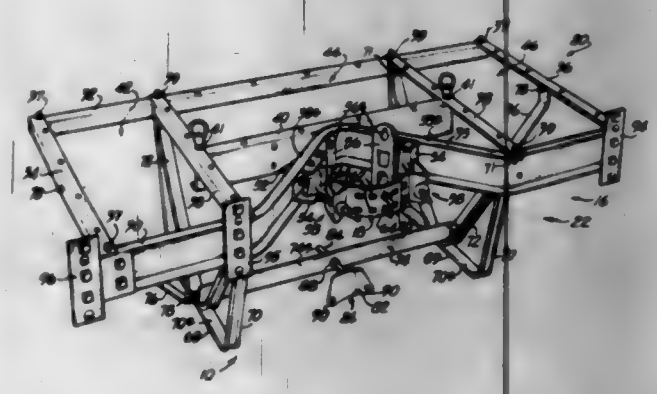
2,970,799
HINGE PIN SUPPORT BRACKET
Abraham Pinson, 232 Varet, St., Brooklyn, N.Y.
Filed Mar. 26, 1957, Ser. No. 648,681
6 Claims. (Cl. 248—230)

2. A hinge pin support bracket comprising a flat center section adapted to be placed in approximate tangential contact with a cylindrical post and provided with an aperture placed near each end of said center section further apart than the diameter of the post, a first support end formed integrally with one end of said center section and extending toward and contacting the surface of the post provided with a slot extending into said support end from the surface of the post, a second support end formed integrally with the other end of said center section and extending toward and contacting the surface of the post provided with a slot extending into said support end from the surface of the post, said support ends being disposed at



an acute angle with respect to the plane of said center section and being directed toward the axis of the post a vertical hinge pin, a horizontal flange fixed to the lower end of said hinge pin and formed integrally with the upper edge of said center section, and a U bolt adapted to fit about the post and extend through the slots in said support ends and the apertures in said center section to hold said center section and said support ends in clamping engagement with the post.

2,970,800
SUPPORT FOR ELECTRICAL DEVICES
Burton M. Smalley, Highland Park, Ill., assignor to Joslyn Mfg. & Supply Co., Chicago, Ill., a corporation of Illinois
Filed Oct. 14, 1957, Ser. No. 689,839
9 Claims. (Cl. 248—230)

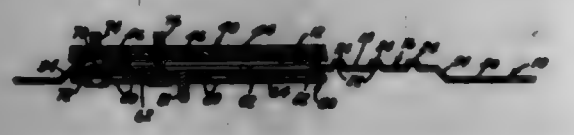


3. A unitary support for supporting a plurality of electrical devices in a plurality of rows at a preselected location on a pole, said support comprising a generally rectangular supporting structure including pairs of members for respectively supporting the rows of said electrical devices around a plurality of sides of the pole, one of said members having an offset portion for receiving the pole so that said rows extend opposite said pole sides, the offset portion of said member having a depth and slope adapting the offset portion to encircle a pole of a predetermined diameter with the pole positioned substantially within the offset portion and aligned with the outermost portion of the pole periphery substantially aligned with said one of said members, a leg structure depending therefrom beneath said supporting structure, and an adjustable means mounted on said leg structure for positioning said supporting structure relative to said pole.

2,970,801
GATE VALVE

Harold Lampert, Fremont, Nebr., assignor to Duane O. Francis, Fremont, Nebr.

Continuation of application Ser. No. 607,895, Sept. 4, 1956. This application May 20, 1959, Ser. No. 814,645
2 Claims. (Cl. 251—145)

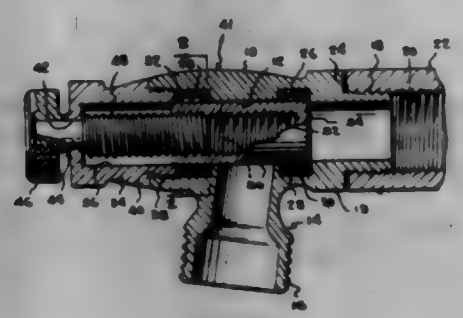


1. In combination: a pipe for carrying water under pressure, said pipe having an inset portion having a substantially flat central section, said central section having an opening therethrough, said substantially flat central section having a plurality of spaced apart grooves therein disposed at varying distances from said opening, and said substantially flat portion having an inwardly offset contact portion surrounding said opening, an inner closure member disposed across the inner side of said pipe at said opening and adapted to close said opening by engagement with said contact portion, an outer mounting member disposed adjacent to the outer side of said pipe and overlapping said opening on two opposite sides thereof, said outer mounting member being slidably engaged against the outer side of said flat central section of said pipe, said outer mounting member having a nib thereon and projecting inwardly from that side of said mounting member which is adjacent said grooves for engaging in a desired one of said grooves to hold said mounting member in place, and means interconnecting said inner closure member and said outer mounting member and holding said members at a spacing permitting reception therebetween of said flat central section.

2,970,802
VALVE FOR WATER AND GAS LINES

Byron Guerrero y Ocampo, Av. Curazao 653, Col. Lindavista, Mexico City 14, Mexico

Filed Apr. 12, 1957, Ser. No. 652,551
4 Claims. (Cl. 251—172)

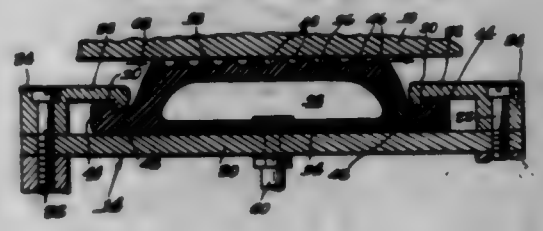


1. A valve assembly comprising a valve body having first and second ends and a smooth bore extending therein, an outlet opening into a side of said bore between the ends of the bore, one end of said bore being a fluid inlet at the second end of the valve body, said bore being indented at opposite sides of the inlet to provide first and second annular grooves having first and second side walls, actuating means extending through said first end of the body, a valve sliding in said bore and having first and second ends, the second end of the valve being closed, means operatively connecting said actuating means to the first end of the valve for moving the valve endwise in the bore, similar first and second annular gaskets severally confined in said first and second grooves and spaced from the second side walls of the grooves, said gaskets being resilient and having spaced outer and inner side walls defining chambers therebetween, and fluid entrance means communicating with the chambers, said grooves and said gaskets being spaced from each other at a distance to produce engagement of the gaskets with related end portions of the valve in the closed position of the valve, said valve in its closed position at said one end of the bore extending across and closing said outlet and having its closed end near to and spaced from the second side wall of the second groove to pass fluid from the inlet into the second groove and into the chamber of the second gasket for expanding the inner side wall of the second gasket against the surface of the valve, said valve in its open position at the first end of the valve body being disengaged from the second gasket and sealingly engaged by the first gasket.

2,970,803
VALVE SEAL

Richard D. Harza, Evanston, Ill., assignor to Harza Patents, Chicago, Ill., a partnership

Filed July 22, 1957, Ser. No. 673,318
9 Claims. (Cl. 251—175)



6. In a hydraulic structure withstanding headwater pressure and having a passageway therethrough provided with a sealing surface, a closure member movably mounted in said passageway between an open position and a closed position in spaced cooperative association with said sealing surface, an elongated seal in the form of a web circumferentially encircling said closure member and fitting in the space between said closure member and said sealing surface and having outwardly projecting edge flanges, means associated with said closure member for retaining the edge flanges in association therewith, said seal having a fluid channel extending longitudinally therethrough with an external fluid connection for conveying headwater pressure internally of the fluid channel to inflate the seal to tightly fill the space between the closure member and the sealing surface, said seal having faces contacting said closure member and said sealing surface with at least the face in contact with the sealing surface having thereon a succession of alternate ribs and valleys extending parallel to the length of the seal and forming a seepage path thereacross effecting a progressive pressure drop below headwater pressure across each rib with maintained headwater pressure in the fluid channel of the seal for resisting leakage of fluid entirely across the seal.

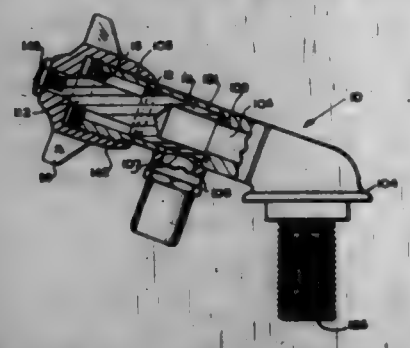
2,970,804
TAPS, COCKS AND THE LIKE

Leslie Roy Busby, Erdington, Birmingham, and Desmond George Henry King, Birmingham, England, assignors to Charles Elliott Tapscott Cridland and Edward Albert Corbett, Birmingham, England

Filed July 31, 1957, Ser. No. 675,351
Claims priority, application Great Britain Apr. 30, 1957
5 Claims. (Cl. 251—175)

1. A tap, cock, valve or the like comprising a body having a cylindrical bore of uniform diameter which has communication both with a fluid inlet and with a fluid outlet, a fluid flow control element of resilient and deformable plastic material incorporating a hollow unported cylindrical sleeve section which is in constant facial contact with the wall of said bore and axially displaceable therein, the hollow interior thereof being open at all times through an end to the fluid inlet so that in the case where a tap, cock, valve or the like is used with a high pressure supply the plastic wall of the hollowed

portion of the said sleeve section is deformed into sealing contact with the wall of the bore, a frusto-conical seating comprising a stationary part of the valve body and located at the inner end of said bore and integral with the body on to which the rim bounding the open



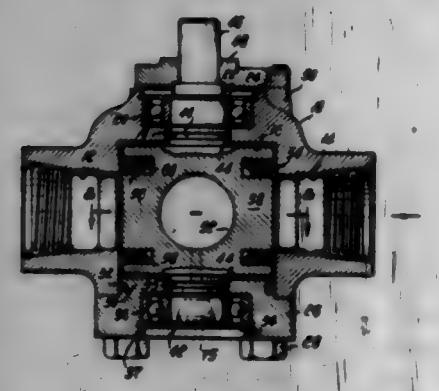
end aforesaid seats by axial compression and acts to provide a positive cut off when the said fluid flow element occupies the fully closed position, and means for effecting the positive actuation of the fluid flow control element for opening and closing purposes as required.

2,970,805

VALVES HAVING RESILIENT SEALS

Eldert B. Pool, Palos Heights, Ill., assignor to Edward Valves, Inc., East Chicago, Ind., a corporation of Delaware

Filed Nov. 14, 1958, Ser. No. 774,026
13 Claims. (Cl. 251—175)



1. A plug valve comprising a body having inlet and outlet ports communicating with a chamber, a plug mounted for rotation in said chamber between an open position in which a through passage in said plug connects said inlet port to said outlet port and a closed position in which said passage is out of alignment with said ports, said plug having recesses bounded by continuous annular walls surrounding said ports when said plug is in said closed position, a composite sealing ring loosely received in each of said recesses, each sealing ring comprising a metal back-up ring, the outer periphery of which slidably engages said annular wall, and a resilient sealing ring bonded to the inner periphery of said back-up ring and compressed between the bottom of said recess and the surface of said valve body surrounding said port when said valve is closed, said resilient sealing ring being out of contact with the bottom of said recess except in the region adjacent the inner end of said metal back-up ring.

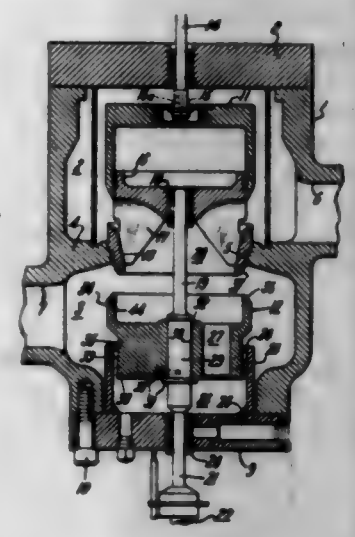
2,970,806

BALANCED GOVERNING VALVE WITH MINIMUM REACTION GRADIENTS

Donald L. Rexford, Ashburnham, and Herbert N. Hoffman and Stephen Jacobs, Lunenberg, Mass., assignors to General Electric Company, a corporation of New York

Filed Jan. 21, 1960, Ser. No. 3,874
5 Claims. (Cl. 251—210)

1. A balanced valve for controlling flow of elastic fluid comprising a housing forming an inlet chamber and an outlet chamber separated by a wall defining a valve seat, a cylindrical lip disposed inwardly from the seat and extending into the outlet chamber, a governing valve sleeve slidably mounted coaxially with said lip and having a first hollow cylindrical portion adapted to enclose said cylindrical lip forming close clearances therewith and disposed to move into sealing engagement with the valve seat, said valve sleeve also including a second reduced diameter portion coaxial with the first portion defining a cylindrical surface on the end of the valve sleeve opposite said first portion having an outside diameter substantially equal to the inside diameter of the first hollow cylindrical portion,



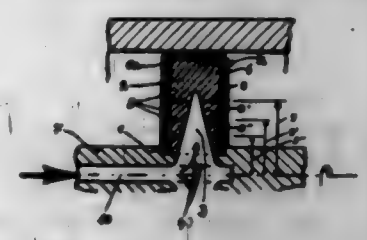
the second sleeve portion also defining a frusto-conical surface decreasing in diameter from said cylindrical surface toward the first portion, an annular wall disposed in the outlet chamber and receiving the second portion of the valve sleeve therein to form close clearances with the cylindrical surface of the second sleeve portion, whereby impurities in the elastic fluid may deposit on said frusto-conical surface without impairing the sleeve clearance with said annular wall, said annular wall defining together with the valve sleeve and the housing a pressure balancing chamber, and passage means to maintain the pressure in said balancing chamber substantially at valve inlet pressure.

2,970,807

ROTOR BLADES FOR GAS TURBINES

Johann Endres, Wackersberg, near Bad Tolz, Germany, assignor to The Messerschmitt A.G., Augsburg, Germany

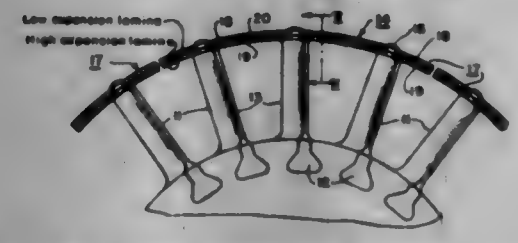
Filed May 28, 1957, Ser. No. 662,161
1 Claim. (Cl. 253—39.15)



A surface-cooled rotor blade for a gas turbine, said blade having an axis of rotation and consisting throughout of a porous material, said blade having a radially disposed conical-shaped fuel delivery duct in the interior thereof so that the specific fuel discharge over the entire blade surface will everywhere be substantially the same when said blade is rotated as the turbine runs at its rated operational speed, said fuel delivery duct being a convergent duct which tapers towards the tip of said blade for radially directing fuel discharge equally over the periphery of said blade with the dimensions of said duct being substantially inversely proportional to the distance

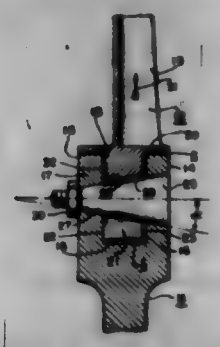
thereof from said axis of rotation, said porous material being of differing densities which increase and differing porosities which diminish radially toward the outer surface of said blade.

2,970,808
BIMETALLIC SHROUD STRUCTURE FOR ROTOR BLADES
Anthony P. Coppa, Havertown, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 30, 1957, Ser. No. 693,294
5 Claims. (Cl. 253—77)



1. In elastic fluid utilizing apparatus, a rotor having an annular row of blades, a shroud structure secured to said blades, said shroud structure including a plurality of segments disposed in spaced relation with each other, each of said segments comprising a first lamina and a second lamina having a high rate of thermal expansion relative to said first lamina and secured thereto, said first lamina being of substantially the same width as and disposed radially outwardly of said second lamina.

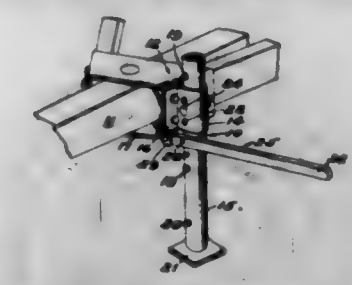
2,970,809
BLADE VIBRATION DAMPING ARRANGEMENT FOR ELASTIC FLUID MACHINES
Reinout P. Kroon, Wallingford, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Aug. 29, 1958, Ser. No. 758,052
6 Claims. (Cl. 253—77)



1. A rotor structure having a rim portion, said rim portion having a recess formed therein, a radially extending blade having a root portion of less thickness than the width of said recess and loosely received in said recess and means including a pin received in said rim and extending through said root for supporting said blade, said root portion having a bore tapering in a single direction and said pin having a mating tapered portion received therein and slidably engaging said bore, said pin being disposed with the central axis of said tapered portion extending in a direction transverse to a radial line passing through said root.

2,970,810
JACK STAND
John H. Zich and George A. Oliver, Birmingham, Mich., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed July 7, 1958, Ser. No. 746,854
7 Claims. (Cl. 254—86)

1. A jack stand for attachment to a two wheeled vehicle, said jack stand comprising: a vertically extending sleeve member secured to the vehicle, a supporting post vertically slidable within the sleeve member and having an extended, ground-contacting lower end, said sleeve member and said post being provided with a plurality of vertically spaced transverse holes, a jacking lever having



a fulcrum pin adjacent one end thereof and insertable in any one of the series of holes in the post, a generally horizontal jacking surface adjacent the lower end of the sleeve member and engaged by the fulcrum pin end of the lever, and a pin insertable through the holes in the sleeve member and post to lock the post and sleeve.

2,970,811
SELF PROTECTING AIR HEATER
Alan Ruch, Port Washington, and Paul H. Vaughan, Pound Ridge, N.Y., assignors to Combustion Engineering, Inc., New York, N.Y., a corporation of Delaware
Filed Jan. 6, 1958, Ser. No. 707,280
2 Claims. (Cl. 257—224)



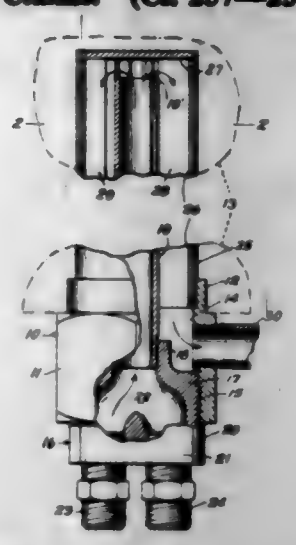
1. A combustion gas to air air heater comprising a housing within which is disposed metallic heat exchange surface and in contact with which air and hot combustion gas are directed for the indirect transfer of heat from the gas to the air, means for directing gas downwardly through the housing, said housing having the outlet for combustion gases at the lower region thereof and the inlet for air above and adjacent to said outlet another housing at the outlet for said gases from the first mentioned housing and secured directly to and forming an extension of the first mentioned housing, said other housing extending beneath the air inlet for the first mentioned housing and containing a vaporizable fluid, means operative to convey said gases directly from said outlet in indirect heat exchange relation with said fluid to vaporize the same, and conduit means for the vapor thus generated extending upward from said other housing in the inlet of the first mentioned housing in the path of the air entering said first mentioned housing to initially heat said air, said conduit means being disposed so that condensate formed therein drains back to the body of vaporizable fluid.

2,970,812
DRUM TYPE HEAT EXCHANGER
Richard W. Kritzer, Chicago, Ill.
(% Peerless of America, 5830 N. Pulaski Road)
Filed June 14, 1956, Ser. No. 591,491
1 Claim. (Cl. 257—241)



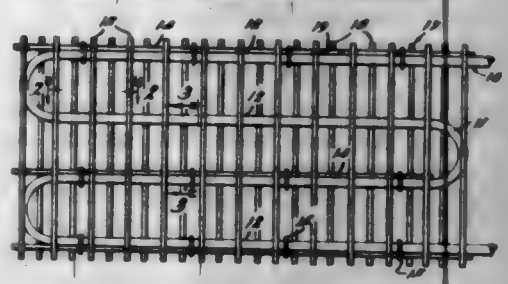
A drum type heat exchange unit comprising in combination a drum casing including an open-ended tubular centrally disposed hub and an outer cylindrical casing shell concentric with the hub and spaced radially therefrom, a first tubular header disposed within said outer cylindrical casing shell and in close proximity to said tubular hub exteriorly of the latter, a second tubular header disposed within said outer cylindrical casing shell and in close proximity to the latter, the axes of said tubular headers extending parallel to the common axis of the tubular hub and cylindrical casing shell, a plurality of vertically spaced, superimposed, uniformly involute tubular coils of cylindrical cross section disposed within said drum casing between the hub and casing shell, the inner ends of said involute tubular coils communicating with the interior of said first tubular header and the outer ends of said involute tubular coils communicating with the interior of said second tubular header, the innermost convolutions of said involute coils being partially wrapped around said hub in contiguous relation to a major arcuate portion of the cylindrical surface thereof, the outermost convolutions of said involute coils closely hugging a major arcuate portion of the inner cylindrical surface of the casing shell, a first elongated tapered baffle member filling the space existing between the innermost convolutions of said involute coils and the outer cylindrical surface of the tubular hub and partially encompassing said first tubular header and the hub, a second elongated tubular baffle member filling the space existing between the outermost convolutions of said involute coils and the inner cylindrical surface of said casing shell, and a continuous strip of fin stock disposed between adjacent convolutions of the various involute coils and extending in involute fashion from said second baffle member to said first baffle member, said fin stock providing a multiplicity of closely spaced radially extending fin sections common to and bridging the distance between the adjacent convolutions of each involute coil, the adjacent inside edges of alternate pairs of adjacent fin sections being connected together by integral webs of full fin stock height, the adjacent outside edges of other alternate pairs of adjacent fin sections being connected together by integral webs of full fin stock height, each of said webs spanning said superimposed involute coils and being formed with imperforate curved seats in intimate face-to-face contact with the various coil convolutions, the material of each web between adjacent curved seats being ruptured to define openings through the web, and presenting curved fingers which closely hub the curved wall of the adjacent coil convolutions, thereby lending flexibility to said curved seats as well as affording intimate heat exchange between the curved seats and the coil convolutions.

2,970,813
CIRCULATING UNITS FOR PAINT PREHEATERS
Louis Beck, 3482 Bosworth Road, Cleveland 11, Ohio
Filed June 5, 1957, Ser. No. 663,773
3 Claims. (Cl. 257—254)



1. A circulating unit for paint preheaters, said unit comprising a tubular body portion having a threaded bore opening through one end, a fitting element arranged within and in threaded engagement with said bore and including an inlet fitting for introduction of paint into said element, an elongated intake pipe coupled with said element and through which paint is adapted to be circulated, a discharge pipe coupled with the body portion and communicating with the circulating chamber in said body and around the base of said pipe, an elongated tube mounted in and extending beyond the upper end of said body portion, a closure for the upper end of said tube, a radiating sleeve arranged snugly in said tube around and widely spaced from said intake pipe, said sleeve extending to said closure and having inwardly extending long and short radiating fins, the long fins extending to and engaging the surface of said intake pipe, and said fins forming, around the intake pipe and within said sleeve, a plurality of circulating passages opening into the circulating chamber of said body portion for discharge through said discharge pipe.

2,970,814
REFRIGERANT HEAT TRANSFER ELEMENT
Edward D. Floreen, Dowagiac, Mich., assignor to Rudy Manufacturing, Dowagiac, Mich., a corporation of Michigan
Filed Feb. 19, 1957, Ser. No. 641,147
2 Claims. (Cl. 257—262.11)



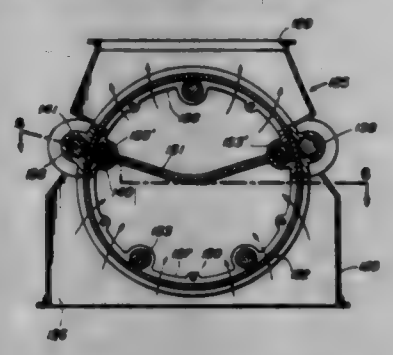
1. In a heat exchanger, a sinuously formed tube having straight portions and oppositely presenting end loop portions therebetween, a frame made of spaced wires joined by transverse wires welded thereto, and hog rings of brazing material securing said transverse wires to straight portions of said tube to retain said frame and tube in assembled relation before the assembly is heated to melt the rings.

2,970,815
REGENERATIVE HEAT EXCHANGER FOR GAS TURBINES

Erik Torvald Linderoth, N. Malarstrand 60, Stockholm, Sweden

Original application Sept. 10, 1953, Ser. No. 379,362, now Patent No. 2,836,398, dated May 27, 1958. Divided and this application May 7, 1958, Ser. No. 739,450

5 Claims. (Cl. 257—269)



1. A regenerative heat exchanger for the exchange of heat between two gaseous media at different temperatures comprising first inlet conduit means for the hot medium, first outlet conduit means for the cooled medium, second inlet conduit means for the cold medium to be heated, second outlet conduit means for the heated medium, heat transfer means in the form of a cylindrical ring the peripheral walls of which are flexible in radial direction, a plurality of cylindrical rollers rotatably mounted at the inner side of said heat transfer means and extending substantially axially across the entire length of and being supportingly located substantially parallel to the axis of said heat transfer means, means supporting said cylindrical rollers in positions to support and guide said heat transfer means between the inlet conduit means and the outlet conduit means for said media for rotary movement of the heat transfer means about its axis, means rotating said heat transfer means so that portions of the transfer means alternately pass between the first and second conduit means, whereby the transfer means alternately absorbs heat from the hot medium and yields the absorbed heat to the cold medium, said transfer means including a multitude of narrow passageways extending generally in the direction of the flow of the media through the transfer means, and sealing means extending substantially axially across the length of the heat transfer means and comprising coacting members disposed on opposite sides of the wall of said heat transfer means and being in direct, closely sealing position therewith between the first and second conduit means for impeding leakage of the media between the first conduit means and the second conduit means.

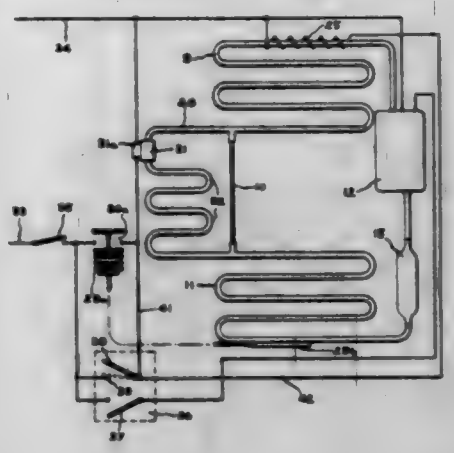
2,970,816
DEFROST ARRANGEMENT FOR AIR CONDITIONING APPARATUS

William J. McCarty, Louisville, Ky., assignor to General Electric Company, a corporation of New York

Filed Aug. 31, 1959, Ser. No. 837,141

3 Claims. (Cl. 257—278)

1. In an air conditioning unit of the type adapted for heating air from an enclosure comprising a refrigeration system including a compressor, a condenser and an evaporator connected in refrigerant flow relationship, an accumulator connected in said refrigeration system between said compressor and said evaporator for temporarily storing liquid refrigerant overflowing from said evaporator, a supplementary heater arranged in close proximity to said condenser for supplying additional heat to said enclosure under certain ambient conditions and for heating said condenser, refrigerant expansion means connected in said system between said evaporator and said condenser, a normally closed refrigerant bypass conduit connected between said evaporator and said condenser for bypassing refrigerant pumped by said compressor through said condenser around said expansion means to said evaporator, means responsive to frost conditions on said evaporator for opening said bypass to permit flow of unexpanded refrigerant liquid or hot gas from



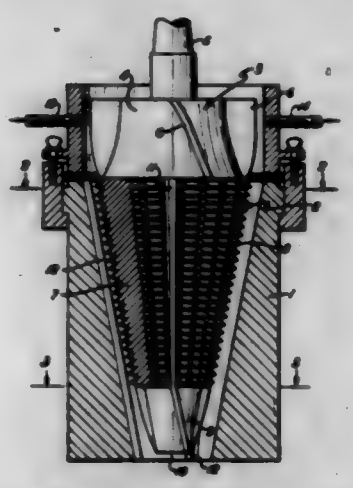
said condenser for defrosting said evaporator, said means also energizing said supplementary heater to heat said condenser during defrost periods so that refrigerant gas flowing through said condenser is heated and an adequate quantity of vaporous refrigerant is pumped by said compressor through said system at a sufficiently high temperature to assure quick defrost of said evaporator.

2,970,817
MIXING APPARATUS

Jesse Fred Gurley, Jr., Pittsburgh, Pa., assignor to Mobay Chemical Company, Pittsburgh, Pa., a corporation of Delaware

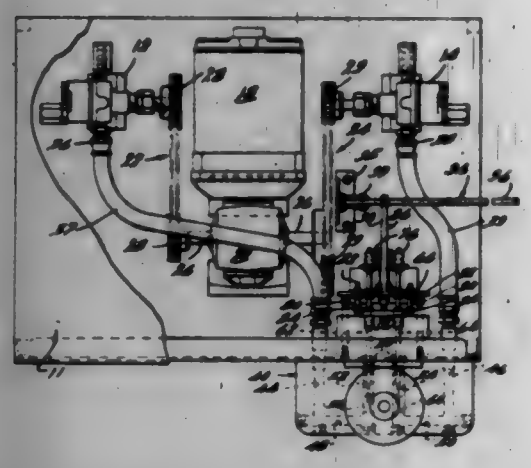
Filed Aug. 4, 1958, Ser. No. 752,789

2 Claims. (Cl. 259—7)



1. An apparatus for mixing liquids comprising a chamber having an inlet and discharge means in combination therewith, a means for stirring a plurality of liquids in said chamber until they are intimately mixed together, said stirring means comprising a shaft carrying a stirrer adjacent one end thereof, said stirrer having first and second conically-shaped elements with abutting bases, said second conically-shaped element being disposed adjacent said discharge means, said second conically-shaped element having a plurality of non-serrated ribs extending substantially longitudinally throughout the length thereof and a plurality of tooth-like projections between said ribs, said tooth-like projections being formed by the intersection of a plurality of annular grooves and a plurality of longitudinally extending grooves, said chamber being substantially conically-shaped adjacent said second conically-shaped element.

2,970,818
MIXING APPARATUS
Steven P. Kish, Lansing, John W. Donnell, East Lansing, and Davis M. Graves, Lansing, Mich., assignors to Kish Industries, Inc., Lansing, Mich., a corporation of Michigan
Filed Aug. 2, 1957, Ser. No. 676,017
3 Claims. (Cl. 259—8)



2. Apparatus for mixing a liquid resin with a liquid hardening agent comprising a pair of positive displacement pumps coupled together for drive at a predetermined speed ratio relative to each other, a motor for driving said pumps, a body member defining a mixing chamber having an outlet at the lower end thereof, separate conduits connecting the outlets of said pumps to said mixing chamber and opening at separate ports at the upper end thereof, a rotatable mixing element disposed within said chamber for intermixing materials discharged from said separate ports, a motor for driving said mixing element, valve pistons slidably fitted within said conduits and operable to open and close said outlet ports, means for urging said valve pistons constantly toward the position in which they close said outlet ports, means for driving said pistons in their opening direction against the urging of said urging means to open said ports, the ends of said conduits toward which said pistons are driven during opening of said ports being closed, each one of said pistons defining a generally axially extending flow-limiting passageway for limiting the speed with which said pistons close said ports in response to said urging means, and control means actuatable by said pistons during their travel for energizing and de-energizing said pump motor and said mixing motor in predetermined timed relationship to the travel of said pistons.

2,970,819
TUB-TYPE DISHWASHING MACHINE
Alfred A. Kleebauer, 174 Flood Ave., San Francisco, Calif.
Filed Jan. 18, 1957, Ser. No. 635,028
1 Claim. (Cl. 259—95)

In a tub-type dishwashing machine, the combination which comprises:

(*a*) a tub adapted to hold washwater and having a plurality of walls,

(*b*) a water-circulating housing disposed within said tub adapted to facilitate the upward circulation of water from the bottom portion of the tub to the upper portion of the tub and above the water level which is maintained for washing the dishes contained in a basket placed in the tub,

(*c*) said water-circulating housing comprising a lower wall flange, upwardly diverging side wall flanges and a top flange which extends inwardly toward the tub interior from one wall of the tub,

(*d*) the top flange of said water-circulating housing being disposed in a horizontal plane, inwardly of said tub walls,

(*e*) said top flange having a depending lip along its inner edge that extends downwardly in a substantially vertical plane,

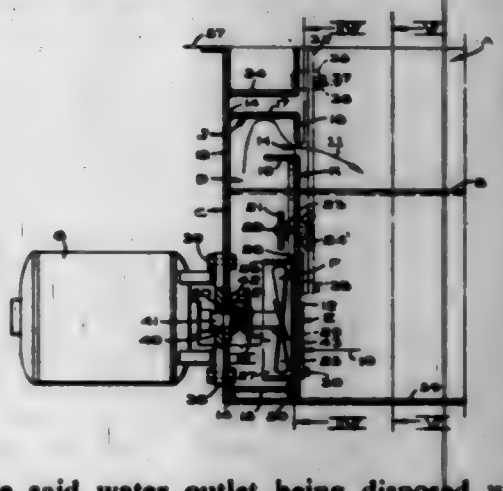
(*f*) a vertically disposed cover plate removably mounted in a substantially vertical plane over said lower wall flange and over said upwardly diverging side wall flanges to thus form a channelled passageway for the flow of water from the bottom of the tub to the top of the tub,

(*g*) said vertically disposed cover plate being located in substantially the same vertical plane as the plane of said depending lip,

(*h*) the top edge of said cover plate being spaced below the lower edge of said downwardly depending lip so as to provide an elongated upper water outlet for said water-circulating housing,

(*i*) the top of said cover plate also having a flange portion which extends in a substantially horizontal plane from the inner part of the tub toward the outer part of the tub,

(*j*) said flange portion of said cover plate being disposed in a plane which is essentially parallel to the top flange portion of said water circulating housing,



(*k*) the said water outlet being disposed well above the water line of the tub and extending from side to side of the water-circulating housing,

(*l*) said cover plate having a water inlet opening disposed near its bottom, means for removably securing the cover plate to the water-circulating housing wall flanges, an impeller rotatably mounted within the lower portion of said water circulating housing and adjacent to the said inlet opening and adapted to draw tub water into the inlet opening, a circular flange enclosing the impeller, one circular edge of said circular flange being carried by the cover plate and having its other circular edge spaced from the said tub wall,

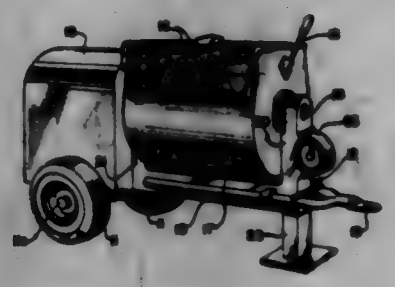
(*m*) the said circular flange causing the water drawn into the water-circulating housing by the impeller to flow upwardly along the tub wall and to pass the inner edge of the inwardly extending flange of the cover plate and thereafter be forced against the surface of the tub wall with sufficient force to cause the water to rebound therefrom and then strike the undersurface of top flange of the cover flange and then the inner surface of the depending lip,

(*n*) whereby the water will be given a violent and turbulent rotating motion and will issue from the outlet in a downward direction to forcefully penetrate and agitate the tub water for thoroughly washing the dishes.

2,970,820
CONSTRUCTION MATERIAL MIXER WITH BATCH GAUGE
Edward Sepich, 3185 Eakin Road, Columbus 4, Ohio
Filed Mar. 5, 1959, Ser. No. 797,479
2 Claims. (Cl. 259—171)

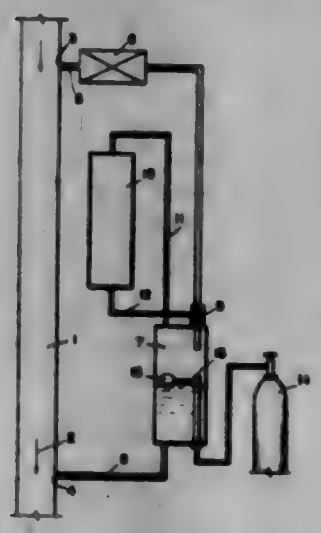
1. A mixer comprising a frame carrying a mixing receptacle, support means contacting the ground or other

surface and pivotally connected to the frame for supporting the frame for vertical swinging movement, a standard for supporting the other end of the frame spaced from said support means and composed of relatively movable sections which are connected to the frame and



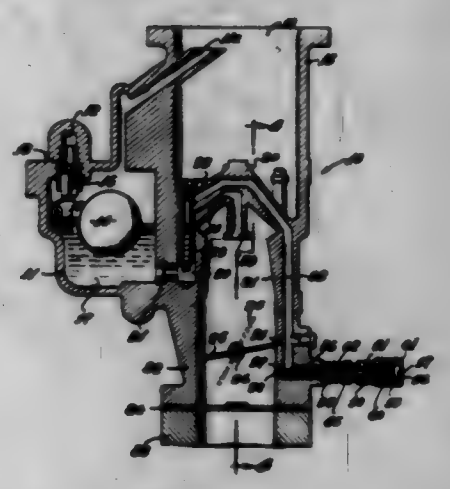
engage the ground respectively, means for normally keeping the sections in extended relationship, and means operatively connected between the sections for registering the relative movement of said sections caused by supplying material into said receptacle to indicate the weight of material in the receptacle.

2,970,821
OZONIZING INSTALLATION
Günter Axt, Karlsruhe-Durlach, Germany, assignor to Chlorator G.m.b.H., Grotzingen, Karlsruhe, Germany
Filed Aug. 22, 1956, Ser. No. 605,610
5 Claims. (Cl. 261—16)



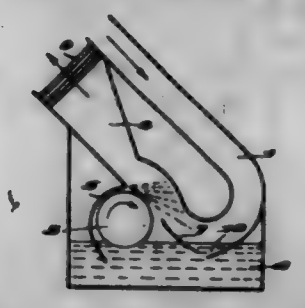
1. An installation for ozonizing water flowing under pressure through a water main, said installation comprising a closed mixing container having a water inlet and a water outlet, a feed branch pipe connecting said main with said inlet and a discharge branch pipe connecting said outlet with said main for effecting a fractional water flow under pressure through said mixing container, said container being partly filled with water to define a gas space therein, said feed branch pipe issuing in the gas space of the container, an ozone generator having an intake side and a discharge side, a feed pipe connecting said gas space with the intake side of the generator, a discharge pipe connecting the discharge side of the generator with said feed branch pipe, a suction means included in said feed branch pipe for creating suction in the discharge pipe of the generator to effect a flow of ozone through the generator, a conduit connecting said container with a supply of pure oxygen for feeding oxygen in gaseous form into said container, and a liquid level gauge in said container detecting the lever of water therein, the flow of oxygen into the container being controlled by said liquid level gauge in accordance with the water level detected by the same, the admission of gaseous oxygen making up for ozone admitted into the gas space and absorbed by the water in the container.

2,970,822
CARBURETOR IDLE SYSTEM CONTROL APPARATUS
Fred Ernest, 10633 Santa Monica Blvd., Los Angeles, Calif., assignor of one-half to Bernard Kriegel, Los Angeles, Calif.
Filed June 13, 1957, Ser. No. 665,517
15 Claims. (Cl. 261—41)



1. In an internal combustion engine carburetor: a body having a main passage through which air and fuel are adapted to flow; a throttle valve controlling flow of air and fuel in said main passage; said body having an idling passage opening into said main passage; an idle adjusting valve threaded in said body and extending into said idling passage to control the flow of fuel in said idling passage, said idle valve having an air passage for supplying air to said idling passage; and an air adjusting valve threaded in said idle adjusting valve and extending into said air passage to control the flow of air therein; the threaded connection of said idle valve in said body being of the opposite hand from the threaded connection of said air valve in said idle valve.

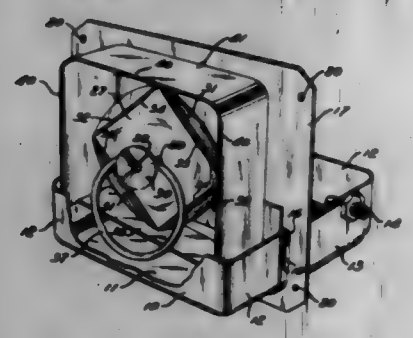
2,970,823
METHOD AND APPARATUS FOR TREATING FLUIDS
Nils Torsten Wrene, Fridhemsgatan 13, Stockholm, Sweden
Filed Oct. 28, 1955, Ser. No. 543,450
Claims priority, application Sweden Nov. 10, 1954
5 Claims. (Cl. 261—92)



1. Apparatus for obtaining effective contact between a gaseous stream and liquid mist particles comprising a gas conduit having laterally-spaced first and second substantially straight sections joined by an intermediate curved section having a continuously curved inner wall, said gaseous stream being conducted successively through said first straight section, through said intermediate curved section, and through said second straight section, said first and second straight sections having adjacent inner walls and also having outer walls opposite said inner walls, the outer wall of said second substantially straight section having an opening therein adjacent said curved section, and means for feeding a liquid spray through said opening into said second section in directions varying from transverse to opposed to the direction of flow

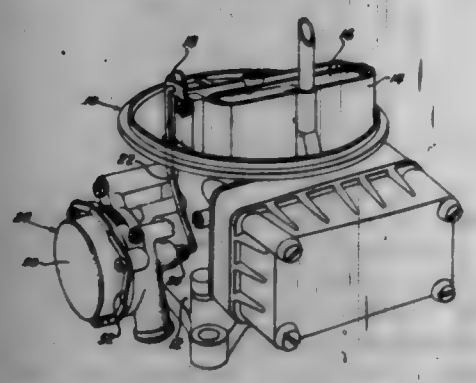
of the gaseous stream through said gas conduit comprising a rotor adjacent said opening and having an axis of rotation outside said gas conduit and substantially parallel to the axis of curvature of the curved inner wall of said curved intermediate section, said rotor being rotatable in a direction to cause the peripheral portion thereof adjacent said opening to rotate toward said curved intermediate section, and means for feeding a liquid to said rotor for introduction thereby in the form of a liquid spray through said opening into said second substantially straight section, whereby the heavier solid particles of the gaseous stream are directed into the densest and highest velocity portion of the spray.

2,970,824
HUMIDIFIERS
Abraham I. Caplow, University Heights, Ohio, assignor to Philip Borkat, South Euclid, Ohio
Filed Feb. 11, 1957, Ser. No. 639,338
4 Claims. (Cl. 261—92)



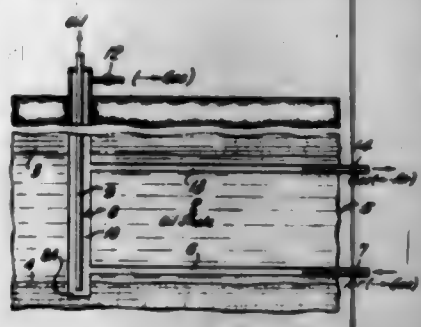
1. A humidifier having a liquid reservoir, a shaft rotatably supported above said reservoir and carrying a hub portion and a liquid throwing rotor disc projecting radially beyond said hub, means for rotating said shaft and a belt loosely resting on said hub portion to depend into liquid in said reservoir, and means engaging said belt below said hub for axially displacing the upwardly moving portion of the belt with respect to the downwardly moving portion, whereby the upwardly moving portion of the belt is biased into wiping engagement with an area on the upwardly moving side of said rotor disc.

2,970,825
AUTOMATIC CHOKE
Marion L. Smitley, Huntington Woods, Mich., assignor to Holley Carburetor Company, Van Dyke, Mich., a corporation of Michigan
Filed Feb. 3, 1958, Ser. No. 712,717
7 Claims. (Cl. 261—144)



1. In a carburetor, a choke valve, a source of suction, temperature responsive means influencing the position of the choke valve, pressure responsive means communicating with the source of suction operatively connected to said choke valve, and positive abutment means for limiting the amount of choke movement due to said pressure responsive means, and second temperature responsive means for adjustably positioning said abutment means.

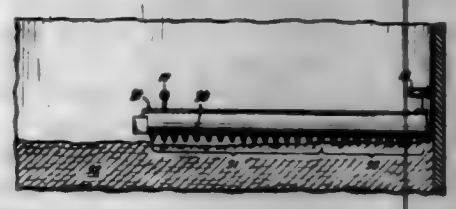
2,970,826
RECOVERY OF OIL FROM OIL SHALE
Homer O. Woodruff, Tulsa, Okla., assignor to Texaco Inc., a corporation of Delaware
Filed Nov. 21, 1958, Ser. No. 775,550
10 Claims. (Cl. 262—3)



1. A process for obtaining shale oil from a subterranean oil shale stratum comprising forming a passage through said stratum in the lower portion thereof substantially parallel to said stratum, forming a passage along the upper portion of said stratum substantially parallel thereto, intersecting said passages with a vertical well bore, supplying combustion-supporting gas to one of said passages at a point in said shale stratum remote from said well bore and initiating combustion in said passage effecting retorting of oil from said shale, passing combustion products and retorted oil through said passage to said well bore, withdrawing retorted oil substantially free from gas through said well bore, passing gaseous products of combustion along said well bore to the other of said passages, and re-introducing said gases into and through said shale bed through said last mentioned passage to supply heat to said shale bed.

9. A process for obtaining shale oil from an outcropping subterranean oil shale stratum which comprises forming a continuous open passage from its outcrop through said stratum in the lower portion thereof, interconnecting said passage with a vertical well bore spaced from said outcrop, providing a substantially impervious liner along a portion of said passage adjacent said outcrop, introducing combustion-supporting gas into said formation through said lined portion of said passage at said outcrop, initiating combustion in the unlined portion of said passage at a point remote from said well bore, passing combustion products through said passage to said well bore effecting retorting of shale along the path of flow of gas through said passage and movement of retorted oil to said well bore, and withdrawing resulting retorted oil through said well bore.

2,970,827
SILO UNLOADER
Glenn R. Dodson, deceased, late of Wichita, Kans., by Leon A. Dodson, administrator, 3232 E. English, Wichita, Kans.
Filed Nov. 17, 1958, Ser. No. 774,442
4 Claims. (Cl. 262—19)



1. In an elongated helical auger type silage cutting unit for power driven silo unloading machines in which the cutting unit has fixed helical cutting blade flights of substantially uniform diameter extending substantially throughout its length, and is moved in a circular path over the substantially horizontal surface of the silage with a point near one of its ends as a vertical axis, and is

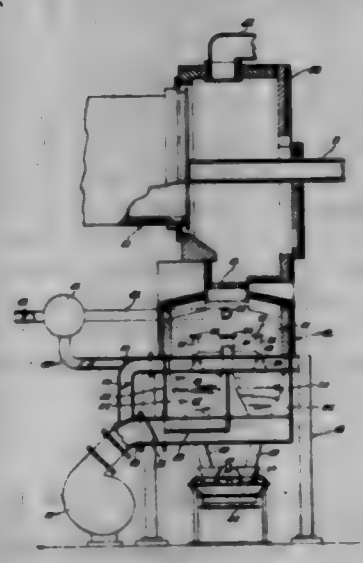
simultaneously rotated about its own central longitudinal axis to perform its silage cutting function, the improvement which consists in increasing the pitch dimensions of the blade flights from the outer end of the unit toward the said vertical axis, the increase in pitch dimensions being such that the differences in the total peripheral cutting edges of the blade flights extending longitudinally along the unit are substantially proportional to the differences in the average translational distances traveled and silage surface areas traversed by the respective blade flights as the unit is moved about said vertical axis, whereby all blade flights cut into the traversed surface of the silage at substantially the same rate.

2,970,828

APPARATUS FOR COOLING REFRACTORY PARTICLES

Lee H. Niems, Homewood, Ill., assignor to Marblehead Lime Company, Chicago, Ill., a corporation of Delaware

Filed Feb. 10, 1955, Ser. No. 487,336
4 Claims. (Cl. 263—32)



1. An apparatus for cooling refractory particles which comprises means defining a cooling zone, a first air inlet means located centrally of said zone, a plurality of auxiliary air inlet means of smaller cross-section than said first air inlet means disposed in spaced relation about said air inlet means in said cooling zone, air directing means arranged to introduce pressured air into said first air inlet means and said auxiliary air inlet means, a plurality of secondary air inlet means disposed below said first air inlet means and spaced about the center of said zone, said secondary air inlet means being in fluid communication with said air directing means, and means for adjusting the amount of air passed to said secondary air inlet means independently of the amount of air passed to said first air inlet means.

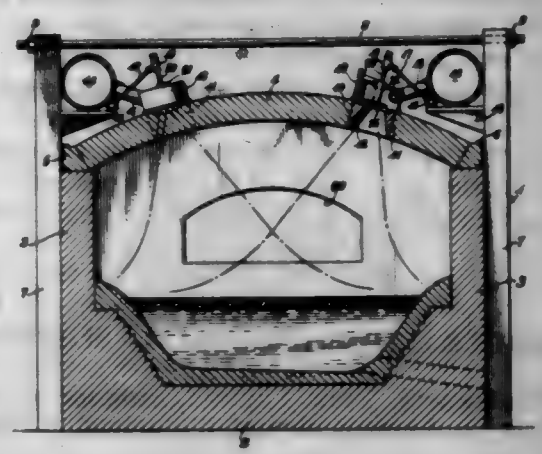
2,970,829

METHOD OF OPERATION OF A TOP-FIRED OPEN HEARTH FURNACE

Charlton Reynders, 179 Hinckley Road, Milton 87, Mass.

Filed Nov. 26, 1954, Ser. No. 471,135
4 Claims. (Cl. 263—52)

1. The process of heating ores and metals in a top fired, open hearth furnace provided with refractory walls and roof comprising directing a plurality of flames downwardly upon a charge of material in said furnace, maintaining fuel rates of from about 750,000 B.t.u./hr./burner to about 6,000,000 B.t.u./hr./burner, controlling the pressure velocity at the burner of an incoming combustion supporting medium into the furnace to maintain speeds in feet per minute not to exceed 6,000 feet per minute for a 4 foot roof height, and varying said speeds approximately directly as the square of the roof heights above the bath level measured in feet for furnaces of greater



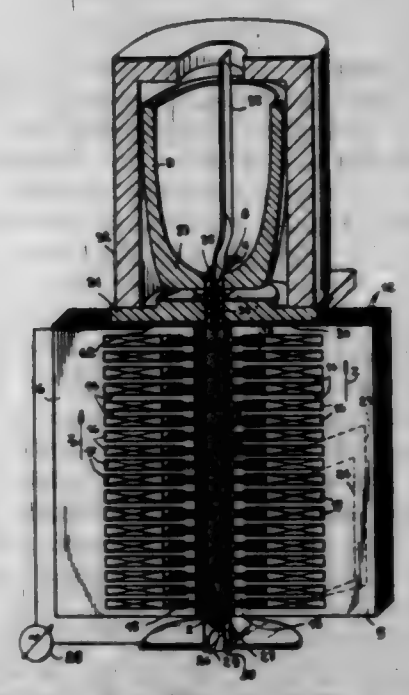
roof heights, whereby said velocity is maintained sufficiently low to prevent scorification of the refractories of said furnace.

2,970,830

VARYING THE FALLING SPEED OF A STREAM OF MOLTEN METAL

Walter Siegfried, Versoix, Geneva, Switzerland, assignor, by direct and mesne assignments, to La Soudure Electrique Autogene, S.A., Brussels, Belgium, a corporation of Belgium

Filed Mar. 10, 1958, Ser. No. 720,419
Claims priority, application Belgium Mar. 21, 1957
7 Claims. (Cl. 266—38)



1. A device for controlling the falling speed of a molten metal stream with a high melting point, comprising a rectangular refractory downwardly extending tube, first electromagnetic means disposed alongside one large face of the refractory tube and setting up across the metal stream a magnetic field sliding parallel to the axis of the tube; said first electromagnetic means including three phase windings and a first magnetic pole piece in flux transfer relation with the windings, in combination with second electromagnetic means disposed alongside the opposite large face of the refractory tube at the same level as the first electromagnetic means and setting up across the metal stream a magnetic field sliding parallel to the axis of the tube, said second electromagnetic means including three phase windings and a second magnetic pole piece in flux transfer relation with said latter three phase windings, means for supplying the windings of the first electromagnetic means and the second electromagnetic means with three phase current having coinciding phases in windings

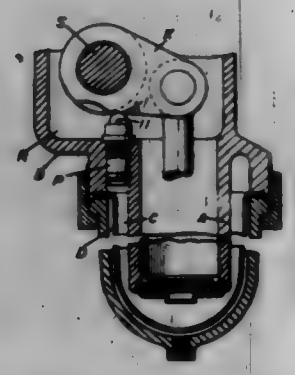
at the same level, elongated notches in said pole pieces parallel to planes perpendicular to the axis of the rectangular refractory tube, and separated from one another by teeth, the windings being located at the bottom of the notches and the windings extending less than the full lengths of said notches and thereby having space for circulation of fluid between said teeth, and means for circulating cooling fluid through the part of these notches along the part of the teeth between the windings and the refractory tube for cooling said windings and said teeth.

2,970,831

VEHICLE HYDROPNEUMATIC SUSPENSION UNITS

Jack Wordsworth, York, England, assignor to Armstrong Patents Co. Limited, Beverley, England, a British company

Filed Feb. 21, 1958, Ser. No. 716,774
Claims priority, application Great Britain Feb. 23, 1957
11 Claims. (Cl. 267—15)



1. A vehicle hydro-pneumatic suspension unit comprising a body adapted to be arranged between a vehicle frame and a wheel mounting, a cylinder extending within said body, a shaft journalled in said body for turning movement adjacent the cylinder, in response to vehicle riding movements, a piston arranged within said cylinder and reciprocable therein by turning movement of said shaft, a flexible diaphragm enclosing the end of said cylinder remote from said piston, said diaphragm defining with the free end of said piston, a confined space of variable volume, said confined space being filled with hydraulic medium, said diaphragm further defining with the body of the unit, an enclosed space bounding said confined space, said enclosed space being occupied by a compressed gaseous medium, cam means carried on said shaft, pump and valve means mounted in said body adjacent said cam means and communicating with said confined space, said body being formed with a reservoir for hydraulic medium, said cam means being operable upon a predetermined rotary displacement of said shaft in the load-induced direction to operate said pump to effect transfer of hydraulic medium from said reservoir to said confined space, said cam means being operable upon a predetermined rotary displacement of said shaft in the opposite direction to render said valve means effective to permit the return of excess hydraulic medium from said confined space to said reservoir.

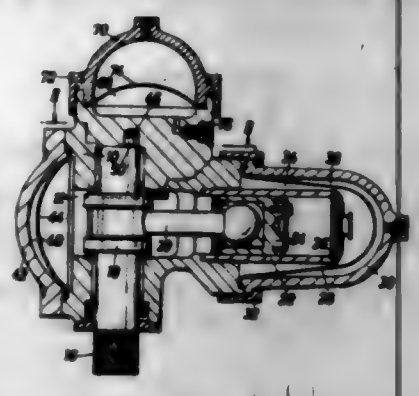
2,970,832

HYDROPNEUMATIC SUSPENSION SYSTEMS

Jack Wordsworth, York, England, assignor to Armstrong Patents Co. Limited, Beverley, England, a company of Great Britain

Filed Dec. 8, 1959, Ser. No. 858,109
Claims priority, application Great Britain Dec. 11, 1958
8 Claims. (Cl. 267—15)

1. In a vehicle hydro-pneumatic suspension system of the type comprising a hydro-pneumatic suspension device having mutually telescoping piston and cylinder means adapted for reciprocation responsive to vehicle riding movements, said piston and cylinder means confining between them a volume of hydraulic medium and a volume of gaseous medium, an elastic diaphragm separating said hydraulic medium from said gaseous medium, a reservoir of hydraulic medium and means including a relief valve adapted on the attainment of a predetermined relative position between said piston and cylinder means to exhaust excess hydraulic medium from said confined volume thereof back into said reservoir; the improvement comprising pump means in said suspension device, an hydraulic pressure accumulator communicating with said



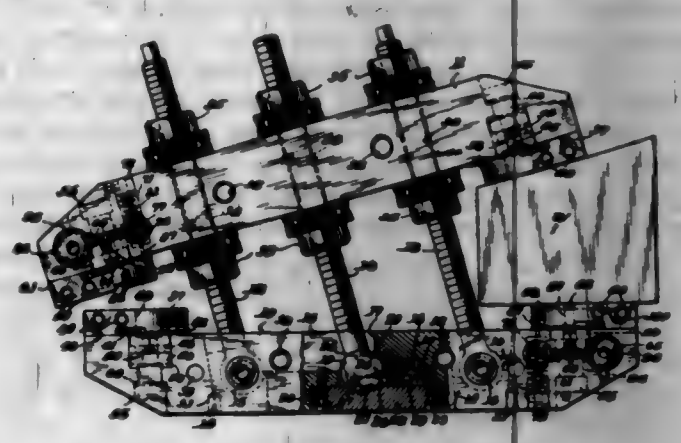
confined volume of hydraulic medium, said pump means being operable responsive to said vehicle riding movements to pump hydraulic medium from said reservoir into said hydraulic accumulator, and means including a non-return regulator valve between said accumulator and said confined volume of hydraulic medium and operable by said piston and cylinder means, on contraction thereof, to admit hydraulic medium from said accumulator to said confined volume of hydraulic medium for restoring said piston and cylinder means to said predetermined relative position.

2,970,833

MACHINE TOOL CLAMP

Nichols Stevens, 2414 N. Spaulding Ave., Chicago, Ill.

Filed July 31, 1959, Ser. No. 830,885
11 Claims. (Cl. 269—189)



1. A clamp construction comprising first and second clamp bars disposable in facing relation with inner faces thereof in opposition, a plurality of aligned slots extending through said first clamp bar, a plurality of clamping bolts pivoted at one end in said slots to swing between predetermined limiting positions relative to the first bar about axes transverse of the slots and spaced longitudinally of the bar, means defining one of said bolt positions at substantially right angles to the first bar, means biasing at least one of said bolts to said one position, a plurality of parallel bores extending through said second bar spaced in correspondence to the spacing of said bolt pivot axes and each receiving a bolt therethrough, a pair of nut members on each bolt disposed with the second bar extending therebetween for securement thereby in adjusted position on each bolt, a clamping jaw

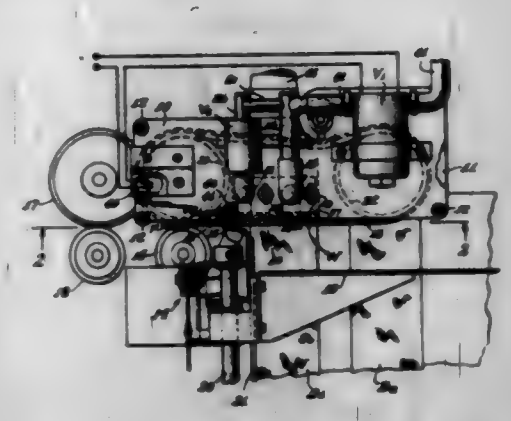
mounted at each end of each bar rotatable on the inner face thereof, said jaws each having spaced portions to bear on the inner bar face including a peripherally graduated circular portion, a stem extending from said circular portion having an external peripheral groove and an internal threaded bore, a recess in the inner bar face rotatably receiving said stem, means engaging in said groove to maintain the jaw engaged on the bar, a bore in the bar co-axial with and open to said recess and having a counterbore defining an abutment therein, a securing bolt having a reduced threaded end portion engageable in said stem bore and defining a shoulder abuttable with the end of said stem and also having a head rotatably engaged on said abutment upon abutting engagement of said shoulder and stem end to permit rotation of the jaw, a spacer disposable between said head and abutment of thickness sufficient to space said shoulder from said stem end to effect non-rotatable clamping of the jaw against said inner face by said securing bolt, index marking means on each of said bars adjacent the graduated circular portions of the jaws thereon, indexing means for at least certain of said jaws comprising an indexing pin mounted in slidable relation within a bar adjacent an associated jaw and projectable outwardly through said inner bar face to engage the jaw, means biasing said pin outwardly, and a plurality of holes in the associated jaw equally spaced from the axis of said jaw stem each adapted to receive the indexing pin, cam means for retracting the indexing pin within the bar including a member mounted in the bar for rotation about an axis intersecting the axis of the indexing pin, said rotatable member having an interior end adjacent said pin and a camming projection on said end eccentric of its axis engageable with the pin for movement thereof out of projected position upon turning of said rotatable member, means for rotating at least certain of said jaws comprising a worm gear formed on a jaw stem, a worm shaft carrying a worm meshing with said teeth rotatably mounted within the associated bar for turning said jaw stem and thereby said jaw, a bearing member rotatably mounted in said associated bar co-axially with said worm shaft and eccentrically journalling one end of the shaft for adjustment of the worm toward or from said gear upon rotation of the bearing member, means for securing the worm on the bar in unmeshing relation to said gear including an enlargement on said worm shaft spaced from an end of the worm to define therewith a groove, and a retaining member on the bar engageable in said groove upon axial movement of said shaft positioning the worm out of engagement with the worm gear, certain of said jaws having a substantially flat work-engaging face with a recess therein centered on the axis of said jaw stem bore, and means for securing the clamp bars on a support.

2,970,834
LETTER FEEDING DEVICE

Samuel W. Martin, Weston, and Walter J. Hanson, Old Greenwich, Conn., assignors to Pitney-Bowes, Inc., Stamford, Conn., a corporation of Delaware

Filed Sept. 6, 1957, Ser. No. 682,346
4 Claims. (Cl. 271—26)

1. A device for separating and feeding letters sequentially from a stack thereof with the terminal letter of the stack adapted to be engaged by the face of endless traveling perforated suction belt means to be carried thereby sideways from the stack past a separator cooperative with the belt at the delivery side of the stack with stationary suction means for the belt means provided at the inner face of the belt operable to cause suction engagement of the letters from the stack by the belt, and control means for said suction means to provide substantially constant distance between trailing and leading edges of adjacent letters of the sequence, said suction means comprising a primary suction box facing the stack and operable to adhere the terminal letters to the belt by suction, a secondary suction box cooperative with the primary suction box and with the belt and disposed forwardly beyond the stack; additional suction control means operable to maintain suction effective in said pri-

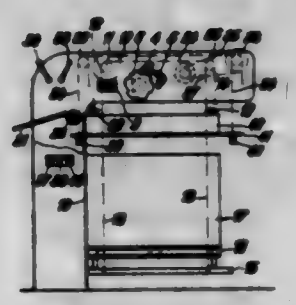


mary suction box to engage the terminal letter at the beginning of a letter feeding operation then render suction effective in the secondary suction box coincident with the leading end portion of the letter being carried forward towards the separator whereby the leading end portion is held under the control of the belt until past the separator.

2,970,835
PILE LIFTING DEVICE FOR USE IN SHEET PRINTING MACHINES

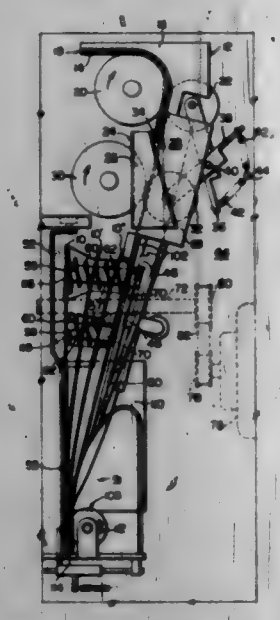
Adolf Schwebel, Offenbach (Main), Germany, assignor to MABEG Maschinenbau G.m.b.H., Offenbach (Main), Germany

Filed Apr. 30, 1958, Ser. No. 732,975
Claims priority, application Germany Sept. 6, 1957
13 Claims. (Cl. 271—62)



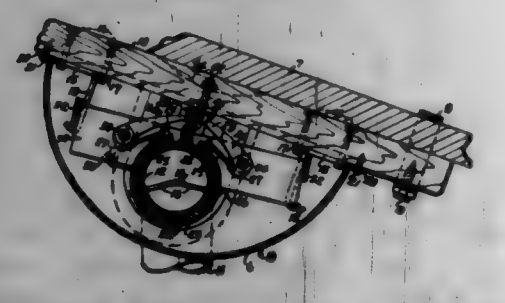
1. In a sheet feeder for printing and the like machines having main pile lifting means including a first set of chains, a main pile table and, independent therefrom, auxiliary pile lifting means including a second set of chains and an auxiliary pile table, for the continued lifting of a rest pile from a lowermost position to a top position when the main pile lifting means are being lowered for the reception of a new pile of sheets, and a feeler having electric contacts to regulate the position of height of the pile as the same is lifted by the said main pile lifting means, a main driving motor for driving said main pile lifting means, electric contacts for starting and stopping said motor, an auxiliary driving motor, a fine wire winding and a high speed winding in said auxiliary driving motor for driving said auxiliary pile lifting means by said fine wire winding so as to lift said auxiliary table together with the said rest pile thereon, means for intermittently advancing said pile lifting means in timed relation to the feeding of the sheets into the printing machine, and contacts operable in the top position of said auxiliary pile table for effecting the return of the said auxiliary pile table into its lowermost position by the high speed winding of said auxiliary motor.

2,970,836
ITEM HANDLING APPARATUS
John G. Smith, Philadelphia, Pa., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Mar. 11, 1959, Ser. No. 798,744
4 Claims. (Cl. 271—71)



1. Document handling apparatus of the class described comprising, a hopper having a fixed bottom wall, means for feeding documents into said hopper at high speeds, means in said hopper to decelerate each document and move it slowly against the bottom wall of said hopper, means to deflect the trailing portion of said document from its path of movement in said hopper and out of the path of the leading portion of subsequent documents fed into the hopper, said last means including a plurality of spaced members each of which is provided with a plurality of upstanding ridges and complementary grooves for engaging the edge of the documents, the ridges of said members being helically shaped, means to mount said members with their axes of rotation transverse to the said one path of movement whereby said documents are caused to engage spaced portions of one of their edges in the grooves between said ridges in both members, and a source of constant torque operably coupled to said members for rotating the same at constant speed.

2,970,837
SHIFTING FULCRUM TEETER BOARD
Guy R. Lanman, 520 S. Hadden, El Reno, Okla.
Filed May 22, 1957, Ser. No. 660,930
2 Claims. (Cl. 272—54)



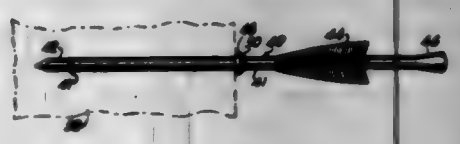
1. An amusement device comprising a main board, a beam arranged below said main board and connected thereto, a tubular axle arranged below said beam, a stop bar extending through said axle and including portions having ends projecting beyond said axle, plates secured to the under surface of said beam and said plates being arranged in pairs, a cross-piece extending between each pair of plates and secured thereto, rods depending from said crosspieces, a brake assembly arranged on the outer portion of said axle and embodying a brake lining and a brake band, spaced apart ears extending outwardly from the ends of said brake band and secured thereto, links engaging said ears, levers each including portions which are engaged by said links, a bearing frame positioned below said beam and adapted to be selectively engaged by the lower portions of said rods, bars secured to said bearing frame, pivot pins pivotally connecting said levers to said last named bars, a saddle secured to said frame and mounted on said axle, coil springs mounted on the end portions of said saddle, a yoke positioned below said beam and connected thereto, end portions of said levers projecting into said yoke, a pin carried by said yoke and projecting beneath the portions of the levers therein, and lugs on said saddle mounted for movement into and out of engagement with the projecting end portions of said stop bar.

2,970,838
ARCHERY DEVICE
Wilmer R. Taggert, Worcester, Mass. (7 Orient St., Boylston, Mass.), assignor of one-half to Norman S. Blodgett, Westboro, Mass.
Filed Aug. 21, 1956, Ser. No. 605,352
9 Claims. (Cl. 273—106.5)



9. An archery device for use with a bow comprising a plurality of darts, an elongated shaft, a nock mounted at one end of the shaft for engagement with the string of the bow, a head mounted at the other end of the shaft and including releasable means for normally retaining the darts in a bundle, a member slidable along the shaft when the device is shot from the bow to strike the nock and retard the flight of the device, and means for effecting release of the dart retaining means when the device is shot from the bow.

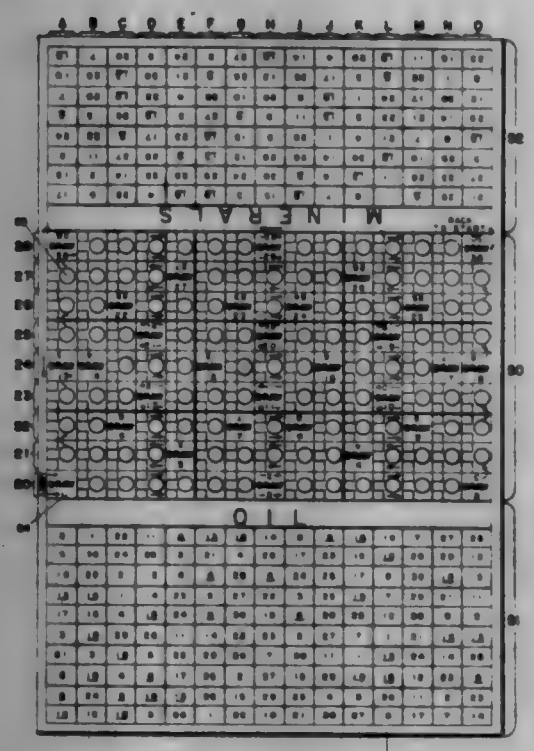
2,970,839
CATAPULT DEVICE
Emmett H. Halverson, 104 E. Claredon, Prospect Heights, Ill.
Original application Oct. 13, 1956, Ser. No. 613,730, now Patent No. 2,876,760, dated Mar. 10, 1959. Divided and this application June 12, 1958, Ser. No. 741,624
1 Claim. (Cl. 273—106.5)



An arrow for use in a slingshot, comprising a shaft, a sharp head on one end of said shaft, a plurality of vanes on the other end of said shaft, a first retaining ring

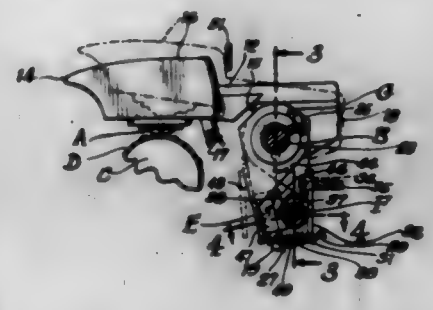
secured to said shaft adjacent said sharp head, a second retaining ring secured to said shaft intermediate said first ring and said vane, a retarding collar positioned on said shaft between said first and second retaining rings, said collar having a substantially greater cross sectional area than said first ring and having substantial frictional engagement with said shaft so that a substantial force is required to move said collar between said first and second rings as the arrow enters the target, thereby to prevent deep penetration of the arrow into the target and damage to said vanes.

2,970,840
GEOLOGY GAME
Raymond Joseph Richie, 1539 6th St., Alameda, Calif.
Filed Mar. 19, 1956, Ser. No. 572,407
2 Claims. (Cl. 273—134)



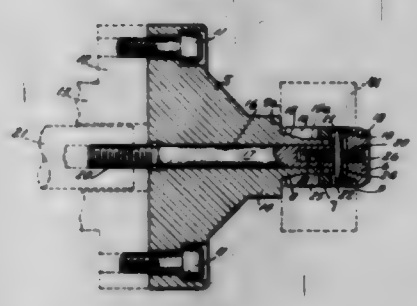
1. In a geology game apparatus a board having a section of field of play to represent the surface of the earth, means dividing said section into a plurality of spaces which form a continuous path delineated thereon for continuity of play, certain of said spaces having different designations than other spaces, a set of playing pieces each different from the other to register movement thereon, means for determining the amount of movement of playing pieces thereon, markers of distinctive colors to be used thereon to show player ownership of certain marked spaces, a set of pieces to represent surface developments to be bought and placed on spaces thereon owned by a purchasing player, cards to be drawn that give the possessor one play or options of play that are to his advantage or disadvantage, a second section of said board having spaces indicative of relative vertical distance with regard to said first section, a plurality of resource cards, each resource card designating a natural resource, chance determining means including said certain spaces on said first section and said first mentioned cards indicating a resource card to be placed on certain spaces of said second section by a player, means providing information for determining relative distance from a surface development to the resource card on said second section, the relative distance from the surface development to the resource card costing the owner according to that distance, and means comprising additional designations on said resource cards for determining penalties from an opposing player resting upon said surface spaces.

2,970,841
MAGNETIC TRANSDUCER HEAD
Alfred E. Lorenz, Algonquin, Ill., assignor to Comptometer Corporation, a corporation of Illinois
Filed Feb. 18, 1955, Ser. No. 489,201
16 Claims. (Cl. 274—20)



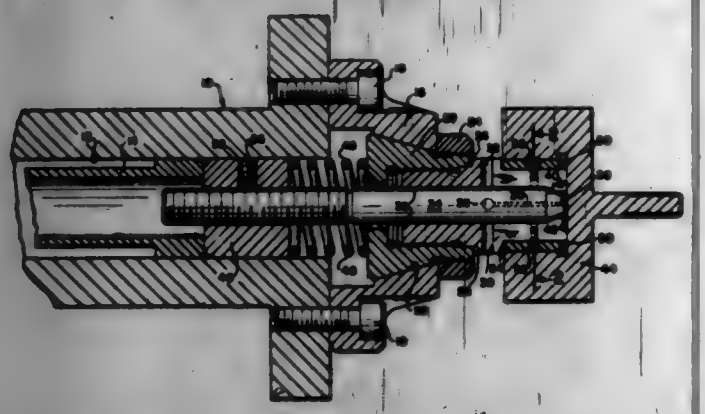
1. In transducer apparatus, a carriage mounted for pivotal movement and for transverse movement normal to the direction of the pivotal movement, a transducer head rigid with and carried by said carriage and movable therewith during pivotal movement thereof between a transducing position and a non-transducing position, latch means on said carriage and operable by said transducer head during pivotal movement thereof as it moves between its transducing and non-transducing positions for releasably latching said transducer head in each said position when moved thereto, a feed screw, and means forming a head traversing drive connection adapted to impart transverse movement to said transducer head when it is in its transducing position and including a member movable into and out of driving engagement with said feed screw for forming said connection and movable out of such engagement by said carriage while it is moving said transducer head toward its non-transducing position to thereby disconnect said connection, said latch means including an element fixed relative to pivotal movement of said transducer head, and the latch means being operative for maintaining said movable member in disconnected position when said transducer head is in non-transducing position.

2,970,842
EXPANDING MANDREL CHUCK
Charles E. Drew, 4400 Durand Road, Racine, Wis.
Filed Jan. 22, 1958, Ser. No. 710,493
2 Claims. (Cl. 279—2)



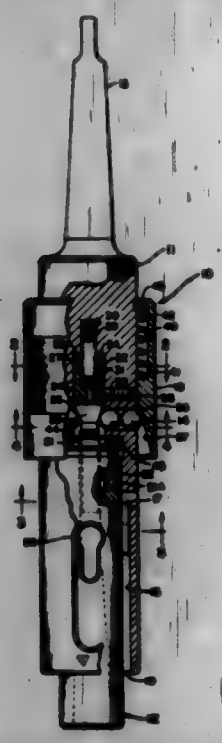
1. In a chuck comprising a chuck member having an apertured tapered spindle, a lengthwise adjustable drawpin having a tapered end and a shank having a portion slidably movable and guided in an aperture in said spindle, an expanding chucking mandrel inwardly tapered at opposite ends thereof and engaged at said respective tapered ends by said tapered spindle and the tapered end of said drawpin, said mandrel including a slotted stop portion, a stop pin mounted in the head of said drawpin and engageable with the slot of said stop portion for rigidly holding said mandrel, while loading the same with a work piece, against movement on said tapered spindle in an endwise direction tending to expand the same.

2,970,843
EXPANDING ARBOR ADAPTER FOR LATHES
Emil J. Bourguignon, 54 Clinton Ave., Farmingdale, N.Y.
Filed Jan. 26, 1959, Ser. No. 789,873
7 Claims. (Cl. 279—2)



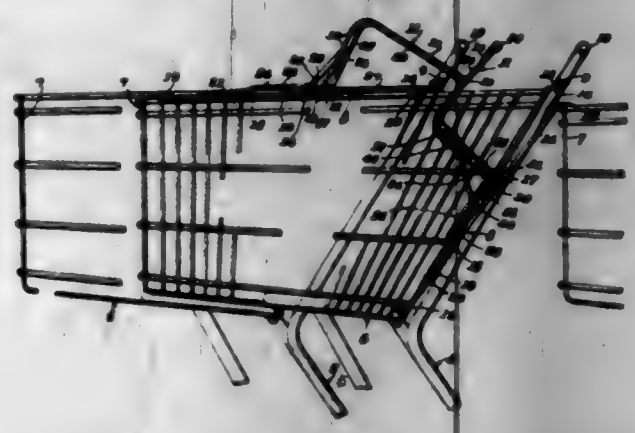
5. In a turret lathe including a spindle nose, a spindle adapter attached to the nose and a hollow pusher member operable in the spindle nose, the improvement comprising an expanding arbor adapter mounted in the spindle adapter of the turret lathe and secured thereto by a lock nut, an expanding arbor for holding a workpiece and removably secured in the arbor adapter, a plunger spindle extending axially through the spindle adapter, the arbor adapter and into the expanding arbor, said plunger spindle also extending into the spindle nose and into the pusher member, the inner end portion of the plunger spindle being threaded, and a nut threaded on the threaded inner end portion of the plunger spindle engaged by the outer end of the pusher member for adjusting the effective length of the plunger spindle, the pusher member being adapted to force the plunger spindle into the expanding arbor to expand the arbor into engagement with the workpiece to be held thereby.

2,970,844
TOOL HOLDER—AXIAL LOCKING TYPE
Bernard R. Better, Chicago, Ill., assignor to Scully-Jones and Company, Chicago, Ill., a corporation of Illinois
Filed Feb. 12, 1959, Ser. No. 792,748
10 Claims. (Cl. 279—75)



1. A preset table cutting tool holding means comprising a rotatable spindle, a collet for holding a cutting tool, presetting means on said collet for permitting gaging of said tool against a preselected standard, means for receiving said collet in said spindle, locking means in said spindle cooperating with said presetting means for locking said collet against longitudinal movement in said spindle, means on said spindle for releasing said locking means to permit removal of said collet from said spindle, and means in said spindle for holding said releasing means in release position while said collet is removed from said spindle and adapted to be rendered inoperative by presetting means inserted in said spindle.

2,970,845
MARKET CART WITH FOLDING SEAT
Norris J. Thompson, Los Angeles, Calif.
(442 Fairview Ave., Arcadia, Calif.)
Filed Jan. 19, 1959, Ser. No. 787,629
6 Claims. (Cl. 280—33.99)



1. In combination with a nesting market cart having a basket provided with a rear wall, the rear wall of the basket being hinged at its upper end to swing upwardly from a basket-closing position, a child support comprising a seat and a rigidly connected back, a pivot connecting said seat of said support and an intermediate portion of the rear wall whereby said support is entirely carried by said wall, means connected to the seat and engaged with the rear wall to hold the seat in child-supporting operative position, and a fixed projection on the seat adjacent said pivot and extending through and rearwardly of the rear wall and adapted to be engaged by a nesting cart to swing said child support from its operative support position to a non-operative pivotally raised position.

2,970,846
FOLDABLE BOAT CARRIER
Warren E. Boston, Rte. 1, Hunlock Creek, Pa.
Filed Nov. 12, 1958, Ser. No. 773,311
3 Claims. (Cl. 280—46)



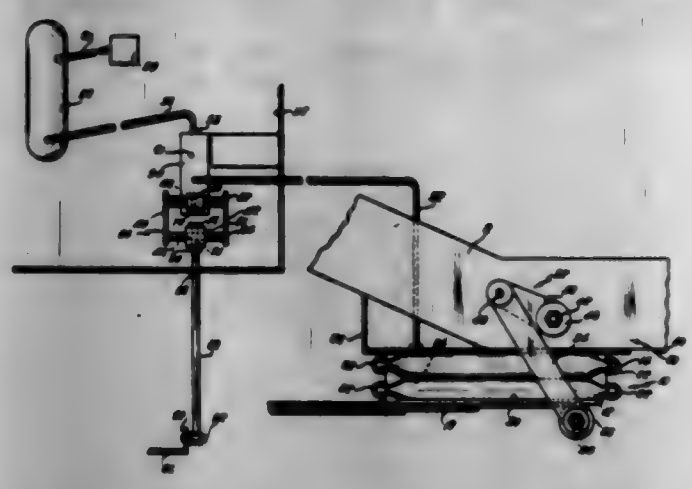
2. A foldable boat dolly comprising an elongated, rectangular and horizontally disposed frame of sufficient length to cradle and support the under surfaces of a boat extending transversely thereacross, a pair of supporting leg assemblies, means on said frame securing said leg assemblies in an extended depending position, said leg assemblies each comprising substantially parallel inner and outer sections, at least one bracing member

secured between the upper ends of corresponding inner and outer sections, a wheel journaled for rotation about a longitudinally extending axis between the lower ends of corresponding inner and outer sections, means pivotally securing the upper end of said inner sections to opposite end portions of said frame for movement about parallel transversely extending axes between a folded position substantially parallel with said frame and an extended depending position, said end portions of said frame projecting beyond the inner sections, the upper ends of said outer sections abutting the under surfaces of said projecting frame end portions and constituting limits defining said extended positions, said securing means carried by the end extremities of said frames and engaging the upper ends of said outer sections retaining said wheel assemblies in the extended positions, said frame including upwardly projecting transversely extending, spaced and parallel braces adapted to engage opposite side surfaces of a depending keel on a boat supported by said dolly throughout the width of said frame, said inner section being triangularly shaped and having one side parallel to the ends of said frame, said outer section being V-shaped with its sides parallel to the depending sides of said inner section, notches formed in the upper ends of the sides of said outer sections, said securing means comprising spring loaded latches mounted on said frame engaging said notches, and means for releasing said latches.

2,970,847
VEHICLE SPRING SUSPENSION AND FLUID PRESSURE LEVELING DEVICE THEREFOR

Milton B. Hammond, Edgeworth, and Louis J. Hrusovsky, Coraopolis, Pa., assignors to Rockwell-Standard Corporation, a corporation of Pennsylvania

Filed Mar. 6, 1956, Ser. No. 569,853
10 Claims. (Cl. 280—124)

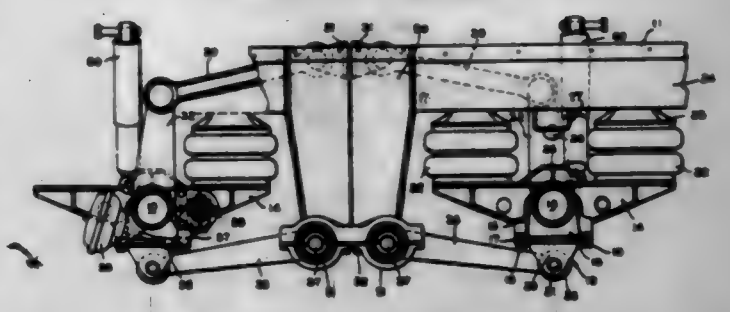


1. In a vehicle, a frame, an axle extending transversely of said frame, a leaf spring mounted on each end of said axle and connected at each end to said frame, a pair of expansible fluid chambers, one interposed between said frame and one end of each of said leaf springs, means structurally independent of said fluid chambers and connected between said frame and each of said leaf spring one ends confining relative movement therebetween to movement resulting from variations in the degree of expansion of said chambers, said last named means comprising a pivoted linkage, a source of fluid under pressure, means connecting said source and each of said chambers, and means for so independently controlling the introduction into and exhaust from said chambers of fluid from said source as to maintain a substantially uniform spacing between said axle ends and said frame during all normal conditions of operation of said vehicle.

2,970,848
SWAY CONTROL SUSPENSION FOR VEHICLES

William E. Rice, Buchanan, Mich., assignor to Clark Equipment Company, a corporation of Michigan

Filed Dec. 27, 1956, Ser. No. 630,991
5 Claims. (Cl. 280—124)

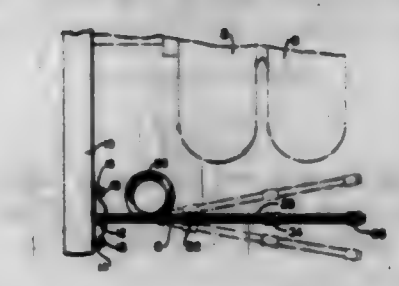


1. In a vehicle having a main frame and a pair of tandem related axles disposed transversely therebeneath, a suspension system comprising, a pair of bracket means carried adjacent opposite ends of each axle, pairs of pneumatic bellows forming resilient air spring members mounted on each of said bracket means and extending between the same and the main frame of the vehicle, a single crank means carried intermediate the ends of each axle and extending above the said bellows, radius rod means pivotally joined to and extending between the upper end of each crank means and the vehicle's main frame, pairs of torque arms associated with each axle and pivotally connected adjacent the ends of the latter, depending bracket members disposed intermediate the two axles adjacent opposite sides of the vehicle's main frame, spaced pairs of bushing means carried at the lower ends of each of said bracket members, said bushing means supporting the other ends of said torque arms, a pair of torsion bar means extending between said bracket members coaxially of said bushing means and parallel to said axle, and means interconnecting the ends of each of said torsion bar means with a pair of said torque arm means, such interconnection of the torsion bar and torque arm means providing torsional loading of the torsion bars by cranking action of said torque arm means which act as radius rods to position said axle whereby a system is provided to resist vertical, twisting, longitudinal, and horizontal movements of the axles relative to the main frame.

2,970,849
SPRING MUD FLAP HOLDERS

William M. Betts, 868 Folsom St., San Francisco, Calif.

Filed May 7, 1958, Ser. No. 733,709
5 Claims. (Cl. 280—154.5)

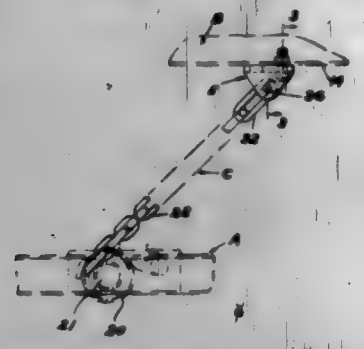


1. A mud flap for attachment to trucks and the like comprising a helical spring having opposed axial ends, a spring support member disposed at one of said axial ends of said spring and adapted for securing said spring to a vehicle to fix said mud flap in operative position adjacent a wheel of said vehicle, a mud flap support member rigidly secured to said spring at the other of said axial ends and supported solely by said spring, and a mud flap supported solely by said mud flap support whereby said mud flap is supported for universal flexure circumferentially and axially of said spring.

2,970,850
VEHICLE TIE-DOWN DEVICE

Donald J. Blunden, Detroit, Mich., assignor to Whitehead & Kales Company, River Rouge, Mich., a corporation of Michigan

Filed Sept. 21, 1959, Ser. No. 841,354
5 Claims. (Cl. 280—179)

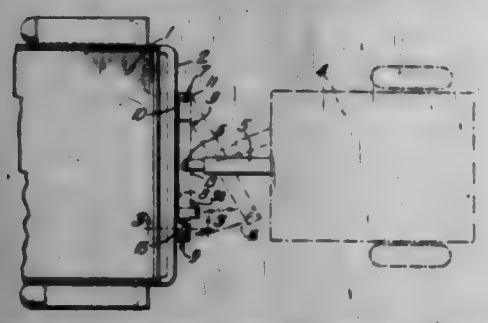


1. The combination with two vertically spaced substantially parallel horizontally extending longitudinal rails respectively of a transport vehicle and of a motor vehicle carried thereby, of a tensioning device between said rails including a winch having a rotatable shaft carried by the lowermost of said rails, a bolt having a vertically extending shank secured to the uppermost of said rails in longitudinally offset relation to said shaft and provided adjacent the lower end of said shank with a head spaced below the underside of said uppermost rail, a hook detachably connected to said bolt, said hook having a substantially flat elongated base and a pair of spaced substantially parallel side walls projecting downwardly from said base, said base being substantially parallel to the underside of said uppermost rail and disposed between the latter and the head aforesaid of said bolt, said base being provided adjacent the end thereof nearest to said shaft with an opening having an area greater than the area of the head of said bolt and provided adjacent the end thereof farthest from said shaft in connecting relation with said opening with an elongated slot receiving the shank of said bolt, the width of said elongated slot being less than the cross sectional area of the head of said bolt whereby opposite side portions of said head rest upon and are supported by the material of said base upon opposite sides of said elongated slot, and a chain connected at one end to and wound upon said shaft and having its other end connected to the downwardly projecting side walls of said hook, said winch being operable to place said chain under tension between said shaft and said hook, said base slidably engaging the underside of said uppermost rail, and said winch being operable to place slack in said chain so that said base may be slid lengthwise of said uppermost rail to place said opening in registration with the head of said bolt to thereby permit manual withdrawal of said hook downwardly from said bolt.

2,970,851
HITCH

Cleveland Jones, Inverness, Miss.

Filed Sept. 2, 1960, Ser. No. 53,811
10 Claims. (Cl. 280—478)

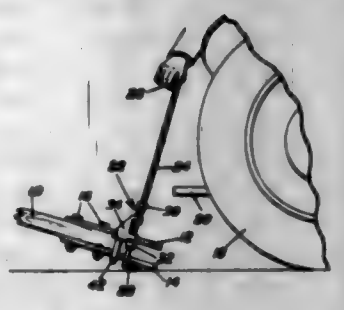


1. A hitch comprising, a mounting bracket and a keeper element having a seat therein for mounting on a towing vehicle in spaced relation, a latch bar pivotally connected to the mounting bracket and having its free end movable into the seat in the keeper element, the latch bar having a coupling pin hole intermediate its ends whereby the bar can be coupled to a tow bar of a vehicle to be towed, and a latch carried by the keeper element and automatically movable to bar-retaining position by movement of the bar into the seat.

2,970,852
HITCH PIN

Harvey J. Doll, R.F.D. 1, Bushnell, Ill.

Filed Sept. 15, 1959, Ser. No. 840,057
5 Claims. (Cl. 280—515)

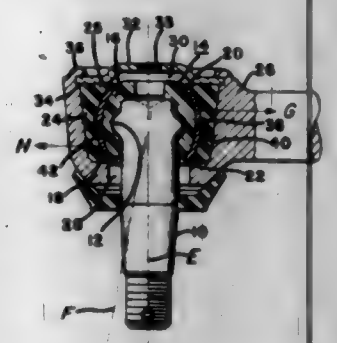


1. A hitch pin assembly for a conventional drawbar and a conventional tongue comprising a handle provided with a hook on one end thereof, a bracket rotatably journaled on said handle, a pin secured to said bracket extending parallel to said handle but spaced therefrom, and means for selectively locking said handle and bracket in a first rotatable position with said hook extending immediately adjacent said pin, and in a second rotatable position with said hook extending away from said pin.

2,970,853
RESILIENTLY MOUNTED BALL JOINT

Max P. Baker, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

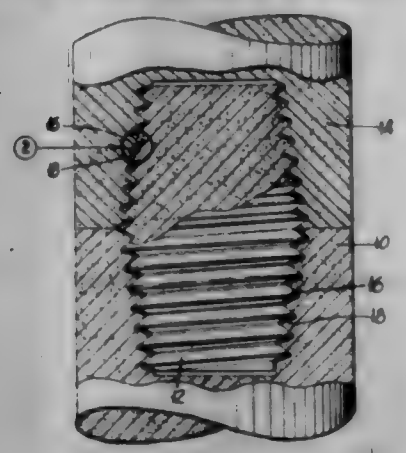
Filed Mar. 25, 1957, Ser. No. 648,081
6 Claims. (Cl. 287—90)



1. A ball and socket joint, comprising, a ball ended stud having exterior annular curved surfaces axially adjacent to each other and each generated by revolution of an arc about a longitudinal axis of said stud, said surfaces having a location on opposite sides of a major diameter of said stud such that the arc to define each surface has a radius swung in a plane coinciding with that of a radius of a circle around the longitudinal axis and swung about a point lying in a periphery of the corresponding circle which is located on a side of major diameter of the ball ended stud opposite the side where a circle of points of origin of a radius for the other surface is located, a pair of rigid partially spherical complementary half-shells defining a socket for said surfaces of said ball ended stud and engaging said annular curved surfaces substantially only along localized rings on opposite sides of the major diameter, a hollow one-piece elas-

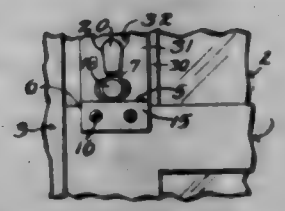
tomeric bushing having a partially spherical cavity snugly receiving said shells, and a housing for snugly receiving said bushing.

2,970,854
ELECTRODE JOINT
Harry V. Johnson, Niagara Falls, N.Y., assignor to Union Carbide Corporation, a corporation of New York
Filed Aug. 6, 1958, Ser. No. 753,480
5 Claims. (Cl. 287—127)



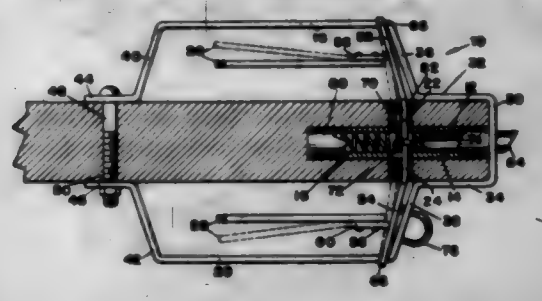
1. In an electrode joint comprising two threaded electrode sections and a threaded nipple connecting said sections; the improved construction comprising the incorporation of at least one shrinkable shim between the threads of said nipple and the threads of at least one of said electrode sections, said shim prior to shrinking thereof providing substantially even distribution of clearance between said threaded nipple and said threaded electrode section, and thereby providing room for thermal expansion of said threads.

2,970,855
LOCKING DEVICE
Richard L. Fisher, 1414 W. 29th St., Apt. 3, Cleveland, Ohio
Filed July 30, 1958, Ser. No. 752,847
1 Claim. (Cl. 292—59)



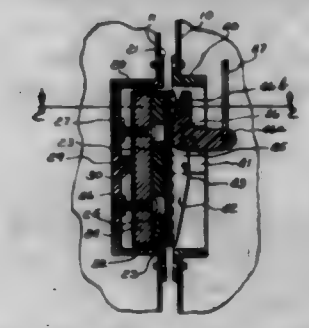
In a latch mechanism, a base plate, a cylindrical barrel on said base plate, a bolt slidable and capable of oscillation in the barrel, said bolt having a transversely elongated head at its forward end, said barrel including a peripheral wall having a longitudinal slot and a branch slot that extends laterally from the forward end of the former slot, the bolt having a diametrical bore, a pin slidable in the bore and extending outwardly through the first slot, an operating handle carried by the pin, said wall of the barrel having an aperture for receiving the end of the pin opposite the handle when the pin is disposed adjacent the terminal of the branch slot, means for receiving the elongated head of the bolt in locked relation thereto, said base having an elongated slot and said barrel having portions passing through and movable along said slot and terminating in oppositely disposed flanges underlying said base, said flanges each having a slot longitudinally arranged therealong, said base plate having openings in alignment with the respective flange slots, and fastening means passing through the aligned slots and openings to fix the barrel in a selected position longitudinally on the base plate and to engage the head of the barrel securely with the bolt head receiving means when the handle is to be positioned adjacent the terminal of the branch slot, to thereby prevent rattling or relative movement between the members on which said receiving means and the bolt head are mounted.

2,970,856
DOOR LATCH
Leon F. Hansen, Tekamah, Nebr.
Filed July 18, 1958, Ser. No. 749,493
1 Claim. (Cl. 292—173)



In a door latch, the combination which comprises a pair of substantially U-shaped handles connected by a U-shaped element, the U-shaped element being designed to be positioned over the edge of a door with the handles on opposite sides of the door, means for mounting the handles on the door, a tube having openings in the sides mounted in the edge of the door and positioned in registering relation with an opening in the U-shaped element of the handles, a lock bolt having an opening therein slidably mounted in the tube, plates having fingers extended from inner ends thereof and having ears on the outer ends, the plates being positioned with the ears extended into notches in edges of the handles and with the fingers extended through the openings in the sides of the tube and into the opening in the lock bolt, levers extended from the plates and positioned in the handles for actuating the fingers to withdraw the lock bolt, and a loop extended from one of the plates through a slot in and end of a handle providing means for locking the device with the lock bolt extended.

2,970,857
MAGNETIC DOOR LATCH
Herbert D. Squire, Galesburg, Ill., assignor to Midwest Mfg. Company, Galesburg, Ill.
Filed July 24, 1957, Ser. No. 673,972
6 Claims. (Cl. 292—251.5)



1. A magnetic door latch for holding a door member in closing position against a cabinet member formed with a door opening comprising a magnet carried by one of said members, a keeper pivotally connected to the other member and arranged to provide a closed circuit flux path for the magnet when the door is closed, a keeper operating lever pivotally supported spaced from the pivot of the keeper and formed with a cam surface for engagement with the keeper and a lever arm, said cam surface being formed with a surface close to the pivot point of the keeper and lever and a continuation of said surface

extending away from said pivots whereby upon rocking of said lever a greater mechanical advantage is exerted at the start to break the keeper from the flux path and a greater movement is realized after the flux path is broken for moving the keeper farther from the flux path.

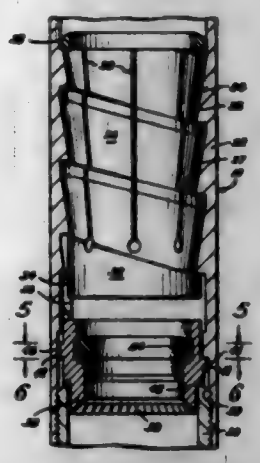
2,970,858
LUGGAGE LOCK
Ernst Norrenberg-Sudhaus, Iserlohn, Germany, assignor to Heinrich Sudhaus Sohne, Iserlohn, Germany, a corporation of Germany
Filed Apr. 29, 1959, Ser. No. 809,754
Claims priority, application Germany Oct. 15, 1958
1 Claim. (Cl. 292—283)



In a clasp type lock for articles of luggage or storage having a body and a lid or the like, a clasp carried by said lid and a keeper attached to said body in close proximity to said clasp, said clasp including a housing having top, side, and end walls and enclosing slidable bolt means having a bolt head cooperating with said keeper to detachably connect said lid to said body, means for pivotally attaching said clasp to said lid, comprising, a tongue having forward and rear edges and pivotally mounted within said housing adjacent one end wall thereof, upstanding barbs punched in said tongue having forwardly facing inclined surfaces and rearwardly facing vertical edges substantially perpendicular to said tongue, spring means biasing said clasp upwardly away from said tongue, the rear edge of said tongue abutting the adjacent end wall of said housing to limit the upward movement of said clasp, a pocket member attached to said lid and adapted to receive said tongue to maintain said clasp secured to said lid, said pocket member comprising top, bottom, and side walls defining an inner pocket opening having a width and height substantially equal to the width and height of said tongue, cut-out portions in the top wall of said pocket member disposed so that as the leading edge of said tongue is inserted into said pocket opening the inclined surfaces of said barbs will strike the top wall of the pocket member and cause said barbs to be deflected downwardly so that when the tongue is fully inserted into the pocket opening, said barbs will snap upwardly into said cut-out portions and said rearwardly facing vertical edges will abut the inside edges of said cut-out portions to non-releasably secure said clasp to said lid.

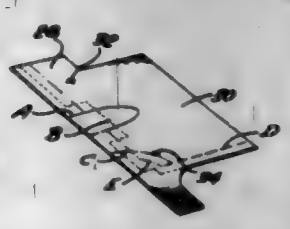
2,970,859
GRAPPLE-TYPE OVERSHOT
George E. Justice, Houston, Tex., assignor to Houston Oil Field Material Company, Inc., Houston, Tex., a corporation of Delaware
Filed Apr. 1, 1959, Ser. No. 803,461
3 Claims. (Cl. 294—102)

1. The improvement in a grapple overshot adapted to telescope over an object to be withdrawn from a well and having a tubular body connected to an operating string of pipe, a tubular expansible grapple in the body, said body and grapple having complementary coacting inwardly and downwardly tapered guide and slide surfaces, respectively, so that downward movement of the grapple relative to the body urges the grapple inwardly to grip the object comprising, a generally tubular control assembly secured in the body, at least one coacting eccentric disposed on the control assembly and in the body preventing rotation of the control assembly relative to the body, and a key connecting the grapple to the control assembly



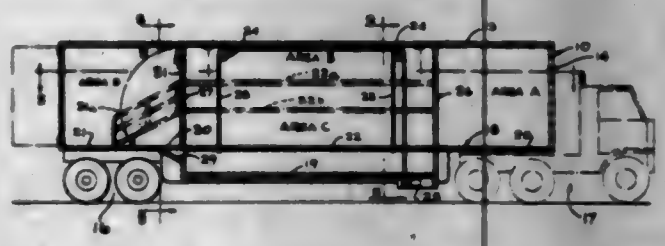
thereby preventing rotation of the grapple relative to the body.

2,970,860
AUTOMOBILE REPLACEMENT CARPET
Earl H. Belk, Long Beach, Calif., assignor to Kustom-Fit Mfg. Co., Long Beach, Calif., a corporation of California
Filed Oct. 19, 1959, Ser. No. 847,374
1 Claim. (Cl. 296—1)



Automobile replacement carpet apparatus, comprising: a carpet blank conforming in outline generally to the floors of various automobile body styles, said blank being at least as wide as the widest of such floors; first locator indicia on one end portion of said blank; second locator indicia on the opposite end portion of said blank; a template temporarily disposable upon either of said end portions, said template bearing a plurality of sets of cutting lines with each set of cutting lines indicating areas of said end portions to be cut out whereby the resulting floor mat will fit a particular automobile body style; and first and second complementary locator indicia on said template for successive coincidence with said first and second locator indicia whereby said template may be successively located on opposite ends of said blank and said end portions of said blank cut-out along said cutting lines.

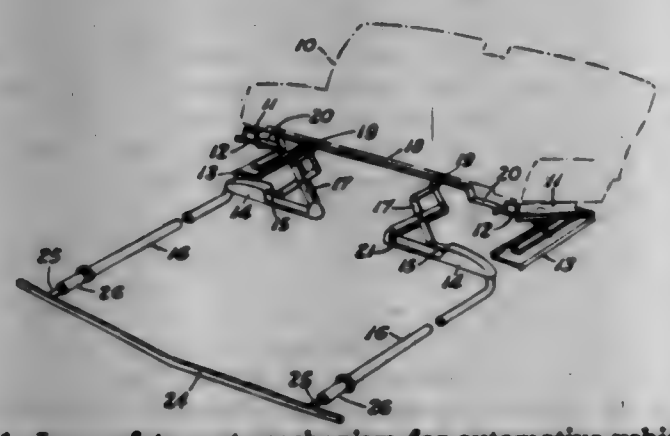
2,970,861
LIVESTOCK CARRIER
Jesse L. Short, Archbold, Ohio, assignor to Mid-America Highway Express, Inc., a corporation of Ohio
Filed Sept. 8, 1959, Ser. No. 838,570
6 Claims. (Cl. 296—24)



1. In a wheeled livestock carrier having an elongated, generally rectilinear body with parallel vertical side walls, the improvement comprising, in combination, a main deck having a depressed central section and front and

rear end sections at a level higher than said central section by sufficient distance for the accommodation of support wheel structures beneath said end sections, a vertically movable deck supported in said body above said central section and having a plan configuration substantially identical with said central section, a front wall across the front end of the forward one of said end sections, a partition across said body between each of said end sections and said central section, each of said partitions being openable, elevating mechanism in said body for supporting and vertically moving said movable deck between a lower position at the level of said end deck sections, an upper position near the top of said body and an intermediate position midway between said central deck section and the top of said body, and a ramp adapted to lead from said rear deck section to said movable deck at such intermediate position.

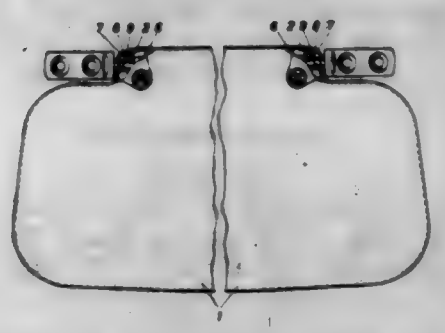
2,970,862
SAFETY VEHICLE SEAT MECHANISM
Roger R. Racine, Tonawanda, N.Y., assignor to Protect-O-Matic Corporation, Tonawanda, N.Y.
Filed Apr. 22, 1959, Ser. No. 808,198
5 Claims. (Cl. 296—65)



1. In a safety seat mechanism for automotive vehicles, a passenger seat member and mounting means disposed beneath said seat member, pivot means engaging said mounting means for free longitudinal sliding movement with respect thereto and attached to the lower rear portion of said seat member for pivotal movement of the latter about a transverse axis, power means adapted to raise the front of the seat member upon collision to pivot the same rearwardly about said pivot means, said pivot means being movable forwardly by inertia of the seat member upon deceleration due to collision of the vehicle, a link member disposed generally horizontally when the seat member is in its normal lowered position with its rear end pivoted to said seat member and its forward end slidably and rotatably engaging said mounting means, whereby said forward end may slide horizontally rearwardly upon upward movement of the front of said seat member, and spacing means extending forwardly from said pivot means and engageable with said slidable forward end of the link member to maintain a predetermined minimum distance between said slidable forward end and said pivot means.

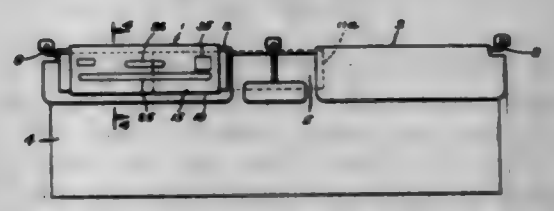
2,970,863
SUN-VISOR, PARTICULARLY FOR MOTOR-VEHICLES
Gerhard Herr, Wuppertal-Vohwinkel, Germany, assignor to Firma Gebr. Happich G.m.b.H., Wuppertal-Elberfeld, Germany, a corporation of Germany
Filed Feb. 25, 1958, Ser. No. 717,475
Claims priority, application Germany Mar. 2, 1957
4 Claims. (Cl. 296—97)

1. A sun visor for motor vehicles comprising a cover of pliable, airtight sheet material and an elastic cushioning material having open, air-filled pores disposed in said cover, said cover forming jointly with said cushioning material a pillow-like body, and at least one carrying rod entering one corner of and supporting said sun visor, and



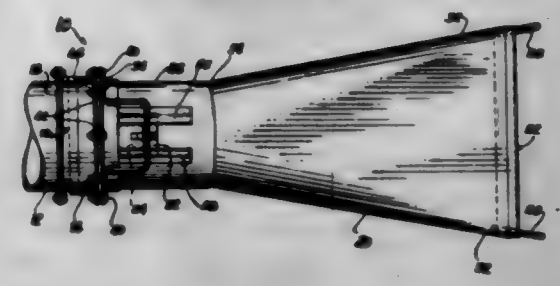
the edge portion of said cover forming at the entrance point of said carying rod with the outer face of the latter a throttle opening.

2,970,864
AUXILIARY SUN VISOR FOR MOTOR VEHICLES
Gene McCann, Jr., 329 S. Ashton Ave., Millbrae, Calif.
Filed July 16, 1959, Ser. No. 827,626
4 Claims. (Cl. 296—97)



1. An auxiliary sun visor for attachment to a visor of a motor vehicle, said auxiliary visor comprising a shell and a shield, said shell being made of a sheet of rigid material and having its lower edge bent backwardly and upwardly to form a trough, and having its top bent backwardly, downwardly and forwardly for embracing the top of the vehicle's visor and for resiliently pressing the shell against the latter visor; said shield being made out of rigid flat opaque material, and slidable in the trough between said shell and the vehicle's visor.

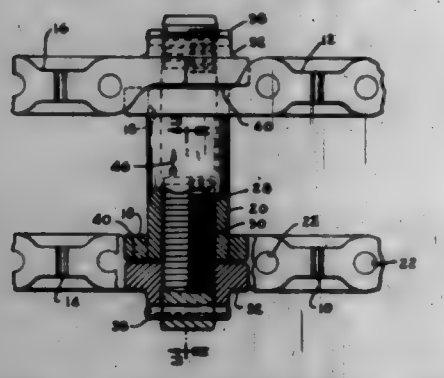
2,970,865
SUCTION NOZZLE FOR PNEUMATIC GRAIN CONVEYOR
James F. Finnegan, Aurora, Ill., assignor, by mesne assignments, to DK Manufacturing Company, Chicago, Ill., a corporation of Illinois
Filed Sept. 17, 1959, Ser. No. 840,717
1 Claim. (Cl. 302—58)



In a suction nozzle for a pneumatic conveyor, the combination comprising a tubular inlet member having an inlet opening at its outer end, an intermediate member connected to the inner end of said inlet member, an outlet member aligned axially with said intermediate member, said outlet member and said intermediate member being generally cylindrical, said intermediate member having an opening therein, a door movable over said opening for adjusting the effective size thereof, a first flange projecting outwardly from the outer end of said outlet member, a second flange opposite said first flange and projecting outwardly from the inner end of said in-

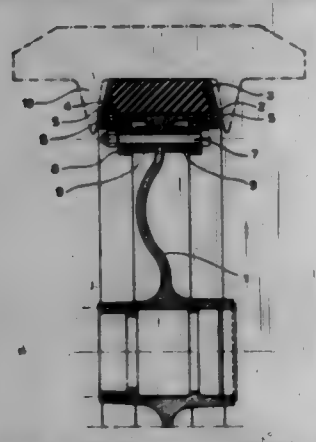
termediate member, said flanges being spaced apart to form an annular opening between said outlet member and said intermediate member, said annular opening being adapted to bleed excess air into said nozzle, a plurality of spacers disposed between said flanges, and a plusality of fasteners extending through said flanges and said spacers to hold said flanges together in assembled relation.

2,970,866
PIN-BUSHING STRUCTURE
Joseph E. Horste, 10535 Savage Road, Belleville, Mich.
Filed Apr. 27, 1960, Ser. No. 25,134
4 Claims. (Cl. 305—11)



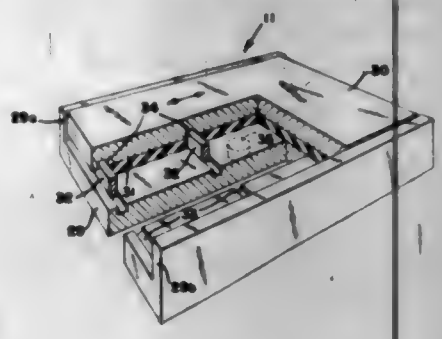
1. In an endless tread construction for vehicles of the type having two parallel rows of links, the combination comprising first and second spaced parallel links having axially aligned hub portions; an internally threaded bushing extending between said hub portions and fixedly secured thereto; third and fourth spaced parallel links arranged in row-forming relationship with respective ones of the first and second links, and having internally threaded hub portions axially aligned with the hub portions of the first and second links; and a threaded pin extending through the last-mentioned hub portions and bushing so as to form a pivotal connection between the bushing and last-mentioned links.

2,970,867
TRACK WHEEL FOR TRACK-LAYING VEHICLES
Walter Ruf, Landhaus am See, Bottighofen, Canton Thurgau, Switzerland
Filed Sept. 29, 1958, Ser. No. 764,038
Claims priority, application Switzerland Dec. 24, 1957
6 Claims. (Cl. 305—56)



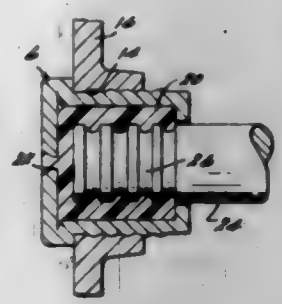
1. A track wheel for track-laying vehicles adapted to receive and propel the track comprising, in combination, a wheel body adapted to receive an axle and having a rim at its radially-outer end provided with a peripheral surface adapted to receive a resilient tire with freedom of limited lateral displacement, a pair of retaining rings disposed each on one side of said rim and partially overlapping the opposite sides of said tire for limiting said lateral displacement, said retaining rings having a clearance with respect to the edges of said rim for limited lateral displacement relative thereto, means interconnecting said retaining rings to hold them against said tire but permitting said limited lateral displacement, and resilient distance pieces disposed between said retaining rings and said body to restrain resiliently said lateral displacement and return said retaining rings and said tire to their initial position upon release of any force causing lateral displacement.

2,970,868
THRUST BEARING
Paul Geyer, Detroit, Mich., assignor to United States Rubber Company, New York, N.Y., a corporation of New Jersey
Filed Mar. 12, 1959, Ser. No. 798,911
4 Claims. (Cl. 308—3)



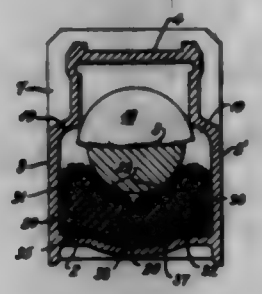
1. A thrust bearing comprising, a pair of spaced plates, a layer of rubber interposed between said plates, means extending between said plates for confining said rubber against lateral flow by thrust loads applied perpendicularly to said plates while allowing parallel movement of said plates and shear deformation of said layer of rubber without changing volume by shear loads applied to the bearing.

2,970,869
MOLDED BEARING
Paul P. Thomas, Detroit, Mich., assignor to American Metal Products Company, Detroit, Mich., a corporation of Michigan
Filed Aug. 26, 1957, Ser. No. 680,293
1 Claim. (Cl. 308—238)



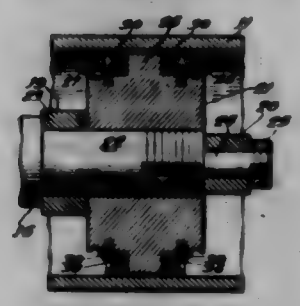
A molded bearing for pivotally connecting the leg members of an A-frame to a cross shaft of an automotive vehicle compriaing a leg member having an enlarged aperture therein, an annular housing secured within said aperture having an end wall enclosing one end thereof and an inwardly directed flange defining an aperture in the other end thereof, an aperture in said end wall for injecting plastic material into said housing, a cross shaft having one end thereof extending within the housing through the aperture in the end of the housing with the end thereof spaced from said end wall, the portion of the end of the cross shaft within said housing having a plurality of annular grooves therein, and plastic material within the housing and about said portion of the shaft so as to completely fill the housing and the annular grooves in the shaft to provide a rigid backing and bearing surface for the shaft.

2,970,870
LUBRICATING PAD FOR JOURNAL BOXES
Harley T. Rockwell, 136 Chittenden Ave., Tuckahoe, N.Y.
Original application Jan. 24, 1955, Ser. No. 483,641, now Patent No. 2,807,803, dated Sept. 24, 1957. Divided and this application Sept. 16, 1957, Ser. No. 684,288
3 Claims. (Cl. 308—243)



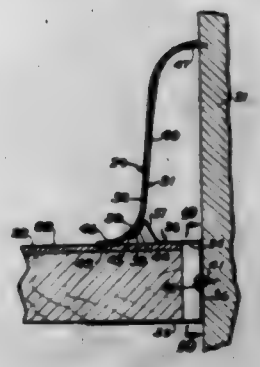
1. A lubricator adapted to be disposed in a journal box between the journal and the lower portions of the box, said lubricator comprising an oil permeable textile material with an outer pile loop surface formed into flexibly connected parallel pockets disposable within said journal box with the pockets parallel to the axis of the journal, and a body of spongy material in each pocket for forcing the pile loop surfaces of the material forming the top walls into contact with the lower portions of the journal and for exerting continuous lateral force against the walls of the journal box and toward adjacent pockets to insure the forcing of the pile loop surfaces of the material forming the sides of adjacent pockets together from a point at the lower portion of the journal box to a point near the journal substantially in the vertical plane through the center of the journal to form a short, high-capacity conductor between pockets for feeding oil directly upward from the lower portion of the journal box to the upper portions of adjoining pockets.

2,970,871
PISTON ASSEMBLY
Francis S. Flick, Oak Park, Ill., assignor to Flick-Reedy Corporation, a corporation of Illinois
Filed Aug. 24, 1959, Ser. No. 835,778
9 Claims. (Cl. 309—4)



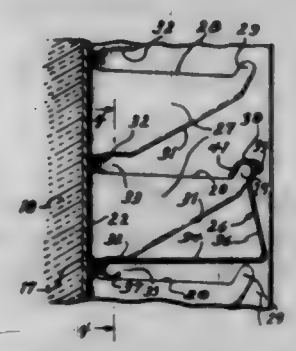
1. A piston for a piston and cylinder device, comprising: a piston body having a circular cylindrical portion and an enlarged central outwardly extending section forming therewith a pair of oppositely facing seats for sealing rings, a sealing ring positioned in each seat, said ring having an outer pressure sensitive lip for sealing contact with the wall of a cylinder in which said piston may be placed and a base in static sealing contact with said piston body, means yieldingly urging the base of said sealing ring longitudinally of said piston body into said sealing contact with said body including a ring follower member engaging said sealing ring base and means engaging said piston body and ring follower member and resiliently yieldingly urging said ring follower member toward said sealing ring.

2,970,872
COUNTER TOP CONSTRUCTION
Myron E. Ullman, Jr., Canfield, Ohio, assignor to American Radiator & Standard Sanitary Corporation, New York, N.Y., a corporation of Delaware
Filed Jan. 2, 1958, Ser. No. 706,661
11 Claims. (Cl. 311—107)



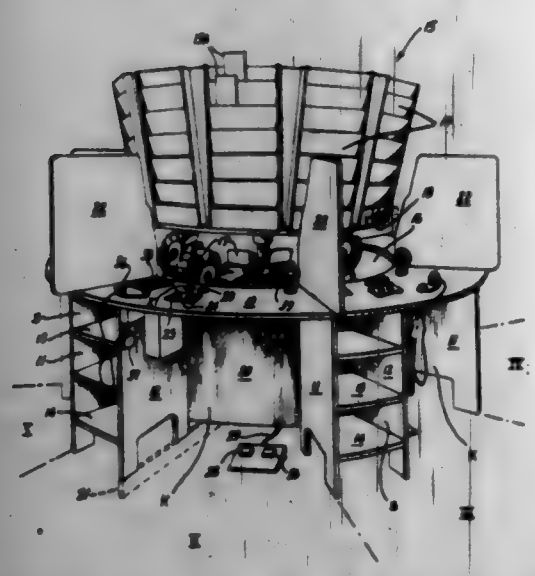
9. In a counter top construction including a counter top forming a corner, back-aligning members extending upwardly and rearwardly from adjacent the rear edges of said counter top and having generally vertical side edges, and a corner member comprising a first substantially horizontal portion, a second upwardly and rearwardly inclined portion having generally vertical surfaces at a right angle to one another, and a third rearwardly inclined portion extending from the upper end of said second portion, the second upwardly inclined portions of said member being provided with slots along their side edges for receiving the vertical side edges of said back-aligning members.

2,970,873
SHELF MOUNTING
Roy V. Johnson, Galesburg, Ill., assignor to Midwest Manufacturing Corporation, Galesburg, Ill.
Filed Aug. 25, 1958, Ser. No. 756,779
2 Claims. (Cl. 312—214)



1. The combination with a refrigerator door having an inner liner formed with back and side walls partly defining a shelf cavity and a removable shelf having a support portion and front guard portion, said support portion being formed with a follower portion at its edge remote from said front guard portion, of a vertical row of pairs of upper and lower follower guides on each of said side walls, the follower guides of each of said pair thereof converging toward said back wall and being thereat spaced to provide notches for accommodation of said follow portions after said follower portions have been guided into said notches during repositioning of said shelf in said cavity thereby to facilitate positioning of said shelf at a selected elevation in said cavity, each of said lower follower guides being horizontal and supportingly engaging said follower portion to afford support for the rear of said shelf, an upwardly extending stop at the end of each of said upper follower guides remote from said back wall, and hook portions at the upper ends of said front guard for hooked cooperation with said stops when said follower portions are in said notches thereby to support said shelf at the front thereof.

2,970,874
EQUIPMENT UNITS
Frank Honeycutt, Lakewood, Robert A. Hahn, Downey, Robert M. Myers, La Habra, and Carl H. Wilson, Long Beach, Calif., assignors to Philco Corporation, Philadelphia, Pa., a corporation of Pennsylvania
Filed May 21, 1958, Ser. No. 736,807
4 Claims. (Cl. 312—223)



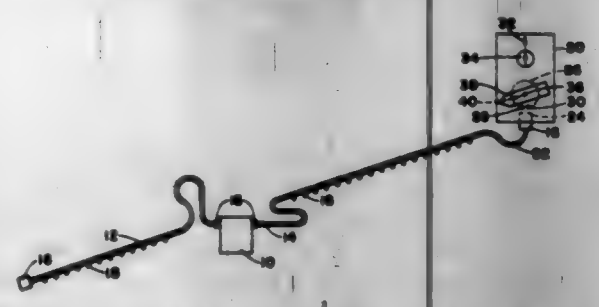
1. Apparatus for storage and utilization of data, comprising a plurality of storage desk portions, each providing a plurality of storage sections distributed along marginal portions of said storage desk portions; mounting means holding said several storage desk portions for rotation in mutually superposed horizontal planes; power means for independently rotating said desk portions, in their respective horizontal planes, one relative to another; a rigid work desk portion confronting said rotatable storage desk portions and providing a plurality of work areas distributed along said marginal portions of said rotatable storage desk portions; and switch means in each work area, adapted to energize the power means for independently rotating each of said rotatable storage desk portions and to de-energize such power means for independently stopping each rotatable storage desk portion.

2,970,875
KNOCKDOWN WARDROBES
Sam Derman, 150 Glenview Road, South Orange, N.J.
Filed Apr. 8, 1959, Ser. No. 804,942
10 Claims. (Cl. 312—262)



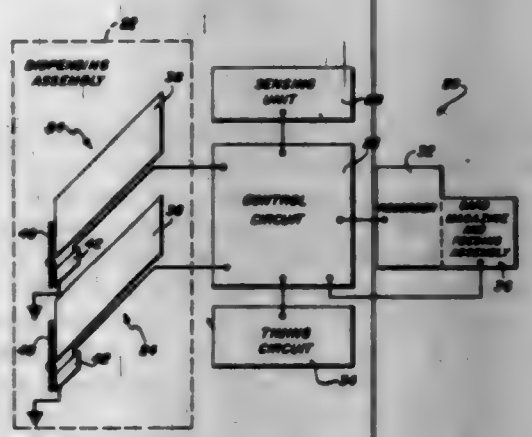
8. In wardrobes of the character described, comprising top, bottom, back and side walls, a front panel and a pair of doors, the back and side walls each comprising rectangular frames defined by vertical posts and top and bottom rails, all of said rails being grooved on inner surfaces for reception of top and bottom walls in assemblage of the wardrobe, adjacent posts of the back and side walls having vertically spaced hinges on horizontally alined surfaces of said posts for maintaining the back and side walls in an assemblage, said top and bottom walls and said front panel having rails seated in recessed portions of the front posts of said side walls, and pairs of screws passed through said last named posts and into said rails in assemblage of all of the wall parts to form the wardrobe.

2,970,876
DIRECTION INDICATOR FOR SEISMIC FIELD SETUPS
Herbert H. Moody, Ponca City, Okla., assignor to Continental Oil Company, Ponca City, Okla., a corporation of Delaware
Filed June 8, 1959, Ser. No. 818,893
4 Claims. (Cl. 346—17)



1. In a seismic field recording system including a recorder and a seismometer cable connected at one end thereof to the recorder and extended along a line from the recorder, the improvement which comprises a housing for positioning at the other end of the cable, a circular type potentiometer having an in-put and an out-put terminal and secured in a fixed position in the housing, a compass carried by the housing for guiding the positioning of the housing and orientation of the potentiometer, means for applying a D.C. potential to the terminals of the potentiometer and passing a constant value D.C. current through the potentiometer, a pointer carried by the housing for visual alignment with the seismometer cable line, a movable contact carried by the pointer in sliding contact with the potentiometer, and conductors extending from the recorder through the cable into connection with one terminal of the potentiometer and said movable contact for recording the potential across said one terminal and said contact which is indicative of the orientation of the seismometer cable line.

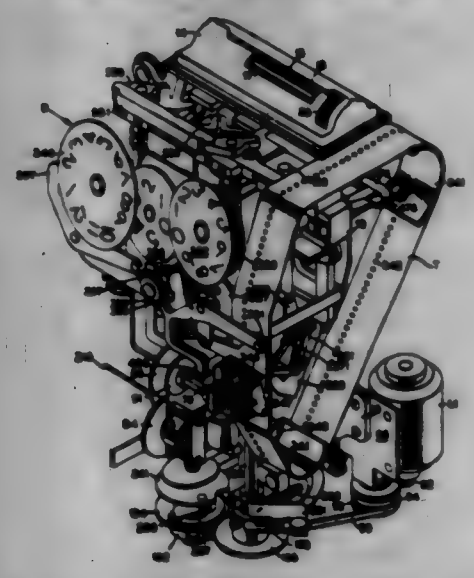
2,970,877
VENDING SYSTEM
John T. Parsons, Traverse City, and Floyd E. Harwood, Ypsilanti, Mich., assignors to Parsons Corporation, Traverse City, Mich., a corporation of Michigan
Filed July 25, 1957, Ser. No. 674,125
14 Claims. (Cl. 346—34)



1. In a vending apparatus for use with a check having indicia thereon representing the designation of an entity, a sensing device for sensing the indicia on an inserted

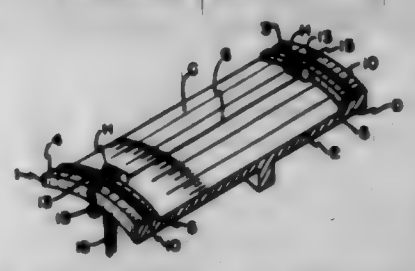
check, article dispensing means, means controlled by said sensing device for operating said dispensing means to dispense an article, a recorder, means controlled by said sensing device for operating said recorder in accordance with the sensed indicia to record the entity designation in conjunction with each operation of said article dispensing means, and means controlled by the operation of said dispensing means for operating said recorder to record data pertaining to the article dispensed.

2,970,878
ELAPSED TIME COMPUTER
James M. Cunningham, Endicott, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Dec. 17, 1953, Ser. No. 398,795
23 Claims. (Cl. 346—66)



2. An elapsed time recording machine for recording on a record containing positioning perforations, comprising time recording means, elapsed time instrumentalities for setting said time recording means, record feeding means for positively feeding a record through the machine and past said time recording means, record receiving means for guiding a record inserted therein to said record feeding means, means operated by an inserted record to start said record feeding means, sensing means for sensing the positioning perforations on said record, means under control of said sensing means for interrupting said record feeding means to stop the record at a predetermined position at said recording means in accordance with the positioning perforations sensed, and means set in operation upon interruption of said record feeding means for recording upon the record the setting of said time recording means.

2,970,879
DRILLING RECORDING CHART HOLDER
Jack S. Shulz, Denver, Colo., assignor to Eastman Oil Well Survey Company, a corporation of Delaware
Filed Apr. 11, 1957, Ser. No. 652,296
5 Claims. (Cl. 346—138)



1. A chart holder for use in connection with a chart mountable on a hollow cylindrical drum having a relatively flat annular exterior surface upon which the chart is wrapped with the ends of the chart at least abutting each other with the chart so wrapped, cylindrical edges on each side of said surface, said holder comprising a transverse slot extending inwardly from at least one edge of the drum, a roller-like member transversely movable relative to the chart from a first position for engagement with the chart and to a second position on the edge whereby the chart may be removed from the surface, spring means for maintaining the member on and against the drum by biasing the member against the drum in both positions and during movement thereof, said spring means being positioned beneath the edge except for one end thereof which extends through the slot and is connected with the member, said edge having stop means at the point of said slot and a member receiving area on the side of said stop means opposite the surface whereby the roller member is manually movable to ride over the stop means onto said area when in said second position and onto said chart when in said first position, said slot and member being positioned relative to the wrapped chart so that the roller member is movable onto the point of abutment of the chart ends.

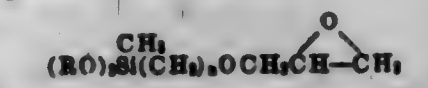
CHEMICAL

2,970,880
SOLUBLE VAT DYE PRINTING COMPOSITIONS WITH HETEROCYCLIC SOLUBILIZING AGENTS
Earl Kaplan, North Plainfield, and Isaiah Von, Plainfield, N.J., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine
No Drawing. Filed June 10, 1958, Ser. No. 741,011
10 Claims. (Cl. 8—76)

1. A soluble vat dye printing composition comprising a sulfuric acid ester salt of a leuco vat dye and more than 0.35 part, per part of said ester salt, of a compound chosen from the group consisting of (1) polymers of 1,3-bis-hydroxymethyl-2-imidazolone having a molecular wherein n is a whole number of 10 to about 100, R is pyrrolidone having a molecular weight of 20,000 to 40,000.

2,970,881
METHOD OF TANNING HIDE
Richard W. Alagnard and John W. Gilkey, Midland, Mich., assignors to Dow Corning Corporation, Midland, Mich., a corporation of Michigan
No Drawing. Filed Dec. 15, 1958, Ser. No. 780,229
2 Claims. (Cl. 8—94.33)

1. A method of preparing leather which comprises contacting hide with an aqueous dispersion of an organosilicon compound of the formula

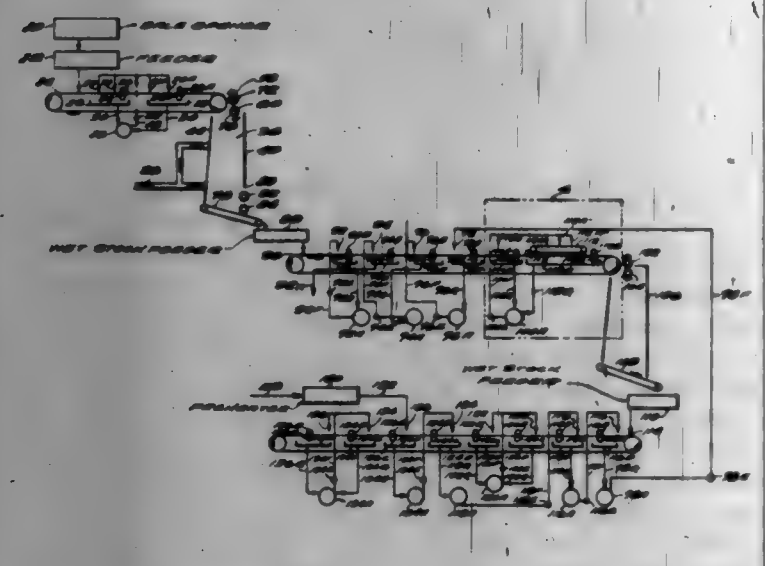


in which R is an aliphatic hydrocarbon radical of less than 4 C atoms and n is an integer of from 2 to 3 inclusive, at a pH of at least 9 until the hide is suitably tanned, the organosilicon compound being present in amount of at least 10% of the dry weight of the hide.

2,970,882
PROCESS FOR CONTINUOUS PURIFICATION OF BULK FIBER
Victor M. Kusnin, Newton Highlands, Mass., and John H. Hollister, Lake Bluff, Ill., assignors to The Kendall Company, Boston, Mass., a corporation of Massachusetts
Continuation of application Ser. No. 603,127, Aug. 9, 1956. This application Dec. 3, 1958, Ser. No. 778,834
9 Claims. (Cl. 8—106)

1. The method of continuously purifying bulk unbleached cotton fibers including the steps of forming an

uncompacted layer of said fibers, supporting said layer on a continuously moving conveyor belt, saturating said layer with a 1–8% aqueous solution of sodium hydroxide between about 150° F. and 212° F., compressing said layer while on said conveyor belt to distribute said solution uniformly throughout said layer, again saturating said layer with said aqueous solution, compressing said layer to reduce the amount of solution on the fiber to a weight ratio of about 1.25 to 1.0, removing said fibers from said conveyor belt and allowing said solution to react with said layer for about 60 minutes at 212° F. in the presence of steam and in the absence of air, thereafter again forming said fibers into an uncompacted layer and supporting them on a second continuously moving con-



veyor belt, washing said fibers and saturating said fibers with a solution of hypochlorous acid at about 60° F. having a pH of about 4.5 and about 0.25% available chlorine, expressing the major portion of said hypochlorous acid solution to distribute said solution uniformly among said fibers and to reduce the liquid content of the mass to an approximate ratio of about 1.0 to 1.0, allowing said solution to react with said fibers for a period of about 30 minutes, washing said fibers, and thereafter subjecting said fibers to treatment with a solution of sodium hypochlorite at about 85° F., having a pH of about 11.0 and about 0.15% available chlorine with the liquid content of the mass in a ratio of about 1.0 to 1.0, said steps occurring sequentially and continuously with only a portion of the total bulk of said fibers being subjected to any one of said steps at a given time.

2,970,883

MANUFACTURE OF VISCOSE RAYON

Aart Buurman, Velp, and Robbert Aldert Vroom and Pieter Coenraad Limberg, Arnhem, Netherlands, assignors to American Enka Corporation, Enka, N.C., a corporation of Delaware

No Drawing. Filed Dec. 24, 1956, Ser. No. 630,033
Claims priority, application Netherlands Jan. 16, 1956
8 Claims. (Cl. 18—54)

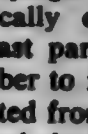
7. A process for the production of regenerated cellulose articles which comprises spinning a viscose solution into an aqueous acid coagulating-regenerating bath containing a zinc salt in the presence of about 0.01–1.0% by weight of an organic compound selected from the group consisting of compounds of the general formula:

$$R—R^1—(C_2H_4O)_n—C_2H_4—R^2$$

wherein n is a whole number of 10 to about 100, R is selected from the group consisting of C_5H_{11}, C_6H_5, and C_4H_9; R^1 is selected from the group consisting of S, COO and CONH, and R^2 is selected from the group consisting of OH, OC_2H_5 and $CONHC_6H_5$, and compounds of the general formula:

$$R—O—C_2H_4—(C_2H_4O)_n—O—X—O—(C_2H_4O)_n—C_2H_4—O—R$$

wherein n is a whole number of 10 to about 100, R is selected from the group consisting of H, CH_3 and C_2H_5; X is selected from the group consisting of COC_6H_4CO, C_6H_4CO, and



and R′ is selected from H, CH_3 and OC_2H_5.

2,970,884

MODIFIED ACRYLONITRILE POLYMER FIBERS WITH INCREASED SHRINKABILITY AND DYEABILITY

George W. Stanton, Walnut Creek, and Ardy Armen, Concord, Calif., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed May 7, 1958, Ser. No. 733,623
9 Claims. (Cl. 18—54)

1. Method of preparing a dye-receptive and highly shrinkable synthetic acrylonitrile polymer textile fiber which method comprises salt spinning a fiber-forming acrylonitrile polymer that is adapted to provide fibers which do not shrink more than 14 percent after exposure to water at about 100° C., which polymer contains in the polymer molecule at least about 80 weight percent of acrylonitrile, any balance being another monoethylenically unsaturated monomeric material that is copolymerizable with acrylonitrile, into an aquagel filamentary structure that contains between about 1 and 5 parts by weight of water to each part by weight of dry polymer therein; washing said aquagel substantially free from residual salt and physically elongating said fiber by stretching it to an at least partially oriented condition; subjecting said aquagel fiber to intimate contact with (*a*) at least one alcohol selected from the group consisting of tertiary alcohols and benzyl alcohols having the respective formulae:

$$R_3COH \qquad (I)$$

and



(II)

wherein each R in said tertiary alcohol is an independently selected alkyl radical that contains from 1 to about 4 carbon atoms with the limitation that the total number of carbon atoms in all three substituents is from 3 to 7; and wherein each X in said benzyl alcohol is selected from the group consisting of hydrogen, chlorine, bromine and alkyl radicals containing from 1 to about 4 carbons and n has a whole number value from 0 to 5, said alcohol being employed in sufficient quantity to convert between about 5 and 25 mole percent of the nitrile groups in said acrylonitrile polymer to acrylamide substituents; and (*b*) an aqueous solution of a strong dissociated inorganic acid containing about 40 to 95 percent by weight of the acid and selected from the group consisting of sulfuric acid, hydrochloric acid, and their mixtures; maintaining said aquagel in contact with said acid solution at a temperature between about 0 and 110° C. until between about 5 and 25 mole percent of said nitrile groups in the acrylonitrile polymer are converted to acrylamide substituents; washing the treated aquagel with water until it is free of residual acid; and subsequently irreversibly drying said aquagel fiber to a synthetic characteristically hydrophobic textile fiber structure.

2,970,885

CORROSION REDUCTION

Sherman Greenberg, Chicago, Ill., Robert D. Misch, Whiting, Ind., and Westly E. Ruther, Skokie, Ill., assignors to the United States of America as represented by the United States Atomic Energy Commission

No Drawing. Filed Apr. 6, 1959, Ser. No. 804,549
1 Claim. (Cl. 21—2.7)

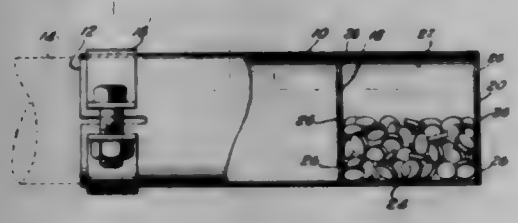
A method of reducing the rate of corrosion of magnesium alloys by water at about 150° C., which consists essentially of the addition of sodium fluoride to the water to make a concentration of about 0.7 part per million and additions from time to time of hydrofluoric acid in amounts sufficient to counteract the tendency of the pH of water in contact with magnesium to rise by maintaining continuously the pH at between 6 and 7.

2,970,886

METHOD AND ABSORBENT FOR REMOVING HYDROCARBON FROM AUTOMOBILE EXHAUST FUMES

Frank Keeve, 372 19th Ave., San Francisco 21, Calif.

Filed Feb. 10, 1958, Ser. No. 714,084
3 Claims. (Cl. 23—2)



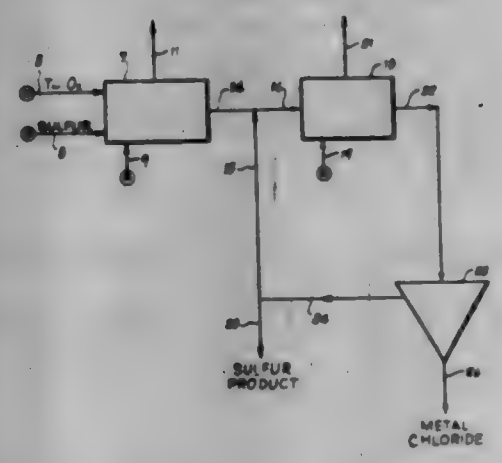
3. A method of continuously reducing the hydrocarbon content in exhaust fumes comprising passing the fumes through an enclosed chamber containing a layer of pelletized material consisting of 48 to 55% molybdenum pentoxide, 10% to 17% ammonium sulfate, 8% to 12% calcium chloride, 20% to 30% citric acid, 4% to 12% potasium chloride, 7% to 14% phenyl salicylate, and 3% to 7% sodium nitrate, and providing baffle plates for ensuring a maximum of intimate contact between said fumes and said pelletized material.

2,970,887

CHLORINATION OF METAL OXIDES

Cyril T. Hill, London, England, assignor to Texas Gulf Sulphur Company, New York, N.Y., a corporation of Texas

Filed Apr. 5, 1957, Ser. No. 650,917
13 Claims. (Cl. 23—87)



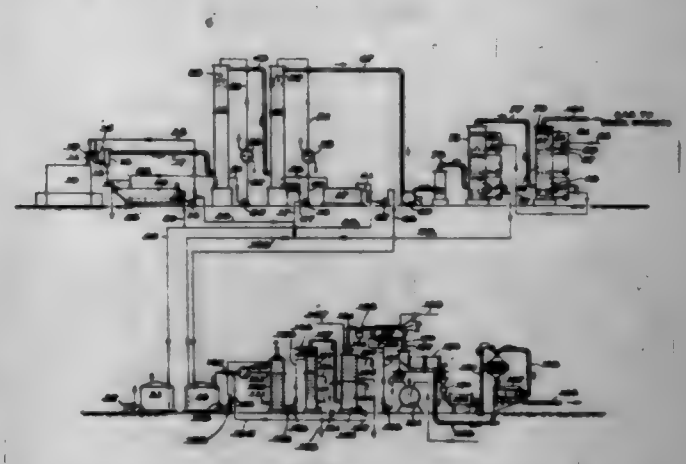
1. A process for producing metal chlorides which comprises passing a metal oxide selected from the group consisting of antimony trioxide, titanium dioxide, arsenic trioxide, bismuth trioxide, germanium oxide, selenium oxide, stannic oxide, vanadium dioxide, zirconium dioxide, columbium oxide, tungsten oxide and tantalum oxide to a first reaction zone, passing liquid sulfur to the first reaction zone in an amount of about 2.5 to 10 times the weight of the metal oxide, passing a chlorinating agent selected from the group consisting of sulfur chloride, ferric chloride and chlorine to the first reaction zone in an amount less than the stoichiometric quantity needed to react with all of the said metal oxide, thereby chlorinating the metal oxide to produce a volatile metal chloride and sulfur dioxide, the temperature in the first reaction zone being maintained above the boiling point of the metal chloride but below the boiling point of sulfur. withdrawing volatilized metal chloride and sulfur dioxide from the first reaction zone, withdrawing the reaction mass comprising unreacted metal oxide and sulfur from the first reaction zone and passing the same to a second reaction zone, passing a chlorinating agent selected from the group consisting of sulfur chloride, chlorine and ferric chloride to the second reaction mass in an amount to react with the remainder of the metal oxide, passing liquid sulfur to the second reaction zone in an amount to maintain about 2.5 to 10 times the weight of metal oxide, thereby chlorinating the metal oxide to produce metal chloride and sulfur dioxide, maintaining a temperature above the boiling point of the metal chloride but below the boiling point of liquid sulfur in the second reaction zone, withdrawing volatilized metal chloride and sulfur dioxide from the second reaction zone, withdrawing the liquid reaction mass from the second reaction zone, separating liquid sulfur from the liquid reaction mass, and recycling a portion of the liquid sulfur to the second reaction zone as aforesaid.

2,970,888

DIAMMONIUM PHOSPHATE PRODUCTION

Edward J. Helm and Elwood V. Schulte, Pittsburgh, Pa., assignors to Koppers Company, Inc., a corporation of Delaware

Filed May 3, 1957, Ser. No. 656,955
9 Claims. (Cl. 23—107)



1. A process for the production of diammonium phosphate from the ammonia of coke oven gas containing ammonia and other water soluble constituents, which process comprises washing said gas with water to absorb said ammonia and said other water soluble constituents in said water, steam distilling said water under controlled conditions to separate said other water soluble constituents from said water and under conditions to separate the ammonia from the water in the form of a concentrated relatively pure ammonia vapor, contacting said ammonia vapor with concentrated phosphoric acid at a reduced temperature and acid conditions to produce a slurry of diammonium phosphate having a pH value ranging between about 5.5–8, drying said slurry, and thereafter granulating said dried diammonium phosphate to a desired size.

2,970,889
PROCESS FOR THE MANUFACTURE OF MAGNESIUM ALUMINOSILICATE FOR MEDICAL USES

Seizo Ishino, Toyama-shi, and Matajiro Osaka, Imizu-gun, Japan, assignors to Fuji Kagaku Kogyo Kabushiki Kaisha, Naka-Niikawa-gun, Japan, a company of Japan

No Drawing. Filed Mar. 14, 1957, Ser. No. 645,988
Claims priority, application Japan Sept. 26, 1956
2 Claims. (Cl. 23—110)

2. A process for the manufacture of a magnesium aluminoisilicate having the approximate formula

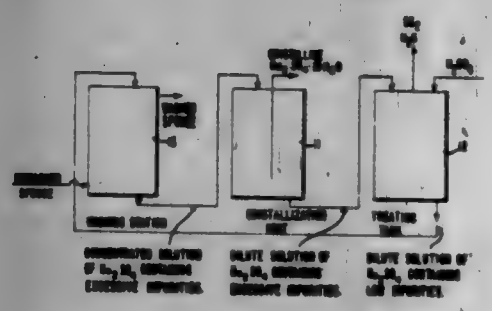
$$MgO.Al_2O_3.2SiO_2.2H_2O$$

which comprises mixing an aqueous sodium aluminate solution having an alumina content of from 1.7% to 6.9% and an aqueous sodium silicate solution having a silica content of 2.0% to 8%, the mol ratio of Al_2O_3 to SiO_2 being at least 1:2 to produce an insoluble sodium aluminosilicate having the formula $Na_2O.Al_2O_3.2SiO_2$; contacting said sodium aluminosilicate with magnesium hydroxide without separation of said sodium aluminosilicate from the aqueous mixture, the amount of said magnesium hydroxide being sufficient to substantially completely substitute MgO for Na_2O; separating substantially pure magnesium aluminosilicate from the aqueous mixture; and drying said separated magnesium aluminosilicate.

2,970,890
METHOD OF PURIFYING DILUTE SODIUM SULFATE SOLUTION

George Martin James, Columbia, Tenn., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Aug. 23, 1957, Ser. No. 679,974
2 Claims. (Cl. 23—121)



1. In a process for purifying dilute sodium sulfate liquid containing sodium trithiocarbonate, combined sodium sulfides and sodium polysulfides as impurities, the improvement which comprises the steps of treating said dilute sodium sulfate liquid with sulfuric acid to reduce the pH of said sodium sulfate liquid to 7.0–8.0, and aerating said treated liquid for a time sufficient to reduce the concentration of sodium trithiocarbonate to at most 1.0%, the combined sodium sulfides and sodium polysulfides to at most 0.07% and the alkalinity of the liquid to at most 1.3% calculated as sodium hydroxide.

2,970,891
PREPARATION OF ALUMINA

John A. Hinlicky, Irvington, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware

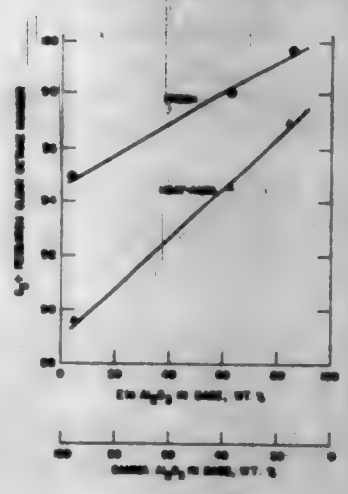
Filed Mar. 29, 1957, Ser. No. 649,541
16 Claims. (Cl. 23—143)

1. The method of preparing a high surface area alumina having large diameter pores and large pore volume and which is especially adapted to be used as a catalyst support which comprises the steps of hydrolyzing an aluminum alcoholate in contact with an aqueous medium containing ammonium hydroxide and carbon dioxide and having a pH of above about 7, aging the resultant hydrous alumina slurry, stripping the slurry, drying the said slurry and calcining the dried alumina at a temperature in the range of about 400° F.–1500° F. to effect activation thereof.

2,970,892
PREPARATION OF IMPROVED ALUMINA SUPPORTED CATALYST

Isidor Kirshenbaum, Westfield, and John A. Hinlicky, Irvington, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

Filed Dec. 9, 1957, Ser. No. 701,462
4 Claims. (Cl. 23—143)



1. The method of preparing alumina especially adapted for use as a catalyst support which comprises preparing a solution of an aluminum alcoholate in a liquid hydrocarbon solvent, slowly adding said solution of aluminum alcoholate to an aqueous solution of ammonia containing about 1.8 to 3.4 wt. percent NH_3 while vigorously stirring said aqueous solution, the amount of aqueous ammonia utilized being in the range of about 1 to 10 volumes per volume of alcoholate and the temperature of said aqueous ammonia being in the range of 50 to 200° F., aging the hydrous alumina slurry in the resultant aqueous layer at a temperature below about 80° F. for periods of from one hour to five days to convert the hydrous alumina to beta alumina trihydrate, said aging time being near one hour when hydrolysis is effected at temperatures in the lower part of the temperature range and the aging time being about four to five days when hydrolysis is effected at temperatures in the upper part of said range, separating the hydrous alumina from the excess water and drying to remove the ammonia and aqueous medium, and thereafter heating the hydrous alumina to a temperature in the range of 400–1400° F. to dehydrate it to an adsorptive alumina which is predominantly in the eta phase and which contains more than 40% of its total pore volume in macropores or pores with diameters between 0.05 and 1.0 microns.

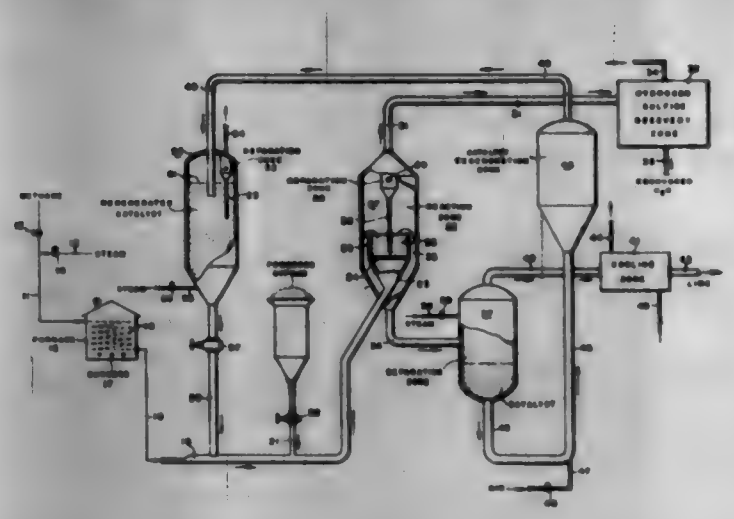
2,970,893
PRODUCTION OF LIME AND HYDROGEN SULFIDE

Prentiss S. Viles, Baytown, Tex., assignor, by mesne assignments, to Esso Research and Engineering Company, Elizabeth, N.J., a corporation of Delaware

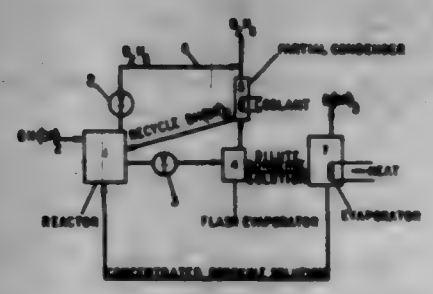
Filed June 19, 1958, Ser. No. 743,850
7 Claims. (Cl. 23—181)

1. A method for producing lime and hydrogen sulfide which comprises contacting finely divided calcium sulfate with a natural gas hydrocarbon and steam in the presence of cobalt molybdate catalyst at a temperature within the range from about 1200° to 1400° F. In the absence of free oxygen, the gas and steam being present in amounts in excess of theoretical, to form lime and hy-

drogen sulfide-containing gas, separating and recovering said hydrogen sulfide from said gas in an absorption zone, separating said lime from the catalyst by gravity, and then cooling the separated lime in a cooling zone in the absence of free oxygen.



2,970,894
PREPARATION OF DIBORANE
Cecil C. Chappelow, Jr., and Roland L. Hughes, Kansas City, Mo., assignors to Callery Chemical Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Apr. 5, 1956, Ser. No. 576,470
4 Claims. (Cl. 23—204)

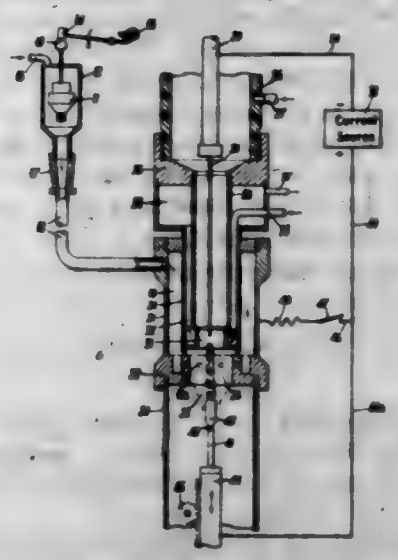


PREPARATION OF DIBORANE FROM DIALKOXYBORANES

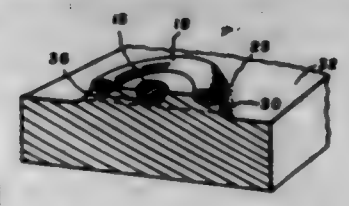
1. A process for preparing diborane which comprises disproportionating a di-lower-alkoxyborane in the presence of an lower-alkoxyboroxine, recovering the diborane formed, and evaporating tri-loweralkyl borate from the by-product diluted boroxine solution, recovering the tri-loweralkyl borate, and recycling the concentrated boroxine solution for the disproportionation of additional di-alkoxyborane.

2,970,895
PROCESS FOR CRYSTALLINE GROWTH EMPLOYING COLLIMATED ELECTRICAL ENERGY
Grady W. Clark, Richmond, and Robert A. Lefever, Bon Air, Va., assignors to Union Carbide Corporation, a corporation of New York
Filed Dec. 31, 1956, Ser. No. 631,565
4 Claims. (Cl. 23—301)

1. A process for growing an electrically conductive crystalline boule from feed constituents comprising the steps of concurrently establishing an electric arc between a first electrode and a boule-growing surface positioned therefrom, passing a gas stream in intimate contact with said first electrode to contain the arc, passing the arc-containing gas stream through an orifice to collimate the arc energy and the gas stream as well as to produce a high-pressure arc and a high thermal content effluent, passing the hot effluent to a boule-growing zone and heating said boule-growing surface positioned within such zone, introducing said feed constituents in said boule-growing zone and heating such constituents by passage in the hot effluent to produce boule-growing material, and fusing and accumulating such material on said boule-growing surface as a crystalline boule of increasing size.



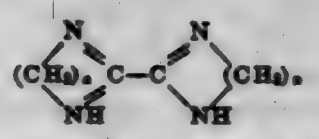
2,970,896
METHOD FOR MAKING SEMICONDUCTOR DEVICES
Boyd Cornelison, Dallas, and Milton K. Mack, Garland, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Apr. 25, 1958, Ser. No. 730,997
11 Claims. (Cl. 41—43)



1. The method of treating a sample of semiconductor material comprising the steps of placing a stencil over said sample, evaporating sulphur through said stencil onto said sample, subjecting said sample to an etching treatment, and thereafter removing said sulphur.

2,970,897
GASOLINE CONTAINING ANTIOXIDANTS
Clyde S. Scanley and Ken Matsuda, Stamford, Conn., and Ralph A. Coleman, Middlesex, N.J., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine
No Drawing. Filed Dec. 3, 1957, Ser. No. 700,301
3 Claims. (Cl. 44—63)

1. Gasoline subject to oxidative deterioration and containing, in an antioxidizing amount, a compound of the formula



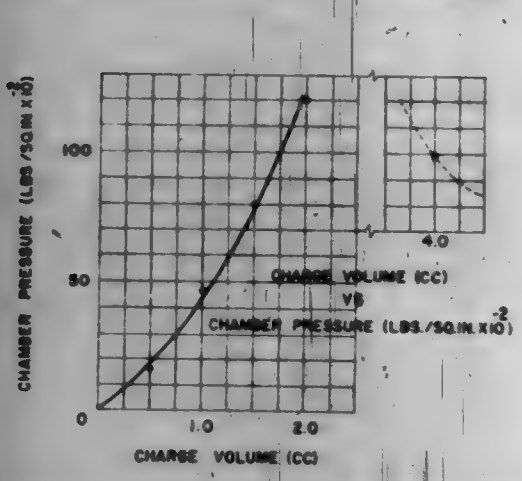
in which n is a whole number from 2 to 4 inclusive.

2,970,898
PROCESS FOR PREPARING SOLID PROPELLANT CHARGES
Homer M. Fox, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed May 15, 1958, Ser. No. 735,649
18 Claims. (Cl. 52—.5)

1. A method for preparing a solid propellant composition which comprises forming pellets of about 2 to

about 20 weight percent of a high energy element selected from the group consisting of beryllium, boron, decaborane, lithium, aluminum, magnesium, silicon and titanium, 0 to about 5 weight percent of a binder material, and about 80 to about 95 weight percent of a solid oxidizer; substantially filling a mold with said pellets; filling the interstices between the pellets with a curable liquid polymeric material containing a dispersion of particles of from about 20 to about 50 weight percent of a solid inorganic oxidizing salt; and subjecting the resulting composition in said mold to a curing temperature for a time sufficient to cure said curable liquid polymeric material.

2,970,899
AMMUNITION PROPELLANT
Don W. Ryker, Woodbridge, Conn., assignor to Olin Mathieson Chemical Corporation, New Haven, Conn., a corporation of Virginia
Filed Sept. 28, 1955, Ser. No. 537,151
6 Claims. (Cl. 52—1)



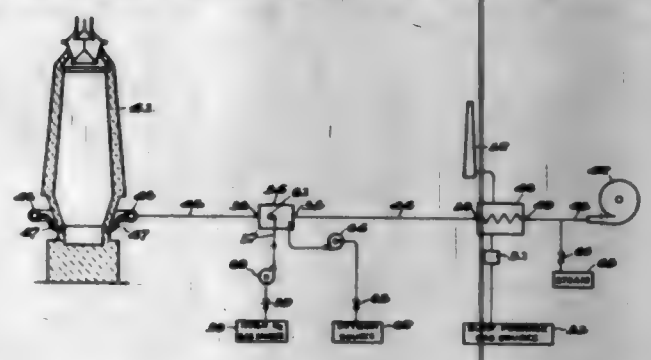
6. A method of developing a projectile propelling pressure within an enclosed chamber which comprises inserting within said chamber a composition made up of 100 parts, said composition consisting essentially of 34 to 64 parts by weight of semicarbazide, about 25 to 55 parts by weight of nitric acid and about 7.5 to 16 parts by weight of water and locally igniting said mixture to cause a burning of the liquid composition therein.

2,970,900
PRIMING COMPOSITION
William B. Woodring, Hamden, Conn., and Hiramie T. McAdams, Bethalto, Ill., assignors to Olin Mathieson Chemical Corporation, a corporation of Virginia
No Drawing. Filed June 24, 1949, Ser. No. 101,274
8 Claims. (Cl. 52—4)

1. A priming mixture comprising substantial quantities of red phosphorus, a non-corrosive solid oxidizing agent therefor, and a secondary explosive selected from the group consisting of pentaerythritol tetranitrate, trimethylenetrinitramine, and trinitrotoluene, and mixtures thereof.

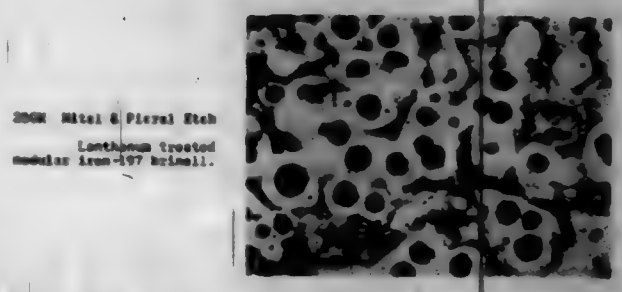
2,970,901
PROCESS FOR HEATING AND HUMIDIFYING BLAST FOR METALLURGICAL FURNACES
Owen R. Rice, Pittsburgh, Pa., assignor to Koppers Company, Inc., a corporation of Delaware
Filed Oct. 28, 1959, Ser. No. 849,209
8 Claims. (Cl. 75—41)

1. In a process of heating and humidifying the blast for a metallurgical blast furnace, which comprises: blowing cold blast air for the blast of the furnace through a preheating medium therefor and thereby preheating the blast for the furnace, thereafter augmenting the heat of the blast from said medium by burning combustible fuel with part of the total air of the blast directly in the preheated blast, and thereafter delivering the heat augmented hot blast into the hearth in the blast furnace while charged with water vapor to a predetermined constancy of humidity, the improvement comprising the steps of; effecting said augmenting of the heat of the blast by burning a



hydrogen containing fuel as the combustible fuel directly in the blast and thereby charging the blast with a substantial part of the water vapor for said predetermined constancy of humidity as a product of said combustion, and adding the remainder of the total amount of vapor to form said predetermined constancy of humidity in the form of steam to the cold blast air after the blowing step, but before it passes into the aforesaid preheating medium for the blast.

2,970,902
DUCTILE IRON
Adolph P. Alexander and Arthur F. Spengler, Jr., Memphis, Tenn., assignors to International Harvester Company, a corporation of New Jersey
Filed Jan. 17, 1956, Ser. No. 559,574
9 Claims. (Cl. 75—123)



2. A ductile iron casting having improved machinability characteristics containing in the matrix thereof particles of carbon agglomerated substantially in spheroidal form, said casting containing from 3.00 to 3.70% total carbon, from 1.80 to 2.80% silicon, from 0.50 to 1.00% manganese, from 0.10 to 0.25% phosphorus, not more than 0.03% sulfur, a carbon agglomerant retained in an amount from 0.02 to 0.50% selected from the group of metals consisting of cerium and magnesium in the absence of effective amounts of retained residual elements subversive to said carbon agglomerant, and a ductilizing agent consisting of metallic lanthanum retained in an amount of 0.004 to 0.020 percent to impart said improved machinability characteristics to said casting in the as-cast condition.

2,970,903
ALLOY STEEL HAVING SURFACE FREE FROM ALLIGATORING
Cedric G. Mickelson, Gary, Ind., and Charles D. Asherman, Chicago, Ill., assignors to American Steel Foundries, Chicago, Ill., a corporation of New Jersey
No Drawing. Filed Aug. 14, 1958, Ser. No. 755,070
8 Claims. (Cl. 75—123)

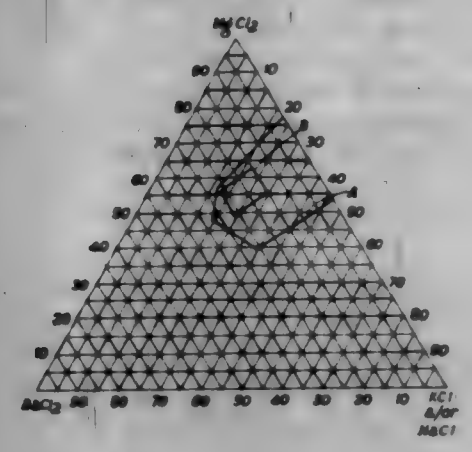
1. A high impact, wear resistant low alloy steel for heavy section castings characterized by a surface free

from alligatoring, said alloy comprising silicon in the amount of at least 0.60%, said alloy steel being deoxidized by the addition to the molten metal of at least about 0.10% aluminum and at least about 0.35% rare earth, based on the weight of molten metal.

2,970,904
INTRODUCTION OF ZIRCONIUM INTO MAGNESIUM

William Unsworth, Clifton Junction, near Manchester, England, assignor to Magnesium Elektron Limited, Clifton Junction, near Manchester, England, a company of Great Britain

Filed Apr. 27, 1959, Ser. No. 809,224
Claims priority, application Great Britain May 9, 1958
8 Claims. (Cl. 75—168)



8. A master-alloy for introducing zirconium into magnesium comprising

a salt phase consisting of 1 to 10 percent by weight of the master alloy and containing $MgCl_2$ and MgF_2, the latter being from 25 to 40 percent by weight of the $MgCl_2$, together with an alkali metal chloride in quantity by weight from one-third to two-thirds the weight of the $MgCl_2$,

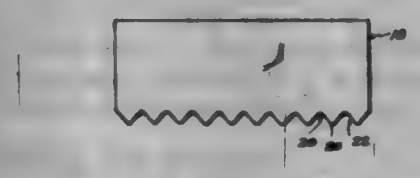
a matrix phase consisting substantially of magnesium, and at least one of the elements zirconium, zinc, cadmium, thorium, rare earth metals, indium, thallium, beryllium and silver,

and metallic zirconium embedded in said matrix phase and constituting 25 to 45 percent by weight of the master alloy.

2,970,905
METHOD OF MAKING A COMPOSITE SINTERED POWDERED MATERIAL ARTICLE

Frank A. Doll, Detroit, Mich., assignor to Haller, Inc., Plymouth, Mich., a corporation of Michigan

Filed Sept. 18, 1957, Ser. No. 684,699
9 Claims. (Cl. 75—208)



1. A method of making a composite sintered powdered material article, comprising pressing first and second masses of particles of sinterable powered material into first and second briquettes having corresponding faces shaped with approximately mating surfaces adapted to approximately fit one another, forming on said corresponding faces multiple composite serrations of larger sizes than the sizes of the original particles of powdered material of which the briquettes were composed, said serrations having recesses disposed therebetween, each serration being composed of a multiplicity of said original particles, placing said first and second briquettes against one another with their corresponding serrated surfaces disposed in opposing abutting engagement with one another and with the opposing recesses between the opposing serrations forming intervening open spaces, pressing the thus-abutting briquettes against one another with a pressing force of sufficient magnitude to break down the opposing serrations into particles entering said intervening open spaces and form a composite briquette with an intervening layer of relatively loose intermingling particles between said abutting briquettes, further pressing the composite briquette to the density desired therefor, and sintering the composite briquette to form a sintered composite powdered material article.

2,970,906
XEROGRAPHIC PLATE AND A PROCESS OF COPY-MAKING

William E. Bixby, Columbus, Ohio, assignor, by mesne assignments, to Haloid Xerox Inc., Rochester, N.Y., a corporation of New York

No Drawing. Filed Aug. 5, 1955, Ser. No. 526,781
19 Claims. (Cl. 96—1)

1. A xerographic plate capable of forming an electrostatic image developable with electroscopic marking material comprising a support member having at least one smooth surface free from visible imperfections throughout the area within which said image is to be formed, at least said surface area having an electrical resistance at least several orders of magnitude lower than the resistance of illuminated vitreous selenium and, overlying and supported by said surface and in electrical contact therewith throughout said area, an adherent layer consisting essentially of reddish-black glassy-appearing photoconductive insulating vitreous selenium, said layer of selenium having a smooth exposed surface, a uniform thickness averaging more than about 10 microns within the image area, a charge acceptance in excess of about 300 volts, and a charge dissipation rate under one meter-candle-second of illumination at least about 25 times greater than its charge dissipation rate in darkness.

2,970,907
PHYSICAL PROPERTIES OF PHOTOGRAPHIC PAPERS

Joseph Sottysiak, Binghamton, and Benjamin R. Harriman, Rochester, N.Y., assignors to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Apr. 20, 1956, Ser. No. 579,433
8 Claims. (Cl. 96—85)

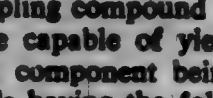
1. Light-sensitive photographic paper having excellent ferrotyping characteristics comprising a paper base coated with a gelatino silver halide emulsion which, in turn, is overcoated with a thin layer of gelatin having dispersed therethrough as the sole surfactant a surface active agent selected from the class consisting of monodiethylaminoethyldodecenyl succinate, the condensation product of 2,6,8-trimethylnonanol-4 with ethylene oxide and the condensation product of diamylphenol with ethylene oxide.

3. Light-sensitive photographic paper having excellent ferrotyping characteristics, comprising a base coated with a gelatino silver halide emulsion which is, in turn, overcoated with a thin layer of gelatin having dispersed therethrough as the sole surfactant a surface active agent selected from the group consisting of monodiethylaminododecenyl succinate, the condensation product of 2,6,8-trimethylnonanol-4 with 12 mols of ethylene oxide and the condensation product of diamylphenol with 20 mols of ethylene oxide; a stabilizing amount of a stabilizer for silver halides, and beeswax.

2,970,908
PHOTOGRAPHIC MATERIAL

Armin Oesenbrunner, Leverkusen, Hermann Schnell, Krefeld-Uerdingen, Helfried Klockgether and Julius Geiger, Leverkusen, and Joachim Freier, Krefeld-Uerdingen, Germany, assignors to Agfa Aktiengesellschaft

Filed Apr. 10, 1956, Ser. No. 577,362
Claims priority, application Germany Apr. 14, 1955
5 Claims. (Cl. 96—87)



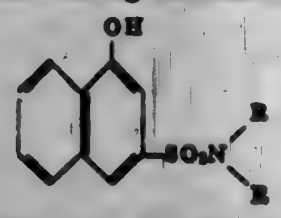
1. A photographic combination of a supporting film and a silver emulsion layer carried by the film, said film being a high molecular weight polycarbonate of a di-(monohydroxyaryl)-alkane, and the emulsion layer is adhered to the polycarbonate surface by way of an intervening subbing stratum selected from the class consisting of (I) a layer of water-swellable resinous mixed acetal of polyvinyl alcohol and organic aldehydes with water-solubilizing groups and organic aldehydes without water-solubilizing groups; and (II) a layer of gelatin and partially hydrolyzed copolymers of 40 to 60 parts by weight vinylchloride and 60 to 40 parts by weight vinylacetate.

2,970,909
DIAZOTYPE MATERIALS CONTAINING COUPLING COMPONENTS FOR HIGH OPACITY ULTRAVIOLET YELLOWS AND VISUALLY DENSE SEPIAS

Chester E. Slimowicz, Binghamton, N.Y., assignor to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Feb. 4, 1957, Ser. No. 637,891
4 Claims. (Cl. 96—91)

1. Light-sensitive diazotype materials capable of forming intermediate prints having a high opacity for UV and a high visual density in a dark sepia tone, comprising a translucent base coated with a light-sensitive diazonium compound derived from a p-phenylenediamine and a mixture of coupling components having substantially the same coupling speed, one coupler being a mono-hydric phenol capable of yielding a dye highly absorptive for UV light and essentially yellow in color and the second coupling compound being a 1-hydroxy-3-sulfamylnaphthalene capable of yielding a shading dyestuff, said coupling component being selected from the group of compounds having the following formula:



in which R is selected from the class consisting of hydrogen, alkyl, hydroxyalkyl, aryl, alkylaryl, hydroxyaryl and alkoxyaryl.

2,970,910
PROCESS FOR PRODUCING LECITHIN PRODUCTS FROM SOAPSTOCKS

Benjamin H. Thurman, New York, N.Y., assignor to Benjamin Clayton, doing business under the fictitious name and style of Refining, Unincorporated

Filed July 14, 1955, Ser. No. 521,975
13 Claims. (Cl. 99—2)

1. A process for refining crude glyceride oils containing nutritive phosphatides, which process includes the steps of: mixing such glyceride oil with a non-saponifying alkali and separating the mixture into a refined oil and a soapstock containing said phosphatides; treating said soapstock with a mineral acid at temperatures and pressure insufficient substantially to split or char said phosphatides, the amount of mineral acid being only sufficient to bring the pH of the soapstock to a value of about pH 5–8; and separating the acid treated soapstock into a volume of aqueous material and a volume of a lecithin product comprising free oil, fatty acids and hydrated phosphatides from the glyceride oil still in nutritive state.

2,970,911
CHOLINE-FAT COMPOSITION

Emil Lorz, Springfield, Mo., assignor to Hoffmann-Taff, Inc., Springfield, Mo., a corporation of Missouri

No Drawing. Filed Mar. 19, 1958, Ser. No. 722,697
8 Claims. (Cl. 99—2)

1. The method of producing a high-energy feed supplement, comprising mixing a choline compound with fat containing free fatty acids, heating the mixture to cause reaction between said fatty acids and choline compound, and cooling the reaction mass to obtain a stable, homogeneous mixture of fat and choline salts of fatty acids, the amount of choline compound being sufficient to provide at least about one per cent by weight of choline in said mixture.

2,970,912
SPENT CATALYST TREATMENT AND PRODUCT

Albert J. Gelert and M. Douglas Knopheide, Quincy, Ill., assignors to Meermann Manufacturing Company, Quincy, Ill., a corporation of Illinois

No Drawing. Filed Dec. 31, 1958, Ser. No. 784,049
11 Claims. (Cl. 99—2)

1. The method of treating a solid catalyst consisting predominantly of pyrophosphoric acid and a siliceous sorbent carrier therefor to substantially increase the availability of the phosphate content thereof which comprises treating the catalyst with quicklime in the presence of water.

2,970,913
PROTEIN-EMUSIFIER POWDER AND PROCESS OF PRODUCING THE SAME

Morrison Loewenstein, Ashton, Ill., assignor to Crest Foods Co., Inc., Ashton, Ill., a corporation of Illinois

No Drawing. Filed May 14, 1958, Ser. No. 735,122
13 Claims. (Cl. 99—16)

13. The method of producing a protein powder uniformly activated by a water-soluble surface active substance effective when the powder is mixed in an aqueous liquid for improving the suspension characteristics of the protein powder in aqueous liquids which comprises dissolving and thoroughly mixing said water-soluble substance in a slurry in which the solids consist essentially of said protein in water and spray drying the mixture.

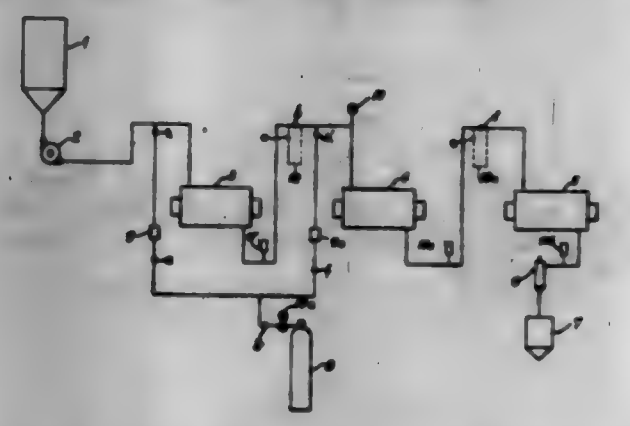
2,970,914
COFFEE BEAN PRODUCTS AND METHODS FOR PRODUCING SUCH PRODUCTS

Michele Bonotto, Princeton, N.J., assignor of one-half to McCormick & Company, Incorporated, Baltimore, Md., a corporation of Maryland, and one-half to said Bonotto, Reginald M. Webster, and Joseph Gola, Jr., New York, N.Y.

Filed Sept. 24, 1957, Ser. No. 685,782
8 Claims. (Cl. 99—71)

1. A process for producing a fully roasted fluid coffee concentrate from raw coffee beans comprising providing a quantity of raw coffee beans, heating said raw beans to a temperature and for a period of time sufficient to drive out substantially all of the moisture therein, then gradually increasing the supply of heat to a point below the roasting temperature until the odor of roasted coffee is first detected and the beans exhibit a slight swelling whereby the acrid substances formed under such conditions are stripped from the beans and the water soluble vege-

table proteins and albuminoids in said beans are made insoluble, thereafter rapidly discharging the beans from the source of heat and rapidly cooling the same, particulating such beans to produce a meal, preparing an aqueous extract of said coffee bean meal, concentrating



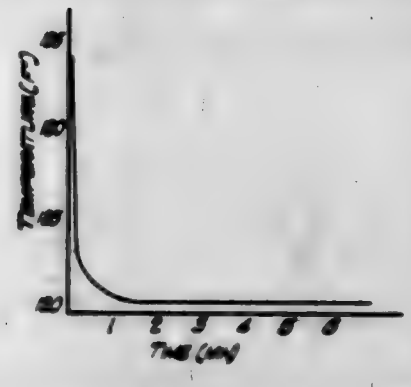
such extract and subjecting the same in fluid form to a roasting temperature, whereby are developed in said fluid coffee bean concentrate the aromatic principles which produce the characteristic flavors and aromas of roasted coffee inherently present in undeveloped form in said fluid concentrate.

2,970,915
METHOD OF PREPARING BREAD
Charles G. Ferrari, Evanston, Ill., assignor to J. R. Short Milling Company, Chicago, Ill., a corporation of Illinois
No Drawing. Filed June 27, 1958, Ser. No. 744,897
3 Claims. (Cl. 99—90)

1. A method for preparing bread comprising combining flour, water, other dough-forming ingredients, and a small but effective proportion of a bread improver composition comprising finely particulate calcium peroxide and an edible, normally solid, water-emulsifiable protective covering material the predominant constituent of which is at least one member of the group consisting of lecithin, monoglycerides having an iodine value not exceeding 50, mixed mono- and diglycerides having an iodine value not exceeding 50, and the tartaric acid esters of mono- and diglycerides having an iodine value not exceeding 50, the total weight of said protective covering material being equal to from a few percent of the weight of said calcium peroxide to twice the weight thereof, said protective material covering and adhering to at least a portion of the surfaces of at least a majority of the particles of said calcium peroxide, and thereby forming an initial dough mix in which at least a major proportion of the surface area of said calcium peroxide is physically separated from the water content of the mix by said protective covering material, mixing said initial dough mix to develop a completed dough and, by said mixing step, causing said protective material to be removed from the calcium peroxide by the aqueous phase of the dough and the calcium peroxide thus to be brought into contact with the aqueous phase of the dough, and baking the dough to provide a finished bread the quality of which is superior to that obtained by employing the same amount of calcium peroxide without said protective covering material.

2,970,916
SAUSAGE MANUFACTURE
Robert H. Harper, Park Forest, Ill., assignor to Swift & Company, Chicago, Ill., a corporation of Illinois
Filed July 28, 1958, Ser. No. 751,403
5 Claims. (Cl. 99—109)

1. The method of manufacturing sausage comprising: simultaneously comminuting a sausage mixture to a fluid consistency while partly coagulating by intensely heating substantially uniformly all portions of said mixture to



a temperature between about 122° F. and 160° F. and upon attaining the desired temperature forming a given mass of said mixture into a desired shape.

2,970,917
WHIPPED MARGARINE AND PROCESS FOR MAKING THE SAME
Daniel Melnick, Teaneck, N.J., assignor to Corn Products Company, a corporation of Delaware
No Drawing. Filed May 9, 1957, Ser. No. 658,911
18 Claims. (Cl. 99—122)

1. A whipped margarine comprising about 15 to 40% inert gas by volume uniformly and finely dispersed in margarine the entire oil composition of said margarine having a melting point of about 90° to 105° F. and a setting point of about 71° to 82° F.

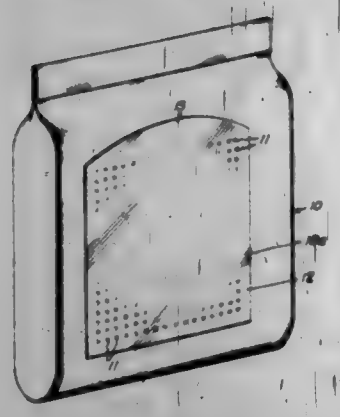
2,970,918
TOPPING AND CONFECTIONARY COMPOSITION AND METHOD OF PRODUCING THE SAME
Olga Petersen, 248 Lonette Court, Hayward, Calif.
No Drawing. Filed Mar. 12, 1959, Ser. No. 798,841
6 Claims. (Cl. 99—139)

1. A method for producing a composition suitable for use as frostings, fillings, toppings and the like, comprising producing a frozen creaming base dispersion, and mechanically combining said frozen dispersion with finely powdered crystalline sugar to produce said composition, said sugar being employed in a several-fold proportion relative to the dispersion yielding a composition stable toward deterioration in refrigerated storage and having a viscosity and texture characteristic of frostings, fillings and toppings.

2,970,919
CANDY SUSPENSION COMPOSITION FOR FOOD DELICACIES
Paul Perry, Laurelton, N.Y., assignor to V. & E. Kohnstamm, Inc., New York, N.Y., a corporation of New York
No Drawing. Filed Mar. 19, 1959, Ser. No. 800,398
1 Claim. (Cl. 99—140)

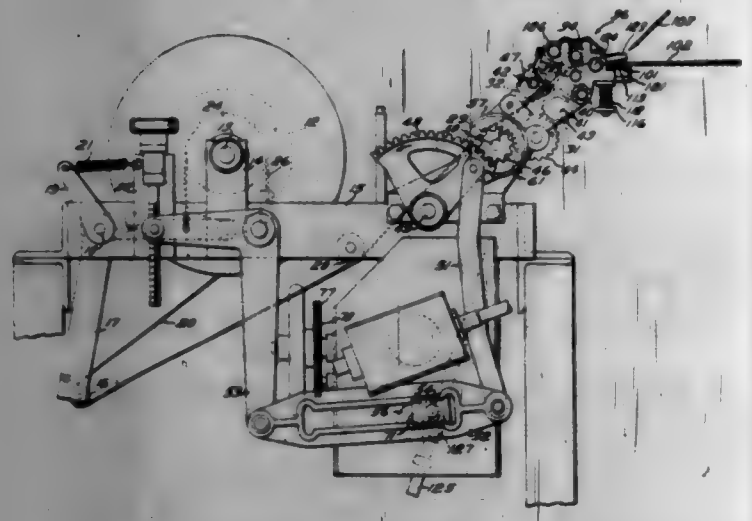
A composition of matter adapted to be added to frozen confection mixes and pastry mixes for forming a food delicacy having candy masses uniformly distributed therein and throughout comprising shaped masses of sweetening material and a gum selected from the group consisting of gum tragacanth, gum arabic, gum acacia and sodium carboxymethylcellulose uniformly suspended in a mixture of a gum selected from the group consisting of gum tragacanth, gum arabic, gum acacia and sodium carboxymethylcellulose, water, and a polyhydric alcohol selected from the group consisting of propylene glycol and glycerine.

2,970,920
FOOD PACKAGE
John Hood Forkner, 6870 W. Herndon, Fresno, Calif.
Filed Dec. 19, 1957, Ser. No. 703,965
1 Claim. (Cl. 99—171)



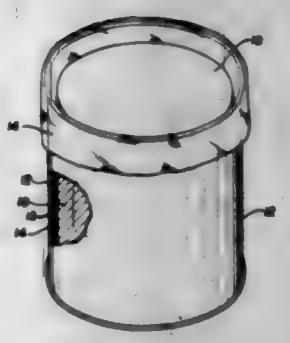
As a new article of manufacture for preparing a gel-like food product, a package having sifting openings in one side wall of the same and containing edible powdered ingredients that can be rapidly discharged through said openings, together with dry edible expanded fragments that are cellular in form and which have a size by virtue of such cellular form that they cannot pass through said openings, readily removable means for maintaining said openings normally closed, the bulk density of the fragments being substantially less than that of the powder, the fragments being hydratable to form tender masses and having a flavor differing from the flavor of the powdered ingredients, the powdered ingredients including a gel-forming agent and forming a moist gel-like material when incorporated with water, the fragments being capable of separate incorporation with such moist gel-like material to thereby form a consumer product in which the fragments are identifiable as tender masses of distinct flavoring.

2,970,921
METHOD AND APPARATUS FOR CUTTING PAPER SHEETS
Max E. Toby, San Francisco, Calif., assignor, by mesne assignments, to Toby Enterprises, San Francisco, Calif., a corporation of California
Filed July 7, 1958, Ser. No. 746,994
11 Claims. (Cl. 99—171)



3. A method of interleaving paper sheets between adjacent slices of a food product during formation of a vertical stack of such slices which comprises feeding a paper strip towards the slices from a paper supply roll, intermittently pulling on an unrolled portion of said strip so as to advance the latter towards said slices in timed relation to the reception thereof, supporting said strip adjacent said slices, extending and cantilevering the end portion of said strip over the last deposited slice and in a generally horizontal position, and then resiliently transversely clamping and cutting such end portion from the strip upon stoppage of the intermittent pulling to provide a cut paper sheet.

2,970,922
STORING CHEESE
Arthur B. Erekson, Scarsdale, N.Y., and Harold C. Steinke and George Mohr, Plymouth, Wis., assignors to The Borden Company, New York, N.Y., a corporation of New Jersey
Filed Feb. 24, 1959, Ser. No. 794,912
3 Claims. (Cl. 99—178)



1. In storing and improving cheese for further processing involving melting, the process which comprises pressing wet fat-containing cheese curd into a firm cake containing not more than approximately 34%–40% of water by weight, introducing the pressed cake so formed, at a temperature of the cake within the approximate range 70°–105° F., into a container having air-tight walls defining a space around the said cake, applying a layer of wet cheese curd in lump form including viable lactic acid bacteria over the top of the cake, closing the container with the cake of cheese and lump curd therein substantially air tight, maintaining the container in upright position, and retaining the cheese in the closed upright container for a period of at least 2 weeks at a temperature not above approximately 65° F., the cheese during the said period moving closer to conformance with the wall of the container and forcing air from the said space upwardly to the position of the said curd.

2,970,923
METHOD OF PREVENTING MARINE GROWTH, AND ANTIFOULING COMPOSITIONS USEFUL FOR SAID METHOD
Heinz Werner Spermann, Berlin-Hermsdorf, Germany, assignor to Schering A.G., Berlin, Germany, a corporation of Germany
No Drawing. Filed July 24, 1958, Ser. No. 750,839
Claims priority, application Germany July 31, 1957
4 Claims. (Cl. 106—15)

1. Antifouling marine paint composition consisting essentially of varnish, pigment and, as antifouling agent, triphenyl tin chloride intimately and uniformly distributed throughout the paint vehicle.

2,970,924
GLASS BATCH PREPARATION
Joseph C. Fox, 3548 Queenswood, and Delos M. Palmer, 4156 Indian Road, both of Toledo, Ohio
No Drawing. Filed May 29, 1959, Ser. No. 816,706
6 Claims. (Cl. 106—52)

2. A pelletized glass batch comprising glass-forming constituents bonded together in pellet form by from about 0.05% to 2% by weight of alkali forming metal salts of lignosulfonic acid.

2,970,925
METHOD OF MANUFACTURING A CEMENT CLINKER

Klaus Dyckerhoff, Duisburg, Germany
(Kaiserstrasse 42, Rheinhausen, Rhineland, Germany)

No Drawing. Filed Sept. 18, 1958, Ser. No. 761,670
2 Claims. (Cl. 106—100)

1. A method of manufacturing cement clinker poor in relatively low melting components and comprising a major amount of tri-calcium silicate consisting of the steps of first finely grinding silicon dioxide (SiO_2) to a fineness of less than 30μ, then admixing ground calcium carbonate to said silicon dioxide in a proportion to arrive at a silica modulus of more than 5.0, said fine grinding taking place prior to said admixing step, and burning said mixture at a temperature range of 1400° C. to 1450° C.

2,970,926
CARBON PAPER

Hugh Thomas Findley, Lexington, Ky., assignor, by mesne assignments, to Underwood Corporation, New York, N.Y., a corporation of Delaware

Filed Nov. 14, 1957, Ser. No. 696,482
4 Claims. (Cl. 106—171)

2. A coating mixture for application to a sheet of carrier material to produce a pressure-sensitive transfer material, said coating mixture consisting of a homogeneous mixture of 1 part by weight of a cellulose acetate butyrate ester having about 13% acetyl and 37% butyryl 1.75 to 2.75 parts of a non-drying oil, .75 to 1.50 parts of a coloring matter and about 4.5 parts of ethyl acetate to reduce the viscosity of said mixture to less than 1000 centipoises.

2,970,927
COATING COMPOSITIONS

Bernard David, 1434 Dairy Road, Charlottesville, Va.

No Drawing. Filed June 3, 1952, Ser. No. 291,581
2 Claims. (Cl. 106—266)

1. A composition for protectively coating metallic surfaces against the effects of high temperature consisting essentially of a homogeneous suspension in a liquid vehicle of colloidal graphite and at least one colloidal metal of low activity, said metal being selected from the group consisting of silver, gold and platinum, said liquid vehicle being selected from the group consisting of non-drying vegetable oils and mineral oils, wherein is contained between about 7.5 and 8 parts of graphite for each part of said metal.

2,970,928
LIGHT-DIFFUSING GLASS ARTICLES AND PROCESS OF PREPARING SAME

Ralph F. Nickerson, Marblehead, Mass., assignor to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

Filed Oct. 19, 1955, Ser. No. 541,437
14 Claims. (Cl. 117—17)

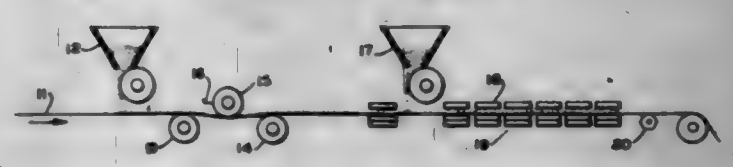


3. An electric incandescent glass lamp bulb composed of a glass bulb having a filament assembly and an inert gas atmosphere sealed in said bulb and being further characterized in having a self-adhering, light-diffusing and light-transmitting layer consisting essentially of fine particles of bone ash on the inner surface of the light-transmitting portion of said bulb.

2,970,929
MANUFACTURE OF COATED ABRASIVES

Lester A. Hansen, Averill Park, James H. Baker, Leonardville, and Edward J. Keyes, Troy, N.Y., assignors to Norton Company, Troy, N.Y., a corporation of Massachusetts

Filed Mar. 12, 1958, Ser. No. 720,847
4 Claims. (Cl. 117—17)

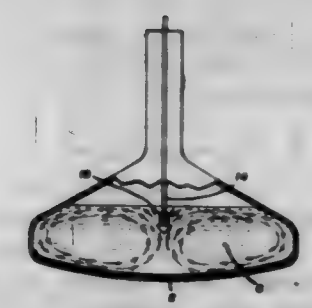


1. A method of making a coated abrasive sheet comprising the steps of: depositing a first open coating of abrasive grains upon a moving backing sheet having an adhesive coating thereon, embedding and redistributing said abrasive grains in said adhesive coating by pressure contact of a driven member whose surface is moving relative to the contacted abrasive and adhesive coating whereby a slipping contact effective to redistribute the abrasive grains in said adhesive coating is maintained between said member and said coating; and thereafter applying directly to said first open coating of abrasive grains and adhesive a second coating of abrasive grains, said second coating of grains being deposited with the long axis of the grains tending to be substantially perpendicular to the plane of the backing sheet.

2,970,930
LUMINESCENT SCREEN SETTLING

Harold F. Windsor, Syracuse, N.Y., assignor to General Electric Company, a corporation of New York

Filed Jan. 28, 1959, Ser. No. 789,562
10 Claims. (Cl. 117—33.5)



1. The method of coating a substrate with luminescent material comprising covering the substrate with a body of liquid to form a liquid cushion, gravitationally depositing luminescent material from the liquid cushion onto the substrate, and simultaneously generating fluid flow currents in the liquid having an upward direction in the vicinity of the center of the area desired to be coated and a downward direction in the vicinity of the periphery of the area desired to be coated.

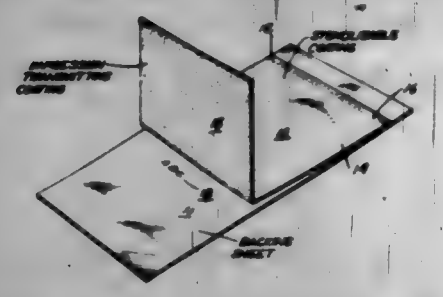
2,970,931
STENCIL SHEET HAVING TRANSFERABLE BACK COATING

Robert Gumbinner, Tarrytown, N.Y., assignor to Polychrome Corporation, Yonkers, N.Y., a corporation of New York

Filed Mar. 25, 1957, Ser. No. 648,250
3 Claims. (Cl. 117—35.5)

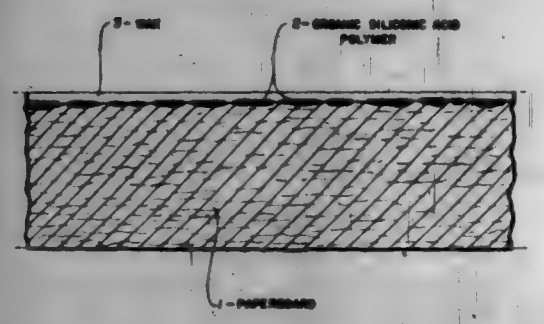
1. A stencil sheet comprising a base tissue, a pastel-colored stencilizable coating on one surface of said base tissue, said coating having an oil to nitrocellulose ratio

in the range of about 6.5: to 9:1, and on the opposite surface of the base tissue, a dark, impression-transmitting



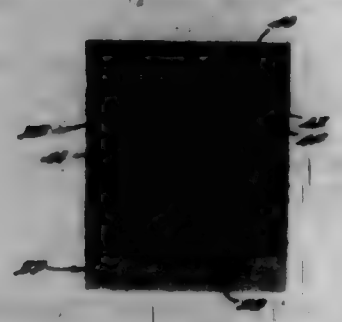
coating having an oil to nitrocellulose ratio in the range of about 4:1 to 7:1.

2,970,932
PAPERBOARD HAVING A WATER-REPELLENT COATING
Melvin C. Edlund, North Sacramento, Calif., assignor to Fibreboard Paper Products Corporation, San Francisco, Calif., a corporation of Delaware
Filed May 19, 1958, Ser. No. 735,979
2 Claims. (Cl. 117—45)



1. A water-repellent paperboard product comprising paperboard, a discontinuous coating on said paperboard of organic siliconic acid polymer particles derived primarily from an organic siliconic acid that has a single organic radical attached to the silicon atom, and a substantially continuous coating of wax overlying said discontinuous coating of organic siliconic acid polymer particles.

2,970,933
COMPOSITE BEARINGS AND PROCESS OF MAKING THE SAME
Lawrence A. Barera, Ann Arbor, William G. Fiedrich, Jr., South Lyon, and Gordon J. Le Brasse, Ann Arbor, Mich., assignors to Federal-Mogul-Bower Bearings, Inc., Detroit, Mich., a corporation of Michigan
Filed Jan. 13, 1957, Ser. No. 634,880
8 Claims. (Cl. 117—71)



1. A process of manufacturing a composite bearing comprising treating a metallic bearing structure comprising a bearing layer bonded to a hard metal backing strip, said bearing layer being a dense and non porous sintered layer of interspersed phases of copper and lead bonded to said strip, said treatment comprising diffusing into said bearing structure a molten tin-containing alloy so that portions of the original lead phase of said sintered layer have been displaced by tin and the remaining portions have been penetrated by and are alloyed with the said tin.

2,970,934
DESIZING GLASS FABRICS AND DESIZED PRODUCT
Merrill R. May, Florham Park, N.J., assignor to Hess, Goldsmith & Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Aug. 27, 1956, Ser. No. 606,231
5 Claims. (Cl. 134—2)

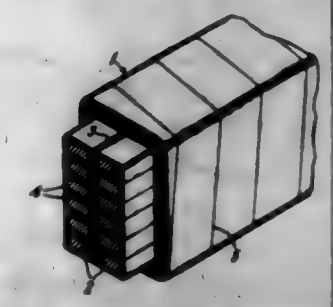
1. A process for removing a combustible size from a glass fabric which comprises heating a strip of said fabric to a temperature sufficiently high to cause ignition and burning of said size with an open flame on the surface of the fabric, and maintaining an atmosphere in the area of said flame only sufficiently rich in oxygen to support burning of said size with a yellow, carbon-containing flame, and after the size has been burned off cooling the fabric to below size ignition temperature.

5. A thermally desized glass fabric product desized by the process of claim 1.

2,970,935
METHOD OF RINSING METALLIC SURFACES WITH SOLUTIONS CONTAINING HEXAVALENT CHROMIUM
Walter A. Cavanagh, Detroit, Mich., assignor to Parker Rust Proof Company, Detroit, Mich., a corporation of Michigan
No Drawing. Filed Mar. 2, 1959, Ser. No. 796,218
7 Claims. (Cl. 148—6.16)

1. A method for maintaining an aqueous acidic hexavalent chromium containing solution in condition to enhance the corrosion resistance of metallic parts being continuously processed therethrough which comprises the steps of establishing an aqueous solution consisting essentially of about 0.01% to about 0.1% CrO_3 and having a free acid in the range of about 0.05 to about 1.0 and a total acid in the range of 0.5–10.0 and as water is added thereto during use, maintaining the free acidity thereof within the above given range by adding thereto an acid selected from the group consisting of chromic acids and phosphoric acids, maintaining the CrO_3 concentration within the above given range by adding thereto at least one hexavalent chromium ion-containing material and operating said rinse within the total acid concentration range of 0.5–10.

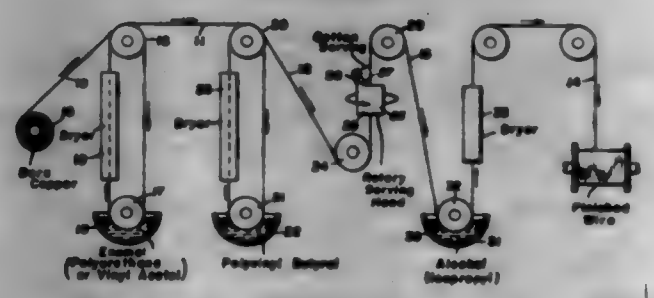
2,970,936
INSULATED ELECTRICAL COILS
Charles D. Richardson, Ballston Lake, N.Y., assignor to General Electric Company, a corporation of New York
Filed Dec. 12, 1957, Ser. No. 702,286
4 Claims. (Cl. 154—2.23)



1. The method of molding insulated conductor bars for an electrodynamic machine, the insulation containing a thermosetting material which comprises (1) treating said bars in a vacuum to remove volatile material therefrom, (2) subjecting said bars to fluid pressure to compress said bars to their final dimension without cur-

ing, (3) assembling said bars in an electrodynamic machine, and (4) heating said electrodynamic machine in a pressurized gas atmosphere to cure said thermosetting material.

2,970,937
METHOD OF FORMING INSULATED WIRE
Warren Hammer, Hillside, and Chester F. Sadds, Wheaton, Ill., assignors to Belden Manufacturing Company, Chicago, Ill., a corporation of Illinois
Filed Aug. 15, 1958, Ser. No. 755,213
2 Claims. (Cl. 154—2.27)



1. The process of making textile-wrapped magnet wire having inherent superior ability to prevent unraveling of the textile wrap prior to the use of the process product, which process comprises,

first coating a metallic wire by passing it through a bath of a plastic di-electric enameling substance, and drying said di-electric coating to provide an enamel coating which is inert and insoluble during the remainder of the process,

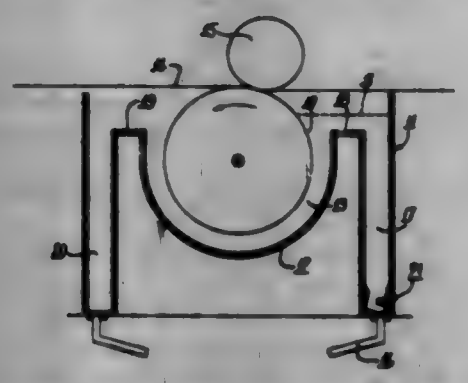
then passing said coated wire through a bath of a different plastic substance to provide a second coating of a material which is capable of being softened by a volatile liquid solvent employed in a later step of the process, and drying said second coating,

then applying a porous textile serving over said second coating,

then contacting said product with a volatile liquid solvent which will penetrate said serving and soften said second coating, but which does not affect said first coating, and

subsequently permitting excess solvent to evaporate so as to effect a cementitious bond between said second coating and the inner surface of the serving while retaining the original properties of said first coating and said serving after such evaporation.

2,970,938
CONTROL OF STOCK SUPPLY IN PAPER MAKING MACHINES
Frederick R. Erbach, Beloit, Wis., assignor to Beloit Iron Works, Beloit, Wis., a corporation of Wisconsin
Filed May 8, 1956, Ser. No. 583,456
10 Claims. (Cl. 162—212)



5. The method of making paper comprising the steps of supply stock at a high velocity, progressively reducing the velocity of said stock by confining it for flow in always upward directions while angularly changing its path and increasing its cross-sectional areas, leading and confining said stock flow into an open top pool from the bottom thereof and without surface splashing, and then flowing only the upper part of said pool to a paper forming region to form a web of wet paper fibers.

2,970,939
CONTROL OF NEMATODES EMPLOYING N-NITROSO-N,N-DIMETHYLAMINE
Eldon Gene Maitlen, Middleport, N.Y., assignor to Food Machinery and Chemical Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Sept. 5, 1958, Ser. No. 759,150
4 Claims. (Cl. 167—22)

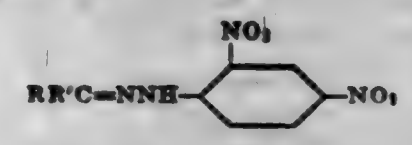
1. A method of killing nematodes which comprises applying the compound N-nitroso-N,N-dimethylamine to nematode infested soil.

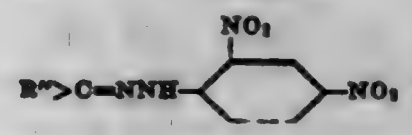
2,970,940
SYNERGISTIC INSECTICIDAL COMPOSITIONS
Howard A. Jones and John A. Gerussa, Baltimore, Md., and Berton C. Dickinson, Lydonville, N.Y., assignors to Food Machinery and Chemical Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Original application Mar. 24, 1955, Ser. No. 496,596. Divided and this application Nov. 5, 1958, Ser. No. 771,949
2 Claims. (Cl. 167—22)

2. A method of killing insects which comprises applying to the insects and their habitat synergistic insecticidal compositions comprising 0,0-dimethyl S-(1, 2-dicarbethoxyethyl) dithiophosphate and phenyl N-methyl-N-phenylcarbamate, said components being employed in the ratio of about 2 parts of said carbamate ester to about 1 part of said dithiophosphate.

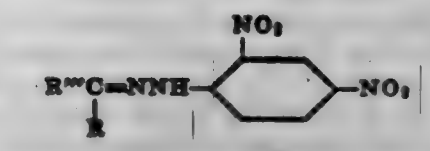
2,970,941
FUNGICIDAL 2,4-DINITRO-PHENYLHYDRAZONES
Robert L. Holbrook, Riderwood, Md., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia
No Drawing. Filed Sept. 9, 1958, Ser. No. 759,852
9 Claims. (Cl. 167—30)

8. In the control of foliar fungi, the method of applying to the foliage a composition of matter containing from about 300 parts per million to 80 percent by weight of at least one compound having a particle size of from about 0.2 to 50 microns the compound being a 2,4-dinitrophenylhydrazone having a formula selected from the group consisting of





and



where R is selected from the group consisting of hydrogen, methyl and chloromethyl, R′ is a halogenated aliphatic radical having 2 to 6 carbon atoms and 1 to 3 halogen atoms, R″ is a halogenated cycloaliphatic radical having 3 to 6 carbon atoms and 1 to 3 halogen atoms, and R‴ is a cyclomethylene group having 3 to 6 carbon atoms and including at least one halomethylene.

2,970,942
SENNOSIDE-POLYCYCLOHEXOSE COMPLEXES

Alfred Halpern, 11 Hampton Court, Great Neck, N.Y.

Filed Feb. 6, 1958, Ser. No. 713,651
16 Claims. (Cl. 167—56)

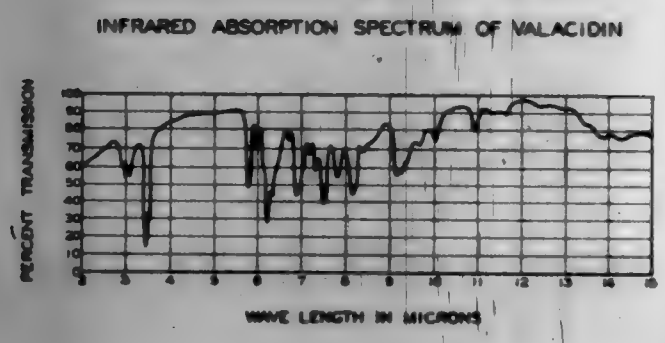
1. Sennoside-polycyclohexose-polymer complex in which hydrogen bonding exists between said polycyclohexose and sennoside, said complex having colloidal properties in aqueous media.

5. The method of preparing the sennoside-polycyclohexose-polymer complex described in claim 1 which consists of reacting a first moiety selected from the group consisting of sennosides A and B, a solid extract of senna and a fluid extract of senna, with a polycyclohexose polymer having colloidal properties when dispersed in water and capable of hydrogen bonding with the sennosides in the first moiety, in a medium selected from the group consisting of water, a lower alkyl alcohol and mixtures of the same.

2,970,943
VALACIDIN AND PROCESSES FOR THE PREPARATION THEREOF

William W. Bromer and James M. McGuire, Indianapolis, Ind., assignors to Eli Lilly and Company, Indianapolis, Ind., a corporation of Indiana

Filed July 7, 1958, Ser. No. 746,785
7 Claims. (Cl. 167—65)



1. A method of producing valacidin which comprises cultivating a valacidin-producing strain of *Streptomyces lavendulae* in a culture medium containing assimilable sources of carbon, nitrogen and inorganic salts, under submerged aerobic conditions until a substantial amount of valacidin is produced by said organism in said culture medium.

2. A method according to claim 1 in which the organism is *Streptomyces lavendulae* NRRL 2675.

2,970,944
PARENTERAL SOLUTIONS OF STEROID PHOSPHATES STABILIZED WITH CREATININES

Walter F. Charnicki, North Wales, and Robert E. King, Chalfont, Pa., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Apr. 4, 1958, Ser. No. 726,353
2 Claims. (Cl. 167—77)

1. A pharmaceutical formulation suitable for parenteral administration comprising, in an aqueous solution having a pH of 7.0 to 7.8, (*a*) a water soluble steroid phosphate selected from the group consisting of phosphates of 11-oxygenated-Δ^4-pregnene-17α,21-diol-3,20-diones, phosphates of 11-oxygenated-$\Delta^{1,4}$-pregnadiene-17α,21-diol-3,20-diones, and alkali metal salts thereof, and (*b*) a stabilizer tending to prevent deterioration of the steroid phosphate, and consequent yellowing of the solution and formation of a precipitate, said stabilizer being selected from the group consisting of creatinine and N-methylcreatinine.

2,970,945
DIAGNOSTIC COMPOSITION

Alfred H. Free and Leonard B. Schweiger, Elkhart, Ind., assignors to Miles Laboratories, Inc., Elkhart, Ind., a corporation of Indiana

No Drawing. Filed Oct. 3, 1958, Ser. No. 765,965
8 Claims. (Cl. 167—84.5)

1. As a diagnostic composition, an intimate admixture of dry ingredients consisting essentially of an effervescent couple and a member of the group consisting of p-aminodimethylaniline monohydrochloride and tetramethyl-p-phenylenediamine.

2,970,946
PROCESS FOR THE PRODUCTION OF TETRACYCLINE BY FERMENTATION

Bernard Chertow, Syracuse, N.Y., assignor to Bristol-Myers Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Feb. 5, 1960, Ser. No. 6,848
12 Claims. (Cl. 195—80)

1. In the process of producing a fermentation broth containing a high ratio of tetracycline to chlortetracycline by cultivating a chlortetracycline-producing species of Streptomyces under submerged aerobic conditions in an aqueous nutrient medium low in chloride and containing assimilable sources of carbon and nitrogen wherein the major source of organic nitrogen is corn steep liquor, the steps prior to admixture of the ingredients of the medium which consist, in sequence, of removing solid matter from corn steep liquor, adding to the liquid so obtained a water-soluble salt of silver in an amount stoichiometrically equal to about 125% to about 200% of the amount of chloride ion present in said liquid and removing from said liquid the silver chloride so precipitated.

2,970,947
PROCESS OF PRODUCING AN ANTIBIOTIC OF THE TETRACYCLINE SERIES

Jerry Robert Daniel McCormick, New City, Nancy Hazlett Arnold and Ursula Hirsch, Pearl River, and Philip Andrew Miller, New City, N.Y., and Newell Oscar Sjolander, Saddle River, N.J., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine

No Drawing. Original application June 20, 1958, Ser. No. 743,424. Divided and this application Mar. 12, 1959, Ser. No. 798,857
5 Claims. (Cl. 195—80)

1. In a process for the production of an antibiotic of the tetracycline series which comprises growing under aerobic conditions a culture of a species of Streptomyces which produces said antibiotic in an aqueous nutrient medium, the step which comprises growing said organism in said medium in the presence of added cosynthetic factor-1 until substantial antibacterial activity is imparted thereto.

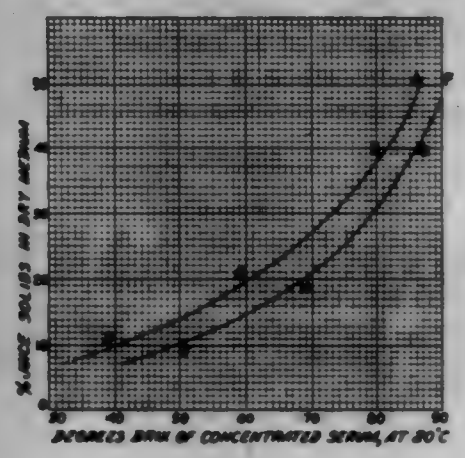
2,970,948
METHOD OF PREPARING DRY CULTURE MEDIA

Jesse W. Stevens, Upland, Calif., assignor to Sunkist Growers, Inc., Los Angeles, Calif., a corporation of California

Filed Oct. 22, 1953, Ser. No. 387,703
1 Claim. (Cl. 195—102)

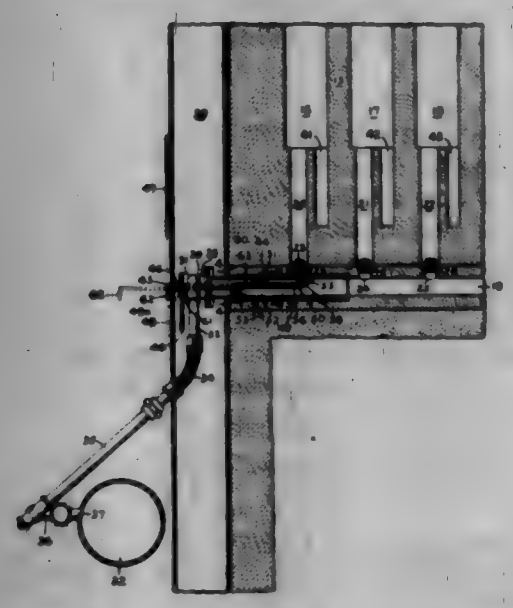
A method for producing a dehydrated orange serum culture media, comprising clarifying orange juice by adding pectinesterase to said juice and subjecting the juice to the action of said pectinesterase for a sufficient time to precipitate the pectin and precipitating the suspended insoluble solids thereof, removing the precipitated material to produce an orange serum, concentrating said serum at a temperature not exceeding 105° F. to not less than 40% nor more than 90% soluble solids, mixing

said serum with agar to form a moist discontinuous mass containing juice-solids in an amount of from about 10



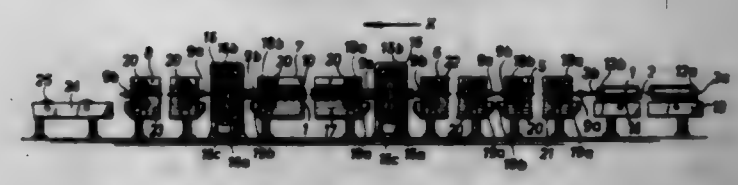
to 50% by weight of the total solids, and dehydrating said mass at a temperature of not more than 120° F.

2,970,949
COKE OVEN
Ernest Thompson, Jr., Darien, Conn., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York
Filed Jan. 12, 1959, Ser. No. 786,163
6 Claims. (Cl. 202—151)



1. A modified gas-gun type coke oven adapted for flexibility in operation of long and short coking cycles comprising a horizontal coking chamber, a heating wall for said coking chamber arranged along a side thereof, said heating wall comprising a row of vertical flues, a unitary horizontal fuel gas supply conduit beneath the heating flues, said gas supply conduit having an outer section terminating adjacent the external surface of the oven masonry, vertical ducts communicating said unitary supply conduit with the heating flues, a fuel gas inlet in said outer section of said supply conduit spaced from the outer end of said outer section, a fuel gas flow control insert movable within said unitary supply conduit for controlling flow of fuel gas to said flues to permit coking operation for long and short cycles, said flow control insert comprising a substantially horizontal member of width approximating that of the supply conduit extending across and dividing a portion of said supply conduit into upper and lower passageways each of substantial length, a baffle mounted at an outer end of the horizontal member, said baffle being adapted to project downwardly from said member outer end and extend transversely to and partially obstruct the lower passageway, another baffle which is imperforate projecting upwardly from an opposite inner end of said horizontal member and extending transversely to and obstructing the upper passageway, said gas flow control insert being arranged for longitudinal movement within the supply conduit between a first position wherein said outer baffle is intermediate the outer end of the outer section of the supply conduit and the fuel gas inlet and said upwardly projecting baffle is intermediate an inlet for the duct for the end flue and said fuel gas inlet to permit normal flow of fuel gas to all flues and a second position wherein said upwardly projecting inner baffle is intermediate the duct inlet for an end flue and an inlet for the duct for an adjacent intermediate flue and said outer baffle is intermediate the fuel gas inlet and an inlet for the duct for the end flue whereby flow of fuel gas is controlled to end and inner flues.

2,970,950
METHOD AND APPARATUS FOR THE CONTINUOUS GALVANIZATION OF THE INNER SURFACE OF TUBES
Hans-Joachim Bahmann, Paderborn, Germany, assignor to Benteler Corporation, Philadelphia, Pa.
Filed Jan. 15, 1959, Ser. No. 787,036
Claims priority, application Germany Jan. 22, 1958
17 Claims. (Cl. 204—26)



1. Method of electroplating in continuous operation the inner surface of tubes having impermeable walls and internal diameters down to 3 mm., comprising the steps of passing cathode-connected tubes continuously one after another through bath tanks filled with treatment liquids and at the same time feeding them along an axially arranged stationary anode which they surround, supplying uninterrupted current to the anode during the movement of the tubes through the plant in longitudinal direction, automatically sucking the treatment liquids of the individual bath tanks into the interior of the tubes, pressing it therethrough and, as soon as the rear end of a tube is free, pumping the liquid back into the respective bath tank.

2,970,951
COPPER COMPOSITIONS AND METHOD FOR MAKING THE SAME
John W. Marquess, Berkley, and Henry Brown, Huntington Woods, Mich., assignors to The Udylite Research Corporation, Detroit, Mich., a corporation of Michigan
No Drawing. Filed Dec. 4, 1958, Ser. No. 778,067
18 Claims. (Cl. 204—52)

1. A bath for electrodepositing bright ductile copper comprising an aqueous alkaline copper cyanide solution containing dissolved therein an acetylenic ether nitrile selected from the group consisting of 1-hydroxy-4-(beta cyanoethoxy) butyne-2 and 1,4-di-(beta cyanoethoxy) butyne-2 in an amount of from about 0.02 gram/liter to about 1.0 gram per liter.

2,970,952
CHLORINATION OF SATURATED HYDROCARBONS
Hendrik Kloosterziel, Amsterdam, Netherlands, assignor to Shell Oil Company, a corporation of Delaware
No Drawing. Filed Sept. 17, 1959, Ser. No. 840,513
1 Claim. (Cl. 204—163)

In a process for the chlorination of a member of the group consisting of saturated hydrocarbons and partially

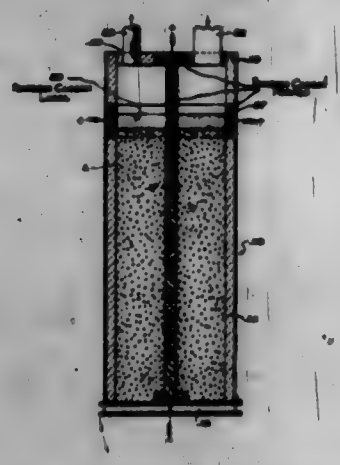
halogenated saturated hydrocarbons by subjecting said member simultaneously to the action of a chlorinating agent and actinic light, the improvement which comprises employing perchloromethylmercaptan as the chlorinating agent.

2,970,953

CARBONIZATION OF LIGNITE

Fred Denig, Pittsburgh, Pa., assignor to Koppers Company, Inc., a corporation of Delaware

Filed Nov. 18, 1957, Ser. No. 695,792
2 Claims. (Cl. 208—8)



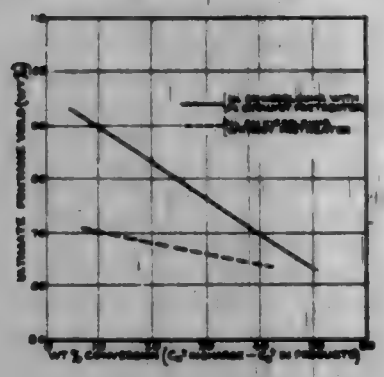
1. A process for carbonizing and distilling lignite for forming coke and coal tar which comprises heating said lignite to drive off the volatile constituents and to form coke, and passing said volatile constituents through a localized heating zone formed by electrically conductive carbon particles, passing an electrical current through said carbon particles to heat said zone to incandescence to convert said volatile constituents so that upon condensation said volatile constituents form a coal tar having the characteristics of high-temperature tars.

2,970,954

SELECTIVE DEMETHYLATION OF HYDROCARBON MIXTURES CONTAINING SATURATED AND UNSATURATED HYDROCARBONS

George W. Mumma, Jr., West Deptford Township, Gloucester County, N.J., assignor to Socony Mobil Oil Company, Inc., a corporation of New York

Filed Feb. 14, 1958, Ser. No. 715,448
10 Claims. (Cl. 208—57)



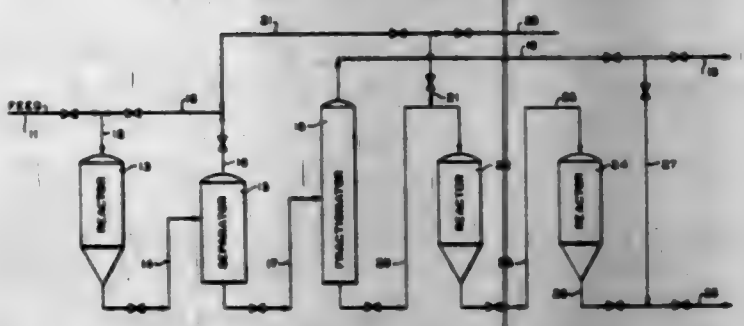
10. A hydrocarbon conversion process which comprises reacting hydrogen with a sulfur-free petroleum refinery fraction containing aromatic and paraffin C_8 hydrocarbons and having an approximate boiling point range of 120 to 160° F. at a temperature in the approximate range of 350° F. to 750° F., a pressure between about 50 and about 3000 pounds per square inch gauge, a liquid hourly space velocity between about 0.5 and about 10, employing a hydrogen to hydrocarbon mole ratio of between about 1.5 and about 40 in an initial contact zone in the presence of a catalyst of platinum deposited on a support and thereafter in a second contact zone in the presence of a catalyst consisting essentially of nickel deposited on a support whereby hydrogenation of said aromatic hydrocarbon is effected and the heat of said hydrogenation is dissipated in said initial contact zone and selective removal of at least one methyl group from said paraffin hydrocarbon is effected and the heat generated by said removal is dissipated in said second contact zone.

2,970,955

PROCESS FOR UPGRADING A PENTANE-CONTAINING NATURAL GASOLINE BY ISOMERIZATION AND REFORMING

Alfred Clark, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Nov. 25, 1955, Ser. No. 549,019
16 Claims. (Cl. 208—65)



1. A process for up-grading a natural gasoline containing pentane in which process it is desired to obtain high octane value reformed gasoline product formed in a reforming zone in the absence of substantial amounts of normal pentane contained in said gasoline which comprises in a first step subjecting the gasoline to conditions favoring paraffin isomerization reactions thus providing for the formation therein of improved yield of isopentane from normal pentane contained therein thus substantially reducing the normal pentane content of said natural gasoline, removing a substantial portion of isopentane from the thus treated gasoline thus obtaining a remaining gasoline substantially freed from normal pentane and isopentane and then subjecting the remaining gasoline to reforming conditions to reform the same.

2,970,956

TREATING HYDROCARBON OILS

Chyn Duog Shiah, 189 Nassau Ave., Manhasset, N.Y.

No Drawing. Filed Feb. 6, 1957, Ser. No. 638,477
11 Claims. (Cl. 208—226)

1. A process of treating a hydrocarbon oil having a substantial content of asphaltic constituents, sulfur bodies and the like to separate at least a portion of said asphaltic constituents and sulfur bodies from said oil which comprises bringing said oil into contact in the liquid phase with at least one compound selected from the group consisting of normally-solid oxides to produce a purified oil phase and a used reagent phase containing said compound combined with said portion of said asphaltic constituents and sulfur bodies, and separating said used reagent phase from said purified oil phase.

2,970,957

REMOVAL OF VANADIUM AND/OR SODIUM FROM PETROLEUM HYDROCARBONS

Roy Purdy Northcott and Ronald Lester, Sunbury-on-Thames, England, assignors to The British Petroleum Company Limited, London, England, a British joint-stock corporation

No Drawing. Filed Mar. 21, 1956, Ser. No. 572,814
Claims priority, application Great Britain Mar. 24, 1955
5 Claims. (Cl. 208—251)

1. A process for the removal of sodium and vanadium from petroleum hydrocarbons containing at least one of

these substances which comprises contacting said petroleum hydrocarbons at elevated temperature and pressure and in an atmosphere comprised of hydrogen with a spent and unregenerable desulfurization catalyst comprising the oxides of cobalt and molybdenum incorporated with a metal oxide support.

2,970,958
METHOD OF DISSOLVING ASPHALTENE DEPOSITS
Abraham Shapiro, Pasadena, Calif., assignor to Socony Mobil Oil Company, Inc., New York, N.Y., a corporation of New York
No Drawing. Filed Oct. 1, 1956, Ser. No. 612,933
3 Claims. (Cl. 252—8.55)

1. A process of removing from oil and gas wells and from petroleum pipe lines deposits which include asphaltenes and which are substantially devoid of readily petroleum-soluble materials, comprising: exposing said deposits to the solvent action of a mixture including a liquid-sulfur-dioxide extract from a petroleum distillate and acetone, said mixture containing about five to forty percent by volume of acetone.

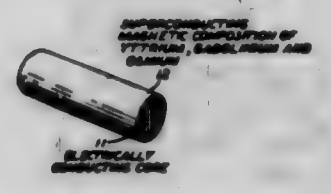
2,970,959
COMPOSITION AND METHOD FOR INHIBITING SCALE
Loyd W. Jones, Tulsa, Okla., assignor to Pan American Petroleum Corporation, Tulsa, Okla., a corporation of Delaware
No Drawing. Filed June 17, 1958, Ser. No. 742,486
18 Claims. (Cl. 252—8.55)

1. A method for inhibiting the deposition and adherence of calcium sulfate scale on surfaces exposed to brines containing at least about 1,000 parts per million by weight of dissolved salts comprising dispersing into said brine between about 3 and about 50 parts per million by weight of a carboxymethyl cellulose salt of a monovalent cation selected from the group consisting of the alkali metals and ammonium.

2,970,960
LUBRICANT COMPOSITION CONTAINING NAPHTHENIC ACID ESTERS OF POLYMERIC POLYHYDRIC ALCOHOLS
Samuel E. Jolly, Ridley Park, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey
No Drawing. Original application Nov. 27, 1953, Ser. No. 394,903, now Patent No. 2,868,761, dated Jan. 13, 1959. Divided and this application May 7, 1957, Ser. No. 657,510
5 Claims. (Cl. 252—33.4)

1. A new composition of matter consisting essentially of mineral lubricating oil containing 0.1 to 10 weight percent of alkali metal petroleum sulfonates, and having dispersed therein 0.1 to 1.0 weight percent of petroleum naphthenic acid esters of glyceryl polyethers of polyhydric phenols, which polyethers in unesterified form are not appreciably dispersible in petroleum lubricating oil, said polyethers having alternate hydroxyalkylene radicals and aromatic radicals united through ether oxygen, the hydroxyalkylene groups containing 3 to 6 carbon atoms and the aromatic radicals containing 6 to 20 carbon atoms, said polyethers containing 3 to 20 hydroxyl groups per molecule, and said esters being obtained by reacting said polyethers with naphthenic acids, which acids have average molecular weight of at least 270, the amount of said acids being in the range from an equal amount by weight to that of said polyethers to a stoichiometric amount for reaction with all hydroxyl groups of said polyethers.

2,970,961
MAGNETIC MATERIAL
Bernd T. Matthias, Berkeley Heights, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Mar. 4, 1959, Ser. No. 797,244
5 Claims. (Cl. 252—62.5)



5. An electrically conducting metallic filament having a coating of a ferromagnetic superconducting material on its surface, said ferromagnetic superconducting material having a composition corresponding to the formula

$$(Y_{1.99-x}Gd_x)Os_2$$

where x has a value from 0.01 to 0.10.

2,970,962
NOVEL DETERGENT COMPOSITIONS
Henry B. Hass, Summit, N.J., and Foster D. Snell, New York, and Lloyd I. Osipow, Monsey, N.Y., and William C. York, deceased, late of Westbury, N.Y., by Ruth M. York, administratrix, Mineola, N.Y., assignors to Sugar Research Foundation, Inc., New York, N.Y., a corporation of New York
No Drawing. Filed Feb. 11, 1958, Ser. No. 714,490
9 Claims. (Cl. 252—135)

1. A heavy-duty detergent composition consisting essentially of from about 10 to 40% by weight of a surface active component comprising a fatty-acid ester selected from the class consisting of a mono-ester of sucrose and raffinose and a fatty-acid containing between 6 and 30 carbon atoms and as a detergent aid from about 10 to 90% by weight of an alkali-metal salt of a molecularly-dehydrated phosphoric acid.

2,970,963
OPAQUE LIQUID DETERGENT COMPOSITION
Richard D. Walker and Joseph Blinka, Cincinnati, Ohio, assignors to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio
No Drawing. Filed Apr. 23, 1958, Ser. No. 730,260
6 Claims. (Cl. 252—153)

1. An opaque liquid detergent composition consisting essentially of an aqueous vehicle containing in solution about 15% to about 40% of a water soluble anionic non-soap synthetic detergent sodium salt, said detergent salt comprising in part an amount of sodium alkyl glyceryl ether sulfonate with alkyl radicals ranging in chain length from C_{12} to C_{14} equivalent to at least 2% by weight of the composition, and suspended therein as a crystalline opacifying agent about 1% to about 9% of an alkyl glyceryl ether sulfonate sodium salt with alkyl radicals ranging in chain length from C_{16} to C_{18} and which is substantially insoluble in the composition at room temperature, said aqueous vehicle containing in solution from about 2% to about 20% sodium nitrate sufficient to provide a graining action for said opacifying agent thereby reducing the viscosity of said composition and sufficient to increase the specific gravity of said aqueous vehicle whereby the stability of said opacifying agent against gravitational separation is increased, said percentages being by weight of the composition.

2,970,964

OPAQUE LIQUID DETERGENT COMPOSITION

William C. Krumrei, Springdale, and Joseph Blinka, Cincinnati, Ohio, assignors to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio

No Drawing. Filed Apr. 16, 1957, Ser. No. 653,052
12 Claims. (Cl. 252—161)

1. As an opaque liquid detergent composition an aqueous vehicle containing in solution about 5% to about 25% by weight of a water soluble anionic non-soap synthetic detergent salt and suspended therein about 0.5% to 10% by weight of a crystalline opacifying agent selected from the group consisting of sodium and potassium salts of an alkyl glyceryl ether sulfonate with alkyl radicals ranging in chain length from C_{16} to C_{18} and which is substantially insoluble in the composition at room temperature.

2,970,965

PRINTING INKS AND VEHICLES THEREFOR

Joseph L. Switzer, Gates Mills, Ohio, assignor to Switzer Brothers, Inc., Cleveland, Ohio, a corporation of Ohio

No Drawing. Filed Dec. 14, 1955, Ser. No. 552,988
9 Claims. (Cl. 252—301.2)

1. A printing ink consisting essentially of a solvent-soluble, thermoplastic, vehicle binder consisting essentially of a thermoplastic, aromatic monosulfonamide-formaldehyde resin substantially completely co-condensed with a thermosetting resin condensation product of formaldehyde and an amide having at least two functional amide groups of which at least one is NH_2, said resins being co-condensed in a ratio between about 9:1 and 1:1, an organic solvent for said binder having a vapor pressure less than 1 mm. of mercury at 20° C., and an insoluble organic fluorescent pigment suspended in the solution of binder and solvent.

4. A printing ink consisting essentially of a solvent-soluble, thermoplastic, vehicle binder consisting essentially of a thermoplastic, aromatic monosulfonamide-formaldehyde resin substantially completely co-condensed with a thermosetting resin condensation product of formaldehyde and an amide having at least two functional amide groups of which at least one is NH_2, said resins being co-condensed in a ratio in the range between about 9:1 and 1:1, a fluorescent dye dispersed in said co-condensation product in a solvated condition, an organic solvent for said binder having a vapor pressure less than 1 mm. of mercury at 20° C., and a fluorescent pigment suspended in the solution of binder and solvent, said pigment being a finely divided insoluble metal resinate having additional fluorescent dye dispersed therein in a solvated condition.

2,970,966

CONTROL OF COMBINED CHLORIDE IN ALUMINA SOL

James Hoekstra, Evergreen Park, Ill., assignor, by mesne assignments, to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed Dec. 30, 1957, Ser. No. 705,774
1 Claim. (Cl. 252—313)

A method of removing combined chlorine from an alumina sol containing the same which comprises commingling said sol with a chloroform solution of quinoline in liquid phase and reacting the quinoline with at least a portion of said combined chlorine to form quinoline hydrochloride and separating the resultant quinoline hydrochloride-chloroform solution from the alumina sol of reduced chloride concentration.

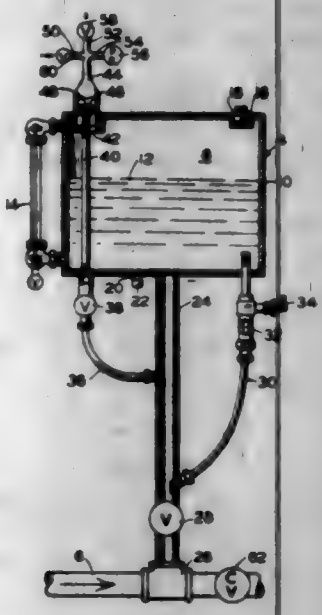
2,970,967

EMULSION BREAKER INJECTOR

Charley Lowery, Rte. 8, Box 153, Oklahoma City, Okla.

Filed Aug. 28, 1958, Ser. No. 757,759
4 Claims. (Cl. 252—360)

1. In combination with a flow line through which a mixture of oil, gas and water is pumped and wherein the flow line has a horizontally extending portion; a gas-tight housing for storing a supply of emulsion breaker; means for supporting the housing above the horizontal portion of the flow line; said means including a vertically extending pipe connected to the flow line in communication with the upper interior of the horizontal portion of the flow line to receive free gas from the flow line; a first tube connected to an intermediate portion of said pipe and to the bottom of the housing with the upper end thereof positioned substantially even with the bottom



of the housing, a riser threaded in the upper end of said tube and extending upwardly into the upper portion of the housing, a cover threaded into the top of the housing above said riser to facilitate removal of the riser and drainage of the housing through said tube and said pipe into the flow line, a second tube connected to the lower portion of the housing and to said pipe for feeding emulsion breaker from the housing into the flow line, the upper end of said second tube being positioned above the bottom of the housing, and a needle valve in said second tube for regulating the amount of emulsion breaker injected into the flow line.

2,970,968

POLYFUNCTIONAL SOLID SORBENTS

Michael D. Riordan, Fishkill, and William F. Franz, Beacon, N.Y., assignors to Texaco Inc., a corporation of Delaware

Filed Nov. 1, 1955, Ser. No. 544,244
8 Claims. (Cl. 252—455)

1. A polyfunctional solid sorbent comprising 0.1 to 20 weight percent of at least one metalliferous catalytic reforming agent selected from the group consisting of metals and metal oxides of groups 6 and 8 of the periodic table supported on and integral with Type A zeolite selective for straight chain hydrocarbons to the substantial exclusion of non-straight chain hydrocarbons in a mixture thereof.

2,970,969

AMINATED SILICON PRODUCTS FROM HALOSILICATES

James H. Shultz and Clarence G. Zike, Indianapolis, Ind., assignors to The Richardson Company, Melrose Park, Ill., a corporation of Ohio

No Drawing. Filed Dec. 27, 1957, Ser. No. 705,470
16 Claims. (Cl. 260—2)

1. A process for making an aminated silicon compound which consists of reacting: (1) a member of the group consisting of ammonia and a monovalent hydrocarbon primary amine with (2) the halosilicate formed

by reacting an epoxy compound from the class consisting of ethylene oxide, epichlorohydrin, allyl glycidyl ether, butadiene dioxide, styrene oxide and phenyl glycidyl ether with a silicon halide from the group consisting of alkyl trihalosilane, aryltrihalosilane and silicon tetrahalide wherein said halosilicate contains at least one halogen atom attached to silicon.

2,970,970

COMPOSITION COMPRISING CELLULOSE ESTER AND DIISOCYANATE MODIFIED POLYESTER AMIDE

John H. Prichard, Springfield, N.J., assignor to Celanese Corporation of America, New York, N.Y., a corporation of Delaware

No Drawing. Filed July 16, 1958, Ser. No. 748,793
13 Claims. (Cl. 260—16)

1. A composition comprising a resinous organic ester of cellulose with at least one lower aliphatic monocarboxylic acid plasticized with from 15 to 25% based on the weight of said cellulose ester of a plasticizer comprising a diisocyanate modified polyester amide, said diisocyanate being selected from the group consisting of hexamethylene diisocyanate, ethylene diisocyanate, trimethylene diisocyanate, m-phenylene diisocyanate and cyclohexylene diisocyanate, and said polyester amide being a reaction product of a saturated dicarboxylic acid selected from the group consisting of adipic, succinic, sebacic and azelaic acids, a saturated dihydric alcohol selected from the group consisting of ethylene glycol, diethylene glycol and propylene glycol, and an amino compound selected from the group consisting of ethanolamine, 3-amino propanol, decamethylene diamine, and 10-aminodecanol.

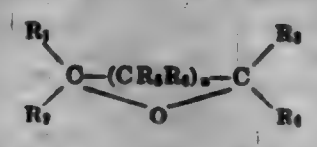
2,970,971

COMPOSITION OF A MONOEPOXIDE MODIFIED POLYAMIDE AND AN EPOXY RESIN

Irving Katz, Long Beach, Jardine C. Wilson, Compton, and Robert W. Jenkins, San Diego, Calif., assignors to North American Aviation, Inc.

No Drawing. Filed Oct. 31, 1956, Ser. No. 619,408
11 Claims. (Cl. 260—18)

2. A composition comprising (1) a polyamide-monoepoxide condensate having an epoxy-derived oxygen-to-nitrogen atom ratio of from about 1:3 to about 1:1, obtained by the condensation of a polyamide and a monoepoxide compound, wherein said polyamide is obtained by heating at a temperature sufficiently high to bring about amide formation a dicarboxylic aliphatic acid containing from 4 to about 36 carbon atoms with an aliphatic polyamine having from 2 to about 5 nitrogen atoms wherein at least 2 of said nitrogen atoms are primary amino nitrogens, and from 2 to about 12 carbon atoms, wherein said polyamine and said acid are present in the molar ratio of from about 1:2 to about 3:2 polyamine-to-acid, and said monoepoxide compound has from about 2 to about 12 carbon atoms, and has the general formula



in which each of R_1, R_2, R_3, R_4, R_5 and R_6 is selected from the class consisting of hydrogen atoms and hydrocarbon groups having from 1 to about 10 carbon atoms, and n is an integer taken from the series 0, 1, 2, 3, . . . and (2) a glycidyl polyether having a 1,2-epoxy equivalency between 1.0 to 2.0, and wherein the ratio of (1)-to-(2) is from about 1:3 to about 3:1 in parts by weight.

2,970,972

RESINOUS COMPOSITIONS

Robert L. Wear, West St. Paul, and Benji Oye and Arthur S. Winthrop, St. Paul, Minn., assignors to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

No Drawing. Filed Dec. 31, 1956, Ser. No. 631,420
5 Claims. (Cl. 260—18)

1. A tacky, semisolid, cohesive epoxy resinous composition having a useful pot life and capable of being held at an elevated temperature for several hours without loss of its tacky semi-solid state, said composition being further characterized by exhibiting high adhesion to polyethylene terephthalate polymer surfaces and by rapidly curing to a very tough flexible water-resistant mass when heated after admixing a curing agent therewith, and comprising the condensation product of approximately 2 reaction equivalents of a partially amidized polybasic acid and more than 2 and up to 6 reaction equivalents of a 1,2 epoxy resin, said partially amidized polybasic acid being formed by condensing approximately two reaction equivalents of polybasic fatty acid with approximately one reaction equivalent of a secondary amine selected from the group consisting of di-secondary amines, secondary amines having a free hydroxyl substituent, and mixtures thereof, said polybasic acid having an average of at least two carboxylic acid groups per molecule and having a chain of at least about 14 carbon atoms separating the closest carboxylic acid groups thereof.

2,970,973

TEREPHTHALIC AND ISOPHTHALIC ALKYD RESIN COMPOSITIONS CONTAINING A SALT OF 2-ETHYLHEXOIC ACID

John H. Thomas, Sanford, Mich., assignor to Dow Corning Corporation, Midland, Mich., a corporation of Michigan

No Drawing. Filed May 29, 1958, Ser. No. 738,614
7 Claims. (Cl. 260—22)

1. A resinous composition comprising a mixture of an alkyd resin selected from the group consisting of terephthalic and isophthalic alkyd resins, and at least 1% by weight as the metal, based on the weight of the resin, of a salt selected from the group consisting of the lead, cobalt, tin and zirconium salts of 2-ethylhexoic acid.

2,970,974

HOT MELT ADHESIVES CONTAINING POLYVINYL METHYL ETHER

Charles P. Albus, Easton, Pa., and Julian L. Azorlosa, Westbury, N.Y., assignors to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 24, 1956, Ser. No. 630,048
7 Claims. (Cl. 260—27)

1. A hot melt adhesive compatible composition consisting essentially of from 12.5 to 75% by weight polyvinyl methyl ether having a molecular weight of from about 2000 to 10,000 and from 25 to 87.5% of a modifying agent selected from the group consisting of rosin and ester derivatives thereof, said modifying agent having a melting point above about 75° C.

2,970,975

ACTIVATOR SYSTEM FOR SYNTHETIC RUBBER POLYMERIZATION

William N. Maclay, Monroeville, Pa., assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York

No Drawing. Filed Sept. 22, 1958, Ser. No. 762,214
5 Claims. (Cl. 260—27)

1. The low temperature polymerization of an aqueous emulsion system containing 100 parts of polymerizable synthetic rubber-forming monomers selected from the

group consisting of conjugated butadiene-1,3 hydrocarbons and mixtures of said hydrocarbons with compounds which contain a single $CH_2=C<$ group and are copolymerizable with said hydrocarbons and containing 0.02 to 2.0 parts of an organic peroxide catalyst, from 1.0 to 10.0 parts of a mixed fatty acid/rosin acid emulsifier, and an activator selected from the group consisting of disodium ferrous ethylenediamine tetraacetate, monosodium ferric ethylenediamine tetraacetate, and combinations of inorganic ferrous and ferric salts with a sequestering agent selected from the group consisting of tetrasodium ethylenediamine tetraacetate, 90% tetrasodium ethylenediamine tetraacetate/10% dihydroxyethylglycine, and equimolar mixed trisodium hydroxyethylenediamine triacetate/sodium gluconate, said activator containing from 0.0002 to 0.008 part of sequestered iron, and, in addition, from 0.02 to 2.0 parts of a mixture consisting of 15 to 70 molal percent sodium benzaldehyde sulfoxylate and 85 to 30 molal percent sodium formaldehyde sulfoxylate.

2,970,976

AQUEOUS EMULSION CONTAINING ORGANOSILICON RESIN AND A TITANIUM DERIVATIVE, PROCESS FOR MAKING SAME, AND PROCESS OF USING SAME

René Leclercq, Wolwe Saint Pierre, and Jean Colle, Huizingen, Belgium, assignors to Union Chimique Belge, S.A., Brussels, Belgium, a corporation of Belgium

No Drawing. Filed Mar. 18, 1957, Ser. No. 646,555
Claims priority, application Belgium Apr. 26, 1956
3 Claims. (Cl. 260—29.2)

1. An aqueous water-proofing composition which comprises an aqueous emulsion containing from 0.5 to 6% by weight of organosilicon resins, the hydrocarbon to silicon ratios of which are from 1.2:1.0 to 1.9:1.0, said resins being selected from the group consisting of methyl-silicone, methyl-phenyl silicone, amyl silicone and methyl-amyl-silicone, and an amount of water-soluble organic titanium derivative corresponding to from 0.01 to 0.5% by weight of titanium, said titanium organic derivative being prepared by reacting one mole of a titanium tetrahalide with from about 1.5 to 6 moles of a polyhydric alcohol selected from the group consisting of ethylene glycol, diethylene glycol, propylene glycol, butanediols and butanetriols and adding to the resulting reaction mass, per 100 grams thereof, from about 0.75 to 1.3 moles of an alkaline reacting organic substance selected from the group consisting of amines and amino-alcohols.

2,970,977

METHOD OF PREPARING AN ACRYLONITRILE POLYMER INTER-LINKED BY A METAL ALCOHOLATE, COMPOSITION THEREOF, AND FILAMENT THEREFROM

Olof Sundén and Erling Mathias Sorvik, Ljungaverk, Sweden, assignors to Stockholms Superfosfat Fabriks Aktiebolag, Stockholm, Sweden, a corporation of Sweden

No Drawing. Filed May 14, 1958, Ser. No. 735,125
Claims priority, application Sweden May 17, 1957
4 Claims. (Cl. 260—30.8)

1. A novel composition of matter comprising a resinous material selected from the group consisting of the homopolymers of acrylonitrile and copolymers of acrylonitrile and copolymers of acrylonitrile and an ethylenically unsaturated monomer copolymerizable therewith inter-linked by between about 0.2% and 3% by weight of an alcoholate of a polyvalent metal selected from the group consisting of aluminum, titanium, calcium, magnesium and chromium, the alcoholate group of which is a radical selected from the group consisting of methylate, ethylate, propylate and butylate.

2,970,978

PLASTICIZED SYNTHETIC RESIN AND MASTIC TILE PRODUCT MADE THEREFROM

Paul O. Powers, Clairton, Pa., assignor to Pennsylvania Industrial Chemical Corporation, Clairton, Pa., a corporation of Pennsylvania

No Drawing. Filed Aug. 6, 1956, Ser. No. 602,462
2 Claims. (Cl. 260—33.6)

1. A tile resin composition for mastic tile consisting essentially of a blend of a high melting point copolymer of styrene and a member of the group consisting of, by weight, 7 to 10 percent of acrylonitrile, 1 to 7 percent of acrylamide, and 3 to 10 percent of methyl vinyl ketone cut back with a substantially non-volatile plasticizing extender to about 70° to 110° C. melting point.

2,970,979

VINYL CHLORIDE COMPOSITIONS HAVING IMPROVED IMPACT STRENGTH

Adrianus J. W. Meder and Nellius G. Kramer, Pernis, Netherlands, assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Mar. 24, 1958, Ser. No. 723,156
Claims priority, application Netherlands Mar. 27, 1957
1 Claim. (Cl. 260—45.5)

A composition comprising a mixture of (1) 100 parts of a vinyl chloride polymer selected from the group consisting of polyvinylchloride and copolymers of at least 75% of vinylchloride and up to 25% of a monoethylenically unsaturated monomer and (2) from about 7 to about 13 parts by weight of a polymeric modifying agent consisting of (*a*) butadiene-styrene copolymer containing no more than 30% styrene in polymerized form and (*b*) a polymer of 2-chlorobutadiene-1,3, the ratio by weight of said copolymer (*a*) to said polymer (*b*) being in the range of from 100:20 to 60:100.

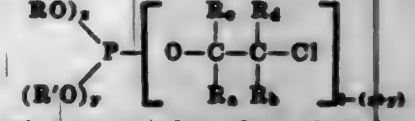
2,970,980

VINYL CHLORIDE RESIN STABILIZED WITH A CHLORO SUBSTITUTED PHOSPHINE

Gerry P. Mack, Jackson Heights, N.Y., assignor, by mesne assignments, to Metal & Thermit Corporation, Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Apr. 10, 1958, Ser. No. 727,547
8 Claims. (Cl. 260—45.7)

1. A vinyl chloride resin stabilized against discoloration by incorporating therein a phosphine having the general formula



wherein x and y are numbers from 0 to 1; x plus y equals 1 to 2; and wherein R and R′ are selected from the class consisting of aliphatic, cycloaliphatic and aromatic groups, and wherein R_a, R_b, R_c and R_d are selected from the class consisting of hydrogen, aliphatic, cycloaliphatic and aromatic groups.

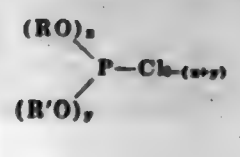
2,970,981

VINYL CHLORIDE RESINS COMPRISING A STABILIZING AMOUNT OF A PHOSPHINE

Gerry P. Mack, Jackson Heights, N.Y., assignor, by mesne assignments, to Metal & Thermit Corporation, Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Apr. 10, 1958, Ser. No. 727,548
9 Claims. (Cl. 260—45.75)

1. A vinyl chloride resin stabilized against discoloration, by incorporating therein a phosphine having the general formula



wherein x and y are numbers from 0 to 1; x plus y equals 1 to 2; and wherein R and R′ are selected from the class consisting of aliphatic, cycloaliphatic and aromatic groups.

2,970,982

DIORGANOPOLYSILOXANES OF LOW VOLATILITY CHAIN-STOPPED WITH A TERTIARY ALKYL PEROXY GROUP

Ben A. Bluestein, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

No Drawing. Filed Sept. 16, 1957, Ser. No. 683,964
7 Claims. (Cl. 260—46.5)

1. A diorganopolysiloxane of low volatility in which the organo groups are members selected from the class consisting of alkyl and aryl groups, said diorganopolysiloxane being chain-stopped with a tertiary alkyl peroxy group.

2,970,983

EPOXY-CONTAINING CONDENSATES OF POLYEPOXIDES AND ACIDIC MATERIALS, THEIR PREPARATION AND POLYMERS

Herbert A. Newey, Lafayette, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Sept. 10, 1956, Ser. No. 608,681
18 Claims. (Cl. 260—47)

1. A linear acetone-soluble non-heat curable epoxy-containing condensate of an acidic material of the group consisting of polycarboxylic acids, polycarboxylic acid anhydrides and mixtures thereof with from 1.5 times to 4 times the chemical equivalent amount of a polyepoxide containing more than one vic-epoxy group and having no additional substituent capable of reacting with said acidic material other than hydroxyl, the expression "equivalent amount" as used herein refers to that amount needed to furnish one acidic group per epoxy group.

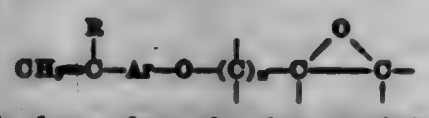
2,970,984

EPOXYALKYL ALKENYLARYL ETHERS

Gaetano F. D'Alelio, South Bend, Ind., assignor to Koppers Company, Inc., a corporation of Delaware

No Drawing. Continuation of application Ser. No. 463,698, Oct. 20, 1954. This application Nov. 19, 1957, Ser. No. 697,308
7 Claims. (Cl. 260—47)

1. A copolymer of an epoxyalkyl alkenylaryl ether of the formula



in which R is chosen from the class consisting of hydrogen and methyl, Ar is an arylene radical, n is an integer having a value of at least one and no greater than 8, and the unoccupied valences are satisfied by substituents of the class consisting of hydrogen and alkyl groups of no more than 7 carbon atoms, the number of carbon atoms in the epoxyalkyl group totaling no more than 10 carbon atoms and at least one other copolymerizable oxirane-containing monomer prepared by heating a mixture of the monomers defined aforesaid in the presence of a catalytic amount of a catalyst selected from the group consisting of strongly alkaline hydroxides and weak organic acids.

2,970,985

CURING CATALYSTS FOR ACROLEIN-PENTAERYTHRITOL RESINS

Howard R. Guest, Charleston, Joe T. Adams, St. Albans, and Ben W. Kitt, Ona, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Dec. 24, 1956, Ser. No. 630,046
14 Claims. (Cl. 260—67)

1. Process for forming synthetic resins which comprises reacting acrolein and pentaerythritol in the molar ratio of about four to three and in the presence of an acidic catalyst to form a liquid resin, said acidic catalyst being selected from the group consisting of hydrochloric acid, sulfuric acid, toluenesulfonic acid, benzenesulfonic acid, mixed alkanesulfonic acids, aluminum chloride, titanium tetrachloride, stannic chloride and zinc chloride, and curing the liquid resin to a solid polymer by heating the liquid resin at a temperature of 70° C. to 160° C. admixed with from 0.05 to 2% by weight of a fully esterified sulfate ester of an alcohol.

2,970,986

PROCESS FOR PREPARING LINEAR POLYESTERS INVOLVING INTERCHANGE BETWEEN A GLYCOL AND A DIALKYL-ESTER OF A DICARBOXYLIC ACID IN THE PRESENCE OF A TERTIARY AMINE

David W. Woodward, Little Silver, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Feb. 1, 1956, Ser. No. 562,658
7 Claims. (Cl. 260—75)

1. In the process of preparing polyesters from a saturated glycol containing from 2 to 10 carbon atoms and a dialkyl ester of a dicarboxylic acid selected from the group consisting of terephthalic acid, 4,4′-biphenyl dicarboxylic acid, adipic acid, and sebacic acid and a saturated monohydroxy alcohol containing up to 4 carbon atoms by ester interchange followed by the polymerization of the glycol diester of said dicarboxylic acid by heating at a condensation temperature in the presence of a polymerization catalyst to provide a fiber-forming polymer, the improvement which comprises adding a catalytic amount of a tertiary amine containing from 3 to 18 carbon atoms in which each of the carbon atoms attached to the nitrogen atom is linked to 3 atoms selected from the group consisting of carbon and hydrogen to a reaction mixture comprising said saturated glycol and said dialkyl ester of said dicarboxylic acid and effecting the said ester interchange by heating said reaction mixture to a temperature of at least about 120° C. and thereafter distilling the amine from said reaction mixture before effecting said polymerization.

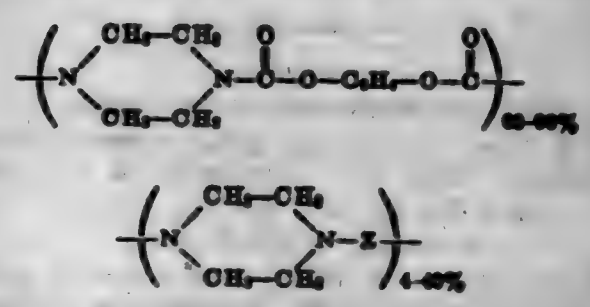
2,970,987

COPOLYMER HAVING AMIDE AND URETHANE LINKAGES

Emerson L. Wittbecker, West Chester, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed May 8, 1957, Ser. No. 657,742
6 Claims. (Cl. 260—77.5)

1. A high molecular weight and high melting point copolymer containing amide and urethane linkages and composed of units of the structure



wherein the parenthetical subscripts represent the molar percentage and ranges of permissible molar percentages of each unit in the final product, Z being a divalent radical of the class consisting of adipyl, terephthaloyl and hexahydroterephthaloyl.

2,970,988

NEW FLUORINE-CONTAINING POLYMERS AND PREPARATION THEREOF

Elizabeth S. Lo, Elizabeth, N.J., assignor, by mesne assignments, to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

No Drawing. Filed Oct. 14, 1955, Ser. No. 540,687
5 Claims. (Cl. 260—87.7)

1. A normally solid copolymer of between about 2 and about 15 mol percent 2,3,3,3-tetrafluoropropene and correspondingly between about 98 and about 85 mol percent of a fluorinated ethylene selected from the group consisting of vinylidene fluoride, trifluoroethylene, trifluorochloroethylene and tetrafluoroethylene.

2,970,989

POLYMERIZATION OF ETHYLENE

Howard M. Hoxie, Avon Lake, Ohio, assignor to Goodrich-Gulf Chemical, Inc., Pittsburgh, Pa., a corporation of Delaware

No Drawing. Filed Mar. 30, 1956, Ser. No. 575,002
4 Claims. (Cl. 260—94.9)

1. The method which comprises carrying out the polymerization of ethylene in an inert hydrocarbon solvent containing (*a*) as a catalyst the reaction product of (1) at least one gram millimole, per liter of said solvent, of an alkyl aluminum compound selected from the class consisting of trialkyl aluminums and dialkyl aluminum chlorides, (2) at least one gram millimole, per liter of said solvent, of titanium tetrachloride, and (3) aluminum trichloride, and (*b*) dissolved in said solvent as an anti-deposition agent, from about 5 to about 15 parts by weight, per million parts by weight of said solvent, of a condensate of dehydroabietylamine with from 1 to about 11 moles of ethylene oxide per mole of said dehydroabietylamine.

2,970,990

SOLVENT RECOVERY FROM POLYOLEFIN CATALYST

Martin R. Cines, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed July 27, 1956, Ser. No. 600,582
5 Claims. (Cl. 260—94.9)

1. In the process of separating finely divided solid catalyst comprising chromium oxide from solution of a polymer of an aliphatic 1-olefin hydrocarbon of 2 to 8 carbon atoms and no branching nearer the double bond than the 4-position, the steps of filtering said solution containing said solid catalyst, removing filter cake from said filtering step with a saturated hydrocarbon solvent at a temperature wherein said polymer is soluble, cooling the resulting slurry to below the solidification temperature of said polymer thereby agglomerating said finely divided catalyst in said filter cake and thereafter separating solvent from resulting agglomerated catalyst.

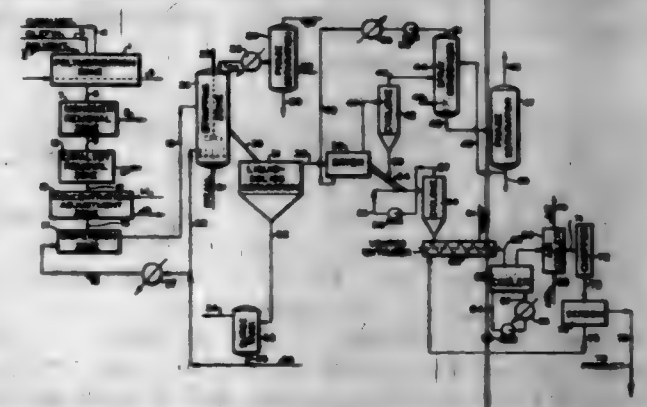
2,970,991

POLYOLEFIN DRYING PROCESS

Martin R. Cines, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Oct. 11, 1956, Ser. No. 615,353
6 Claims. (Cl. 260—94.9)

1. In the process of drying solid polymers prepared from aliphatic mono-1-olefin hydrocarbons wherein the major proportion of normally liquid volatile material is separated by conventional drying means, the improvement comprising heating the partially wet polymer to a temperature of at least the softening temperature of said polymer and below its decomposition temperature, simultaneously masticating the softened polymer and removing volatilized moisture therefrom to lower the moisture



content to not more than 0.05 weight percent, thereafter extruding the dried polymer and recovering same.

2,970,992

PROCESS FOR THE POLYMERIZATION OF ETHYLENE

Nikolaus Geiser and Helmut Kolling, Oberhausen-Holten, Germany, assignors to Ruhrchemie Aktiengesellschaft, Oberhausen-Holten, Germany

No Drawing. Filed May 28, 1958, Ser. No. 738,280
Claims priority, application Germany June 13, 1957
1 Claim. (Cl. 260—94.9)

The process of producing polyethylene by polymerization of ethylene at pressures below 100 kg./cm.^{2} and at temperatures up to 100° C. in the presence of catalysts, said catalysts consisting of the product formed by reacting diethyl aluminum monochloride with the reaction product of titanium tetrachloride and triphenyl chloromethane, the weight ratio of the components being respectively 2.72:3.2:4.4.

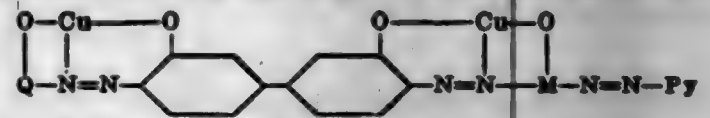
2,970,993

METALLIZED DIANISIDINE DYES

Jack F. Morgan, Delmar, and David W. Vellmer, Loudonville, N.Y., assignors to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 3, 1954, Ser. No. 447,662
7 Claims. (Cl. 260—147)

1. A coppered trisazo dyestuff yielding grey shades on cellulosic fiber, having the following general formula:



wherein Q represents the radical of a 8-amino-1-naphthol sulfonic acid end coupling component containing not more than two sulfonic acid groups, M represents the radical of a middle coupling component of the class consisting of 6- and 7-amino-1-naphthol-mono- and disulfonic acids, and Py represents the radical of a pyrazolone end component.

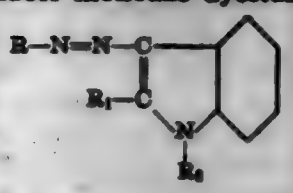
2,970,994

WATER-INSOLUBLE PHENYLAZOINDOLE DYES

Winfried Kruckenberg, Leverkusen, Germany, assignor to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed June 3, 1958, Ser. No. 739,483
Claims priority, application Germany June 26, 1957
3 Claims. (Cl. 260—165)

1. A water-insoluble monoazo dyestuff of the formula



wherein R stands for a cyanphenyl radical substituted by

at least one member selected from the group consisting of a chloro, cyano and nitro substituent, R_1 stands for a member selected from the group consisting of lower alkyl and phenyl, and R_2 stands for a member selected from the group consisting of hydrogen and lower alkyl.

2,970,995

REDUCTIVE ACYLATED PRODUCTS OF RIBOFLAVIN

Donald H. Wheeler, Minneapolis, Minn., assignor to General Mills, Inc., a corporation of New Jersey

No Drawing. Filed Mar. 20, 1959, Ser. No. 800,620

1 Claim. (Cl. 260—211.3)

Leucoflavin hexa-acetate.

2,970,996

PURIFICATION OF NITROCELLULOSE

Charles Earnest Silk, Alton, Ill., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia

No Drawing. Filed Sept. 19, 1951, Ser. No. 247,357

10 Claims. (Cl. 260—223)

1. A method of treating freshly nitrated uncolloided nitrocellulose comprising intermixing an aqueous emulsion of a volatile nitrocellulose solvent and said nitrocellulose, heating the mixture at a temperature less than the boiling point of water, and thereafter removing the solvent from the uncolloided nitrocellulose.

4. A method of purifying unstable fibrous nitrocellulose comprising forming a mildly alkaline aqueous suspension of said nitrocellulose, mixing therewith an aqueous emulsion of a volatile nitrocellulose solvent, swelling said nitrocellulose by heating said mixture at a temperature less than the boiling point of water, and thereafter removing the solvent from the fibrous nitrocellulose while in said suspension.

2,970,997

PROCESS FOR THE MANUFACTURE OF ε-CAPROLACTAM

Kurt Fischer, Neuotting, Upper Bavaria, and Hans Oberrauch, Burghkirchen, Upper Bavaria, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed Jan. 28, 1958, Ser. No. 711,556

Claims priority, application Germany Feb. 1, 1957

1 Claim. (Cl. 260—239.3)

In a process for the manufacture of ε-caprolactam comprising preparing ε-chloro-ε-trichloropentane, saponifying said trichloropentane to obtain ε-chlorovaleric acid, esterifying said acid, converting the ester into its corresponding ε-cyanester, and hydrogenating said cyanester to form the caprolactam, the improvement comprising reacting at elevated temperature said ester of ε-chlorovaleric acid and an alkanediol monoalkyl ether, of which the alkane-diol contains 2 to 4 carbon atoms and the alkyl group contains 1 to 4 carbon atoms, with a metal salt of the hydrocyanic acid selected from the group consisting of alkaline metal cyanides and alkaline earth metal cyanides and mixtures thereof in the presence of a solvent and a small amount of iodine, said solvent being a partially etherified dihydric to trihydric aliphatic alcohol, in which the alcohol component contains 2 to 4 carbon atoms and in which all but one of the hydroxy groups are etherified with alkyl radicals from 1 to 4 carbon atoms to form the ester of ε-cyanovaleric acid with the said alkane-diol monoalkyl ether.

2,970,998

HALOGENATION OF CYANURIC ACID

Samuel W. Tribit, Hawthorne, N.Y., assignor to American Cyanamid Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Nov. 13, 1957, Ser. No. 696,828

4 Claims. (Cl. 260—248)

1. In the production of a N-chlorinated triazine selected from the group consisting of N-chlorinated cyanuric acid, N-chlorinated melamine, N-chlorinated ammeline and N-chlorinated ammelide by introducing elemental chlorine into a cold aqueous solution of an alkali metal salt of the triazine, and recovering the solid content comprising corresponding N-chlorinated triazine and nitrogen trichloride from the slurry thus formed, the improvement which comprises the steps of: adjusting the hydrogen ion content (pH) of said slurry prior to the separation of said solid content therein from the pH attained on completion of elemental chlorine addition to a pH value of from about 1.5 to 3.5; permitting the so-adjusted slurry to stand for from about 10 to 60 minutes, whereby the nitrogen trichloride content in said slurry is substantially decreased by decomposition; and thereafter recovering the so-purified N-chlorinated triazine from the resultant treated slurry.

2. A process according to claim 1 in which the triazine is cyanuric acid.

2,970,999

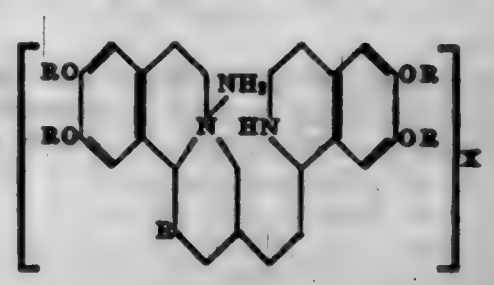
N-AMINOEMETINIUM COMPOUNDS

Bernard Radner, Pittsburgh, Pa., assignor to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut

No Drawing. Filed Mar. 20, 1959, Ser. No. 800,623

6 Claims. (Cl. 260—270)

1. N-aminoemetinium compounds selected from the group consisting of compounds having the formula:



wherein each R is independently selected from the group consisting of lower alkyl and hydrogen and X is a pharmaceutically acceptable anion, and their non-toxic mineral acid addition salts.

2,971,000

PROCESS FOR THE PRODUCTION OF PYRIDYL-GLYCOLS

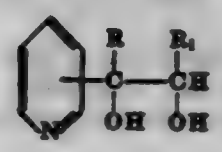
Wilhelm Mathes and Walter Sauermilch, Ludwigshafen (Rhine), Germany, assignors to Dr. F. Raschig G.m.b.H. Chemische Fabrik, Ludwigshafen (Rhine), Germany

No Drawing. Filed May 23, 1958, Ser. No. 737,203

Claims priority, application Germany May 31, 1957

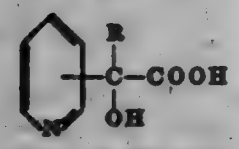
2 Claims. (Cl. 260—288)

1. A process for the production of a pyridyl-glycol of the following formula:



wherein R is selected from the group consisting of H and methyl radicals and R_1 is selected from the group consisting of H, phenyl, pyridyl, quinolyl and alkyl

which comprises heating a pyridyl glycolic acid of the formula



wherein R has the same significance as above in admixture with an aldehyde of the formula



wherein R_1 has the same significance as above to a temperature between 50° C. and 100° C. to effect decarboxylation of said pyridyl glycolic acid in the presence of said aldehyde.

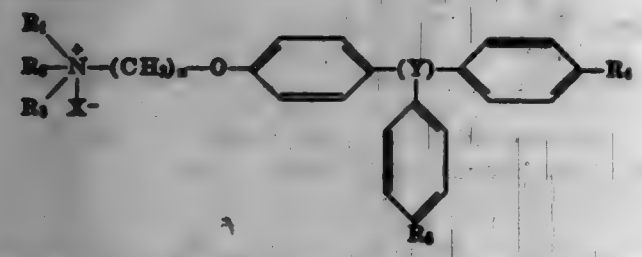
2,971,001

QUATERNARY SALTS OF TRIPHENYLETHANOLS, -ETHYLENES, AND -ETHANES

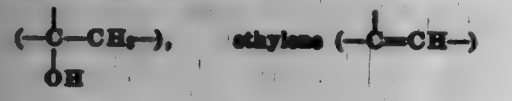
Frank Patrick Palopoli, Cincinnati, Ohio, Robert Edward Allen, Walnut Creek, Calif., Edward Lewis Schumann, Kalamazoo, Mich., and Marcus George Van Campen, Berkeley, Calif., assignors to The Wm. S. Merrell Company, Cincinnati, Ohio, a corporation of Delaware

No Drawing. Filed Oct. 21, 1959. Ser. No. 847,700
7 Claims. (Cl. 260—294.7)

1. Compounds of the group consisting of those having the formula



wherein R_1 and R_2 are lower alkyl radicals and R_1 and R_2 taken together with N form a heterocyclic amino radical selected from the group consisting of piperidino, morpholino, and pyrrolidino, R_3 is a lower alkyl radical, X^- is an anion selected from the group consisting of halogen, methosulfate, sulfate and toluenesulfate, n is an integer from two to three, (Y) is a radical selected from the group consisting of



and



radicals, and R_4 and R_5 are selected from the group consisting of hydrogen lower alkyl, lower alkoxyl, halogen and perfluorinated alkyl radicals with the proviso that R_4 and R_5 cannot both be hydrogen.

5. 1-[p-(γ-piperidinopropoxy)phenyl]-1-(p-chlorophenyl)-2-(p-tolyl)ethanol methobromide

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2,971,002

N-ALKOXY QUATERNARY HETEROCYCLIC ALKYL SULFATE SALTS

Wayne E. Feely, Jenkintown, Pa., assignor to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed Oct. 8, 1958, Ser. No. 765,927
3 Claims. (Cl. 260—294.8)

1. 1-methoxy-5-carbethoxy-2-methylpyridinium methyl-sulfate.

2. 1-methoxy-4-cyanopyridinium methyl-sulfate.

3. N-alkoxypyridinium N-alkyl sulfate in which the alkoxy and alkyl groups contain the same number of carbon atoms and contain up to 18 carbon atoms.

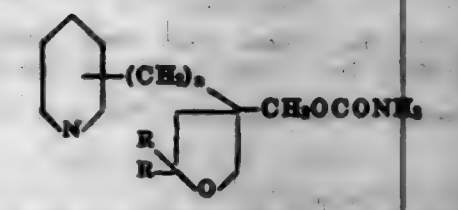
2,971,003

2,2-DIALKYL-4-(PYRIDYL ETHYL)-TETRAHYDRO-FURAN-4-METHYL CARBAMATE

John Mulvin Parker, Montreal, Quebec, and Burton Kendall Watson, Valois, Quebec, Canada, assignors to Charles E. Frosst & Co., Montreal, Canada, a corporation of Quebec

No Drawing. Filed Nov. 16, 1959, Ser. No. 853,016
2 Claims. (Cl. 260—295)

1. A member of the group consisting of a compound of the formula;



wherein R stands for a lower alkyl radical of from 1 to 4 carbon atoms, and n stands for an integer of from 0 to 5, and the pharmacologically non-toxic acid addition salts thereof.

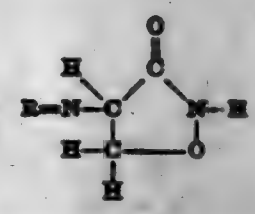
2,971,004

SUBSTITUTED CYCLOSERINES

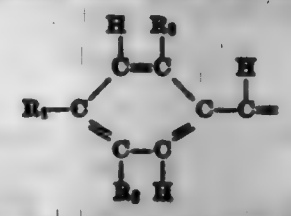
Edward B. Hodge, Terre Haute, Ind., assignor to Commercial Solvents Corporation, New York, N.Y., a corporation of Maryland

No Drawing. Filed Apr. 7, 1959, Ser. No. 804,576
8 Claims. (Cl. 260—307)

1. Substituted cycloserines having the following general formula:



where R is a member selected from the group consisting of the cyclohexylidine radical and the radical



where R_1 is a member selected from the group consisting of CH_3O—, Cl and H; R_2 is a member selected from the group consisting of CH_3O— and H; and R_3 is a member selected from the group consisting of Cl and H.

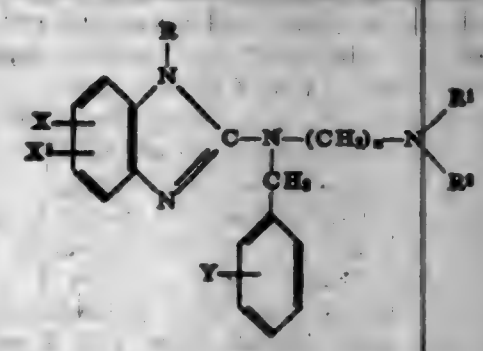
2,971,005

N-SUBSTITUTED DERIVATIVES OF 2-BENZYL-AMINOBENZIMIDAZOLES

Edward L. Engelhardt, Gwynedd Valley, Pa., assignor to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Oct. 17, 1958, Ser. No. 767,773
11 Claims. (Cl. 260—309.2)

1. A 2-aminobenzimidazole of the formula



wherein X, X^1, and Y each is selected from the group consisting of hydrogen, halogen, a lower alkyl radical and

a lower alkoxy radical; R is selected from the group consisting of hydrogen and a lower alkyl radical; *n* is a numeral from 2 to 4;



is selected from the group consisting of a di-lower alkylamino, pyrrolidyl, piperidyl, and morpholinyl.

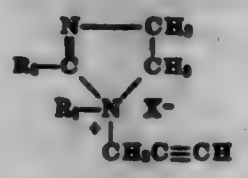
2,971,006

1-(-ALKYL OR -HYDROXYALKYL)-1-(2-PROPYNYL)-2-ALKYLIMIDAZOLINIUM HALIDES

Raymond L. Mayhew, Phillipsburg, N.J., and Earl P. Williams, Pen Argyl, Pa., assignors to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 11, 1959, Ser. No. 858,856
6 Claims. (Cl. 260—309.6)

1. A new composition of matter having the following formula:



wherein R_1 represents a member selected from the class consisting of alkyl of from 1 to 4 carbon atoms and hydroxy alkyl of 2 to 4 carbon atoms, R_2 represents alkyl of from 10 to 20 carbon atoms and X represents a halogen selected from the class consisting of bromine, chlorine and iodine.

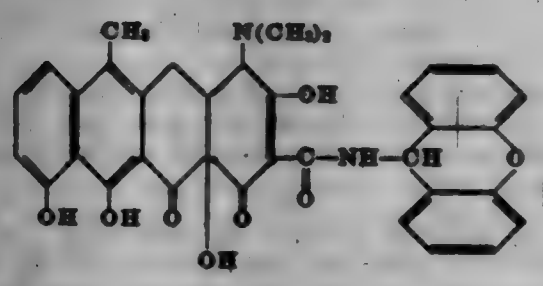
2,971,007

N-(9-XANTHYL) TETRACYCLINES

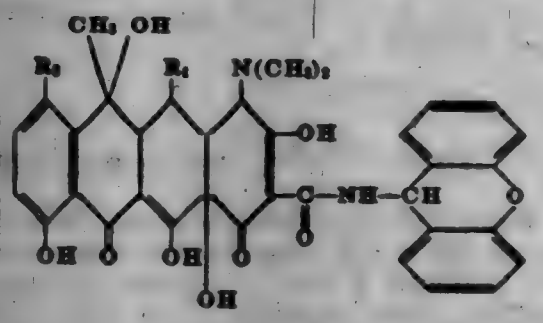
Lee C. Cheney, Fayetteville, and William J. Gottstein, Syracuse, N.Y., assignors, by mesne assignments, to Bristol-Myers Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Feb. 20, 1959, Ser. No. 794,512
6 Claims. (Cl. 260—335)

1. A compound selected from the group consisting of compounds having the formula:



and



wherein R_1 is a member selected from the group consisting of hydrogen and hydroxyl, R_2 is a member selected from the group consisting of hydrogen, chloro and bromo and at least one of R_1 and R_2 is hydrogen.

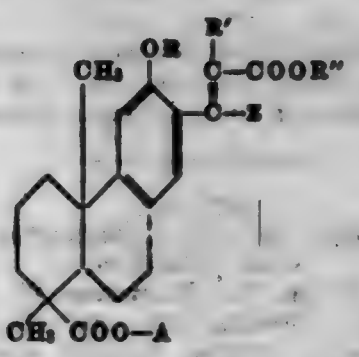
2,971,008

1,12-DIMETHYL-6-HYDROXY-7-(β-CARBOXYALKENYL)-1,2,3,4,9,10,11,12-OCTAHYDROPHENANTHRENE-1-CARBOXYLIC ACID ESTERS AND DERIVATIVES THEREOF

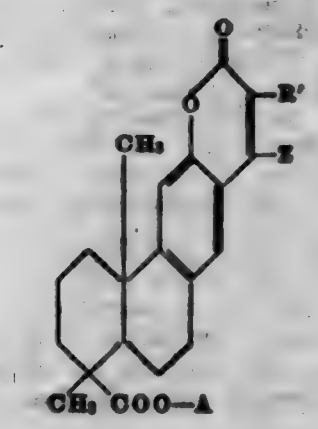
Roy H. Bible, Jr., Morton Grove, Ill., assignor to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware

No Drawing. Filed July 7, 1958, Ser. No. 746,604
9 Claims. (Cl. 260—343.2)

1. A member of the class consisting of compounds of the structural formula



and



wherein A, R, R', and R'' are members of the class consisting of hydrogen and lower alkyl and Z is a member of the class consisting of phenyl and lower alkyl.

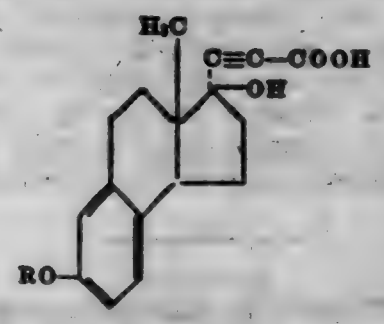
2,971,009

3,7-DIOXYGENATED 3a-METHYL-3-BENZ[e]INDANECARBOXYLIC ACIDS AND LACTONES

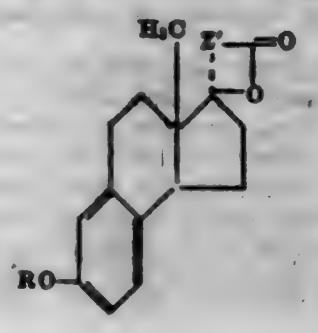
Robert R. Bartner, Skokie, Ill., assignor to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware

No Drawing. Filed Mar. 5, 1959, Ser. No. 797,346
6 Claims. (Cl. 260—343.6)

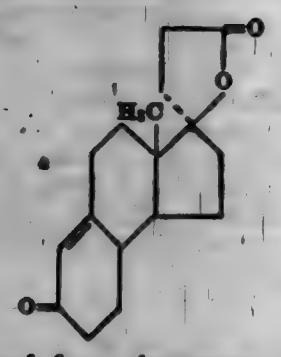
1. A compound selected from the group consisting of compounds of the formula



compounds of the formula



and a compound of the formula



wherein R is selected from the group consisting of hydrogen and lower alkyl radicals, and Z' is selected from the group consisting of vinylene and ethylene radicals.

2,971,010
PRODUCTION OF DICARBOXYLIC ACID ANHYDRIDES
Ralph Fredrick Gilby, Jr., Charleston W. Va., Charles Edward Hoberg, Orange, Tex., and Murray Kenneth Phibbs, Kingston, Ontario, Canada; said Gilby and said Hoberg assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware, and said Phibbs assignor to Du Pont Company of Canada (1956) Limited, Montreal, Quebec, Canada, a corporation of Canada
Filed June 26, 1958, Ser. No. 744,839
4 Claims. (Cl. 260—345.9)

1. In a simultaneous dehydration-distillation process for the preparation and separation of succinic and glutaric anhydrides, the steps which comprise heating a mixture of succinic, glutaric and adipic acids to a temperature between 190° and 280° C. and at a pressure between 10 and 400 mm. Hg absolute and successively distilling from the reaction mixture—first, succinic anhydride with water of dehydration; and second, glutaric anhydride with water of dehydration.

2,971,011
PROCESS OF PREPARING TRIMELLITIC ANHYDRIDE
Heinz P. Lieo, Park Forest, and Philip H. Towle, Chicago, Ill., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana
No Drawing. Filed Feb. 27, 1958, Ser. No. 717,825
9 Claims. (Cl. 260—346.3)

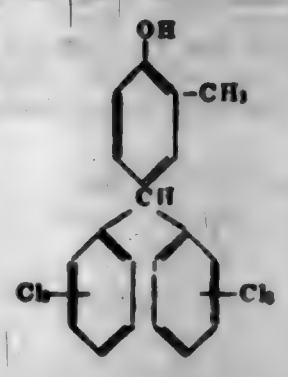
1. A process for preparing trimellitic anhydride which comprises heating trimellitic acid at a temperature between 170 and 250° C. in the presence of a moving gas stream in the essential absence of chemical dehydrating agents, said gas being nonreactive with trimellitic anhydride at said temperature, whereby the trimellitic acid undergoes thermal dehydration to trimellitic anhydride, selectively extracting trimellitic anhydride from the mixture of trimellitic anhydride and any unconverted trimellitic acid with a normally liquid aromatic hydrocarbon solvent, and recovering trimellitic anhydride from the extract.

2,971,012
NEW PLASTICIZER-STABILIZER COMPOSITIONS OF MATTER
Hans Wolff, Decatur, Ill., assignor to A. E. Staley Manufacturing Company, Decatur, Ill., a corporation of Delaware
No Drawing. Filed June 24, 1958, Ser. No. 744,079
1 Claim. (Cl. 260—348)

A plasticizer-stabilizer composition consisting of the reaction product of epoxy soybean oil containing about 6.4% by weight of oxirane oxygen with a non-epoxy acid ester selected from the group consisting of monobutyl phthalate, mono-2-ethyl-hexyl phthalate, and monoethyl adipate, the mol proportion of said acid ester to epoxy soybean oil ranging from about 1/2 to 2/1, said reaction product containing from about 0.9% to about 4.3% by weight of oxirane oxygen and having an acid number not exceeding about 6, and said reaction product being obtained by heating the epoxy soybean oil and said acid ester together at a temperature lying within the range of about 95° C. to about 150° C. for a time lying within the range of about 17 hours to about 25 hours.

2,971,013
POLYCHLOROBENZHYDRYL CRESOL
Charles E. Estomasa, Painesville, Ohio, assignor to Diamond Alkali Company, Cleveland, Ohio, a corporation of Delaware
No Drawing. Filed Mar. 13, 1957, Ser. No. 645,671
1 Claim. (Cl. 260—395)

The compound having the structure



2,971,014
OIL SOLUBLE METAL CONTAINING COMPOSITIONS AND PROCESS FOR MAKING SAME
Thomas W. Mastin, Willoughby, Ohio, assignor to The Lubrizol Corporation, Wickliffe, Ohio, a corporation of Ohio
No Drawing. Continuation of application Ser. No. 539,670, Oct. 10, 1955. This application Sept. 26, 1958, Ser. No. 763,443
12 Claims. (Cl. 260—398)

1. The process of preparing oil-soluble compositions containing stochiometrically large amounts of metal which comprises preparing a mixture of

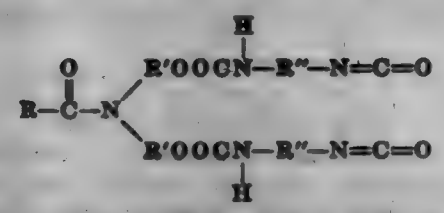
(*a*) an alkylated phenol,
(*b*) an oil-soluble, metal-free, non-tautomeric polar compound having at least 12 aliphatic carbon atoms, selected from the class consisting of sulfoxides, esters, alcohols and amines in an amount greater than that of (*a*) on a weight basis, and
(*c*) at least two equivalents of a basic inorganic metal compound selected from the class consisting of barium and lithium oxides and hydroxides, per equivalent of (*a*), and

heating said mixture to drive off substantially all free water which may be present and then treating said water-free mixture with an acidic gas selected from the class consisting of carbon dioxide and sulfur dioxide until the titratable basicity of the mixture has been reduced to a base number less than 10.

2,971,015
SURFACE-ACTIVE AGENTS FROM POLYMERIC SUBSTANCES
Manfred Dehr, Duesseldorf-Wersten, and Horst-Jurgen Krause and Carl Wulff, Duesseldorf-Benrath, Germany, assignors to Henkel & Cie., Duesseldorf, Germany
No Drawing. Filed Jan. 31, 1957, Ser. No. 637,371
Claims priority, application Germany Feb. 3, 1956
9 Claims. (Cl. 260—404.5)

1. A surface-active agent consisting of the addition product of a polyglycol ether having a molecular weight between about 200 and 4000 and a bis-isocyanate N,N-di-

carbamic acid ester of a dialkylol amide having the formula:



wherein R is a fatty acid radical containing at least 10 carbon atoms, R' is a lower alkylene radical and R'' is selected from the group consisting of hexamethylene, naphthylene, tolylene, phenylene, methyl phenylene, diphenyl and diphenyl methane radicals.

2,971,016

HYDROGENATION PROCESS

Denis Szabo, Ville Neuf, La Garenne, France, assignor to Lever Brothers Company, New York, N.Y., a corporation of Maine

Filed Oct. 13, 1958, Ser. No. 766,728
Claims priority, application Great Britain Oct. 15, 1957
13 Claims. (Cl. 260—409)

1. A process for the hydrogenation of a fatty material selected from the group consisting of unsaturated fatty acids and esters thereof with low molecular weight alcohols, said process comprising passing a mixture of hydrogen gas and vapourised fatty material the total vapour pressure of which is less than atmospheric through a pulverulent hydrogenation catalyst at a speed sufficient to maintain the catalyst in the form of a fluidised bed.

2,971,017

PROCESS FOR THE PREPARATION OF CYCLOPENTADIENYL INDIUM COMPOUNDS

Ernst Otto Fischer, Munich-Solln, and Hermann P. Hofmann, Munich, Germany, assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed May 29, 1958, Ser. No. 738,604
Claims priority, application Germany June 7, 1957
12 Claims. (Cl. 260—429)

1. A process for the production of indium compounds having the formula InR, wherein R is selected from the group consisting of cyclopentadienyl and lower alkyl-substituted cyclopentadienyl which comprises (1) reacting in approximately stoichiometric quantities a compound of trivalent indium selected from the group consisting of indium trichloride and indium tribromide with an alkali metal derivative of a member selected from the group consisting of cyclopentadiene and lower alkyl-substituted cyclopentadienes in a polar liquid organic solvent selected from the group consisting of ethers and amines to give a reaction mixture containing a compound of the formula InR_3, wherein R has the meaning defined hereinabove, (2) removing the solvent from said reaction mixture and (3) recovering said compound having the formula InR from said solvent-free reaction mixture by sublimation under vacuum at a temperature between about 130° C. and about 180° C.

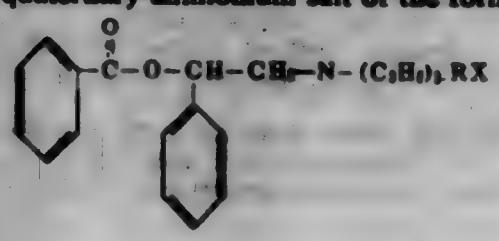
2,971,018

QUATERNARY AMMONIUM SALTS OF (2-DIETHYLAMINO-1-PHENYLETHYL) BENZOATES

Seymour L. Shapiro, Hastings-on-Hudson, Louis Freedman, Bronxville, and Harold Soloway, Tuckahoe, N.Y. (all % U.S. Vitamin Corporation, 250 E. 43rd St., New York 17, N.Y.)

No Drawing. Filed Apr. 8, 1958, Ser. No. 727,035
5 Claims. (Cl. 260—459)

1. The quaternary ammonium salt of the formula



where RX is selected from the group consisting of methyl iodide, ethyl bromide, diethyl sulfate and propargyl bromide.

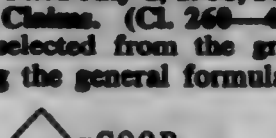
2,971,019

ORGANO-PHOSPHORUS COMPOUNDS

Elbert C. Ladd and Merlin P. Harvey, Passaic, N.J., assignors to United States Rubber Company, New York, N.Y., a corporation of New Jersey

No Drawing. Original application July 10, 1948, Ser. No. 38,177. Divided and this application Mar. 17, 1953, Ser. No. 351,494
2 Claims. (Cl. 260—461)

2. Ketophosphonates having the general formula



in which Z is a lower alkyl radical, X is selected from the group consisting of hydrogen and lower alkyl radicals and X' is a lower alkyl radical.

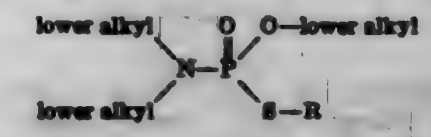
2,971,020

AMINO-THIOPHOSPHORIC ACID ESTERS AND A PROCESS FOR THEIR PRODUCTION

Gerhard Schrader, Wuppertal-Cronenberg, Germany, assignor to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed July 31, 1959, Ser. No. 830,740
Claims priority, application Germany Aug. 20, 1958
6 Claims. (Cl. 260—461)

1. Amino-thiolphosphoric acid esters of the following formula



in which R stands for a member selected from the group consisting of phenyl-lower alkyl, cyano-lower alkyl, dialkyl-amino-lower alkyl and lower carbo-alkoxy-carbonyl-lower alkyl, and wherein lower alkyl stands for an alkyl radical up to 4 carbon atoms.

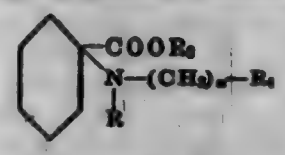
2,971,021

1-AMINO-1-CARBOALKOXYCYCLOHEXANES

Edgar S. Schipper, Highland Park, N.J., assignor to Ethicon, Inc., a corporation of New Jersey

No Drawing. Filed July 1, 1958, Ser. No. 745,821
16 Claims. (Cl. 260—464)

1. A member selected from the group consisting of compounds having the general formula:



wherein R is a member selected from the group consisting of lower alkyl, benzoyl and hydrogen; R_1 is a member selected from the group consisting of cyano, carb-lower alkoxy, di-lower alkylamino, phenyl; R_2 is lower alkyl; n is a positive integer from 1 to 3, and therapeutically active acid addition salts thereof.

2,971,022

METHOD OF RING CLEAVAGE OF 2-FUROIC ACID

Masao Murakami, 1-39 3-Cho Sakimori-Cho Suma-ku, and Saburo Senoh, 274 Mori Motoyama-Cho Nada-ku, both of Kobe-Shi, Hyogo-Ken, Japan

No Drawing. Filed Mar. 13, 1956, Ser. No. 571,126
Claims priority, application Japan Mar. 28, 1955
6 Claims. (Cl. 260—483)

1. A method for the production of a diethyl alpha-keto-glutarate which comprises reacting a substance selected

from the group consisting of difuroyl peroxide and perfuroic acid with hydrogen chloride and ethanol at a temperature not exceeding room temperature to form ethyl 2,5-diethoxy-2,5-dihydro-2-furoate and allowing the reaction mixture containing said ethyl 2,5-diethoxy-2,5-dihydro-2-furoate to stand at room temperature.

2,971,023
REMOVAL OF METALS FROM DICARBOXYLIC ACIDS
Norman C. Hill, Akron, Ohio, assignor to The C. P. Hall Company, Akron, Ohio, a corporation of Ohio
Filed May 24, 1955, Ser. No. 510,667
8 Claims. (Cl. 260—485)

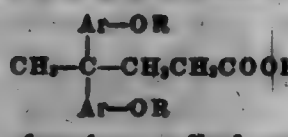
7. In the process of obtaining dicarboxylic acids substantially free from iron salts, starting with an aqueous oxidation product containing them produced by oxidizing source material from the class consisting of saturated and unsaturated cyclic and acyclic hydrocarbons and oxygen-containing derivatives which hydrocarbons and derivatives contain at least 4 carbon atoms in a saturated straight chain, whereby an aqueous solution of dicarboxylic acids and metal salts is obtained, the salts being mostly sodium and iron salts, the steps which comprise adding a non-polar or slightly polar solvent to at least a part of the salt-containing solution and heating, thereby dissolving the dicarboxylic acids into the solvent and volatilizing substantially all of the water and precipitating the metal salts, separating them from the solution, and, while the solution is still hot, adding alcohol and esterifying the dicarboxylic acids, the boiling point of said solvent not exceeding substantially 220° C.

2,971,024
METHOD OF ALKYLATING ESTERS
Harold E. Zaugg, Lake Forest, Floyd C. Garven, Gurnee, Adolph O. Geiszler, Mundelein, and Kenneth E. Hamlin, Lake Bluff, Ill., assignors to Abbott Laboratories, North Chicago, Ill., a corporation of Illinois
No Drawing. Filed June 18, 1958, Ser. No. 742,736
7 Claims. (Cl. 260—485)

1. A method of introducing a radical selected from the group consisting of loweralkyl and benzyl into an ester selected from the group consisting of diloweralkyl malonates, loweralkyl acetoacetates and loweralkyl cyanoacetates which comprises reacting an alkali metal salt of said ester with a member of the group consisting of loweralkyl chlorides, loweralkyl bromides, loweralkyl iodides, benzyl chloride, benzyl bromide, benzyl iodide, diloweralkyl sulfates and dibenzylsulfate in the presence of a catalyst selected from the group consisting of tetramethylurea, N-formylpyrrolidine, trimethylphosphine oxide, pyridine N-oxide, hexamethylphosphoramide, N-formylpiperidine, N,N-dimethylbenzamide, N-methyl-epsilon-caprolactam, N-methyl-2-piperidone, N-methyl-2-pyrrolidone and N-methyl-2-pyridone.

2,971,025
NOVEL ETHER DERIVATIVES OF DI(HYDROXY-AROMATIC)ALKYLIDENE CARBOXYLIC ACIDS
Alfred R. Bader, Milwaukee, Wis., assignor, by mesne assignments, to S. C. Johnson & Son, Inc., Racine, Wis., a corporation of Wisconsin
No Drawing. Filed June 14, 1956, Ser. No. 591,273
4 Claims. (Cl. 260—520)

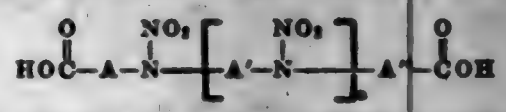
1. A compound having the general formula



wherein Ar is a phenylene radical coupled through the aromatic nucleus thereof and containing as substituted substituents only lower alkyl groups and R is a member of the class consisting of allyl and methallyl radicals; the radicals —OR being in a position para to the point of attachment of the Ar entity to the aliphatic chain.

2,971,026
POLYNITRAZA ACIDS
Clinton R. Vanneman, Claremont, and Karl Klager, Monrovia, Calif., assignors to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio
No Drawing. Filed July 8, 1955, Ser. No. 520,916
15 Claims. (Cl. 260—534)

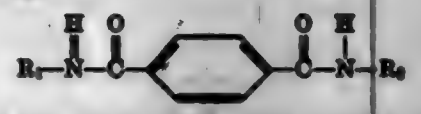
1. Polynitraza acids having the general formula:



wherein A, A′ and A″ are lower alkylene radicals and n is a small whole number from 1 to about 6.

2,971,027
DIAMIDES OF TEREPHTHALIC ACID
Bruce W. Hotten, Orinda, Calif., assignor to California Research Corporation, San Francisco, Calif., a corporation of Delaware
No Drawing. Original application Aug. 30, 1956, Ser. No. 606,993. Divided and this application Sept. 23, 1957, Ser. No. 685,401
4 Claims. (Cl. 260—559)

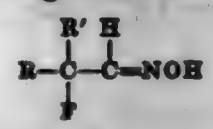
4. The compound



wherein R_1 is an alkyl and R_2 is a member selected from the group consisting of phenyl and tolyl.

2,971,028
2-FLUORO OXIMES
Don N. Gray, Boulder, Colo., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Dec. 11, 1958, Ser. No. 779,533
2 Claims. (Cl. 260—566)

1. A compound having the formula



wherein R and R′ represent members selected from the group consisting of hydrogen and lower alkyl radicals containing up to 3 carbon atoms, inclusive.

2,971,029
STABILIZATION OF AROMATIC CARBOCYCLIC AMINES
Eugene V. Hort, Westfield, N.J., assignor to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed June 21, 1956, Ser. No. 592,737
5 Claims. (Cl. 260—575)

1. A stabilized composition of matter consisting of a carbocyclic amine having 1 to 3 amino groups and selected from the class consisting of phenyl and naphthyl amines, said amine containing in 100 parts by weight thereof from 0.01 to 1.0 part by weight of a stannous halide.

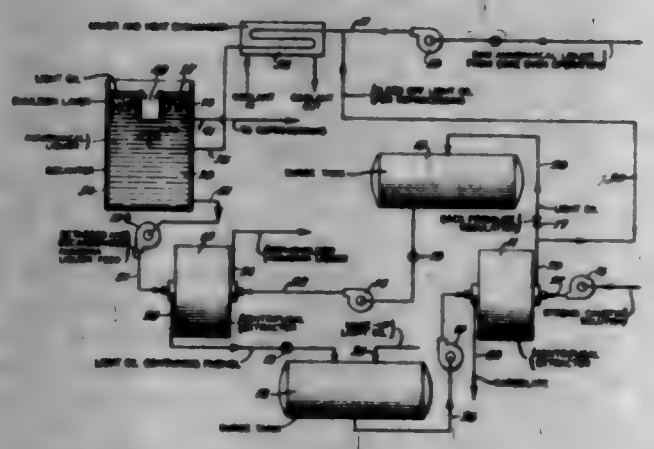
2,971,030
A DIACETYL BENZOPHENONE AND PROCESS OF PREPARATION
Robert L. Hudson, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Sept. 22, 1958, Ser. No. 762,224
2 Claims. (Cl. 260—591)

1. 3,5-diacetyl-2,6-dihydroxybenzophenone.

2,971,831
PREPARATION OF LIQUID ALKYLATED PENTABORANE-9
George E. Ryschkewitsch, Columbus, Ohio, assignor, by mesne assignments, to Olin Mathieson Chemical Corporation, a corporation of Virginia
No Drawing. Filed Nov. 2, 1955, Ser. No. 544,594
10 Claims. (Cl. 260—606.5)

1. A method for the preparation of liquid alkylated pentaborane-9 which comprises reacting pentaborane-9 with from 0.1 to 10 moles, per mole of pentaborane-9 of a monoolefin hydrocarbon containing from 2 to 5 carbon atoms at a temperature within the range from 130° to 190° C. while they are in admixture with a catalytic amount of a material selected from the group consisting of pyridine and lower alkyl pyridines.

2,971,832
METHOD OF PREPARING A COKE PLANT AMMONIACAL LIQUOR FOR PROCESSING IN CENTRIFUGAL EXTRACTORS TO RECOVER PHENOL
Grayden C. Bazell, Park Forest, Ill., assignor, by direct and mesne assignments, to Walter J. Podbielniak
Filed Dec. 18, 1957, Ser. No. 703,572
3 Claims. (Cl. 260—627)



1. In conjunction with a process for recovering phenols from an aqueous ammoniacal feed liquor contaminated with carbon particles and tars wherein the phenols are extracted into a water-immiscible light oil by means of a centrifugal extractor, the phenols removed from the light oil within a second centrifugal extractor, and the dephenolized light oil recirculated to said first extractor, the improvement comprising bleeding off a portion of the light oil from said phenol recovery process, mixing the light oil thus obtained with the said ammoniacal feed liquor before said liquor is introduced into said first extractor, thereby forming an emulsion phase, the volume of said light oil being relatively small compared to the volume of said feed liquor, allowing said mixture to stratify with the oil and emulsion phases above the ammoniacal feed liquor, whereby the carbon particles collect in said emulsion phase, separating said emulsion phase from said ammoniacal feed liquor, and thereafter introducing the decarbonized ammoniacal feed liquor into said first extractor.

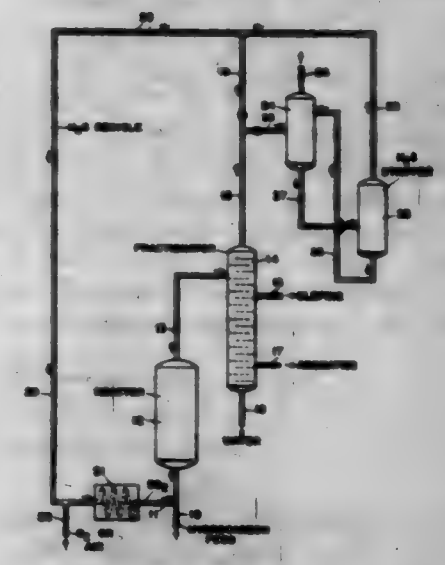
2,971,833
ALCOHOL MANUFACTURE
Martin W. Farrar, Webster Groves, Mo., assignor to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed Aug. 22, 1957, Ser. No. 679,754
6 Claims. (Cl. 260—642)

1. The process for producing higher alcohols by the Guerbet reaction which comprises condensing aliphatic alcohols having a methylene group attached to the carbon atom of the carbinol group in the presence of a mixture of (*a*) potassium carbonate, (*b*) magnesium oxide, and (*c*) copper chromite, the weight ratio of (*a*):(*b*):(*c*) being about 2:1 to 3:1 to 3.

2,971,834
PROCESS FOR THE PRODUCTION OF AZULENES
Klaus Hafner, Marburg, Germany, assignor to Studiengesellschaft Kohle m.b.H., Mulheim (Ruhr), Germany
No Drawing. Filed July 16, 1957, Ser. No. 672,138
Claims priority, application Germany July 25, 1956
13 Claims. (Cl. 260—666)

1. In a process of producing azulenes, the steps which comprise condensing an aliphatic dicarbonyl compound of the general formula $C_nH_{2n-2}O_2$, wherein *n* is an integer, said compound having a straight carbon chain of at least five carbon atoms and having two carbonyl groups in 1- and 5-position on said chain with a cyclopentadiene having a least two adjacent unsubstituted carbon atoms, and dehydrogenating the resulting dihydroazulene.

2,971,835
PROCESS FOR THE DEHYDROGENATION OF HYDROCARBONS IN THE PRESENCE OF SULFUR DIOXIDE AND A CALCIUM NICKEL PHOSPHATE CATALYST
Richard Franklin Stringer, Charles Newton Kimberlin, Jr., and Frances Sturgis McQuaid, all of Baton Rouge, La., assignors to Esso Research and Engineering Company, a corporation of Delaware
Filed Jan. 7, 1958, Ser. No. 707,636
6 Claims. (Cl. 260—673.5)

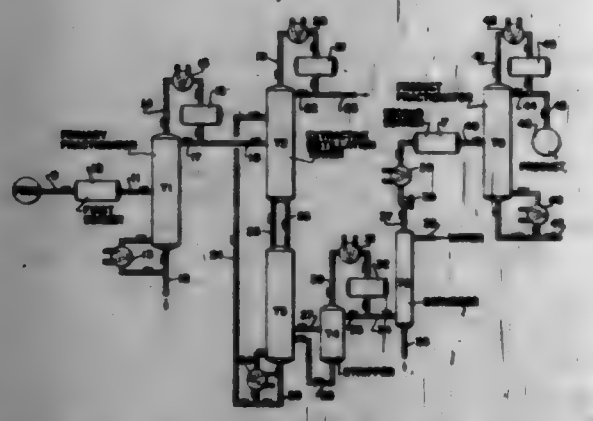


1. A method for the dehydrogenation of hydrocarbons containing at least six carbon atoms per molecule to form aromatics and olefins which comprises reacting said hydrocarbons with sulfur dioxide at elevated temperatures in contact with a calcium nickel phosphate catalyst.

2,971,836
RECOVERY OF ISOPRENE BY FRACTIONATION AND EXTRACTIVE DISTILLATION
Jimmy Donald James, Baton Rouge, La., assignor to Esso Research and Engineering Company, a corporation of Delaware
Filed Sept. 17, 1958, Ser. No. 761,584
1 Claim. (Cl. 260—681.5)

A process for separating purified isoprene from a steam-cracked fraction containing mono-olefins and diolefins in the C_4 to C_5 range, including isoprene and cyclopentadiene, which comprises heat soaking said fraction to dimerize a substantial amount of the cyclopentadiene, selectively distilling an isoprene-rich fraction including 1.5 to 3 weight percent of cyclopentadiene from the heat-soaked fraction, separating from the isoprene-rich fraction mono-olefins and paraffins by extractive

distillation with a solvent that forms an extract of the isoprene and cyclopentadiene, separating an isoprene concentrate containing 4 to 10 weight percent of cyclo-



pentadiene from the solvent, heat soaking said concentrate in a second soaking zone to dimerize cyclopentadiene therein, then distilling the isoprene from the heat-soaked concentrate.

2,971,037

GAMMA ALUMINA PROMOTED PARAFFIN ALKYLATION PROCESS

George R. Gilbert, Elizabeth, John E. McCormick, Roselle Park, and Alan Schriesheim, Fords, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

Filed Dec. 1, 1958, Ser. No. 777,313
6 Claims. (Cl. 260—683.53)

1. A process for the preparation of high octane naphtha components consisting largely of branched chain paraffin hydrocarbons of 5 to 7 carbon atoms which comprises reacting a minor proportion of a straight chain paraffin hydrocarbon of from 6 to 18 carbon atoms with a major proportion of a lighter hydrocarbon selected from the group consisting of butanes and pentanes, at temperatures no higher than about 140° F., in a reaction zone in the presence of a catalyst comprising aluminum bromide and gamma alumina and maintaining in the reaction zone sufficient aluminum bromide to furnish aluminum bromide in solution in the reacting hy-



drocarbons in addition to the quantity required to satisfy the total adsorption capacity of the gamma alumina.

2,971,038

METHOD COMPRISING SULFUR VULCANIZING A RUBBER IN THE PRESENCE OF A THIAZOLE-SULFENAMIDE OF A 1,8-DIAMINOMENTHANE

John J. D'Amico, Charleston, W. Va., assignor to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Dec. 27, 1955, Ser. No. 555,300
5 Claims. (Cl. 260—788)

1. The method of vulcanizing rubber which comprises heating a rubber and sulfur in the presence of a small amount sufficient to accelerate vulcanization of a thiazolesulfenamide of a 1,8-diaminomenthane wherein the radicals which satisfy the valences of the vicinal carbon atoms of the thiazole ring are selected from the group consisting of radicals which with the said vicinal carbon atoms complete a six membered aromatic ring, lower alkyl and lower carboalkoxy radicals, not more than one radical being selected from one member of the aforesaid group.

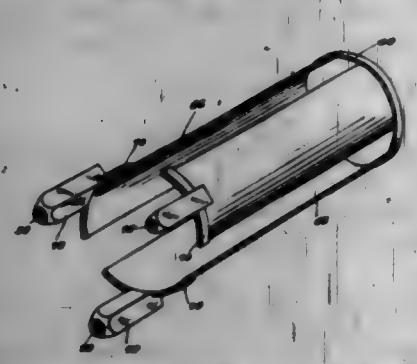
ELECTRICAL

2,971,039

RESISTANCE HEATING ELEMENT FOR VACUUM FURNACES AND THE LIKE

Herbert W. Westeren, Barrington, R.I., assignor to C. I. Hayes, Inc., a corporation of Rhode Island

Filed Nov. 26, 1957, Ser. No. 699,015
3 Claims. (Cl. 13—25)



1. A resistance heating element for vacuum furnaces and the like, comprising at least three elongated grid members that are spaced from each other to define a cylindrically arranged structure, a conductor element interconnecting one end of said grid members, said grid members thereby being insulated from each other throughout the length thereof except at their interconnected ends, and means operatively engaging each of said grid members at the insulated end thereof for feeding electric current thereto, said electric current feeding means including an electrically conductive segment bar secured to the insulated end of each grid member and extending the width thereof, the cross section of said segment bars being greater than the cross section of said grid members, wherein the electrical resistance of said segment bars is lesser than that of said grid members, so that current introduced into said segment bars will flow evenly therethrough to provide an even distribution of current throughout the length of said grid members, a terminal member secured to each segment bar, and a current carrying element engaging each of said terminal members.

2,971,040

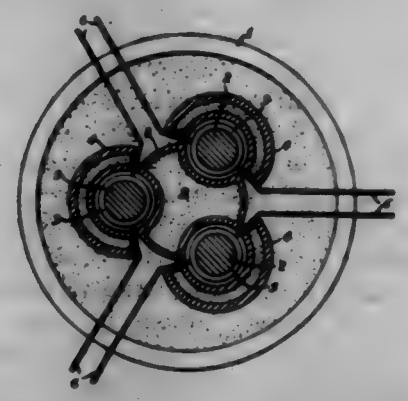
ARRANGEMENT IN ELECTRIC SMELTING FURNACES

Mathias Ovrum Sem, Smestad, Oslo, Norway, assignor to Elektrokemisk A/S, Oslo, Norway, a corporation of Norway

Filed Dec. 18, 1957, Ser. No. 703,598
Claims priority, application Norway Dec. 22, 1956
4 Claims. (Cl. 13—33)

1. In combination a furnace pot constructed and arranged to receive a charge to be smelted, an electrode constructed and arranged to extend down into said pot, a pair of members extending up from the pot constructed and arranged substantially to surround such electrode,

but with slot-like spaces between such members, said members being formed with hollow spaces within them following the general contour of the electrode through which spaces material to be smelted may be introduced



into the pot to be delivered in a zone surrounding but spaced from the electrode, and flexible electrical connections for such electrode passing through said slot-like spaces and constructed and arranged to move up and down in said spaces following movements of the electrode.

2,971,041

TELESCOPING IMMERSION THERMOCOUPLE

William L. France, Bridgeville, Pa., assignor to Universal-Cyclops Steel Corporation, Bridgeville, Pa., a corporation of Pennsylvania

Filed Aug. 24, 1959, Ser. No. 835,661
6 Claims. (Cl. 136—4)



1. An immersion thermocouple for a furnace, comprising a housing provided with a pair of aligned top and bottom openings, a tubular shaft extending through said openings and formed from a plurality of loosely telescoping tubes in end to end relation, the lower end of the largest tube being rigidly secured to said housing around its top opening, the remaining tubes being suspended from said lower end of the largest tube, a thermocouple element projecting from the lower end of the smallest tube, a support mounted on said largest tube and having an opening leading into that tube, a winding drum journaled on said support, a cable wound on the drum and extending through said support opening and down through said shaft, means anchoring the lower end of the cable in said smallest tube, and means for driving the drum to rotate it and wind up the cable to telescope the shaft and raise said element into said housing, the housing being adapted to be mounted on top of a furnace around a hole therein to permit said remaining tubes of the tubular shaft to be lowered by gravity into the furnace.

2,971,042

METHOD OF MAKING STORAGE BATTERIES

Don G. Townsend, Anderson, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

No Drawing. Filed July 25, 1958, Ser. No. 750,875
2 Claims. (Cl. 136—33)

1. In a method for curing a negative plate for use in a lead-acid storage battery wherein the plate includes a paste formed from a mixture of sulfuric acid and a mixture of yellow and red lead oxides including up to 15% free lead, the steps consisting of; curing the plate at temperatures below 212° F. in an atmosphere containing carbon dioxide ranging between 10% and 100% and the remainder air for a time sufficient to form a lead carbonate surface on the plate paste, steam treating the carbonated plate with wet steam at pressures ranging from atmospheric to about fifteen pounds per square inch and at temperatures ranging respectively from 212° F. to 230° F. for oxidizing free lead and simultaneously refining the grain size of the oxides and then drying the cured plate in hot air at temperatures between 150° F. and 212° F.

2,971,043

METHOD OF MAKING STORAGE BATTERIES

Don G. Townsend, Anderson, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

No Drawing. Filed July 25, 1958, Ser. No. 750,879
3 Claims. (Cl. 136—33)

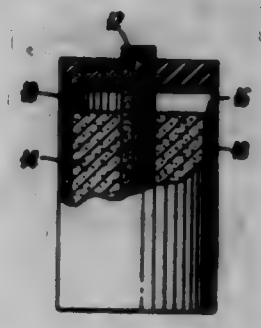
1. In a method for curing a positive plate for use in a lead-acid storage battery wherein the plate includes a paste formed from a mixture of sulfuric acid, red and yellow litharge and up to 25% free lead, the steps consisting of; subjecting a pasted plate to steam at temperatures between 212° F. and 230° F. and at a pressure sufficient to prevent boiling from said plate, for a time sufficient to control the particle size and for reducing the metallic lead content of the plate paste, said steam being substantially free from carbon dioxide, and then curing the plate at temperatures above 190° F. and below 212° F. in an atmosphere containing carbon dioxide ranging between 10% and 100% and for a time sufficient to form a lead carbonate surface on the plate paste.

2,971,044

CORROSION INHIBITORS

Herman M. Zimmerman and Robert A. Powers, Lakewood, Ohio, assignors to Union Carbide Corporation, a corporation of New York

Original application Jan. 3, 1956, Ser. No. 557,013, now Patent No. 2,900,434, dated Aug. 18, 1959. Divided and this application June 9, 1959, Ser. No. 819,034
9 Claims. (Cl. 136—161)



1. In combination in a primary dry cell having a consumable anode, an insoluble cathode, an electrolyte-wet depolarizing mix and at least one organic corrosion in-

hibitor in contact with said anode, said organic inhibitor being defined by the formula

$$R—O(R')_n—R''$$

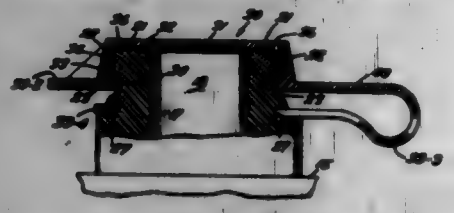
wherein R is at least one radical selected from the group which consists of alkyl, aryl and aryl alkyl radicals, R' is an alkoxy radical, *n* is any number between 1 and 50, and R'' is at least one radical selected from the group which consists of hydrogen, alkyl, aryl and alkyl aryl radicals.

2,971,045

GAS VENT CLOSURE FOR ELECTRIC STORAGE BATTERIES

John H. August, Elmsford, N.Y., assignor to Sonotone Corporation, Elmsford, N.Y., a corporation of New York

Filed July 7, 1958, Ser. No. 747,829
4 Claims. (Cl. 136—178)



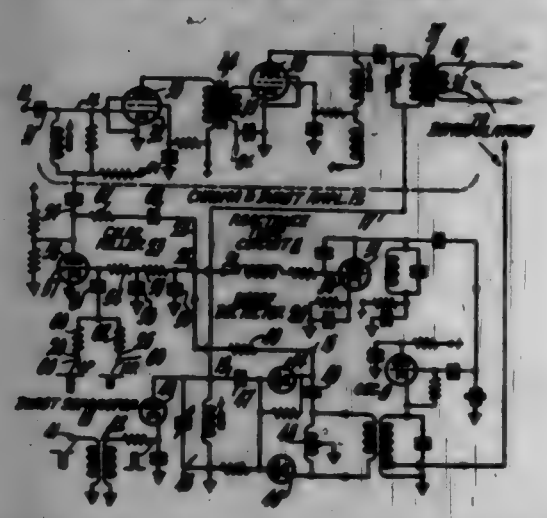
1. In an electric storage battery, a casing having a wall and an opening therethrough, a tubular neck extending outwardly of said opening, said neck having an open end and said end having a face of substantial width, a detachable cap of elastically yieldable material having a diaphragm-like cover wall with a rim depending therefrom, means for effecting a longitudinally stressed junction engagement between said rim and said neck, said cover wall being engaged with said face at the open end of said neck and establishing a gas-tight sealing zone therewith, by virtue of said afore-mentioned longitudinally stressed junction engagement, said cap having vent passage aperture means therethrough disposed beyond said sealing zone, and interiorly of said junction engagement, said open end of said neck being normally sealed from communication with said vent passage means by virtue of said sealing zone, said diaphragm-like cover wall being of sufficient elastic yieldability as to be flexed by increased gas pressure within said casing, whereby to open a passage through said sealing zone and permit egress of gas from said casing.

2,971,046

SYNCHRONOUS COLOR KILLER

Albert Macovski, Massapequa, N.Y., assignor to Radio Corporation of America, a corporation of Delaware

Filed Oct. 19, 1955, Ser. No. 541,349
17 Claims. (Cl. 178—5.4)



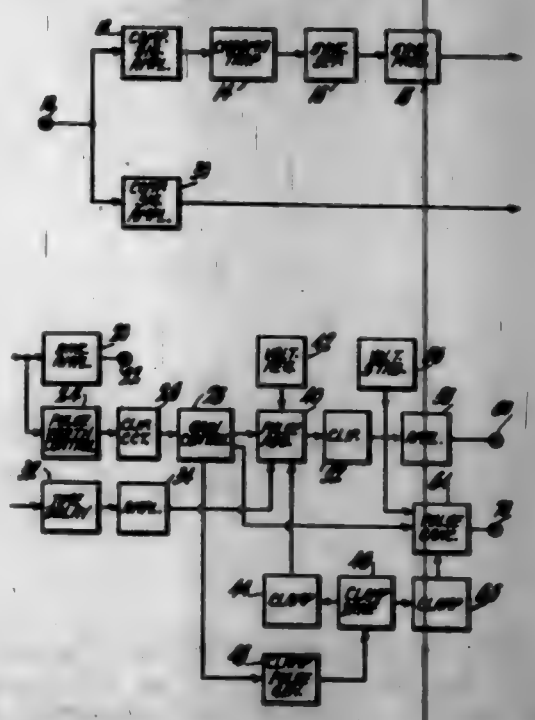
1. A color killer for rendering a chrominance channel amplifier effective for signal translation in response to a control signal and comprising in combination, a chrominance signal amplifier having a signal input circuit and a signal output circuit, means for applying a desired signal and a control signal to said input circuit, a gain control circuit, means coupled with said output circuit for separating said control signal from said desired signal, a phase detector, oscillator means for developing a reference wave, means for impressing said separated control signal and said developed reference wave upon said detector to produce a control bias indicative of the presence or absence of said control signal above a predetermined amplitude, means for applying said control bias to said gain control means for adjusting the gain of said signal amplifier to an operative level when said control signal is present and to an inoperative level when said control signal is absent, means for periodically applying pulses to said gain control means to adjust the gain of said signal amplifier to a predetermined level for the duration of said pulses independent of the presence or absence of said control signal, means for applying a correction wave to said gain control circuit, and means coupled between said gain control circuit and said oscillator to sweep said oscillator through a frequency range including that frequency which would provide cophasal operation of said oscillator and said control signal in the presence of said control signal.

2,971,047

COMPOSITE PICTURE SIGNAL TRANSMISSION SYSTEMS

Ralph Craig Kennedy, Queens Village, N.Y., assignor to Radio Corporation of America, a corporation of Delaware

Filed Mar. 23, 1956, Ser. No. 573,492
5 Claims. (Cl. 178—5.4)



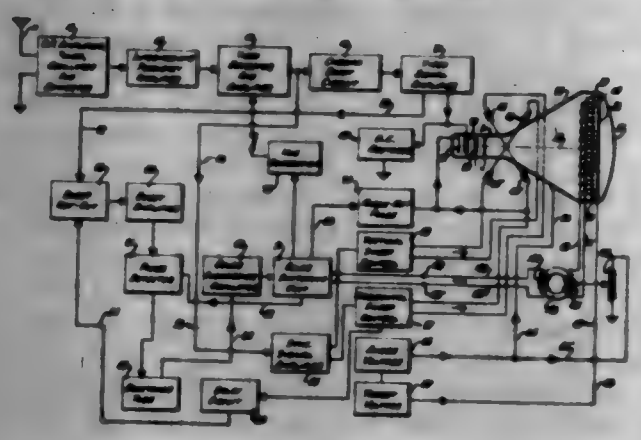
4. A color television signal transmission system including, a composite color signal input circuit to which a composite color signal is applied, a color burst and picture signal output circuit at which is available an amplified and processed color signal corresponding to the color burst and picture component of the applied composite color signal, means coupled to said input circuit for separating the deflection synchronizing pulses from said applied signal, means coupled to said separating means for varying the timing of the trailing edges of said separated deflection synchronizing pulses, means coupled to said timing means for clipping the time-varied pulses, means coupled to said input circuit for delaying the applied composite signal, means coupled to said clipping

means and to said delaying means for adding said clipped pulses to said delayed composite signal effectively to elevate the deflection synchronizing pulses of said delayed signal to a level substantially above the color bursts, means coupled to said adding means for clipping said elevated deflection synchronizing pulses substantially at said level above said color bursts to produce a composite color signal with processed deflection synchronizing pulses, means coupled to both of said clipping means for subtracting the clipped pulses from said composite color signal to remove said deflection synchronizing pulses from said composite color signal thereby to leave a color burst and picture signal with processed blanking pedestals, and means coupling said subtracting means to said color burst and picture signal output circuit.

2,971,048
SELF-DECODING COLOR TELEVISION APPARATUS

Ernest O. Lawrence, Berkeley, Calif., assignor to Chromatic Television Laboratories, Inc., New York, N.Y., a corporation of California

Filed June 11, 1956, Ser. No. 590,586
17 Claims. (Cl. 178—5.4)

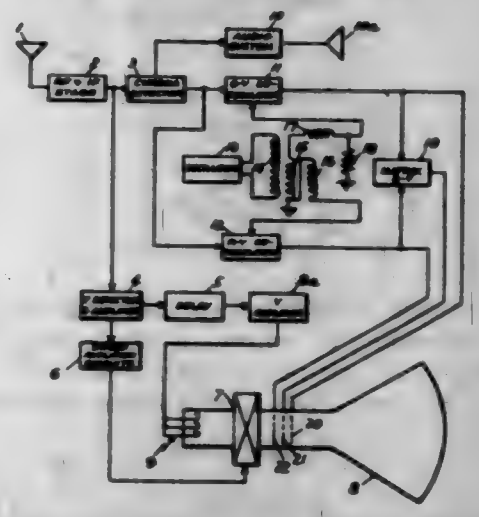


8. Television apparatus for producing images in substantially natural color on a cathode-ray tube viewing target formed of a multiplicity of adjacently positioned phosphor strips responsive to an impacting cathode-ray beam to produce light in different colors, the phosphor strips being located to extend across the target substantially parallel to one another in sets forming color triplets having one dimension substantially coinciding with that of an element of an image to be created, the strips being in repeating patterns across which strips a modulatable scanning cathode-ray beam produced in the tube is adapted to be deflected in two mutually perpendicular directions, comprising means to detect received NTSC video signals and to modulate the cathode-ray beam by the said detected signals to control the beam continuously by both the luminance and the chrominance information included in the received signals, means continuously to oscillate the developed cathode-ray beam transversely relative to said color triplets in a sinusoidal pattern at the frequency of the NTSC color sub-carrier during its motion in one direction relative to the phosphor strips with the peak-to-peak amplitude of beam oscillation being approximately that of the combined width of the phosphor strips forming one color triplet with the oscillation normally introducing scanning beam impact of the central phosphor strip of the color triplet twice during each oscillatory cycle, and means to interrupt the light producing effect of the scanning cathode-ray beam independently of the signal modulation control within that single portion of each oscillatory cycle at the color subcarrier frequency coinciding with alternate beam traversals over the central phosphor strips of each color triplet so that during line deflection light is developed from the strips of phosphors only in a forward cyclically repeating order of three color components additively combining in balanced relationship to produce white light and light development in a color unlike that of the instantaneous chrominance signal is precluded.

2,971,049
SYNCHRONOUS DEMODULATOR FOR COLOR RECEIVERS

Henry Zucker, Chicago, Ill., assignor to Raytheon Company, a corporation of Delaware

Filed Oct. 5, 1956, Ser. No. 614,193
6 Claims. (Cl. 178—5.4)



6. A color television receiver comprising means for receiving a composite signal, means for producing both a luminance signal and color component signals from said composite signal, means for demodulating each of said color component signals by means of a phase-shifting network comprising a bifilar transformer consisting of a first coil and a second coil, one end of said first coil connected to one end of said second coil, a frequency responsive phase-shifting element comprising an inductance and a resistor coupled to one end of said first coil, a primary coil coupled substantially equally to both said first coil and said second coil of said bifilar transformer, means for generating and feeding a signal to said primary coil thereby producing signals of predetermined phase shift between said frequency responsive phase-shifting element and said second coil, said frequency responsive element phase-shifting connected to a first color demodulator and said second coil connected to a second color demodulator for producing a first and second color signal, means for producing a third color signal from said first and second color signals, and means for feeding said color signals and said luminance signals to a color tube in the proper phase and amplitude relationship with each other for reproducing said received composite signal.

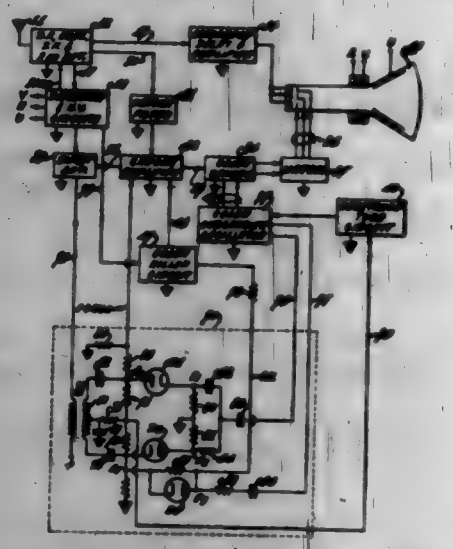
2,971,050
FREQUENCY CONTROL AND COLOR KILLER FOR TELEVISION

Gordon E. Kelly and William P. Isaacsz, Haddonfield, N.J., assignors to Radio Corporation of America, a corporation of Delaware

Filed Feb. 3, 1958, Ser. No. 713,042
6 Claims. (Cl. 178—5.4)

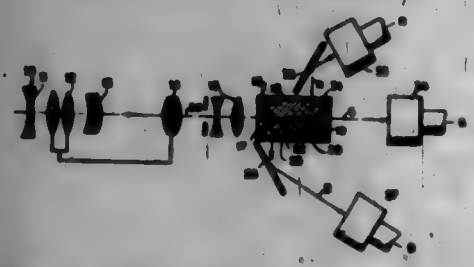
1. In a color television receiver, a combination automatic phase and frequency control and color killer control circuit, comprising, means for providing a source of received color subcarrier bursts, means for providing a source of local color subcarrier oscillations, first, second and third rectifiers, means coupled to one of said sources for applying signals in first, second and third different phases across respective ones of said three rectifiers, means coupled to the other of said sources for applying signals across all of said rectifiers so that the phase dif-

ference between the signals applied to said first and second rectifiers from said sources is greater than 90° when said source of oscillations is in synchronism with



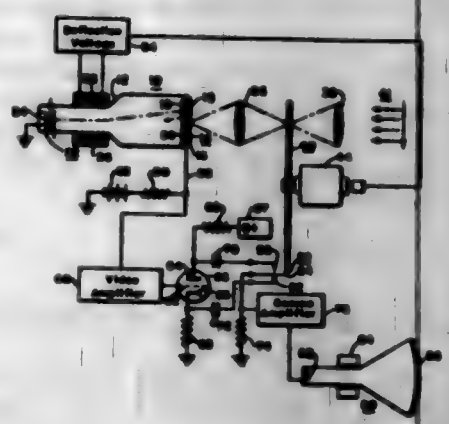
said bursts, means connected to said first and second rectifiers for providing an automatic phase and frequency control voltage, and means connected to said first and third rectifiers for providing a color killer control voltage.

2,971,051
VARIFOCAL, LONG BACK-FOCAL LENS FOR COLOR TELEVISION
Frank G. Back, Lattingtown, N.Y.
Filed Dec. 8, 1958, Ser. No. 779,015
11 Claims. (Cl. 178—5.4)



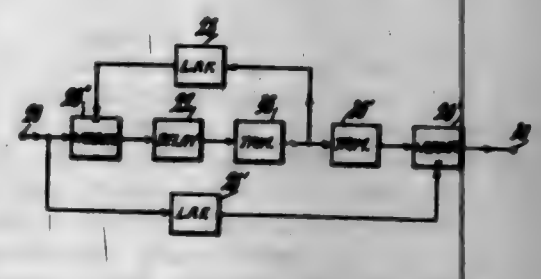
9. An optical system for a color television camera having image receiving surfaces therein comprising in combination a varifocal lens system of large back focal length, a prism block to receive the light from the varifocal lens system, a first, second and third triangular prism in the prism block, said prisms being disposed in side by side relationship, an entrance face on the first prism normal to the optical axis of the lens system, a face opposite the entrance face of the first prism diagonally disposed with respect to said optical axis, and an exit face on said first prism normal to the entrance face thereon, a diagonally disposed entrance face on the second prism parallel and adjacent the diagonally disposed first prism face, a second diagonally disposed prism face on the second prism and an exit face on the second prism parallel to the optical axis of the lens system and spaced therefrom, a diagonally disposed third prism entrance face adjacent and parallel to the second diagonal face of the second prism, an exit face on the third prism normal to the optical axis of the system, a color corrective filter on at least one of the exit faces of the prisms to further filter the selected color component directed therethrough, a plurality of prisms in said prism block, faces on said prisms diagonally disposed with respect to the optical centerline of the lens system, a selective color reflecting filter carried between adjacent prisms in the prism block to separate the light entering the prism block into a plurality of color components, and a totally reflecting mirror adjacent the prism block to receive and direct each of said components upon one of the image receiving surfaces.

2,971,052
IMAGE TRANSLATING SYSTEM
Robert J. Schneeberger, Pittsburgh, and Max Garbuny, Penn Hills, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed May 29, 1958, Ser. No. 738,713
4 Claims. (Cl. 178—6.8)



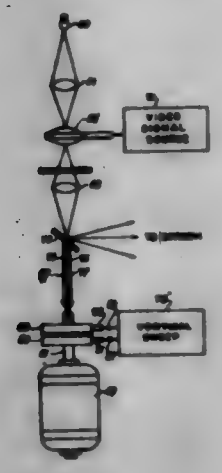
1. A background pattern canceling system for an image translation system which employs a pickup tube having a radiation sensitive target, a shutter means positioned between said target and the viewed scene and substantially in the target focal plane, said shutter means having segment portions and open portions of substantially equal size as the target raster, a shutter actuating means synchronized with the scanning mechanism of the pickup tube, whereby the shutter portions and open portions sequentially are interposed between said target member and said scene and a phase inversion means actuated by movement of said shutter means whereby the polarity of the output signal of the pickup tube is reversed in every frame, and means for superimposing said scanned image on a display tube of such time sequence that the information is integrated.

2,971,053
VIDEO SIGNAL COMPENSATING CIRCUITS
Walter Gold Gibson, Princeton, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed June 13, 1956, Ser. No. 591,205
10 Claims. (Cl. 178—7.1)



3. In a television system including a source of video signals and in which said video signals are to be impressed subsequently upon an image reproducing device in parallel lines, apparatus to compensate for loss of detail in a direction perpendicular to said lines, said apparatus comprising means coupled to said video signal source for delaying said signals for a time substantially equal to that required to scan one line, means coupled between the output and the input of said delaying means for causing said signals to traverse said delaying means an additional time, and means coupled to said video signal source and to the output of said signal delaying means for combining delayed and undelayed signals in predetermined polarity and magnitude to produce a compensated video signal for subsequent impression upon said image-reproducing device.

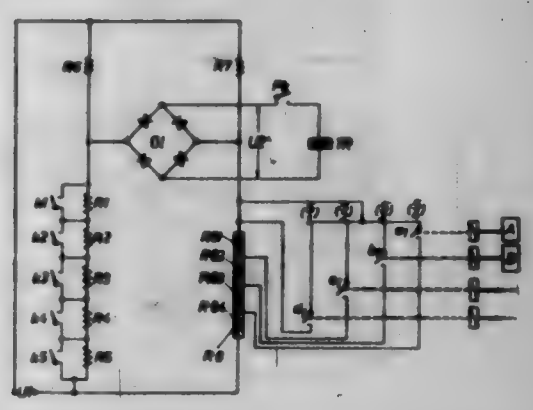
2,971,054
SCANNING DEVICES AND SYSTEMS
William J. Holt, Jr., Santa Monica, Calif., assignor to Varo Mfg. Co. Inc., Garland, Tex.
Filed Aug. 3, 1956, Ser. No. 602,844
1 Claim. (Cl. 178—7.6)



A visual information panoramic projection system comprising: means providing a panoramic screen cylindrical in form; a source of video signals; a light source connected to said video signal source which provides a light beam whose intensity varies in accordance with the variations in the video signals; a scanning device comprising an electric motor having a rotatable output shaft, a crystal element attached to such shaft and projecting longitudinally of and in longitudinal alignment with said shaft, and a mirror carried by said crystal element, said mirror being interposed angularly relative to the longitudinal axis of said shaft and in an optical path between said light source and said projection screen whereby the light beam from the light source is directed to said panoramic screen; and whereby the axis of the light beam from said light source, the central longitudinal axis of the crystal, the axis of said shaft, and the longitudinal axis of the said panoramic screen all coincide; means for providing sweep signals; and means for energizing said crystal with said sweep signals to cause said crystal to deflect the mirror in accordance with said sweep signals about an axis substantially perpendicular to the longitudinal axis of said shaft to cause said mirror to oscillate in directions substantially normal to the longitudinal axis of said shaft whereby the light beam is reflected from the mirror to said projection screen angularly relative to the longitudinal axis of the shaft and oscillates in planes intersecting said axis and substantially longitudinally aligned therewith, said sweep signals and the speed of rotation of said shaft being correlated to provide an image on said screen which corresponds to said video signals.

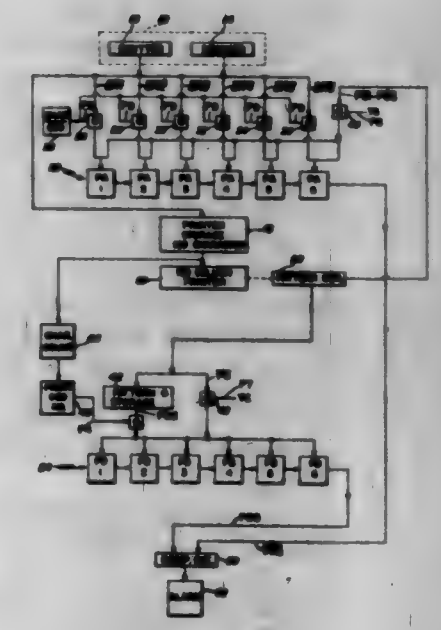
2,971,055
CIRCUIT ARRANGEMENT FOR CHECKING THE FAULTLESS TRANSMISSION OF TELEPRINTING CHARACTERS
Helmut Grüttrup, Birkenfeld, Wurttemberg, and Werner Schiebeler, Ettlingen, Baden, Germany, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Mar. 24, 1958, Ser. No. 723,597
Claims priority, application Germany Mar. 23, 1957
2 Claims. (Cl. 178—23)

1. In a circuit arrangement for checking the accuracy of transmission of teleprinter code signal combinations, a constant voltage power source and first and second parallel circuit branches connected thereacross, the first circuit branch including a plurality of first impedance elements connected in series with a first equalizing impedance and the second circuit branch including a plurality of second impedance elements connected in series with a second equalizing impedance, means for shunting respective ones of said first impedance elements, said first impedance elements and associated shunting means corresponding respectively to the signals in a teleprinter code signal combination, code selecting means, means for operating said code-selecting means to shunt any predetermined number of said second impedance elements to provide a predetermined impedance in said second branch,



means responsive to the transmission of any said code signal combination for operating the respectively corresponding first-element shunting means to provide a corresponding reduced impedance in said first branch, and detector means connected between the junction of the first impedance elements and the equalizing impedance of the first branch and the junction of the second impedance elements and the equalizing impedance of the second branch for providing an output indication responsive to the reduced impedance of the first branch being different than the predetermined impedance of the second branch.

2,971,056
INFORMATION HANDLING APPARATUS
Alan J. Deerfield, Franklin, Mass., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed Nov. 5, 1958, Ser. No. 772,053
10 Claims. (Cl. 178—23)



1. A checking circuit for a data processor comprising a first signal source of digital data pulses defining multi-bit characters to be processed, a first adder comprising a plurality of adder circuits connected to said signal source,

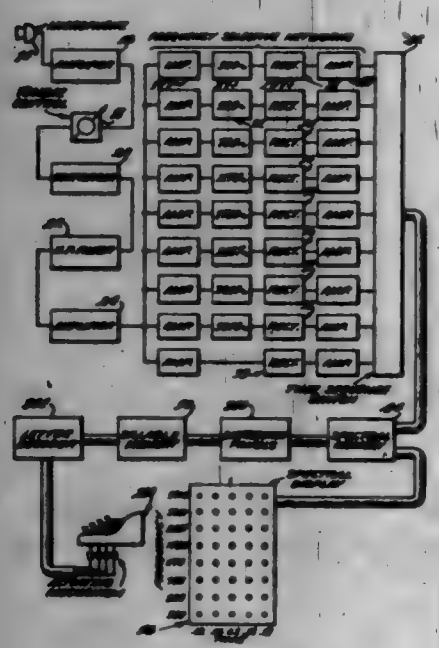
each adder circuit being adapted to add the respective bits from different bit positions of each of a plurality of characters from said source, a second signal source of digital data pulses defining multi-bit characters which have been processed, a second adder comprising a plurality of adder circuits connected to said second signal source, each of said adder circuits of said second adder being adapted to add the respective bits from different bit positions of each of a plurality of characters processed from said second source, and comparison means connected directly to said first and second adders to check the performance of said data processor.

2,971,057

APPARATUS FOR SPEECH ANALYSIS AND PRINTER CONTROL MECHANISMS

Harry F. Olson, Princeton, and Herbert Belar, Palmyra, N.J., assignors to Radio Corporation of America, a corporation of Delaware

Filed Feb. 25, 1955, Ser. No. 490,592
23 Claims. (Cl. 178—31)



1. Apparatus for analyzing the sound of a speech syllable comprising means for separating said sound into a plurality of sound components of different frequencies, means for determining the presence and relative strength of all of said components, means for operating said last named means at successive times during the existence of said syllable, means for storing information as to the presence or absence of individual ones of said components at each determination, means for displaying a visual indication of said stored information, and means for determining the presence of selected syllables in response to all of said stored information after an interval including said successive times.

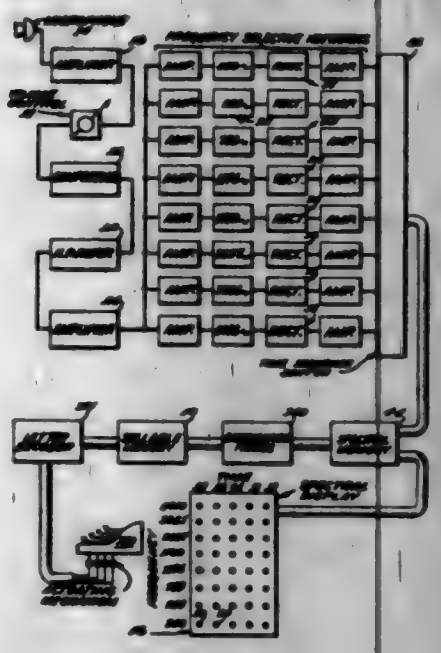
2,971,058

METHOD OF AND APPARATUS FOR SPEECH ANALYSIS AND PRINTER CONTROL MECHANISMS

Harry F. Olson, Princeton, and Herbert Belar, Palmyra, N.J., assignors to Radio Corporation of America, a corporation of Delaware

Filed May 29, 1957, Ser. No. 662,370
13 Claims. (Cl. 178—31)

1. Apparatus for analyzing an electrical signal representing sounds of speech comprising means for simultaneously determining the presence of a plurality of signals of different frequencies, means for determining changes in said plurality of signals, and means for repeating said



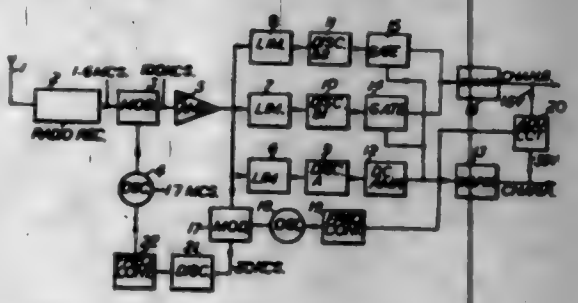
determination under control of said change determining means.

2,971,059

AUTOMATIC FREQUENCY CONTROL ARRANGEMENTS FOR FREQUENCY SHIFT TELEGRAPH RECEIVERS

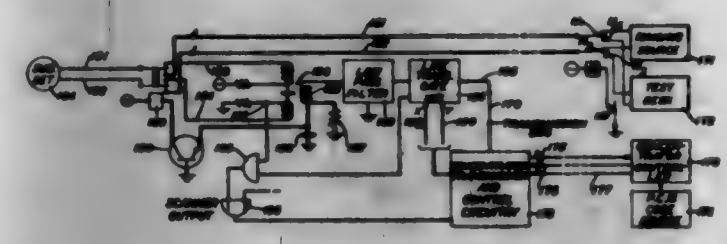
Louis John Heaton-Armstrong, London, England, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed Sept. 27, 1956, Ser. No. 612,475
Claims priority, application Great Britain Oct. 4, 1955
7 Claims. (Cl. 178—88)



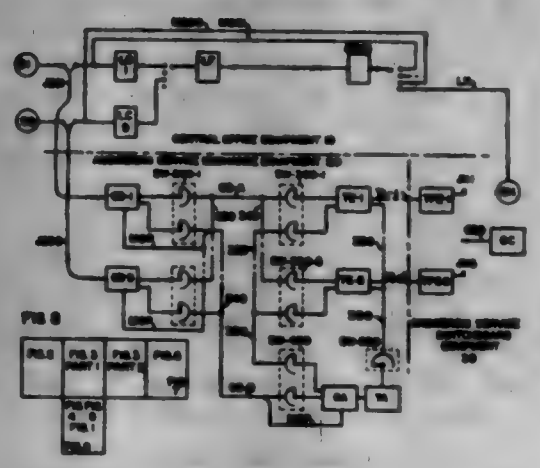
1. A receiver for a twinplex telegraph system in which signals, represented by the marking or spacing pulses of a first and a second telegraph channel, are simultaneously indicated by one of four received carrier waves each having different frequencies comprising: frequency changing means to change said carrier frequency waves to waves of lower frequencies having the same frequency separations as do the frequencies of said carrier waves; a first discriminator for recovering from said lower frequency waves the marking and spacing pulses representing the signals of said first channel; a second and a third discriminator for recovering marking and spacing pulses of said second channel; a first and second gating means connected to the outputs of said second and third discriminators respectively; control means connecting the output of said first discriminator to said second and third gating means for selecting the marking and spacing pulses representative of signals of said second channel; and means for combining said last named marking and spacing pulses to reproduce the signals of said second channel.

2,971,860
TELEPHONE LINE CIRCUIT
Henry E. Vaughan, Chatham, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Apr. 28, 1959, Ser. No. 809,485
6 Claims. (Cl. 179—18)



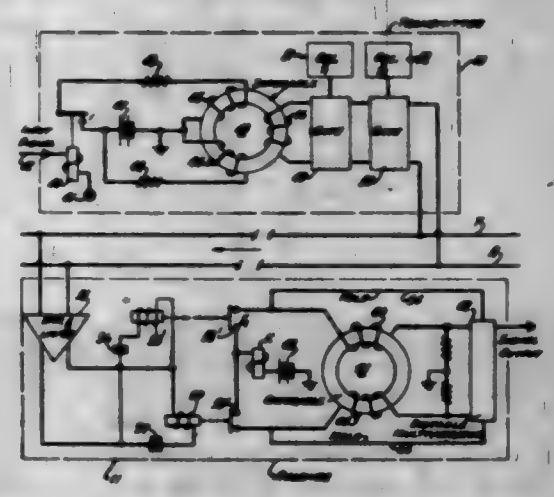
2. In a telephone system, the combination comprising a central office, a plurality of subscriber lines, a remote line concentrator, a plurality of transmission paths connecting said remote concentrator and said central office, means in said central office for transmitting address signals individual to said subscribers' lines over one of said paths, means in said central office for transmitting ringing control signals over another of said paths, a ringing signal source, a transmission line connecting said ringing signal source to said remote concentrator, switching means in said remote concentrator responsive to said address signals and said ringing control signals for individually and selectively connecting said ringing signal source to said subscribers' lines.

2,971,861
TELEPHONE ANSWERING SERVICE SYSTEM
Robert V. Judy, Chicago, Ill., assignor to International Telephone and Telegraph Corporation, New York, N.Y., a corporation of Maryland
Filed Apr. 28, 1958, Ser. No. 731,282
6 Claims. (Cl. 179—27)



5. In a telephone system, calling and called lines, means for establishing a connection from any calling line to any called line, a group of call-detectors and means for connecting them to respective ones of certain called lines, an operator's position and a group of trunk lines associated therewith, switching apparatus for interconnecting any call-detector with any trunk line, means responsive to the establishment of a connection to a called line to which a call-detector is connected from signalling the called line and for operating the connected call-detector, means in the operated call-detector for operating the switching apparatus to extend a branch connection from the operator's position to the called line over a path including the operated call-detector and a selected idle one of said trunk lines, means responsive to the said extension of a branch connection for signalling the operator's position, answering means at the called line and at the operator's position for answering the established connection, each call-detector including timing means for introducing a delay period following its said operation and preceding the said operation of the switching apparatus, said delay period being sufficient to permit normal answering to occur at the called line with which the detector is connected before the delay period ends, and means responsive to normal answering at the called line for nullifying the said means for operating the said switching apparatus.

2,971,862
INBAND SIGNALING SYSTEM
Jalal T. Salihi, San Carlos, Calif., assignor to Lenkurt Electric Company, Inc., San Carlos, Calif., a corporation of Delaware
Filed May 28, 1959, Ser. No. 814,597
6 Claims. (Cl. 179—84)

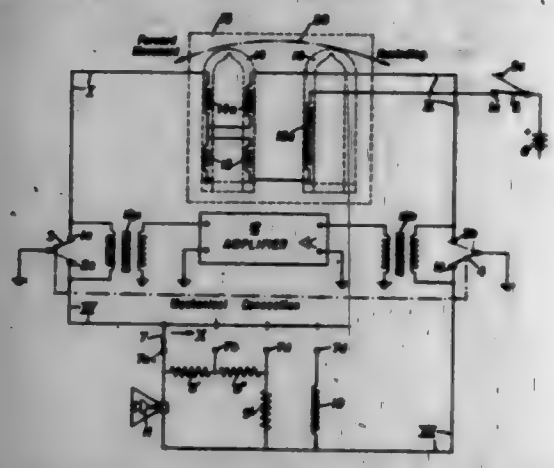


1. An inband signaling system for a voice communication system comprising, in combination, a voice communication channel, a source of D.-C. pulses, a first and a second oscillator for generating a first and a second frequency, gating means, first saturable core means responsive to said series of incoming D.-C. pulses to control said gating means to apply said oscillators alternately to said transmission channel, a pair of resonant circuits tuned to said first and second frequencies respectively, first and second output circuits responsive respectively to current flow in said first and said second resonant circuits, a bistable device controlled by said first and second output circuits to reconstitute said series of incoming D.-C. pulses, second saturable core means associated with said first and second output circuits to block spurious and unsustained signals of said first and second frequencies, and means responsive to said bistable device to maintain said second core means in a saturated state until the other of said two output circuits is energized by current flow in its associated resonant circuit.

2,971,863
SWITCHING ARRANGEMENT FOR ELIMINATING NOISE IN A TAPE RECORDING AND REPRODUCING SYSTEM
Ernst Gessing, Fassberg, near Celle, Bez. Hannover, Germany, assignor to Protona Produktionsgesellschaft für Elektro-Akustische Geräte G.m.b.H., Hamburg, Germany
Filed Dec. 27, 1954, Ser. No. 477,649
Claims priority, application Germany Dec. 28, 1953
6 Claims. (Cl. 179—100.2)

2. In a magnetic recording and reproducing apparatus, in combination, a magnetizable record carrier adapted to be moved along a predetermined path; a recording and reproducing head arranged adjacent said predetermined path and having at least one magnetic winding; an erasing head connected adjacent said predetermined path for erasing any magnetized portions of said record carrier, when the apparatus is in recording condition and before said

magnetized portions reach said recording and reproducing head; means for premagnetizing said head whenever desired; an electromagnetic transducer for converting sound waves into electrical impulses and vice versa connected in circuit with said magnetic winding of said recording and reproducing head; a single amplifier means for recording and reproducing operation and having a pair of input terminals and a pair of output terminals connected in circuit between said transducer and said recording and reproducing head, one of said input terminals



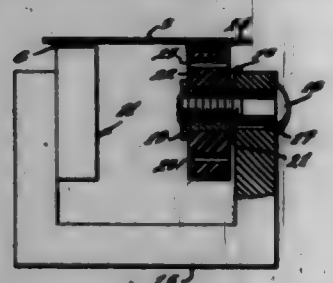
being connected to one side of said magnetic winding and the other of said input terminals being connected to one side of said transducer, one of said output terminals being connected to the other side of said transducer and the other of said output terminals being connected to the other side of said magnetic winding; and switching means for simultaneously electrically grounding said one input and output terminals of said amplifier means for placing the apparatus in recording condition and, alternatively, simultaneously electrically grounding said other input and output terminals thereof for placing the apparatus in reproducing condition.

2,971,064

AUTOMATIC ADJUSTABLE FILM SUPPORT FOR MAGNETIC RECORDER

Edward S. Leslie, Van Nuys, Calif., assignor to Radio Corporation of America, a corporation of Delaware

Filed May 31, 1955, Ser. No. 512,935
6 Claims. (Cl. 79—100.2)



1. A system for maintaining a uniform contact between the surface of a magnetic film record medium and the pole pieces of a magnetic head as said medium slides over said head comprising a magnetic head having pole pieces adapted to contact a certain longitudinal portion of the surface of said film record medium, said pole pieces being subject to wear as said medium slides thereover, and a unit fixed with respect to said head and adapted to contact another longitudinal portion of the surface of said film record medium and in substantially the same position transversely of said record medium as the contact position of said head, said unit including resilient means to permit the surface of said medium in contact with said unit to move with the surface of said medium in contact with said head substantially perpendicular to the surface of said record medium as said pole pieces are worn by said medium.

2,971,065

EAR INSERT HEARING AID

Harold M. Burns, St. Paul, Minn., assignor to Sonotone Corporation, Elmsford, N.Y., a corporation of New York

Filed Dec. 30, 1957, Ser. No. 705,949
7 Claims. (Cl. 179—107)



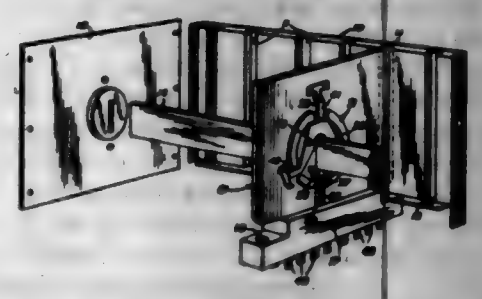
1. In a hearing aid device, an inward housing section with a sound outlet duct projecting inwardly toward the user's ear canal and an outward housing section joined to and extending from the outward side of said inward housing section and being opposite said sound outlet duct, said inward housing section having a lateral cross-sectional area materially smaller than said outward housing section and said two housing sections forming together an integral unit having laterally dimensions fitting the outer ear cavity between the anti-helix, tragus and anti-tragus, said inward housing section having mounted therein a receiver comprising an electromagnetic acoustic transducer having a sound outlet space connected to said outlet duct, said outward housing section having mounted therein a battery cell, a microphone with an electromagnetic transducer exposed to exterior sound and transistor amplifier means electrically connected to said cell between the transducers of said microphone and said receiver for supplying to said receiver amplified microphone signals, each of said electromagnetic transducers comprising a ferromagnetic core and windings interlinked with said core along a winding-core section and transducing axis thereof, the winding-core section of said receiver being laterally displaced in an eccentric position relatively to the winding-core section of said microphone, a magnetic shield element of magnetic sheet metal interposed between the core and winding of the microphone and receiver transducers, said receiver having a transducing axis extending transversely to the transducer axis of said microphone for suppressing in conjunction with said shield element magnetic signal feedback from the receiver transducer to the microphone transducer and maintaining the over-all feedback between them below a level sufficient to start sustained electric feedback oscillations and whistling.

2,971,066

ELECTRICAL SWITCH WITH REMOVABLE UNITS

Michael A. Tabet, Norfolk, Va., assignor to Tabet Manufacturing Company, Inc., Norfolk, Va., a corporation of Virginia

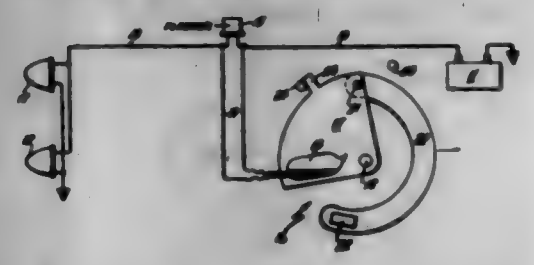
Filed Apr. 23, 1959, Ser. No. 808,479
3 Claims. (Cl. 200—11)



1. In an electric switch assembly, a frame, a panel mounted for movements into and out of said frame, said panel having an opening therethrough and a slot extend-

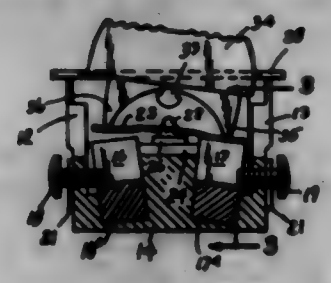
ing from said opening to one edge of said panel, contacts arranged in circular outline on said panel circumferentially spaced from each other about said opening, conductors carried by said panel in circuit relationship with said contacts and extending to said edge of the panel, a member having contacts thereon mounted in fixed relationship with respect to the frame for engagement by said conductors, a rotor mounted on the panel for turning movements in said opening including wiper means for engaging said contacts, said rotor having a radially disposed slot therein extending to the periphery thereof adapted to be aligned with the slot in said panel, a shaft having flat sides supported for rotation on said frame extending through the slot in said rotor for turning the rotor, a prong on said member extending into and substantially filling the slot in said panel, and said prong having opposite faces flush with the faces of the panel.

2,971,067
AUTOMATIC EMERGENCY SIGNALING DEVICE FOR AUTOMOTIVE VEHICLES
Donald E. Tickner, 26 Point View Drive, East Greenbush, N.Y.
Filed Jan. 21, 1958, Ser. No. 710,285
3 Claims. (Cl. 200—61.47)



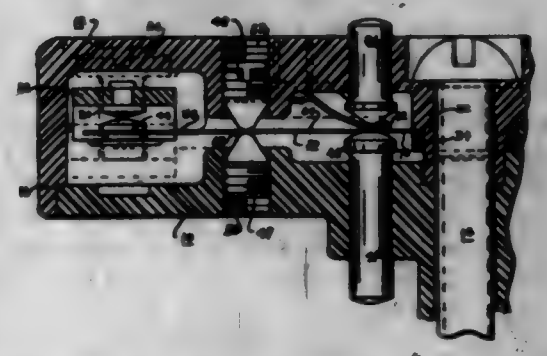
1. In a deceleration signal device for a vehicle, a housing, a pivot pin in said housing, a plate pivotally mounted at its lower end on said pin to rotate through a predetermined arc therein, spaced stop members within said housing to determine the degree of rotation of said plate, a switch carried by said plate and adapted to be connected with a low voltage flasher in line circuit with stop lights for said vehicle, a freely swingable pendulum pivotally mounted on said plate above said pin to rotate said plate against one of said stop members to maintain said switch in closed position but to rotate said plate against said other stop member to open said switch upon sudden deceleration of said vehicle and to restore said switch to said closed position when said deceleration ceases.

2,971,068
MAGNETIC SWITCH
Claude Wegner, 429 S. 3rd St., Clinton, Ind.
Filed Sept. 17, 1958, Ser. No. 761,584
3 Claims. (Cl. 200—67)



1. A magnetic snap-action switch structure comprising a housing having a base and opposed side walls, spaced permanent magnets supported on said base, an electrically conductive pin journalled for rotation in said opposed side walls with its axis of rotation disposed above and centered between said magnets, an electrically conductive lug having a portion extending exteriorly of said housing and engaging said pin, a further portion of said lug extending interiorly of said housing and providing electrical contact with one of said magnets, a magnetically permeable and electrically conductive switch blade supported intermediate its ends on said pin with its free ends extending into overlying relation respectively with said magnets, a manual operator supported between said sidewalls for limited pivotal movement between a first position and a second position, said operator being adapted to alternately move said blade into engagement with said one of said magnets when moved to its said first position and to move said blade into engagement with the other of said magnets when moved to its said second position, and terminal screws accessible exteriorly of said housing electrically connected to said magnets, whereby with said operator in said second position a circuit is completed through said one of said magnets, said pin, said switch blade and the other of said magnets, and when said operator is in its said first position the circuit through said switch is broken by disengagement of said switch blade and said other magnet, said magnets thereby acting to provide snap-action and as electrical contacts, said blade acting both as a switch member and an armature.

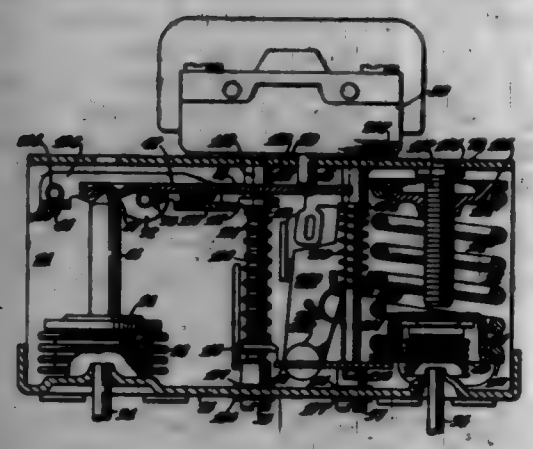
2,971,069
SWITCH
Arthur L. Good, Elkhart, Ind., assignor, by mesne assignments, to Robertshaw-Fulton Controls Company, Richmond, Va., a corporation of Delaware
Filed Aug. 4, 1958, Ser. No. 752,816
6 Claims. (Cl. 200—72)



1. A snap acting switch, comprising a block and base of electrical insulating material forming a compartment, a boss in said compartment, a stationary contact spaced from said boss, a blade for supporting said contact, a sleeve extending through said block and engaging said blade, a screw threadedly received in said sleeve for connection into a circuit, a relatively flat flexible sheet metal element rigidly mounted at its base on said boss and extending into the proximity of said contact, said element having three longitudinal members in parallel relation, across member connecting the ends of said members near the element base and being spaced throughout a substantial portion of its length from said base, a cross member connecting the other ends of said members, a tongue portion extending beyond said members in alignment with the middle longitudinal member, a contact secured to said portion and adapted to engage said first mentioned contact, said middle member being slightly longer than said other longitudinal members causing an outward buckling thereof and a corresponding movement of said tongue, opposed pins seated in said block and base and projecting inwardly to a point adjacent said element near the point of juncture between said middle longitudinal member and said second cross member, an operating pin in said base for engaging said first mentioned cross member on the opposite side from said first mentioned operating pin, a spring means attached to said block extending to a point on said element opposite from said first mentioned operating pin for opposing the operation of said element by said first mentioned operat-

ing pin, a sleeve extending through said block and being joined to said element, and a screw threadedly received in said last mentioned sleeve for connection into a circuit.

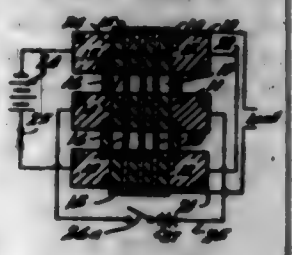
2,971,870
REFRIGERATOR COMPRESSOR CONTROL
Philip H. Sneberger, Pittsford, N.Y., assignor to Robertshaw-Fulton Controls Company, Richmond, Va., a corporation of Delaware
Filed Aug. 4, 1958, Ser. No. 752,999
13 Claims. (Cl. 200—83)



1. A control unit for refrigeration apparatus, said control unit comprising a base, a high pressure bellows unit and a low pressure bellows unit mounted side by side on said base, a high pressure tube means and low pressure tube means connected to the respective high and low pressure bellows units through said base, a generally U-shaped casing on said base and enclosing said bellows units, electrical switch means on the outer side of said casing, push rod means extending through an aperture in said casing to actuate said electrical switch means, high pressure lever means mounted for pivotal movement on said casing for transmitting motion of said high pressure bellows unit to said push rod means, a range spring mounted between said high pressure lever means and said U-shaped casing to bias said lever means against said bellows unit, low pressure lever means mounted for pivotal movement on said casing for transmitting motion of said low pressure bellows unit to said push rod means, said low pressure lever means comprising a first lever and a second lever, said first lever being mounted for pivotal movement about a first pivot axis through said housing parallel to said base at one end of said first lever, a range spring mounted between said base and the other end of said first lever, said second lever being mounted for pivotal movement about a second pivot axis through said housing parallel to said base and spaced from said first pivot axis, rod means connecting one end of said second lever to the movable end of said low pressure bellows unit, and roller means journalled to said first lever and interconnecting said first and said second levers for unitary movement positioned between said pivot axes and said range spring.

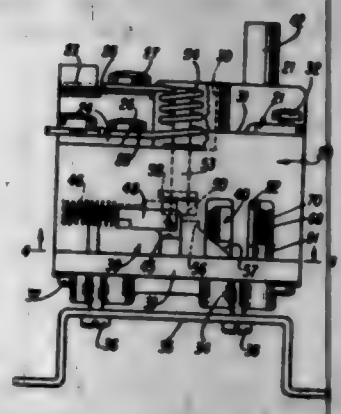
2,971,871
MAGNETIC RELAY
Stanford R. Ovshinsky, Detroit, Mich., assignor to Tann Corporation, Detroit, Mich., a corporation of Michigan
Filed Mar. 11, 1957, Ser. No. 645,260
14 Claims. (Cl. 200—87)

1. In a relay, a pair of spaced grids forming a cavity therebetween, spaced conducting elements which break a circuit in at least one of said grids, a coil about one of said grids for producing a magnetic field when energized, and a plurality of magnetizable balls within the



cavity for forming a plurality of independent conducting paths between the grids.

2,971,872
THERMAL OVERLOAD AND RESET ASSEMBLY
Dale F. Wilcox, Aurora, William Frw, Batavia, and Irving W. Krieger, St. Charles, Ill., assignors to Furnas Electric Company, Batavia, Ill., a corporation of Delaware
Filed Apr. 17, 1959, Ser. No. 807,212
6 Claims. (Cl. 200—124)

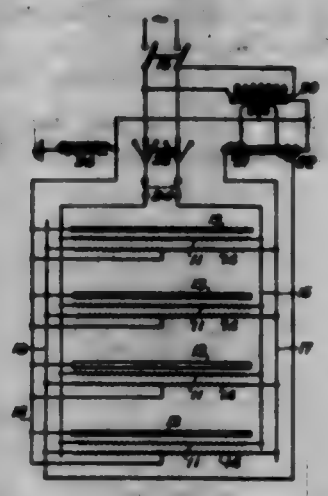


1. In a protective switch, in combination, a pair of fixed contacts positioned in spaced relation, a movable contact adapted to have movement towards and from the fixed contacts for engaging with the same to close an electrical circuit, means yieldingly biasing the movable contact in a circuit closing direction, a reset plunger, additional means yieldingly biasing the reset plunger in a circuit opening direction, a camming wedge interposed between the movable contact and the reset plunger, said wedge having leg portions located between the pair of fixed contacts for engagement with the movable contact and said wedge having a bevelled edge for camming engagement with a bevelled apron on the reset plunger, said wedge transmitting movement of the reset plunger in a circuit opening direction to the movable contact to cause the same to move out of engagement with the fixed contacts, and an actuator for resetting the plunger, said actuator when actuated for resetting purposes effecting a camming action between the bevelled edge of the wedge and the bevelled apron on the plunger, whereby the plunger is moved in a circuit closing direction.

2,971,873
ELECTRIC SURFACE HEATING DEVICES
Paul Elsler, 37 Exeter Road, London, England
Filed July 8, 1958, Ser. No. 747,314
Claims priority, application Great Britain July 8, 1957
16 Claims. (Cl. 219—19)

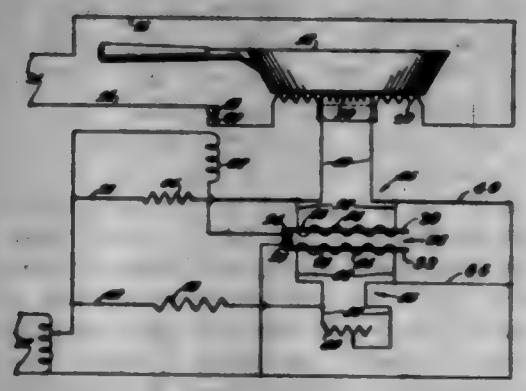
1. An electrical resistance heating element of large surface area and small thickness including in its structure a first metal conductor of large surface area and small thickness in a repeat pattern presenting the desired resistance characteristic between terminals, a second metal conductor of large surface area and small thickness of such form as at least to cover the pattern of the first conductor and to enable the second conductor to re-

main earthed throughout, insulating material disposed between said first and second conductors so as to insulate them from each other, and means for interrupting the supply to the first conductor in the case of an external action causing a small local connection between a point at high potential of the first conductor and the



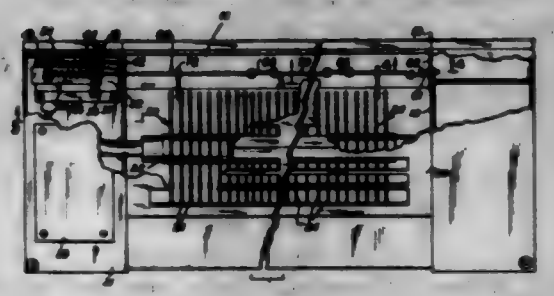
earthed second conductor to be made, the thickness, structure and material of the second conductor and the operating time of said interrupting means ensuring that such connection between the first and second conductors will persist at least for the period necessary for said interrupting means to operate.

2,971,874
TEMPERATURE RESPONSIVE CONTROL
Charles K. Strobel, Pittsburgh, and Richard T. Klumsell, Hunker, Pa., assignors to Robertshaw-Fulton Controls Company, Richmond, Va., a corporation of Delaware
Filed May 9, 1958, Ser. No. 734,174
10 Claims. (Cl. 219—20)



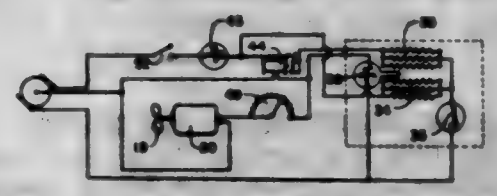
6. A control system for an electric heating element adapted to heat a cooking vessel supported in heating proximity thereto comprising a first circuit means connecting the heating element to a source of electric energy and including a switch means operable between an open and a closed position for controlling the energization of the heating element, second circuit means operatively associated with said switch means for actuating the same between said open and closed positions, said second circuit means including a heat responsive switching mechanism operable between a first controlling position in which said second circuit means is operable to actuate said second switch means to said open position and a second controlling position in which said second circuit means is operable to actuate said switch means to said closed position, third circuit means having a heating means operably associated with said heat responsive switching mechanism for actuating said switching mechanism between said controlling positions, and means adapted to be responsive to the temperature of the cooking vessel for controlling the heat output of said heating means, and fourth circuit means having a second heating means operably associated with said heat responsive switching mechanism for controlling the amount of heat output by said first heating means required for actuating said switching mechanism to said first controlling position and means for adjusting the heat output of said second heating means, said second heating means being electrically connected to supply a steady amount of heat to said heat responsive switching mechanism.

2,971,875
SAFETY DEVICE FOR ELECTRICAL HEATERS
Charles E. Armstrong, Portland, Oreg., assignor to C. E. Armstrong Company, Portland, Oreg., a corporation of Oregon
Filed May 25, 1959, Ser. No. 815,468
2 Claims. (Cl. 219—34)



1. In an electric heating device comprising an elongate horizontally disposed housing having an opening along the upper edge of one longitudinal side thereof for the escape of heat, an electrical resistance heating element extending longitudinally of said housing, circuit means for connecting said element to a power source, said circuit means including a normally closed switch means mounted at one end of said housing and connected in series with said heating element, said switch means having an operating member movable between a switch opening and a switch closing position, means resiliently biasing said operating member to said switch opening position, and means for retaining said operating member in said switch closing position comprising a tension member extending longitudinally of said housing above said heating element and connected at one end to said operating member, means adjustably anchoring said tension member at its other end to the end of said housing opposite said one end so as to retain said operating member in switch closing position, said tension member including a plurality of portions along its length fusible at a predetermined low temperature whereby when said temperature is exceeded within said housing adjacent a said portion the same fuses to release said operating member and said switch means is caused to open.

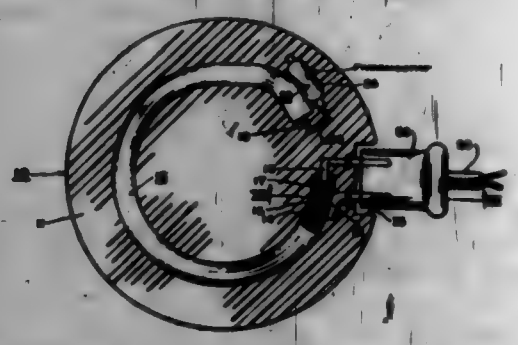
2,971,876
ELECTRIC HEATING FURNACE
Henry J. Ferguson, Kalispell, Mont.
(800 N. 23rd St., Coeur d'Alene, Idaho)
Filed July 20, 1959, Ser. No. 828,314
4 Claims. (Cl. 219—39)



1. In an electric air heating and circulating device of the nature aforesaid, a cabinet having a smaller filter chamber providing relatively free air passage thereinto, communicating through a filter with a relatively larger furnace chamber having a furnace therein comprising in combination, an elongate bonnet; a variable means of causing air flow downward therethrough; a heating ele-

ment positioned therein, in spaced relation with the walls of said bonnet, having a plurality of bar-like electrical resistance heating elements arranged in an upper bank and a lower bank with the elements of each bank mutually paralleled to each other and perpendicular to the elements of the other bank; an external thermostat positioned in the area to be heated, adapted to allow current to be supplied to the lower bank of said resistance heating elements when said control device falls below a predetermined temperature; an internal thermostat having an elongate temperature sensing member positioned between said upper bank and said lower bank of resistance heating elements, adapted to permit current to be supplied to the upper bank of said resistance heating elements and to actuate said means of causing air flow through said bonnet when said internal thermostat is heated to a predetermined temperature; a manually resettable safety thermostat adapted to interrupt the flow of current to said heating elements at a certain perdetermined safe operating temperature; means of supplying electric current to said circuits; and means of conducting heated air from said bonnet.

2,971,077
ELECTRIC HEATER
Reed A. Palmer, Mansfield, Ohio, assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed June 9, 1959, Ser. No. 819,032
3 Claims. (Cl. 219—44)

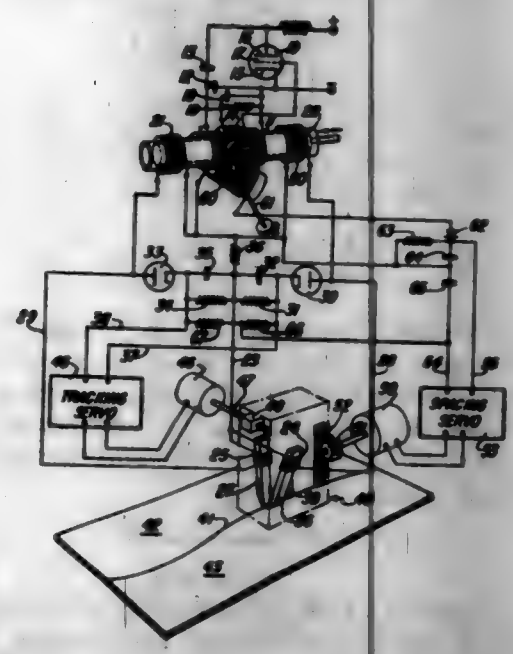


2. An electrically heated container of plastic or like non-electrically conductive material, a sheathed heater including a tubular sheath of electrically conductive material and an electrical heating element housed therein and electrically insulated therefrom, a pair of spaced parallel service terminals for said heater, one of said terminals being electrically connected to one terminal portion of the sheath and the other terminal being electrically connected to the corresponding end of said electrical heating element, and means including a thermostat providing an electrical circuit between the other terminal portion of the sheath and the corresponding end of the electrical heating element, said thermostat being disposed in contact with the tubular sheath so as to be responsive to changes in temperature of said sheathed heater and functioning to limit the maximum temperature thereof to a value below the maximum safe temperature for the material of the container, said sheath, said electrical heating element and said thermostat being completely encased in the material of said container.

2,971,078
PROCESS OF ELECTRICAL DISCHARGE MACHINING WITH CHROMIUM ELECTRODE
John S. Larkins, Jr., Birmingham, Mich., assignor to Elox Corporation of Michigan, Royal Oak, Mich., a corporation of Michigan
No Drawing. Continuation of application Ser. No. 680,384, Aug. 26, 1957. This application Feb. 13, 1959, Ser. No. 792,948
2 Claims. (Cl. 219—69)

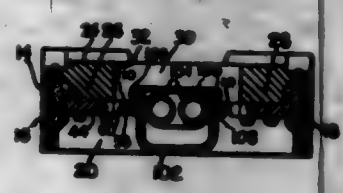
1. The process of machining a conductive workpiece by electrical erosion which comprises, disposing an electrode having a wear surface of chromium and a shape complementary to the cavity to be machined in gap relationship to the workpiece and passing across the gap intermittent, unidirectional, short duration, electrical discharges in the presence of a dielectric coolant.

2,971,079
SEAM TRACKING TRANSDUCER
Marcel R. Sommeria, Palos Heights, Ill., assignor to Welding Research, Inc., Chicago, Ill., a corporation of Illinois
Filed Feb. 12, 1959, Ser. No. 792,914
20 Claims. (Cl. 219—125)



1. Apparatus responsive to the position of an element with respect to a conducting structure including in combination, oscillator means for producing high frequency electrical oscillations, coil means in fixed position with the element and adjacent the conducting structure, means coupling said coil means to said oscillator means to provide oscillations in said coil means forming a field adjacent said conducting structure, said coil means including a coil portion in which a high frequency signal is developed which is affected by the field developed in the conducting structure and which varies with the relative position of said coil means with respect to the conducting structure, and a detector circuit coupled to said coil portion and responsive to the high frequency signal therein, said detector circuit producing a direct current control voltage varying in polarity and in magnitude from zero in accordance with the position of said coil means with respect to said conducting structure.

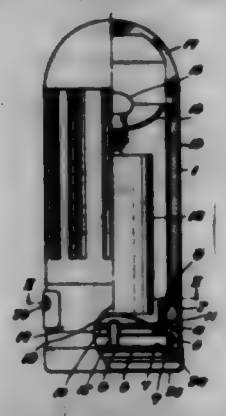
2,971,080
MICROSCOPE ILLUMINATING DEVICE
Otis W. Boughton, Canandaigua, N.Y., assignor to Bausch & Lomb Optical Company, Rochester, N.Y., a corporation of New York
Filed Apr. 21, 1958, Ser. No. 729,781
4 Claims. (Cl. 240—2)



1. An illuminating device for a microscope comprising a base having two side walls and a top wall having an opening, a pair of aligned rotatable shafts supported on and extending inwardly from the respective side walls

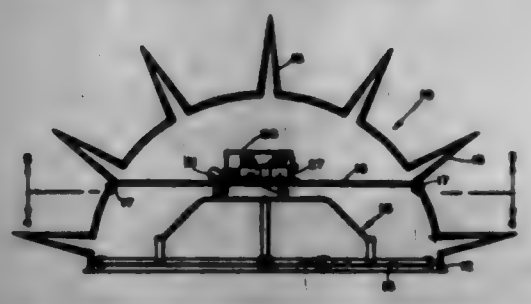
with the inner ends of the shafts in spaced relation to each other, an optical member arranged below the opening and between said ends, said member having recesses for receiving said ends of said shafts, spring means for biasing said shafts inwardly and urging them into said recesses for maintaining said member in a position for directing light through said opening, each of said last named means including a spring held in compression between one of said walls and one end of the shaft associated therewith for biasing said shaft inwardly, and detent means for preventing relative rotation between said member and said shafts while said member is supported on said shafts.

2,971,081
SIGNAL LAMP OR FLASHLIGHT FOR WATER DISASTER
Kazuhiro Shimizu, 39 Iogi 3-chome, Suginami-ku, Tokyo, Japan
Filed Feb. 20, 1959, Ser. No. 794,597
Claims priority, application Japan Jan. 10, 1959
3 Claims. (Cl. 240—10.68)



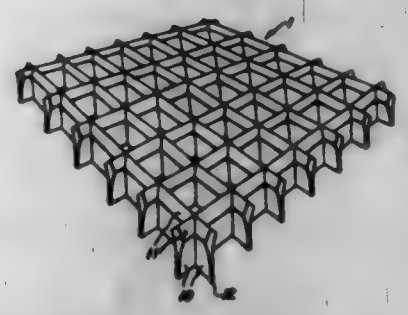
1. A signal lamp, especially for water disaster comprising a casing including cylindrical side walls and a bottom part detachably secured to said side walls, an imperforate metal disk secured to said bottom part, a contact assembly including a contact normally held in spaced relationship from said disk and a spring plate electrically connected to said contact, a battery in said casing supported on said spring plate, a reflector having a lamp mounted therein, said lamp being conected to said battery, a lens assembly secured to said casing and overlying said reflector and said lamp, means electrically connecting said reflector to said disk, and a perforated bottom cover secured to said bottom part permitting water to contact said disk to urge said disk against said contact, said disk maintaining the interior of said casing dry.

2,971,082
SPUTNIK CAP
Dean Frank, Box 194, Burke, S. Dak.
Filed June 26, 1958, Ser. No. 744,724
2 Claims. (Cl. 240—60)



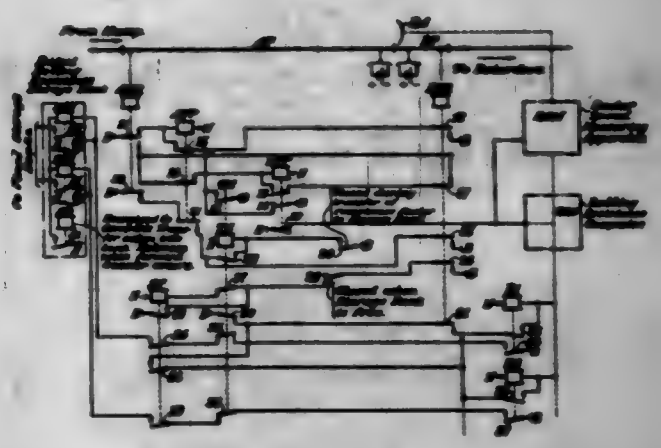
1. In an electrically illuminated head covering comprising, in combination, a hollow spheroidal shell, an adjustable head harness secured and arranged horizontally within said hollow shell, a plate formed of insulating material rigidly secured within the interior of said shell, said plate arranged horizontally and intermediate said head harness and the outer extremity of said hollow shell, said shell embodying at least seven radially outwardly extending integral translucent spikes of hollow cross-sectional configuration, an electric light bulb mounted on said rigid plate and positioned with its filament so as to be visible through said translucent spikes, a source of electrical current supported within said hollow shell, an electrical conductor and a pivotal type switch means for connecting said source and said light bulb in the same circuit, said switch means operable in a vertical position to close said circuit and in a horizontal position to open said circuit, said switch means pivotally mounted between said plate and the upper portion of said shell.

2,971,083
LOW BRIGHTNESS LOUVER
Donald R. Phillips, Cleveland Heights, Quentin D. Dobras, Chesterland, Alfred Makulec, Cleveland Heights, and Will S. Fisher, Chagrin Falls, Ohio, assignors to General Electric Company, a corporation of New York
Filed Nov. 14, 1958, Ser. No. 773,875
6 Claims. (Cl. 240—78)



1. A low brightness louver comprising a grid of cells open to light at the top and bottom, said cells having walls whereof each side surface extends upwardly as a portion of an optical curve having its focus approximately at the apex of the next adjacent cell wall on the same side and its axis inclined downwardly substantially at the cutoff angle to the plane of the louver in a direction away from said side, said side surfaces having a substantial degree of specular reflection.

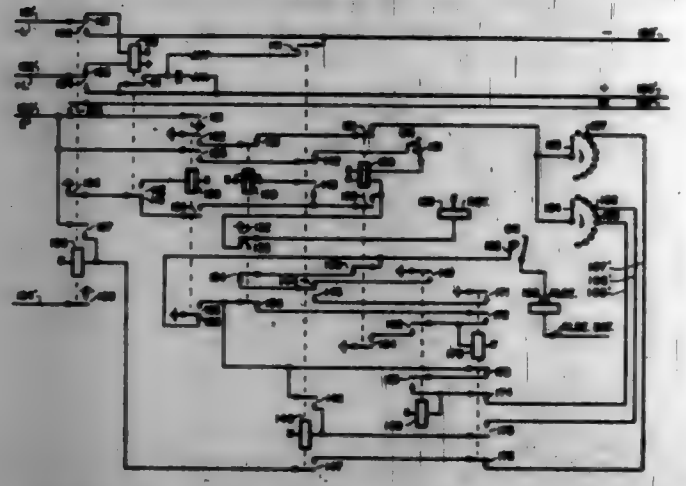
2,971,084
CONTROL CIRCUIT ARRANGEMENT FOR SPEED MEASURING APPARATUS
Benjamin Minkolevich and Sih Hsuin Tsiang, Pittsburgh, Pa., assignors to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania
Filed Feb. 14, 1956, Ser. No. 565,433
7 Claims. (Cl. 246—182)



1. In combination with a speed measuring apparatus capable when energized of providing an average measurement as a car traverses a stretch of railway track which is divided into a first and a second section, a first detection

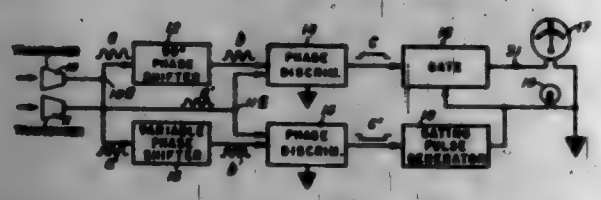
means having connections to said first section for detecting the occupancy of that section by a car, a second detection means having connections to said second section for detecting the occupancy of that section by a car, a track repeater relay, a control circuit including a front contact of said repeater relay to energize said measuring apparatus, a first circuit means controlled jointly by said first and said second detection means for energizing said repeater relay while a first car occupies only said first section, and a second circuit means jointly controlled by said first and said second detection means for energizing said repeater relay if a second car occupies said first section while said first car occupies said second section.

2,971,085
SELECTIVE SIGNALING RADIOTELEPHONE SYSTEM
Lester L. Smith, McHenry, Ill., assignor to Automatic Electric Laboratories, Inc., a corporation of Delaware
Filed June 22, 1956, Ser. No. 593,119
11 Claims. (Cl. 250—6)



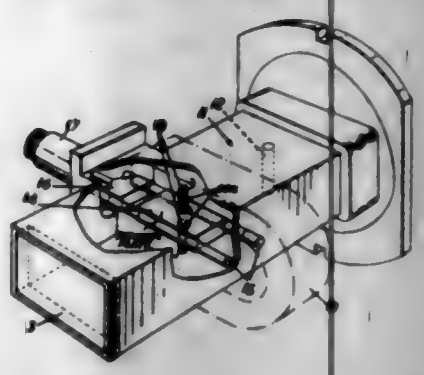
1. In a telephone system, a series of remote stations, a plurality of substations in each station, a restricting circuit in each station and switching equipment associated with each circuit, means in each station operated upon initiation of a call therefrom for seizing all of said restricting circuits, means in each circuit operated in response to the transmission of impulses from the calling station, corresponding to the call number representing a called station, for rendering only the switching equipment associated with the circuit of the called station effective, and means in the restricting circuit of the called station responsive to further transmitted impulses, for operating the switching equipment to select one of the substations at the called station.

2,971,086
ANGLE-GATED PHASE DETECTOR
James A. Feijoo, North Hollywood, and David W. Young, Jr., Van Nuys, Calif., assignors to The Bendix Corporation, a corporation of Delaware
Filed Mar. 28, 1958, Ser. No. 724,707
5 Claims. (Cl. 250—28)



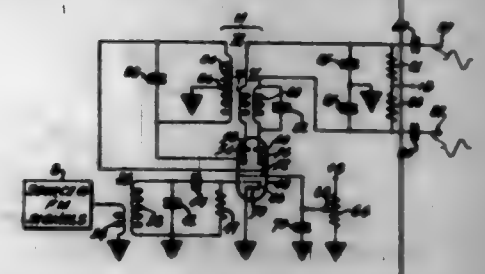
1. Apparatus for indicating selected phase differences, to the exclusion of other phase differences, between two alternating input potentials of the same frequency on two input terminals comprising: a first phase detector connected to said input terminals for producing a signal potential varying according to a desired pattern in response to a phase change between said input potentials through a selected phase angle range; an output terminal; gating means connecting said first detector to said output terminal and responsive to a control potential for selectively applying said signal potential from said first detector to said output terminal; a second phase detector connected to said input terminals and so constructed and arranged as to produce a control potential varying from a maximum magnitude at a selected phase angle within said selected range to lesser magnitudes in response to phase departures from said selected phase angle; and means for applying said control potential to said gating means.

2,971,087
MICROWAVE MIXERS
Amherst Felix Home Thomson, Bishop's Stortford, England, assignor to National Research Development Corporation, London, England, a British corporation
Filed June 17, 1958, Ser. No. 742,626
1 Claim. (Cl. 250—20)



A microwave mixer comprising a cavity tunable to resonate at the frequency of a received signal, a metal plate resonant to a local oscillator frequency located across the middle of the cavity and excitable by the local oscillations, a ferrite rod projecting from said metal plate, the ferrite rod being disposed transverse to and magnetisable by the magnetic component of the radio frequency fields thus set up in the cavity, magnetic means producing a steady magnetic field along the axis of the ferrite rod to align the directions of electron spins of the constituent atoms of the rod, coil means surrounding said rod, intermediate frequency signals being induced into said coil by changes of magnetisation in the ferrite rod resulting from precession of the electron spin directions thereof caused by the magnetic component of the received signal fields.

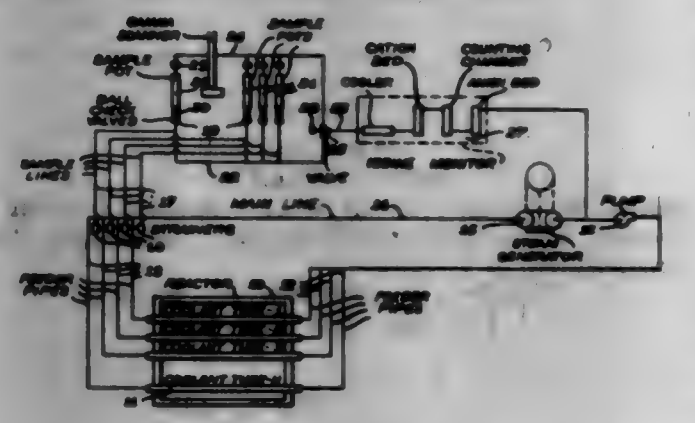
2,971,088
FREQUENCY VARIATION RESPONSE CIRCUITS
Morris D. Nelson, New York, N.Y., assignor to Radio Corporation of America, a corporation of Delaware
Filed Feb. 25, 1958, Ser. No. 717,356
6 Claims. (Cl. 329—113)



1. In a frequency variation response circuit for demodulating a frequency modulated wave including an electron tube having a control grid, a pair of beam deflecting electrodes, a pair of electron collector anodes, and means for developing an electron beam within said tube and accel-

erating said beam between said beam deflecting electrodes and toward said pair of collecting anodes, an electron beam deflecting circuit comprising in combination, means for applying a frequency modulated wave to said circuit, circuit means connected to said electron tube for developing self-oscillations on said control grid in accordance with the frequency variations of said frequency modulated wave, means including a transformer having primary windings connected to be traversed by the current through said collecting anodes for developing a pair of oppositely phased voltages having a phase relation with respect to the voltage on said control grid which varies in accordance with the frequency deviations of said frequency modulated wave, means including a secondary winding of said transformer for applying said pair of oppositely phased voltages to said pair of deflecting electrodes to divide the electron beam between said collector anodes in accordance with the frequency deviations of said frequency modulated wave, and means for deriving a detected output signal between said collector anodes.

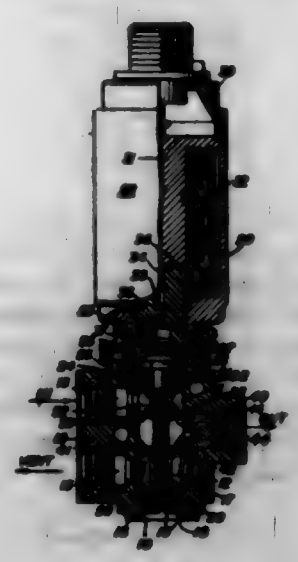
2,971,089
RADIOACTIVITY MONITOR
Leslie R. Haywood, Peterborough, Ontario, Canada, assignor to Atomic Energy of Canada Limited, Ottawa, Ontario, Canada, a company incorporated
Filed Aug. 11, 1958, Ser. No. 754,198
3 Claims. (Cl. 250—43.5)



1. A radioactivity monitor for the effluent from coolant tubes of a radioactive reactor, comprising for each coolant tube a sample pot having an inlet and an outlet connection, a sample pipe connected to each coolant tube and adapted to convey a sample of effluent to the inlet connection of the corresponding sample pot, a first radioactivity detector adapted to detect radioactivity of said effluent and having an inlet and an outlet connection, a common inlet pipe connecting the inlet connections of the sample pots, a common outlet pipe connecting the outlet connections of the sample pots, valve means adapted to connect the inlet connection of the first radioactivity detector to said common inlet pipe or to said common outlet pipe, means adapted to return effluent from the outlet connection of the first radioactivity detector to said coolant tubes, and a second radioactivity detector adapted to scan said sample pots one at a time and to provide an indication of the radioactivity of the effluent in each sample pot.

2,971,090
SOLENOID OPERATED HIGH PRESSURE VALVE HAVING MINIMUM CLOSURE TRAVEL
Meyer Piet, Arcadia, and Roderick J. Koutnik, Vista, Calif., assignors to Futurecraft Corporation, El Monte, Calif., a corporation of California
Filed May 16, 1955, Ser. No. 508,444
17 Claims. (Cl. 137—625)

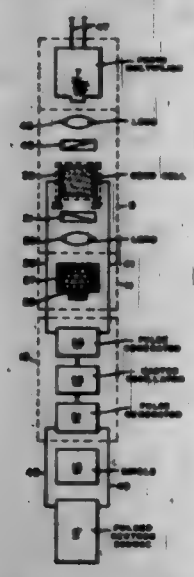
1. In a valve device: a body having an axial opening and axially spaced pressure, service and vent passages connected to said axial opening, said service passage being between said pressure and vent passages; a slide member in said axial opening; pressure port means in said axial opening between said pressure and service passages comprising an annular shoulder; closure means on said slide member comprising a resilient ring disposed between said annular shoulder and said pressure passage, the outer diameter of said ring being initially approximately the same as the diameter of the port defined by said annular shoulder, and an annular member on said slide member for axially compressing said resilient ring so as to expand its outer portion to a diameter slightly larger than the diameter of the port opening of said pressure port means, said annular member comprising a generally radially outwardly extending flange which tapers to a thin edge at its periphery, said flange being disposed between said ring and said service passage; stop means between said body and said slide member to stop said slide member when said resilient ring is in position of initial engagement with said annular shoulder of said pressure port means; a second closure means on said slide member between said service passage and said vent passage comprising an annular shoulder; vent port means in said axial opening between said service passage and said vent passage comprising a resilient ring having an internal diameter initially substantially the same as the shoulder of said second closure means, and means for supporting and axially compressing said resilient ring of said vent port means so as to reduce its internal diameter to a value smaller than the diameter of said annular shoulder of said second closure means, said supporting means comprising a generally radially inwardly extending flange which tapers to a thin edge, said flange being disposed between said ring and said vent passage; and stop means between said body and said slide member to stop said slide member when said annular shoulder of said second closure means is in position of initial engagement with said resilient ring of said vent port means.



2,971,091
RADIOACTIVITY LOGGING OF BOREHOLES
John D. Ball, Harris County, Tex., assignor, by mesne assignments, to Jersey Production Research Company, Tulsa, Okla., a corporation of Delaware
Filed Oct. 7, 1957, Ser. No. 688,716
4 Claims. (Cl. 250—71.5)

1. Apparatus for radioactivity logging of a borehole, comprising: an electrically actuable neutron source adapted to bombard earth formations with fast neutrons; scintillation type radiation detector means adapted to emit

light rays upon reception of radiation from surrounding earth formations; first light polarizing means for rectilinearly polarizing light rays emitted by said detector; plane-of-polarization rotating means positioned to receive light from said first light polarizing means adapted to rotate the plane of polarization of light rays from said first light polarization means between first and second orthogonally disposed planes of polarization responsive



to an energizing signal from said electric control means; second light polarizing means for transmitting light of only one of said first and second planes of polarization from said control means to a light sensitive detector; and electrical control means coupled to said neutron source and to said plane-of-polarization rotating means to repetitively actuate said neutron source and said plane-of-polarization rotating means according to a predetermined program.

2,971,092

RADIATION WELL LOGGING

James A. Richard, Houston, Tex., assignor, by mesne assignments, to Jersey Production Research Company, Tulsa, Okla., a corporation of Delaware

Filed Nov. 21, 1957, Ser. No. 697,988
4 Claims. (Cl. 250—71.5)



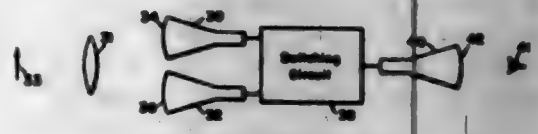
1. A radiation well logging system comprising: a primary radiation source for emitting primary radiations and a secondary radiation detector mounted on a movable conducting cable, said detector including a radiating material having a refractive index such that electrons struck by the secondary radiation entering the radiating material will travel through the radiating material faster than the speed of light through said radiating material thereby causing light to be spontaneously radiated by the moving electrons; said material also being such that particles in the material struck by the primary radiations will not travel through the radiating material faster than the speed of light; means for detecting the spontaneously radiated light and producing electric signals proportional thereto; and means for recording said electric signals.

2,971,093

COLOR THERMAL IMAGE SYSTEM

Max Garbuny, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Sept. 28, 1953, Ser. No. 383,149
11 Claims. (Cl. 250—83.3)



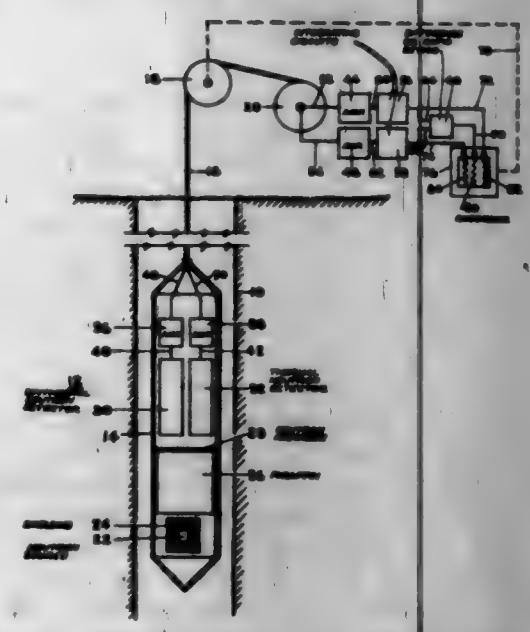
1. A thermal image converter system comprising means for scanning a thermal image, a first filter means associated with said scanning apparatus for sequentially breaking down said thermal image into different wavelength regions whereby the signals developed in said scanning apparatus are representative of the temperature values of said image, a cathode ray tube adapted to reproduce images sequentially from said scanning apparatus, a second filter means associated with said cathode ray and means for rotating said first and second filter means.

2,971,094

WELL LOGGING

Charles W. Tittle, Newton, Mass., assignor to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

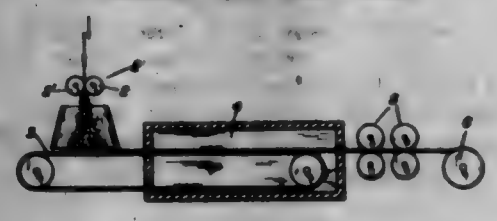
Filed Dec. 27, 1956, Ser. No. 630,942
8 Claims. (Cl. 250—83.3)



1. In the art of logging earth formations through which a borehole passes, the improvement comprising applying to the face of the borehole a chlorine containing fluid under a pressure in excess of the fluid pressure prevailing within the formation; thereafter subjecting the formation to a flux of fast neutrons from a source thereof in the borehole, concurrently producing a first electrical signal having a magnitude that is a function of the rate at which gamma rays enter the borehole adjacent the fast neutron source, concurrently producing a second electrical signal having a magnitude that is a function of the rate at which thermal neutrons enter the bore-

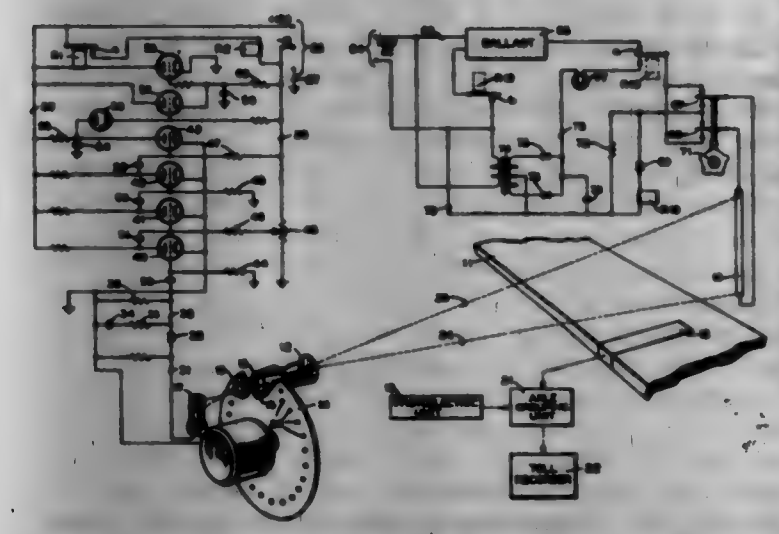
hole adjacent the fast neutron source, and electrically correlating the magnitudes of the signals to establish a useful relationship with respect to the penetration of said fluid into the formation.

2,971,095
RADIATION SHIELDING FABRIC
Warren Wendell Drummond, Madison, Wis., assignor to Bjorksten Research Laboratories, Inc., Madison, Wis., a corporation of Illinois
Filed Mar. 23, 1955, Ser. No. 496,228
4 Claims. (Cl. 250—108)



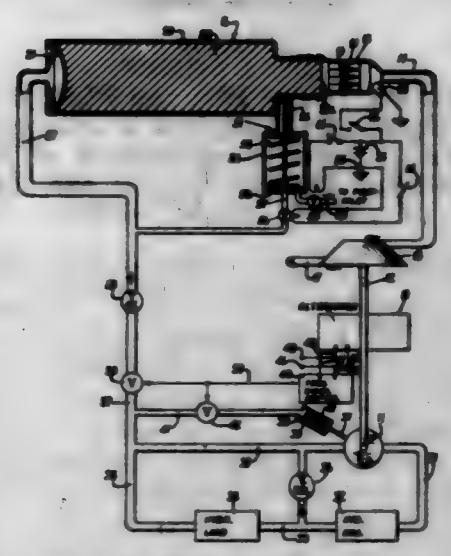
2. As an article of manufacture, a mat composed of glass fibers coated with a low melting heavy metal composition, said fibers being bonded together by fusion of the said low melting metal composition substantially only at the points of contact, said article being flexible.

2,971,096
PHOTOELECTRIC RELAY SYSTEM CONTROL
Francis L. Pratt, Endwell, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Original application Sept. 20, 1955, Ser. No. 535,494. Divided and this application Oct. 5, 1956, Ser. No. 614,243
5 Claims. (Cl. 250—217)



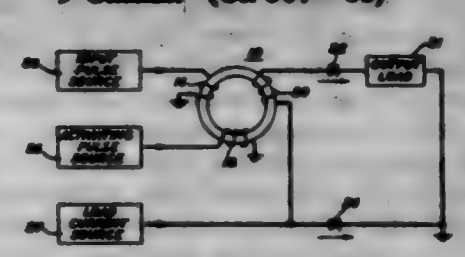
1. A device for detecting objects passing over a roadway comprising an elongated source of light; a photoelectric tube; an optical system including a lens between said light source and said photoelectric tube for focusing an image of said light source in a focal plane; a mask adjacent said focal plane having a transparent opening corresponding to said image; a continuously rotating scanning disc at said focal plane having equi-distant apertures therein moving in said focal plane for exposing said photoelectric tube to successive portions of said image, whereupon said photoelectric tube produces a train of equally spaced electrical signal pulses, each pulse being produced in response to the exposure of said photoelectric tube to said successive portions of said image; a relay; a circuit operatively connecting said photoelectric tube with said relay for energizing said relay in response to the detection of the absence of at least one of said electrical signal pulses; and delay means included in said circuit for maintaining said relay energized for a time period equal to at least one complete rotation of said scanning disc.

2,971,097
CONTROL FOR A SEMI-SOLID MONOFUEL DRIVEN TURBOALTERNATOR AND PUMP SYSTEM
Marshall J. Corbett, Cleveland, Ohio, assignor to Thompson Ramo Wooldridge Inc., Cleveland, Ohio, a corporation of Ohio
Filed Jan. 2, 1959, Ser. No. 784,511
9 Claims. (Cl. 290—2)



1. A power generating system comprising, an electrical power generating device of the rotating type, a variable delivery hydraulic pump, a gas driven turbine having an output shaft connected to drive said power generating device and said pump, a combustion chamber having an outlet connected to supply gases of combustion to drive said turbine, a fuel tank containing a gelatinous monopropellant fuel and having an outlet connected to said combustion chamber, means in said combustion chamber to ignite said fuel, means actuated by the output of said hydraulic pump to extrude said fuel from said tank to said combustion chamber at a rate determined by the pressure of the output of said pump, means connected to provide an output signal which is a measure of the speed of rotation of said electrical power generating device, and means controlled by said output signal and connected to vary the output pressure of said pump responsively to the magnitude of said signal to vary the rate at which said fuel is extruded to said combustion chamber so as to maintain said speed of said electrical generating device at a predetermined value.

2,971,098
MAGNETIC CORE CIRCUIT
Andrew H. Bobeck, Chatham, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 18, 1956, Ser. No. 629,132
9 Claims. (Cl. 307—88)



1. An electrical circuit comprising a magnetic core, an input winding, an activating winding and an output winding on said core, load means connected in series with said output winding, a source of load current connected to said output winding, means connecting said load current source to ground, means including said input winding to determine the magnetization of said core in one direction, a distinct current source, and means for

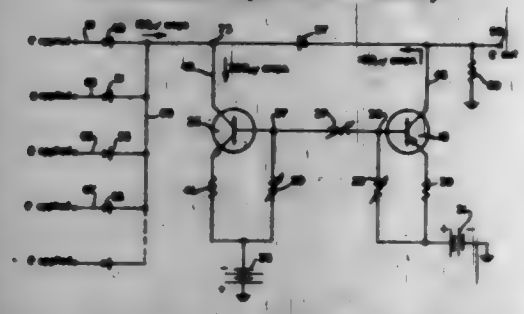
applying an activating pulse from said distinct current source to said activating winding to determine the magnetization of said core in the other direction, said output winding being wound on said core so as to develop an electromotive force therecross to draw current from said load current source through said output winding to said load means during the determination of said magnetization in said other direction.

2,971,099

SIGNAL MIXER

Harvey Rosenberg, Drexel Hill, and Richard L. Fussell, Newtown Square, Pa., assignors to Burroughs Corporation, Detroit, Mich., a corporation of Michigan

Filed Apr. 23, 1959, Ser. No. 808,374
5 Claims. (Cl. 307—88.5)



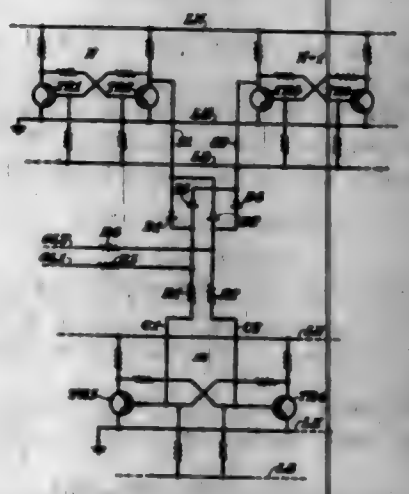
1. A signal mixer circuit for mixing low level signals transmitted thereto from a plurality of channels wherein the mixer output signal at any selected time must have a value substantially equal to the highest input signal of all the signals received at said selected time comprising, a series-connected unidirectional current flow device, a plurality of signal unidirectional current flow devices, each of said unidirectional current flow devices having a voltage drop in the forward conducting direction, at a predetermined current value, which is equal, said signal unidirectional current flow devices having their respective signal input elements for connection to an associated input signal channel and their respective signal output elements connected to a common point so that in response to said highest input signal each signal unidirectional current flow device will be blocked excepting the unidirectional current flow device associated with the channel having the highest input signal thereon, said series-connected unidirectional current flow device having its signal output element connected to said common point, a voltage divider circuit having first and second end terminals to be connected across a potential difference to provide at least first and second different valued bias points, first and second electron transfer devices each having an input element, an output element, and a control element, said first electron transfer device having its output element coupled to the signal input element of said series-connected unidirectional current flow device, its control element coupled to said first bias point, and its input element circuitry coupled to the first end terminal of said voltage divider circuit, said first electron transfer device thus connected to provide a current having a predetermined constant value, said second electron transfer device having its output element connected to said common point, its control element connected to said second bias point, and its input element circuitry connected to said second end terminal of said voltage divider circuit, said second electron transfer device connected in such manner to provide a constant current having a current value which is twice that of said predetermined current value, said second electron transfer device drawing at said common point first current through said series-connected unidirectional current flow device and second current through said signal unidirectional current flow device associated with the channel having the highest signal thereon, said first and second currents each having a value substantially equal to said predetermined current value to effect a nullification of the voltage drop across said last mentioned signal unidirectional current flow device by a voltage rise across said series-connected unidirectional current flow device when considered from said common point, and output signal means coupled to the input element of said series-connected unidirectional current flow device to provide the net signal after said last mentioned voltage drop nullification thereby providing an output signal substantially equal to the highest input signal appearing on said channels.

2,971,100

REGISTRY CIRCUITS FOR REMOTE CONTROL SYSTEMS

Stanley Leonard Hurst and John Joseph Ring, London, England, assignors to Westinghouse Brake and Signal Company Limited, London, England

Filed Oct. 28, 1959, Ser. No. 847,626
Claims priority, application Great Britain Oct. 29, 1958
13 Claims. (Cl. 307—88.5)



1. At a location in a remote control system, a multistage electronic counting chain in which the stages successively change condition in response to a stepping action to provide counting steps, means for receiving two-state information functions transmitted from a remote location to provide an output, a registry means associated with the first of a consecutive pair of counting stages and having a first and a second stable condition, said registry means being connected to said receiving means for registering the state of the function received by said receiving means during the counting step designated by the first stage of said pair, means also controlled by the stepping action and having connections for controlling the time of output of said function receiving means during each counting step, and variable impedance means controlled by said consecutive pair of stages for conditioning the connections of said receiving means to said registry means to cause the registry means to register the received function only during the counting step between the change of condition of the first and second stages of said consecutive pair.

2,971,101

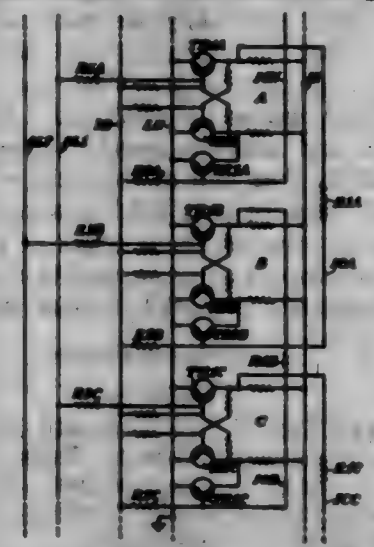
ELECTRONIC COUNTING CHAINS

Stanley Leonard Hurst, Edgar Ian White, and William Ernest New, London, England, assignors to Westinghouse Brake and Signal Company Limited, London, England

Filed Oct. 30, 1959, Ser. No. 849,831
Claims priority, application Great Britain Nov. 13, 1958
13 Claims. (Cl. 307—88.5)

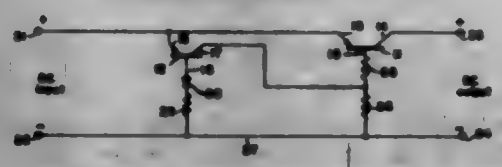
7. An electronic counting chain including a plurality of bistable circuits, means connected to said circuits for supplying operating potentials thereto, stepping means connected to said circuits for supplying stepping pulses thereto for actuating successive reversals in the stable conducting condition of the circuits to count the stepping pulses, a variable impedance means coupling each pair

of consecutive circuits for providing a shunt path for said stepping pulses applied to the second circuit of the associated pair, each variable impedance means being controlled by the first circuit of the associated pair for inter-



rupting the shunt path when the conducting condition of the first circuit is reversed, thereby assuring a cascaded counting operation by said chain in response to successive stepping pulses.

2,971,102
TRANSISTOR CIRCUIT
Robert T. Schultz, 1250 N. Tresny Ave., Glendora, Calif.
Filed July 21, 1959, Ser. No. 828,491
12 Claims. (Cl. 307—93)



12. A circuit for eliminating transients occurring in a direct-current power supply, having first and second terminals, said circuit including the combination of a first transistor having an emitter, a collector, and a base, a plurality of transistors each having an emitter, a collector, and a base, means interconnecting the emitters, collectors, and bases of said plurality of transistors respectively in parallel, means interconnecting said parallel-connected emitters of said plurality of transistors and the emitter of said first transistor with said first terminal of said power supply, resistive impedance means connected between said parallel connected bases of said plurality of transistors and said second terminal of said power supply to bias said plurality of transistors to pass current, a diode having Zener breakdown characteristics connected to the base of said first transistor, means connecting said diode to the second terminal of said power supply, said diode being poled to cause said first transistor to remain non-conducting during the absence of transients and to become conductive only during the presence of transients at the terminals of said power supply, and means including said resistive impedance means interconnecting the collector of said first transistor and the bases of said plurality of transistors, whereby said plurality of transistors becomes substantially non-conducting in response to said first transistor becoming conductive.

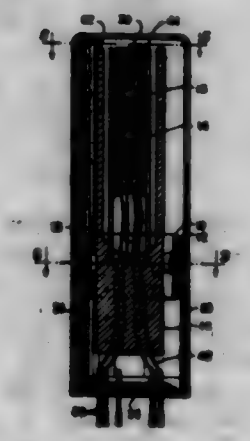
2,971,103
PULSE FORMING NETWORK AND SWITCHING MEANS THEREFOR
Charles L. Johnson, 220 S. Doheny Drive, Beverly Hills, Calif.
Filed May 25, 1959, Ser. No. 815,590
9 Claims. (Cl. 307—106)

1. In a pulse forming network having a charging coil and a plurality of capacitive means connected between respective taps on the coil and a common connection to a pulse transformer, wherein a switch in the common connection is adapted to be closed to connect all the capacitive means between the charging end of the coil and the transformer, and to be opened to connect only a predetermined group of the capacitive means between the charging end of the coil and the transformer, wherein the number of turns of the coil at one end of such group of capacitive means is improper to provide compensation for



insuring the development of pulses of desired waveform, the combination of: first and second taps on the coil located between the charging end of the coil and the capacitive means at such one end; and a switch connecting said first and second taps to be operated when only the aforementioned group of capacitive means is connected between the charging end of the coil and the transformer, for connecting the proper number of turns to the capacitive means at the one end for compensation.

2,971,104
TUNING FORK ASSEMBLY INCLUDING DRIVING AND PICK-UP COILS
William J. Holt, Jr., Pacific Palisades, Calif., assignor to Vare Mfg. Co., Inc.
Filed Apr. 22, 1957, Ser. No. 654,193
12 Claims. (Cl. 310—17)

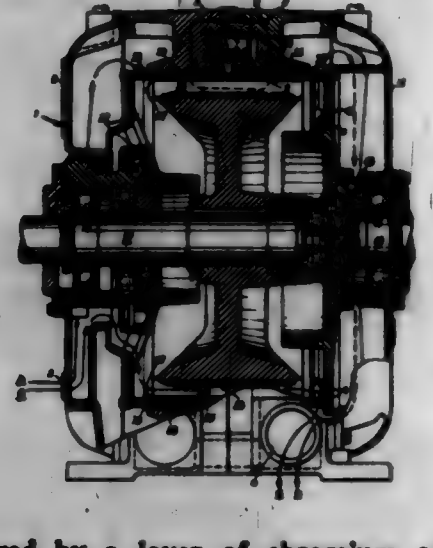


1. A tuning fork assembly comprising, a tuning fork having a base and tines, a drive coil, a pick-up coil, a metal housing for said coils, said housing comprising a pair of matching housing members of configuration to provide a cavity between said tines, said coils being disposed within said cavity and said cavity being filled with impregnating material, said housing members being rigidly secured to the base of said fork, said housing members holding said coils between the tines of said fork.

2,971,105
EDDY-CURRENT MACHINE
Ralph L. Jaeschke, Kenosha, Wis., assignor to Eaton Manufacturing Company, Cleveland, Ohio, a corporation of Ohio
Filed Apr. 13, 1959, Ser. No. 806,099
4 Claims. (Cl. 310—105)

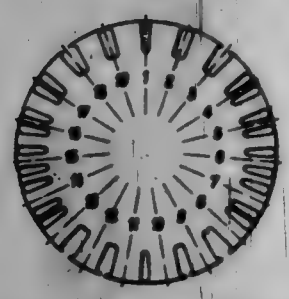
1. An eddy-current machine comprising a cylindrical ferromagnetic inductor drum member, a field member having circularly arranged poles facing a cylindrical wall of the drum member across a comparatively small gap, means adapted to establish a magnetic field interlinking said members, whereby concentrations of flux are adapted to be swept through the drum member to induce eddy

currents at its surface adjacent said gap, said surface throughout the swept area being faced with a layer of



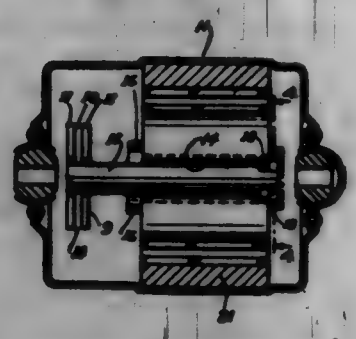
copper covered by a layer of chromium adjacent the gap.

2,971,106
INDUCTION MOTORS
Kurt Westphalen, Wedeler Landstrasse 101, Hamburg-Rissen, Germany
Filed Nov. 28, 1958, Ser. No. 777,635
Claims priority, application Germany Dec. 5, 1957
12 Claims. (Cl. 310—166)



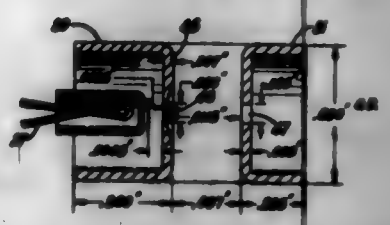
1. In an alternating current induction motor of the squirrel-cage type having a rotor formed with slots disposed across the rotor in a cylindrical zone concentric with the axis of the rotor and having short-circuited conductor lattices in said slots, the slots and conductors being arranged in at least two distinct annular series, the number of slots and conductors in each annular series being different and the conductors of the series being mutually connected together where they intersect, and the conductors of at least one of the lattices being slanted at a constant angle with respect to the rotor axis.

2,971,107
ELECTRIC MOTORS
Kevin K. D. Jin, Elyria, Ohio, assignor to The General Industries Company, Elyria, Ohio, an Ohio company
Filed Apr. 9, 1959, Ser. No. 805,196
4 Claims. (Cl. 310—239)



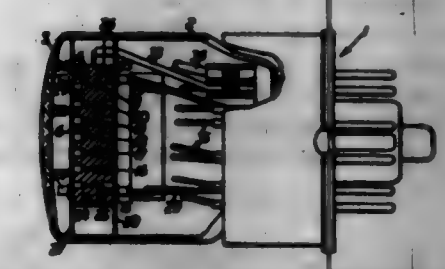
1. Brush carrier support mechanism for electric motors of the type having a commutator at one end of a centrally disposed armature and a field structure surrounding the said armature, said mechanism comprising a pair of substantially resilient T-shaped brush supports each rigidly affixed by portions to diametrically opposite sides of said structure, said supports each having a T-bar bifurcated at either end thereof, said bars being disposed in substantial parallelism at relatively opposite sides of the commutator and said supports each having an arcuate stem portion and arcuate means disposed adjacent the T-bar and at the free end of the stem adapted to engage opposite end faces of said field structure, and longitudinally extending reversely bent edges of said arcuate stem portion of the support being shaped to exert reactive force on circumferentially disposed ends of the field structure.

2,971,108
ELECTRON DISCHARGE DEVICE
William A. Dickinson, Seneca Falls, and George E. Hassler, Auburn, N.Y., assignors, by mesne assignments, to Sylvania Electric Products Inc., Wilmington, Del., a corporation of Delaware
Filed Sept. 26, 1958, Ser. No. 763,593
2 Claims. (Cl. 313—82)



1. An electron discharge device employing an electron beam comprising an image screen, and an electron gun formed to provide the source, acceleration, control and focusing of the electron beam spaced from said screen, said electron gun including a cathode, a first grid and a second grid arranged in the direction of electron travel toward said screen, said first grid comprising a cylinder having an end wall formed to provide an aperture aligned with said cathode, the surface of said end wall surrounding the aperture having a given thickness of from .0020 to .0030 inch, the spatial distance between the cathode and first grid being from 1.25 to 3.0 times said given thickness and between said first and second grids being from 3.0 to 7.0 times said given thickness.

2,971,109
COLD CATHODE TUBES
Thomas Meirion Jackson and Eric Andreas Frederik Sell, London, England, assignors to International Standard Electric Corporation, New York, N.Y.
Filed Sept. 15, 1959, Ser. No. 840,102
Claims priority, application Great Britain Oct. 3, 1958
6 Claims. (Cl. 313—188)



1. A cold cathode glow discharge tube comprising an envelope, a rectangular co-ordinate array of discharge gaps within said envelope each formed between an anode electrode and the surfaces of a cathode electrode, an ionizable gas within said envelope of a composition and pressure sufficient to provide an intensely luminous "hollow cathode" glow discharge at the said gaps, means

inhibiting the spread of glow beyond the said surfaces of said cathodes, and means substantially isolating each discharge gap from coupling within the tube to any other discharge gap.

2,971,110
METAL VAPOR LAMPS
Kurt Schmidt, Cleveland, Ohio, assignor to General Electric Company, a corporation of New York
Filed Aug. 26, 1959, Ser. No. 836,200
8 Claims. (Cl. 313—221)



1. An electric discharge lamp comprising a tubular elongated envelope of sintered transparent high density polycrystalline alumina consisting essentially of aluminum oxide and having a melting point not less than 1925° C., said envelope having a pair of electrodes sealed into opposite ends, an ionizable medium including metal vapors sealed within said envelope, said metal vapors being selected from the group comprising the alkali metals sodium, potassium, rubidium and cesium, the alkali earth metals calcium, strontium and barium, and the metals cadmium, zinc and thallium, said envelope operating at a temperature from 1000° C. up to approximately 1925° C.

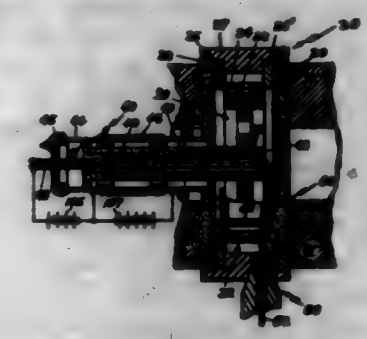
2,971,111
EXHAUST TUBE AND TOP CAP ASSEMBLY
Clarence E. Benton and William W. Herrick, Emporium, Pa., assignors, by mesne assignments, to Sylvania Electric Products Inc., Wilmington, Del., a corporation of Delaware
Filed Nov. 13, 1957, Ser. No. 696,080
3 Claims. (Cl. 313—290)



1. An electron device including an evacuated bulb, an electrode in the upper end of the bulb having affixed thereto a hollow elongated member, said elongated member extending through the upper wall of the bulb, a restriction within the hollow elongated member intermediate its ends, and a globule of glass sealed in the upper end of the hollow member substantially flush with the upper end thereof and above the restriction.

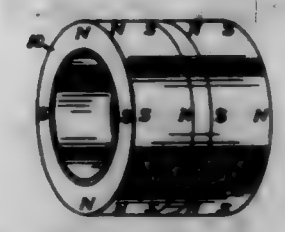
2,971,112
TRAVELING WAVE TUBE ELECTRODE MOUNTINGS
Edward C. Dench, Needham, Mass., assignor to Raytheon Company, a corporation of Delaware
Filed Nov. 12, 1953, Ser. No. 391,628
27 Claims. (Cl. 315—3.5)

1. An electron source for a traveling wave tube having a periodic, frequency-responsive anode and a principal electrode arranged parallel thereto comprising an elongated substantially polygonal cathode body having at least one surface spaced from and parallel to said anode and containing an electron emitting material disposed on at least said one surface of said cathode body, and



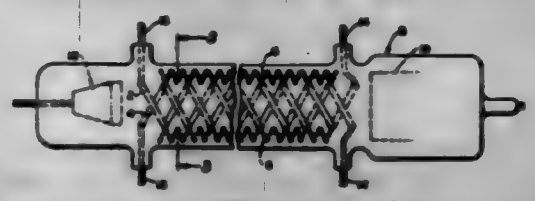
a heater positioned within the aperture in said body and spaced therefrom.

2,971,113
ACCELERATION TUBE FOR MICROWAVE LINEAR ACCELERATOR HAVING AN INTEGRAL MAGNET STRUCTURE
John C. Nygard, Lexington, Mass., assignor to High Voltage Engineering Corporation, Burlington, Mass., a corporation of Massachusetts
Filed Oct. 17, 1957, Ser. No. 690,818
1 Claim. (Cl. 315—3.5)



Microwave linear accelerator comprising, in combination, an iris-loaded waveguide, means for producing a travelling electromagnetic wave in said waveguide, and means for injecting electrons into said waveguide in proper phase relationship with said travelling electromagnetic wave for acceleration of said electrons as an electron beam, said iris-loaded waveguide comprising alternating copper spacers and cylindrical magnets each longitudinally polarized so as to form two quadrupoles oppositely oriented, each such quadrupole comprising four magnetic poles symmetrically arranged about the axis of said waveguide, successive cylindrical magnets being arranged so that opposite poles are adjacent one another, the interior surface of each cylindrical magnet being copper plated, whereby space charge and other defocusing influences on said electron beam are counteracted without the need for apparatus other than said iris-loaded waveguide.

2,971,114
HELICALLY-STRAPPED MULTIFILAR HELICES
Daniel G. Dow, Altadena, Calif., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed July 23, 1959, Ser. No. 829,167
4 Claims. (Cl. 315—3.6)



4. In a traveling-wave tube, an electron gun and a collector for electrons spaced apart in said tube for forming an electron beam, and a slow-wave structure; said slow-wave structure comprising a multifilar helix positioned to surround said electron beam and including a

plurality of separate parallel intertwined helices, each separate helix having the same constant pitch, the same constant pitch angle, and same constant mean radius, and lying along a common axis; said separate helices being spaced from each other in such a manner that the distance measured in a direction parallel to the axis of the multifilar helix between a point on one turn of the multifilar helix and the corresponding point on the next adjacent turn of the multifilar helix is the same for every such pair of turns of the multifilar helix; and a plurality of auxiliary conducting helices, spaced evenly around the circumference of said multifilar helix and in firm electrically-conducting contact with the said separate helices wherever they meet, the auxiliary helices being tangent to the said separate helices and having their axes parallel to the axis of the multifilar helix.

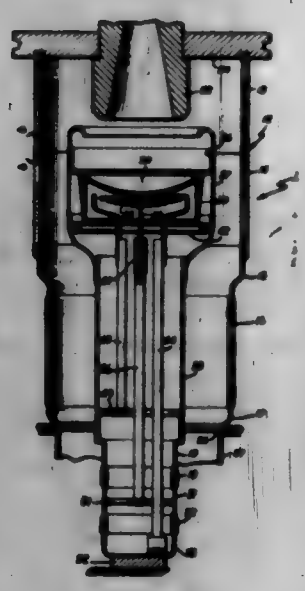
2,971,115

ELECTRON TUBE APPARATUS

Richard B. Nelson, Los Altos, Calif., assignor to Varian Associates, San Carlos, Calif., a corporation of California

Original application June 14, 1955, Ser. No. 515,327, now Patent No. 2,944,187, dated July 5, 1960. Divided and this application Aug. 3, 1959, Ser. No. 831,178

8 Claims. (Cl. 315—5)



1. In an electron tube apparatus a vacuum tight take-apart joint comprising two tubular segments of the cathode envelope having a pair of mutually opposing surfaces and adapted to be sealed together via the intermediary of a sealing material, certain portions of said opposing surfaces forming a longitudinal aligning interface, certain other portions of said opposing surfaces at right angles to said longitudinal aligning interface forming a transverse aligning interface, and portions of said opposing surfaces disposed between said longitudinal and said transverse aligning interfaces spaced apart to create a void therebetween to prevent contamination of the aligning surfaces by sealing material.

2,971,116

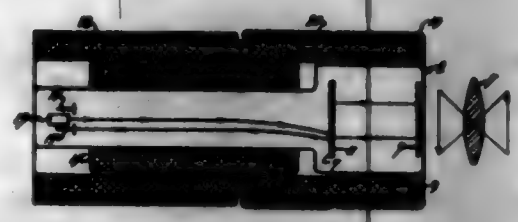
TELEVISION CAMERA SYSTEM

Sidney L. Bendell, Haddon Heights, N.J., assignor to Radio Corporation of America, a corporation of Delaware

Filed Nov. 4, 1957, Ser. No. 694,214

5 Claims. (Cl. 315—10)

1. Apparatus including the combination of an image orthicon camera tube having an image section, and an electron beam scanning section, said image section including a photocathode and a target electrode, said scanning section being located on the opposite side of said target from said photocathode and including an electron gun for producing a beam of electrons directed toward said target, deflection means including coils positioned adjacent the scanning section of said tube to control said electron beam to define a scanning raster on said target electrode, a focusing coil positioned adjacent said image section and scanning section to provide a magnetic field for focusing the electron image from said photocathode



and the electron beam from said electron gun on said target electrode, a first orbiting yoke including toroidal windings on a first cylindrical magnetic core positioned around a portion of said focusing coil adjacent the scanning section of said tube, a second orbiting yoke including toroidal windings on a second cylindrical magnetic core positioned around a portion of said focusing coil adjacent the image section of said tube, and magnetic shielding means for said focusing coil to shield said tube from external magnetic fields including said first and second magnetic cores.

2,971,117

COLOR-KINESCOPES, ETC.

Harold B. Law, Princeton, N.J., assignor to Radio Corporation of America, a corporation of Delaware

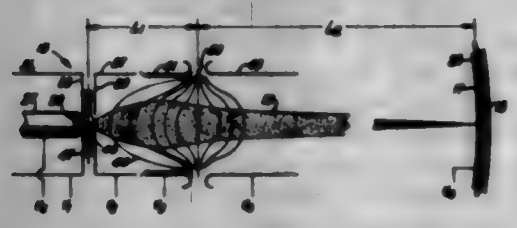
Filed Mar. 1, 1956, Ser. No. 568,862

5 Claims. (Cl. 315—13)



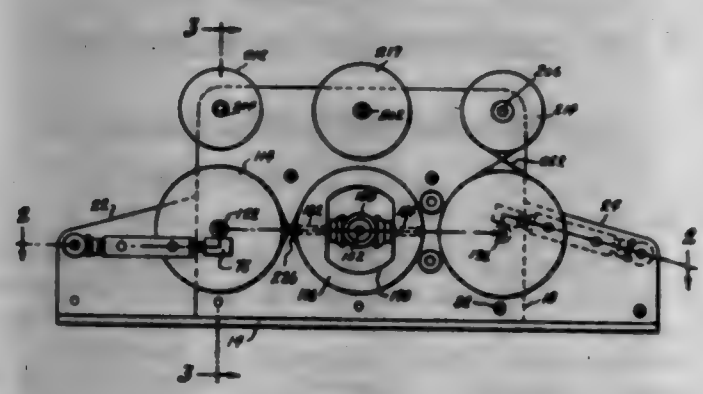
1. A cathode-ray tube comprising a mosaic screen-electrode, a mask having electrically separate major faces mounted adjacent to said screen-electrode and containing a pattern of apertures which is systematically related to the elemental areas of which said mosaic is comprised, electron-gun means mounted in a position to scan said mosaic through the apertures in the major faces of said mask, a hollow accelerating electrode intermediate said electron-gun means and said mask through which primary electrons from said gun-means travel in their transit to said screen-electrode, means electrically connecting said screen-electrode to said hollow accelerating electrode for applying a common operating potential to said electrodes, and separate electrode leads individual to the separate major faces of said mask for establishing: (*a*) an electron-lens field for said primary electrons about the apertures in said mask and (*b*) a retarding field for secondary-electrons released by impact of said primary-electrons.

2,971,118
ELECTRON DISCHARGE DEVICE
Glen A. Burdick, Waterloo, N.Y., assignor, by mesne assignments, to Sylvania Electric Products Inc., Wilmington, Del., a corporation of Delaware
Filed Nov. 10, 1958, Ser. No. 773,113
3 Claims. (Cl. 315—16)



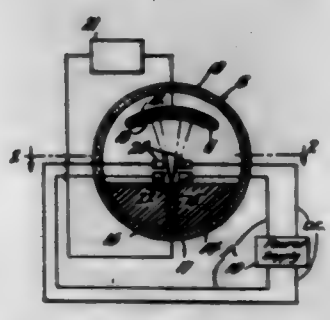
1. A gun structure adapted for use in a cathode ray tube employing an electron beam comprising in sequence a cathode, a first grid having an apertured end wall, a second grid formed to provide an apertured wall, a third grid having a given diameter and a fourth high voltage grid, said grids being mounted in spaced relationship with one another and formed to provide an electrostatic immersion lens and a tri-potential electrostatic beam focusing lens separated directly by said second grid apertured wall, said focusing lens having an object distance which is substantial but less than approximately .64 inch, an object distance to image distance ratio ranging from approximately .03 to .06, and a ratio of said given object distance to said given diameter ranging from about 1.0 to 1.5, said tri-potential lens providing focusing of the beam when the voltage applied to said second grid ranges from approximately 250 to 700 volts, the voltage applied to said third grid is less than approximately 700 volts, and the voltage applied to said fourth grid exceeds approximately 12,000 volts.

2,971,119
COMPUTING DEVICE
Edward E. Helvey, Clifton, N.J., assignor to the United States of America as represented by the Secretary of the Navy
Filed Mar. 8, 1954, Ser. No. 414,922
1 Claim. (Cl. 315—23)



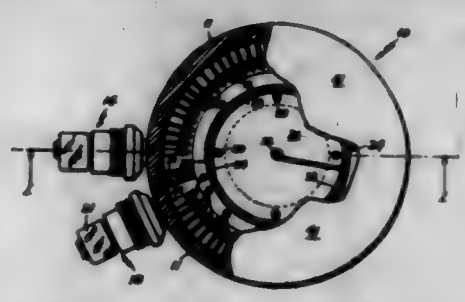
In combination in a facsimile recorder; visual recording means including a recording cathode ray tube and horizontal and vertical deflection means for said cathode ray tube; an adjustable horizontal oscillator electrically connected to said horizontal deflection means for controlling line-by-line deflection across the face of said cathode ray tube; horizontal sweep width adjusting means electrically connected to said horizontal deflection means; first manually rotatable means, calibrated in terms of lines per unit time mechanically connected to said horizontal oscillator; a vertical oscillator electrically connected to said vertical deflection means for controlling lines per unit length on said cathode ray tube; rotatable adjusting means connected to said vertical oscillator; second manually rotatable means calibrated in terms of index of cooperation mechanically connected to said horizontal sweep width adjusting means; a differential having three relatively rotatable elements two of which are inputs and one of which is an output; means mechanically connecting one of the input rotatable elements of said differential and said index of cooperation calibrated manually rotatable means; means mechanically connecting another of the input elements of said differential and said lines per unit time calibrated manually rotatable means; and means mechanically connecting the output element of said differential and said vertical oscillator.

2,971,120
SWITCHING DEVICE
Edward L. Schiavone, 10502 Insley St., Silver Spring, Md.
Filed Nov. 4, 1959, Ser. No. 850,829
10 Claims. (Cl. 315—23)



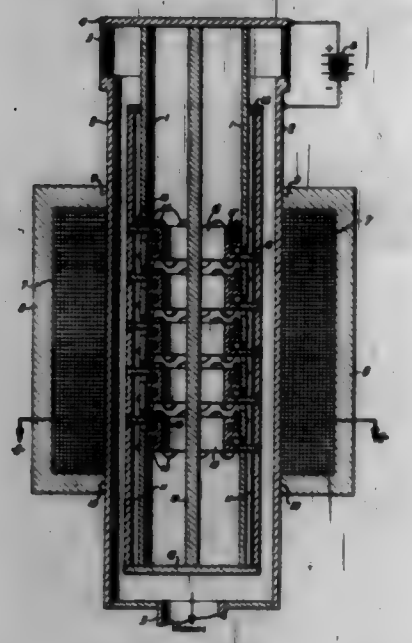
1. A device for selectively energizing discrete areas of a line of fluorescent material comprising an elongated line of fluorescent material, a source of electrons positioned remote from said line of material and having its axis substantially parallel to the axis of said material for radiating a transversely elongated beam of electrons, means for rotating the transversely elongated beam of electrons radiated from said source and means for deflecting the rotated beam of electrons whereby selected finite areas of said fluorescent material are energized at the intersection of the rotated elongated beam and the line of fluorescent material.

2,971,121
MAGNETRON AMPLIFIERS
Edward C. Dench, Needham, Mass., assignor to Raytheon Company, a corporation of Delaware
Original application Nov. 8, 1951, Ser. No. 255,499, now Patent No. 2,889,328, dated Oct. 8, 1957. Divided and this application Apr. 30, 1957, Ser. No. 658,913
11 Claims. (Cl. 315—39.3)



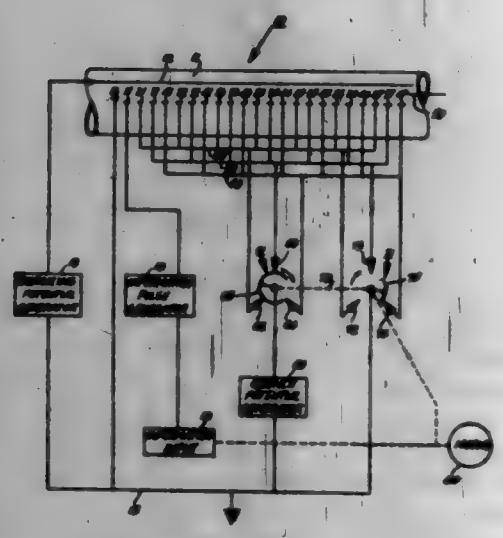
1. An electron discharge device comprising a slow wave energy propagating structure for transmitting electromagnetic wave energy to an output, a source of electrons spaced from said structure, means for directing electrons from said source along the region between said structure and said source at a velocity substantially equal to the velocity of propagation of said wave energy, and an output amplitude control electrode structure insulated from said energy propagating structure and said source and including an electrically-conductive member positioned adjacent and outside said region and outside said structure.

2,971,122
HIGH-POWER MAGNETRON
David H. Sloan, Berkeley, Calif., assignor to The Regents of the University of California, Berkeley, Calif., a corporation of California
Filed June 23, 1958, Ser. No. 743,791
8 Claims. (Cl. 315—39.71)



1. A magnetron comprising an anode and a cathode concentrically arranged, one within the other, defining therebetween a ring-shaped interelectrode space, said cathode comprising a cylindrical wall having one side adjoining the interelectrode space and facing toward said anode and having an opposite side facing away from said anode, and a magnet having a pair of circular pole faces concentric with and spaced longitudinally on said cylindrical wall, said pole faces being adjacent to and facing said opposite side, whereby magnetic flux passes from one magnetic pole face through said wall into the interelectrode space and back through said wall to the other pole face, said flux passing through said wall at a low, grazing angle.

2,971,123
ELECTRONIC DISCHARGE DEVICE
Douglas C. Engelbart, Palo Alto, Calif., assignor to Digital Techniques, Inc., a corporation of California
Filed Oct. 30, 1958, Ser. No. 770,664
5 Claims. (Cl. 315—84.6)



1. A gaseous discharge information registering system comprising: a gaseous discharge device having a priming electrode, an input electrode, first, second, and third iterative arrays of transfer electrodes and means forming a common electrode; a generator of an energizing potential of constant amplitude; a circuit for continually applying the energizing potential between said means forming a common electrode and each of the other electrodes for sustaining gaseous discharges; means for establishing a gaseous discharge at said input electrode, a generator of quenching potential of frequency characteristic different from that of said energizing potential; means for establishing a gaseous discharge at the first one of the electrodes of said first array of transfer electrodes in response to the gaseous discharge at said input electrode including means for normally applying the quenching potential to said first and second arrays of transfer electrodes for preventing the establishment of gaseous discharges and for extinguishing established gaseous discharges thereat; and cyclically operable means for shifting said established glow discharge to a next adjacent electrode of said first array of transfer electrodes during each cycle of operation of the shifting means, said shifting means comprising: means for removing the quenching potential from said first array and for applying the quenching potential to said second and third arrays during a first predetermined interval of the shifting cycle, means for removing the quenching potential from said second array and for applying the quenching potential to said first and third arrays during a second predetermined interval of the shifting cycle; and means for removing the quenching potential from said third array and for reapplying the quenching potential to said first and second arrays during a third predetermined interval of the shifting cycle.

2,971,124
APPARATUS FOR IGNITING AND OPERATING GASEOUS DISCHARGE DEVICES
Albert E. Feinberg and Paul Berger, Chicago, Ill., assignors to Advance Transformer Co., Chicago, Ill., a corporation of Illinois
Filed Oct. 19, 1959, Ser. No. 847,314
23 Claims. (Cl. 315—97)

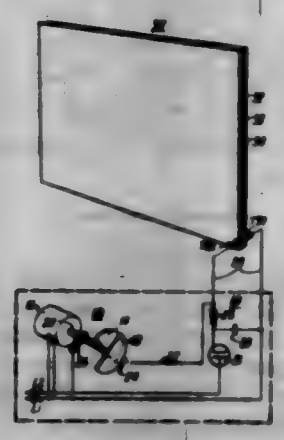


1. Apparatus for igniting and providing the operating voltages for at least one gaseous discharge device from a source of A.C. voltage insufficient to ignite said gaseous discharge device, which comprises, an elongate iron core having an elongate winding leg and at least one parallel side leg forming therewith a plurality of windows, a transformer mounted on the core and having a primary winding formed of two parts and a secondary winding, the secondary winding having a physical length greater than half the length of said winding leg and being mounted in one of said windows on said winding leg with the parts of said primary winding mounted in others of said windows coaxially with said secondary winding on said winding leg and being located on opposite ends of said secondary winding, the primary winding adapted to be connected across said source and being in voltage step-up transformer relationship with the secondary winding, means including electrical leads for connecting said gaseous discharge device at least with said secondary winding to be subject to the voltages of said transformer, and a bridged gap in said core substantially at the center of said secondary winding and completely enclosed therein.

2,971,125
METHOD OF AND APPARATUS FOR ENERGIZING HIGH CAPACITY LOADS

William Ross Allen, Los Altos, Calif., assignor to Kaiser Industries Corporation, Oakland, Calif., a corporation of Nevada

Filed Mar. 9, 1959, Ser. No. 798,032
6 Claims. (Cl. 315—200)

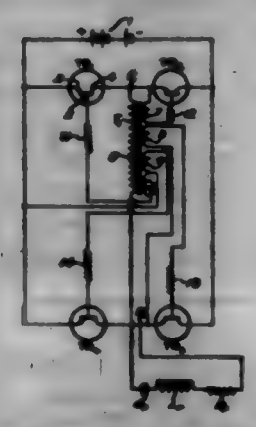


1. A generator apparatus for energizing high capacitance loads comprising a solid state lighting panel including a first and a second conductor plate, an electroluminescent material disposed between and in intermediate contact with said first and second conductor plates, and an input terminal on each of said conductor plates; a variable capacitor device including at least a first and a second plate member supported for movement relative to each other, each of said members having at least one conducting and one nonconducting section, means for coupling a direct current potential to the conductive portions of said capacitor plate members including means for coupling the device to an alternating current source, and rectifier means for deriving a direct current potential therefrom for energizing the conductive sections of said plate members; motor means connected to said alternating current source operative to provide cyclical relative movement between the conductive sections of said members to cyclically vary the coextensive area of the two plate members, and output means for coupling the resultant sinusoidal variation of potential which occurs between the conductive sections of said members to the terminal members on the first and second conductor plates of the high capacitance load.

2,971,126
TRANSISTOR INVERTER CIRCUITS

Harry E. Schultz, Euclid, Ohio, assignor to General Electric Company, a corporation of New York

Filed Dec. 29, 1958, Ser. No. 783,337
8 Claims. (Cl. 315—205)

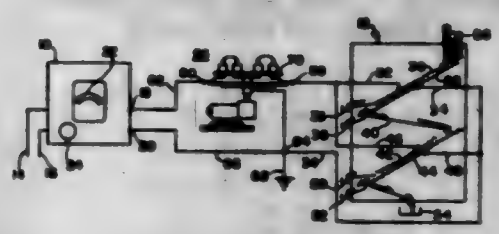


1. An inverter circuit comprising a direct current source, a pair of transistors each having base, emitter and collector electrodes, a load circuit comprising a resistive load proper and inductance and capacitance combined therewith rendering said load circuit series resonant at a selected frequency of operation, connections from said source through the emitter-collector electrode paths of said transistors to said load circuit for energizing said load circuit in alternating polarity from said source, and a current transformer comprising a primary winding connected in series with said load circuit and secondary windings supplying emitter-base current to said transistors for alternately switching on said transistors at said selected frequency.

2,971,127
ELECTROSTATIC APPARATUS

William A. Brastad, Minneapolis, Minn., assignor to General Mills, Inc., a corporation of Delaware

Filed Sept. 4, 1956, Ser. No. 607,869
10 Claims. (Cl. 317—9)

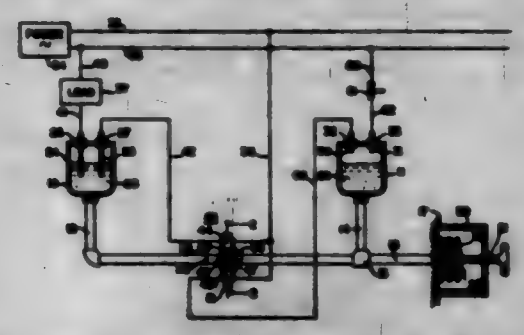


1. An electrostatic protective device comprising a rotary member, a condenser carried by said member, a contact arm projecting from said member and electrically connected to one terminal of said condenser, a first series of contact plates spaced around said rotary member in position for successive engagement by said arm, first and second input terminals, means electrically connecting the first input terminal to each of said first series of contact plates, at least one second series of contact plates spaced around said rotary member with each plate of the second series located between plates of the first series for alternate engagement of said contact arm with successive plates of each series, first and second output leads, means electrically connecting the first output lead to each of said second series of contact plates, means electrically connecting the second input terminal and second output lead to the remaining terminal of the condenser, and driving means for rotating said rotary member and thereby engaging said contact arm successively and repeatedly with the alternate contact plates of the first and second series.

2,971,128
LOAD PROTECTION DEVICE

William L. Carlson, Jr., Bloomington, Minn., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware

Filed Dec. 24, 1956, Ser. No. 630,176
5 Claims. (Cl. 317—9)



1. In a device of the class described: power means; conductive fluid reservoir means partially filled with a conductive fluid and including two chambers joined by passage means; each said chamber including a separate atmosphere isolated in said chamber between said fluid and the top of said chamber; at least one of said chambers including current control means which is activated by said conductive fluid; pump means included in said

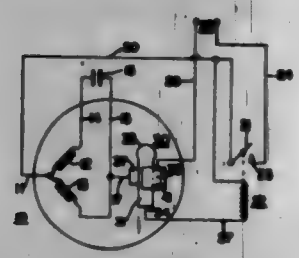
passage means between said chambers; said pump means energized by said power means through a circuit including said current control means, said fluid, and a load; and said pump means causing the level of the fluid activating said current control means to drop in the chamber containing said current control means to deenergize said load means; said conductive fluid returned to contact with said current control means by pressure differentials between said atmospheres in said chambers.

2,971,129

TEMPERATURE RESPONSIVE CURRENT CONTROL

William L. Carlson, Jr., Bloomington, and John W. Moberry, Edina, Minn., assignors to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware

Filed Feb. 7, 1958, Ser. No. 713,927
8 Claims. (Cl. 317—13)



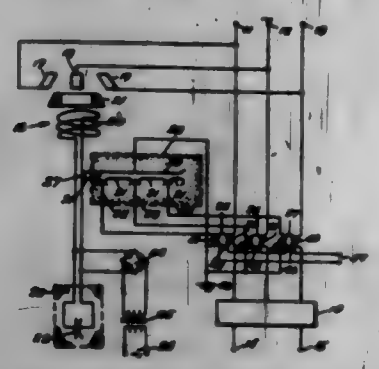
8. A temperature responsive current control unit: a device to be controlled; an insulative container enclosing a conductive metal which becomes a liquid at a control temperature in a heat exchange relationship with said device; electrode means conducting a current to be controlled through said conductive metal; magnetic circuit means adjacent said container and said conductive metal; magnetic field generating means creating a magnetic field in said magnetic circuit means across said conductive metal perpendicular to said current; said current and said magnetic field creating a force mutually perpendicular to said current and said field within said conductive metal; and a relay having an energized control circuit passing through said conductive metal; said conductive metal liquifying when said device reaches said control temperature and said liquid metal being subjected to said force; said force within said liquid metal moving said liquid metal to disrupt said current and said energized control circuits; said energized control circuit thereby being open circuited to deenergize said relay; said relay in turn opening circuiting said electrode means to control said current to said device.

2,971,130

ELECTRO-DYNAMIC SWITCHING DEVICE

Edward John Diebold, Ardmore, Pa., assignor to I-T-E Circuit Breaker Company, Philadelphia, Pa., a corporation of Pennsylvania

Filed Jan. 10, 1956, Ser. No. 558,348
6 Claims. (Cl. 317—16)



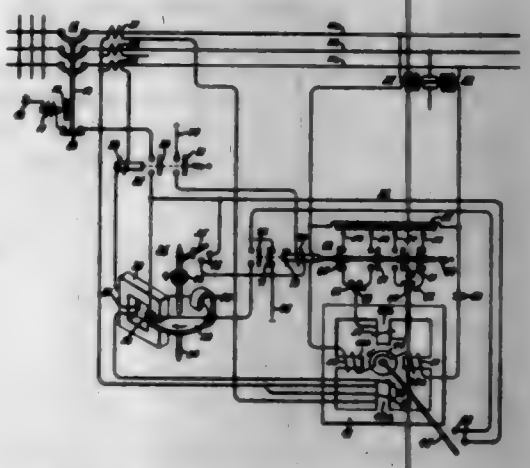
1. A short circuiter for short circuiting electrical equipment responsive to predetermined conditions; said short circuiter comprising a fixed contact and a coaxial movable contact; said coaxial movable contact being axially movable into contact engagement with said fixed contact; said coaxial movable contact being constructed to form a short circuited ring; the axial length of said ring being relatively small in comparison to the diameter of said ring; an operating winding and energizing means therefore; one of the annular shaped surfaces formed by one end of said ring being positioned adjacent one of the annular shaped surfaces formed by one end of said operating winding to induce a current in said contact ring responsive to energization of said operating winding to thereby have said movable contact ring axially move into contact engagement with said short circuiter; said energizing means being operative responsive to said predetermined condition.

2,971,131

PROTECTIVE RELAYING SYSTEM FOR AN ELECTRIC POWER TRANSMISSION CIRCUIT

Leon E. Goff, Jr., Drexel Hill, Pa., assignor to General Electric Company, a corporation of New York

Filed Dec. 19, 1956, Ser. No. 629,351
8 Claims. (Cl. 317—36)



1. In a relaying system for protecting an electric power transmission line having an electroresponsively tripped circuit interrupter at one end thereof, a mho relay having connections for energization by line current and voltage and having predetermined normal and extended operating ranges, means adapted to connect said mho relay to the circuit interrupter for tripping said interrupter substantially instantaneously in response to the occurrence of a line fault within said normal operating range, said mho relay being coupled to current responsive means adapted to be energized in accordance with line current and operable in response to overcurrent conditions accompanying a line fault to change the operating range of said mho relay, normally inactive time-overcurrent means having connections for energization by line current, said time-overcurrent means being arranged for connection to the circuit interrupter for tripping said interrupter when activated after a time delay determined by the magnitude of line current, and means connecting said mho relay to the time-overcurrent means to activate said time-overcurrent means in response to the occurrence of a line fault within said extended operating range, said last-mentioned connecting means being arranged to prevent activation of the time-overcurrent means when the mho relay operates while its operating range is normal.

2,971,132

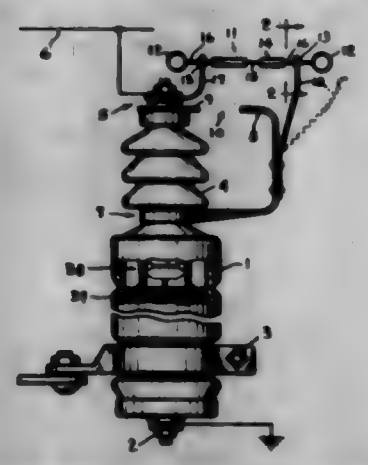
LIGHTNING ARRESTER CONSTRUCTIONS

William H. Nash, South Milwaukee, Wis., assignor to McGraw-Edison Company, Milwaukee, Wis., a corporation of Delaware

Filed June 30, 1958, Ser. No. 745,732
7 Claims. (Cl. 317—66)

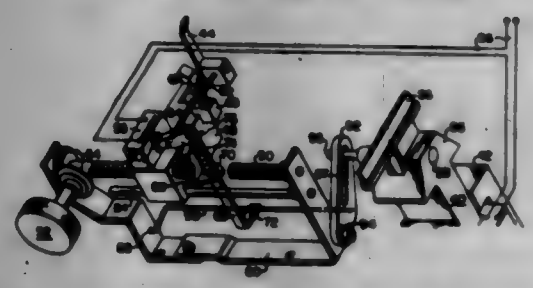
1. A valve type lightning arrester comprising an insulating casing having a first terminal and a second ter-

minal, valve material and an internal spark gap connected in series between said terminals, a third terminal spaced from said first terminal, a first and a second electrode connected respectively to said first and third terminals and spaced apart to form a relatively large external spark gap as compared with said internal spark gap, and a fuse link normlly bridging said relatively large external spark gap and arranged to be ruptured if said valve material



becomes clinkered, the large external spark gap being arranged to stay in series circuit with the internal spark gap for both a lightning surge of normal value and for an abnormal lightning surge of sufficient value to cause clinkering of the valve material, and the fuse link being arranged to melt upon the occurrence of an abnormal lightning surge of a value sufficient to cause clinkering of the valve material.

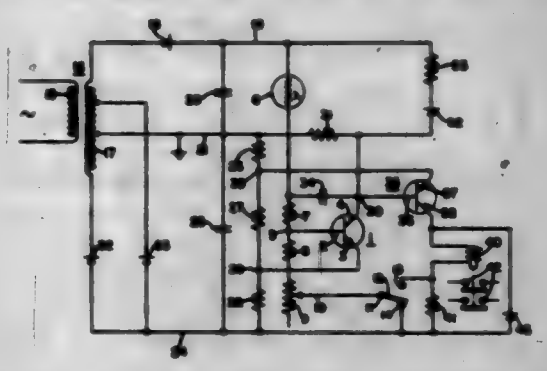
2,971,133
RESET SWITCH MECHANISM
Wesley E. Lazett, Hopkinton, Mass., assignor to Needham Manufacturing Company Inc., Needham Heights, Mass., a corporation of Massachusetts
Filed July 31, 1956, Ser. No. 601,301
8 Claims. (Cl. 317—123)



1. In a machine of the class described, means for supporting and conducting a strip of material along a predetermined path, a knife disposed transversely of said path, power operated mechanism for moving the knife forwardly to sever the strip, resilient means for returning the knife to initial position, tripping mechanism including a controlling member in the path of movement of the strip beyond the knife and disposed to be operated by contact of the strip therewith for causing the power operated mechanism to operate the knife and sever the strip, and mechanical means for automatically releasing the knife operating power from said power operated mechanism and permitting return of the knife to initial position at a predetermined point in the forward travel of the knife.

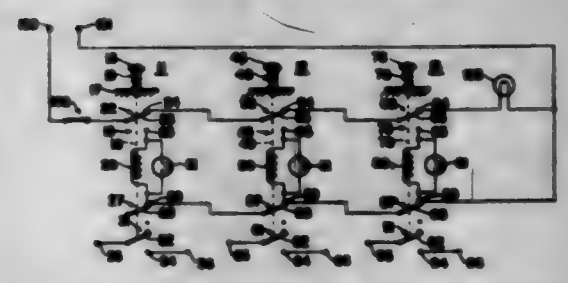
2,971,134
PHOTOTRANSISTOR OPERATED RELAY
William D. Cockrell, Waynesboro, Va., assignor to General Electric Company, a corporation of New York
Filed Oct. 29, 1958, Ser. No. 770,339
6 Claims. (Cl. 317—124)

1. A control circuit comprising an NPN transistor having base, collector and emitter electrodes, a source of unidirectional potential, a first voltage divider connected across said source, said first voltage divider including a photosensitive variable impedance, said base of said NPN transistor being connected to said source through said first divider so as to have a first value of negative potential imposed thereon, a second voltage divider connected across a portion of said source, said emitter of said NPN transistor being connected to said second voltage divider so as to have a second and less negative potential imposed thereon, means connecting said collector of said NPN transistor to said source to impose a potential



thereon more positive than the potential imposed on said emitter, a PNP transistor having base, collector and emitter electrodes, means connecting said base electrode of said PNP transistor to said collector electrode of said NPN transistor, said emitter electrode of said PNP transistor being connected to said second voltage divider at a point less negative than the point of connection of said emitter of said NPN transistor, and a relay having an actuating winding, said actuating winding being connected to said collector electrode of said PNP transistor and to a negative terminal of said source.

2,971,135
SWITCH ARRANGEMENT
Fred C. Ebert, Freeport, Ill., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed May 24, 1957, Ser. No. 661,502
9 Claims. (Cl. 317—137)



1. In apparatus for the selective manual actuation of and the continued maintenance of the actuation of but a single one of a plurality of inter-related devices, the arrangement comprising: a source of voltage having a first terminal and a second terminal; a plurality of electromagnetically held devices; a first of said devices including first switch means having a switch blade and a first contact and a second contact, a holding coil having a first terminal connected to the first contact of said first switch means and having a second terminal, a combined manual plunger and armature having a normal position and a depressed position, means for biasing said plunger and armature toward the normal position, said plunger and armature being operatively connected to the switch blade of said first switch means and operatively associated with said holding coil; a second of said devices including first switch means having a switch blade and a first contact and a second contact, second switch means having a switch blade and a contact, a holding coil having a first terminal connected to the first contact of said first switch

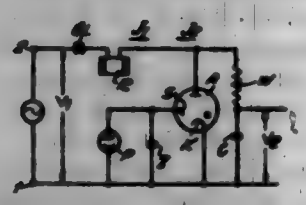
means and having a second terminal connected to the contact of said second switch means, a combined manual plunger and armature having a normal position and a depressed position, said plunger and armature being operatively connected to each of the switch blades of said first and second switch means and operatively associated with said holding coil, means for biasing said plunger and armature toward the normal position; and means associated with each of said electromagnetically held devices and operable according to the position of the plunger and armature thereof; the switch blades of said first switch means being engaged with the second contact thereof and the switch blade of said second switch means being engaged with the contact thereof with said plurality of plungers and armatures in a normal position; the switch blades of said first switch means being engaged with the first contacts thereof and the switch blade of said second switch means being disengaged from the contact thereof with said plurality of plungers and armatures in a depressed position; the switch blades of said first switch means being connected in electrical series relation and being connected to the first terminal of said source of voltage with said plurality of plungers and armatures in a normal position; the second terminal of the holding coil of said first device and the switch blade of said second switch means being connected in electrical series relation and being connected to the second terminal of said source of voltage with the plunger and armature of said second device in a normal position; manual movement of a first plunger and armature to a depressed position and consequent movement of the switch blade of the switch means associated therewith resulting in the establishment of a first electrical series circuit including the holding coil associated with said depressed plunger and armature thereby causing energization of said holding coil and maintenance of said plunger and armature in a depressed position; subsequent manual movement of a second plunger and armature to a depressed position and consequent movement of the switch blade of the switch means associated therewith resulting in interruption of said first circuit, de-energization of said holding coil, and movement of the first plunger and armature and consequent movement of the switch blade of the switch means associated therewith to the normal position due to the action of said biasing means, thereby resulting in the establishment of a second electrical series circuit including the holding coil associated with said displaced plunger and armature thereby causing energization of said holding coil and maintenance of said plunger and armature in a depressed position.

2,971,136

METHOD OF AND ARRANGEMENT FOR OPERATING A GLOW RELAY

Ernst Meili, Kusnacht, Zurich, Switzerland, assignor to Cerberus G.m.b.H., Bad-Ragaz, Switzerland, a company of Switzerland

Filed Feb. 18, 1957, Ser. No. 640,913
Claims priority, application Switzerland Feb. 23, 1956
4 Claims. (Cl. 317—142)



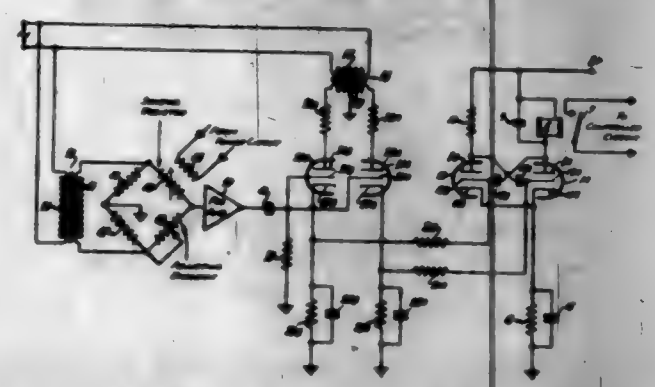
1. A circuit comprising an alternating voltage source, a rectifier in series connection with said source to provide a pulsating D.C. voltage, the lowest momentary voltage thereof being below a predetermined value, an ignitable glow relay tube having two main electrodes and a control electrode, controllable by a small pulsating D.C. voltage when supplied thereto, said glow relay tube, when ignited by a second voltage supplied to said control electrode being conductive as long as a voltage above said predetermined value is applied to said main electrodes, a mechanical relay in series connection with the main electrodes of said glow relay tube, said two relays being connected to said first voltage source through said rectifier so that the glow relay tube will become conductive and said mechanical relay energized when said second voltage is supplied to said control electrode of said glow relay tube, storage means operatively connected with said mechanical relay to effect a continuous energizing of said mechanical relay for a first predetermined time after the glow relay tube has been extinguished due to a diminution of the voltage supplied to the electrodes thereof below said predetermined value, a series connection of a resistor and a capacitor arranged in parallel to said glow relay tube to provide a voltage above said predetermined value for a second predetermined time for said glow relay tube to maintain said glow relay tube conductive for said second predetermined time irrespecitve of the voltage applied to the control electrode thereof until the voltage of said capacitor has reached a value below said predetermined value, while said mechanical relay due to said storage means remains energized after said glow relay tube has been extinguished for said first predetermined time and only becomes deenergized when the supply of said D.C. voltage to said control electrode of said glow relay tube is interrupted for a period of time longer than said first predetermined time.

2,971,137

POWER CONTROL CIRCUIT

Edwin H. Stewart, Jr., Palo Alto, Calif., assignor to Electronic Processes Corporation of California, San Francisco, Calif., a corporation of California

Filed July 28, 1958, Ser. No. 751,474
6 Claims. (Cl. 317—142)



1. Apparatus for controlling the average power delivered to a load circuit by varying said power between two fixed values for varying intervals, comprising an astable multivibrator having two quasi-stable states, the duration of each of which is variable in response to variations in a biasing potential, an output circuit for said multivibrator including relay means adapted to close said load circuit when said multivibrator is in one of said quasi stable states and open said load circuit when in the other of said states, and means for developing biasing potentials varying in opposite senses to vary oppositely the durations of said states comprising a push-pull amplifier having two output circuits, a pair of integrating circuits connected respectively in said output circuits and each comprising a condenser and a leak resistance in parallel therewith and connections from said integrating circuits to said multivibrator for applying potentials developed thereacross as said respective biasing potentials, a sensing element responsive to variations in the power controlled to develop a varying electrical potential, and means for applying said electrical potential to control said push-pull amplifier.

2,971,138
CIRCUIT MICROELEMENT
Herbert R. Meisel, Irvington, Leonard Schork, Westfield, Adam Pikor, Summit, and Adolph Blicher, North Plainfield, N.J., assignors to Radio Corporation of America, a corporation of Delaware
Filed May 18, 1959, Ser. No. 814,026
20 Claims. (Cl. 317—234)



1. An electronic microelement comprising an insulating wafer bearing a recess in one major face, a hermetically sealable portion on said one major wafer face around said recess, a plurality of spaced apertures through said wafer within said recess, conducting means extending through each of said apertures, a semiconductor crystal within said recess attached to one of said conducting means, at least one electrical connection between said crystal and another of said conducting means, and a closure means hermetically sealed to said sealable portion of said one wafer face.

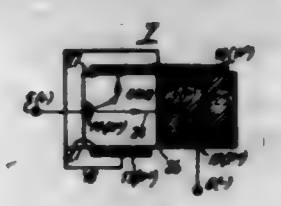
2,971,139
SEMICONDUCTOR SWITCHING DEVICE
Robert N. Noyce, Los Altos, Calif., assignor to Fairchild Semiconductor Corporation, Palo Alto, Calif., a corporation of Delaware
Filed June 16, 1959, Ser. No. 820,669
6 Claims. (Cl. 317—235)



1. An improved P-N-P-N semiconductor switching device comprising a semiconductor body of four zones of alternately different conductivity types successively interposed between two different faces of said body and with at least one end zone being inset into the next adjacent zone to define a surface on one face common to both zones, and at least two ohmic contacts each engaging a different one of said faces with one thereof electrically contacting substantially all of said common surface to engage both zones thereat, said contacts being adapted for connection to a variable power supply whereby a transistor junction between the two zones at said common surface is only forward biased by current flow through the zone next adjacent the end zone.

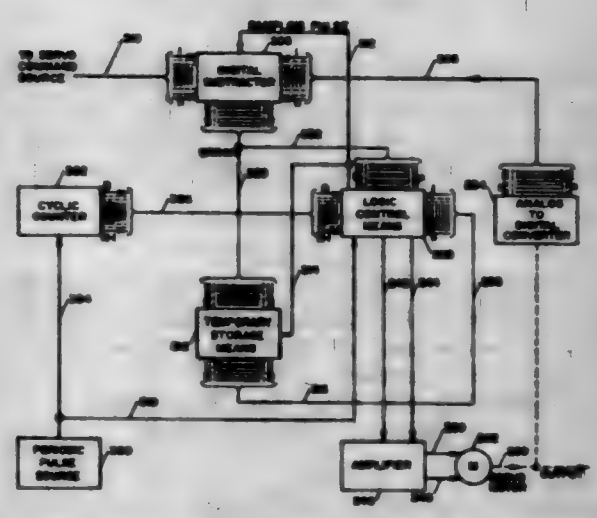
2,971,140
TWO-TERMINAL SEMI-CONDUCTOR DEVICES HAVING NEGATIVE DIFFERENTIAL RESISTANCE
Marc A. Chappey, Neuilly-sur-Seine, and Jacques H. Lantieri, Meudon, France
Filed Dec. 21, 1959, Ser. No. 860,837
Claims priority, application France Jan. 7, 1959
5 Claims. (Cl. 317—235)

1. A two-terminal negative differential resistance device consisting of a semi-conductor body comprising two ohmic contact electrodes connected to the terminals of the device, two electric barrier layers and two conductive channels between said terminals, each of the said channels



crossing one of the electric barrier layers and polarizing the other.

2,971,141
ERROR SIGNAL SAMPLING DIGITAL SERVO SYSTEM
James C. Gevas, Newark, N.J., assignor to General Precision, Inc., a corporation of Delaware
Filed June 5, 1959, Ser. No. 818,364
7 Claims. (Cl. 318—28)

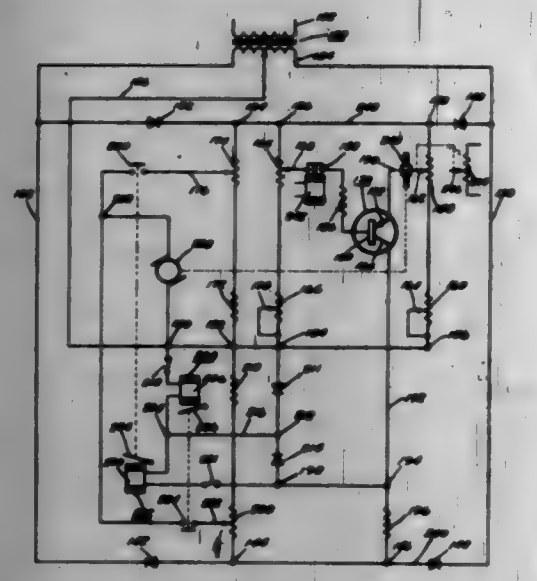


1. A servo system comprising a shaft, a servo-motor coupled to said shaft for rotating said shaft in accordance with the characteristic of an energizing signal applied thereto, an analog-to-digital converter coupled to said shaft to provide a first signal manifesting in digital form the actual magnitude of a given parameter of said rotating shaft, a digital subtractor, means for applying to said digital subtractor said first signal and a second signal manifesting in digital form a command magnitude of said given parameter of said rotating shaft, means for periodically applying a sampling pulse to said digital subtractor to provide an error signal from said digital subtractor manifesting in digital form the error between the actual and command magnitudes of said given parameter of said rotating shaft at the time of sampling, means for storing said error signal for one period of said sampling pulse, and logic control means, controlled in response to the specific values of an error signal and said stored error signal, respectively, for applying one of a discrete number of energizing signals, each of which has a different fixed predetermined characteristic, to said servo-motor until the next sampling.

2,971,142
TRANSISTORIZED CIRCUIT FOR POSITIONING SLAVE POTENTIOMETERS
Robert C. Mentzer, Thiensville, Wis., assignor to Square D Company, Detroit, Mich., a corporation of Michigan
Filed May 9, 1958, Ser. No. 734,339
7 Claims. (Cl. 318—29)

1. In a control system, the combination comprising; a pair of potentiometers each having an adjustable element, a voltage source connected across the potentiometers, a single transistor having a base electrode con-

nected to the adjustable element of one of said potentiometers and an emitter electrode connected to the adjustable element of the other potentiometer whereby the conduction of the transistor means is dependent upon



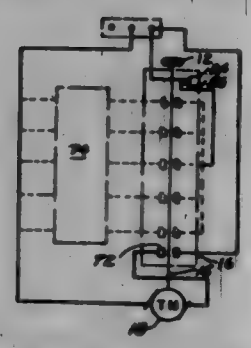
the voltage differences between the adjustable elements and means responsive to the conduction of the transistor means for adjusting one of the two potentiometers whenever the other potentiometer is manually adjusted.

2,971,143

LAUNDRY APPLIANCE MOTOR CONTROL

William E. Stilwell, Jr., Glendale, Ohio, assignor to The Murray Corporation of America, Syracuse, N.Y., a corporation of Delaware

Filed Jan. 18, 1957, Ser. No. 635,037
4 Claims. (Cl. 318—466)



4. In a laundry appliance control, a motor, a timer having a shaft rotated by said motor in one direction and axially shiftable, said timer being adapted on a complete rotation of said shaft to establish an off position and a cycle of operation including various successive steps, a switch operable on axially shifting of said shaft for discontinuing the operation of said cycle at any desired stage, means for actuating said switch from the rotation of said shaft including manually settable means for determining the stage of discontinuing the operation of the cycle, and timer cam actuated switch means in circuit with said motor for continuing the operation of said timer to the off position.

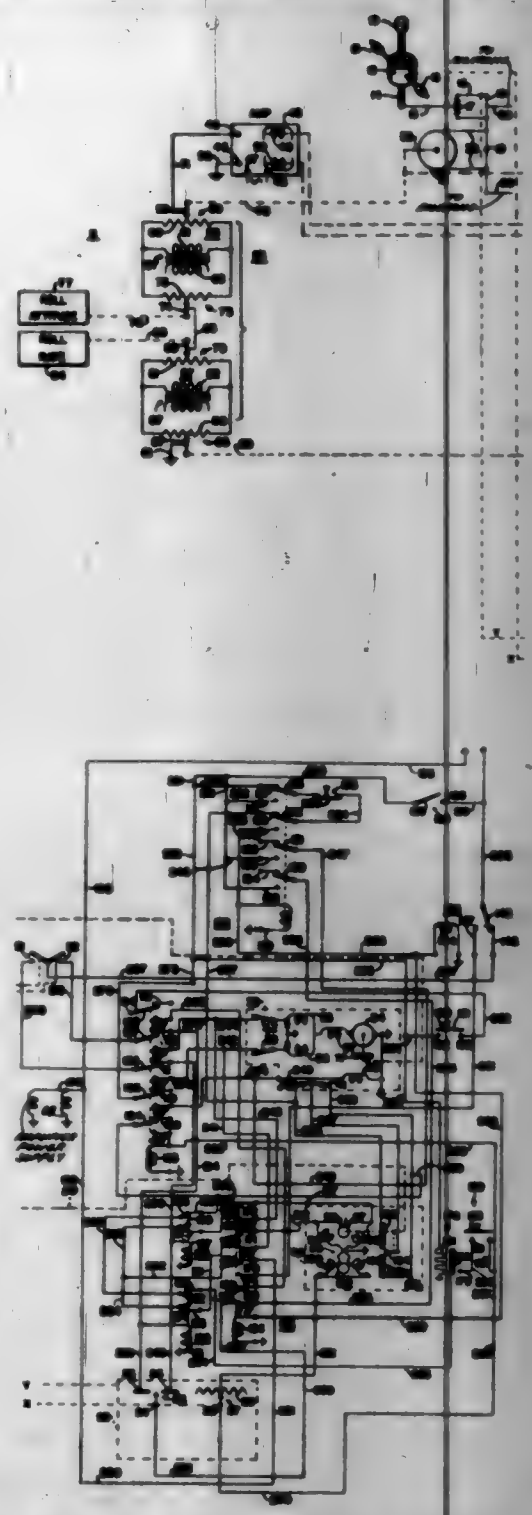
2,971,144

INTERRELATED MANUAL AND AUTOPILOT SERVOSYSTEM

Clarence E. Vogel, Minneapolis, Minn., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware

Filed Aug. 29, 1955, Ser. No. 530,998
16 Claims. (Cl. 318—489)

4. Control apparatus for an aircraft having manually operable control column operated means for directly controlling craft attitude, said apparatus comprising: a servo motor; means for additionally operating said control column operated means from said servo motor; a servo motor control means including an operable elastic linkage interconnected with said control column operated means responsive to manual operation; craft position change detecting means connectable with said servo-



motor for maintaining a given craft position; selective means for alternatively connecting said servomotor control means or said detecting means with said servomotor for operation thereof; and trim means for preconditioning said position change detecting means for a new position of the craft resulting from operation of the servomotor by the servomotor control means.

2,971,145

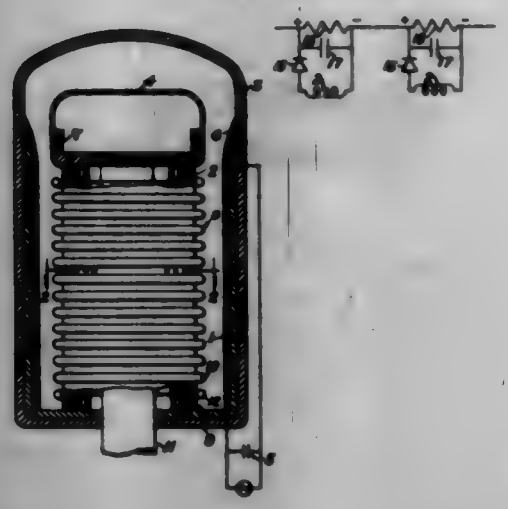
UNI-DIRECTIONAL HIGH VOLTAGE GENERATOR

Harald A. Enge, Winchester, Mass., assignor to High Voltage Engineering Corporation, Burlington, Mass., a corporation of Massachusetts

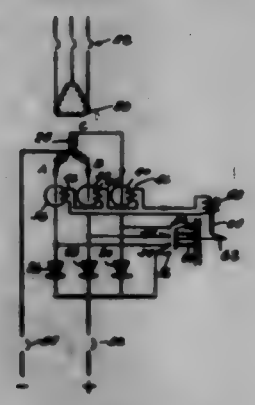
Filed July 24, 1958, Ser. No. 750,794
8 Claims. (Cl. 321—8)

1. A nonmagnetic-core transformer for the generation of unidirectional high voltage comprising, in combination: a primary coil assembly adapted to produce magnetic flux in a non-magnetic core, a secondary coil

assembly linking said non-magnetic core, means for driving said primary coil assembly, said secondary coil assembly comprising a plurality of units separated by equipotential planes, each unit including a secondary coil element and a rectifier assembly connected in series between adjacent equipotential planes, and a bleeder resistor and a condenser connected between said equipotential planes in parallel with each other and with said series-connected secondary coil element and rectifier assembly.

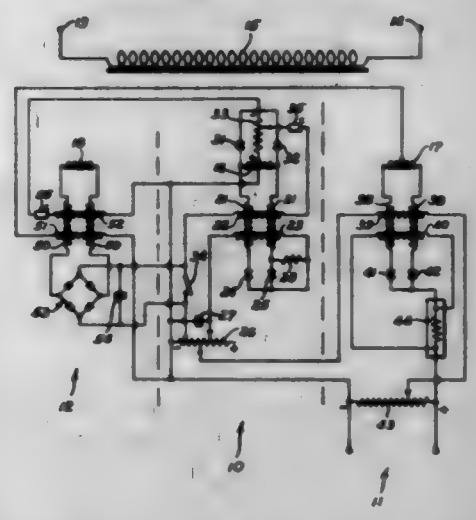


2,971,146
INSTANTANEOUS TRIP FOR RECTIFIER PROTECTION
Edward John Diebold, Palos Verdes Estates, Calif., assignor to I-T-E Circuit Breaker Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Feb. 20, 1957, Ser. No. 641,301
5 Claims. (Cl. 321—11)



1. A trip circuit for the by-passer of a multiphase rectifying system; said multiphase rectifying system comprising rectifying elements for each phase; said by-passer being constructed to interconnect the inputs and a common output of each of said rectifier elements to one another responsive to energization thereof; said trip circuit comprising at least one independent magnetic core connected to be substantially saturated by the forward current of one of said rectifier elements; said magnetic core having an output winding directly connected to said by-passer for energizing said by-passer :esponsive to a substantial voltage across said output winding; the flux of said magnetic core being reversed by current flow through said one of said rectifier elements in the reverse direction to induce a voltage in said output winding to energize said by-passer and short-circuit each of said rectifier elements; said magnetic core having a relatively small cross-sectional area and inducing said output voltage for a relatively short time.

2,971,147
REGULATED POWER SUPPLY
Soren L. Christie, Glen O. Du Puy, and Frank C. Marshall, Los Angeles, Calif., assignors to Christie Electric Corp., Los Angeles, Calif., a corporation of California
Filed Feb. 10, 1958, Ser. No. 714,695
13 Claims. (Cl. 321—19)

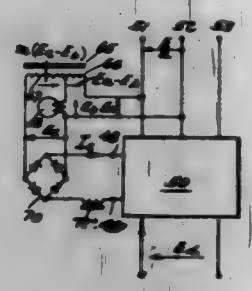


5. In a D.C. power supply for use with a battery charger or the like, the combination of: an A.C. power source; first saturable reactor means having a first power winding and first and third control windings; a rectifier unit; a first output load; first circuit means interconnecting said power source, said first power winding and said rectifier unit to provide a first D.C. output voltage across said first load; means for developing a D.C. correction voltage which varies as a function of the A.C. power source; a first control circuit connected to said first control winding, said first control circuit including a zener element in series with said first control winding and at least portions of said correction voltage and said first output voltage with said voltages adding to provide a control current; an A.C. to D.C. converter having a control element for varying the output thereof; a second output load; second circuit means interconnecting said power source and said converter to provide a second D.C. output voltage across said second load; a second control circuit for connecting at least portions of said first and second output voltages to said control element with said output voltages in cancelling relationship to provide a differential control voltage; second saturable reactor means having a second power winding and a second control winding; a full wave rectifier; third circuit means for interconnecting said power source and said second power winding to provide an input to said full wave rectifier with the output thereof in series with said control current of said first control circuit; fourth circuit means for connecting the output current of said converter to said second control winding; and means for connecting a current proportional to the output current of said converter to said third control winding in feedback relation.

2,971,148
COMPOUNDING CIRCUIT FOR RECTIFIERS
Edward John Diebold, Palos Verdes Estates, Calif., assignor to I-T-E Circuit Breaker Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Feb. 21, 1957, Ser. No. 641,712
3 Claims. (Cl. 321—25)

1. In a rectifier system for energizing a D.-C. load from an A.-C. source; said rectifier system including the series connection of said A.-C. source, a rectifying element, and said D.-C. load; a saturable reactor; said saturable reactor being connected in circuit relation with said rectifier system to control the output voltage of said rectifier system; a compounding circuit for controlling the regulation curve of said rectifier and a D.-C. control

winding on said saturable type reactor; said compounding circuit being connected to said D.-C. control winding and including a source of constant D.-C. voltage and a source of D.-C. voltage which varies as a function of the voltage of said A.-C. source; said source of constant D.-C. voltage, said source of D.-C. voltage which varies as a



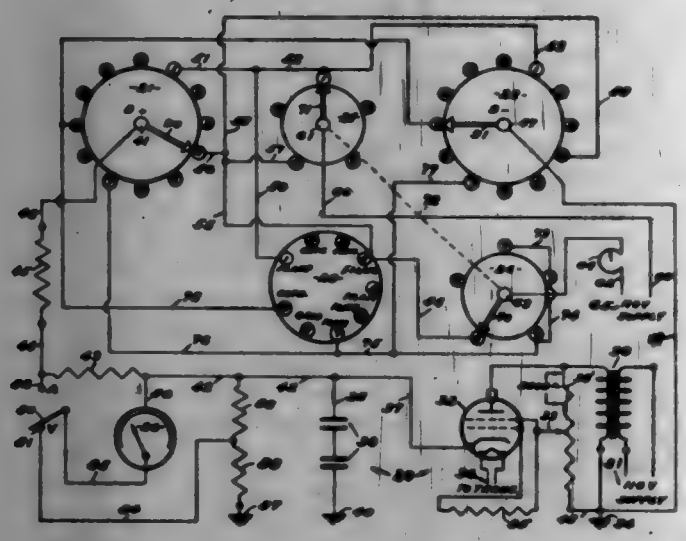
function of the voltage of said A.-C. source, and said D.-C. control winding being connected in a closed series connection; the voltage applied to said D.-C. control winding varying responsive to a variation in said input A.-C. voltage to vary the output voltage of said rectifier to maintain a constant output voltage regardless of variations in input A.-C. voltage.

2,971,149

ELECTRONIC TUBE TESTING DEVICE

Russell A. Henderson, 4026 W. Vernor Highway, Detroit, Mich.

Filed Oct. 24, 1958, Ser. No. 769,352
10 Claims. (Cl. 324—23)



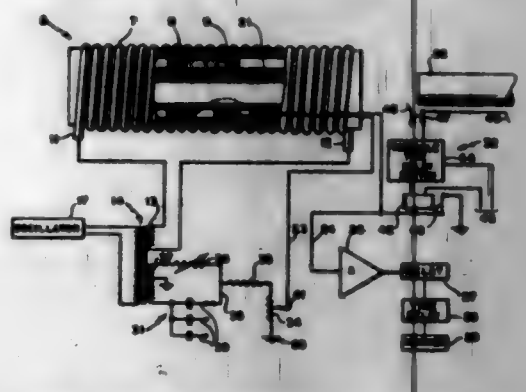
1. In a device of the class described, the combination comprising: a tube socket provided with element poles for connection to the filament, cathode, grids and plate elements of a tube inserted in the socket; a high-pulse direct current power supply; a first switch means interconnected between one side of said high-pulse direct current power supply and said tube socket and being operable to connect said one side of the high-pulse direct current power supply to a selected one of said element poles; and, a second switch means interconnected between the other side of said high-pulse direct current power supply and said tube socket and being operable to connect said other side of the high-pulse direct current power supply to a selected one of said element poles, whereby, said switch means may be momentarily adjusted to selective positions, to connect the high-pulse direct current power supply in series circuit with any two elements of a tube, and to reverse the polarity of the voltage applied to the selected elements.

2,971,150

APPARATUS FOR NON-DESTRUCTIVE TESTING OF METALS

Charles Prindle, Mount Kisco, N.Y., assignor to Robinson Technical Products, Incorporated, Teterboro, N.J., a corporation of New York

Filed Jan. 31, 1958, Ser. No. 712,444
10 Claims. (Cl. 324—40)



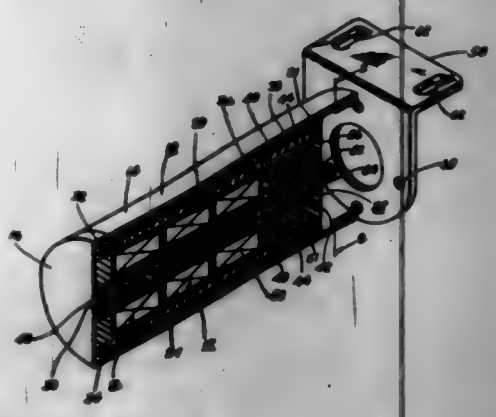
1. In a test device for finding defects in metal articles comprising a cylindrical induction coil, means for connecting said induction coil to a source of alternating E.M.F., a detector coil disposed concentrically within the induction coil and adapted to have the articles to be tested passed axially therethrough, whereby with the induction coil energized electromagnetic effects are induced in the articles passed through the detector coil and changes in the electromagnetic effects due to defects in the articles cause changes in the detector coil E.M.F., means connected to the detector coil responsive to changes in detector coil E.M.F., the improvement which comprises the induction coil having a layer of turns characterized in that the turns thereof are out of contact with each other and are uniformly and closely spaced.

2,971,151

METAL DETECTORS

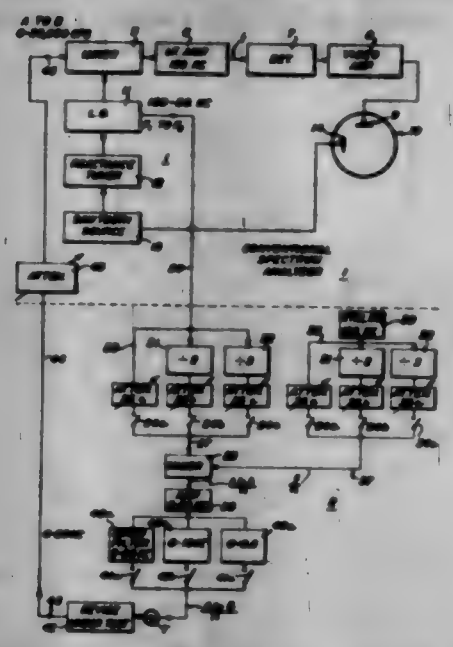
Robert C. Mierendorf and Charles F. Meyer, Wauwatosa, Wis., assignors to Square D Company, Detroit, Mich., a corporation of Michigan

Filed Feb. 14, 1958, Ser. No. 715,450
8 Claims. (Cl. 324—41)



1. In a detector of the character described, the combination comprising; a coil assembly including a ferromagnetic rod forming a core for the detector, a pickup coil centrally located on the core, a driving coil adjacent each end of the core, a sleeve surrounding the coil assembly, said sleeve having openings on the respective ends thereof, a nonmagnetic member closing one end of the sleeve, a moldable plastic material forming a potting for the assembly in the sleeve and means supported solely by the material adjacent the other open end of the sleeve and spaced from the core for adjustably varying the inductive coupling between the driving coil and the pickup coil from the other open end of the sleeve.

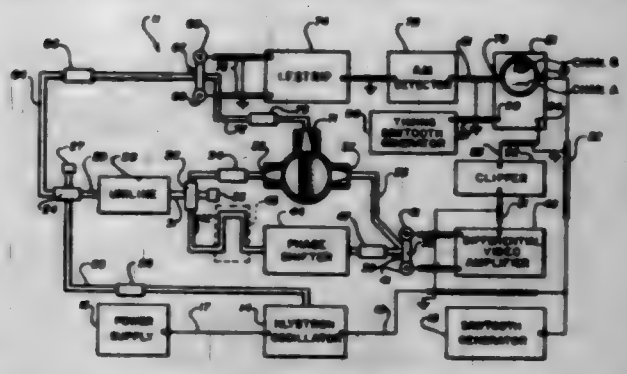
2,971,152
HARMONIC SPECTRUM ANALYZER
Bela Ruzsky, Flushing, N.Y., assignor to Panoramic Radio Products, Inc., Mount Vernon, N.Y., a corporation of New York
Filed Apr. 17, 1958, Ser. No. 729,167
8 Claims. (Cl. 324—57)



1. A system of frequency response analysis of a device under test, including a first mixer having an input circuit for a first relatively wide band of frequencies, a narrow band intermediate frequency amplifier coupled in cascade to said first mixer, means for generating a visual indication, means for deflecting said visual indication in the direction of a frequency coordinate, means for deflecting said visual indication in a further direction in response to signal output of said intermediate frequency amplifier, a first local oscillator coupled to said first mixer in heterodyning relation thereto, means for varying the frequency of said local oscillator over a band such as to convert the frequencies of said first relatively wide band of frequencies in succession to substantially the center frequency of said narrow band intermediate frequency amplifier, a second mixer, a second source of local oscillations having a frequency which is a predetermined sub-harmonic including unity of the center frequency of said narrow band intermediate frequency amplifier, means for dividing the output frequency of said first local oscillator to obtain a predetermined sub-harmonic thereof, means for coupling said second source of local oscillations and said means for dividing to said second mixer in heterodyning relation, means for selecting one band of conversion products from the output of said second mixer, and means for passing the selected band of conversion products through said device under test and thence to said input circuit for said first relatively wide band of frequencies of said mixer.

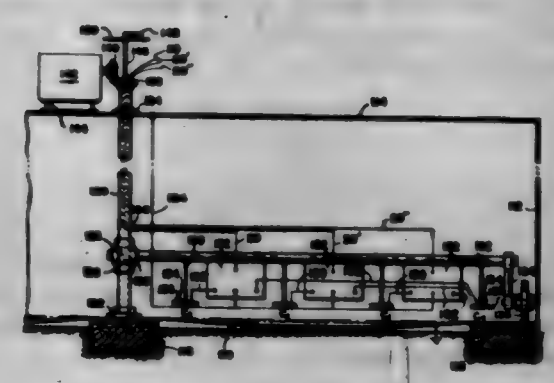
2,971,153
MICROWAVE HORNS AND CIRCUITRY FOR PLASMA MEASUREMENTS
Charles B. Wharton, Pleasanton, and Andrew L. Gardner, Livermore, Calif., assignors to the United States of America as represented by the United States Atomic Energy Commission
Filed May 28, 1959, Ser. No. 816,656
7 Claims. (Cl. 324—58.5)

1. A device for indicating the relative phase shift of microwave energy in passing through a contained volume of plasma comprising a microwave oscillator, an oscilloscope having at least horizontal and vertical deflection input terminals and a beam intensity modulation input terminal, a horizontal sweep generator coupled to said horizontal input terminal, a sawtooth generator coupled to said oscillator to repetitiously sweep the microwave output thereof over a fixed range of frequencies and coupled to the vertical deflection input terminal of said oscilloscope, a first path for microwave energy including said contained volume and coupled to the frequency modulated microwave output of said oscillator, a second path for microwave energy coupled to the modulated microwave output of said oscillator and including a time delay element, phase comparison means coupled to said first and second paths for developing a signal indicative



of the vector combination of the microwaves received from the two paths, said signal thereby having maxima and minima instantaneously indicative of the relative phase of the microwaves in passing through said two paths, and a clipper coupling said phase comparison means to the beam intensity modulation input terminal of said oscilloscope for clipping tops of the maxima of said signal and removing amplitude variations therefrom whereby a fringe pattern indicative of the relative phase of the microwaves through said two paths with respect to time displayed upon said oscilloscope.

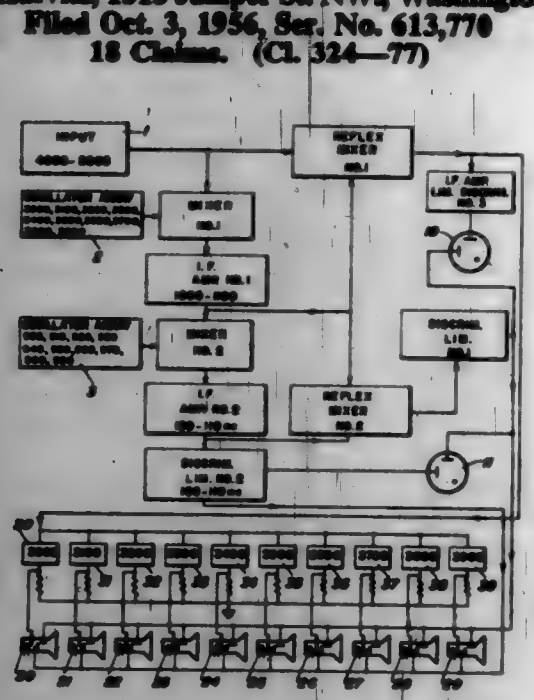
2,971,154
APPARATUS FOR SURVEYING A TANK BOTTOM
Julius Lerner, Drexel Hill, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey
Filed Oct. 21, 1958, Ser. No. 768,715
3 Claims. (Cl. 324—61)



1. In combination, a tank having a horizontally extending bottom rigidly supported in only a portion of its total area and subject to sagging in the unsupported portion of its area; at least one electrode disposed in superposed spaced relation to the tank bottom in the unsupported portion of its area, means connecting said tank bottom and said electrode in electrical circuit thereby to make said electrode one plate of a test condenser and said tank bottom the other plate of said test condenser, another electrode disposed in superposed spaced relation to the tank bottom in the supported portion of its area, means connecting said tank bottom and said other electrode in electrical circuit thereby to make said other electrode one plate of a reference condenser and said tank bottom the other plate of said reference condenser, means connected in circuit with said test and reference condensers for indicating the difference between the capacitance of said test condenser and the capacitance of

said reference condenser, and means for moving said one electrode over the unsupported portion of said tank bottom successively to predetermined different positions for scanning the same.

2,971,155
DOUBLE REFLEX SPECTRUM ANALYZER
Hyman Hurvitz, 1313 Juniper St. NW., Washington, D.C.
Filed Oct. 3, 1956, Ser. No. 613,770
18 Claims. (Cl. 324—77)



12. In combination, a source of an input signal of frequency S occurring within a band of width F1 to F2 c.p.s., a mixer, a source of plural local oscillations having frequencies of equal spacings

$$\frac{F1 \text{ to } F2}{n}$$

c.p.s., where n is greater than unity, means for applying to said mixer said input signal and said local oscillations, filter means for deriving from said mixer a heterodyne signal of frequency T equal to the algebraic sum of S and one of said local oscillator frequencies, said filter means having a bandwidth

$$\frac{F1 \text{ to } F2}{n}$$

a further mixer, means for applying to said further mixer said heterodyne signal and said input signal, means for deriving from said further mixer a frequency equal to said one of said local oscillator frequencies, another mixer, another source of other local oscillations having frequencies of equal spacings equal to

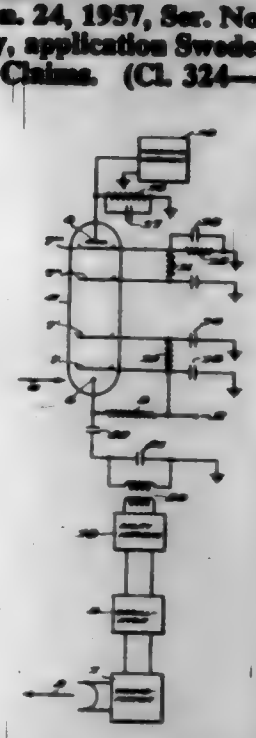
$$\frac{F1 \text{ to } F2}{mn}$$

where m is an integer greater than unity, means for applying to said another mixer said signal of frequency T and said other local oscillations, further filter means for deriving from said further mixer a heterodyne signal V of frequency equal to the algebraic sum of T and some one of said other local oscillations, said further filter means having a bandwidth

$$\frac{F1 \text{ to } F2}{mn}$$

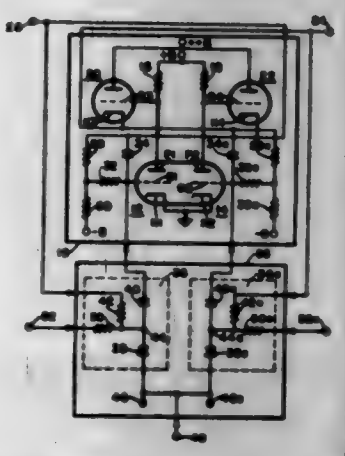
means for heterodyning said signal V with said signal T and for deriving from said means for heterodyning a signal having the frequency of said some one of said other local oscillations, and means for identifying said signals derived from said further mixer and from said means for heterodyning.

2,971,156
ARRANGEMENT FOR PHASE MEASUREMENT ON LIGHT OSCILLATIONS
Erik O. Bergstrand, Danderyd, and Karl Otto Ragnar Schöldström, Lidingo, Sweden, assignors to Svenska Aktiebolaget Gasaccumulator, Lidingo, Sweden, a corporation of Sweden
Filed Jan. 24, 1957, Ser. No. 636,283
Claims priority, application Sweden Dec. 12, 1956
3 Claims. (Cl. 324—83)



1. Apparatus for phase measurements comprising a photomultiplier having an anode, a cathode and a plurality of dynodes, means for varying the sensitivity of said photomultiplier in accordance with a phase reference oscillation, said means including means for impressing the reference voltage on at least one electrode of the photomultiplier and means for maintaining a constant voltage between the anode and at least one dynode including the dynode adjacent the anode.

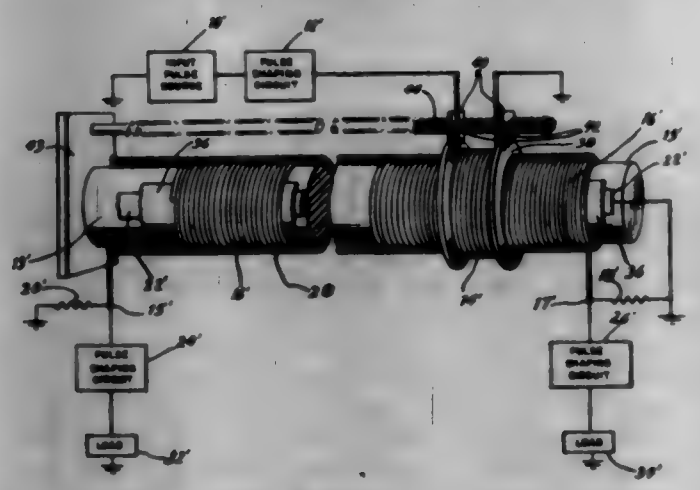
2,971,157
ELECTRONIC COMMUTATORS
Leonard R. Harper, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Mar. 15, 1956, Ser. No. 571,652
6 Claims. (Cl. 328—42)



1. An electronic commutator comprising a series of similar stages each of which includes an element having two states of stability and including a pair of input leads and a pair of output leads, a gate having an input lead, a first pair of control leads, a second pair of control leads and a pair of output leads, the element of at least one stage being in one state of stability and the elements of the remaining stages being in the other state of stability, means connecting the output leads of said gate in each stage to the input leads of the associated element, means

coupling the output leads of the element in each stage to the first pair of control leads of the associated gate and to the second pair of control leads of the gate in the succeeding stage for controlling said gates in accordance with the state of said element, and means for simultaneously applying a pulse to all of the input leads of said gates whereby the gate associated with the element in the one state of stability and the gate associated with the succeeding element in the other state of stability simultaneously apply pulses to switch said associated elements to their opposite state of stability.

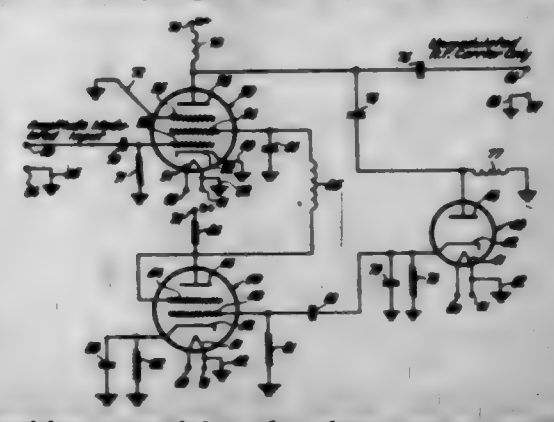
2,971,158
DELAY LINE CIRCUITS
Howard A. Bloom, Chicago, Ill., assignor to Admiral Corporation, Chicago, Ill., a corporation of Delaware
Filed Oct. 3, 1956, Ser. No. 613,642
4 Claims. (Cl. 328—62)



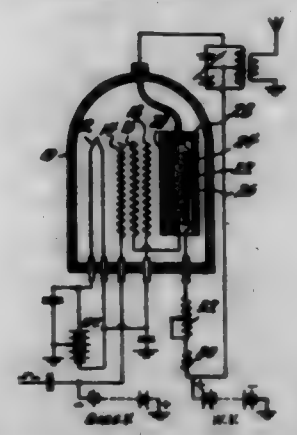
1. Means for controlling the relative timing of energization of a pair of pulse triggered utilization devices comprising in combination: a source of control pulses; delay line means; input means connected to said source of control pulses and inductively coupled to said delay line means for introducing said control pulses into said delay line means; means for adjustably positioning said input means intermediate the ends of said delay line means to thereby vary the relative delay between the control pulses and the respectively induced pulses appearing at the respective ends of said delay line means; and pulse shaping means individually interposed between respective ends of said delay line means and corresponding ones of said utilization devices for delivering trigger pulses thereto in response to induced pulses reaching said respective ends of said delay line means.

2,971,159
AMPLITUDE MODULATION ELIMINATOR
Jay V. Wilcox, Blue Springs, and John B. Stone, Kansas City, Mo., and John L. Kennedy, Prairie Village, Kans., assignors to Wilcox Electric Company, Inc., Kansas City, Mo., a corporation of Kansas
Filed Sept. 15, 1955, Ser. No. 534,444
3 Claims. (Cl. 328—165)

1. In modulation eliminator apparatus, a pair of input terminals adapted for coupling with a source of radio frequency signals having undesired amplitude modulation thereon; a pair of output terminals adapted for coupling with means for utilizing said signals after said modulation has been substantially eliminated therefrom; radio frequency amplifier means including a vacuum tube having internal elements including a cathode, an anode and signal input structure for controlling the flow of electrons from the cathode to the anode; means coupling the cathode with one of the input terminals and one of the output terminals; means coupling the anode with the other of said output terminals; means coupling the other of said input terminals with said structure; impedance means external to the tube coupling said structure with the cathode; means for applying a positive potential to the anode; rectifying means; means for amplifying and changing any audio frequency component of the signal from said rectifying means into a direct current signal of potential corresponding to the amplitude of said audio frequency component, said last-mentioned means including a second vacuum tube having internal elements including a cathode, a grid and a plate; means for applying a positive potential to the plate; means coupling the last-mentioned cathode with the first-mentioned cathode; impedance means external to the tube coupling said grid with said cathodes; means coupling said plate with said structure; and means coupling said rectifying means between said anode and said grid, said last-mentioned means including means between said anode and said rectifying means for blocking passage of direct current signals therethrough and means for blocking passage of radio frequency signals therethrough.



2,971,160
ANODE CURRENT REGULATION
Paul J. Erdle, Prospect Park, Pa., assignor, by mesne assignments, to Sylvania Electric Products Inc., Wilmington, Del., a corporation of Delaware
Filed Nov. 25, 1958, Ser. No. 776,224
7 Claims. (Cl. 330—65)

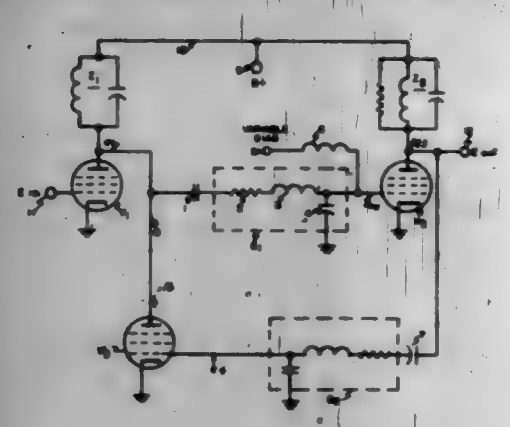


1. An electron tube having electrodes comprising a cathode and an anode, a control grid, an input circuit connected to the grid, an output circuit connected to the anode, and a resistor in one of the circuits, said resistor having a positive coefficient of resistance and located within the tube in thermal contact with one of the electrodes to exert a regulatory effect upon the anode current.

2,971,161
I.F. AMPLIFIER WITH ELECTRONICALLY CONTROLLABLE BAND-PASS
Glenn W. Clevenger, Baltimore, Md., assignor to The Bendix Corporation, a corporation of Delaware
Filed Sept. 24, 1958, Ser. No. 762,973
5 Claims. (Cl. 330—35)

1. An amplifier comprising three phase inverting stages, means for coupling signals to the input of said first stage, a first parallel resonant circuit connected to form a load

impedance for the first of said stages, means including a phase shifting circuit coupling the output of the first stage to the input of the second, a second parallel resonant circuit connected to form a load impedance for said second stage, means for obtaining output signals from said second stage, a phase shifting circuit coupling the output of said second stage to the input of the third of said



stages, means for varying the gain of said second stage, and means applying the output of said third stage across said first parallel resonant circuit, said parallel resonant circuits being tuned to the same frequency and each of said phase shifting circuits being selected to shift the phase of energy applied thereto by substantially ninety degrees in the same sense at the said frequency to which said resonant circuits are tuned.

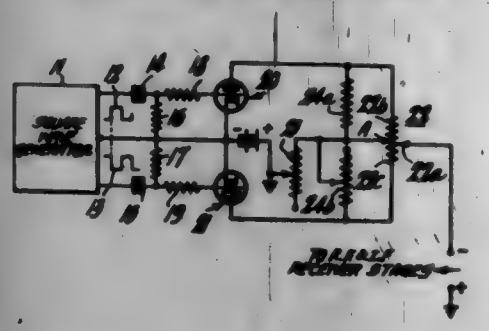
2,971,162

AMPLITUDE BALANCE CIRCUIT

Richard W. Allen, Moorestown, and Jay J. Ayres, Washington Township, Gloucester County, N.J., assignors to Radio Corporation of America, a corporation of Delaware

Continuation of application Ser. No. 447,788, Aug. 4, 1954. This application Mar. 18, 1958, Ser. No. 722,352

4 Claims. (Cl. 330—116)



1. In a hyperbolic navigation receiver of the type including a stage to which a gain control voltage may be applied for switching the receiver gain between two discrete levels, in combination, a pair of switch means, said switch means passing current when closed and not passing current when open, each having an input terminal and an output terminal; a potentiometer, opposite ends of which are connected to said output terminals, said potentiometer having a fixed center tap and a movable tap; means providing a reference potential; means for varying the voltage developed at said center tap including potentiometer means connected between said center tap and said means providing said reference potential; means connected to said input terminals for alternately closing and opening said switches and passing substantially the same amounts of constant current through said switches during the respective intervals they are closed; and means for connecting said movable tap to said stage of said hyperbolic navigation receiver for controlling the gain of said stage in accordance with the voltage developed at said movable tap.

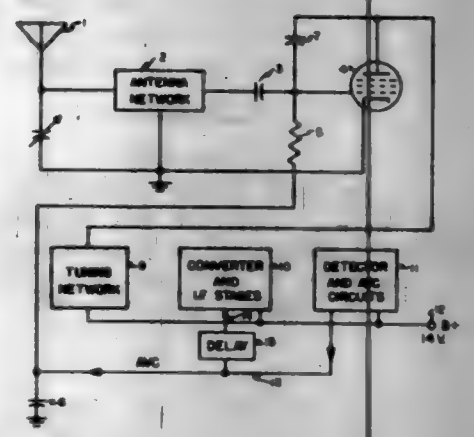
2,971,163

A.V.C. SYSTEM FOR LOW PLATE VOLTAGE OPERATION

Chih Chi Hsu, Baltimore, and Dwight Brown, Baltimore County, Md., assignors to The Bendix Corporation, a corporation of Delaware

Filed Aug. 6, 1957, Ser. No. 676,658

2 Claims. (Cl. 330—133)



1. In a radio receiver having a first amplifier stage and one or more subsequent cascaded amplifier stages and means for deriving an automatic gain control potential from said subsequent stages to reduce the gain of a plurality of said stages, the combination comprising means for applying said potential to bias said first stage to cut-off in response to an initial predetermined level of said potential, means for delaying application of said potential to said subsequent stages until said first stage has been substantially cut-off by said potential, and a passive coupling means connected between the input and output of said first stage for by-passing signals when said first stage is cut-off to produce at said output signals which are substantially in quadrature phase relation with signals at said output transferred by said first stage and having a magnitude such that said quadrature phase signals passed by said coupling means exceed the magnitude of signals transferred to said output by said first stage when said potential is in the vicinity of cut-off for said first stage at which maximum distortion is introduced.

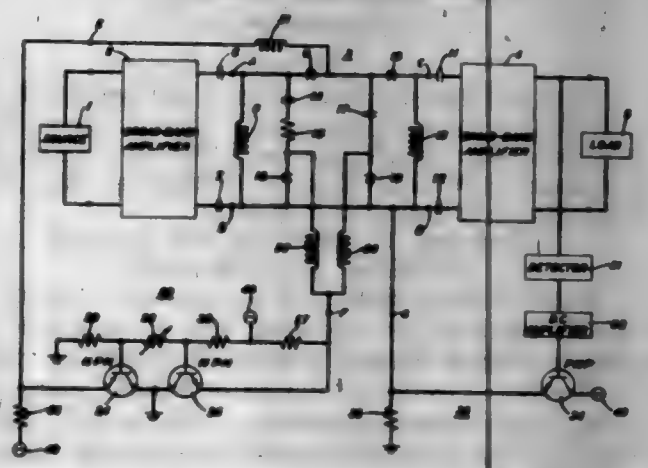
2,971,164

AUTOMATIC GAIN CONTROL CIRCUIT

Veikko R. Saari, Chatham, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Feb. 24, 1958, Ser. No. 10,673

5 Claims. (Cl. 330—145)



1. In a multi-stage broad-band amplifier, an automatic gain control circuit comprising a pair of reversely poled nonlinear elements in tandem having a common junction therebetween, said elements being connected between an output terminal of a first amplifier stage and a input ter-

minal of a second amplifier stage, a first series connection of a capacitor, a resistor and a shunt nonlinear element being connected across the output terminals of said first amplifier stage, said resistor having a value comparable to the input impedance of said second amplifier stage, a second series connection of a capacitor and a shunt nonlinear element connected between said common junction and a second junction to which the remaining output terminal of said first amplifier stage and the remaining input terminal of said second amplifier stage are connected, means for applying fixed voltages between said common junction and a reference point and between said reference point and the terminals of said shunt elements remote from said second junction, and means for applying variable voltages between the terminals of said shunt elements connected to said second junction and said reference point and between the terminal of said series elements remote from said common junction and said reference point, said variable voltages varying in accordance with the strength of the signal output of said first amplifier stage.

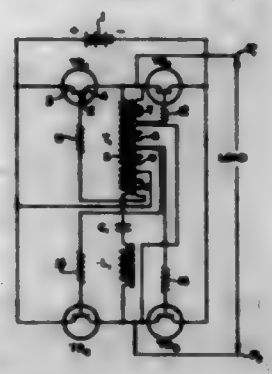
2,971,165
MULTI-PHASE OSCILLATOR WITH AMPLITUDE STABILIZING MEANS
Jerome S. Linn, Los Angeles, Calif., assignor to Geosince, Inc., Los Angeles, Calif., a corporation of California
Filed Sept. 12, 1958, Ser. No. 760,787
21 Claims. (Cl. 331—45)



1. A system for producing multi-phase output energy including: a plurality of amplifier stages; a corresponding plurality of electron discharge tubes respectively included in said amplifier stages; each of said tubes including an anode, a cathode and a control grid; a corresponding plurality of phase-shifting networks respectively coupled to corresponding ones of the amplifier stages, each of said phase-shifting networks being connected between the anode of the discharge tube in a corresponding one of the amplifier stages and the control grid of the discharge tube in another of the amplifier stages; and a corresponding plurality of resistors respectively connected between the cathodes of said tubes and a common floating potential point to form a balancing network for the multi-phase output energy.

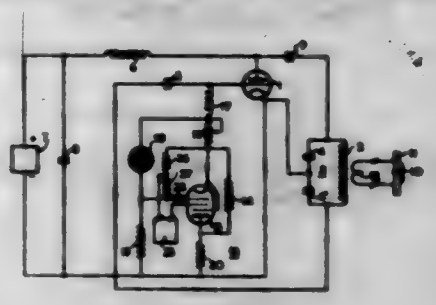
2,971,166
TRANSISTOR POWER INVERTER
Harry E. Schultz, Euclid, Ohio, assignor to General Electric Company, a corporation of New York
Filed Dec. 29, 1958, Ser. No. 783,338
4 Claims. (Cl. 331—113)

1. An inverter system comprising a direct current source, a pair of alternating current output terminals for supplying a load circuit, two pairs of transistors each having base, emitter and collector electrodes, each pair of transistors having their emitter-collector electrode paths connected in series across said source and the junctures of the transistors in each pair forming said output terminals, means for applying biasing potentials from the emitter to the base electrodes of said transistors for alternately switching on one transistor in each pair to apply the source voltage across the load circuit in alternating polarity, said means comprising a control circuit including a transformer having a primary wind-



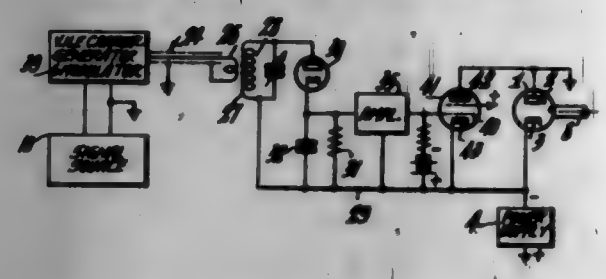
ing connected in series with an inductance-capacitance oscillatory circuit across said output terminals, and secondary windings in said transformer connected to the base electrodes of said transistors for applying the voltages induced therein to alternately turn on said transistors at the natural resonant frequency of said oscillatory control circuit.

2,971,167
HIGH FREQUENCY OSCILLATOR HAVING GRID DIRECT CURRENT STABILIZING MEANS
Lourens Blok and Geeltzen Zwanenburg, Eindhoven, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Apr. 18, 1958, Ser. No. 729,470
Claims priority, application Netherlands May 2, 1957
6 Claims. (Cl. 331—183)



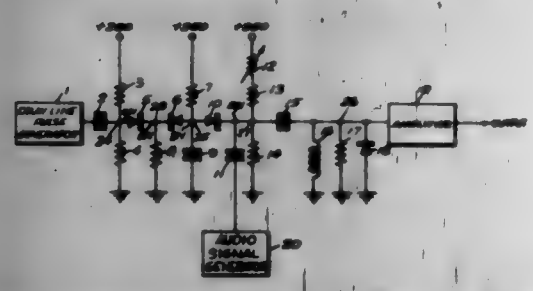
1. A high frequency oven circuit arrangement, comprising a feedback connected grid-controlled electron tube oscillator including an electron tube having cathode, anode and control grid electrodes, a variable load coupled to the anode of said electron tube, means responsive to the flow of grid current for producing a biasing potential at said control grid electrode, said grid current responsive means comprising means for stabilizing the grid direct current of said oscillator upon variation of said load, said stabilizing means comprising a pentode having cathode, anode and control grid electrodes, means connecting said pentode between the control grid electrode and the cathode of said electron tube and means for varying the effective resistance of said pentode in a sense diminishing said resistance upon reduction of said biasing potential comprising a first resistor connected in parallel with said pentode between the cathode and anode of the said pentode, a second resistor connected between the cathode of said pentode and the control grid electrode of said electron tube, a source of constant voltage of positive polarity and means connecting a terminal of said second resistor between the said second resistor and said electron tube to the control grid electrode of said pentode through said source of constant voltage.

2,971,168
MODULATION SYSTEM
Peter Koutsos, Belleville, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Dec. 28, 1954, Ser. No. 478,825
15 Claims. (Cl. 332—5)



1. A magnetron modulation system comprising a magnetron oscillator having an anode and a cathode defining a space therebetween in which oscillations are developed, means coupling said anode to a point of zero reference potential, an electron discharge device having at least an anode, a cathode and a control electrode, means coupling the anode-cathode path of said device to said magnetron cathode to modulate the voltage of said magnetron cathode about a negative unidirectional potential point in response to signals applied to said control electrode, a source of modulating signals, means coupled to the output of said source for modulating output signals from said source onto a carrier to produce a modulated wave, a detector having an input and an output, means for applying said modulated wave to the detector input; and means coupling the detector output to said control electrode.

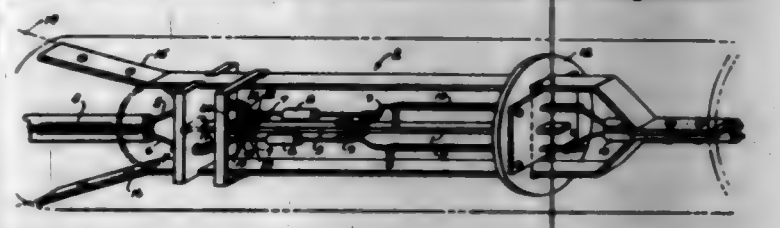
2,971,169
PULSE POSITION MODULATION SYSTEMS
Paul A. Sullivan, West Roxbury, Mass., assignor to Raytheon Company, a corporation of Delaware
Filed Dec. 30, 1957, Ser. No. 706,132
3 Claims. (Cl. 332—9)



1. A pulse modulator adapted to receive an input pulse comprising, in combination, supression means including a first diode for suppressing signals having relatively low amplitudes with respect to the amplitude of said input pulse, a first means including a second diode responsive to said input pulse for generating a first sawtooth signal, a second means including a third diode directly connected to and responsive to said first sawtooth signal for generating a second sawtooth signal at a predetermined time when said first sawtooth signal reaches a predetermined amplitude, said second means adapted to receive a modulating signal whereby said predetermined time varies in accordance with the instantaneous amplitude of said modulating signal, and differentiating means responsive to said second sawtooth signal for producing an output pulse at said predetermined time.

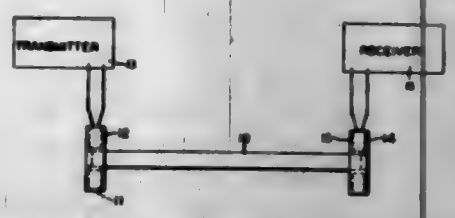
2,971,170
TWO WIRE SURFACE WAVE TRANSMISSION LINES
Theodore Hafner, 1501 Broadway, New York, N.Y.
Filed Feb. 25, 1958, Ser. No. 717,347
10 Claims. (Cl. 333—9)

1. In a surface wave transmission system, a surface wave conductor in the form of a symmetrical two-wire transmission line, covered by insulation and capable of transmitting between its wires a range of relatively low frequencies; said insulation being so dimensioned as to concentrate the surface wave field surrounding said line within a cylindrical space of the order of wave length dimension at a range of frequencies substantially above said relatively low frequency range, surface wave launching and receiving means including conical horns disposed, one at each end of said two-wire line and each gradually decreasing in diameter from a diameter corresponding to the diameter of the field surrounding said line toward the end of said two-wire line, and a pair of longitudinal



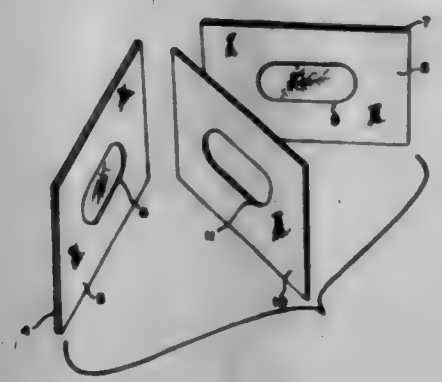
conducting means starting at the smaller end of said conical horns, one forming substantially the continuation of said two-wire line in a direction opposite of said two-wire line, and the other forming substantially a continuation of said cone in a direction opposite to said cone; said longitudinal conducting means also forming a coaxial transmission line for transmitting the waves corresponding to said surface wave field; the wires of said two-wire line being connected, respectively, to said two longitudinal conducting means at intermediate points thereof facing each other and another terminating symmertical two-wire line transmission also connected to said conducting means at said intermediate points so as to receive between its wires both said frequency ranges.

2,971,171
MAGNETOSTRICTIVE DELAY LINE
Albert E. Powell, Chatham, N.J., assignor, by mesne assignments, to Deltime, Inc., Massapequa, N.Y., a corporation of New York
Filed Jan. 9, 1957, Ser. No. 633,221
1 Claim. (Cl. 333—30)



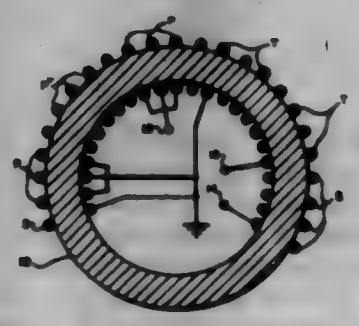
A magnetostrictive delay line comprising an elongated length of material capable of mechanical deformation in a magnetic field having a selected predetermined frequency being propagated therein and having a length which is greater than a plurality of wave lengths of sound in said material at the predetermined frequency, a conductive winding positioned about one of the ends of said material and coupled to a source of electric power which generates current pulses, said winding partially overlying one end of the material so that a plane perpendicular to the axis of said winding and passing medially through said winding is substantially coincident with the plane of the end face of said delay line with a substantial portion of the winding extending beyond said end face, and a receiving winding partially overlying the other end of the length of the material for receiving the mechanical pulse and transforming it into a current pulse, so that a plane perpendicular to the axis of said receiving winding and passing medially through said receiving winding is substantially coincident with the plane of the other end face of said delay line with a substantial portion of the receiving winding extending beyond said other end face.

2,971,172
WAVEGUIDE WINDOW
Milton R. Hamilton and Louis S. Tremblay, Beverly, Mass., assignors to Bomac Laboratories Inc., Beverly, Mass., a corporation of Massachusetts
Filed Aug. 28, 1959, Ser. No. 835,625
2 Claims. (Cl. 333—98)



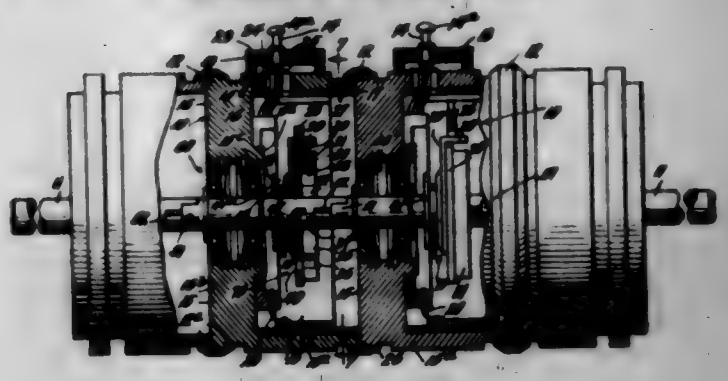
1. A resonant window assembly adapted for mounting in hollow pipe electromagnetic waveguide structure comprising a unitary assembly formed by a pair of dielectric members and a metallic member disposed therebetween, said assembly being characterized by the disposition of a metallized coating on confronting planar surfaces of said dielectric members and the bonding of said coated surfaces and metallic member to form a vacuum-tight seal, said assembly having a centrally disposed uncoated area defined by the metallized coating on each dielectric member and an opening defined in said metallic member in register with the uncoated areas, said assembly being further characterized by the absence of any dielectric material extending within the opening in said metallic member.

2,971,173
WIDE BAND RADIO FREQUENCY TRANSFORMERS
Hitoshi H. Kajihara, 20—24 Crescent St., Apt. 1B, Long Island City 5, N.Y., assignor to the United States of America as represented by the Secretary of the Army
Filed Nov. 25, 1957, Ser. No. 698,882
2 Claims. (Cl. 336—170)
(Granted under Title 35, U.S. Code (1952), sec. 266)



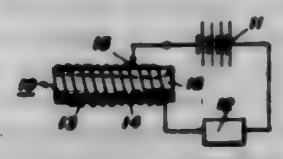
1. A wide band radio-frequency transformer for operation in the region between one megacycle and two hundred megacycles comprising a toroidal core, a secondary coil wound on said core, a primary coil bifilarly wound with a portion of said secondary coil, a means to increase the distributed capacity of said secondary coil, said means comprising a tertiary coil bifilarly wound with another portion of said secondary coil, the first turn of each of said coils being connected in common, the last turn of said primary and secondary coils being connected to separate terminals which respectively form with said common terminal the input and output circuits of said transformer, the last turn of said tertiary coil being an open circuit.

2,971,174
GANGED POTENTIOMETERS
William W. Lyon, Lexington, Mass., assignor to Ace Electronic Associates, Inc., a corporation of Massachusetts
Filed Sept. 8, 1959, Ser. No. 838,819
10 Claims. (Cl. 338—130)



1. A gang of rotary potentiometers comprising at least two potentiometer units, each unit comprising a casing element, a shaft element rotatively supported by said casing element, a resistance member carried by one of said elements, a variable tap member carried by the other of said elements for traversing said resistance member on relative rotation of said elements, means for adjustably clamping one of said members to the element by which it is carried, and means on the ends of said shaft elements of both units for axially coupling the two shaft elements for unison rotational movement, comprising an axial extending spline on one end of one of said shaft elements located off axial center and a mating spline slot on one end of the other of said shaft elements in a position corresponding to that of said spline, to permit coaxial coupling of said two shaft elements in only one relative angular orientation.

2,971,175
TUBULAR ELECTRIC RESISTORS AND RHEOSTATS
Edmund Abrahamson, 149 Babylon Turnpike, Roosevelt, N.Y.
Filed June 29, 1959, Ser. No. 823,582
8 Claims. (Cl. 338—270)

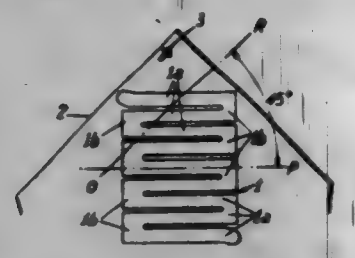


1. An electric resistance comprising an insulating tubular supporting member, a helical winding of resistance wire on said tubular supporting member, means to adjustably connect the turns of said resistance wire to an electric circuit, the external diameter of said tubular member remaining substantially constant throughout the length of said member and the internal diameter of said tubular member varying in cross section throughout the length of said tubular member to impart to said tubular members a greater wall thickness at one end than at the other.

2,971,176
PRODUCTION OF ELECTRICAL COMPONENTS FROM METAL FOILS, SEMI-CONDUCTORS AND INSULATING FILMS OR SHEETS
Paul Eisler, 57 Exeter Road, London, England
Filed Jan. 16, 1956, Ser. No. 559,370
10 Claims. (Cl. 338—314)

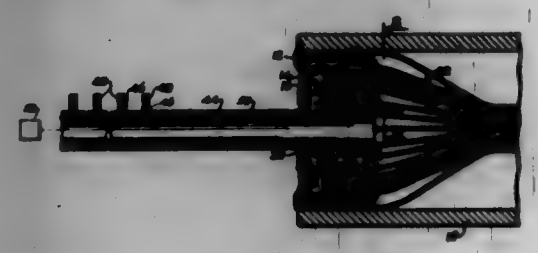
1. A new article of manufacture which comprises: an insulating base; a stress relieved electrically conductive surface element of less than 0.001 inch thickness having at least one smooth polished face whereby surface ir-

regularities are minimized, said element being bonded to said insulating base, and having one direction where-



in the number of atoms per unit area is a maximum, said element presenting a resistive path for electric current the greater part of which extends in said one direction.

2,971,177
MULTI-CONTACT SPLINED ELECTRICAL CONNECTOR
Emil J. Linkert, Pompton Lakes, N.J., assignor to Curtiss-Wright Corporation, a corporation of Delaware
Filed Feb. 4, 1958, Ser. No. 713,213
6 Claims. (Cl. 339—5)



1. In combination with a rotatable part; a first electric connector member connected to said part for rotation therewith; a second electric connector member; each of said electric connector members having axially-extending splines of insulating material for detachable meshing engagement with corresponding splines of the other member, said meshing splines providing for rotation of said second member by said first member; one of said electric connector members having electric contacts at the tip portion of at least certain of its splines and the other of said electric connector members having electric contacts at the root portion between at least certain of its splines for engagement with said first-mentioned electric contacts, said member being readily engageable and disengageable to make and break said contact engagement by axially moving said members relative to each other into and out of meshing engagement; a shaft-like extension secured to said second member; electric contact slip rings on said shaft-like extension; and means electrically connecting said slip rings to the electric contacts at the splines of said second member.

2,971,178
FLEXIBLE CONNECTOR FOR CONDUCTOR CORE CABLE
Carl E. Reesby, Bellaire, Tex., assignor, by mesne assignments, to Welex, Inc., a corporation of Delaware
Filed Feb. 13, 1956, Ser. No. 565,203
1 Claim. (Cl. 339—7)

A cable connector for connecting conductor core cable, comprising: a ball and socket means detachably interlinking one end of a first elongated hollow member to one end of a second elongated hollow member; anchoring means to connect another end of said second member to said cable; means to connect the other end of said first member to a well tool, said socket having a ball-entrance opening facing axially of said members; spline means in said socket adjacent said opening, a portion of said ball being cut away and cooperating with said spline means to permit insertion of said ball in said socket and removal of said ball from said socket when said first member is in a first angular position about the longitudinal axes of said members relative to said second member and to effect longitudinal retention of said ball in said socket when said first member is rotated to a second angular



position about the longitudinal axes of said members relative to said second member; retaining means to retain said first member in said second angular position relative to said second member to thereby retain said ball in said socket; and electrical connection means within said first and second members to electrically connect said cable conductor.

2,971,179
MOUNTING DEVICE FOR PRINTED CIRCUIT BOARDS
Hans Heuer, Wilhelmshaven, Germany, assignor to Olympia Werke A.G., Wilhelmshaven, Germany
Filed Apr. 16, 1958, Ser. No. 728,993
Claims priority, application Germany Nov. 7, 1957
8 Claims. (Cl. 339—17)



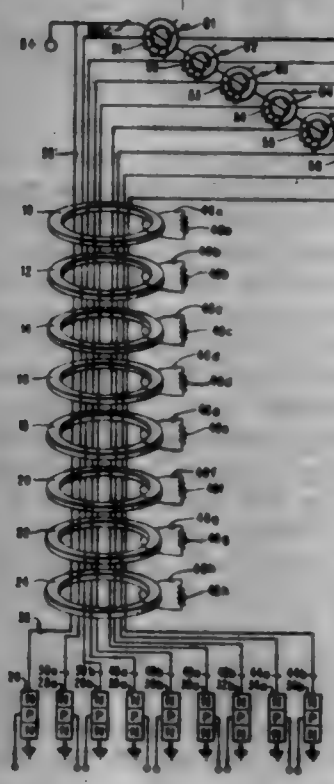
3. A mounting device for printed circuits in which a printed circuit board having metallic contacting stripe is inserted therein so that the contacting stripe of the same are brought into direct contact with contact means provided on the mounted device, which device comprises a socket body of insulating material, a contact-carrying plate of insulating material attached to said socket body, metallic contact stripe carried on said contact-carrying plate, said plate being formed between said stripe carried thereon with slots so that said plate forms a plurality of tongues on which said stripe are arranged, said stripe on said tongues registering with the contacting stripe of the printed circuit board respectively when said board is attached to said socket body, resilient plate means abutting said contact-carrying plate and comprising a spring plate having a plurality of resilient spring teeth, each of which teeth exercises pressure on one of said tongues of said contact-carrying plate independently of the pressure exercised by adjacent teeth, and reinforcing means for said spring plate to stiffen said spring plate against distortion in a direction transverse to the longitudinal extension of said spring teeth.

2,971,180
ELECTRICAL CONNECTION
William L. Colwell, Norwalk, Conn., assignor to Burndy Corporation, a corporation of New York
Filed June 13, 1958, Ser. No. 741,868
3 Claims. (Cl. 339—207)



3. A device for insulating a plurality of paired, coupled terminals comprising: a unitary base member composed of insulating material having a septum and means on either side of said septum adapted to receive a pair of coupled terminals, means on said base for locking said received coupled terminals against decoupling; and a unitary, tubular insulating sleeve circumferentially disposed about said base; said sleeve and base having cooperating means to lock said sleeve to said base.

2,971,181
APPARATUS EMPLOYING SOLID STATE COMPONENTS
Norbert G. Vogl, Jr., Wappingers Falls, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Feb. 27, 1959, Ser. No. 796,047
4 Claims. (Cl. 340—174)

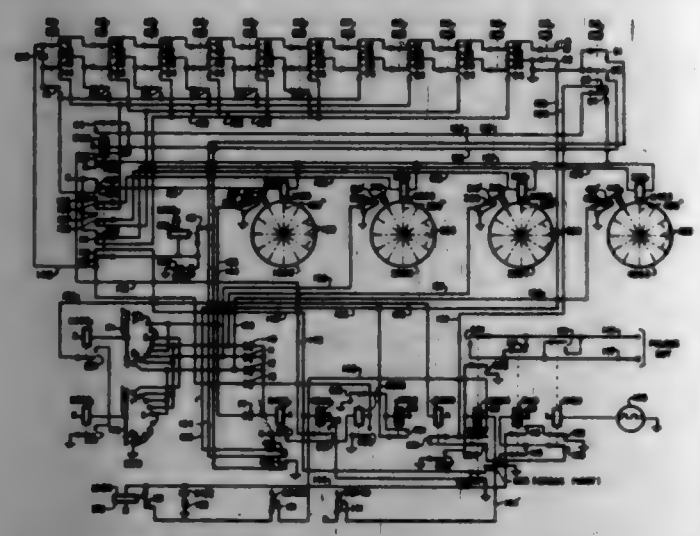


1. A magnetic switch for use with a magnetic core memory, said magnetic switch including: a first magnetic switch core, a second magnetic switch core, a third magnetic switch core, a fourth magnetic switch core, a fifth magnetic switch core, a sixth magnetic switch core, a seventh magnetic switch core, and an eighth magnetic switch core; a first magnetic balance core, a second magnetic balance core, a third magnetic balance core, a fourth magnetic balance core, a fifth magnetic balance core, a sixth magnetic balance core, a seventh magnetic balance core, and an eighth magnetic balance core; a first energizable current source means having an output winding electromagnetically coupled to said first, second, third and fourth magnetic switch cores in a first sense, to said fifth, sixth, seventh and eighth magnetic switch cores in a second sense, and to said first magnetic balance core in said first and second senses; a second energizable current source means having an output winding electromagnetically coupled to said first, second, third and fourth magnetic switch cores in said second sense, to said fifth, sixth, seventh and eighth magnetic switch cores in said first sense, and to said second magnetic balance core in said first and second senses; a third energizable current source means having an output winding electromagnetically coupled to said first, third, sixth and eighth magnetic switch cores in said first sense, to said second, fourth, fifth and seventh magnetic switch cores in said second sense, and to said third magnetic balance core in said first and second senses: a fourth energizable current source means having an output winding electromagnetically coupled to said first, third, sixth and eighth magnetic switch cores in said second sense, to said second, fourth, fifth and seventh magnetic switch cores in said first sense, and to said fourth magnetic balance core in said first and second senses; a fifth energizable current source means having an output winding electromagnetically coupled to said first, second, seventh and eighth magnetic switch cores in said first sense, to said third, fourth, fifth and sixth magnetic switch cores in said second sense, and to said fifth magnetic balance core in said first and second senses; a sixth energizable current source means having an output winding electromagnetically coupled to said first, second, seventh and eighth magnetic switch cores in said second sense, to said third, fourth, fifth and sixth magnetic switch cores in said first sense, and to said sixth magnetic balance core in said first and second senses; a seventh energizable current source means having an output winding electromagnetically coupled to said first, fourth, sixth and seventh magnetic switch cores in said first sense, to said second, third, fifth and eighth magnetic switch cores in said second sense, and to said seventh magnetic balance core in said first and second senses; an eighth energizable current source means having an output winding electromagnetically coupled to said first, fourth, sixth and seventh magnetic switch cores in said second sense, to said second, third, fifth and eighth magnetic switch cores in said first sense, and to said eighth magnetic balance core in said first and second senses; eight output switch core windings each electromagnetically coupled to a discrete one of said eight magnetic switch cores; eight output balance core windings each electromagnetically coupled to a discrete one of said eight magnetic balance cores; and additional means for energizing certain ones of said eight current source means in accordance with a predetermined code, whereby an output will be obtained from only a predetermined one of said eight magnetic switch core output windings and an output will be obtained only from each magnetic balance core output winding whose corresponding current source has supplied an unduly high magnitude output current.

2,971,182
KEY SENDERS
Harold J. McCreary, Lombard, Ill., assignor to Automatic Electric Laboratories, Inc., a corporation of Delaware
Filed July 13, 1955, Ser. No. 521,689
26 Claims. (Cl. 340—174.1)

1. In a digital impulse transmitter, a magnetic storage medium, write-in means comprising a plurality of heads, a source of potential, means for selectively connecting said source of potential to particular ones of said heads to energize said heads in a predetermined sense to cause magnetizations in a certain combination of one and the other polarity to be recorded in said storage medium, said polarity combination being representative of the number of decimal digital impulses to be transmitted, an output circuit for transmitting said impulses, a plurality of arma-

tures, a permanent magnet depending from each of said armatures so as to be located in close proximity with said storage medium, means for causing a relative movement between said armatures and said storage medium to thereby cause alignment of said magnets with said magnetizations whereupon said magnetizations cause the corresponding magnets to be attracted and the corresponding armatures to be operated in accordance with said polarity combinations, means for initiating the transmission of impulses in said output circuit operated responsive to the



operation of any of said armatures, an impulse counter, said counter operated coincident with the transmission of said impulses in said output circuit to count said impulses transmitted, means for indexing said counter to count the number of impulses to be transmitted, said indexing means operated responsive to and in accordance with the particular ones of said armatures operated, means for arresting the transmission of impulses in said output circuit, said arresting means operated by the operation of said counter whereby only the number of impulses represented by said polarity combination of magnetizations is transmitted.

2,971,183

MONITORING EQUIPMENT

Joseph Gill, Hicksville, and George Gruendel, Long Island City, N.Y., assignors, by mesne assignments, to Hagan Chemicals & Controls, Inc., Pittsburgh, Pa., a corporation of Pennsylvania

Filed June 11, 1956, Ser. No. 590,510
7 Claims. (Cl. 340—213)



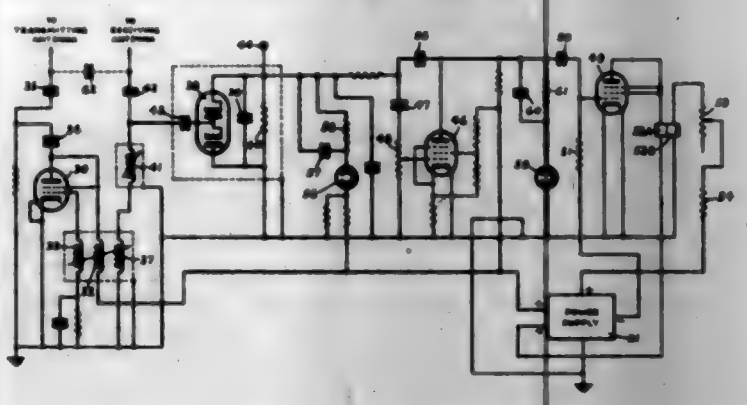
1. Equipment for monitoring a test point having a pair of contacts actuated when said test point has attained a critical condition, said equipment comprising a neon lamp controlled by such contacts and normally retained in de-energized condition, a capacitor having one side connected to one side of said lamp for charging of said capacitor to the potential applied to said side of the lamp, a discharge circuit for said capacitor, an output terminal, a rectifier in series with said capacitor and said output terminal, means controlled by the actuation of such contacts to apply a difference of potential across said lamp to energize the latter, whereby said capacitor will discharge through said discharge circuit to cause a negative pulse to be applied through said rectifier to said output terminal.

2,971,184

INTRUDER ALARM SYSTEM

Howard Pearson, New York, N.Y., Vincent T. McDonough, Verona, N.J., and Theo N. Vasil, Flushing, N.Y., assignors to American District Telegraph Company, Jersey City, N.J., a corporation of New Jersey

Filed May 14, 1957, Ser. No. 659,156
10 Claims. (Cl. 340—258)



1. An intruder alarm system for providing an alarm signal indication of the approach by an intruder to a boundary of an area to be protected, comprising a transmitting antenna array formed from a plurality of spaced conductors disposed generally in a vertical plane and extending along said boundary of said area, a receiving antenna array formed from a second plurality of spaced conductors disposed generally in said vertical plane and extending along said boundary of said area, the conductors of said transmitting and receiving antenna arrays being generally parallel to said boundary and being intermixed by alternate spacing in said vertical plane, the spacing between adjacent conductors and between individual conductors and ground being selected so that appreciable increases in antenna capacitance to ground and in mutual capacitance between the conductors of said transmitting antenna array and the conductors of said receiving antenna array occur upon the approach of an intruder to said boundary, a variable source of radio frequency signals operating at a given frequency, means to supply a portion of the signal energy from said source to said transmitting antenna array, a receiving circuit coupled to said receiving antenna array whereby a portion of the signal energy supplied to said transmitting antenna array appears in said receiving circuit through an air-borne coupling between said antennas, said receiving circuit, in combination with said receiving antenna array, being tuned to a frequency in the neighborhood of said given frequency, circuit means to supply another portion of the energy from said source directly to said receiving circuit, and means responsive to changes in the average signal level in said receiving circuit occurring faster than a predetermined rate to provide said alarm signal indication.

2,971,185

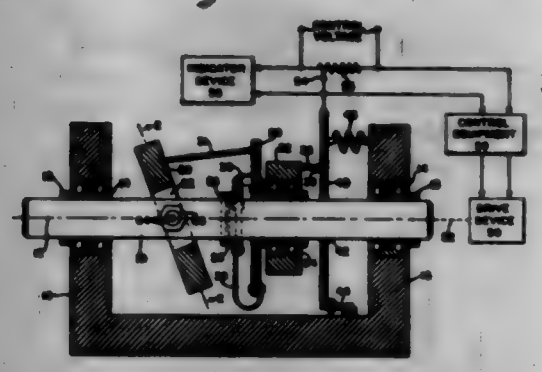
SPEED INDICATOR AND CONTROL ARRANGEMENT

Corbin Dixon, Waynesboro, Va., assignor to General Electric Company, a corporation of New York

Filed Feb. 18, 1959, Ser. No. 794,178
2 Claims. (Cl. 340—263)

1. An arrangement for indicating and controlling the speed of a rotary drive device comprising a rotatable shaft supported for rotation about its longitudinal axis, means for coupling said shaft to said drive device, a rotor plate having a substantially centrally located open-

ing therethrough, said rotor plate and said shaft being positioned with relation to each other so that said shaft passes through said rotor plate opening, means for fastening said rotor plate to said shaft so that said rotor plate rotates therewith and so that two of its opposite ends pivot about an axis transverse to said longitudinal axis, said means for fastening including two bearing balls, one ball being located on each side of said shaft along said pivot axis, each of said balls being positioned in a pair of cooperating sockets which are positioned along said pivot axis, one socket of each of said pairs of sockets being on said shaft and the other socket of



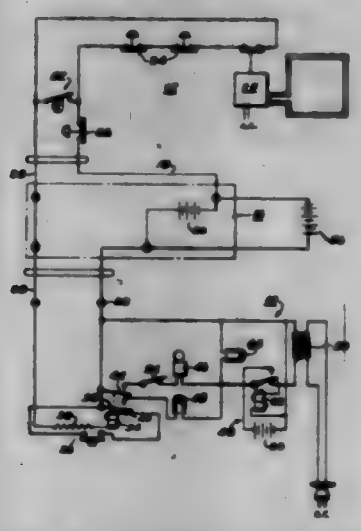
each of said pairs of sockets being on the inner wall of said opening, an actuator plate positioned in the vicinity of said rotor plate and said shaft and biased toward said rotor plate, and means fastened to said rotor plate and contacting said actuator plate so that when said shaft is stationary said actuator plate causes said rotor plate to lie in a plane that forms an angle greater than zero with a plane transverse to said longitudinal axis and so that when said shaft rotates said rotor plate tends to pivot toward a plane that is transverse to said longitudinal axis, thereby moving said actuator plate away from said pivot axis along said longitudinal axis by an amount proportional to the speed of rotation of said shaft.

2,971,186

CENTRAL WARNING BURGLAR ALARM SYSTEM

Tony Ripepi, 771 Clairton Blvd., Pittsburgh, Pa.

Filed June 30, 1959, Ser. No. 824,848
1 Claim. (Cl. 340—276)



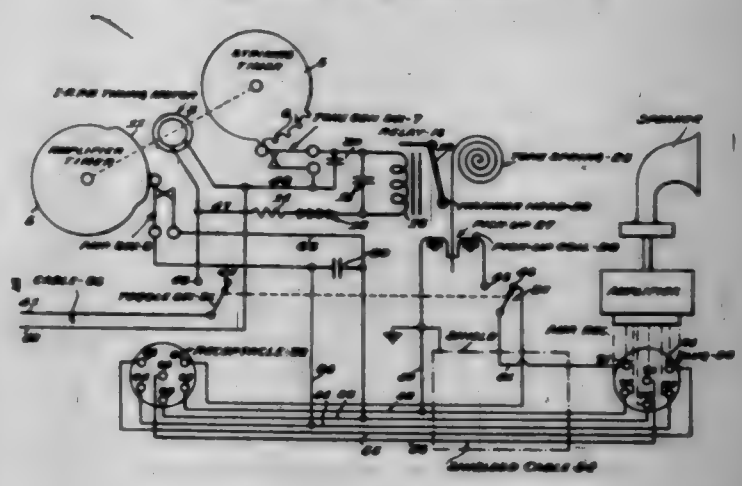
An alarm system for protected premises, comprising a central station equipment and at least one subscriber premises equipment, such subscriber premises equipment including a normally-closed series circuit including switch contacts of which at least some are arranged for opening the circuit upon intrusion of the premises, and lock switch means at the subscriber premises for selectively shorting out some of said switch contacts to disable a part of them; a protected current source disposed wholly away from said central station equipment and connected to one side of said series circuit; and alarm apparatus at said central station for such premises, said alarm apparatus including a current-sensing relay supplied at one terminal with operating current from the series circuit of the subscriber premises, a signal controlled by said relay for signalling the de-energization of said relay, and a reset switch associated with each relay and connected solely from the other terminal of said relay to the other terminal of the current source for the subscriber premises.

2,971,187

TONE GENERATOR

George M. Marr, 17040 Highland Ave., Jamaica 32, N.Y., and George A. Slatic, 1819 Summerfield Ave., Brooklyn 27, N.Y.

Filed Aug. 30, 1956, Ser. No. 607,069
4 Claims. (Cl. 340—384)



1. In a fog-warning apparatus for use with a ship's public address system of the type which includes an amplifier, at least one stern mounted loudspeaker and at least one bow mounted loudspeaker, the combination of a first vibratory means adapted when struck to vibrate at a resonant frequency and generate a gong-like tone, a second vibratory means adapted when struck to vibrate at a resonant frequency and generate a bell-like tone, a pair of electromagnetically operated hammers arranged to strike said first and second vibratory means respectively, a pair of magnetic pickups juxtaposed said vibratory means, a timing mechanism including a motor for turning a single timing wheel, a pair of switches adjacent said wheel, a single cam on said wheel adapted to close said pair of switches at different times, a pair of relays operated by said pair of switches, a series of cams on said wheel adapted to close a third switch and operate one of said electromagnetic hammers to strike said first vibratory means and generate a series of gonglike tones, interrupter means connected with said other electromagnetically operated hammer to operate the hammer intermittently and develop a series of bell-like tones when the hammer is energized by the closing of one of said pair of switches, and a pair of relays individually operated by said pair of switches to connect one pickup to said amplifier and stern speaker while simultaneously disconnecting said bow speaker and to connect the other pickup to said amplifier and bow speaker while simultaneously disconnecting said stern speaker.

2,971,188

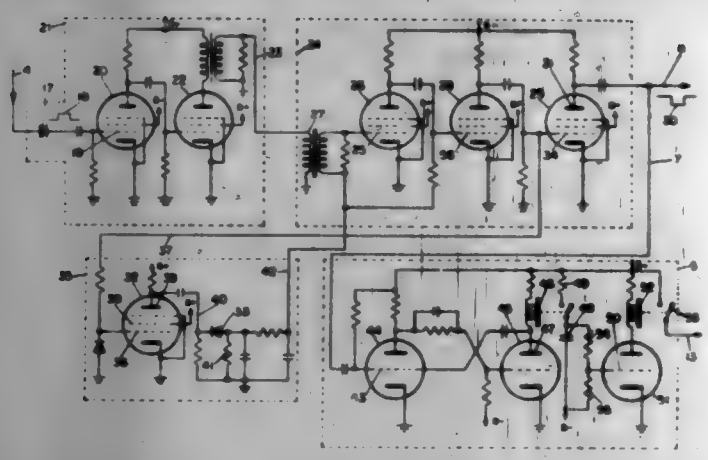
RADAR NAVIGATION BEACON

James David Bryan, Baltimore, Md., assignor to Aircraft Armaments, Inc., Baltimore, Md., a corporation of Ohio

Filed July 1, 1953, Ser. No. 365,439
8 Claims. (Cl. 343—6.8)

1. A beacon responsive to interrogating pulses for automatically transmitting information in the form of

an electrical signal comprising, a source of power, receiving means including a crystal detector connecting with said source of power and responsive to said interrogating pulses for producing trigger pulses, automatic gain control means connecting with said receiving means for controlling the gain thereof including limiter means responsive to a portion of an intermediate output of said receiver means for limiting said portion to a value slightly greater than noise, means responsive to the output of said limiter means for producing a gain control voltage whose magnitude is dependent only upon the average noise level, and means to apply said control voltage to said receiving means for maintaining a substantially constant



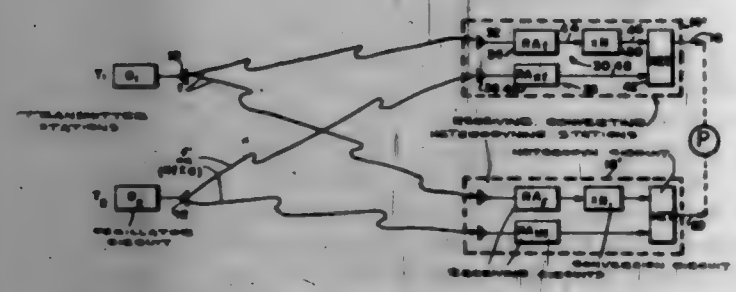
noise level at the final output whereby said trigger pulses are produced only in response to said interrogating pulses, signal generating means connecting with said receiving means, power control switching means responsive to said trigger pulses for connecting said signal generating means with said source of power, said signal generating means being responsive to the simultaneous application of a trigger pulse from said receiving means and power from said source to produce an electrical signal, and transmitting means responsive to said signal generating means for transmitting said electrical signal.

2,971,189

RADIO SYSTEM

Charles E. Hastings, Hampton, Va., assignor to Hastings-Raydist, Inc., Hampton, Va., a corporation of Virginia

Filed Mar. 22, 1957, Ser. No. 648,485
6 Claims. (Cl. 343—105)



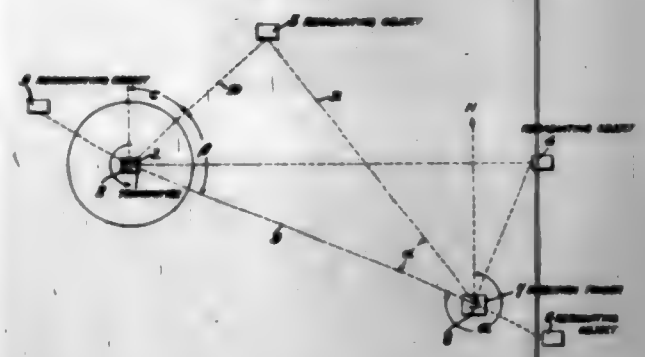
1. A heterodyne phase comparison unit comprising, at least two non-synchronized means for producing oscillations, at least two receiving and heterodyning means, one oscillation means being tuned to generate a signal at frequency *f*, the other oscillation means being tuned to generate a signal at frequency *f'* which differs substantially from *f*, each receiving and heterodyning means including: first means arranged to receive and carry radio frequency signals around frequency *f* from said one oscillation means and isolated from signals around *f'*, second means arranged to receive and carry signals around *f'* from said second oscillation means and isolated from signals around *f*, first and second coupling means for applying the outputs of said first and second frequency means to the associated heterodyning means, at least one of the coupling means including frequency conversion means to bring the two frequencies to like value except for a frequency difference *a*, the unit further including means for indicating phase angle between electrical signals, and means for conveying the output signals of frequency *a* generated in the respective heterodyne means to the phase angle means as two inputs thereto.

2,971,190

POSITION FINDING SYSTEM

Henri G. Busignies, Forest Hills, N.Y., assignor to International Telephone and Telegraph Corporation, a corporation of Maryland

Filed Feb. 24, 1945, Ser. No. 579,567
35 Claims. (Cl. 343—112)



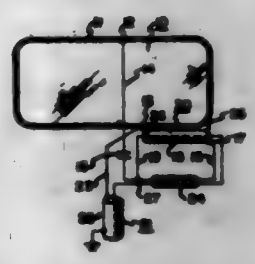
1. The method of obtaining at a receiving point spaced a predetermined distance from a radiator, the location parameters of a reradiating object, comprising receiving at said point energy reradiated from said object and from said radiator, determining the direction from said receiver to said object in response to received reradiated energy, and measuring the timing between said received reradiated energy and the timing of energy received from said radiator to determine the distance parameter of said reradiating object.

2,971,191

SLOT TYPE ANTENNA HAVING AN AUTO-TRANSFORMER COUPLING CIRCUIT

Ross A. Davis, 5037 W. Pico Blvd., Los Angeles, Calif.

Filed July 18, 1955, Ser. No. 522,777
6 Claims. (Cl. 343—712)



1. An antenna system including: a conductive structure having at least one electrically non-conductive area therein; a conductive edge enclosing said area; an autotransformer having a primary portion and a secondary portion; at least a part of said primary portion being in contiguous relationship to a first portion of said edge and having direct electrical connections to said first portion of said edge at a plurality of points spaced along its length whereby said part of said primary portion attains a potential gradient along its length corresponding to the gradient of said contiguous first portion of said edge; an

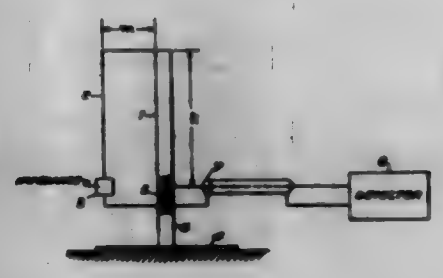
exciter wire and a capacitor connected in series and coupled between a second portion of said edge remote from said first portion and said primary portion of said auto-transformer, said secondary portion being adapted for coupling to radio apparatus.

2,971,192

WIDEBAND FOLDED MONOPOLE ANTENNA

Vernon F. Clifford, Lilit Terrace, Seymour A. Cottler, North Babylon, and George A. Deschamps, New York, N.Y., assignors to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland

Filed Nov. 12, 1957, Ser. No. 696,591
7 Claims. (Cl. 343—749)



1. An antenna having at least two radiating elements the dimensions of which are suitably chosen for relatively wide frequency band operation, one only of said elements being substantially forty times thicker than the others and coupled directly at one end to a transmission line the remaining of said elements each being coupled to the other end of said one element and to a separate impedance which is grounded, the general arrangement, relative thickness of said elements and value of each of said impedances being such that an impedance match is provided between said antenna and said transmission line.

2,971,193

MULTIPLE SLOT ANTENNA HAVING RADIATING TERMINATION

Matti Solmar Olavi Siukola, Woodlynne, N.J., assignor to Radio Corporation of America, a corporation of Delaware

Filed June 21, 1957, Ser. No. 667,214
8 Claims. (Cl. 343—770)

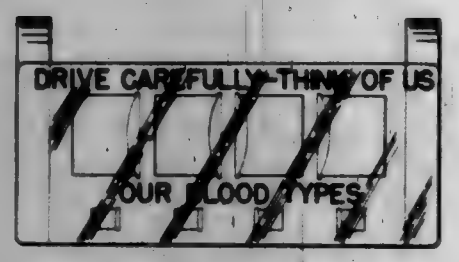


8. An antenna comprising a hollow conductor having a plurality of elongated relatively narrow slots therein positioned around the periphery of and along the length of said hollow conductor in a spiral, means coupled to one end of said antenna for applying radio frequency energy thereto, said hollow conductor further having a plurality of relatively wider slots positioned at that end of said spiral which is remote from said means.

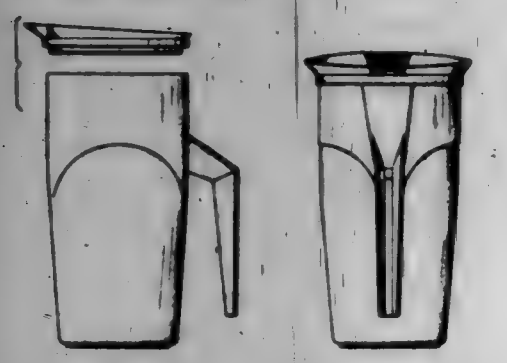
DESIGNS

FEBRUARY 7, 1961

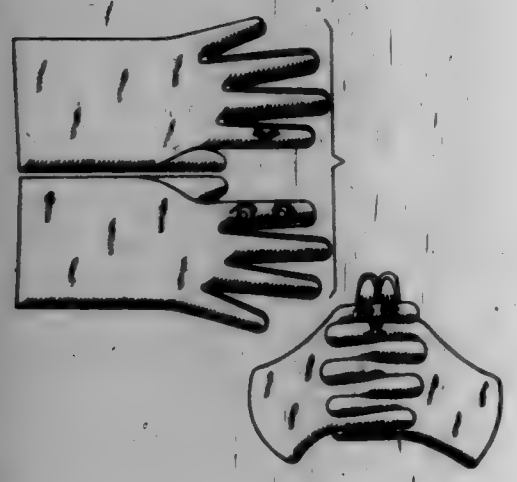
189,713
IDENTIFICATION PLAQUE
Mattie M. Brandt, Oklahoma City, Okla., assignor of one-half to Leithey R. Richards, Fort Sill, Okla.
Filed Oct. 24, 1958, Ser. No. 53,144
Term of patent 3½ years
(Cl. D1—3)



189,714
COCKTAIL SHAKER
John W. Ebstein, Roslyn Heights, N.Y., assignor, by mesne assignments, to Federal Enameling & Stamping Co., Pittsburgh, Pa., a corporation of Michigan
Filed Feb. 10, 1960, Ser. No. 59,341
Term of patent 14 years
(Cl. D2—3)



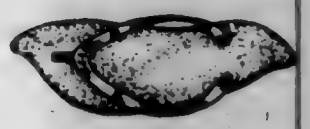
189,715
PAIR OF NOVELTY GLOVES
Robert Stanton, 140 Geary St., San Francisco, Calif.
Filed July 21, 1960, Ser. No. 61,463
Term of patent 14 years
(Cl. D3—11)



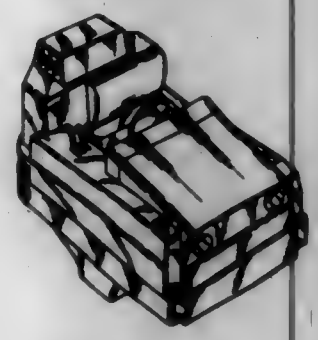
189,716
SANDAL
Jumpei Kurata, 1160–2 Mii-machi, Kurume City, Japan
Filed May 18, 1960, Ser. No. 60,635
Term of patent 14 years
(Cl. D7—7)



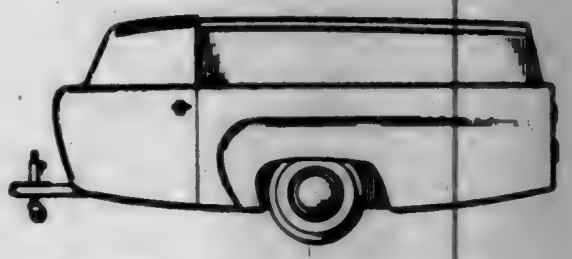
189,717
SANDAL
Jumpei Kurata, 1160–2 Mii-machi, Kurume City, Japan
Filed May 18, 1960, Ser. No. 60,636
Term of patent 14 years
(Cl. D7—7)



189,718
STREET SWEEPER
Philip G. Patch, Pasadena, Calif. (% Patch & Kase Corporation, 3540 Wilshire Blvd., Los Angeles, Calif.)
Filed Oct. 14, 1959, Ser. No. 57,929
Term of patent 14 years
(Cl. D14—3)



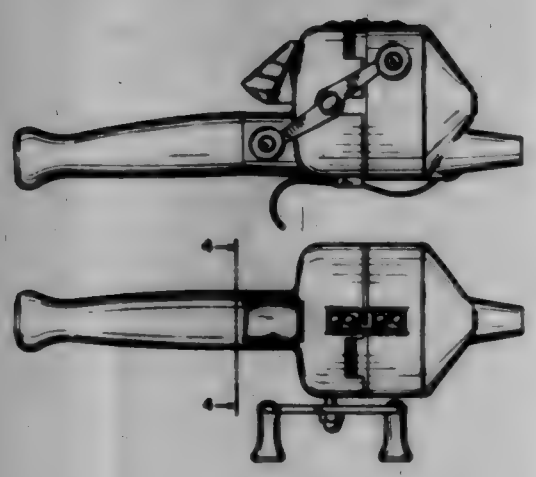
189,719
COMBINATION BOAT AND CAMPING TRAILER
Donald J. Clow, 640 Oak St., Laguna Beach, Calif.
Filed July 25, 1960, Ser. No. 61,502
Term of patent 14 years
(Cl. D14—3)



189,720
MICROPHONE
Louis R. Burroughs, Buchanan, Mich., assignor to Electro-Voice, Incorporated, Buchanan, Mich., a corporation of Indiana
Filed Feb. 4, 1960, Ser. No. 59,266
Term of patent 14 years
(Cl. D26—14)



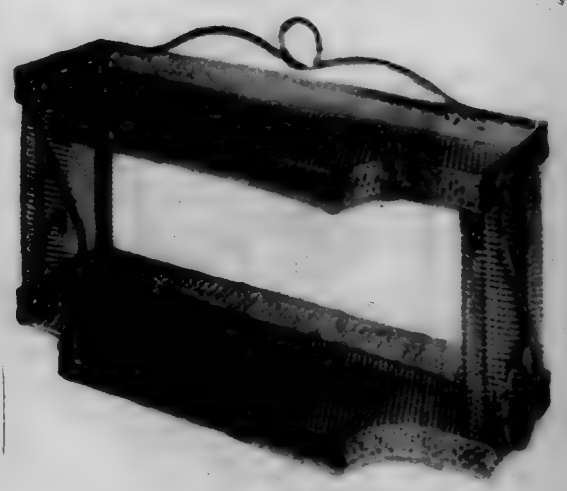
189,721
COMBINED FISHING ROD HANDLE AND REEL
R. Dell Hull, 1131 E. Easton St., Tulsa, Okla.
Filed Feb. 2, 1959, Ser. No. 54,427
Term of patent 14 years
(Cl. D31—4)



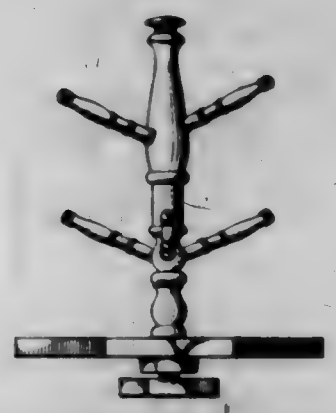
189,722
WHATNOT STAND
Aaron H. Wolff, 1707 Huntley Place, Hewlett, N.Y.
Filed Feb. 12, 1959, Ser. No. 54,586
Term of patent 14 years
(Cl. D33—18)



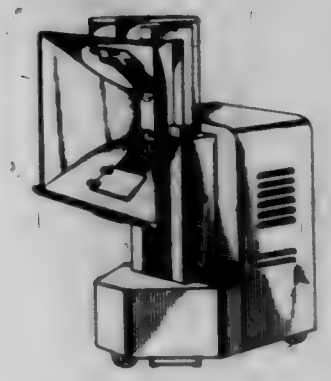
189,723
WHATNOT STAND
Aaron H. Wolff, 1707 Huntley Place, Hewlett, N.Y.
Filed Feb. 12, 1959, Ser. No. 54,587
Term of patent 14 years
(Cl. D33—18)



189,724
DOUGHNUT HOLDER
George D. Herrick, Sr., 611 W. 11th St., Medford, Oreg.
Filed Apr. 8, 1960, Ser. No. 60,101
Term of patent 3½ years
(Cl. D44—10)



189,725
PRINTING LAMP OR THE LIKE
Earl C. Cunningham, Jr., Philadelphia, Pa., assignor to Macbeth Arc Lamp Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed May 5, 1960, Ser. No. 60,463
Term of patent 14 years
(Cl. D48—20)



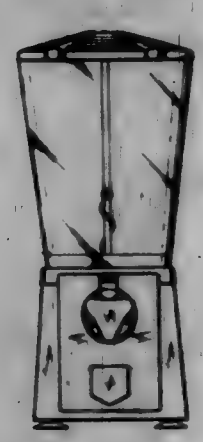
189,726
PRINTING LAMP OR THE LIKE
Earl C. Cunningham, Jr., Philadelphia, Pa., assignor to Macbeth Arc Lamp Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed May 5, 1960, Ser. No. 60,464
Term of patent 14 years
(Cl. D48—20)



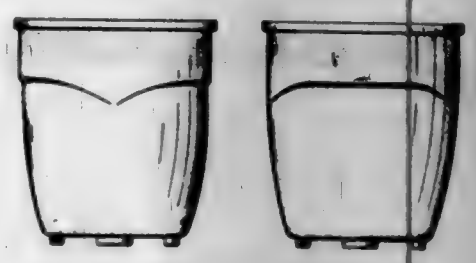
189,727
LATCHING UNIT FOR DOORS
David S. Cross, 4000 W. 42nd St., Minneapolis, Minn.
Filed Oct. 12, 1959, Ser. No. 57,393
Term of patent 14 years
(Cl. D50—5)



189,728
DISPENSING MACHINE FOR GUM BALLS, CHARMS OR THE LIKE
Sidney Eppy, Forest Hills, N.Y., assignor to Samuel Eppy & Company, Inc., Jamaica, N.Y., a corporation of New York
Filed Nov. 12, 1959, Ser. No. 58,317
Term of patent 7 years
(Cl. D52—3)



189,729
WASTE BASKET
John W. Ehstein, Roslyn Heights, N.Y., assignor, by mesne assignments, to Federal Enameling & Stamping Co., Pittsburgh, Pa., a corporation of Michigan
Filed Feb. 10, 1960, Ser. No. 59,343
Term of patent 14 years
(Cl. D58—4)



189,730
CARAFE
Thomas E. Williams, Long Beach, and Jack H. Hofstetter, Orange, Calif., assignors to Purex Corporation, Ltd., South Gate, Calif., a corporation of California
Filed Apr. 8, 1960, Ser. No. 60,108
Term of patent 14 years
(Cl. D58—5)



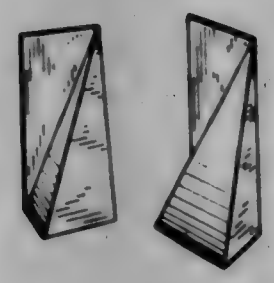
189,731
CARAFE
Thomas E. Williams, Long Beach, and Jack H. Hofstetter, Orange, Calif., assignors to Purex Corporation, Ltd., South Gate, Calif., a corporation of California
Filed Apr. 11, 1960, Ser. No. 60,119
Term of patent 14 years
(Cl. D58—8)



189,732
CARAFE
Thomas E. Williams, Long Beach, and Jack H. Hofstetter, Orange, Calif., assignors to Purex Corporation, Ltd., South Gate, Calif., a corporation of California
Filed May 31, 1960, Ser. No. 60,780
Term of patent 14 years
(Cl. D58—8)



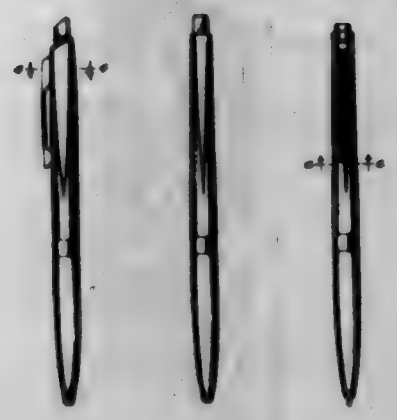
189,733
DISPLAY CARTON
Ralph N. Leonard, Crystal Lake, Ill., assignor to The Radion Corporation, Crystal Lake, Ill., a corporation of Illinois
Filed Aug. 7, 1959, Ser. No. 57,099
Term of patent 14 years
(Cl. D58—12)



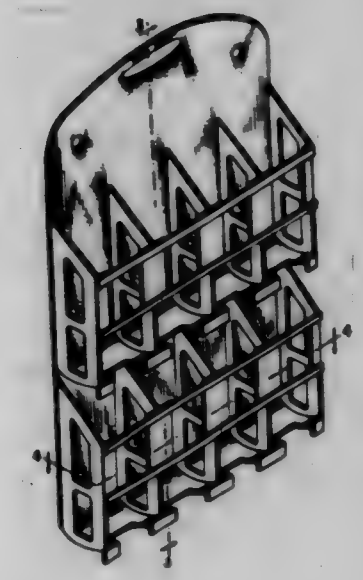
189,734
FONT OF THREE-DIMENSIONAL DISPLAY LETTERS
Peter Dom, New York, N.Y., assignor to Frank P. Mitten, Redlands, Calif.
Filed Dec. 13, 1956, Ser. No. 44,171
Term of patent 14 years
(Cl. D64—12)



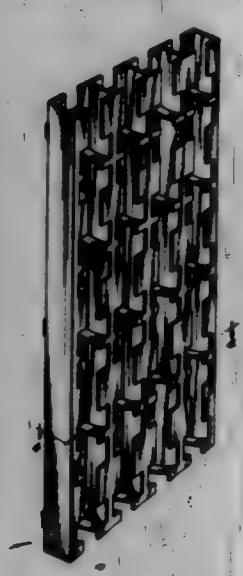
189,735
BALL POINT PEN
Lewis F. Platt, Atlanta, Ga., assignor to Scripto, Inc., a corporation of Georgia
Filed Oct. 9, 1958, Ser. No. 52,916
Term of patent 14 years
(Cl. D74—17)



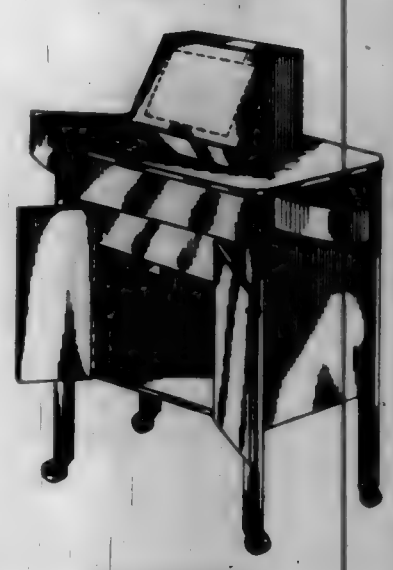
189,736
COMBINED STORAGE AND DISPENSING RACK FOR CANNED GOODS OR THE LIKE
Clyde M. Combs, United States Army
(4554 Brunswick Drive, San Diego, Calif.)
Filed Jan. 12, 1960, Ser. No. 59,027
Term of patent 14 years
(Cl. D80—9)
(Granted under Title 35, U.S. Code (1952), sec. 266)



189,737
COMBINED STORAGE AND DISPENSING RACK FOR CANNED GOODS OR THE LIKE
Clyde M. Combs, United States Army
Filed Jan. 20, 1960, Ser. No. 59,122
Term of patent 14 years
(Cl. D86—9)
(Granted under Title 35, U.S. Code (1952), sec. 266)



189,738
CABINET FOR MEDICAL ELECTROLYSIS APPARATUS
Elmer A. Piar, 13037 Lorain Ave., Cleveland, Ohio
Filed Dec. 10, 1958, Ser. No. 53,725
Term of patent 14 years
(Cl. D83—1)



LIST OF REISSUE PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 7TH DAY OF FEBRUARY, 1961

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

Libbey-Owens-Ford Glass Co.: *See*—
Ryan, Joseph D., and Mattimoe. Re. 24,933.
Mattimoe, Paul T.: *See*—
Ryan, Joseph D., and Mattimoe. Re. 24,933.

Ryan, Joseph D., and P. T. Mattimoe, to Libbey-Owens-Ford Glass Co. Glare screen. Re. 24,933, 2–7–61, Cl. 154—2.65.

LIST OF PLANT PATENTEES

Dering, Eldon P.: *See*—
Von Abrams, Gordon J. 2,020.
Dunham, Orville O. Chrysanthemum plant. 2,023, 2–7–61, Cl. 47—60.
Fischer Greenhouses: *See*—
Reid, George A. 2,021.
Parker, Elizabeth B. Chrysanthemum plant. 2,019, 2–7–61, Cl. 47—60.

Reid, George A., to Fischer Greenhouses. Azalea plant. 2,021, 2–7–61, Cl. 47—60.
Sodano, A., & Son: *See*—
Sodano, Alfonso C. 2,022.
Sodano, Alfonso C., to A. Sodano & Son. Rose plant. 2,022, 2–7–61, Cl. 47—60.
Von Abrams, Gordon J., to E. P. Dering. Rose plant. 2,020, 2–7–61, Cl. 47—61.

LIST OF DESIGN PATENTEES

Brandt, Mattie M. ½ to L. R. Richards. Identification plaque. 189,713, 2–7–61, Cl. D1—3.
Burroughs, Louis R., to Electro-Voice, Inc. Microphone. 189,720, 2–7–61, Cl. D26—14.
Clow, Donald J. Combination boat and camping trailer. 189,719, 2–7–61, Cl. D14—3.
Combs, Clyde M. Combined storage and dispensing rack for canned goods or the like. 189,736, 2–7–61, Cl. D60—9.
Combs, Clyde M. Combined storage and dispensing rack for canned goods or the like. 189,737, 2–7–61, Cl. D60—9.
Cross, David S. Latching unit for doors. 189,727, 2–7–61, Cl. D50—5.
Cunningham, Earl C., Jr., to Macbeth Arc Lamp Co. Printing lamp or the like. 189,725, 2–7–61, Cl. D48—20.
Cunningham, Earl C., Jr., to Macbeth Arc Lamp Co. Printing lamp or the like. 189,726, 2–7–61, Cl. D48—20.
Dom, Peter, to F. P. Mitten. Font of three-dimensional display letters. 189,734, 2–7–61, Cl. D64—12.
Ebstein, John W., to Federal Enameling & Stamping Co. Cocktail shaker. 189,714, 2–7–61, Cl. D2—3.
Ebstein, John W., to Federal Enameling & Stamping Co. Waste basket. 189,729, 2–7–61, Cl. D58—4.
Electro-Voice, Inc.: *See*—
Burroughs, Louis R. 189,720.
Eppy, Samuel, & Co., Inc.: *See*—
Eppy, Sidney. 189,728.
Eppy, Sidney, to Samuel Eppy & Co., Inc. Dispensing machine for gum balls, charms or the like. 189,728, 2–7–61, Cl. D52—3.
Federal Enameling & Stamping Co.: *See*—
Ebstein, John W. 189,714.
Ebstein, John W. 189,729.
Herrick, George D., Sr. Doughnut holder. 189,724, 2–7–61, Cl. D44—10.
Hofstetter, Jack H.: *See*—
Williams, Thomas E., and Hofstetter. 189,730.
Williams, Thomas E., and Hofstetter. 189,731.
Williams, Thomas E., and Hofstetter. 189,732.

Hull, R. Dell. Combined fishing rod handle and reel. 189,721, 2–7–61, Cl. D31—4.
Kurata, Jumpei. Sandal. 189,716, 2–7–61, Cl. D7—7.
Kurata, Jumpei. Sandal. 189,717, 2–7–61, Cl. D7—7.
Leonard, Ralph N., to The Radion Corp. Display carton. 189,733, 2–7–61, Cl. D56—12.
Macbeth Arc Lamp Co.: *See*—
Cunningham, Earl C., Jr. 189,725.
Cunningham, Earl C., Jr. 189,726.
Mitten, Frank P.: *See*—.
Dom, Peter. 189,734.
Patch, Philip G. Street sweeper. 189,718, 2–7–61, Cl. D14—3.
Pier, Elmer A. Cabinet for medical electrolysis apparatus. 189,738, 2–7–61, Cl. D83—1.
Platt, Lewis F., to Scripto, Inc. Ball point pen. 189,735, 2–7–61, Cl. D74—17.
Purex Corp., Ltd.: *See*—
Williams, Thomas E., and Hofstetter. 189,730.
Williams, Thomas E., and Hofstetter. 189,731.
Williams, Thomas E., and Hofstetter. 189,732.
Radion Corp., The: *See*—
Leonard, Ralph N. 189,733.
Richards, Ledthey R.: *See*—
Brandt, Mattie M. 189,713.
Scripto, Inc.: *See*—
Platt, Lewis F. 189,735.
Stanton, Robert. Pair of novelty gloves. 189,715, 2–7–61, Cl. D3—11.
Williams, Thomas E., and J. H. Hofstetter, to Purex Corp., Ltd. Carafe. 189,730, 2–7–61, Cl. D58—8.
Williams, Thomas E., and J. H. Hofstetter, to Purex Corp., Ltd. Carafe. 189,731, 2–7–61, Cl. D58—8.
Williams, Thomas E., and J. H. Hofstetter, to Purex Corp., Ltd. Carafe. 189,732, 2–7–61, Cl. D58—8.
Wolff, Aaron H. Whatnot stand. 189,722, 2–7–61, Cl. D33—18.
Wolff, Aaron H. Whatnot stand. 189,723, 2–7–61, Cl. D33—18.

LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 7TH DAY OF FEBRUARY, 1961

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

Abbate, Frank A. Device for calculating fire department hydraulics. 2,970,758, 2–7–61, Cl. 235—57.
Abbott Laboratories: *See*—
Zaugg, Harold E., Garven, Geissler, and Hamlin. 2,971,024.
Abrahamson, Edmund. Tubular electric resistors and rheostats. 2,971,175, 2–7–61, Cl. 338—270.
Ace Electronics Associates, Inc.: *See*—
Lyon, William W. 2,971,174.
Achilles, Günter, to R. Firma Stock & Co., Spiralbohrer-, Werkzeug- und Maschinenfabrik Aktiengesellschaft. Adjustment apparatus for dressing tool support. 2,970,588, 2–7–61, Cl. 125—11.
Acton, Russel D. Stroke controls for hydraulic systems. 2,970,655, 2–7–61, Cl. 172—316.
Adams, Joe T.: *See*—
Guest, Howard R., Adams, and Kiff. 2,970,965.
Adamsky, Helen J.: *See*—
Adamsky, Nikolay W. 2,970,643.
Adamsky, Nikolay W., 25% to H. J. Adamsky, and 25% to V. Adamsky. Window shade. 2,970,643, 2–7–61, Cl. 160—21.
Adamsky, Valeria: *See*—
Adamsky, Nikolay W. 2,970,643.
Admiral Corp.: *See*—
Bleam, Howard A. 2,971,158.
Summerer, William H. 2,970,481.
Advance Transformer Co.: *See*—
Feinberg, Albert E., and Berger. 2,971,124.
Aeolian-Skinner Organ Co., Inc.: *See*—
Bolton, Ralph E. 2,970,507.
Aerojet-General Corp.: *See*—
Vanneman, Clinton R., and Klager. 2,971,026.
Aeroquip Corp.: *See*—
Elsner, Edwin C. 2,970,358.
Agfa Aktiengesellschaft: *See*—
Oesenbrunner, Armin, Schnell, Klockgether, Geiger, and Freier. 2,970,908.
Aiken, William R., to Kaiser Industries Corp. Method of and apparatus for energizing high capacity loads. 2,971,125, 2–7–61, Cl. 315—200.
Aircraft Armaments, Inc.: *See*—
Brady, Samuel S. 2,970,522.
Bryan, James D. 2,971,188.
Airequipt Mfg. Co., Inc.: *See*—
Gross, Carl G. 2,970,395.
Aktiebolaget Bofors: *See*—
Malm, Karl O. B. 2,970,544.
Aktiebolaget Ljungmans Verkstader: *See*—
Eklund, Hans E. 2,970,640.
Aktiebolaget Pumpindustri: *See*—
Berner, Sven G. V. 2,970,548.
Albertini, Sauro A. Device for reshaping the tips of ball point pens. 2,970,558, 2–7–61, Cl. 113—32.
Albus, Charles P., and J. L. Azorlosa, to General Aniline & Film Corp. Hot melt adhesives containing polyvinyl methyl ether. 2,970,974, 2–7–61, Cl. 260—27.
Alexander, Adolph P., and A. F. Spengler, Jr., to International Harvester Co. Ductile iron. 2,970,902, 2–7–61, Cl. 75—123.
Allen, Jefferson H. Carriers. 2,970,729, 2–7–61, Cl. 224—55.
Allen, John W., to Stanray Corp. Truss panel. 2,970,553, 2–7–61, Cl. 105—410.
Allen, Richard W., and J. J. Ayres, to Radio Corp. of America. Amplitude balance circuit. 2,971,162, 2–7–61, Cl. 330—116.
Allen, Robert E.: *See*—
Palopoli, Frank P., Allen, Schumann, and Van Campen. 2,971,001.
Allen, Steve R. Trash basket. 2,970,533, 2–7–61, Cl. 100—226.
Allied Chemical Corp.: *See*—
Binns, Robert A. 2,970,789.
Thompson, Ernest, Jr. 2,970,949.
Allis-Chalmers Mfg. Co.: *See*—
Strehlow, Walter F., and Carlin. 2,970,482.
Alsgaard, Richard W., and J. W. Gilkey, to Dow Corning Corp. Method of tanning hide. 2,970,881, 2–7–61, Cl. 8—94.33.
Aluminum Co. of America: *See*—
Schrecker, Howard F., and Singleton. 2,970,706.
American Cyanamid Co.: *See*—
Kaplan, Earl, and Von. 2,970,880.
McCormick, Jerry R. D., Arnold, Hirsch, Miller, and Sjolander. 2,970,947.
Scanley, Clyde S., Matsuda, and Coleman. 2,970,897.
Tribit, Samuel W. 2,970,998.
American District Telegraph Co.: *See*—
Pearson, Howard, McDonough, and Vassil. 2,971,184.
American Enka Corp.: *See*—
Buurman, Aart, Vroom, and Limburg. 2,970,883.
Neal, Richard D. 2,970,790.
American Home Products Corp.: *See*—
Shetty, Bola V. 2,970,618.

American Metal Products Co.: *See*—
Thomas, Paul P. 2,970,869.
American Motors Corp.: *See*—
Doeg, Ralph W. 2,970,603.
American Optical Co.: *See*—
Simpson, George R. 2,970,515.
American Radiator & Standard Sanitary Corp.: *See*—
Ullman, Myron E., Jr. 2,970,872.
American Steel Foundries: *See*—
Mickelson, Cedric G., and Asherman. 2,970,903.
Postma, Simon P. 2,970,674.
American Viscose Corp.: *See*—
Bauer, Ernest K. 2,970,424.
McDermott, Henry J. 2,970,840.
Anderson, Clayton & Co.: *See*—
Sinclair, Alfred C. 2,970,577.
Anderson, David K.: *See*—
Baker, Reuben C. 2,970,650.
Anderson, Robert J., to Thompson Ramo Wooldridge, Inc. High temperature pumping system with variable speed pump and refrigeration by-product. 2,970,437, 2–7–61, Cl. 60—39.66.
Anderson, Thelma B.: *See*—
Baker, Reuben C. 2,970,650.
Appel, Gerhard H., to Appel Process, Ltd. Forming machines. 2,970,500, 2–7–61, Cl. 78—22.
Appel Process, Ltd.: *See*—
Appel, Gerhard H. 2,970,500.
Armen, Ardy: *See*—
Stanton, George W., and Armen. 2,970,884.
Armstrong, C. E., Co.: *See*—
Armstrong, Charles E. 2,971,075.
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Armstrong Patents Co. Ltd.: *See*—
Wordsworth, Jack. 2,970,831.
Wordsworth, Jack. 2,970,832.
Arnold, Nancy H.: *See*—
McCormick, Jerry R. D., Arnold, Hirsch, Miller, and Sjolander. 2,970,947.
Asano, Kosuke: *See*—
Watanabe, Koichi, Asano, and Hara. 2,970,708.
Asherman, Charles D.: *See*—
Mickelson, Cedric G., and Asherman. 2,970,903.
Ashwood, George A., to United States of America, Navy. Fluid flow indicators. 2,970,561, 2–7–61, Cl. 116—117.
Atomic Energy of Canada Ltd.: *See*—
Haywood, Leslie R. 2,971,089.
August, John H., to Sonotone Corp. Gas vent closure for electric storage batteries. 2,971,045, 2–7–61, Cl. 136—178.
Automatic Electric Laboratories, Inc.: *See*—
Faulkner, Alfred H. 2,970,760.
McCreary, Harold J. 2,971,182.
Smith, Lester L. 2,971,085.
Avco Mfg. Corp.: *See*—
Wikstrom, Arne. 2,970,479.
Axt, Gunter, to Chlorator G.m.b.H. Ozonizing installation. 2,970,821, 2–7–61, Cl. 261—16.
Ayres, Jay J.: *See*—
Allen, Richard W., and Ayres. 2,971,162.
Azorlosa, Julian L.: *See*—
Albus, Charles P., and Azorlosa. 2,970,974.
B-I-F Industries, Inc.: *See*—
Cary, Francis H. 2,970,476.
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Scott, Lyle B. 2,970,647.
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Baines, Frederick, to The Plessey Co. Ltd. Continuously variable mechanical transmissions. 2,970,813, 2–7–61, Cl. 137—621.
Baker, Aaron A.: *See*—
Baker, Reuben C. 2,970,650.
Baker, Claude B., to Illinois Central Railroad Co. Cargo securing apparatus. 2,970,552, 2–7–61, Cl. 105—368.
Baker, James H.: *See*—
Hansen, Lester A., Baker, and Keyes. 2,970,929.
Baker, Max P., to General Motors Corp. Resiliently mounted ball joint. 2,970,853, 2–7–61, Cl. 287—90.
Baker, Mayo J., and T. F. Mason. Dispensing scoop. 2,970,555, 2–7–61, Cl. 107—48.
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Baker, Reuben C. 2,970,650.

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Baker, Reuben C., Jr.: *See*—
Baker, Reuben C. 2,970,650.

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Spessock, Gilbert J., Reigh, and Balaz. 2,970,756.

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Gebhart, Kenneth C. 2,970,526.

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Ballard, Sam L. Pipe bending machine. 2,970,632, 2-7-61, Cl. 153—32.

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Harle, Harold P., Balogh, and Loewenthal. 2,970,453.

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Bapcom, Joseph A. Whistle whirl toy. 2,970,402, 2-7-61, Cl. 46—63.

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Barbat, Philip: *See*—
Caplow, Abraham I. 2,970,824.

Barnet, Fredrick R.: *See*—
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Barr, Gilbert R.: *See*—
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Barry, Patrick H. P. Radiated refrigeration engine cooling. 2,970,580, 2-7-61, Cl. 123—41.10.

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Bauer, Ernest K., to American Viscose Corp. Yarn twisting. 2,970,424, 2-7-61, Cl. 57—93.

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Boughton, Olin W. 2,971,060.

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Beaufils, Edmond R., and R. H. Courraut, to l'Union Financiere d'Extreme-Orient, Djibouti (Cote Francaise des Somalis), and Societe Auxiliaire de l'Institut Francais du Caoutchouc. Method of treating trees and means for carrying out this method. 2,970,404, 2-7-61, Cl. 47—57.5.

Beck, Louis. Circulating units for paint preheaters. 2,970,813, 2-7-61, Cl. 257—254.

Beckley, Arthur H., to Moore Dry Kiln Co. Discharging assembly for kiln loads of lumber. 2,970,704, 2-7-61, Cl. 214—3.5.

Beckman, John H., and H. H. Kemp, to Union Carbide Corp. Method and apparatus for supplying liquefied gas. 2,970,452, 2-7-61, Cl. 62—51.

Beckwith-Ardeen Inc.: *See*—
Gaquin, John H. 2,970,231.

Beem, Donald W., and R. E. Conrad, to North American Aviation, Inc. Aircraft. 2,970,793, 2-7-61, Cl. 244—121.

Belanus, Robert M.: *See*—
Breaux, Darlton K., and Belanus. 2,970,652.

Belar, Herbert: *See*—
Olson, Harry F., and Belar. 2,971,057.
Olson, Harry F., and Belar. 2,971,058.

Belden Mfg. Co.: *See*—
Hammer, Warren, and Sudds. 2,970,937.

Belk, Earl H., to Kustom-Fit Mfg. Co. Automobile replacement carpet. 2,970,860, 2-7-61, Cl. 296—1.

Bell, Charles R., and E. S. Wassel, to United States of America, Army. Combined firearm and cartridge structure providing for discharge of the cartridges while linked. 2,970,521, 2-7-61, Cl. 89—33.

Bell Telephone Laboratories, Inc.: *See*—
Bobeck, Andrew H. 2,971,096.
Matthias, Bernd T. 2,970,961.
Saari, Veikko R. 2,971,164.
Vaughan, Henry E. 2,971,060.

Belle City Mfg. Co.: *See*—
Skelton, Robert F. 2,970,532.

Beloit Iron Works: *See*—
Erbach, Frederick R. 2,970,938.
Justus, Edgar J., and Karr. 2,970,796.

Bendall, Wilfrid H. Rotary compressors. 2,970,748, 2-7-61, Cl. 230—166.

Bendell, Sidney L., to Radio Corp. of America. Television camera system. 2,971,116, 2-7-61, Cl. 315—10.

Bendix Corp., The: *See*—
Clevenger, Glenn W. 2,971,161.
Feijoo, James A., and Young, Jr. 2,971,066.
Hsu, Chih Chi, and Brown. 2,971,162.

Benston, Orlando J.: *See*—
Henderson, Raymond A., and Benston. 2,970,692.

Benteler Corp.: *See*—
Bahmann, Hans-Joachim. 2,970,960.

Beranger, Raymond, to North American Philips Co., Inc. Digit indicator. 2,970,761, 2-7-61, Cl. 235—92.

Beraw, Willis M. Self propelled aerial platform and hydraulic control system therefor. 2,970,667, 2-7-61, Cl. 182—2.

Berchtold, Max, to I-T-E Circuit Breaker Co. Wave engine. 2,970,746, 2-7-61, Cl. 230—69.

Beremand, Donald G., to Thompson Ramo Wooldridge, Inc. Shut-off valve. 2,970,609, 2-7-61, Cl. 137—540.

Berg Airlectro Products Co.: *See*—
Debrikin, Harold L., and Mantis. 2,970,572.

Berger, Paul: *See*—
Feinberg, Albert E., and Berger. 2,971,184.

Bergson, Gustav: *See*—
Jones, William R., and Bergson. 2,970,472.

Bergson, Gustav. Condensing filter. 2,970,669, 2-7-61, Cl. 183—2.

Bergstrand, Erik O., and K. O. R. Schöldström, to Svenska Aktiebolaget Gasaccumulator. Arrangement for phase measurement on light oscillations. 2,971,156, 2-7-61, Cl. 324—83.

Berl, Walter G., to United States of America, Navy. Catalytic igniter for ram-jet burner. 2,970,430, 2-7-61, Cl. 60—39.82.

Berman, Walter. Method and machine for making belts. 2,970,372, 2-7-61, Cl. 29—407.

Berner, Sven G. V., to Aktiebolaget Pumpindustri. Magnetically driven pump. 2,970,548, 2-7-61, Cl. 103—87.

Bertsch, Josef A., to Dana Corp. Bearing and speed reduction mechanism. 2,970,491, 2-7-61, Cl. 74—206.

Better, Bernard R., to Scully-Jones and Co. Tool holder-axial locking type. 2,970,844, 2-7-61, Cl. 279—75.

Better Packages, Inc.: *See*—
Krueger, Theodore H., and Sharpe. 2,970,416.

Betts, William M. Spring mud flap holders. 2,970,849, 2-7-61, Cl. 280—154.5.

Bible, Roy H., Jr., to G. D. Searle & Co. 1,12-dimethyl-6-hydroxy-7-(β-carboxyalkenyl) - 1,2,3,4,9,10,11,12-octahydrophenanthrene-1-carbocyclic acid esters and derivatives thereof. 2,971,008, 2-7-61, Cl. 260—343.2.

Bielski, Alex J.: *See*—
Kaczur, Josef, and Bielski. 2,970,747.

Bigg, Robert W., to The S. K. Wellman Co. Brake block. 2,970,675, 2-7-61, Cl. 188—251.

Binns, Robert A., to Allied Chemical Corp. Waste segregation spool. 2,970,789, 2-7-61, Cl. 242—125.1.

Bird, Raymond, to International Computers and Tabulators Ltd. Data translating apparatus. 2,970,765, 2-7-61, Cl. 235—155.

Bixby, William E., to Haloid Xerox Inc. Xerographic plate and a process of copy-making. 2,970,906, 2-7-61, Cl. 96—1.

Bjorksten Research Laboratories, Inc.: *See*—
Drummond, Warren W. 2,971,095.

Blackburn and General Aircraft Ltd.: *See*—
Springham, John. 2,970,443.

Blake, Charles R.: *See*—
Rice, Jessie A. 2,970,456.

Blanchett, Carl. Baby nipples. 2,970,595, 2-7-61, Cl. 128—282.

Blattner, Elizabeth: *See*—
Blattner, Emil H. 2,970,703.

Blattner, Emil H., deceased, by E. Blattner, executrix, to Symington Wayne Corp. Rubber draft gear. 2,970,703, 2-7-61, Cl. 213—46.

Bleam, Howard A., to Admiral Corp. Delay line circuits. 2,971,158, 2-7-61, Cl. 328—62.

Blicher, Adolph: *See*—
Meisel, Herbert R., Schork, Pikor, and Blicher. 2,971,138.

Blinks, Joseph: *See*—
Krumrei, William C., and Blinks. 2,970,964.
Walker, Richard D., and Blinks. 2,970,963.

Blodgett, Norman S.: *See*—
Taggert, Wilmer R. 2,970,838.

Blok, Lourens, and G. Zwanenburg, to North American Philips Co., Inc. High frequency oscillator having grid direct current stabilizing means. 2,971,167, 2-7-61, Cl. 331—183.

Bluestein, Ben A., to General Electric Co. Diorganopolysiloxanes of low volitility chain-stopped with a tertiary alkyl peroxy group. 2,970,962, 2-7-61, Cl. 260—46.5.

Blunden, Donald J., to Whitehead & Kales Co. Vehicle tie-down device. 2,970,850, 2-7-61, Cl. 280—179.

Bobeck, Andrew H., to Bell Telephone Laboratories, Inc. Magnetic core circuit. 2,971,096, 2-7-61, Cl. 307—88.

Bodine, Albert G., Jr. Polyphase sonic earth bore drill. 2,970,660, 2-7-61, Cl. 175—55.

Bohlin, Edward H. Quick-draw holster. 2,970,727, 2-7-61, Cl. 224—2.

Bohm, Karl. Meat mincing machine. 2,970,621, 2-7-61, Cl. 146—86.

Bolton, Evelyn M.: *See*—
Bolton, Ralph E. 2,970,507.

Bolton, Ralph E., deceased, by E. M. Bolton, administratrix, to Aeolian-Skinner Organ Co., Inc. Organ reed pipe. 2,970,507, 2-7-61, Cl. 84—350.

Bomac Laboratories Inc.: *See*—
Hamilton, Milton R., and Tremblay. 2,971,172.

Bomser, Herbert W.: *See*—
Zabb, Norman J., and Bomser. 2,970,767.

Bonaldi, Giacomo M. Garment hanger. 2,970,726, 2-7-61, Cl. 223—88.

Bonetto, Michele, ½ to McCormick & Co., Inc. and ½ to said Bonetto, R. M. Webster, and J. Gola, Jr. Coffee bean products and methods for producing such products. 2,970,914, 2-7-61, Cl. 99—71.

Boosinger, Thomas H., and E. J. Sweet, to United States of America, Navy. Fuel nozzle anti-coking cap. 2,970,772, 2-7-61, Cl. 239—105.

Borden Co., The: *See*—
Erickson, Arthur E., Stojake, and Mohr. 2,970,922.
Johnston, William R., Jr. 2,970,610.

Borkat, Philip: *See*—
Caplow, Abraham I. 2,970,824.
Boston, Warren E. Foldable boat carrier. 2,970,848, 2–7–61, Cl. 280—40.
Boughton, Olin W., to Bausch & Lomb Optical Co. Microscope illuminating device. 2,971,060, 2–7–61, Cl. 240—2.
Bourguignon, Emil J. Expanding arbor adapter for lathes. 2,970,843, 2–7–61, Cl. 279—2.
Bowen, Ralph R. Corn shelling and cob grinding mechanism. 2,970,780, 2–7–61, Cl. 241—101.
Bowman, Lawrence E., and F. C. Coppage, to Leonard Valve Co. Thermostatic mixing valve. 2,970,770, 2–7–61, Cl. 236—12.
Boyer, Kerwin R.: *See*—
Mahler, Peter A., and Boyer. 2,970,460.
Brady, Francis E., Jr. Welded tank structure and method of making same. 2,970,719, 2–7–61, Cl. 220—75.
Brady, Samuel S., to Aircraft Armaments, Inc. Disintegrating link assembly for cartridge belt. 2,970,522, 2–7–61, Cl. 89—35.
Brastad, William A., to General Mills, Inc. Electrostatic apparatus. 2,971,127, 2–7–61, Cl. 317—9.
Brauer, Pitshugh L.: *See*—
Gildner, Darwin A., and Brauer. 2,970,528.
Breaux, Darlton K., and R. M. Belanus, to The Garrett Corp. Control mechanism for ram air turbine. 2,970,652, 2–7–61, Cl. 170—68.
Brinen, Paul F., to Young Radiator Co. Support-housing for base-board convectors. 2,970,678, 2–7–61, Cl. 189—85.
Bringmann, George B. Educational device and probe therefor. 2,970,385, 2–7–61, Cl. 35—9.
Bristol-Myers Co.: *See*—
Cheney, Lee C., and Gottstein. 2,971,007.
Chertow, Bernard. 2,970,946.
Haupt, Richard R. 2,970,554.
British Petroleum Co. Ltd., The: *See*—
Northcott, Roy P., and Lester. 2,970,957.
Bromer, William W., and J. M. McGuire, to Eli Lilly and Co. Valacidin and processes for the preparation thereof. 2,970,943, 2–7–61, Cl. 167—65.
Brooke, Norman E. Garment hangers. 2,970,726, 2–7–61, Cl. 223—96.
Brough, Wayne S., and D. R. Stanforth. Overshoe. 2,970,390, 2–7–61, Cl. 36—7.3.
Brown, Cicero C. Pressure sealed packer. 2,970,649, 2–7–61, Cl. 166—121.
Brown, Dwight: *See*—
Hsu, Chih C., and Brown. 2,971,163.
Brown, Henry: *See*—
Manquen, John W., and Brown. 2,970,951.
Brown, Marie A.: *See*—
Brown, Robert A. 2,970,361.
Brown, Robert A., to M. A. Brown. Molding machine. 2,970,361, 2–7–61, Cl. 25—99.
Bruestle, Carl O., to Syncro Machine Co. Distributor drive. 2,970,486, 2–7–61, Cl. 74—59.
Brumbaugh, Eugene S. Electric iron. 2,970,394, 2–7–61, Cl. 38—77.
Bryan, James D., to Aircraft Armaments, Inc. Radar navigation beacon. 2,971,188, 2–7–61, Cl. 343—6.8.
Buckman, Wayne T., to Meili & Worthington, Inc. Waste disintegrating machines. 2,970,776, 2–7–61, Cl. 241—46.
Bunting, Ernest V., and R. V. Mathers; to Massey-Ferguson Inc. Implement lift arrangement for tractors. 2,970,659, 2–7–61, Cl. 172—501.
Burckle, Xavier, to Societe dite: Filature et Tissage du Territoire. Floor-cloth with fastening means. 2,970,334, 2–7–61, Cl. 15—247.
Burdick, Glen A., to Sylvania Electric Products Inc. Electron discharge device. 2,971,118, 2–7–61, Cl. 315—16.
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Colewell, William L. 2,971,180.
Burroughs Corp.: *See*—
Epstein, Herman. 2,970,766.
Rosenberg, Harvey, and Fussell. 2,971,099.
Smith, John G. 2,970,836.
Werner, Anton. 2,970,690.
Burtner, Robert R., to G. D. Searle & Co. 3,7-dioxygenated 3a-methyl-3-benz[e] indanecarboxylic acids and lactones. 2,971,009, 2–7–61, Cl. 260—343.6.
Busby, Leslie R., and D. G. H. King, to C. E. T. Criolland and E. A. Corbett. Taps, cocks and the like. 2,970,804, 2–7–61, Cl. 251—175.
Busignies, Henri G., to International Telephone and Telegraph Corp. Position finding system. 2,971,190, 2–7–61, Cl. 343—112.
Busse, Harold M., to Sonotone Corp. Ear insert hearing aid. 2,971,065, 2–7–61, Cl. 179—107.
Buurman, Aart, R. A. Vroom, and P. C. Limburg, to American Enka Corp. Manufacture of viscose rayon. 2,970,883, 2–7–61, Cl. 18—54.
Cabell, Norman W., and J. E. Randall, to Gladding, McBean & Co. Apparatus for handling separated tile bodies. 2,970,360, 2–7–61, Cl. 25—2.
Cain, Dallas E., to General Electric Co. Torque limiting centrifugal clutch. 2,970,680, 2–7–61, Cl. 192—105.
California Research Corp.: *See*—
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Callery Chemical Co.: *See*—
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Campbell, Archie W. Automatic tensioning device for looms. 2,970,615, 2–7–61, Cl. 139—212.
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Cantley, Joseph C., to United Shoe Machinery Corp. Trimming machines. 2,970,328, 2–7–61, Cl. 12—4.2.
Caplow, Abraham I., to P. Borkat. Humidifiers. 2,970,824, 2–7–61, Cl. 261—92.
Cardani, Charles P., L. A. Cole, and A. Eppler, Jr., to United Shoe Machinery Corp. Article handling and installing machines. 2,970,871, 2–7–61, Cl. 29—203.
Carlin, Robert: *See*—
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Carlson, William L., Jr., to Minneapolis-Honeywell Regulator Co. Load protection device. 2,971,128, 2–7–61, Cl. 317—9.
Carlson, William L., Jr., and J. W. Mobarry, to Minneapolis-Honeywell Regulator Co. Temperature responsive current control. 2,971,129, 2–7–61, Cl. 317—13.
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Zlets, Alex, and Carmody. 2,970,428.
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Hart, Gene E., and Metcalf. 2,970,459.
Carpenter, Ose F. Chicken coop. 2,970,712, 2–7–61, Cl. 217—57.
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Cary, Francis H., to B-I-F Industries, Inc. Pneumatic pressure ratio apparatus. 2,970,476, 2–7–61, Cl. 73—407.
Castille, William A., to Jersey Production Research Co. Marine apparatus and method for raising and lowering same. 2,970,447, 2–7–61, Cl. 61—46.5.
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Cavanagh, Walter R., to Parker Rust Proof Co. Method of rinsing metallic surfaces with solutions containing hexavalent chromium. 2,970,935, 2–7–61, Cl. 148—6.16.
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Prichard, John H. 2,970,970.
Central Scientific Co.: *See*—
Fritchle, Frank P., Reynolds, and Takata. 2,970,798.
Cerberus G.m.b.H.: *See*—
Meili, Ernst. 2,971,136.
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Morris, John M. 2,970,693.
Morris, John M. 2,970,781.
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Chang, Melvin C., and J. Dasher, to Crucible Steel Co. of America. Coal treating process. 2,970,689, 2–7–61, Cl. 209—12.
Chapman, Everett, to Nordberg Mfg. Co. Method of backing crusher parts. 2,970,775, 2–7–61, Cl. 241—30.
Chappelow, Cecil C., Jr., and R. L. Hughes, to Callery Chemical Co. Preparation of diborane. 2,970,894, 2–7–61, Cl. 23—204.
Chappey, Marc A., and J. H. Lantieri. Two-terminal semiconductor devices having negative differential resistance. 2,971,140, 2–7–61, Cl. 317—235.
Charnicki, Walter F., and R. E. King, to Merck & Co., Inc. Parenteral solutions of steroid phosphates stabilized with creatinines. 2,970,944, 2–7–61, Cl. 167—77.
Cheney, Lee C., and W. J. Gottstein, to Bristol-Myers Co. N-(9-xanthyl) tetracyclines. 2,971,007, 2–7–61, Cl. 260—335.
Chertow, Bernard, to Bristol-Myers Co. Process for the production of tetracycline by fermentation. 2,970,946, 2–7–61, Cl. 195—80.
Chevallier, Rene, to Ebauches S.A. Punch tool drive means yieldable upon undue thickness of material being punched. 2,970,503, 2–7–61, Cl. 83—61.
Cheyette, David A., to Nordberg Mfg. Co. Composite wearing parts for crushers and the like. 2,970,785, 2–7–61, Cl. 241—300.
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Christensen, Norman B., ½ to Republic Mfg. Co., and ½ to The Firestone Tire & Rubber Co. Control device for vehicle suspension. 2,970,614, 2–7–61, Cl. 137—627.5.
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Christie, Soren L., G. O. Du Puy, and F. C. Marshall, to Christie Electric Corp. Regulated power supply. 2,971,147, 2–7–61, Cl. 321—19.
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Chromatic Television Laboratories, Inc.: *See*—
Lawrence, Ernest O. 2,971,045.
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Cines, Martin R., to Phillips Petroleum Co. Polyolefin drying process. 2,970,991, 2–7–61, Cl. 260—94.9.
Clark, Alfred, to Phillips Petroleum Co. Process for upgrading a pentane-containing natural gasoline by isomerization and reforming. 2,970,955, 2–7–61, Cl. 208—65.
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Clark Equipment Co.: *See*—
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Clark, Grady W., and R. A. Lefever, to Union Carbide Corp. Process for crystalline growth employing collimated electrical energy. 2,970,895, 2–7–61, Cl. 23—301.
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Cleveland Trust Co., The: *See*—
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Clevenger, Glenn W., to The Bendix Corp. I.F. amplifier with electronically controllable band-pass. 2,971,161, 2–7–61, Cl. 330—85.
Clifford, Vernon F., S. A. Cottler, and G. A. Deschamps, to International Telephone and Telegraph Corp. Wideband folded monopole antenna. 2,971,192, 2–7–61, Cl. 343—749.
Cockrell, William D., to General Electric Co. Phototransistor operated relay. 2,971,134, 2–7–61, Cl. 317—124.
Cocoros, Anthony E., and R. L. Mathias, to Westinghouse Electric Corp. Jet engine thrust reversing nozzle. 2,970,432, 2–7–61, Cl. 60—35.54.
Cole, Leland A.: *See*—
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Coleman, Ralph A.: *See*—
Scanley, Clyde S., Matsuda, and Coleman. 2,970,897.

Coleman, Richard A., and L. H. Long, to J. D. Ferry Co., Inc. Apparatus for removing undesirable material from root crops prior to processing. 2,970,620, 2–7–61, Cl. 146—55.
Colewell, William L., to Burndy Corp. Electrical connection. 2,971,180, 2–7–61, Cl. 339—207.
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Commercial Solvents Corp.: *See*—
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Comptometer Corp.: *See*—
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Henry, James J. 2,970,804.
Conrad, Ramon E.: *See*—
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Stone, Orison W., and Campbell. 2,970,741.
Continental Oil Co.: *See*—
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Bowman, Lawrence E., and Coppage. 2,970,770.
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Corbett, Marshall J., to Thompson Ramo Wooldridge Inc. Control for a semi-solid monofuel driven turboalternator and pump system. 2,971,097, 2–7–61, Cl. 290—2.
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Crawford, Arthur R., T. Ongaro, W. R. Rushin, and R. E. Ellis, to International Research and Development Corp. Balancing machine. 2,970,478, 2–7–61, Cl. 73—467.
Crest Foods Co., Inc.: *See*—
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Criolland, Charles E. T.: *See*—
Busby, Leslie R., and King. 2,970,804.
Crockett, Harvey M.: *See*—
Fisher, Charles T. 2,970,527.
Crosby, Alton L., and H. W. Roeber, to Sylvania Electric Products Inc. Article handling apparatus. 2,970,683, 2–7–61, Cl. 198—33.
Crosby, Noble W. Cable clamp and connector. 2,970,356, 2–7–61, Cl. 24—115.
Crouch, Alfred H., ⅓ to R. A. Donatelli. Mechanism to enable firing of shotgun with one arm. 2,970,398, 2–7–61, Cl. 42—69.
Crucible Steel Co. of America: *See*—
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Cunningham, James M., to International Business Machines Corp. Elapsed time computer. 2,970,878, 2–7–61, Cl. 346—66.
Cupp, Charles D., to Scott Aviation Corp. Positive pressure demand regulator. 2,970,602, 2–7–61, Cl. 137—63.
Curran, Bernard E., to H. H. Robertson Co. Outlet box for air conditioning system. 2,970,531, 2–7–61, Cl. 98—38.
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Curtis, Russell R., and A. R. Osburn, to Curtis Automotive Devices, Inc. Auxiliary inlet valve for resonant pulse jet engines. 2,970,430, 2–7–61, Cl. 60—35.6.
Curtiss-Wright Corp.: *See*—
Harshman, Daniel L. 2,970,431.
Howald, Werner R. 2,970,438.
Linhart, Emil J. 2,971,177.
Cushman, Walton W. Food hydration and cooking assembly. 2,970,589, 2–7–61, Cl. 126—19.5.
DCA Food Industries Inc.: *See*—
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D K Mfg. Co.: *See*—
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Dallin, Douglas E., and H. E. McGowen, Jr., to Sid W. Richardson, Inc. Crossover apparatus for oil and gas wells. 2,970,648, 2–7–61, Cl. 166—115.
Daimler-Benz Aktiengesellschaft: *See*—
Foerster, Hans-Joachim M. 2,970,497.
Dale, George W.: *See*—
Perkins, Glen E., and Dale. 2,970,392.

D'Alelio, Gaetano F., to Koppers Co., Inc. Epoxyalkyl alkenylaryl ethers. 2,970,964, 2–7–61, Cl. 260—47.
Daly, George F., and J. A. Weidenhammer, to International Business Machines Corp. Card handling apparatus. 2,970,751, 2–7–61, Cl. 234—29.
D'Amico, John J., to Monsanto Chemical Co. Method comprising sulfur vulcanizing a rubber in the presence of a thiazolesulfenamide of a 1,3-diaminomethane. 2,971,038, 2–7–61, Cl. 260—788.
Dana Corp.: *See*—
Bertsch, Josef A. 2,970,491.
Dancing Waters, Inc.: *See*—
Praystawik, Otto. 2,970,771.
Darnell, Rex C., to Dynamic Filters, Inc. Filtering device. 2,970,698, 2–7–61, Cl. 210—347.
Dasher, John: *See*—
Chang, Melvin C., and Dasher. 2,970,689.
David, Bernard. Coating compositions. 2,970,927, 2–7–61, Cl. 106—266.
David, Tanous H. Spinal column impact device. 2,970,592, 2–7–61, Cl. 128—69.
Davis, Kenneth J., to National Broach & Machine Co. Gear finishing machine. 2,970,406, 2–7–61, Cl. 51—71.
Davis, Ross A. Slot type antenna having an autotransformer coupling circuit. 2,971,191, 2–7–61, Cl. 343—712.
Dean, Ralph L. Question and answer device. 2,970,387, 2–7–61, Cl. 35—9.
Dechant, Arnulf: *See*—
Volk, Heinrich, and Dechant. 2,970,549.
Deerfield, Alan J., to Minneapolis-Honeywell Regulator Co. Information handling apparatus. 2,971,056, 2–7–61, Cl. 178—23.
Deerhake, William J., B. L. Havens, and K. E. Schreiner, to International Business Machines Corp. Checking circuit. 2,970,764, 2–7–61, Cl. 235—153.
Degen, Hugo. Seats and fittings therefor. 2,970,637, 2–7–61, Cl. 155—77.
Delman Co., The: *See*—
Webb, Edmond F. 2,970,335.
Webb, Edmond F. 2,970,336.
De Long Corp.: *See*—
Suderow, George E. 2,970,445.
Suderow, George E. 2,970,446.
Deltime, Inc.: *See*—
Powell, Albert E. 2,971,171.
Dench, Edward C., to Raytheon Co. Traveling wave tube electrode mountings. 2,971,112, 2–7–61, Cl. 315—3.5.
Dench, Edward C., to Raytheon Co. Magnetron amplifiers. 2,971,121, 2–7–61, Cl. 315—39.3.
De Nicolo, William V., to North & Judd Mfg. Co. Ram guide for hook and eye member setting machines. 2,970,315, 2–7–61, Cl. 1—325.
Denig, Fred, to Koppers Co., Inc. Carbonization of lignite. 2,970,953, 2–7–61, Cl. 208—8.
Denman, Henry O., Jr.: *See*—
Penn, Ralph S., and Denman. 2,970,769.
Derman, Sam. Knockdown wardrobes. 2,970,875, 2–7–61, Cl. 312—262.
Desbois, Theodore J. Pallet. 2,970,797, 2–7–61, Cl. 248—120.
Deschamps, Georges A.: *See*—
Clifford, Vernon F., Cottler, and Deschamps. 2,971,192.
Detrick, Harold. Mink cage feeder plate. 2,970,566, 2–7–61, Cl. 119—18.
De Witt, Clarence M., Jr., and P. E. Kingston, to United States Lines Co. Cargo ships. 2,970,705, 2–7–61, Cl. 214—14.
Diamond Alkali Co.: *See*—
Entemann, Charles E. 2,971,013.
Dick, A. B., Co.: *See*—
Marron, Thomas U. 2,970,534.
Dickinson, Berton C.: *See*—
Jones, Howard A., Garman, and Dickinson. 2,970,940.
Dickinson, William A., and G. E. Hassler, to Sylvania Electric Products Inc. Electron discharge device. 2,971,108, 2–7–61, Cl. 313—82.
Diebold, Edward J., to I-T-E Circuit Breaker Co. Electrodynamic switching device. 2,971,130, 2–7–61, Cl. 317—16.
Diebold, Edward J., to I-T-E Circuit Breaker Co. Instantaneous trip for rectifier protection. 2,971,146, 2–7–61, Cl. 321—11.
Diebold, Edward J., to I-T-E Circuit Breaker Co. Compounding circuit for rectifiers. 2,971,148, 2–7–61, Cl. 321—25.
Digital Techniques, Inc.: *See*—
Engelbart, Douglas C. 2,971,123.
Di Julio, Carl J. Belt supported diving ballast. 2,970,448, 2–7–61, Cl. 61—70.
Diven, Homer F.: *See*—
Ellis, Thomas J. 2,970,412.
Dixon, Corbin, to General Electric Co. Speed indicator and control arrangement. 2,971,185, 2–7–61, Cl. 340—263.
Dmitroff, George A., and E. Robitaille, Jr., to United Aircraft Corp. Starting system for engines. 2,970,440, 2–7–61, Cl. 60—51.
Doak, James C., ¼ each to W. S. Sutowski, F. J. Mingo, and F. B. Douglass. Respirator devices for administering oxygen or other gaseous agents. 2,970,594, 2–7–61, Cl. 128—203.
Dobras, Quentin D.: *See*—
Phillips, Donald R., Dobras, Makulec, and Fisher. 2,971,063.
Dobrikin, Harold L., and V. Mastis, to Berg Airlectro Products Co. Parking brake chamber. 2,970,572, 2–7–61, Cl. 121—38.
Dodson, Glenn R., deceased, by L. A. Dodson, administrator. Silo unloader. 2,970,827, 2–7–61, Cl. 262—19.
Dodson, Leon A.: *See*—
Dodson, Glenn R. 2,970,827.

Doeg, Ralph W., to American Motors Corp. Refrigerating apparatus. 2,970,608, 2–7–61, Cl. 137—516.11.
Dohr, Manfred, H.-J. Krause, and C. Wulff, to Henkel & Cie. Surface-active agents from polymeric substances. 2,971,015, 2–7–61, Cl. 260—404.5.
Doll, Frank A., to Haller, Inc. Method of making a composite sintered powdered material article. 2,970,905, 2–7–61, Cl. 75—208.
Doll, Harvey J. Hitch pin. 2,970,852, 2–7–61, Cl. 280—515.
Donatelli, Rudolph A.: *See*—
Crouch, Alfred H. 2,970,398.
Donnell, John W.: *See*—
Kish, Steven P., Donnell, and Graves. 2,970,818.
Dooley, William T., Jr. Disappearing article holding device. 2,970,720, 2–7–61, Cl. 220—85.
Dorey, George B., to Enterprise Railway Equipment Co. Vertically moveable latch for swinging hopper car doors. 2,970,551, 2–7–61, Cl. 105—253.
Dorr-Oliver Inc.: *See*—
Price, Harold A. 2,970,468.
Douglass, Francis B.: *See*—
Doak, James C. 2,970,594.
Douglass, Paul W., to General Time Corp. Constant torque escapement. 2,970,427, 2–7–61, Cl. 58—117.
Dow Chemical Co., The: *See*—
Gray, Don N. 2,971,028.
Hudson, Robert L. 2,971,030.
Stanton, George W., and Armen. 2,970,884.
Dow Corning Corp.: *See*—
Alsgaard, Richard W., and Gilkey. 2,970,881.
Thomas, John H. 2,970,973.
Dow, Daniel G., to United States of America, Navy. Helically-strapped multifilar helices. 2,971,114, 2–7–61, Cl. 315—3.6.
Dreifke, Raymond F., to Westinghouse Electric Corp. Movable shroud for variable jet engine exhaust nozzles. 2,970,429, 2–7–61, Cl. 60—35.6.
Dresser Industries, Inc.: *See*—
McLerran, Archie R. 2,970,458.
Drew, Charles E. Expanding mandrel chuck. 2,970,842, 2–7–61, Cl. 279—2.
Drummond, Warren W., to Bjorksten Research Laboratories, Inc. Radiation shielding fabric. 2,971,095, 2–7–61, Cl. 250—108.
Dryden, Horace W. Locking means for plastic strap. 2,970,359, 2–7–61, Cl. 24—213.
Duffield, Albert J., to Olin Mathieson Chemical Corp. Ammunition. 2,970,543, 2–7–61, Cl. 102—45.
Du Pont Co. of Canada (1956) Ltd.: *See*—
Gilby, Ralph F., Jr., Hogberg, and Phibbs. 2,971,010.
Du Pont de Nemours, E. I., and Co.: *See*—
Gilby, Ralph F., Jr., Hogberg, and Phibbs. 2,971,010.
James, George M. 2,970,890.
Wangner, Philip F., Jr. 2,970,345.
Wittbecker, Emerson L. 2,970,987.
Woodward, David W. 2,970,986.
Du Puy, Glen O.: *See*—
Christie, Soren L., Du Puy, and Marshall. 2,971,147.
Duty, John B. Grinding machine. 2,970,779, 2–7–61, Cl. 241—101.
Dyckerhoff, Klaus. Method of manufacturing a cement clinker. 2,970,925, 2–7–61, Cl. 106—100.
Dyckerhoff & Widmann Kommanditgesellschaft: *See*—
Finsterwalder, Ulrich. 2,970,406.
Dynamic Filters, Inc.: *See*—
Darnell, Rex C. 2,970,698.
Eason, Clarence M., to Industrial Clutch Corp. Roll feed mechanism. 2,970,489, 2–7–61, Cl. 74—120.
Eastman Oil Well Survey Co.: *See*—
Shulz, Jack S. 2,970,879.
Eaton Mfg. Co.: *See*—
Jaeschke, Ralph L. 2,971,105.
Ebauches S.A.: *See*—
Chevallier, Rene. 2,970,303.
Ebert, Fred C., to Minneapolis-Honeywell Regulator Co. Switch arrangement. 2,971,135. 2–7–61, Cl. 317—137.
Edlund, Melvin C., to Fibreboard Paper Products Corp. Paperboard having a water-repellent coating. 2,970,932, 2–7–61, Cl. 117—45.
Edward Valves Inc.: *See*—
Pool, Eldert B. 2,970,805.
Ehrlich, Stanley W., and M. C. Sze, to Hydrocarbon Research, Inc. Absorption-desorption in absorber liquid. 2,970,451, 2–7–61, Cl. 62—17.
Eichhorn, Robert L., to Whirlpool Corp. Thermoelectric refrigerating apparatus. 2,970,449, 2–7–61, Cl. 62—3.
Eichorn, Robert N., and H. A. Hendrich, to International Business Machines Corp. Cutting apparatus. 2,970,785, 2–7–61, Cl. 242—56.6.
Eisler, Paul. Electric surface heating devices. 2,971,073, 2–7–61, Cl. 219—19
Eisler, Paul. Production of electrical components from metal foils semi-conductors and insulating films or sheets. 2,971,176 2–7–61, Cl. 338—314.
Eklund Hans E., to Aktiebolaget Ljungmans Verkstader. Oil fuel firing assemblies. 2,970,640, 2–7–61, Cl. 158—36.3.
Electronic Processes Corp. of California: *See*—
Stewart, Edwin H., Jr. 2,971,137.
Elektrokemisk A/S: *See*—
Sem, Mathias O. 2,971,040.
Elgeet Optical Co., Inc.: *See*—
Miller Eugene. 2,970,530.
Ellis, Robert E.: *See*—
Crawford, Arthur R., Ongaro, Rushin, and Ellis. 2,970,478
Ellis, Thomas J., 50% to H. F. Diven. Profile projector or comparator for cutting machine tools. 2,970,412, 2–7–61, Cl. 51—165.
Elox Corp. of Michigan: *See*—
Larkins, John S., Jr. 2,971,078.
Elsner, Edwin C., to Aeroquip Corp. Slotted T fastener. 2,970,358, 2–7–61, Cl. 24—201.
Emminger, Francis J.: *See*—
Fowle, Irving H., and Emminger. 2,970,740.
Endres, Johann, to The Messerschmitt AG. Compound gas turbine plants. 2,970,433, 2–7–61, Cl. 60—39.17.
Endres, Johann, to The Messerschmitt AG. Rotor blades for gas turbines. 2,970,807, 2–7–61, Cl. 253—39.15.
Enge, Harald A., to High Voltage Engineering Corp. Unidirectional high voltage generator. 2,971,145, 2–7–61, Cl. 321—8.
Engelbart, Douglas C., to Digital Techniques, Inc. Electronic discharge device. 2,971,123, 2–7–61, Cl. 315—84.6.
Engelhardt, Edward L., to Merck & Co., Inc. N-substituted derivatives or 2-benzylamino benzimidazoles. 2,971,005, 2–7–61, Cl. 260—309.2.
Entemann, Charles E., to Diamond Alkali Co. Polychlorobenzhydryl cresol. 2,971,013, 2–7–61, Cl. 260—393.
Enterprise Railway Equipment Co.: *See*—
Dorey, George B. 2,970,551.
Eppler, Andrew, Jr.: *See*—
Cardani, Charles P., Cole, and Eppler. 2,970,371.
Epstein, Herman, to Burroughs Corp. Binary multiplier employing a delay medium. 2,970,766, 2–7–61, Cl. 235—165.
Erbach, Frederick R., to Beloit Iron Works. Control of stock supply in paper making machines. 2,970,938, 2–7–61, Cl. 162—212.
Erdle, Paul J., to Sylvania Electric Products Inc. Anode current regulation. 2,971,160, 2–7–61, Cl. 330—65.
Erekson, Arthur B., H. C. Steinke, and G. Mohr, to The Borden Co. Storing cheese. 2,970,922, 2–7–61, Cl. 99—178.
Erie Resistor Corp.: *See*—
Foster, James H., and Sterner. 2,970,369.
Ernest, Fred, ½ to B. Kriegel. Carburetor idle system control apparatus. 2,970,822. 2–7–61, Cl. 261—41.
Esso Research and Engineering Co.: *See*—
Gilbert, George R., McCormick, and Schriesheim. 2,971,037.
Hinlicky, John A. 2,970,891.
James, Jimmy D. 2,971,036.
Kirshenbaum, Isidor, and Hinlicky. 2,970,892.
Stringer, Richard F., Kimberlin, and McQuaid. 2,971,035.
Viles Prentiss S. 2,970,893.
Estes, Eugene E. Adjusting mechanism. 2,970,587, 2–7–61, Cl. 123—195.
Ethicon, Inc.: *See*—
Schipper, Edgar S. 2,971,021.
Everard, Joseph J., and R. D. Ruiseh, to Paragon Electric Co. Electric switches and systems controlled thereby. 2,970,454. 2–7–61, Cl. 62—154.
Everest & Jennings, Inc.: *See*—
Jennings, Harry C., Jr. 2,970,718.
FWD Corp.: *See*—
Russler, Leveret C., Wright, Martin, and Frisch. 2,970,665.
Fahlberg, Carl J. Slicer for cheese and the like. 2,970,378, 2–7–61, Cl. 30—117.
Fairchild Semiconductor Corp.: *See*—
Noyce, Robert N. 2,971,139.
Falk, Bernard S.: *See*—
Falk, Morris, Jr., and B. S. 2,970,465.
Falk, Morris, Jr., and B. S., to Independent Lock Co. Chain fastener device. 2,970,465, 2–7–61, Cl. 70—93.
Fannen, John J., to Super Mold Corp. of California. Heating unit mount for a tire mold matrix. 2,970,346, 2–7–61, Cl. 18—38.
Farbenfabriken Bayer Aktiengesellschaft: *See*—
Kruckenberg, Winfried. 2,970,994.
Schrader Gerhard. 2,971,020.
Farbwerke Hoechst Aktiengesellschaft vormals: *See*—
Fischer, Kurt, and Oberrauch. 2,970,997.
Farrar, Martin W., to Monsanto Chemical Co. Alcohol manufacture. 2,971,033, 2–7–61, Cl. 260—642.
Faulkner, Alfred H., to Automatic Electric Laboratories, Inc. Code translating system. 2,970,760, 2–7–61, Cl. 235—92.
Fauser, Hans, to Superpart S.A. Indoor fire-places. 2,970,590. 2–7–61, Cl. 126—121.
Federal-Mogul-Bower Bearings, Inc.: *See*—
Barers, Lawrence A., Fiedrich, Jr., and Le Brasse. 2,970,933.
Feely, Wayne E., to Rohm & Haas Co. N-alkoxy quaternary heterocyclic alkyl sulfate salts. 2,971,002, 2–7–61, Cl. 260—294.8.
Feichtinger, Heinrich, to Georg Fischer Aktiengesellschaft. Method of and device for the evacuation of chill moulds. 2,970,350, 2–7–61, Cl. 22—73.
Feigl, Erich F., to Standard Coil Products Co., Inc. Interpolating device. 2,970,762. 2–7–61, Cl. 235—132.
Feijoo, James A., and D. W. Young, Jr., to The Bendix Corp. Angle-gated phase detector. 2,971,086. 2–7–61, Cl. 250—20.
Feild, Theophilus A.: *See*—
Rankin, William W., Townsley, and Feild. 2,970,362.
Feinberg, Albert E., and P. Berger, to Advance Transformer Co. Apparatus for igniting and operating gaseous discharge devices. 2,971,124. 2–7–61, Cl. 315—97.
Feldman, Edward F., to Panoramic Radio Products, Inc. Panoramic heterodyne synchronous component analyzer. 2,970,469, 2–7–61, Cl. 73—67.2.
Ferguson, Henry J. Electric heating furnace. 2,971,076, 2–7–61, Cl. 219—39.
Fernandez, John M.: *See*—
Suller, William J., and Fernandez. 2,970,679.
Ferrari, Charles G., to J. R. Short Milling Co. Method of preparing bread. 2,970,915, 2–7–61, Cl. 99—90.
Ferry, J. D., Co., Inc.: *See*—
Coleman, Richard A., and Long. 2,970,620.

Fetter, Helen A. Holder on upright support of detachable rotatable trays. 2,970,701, 2–7–61, Cl. 211—78.
Few, William: *See*—
Willcox, Dale F., Few, and Krieger. 2,971,072.
Fibreboard Paper Products Corp.: *See*—
Edlund, Melvin C. 2,970,932.
Fiedrich, William G., Jr.: *See*—
Barera, Lawrence A., Fiedrich, and Le Brasse. 2,970,933.
Fields, Clesent O., to Peabody Seating Co., Inc. Chair. 2,970,635, 2–7–61, Cl. 152—2.
Filinovitz, Alex: *See*—
Halgren, John A., Pinkel, and Filinovitz. 2,970,352.
Findlay, Hugh T., to Underwood Corp. Carbon paper. 2,970,926, 2–7–61, Cl. 106—171.
Finnegan, James F., to D K Mfg. Co. Suction nozzle for pneumatic grain conveyor. 2,970,865, 2–7–61, Cl. 302—58.
Finsterwalder, Ulrich, to Dyckerhoff & Widmann Kommanditgesellschaft. Anchorages of rod shaped tie members of prestressed concrete. 2,970,406, 2–7–61, Cl. 50—128.
Firestone Tire & Rubber Co., The: *See*—
Christensen, Norman B. 2,970,614.
Firma Fleissner & Sohn, G.m.b.H.: *See*—
Friedel, Wolfgang. 2,970,364.
Firma Gebr. Happich G.m.b.H.: *See*—
Herr, Gerhard. 2,970,868.
Firma Stock, R., & Co., Spiralbohrer-, Werkzeug-und Maschinenfabrik Aktiengesellschaft: *See*—
Achilles, Günter. 2,970,588.
Fischer, Ernst O., and H. P. Hofmann, to Union Carbide Corp. Process for the preparation of cyclopentadienyl indium compounds. 2,971,017, 2–7–61, Cl. 260—429.
Fischer, Georg, Aktiengesellschaft: *See*—
Feichtinger, Heinrich. 2,970,350.
Fischer, Kurt, and H. Oberrauch, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning. Process for the manufacture of ε-caprolactam. 2,970,997, 2–7–61, Cl. 260—239.3.
Fisher, Charles T., to Harvey M. Crockett. Flange bending machine for unstayed set-up box manufacture. 2,970,527, 2–7–61, Cl. 93—51.
Fisher, Richard L. Locking device. 2,970,855, 2–7–61, Cl. 292—59.
Fisher, Will S.: *See*—
Phillips, Donald R., Dobras, Makulec, and Fisher. 2,971,083.
Fisk, Robert W., to Mathews Conveyor Co. Reciprocating gravity conveyer. 2,970,682, 2–7–61, Cl. 193—35.
Fitzgerald, Charles F., to United Shoe Machinery Corp. Trimming machines. 2,970,329, 2–7–61, Cl. 12—4.3.
Flax, Valer. Manufacture of collapsible tubular containers made of flexible materials. 2,970,723, 2–7–61, Cl. 222—107.
Fleet of America, Inc.: *See*—
Parsons, Nelson D. 2,970,642.
Fleisig, Charles J. Paper boxes for mailing. 2,970,742, 2–7–61, Cl. 229—45.
Fleissner, Hans. Machine for disintegrating a block of compressed fibrous and like material. 2,970,782, 2–7–61, Cl. 241—279.
Flick, Francis S., to Flick-Reedy Corp. Piston assembly. 2,970,871, 2–7–61, Cl. 309—4.
Flick-Reedy Corp.: *See*—
Flick, Francis S. 2,970,871.
Floreen, Edward D., to Rudy Mfg. Refrigerant heat transfer element. 2,970,814, 2–7–61, Cl. 257—262.11.
Foard, John H., 50% to Walter A. Klutts. Plated spinning ring and method of making same. 2,970,425, 2–7–61, Cl. 57—119.
Focht, Frank T.: *See*—
Knapp, Richard P., Sims, and Focht. 2,970,646.
Foerster, Hans-Joachim M., to Daimler-Benz Aktiengesellschaft. Change speed gear, especially for motor vehicles. 2,970,497, 2–7–61, Cl. 74—677.
Fontana, Gianpiero. Cigarette distributing holder. 2,970,721, 2–7–61, Cl. 221—227.
Food Machinery and Chemical Corp.: *See*—
Jones, Howard A., Garman, and Dickinson. 2,970,940.
Maitlen, Eldon G. 2,970,939.
Ford Motor Co.: *See*—
Kampe, Dwight F. 2,970,656.
Knoblock, John E. 2,970,583.
Zich, John H., and Oliver. 2,970,810.
Forkner, John H. Food package. 2,970,920, 2–7–61, Cl. 99—171.
Foster, James H., and P. E. Sterner, to Erie Resistor Corp. Assembly apparatus for electric circuit assemblies. 2,970,369, 2–7–61, Cl. 29—203.
Fourslides, Inc.: *See*—
Grant, Charles W. 2,970,354.
Fowle, Irving H., and F. J. Emminger, to General Aniline & Film Corp. Self-erecting dispensing carton. 2,970,740, 2–7–61, Cl. 229—38.
Fox, Homer M., to Phillips Petroleum Co. Process for preparing solid propellant charges. 2,970,898, 2–7–61, Cl. 52—5.
Fox, Joseph C., and D. M. Palmer. Glass batch preparation. 2,970,924, 2–7–61, Cl. 106—52.
France, William L., to Universal-Cyclops Steel Corp. Telescoping immersion thermocouple. 2,971,041, 2–7–61, Cl. 136—4.
Frank, Dean. Sputnik cap. 2,971,062, 2–7–61, Cl. 240—60.
Frank, Raymond G., to F. J. Stokes Corp. Driving mechanism for reciprocating press members and the like. 2,970,485, 2–7–61, Cl. 74—55.
Franz, William F.: *See*—
Riordan, Michael D., and Franz. 2,970,968.
Free, Alfred H., and L. B. Schweiger, to Miles Laboratories, Inc. Diagnostic composition. 2,970,945, 2–7–61, Cl. 167—84.5.
Freedman, Louis: *See*—
Shapiro, Seymour L., Freedman, and Seloway. 2,971,018.
Freeman, David A. Press plate and method of making same. 2,970,393, 2–7–61, Cl. 38—66.
Freeman, Herbert, to Sperry Rand Corp. Predetermined pulse selector. 2,970,763, 2–7–61, Cl. 235—132.
Freier, Joachim: *See*—
Ossenbrunner, Armin, Schnell, Klockgether, Geiger, and Freier. 2,970,908.
Friden, Inc.: *See*—
Spesock, Gilbert J., Rolph, and Balaz. 2,970,756.
Friedel, Wolfgang, to Firma Fleissner & Sohn, G.m.b.H. Cable depositing apparatus. 2,970,364, 2–7–61, Cl. 28—1.
Friedman, Robert G., to The National Machinery Co. Header slide counter-balance apparatus. 2,970,327, 2–7–61, Cl. 10—15.
Frisch, Walter J.: *See*—
Russler, Leveret C., Wright, Martin, and Frisch. 2,970,665.
Fritchle, Frank P., M. S. Reynolds, and E. K. Takata, to Central Scientific Co. Laboratory clamps. 2,970,798, 2–7–61, Cl. 248—229.
Fröhlich, Adolf, and E. J. Harris, to The Cleveland Trust Co. Vulcanizing press. 2,970,342, 2–7–61, Cl. 18—17.
Frohlich, Harry W.: *See*—
Frohlich, Willy O. and H. W. 2,970,399.
Frohlich, Willy O. and H. W. Underwater weapon. 2,970,399, 2–7–61, Cl. 43—6.
Frost, Charles E., & Co.: *See*—
Parker, John M., and Wasson. 2,971,003.
Fuji Kazaku Kogyo Kabushiki Kaisha: *See*—
Ishino, Seizo, and Osaka. 2,970,889.
Furnas Electric Co.: *See*—
Willcox, Dale F., Few, and Krieger. 2,971,072.
Fussell, Richard L.: *See*—
Rosenberg, Harvey, and Fussell. 2,971,099.
Futurecraft Corp.: *See*—
Piet, Meyer, and Koutnik. 2,971,090.
Gadget-Of-The-Month Club Inc.: *See*—
Levenson, Jordan S. 2,970,722.
Gang, Herman, to Monroe Calculating Machine Co. Multiplication control means for ten key calculating machines. 2,970,754, 2–7–61, Cl. 235—60.
Gang, Herman, to Monroe Calculating Machine Co. Registration control means for adding-subtracting listing machines. 2,970,755, 2–7–61, Cl. 235—60.2.
Gantz, Hyman A.: *See*—
Larsen Erling, and Gantz. 2,970,630.
Gaquin, John H., to Beckwith-Arden Inc. Shoe heater. 2,970,331, 2–7–61, Cl. 12—59.7.
Garbuny, Max: *See*—
Schneeberger, Robert J., and Garbuny. 2,971,052.
Garbuny, Max, to Westinghouse Electric Corp. Color thermal image system. 2,971,093, 2–7–61, Cl. 250—83.3.
Gardner, Andrew L.: *See*—
Wharton, Charles B., and Gardner. 2,971,153.
Garman, John A.: *See*—
Jones, Howard A., Garman, and Dickinson. 2,970,940.
Garrett Corp., The: *See*—
Breaux, Darlton K., and Belanus. 2,970,652.
Gartner, Stanley J., and L. R. V. Regelman, to Sylvania Electric Products Inc. Article feed mechanism. 2,970,709, 2–7–61, Cl. 214—301.
Garven, Floyd C.: *See*—
Zaugg, Harold E., Garven, Geiszler, and Hamlin. 2,971,024.
Gebrüder Welger, Maschinenfabrik: *See*—
Wenzel, Alfred. 2,970,423.
Geenen, Johannes, to Muller A. G. Brugg. Wood veneer cutter having a plurality of knives operable separately or together. 2,970,505, 2–7–61, Cl. 83—549.
Gegenheimer, Harold W., to William Gegenheimer Co., Inc. Machine for cleaning of printing rollers. 2,970,541, 2–7–61, Cl. 101—425.
Gegenheimer, William, Co., Inc.: *See*—
Gegenheimer, Harold W. 2,970,541.
Gehrt, Albert J., and M. D. Knapheide, to Moorman Mfg. Co. Spent catalyst treatment and product. 2,970,912, 2–7–61, Cl. 99—2.
Geiger, Julius: *See*—
Ossenbrunner, Armin, Schnell, Klockgether, Geiger, and Freier. 2,970,908.
Geiser, Nikolaus, and H. Kolling, to Ruhrchemie Aktiengesellschaft. Process for the polymerization of ethylene. 2,970,992, 2–7–61, Cl. 260—94.9.
Geiszler, Adolph O.: *See*—
Zaugg, Harold E., Garven, Geiszler, and Hamlin. 2,971,024.
General American Transportation Corp.: *See*—
Massopust, Carl F. 2,970,347.
General Aniline & Film Corp.: *See*—
Albus, Charles P., and Asorloea. 2,970,974.
Fowle, Irving H., and Emminger. 2,970,740.
Hort, Eugene V. 2,971,029.
Mayhew, Raymond L., and Williams. 2,971,006.
Morgan, Jack F., and Vollmer. 2,970,993.
Slimowicz, Chester E. 2,970,909.
Sottysiak, Joseph, and Harriman. 2,970,907.
General Dynamics Corp.: *See*—
Williams, Joel H. 2,970,606.
General Electric Co.: *See*—
Bluestein, Ben A. 2,970,982.
Cain, Dallas E. 2,970,680.
Cockrell, William D. 2,971,134.
Dixon Corbin. 2,971,185.
Goff, Leon E., Jr. 2,971,131.
Hardy, Albert L., and Woodson. 2,970,777.
Harle, Harold P., Balogh, and Loewenthal. 2,970,453.
Hughes Philip G. 2,970,383.
McCarty, William J. 2,970,816.
Phillips, Donald R., Dobras, Makulec, and Fisher. 2,971,083.
Rexford, Donald L., Hoffman, and Jacobs. 2,970,806.

General Electric Co.: *See*—
Richardson, Charles D. 2,970,936.
Rowe, Raymond N. 2,970,746.
Schmidt, Kurt. 2,971,110.
Schultz, Harry E. 2,971,126.
Schultz, Harry E. 2,971,166.
Slattery, John P. 2,970,455.
Stern, Hansjoerg. 2,970,575.
Toma, John W. 2,970,464.
Walker, Roger B. 2,970,717.
Warren, Glenn B. 2,970,434.
Windsor, Harold F. 2,970,930.
General Fireproofing Co., The: *See*—
Springs, Otis A., Jr., and Smith. 2,970,677.
General Industries Co., The: *See*—
Jin, Korda K. D. 2,971,107.
General Mills, Inc.: *See*—
Brastad, William A. 2,971,127.
Wheeler, Donald H. 2,970,995.
General Motors Corp.: *See*—
Baker, Max P. 2,970,853.
Geyer, Howard M. 2,970,572.
Geyer, Howard M. 2,970,574.
Isbell, Donald K. 2,970,673.
Johnston, John R. 2,970,463.
Townsend, Don G. 2,971,042.
Townsend, Don G. 2,971,043.
General Precision, Inc.: *See*—
Gevas, James C. 2,971,141.
General Time Corp.: *See*—
Douglass, Paul W. 2,970,427.
Genisco, Inc.: *See*—
Linn, Jerome S. 2,971,165.
Genning, Ernst, to Protona Produktionsgesellschaft fur electro-Akustisch Gerate G.m.b.H. Switching arrangement for eliminating noise in a tape recording and reproducing system. 2,971,063, 2–7–61, Cl. 179—100.2.
Georges, Raymond. Internal combustion engines the compression ratio of which is adjustable in operation. 2,970,581, 2–7–61, Cl. 123—48.
Gerlipp, Robert, to Haft & Sons, Inc. Friction drive transmission. 2,970,492, 2–7–61, Cl. 74—209.
Germansky, Sydney: *See*—
Violano, Vincent, and Germansky. 2,970,391.
Gevas, James C., to General Precision, Inc. Error signal sampling digital servo system. 2,971,141, 2–7–61, Cl. 318—28.
Geyer, Howard M., to General Motors Corp. Actuator with stroke end locks. 2,970,573, 2–7–61, Cl. 121—40.
Geyer, Howard M., to General Motors Corp. Dual piston hydraulic centering actuator. 2,970,574, 2–7–61, Cl. 121—40.
Geyer, Paul, to United States Rubber Co. Thrust bearing. 2,970,868, 2–7–61, Cl. 308—3.
Gibson, Walter G., to Radio Corp. of America. Video signal compensating circuits. 2,971,053, 2–7–61, Cl. 178—7.1.
Giddings & Lewis Machine Tool Co.: *See*—
Schurger, Garner H. 2,970,523.
Giffen, James W., to Corning Glass Works. Glass forming. 2,970,405, 2–7–61, Cl. 49—79.
Gilbert, George R., J. E. McCormick, and A. Schriesheim, to Esso Research and Engineering Co. Gamma alumina promoted paraffin alkylation process. 2,971,037, 2–7–61, Cl. 260—683.53.
Gilby, Ralph F., Jr., C. E. Hoberg, and M. K. Phibbs; said Gilby and said Hoberg assors. to E. I. du Pont de Nemours and Co., and said Phibbs assor. to Du Pont Co. of Canada (1956) Ltd. Production of dicarboxylic acid anhydrides. 2,971,010, 2–7–61, Cl. 260—345.9.
Gildner, Darwin A., and F. L. Brauer, to United States of America, Navy. High speed streak shutter. 2,970,528, 2–7–61, Cl. 95—54.
Gilkey, John W.: *See*—
Aisgaard, Richard W., and Gilkey. 2,970,881.
Gill, Frank W. Extensible paint roller core. 2,970,366, 2–7–61, Cl. 29—110.
Gill, Joseph, and G. Gruendel, to Hagan Chemicals & Controls, Inc. Monitoring equipment. 2,971,183, 2–7–61, Cl. 340—213.
Gittins, William G., to Vols Aristocrat Plastics, Inc. Apparatus for use in manufacturing plastic faced building units. 2,970,410, 2–7–61, Cl. 51—110.
Gladding, McBean & Co.: *See*—
Cabell, Norman W., and Randall. 2,970,360.
Glass, Eugene D., to Pan American Petroleum Corp. Producing multiple fractures in a well. 2,970,645, 2–7–61, Cl. 166—42.
Glezen, Lewis E., to Mid-West Metallic Products, Inc. Wire receptacle construction. 2,970,714, 2–7–61, Cl. 220—19.
Globe Slicing Machine Co., Inc.: *See*—
Lundell, Arnold W. 2,970,622.
Lundell, Arnold W. 2,970,623.
Lundell, Arnold W. 2,970,624.
Lundell, Arnold W. 2,970,625.
Gobalet, Kenneth C., to Baljak Corp. Pressure sections for box forming and box closing machines. 2,970,526, 2–7–61, Cl. 93—36.
Goff, Leon E., Jr., to General Electric Co. Protective relaying system for an electric power transmission circuit. 2,971,131, 2–7–61, Cl. 317—36.
Gola, Joseph, Jr.: *See*—
Bonotto, Michele. 2,970,914.
Gold, David. Bi-area pilot parachute. 2,970,795, 2–7–61, Cl. 244—142.
Goldstein, Daniel, to Schenley Industries, Inc. Bottle closure with projections for severing seal. 2,970,711, 2–7–61, Cl. 215—46.
Good, Arthur L., to Robertshaw-Fulton Controls Co. Switch. 2,971,069, 2–7–61, Cl. 200—72.
Good, Wayne W., to Harter Corp. Chair. 2,970,639, 2–7–61, Cl. 155—191.
Goodrich, B. F., Co., The: *See*—
Maclay, William N. 2,970,975.
Goodrich-Gulf Chemical, Inc.: *See*—
Hexie, Howard M. 2,970,989.
Goodstein, Charles B. Stale improvement. 2,970,313, 2–7–61, Cl. 1—56.
Gottstein, William J.: *See*—
Cheney, Lee C., and Gottstein. 2,971,007.
Govoni, Douglas P. Apparatus for handling packages. 2,970,672, 2–7–61, Cl. 186—1.
Grace, W. R., & Co.: *See*—
Rudner, Bernard. 2,970,999.
Grandy, Andrew J., to United States of America, Army. Recoilless rifle breech. 2,970,520, 2–7–61, Cl. 89—1.7.
Grant, Charles W., to Fouralides, Inc. Fastening device for a trim molding or the like. 2,970,354, 2–7–61, Cl. 24—73.
Graves, Davis M.: *See*—
Kish, Steven P., Donnell, and Graves. 2,970,818.
Gray, Don N., to The Dow Chemical Co. 2-fluoro oximes. 2,971,028, 2–7–61, Cl. 260—566.
Greenberg, Sherman, R. D. Misch, and W. E. Ruther, to United States of America, Atomic Energy Commission. Corrosion reduction. 2,970,885, 2–7–61, Cl. 21—2.7.
Griffin, John P. Transparent symbol stamps. 2,970,539, 2–7–61, Cl. 101—368.
Griffith, George H. and R. T. Automobile bank. 2,970,323, 2–7–61, Cl. 5—118.
Griffith, Richard T.: *See*—
Griffith, George H. and R. T. 2,970,323.
Gross, Carl G., to Airequipt Mfg. Co., Inc. Viewer. 2,970,395, 2–7–61, Cl. 40—79.
Gröttrup, Helmut, and W. Schiebeler, to International Standard Electric Corp. Circuit arrangement for checking the faultless transmission of teleprinting characters. 2,971,055, 2–7–61, Cl. 178—22.
Gruendel, George: *See*—
Gill, Joseph, and Gruendel. 2,971,183.
Guerrero Y Ocampo, Byron. Valve for water and gas lines. 2,970,802, 2–7–61, Cl. 251—172.
Guest, Howard R., J. T. Adams, and B. W. Kiff, to Union Carbide Corp. Curing catalysts for acroleinpentaerythritol resins. 2,970,985, 2–7–61, Cl. 260—67.
Gulf Research & Development Co.: *See*—
Tittle, Charles W. 2,971,094.
Gumbinner, Robert, to Polychrome Corp. Stencil sheet having transferable back coating. 2,970,931, 2–7–61, Cl. 117—35.5.
Gurley, Jesse F., Jr., to Mogay Chemical Co. Mixing apparatus. 2,970,817, 2–7–61, Cl. 259—7.
Haas, Adam, Jr. Auxiliary spare tire carriers. 2,970,728, 2–7–61, Cl. 224—42.12.
Hafner, Klaus, to Studiengesellschaft Kohle M.b.H. Process for the production of azulenes. 2,971,034, 2–7–61, Cl. 260—666.
Hafner, Theodore. Two wire surface wave transmission lines. 2,971,170, 2–7–61, Cl. 333—9.
Hafner, William J., and G. H. Cork; said Hafner assor. to said Cork. Pneumatic conveyor system. 2,970,791, 2–7–61, Cl. 243—16.
Haft & Sons, Inc.: *See*—
Gerlipp, Robert. 2,970,492.
Hagan Chemicals & Controls, Inc.: *See*—
Gill, Joseph, and Gruendel. 2,971,183.
Halgren, John A., R. H. Pinkel, and A. Filimovits, to International Harvester Co. Device for supporting tubes in core box assemblies. 2,970,352, 2–7–61, Cl. 22—160.
Hall, C. P., Co., The: *See*—
Hill, Norman C. 2,971,023.
Haller, Inc.: *See*—
Doll, Frank A. 2,970,905.
Haloid Xerox Inc.: *See*—
Bixby, William E. 2,970,906.
Halpern, Alfred. Sennoside-polycyclohexose complexes. 2,970,942, 2–7–61, Cl. 167—56.
Halter, Ludwig. Seat and backrest construction. 2,970,638, 2–7–61, Cl. 155—191.
Halverson, Emmett H. Catapult device. 2,970,839, 2–7–61, Cl. 272—106.5.
Hamilton, Louis F. Hemostatic instrument. 2,970,596, 2–7–61, Cl. 128—326.
Hamilton, Milton R., and L. S. Tremblay, to Bomac Laboratories Inc. Waveguide window. 2,971,172, 2–7–61, Cl. 333—98.
Hamlin, Kenneth E.: *See*—
Zaugg, Harold E., Garven, Geissler, and Hamlin. 2,971,024.
Hammer, Warren, and C. F. Sudds, to Belden Mfg. Co. Insulated wire and method of forming same. 2,970,937, 2–7–61, Cl. 154—2.27.
Hammond, Milton B., and L. J. Herusovsky, to Rockwell-Standard Corp. Vehicle spring suspension and fluid pressure leveling device therefor. 2,970,847, 2–7–61, Cl. 280—124.
Hansen, Leon F. Door latch. 2,970,856, 2–7–61, Cl. 292—173.
Hansen, Lester A., J. H. Baker, and E. J. Keyes, to Norton Co. Manufacture of coated abrasives. 2,970,929, 2–7–61, Cl. 117—17.
Hanson, Walter J.: *See*—
Martin, Samuel W., and Hanson. 2,970,834.
Hantscho, George, to George Hantscho Co. Inc. Method and apparatus for applying cover material to book cores and cases. 2,970,634, 2–7–61, Cl. 154—1.8.
Hantscho, George, Co. Inc.: *See*—
Hantscho, George. 2,970,634.
Hara, Shuichiro: *See*—
Watanabe, Koichi, Asano, and Hara. 2,970,708.

Hardgrove, James F., to Universal Products Corp. Finger-supported dental tray. 2,970,379, 2–7–61, Cl. 32—1.

Hardy, Albert L., and T. T. Woodson, to General Electric Co. Waste disposal apparatus. 2,970,777, 2–7–61, Cl. 241—46.

Harle, Harold P., S. Balogh, and H. J. Loewenthal, to General Electric Co. Automatic ice maker. 2,970,453, 2–7–61, Cl. 62—135.

Harper, Leonard R., to International Business Machines Corp. Electronic commutators. 2,971,157, 2–7–61, Cl. 328—42.

Harper, Robert H., to Swift & Co. Sausage manufacture. 2,970,916, 2–7–61, Cl. 99—109.

Harriman, Benjamin R.: *See*—
Sottysiak, Joseph, and Harriman. 2,970,907.

Harris, Edward J.: *See*—
Fröhlich, Adolf, and Harris. 2,970,842.

Harshman, Daniel L., to Curtiss-Wright Corp. Rotating inlet for jet engines. 2,970,431, 2–7–61, Cl. 60—35.6.

Hart, Gene E., and H. F. Metcalf, to Carolina Knitting Machine Corp. Method and means for preventing formation of eyelets in circular knitting. 2,970,459, 2–7–61, Cl. 66—42.

Harter Corp.: *See*—
Good, Wayne W. 2,970,630.

Harvey, Merlin P.: *See*—
Ladd, Elbert C., and Harvey. 2,971,019.

Harwood, Floyd E.: *See*—
Parsons, John T., and Harwood. 2,970,877.

Harsa Patents: *See*—
Harsa, Richard D. 2,970,803.

Harsa, Richard D., to Harsa Patents. Valve seal. 2,970,803, 2–7–61, Cl. 251—175.

Hasseneder, Anton: *See*—
Peck, Gordon H., and Hasseneder. 2,970,607.

Hass, Henry B., F. D. Snell, L. I. Ozipow, and W. C. York, deceased, by R. M. York, administratrix, to Sugar Research Foundation, Inc. Novel detergent compositions. 2,970,962, 2–7–61, Cl. 252—135.

Hassler, George E.: *See*—
Dickinson, William A., and Hassler. 2,971,108.

Hastings, Charles E., to Hastings-Raydist, Inc. Radio system. 2,971,169, 2–7–61, Cl. 343—105.

Hastings-Raydist, Inc.: *See*—
Hastings, Charles E. 2,971,169.

Haugland, Earl W. Starter for water skiers. 2,970,686, 2–7–61, Cl. 155—2.

Haupt, Richard R., to Bristol-Myers Co. Tablet press. 2,970,554, 2–7–61, Cl. 107—17.

Hausman, John M. Calender roll having adjustable crown. 2,970,339, 2–7–61, Cl. 16—2.

Havens, Byron L.: *See*—
Deerhake, William J., Havens, and Schreiner. 2,970,764.

Hayes, C. I., Inc.: *See*—
Westgren, Herbert W. 2,971,089.

Hays, Lawrence S. Live bait aerator. 2,970,401, 2–7–61, Cl. 43—57.

Haywood, Leslie R., to Atomic Energy of Canada Ltd. Radioactivity monitor. 2,971,089, 2–7–61, Cl. 250—43.5.

Heath, Hillis H. Egg carton. 2,970,734, 2–7–61, Cl. 229—2.5.

Heaton-Armstrong, Louis J., to International Standard Electric Corp. Automatic frequency control arrangements for frequency shift telegraph receivers. 2,971,059, 2–7–61, Cl. 178—68.

Heil, Friedrich, to Telefonbau und Normalzeit G.m.b.H. Inking device for rotary stamps. 2,970,538, 2–7–61, Cl. 101—367.

Heil, George C.: *See*—
Weaver, Calvin R., and Heil. 2,970,870.

Helm, Edward J., and E. V. Schulte, to Koppers Co., Inc. Diammonium phosphate production. 2,970,889, 2–7–61, Cl. 23—107.

Helvey, Edward E., to United States of America, Navy. Computing device. 2,971,119, 2–7–61, Cl. 315—28.

Henderson, Raymond A., and O. J. Beaston, to National Lead Co. Flotation of barite. 2,970,692, 2–7–61, Cl. 209—166.

Henderson, Russell A. Electronic tube testing device. 2,971,149, 2–7–61, Cl. 324—28.

Hendrich, Henry A.: *See*—
Eichorn, Robert N., and Hendrich. 2,970,785.

Henkel & Cie: *See*—
Dohr, Manfred, Krause, and Wulff. 2,971,015.

Henry, James J., to Conch International Methane Ltd. Liquid storage tanks and attachments. 2,970,604, 2–7–61, Cl. 137—206.

Hernon, Lon. Button. 2,970,355, 2–7–61, Cl. 24—103.

Herr, Gerhard, to Firma Gebr. Happich G.m.b.H. Sun-visor, particularly for motor-vehicles. 2,970,863, 2–7–61, Cl. 296—97.

Herrick, William W.: *See*—
Benton, Clarence E., and Herrick. 2,971,111.

Hershman, Gordon L., to International Harvester Co. Hydraulic depth control apparatus. 2,970,653, 2–7–61, Cl. 172—4.

Herusovsky, Louis J.: *See*—
Hammond, Milton B., and Herusovsky. 2,970,847.

Hess, Goldsmith & Co.: *See*—
May, Merrill R. 2,970,934.

Heston, Eugene E.: *See*—
Mallory, Edwin E., Heston, Kline, and Christy. 2,970,941.

Hettoen, Edgar E., to Polaris Industries, Inc. Motor propelled sled. 2,970,662, 2–7–61, Cl. 180—5.

Heuer, Hans, to Olympia Werke A.G. Mounting device for printed circuit boards. 2,971,179, 2–7–61, Cl. 339—17.

Heynau, Erika E.: *See*—
Heynau, Hans F. 2,970,569.

Heynau, Hans F., deceased, by E. E. Heynau, executrix, to E. E. Heynau. Writing implements. 2,970,569, 2–7–61, Cl. 120—6.

High Voltage Engineering Corp.: *See*—
Enge, Harald A. 2,971,145.
Nygard, John C. 2,971,113.

Hill, Cyril T., to Texas Gulf Sulphur Co. Chlorination of metal oxides. 2,970,887, 2–7–61, Cl. 23—87.

Hill, Gilbert F., to L. A. B. Corp. Hydraulic vibrator. 2,970,570, 2–7–61, Cl. 121—16.

Hill, Norman C., to The C. P. Hall Co. Removal of metals from dicarboxylic acids. 2,971,023, 2–7–61, Cl. 260—485.

Hill, Russell C. Shotgun sight. 2,970,380, 2–7–61, Cl. 33—51.

Hines, Claude M., to Westinghouse Air Brake Co. Control apparatus for dual compressors. 2,970,744, 2–7–61, Cl. 230—2.

Hines Flask Co., The: *See*—
Hines, Russell J. 2,970,849.

Hines, Russell J., to The Hines Flask Co. Method and apparatus for molding. 2,970,349, 2–7–61, Cl. 22—93.

Hinlicky, John A.: *See*—
Kirshenbaum, Isidor, and Hinlicky. 2,970,892.

Hinlicky, John A., to Esso Research and Engineering Co. Preparation of alumina. 2,970,891, 2–7–61, Cl. 23—143.

Hirsch, Ursula: *See*—
McCormick, Jerry R. D., Arnold, Hirsch, Miller, and Sjolander. 2,970,947.

Hirvonen, Eric J., to Leland-Gifford Co. Valve for control of advance and return of a piston under hydraulic power. 2,970,576, 2–7–61, Cl. 121—45.

Hoberg, Charles E.: *See*—
Gilby, Ralph F., Jr., Hoberg, and Phibbs. 2,971,010.

Hodge, Edward B., to Commercial Solvents Corp. Substituted cycloserines. 2,971,004, 2–7–61, Cl. 260—307.

Hoekstra, James, to Universal Oil Products Co. Control of combined chloride in alumina sol. 2,970,966, 2–7–61, Cl. 252—313.

Hoffman, Herbert N.: *See*—
Rexford, Donald L., Hoffman, and Jacobs. 2,970,806.

Hoffman-Taff, Inc.: *See*—
Lorz, Emil. 2,970,911.

Hoffmann, Karl. Cam control for knitting machines. 2,970,461. 2–7–61, Cl. 66—155.

Hofmann, Hermann P: *See*—
Fischer, Ernst O., and Hofmann. 2,971,017.

Hoge, Robert H., to The Clark Controller Co. Valve apparatus and controls. 2,970,611, 2–7–61, Cl. 137—620.

Holbrook, Robert L., to Olin Mathieson Chemical Corp. Fungicidal 2,4-dinitrophenylhydrazones. 2,970,941, 2–7–61, Cl. 167—30.

Holley Carburetor Co.: *See*—
Cramer, Thomas F. 2,970,586.
Smitley, Marion L. 2,970,825.

Hollister, John H.: *See*—
Kumin, Victor M., and Hollister. 2,970,882.

Holmes, Tracy S. Aircraft landing gear. 2,970,792, 2–7–61, Cl. 244—50.

Holt, Deloris B.: *See*—
Lacy, Glenn B., and Holt. 2,970,700.

Holt, William J., Jr., to Varo Mfg. Co., Inc. Scanning devices and systems. 2,971,054, 2–7–61, Cl. 178—7.6.

Holt, William J., Jr., to Varo Mfg. Co., Inc. Tuning fork assembly including driving and pick-up coils. 2,971,104, 2–7–61, Cl. 310—17.

Honeycutt, Frank, R. A. Huhn, R. M. Myers, and C. H. Wilson, to Philco Corp. Equipment units. 2,970,874, 2–7–61, Cl. 312—223.

Hoover, Merle L., and J. W. Woolf, to Joy Mfg. Co. Mine haulage vehicle. 2,970,664, 2–7–61, Cl. 180—41.

Horne, Campbell C., to The International Nickel Co., Inc. Hollow turbine or compressor blades. 2,970,368, 2–7–61, Cl. 29—156.8.

Horner, Herbert F.: *See*—
Kroll, Harley E., and Horner. 2,970,422.

Horste, Joseph H. Pin-bushing structure. 2,970,866, 2–7–61, Cl. 305—11.

Hort, Eugene V., to General Aniline & Film Corp. Stabilization of aromatic carbocyclic amines. 2,971,029, 2–7–61, Cl. 260—575.

Hotten, Bruce W., to California Research Corp. Diamides of terephthalic acid. 2,971,027, 2–7–61, Cl. 260—558.

Houston Oil Field Material Co., Inc.: *See*—
Justice, George E. 2,970,859.

Houtcooper, Neil. Twin auger tunneling machine. 2,970,661, 2–7–61, Cl. 175—108.

Howald, Werner E., to Curtiss-Wright Corp. Circular fuel spray bars. 2,970,438, 2–7–61, Cl. 60—39.74.

Howe, Richard C., to The Magnavox Co. Energy converting device. 2,970,545, 2–7–61, Cl. 102—70.2.

Horie, Howard M., to Goodrich-Gulf Chemical, Inc. Polymerization of ethylene. 2,970,989, 2–7–61, Cl. 260—94.9.

Hsu, Chih C., and D. Brown, to The Bendix Corp. A.V.C. system for low plate voltage operation. 2,971,163, 2–7–61, Cl. 330—133.

Hudson, Robert L., to The Dow Chemical Co. Diacetyl benzophenone and process of preparation. 2,971,030, 2–7–61, Cl. 260—591.

Hughes, Philip G., to General Electric Co. Air flow regulating system for clothes dryers. 2,970,383, 2–7–61, Cl. 34—45.

Hughes, Roland L.: *See*—
Chappelow, Cecil C., Jr., and Hughes. 2,970,894.

Huhn, Robert A.: *See*—
Honeycutt, Frank, Huhn, Myers, and Wilson. 2,970,874.

Hull, Roy W., to Thompson Ramo Wooldridge Inc. Engine. 2,970,582, 2–7–61, Cl. 123—89.

Hunter, Herbert T., to DCA Food Industries Inc. Coating apparatus for comestibles. 2,970,563, 2–7–61, Cl. 118—10.

Hurst, Stanley L., and J. J. Bing, to Westinghouse Brake and Signal Co. Ltd. Registry circuits for remote control systems. 2,971,100, 2–7–61, Cl. 307—88.5.

Hurst, Stanley L., E. I. White, and W. E. New, to Westinghouse Brake and Signal Co. Ltd. Electronic counting chains. 2,971,101, 2–7–61, Cl. 307—88.5.
Hurvitz, Hyman. Double reflex spectrum analyzer. 2,971,155, 2–7–61, Cl. 324—77.
Hydrocarbon Research, Inc.: *See*—
Ehrlich, Stanley W., and Sze. 2,970,451.
I-T-E Circuit Breaker Co.: *See*—
Berchtold, Max. 2,970,745.
Diebold, Edward J. 2,971,130.
Diebold, Edward J. 2,971,146.
Diebold, Edward J. 2,971,148.
Iannuzzi, William P.: *See*—
Kelly, Gordon E., and Iannuzzi. 2,971,050.
Illinois Central Railroad Co.: *See*—
Baker, Claude B. 2,970,552.
Impact Rotor Tool Inc.: *See*—
Schrum, Wilbur T., Sr. 2,970,483.
Imus, Robert E., and E. E. Crauder. Termite poison applicator. 2,970,348, 2–7–61, Cl. 21—73.
Independent Lock Co.: *See*—
Falk, Morris, Jr., and B. S. 2,970,465.
Indiana Commercial Filters Corp.: *See*—
Mummert, John R. 2,970,696.
Industrial Brush Co.: *See*—
Jones, Lloyd E. 2,970,333.
Industrial Clutch Corp.: *See*—
Eason, Clarence M. 2,970,489.
International Business Machines Corp.: *See*—
Cunningham, James M. 2,970,878.
Daly, George F., and Weidenhammer. 2,970,751.
Deerhake, William J., Havens, and Schreiner. 2,970,764.
Eichorn, Robert N., and Hendrich. 2,970,785.
Harper, Leonard R. 2,971,157.
Lisinski, Joseph E. 2,970,753.
Pecchenino, Paul L. 2,970,571.
Pratt, Francis L. 2,971,096.
Vogl, Norbert G., Jr. 2,971,181.
International Computers and Tabulators Ltd.: *See*—
Bird, Raymond. 2,970,765.
International Harvester Co.: *See*—
Alexander, Adolph P., and Spengler. 2,970,902.
International Harvester Co.: *See*—
Halgren, John A., Pinkel, and Filinovitz. 2,970,352.
Hershman, Gordon L. 2,970,653.
Kamarovsky, Serge. 2,970,374.
Rugg, E. Melvin. 2,970,663.
Toland, Wayne G. 2,970,657.
International Minerals & Chemical Corp.: *See*—
Uhland, Homer E. 2,970,688.
International Nickel Co., Inc., The: *See*—
Horne, Campbell C. 2,970,368.
International Research and Development Corp.: *See*—
Crawford, Arthur R., Ongaro, Rushin, and Ellis. 2,970,478.
Ongaro, Theodore. 2,970,487.
International Standard Electric Corp.: *See*—
Gröttrup, Helmut, and Schiebeler. 2,971,055.
Heaton-Armstrong, Louis J. 2,971,059.
Jackson, Thomas M., and Sell. 2,971,109.
McWhirter, Eric M. S. 2,970,757.
International Telephone and Telegraph Corp.: *See*—
Busignies, Henri G. 2,971,190.
Clifford, Vernon F., Cottler, and Deschamps. 2,971,192.
Judy, Robert V. 2,971,061.
Kaspar, Josef, and Bielski. 2,970,747.
Isbell, Donald K., to General Motors Corp. Combination tool and fitting for bleeding a brake and adjusting a wheel bearing. 2,970,673, 2–7–61, Cl. 188—18.
Ishino, Seizo, and M. Osaka, to Fuji Kazaku Kogyo Kabushiki Kaisha. Process for the manufacture of magnesium aluminosilicate for medical uses. 2,970,889, 2–7–61, Cl. 23—110.
Jacke, Raymond E., and C. F. Manning, to Reynolds Metals Co. Food container for freezing and heating. 2,970,735, 2–7–61, Cl. 229—8.5.
Jackson, Thomas M., and E. A. F. Sell, to International Standard Electric Corp. Cold cathode tubes. 2,971,109, 2–7–61, Cl. 313—188.
Jacobs, Stephen: *See*—
Rexford, Donald L., Hoffman, and Jacobs. 2,970,806.
Jaeschke, Ralph L., to Eaton Mfg. Co. Eddy-current machine. 2,971,105, 2–7–61, Cl. 310—105.
James, George M., to E. I. du Pont de Nemours and Co. Method of purifying dilute sodium sulfate solution. 2,970,890, 2–7–61, Cl. 23—121.
James, Jimmy D., to Esso Research and Engineering Co. Recovery of isoprene by fractionation and extractive distillation. 2,971,036, 2–7–61, Cl. 260—681.5.
Jantzen Inc.: *See*—
Michel, Jack M. 2,970,597.
Jeantil, Emile M. M. P. Grain cleaning device for threshing mechanisms. 2,970,599, 2–7–61, Cl. 130—27.
Jenkins, Robert W.: *See*—
Katz, Irving, Wilson, and Jenkins. 2,970,971.
Jennings, Harry C., Jr., to Everest & Jennings, Inc. Steriliser door. 2,970,718, 2–7–61, Cl. 220—55.3.
Jensen, Melvin E. Attachment for spreader. 2,970,710, 2–7–61, Cl. 214—519.
Jersey Production Research Co.: *See*—
Ball, John D. 2,971,091.
Castille, William A. 2,970,447.
Kenneday, John W. 2,970,470.
Knapp, Richard P., Sims, and Focht. 2,970,646.
McCammon, George A. 2,970,716.
Rickard, James A. 2,971,092.
Roberts, Alan P. 2,970,651.
Smith, Jack C. 2,970,666.

Jin, Korda K. D., to The General Industries Co. Electric motors. 2,971,107, 2–7–61, Cl. 310—239.
Johnson, Charles L. Pulse forming network and switching means therefor. 2,971,103, 2–7–61, Cl. 307—108.
Johnson, Harry V., to Union Carbide Corp. Electrode joint. 2,970,854, 2–7–61, Cl. 287—127.
Johnson, Herbert C., to United States of America, Air Force. Inflatable de-icing boot. 2,970,794, 2–7–61, Cl. 244—134.
Johnson, Jerome E., to Tension Envelope Corp. Holder for packaging phonograph records. 2,970,687, 2–7–61, Cl. 206—62.
Johnson, Ralph E., to The Singer Mfg. Co. Stitch length adjusting means for sewing machines. 2,970,556, 2–7–61, Cl. 112—210.
Johnson, Roy J. Variable flow livestock feeder. 2,970,568, 2–7–61, Cl. 119—52.
Johnson, Roy V., to Midwest Mfg. Corp. Shelf mounting. 2,970,873, 2–7–61, Cl. 312—214.
Johnson, S. C., & Son, Inc.: *See*—
Bader, Alfred R. 2,971,025.
Johnson, Victor E.: *See*—
Wardwell, Frederick S., and Johnson. 2,970,587.
Johnson, Walter T., and F. R. Barnet, to United States of America, Navy. Apparatus for making wound plastics structure. 2,970,343, 2–7–61, Cl. 18—45.
Johnston, John R., to General Motors Corp. Clothes washing machine having a dispensing device. 2,970,463, 2–7–61, Cl. 68—17.
Johnston, William E., Jr., to The Borden Co. Water heater inlet tube. 2,970,610, 2–7–61, Cl. 137—592.
Jolly, Samuel E., to Sun Oil Co. Lubricant composition containing naphthenic acid esters of polymeric polyhydric alcohols. 2,970,960, 2–7–61, Cl. 252—33.4.
Jones, Cleveland. Hitch. 2,970,851, 2–7–61, Cl. 280—478.
Jones, Howard A., J. A. Garman, and B. C. Dickinson, to Food Machinery and Chemical Corp. Synergistic insecticidal compositions. 2,970,940, 2–7–61, Cl. 167—22.
Jones & Laughlin Steel Corp.: *See*—
Rice, Frank. 2,970,851.
Jones, Lloyd E., to Industrial Brush Co. Quick-change brush means. 2,970,333, 2–7–61, Cl. 15—188.
Jones, Loyd W., to Pan American Petroleum Corp. Composition and method for inhibiting scale. 2,970,959, 2–7–61, Cl. 252—8.55.
Jones, William R., and G. Bergson; said Jones assor. to Manufacturers Engineering and Equipment Corp. Gas flow rate indicating and controlling system. 2,970,472, 2–7–61, Cl. 73—199.
Joseph, Maurice J., W. L. Cox, and C. F. Klein, to The Lord Baltimore Press, Inc. Carton. 2,970,748, 2–7–61, Cl. 229—51.
Joslyn Mfg. & Supply Co.: *See*—
Smalley, Burton M. 2,970,800.
Joy Mfg. Co.: *See*—
Hoover, Merle L., and Woolf. 2,970,664.
Judy, Robert V., to International Telephone and Telegraph Corp. Telephone answering service system. 2,971,061, 2–7–61, Cl. 179—27.
Justice, George E., to Houston Oil Field Material Co., Inc. Grapple-type overshot. 2,970,859, 2–7–61, Cl. 294—102.
Justus, Edgar J., and G. W. Karr, to Beloit Iron Works. Automatic roll winder. 2,970,786, 2–7–61, Cl. 242—64.
Kaiser Industries Corp.: *See*—
Aiken, William R. 2,971,125.
Kajihara, Hitoshi H., to United States of America, Army. Wide band radio frequency transformers. 2,971,173, 2–7–61, Cl. 336—170.
Kamarovsky, Serge, to International Harvester Co. Method of manufacturing peg type harrow tooth assemblies. 2,970,374, 2–7–61, Cl. 29—471.1.
Kamborian, Jacob S. Automatic control for upholstery and lasting machines. 2,970,330, 2–7–61, Cl. 12—8.3.
Kampe, Dwight F., to Ford Motor Co. Harrow. 2,970,656, 2–7–61, Cl. 172—413.
Kaplan, Earl, and I. Von, to American Cyanamid Co. Soluble vat dye printing compositions with heterocyclic solubilising agents. 2,970,880, 2–7–61, Cl. 8—70.
Kappel, Henry C., and L. J. Martin, to The Richardson Co. Bottled beverage carrying case. 2,970,715, 2–7–61, Cl. 220—21.
Kardos, Joseph F.: *See*—
Rovell, Alfred, and Kardos. 2,970,321.
Karp, Murry P., to Lifeguard Swim Pool Corp. Combination swimming pool cover and floor. 2,970,320, 2–7–61, Cl. 4—172.
Karr, Gerald W.: *See*—
Justus, Edgar J., and Karr. 2,970,786.
Kaspar, Josef, and A. J. Bielski, to International Telephone and Telegraph Corp. Compressor system. 2,970,747, 2–7–61, Cl. 230—162.
Katz, Irving, J. C. Wilson, and R. W. Jenkins, to North American Aviation, Inc. Composition of a monoepoxide modified polyamide and an epoxy resin. 2,970,971, 2–7–61, Cl. 260—18.
Kawahara, Benjamin A., and T. H. Shinkawa. Hand operated metal cutting device. 2,970,375, 2–7–61, Cl. 30—28.
Keefe, Robert P. Self operated emergency life saving device. 2,970,326. 2–7–61, Cl. 9—316.
Keeve, Frank. Method and absorbent for removing hydrocarbon from automobile exhaust fumes. 2,970,886, 2–7–61, Cl. 23—2.
Kellberg, Theodore R. Switch and outlet box clamp. 2,970,713, 2–7–61, Cl. 220—3.6.
Kelly, Gordon E., and W. P. Iannuzzi, to Radio Corp. of America. Frequency control and color killer for television. 2,971,050, 2–7–61, Cl. 178—5.4.
Kemp, Eugene H.: *See*—
Beckman, John H., and Kemp. 2,970,453.
Kendall Co., The: *See*—
Kumin, Victor M., and Hollister. 2,970,982.

Kendig, Robert M., to Westinghouse Air Brake Co. Temperature compensated gas flow meter. 2,970,473, 2–7–61, Cl. 73—209.

Kendig, Robert M., to Westinghouse Air Brake Co. Compressor efficiency determining apparatus. 2,970,474, 2–7–61, Cl. 73—112.

Kenneday, John W., to Jersey Production Research Co. Method and apparatus for use in wells. 2,970,470, 2–7–61, Cl. 73—151.

Kennedy, John L.: *See*—
Wilcox, Jay V., Stone, and Kennedy. 2,971,159.

Kennedy, Ralph C., to Radio Corp. of America. Composite picture signal transmission systems. 2,971,047, 2–7–61, Cl. 178—5.4.

Keryluk, Horace T., and T. Kyryluk, to Minnesota Mining and Mfg. Co. Fluid mixing and applying apparatus and method. 2,970,773, 2–7–61, Cl. 239—142.

Kessler, Jack J., to Uarco, Inc. Method of deleaving and bursting continuous form stationery. 2,970,784, 2–7–61, Cl. 242—56.2.

Keyes, Edward J.: *See*—
Hansen, Lester A., Baker, and Keyes. 2,970,929.

Kiessling, Rudolf H., to Square D Co. Actuator. 2,970,496, 2–7–61, Cl. 74—503.

Kiff, Ben W.: *See*—
Guest, Howard R., Adams, and Kiff. 2,970,965.

Kimberlin, Charles N., Jr.: *See*—
Stringer, Richard F., Kimberlin, and McQuaid. 2,971,035.

Kimmell, Richard T.: *See*—
Strobel, Charles K., and Kimmell. 2,971,074.

King, Desmond G. H.: *See*—
Busby, Leslie R. and King. 2,970,804.

King, Robert E.: *See*—
Charaicki, Walter F., and King. 2,970,944.

Kingsley, Lewis A. Power operated cutoff shear mechanism adjustable as a unit along a frame. 2,970,504, 2–7–61, Cl. 83—467.

Kingston, Paul E.: *See*—
De Witt, Clarence M., Jr., and Kingston. 2,970,705.

Kirshenbaum, Isidor, and J. A. Hinlicky, to Esso Research and Engineering Co. Preparation of improved alumina supported catalyst. 2,970,892, 2–7–61, Cl. 23—143.

Kish Industries, Inc.: *See*—
Kish, Steven P., Donnell, and Graves. 2,970,818.

Kish, Steven P., J. W. Donnell, and D. M. Graves, to Kish Industries, Inc. Mixing apparatus. 2,970,816, 2–7–61, Cl. 259—8.

Klager, Karl: *See*—
Vanneman, Clinton R., and Klager. 2,971,026.

Kleebauer, Alfred A. Tub-type dishwashing machine. 2,970,819, 2–7–61, Cl. 259—95.

Klein, Clarence F.: *See*—
Joseph, Maurice J., Cox, and Klein. 2,970,743.

Klein, Clarence F., and G. S. Sexton, II, to The Lord Baltimore Press, Inc. Sealed carton and method of forming. 2,970,525, 2–7–61, Cl. 93—36.

Klein, Edmund P.: *See*—
Leuthesser, Edward F., and Klein. 2,970,699.

Klemes, Martin S.: *See*—
Zeigler, Edgar L., and Klemes. 2,970,480.

Klessmann, Erich: *See*—
Kohler, Walter. 2,970,619.

Kline, Robert H.: *See*—
Mallory, Edwin E., Heston, Kline, and Christy. 2,970,341.

Klockgether, Helfried: *See*—
Ossenbrunner, Armin, Schnell, Klockgether, Geiger, and Freier. 2,970,908.

Klockner-Humboldt-Deutz Aktiengesellschaft: *See*—
Wünsche, Adolf, and Lerch. 2,970,584.

Kloosterziel, Hendrik, to Shell Oil Co. Chlorination of saturated hydrocarbons. 2,970,952, 2–7–61, Cl. 204—163.

Kluttz, Walter A.: *See*—
Foard, John H. 2,970,425.

Klyce, David J., to Nordberg Mfg. Co. Drive and coupling for screens. 2,970,694, 2–7–61, Cl. 209—367.

Knapheide, M. D.: *See*—
Gehrt, Albert J., and Knapheide. 2,970,912.

Knapp, Richard P., J. R. Sims, and F. T. Focht, to Jersey Production Research Co. Method for installing controls to and operating an underwater well. 2,970,646, 2–7–61, Cl. 166—45.

Knoblock, John E., to Ford Motor Co. Valve gear. 2,970,583 2–7–61, Cl. 123—90.

Knutson, Richard E. Arithmetic instructing aid circuit. 2,970,386, 2–7–61, Cl. 35—9.

Kohl, Everard F. Process of preparing panels. 2,970,373, 2–7–61, Cl. 29—423.

Kohler, Walter, to E. Klessmann. Machine for applying strips of veneer or molding to the edges of an elongated work-piece. 2,970,619, 2–7–61, Cl. 144—279.

Kohnstamm, V. & E., Inc.: *See*—
Perry, Paul. 2,970,919.

Kohtaki, Teizo. Oil pressure motor. 2,970,578, 2–7–61, Cl. 121—121.

Kolling, Helmut: *See*—
Geiser, Nikolaus, and Kolling. 2,970,992.

Kopaska, Arnold F. Harrow transport. 2,970,658, 2–7–61, Cl. 172—456.

Koppers Co., Inc.: *See*—
D'Alelio, Gaetano F. 2,970,984.
Denig, Fred. 2,970,963
Helm, Edward J., and Schulte. 2,970,898.
Rice, Owen R. 2,970,901.

Kottmann, Guido. Portable clock. 2,970,426, 2–7–61, Cl. 58—2.

Koustas, Peter, to Radio Corp. of America. Modulation system. 2,971,168, 2–7–61, Cl. 332—5.

Koutnik, Roderick J.: *See*—
Piet, Meyer, and Koutnik. 2,971,090.

Kramer, Nellius G.: *See*—
Meder, Adrianus J. W., and Kramer. 2,970,979.

Krause, Horst-Jurgen: *See*—
Dohr, Manfred, Krause, and Wulff. 2,971,015.

Krauss, Harold, H. Moses, and E. Liebman. Pile fabric water-repelling and finishing process. 2,970,368, 2–7–61, Cl. 26—2.

Krewson, Ralph W. Grass catcher. 2,970,421, 2–7–61, Cl. 56—202.

Kriegel, Bernard: *See*—
Ernest, Fred. 2,970,822.

Krieger, Irving W.: *See*—
Wilcox, Dale F., Few, and Krieger. 2,971,072.

Kritzer, Richard W. Drum type heat exchanger. 2,970,812, 2–7–61, Cl. 257—241.

Kroll, Harley E., and H. F. Horner, to Toro Mfg. Corp. Collection bag attachment for lawn mowers. 2,970,422, 2–7–61, Cl. 56—202.

Kroon, Reinout P., to Westinghouse Electric Corp. Blade vibration damping arrangement for elastic fluid machines. 2,970,809, 2–7–61, Cl. 253—77.

Kruckenberg, Winfried, to Farbenfabriken Bayer Aktiengesellschaft. Water-insoluble phenylazoindole dyes. 2,970,994, 2–7–61, Cl. 260—165.

Krueger, Theodore H., and E. E. Sharpe, to Better Packages, Inc. Strip serving and applying device. 2,970,416, 2–7–61, Cl. 53—198.

Krumrei, William C., and J. Blinka, to The Procter & Gamble Co. Opaque liquid detergent composition. 2,970,964, 2–7–61, Cl. 252—161.

Kuc, Simon F. Vehicle wheel chain. 2,970,682, 2–7–61, Cl. 152—241.

Kumin, Victor M., and J. H. Hollister, to The Kendall Co. Process for continuous purification of bulk fiber. 2,970,882, 2–7–61, Cl. 8—108.

Kuo, Chi S. Nail clippers. 2,970,376, 2–7–61, Cl. 30—28.

Kurz, Richard: *See*—
Schwab, Max, Palloch, and Kurz. 2,970,557.

Kustom-Fit Mfg. Co.: *See*—
Belk, Earl H. 2,970,860.

Kyryluk, Tadie: *See*—
Keryluk, Horace T., and Kyryluk. 2,970,773.

L.A.B. Corp.: *See*—
Hill, Gilbert F. 2,970,570.

Lacy, Glenn B., and D. B. Holt. Communion cup washing apparatus. 2,970,700, 2–7–61, Cl. 211—74.

Lacy, Stanford E. Non-removable dispensing closure. 2,970,724, 2–7–61, Cl. 222—484.

Ladd, Elbert C., and M. P. Harvey, to United States Rubber Co. Organo-phosphorus compounds. 2,971,019, 2–7–61, Cl. 260—461.

La Loudure Electrique Autogene, S.A.: *See*—
Siegfried, Walter. 2,970,830.

Lampert, Harold. Gate valve. 2,970,801, 2–7–61, Cl. 251—145.

Land, Elvin S. Hoop roller. 2,970,403, 2–7–61, Cl. 46—220.

Landbouwwerktuigen-en Machinefabriek H. Vissers N.V.: *See*—
Vissers, Herbert. 2,970,626.

Lanman, Guy R. Shifting fulcrum teeter board. 2,970,837, 2–7–61, Cl. 272—54.

Lanning, Walter C., to Sperry Rand Corp. Absolute value reversible counter. 2,970,759, 2–7–61, Cl. 235—92.

Lantieri, Jacques H.: *See*—
Chappey, Marc A., and Lantieri. 2,971,140.

Larkins, John S., Jr., to Elox Corp. of Michigan. Process of electrical discharge machining with chromium electrode. 2,971,078, 2–7–61, Cl. 219—69.

Larsen, Erling, and H. A. Gants. Outing accessories. 2,970,630, 2–7–61, Cl. 150—28.

Larson, Andy M.: *See*—
Larson, Ellsworth L., L. L., and A. M. 2,970,697.

Larson, Ellsworth L., L. L., and A. M. Retractable swirl plate and vermin control guard for drain tile intakes. 2,970,697, 2–7–61, Cl. 210—163.

Larson, Lawrence L.: *See*—
Larson, Ellsworth L., L. L., and A. M. 2,970,697.

Lassiter, Harmon D. Flush tank valve assembly. 2,970,319, 2–7–61, Cl. 4—57.

Law, Harold B., to Radio Corp. of America. Color-kinescopes, etc. 2,971,117, 2–7–61, Cl. 315—13.

Lawrance, Richard B., and R. A. Pendleton, to Minneapolis-Honeywell Regulator Co. Tape stabilising apparatus. 2,970,732, 2–7–61, Cl. 226—50.

Lawrence, Ernest O., to Chromatic Television Laboratories, Inc. Self-decoding color television apparatus. 2,971,048, 2–7–61, Cl. 178—5.4.

Lazott, Wesley E., to Needham Mfg. Co. Inc. Reset switch mechanism. 2,971,133, 2–7–61, Cl. 317—123.

Le Brasse, Gordon J.: *See*—
Barern, Lawrence A., Fiedrich, and Le Brasse. 2,970,933.

Leclercq, Rene, and J. Colle, to Union Chimique Belge, S.A. Aqueous emulsion containing organosilicon resin and a titanium derivative, process for making same, and process of using same. 2,970,976, 2–7–61, Cl. 260—29.2.

Lefever, Robert A.: *See*—
Clark, Grady W., and Lefever. 2,970,895.

Leland-Gifford Co.: *See*—
Hirvonen, Eric J. 2,970,576.

Lenkurt Electric Co., Inc.: *See*—
Salihi, Jalal T. 2,971,062.

Leonard Valve Co.: *See*—
Bowman, Lawrence E., and Coppage. 2,970,770.

Lerch, Josef: *See*—
Wünsche, Adolf, and Lerch. 2,970,584.

Lerner, Julius, to Sun Oil Co. Apparatus for surveying a tank bottom. 2,971,154, 2–7–61, Cl. 324—61.

Leroux, René. Vessels for the transport of liquefied gases. 2,970,559, 2–7–61, Cl. 114—74.

Leslie, Edward S., to Radio Corp. of America. Automatic adjustable film support for magnetic recorder. 2,971,064, 2–7–61, Cl. 179—100.2.
Lester, Ronald: *See*—
Northcott, Roy P., and Lester. 2,970,957.
Leuthesser, Edward F., and E. P. Klein, said Leuthesser assor. to said Klein. Filter. 2,970,699, 2–7–61, Cl. 210—457.
Levenson, Jordan S., 1/10 part to Gadget-Of-The-Month Club Inc. Pressure seal for pressurized liquid container. 2,970,722, 2–7–61, Cl. 222—62.
Lever Brothers Co.: *See*—
Szabo, Denis. 2,971,016.
Levin, Nathan. Overplaid argyle hosiery. 2,970,462, 2–7–61, Cl. 66—179.
Levkoff, David, ⅓ to E. S. Levkoff, ⅓ to H. S. Levkoff, and ⅓ to E. L. Sennet. Cartons. 2,970,739, 2–7–61, Cl. 229—31.
Levkoff, Evelyn S.: *See*—
Levkoff, David. 2,970,739.
Levkoff, Henry S.: *See*—
Levkoff, David. 2,970,739.
Li, Yao T. Lawn sprinkler. 2,970,774, 2–7–61, Cl. 239—240.
Liao, Hsiang P., and P. H. Towle, to Standard Oil Co. Process of preparing trimellitic anhydride. 2,971,011, 2–7–61 Cl. 260—346.3.
Libbey-Owens-Ford Glass Co.: *See*—
Miklosek, Martin. 2,970,413.
Libby, Carl F., to J. D. Riordan, and G. C. Libby, trustees of the Libby Family Trusts. Tension device for feeding elastic webs of stands. 2,970,787, 2–7–61, Cl. 242—75.2.
Libby Family Trusts: *See*—
Libby, Carl F. 2,970,787.
Libby, Gertrude C.: *See*—
Libby, Carl F. 2,970,787.
Lieberman, Samuel. Turf edge trimmer and hedge clipper 2,970,419, 2–7–61, Cl. 56—25.4.
Liebman, Edward: *See*—
Krauss, Harold, Moses, and Liebman. 2,970,363.
Lifeguard Swim Pool Corp.: *See*—
Karp, Murry P. 2,970,320.
Lilly, Eli, and Co.: *See*—
Bromer, William W., and McGuire. 2,970,943.
Limburg, Pieter C.: *See*—
Buurman, Aart, Vroom, and Limburg. 2,970,883.
Linderoth, Erik T. Regenerative heat exchanger for gas turbines. 2,970,815, 2–7–61, Cl. 257—269.
Linhart, Emil J., to Curtiss-Wright Corp. Multi-contact splined electrical connector. 2,971,177, 2–7–61, Cl. 339—5.
Linn, Jerome S., to Genisco, Inc. Multi-phase oscillator with amplitude stabilizing means. 2,971,165, 2–7–61, Cl. 331—45.
Lisinski, Joseph E., to International Business Machines Corp. Tape punch. 2,970,753, 2–7–61, Cl. 234—115.
Lo, Elizabeth S., to Minnesota Mining and Mfg. Co. New fluorine containing polymers and preparation thereof. 2,970,988, 2–7–61, Cl. 260—87.7.
Loewenstein, Morrison, to Crest Foods Co., Inc. Protein-emulsifier powder and process of producing the same. 2,970,913, 2–7–61, Cl. 99—14.
Loewenthal, Henry J.: *See*—
Harle, Harold P., Balogh, and Loewenthal. 2,970,453.
Loffelbein, Hans-Joachim, to Telefunken G.m.b.H. Dial structure. 2,970,562, 2–7–61, Cl. 116—124.1.
Lok-Tite Industries, Inc.: *See*—
Roseman, Milton. 2,970,397.
Lombardi, Leo. Rockerarm assembly for internal combustion motors. 2,970,585, 2–7–61, Cl. 123—90.
Long, Lawrence H.: *See*—
Coleman, Richard A., and Long. 2,970,620.
Lord Baltimore Press, Inc., The: *See*—
Joseph, Maurice J., Cox, and Klein. 2,970,743.
Klein, Clarence F., and Sexton. 2,970,525.
Lorenz, Alfred E., to Comptometer Corp. Magnetic transducer head. 2,970,841, 2–7–61, Cl. 274—20.
Lormitzo, Frank C., to Pantex Mfg. Corp. Valve. 2,970,612, 2–7–61, Cl. 137—620.
Lorz, Emil, to Hoffman-Taff, Inc. Choline-fat composition. 2,970,911, 2–7–61, Cl. 99—2.
Lowen, Herbert: *See*—
Back, Frank G., and Lowen. 2,970,516.
Lowery, Charley. Emulsion breaker injector. 2,970,967, 2–7–61, Cl. 252—360.
Lubrizol Corp., The: *See*—
Mastin, Thomas W. 2,971,014.
Lundell, Arnold W., to Globe Slicing Machine Co., Inc. Adjusting guards of slicing machines. 2,970,622, 2–7–61, Cl. 146—102.
Lundell, Arnold W., to Globe Slicing Machine Co., Inc. Supports for chutes on a slicing machine. 2,970,623, 2–7–61, Cl. 146—102.
Lundell, Arnold W., to Globe Slicing Machine Co., Inc. Guards for rotary knives of slicing machines. 2,970,624, 2–7–61, Cl. 146—102.
Lundell, Arnold W., to Globe Slicing Machine Co., Inc. End weight supports and controls for slicing machines. 2,970,625, 2–7–61, Cl. 146—102.
l'Union Financiere D'Extreme-Orient, Djibouti (Cote Francaise des Somalis), and Societe Auxiliaire de L'Institut Francais du Caoutchouc: *See*—
Beaufils, Edmond R., and Cournut. 2,970,404.
Lynch, Francis J. Automatic transmissions. 2,970,494, 2–7–61, Cl. 74—336.5.
Lyon, William W., to Ace Electronics Associates, Inc. Ganged potentiometers. 2,971,174, 2–7–61, Cl. 338—130.
MABEG Maschinenbau G.m.b.H.: *See*—
Schwebel, Adolf. 2,970,835.
Maciunas, George, to Olin Mathieson Chemical Corp. Framework construction. 2,970,676, 2–7–61, Cl. 189—1.
Mack, Gerry P., to Metal & Thermit Corp. Vinyl chloride resin stabilized with a chloro substituted phosphine. 2,970,980, 2–7–61, Cl. 260—45.7.
Mack, Gerry P., to Metal & Thermit Corp. Vinyl chloride resins comprising a stabilizing amount of a phosphine. 2,970,981, 2–7–61, Cl. 260—45.75.
Mack, Milton K.: *See*—
Cornelison, Boyd, and Mack. 2,970,896.
Maclay, William N., to The B. F. Goodrich Co. Activator system for synthetic rubber polymerization. 2,970,975, 2–7–61, Cl. 260—27.
MacLeod, David E., and F. D. Stevens, to Carrier Corp. Self-contained air conditioning unit. 2,970,457, 2–7–61, Cl. 62—279.
Macovski, Albert, to Radio Corp. of America. Synchronous color killer. 2,971,046, 2–7–61, Cl. 178—5.4.
Maeda, Chiyomatsu. Steam trap. 2,970,603, 2–7–61, Cl. 137—194.
Magnavox Co., The: *See*—
Howe, Richard C. 2,970,545.
Magnesium Elektron Ltd.: *See*—
Unsworth, William. 2,970,904.
Mahler, Peter A., and K. R. Boyer, to Singer-Fidelity, Inc. Toothed yarn controller. 2,970,460, 2–7–61, Cl. 66—140.
Maitlen, Eldon G., to Food Machinery and Chemical Corp. Control of nematodes employing N-nitroso-N,N,dimethylamine. 2,970,939, 2–7–61, Cl. 167—22.
Makulec, Alfred: *See*—
Phillips, Donald R., Dobras, Makulec, and Fisher. 2,971,083.
Mallory, Edwin E., E. E. Heston, R. H. Kline, and R. L. Christy, to National Rubber Machinery Co. Extruder with adjustable choke. 2,970,341, 2–7–61, Cl. 18—12.
Malm, Karl O. B., to Aktiebolaget Bofors. Fuse for anti-tank mine. 2,970,544, 2–7–61, Cl. 102—70.
Man, Maschinenfabrik Augsburg-Nurnberg AG: *See*—
Volk, Heinrich, and Dechant. 2,970,549.
Manning, Clarence F.: *See*—
Jacke, Raymond E., and Manning. 2,970,735.
Manquen, John W., and H. Brown, to The Udylite Research Corp. Copper compositions and method for making the same. 2,970,951, 2–7–61, Cl. 204—52.
Manufacturers Engineering and Equipment Corp.: *See*—
Jones, William R., and Bergson. 2,970,472.
Marblehead Lime Co.: *See*—
Niems, Lee H. 2,970,828.
Marr, George M., and G. A. Slatic. Tone generator. 2,971,187, 2–7–61, Cl. 340—384.
Marron, Thomas U., to A. B. Dick Co. Planographic printing plates and methods for manufacturing same. 2,970,534, 2–7–61, Cl. 101—149.4.
Marsh, Walter H., to Rockwell Mfg. Co. Hydraulic power plant. 2,970,441, 2–7–61, Cl. 60—53.
Marshall, Frank C.: *See*—
Christie, Soren L., Du Puy, and Marshall. 2,971,147.
Martin, Eddie: *See*—
Moline, Harry A., and Martin. 2,970,225.
Martin, John D.: *See*—
Russler, Leveret C., Wright, Martin, and Frisch. 2,970,665.
Martin, Leo J.: *See*—
Kappel, Henry C., and Martin. 2,970,715.
Martin, Samuel W., and W. J. Hanson, to Pitney-Bowes, Inc. Letter feeding device. 2,970,834, 2–7–61, Cl. 271—26.
Maslow, Louis. Structural unit for shelving. 2,970,702, 2–7–61, Cl. 211—148.
Mason, Tom F.: *See*—
Baker, Mayo J., and Mason. 2,970,555.
Massey-Ferguson Inc.: *See*—
Bunting, Ernest V., and Mathers. 2,970,659.
Todd, Everett W. 2,970,654.
Massopust, Carl F., to General American Transportation Corp. Hatch plugs. 2,970,347, 2–7–61, Cl. 20—35.
Masten, Milton E. Golf stick carrying case. 2,970,629, 2–7–61, Cl. 150—1.5.
Mastin, Thomas W., to The Lubrizol Corp. Oil soluble metal containing compositions and process for making same. 2,971,014, 2–7–61, Cl. 260—398.
Mastis, Victor: *See*—
Dobrikin, Harold L., and Mastis. 2,970,572.
Mater, Milton H. Sawmill carriage preset system. 2,970,617, 2–7–61, Cl. 143—120.
Mathers, Robert V.: *See*—
Bunting, Ernest V., and Mathers. 2,970,659.
Mathes, Wilhelm, and W. Sauermilch, to Dr. F. Raschig Chemische Fabrik G.m.b.H. Process for the production of pyridyl-glycols. 2,971,000, 2–7–61, Cl. 260—288.
Mathews Conveyor Co.: *See*—
Fisk, Robert W. 2,970,682.
Mathias, Russell L.: *See*—
Cocoros, Anthony E., and Mathias. 2,970,482.
Matsuda, Ken: *See*—
Scanley, Clyde S., Matsuda, and Coleman. 2,970,897.
Matthias, Bernd T., to Bell Telephone Laboratories, Inc. Magnetic material. 2,970,961, 2–7–61, Cl. 252—62.5.
May, Merrill R., to Hess, Goldsmith & Co. Desizing glass fabrics and desized product. 2,970,934, 2–7–61, Cl. 134—2.
Mayer, Louis, to Owens-Illinois Glass Co. Shipping and display carton. 2,970,685, 2–7–61, Cl. 206—44.
Mayhew, Raymond L., and E. P. Williams, to General Aniline & Film Corp. 1-(-alkyl or -hydroxyalkyl)-1-(2-propynyl)-2-alkylimidazolinium halides. 2,971,006, 2–7–61, Cl. 260—309.6.
McAdams, Hiramie T.: *See*—
Woodring, William B., and McAdams. 2,970,900.
McCammon, George A., to Jersey Production Research Co. Floating roof for oil storage reservoir. 2,970,716, 2–7–61, Cl. 220—26.
McCann, Gene, Jr. Auxiliary sun visor for motor vehicles. 2,970,864, 2–7–61, Cl. 296—97.

McCarty, William J., to General Electric Co. Defrost arrangement for air conditioning apparatus. 2,970,816, 2–7–61, Cl. 257—278.
McClure, Marshall R., Jr.: *See*—
Murphey, Robert L., McClure, Rueping, and Winstead. 2,970,695.
McCormick & Co., Inc.: *See*—
Bonotto, Michele. 2,970,914.
McCormick, Jerry R. D., N. H. Arnold, U. Hirsch, P. A. Miller, and N. O. Sjolander, to American Cyanamid Co. Process of producing an antibiotic of the tetracycline series. 2,970,947, 2–7–61, Cl. 195—80.
McCormick, John E.: *See*—
Gilbert, George R., McCormick, and Schriesheim. 2,971,037.
McCreary, Harold J., to Automatic Electric Laboratories, Inc. Key senders. 2,971,182, 2–7–61, Cl. 340—174.1.
McDermott, Henry J., to American Viscose Corp. Multi-jet couplings. 2,970,340, 2–7–61, Cl. 18—8.
McDonough, Vincent T.: *See*—
Pearson, Howard, McDonough, and Vassil. 2,971,184.
McGowen, Harold E., Jr.: *See*—
Dafin, Douglas E., and McGowen. 2,970,648.
McGraw-Edison Co.: *See*—
Nash, William H. 2,971,132.
McGuire, James M.: *See*—
Bromer, William W., and McGuire. 2,970,943.
McIlvaine, Robert L., to Herbert Simpson Corp. Method and apparatus for mixing agglomerative materials. 2,970,778, 2–7–61, Cl. 241—97.
McLarran, Archie R., to Dresser Industries, Inc. Kelly drive bushing. 2,970,458, 2–7–61, Cl. 64—23.7.
McMurry, Everett D. Well pumping apparatus of the free piston type. 2,970,547, 2–7–61, Cl. 103—52.
McOrlly, Joseph, to Edwin L. Wiegand Co. Electric heaters. 2,970,415, 2–7–61, Cl. 53—36.
McQuaid, Frances S.: *See*—
Stringer, Richard F., Kimberlin, and McQuaid. 2,971,085.
McWhirter, Eric M. S., to International Standard Electric Corp. Document carrier for mechanized processing. 2,970,757, 2–7–61, Cl. 235—61.12.
Meder, Adrianus J. W., and N. G. Kramer, to Shell Oil Co. Vinyl chloride compositions having improved impact strength. 2,970,979, 2–7–61, Cl. 260—45.5.
Meili, Ernst, to Cerberus G.m.b.H. Method of and arrangement for operating a glow relay. 2,971,136, 2–7–61, Cl. 317—142.
Meili & Worthington, Inc.: *See*—
Buckman, Wayne T. 2,970,776.
Meisel, Herbert R., L. Schork, A. Pikor, and A. Blicher, to Radio Corp. of America. Circuit microelement. 2,971,138, 2–7–61, Cl. 317—234.
Melnick, Daniel, to Corn Products Co. Whipped margarine and process for making the same. 2,970,917, 2–7–61, Cl. 99—122.
Merck & Co., Inc.: *See*—
Charnicki, Walter F., and King. 2,970,944.
Engelhardt, Edward L. 2,971,005.
Merrell, Wm. S., Co., The: *See*—
Palopoli, Frank P., Allen, Schumann, and Van Campen. 2,971,001.
Merrill, Albert H. Educational problem and answer device. 2,970,384, 2–7–61, Cl. 35—9.
Messerschmitt AG., The: *See*—
Endres, Johann. 2,970,483.
Andres, Johann. 2,970,807.
Metal & Thermit Corp.: *See*—
Mack, Gerry P. 2,970,980.
Mack, Gerry P. 2,970,981.
Metcalf, Howard F.: *See*—
Hart, Gene E., and Metcalf. 2,970,459.
Meyer, Charles F.: *See*—
Mierendorf, Robert C., and Meyer. 2,971,151.
Michel, Jack M., to Jantzen Inc. Body encircling garments. 2,970,597, 2–7–61, Cl. 128—462.
Mickelson, Cedric G., and C. D. Ashermann, to American Steel Foundries. Alloy steel having surface free from alligatoring. 2,970,903, 2–7–61, Cl. 75—123.
Mid-America Highway Express, Inc.: *See*—
Short, Jesse L. 2,970,861.
Midwest Mfg. Co.: *See*—
Squire, Herbert D. 2,970,857.
Midwest Mfg. Corp.: *See*—
Johnson, Roy V. 2,970,873.
Mid-West Metallic Products, Inc.: *See*—
Giesen, Lewis E. 2,970,714.
Miehle-Goss-Dexter, Inc.: *See*—
Wirth, Emil R. 2,970,540.
Mierendorf, Robert C., and C. F. Meyer, to Square D Co. Metal detectors. 2,971,151, 2–7–61, Cl. 324—41.
Miklosek, Martin, to Libbey-Owens-Ford Glass Co. Apparatus for surfacing glass sheets. 2,970,413, 2–7–61, Cl. 51—240.
Miles Laboratories, Inc.: *See*—
Free, Alfred H., and Schweiger. 2,970,945.
Miller, Charles L., and G. K. Weaver, to Sylvania Electric Products Inc. Wire break-off mechanism. 2,970,731, 2–7–61, Cl. 225—93.
Miller, Eugene, to Elgeet Optical Co., Inc. Exposure control unit for photographic cameras. 2,970,530, 2–7–61, Cl. 95—64.
Miller, Fred T. Wrench. 2,970,501, 2–7–61, Cl. 81—60.
Miller, Philip A.: *See*—
McCormick, Jerry R. D., Arnold, Hirsch, Miller, and Sjolander. 2,970,947.
Milster, Pervis E. Shoe heel construction. 2,970,390, 2–7–61, Cl. 36—2.5.
Mine Safety Appliances Co.: *See*—
Temple, Robert and E. E. 2,970,506.
Temple, Stanley A., E. E., and R. 2,970,514.
Waters, James L. 2,970,513.
Waters, James L., and Sinkinson. 2,970,512.
Mingo, Fred J.: *See*—
Doak, James C. 2,970,594.
Minneapolis-Honeywell Regulator Co.: *See*—
Carlson, William L., Jr. 2,971,126.
Carlson, William L., Jr., and Mobarry. 2,971,129.
Deerfield, Alan J. 2,971,056.
Ebert, Fred C. 2,971,135.
Lawrance, Richard B., and Pendleton. 2,970,732.
Nodolf, Keith M. 2,970,670.
Vogel, Clarence R. 2,971,144.
Minnesota Mining and Mfg. Co.: *See*—
Keryluk, Horace T., and Kyryluk. 2,970,773.
Lo, Elizabeth S. 2,970,966.
Wear, Robert L., Oiye, and Winthrop. 2,970,972.
Misch, Robert D.: *See*—
Greenberg, Sherman, Misch, and Ruther. 2,970,885.
Mishelevich, Benjamin, and S. H. Tsiang, to Westinghouse Air Brake Co. Control circuit arrangement for speed measuring apparatus. 2,971,084, 2–7–61, Cl. 246—182.
Mitchell, William L. Guide means for hand routers. 2,970,618, 2–7–61, Cl. 144—136.
Mixner, Edward F. Combined sight tube and magnetic compass. 2,970,510, 2–7–61, Cl. 88—2.8.
Mobarry, John W.: *See*—
Carlson, William L., Jr., and Mobarry. 2,971,129.
Mobay Chemical Co.: *See*—
Gurley, Jesse F., Jr. 2,970,817.
Moen, Erick. Tail stocks for milling machines. 2,970,524, 2–7–61, Cl. 90—23.
Mohr, George: *See*—
Erekson, Arthur B., Steinke, and Mohr. 2,970,922.
Moline, Harry A., and E. Martin, to Moline, Inc. Water ski harness. 2,970,825, 2–7–61, Cl. 9—310.
Moline, Inc.: *See*—
Moline, Harry A., and Martin. 2,970,825.
Monroe Calculating Machine Co.: *See*—
Gang, Herman. 2,970,754.
Gang, Herman. 2,970,755.
Monsanto Chemical Co.: *See*—
D'Amico, John J. 2,971,088.
Farrar, Martin W. 2,971,083.
Nickerson, Ralph F. 2,970,928.
Montague, Joseph F. Dilating device. 2,970,749, 2–7–61, Cl. 230—169.
Montrose, Robert C., to Square D Co. Transistorized circuit for positioning slave potentiometers. 2,971,142, 2–7–61, Cl. 318—29.
Moody, Herbert H., to Continental Oil Co. Direction indicator for seismic field setups. 2,970,376, 2–7–61, Cl. 346—17.
Moore Dry Kiln Co.: *See*—
Beckley, Arthur H. 2,970,704.
Moorman Mfg. Co.: *See*—
Gehrt, Albert J., and Knapheide. 2,970,912.
Morgan, Jack F., and D. W. Vollmer, to General Aniline & Film Corp. Metallized dianisidine dyes. 2,970,992, 2–7–61, Cl. 260—147.
Morgenstern, David. Needled fabric and method. 2,970,365, 2–7–61, Cl. 28—72.2.
Morin, Louis H. Flat hold-open hinge. 2,970,888, 2–7–61, Cl. 16—141.
Morris, John M., to Chain Belt Co. Apparatus for separating granular and pulverulent particles from flaky materials. 2,970,693, 2–7–61, Cl. 209—265.
Morris, John M., to Chain Belt Co. Vibratory mill. 2,970,781, 2–7–61, Cl. 241—175.
Morris, William T. Tire curing bag construction. 2,970,344, 2–7–61, Cl. 18—45.
Moses, Hugo: *See*—
Krauss, Harold, Moses, and Liebman. 2,970,363.
Motorola, Inc.: *See*—
Schwarz, Friedrich W. 2,970,730.
Muller A.G. Brugg: *See*—
Geenen, Johannes. 2,970,505.
Mulvany, Richard B., and G. R. Barr; said Barr assor. to said Mulvany. Egg handling device. 2,970,418, 2–7–61, Cl. 53—251.
Mummert, John R., to Indiana Commercial Filters Corp. Dual manifold filter. 2,970,696, 2–7–61, Cl. 210—138.
Munns, George W., Jr., to Socony Mobil Oil Co., Inc. Selective demethylation of hydrocarbon mixtures containing saturated and unsaturated hydrocarbons. 2,970,954, 2–7–61, Cl. 208—57.
Murakami, Masuo, and S. Senoh. Method of ring cleavage of 2-furoic acid. 2,971,022, 2–7–61, Cl. 260—468.
Murphey, Robert L., M. R. McClure, Jr., C. F. Rueping, and R.L. Winstead, to Texaco Inc. Thermal diffusion separation process and apparatus therefor. 2,970,695, 2–7–61, Cl. 210—72.
Murray Corp. of America, The: *See*—
Stilwell, William E., Jr. 2,971,143.
Murray, George H., and A. L. Catford, to D. Napier & Son Ltd. Power transmission mechanism including hydraulic and friction clutches. 2,970,498, 2–7–61, Cl. 74—731.
Musser, C Walton, and K. R. Wadleigh, to United States of America, Army. Recoilless rifle. 2,970,519, 2–7–61, Cl. 89—1.7.
Myers, Robert M.: *See*—
Honeycutt, Frank, Huhn, Myers, and Wilson. 2,970,874.
N.V. Optische Industrie "de Oude Delft": *See*—
Nieuwenhoven, Hendricus J. C. 2,970,529.
Napier, D., & Son Ltd.: *See*—
Murray, George H., and Catford. 2,970,498.
Nash, William H., to McGraw-Edison Co. Lightning arrester constructions. 2,971,132, 2–7–61, Cl. 317—66.

National Broach & Machine Co.: *See*—
Davis, Kenneth J. 2,970,408.
National Lead Co.: *See*—
Henderson, Raymond A., and Benston. 2,970,692.
National Machinery Co., The: *See*—
Friedman, Robert G. 2,970,327.
National Research Development Corp.: *See*—
Thomson, Amherst F. H. 2,971,087.
National Rubber Machinery Co.: *See*—
Mallory, Edwin E., Heston, Kline, and Christy. 2,970,341.
Neal, Richard D., to American Enka Corp. Pressure thread guide. 2,970,790, 2–7–61, Cl. 242—157.
Needham Mfg. Co. Inc.: *See*—
Lazott, Wesley E. 2,971,133.
Nelson, Morris D., to Radio Corp. of America. Frequency variation response circuits. 2,971,088, 2–7–61, Cl. 250—27.
Nelson, Richard B., to Varian Associates. Electron tube apparatus. 2,971,115, 2–7–61, Cl. 315—5.
Nelson, Theodore E.: *See*—
Parks, Merwin S. 2,970,417.
New, William E.: *See*—
Hurst, Stanley L., White, and New. 2,971,101.
Newey, Herbert A., to Shell Oil Co. Epoxy-containing condensates of polyepoxides and acidic materials, their preparation and polymers. 2,970,983, 2–7–61, Cl. 260—47.
Nickerson, Ralph F., to Monsanto Chemical Co. Light-diffusing glass articles and process of preparing same. 2,970,928, 2–7–61, Cl. 117—17.
Niemeyer, Gerald W.: *See*—
Winters, Donald F., and Niemeyer. 2,970,435.
Niems, Lee H., to Marblehead Lime Co. Apparatus for cooling refractory particles. 2,970,828, 2–7–61, Cl. 263—32.
Nieuwenhoven, Hendricus J. C., to N.V. Optische Industrie "de Oude Delft." Focal plane shutter. 2,970,529, 2–7–61, Cl. 95—57.
Nippon Light Metal Co., Ltd.: *See*—
Watanabe, Koichi, Asano, and Hara. 2,970,708.
Nodolf, Keith M., to Minneapolis-Honeywell Regulator Co. Fluid cleaning apparatus. 2,970,670, 2–7–61, Cl. 183—7.
Nolin, Earl W. Fishing apparatus. 2,970,400, 2–7–61, Cl. 43—17.
Nordberg Mfg. Co.: *See*—
Chapman, Everett. 2,970,775.
Cheyette, David A. 2,970,783.
Klyce, David J. 2,970,694.
Nordgren, Simon N. Slidable side jaw wrench. 2,970,502, 2–7–61, Cl. 81—126.
Nordling, Selma. Hoods. 2,970,318, 2–7–61, Cl. 2—203.
Norrenberg-Sudhaus, Ernst, to Heinrich Sudhaus, Sohne. Luggage lock. 2,970,858, 2–7–61, Cl. 292—283.
North & Judd Mfg. Co.: *See*—
De Nicolo, William V. 2,970,315.
North American Aviation, Inc.: *See*—
Beem, Donald W., and Conrad. 2,970,793.
Katz, Irving, Wilson, and Jenkins. 2,970,971.
North American Philips Co., Inc.: *See*—
Beranger, Raymond. 2,970,761.
Blok, Lourens, and Zwanenburg. 2,971,167.
Northcott, Roy P., and R. Lester, to The British Petroleum Co. Ltd. Removal of vanadium and/or sodium from petroleum hydrocarbons. 2,970,957, 2–7–61, Cl. 208—251.
Norton Co.: *See*—
Hansen, Lester A., Baker, and Keyes. 2,970,929.
Notomi, Jiro, to Tokyo Keiki Seizosho Co., Ltd. Gyro-compass. 2,970,382, 2–7–61, Cl. 33—226.
Noyce, Robert N., to Fairchild Semiconductor Corp. Semiconductor switching device 2,971,139, 2–7–61, Cl. 317—235.
Nygard, John C., to High Voltage Engineering Corp. Acceleration tube for microwave linear accelerator having an integral magnet structure. 2,971,113, 2–7–61, Cl. 315—3.5.
Oakley, John G.: *See*—
Roeder, John, Jr., and Oakley. 2,970,450.
Oberrauch, Hans: *See*—
Fischer, Kurt, and Oberrauch. 2,970,997.
Oiye, Benji: *See*—
Wear, Robert L., Oiye, and Winthrop. 2,970,972.
Olin Mathieson Chemical Corp.: *See*—
Dumeld, Albert J. 2,970,543.
Holbrook, Robert L. 2,970,941.
Maciunas, George. 2,970,676.
Ryker, Don W. 2,970,899.
Ryschkewitsch, George E. 2,971,031.
Silk, Charles E. 2,970,996.
Woodring, William E., and McAdams. 2,970,900.
Oliver, George A.: *See*—
Zich, John H., and Oliver. 2,970,810.
Olsen, Olger B. Pre-splicing tool for removing covering from cable. 2,970,377, 2–7–61, Cl. 30—102.
Olson, Harry F., and H. Belar, to Radio Corp. of America. Apparatus for speech analysis and printer control mechanisms. 2,971,057, 2–7–61, Cl. 178—31.
Olson, Harry F., and H. Belar, to Radio Corp of America. Method of and apparatus for speech analysis and printer control mechanisms. 2,971,058, 2–7–61, Cl. 178—31.
Olympia Werke A.G.: *See*—
Heuer, Hans. 2,971,179.
Ongaro, Theodore: *See*—
Crawford, Arthur R., Ongaro, Rushin, and Ellis. 2,970,478.
Ongaro, Theodore, to International Research and Development Corp. Mechanical vibration generator. 2,970,487, 2–7–61, Cl. 74—61.
Osaka, Matajiro: *See*—
Ishino, Seizo, and Osaka. 2,970,889.
Osburn, Albert R.: *See*—
Curtis, Russell R., and Osburn. 2,970,480.
Osipow, Lloyd I.: *See*—
Hass, Henry B., Snell, Osipow, and York. 2,970,962.
Ossenbrunner, Armin, H. Schnell, H. Klockgether, J. Geiger, and J. Freier, to Agfa Aktiengesellschaft. Photographic material. 2,970,908, 2–7–61, Cl. 96—87.
Ovshinsky, Stanford R., to Tann Corp. Magnetic relay. 2,971,071, 2–7–61, Cl. 200—87.
Owens-Illinois Glass Co.: *See*—
Mayer, Louis. 2,970,685.
Palloch, Herbert: *See*—
Schwab, Max, Palloch, and Kurs. 2,970,557.
Palmer, Delos M.: *See*—
Fox, Joseph C., and Palmer. 2,970,924.
Palmer, Reed A., to Westinghouse Electric Corp. Electric heater. 2,971,077, 2–7–61, Cl. 219—44.
Palopoli, Frank P., R. E. Allen, E. L. Schumann, and M. G. Van Campen, to The Wm. S. Merrell Co. Quaternary salts of triphenylethanols, -ethylenes and -ethanes. 2,971,001, 2–7–61, Cl. 260—294.7.
Pan American Petroleum Corp.: *See*—
Glass, Eugene D. 2,970,645.
Jones, Loyd W. 2,970,959.
Panoramic Radio Products, Inc.: *See*—
Feldman, Edward F. 2,970,469.
Ranky, Bela. 2,971,152.
Pantex Mfg. Corp.: *See*—
Lornitzo, Frank C. 2,970,612.
Paragon Electric Co.: *See*—
Everard, Joseph J., and Rulseh. 2,970,454.
Paris, Thomas H., to Tomlon Corp. Hydraulic reversing control. 2,970,579, 2–7–61, Cl. 121—158.
Parker, John M., and B. K. Wasson, to Charles E. Frosst & Co. 2,2-dialkyl-4-(pyridyl ethyl)-tetrahydrofuran-4-methyl carbamate. 2,971,008, 2–7–61, Cl. 260—295.
Parker Rust Proof Co.: *See*—
Cavanagh, Walter R. 2,970,935.
Parks, Merwin S., ½ to T. E. Nelson. Machine for wrapping. 2,970,417, 2–7–61, Cl. 53—226.
Parsons Corp.: *See*—
Parsons, John T., and Harwood. 2,970,877.
Parsons, John T., and F. E. Harwood, to Parsons Corp. Vending system. 2,970,877, 2–7–61, Cl. 346—34.
Parsons, Nelson D., to Fleet of America, Inc. Sliding closure. 2,970,642, 2–7–61, Cl. 160—40.
Pasell, Joseph H., to Van Norman Industries, Inc. Drill point grinding machine. 2,970,407, 2–7–61, Cl. 51—55.
Paulsen, Hans C., to United Shoe Machinery Corp. Cement handling apparatus. 2,970,591, 2–7–61, Cl. 126—343.5.
Peabody Seating Co., Inc.: *See*—
Fields, Clesent O. 2,970,635.
Pearson, Howard, V. T. McDonough, and T. N. Vassil, to American District Telegraph Co. Intruder alarm system. 2,971,184, 2–7–61, Cl. 340—258.
Pecchenino, Paul L., to International Business Machines Corp. Hydraulic stepping mechanism. 2,970,571, 2–7–61, Cl. 121—38.
Peck, Gordon H., and A. Haseneder. Safety shut off device for hydraulic brakes. 2,970,607, 2–7–61, Cl. 137—456.
Peerless Photo Products, Inc.: *See*—
Collins, Carroll B. 2,970,514.
Pendleton, Robert A.: *See*—
Lawrance, Richard B., and Pendleton. 2,970,782.
Penn Controls, Inc.: *See*—
Penn, Ralph S., and Denman. 2,970,769.
Penn, Ralph S., and H. O. Denman, Jr., to Penn Controls, Inc. Control circuit for heating and cooling apparatus. 2,970,769, 2–7–61, Cl. 236—1.
Pennsylvania Industrial Chemical Corp.: *See*—
Powers, Paul O. 2,970,978.
Perkins, Glen E., and G. W. Dale. Strip subgrader for roads. 2,970,392, 2–7–61, Cl. 37—171.
Perrin, Jack L.: *See*—
Stone, Claire E. 2,970,353.
Perrin, Jean L. F. Anti-burglar electro sound alarm system. 2,970,560, 2–7–61, Cl. 116—38.
Perry, Paul, to V. & E. Kohnstamm, Inc. Candy suspension composition for food delicacies. 2,970,919, 2–7–61, Cl. 99—140.
Peter, Hewton. Expanding wedge type cable or bolt anchor. 2,970,444, 2–7–61, Cl. 61—45.
Petersen, Olga. Topping and confectionary composition and method of producing the same. 2,970,918, 2–7–61, Cl. 99—139.
Petterson, William T. Locomotive battery charging mechanism. 2,970,550, 2–7–61, Cl. 105—50.
Pettibone, Raymond B., to Vickers Inc. Valve assembly and calibration. 2,970,487, 2–7–61, Cl. 73—4.
Pettigrew, David D., to Rockwell Mfg. Co. Work rests for lathes and the like. 2,970,495, 2–7–61, Cl. 74—424.8.
Phibbs, Murray K.: *See*—
Gilby, Ralph F., Jr., Hoberg, and Phibbs. 2,971,010.
Philco Corp.: *See*—
Honeycutt, Frank, Huhn, Myers, and Wilson. 2,970,874.
Weaver, Calvin R., and Heil. 2,970,870.
Phillips, Donald R., Q. D. Dobras, A. Makulec, and W. S. Fisher, to General Electric Co. Low brightness louver. 2,971,083, 2–7–61, Cl. 240—78.
Phillips Petroleum Co.: *See*—
Cines, Martin R. 2,970,990.
Cines, Martin R. 2,970,991.
Clark, Alfred. 2,970,955.
Fox, Homer M. 2,970,898.
Phillips, Ronald J., to R.F.D. Co. Ltd. Inflatable life-rafts or like craft. 2,970,324, 2–7–61, Cl. 9—11.
Pierce, George W. Adjustable level position indicator for objects subject to movement. 2,970,381, 2–7–61, Cl. 33—207.
Piet, Meyer, and R. J. Koutnik, to Futurecraft Corp. Solenoid operated high pressure valve having minimum closure travel. 2,971,090, 2–7–61, Cl. 137—620.

Pigman, George L., to United States of America, Navy. Bomb release device. 2,970,542, 2–7–61, Cl. 102—7.2.
Pikor, Adam: *See*—
Meisel, Herbert R., Schork, Pikor, and Blicher. 2,971,138.
Pinkel, Robert H.: *See*—
Halgren, John A., Pinkel, and Filinoritx. 2,970,852.
Pinson, Abraham, and B. Stoudt; said Stoudt, Bernard, assor. to Pinson, Abraham. Line clamp. 2,970,357, 2–7–61, Cl. 24—126.
Pinson, Abraham. Hinge pin support bracket. 2,970,799, 2–7–61. Cl. 248—230.
Pitney-Bowes, Inc.: *See*—
Bach, John W. 2,970,536.
Martin, Samuel W., and Hanson. 2,970,834.
Tangard, Einar W. 2,970,684.
Wardwell, Frederick S., and Johnson. 2,970,537.
Plessey Co. Ltd., The: *See*—
Baines, Frederick. 2,970,913.
Podbielniak, Walter J.: *See*—
Bazell, Graydon C. 2,971,032.
Polaris Industries, Inc.: *See*—
Hetteen, Edgar E. 2,970,662.
Polychrome Corp.: *See*—
Gumbinner, Robert. 2,970,931.
Pool, Elbert B., to Edward Valves, Inc. Valves having resilient seals. 2,970,805, 2–7–61, Cl. 251—175.
Postma, Simon P., to American Steel Foundries. Rotor brake arrangement. 2,970,674. 2–7–61, Cl. 188—69.
Powell, Albert E., to Deltime, Inc. Magnetostrictive delay line. 2,971,171, 2–7–61, Cl. 333—30.
Powers, Paul O., to Pennsylvania Industrial Chemical Corp. Plasticised synthetic resin and mastic tile product made therefrom. 2,970,978, 2–7–61, Cl. 260—32.6.
Powers Robert A.: *See*—
Zimmerman, Herman M., and Powers. 2,971,044.
Pratt, Francis L., to International Business Machines Corp. Photoelectric relay system control. 2,971,096, 2–7–61, Cl. 250—217.
Presser, Leiser. Window cleaning device. 2,970,337, 2–7–61, Cl. 15—250.4.
Price, Harold A., to Dorr-Oliver Inc. Cell for testing hydrocarbon fuel. 2,970,468. 2–7–61, Cl. 73—53.
Prichard, John H., to Celanese Corp. of America. Composition comprising cellulose ester and diisocyanate modified polyester amide. 2,970,970, 2–7–61, Cl. 260—16.
Pridemore, William F. Saw sharpening apparatus. 2,970,499. 2–7–61, Cl. 76—43.
Prindle, Charles, to Robinson Technical Products, Inc. Apparatus for non-destructive testing of metals. 2,971,150, 2–7–61, Cl. 324—40.
Procter & Gamble Co., The: *See*—
Krumrei, William C., and Blinka. 2,970,964.
Walker, Richard D., and Blinka. 2,970,963.
Protect-O-Matic Corp.: *See*—
Racine, Roger R. 2,970,862.
Protona Produktionsgesellschaft fur elektro-Akustisch Gerate G.m.b.H.: *See*—
Genning, Ernst. 2,971,063.
Przystawik, Otto, to Dancing Waters, Inc. Nozzle arrangement for fountain displays. 2,970,771, 2–7–61, Cl. 239—17.
R.F.D. Co. Ltd.: *See*—
Phillips, Ronald J. 2,970,324.
Racine, Roger R., to Protect-O-Matic Corp. Safety vehicle seat mechanism. 2,970,862, 2–7–61, Cl. 296—65.
Radio Corp. of America: *See*—
Allen, Richard W., and Ayres. 2,971,162.
Bendell, Sidney L. 2,971,116.
Gibson, Walter G. 2,971,063.
Kelly, Gordon E., and Iannuzzi. 2,971,050.
Kennedy, Ralph C. 2,971,047.
Koustas, Peter. 2,971,168.
Law, Harold B. 2,971,117.
Leslie, Edward S. 2,971,064.
Macovski, Albert. 2,971,046.
Meisel, Herbert R., Schork, Piker, and Blicher. 2,971,136.
Nelson, Morris D. 2,971,088.
Olson, Harry F., and Belar. 2,971,057.
Olson, Harry F., and Belar. 2,971,058.
Siukola, Matti S. O. 2,971,193.
Randall, Joseph E.: *See*—
Cabell, Norman W., and Randall. 2,970,360.
Rankin, William W., H. K. Townsley, and T. A. Feild, Jr., to Union Carbide Corp. Method of treating pile fabrics. 2,970,362. 2–7–61, Cl. 26—2.
Ranky, Bela, to Panoramic Radio Products, Inc. Harmonic spectrum analyzer. 2,971,152, 2–7–61, Cl. 324—57.
Raschig, Dr. F., G.m.b.H. Chemische Fabrik: *See*—
Mathes, Wilhelm, and Sauermilch. 2,971,000.
Raytheon Co.: *See*—
Dench, Edward C. 2,971,112.
Dench, Edward C. 2,971,121.
Sullivan, Paul A. 2,971,109.
Zucker, Henry. 2,971,049.
Reeby, Carl E., to Welex, Inc. Flexible connector for conductor core cable. 2,971,178, 2–7–61, Cl. 339—7.
Refining, Unincorporated: *See*—
Thurman, Benjamin H. 2,970,910.
Regelman, La Rue V.: *See*—
Gartner, Stanley J., and Regelman. 2,970,709.
Republic Mfg. Co.: *See*—
Christensen, Norman B. 2,970,614.
Rexford, Donald L., H. N. Hoffman, and S. Jacobs, to General Electric Co. Balanced governing valve with minimum reaction gradients. 2,970,806, 2–7–61, Cl. 251—210.
Reynders, Charlton. Method of operation of a top-fired open hearth furnace. 2,970,829, 2–7–61, Cl. 262—52.
Reynolds, Daniel J., to United States of America, Army. Mosquito egg harvester. 2,970,565, 2–7–61, Cl. 119—17.
Reynolds, Edward L.: *See*—
Suller, William J., and Fernandes. 2,970,679.
Reynolds, Manning S.: *See*—
Fritchle, Frank P., Reynolds, and Takata. 2,970,798.
Reynolds Metals Co.: *See*—
Baughan, Drury H. 2,970,736.
Jacke, Raymond E., and Manning. 2,970,735.
Rice, Alviet V. Self-sealing container. 2,970,737, 2–7–61, Cl. 229—7.
Rice, Frank, to Jones & Laughlin Steel Corp. Apparatus for casting metal ingots. 2,970,351, 2–7–61, Cl. 22—79.
Rice, Jessie A., 25% to C. R. Blake. Automobile cooling unit. 2,970,456, 2–7–61, Cl. 62—244.
Rice, Owen R., to Koppers Co., Inc. Process for heating and humidifying blast for metallurgical furnaces. 2,970,901, 2–7–61, Cl. 75—41.
Rice, William E., to Clark Equipment Co. Sway control suspension for vehicles. 2,970,848, 2–7–61, Cl. 280—124.
Richardson, Charles D., to General Electric Co. Insulated electrical coils. 2,970,936, 2–7–61, Cl. 154—2.23.
Richardson Co., The: *See*—
Kappel, Henry C., and Martin. 2,970,715.
Shultz, James H., and Zike. 2,970,969.
Richardson, Sid W., Inc.: *See*—
Daffin, Douglas E., and McGowen. 2,970,648.
Richie, Raymond J. Geology game. 2,970,940, 2–7–61, Cl. 273—134.
Rickard, James A., to Jersey Production Research Co. Radiation well logging. 2,971,092, 2–7–61, Cl. 250—71.5.
Rieser, John D. Variable ratio transmission mechanism. 2,970,493, 2–7–61, Cl. 74—230.17.
Ring, John J.: *See*—
Hurst, Stanley L., and Ring. 2,971,100.
Riordan, John D.: *See*—
Libby, Carl F. 2,970,787.
Riordan, Michael D., and W. F. Frans, to Texaco Inc. Polyfunctional solid sorbents. 2,970,968, 2–7–61, Cl. 252—455.
Ripepi, Tony. Central warning burglar alarm system. 2,971,186, 2–7–61, Cl. 340—276.
Robbins & Myers, Inc.: *See*—
Springer, William E. 2,970,484.
Roberts, Alan P., to Jersey Production Research Co. Hydraulically inflatable anchors. 2,970,651, 2–7–61, Cl. 166—212.
Robertshaw-Fulton Controls Co.: *See*—
Good, Arthur L. 2,971,069.
Snoberger, Philip H. 2,971,070.
Strobel, Charles K., and Kimmell. 2,971,074.
Robertson, H. H., Co.: *See*—
Curran, Bernard E. 2,970,531.
Curran, Bernard E. 2,970,768.
Robinson Technical Products, Inc.: *See*—
Prindle, Charles. 2,971,150.
Robitaille, Edgar, Jr.: *See*—
Dmitroff, George A., and Robitaille. 2,970,440.
Rockwell, Harley T. Lubricating pad for journal boxes. 2,970,870, 2–7–61, Cl. 308—243.
Rockwell Mfg. Co.: *See*—
Marsh, Walter H. 2,970,441.
Pettigrew, David D. 2,970,495.
Rockwell-Standard Corp.: *See*—
Hammond, Milton B., and Herusovsky. 2,970,847.
Roeber, Henry W.: *See*—
Crosby, Alton L., and Roeber. 2,970,683.
Roeder, John, Jr., and J. G. Oakley, to Whirlpool Corp. Refrigerating apparatus including warming means. 2,970,450, 2–7–61, Cl. 62—3.
Rohdin, Howard A. Method and apparatus for blister packaging. 2,970,414, 2–7–61, Cl. 53—29.
Rohm & Haas Co.: *See*—
Feely, Wayne E. 2,971,002.
Rolph, Donald L.: *See*—
Speacock, Gilbert J., Rolph, and Balas. 2,970,756.
Roseman, Milton, to Lok-Tite Industries, Inc. Frame. 2,970,397, 2–7–61, Cl. 40—156.
Rosemount Engineering Co.: *See*—
Werner, Frank D. 2,970,475.
Rosen, Inge, and S. G. Schullstrom, to Svenska Aeroplan Aktiebolaget. Apparatus for pumping fuel at varying rates. 2,970,641, 2–7–61, Cl. 158—36.4.
Rosenberg, Harvey, and R. L. Fussell, to Burroughs Corp. Signal mixer. 2,971,099, 2–7–61, Cl. 307—88.5.
Ross, Karl F. Catoptric system. 2,970,518, 2–7–61, Cl. 88—57.
Ross, Orval A. Quick release mechanism. 2,970,796, 2–7–61, Cl. 244—151.
Rovell, Alfred, and J. F. Kardos. Protective spray shield apparatus. 2,970,321, 2–7–61, Cl. 4—187.
Rowe, Raymond N., to General Electric Co. Cooling device for alternating current equipment. 2,970,746, 2–7–61, Cl. 230—117.
Rubin, Sol. Litter cleaner for cages. 2,970,567, 2–7–61, Cl. 119—22.
Ruch, Alan, and P. H. Vaughan, to Combustion Engineering, Inc. Self protecting air heater. 2,970,811, 2–7–61, Cl. 257—224.
Rudner, Bernard, to W. R. Grace & Co. N-aminoacetinium compounds. 2,970,999, 2–7–61, Cl. 260—270.
Rudy Mfg.: *See*—
Floreen, Edward D. 2,970,814.
Rueping, Calvin F.: *See*—
Murphey, Robert L., McClure, Rueping, and Winstead. 2,970,695.
Ruf, Walter. Track wheel for track-laying vehicles. 2,970,867, 2–7–61, Cl. 305—54.

Rugg, E. Melvin, to International Harvester Co. Collapsible control mast for fork-type lift trucks. 2,970,663, 2–7–61, Cl. 180—19.
Ruhrchemie Aktiengesellschaft: *See*—
Geiser, Nikolaus, and Kolling. 2,970,992.
Ruhle, Hans, to Zeiss Ikon A.G. Luminous frame viewfinder-rangefinder. 2,970,511, 2–7–61, Cl. 88—2.4.
Rulseh, Roger D.: *See*—
Everard, Joseph J., and Rulseh. 2,970,454.
Rushin, Wallace R.: *See*—
Crawford, Arthur R., Ongaro, Rushin, and Ellis. 2,970,478.
Russler, Leveret C., B. Wright, J. D. Martin, and W. J. Frisch, to FWD Corp. Wheel mounting and driving means. 2,970,665, 2–7–61, Cl. 180—70.
Ruther, Westly E.: *See*—
Greenberg, Sherman, Misch, and Ruther. 2,970,885.
Ryker, Don W., to Olin Mathieson Chemical Corp. Ammunition propellant. 2,970,899, 2–7–61, Cl. 52—1.
Ryschkewitsch, George E., to Olin Mathieson Chemical Corp. Preparation of liquid alkylated pentaborane-9. 2,971,031, 2–7–61, Cl. 260—606.5.
Saari, Veikko R., to Bell Telephone Laboratories, Inc. Automatic gain control circuit. 2,971,164, 2–7–61, Cl. 330—145.
Salihi, Jalal T., to Lenkurt Electric Co., Inc. Inband signaling system. 2,971,062, 2–7–61, Cl. 179—84.
Sargent, Albert M. Pumping apparatus. 2,970,605, 2–7–61, Cl. 137—247.41.
Sauermilch, Walter: *See*—
Mathes, Wilhelm, and Sauermilch. 2,971,000.
Scanley, Clyde S., K. Matsuda, and R. A. Coleman, to American Cyanamid Co. Gasoline containing antioxidants. 2,970,897, 2–7–61, Cl. 44—63.
Schenley Industries, Inc.: *See*—
Goldstein, Daniel. 2,970,711.
Schering A.G.: *See*—
Sparmann, Heinz W. 2,970,923.
Schiavone, Edward L. Switching device. 2,971,120, 2–7–61, Cl. 315—23.
Schiebeler, Werner: *See*—
Gröttrup, Helmut, and Schiebeler. 2,971,055.
Schipper, Edgar S., to Ethicon, Inc. 1-amino-1-carboalkoxycyclohexanes. 2,971,021, 2–7–61, Cl. 260—464.
Schmidt, Kurt, to General Electric Co. Metal vapor lamps. 2,971,110, 2–7–61, Cl. 313—221.
Schmidt, Rudolf B. Crop pickup attachment for combines. 2,970,420, 2–7–61, Cl. 56—66.
Schmutz, Julius, to Schmutz Mfg. Co., Inc. Rotary device for printing, slitting and rewinding elongated webs. 2,970,535, 2–7–61, Cl. 101—178.
Schmutz Mfg. Co., Inc.: *See*—
Schmutz, Julius. 2,970,535.
Schneeberger, Robert J., and M. Garbuny, to Westinghouse Electric Corp. Image translating system. 2,971,052, 2–7–61, Cl. 178—6.8.
Schnell, Hermann: *See*—
Ossenbrunner, Armin, Schnell, Klockgether, Geiger, and Freier. 2,970,908.
Schöldström, Karl O. R.: *See*—
Bergstrand, Erik O., and Schöldström. 2,971,156.
Schork, Leonard: *See*—
Meisel, Herbert R., Schork, Pikor, and Blicher. 2,971,138.
Schrader, Gerhard, to Farbenfabriken Bayer Aktiengesellschaft. Amino-thiophosphoric acid esters and a process for their production. 2,971,020, 2–7–61, Cl. 260—461.
Schrecker, Howard F., and T. C. Singleton, to Aluminum Co. of America. Coil handling apparatus. 2,970,706, 2–7–61, Cl. 214—89.
Schreiner, Kenneth E.: *See*—
Deerhake, William J., Havens, and Schreiner. 2,970,764.
Schriesheim, Alan: *See*—
Gilbert, George R., McCormick, and Schriesheim. 2,971,037.
Schrum, Wilbur T., Sr., to Impact Rotor Tool Inc. Rotary drill and impact tool. 2,970,483, 2–7–61, Cl. 74—22.
Schullstrom, Sten G.: *See*—
Rosen, Inge, and Schullstrom. 2,970,641.
Schulte, Elwood V.: *See*—
Helm, Edward J., and Schulte. 2,970,888.
Schultz, Harry E., to General Electric Co. Transistor inverter circuits. 2,971,126, 2–7–61, Cl. 315—205.
Schultz, Harry E., to General Electric Co. Transistor power inverter. 2,971,166, 2–7–61, Cl. 331—113.
Schultz, Herman E. Collapsible and portable shelters. 2,970,600. 2–7–61, Cl. 135—5.
Schultz, Robert T. Transistor circuit. 2,971,102, 2–7–61, Cl. 307—93.
Schumann, Edward L.: *See*—
Palopoli, Frank P., Allen, Schumann, and Van Campen. 2,971,001.
Schurger, Garner H., to Giddings & Lewis Machine Tool Co. Operator elevator for machine tools. 2,970,523, 2–7–61, Cl. 90—11.
Schwab, Max, deceased, by B. Schwab, heir, H. Palloch, and R. Kurs, said Palloch and Kurs assors. to B. Schwab. Control device for the operation of sewing machines. 2,970,557, 2–7–61, Cl. 112—215.
Schwab, Brunhilde: *See*—
Schwab, Max, Palloch, and Kurs. 2,970,557.
Schwarz, Friedrich W., to Motorola, Inc. Dicing semiconductor wafers. 2,970,730, 2–7–61, Cl. 225—2.
Schwebel, Adolf, to MABEG Maschinenbau G.m.b.H. Pile lifting device for use in sheet printing machines. 2,970,835, 2–7–61, Cl. 271—62.
Schweiger, Leonard B.: *See*—
Free, Alfred H., and Schweiger. 2,970,945.
Scott Aviation Corp.: *See*—
Cupp, Charles D. 2,970,602.
Scott, Lyle B., to B J Service, Inc. Firing head for formation treating apparatus. 2,970,647, 2–7–61, Cl. 166—63.
Scully-Jones and Co.: *See*—
Better, Bernard R. 2,970,844.
Searle, G. D., & Co.: *See*—
Bible, Roy H., Jr. 2,971,008.
Burtner, Robert R. 2,971,009.
Security-First National Bank of Los Angeles: *See*—
Baker, Rueben C. 2,970,650.
Seeler, Henry W., to United States of America, Air Force. Mask-harness tension compensating device. 2,970,593, 2–7–61, Cl. 128—142.
Seirig, Alfred K., and H.-J. Strunck, to Wernicke & Co., K.G. Grinding machine, especially for grinding spectacle glasses. 2,970,409, 2–7–61, Cl. 51—101.
Sell, Eric A. F.: *See*—
Jackson, Thomas M., and Sell. 2,971,109.
Sem, Mathias O., to Elektrokemisk A/S. Arrangement in electric smelting furnaces. 2,971,040, 2–7–61, Cl. 13—33.
Sennet, Edith L.: *See*—
Levkoff, David. 2,970,739.
Senoh, Saburo: *See*—
Murakami, Masuo, and Senoh. 2,971,022.
Sepich, Edward. Construction material mixer with batch gauge. 2,970,820, 2–7–61, Cl. 259—171.
Sexton, G. Stuart II: *See*—
Klein, Clarence F., and Sexton. 2,970,625.
Shapiro, Abraham, to Socony Mobil Oil Co., Inc. Method of dissolving asphaltene deposits. 2,970,958, 2–7–61, Cl. 252—8.55.
Shapiro, Seymour L., L. Freedman, and H. Soloway. Quaternary ammonium salts of (2-diethylamino-1-phenylethyl) benzoates. 2,971,018, 2–7–61, Cl. 260—459.
Sharpe, Everett E.: *See*—
Krueger, Theodore H., and Sharpe. 2,970,416.
Shell Oil Co.: *See*—
Kloosterziel, Hendrik. 2,970,952.
Meder, Adrianus J. W., and Kramer. 2,970,979.
Newey, Herbert A. 2,970,983.
Shetty, Bola V., to American Home Products Corp. Controlled powder addition funnel. 2,970,616, 2–7–61, Cl. 141—344.
Shiah, Chyn D. Treating hydrocarbon oils. 2,970,956, 2–7–61, Cl. 208—226.
Shimizu, Kazuhiro. Signal lamp or flashlight for water disaster. 2,971,081, 2–7–61, Cl. 240—10.68.
Shinkawa, Terry H.: *See*—
Kawahara, Benjamin A., and Shinkawa. 2,970,375.
Short, J. R., Milling Co.: *See*—
Ferrari, Charles G. 2,970,915.
Short, Jesse L., to Mid-America Highway Express, Inc. Livestock carrier. 2,970,861, 2–7–61, Cl. 296—24.
Shultz, James H., and C. G. Zike, to The Richardson Co. Aminated silicon products from haloxilicates. 2,970,969, 2–7–61, Cl. 260—2.
Shulz, Jack S., to Eastman Oil Well Survey Co. Drilling recording chart holder. 2,970,879, 2–7–61, Cl. 346—138.
Siegfried, Walter, to la Loudure Electrique Autogene, S.A. Varying the falling speed of a stream of molten metal. 2,970,830, 2–7–61, Cl. 266—38.
Silin, Jacob. Combination jacket and school bag. 2,970,316, 2–7–61, Cl. 2—94.
Silk, Charles E., to Olin Mathieson Chemical Corp. Purification of nitrocellulose. 2,970,996, 2–7–61, Cl. 260—223.
Simpson, George R., to American Optical Co. Photographic printing method and apparatus therefor. 2,970,515, 2–7–61, Cl. 88—24.
Simpson, Herbert, Corp. *See*—
McIlvaine, Robert L. 2,970,778.
Sims, James R.: *See*—
Knapp, Richard P., Sims, and Focht. 2,970,646.
Sims, James S., Jr., to United Aircraft Corp. Fuel control for dual heat source power plant. 2,970,436, 2–7–61, Cl. 60—39.28.
Sinclair, Alfred C., to Clayton Anderson & Co. Hydraulic lift. 2,970,577, 2–7–61, Cl. 121—46.
Singer-Fidelity, Inc.: *See*—
Mahler, Peter A., and Boyer. 2,970,460.
Singer Mfg. Co., The: *See*—
Johnson, Ralph E. 2,970,556.
Singleton, Thomas C.: *See*—
Schrecker, Howard F., and Singleton. 2,970,706.
Sinkinson, Arthur W.: *See*—
Waters, James L., and Sinkinson. 2,970,512.
Siukola, Matti S. O., to Radio Corp. of America. Multiple slot antenna having radiating termination. 2,971,193, 2–7–61, Cl. 343—770.
Sjolander, Newell O.: *See*—
McCormick, Jerry B. D., Arnold, Hirsch, Miller, and Sjolander. 2,970,947.
Skelton, Robert F., to Belle City Mfg. Co. Apparatus for automatic proportioned mixing and grinding. 2,970,532, 2–7–61, Cl. 99—235.
Skillings, Marvin V. Control system. 2,970,483, 2–7–61, Cl. 74—110.
Slatic, George A.: *See*—
Marr, George M., and Slatic. 2,971,187.
Slattery, John P., to General Electric Co. Air conditioning apparatus. 2,970,455, 2–7–61, Cl. 62—180.
Slimowicz, Chester E., to General Aniline & Film Corp. Diazotype materials containing coupling components for high opacity ultraviolet yellows and visually dense sepias. 2,970,909, 2–7–61, Cl. 96—91.
Sloan, David H., to The Regents of the University of California. High-power magnetron. 2,971,122, 2–7–61, Cl. 315—39.71.
Smalley, Burton M., to Joslyn Mfg. & Supply Co. Support for electrical devices. 2,970,800, 2–7–61, Cl. 248—230.
Smith, Jack C., to Jersey Production Research Co. Apparatus for calibrating seismic velocity loggers. 2,970,666, 2–7–61, Cl. 181—5.

Smith, John G., to Burroughs Corp. Item handling apparatus. 2,970,836, 2–7–61, Cl. 271—71.
Smith, Lester L., to Automatic Electric Laboratories, Inc. Selective signaling radiotelephone system. 2,971,085, 2–7–61, Cl. 250—6.
Smith, Lynne R.: *See*—
Springs, Otis A., Jr., and Smith. 2,970,677.
Smitley, Marion L., to Holley Carburetor Co. Automatic choke. 2,970,825, 2–7–61, Cl. 261—144.
Snell, Foster D.: *See*—
Hass, Henry B., Snell, Osipow, and York. 2,970,962.
Snoberger, Philip H., to Robertshaw-Fulton Controls Co. Refrigerator compressor control. 2,971,070, 2–7–61, Cl. 200—83.
Snyder, Linus S. Mechanic's scaffold. 2,970,668, 2–7–61, Cl. 182—116.
Societe Auxiliaire de l'Institut Francais du Caoutchouc: *See*—
Beaufils, Edmond R., and Cournut. 2,970,404.
Societe dite: Filature et Tissage du Territoire: *See*—
Burckle, Xavier. 2,970,334.
Societe d'Optique et de Mecanique de Haute Precision: *See*—
Baluteau, Jean-Michel. 2,970,517.
Socony Mobil Oil Co., Inc.: *See*—
Munns, George W., Jr. 2,970,954.
Shapiro, Abraham. 2,970,958.
Soderman, George W., to Western Electric Company, Inc. Wire feeding apparatus. 2,970,733, 2–7–61, Cl. 226—149.
Soloway, Harold: *See*—
Shapiro, Seymour L., Freedman, and Soloway. 2,971,018.
Sommeria, Marcel R., to Welding Research, Inc. Seam tracking transducer. 2,971,079, 2–7–61, Cl. 219—125.
Sonic Dynamics, Inc.: *See*—
Wellekens, John F. 2,970,466.
Sonotone Corp.: *See*—
August, John H. 2,971,045.
Busse, Harold M. 2,971,065.
Sorvik, Erling M.: *See*—
Sunden, Olof, and Sorvik. 2,970,977.
Sottysiak, Joseph, and B. R. Harriman, to General Aniline & Film Corp. Physical properties of photographic papers. 2,970,907, 2–7–61, Cl. 96—85.
Sparmann, Heinz W., to Schering A.G. Method of preventing marine growth, and antifouling compositions useful for said method. 2,970,923, 2–7–61, Cl. 106—15.
Spengler, Arthur F., Jr.: *See*—
Alexander, Adolph P., and Spengler. 2,970,902.
Sperry Gyroscope Co., Ltd., The: *See*—
Summerlin, Frederick A. 2,970,471.
Sperry Rand Corp.: *See*—
Freeman, Herbert. 2,970,763.
Lanning, Walter C. 2,970,759.
Zeigler, Edgar L., and Klemes. 2,970,480.
Sperry Rand Corp., Ford Instrument Co. Division: *See*—
Zabb, Norman J., and Bomser. 2,970,767.
Spesock, Gilbert J., D. L. Rolph, and C. S. Balaz, to Friden, Inc. Electro-magnetic selecting apparatus. 2,970,756, 2–7–61, Cl. 235—60.12.
Springer, William E., to Robbins & Myers, Inc. Balancing mechanism for sabre saws and the like. 2,970,484, 2–7–61, Cl. 74—50.
Springham, John, to Blackburn and General Aircraft Ltd. Hydraulic powered flying controls. 2,970,443, 2–7–61, Cl. 60—97.
Springs, Otis A., Jr., and L. R. Smith, to The General Fireproofing Co. Metallic partitioning devices. 2,970,677, 2–7–61, Cl. 189—34.
Square D Co.: *See*—
Kiessling, Rudolf H. 2,970,496.
Mierendorf, Robert C., and Mayer. 2,971,151.
Montross, Robert C. 2,971,142.
Squire, Herbert D., to Midwest Mfg. Co. Magnetic door latch. 2,970,857, 2–7–61, Cl. 292—251.5.
Staley, A. E., Mfg. Co.: *See*—
Wolff, Hans. 2,971,012.
Standard Coil Products Co., Inc.: *See*—
Feigl, Erich F. 2,970,762.
Standard Oil Co. (Indiana): *See*—
Liao, Hsiang P., and Towle. 2,971,011.
Zletz, Alex, and Carmody. 2,970,428.
Stanforth, Donald R.: *See*—
Brough, Wayne S., and Stanforth. 2,970,390.
Stanray Corp.: *See*—
Allen, John W. 2,970,553.
Stanton, George W., and A. Armen, to The Dow Chemical Co. Modified acrylonitrile polymer fibers with increased shrinkability and dyeability. 2,970,884, 2–7–61, Cl. 18—54.
Steinke, Harold C.: *See*—
Erekson, Arthur B, Steinke, and Mohr. 2,970,922.
Stern, Hansjoerg, to General Electric Co. Multiple input hydraulic amplifier. 2,970,575, 2–7–61, Cl. 121—41.
Sterner, Philip E.: *See*—
Foster, James H., and Sterner. 2,970,369.
Stevens, Francis D. H.: *See*—
MacLeod, David E., and Stevens. 2,970,457.
Stevens, Jesse W., to Sunkist Growers, Inc. Method of preparing dry culture media. 2,970,948, 2–7–61, Cl. 195—102.
Stevens, Nichols. Machine tool clamp. 2,970,833, 2–7–61, Cl. 269—189.
Stewart, Edwin H., Jr., to Electronic Processes Corp. of California. Power control circuit. 2,971,137, 2–7–61, Cl. 317—142.
Stilwell, William E., Jr., to The Murray Corp of America. Laundry appliance motor control. 2,971,143, 2–7–61, Cl. 318—466.
Stockholms Superfosfat Fabriks Aktiebolag: *See*—
Sunden, Olof, and Sorvik. 2,970,977.
Stokes, F. J., Corp.: *See*—
Frank, Raymond G. 2,970,485.
Stone, Claire E., ¼ to J. L. Perria. Clamp. 2,970,353, 2–7–61, Cl. 24—16.
Stone, John B.: *See*—
Wilcox, Jay V., Stone, and Kennedy. 2,971,159.
Stone, Orison W., and L. H. Campbell, to Continental Can Co., Inc. Closure for folding paperboard cartons. 2,970,741, 2–7–61, Cl. 229—41.
Stoudt, Bernard: *See*—
Pinson, Abraham, and Stoudt. 2,970,357.
Strange, John, Carton Co.: *See*—
Strange, William M. 2,970,738.
Strange, William M., to John Strange Carton Co. Sectioned container and blank therefor. 2,970,738, 2–7–61, Cl. 229—27.
Strehlow, Walter F., and R. Carlin, to Allis-Chalmers Mfg. Co. Vehicle power train of the quick shift type. 2,970,482, 2–7–61, Cl. 74—15.84.
Stringer, Richard F., C. N. Kimberlin, Jr., and F. S. McQuaid, to Esso Research and Engineering Co. Process for the dehydrogenation of hydrocarbons in the presence of sulfur dioxide and a calcium nickel phosphate catalyst. 2,971,035, 2–7–61, Cl. 260—673.5.
Strobel, Charles K., and R. T. Kimmell, to Robertshaw-Fulton Controls Co. Temperature responsive control. 2,971,074, 2–7–61, Cl. 219—20.
Strunck, Hans-Joachim: *See*—
Seirig, Alfred K., and Strunck. 2,970,409.
Studiengesellschaft Kohle M.b.H.: *See*—
Hafner, Klaus. 2,971,034.
Sudds, Chester F.: *See*—
Hammer, Warren, and Sudds. 2,970,937.
Suderow, George E., to De Long Corp. Self-energizing mechanical grippers and wedging ring assembly. 2,970,445, 2–7–61, Cl. 61—46.5.
Suderow, George E., to De Long Corp. Deep water mobile marine platform. 2,970,446, 2–7–61, Cl. 61—46.5.
Sudhaus, Heinrich, Solme: *See*—
Norrenberg-Sudhaus, Ernst. 2,970,858.
Sugar Research Foundation, Inc.: *See*—
Hass, Henry B., Snell, Osipow, and York. 2,970,962.
Suller, William J., and J. M. Fernandez, ½ to E. L. Reynolds. Automatic transmission gear selector safety device. 2,970,679, 2–7–61, Cl. 192—4.
Sullivan, Paul A., to Raytheon Co. Pulse position modulation systems. 2,971,169, 2–7–61, Cl. 332—9.
Summerer, William H., to Admiral Corp. Tuner control. 2,970,481, 2–7–61, Cl. 74—10.45.
Summerlin, Frederick A., to The Sperry Gyroscope Co. Ltd. Rate of climb meter. 2,970,471, 2–7–61, Cl. 73—179.
Sun Oil Co.: *See*—
Jolly, Samuel E. 2,970,960.
Lerner, Julius. 2,971,154.
Sunden, Olof, and E. M. Sorvik, to Stockholms Superfosfat Fabriks Aktiebolag. Method of preparing an acrylonitrile polymer interlinked by a metal alcoholate, composition thereof, and filament therefrom. 2,970,977, 2–7–61, Cl. 260—30.8.
Sunkist Growers, Inc.: *See*—
Stevens, Jesse W. 2,970,948.
Super Mold Corp. of California: *See*—
Fannen, John J. 2,970,946.
Superpart S.A.: *See*—
Fauser, Hans. 2,970,590.
Sutowski, Walter S.: *See*—
Doak, James C. 2,970,594.
Svenska Aeroplan Aktiebolaget: *See*—
Rosen, Inge, and Schullstrom. 2,970,641.
Svenska Aktiebolaget Gasaccumulator: *See*—
Bergstrand, Erik O., and Schöldström. 2,971,156.
Swearingen, Judson S. Centrifugal gas compression. 2,970,750, 2–7–61, Cl. 230—204.
Sweet, Ervin J.: *See*—
Boosinger, Thomas H., and Sweet. 2,970,772.
Swift & Co.: *See*—
Harper, Robert H. 2,970,916.
Switzer Brothers, Inc.: *See*—
Switzer Joseph L. 2,970,965.
Switzer, Joseph L., to Switzer Brothers, Inc. Printing inks and vehicles therefor. 2,970,965, 2–7–61, Cl. 252—301.2.
Sylvania Electric Products Inc.: *See*—
Beaton, Clarence E., and Herrick. 2,971,111.
Burdick, Glen A. 2,971,118.
Crosby, Alton L., and Roeber. 2,970,683.
Dickinson, William A., and Hamsler. 2,971,108.
Erdle, Paul J. 2,971,160.
Gartner, Stanley J., and Regelman. 2,970,709.
Miller, Charles L., and Weaver. 2,970,731.
Symington Wayne Corp.: *See*—
Blattner, Emil H. 2,970,703.
Syncro Machine Co.: *See*—
Bruestle, Carl O. 2,970,486.
Szabo, Denis, to Lever Brothers Co. Hydrogenation process. 2,971,016, 2–7–61, Cl. 260—409.
Sze, Morgan C.: *See*—
Ehrlich, Stanley W., and Sze. 2,970,451.
Tabet Mfg. Co., Inc.: *See*—
Tabet, Michael A. 2,971,066.
Tabet, Michael A., to Tabet Mfg. Co., Inc. Electrical switch with removable units. 2,971,066, 2–7–61, Cl. 200—11.
Taggert, Wilmer R., ¼ to N. S. Blodgett. Archery device. 2,970,838, 2–7–61, Cl. 273—106.5.
Takata, Earl K.: *See*—
Fritchle, Frank P., Reynolds, and Takata. 2,970,798.
Tamea, Daniel. Hamper bag with hinged cover. 2,970,628, 2–7–61, Cl. 150—1
Tangard, Einar W., to Pitney-Bowes, Inc. Mail conveying device. 2,970,684, 2–7–61, Cl. 198—131.
Tann Corp.: *See*—
Ovshinsky, Stanford R. 2,971,071.
Taylor, S B. Engine synchronizing mechanism with hydraulic actuation. 2,970,442, 2–7–61, Cl. 60—54.6.
Telefonbau und Normalzeit G.m.b.H.: *See*—
Heil, Friedrich. 2,970,538.

Telefunken G.m.b.H.: *See*—
Loffelbein, Hans-Joachim. 2,970,562.
Temple, Ernest E.: *See*—
Temple, Robert and E. E. 2,970,506.
Temple, Stanley A., E. E., and R. 2,970,314.
Temple, Robert: *See*—
Temple, Stanley A., E. E., and R. 2,970,314.
Temple, Robert and E. E., to Mine Safety Appliances Co. Explosively actuated cable cutting tool using a live cartridge for producing gaseous pressure. 2,970,506, 2–7–61, Cl. 83—639.
Temple, Stanley A., E. E., and R., to Mine Safety Appliance Co. Explosively actuated nail driving tool. 2,970,314, 2–7–61, Cl. 1—106.
Tension Envelope Corp.: *See*—
Johnson, Jerome E. 2,970,687.
Texaco Inc.: *See*—
Murphey, Robert L., McClure, Rueping, and Winstead 2,970,695.
Riordan, Michael D., and Franz. 2,970,968.
Woodruff, Homer O. 2,970,826.
Texas Gulf Sulphur Co.: *See*—
Hill, Cyril T. 2,970,887.
Texas Instruments Inc.: *See*—
Correlison, Boyd, and Mack. 2,970,896.
Thomas, John H., to Dow Corning Corp. Terephthalic and isophthalic alkyd resin compositions containing a salt of 2-ethylhexoic acid. 2,970,973, 2–7–61, Cl. 260—22.
Thomas, Paul P., to American Metal Products Co. Molded bearing. 2,970,869, 2–7–61, Cl. 308—238.
Thompson, Ernest, Jr., to Allied Chemical Corp. Coke oven. 2,970,949, 2–7–61, Cl. 202—151.
Thompson, Norris J. Market cart with folding seat. 2,970,845, 2–7–61, Cl. 280—33.99.
Thompson Ramo Wooldridge, Inc.: *See*—
Anderson, Robert J. 2,970,437.
Beremand, Donald G. 2,970,609.
Corbett, Marshall J. 2,971,097.
Hull, Roy W. 2,970,582.
Thomson, Amherst F. H., to National Research Development Corp. Microwave mixers. 2,971,087, 2–7–61, Cl. 250—24.
Thurman, Benjamin H., to B. Clayton, doing business under the fictitious name and style of Refining, Uninc. Process for producing lecithin products from soapstocks. 2,970,910, 2–7–61, Cl. 99—2.
Ticknor, Donald E. Automatic emergency signaling device for automotive vehicles. 2,971,067, 2–7–61, Cl. 200—61.4.
Timmcke, Wesley E., to Warner Electric Brake & Clutch Co. Wear adjuster for magnetic friction devices. 2,970,681, 2–7–61, Cl. 192—111.
Tittle, Charles W., to Gulf Research & Development Co. Well logging. 2,971,094, 2–7–61, Cl. 250—83.3.
Toby Enterprises: *See*—
Toby, Max E. 2,970,921.
Toby, Max E., to Toby Enterprises. Method and apparatus for cutting paper sheets. 2,970,921, 2–7–61, Cl. 99—171.
Todd, Everett W., to Massey-Ferguson Inc. Mounting mechanism for implements. 2,970,654, 2–7–61, Cl. 172—239.
Tokyo Keiki Seizosho Co., Ltd.: *See*—
Notomi, Jiro. 2,970,382.
Tolaas, William M., to Waldorf Paper Products Co. Tape roll holder. 2,970,686, 2–7–61, Cl. 206—52.
Toland, Wayne G., to International Harvester Co. Disk harrow. 2,970,657, 2–7–61, Cl. 172—455.
Toma, John W., to General Electric Co. Combination washer and dryer with improved clothes receptacle. 2,970,464, 2–7–61, Cl. 68—19.
Tomlon Corp.: *See*—
Paris, Thomas H. 2,970,579.
Toro Mfg. Corp.: *See*—
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Towle, Philip H.: *See*—
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Townsend, Don G., to General Motors Corp. Method of making storage batteries. 2,971,042, 2–7–61, Cl. 136—33.
Townsend, Don G., to General Motors Corp. Method of making storage batteries. 2,971,043, 2–7–61, Cl. 136—33.
Townsley, Harry K.: *See*—
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Tribit, Samuel W., to American Cyanamid Co. Halogenation of cyanuric acid. 2,970,998, 2–7–61, Cl. 260—248.
Trolander, Hardy W., to Yellow Springs Instrument Co. Thermistor standardizing. 2,970,411, 2–7–61, Cl. 51—165.
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Udylite Research Corp., The: *See*—
Manquen, John W., and Brown. 2,970,951.
Uhland, Homer E., to International Minerals & Chemical Corp. Method for recovery of minerals. 2,970,688, 2–7–61, Cl. 209—12.
Ullman, Myron E., Jr., to American Radiator & Standard Sanitary Corp. Counter top construction. 2,970,872, 2–7–61, Cl. 311—107.
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Findlay, Hugh T. 2,970,926.
Ungerer, Fritz. Plant for sorting strips of material differing from one or more reference characteristics. 2,970,691, 2–7–61, Cl. 209—82.
Union Carbide Corp.: *See*—
Beckman, John H., and Kemp. 2,970,452.
Clark, Grady W., and Lefever. 2,970,895.
Fischer, Ernst O., and Hofmann. 2,971,017.
Guest, Howard R., Adams, and Kiff. 2,970,985.
Johnson, Harry V. 2,970,854.
Rankin, William W., Townsley, and Feild. 2,970,362.
Zimmerman, Herman M., and Powers. 2,971,044.
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United Aircraft Corp.: *See*—
Crump, Walter J. 2,970,367.
Dmitroff, George A., and Robitaille. 2,970,440.
Sims, James S., Jr. 2,970,436.
United Shoe Machinery Corp.: *See*—
Cantley, Joseph C. 2,970,328.
Cardani, Charles P., Cole, and Eppler. 2,970,871.
Fitzgerald, Charles F. 2,970,329.
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U.S. Electrical Motors, Inc.: *See*—
Warncke, William R. 2,970,788.
United States Lines Co.: *See*—
De Witt, Clarence M., Jr., and Kingston. 2,970,705.
United States of America
Air Force: *See*—
Johnson, Herbert C. 2,970,794.
Seeler, Henry W. 2,970,593.
Army: *See*—
Bell, Charles R., and Wassel. 2,970,521.
Grandy, Andrew J. 2,970,520.
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Musser, C Walton, and Wadleigh. 2,970,519.
Reynolds, Daniel J. 2,970,565.
Atomic Energy Commission: *See*—
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Ashwood, George A. 2,970,561.
Berl, Walter G. 2,970,439.
Boosinger, Thomas H., and Sweet. 2,970,772.
Dow, Daniel G. 2,971,114.
Gildner, Darwin A., and Braner. 2,970,528.
Helvey, Edward E. 2,971,119.
Johnson, Walter T., and Barnet. 2,970,843.
Pigman, George L. 2,970,542.
United States Rubber Co.: *See*—
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Ladd, Elbert C., and Harvey. 2,971,019.
Universal-Cyclops Steel Corp.: *See*—
France, William L. 2,971,041.
Universal Oil Products Co.: *See*—
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Universal Products Corp.: *See*—
Hardgrove, James F. 2,970,879.
University of California, The Regents of the: *See*—
Sloan, David H. 2,971,122.
Unsworth, William, to Magnesium Elektron Ltd. Introduction of zirconium into magnesium. 2,970,904, 2–7–61, Cl. 75—168.
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Van Norman Industries, Inc.: *See*—
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Varian Associates: *See*—
Nelson, Richard B. 2,971,115.
Varo Mfg. Co., Inc.: *See*—
Holt, William J., Jr. 2,971,054.
Holt, William J., Jr. 2,971,104.
Vassil, Theo N.: *See*—
Pearson, Howard, McDonough, and Vassil. 2,971,184.
Vaughan, Henry E., to Bell Telephone Laboratories, Inc. Telephone line circuit. 2,971,060, 2–7–61, Cl. 179—18.
Vaughan, Paul H.: *See*—
Ruch, Alan, and Vaughan. 2,970,811.
Vause, Clarence E. Deodorizer for toilet and the like. 2,970,322, 2–7–61, Cl. 4—229.
Vickers Inc.: *See*—
Pettibone, Raymond B. 2,970,467.
Viles, Prentiss S., to Esso Research and Engineering Co. Production of lime and hydrogen sulfide. 2,970,893, 2–7–61, Cl. 23—181.
Violano, Vincent, and S. Germansky. Foundation soles of shoes. 2,970,391, 2–7–61, Cl. 36—17.
Vissers, Herbert, to Landbouwwerktuigen-en Machinefabriek H. Vissers N.V. Apparatus for bruising and comminuting green fodder. 2,970,626, 2–7–61, Cl. 146—186.
Vogel, Clarence E., to Minneapolis-Honeywell Regulator Co. Interrelated manual and autopilot servosystem. 2,971,144, 2–7–61, Cl. 318—489.
Vogl, Norbert G., Jr., to International Busines Machines Corp. Apparatus employing solid state components. 2,971,181, 2–7–61, Cl. 340—174.
Volk, Heinrich, and A. Dechant, to Man Maschinenfabrik Augsburg-Nurnberg AG. Transport carriage for vehicles. 2,970,549, 2–7–61, Cl. 104—50.
Vollmer, David W.: *See*—
Morgan, Jack F., and Vollmer. 2,970,993.
Volz Aristocrat Plastics, Inc.: *See*—
Gittins, William G. 2,970,410.
Von, Isaiah: *See*—
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Vroom, Robert A.: *See*—
Buurman, Aart, Vroom, and Limburg. 2,970,883.
Wadleigh, Kenneth R.: *See*—
Musser, C Walton, and Wadleigh. 2,970,519.
Wagner, Adolph A., and A. J. Werner, to Wagner Iron Works. Loader. 2,970,707, 2–7–61, Cl. 214—140.
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Wagner, Adolph A., and Werner. 2,970,707.
Waldorf Paper Products Co.: *See*—
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Walker, Richard D., and J. Blinka, to The Procter & Gamble Co. Opaque liquid detergent composition. 2,970,963, 2–7–61, Cl. 252—153.

Walker, Roger E., to General Electric Co. Door gasketing arrangement. 2,970,717, 2–7–61, Cl. 220—46.

Wangner, Philip F., Jr., to E. I. du Pont de Nemours and Co. Process for embossing and venting a resin coated fabric. 2,970,345. 2–7–61, Cl. 18—56.

Wardwell, Frederick S., and V. E. Johnson, to Pitney-Bowes, Inc. Mail handling mechanism. 2,970,537, 2–7–61, Cl. 101—232.

Warncke, William R., to U.S. Electrical Motors, Inc. Wind-up drive system utilizing induction motors. 2,970,788, 2–7–61, Cl. 242—75.51.

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Warner Electric Brake & Clutch Co.: *See*—
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Warner, Otto P. Separator for removing liquids and solids from vapors. 2,970,671, 2–7–61, Cl. 183—34.

Warren, Glenn B., to General Electric Co. Steam-gas turbine powerplant with steam compressor. 2,970,434, 2–7–61, Cl. 60—39.18.

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Parker, John M., and Wasson. 2,971,003.

Watanabe, Koichi, K. Asano, and S. Hara, to Nippon Light Metal Co., Ltd. Ingot stacking machine and method. 2,970,708, 2–7–61, Cl. 214—152.

Waters, James L., and A. W. Sinkinson, to Mine Safety Appliances Co. Apparatus for analysis of materials. 2,970,512, 2–7–61, Cl. 88—14.

Waters, James L., to Mine Safety Appliances Co. Apparatus for analysis of materials. 2,970,513, 2–7–61, Cl. 88—14.

Wear, Robert L., B. Oiye, and A. S. Winthrop, to Minnesota Mining and Mfg. Co. Resinous compositions. 2,970,972, 2–7–61, Cl. 260—18.

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Webb, Edmond F., to The Delman Co. Windshield clearing system. 2,970,336, 2–7–61, Cl. 15—250.02.

Webster, David R. Liquid dispersion conduit. 2,970,644, 2–7–61, Cl. 162—338.

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Wenzel, Alfred, to Gebrüder Welger, Maschinenfabrik. Pick-up baler. 2,970,423, 2–7–61, Cl. 56—341.

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Werner, Frank D., to Rosemount Engineering Co. Gas temperature probe. 2,970,475, 2–7–61, Cl. 73—339.

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Kendig, Robert M. 2,970,474.
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Hurst, Stanley L., White, and New. 2,971,101.

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Coppa, Anthony P. 2,970,808.
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Winters, Donald F., and Niemeyer. 2,970,435.

Westphalen, Kurt. Induction motors. 2,971,106, 2–7–61, Cl. 310—166.

Wharton, Charles B., and A. L. Gardner, to United States of America, Atomic Energy Commission. Microwave horns and circuitry for plasma measurements. 2,971,153, 2–7–61, Cl. 324—58.5.

Wheeler, Donald H., to General Mills, Inc. Reductive acylated products of riboflavin. 2,970,995, 2–7–61, Cl. 260—211.3.

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Roeder, John, Jr., and Oakley. 2,970,450.

White, Edgar I.: *See*—
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White, Howard T. Fluid pressure systems. 2,970,546, 2–7–61, Cl. 103—51.

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Wicks, William K. Automatic bullet puller. 2,970,508, 2–7–61, Cl. 86—23.

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Wiesenthal, Walter E. Barley debearder and seed cleaner. 2,970,627, 2–7–61, Cl. 146—280.

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Wilcox, Jay V., J. B. Stone, and J. L. Kennedy, to Wilcox Electric Co., Inc. Amplitude modulation eliminator. 2,971,159, 2–7–61, Cl. 328—165.

Wilcox, Dale F., W. Few, and I. W. Krieger, to Furnas Electric Co. Thermal overload and reset assembly. 2,971,072, 2–7–61, Cl. 200—124.

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Mayhew, Raymond L., and Williams. 2,971,006.

Williams, Harry J., to The Bastian-Blessing Co. Automatic shutoff device. 2,970,601, 2–7–61, Cl. 137—13.

Williams, Joel H., to General Dynamics Corp. Valve and corrosion inhibitor assembly. 2,970,606, 2–7–61, Cl. 137—268.

Wilson, Roy P. and M. A. Brief case spreader. 2,970,631, 2–7–61, Cl. 150—29.

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Wilson, Roy P. and M. A. 2,970,631.

Windsor, Harold F., to General Electric Co. Luminescent screen settling. 2,970,930, 2–7–61, Cl. 117—33.5.

Winland, Robert L. Hoist structure. 2,970,490, 2–7–61, Cl. 74—142.

Winson, Jonathan. Glove and method of manufacture thereof. 2,970,317, 2–7–61, Cl. 2—169.

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Winter, Gerhard. Device for determining the specific gravity of liquids which contain gases such as more particularly crude petroleum. 2,970,477, 2–7–61, Cl. 73—435.

Winters, Donald F., and G. W. Niemeyer, to Westinghouse Electric Corp. Compressor flow control mechanism. 2,970,435, 2–7–61, Cl. 60—39.28.

Winthrop, Arthur S.: *See*—
Wear, Robert L., Oiye, and Winthrop. 2,970,972.

Wirth, Emil R., to Miehle-Goss-Dexter, Inc. Saddle for supporting thin printing plates. 2,970,540, 2–7–61, Cl. 101—415.1.

Wittbecker, Emerson L., to E. I. du Pont de Nemours and Co. Copolymer having amide and urethane linkages. 2,970,987, 2–7–61, Cl. 260—77.5.

Wittenmyer, Carlos. Code punching apparatus for calculating machines. 2,970,752, 2–7–61, Cl. 234—99.

Wolff, Hans, to A. E. Staley Mfg. Co. New plasticizer-stabiliser compositions of matter. 2,971,012, 2–7–61, Cl. 260—348.

Woodring, William B., and H. T. McAdams, to Olin Mathieson Chemical Corp. Priming composition. 2,970,900, 2–7–61, Cl. 52—4.

Woodruff, Homer O., to Texaco Inc. Recovery of oil from oil shale. 2,970,826, 2–7–61, Cl. 262—3.

Woodson, Thomas T.: *See*—
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Wordsworth, Jack, to Armstrong Patents Co. Ltd. Hydropneumatic suspension systems. 2,970,832, 2–7–61, Cl. 267—15.

Worrell, Norman L. Portable and versatile multi-unit display device. 2,970,396, 2–7–61, Cl. 40—125.

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Yonkers, Edward H. Education device. 2,970,388, 2–7–61, Cl. 35—18.

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Young, David W., Jr.: *See*—
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Zaugg, Harold E., F. C. Garven, A. O. Geissler, and K. E. Hamlin, to Abbott Laboratories. Method of alkylating esters. 2,971,024, 2–7–61, Cl. 260—485.
Zeigler, Edgar L., and M. S. Klemes, to Sperry Rand Corp. Anti-friction support mechanism for gyroscopic devices. 2,970,480, 2–7–61, Cl. 74—5.
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Zelinkoff, Milton A. Hand held swab or mop holder. 2,970,332, 2–7–61, Cl. 15—147.
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Classification of Designs

D 1— 3: 189,713
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February 7, 1961 Volume 763 Number 1

TRADEMARKS

CONDITION OF TRADEMARK APPLICATIONS AS OF DECEMBER 31, 1960

Total number of applications awaiting action [excluding renewals and Sec. 12 (c)]	11,354
Date of oldest new application	June 13, 1960
Date of oldest amended application	July 1, 1960

J. H. MERCHANT, Director, Trademark Examining Operation

TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application	
	New	Amended
(I) C. M. WENDT, Classes 2, 3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 39, 40, 41, 42, 43, 44, 50	7-1-60	7-29-60
(II) H. E. KASCHUB, Classes 1, 6, 18, 22, 37, 38, 45, 46, 47, 48, 49, 51, 52; Service Mark Classes 100, 101, 102, 103, 104, 105, 106, 107; Collective Membership Marks, Class 200; Certification Marks, Classes A and B	6-13-60	7-1-60
Renewals (All Classes)	11-19-60	11-29-60
Sec. 12 (c) Publications (All Classes)	11-1-60	11-29-60

Applications filed during the month of December 1960—1764

Registrations Issued	319—No. 710,718 to No. 711,036
Renewals Issued	60

For the quarter—October 1, 1960 through December 31, 1960

Applications filed	5549
Registrations issued	4063
Renewals issued	752
Cancellations under Section 8	1418

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MARKS PUBLISHED FOR OPPOSITION

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Notice of opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.
As provided by section 31 of said act, a fee of twenty-five dollars must accompany each notice of opposition.

Class 1—Raw or Partly Prepared Materials

SN 52,656. Lowe's, Inc., Cassopolis, Mich. Filed May 26, 1958.

KITTY LITTER

Owner of Reg. No. 537,921.
For Ground Clay Used for Litters for Small Animals, Such as Cats, Rats, Mice, and Hamsters.
First use Sept. 3, 1948.

SN 76,553. C. A. Dougherty Cordage Mill, Los Dos Caminos, Estado Miranda, Venezuela. Filed June 26, 1959.

LION BRAND

The term "Brand" is disclaimed apart from the mark as shown. Owner of U.S. Reg. Nos. 565,262 and 570,012.
For Cordage Fiber.
First use in August 1947; in commerce in August 1947.

SN 79,864. Lee V-Lite Co., Sanford, N.C. Filed Aug. 19, 1959.

instant FIRE

For Solid Combustible Charcoal Igniter.
First use June 17, 1959.

SN 84,978. W. D. Byron & Sons, Inc., Williamsport, Md. Filed Nov. 10, 1959.

CARRIAGEHIDE

For Finished Leather.
First use Oct. 19, 1959.

SN 85,708. Geo. J. Ball, Inc., West Chicago, Ill. Filed Nov. 20, 1959.

HARVEST GIANTS

For Chrysanthemum Plants.
First use Nov. 4, 1959.

SN 89,232. Crowley Tar Products Company, Inc., New York, N.Y. Filed Dec. 14, 1959.

POLYPET

For Petroleum Hydrocarbon Resin.
First use July 9, 1953.

SN 89,233. Crowley Tar Products Company, Inc., New York, N.Y. Filed Dec. 14, 1959.

VIPLEX

For Plasticizer Used in Compounding Vinyl Resins for Such Purposes as Floor Tile, Wire Covering, Etc.
First use July 9, 1953.

SN 93,451. Mud Control Laboratories, Inc., Oklahoma City, Okla. Filed Mar. 22, 1960.

CONTROLWOOL

Owner of Reg. Nos. 637,880, 640,859, and others.
For Oil Well Drilling Fluid Additives—Namely, a Non-Chemical Lost Circulation Material Having High Solubility in Mud Acid.
First use in 1954.

SN 94,593. Leaf Brands, Inc., Chicago, Ill. Filed Apr. 7, 1960.

SCOOBEEDOO

For Tubular Plastic Strands for Making Key Rings, Bracelets, Knickknacks, and Toys.
First use Apr. 1, 1960.

SN 97,924. The Carwin Company, North Haven, Conn. Filed May 26, 1960.

CARTHANE

For Formulated Compositions Containing Polyisocyanates and Reaction Products Thereof With Other Materials for General Use in the Industrial Arts.
First use Dec. 8, 1959.

SN 99,774. Old Market Charcoal Company, Louisville, Ga. Filed S.R. June 27, 1960; Am. P.R. Nov. 18, 1960.

OLD MARKET

For Charcoal Briquets.
First use Mar. 1, 1960.

SN 100,728. Shell Oil Company, New York, N.Y. Filed July 12, 1960.

SHELL

Owner of Reg. Nos. 297,633, 298,250, and others.
For Synthetic Rubber.
First use Apr. 28, 1955.

SN 100,988. General Foam Products, Los Angeles, Calif. Filed July 18, 1960.

STRUCTO-FOAM

For Expanded Polystyrene.
First use Jan. 25, 1960.

SN 102,808. Union Carbide Corporation, New York, N.Y. Filed Aug. 16, 1960.

VISOTHERM

Owner of Reg. Nos. 525,848, 540,794, and 560,213.
For Plastic Film and Sheeting.
First use on or about Jan. 24, 1957.

SN 103,000. American Foam Rubber Corporation, New York, N.Y. Filed Aug. 19, 1960.

Miracore

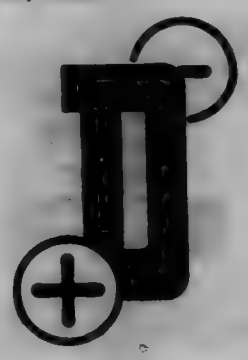
For Foam Rubber in Sheet and Block Form Used for Cushions.
First use June 10, 1960.

SN 103,090. The Borden Company, New York, N.Y. Filed Aug. 22, 1960.

CASCOFIL

For Nut Shell Flour.
First use July 13, 1956.

SN 103,101. Chemical Process Company, San Francisco, Calif. Filed Aug. 22, 1960.



Owner of Reg. Nos. 520,587 and 673,716.
For Synthetic Resins and Plastics.
First use June 1955.

SN 103,112. The Dow Chemical Company, Midland, Mich. Filed Aug. 22, 1960.

DERAFOAM

For Expanded Synthetic Resins.
First use July 13, 1960.

SN 103,114. The Dow Chemical Company, Midland, Mich. Filed Aug. 22, 1960.

SERRYCEL

For Expanded Synthetic Resins.
First use July 13, 1960.

SN 103,148. William Greiner Company, Chicago, Ill. Filed Aug. 22, 1960.

NYLAM

For Leather.
First use in June 1960.

SN 103,766. The Dow Chemical Company, Midland, Mich. Filed Sept. 1, 1960.

SURFASEPTIC

For Synthetic Resins.
First use July 27, 1960.

SN 103,768. The Dow Chemical Company, Midland, Mich. Filed Sept. 1, 1960.

ETHASPAN

For Expandable Synthetic Resins.
First use July 13, 1960.

SN 103,769. The Dow Chemical Company, Midland, Mich. Filed Sept. 1, 1960.

DEVLEX

For Synthetic Resins.
First use July 20, 1960.

Class 6—Chemicals and Chemical Compositions

SN 48,168. Givaudan-Delawanna, Inc., New York, N.Y. Filed Mar. 21, 1958.

MELITTIS

For Liquid Perfume Base To Be Used in the Manufacture of Perfumes, Colognes, Cosmetics, and Soaps.
First use Aug. 25, 1926.

SN 48,169. Givaudan-Delawanna, Inc., New York, N.Y. Filed Mar. 21, 1958.

ORMENIS

For Liquid Perfume Base To Be Used in the Manufacture of Perfumes, Colognes, Cosmetics, and Soaps.
First use Dec. 22, 1936.

SN 48,170. Givaudan-Delawanna, Inc., New York, N.Y. Filed Mar. 21, 1958.

LYCOPSIS

For Liquid Perfume Base To Be Used in the Manufacture of Perfumes, Colognes, Cosmetics, and Soaps.
First use Nov. 4, 1926.

SN 64,162. Humble Oil & Refining Company, Houston, Tex., by merger from Esso Standard Oil Company, New York, N.Y. Filed Dec. 12, 1958.



For Rust Preventives and Corrosion Inhibitors.
First use at least since Aug. 12, 1958.

SN 83,063. Cooper-Trent Blueprint and Microfilm Corporation, Arlington, Va. Filed Oct. 12, 1959.

CAPITOLINE

For Developers, Fixers, and Short Baths and Similar Items Used in Processing Photographic Papers and Films.
First use Oct. 30, 1958.

SN 85,075. American Cyanamid Company, New York, N.Y. Filed Nov. 12, 1959.

CPF

For Purifying Finish for Textile Resins.
First use Oct. 26, 1959.

SN 92,224. Culligan, Inc., Northbrook, Ill. Filed Mar. 7, 1960.

HUMI-TABS

Owner of Reg. No. 583,491.
For Volatile Corrosion Inhibitors and/or Adsorbents for Packaging of Metals Protecting From Atmospheric Deterioration.
First use Feb. 4, 1960.

SN 92,225. Culligan, Inc., Northbrook, Ill. Filed Mar. 7, 1960.

HUMI-PAX

Owner of Reg. No. 583,491.
For Packaged Desiccant or Dehydrating Agent—Namely, a Moisture Adsorbent for the Interior of Pharmaceutical, Candy, and Insecticide Containers.
First use Feb. 4, 1960.

SN 92,369. Empire-La Vive Corporation, Tuckahoe, N.Y. Filed Mar. 8, 1960.

SILVER PLUS

For Silver Plating and Polishing Solutions.
First use June 20, 1956.

SN 92,497. Fritz Schenker-Winkler, d.b.a. Kasper Winkler & Co., Zurich, Switzerland. Filed Mar. 9, 1960.

INTRAPLAST

Owner of Swiss Reg. No. 123.
For Chemical Composition for Addition to Cement or Grout To Cause the Mixture To Expand During Setting.

SN 96,854. Gebruder Giulini G.m.b.H., Ludwigshafen (Rhine), Germany. Filed May 11, 1960.

SOLVA

Owner of German Reg. No. 620,208, dated May 12, 1952.
For Smelting Salts for Use in the Manufacture of Cheese.

SN 97,007. John F. Coogan, Coral Gables, Fla. Filed Sept. 28, 1959.

DIAPER SOAK

For Concentrate To Be Diluted With Water in Which Infants' Diapers, Bedding and Clothing Are Deposited for Soaking Thus Deodorizing and Sanitizing Same.
First use Aug. 21, 1959.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

SN 91,277. Reliable Automatic Sprinkler Co., Inc., Mount Vernon, N.Y. Filed Feb. 19, 1960.

RELIABLE

For Automatic Fire Sprinkler Devices.
First use July 12, 1920.

Class 14—Metals and Metal Castings and Forgings

SN 85,336. Ralph W. Grauert, Inc., New York, N.Y. Filed Nov. 16, 1959.



DUCADORO

For Gold Leaf.
First use on or about Jan. 28, 1959.

SN 85,337. Ralph W. Grauert, Inc., New York, N.Y. Filed Nov. 16, 1959.



For Metal and Metal Appearing Transfer Tapes and Strips.
First use on or about Jan. 13, 1958.

SN 86,960. Ralph W. Grauert, Inc., New York, N.Y. Filed Dec. 9, 1959.

DUCADORO

For Gold Leaf.
First use on or about Jan. 28, 1959.

Class 18—Medicines and Pharmaceutical Preparations

SN 78,491. Olin Mathieson Chemical Corporation, New York, N.Y. Filed July 27, 1959.

DELA-CORTISONE

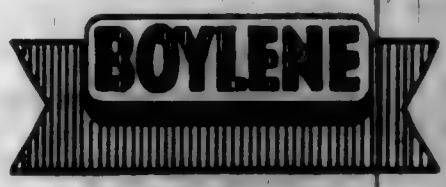
For Hormone Preparations.
First use Mar. 26, 1959.

SN 82,907. The S. E. Massengill Company, Bristol, Tenn. Filed Oct. 8, 1959.

SAFERON

For Tablet and Liquid Tonic Indicated in the Treatment of Anemia.
First use July 5, 1957.

SN 85,212. Commerce Drug Company, Inc., d.b.a. Commerce Drug Co., Brooklyn, N.Y. Filed Nov. 13, 1959.



The drawing is lined for red.
For Antiseptic Preparation for Boils.
First use October 1947.

SN 86,089. Laboratoires J. Berthier, Societe Anonyme, Grenoble, France. Filed Nov. 25, 1959.

DURBON

Owner of French Reg. No. 10,480, dated Jan. 8, 1959 (Paris); Natl. Inst. No. 119,356.

For Packaged Laxative and Diuretic Preparation for the Treatment of Diseases Requiring Use of the Same.

SN 89,021. Quin Research Laboratories, Inc., Rye, N.Y. Filed Jan. 14, 1960.



No claim is made to the representation of the spool, per se. The drawing is lined for blue.

For Adhesive Remover Preparation Which Is Germicidal-Antiseptic, for Use on the Body.

First use Jan. 1, 1936.

SN 91,501. Apotheker A. Diedenhofen K.G., Bad Godesberg (Rhine), Germany. Filed Feb. 24, 1960.

ULGASTRIN

Owner of German Reg. No. 637,218, dated Apr. 22, 1954.

For Pharmaceutical Medicaments for Treatment of Gastritis and the Like.

SN 94,008. Manufactures de Produits Chimiques du Nord Etablissements Kuhlmann, Paris, France. Filed Mar. 30, 1960.

R.A.L.

Owner of French Reg. No. 384,474, dated Mar. 15, 1948 (Seine); Natl. Inst. No. 426,550; and U.S. Reg. No. 705,362.

For Medicines and Pharmaceutical Preparations.

SN 95,238. Barnes-Hind Laboratories, Inc., Sunnyvale, Calif. Filed Apr. 18, 1960.

GLAUCOSOL

For Ophthalmic Solution for Intra-Ocular Pressure Depressant.

First use Feb. 11, 1960.

SN 96,546. Makara G.m.b.H. Pharmaceutische Fabrik, Angermund, Rhineland, Germany. Filed Feb. 18, 1960.

MAKATUSSIN

Owner of German Reg. No. 677,644, dated June 15, 1955.

For Medicinal Preparations for the Treatment of Coughs.

SN 99,324. Golden Sun-Foxbilt, Inc., Des Moines, Iowa. Filed June 20, 1960.

ANEMITROL

For Injectable Iron Preparation for the Prevention of Anemia in Pigs.

First use on or about Mar. 1, 1960.

SN 100,702. Gruppo Olcario Novaro & C., Imperia Oneglia, Italy. Filed July 12, 1960.

SASSOL

Owner of Italian Reg. No. 149,878, dated June 27, 1960.

For Medicinal Oil.

SN 100,817. Stiefel Laboratories, Inc., Oak Hill, N.Y. Filed July 13, 1960.

POLYTAR

For Pharmaceutical Preparation—Namely, Ointment for Treatment of Skin Diseases.

First use May 10, 1960.

SN 102,007. Ciba Limited, Basel, Switzerland. Filed Aug. 4, 1960.



Priority claimed under Sec. 44(d) on Swiss Reg. No. 179,941, dated Mar. 21, 1960. The mark symbolizes a quadruped embraced by a snake.

For Veterinary Preparations and Medicated Feed Supplements.

SN 103,651. The Central Pharmacal Company, Seymour, Ind. Filed Aug. 30, 1960.

THORMAL

For Preparation for the Treatment of Coughs and Colds.

First use Oct. 15, 1958.

SN 103,652. The Central Pharmacal Company, Seymour, Ind. Filed Aug. 30, 1960.

NEOCYLONE

Owner of Reg. No. 635,444.

For Drug for the Treatment of Acute Inflammatory Diseases.

First use Jan. 22, 1956.

SN 103,653. The Central Pharmacal Company, Seymour, Ind. Filed Aug. 30, 1960.

URITRAL

For Preparation in Dosage Form for Treating Urinary Diseases.

First use Dec. 14, 1955.

SN 103,787. Hoffmann-La Roche Inc., Nutley, N.J. Filed Sept. 1, 1960.

TIGADOXAL

Owner of Reg. No. 684,353.

For Antiemetic.

First use Aug. 23, 1960.

SN 103,971. Setco Pharmaceuticals, Inc., New Haven, Conn. Filed Sept. 6, 1960.

GLACIER

For Vaginal Douches.

First use Aug. 6, 1960.

SN 104,209. Freeman Industries, Inc., Tuckahoe, N.Y. Filed Aug. 5, 1960.

d'sol

For Vitamin D Dairy Concentrate for Fortifying Milk.
First use Jan. 31, 1955.

SN 104,210. Freeman Industries, Inc., Tuckahoe, N.Y. Filed Aug. 5, 1960.

MAHVA-F

For Multi Vitamin-Mineral Concentrate for Fortifying Milk.
First use June 13, 1960.

SN 104,211. Freeman Industries, Inc., Tuckahoe, N.Y. Filed Aug. 5, 1960.

A D F

Insofar as the letters "A" and "D" relate to vitamins, the same are disclaimed apart from the mark as shown.
For Vitamin A and D Dairy Concentrate for Fortifying Milk.
First use Sept. 16, 1957.

SN 104,333. Sterling Drug Inc., New York, N.Y. Filed Sept. 12, 1960.

LOR-DANE

For Veterinary Preparation Used as an Antiseptic Healing Agent.
First use Aug. 31, 1960.

SN 104,963. The Upjohn Company, Kalamazoo, Mich. Filed Sept. 21, 1960.

EMBOMIX

For Veterinary Feed Supplement for Use in the Prevention and Treatment of Arthritic Diseases in Turkeys.
First use Feb. 9, 1960.

SN 105,846. American Home Products Corporation, d.b.a. Fort Dodge Laboratories, New York, N.Y. Filed Oct. 6, 1960.

BOVIBAC

For Bacterin for Veterinary Use.
First use Sept. 9, 1960.

SN 106,226. Schering Corporation, Bloomfield, N.J. Filed Oct. 11, 1960.

RESPIGESIC

For Cold Preparations.
First use July 6, 1960.

SN 106,431. Physicians Products Co., Inc., Petersburg, Va. Filed Oct. 14, 1960.

CEVIRATE

For Tablets To Alleviate Iron Deficiency.
First use Sept. 2, 1960.

SN 106,472. Bristol-Myers Company, New York, N.Y. Filed Oct. 17, 1960.

PENSTAFOCIDE

For Antibiotic Pharmaceutical Preparation.
First use Aug. 31, 1960.

SN 106,627. Personal Home Products, Inc., Hicksville, N.Y. Filed Oct. 18, 1960.

FLAV-O-LAX

For Laxative Tablets.
First use Aug. 29, 1960.

SN 106,950. M. R. Thompson, Inc., Cranford, N.J. Filed Oct. 21, 1960.

'SUTHOGEN'

For Throat Lozenges.
First use Jan. 1, 1953.

SN 107,034. Benjamin G. Miller, d.b.a. Penn Pharmacal Company, New York, N.Y. Filed Oct. 24, 1960.

PENTONIC

For Pharmaceutical Composition Sold by Prescription Only for Human Consumption Comprising a Mixture of Hormones, Vitamins, and Methamphetamine Hydrochloride.
First use on or about Nov. 2, 1959.

SN 107,225. Taste Engineering Inc., Chicago, Ill. Filed Oct. 26, 1960.

UTI-LAC

For Dried Fermentation Product for Use as a Feed Supplement for Animals.
First use June 30, 1959.

SN 107,250. First Texas Pharmaceuticals, Inc., Dallas, Tex. Filed Oct. 27, 1960.

PRED-KAM

For Buffered Prednisolone.
First use Sept. 12, 1960.

SN 107,251. First Texas Pharmaceuticals, Inc., Dallas, Tex. Filed Oct. 27, 1960.

HISTA-VADRIN

For Upper Respiratory Decongestant.
First use July 12, 1960.

SN 107,541. American Medicinal Corporation, Forest Hills, N.Y. Filed Nov. 1, 1960.

STIM-U-LYSINE

For Vitamins.
First use Oct. 24, 1960.

SN 107,542. American Medicinal Corporation, Forest Hills, N.Y. Filed Nov. 1, 1960.

NUTRILYSIN

For Vitamins.
First use Oct. 24, 1960.

SN 107,595. G. D. Searle & Co., Skokie, Ill. Filed Nov. 1, 1960.

STORINAL

For Pharmaceutical Hormone Preparation.
First use Dec. 3, 1959.

SN 107,637. Atlantic Apothecary Co., d.b.a. Atlantic Pharmaceutical Co., Brooklyn, N.Y. Filed Nov. 2, 1960.

DAYAGRAMS

For Multiple Vitamin and Mineral Capsules.
First use July 6, 1960.

SN 107,687. Merck & Co., Inc., Rahway, N.J. Filed Nov. 2, 1960.

CREMOSTREP

For Antibacterial Preparation.
First use Sept. 29, 1960.

SN 107,721. American Cyanamid Company, New York, N.Y. Filed Nov. 3, 1960.

ARISTOTRAN

Owner of Reg. Nos. 653,318, 701,681, and others.
For Tranquilizer Preparation.
First use Oct. 21, 1960.

SN 107,732. Boots Pure Drug Company Limited, Nottingham, England. Filed Nov. 3, 1960.

Owner of British Reg. No. 675,473, dated Dec. 17, 1948; and U.S. Reg. Nos. 594,936 and 595,100.

For Anaesthetics, Analgesics, Narcotics and Sedatives; Antihistamines, Vasoconstrictors, Vasodilators; Myocardial Stimulants, Nerve Stimulants; Diuretics, Antiseptics, Antibiotics, Bactericides, Bacteriostatics, Fungicides for Application to the Human Skin; Vitamins; Preparations for Treating Skin Diseases, Allergies, Amebiasis, Hypertension, Asthma, Cancer, Epilepsy, Leprosy, Malaria, Pellagra, Tuberculosis, and Vincent's Angina, Hormone and Estrogen and Prothrombin Deficiencies, Vaginal and Venereal and Genito-Urinary Diseases and Infections.

SN 107,751. Geigy Chemical Corporation, Ardsley, N.Y. Filed Nov. 3, 1960.

MILUDIN

For Anorexiants.
First use Sept. 6, 1960.

SN 107,813. Armour and Company, Chicago, Ill. Filed Nov. 4, 1960.

LISTICA

For Tranquilizer Preparation.
First use Sept. 7, 1960.

SN 107,927. The Dow Chemical Company, Midland, Mich. Filed Nov. 7, 1960.

ETROLENE

Owner of Reg. Nos. 673,342 and 681,888.

For Veterinary Drugs and Animal Health Products for the Control of Parasites Such as Intestinal Parasites, Mites, Insects Such as Lice and Flies, and Larvae of Insects Such as Screw Worms, Cattle Grubs, Blowfly Maggots, Fleece Worms, and the Like, in and on Animals, Especially Livestock.
First use Sept. 30, 1960.

SN 107,928. Drugmaster, Inc., St. Louis, Mo. Filed Nov. 7, 1960.

PROBITAL

For Sedative and Hypnotic—To Wit, Elixir Aprobarbital.
First use Jan. 5, 1957.
Subj. to Intf. with SN 102,265.

SN 108,008. American Home Products Corporation, d.b.a. Wyeth Laboratories, New York, N.Y. Filed Nov. 8, 1960.

FORVAX

For Vaccine Preparation.
First use Aug. 11, 1960.

SN 108,015. Beecham Research Laboratories Limited, Brentford, England. Filed Nov. 8, 1960.

BACTROBAN

Owner of British Reg. No. 802,762, dated Mar. 7, 1960.
For Antibiotic Preparations and Substances.

SN 108,137. The Purdue Frederick Company, New York, N.Y. Filed Nov. 9, 1960.

GALACTOQUIN

For Preparation for the Treatment of Cardiac Arrhythmia.
First use Nov. 1, 1960.

SN 108,138. The Purdue Frederick Company, New York, N.Y. Filed Nov. 9, 1960.

SENPOD

For Preparation for Treatment of Constipation.
First use Oct. 31, 1960.

Class 22—Games, Toys, and Sporting Goods

SN 80,174. Caprico International, Inc., New York, N.Y. Filed Aug. 25, 1959.

CONTINENTAL LEAGUE

For Baseballs, Baseball Bats, Baseball Gloves and Mitts, and Other Baseball Playing Equipment.
First use in July 1959.

SN 88,231. Heinrich Hammer, Sportgeräte- und Holzwarenfabrik, Erbach, near Ulm (Danube), Germany. Filed Dec. 30, 1959.



Priority claimed under Sec. 44(d) on German application filed July 20, 1959; Reg. No. 734,550, dated Mar. 9, 1960. The drawing is lined for blue and red. No claim is made to the word "Ski" as used in connection with skis.

For Snow Skis.

SN 90,079. Fred Mac Overland, d.b.a. Overland Company, Los Angeles, Calif. Filed Feb. 1, 1960.

KARKUTIES

For Stuffed Animals and Dolls.
First use Dec. 18, 1959.

SN 91,119. Saint James Games, Inc., St. James, N.Y. Filed Feb. 17, 1960.

NEW HIGH

For Equipment Sold as a Unit for Playing a Stock Market-Type Board Game.
First use Feb. 6, 1960.

SN 92,217. Henry Lowe Brownback, Norristown, Pa. Filed Mar. 7, 1960.

SKEEACTION

For Sled or Glider Type Sporting Goods Devices Suitable for Use on Snow, Ice, or Water.
First use Nov. 11, 1959.

SN 92,523. Bacon Brothers Products, Inc., Leominster, Mass. Filed Mar. 10, 1960.

DOWNEE

For Noisemaking Toy Resembling a Bird.
First use Nov. 15, 1959.

SN 95,783. T.V. Network Merchandising Limited, London, England. Filed Apr. 25, 1960.



Owner of British Reg. No. 797,048, dated Oct. 27, 1959.
For Gun Holster Sets, Plastic Containers Exhibiting Simulated Snowstorms, Toy Figures of Rubber and of Plastic, String and Glove Puppets, Jigsaw Puzzles, Soft Plush Toys, Inflatable Toys, and Equipment Sold as Units for Playing Board Games, Card Games and Dart Games.

SN 96,644. Universal Manufacturing Co., Inc., Bossier City, La. Filed May 6, 1960.



For Child's Occupant Propelled Wheeled Vehicle and Trailer.
First use Feb. 9, 1960.

SN 97,366. Galloping Games, Inc., Chicago, Ill., assignee of Arl-Hi Company, Arlington Heights, Ill. Filed May 18, 1960.

I·QUBES

For Equipment (or Apparatus) Sold as a Unit for Playing a Dice Game.
First use on or about Jan. 1, 1948.

SN 98,876. Lester M. Davis, d.b.a. Les Davis Fishing Tackle Co., Tacoma, Wash. Filed June 13, 1960.

CANADIAN WONDER

Owner of Reg. No. 698,934.
For Fishing Trolling Spoons.
First use June 15, 1946.

SN 99,305. Dayton Bait and Marine Products Co., Dayton, Ohio. Filed June 20, 1960.

ROD-TIP ACTION

For Fishing Floats.
First use July 3, 1958.

SN 99,433. Jane Hathaway Joeck, Eatontown, N.J. Filed June 21, 1960.

ASTRO-COGO

The mark "Astro-Cogo" is a Latin phrase, meaning "I collect with a star."
For Equipment Sold as a Unit for Playing a Card Game Which Instructs Players About the Location and Names of Heavenly Bodies.
First use June 13, 1960.

SN 100,000. Ashaway Line & Twine Mfg. Co., Ashaway, R.I. Filed June 30, 1960.

OVALON

For Fishing Line.
First use on or about June 28, 1960.

SN 100,210. The Avalon Hill Company, Baltimore, Md. Filed July 5, 1960.



For Apparatus Sold as a Unit for Playing Board Games.
First use Aug. 14, 1958.

SN 100,985. Anthony Enagureto, d.b.a. Jiffy Manufacturing Co., Pittsburgh, Pa. Filed July 18, 1960.

JIFFY

For Fish Hook Remover.
First use July 1, 1959.

SN 101,039. Ron-Vik, Incorporated, Minneapolis, Minn. Filed July 18, 1960.

VINYL-LASTIC

For Water Ski Bindings.
First use September 1959.

SN 101,229. Berkley & Company, Inc., Spirit Lake, Iowa. Filed July 21, 1960.

SLIM CAST

For Ribbon-Type Plastic Monofilament Fishline.
First use June 17, 1960.

SN 101,345. Stowe-Woodward, Inc., d.b.a. Ebonite Company, Newton Upper Falls, Mass. Filed July 22, 1960.

BOWLERO

For Bowling Shoes.
First use in February 1960.

SN 101,613. Formatics, Webster Groves, Mo. Filed July 28, 1960.

SEAT-SKI

For Toy To Be Used To Slide on Snow, Ice or Sand.
First use Mar. 16, 1960.

SN 101,673. Foster Paper Company, Inc., d.b.a. Madmar Quality Division of Foster Paper Company, Inc., Utica, N.Y. Filed July 29, 1960.

MADMAR

For Jigsaw Picture Puzzles.
First use in 1929.

SN 101,674. Foster Paper Company, Inc., d.b.a. Madmar Quality Division of Foster Paper Company, Inc., Utica, N.Y. Filed July 29, 1960.



For Jigsaw Picture Puzzles.
First use in 1929.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

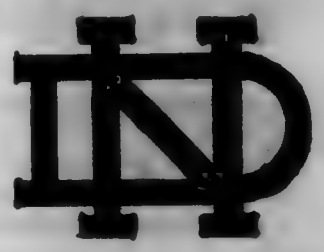
SN 103,565. Herter's Inc., Waseca, Minn. Filed Aug. 29, 1960.

HUDSON BAY

For Hatchets, Axes.
First use July 30, 1955.

Class 28—Jewelry and Precious-Metal Ware

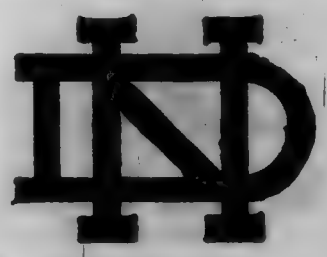
SN 77,873. University of Notre Dame du Lac, Notre Dame, Ind. Filed July 16, 1959.



Owner of Reg. No. 646,918.
For Jewelry—Namely, Finger Rings, Cuff Links, Compact Cases, Necklaces, Bracelets, Lapel Pins, Necktie Tacks and Bars.
First use on or before Jan. 1, 1930.

Class 30—Crockery, Earthenware, and Porcelain

SN 77,872. University of Notre Dame du Lac, Notre Dame, Ind. Filed July 16, 1959.



Owner of Reg. No. 646,918.
For Crockery—Namely, Drinking Mugs, Plates and Ash Trays.
First use on or before Jan. 1, 1948.

Class 37—Paper and Stationery

SN 47,220. West Virginia Pulp and Paper Company, New York, N.Y. Filed Mar. 6, 1958.

PINNACLE MULTIPRESS

Applicant disclaims exclusive right to the word "Multipress." Owner of Reg. No. 82,940.
For General Purpose Printing Papers Designed for Letterpress or Offset Printing on Smaller Types of Printing Presses, Duplicating Machines, and Office Reproduction Machines.
First use Feb. 14, 1958.

SN 48,668. Corobuff Corporation, Brooklyn, N.Y., assignee of Frank M. Sayford Company, Brooklyn, N.Y. Filed Mar. 28, 1958.



Applicant disclaims the words "Means Quality" apart from the mark as shown.
For Corrugated Paper.
First use Feb. 1, 1947.

SN 78,371. Alfred Robbins Organization, Inc., New York, N.Y. Filed July 24, 1959.

EXECUTIVE

For Paper Weights and Letter Openers.
First use July 1933.

SN 90,903. Nicholas A. D'Angelo, d.b.a. Visual Co., Boston, Mass. Filed Feb. 15, 1960.

VISUAL I

For Envelopes To Hold Postage Stamps and Photographs.
First use Feb. 5, 1960.

SN 91,064. A. W. Castell Pencil Co., Inc., Newark, N.J. Filed Feb. 17, 1960.

COLORGRADE

For Wood Encased Lead Pencils.
First use Feb. 20, 1952.

SN 97,872. Puritan Stationery Company, Inc., Philadelphia, Pa. Filed May 25, 1960.

CHIT CHATS

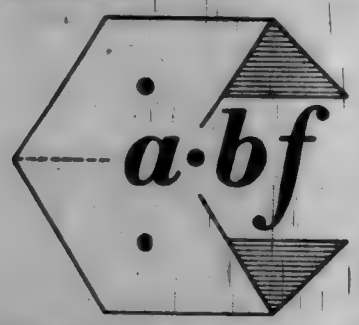
For Tablets of Writing Paper.
First use July 18, 1957.

SN 97,910. A & M Leatherlines, Inc., New York, N.Y. Filed May 26, 1960.

MEMO TREE

The term "Memo" is disclaimed apart from the mark.
For Novelty Desk Stand for Holding Notes and Other Items.
First use May 23, 1960.

SN 98,836. Accounting & Business Forms, Inc., Pittsburgh, Pa. Filed June 13, 1960.



The horizontal lines shown in the drawing are part of the design and color is not indicated.
For Accounting and Business Forms.
First use Feb. 25, 1960.

SN 99,211. Gulf States Paper Corporation, Tuscaloosa, Ala. Filed June 17, 1960.

E-Z MIMEOGRAPH

Applicant disclaims the word "Mimeograph" apart from the mark as shown. Owner of Reg. Nos. 227,085, 625,877, and others.
For Mimeograph Paper.
First use June 6, 1960.

SN 99,212. Gulf States Paper Corporation, Tuscaloosa, Ala. Filed June 17, 1960.

E-Z DUPLICATOR

Applicant hereby disclaims the word "Duplicator" apart from the mark as shown. Owner of Reg. Nos. 227,085, 625,877, and others.
For Duplicator Paper.
First use June 6, 1960.

SN 102,206. Crown Office Supply Co., Chicago, Ill. Filed Aug. 8, 1960.

COLORTHIN

For Colored Pencils.
First use Sept. 29, 1959.

SN 102,309. Eaton Paper Corporation, Pittsfield, Mass. Filed Aug. 9, 1960.

AT-A-GLANCE

Owner of Reg. No. 634,044.
For Diaries and Record Books.
First use January 1934.

SN 102,850. Kingsbacher-Murphy Co., Los Angeles, Calif. Filed Aug. 17, 1960.

PLYEX

For Transparent Looseleaf Protectors.
First use Feb. 2, 1960.

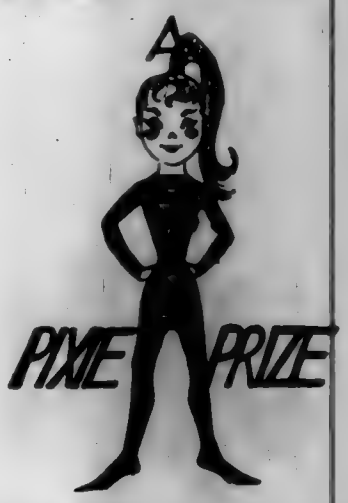
SN 105,313. Standard Paper Manufacturing Co., Richmond, Va. Filed Sept. 27, 1960.

PERMALIFE

For Printing and Lithographing Paper.
First use Aug. 19, 1960.

Class 38 — Prints and Publications

SN 72,825. A. Claire Fried, d.b.a. Pixie Fried, Pittsburgh, Pa. Filed May 4, 1959.



For Greeting Cards and Hand-Drawn Portraits.
First use July 1, 1957.

SN 76,845. The American Hardware Corporation, New Britain, Conn. Filed July 1, 1959.

QUICK-SPEC

For Technical Publications.
First use Oct. 16, 1957.

SN 91,733. American Ordnance Association, Washington, D.C. Filed Feb. 29, 1960.

WEAPONS TECHNOLOGY

For Technical Publication Issued From Time to Time.
First use Jan. 15, 1960.

SN 92,161. Instruments Publishing Co., Inc., Pittsburgh, Pa. Filed Mar. 4, 1960.

INSTRUMENTS AND CONTROL SYSTEMS News

Owner of Reg. No. 606,499.
For News Publication Issued From Time to Time.
First use in or about November 1959.

SN 97,515. The Petroleum Engineer Publishing Company, Dallas, Tex. Filed May 19, 1960.

PETRO/CHEM ENGINEER

The drawing is lined for red. Applicant disclaims the words "Refining," "Natural Gasoline," "Petrochemicals," and "Processing" except in connection with the mark as shown. Owner of Reg. Nos. 549,225, 652,209, and others.
For Periodical Publication.
First use May 2, 1960.

SN 98,125. Nursing Home Administrator Inc., New York, N.Y. Filed May 31, 1960.

N.H.A. BUYING GUIDE

Applicant disclaims the words "Buying Guide" apart from the mark as shown. Owner of Reg. No. 668,074.
For Magazine Issued Periodically.
First use Mar. 30, 1960.

SN 98,962. Amm-I-Dent, Inc., Jersey City, N.J. Filed June 14, 1960.

AMM-I-GRAM

For Newsletter Issued Bi-Monthly for the Dissemination of Information of Interest to the Dental Profession.
First use Oct. 1, 1951.

SN 98,974. Hobby Publications Inc., New York, N.Y. Filed June 14, 1960.

HOBBY MERCHANDISER

For Trade-Magazine.
First use Jan. 23, 1953.

SN 99,316. El Morocco Corporation, New York, N.Y. Filed June 20, 1960.

"El Morocco" No-News

For News Magazine of Special Interest to Applicant's Guests.
First use in July 1935.

SN 99,441. McGraw-Hill Publishing Company, Inc., New York, N.Y. Filed June 21, 1960.

Power

the magazine of energy systems engineering

No registration rights are claimed for the expression "The Magazine of Energy Systems Engineering" apart from the mark as shown. Owner of Reg. No. 399,035.
For Monthly Publication.
First use May 31, 1960; 1882 as to "Power."

SN 100,244. John Frederick Advertising, Inc., Milwaukee, Wis. Filed July 5, 1960.

Lady Faire

For Ladies' Fashion Magazine.
First use March 1960.

SN 100,645. Scripture Press Foundation, Wheaton, Ill. Filed July 11, 1960.

For Sunday School and Vacation Bible School Books, Lessons and Materials—Namely, Child Guidance Books, Bible Study Books, Missionary Biographies, Children's Books, Record Books, Suede Graphs and Cut-Outs; Filmstrips.
First use in or about 1951.

SN 100,774. General Electric Company, Schenectady, N.Y. Filed July 13, 1960.

CURRENT

For Publications on Economic and Other Developments Affecting the Electrical Industry Published From Time to Time and Distributed to the Electrical Trade and Customers of Applicant.
First use in January 1957.

SN 100,803. Pee Cee Tape & Label Company of Missouri, Scranton, Pa. Filed July 13, 1960.

TUFMARK

For Printed Labels and Printed Tapes Having Pressure Sensitive Adhesive Thereon With or Without Protective Backings.
First use on or about Jan. 22, 1960.

SN 100,928. Julius Pollak and Sons, Inc., Long Island City, N.Y. Filed July 15, 1960.

POLLYANNA

For Greeting Cards.
First use at least as early as 1930.

SN 100,934. Rose Patch and Label Company, Grand Rapids, Mich. Filed July 15, 1960.

ROFIX

For Cloth Labels.
First use June 30, 1960.

SN 101,053. Truckers Specialty Printing Co., Inc., Minneapolis, Minn. Filed July 18, 1960.

GUIDE-ON

For Truck Drivers' Daily Log Books.
First use Dec. 15, 1958.

SN 101,178. Journal-Tribune Publishing Company, Sioux City, Iowa. Filed July 20, 1960.

SIOUX CITY JOURNAL-TRIBUNE

For Newspaper.
First use Dec. 29, 1941.

SN 101,179. Journal-Tribune Publishing Company, Sioux City, Iowa. Filed July 20, 1960.

THE SIOUX CITY JOURNAL

For Newspaper.
First use Aug. 20, 1864.

SN 101,180. Journal-Tribune Publishing Company, Sioux City, Iowa. Filed July 20, 1960.

THE SIOUX CITY SUNDAY JOURNAL

For Newspaper.
First use in the year 1890.

SN 101,294. Loretta Rosenthal, Washington, D.C. Filed July 1, 1960.

fabri-kards by Loretta

For Greeting Cards.
First use June 6, 1960.

SN 101,415. Meat Cutters, Packinghouse and Allied Food Workers Union, Local 433, Savannah, Ga. Filed July 25, 1960.

THE RIGHT STEER

For Monthly Periodical.
First use in or about July 1959.

SN 101,423. Edward J. O'Malley, d.b.a. President Publishing Company, Chicago, Ill. Filed July 25, 1960.

PRESIDENT

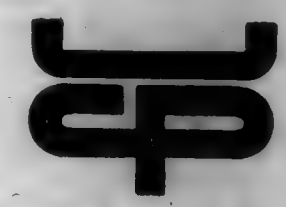
For Printed Publication Published Periodically Containing Information and Material of Interest to Executives.
First use June 22, 1960.

SN 101,466. Berkey Photo Service, Inc., New York, N.Y. Filed July 26, 1960.

PERMACOTE

For Positive and Negative Films and Prints Treated To Retard Color Degradation Thereof.
First use July 14, 1960.

SN 101,537. The Board of Christian Education and Publication, Evangelical and Reformed Church, and Board of Home Missions, Congregational Christian Churches (joint owners), d.b.a. United Church Press, Philadelphia, Pa. Filed July 27, 1960.



For Books and Pamphlets.
First use June 6, 1960.

SN 101,640. Photo-Lettering, Inc., New York, N.Y. Filed July 28, 1960.

SPECTRAKROME

For Art Work for Photomechanical Reproduction—Namely, Prints and Transparencies in Color Prepared From Black and White Original Art Work Including Illustrations and/or Text.
First use June 30, 1960.

Class 39—Clothing

SN 77,871. University of Notre Dame du Lac, Notre Dame, Ind. Filed July 16, 1959.



Owner of Reg. No. 646,918.
For Sweaters, Sweat Shirts, T-Shirts, Jackets, Caps, Neckties and Sport Shirts.
First use on or before Sept. 1, 1948.

Class 45—Soft Drinks and Carbonated Waters

SN 94,877. C. H. Boehringer Sohn, Ingelheim (Rhine), Germany. Filed Apr. 12, 1960.

CHABESO

Owner of German Reg. No. 310,499, dated Jan. 28, 1924.
For Soft Drinks.

Class 46—Foods and Ingredients of Foods

SN 4,613. Challenge Cream & Butter Association, Los Angeles, Calif. Filed Mar. 15, 1956. CONCURRENT USE for the area comprising the States of Washington, Oregon, California, Arizona, New Mexico, Texas, Utah, Idaho, Nevada, Colorado, Montana, Wyoming, Alaska, and Hawaii.

CHALLENGE

Owner of Reg. Nos. 221,042, 286,346, and 548,636.

For Dry Powder Mix Composed Principally of Milk Solids, Chocolate, and Sugar Which When Added to Water Will Form a Chocolate Flavored Milk-Type Drink.

First use Feb. 10, 1956.

SN 53,526. George D. Olds, III, d.b.a. Coon Hollow Farm, Easton, Md. Filed June 13, 1958.

Coon Hollow Farm

For Smoked and Unsmoked Bacon, Sausage and Country Ham.

First use Sept. 26, 1957.

SN 54,083. New England Provision Co., Inc., Boston, Mass. Filed June 23, 1958. CONCURRENT USE to be restricted to Massachusetts, Rhode Island, Connecticut, New Hampshire, and Maine. Concurrent use with SN 56,889.

SLIM JIM

For Frankfurts.

First use May 26, 1958.

SN 56,889. The Sucher Packing Company, Dayton, Ohio. Filed Aug. 8, 1958. CONCURRENT USE to be restricted to Indiana, Kentucky, Ohio, Pennsylvania, and West Virginia. Concurrent use with SN 54,083.

SLIM JIM

For Wieners.

First use Sept. 9, 1957.

SN 61,808. Guittard Chocolate Co., Burlingame, Calif. Filed Nov. 3, 1958.

SWISS

ESTB 1868

Applicant disclaims exclusive rights in the word "Swiss" apart from the mark.

For Cocoa and Chocolate, and Mixtures of Cocoa, Chocolate, and/or Other Edible Materials for Eating and Cooking Purposes Sold in Powdered and Solid Form.

First use Sept. 23, 1958.

SN 62,604. Penn Fruit Co., Inc., Philadelphia, Pa. Filed Nov. 17, 1958.

PENN FRUIT

Applicant claims no exclusive rights in the word "Fruits" in connection with the use of the mark upon fruits. Owner of Reg. Nos. 604,537 and 634,442.

For Bakery Products—Namely, Pies, Rolls, Bread, Bread Crumbs, Pretzels; Sweet Dough Baked Goods—Namely, Louisiana Rings and Chiffon, Layer and Pound Cakes; "Frozen" Packaged Baked Goods—Namely, All-Butter Danish Pastry and Banana, Chocolate and Orange Cakes; "Brown and Serve" Packaged Baked Goods—Namely, "Brown and Serve" Rolls; Dairy Products—Namely, Fresh Milk, Fresh Eggs, Sweet and Sour Cream, Butter and Cheese; Desserts—Namely, Peach Custard, Fruit and Vegetable Gelatins, and Baked Rice, Bread and Tapioca Puddings; Fresh and Frozen Fish and Shell Fish; Fresh, Canned and Dried Fruits; Fresh Meats; Fresh and Frozen Poultry; Prepared Foods—Namely, Frozen Beef and Chicken Pies; Fresh, Canned and Frozen Vegetables; and Fruit, Vegetable and Macaroni Salads.

First use on or about May 1, 1927.

SN 64,818. Dairy Boy, Inc., Oklahoma City, Okla. Filed Dec. 23, 1958.



For Ice Milk Mix and Mellotreat Mix.

First use Jan. 1, 1958.

SN 64,819. Dairy Boy, Inc., Oklahoma City, Okla. Filed Dec. 23, 1958.

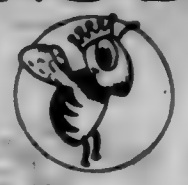
DAIRY BOY

For Ice Milk Mix and Mellotreat Mix.

First use Jan. 1, 1958.

SN 66,818. Southeastern Syrup Company, Jackson, Tenn. Filed Jan. 30, 1959.

KING BEE



Owner of Reg. No. 535,928.

For Table Syrup.

First use in March 1942.

SN 66,819. Southeastern Syrup Company, Jackson, Tenn. Filed Jan. 30, 1959.

KING BEE

Owner of Reg. No. 535,928.

For Table Syrup.

First use in March 1942.

SN 70,179. American Clam Co., Inc., Leesburg, N.J. Filed Mar. 25, 1959.

AMERICAN ORIGINAL

For Fresh and Frozen Minced Clams, Chopped Clams, Sliced Clams, Clam Chowder.
First use in February 1959.

SN 73,450. Spatola-Thompson, Inc., Philadelphia, Pa. Filed May 11, 1959.



For Food Products—Namely, Canned Tomatoes, Sliced Carrots, Early June Peas, Sweet Peas, Sliced Beets, Whole Kernel Golden Corn, Cut Green Beans, and Soya Bean Oil.
First use in or about 1927.

SN 77,739. Fisher Flouring Mills Company, Seattle, Wash. Filed July 15, 1959.



For Whole or Cracked Wheat Processed for Human Consumption.
First use June 19, 1959.

SN 85,298. Carter Products, Inc., New York, N.Y. Filed Nov. 16, 1959.



For Pre-Cooked and Flavored Rice.
First use Sept. 15, 1959.

SN 87,761. Yatesville Pecan Growers, Inc., New York, N.Y. Filed Dec. 21, 1959.

Pride of Georgia

For Unshelled Nuts.
First use Nov. 23, 1959.

SN 88,000. Andes Candies Inc., Chicago, Ill. Filed Dec. 28, 1959.

VIRGINIA MAID

For Candy Bars.
First use June 15, 1930.

SN 88,554. Meat Industry Suppliers, Inc., Northfield, Ill. Filed Jan. 6, 1960.

FRESH TEX

The word "Fresh" is disclaimed except as a part of the mark as shown.
For Combination Benzoate Preservative and Seasoning for Meats (To Be Used Only in Meat Products Where Use of Preservatives Is Legal).
First use on or prior to Oct. 8, 1947.

SN 88,722. Andre French Ice Cream Co., Inc., Brooklyn, N.Y. Filed Jan. 11, 1960.

DAWN

For Ice Cream, Ices, Sherbets, Ice Cream Cakes, Ice Cream Sandwiches, Ice Cream Bars, Ice Cream Pops, Ice Cream Sundaes, Ice Cream Tarts, Twin Ice Sticks and Frozen Confections on a Stick.
First use July 20, 1959.

SN 88,982. Farmers' Rice Growers Cooperative, San Francisco, Calif. Filed Jan. 14, 1960.



Owner of Reg. No. 638,562.
For Rice.
First use Dec. 8, 1959; in September 1924 as to the representation of the outline of the diamond within which was enclosed the letter "G."

SN 89,437. Kellogg Company, Battle Creek, Mich. Filed Jan. 21, 1960.



For Ready-to-Eat Cereal Foods.
First use Feb. 19, 1959

SN 90,850. Lovett Meat Company, Inc., Cincinnati, Ohio. Filed Feb. 12, 1960.

CIRCLE L BRAND



For Fresh and Frozen Beef.
First use Jan. 18, 1960.

SN 91,176. Milton L. Schoenbaum, d.b.a. Milt Schoenbaum, Milwaukee, Wis. Filed Feb. 18, 1960.

CHEFS' SECRET

For Seasoning for Meats, Fish, Poultry, Salads, Soups and Like Food Products.
First use in August 1955.

SN 91,998. J. S. Brown, Jr., d.b.a. Distributors Co., New Iberia, La. Filed Mar. 2, 1960.

PATSY'S PARTY

Owner of Reg. No. 425,240.
For Canned Fruit Juices, Meats, Fish, Oysters and Vegetables, Canned and Dried Fruits and Dried Shrimp, Sauces—Namely, Hot, Barbecue, Worcestershire, Pepper and Steak Sauces, and Dried Rice, Beans, Lentils and Peas.
First use June 14, 1945.

SN 92,230. Dude Ranch Foods, Los Angeles, Calif. Filed Mar. 7, 1960.



Applicant asserts no exclusive rights in the representation of a strawberry as used to describe a food flavoring or ingredient.
For Strawberry-Flavored Food Drink.
First use Feb. 2, 1960.

SN 93,322. Lamb-Weston, Incorporated, Weston, Oreg. Filed Mar. 21, 1960.



The drawing is lined for blue, the wavy vertical lines in the blue border being intended to simulate wood.
For Fresh and Frozen Fruits and Vegetables.
First use Feb. 17, 1960.

SN 95,967. American Breddo Corp., New York, N.Y. Filed Apr. 28, 1960.

AQUA-KLEER 1000

For Stabiliser for Icing Applied to Baked Sweet Goods.
First use Nov. 9, 1959.

SN 97,582. Roy B. Skaggs, d.b.a. Pioneer Fruit Co., Phoenix, Ariz. Filed May 20, 1960.

NEW RIVER

For Fresh Citrus Fruits.
First use in November 1958.

SN 98,392. The Pacific Union Association of Seventh-Day Adventists, d.b.a. Loma Linda Food Company, Glendale, Calif. Filed June 3, 1960.

Loma Linda

For Sandwich Spread; Extract of Yeast and Vegetables; Fruit-Wafers; Date Sandwich; Soybean and Wheat Wafers; Breakfast Food—Namely, Flaked Wheat Biscuits, Dextrinized Wheat, Oven-Cooked Wheat; Coffee Substitute Composed of Soybeans, Figs, and Grains; Fruit Cereal Food Composed of Cereals, Malt, Honey, and Figs; Imitation Milk Made From Soy-Beans With Dextrose and Vegetable-Fat; Canned Vegetables, and a Meat Substitute Composed of Vegetables or of Nuts, Grains, Herbs, and Flavoring.
First use Oct. 1, 1934.

SN 98,775. Circle D Foods, Inc., Dallas, Tex. Filed June 10, 1960.

CHEESE FLIPPS

Applicant hereby disclaims the exclusive right to the use of the word "Cheese" separate and apart from the mark as shown.
For Cheese Flavored Corn Chips.
First use Mar. 7, 1955.

SN 100,093. Chalet Suzanne Foods, Inc., Lake Wales, Fla. Filed July 1, 1960.

MICHON

For Canned Soup.
First use Mar. 25, 1960.

SN 101,369. Bjarne Eckhoff's Konservesfabrik A/S, Odense, Denmark. Filed July 25, 1960.

DANISH BEAUTY BRAND

Applicant hereby disclaims "Danish" and "Brand" in the mark as used.
For Canned Ham.
First use about June 27, 1950; in commerce about June 27, 1950.

SN 103,476. Patio Foods, Inc., San Antonio, Tex. Filed Aug. 26, 1960.



Owner of Reg. No. 678,568.
For Frozen and Canned Prepared Foods—Namely, Fried Beans, Beef Enchiladas With Chili Gravy, Tamales With Chili Gravy, Barbecue Beef, Chili With Beans, Chili, Cocktail Tamales, Mexican Style Beans; Mexican Style Dinner Composed of Tamales and Gravy, Rice, Beans, Beef Enchilada and Chili; Italian Style Dinner Composed of Spaghetti, Meatballs in Sauce and Pizza Pie; Beef Steak Dinner Composed of Breaded, Chopped Beef Steak, Corn, Peas and Potatoes; Barbecue Beef Dinner Composed of Barbecue Beef and Sauce, Corn, Beans and Potatoes; Enchilada Dinner Composed of Enchiladas With Chili Gravy, Beans and Tacos; Chicken Tamales, Tamales, Tortillas, Spaghetti and Meatballs, Sliced Beef With Barbecue Sauce, Tacos; and Pickles and Potato Chips.
First use in 1947.

SN 103,590. Norbest Canning Co. A/S, Bergen, Norway. Filed Aug. 29, 1960.



Owner of Reg. No. 695,794.
For Canned Fish.
First use on or about Jan. 1, 1955; in commerce on or about Jan. 1, 1955.

Class 48 — Malt Beverages and Liquors

SN 35,901. Pabst Brewing Company, Chicago, Ill., assignee of Blatz Brewing Company, Milwaukee, Wis. Filed Aug. 21, 1957.

DRAFT-BREWED

For Beer.
First use July 18, 1957.

SN 69,112. Best Brewing Corporation, Chicago, Ill. Filed Mar. 9, 1959.

MAVERICK

For Beer.
First use Feb. 26, 1959.

Class 51 — Cosmetics and Toilet Preparations

SN 54,520. Hair Strate, Inc., Fort Wayne, Ind. Filed June 30, 1958.

hair strate

For Permanent Wave Kit Including a Foundation Formula, Straightener, Creme Neutralizer and Creme Set, Said Permanent Wave Kit Being Sold Only to Professional Beauticians for Their Use.
First use Apr. 1, 1958.

SN 74,188. Beauty Basics Company, Birmingham, Mich. Filed May 21, 1959.

Q-trim

For Cosmetic Cuticle Lubricant and Remover Used for Maintaining Fingernail Cuticles.
First use January 1956.

SN 81,546. Helene Curtis Industries, Inc., d.b.a. Lentheric, Chicago, Ill. Filed Sept. 17, 1959.

SO FRENCH

For Waving Lotion.
First use on or about Aug. 21, 1959.

SN 86,064. Caryl Richards, Inc., New York, N.Y. Filed Nov. 25, 1959.

TINTETTE

The dot over the "I" in the drawing is for shading.
For Hair Tints, Hair Dyes, and Hair Color Shampoos.
First use Aug. 10, 1959.

SN 87,475. Clairol Incorporated, New York, N.Y. Filed Dec. 17, 1959.

CREMOGENIZED

For Hair Lightener.
First use Oct. 26, 1959.

SN 90,522. Ellen Kaye Laboratories, Inc., St. Paul, Minn. Filed Feb. 8, 1960.

LOCK-SET

For Hair Styling Lotion.
First use Sept. 1, 1959.

SN 102,967. George H. Weyer, Inc., d.b.a. Affiliated Laboratories, Kansas City, Mo. Filed Aug. 18, 1960.

Mountain Breeze

For After Shave Lotion.
First use 1927.

SN 102,969. George H. Weyer, Inc., Kansas City, Mo. Filed Aug. 18, 1960.

Veno

For Hair Rinse.
First use 1942.

SN 102,978. George H. Weyer, Inc., Kansas City, Mo. Filed Aug. 18, 1960.

NEUTRA-SHEEN

Owner of Reg. No. 697,564.
For Cold Wave Neutraliser.
First use 1952.

Class 52 — Detergents and Soaps

SN 77,504. B. T. Babbitt, Inc., New York, N.Y. Filed July 13, 1959.



The wording "Home Products" is disclaimed apart from the mark as shown. Owner of Reg. No. 364,515.

For Household Cleansers, Oven Cleaner Spray, and Copper and Stainless Steel Cleaner.

First use Mar. 3, 1959.

SN 89,626. Whitmire Research Laboratories, Inc., St. Louis, Mo. Filed Jan. 25, 1960.

FOAM-OUT

For Stain Remover.
First use Dec. 29, 1959.

SN 92,405. The Stamford Chemical Company, Stamford, Conn. Filed Mar. 8, 1960.

OPALITE

For Oil-Soluble Detergent for Dry-Cleaning Operations.
First use Sept. 29, 1959.

SN 93,739. American-Marietta Company, Chicago, Ill. Filed Mar. 28, 1960.

BOWL-BATH

For Cleaning Composition for Toilets.
First use on or about Feb. 17, 1960.

SN 99,522. Les Parfums Worth de Paris Inc., New York, N.Y. Filed June 22, 1960.

"JE REVIENS"

The English translation of "Je Reviens" is "I come back."
Owner of U.S. Reg. Nos. 301,937 and 303,565.
For Soaps.
First use October 1945.

SN 101,122. The Patterson-Sargent Company, Cleveland, Ohio. Filed July 19, 1960.

RINSIT

For Paint Brush and Roller Cleanser.
First use June 7, 1960.

SN 101,700. Purex Corporation, Ltd., South Gate, Calif. Filed July 29, 1960.

TRILBY

Owner of Reg. No. 27,134.
For Soap.
First use Aug. 1, 1956; Nov. 1, 1894, as to "Trilby Bouquet."

SN 101,719. Wyandotte Chemicals Corporation, Wyandotte, Mich. Filed July 29, 1960.

SENTOL

Owner of Reg. No. 683,776.
For Industrial-Type Liquid Detergent for Cleaning Dairy Equipment.
First use Jan. 27, 1958.

SN 101,851. Chemtronics Inc., Brooklyn, N.Y. Filed Aug. 2, 1960.

TROL-AID

For Cleaner and Lubricant for Electrical Contacts.
First use March 1958.

SN 101,852. Chemtronics Inc., Brooklyn, N.Y. Filed Aug. 2, 1960.

TUN-O-LUBE

For Cleaner and Lubricant for Electrical Contacts.
First use March 1958.

SERVICE MARKS

Class 100 — Miscellaneous

SN 43,777. Odor-Ex Corporation, Detroit, Mich. Filed Jan. 10, 1958.

ODOR-EX

For Deodorizing Service Particularly the Deodorizing of Buildings, Vehicles and Their Contents.
First use Apr. 1, 1956.

SN 51,800. Howard Johnson's Motor Lodges, Inc., Wollaston, Mass. Filed May 16, 1958.

HOWARD JOHNSON'S

Consent of Howard Johnson, founder and president of applicant corporation, is of record.

For Establishing, Maintaining and Operating Motor Lodges and Furnishing Lodging to the Motoring Public Through Related Companies.

First use on or about Jan. 1, 1954.

SN 84,968. Alliance Photoprint Co., Inc., New York, N.Y. Filed Nov. 10, 1959.

MICROLITH

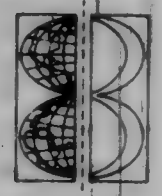
For Making Microfilm Copies of Papers, Documents, Written Instruments, Illustrations and the Like, and Consulting Services With Respect to Same.
First use Sept. 2, 1959.

SN 85,905. Price Candy Company, Kansas City, Mo. Filed Nov. 23, 1959.

Charl-Mont

Owner of Reg. No. 579,647.
For Fountain, Tea Room and Restaurant Services.
First use July 25, 1957.

SN 86,694. Badger Manufacturing Company, Cambridge, Mass. Filed June 9, 1960.



For Service in Evaluation, Design and Engineering of Industrial Processes and Plants, Particularly for Manufacturing and/or Processing of Chemicals, and in Initial Operation of Said Processes and Plants.
First use in October 1958.

Class 101 — Advertising and Business

SN 53,000. Affiliated Trading Company, Denver, Colo. Filed June 6, 1958.

MOR-VALU

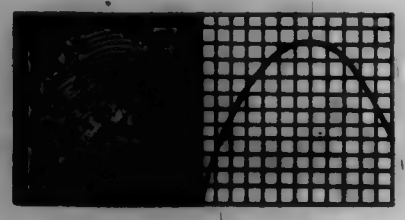
For Sales Promotion of the Goods of the Members of Applicant's Company Through the Medium of Trading Stamps Which Are Redeemable in Merchandise or Cash Premiums.
First use Jan. 13, 1957.

SN 60,427. National Val-U-Check Corporation, Corpus Christi, Tex. Filed Oct. 10, 1958.



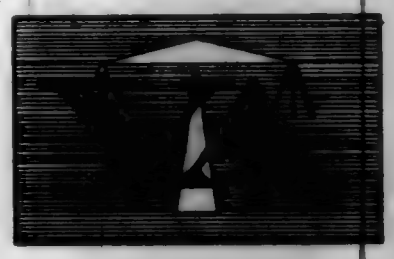
For Promoting the Sale of Goods of Others Through the Medium of Checks Which Are Redeemable at Face Value at Selected Stores.
First use Aug. 6, 1958.

SN 84,671. Thomas M. Koenig, d.b.a. Personnel Engineering, Rockford, Ill. Filed Nov. 5, 1959.



For Consultant and Employment Services in the Field of Personnel Management.
First use Sept. 3, 1958.

SN 84,702. Value Analysis, Inc., Schenectady, N.Y. Filed Nov. 5, 1959.



The background of the mark on the drawing is horizontally lined to indicate the color blue.
For Consulting Service Designed To Eliminate Unnecessary Costs in the Entire Business Cycle From Product Design to Customer Purchases.
First use Mar. 9, 1959.

SN 94,379. York Research Corporation, Stamford, Conn. Filed Apr. 4, 1960.



For Testing the Goods of Others and Preparing Reports Concerning the Findings During the Tests.
First use July 5, 1953.

Class 102 — Insurance and Financial

SN 52,060. Pledged Funds, Inc., Chicago, Ill. Filed May 21, 1958.



The lining in the drawing is a part of the mark and does not symbolize color.
For Financing in Connection With Insurance Programs.
First use on or about Oct. 22, 1957.

SN 62,786. Popular Merchandise Company, Inc., Passaic, N.J. Filed Nov. 19, 1958.

"21" Club

For Operating a Retail Purchase Plan by Which the Goods of Others Are Sold to Members of Purchasing Clubs.
First use Sept. 1, 1957.

SN 72,162. Ten Keys, Incorporated, Providence, R.I. Filed Apr. 23, 1959.

TEN KEYS INCORPORATED

The lining in the drawing constitutes part of the design and does not represent color.

For Furnishing Capital and Supplying Management to Selected Corporations.

First use Dec. 22, 1958.

SN 79,046. Business Men's Assurance Company of America, Kansas City, Mo. Filed Aug. 5, 1959.

PLANAVAC

For Insurance Underwriting Services.

First use Aug. 3, 1959.

SN 84,834. American Investofunds, Inc., New York, N.Y. Filed Nov. 9, 1959.

AMERICAN INVESTOFUNDS

For Providing Investment Advice and Services Concerning Investments, Including Help in the Selection of Mutual Funds, or Other Securities, Suited to a Particular Investment Goal.

First use Feb. 1, 1959.

Class 103 — Construction and Repair

SN 83,869. The Dow Chemical Company, Midland, Mich. Filed Oct. 23, 1959.

DUOFRAC

For Well Treating Service—Namely, Hydraulic Fracturing and Acidizing, With or Without a Propping Agent.

First use February 1958.

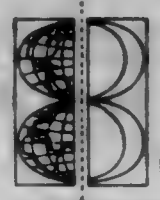
SN 84,451. Polybond Corporation, New Orleans, La. Filed Nov. 2, 1959.



For Treatment of Tanks and Buildings With a Water Resistant and Anti-Corrosive Compound.

First use Apr. 1, 1958.

SN 85,275. Badger Manufacturing Company, Cambridge, Mass. Filed Nov. 16, 1959.



For Construction of Industrial Plants, Such as Chemical Manufacturing and/or Processing Plants, Including the Procurement of Construction Materials and Construction of Buildings, Roads, Etc. Ancillary to Said Plants.

First use in October 1958.

SN 87,050. The Howard P. Foley Company, Washington, D.C. Filed Dec. 10, 1959.

FOLEY

For Electrical and Mechanical Construction Services.

First use 1919.

Class 105 — Transportation and Storage

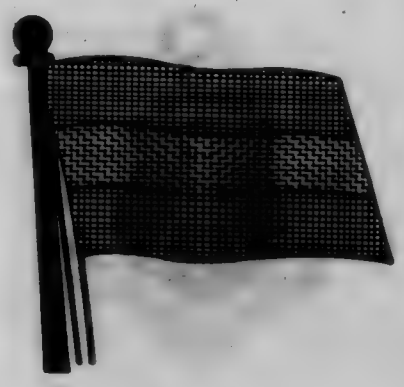
SN 76,400. Hertz System, Inc., Chicago, Ill. Filed June 24, 1959.

CAN AMERICAN

For Rental and Leasing of Vehicles.

First use on or about May 23, 1959.

SN 80,695. Trinidad Corporation, New York, N.Y. Filed Sept. 1, 1959.



The drawing is lined for black and gold.

For Marine Transportation of Petroleum Products.

First use December 1942.

Class 106—Material Treatment

SN 50,156. Fay Foto Finishers, Inc., d.b.a. McPenny's, Springfield, Mo. Filed Apr. 22, 1958.

MCPENNY'S

For Photographic Developing, Printing and Finishing Services.
First use in March 1954.

SN 80,291. Witherspoon-Guerin, Evansville, Ind. Filed Aug. 26, 1959.



The mark is a fanciful representation of artists' brushes and palette in the form of the letters "WG."
For Portrait Photography Services.
First use during May 1959.

SN 92,668. Wardrobe Service Inc., Spokane, Wash. Filed Mar. 11, 1960.



Applicant disclaims the words "Clean and Wear" used in the composite mark.
For Cleaning and Finishing Fabrics Such as Clothing, Blankets and Draperies.
First use Nov. 13, 1959.

Class 107—Education and Entertainment

SN 78,439. Dorland P. Dryer, Tarzana, Calif. Filed July 27, 1959.



Applicant makes no claim to the word "Production."
For Television Entertainment in the Form of Filmed Religious Programs; Rental of Religious Motion Pictures.
First use June 21, 1959.

SN 83,803. La Lanne Incorporated, Oakland, Calif. Filed Oct. 22, 1959.

JACK LA LANNE SHOW

The name "Jack La Lanne" is the name of the president of the applicant corporation.
For Title of a Television Program Featuring Demonstrations, Instructions, and Advice in the Field of Physical Culture and Nutrition.
First use Jan. 1, 1954.

SN 98,076. The Firth Carpet Company, New York, N.Y. Filed May 31, 1960.

SPOTLIGHTING YOU

For Title of a Television Show.
First use Apr. 7, 1959.

COLLECTIVE MEMBERSHIP MARKS

Class 200

SN 40,869. National Society of Pershing Rifles, Lincoln, Nebr. Filed Nov. 18, 1957.



For Indicating Membership in Applicant Society.
First use 1920.

SN 82,619. Woodwork Institute of California, Fresno, Calif. Filed Oct. 2, 1959.



For Indicating Membership in Applicant's Association of Woodwork Mills.
First use 1953.

SN 94,128. American Society of Real Estate Counselors, Chicago, Ill. Filed Apr. 1, 1960.



For Indicating Membership in Applicant Society.
First use Apr. 24, 1959.

SN 96,412. Greater St. Louis Automotive Association, Inc., St. Louis, Mo. Filed May 4, 1960.



The drawing is lined for green, but the mark is not limited to green, no color being used at times.
For Indicating Membership in the Applicant Association.
First use Mar. 25, 1960.

SN 96,534. The Trustees of Wake Forest College, Winston-Salem, N.C. Filed May 5, 1960.



The Latin phrase "Pro Humanitate," translated from the Latin, means "for humanity."
For Indicating Membership in the Student Body of Wake Forest College, or as an Alumnus Thereof.
First use on or about Sept. 15, 1958.

SN 100,568. Appalachian Hardwood Manufacturers, Inc., Cincinnati, Ohio. Filed July 11, 1960.

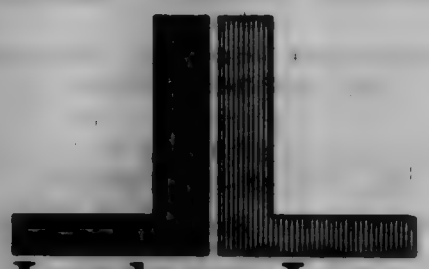


For Indicating Membership in Applicant Association.
First use about February 1950.

CERTIFICATION MARKS

Class A — Goods

SN 70,419. American Landrace Association, Noblesville, Ind. Filed Mar. 30, 1959.



The drawing is lined for red. The mark certifies that pork products upon which the mark is used are comprised of 100 percent meat from Landrace hogs, are made only from U.S.D.A. No. 1 grade hogs, and have been cured and seasoned according to standards specified by applicant.
For Pork Products.
First use Jan. 20, 1959.

SN 91,988. American Way Association, Grand Rapids, Mich. Filed Mar. 2, 1960.



The mark certifies that the goods meet standards set by applicant.
For Household Cleaning and Polishing Products.
First use Nov. 16, 1959.

TRADEMARK REGISTRATIONS ISSUED

PRINCIPAL REGISTER

Class 1—Raw or Partly Prepared Materials

710,718. FF AND DESIGN. Fairview Farms, Incorporated. SN 76,554. Pub. 11–22–60. Filed 6–26–59.

710,719. SANTAFLOR AND DESIGN. Hollandisch-Deutsche Santaflor Comp. Heinz Petersen K.G. SN 85,587. Pub. 11–22–60. Filed 11–18–59.

710,720. EXCELLITE. Tuflite Plastics, Incorporated. SN 90,593. Pub. 11–22–60. Filed 2–8–60.

710,721. VORASPAN. The Dow Chemical Company. SN 98,882. Pub. 11–22–60. Filed 6–13–60.

710,722. CROWFOOT DESIGN. F. B. Pyle, Jr. SN 98,932. Pub. 11–22–60. Filed 6–13–60.

710,723. FLAVOR-GLO. Wilbur-Ellis Company. SN 99,020. Pub. 11–22–60. Filed 6–14–60.

Class 2—Receptades

710,724. INVERT-A-BIN AND DESIGN. The Powell Pressed Steel Company. SN 85,773. Pub. 11–22–60. Filed 11–20–59.

710,725. FALCON. Falcon Alarm Company, Inc. SN 92,005. Pub. 11–22–60. Filed 3–2–60.

710,726. SANTA SACKS. Creative Poly Products. SN 94,391. Pub. 11–22–60. Filed 4–5–60.

710,727. SCOTCH. Minnesota Mining and Manufacturing Company. SN 95,840. Pub. 11–22–60. Filed 4–26–60.

710,728. PEERASOL. Peerless Tube Company. SN 96,253. Pub. 11–22–60. Filed 5–2–60.

710,729. TROJAN. Garland M. George, d.b.a. Bellwood Plastic Products. SN 96,493. Pub. 11–22–60. Filed 5–5–60.

710,730. PIZZA PORTER AND DESIGN. John E. Hammond. SN 96,595. Pub. 11–22–60. Filed 5–6–60.

710,731. A LUCKY WISH AND DESIGN. Lucky Wish Products, Inc. SN 96,714. Pub. 11–22–60. Filed 5–9–60.

710,732. GALE ART. Roken Inc. SN 96,741. Pub. 11–22–60. Filed 5–9–60.

710,733. WESTVACO WONDERWALL BEST BAG OF ALL. West Virginia Pulp and Paper Company. SN 97,971. Pub. 11–22–60. Filed 5–26–60.

710,734. UNITHERMAL. Maurice Bramson, d.b.a. Bramson Engineering Company. SN 98,427. Pub. 11–22–60. Filed 6–6–60.

710,735. MAGIC SEAL. Polyfab Company. SN 98,524. Pub. 11–22–60. Filed 6–6–60.

710,736. TRANSITAINER. Encinal Terminals. SN 98,570. Pub. 11–22–60. Filed 6–7–60.

710,737. TIDY-ALL. Tucker Products Corporation. SN 98,604. Pub. 11–22–60. Filed 6–7–60.

710,738. UNIVERSAL STOR-ALL. Universal Producing Company. SN 98,606. Pub. 11–22–60. Filed 6–7–60.

710,739. DISPOSABIN. Hooker Chemical Corporation. SN 98,654. Pub. 11–22–60. Filed 6–8–60.

710,740. PIC-A-RACK. Seco Company, Inc. SN 98,744. Pub. 11–22–60. Filed 6–9–60.

710,741. N NORCROSS. Norcross, Inc. SN 99,227. Pub. 11–22–60. Filed 6–17–60.

710,742. O AND SHIELD DESIGN. Olympic Plastics Company, Inc. SN 99,355. Pub. 11–22–60. Filed 6–20–60.

710,743. YALE. The Yale & Towne Manufacturing Company. SN 99,815. Pub. 11–22–60. Filed 6–27–60.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

710,744. CREAM PUFFS. A. S. Beck Shoe Corporation. SN 98,423. Pub. 11–22–60. Filed 6–6–60.

710,745. JUNIOR HOSTESS AND DESIGN. La Fred Plastic Manufacturing Co., Inc. SN 98,497. Pub. 11–22–60. Filed 6–6–60.

Class 4—Abrasives and Polishing Materials

710,746. SHI-NEE. P & V Specialty Co., Inc. SN 80,746. Pub. 11–22–60. Filed 9–2–59.

710,747. VIZI-DISCS. Norton Company. SN 97,687. Pub. 11–22–60. Filed 5–23–60.

710,748. VIZI-PAD. Norton Company. SN 97,688. Pub. 11–22–60. Filed 5–23–60.

710,749. QUICK-WAY. Quick Chemical Corporation. SN 97,700. Pub. 11–22–60. Filed 5–23–60.

Class 6—Chemicals and Chemical Compositions

710,750. DESIGN OF SPRAY GUN CHARACTER. Orkin Exterminating Company, Inc. SN 51,488. Pub. 11–22–60. Filed 5–12–58.

710,751. "OTTO" THE ORKIN MAN. Orkin Exterminating Company, Inc. SN 51,489. Pub. 11–22–60. Filed 5–12–58.

710,752. POLYESTREN. Cassella Farbwerke Mainkur Aktiengesellschaft. SN 78,976. Pub. 11–22–60. Filed 8–4–59.

710,753. PERM-O-THERM. S.M.W. Buying Syndicate, Inc. SN 80,591. Pub. 11–22–60. Filed 8–31–59.

710,754. SOLUTION 45. Shulton, Inc. SN 86,840. Pub. 11–22–60. Filed 12–7–59.

710,755. TARGET. De Mert & Dougherty, Inc. SN 88,223. Pub. 11–22–60. Filed 12–30–59.

710,756. MAGNA-DUST. Melvin W. Bronson, d.b.a. Bronson Products Company. SN 95,246. Pub. 11–22–60. Filed 4–18–60.

710,757. GULF. Gulf Oil Corporation. SN 95,431. Pub. 11–22–60. Filed 4–20–60.

710,758. GULF AND DESIGN. Gulf Oil Corporation. SN 95,432. Pub. 11–22–60. Filed 4–20–60.

710,759. S AND DESIGN. Sonneborn Chemical and Refining Corporation. SN 97,253. Pub. 11–22–60. Filed 5–16–60.

710,760. DIE-FLY. Triangle Chemical Company. SN 99,257. Pub. 11–22–60. Filed 6–17–60.

Class 7—Cordage

710,761. UNI-CORE. Armco Steel Corporation. SN 94,131. Pub. 11–22–60. Filed 4–1–60.

710,762. PNX. American Manufacturing Company, Inc. SN 94,872. Pub. 11–22–60. Filed 4–12–60.

710,763. HI-PLI. American Chain & Cable Company, Inc. SN 96,911. Pub. 11–22–60. Filed 5–12–60.

710,764. RADIANCE. William E. Wright & Sons Company. SN 97,004. Pub. 11–22–60. Filed 5–12–60.

Class 8—Smokers' Articles, Not Including Tobacco Products

710,765. MISS UNIVERSE. Catalina, Inc. SN 72,019. Pub. 11–22–60. Filed 4–22–59.

Class 9—Explosives, Firearms, Equipments, and Projectiles

710,766. KOLMITE. Atlas Powder Company. SN 80,848. Pub. 11–22–60. Filed 9–4–59.

710,767. AQUATOL. Atlas Powder Company. SN 88,203. Pub. 11–22–60. Filed 12–30–59.

710,768. IDEAL. The Lyman Gun Sight Corporation. SN 98,228. Pub. 11–22–60. Filed 6–1–60.

710,769. IRIS. Atlantic Research Corporation. SN 98,420. Pub. 11–22–60. Filed 6–6–60.

710,770. SWAG-O-MATIC. Charles R. Heckman, d.b.a. C.H. Die Company. SN 98,475. Pub. 11–22–60. Filed 6–6–60.

710,771. SHELLMASTER. Charles R. Heckman, d.b.a. C.H. Die Company. SN 98,476. Pub. 11–22–60. Filed 6–6–60.

Class 12—Construction Materials

710,772. DRI-SET. Basic, Incorporated. SN 64,389. Pub. 11–22–60. Filed 12–16–58.

710,773. INSALUM ETC. AND DESIGN. First Container Corporation. SN 66,033. Pub. 11–22–60. Filed 1–19–59.

710,774. QUICK-WAY AND DESIGN. Consolidated Waste Materials Co., Inc., d.b.a. Sheffield Auto Parts. SN 85,214. Pub. 11–22–60. Filed 11–13–59.

710,775. CRETE-COR. Armco Steel Corporation. SN 85,267. Pub. 11–22–60. Filed 11–16–59.

710,776. FENMARK. Fenestra Incorporated. SN 87,217. Pub. 11–22–60. Filed 12–14–59.

710,777. MJ. Midwest Jobbers, Inc. SN 94,791. Pub. 11–22–60. Filed 4–11–60.

710,778. RYLOCK. Rylock Company, Ltd. SN 99,661. Pub. 11–22–60. Filed 6–24–60.

710,779. SEAPORLUCENT. Seaporcel Metals, Inc. SN 99,791. Pub. 11–22–60. Filed 6–27–60.

710,780. CROWN Z AND DESIGN. Crown Zellerbach Corporation. SN 100,099. Pub. 11–22–60. Filed 7–1–60.

710,781. BAMELCO. B & M Corporation. SN 100,211. Pub. 11–22–60. Filed 7–5–60.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

710,782. COSASCO. Grant Oil Tool Company, assignee of Perfect Circle Corporation. SN 64,900. Pub. 11–22–60. Filed 12–24–58.

710,783. ROPEHOLD. The Hartford Company. SN 72,311. Pub. 11–22–60. Filed 4–27–59.

710,784. FORM-LITE. Vapor Heating Corporation. SN 87,750. Pub. 11–22–60. Filed 12–21–59.

710,785. WICKES. The Wickes Corporation, d.b.a. Wickes Lumber Co. SN 88,277. Pub. 11–22–60. Filed 12–30–59.

710,786. PIPE-MATE. Chemetron Corporation. SN 94,143. Pub. 11–22–60. Filed 4–1–60.

710,787. CLICK-PIC. Brite Manufacturing Co. SN 97,617. Pub. 11–22–60. Filed 5–23–60.

710,788. SHOKTROL. Zurn Industries, Inc. SN 97,900. Pub. 11–22–60. Filed 5–25–60.

Class 14—Metals and Metal Castings and Forgings

710,789. IGE AND DESIGN. Speer Carbon Company. SN 81,429. Pub. 11–22–60. Filed 9–15–59.

710,790. FORMAGEABLE. Crucible Steel Company of America. SN 95,364. Pub. 11–22–60. Filed 4–19–60.

710,791. T1. United States Steel Corporation. SN 96,540. Pub. 11–22–60. Filed 5–5–60.

Class 15—Oils and Greases

710,792. LOAD-A-MATIC. Southwest Grease & Oil Co., Inc. SN 59,671. Pub. 11–22–60. Filed 9–26–58.

710,793. S AND DESIGN. Sonneborn Chemical and Refining Corporation. SN 97,255. Pub. 11–22–60. Filed 5–16–60.

710,794. MISTER EASE. De Mert & Dougherty, Inc. SN 101,755. Pub. 11–22–60. Filed 8–1–60.

710,795. SABANOL AND DESIGN. American Sand-Banum Co., Inc. SN 104,013. Pub. 11–22–60. Filed 9–7–60.

Class 16—Protective and Decorative Coatings

710,796. SUNCORITE. Sunbeam Anti-Corrosives Limited. SN 83,667. Pub. 11–22–60. Filed 10–20–59.

710,797. SUNCORISING. Sunbeam Anti-Corrosives Limited. SN 83,668. Pub. 11–22–60. Filed 10–20–59.

710,798. DECORALT. The Flintkote Company. SN 83,712. Pub. 11–22–60. Filed 10–21–59.

710,799. DUTTON CITATION AND DESIGN. A. C. Dutton Lumber Corporation. SN 87,115. Pub. 11–22–60. Filed 12–11–59.

710,800. AM-FLECK. American-Marietta Company. SN 87,176. Pub. 11–22–60. Filed 12–14–59.

710,801. ISOPOXY. Schenectady Varnish Company, Inc. SN 90,453. Pub. 11–15–60. Filed 2–5–60.

710,802. REPRESENTATION OF A GROTESQUE FIGURE. Fairway Paint Stores, Inc. SN 96,322. Pub. 11–22–60. Filed 5–3–60.

710,803. S AND DESIGN. Sonneborn Chemical and Refining Corporation. SN 97,256. Pub. 11–22–60. Filed 5–16–60.

710,804. SEA SHORE. M. A. Bruder & Sons, Incorporated. SN 98,770. Pub. 11–22–60. Filed 6–10–60.

710,805. A-MARK OF QUALITY AND DESIGN. American-Marietta Company. SN 99,030. Pub. 11–22–60. Filed 6–15–60.

710,806. MASTER OIL. The Lowe Brothers Company. SN 99,152. Pub. 11–22–60. Filed 6–16–60.

Class 17—Tobacco Products

710,807. GOLDEN MIXTURE. Lane, Limited. SN 74,140. Pub. 11–22–60. Filed 5–20–59.

Class 18—Medicines and Pharmaceutical Preparations

710,808. AQUALAX. Irwin, Neisler & Company. SN 11,855. Pub. 6–30–59. Filed 7–10–56.

710,809. PATHO-TROL. Dade Reagents, Inc. SN 55,651. Pub. 1–27–59. Filed 7–21–58.

710,810. S AND DESIGN. Sonneborn Chemical and Refining Corporation. SN 97,257. Pub. 11–22–60. Filed 5–16–60.

710,811. DECASPRAY. Merck & Co., Inc. SN 100,856. Pub. 11–22–60. Filed 7–14–60.

710,812. DENTA-CORT. Schering Corporation. SN 100,935. Pub. 11–22–60. Filed 7–15–60.

710,813. ARSACS. Armour and Company. SN 100,967. Pub. 11–22–60. Filed 7–18–60.

710,814. NAVIDRIX. Ciba Pharmaceutical Products Inc. SN 101,241. Pub. 11–22–60. Filed 7–21–60.

710,815. TWILITE. The Pfeiffer Co. SN 101,276. Pub. 11–22–60. Filed 7–21–60.

710,816. TRIOCEL. Warner-Lambert Pharmaceutical Company. SN 101,361. Pub. 11–22–60. Filed 7–22–60.

710,817. ALBAMIX. The Upjohn Company. SN 101,581. Pub. 11–22–60. Filed 7–27–60.

710,818. TRV 350. Caltex Sales, Inc. SN 102,379. Pub. 11–22–60. Filed 8–10–60.

710,819. HEMO-PLEX. National Remedy Products Company, Inc. SN 102,576. Pub. 11–22–60. Filed 8–12–60.

Class 19—Vehicles

710,820. "ROUGH-DUTY" AND DESIGN. Crane Carrier Corporation. SN 86,637. Pub. 11–22–60. Filed 12–4–59.

710,821. AUGUSTINE. Margaret Anne Brosnan, now known as Sister Mary Brigid C.S.A. SN 89,548. Pub. 11–22–60. Filed 1–25–60.

710,822. AQUA JET. Roy M. Bloom Inc. SN 99,836. Pub. 11–22–60. Filed 6–28–60.

710,823. AIRMAT. The Goodyear Tire & Rubber Company. SN 99,933. Pub. 11–22–60. Filed 6–29–60.

Class 20—Linoleum and Oiled Cloth

710,824. TRAVERTINE. Robbins Floor Products, Inc. SN 88,806. Pub. 11–22–60. Filed 1–11–60.

710,825. GOLDEN JEWEL. Sandura Company. SN 93,008. Pub. 11–22–60. Filed 3–16–60.

710,826. OLYMPIA AND DESIGN. The Danbury Rubber Company, Inc. SN 99,574. Pub. 11–22–60. Filed 6–23–60.

710,827. PALATIAL. Armstrong Cork Company. SN 100,345. Pub. 11–22–60. Filed 7–6–60.

Class 21—Electrical Apparatus, Machines, and Supplies

710,828. OXALLOY. Sylvania Electric Products Inc. SN 83,752. Pub. 11–22–60. Filed 10–21–59.

710,829. FLETCHER MUNSON AND DESIGN. International Television Corporation. SN 83,975. Pub. 11–22–60. Filed 10–26–59.

710,830. COZY-LITE. Swiveller Company, Inc. SN 85,057. Pub. 11–22–60. Filed 11–10–59.

710,831. POWER PORTABLE. The Hobart Manufacturing Company. SN 85,741. Pub. 11–22–60. Filed 11–20–59.

710,832. POLE STAR. McGraw-Edison Company. SN 87,367. Pub. 11–22–60. Filed 12–15–59.

710,833. DULCET. Robert L. Mueller. SN 89,187. Pub. 11–22–60. Filed 1–18–60.

710,834. ENSCO. Ensco, Incorporated. CONSOLIDATED CERTIFICATE. SN 89,717, pub. 11–8–60, filed 11–23–59, Cl. 21; SN 89,718, pub. 11–8–60, filed 11–23–59, Cl. 44.

710,835. CURTISONIC. Curtiss-Wright Corporation. SN 90,745. Pub. 11–22–60. Filed 2–11–60.

710,836. QUARTZLINE. General Electric Company. SN 91,372. Pub. 11–22–60. Filed 2–23–60.

710,837. MINIPRINT. Telefonaktiebolaget L M Ericsson. SN 93,024. Pub. 11–22–60. Filed 3–16–60.

710,838. TELETRONIC. Telautograph Corporation. SN 94,852. Pub. 11–22–60. Filed 4–11–60.

710,839. JAMES. James Electronics, Inc. SN 95,093. Pub. 11–22–60. Filed 4–14–60.

710,840. SYNTOX-6. The Muter Company. SN 96,609. Pub. 11–22–60. Filed 5–6–60.

710,841. MARINE MASTER. Stauffer Chemical Company. SN 96,636. Pub. 11–22–60. Filed 5–6–60.

710,842. TRANSI-POWER. General Motors Corporation. SN 96,691. Pub. 11–22–60. Filed 5–9–60.

710,843. HY-FIDELCO. General Motors Corporation. SN 96,692. Pub. 11–22–60. Filed 5–9–60.

710,844. ERICROSSBAR. Telefonaktiebolaget L M Ericsson. SN 96,763. Pub. 11–22–60. Filed 5–9–60.

710,845. SPACIAL FIDELITY. Radio Frequency Laboratories, Inc. SN 96,810. Pub. 11–22–60. Filed 5–10–60.

710,846. MINI-STAB. Speer Carbon Company. SN 97,259. Pub. 11–22–60. Filed 5–16–60.

710,847. TBI. General Electric Company. SN 98,353. Pub. 11–22–60. Filed 6–3–60.

710,848. ROYAL CASTLE. Slumberest Company. SN 98,544. Pub. 11–22–60. Filed 6–6–60.

710,849. YALE. The Yale & Towne Manufacturing Company. SN 99,812. Pub. 11–22–60. Filed 6–27–60.

Class 22—Games, Toys, and Sporting Goods

710,850. APOLLO. Shoe Corporation of America. SN 85,920. Pub. 11–22–60. Filed 11–23–59.

710,851. REPRESENTATION OF A BUCK'S HEAD AND DESIGN. Orchard Industries, Incorporated. SN 87,711. Pub. 11–22–60. Filed 12–21–59.

710,852. SWIMITTS BY PIONEER. The Pioneer Rubber Company. SN 88,169. Pub. 11–22–60. Filed 12–29–59.

710,853. BEE RITE. Blodge A. Bukovey, d.b.a. B. A. Bukovey Co. SN 88,294. Pub. 11–22–60. Filed 12–31–59.

710,854. FOREST FRIENDS. Milton Bradley Company. SN 96,926. Pub. 11–22–60. Filed 5–12–60.

710,855. PLUNDER. Milton Bradley Company. SN 96,927. Pub. 11–22–60. Filed 5–12–60.

710,856. TWILIGHT EXPRESS. Milton Bradley Company. SN 96,930. Pub. 11–22–60. Filed 5–12–60.

710,857. ACE SUPREME. Amerace Corporation. SN 98,690. Pub. 11–22–60. Filed 6–9–60.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

710,858. CHEF SHARP. Imperial Knife Associated Companies, Inc. SN 82,340. Pub. 11–22–60. Filed 9–29–59.

710,859. REPRESENTATION OF A GIRL IN A CIRCLE. Sealed Power Corporation. SN 82,721. Pub. 11–22–60. Filed 10–5–59.

710,860. CHAMP. Eversharp, Inc. SN 83,074. Pub. 11–22–60. Filed 10–12–59.

710,861. SMOOTH-TONE. Graphic Supply Co., Inc. SN 87,351. Pub. 11–22–60. Filed 12–15–59.

710,862. WM. Western Machinery Company. SN 88,117. Pub. 11–22–60. Filed 12–28–59.

710,863. GLYCO. Glyco-Metall-Werke Daelen & Loos GmbH. SN 89,060. Pub. 11–8–60. Filed 1–15–60.

710,864. ADC USTER. Zellweger Ltd. SN 97,433. Pub. 11–22–60. Filed 5–11–60.

710,865. T AND DESIGN. Trainer Associates, Inc. SN 97,891. Pub. 11–22–60. Filed 5–25–60.

710,866. CLOD BUSTER AND DESIGN. Root Manufacturing Company, Inc. SN 98,025. Pub. 11–22–60. Filed 5–27–60.

710,867. "THE CAPITOL." Capitol Gears, Inc. SN 96,821. Pub. 11–22–60. Filed 5–12–60.

710,868. STRIPPIT. Houdaille Industries, Inc. SN 98,359. Pub. 11–22–60. Filed 6–3–60.

710,869. MINI-MULL. National Engineering Company. SN 98,511. Pub. 11–22–60. Filed 6–6–60.

710,870. SPACETRONIC. Royal McBee Corporation. SN 98,534. Pub. 11–22–60. Filed 6–6–60.

710,871. RODGERS ETC. AND DESIGN. Rodgers Hydraulic Incorporated. SN 98,593. Pub. 11–22–60. Filed 6–7–60.

710,872. JET-O-MIZER AND DESIGN. Fluid Energy Processing and Equipment Co. SN 98,984. Pub. 11–22–60. Filed 6–14–60.

710,873. HASKELOC. Haskel Engineering & Supply Co. SN 99,058. Pub. 11–22–60. Filed 6–15–60.

710,874. HASKEL BLOC. Haskel Engineering & Supply Co. SN 99,059. Pub. 11–22–60. Filed 6–15–60.

710,875. BAKERSAID. The Hobart Manufacturing Company. SN 99,145. Pub. 11–22–60. Filed 6–16–60.

710,876. STEREO-SPRAY. The Sherwin-Williams Company. SN 99,173. Pub. 11–22–60. Filed 6–16–60.

Class 24 — Laundry Appliances and Machines

710,877. SHARP AND DESIGN. Hayakawa Electric Co. Ltd. SN 69,421. Pub. 11–22–60. Filed 3–12–59.

710,878. NAT-MAR-CO. The National Marking Machine Co. SN 82,695. Pub. 11–22–60. Filed 10–5–59.

Class 26 — Measuring and Scientific Appliances

710,879. ULTRON. Voigtlander A.G. SN 81,359. Pub. 11–15–60. Filed 9–14–59.

710,880. PROTECTA-TROL. Union Tank Car Company. SN 83,252. Pub. 11–22–60. Filed 10–14–59.

710,881. YALE. The Yale & Towne Manufacturing Company. SN 99,819. Pub. 11–22–60. Filed 6–27–60.

Class 27 — Horological Instruments

710,882. STUART. Benjamin & Edward J. Gross Company, Inc. SN 90,158. Pub. 11–22–60. Filed 2–2–60.

710,883. SWIZA. Louis Schwab S.A. Moutier. SN 90,786. Pub. 11–22–60. Filed 2–11–60.

Class 28 — Jewelry and Precious-Metal Ware

710,884. WINDSOR CASTLE. Wallace Silversmiths, Inc. SN 85,989. Pub. 11–22–60. Filed 11–23–59.

710,885. RADIANT STAR. Reliable Stores Corporation. SN 97,958. Pub. 11–22–60. Filed 5–26–60.

Class 29 — Brooms, Brushes, and Dusters

710,886. MAGNELON. Celanese Corporation of America. SN 86,017. Pub. 11–22–60. Filed 11–25–59.

Class 31 — Filters and Refrigerators

710,887. TRIPLE-AIRE. Nutone, Inc. SN 83,542. Pub. 11–22–60. Filed 10–19–59.

710,888. TAYLOR SHAKEMASTER. Flavor Fast Foods, Inc. SN 88,983. Pub. 11–22–60. Filed 1–14–60.

710,889. MIRACLE WATER. Water Refining Company, Inc. SN 97,149. Pub. 11–22–60. Filed 5–13–60.

710,890. DRI-MAZE. Air-Maze Corporation. SN 98,563. Pub. 11–22–60. Filed 6–7–60.

710,891. ESCORT. Selectra Industries Limited. SN 98,745. Pub. 11–22–60. Filed 6–9–60.

Class 32 — Furniture and Upholstery

710,892. PAGE BOY. Theodore L. Million, d.b.a. Million Manufacturing Company. SN 51,041. Pub. 11–22–60. Filed 5–5–58.

710,893. COMPACTO. North American Aluminum Corp. SN 60,301. Pub. 11–22–60. Filed 10–8–58.

710,894. DILLINGHAM DUET. Dillingham Manufacturing Company. SN 84,213. Pub. 11–22–60. Filed 10–29–59.

710,895. RELAX-A-VISION. Futorian-Stratford Furniture Company. SN 92,749. Pub. 11–22–60. Filed 3–14–60.

710,896. STAKTUBE AND DESIGN. Stacor Equipment Co. SN 96,277. Pub. 11–22–60. Filed 5–2–60.

710,897. YALE. The Yale & Towne Manufacturing Company. SN 99,816. Pub. 11–22–60. Filed 6–27–60.

Class 33 — Glassware

710,898. MISS UNIVERSE. Catalina, Inc. SN 72,021. Pub. 11–22–60. Filed 4–22–59.

710,899. AQUATEX. American-Saint Gobain Corporation. SN 101,534. Pub. 11–22–60. Filed 7–27–60.

Class 34 — Heating, Lighting, and Ventilating Apparatus

710,900. HYDRO-PAC. Hydrotherm, Inc. SN 76,210. Pub. 11–22–60. Filed 6–22–59.

710,901. HYDRO-KIT. Hydrotherm, Inc. SN 76,212. Pub. 11–22–60. Filed 6–22–59.

710,902. HAYDEN. General Fittings Company. SN 92,459. Pub. 11–22–60. Filed 3–9–60.

710,903. COMPACKAGE. Cleaver-Brooks Special Products, Inc. SN 98,865. Pub. 11–22–60. Filed 6–13–60.

710,904. WEBCO-RAY. Western Boiler Co. SN 99,385. Pub. 11–22–60. Filed 6–20–60.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

710,905. AEROLAST. Aerol Co., Inc. SN 85,800. Pub. 11–22–60. Filed 11–23–59.

710,906. AA ORBIT AND DESIGN. AA Patch Company, Inc. SN 98,835. Pub. 11–22–60. Filed 6–13–60.

710,907. PUN-SUR-PAK. Fre-Mar Industries. SN 99,736. Pub. 11–22–60. Filed 6–27–60.

Class 36 — Musical Instruments and Supplies

710,908. APEX. The Compo Company Limited. SN 78,689. Pub. 11–22–60. Filed 7–30–59.

710,909. NIKI. Grundig Radio-Werke G.m.b.H. SN 83,369. Pub. 11–22–60. Filed 10–16–59.

710,910. BULOVA AND DESIGN. Bulova Watch Company, Inc. SN 87,182. Pub. 11–22–60. Filed 12–14–59.

710,911. RHYTHM STICK. Roger T. Connelly, Jr. SN 87,854. Pub. 11–22–60. Filed 12–23–59.

710,912. REDITUNE. Central Rediffusion Services Limited. SN 87,931. Pub. 11–22–60. Filed 12–24–59.

710,913. MIRACLE SURFACE. Radio Corporation of America. SN 89,022. Pub. 11–22–60. Filed 1–14–60.

Class 37 — Paper and Stationery

710,914. SAKURA. Cray-Pas Honpo Kabushiki Kaisha Sakura Shokai. SN 55,559. Pub. 11–22–60. Filed 7–17–58.

710,915. HIWAY-WIPE. Steiner American Corporation, by assignment and change of name from American Linen Supply Co. SN 57,735. Pub. 11–22–60. Filed 8–25–58.

710,916. MISS UNIVERSE. Catalina, Inc. SN 72,013. Pub. 11–22–60. Filed 4–22–59.

710,917. WHIRL-O-DEX. Cushman and Denison Mfg. Co., Inc. SN 85,472. Pub. 11–22–60. Filed 11–17–59.

710,918. COLOR HARMONY LINE. American Beauty Cover Co. SN 88,837. Pub. 11–22–60. Filed 1–12–60.

710,919. SNOWTUF. Stevens Band, Inc. SN 90,867. Pub. 11–22–60. Filed 2–12–60.

710,920. WONDERWHITE. The Northwest Paper Company. SN 94,798. Pub. 11–22–60. Filed 4–11–60.

Class 38 — Prints and Publications

710,921. ARCHITECTURAL & ENGINEERING NEWS. Hagan Publishing Corporation. SN 63,939. Pub. 6–23–59. Filed 12–9–58.

710,922. MILLION DOLLAR DIRECTORY. Dun & Bradstreet, Inc. SN 74,035. Pub. 11–22–60. Filed 5–19–59.

710,923. ARCHITECT AND ENGINEER. McGraw-Hill Company of California. SN 76,003. Pub. 8–18–59. Filed 6–18–59.

710,924. EXPLORING THE UNKNOWN AND DESIGN. Health Knowledge, Inc. SN 93,073. Pub. 11–22–60. Filed 3–17–60.

710,925. DUOPIX. Ad-Trix Corporation. SN 94,222. Pub. 11–22–60. Filed 4–4–60.

Class 39 — Clothing

710,926. LYKENS CUSHION FOOT. Lykens Hosiery Mills, Inc. SN 15,805. Pub. 11–22–60. Filed 9–17–56.

710,927. KUD-L-NAP. Charles Pindyck, Inc. SN 42,050. Pub. 11–22–60. Filed 12–9–57.

710,928. SABELEUR. Canterbury Knitters, Ltd. SN 68,113. Pub. 11–22–60. Filed 2–20–59.

710,929. KOMFY KAP. Regal Manufacturing Co., Inc., d.b.a. Regal Manufacturing Co. SN 69,285. Pub. 11–22–60. Filed 3–10–59.

710,930. CORTEFIEL AND DESIGN. Manufacturas de Vestido S.A. SN 71,497. Pub. 11–22–60. Filed 4–14–59.

710,931. MISS UNIVERSE. Catalina, Inc. SN 72,015. Pub. 11–22–60. Filed 4–22–59.

710,932. GRAND SLAM. Hat Corporation of America. SN 75,307. Pub. 11–22–60. Filed 6–8–59.

710,933. TRUCKER'S SPECIAL AND DESIGN. Wells Lamont Corporation. SN 76,295. Pub. 11–22–60. Filed 6–22–59.

710,934. ROMEO'S. Robert Hall Clothes, Inc. SN 78,202. Pub. 11–22–60. Filed 7–22–59.

710,935. HUNTERS LANE AND DESIGN. Hampton Shirt Co., Inc. SN 83,619. Pub. 11–22–60. Filed 10–20–59.

710,936. A KATE GREENAWAY KEEPSAKE AND DESIGN. L. Wohl & Company, Incorporated. SN 86,086. Pub. 11–22–60. Filed 11–25–59.

710,937. ROMPS. Abraham S. Bloom, d.b.a. Pioneer Shoe Company. SN 86,630. Pub. 11–22–60. Filed 12–4–59.

710,938. DISTINCTION. Triumph International Aktiengesellschaft, by change of name from Triumph Textil- und Bekleidungswerke Aktiengesellschaft. SN 88,262. Pub. 11–15–60. Filed 12–30–59.

710,939. NOTE. Triumph International Aktiengesellschaft, by change of name from Triumph Textil- und Bekleidungswerke Aktiengesellschaft. SN 88,263. Pub. 10–25–60. Filed 12–30–59.

710,940. JOHN WHITE. John White Footwear Holdings Limited. SN 91,377. Pub. 11–22–60. Filed 1–7–60.

710,941. SIROCCO. Bernard Levine, d.b.a. Santa Cruz Sportswear Co. SN 92,781. Pub. 11–22–60. Filed 3–14–60.

710,942. PAT PRICE. Mutual Buying Syndicate, Inc. SN 93,199. Pub. 11–22–60. Filed 3–18–60.

710,943. HAGGAR D–70 AND DESIGN. Haggar Company. SN 93,520. Pub. 11–22–60. Filed 3–23–60.

710,944. HAND TREAT. Aris Gloves, Inc. SN 94,130. Pub. 11–22–60. Filed 4–1–60.

710,945. MR. U.S.A. Trimount Clothing Co., Inc. SN 94,525. Pub. 11–22–60. Filed 4–6–60.

710,946. BUNNY STRAW. Elizabeth A. Bissinger. SN 94,728. Pub. 11–22–60. Filed 4–11–60.

710,947. BUNNY-HOPS. Sears, Roebuck and Co. SN 94,825. Pub. 11–22–60. Filed 4–11–60.

710,948. ROYAL PURPLE. Sears, Roebuck and Co. SN 94,826. Pub. 11–22–60. Filed 4–11–60.

710,949. CLINGTEX. Sears, Roebuck and Co. SN 94,827. Pub. 11–22–60. Filed 4–11–60.

710,950. THUNDER-BUCKS. International Shoe Company. SN 95,175. Pub. 11–22–60. Filed 4–15–60.

710,951. PALCO-NET. Paperlynen Company. SN 95,309. Pub. 11–22–60. Filed 4–18–60.

710,952. CRINO-PEAK. Paperlynen Company. SN 95,310. Pub. 11–22–60. Filed 4–18–60.

710,953. HIGH HOPES. The Weldt Corporation. SN 95,463. Pub. 11–22–60. Filed 4–20–60.

710,954. LAWN SPRITE. National Glove, Inc. SN 95,511. Pub. 11–22–60. Filed 4–21–60.

710,955. SQUEAKIE. Netraco, Inc. SN 95,512. Pub. 11–22–60. Filed 4–21–60.

710,956. GRAND. The Grand Union Company. SN 96,002. Pub. 11–22–60. Filed 4–28–60.

710,957. HILTON ETC. AND DESIGN. Hilton Bowling Shirt Co. SN 96,219. Pub. 11–22–60. Filed 5–2–60.

710,958. IMPERIAL HOUSE. Imperial House, Inc. SN 96,224. Pub. 11–22–60. Filed 5–2–60.

710,959. CARAVELLES FROM NORTHEAST. Northeast Shoe Company, Inc. SN 96,246. Pub. 11–22–60. Filed 5–2–60.

710,960. KAY DALE ETC. AND DESIGN. Bettermade Garment Company. SN 96,468. Pub. 11–22–60. Filed 5–5–60.

710,961. YOUNG VIEWPOINT TRAVELER. Ginsburg and Abelson, Inc. SN 96,591. Pub. 11–22–60. Filed 5–6–60.

710,962. LAURENS AND DESIGN. Soren Shirt Company, Inc. SN 96,893. Pub. 11–22–60. Filed 5–11–60.

710,963. BORRE. Morris Metzger and Sons Inc. SN 96,988. Pub. 11–22–60. Filed 5–12–60.

710,964. GORDON-FORD. Gordon-Ford Inc. SN 97,204. Pub. 11–22–60. Filed 5–16–60.

710,965. THE DUBLINER AND DESIGN. Dave Bellsey Co. Inc. SN 98,855. Pub. 11–22–60. Filed 6–13–60.

710,966. JOAN MATHEWS. Barlin Knitting Mills, Inc. SN 100,214. Pub. 11–22–60. Filed 7–5–60.

710,967. SIZEMASTER. Edward M. Reece, d.b.a. Calree Company. SN 100,464. Pub. 11–22–60. Filed 7–7–60.

710,968. SADDLE-MATES. The W. L. Kreider's Sons Mfg. Co., Inc. SN 100,523. Pub. 11–22–60. Filed 7–8–60.

Class 40—Fancy Goods, Furnishings, and Notions

710,969. (See Class 41 for this trademark.)

710,970. AIR PUFFS AND DESIGN. Raymond C. Dorr, d.b.a. Air Puffs Co. SN 70,999. Pub. 11–22–60. Filed 4–7–59.

710,971. MISS UNIVERSE. Catalina, Inc. SN 72,010. Pub. 11–22–60. Filed 4–22–59.

710,972. "RIGILON." Selectus Limited. SN 81,338. Pub. 11–22–60. Filed 9–14–59.

710,973. FLATTERETTS. Relco Sales. SN 89,027. Pub. 11–22–60. Filed 1–14–60.

710,974. MUVA AND DESIGN. N.V. Eerste Nederlandsche Naaldenfabriek A. & F. Musolf. SN 90,175. Pub. 11–22–60. Filed 2–2–60.

Class 41—Canes, Parasols, and Umbrellas

710,969. MISS UNIVERSE. Catalina, Inc. SN 72,009. Pub. 11–22–60. Filed 4–22–59.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

710,975. COOLCORD AND DESIGN. Erwin Mills, Inc. SN 75,910. Pub. 11–22–60. Filed 6–17–59.

710,976. GOLD MEDAL BRAND ETC. AND DESIGN. William Liddell and Company Limited. SN 86,580. Pub. 11–22–60. Filed 12–3–59.

710,977. THE MATERIAL DISTINCTION IS SKINNER. William Skinner & Sons. SN 91,034. Pub. 11–22–60. Filed 2–16–60.

710,978. BEEHIVE AND REPRESENTATION OF A BEEHIVE. Kreege-Newark, Inc. SN 95,099. Pub. 11–22–60. Filed 4–14–60.

710,979. PRESTWICK. Courtaulds, Inc. SN 95,693. Pub. 11–8–60. Filed 4–25–60.

710,980. BRANDON. Chatham Manufacturing Company. SN 96,088. Pub. 11–22–60. Filed 4–29–60.

710,981. RO-INC AND DESIGN. Rosenberg's, Inc. SN 97,329. Pub. 11–22–60. Filed 5–17–60.

710,982. SIDNEY BLUMENTHAL, THE FABRIC MAN! AND DESIGN. Sidney Blumenthal & Co., Inc. SN 97,375. Pub. 11–22–60. Filed 5–18–60.

710,983. SIDNEY BLUMENTHAL, THE FABRIC MAN! Sidney Blumenthal & Co., Inc. SN 97,376. Pub. 11–22–60. Filed 5–18–60.

710,984. DIAMOND-TEX. Chapman Brothers Felt Company. SN 100,224. Pub. 11–22–60. Filed 7–5–60.

710,985. TRANSQUALITY. J. P. Stevens & Co., Inc. SN 100,311. Pub. 11–22–60. Filed 7–5–60.

710,986. TREMENDO. J. P. Stevens & Co., Inc. SN 100,312. Pub. 11–22–60. Filed 7–5–60.

710,987. SPACE-WAITE. J. P. Stevens & Co., Inc. SN 100,313. Pub. 11–22–60. Filed 7–5–60.

710,988. REPRESENTATION OF INDIAN HEAD. Indian Head Mills, Inc. SN 100,367. Pub. 11–22–60. Filed 7–6–60.

Class 43—Thread and Yarn

710,989. RAF-CORD. Continental Models, Inc. SN 96,396. Pub. 11–22–60. Filed 5–4–60.

Class 44—Dental, Medical, and Surgical Appliances

710,834. CONSOLIDATED CERTIFICATE. See Class 21.

Class 45—Soft Drinks and Carbonated Waters

710,990. MISS UNIVERSE. Catalina, Inc. SN 72,016. Pub. 11–22–60. Filed 4–22–59.

Class 46—Foods and Ingredients of Foods

710,991. MARSHALL'S. Marshall & Co. (Aberdeen) Ltd. SN 25,553. Pub. 1–13–59. Filed 3–5–57.

710,992. TRIM. Steffen Dairy Foods Company, Inc. SN 42,550. Pub. 11–22–60. Filed 12–16–57.

710,993. TWIN-SLICE. Gordon Baking Company. SN 79,645. Pub. 11–22–60. Filed 8–17–59.

710,994. A LA CARTE. Central Retailer-Owned Grocers, Inc. SN 79,835. Pub. 11–22–60. Filed 8–19–59.

710,995. LOMBARDIA. Armour and Company, d.b.a. The North American Provision Company. SN 84,721. Pub. 11–22–60. Filed 11–6–59.

710,996. FIRST LADY. Sales Producers Associates, Inc. SN 86,834. Pub. 11–22–60. Filed 12–7–59.

710,997. DISTRA. Aktiebolaget Astra, Apotekarnes Kemiska Fabriker. SN 88,283. Pub. 11–22–60. Filed 12–31–59.

710,998. TWO JOKERS. Montalvo Farms. SN 99,163. Pub. 11–22–60. Filed 6–16–60.

Class 47—Wines

710,999. FRANZ WEBER. Monsieur Henri Wines, Ltd., d.b.a. Henri Wines Ltd. SN 83,815. Pub. 11–22–60. Filed 10–22–59.

711,000. OYSTER. David Courtney Limited. SN 92,722. Pub. 11–22–60. Filed 3–14–60.

711,001. WAGON TRAIN. Alta Vineyards Company, d.b.a. Old West Wine Co. SN 96,653. Pub. 11–22–60. Filed 5–9–60.

Class 49—Distilled Alcoholic Liquors

711,002. BAERENFANG BEARTRAP. Teucke & Koenig. SN 91,130. Pub. 11–22–60. Filed 2–17–60.

Class 50—Merchandise Not Otherwise Classified

711,003. TOTETOP. Regal Industries, Inc. SN 78,918. Pub. 11–22–60. Filed 8–3–59.

711,004. JOHNSON DUPLA-PLATES. A. G. Johnson Electrotype Company. SN 85,228. Pub. 11–22–60. Filed 11–13–59.

711,005. DOUBL GLO AND DESIGN. Paper Novelty Manufacturing Company. SN 89,941. Pub. 11–22–60. Filed 1–29–60.

711,006. EVERGLEAM. Aluminum Specialty Company. SN 93,733. Pub. 11–22–60. Filed 3–28–60.

711,007. FLYING KIKI BIRD. A. Lange Florist, Inc. SN 94,899. Pub. 11–22–60. Filed 4–12–60.

711,008. NOBLE TROPHIES. F. H. Noble & Company. SN 96,518. Pub. 11–22–60. Filed 5–5–60.

711,009. ELOXIDE. Lawton Chemical Inc. SN 96,709. Pub. 11–22–60. Filed 5–9–60.

Class 51 — Cosmetics and Toilet Preparations

711,010. ELYSEES 64–83. Les Parfums Pierre Balmain S.A., assignee of Pierre Balmain. SN 83,268. Pub. 4–26–60. Filed 10–15–59.

711,011. ARRIVE BEAUTIFUL. Arrivals, Ltd. SN 83,687. Pub. 11–22–60. Filed 10–21–59.

711,012. RADAR. The Procter & Gamble Company. SN 94,810. Pub. 11–22–60. Filed 4–11–60.

Class 52 — Detergents and Soaps

711,013. DISTRA. Aktiebolaget Astra, Apotekarnes Kemiska Fabriker. SN 88,285. Pub. 11–22–60. Filed 12–31–59.

711,014. COAST. The Procter & Gamble Company. SN 90,360. Pub. 11–22–60. Filed 2–4–60.

711,015. FLAG. The Procter & Gamble Company. SN 96,031. Pub. 11–22–60. Filed 4–28–60.

711,016. KEEN KLEEN. Battenfeld Grease & Oil Corporation, Inc. SN 96,923. Pub. 11–22–60. Filed 5–12–60.

711,017. S AND DESIGN. Sonneborn Chemical and Refining Corporation. SN 97,258. Pub. 11–22–60. Filed 5–16–60.

Service Marks

Class 101 — Advertising and Business

711,018. BARRYMORE HOUSE. Barrymore House Company. SN 92,525. Pub. 11–22–60. Filed 3–10–60.

Class 102 — Insurance and Financial

711,019. INVESTOGRAPHS. Investographs, Inc., assignee of Edwin S. Quinn. SN 76,827. Pub. 11–22–60. Filed 6–30–59.

711,020. MR. FORESIGHT. First Federal Savings and Loan Association of Kansas City. SN 92,239. Pub. 11–22–60. Filed S.R. 3–7–60; Am. P.R. 8–25–60.

711,021. AMERICAN ACCEPTANCE CORPORATION A.A.C. AND DESIGN. American Acceptance Corporation. SN 93,042. Pub. 11–22–60. Filed 3–17–60.

Class 103 — Construction and Repair

711,022. "HOOK." Hook & Ackerman, Inc. SN 59,466. Pub. 11–22–60. Filed 9–24–58.

Class 106 — Material Treatment

711,023. SANI-SOFT. Braswell Sani-Soft Water Service, Inc. SN 78,250. Pub. 11–22–60. Filed 7–23–59.

711,024. PEPI-TAN ETC. AND DESIGN. New Method Fur Dressing Co. SN 82,290. Pub. 11–22–60. Filed 9–28–59.

Class 107 — Education and Entertainment

711,025. STEREO-PARTI AND DESIGN. Daniel H. Hulett, d.b.a. Stereo-Parti. SN 63,676. Pub. 11–22–60. Filed 12–4–58.

711,026. LIVING TAPE. National Telefilm Associates, Inc. SN 67,954. Pub. 11–22–60. Filed 2–18–59.

711,027. L–T. National Telefilm Associates, Inc. SN 67,955. Pub. 11–22–60. Filed 2–18–59.

711,028. THE NEW ERA PLAN. Edmund R. Abell. SN 73,181. Pub. 11–22–60. Filed 5–8–59.

711,029. MISSION AT MID-CENTURY. The Domestic and Foreign Missionary Society of the Protestant Episcopal Church in the United States of America. SN 83,780. Pub. 11–22–60. Filed 10–22–59.

711,030. THE SEARCH. The Domestic and Foreign Missionary Society of the Protestant Episcopal Church in the United States of America. SN 83,781. Pub. 11–22–60. Filed 10–22–59.

711,031. VIEWPOINT. The Domestic and Foreign Missionary Society of the Protestant Episcopal Church in the United States of America. SN 83,782. Pub. 11–22–60. Filed 10–22–59.

711,032. CENTURY 21 EXPOSITION. Century 21 Exposition, Inc. SN 87,402. Pub. 11–22–60. Filed 12–16–59.

711,033. SPACE-AGE SYMBOL. Century 21 Exposition, Inc. SN 87,403. Pub. 11–22–60. Filed 12–16–59.

711,034. CENTURY 21 EXPOSITION AND DESIGN. Century 21 Exposition, Inc. SN 87,404. Pub. 11–22–60. Filed 12–16–59.

711,035. PLAYBOY'S PENTHOUSE. HMH Publishing Co., Inc. SN 95,589. Pub. 11–22–60. Filed 4–22–60.

Collective Membership Mark

Class 200

711,036. THE TITTERSNACKER CLUB. Sam Heppenstall and Associates, Inc. SN 72,038. Pub. 11–22–60. Filed 4–22–59.

TRADEMARK REGISTRATIONS RENEWED

137,882. TIFFANY. Cl. 4. 12–7–20.
137,883. TIFFANY & CO. Cl. 22. 12–7–20.
137,884. TIFFANY & CO. Cl. 38. 12–7–20.
137,960. BUCKEYE. Cl. 50. 12–14–20.
138,425. BIG DIAMOND AND DESIGN. Cl. 46. 12–28–20.
139,029. UNICY. Cl. 46. 1–18–21.
139,426. MINIMAX. Cl. 9. 2–1–21.
139,517. JD (MONOGRAM). Cl. 23. 2–8–21.
141,532. CELORON. Cl. 21. 4–26–21.
141,591. GOLD DOLLARS AND DESIGN. Cl. 46. 4–26–21.
141,714. WAYAGAMACK. Cl. 37. 4–26–21.
142,117. ROYAL. Cl. 23. 5–3–21.
142,520. FEDERAL. Cl. 44. 5–17–21.
142,709. "SEAPORT." Cl. 7. 5–17–21.
142,740. PRINCESS PAT. Cl. 39. 5–17–21.
142,973. CUTEX. Cl. 51. 5–24–21.
143,012. SETO. Cl. 6. 5–24–21.
382,685. THE BEST FRIEND A CRACKER EVER HAD. Cl. 46. 11–5–40.
383,256. SUPER-SORB. Cl. 6. 11–26–40.
383,331. RYTEX FLIGHT. Cl. 37. 12–3–40.
383,465. KIRKSON. Cl. 14. 12–10–40.
383,466. KIRKSITE. Cl. 14. 12–10–40.
383,583. TROCADERO ETC. AND DESIGN. Cl. 46. 12–17–40.
383,608. THE ORIGINAL SIGHT-EXCHANGE. Cl. 9. 12–17–40.
383,725. CHIKSAN. Cl. 23. 12–24–40.

383,973. RYTEX FEATHER. Cl. 37. 12–31–40.
384,060. CRYOVAC. Cl. 2. 1–7–41.
384,095. RYTEX TWEED-WEAVE. Cl. 37. 1–7–41.
384,104. RYTEX CHARTER CLUB. Cl. 37. 1–7–41.
384,107. NU-HUE. Cl. 38. 1–7–41.
384,129. THE LAST WORD. Cl. 38. 1–7–41.
384,130. DOWFUME. Cl. 6. 2–18–41.
384,131. MEMO FROM THE EDITOR. Cl. 38. 1–7–41.
384,216. ROYAL AMBER. Cl. 48. 1–7–41.
384,254. ARIGEN. Cl. 6. 1–7–41.
384,317. UL AND DESIGN. Cl. 23. 1–14–41.
384,351. DERCOSOL. Cl. 52. 1–14–41.
384,495. SPIB. Cl. 12. 1–21–41.
384,551. CHIKSAN. Cl. 13. 1–21–41.
384,602. FERINEX. Cl. 18. 1–21–41.
384,679. DYPHENE. Cl. 1. 1–28–41.
384,680. DYMAL. Cl. 1. 1–28–41.
384,683. ONCE OVER. Cl. 39. 1–28–41.
384,733. ABC AMERICA'S BEST CANDY AND DESIGN. Cl. 46. 2–4–41.
384,783. COLLEGE BOARD. Cl. 38. 2–4–41.
385,300. 1847 ROGERS BROS. STERLING. Cl. 28. 2–25–41.
385,301. 1847 STERLING. Cl. 28. 2–25–41.
385,466. JELFLAKE. Cl. 12. 3–4–41.
385,656. AIRFOAM. Cl. 1. 3–11–41.
385,699. CONCERTO. Cl. 39. 3–11–41.
385,860. CORSON'S MIRACLE. Cl. 12. 3–18–41.
385,912. REX. Cl. 18. 3–25–41.
386,076. KESSOLANA. Cl. 18. 3–25–41.
386,748. LORD CRAVEN. Cl. 49. 4–22–41.
386,826. TOWN CLUB. Cl. 39. 4–22–41.
387,138. FARM BELLE AND DESIGN. Cl. 46. 5–6–41.
387,177. SUPRA. Cl. 15. 5–6–41.
387,223. PETRI. Cl. 17. 5–6–41.
387,683. BROOKORD. Cl. 42. 5–27–41.
387,754. MUTED ROSE. Cl. 51. 5–27–41.

TRADEMARK REGISTRATIONS CANCELED

Section 7(d)

651,664. DUMEX AND DESIGN. Cl. 18. 9–17–57.
689,005. METALCOAT. Cl. 16. 12–1–59.
695,496. VISCO-SAL. Cl. 6. 4–5–60.
701,835. FEATHER SOFT AND DESIGN. Cl. 37. 7–26–60.

Section 8

252,131. AMERICAN PARK. Cl. 1. 1–22–29.
317,100. ADMIRAL BYRD ETC. AND DESIGN. Cl. 39. 9–11–34.

The following registrations issued Dec. 31, 1954

599,510. LIFE-LITE LAMINATES AND DESIGN. Cl. 1.
599,512. GRO-LITE. Cl. 1.
599,513. REPELLO AND DESIGN. Cl. 1.
599,514. MEMOX. Cl. 1.
599,515. MAGIK-GLO. Cl. 4.
599,516. DARI-BRITE. Cl. 4.
599,517. SIMOLITE. Cl. 4.
599,521. BENTOX. Cl. 6.
599,525. D IN DESIGN. Cl. 6.
599,530. NO-MO-SKEETS. Cl. 6.
599,532. WESTERN CHEF. Cl. 6.
599,536. SWEEPSTAKES. Cl. 8.
599,538. FLUID-EYE. Cl. 8.
599,539. BRIDAL BAND. Cl. 8.
599,546. LOY AND DESIGN. Cl. 12.
599,547. LOY PLASTIC METAL AND DESIGN. Cl. 12.
599,552. DUO-MATIC. Cl. 12.
599,557. TRAVLEEZ. Cl. 18.
599,569. 3F VITAMIN-MINERAL ETC. Cl. 18.
599,579. KWIK-KOOL. Cl. 19.
599,582. LINAMATIC. Cl. 19.
599,585. REPRESENTATION OF PILOT WHEEL. Cl. 19.
599,586. CRES-COR-LITE. Cl. 19.
599,592. SKYMASTER. Cl. 21.
599,594. THERMA LOOP. Cl. 21.
599,599. PENN CRAFT. Cl. 21.
599,601. AQUAPULPER. Cl. 23.
599,603. REPRESENTATION OF ROOSTERS FIGHTING. Cl. 23.
599,605. CHECK-A-MATIC. Cl. 23.
599,606. TOUGH-PLY. Cl. 23.
599,608. SHERATON. Cl. 23.
599,610. DOHR-X. Cl. 23.
599,611. CUSH-N-BLO. Cl. 23.
599,615. PRIME-O-MATIC. Cl. 23.
599,617. GOB SHOPS. Cl. 23.
599,618. UNSCO. Cl. 23.
599,619. GOLD SEAL ACME AND DESIGN. Cl. 23.
599,624. NU J AND DESIGN. Cl. 23.
599,627. PENOPTIC. Cl. 26.
599,628. DIAL .A. MILE AND DESIGN. Cl. 26.
599,630. NITE-CLIP. Cl. 26.
599,635. GOLD STAR BRAND AND DESIGN. Cl. 26.
599,639. TELO CATER. Cl. 26.
599,641. BC-MITE. Cl. 26.
599,647. UNI-TUNER. Cl. 26.
599,648. ANSCOLOR. Cl. 26.
599,649. OMICRON. Cl. 26.
599,655. EBONEX. Cl. 28.
599,656. CONTOUR. Cl. 28.
599,660. COLLO. Cl. 29.
599,662. DIASIL. Cl. 31.
599,665. REPRESENTATION OF MAN THROWING DISC AND FEATHER. Cl. 31.
599,666. POSEY-ANA. Cl. 32.
599,670. BUFF. Cl. 32.
599,671. KAMPERS KOMFORT. Cl. 32.
599,673. LIFOAM. Cl. 32.
599,676. CHROM-O-FAMA. Cl. 32.
599,677. CIRCLE D AND DESIGN. Cl. 32.
599,680. PIXIE AND DESIGN. Cl. 32.
599,682. MASO. Cl. 32.
599,690. ARC RECORDING AND DESIGN. Cl. 36.
599,696. THE FARM AND HOME BUILDER. Cl. 38.
599,697. PACKORAMA. Cl. 38.
599,699. NYMILON. Cl. 39.
599,705. PATWEAR FASHIONS. Cl. 39.
599,706. BORN TO LOVE AND DESIGN. Cl. 39.
599,709. TRIGGERFREE. Cl. 39.
599,710. BACCARA. Cl. 39.
599,711. DOG AND CAT DESIGN. Cl. 40.
599,716. TOTLAND SCARF. Cl. 42.
599,718. NEATWAVE. Cl. 42.
599,719. STAYMO. Cl. 42.
599,721. DRAPER WOOLENS AND DESIGN. Cl. 42.
599,723. SEW-FAST. Cl. 42.
599,729. CATINA CLOTH BY PERTH. Cl. 42.
599,732. SNOBAK. Cl. 42.
599,733. GLANACO. Cl. 42.
599,734. CHROMQUILT. Cl. 42.
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599,742. LADYLISA YARNS. Cl. 43.
599,743. SYL-STRAND. Cl. 43.
599,745. COLORFAST. Cl. 44.
599,749. SANTA CLARA AND DESIGN. Cl. 46.
599,755. TWIN BEAR AND DESIGN. Cl. 50.
599,758. MAGNA-WYTE BORD. Cl. 50.
599,760. OKO-FERN. Cl. 50.
599,762. ASTRINGEN. Cl. 51.
599,765. FIND. Cl. 52.
599,766. DISH-A-WAY. Cl. 52.
599,770. FLO-EX. Cl. 52.
599,776. EMERGENCY SECURITY PLAN AND DESIGN. Cl. 102.
599,779. CZC (FR). Cl. 106.
599,781. FLYFOTO AND DESIGN. Cl. 106.
599,790. SMOOTH-ON. Cl. 51.

Section 18

294,146. RIDE 'EM. Cl. 22. 5–17–32.
670,223. TEE CO 5TH AVE. AND DESIGN. Cl. 28. 11–25–58.

TRADEMARK REGISTRATIONS AMENDED, DISCLAIMED, CORRECTED, ETC.

166,155. MOTORINE. Cl. 15. 3–27–23. The Continental Oil Company. Continental Oil Company, Ponca City, Okla. Amended: In the statement, column 2, line 5, "and greases" is deleted.

197,337. CRACKER JACK AND DESIGN. Cl. 46. 4–14–25. The Cracker Jack Co., Chicago, Ill. Amended to appear:



242,080. NATIONAL GEOGRAPHIC. Cl. 38. 5–15–28. National Geographic Society, Washington, D.C. Amended: In the statement, column 2, lines 3 through 5 are deleted, and the drawing is amended to appear:

NATIONAL GEOGRAPHIC

270,725. CAVANAGH ETC. AND DESIGN. Cl. 39. 5–13–30. John Cavanagh, Ltd. Hat Corporation of America, Norwalk, Conn. Amended: In the statement, column 1, lines 7 through 10, and in the amendment dated February 28, 1950, the disclaimer is deleted and *no claim being made to the exclusive right to use the words "Hats" and "New York"* is inserted, and the drawing is amended to appear:



292,339. PUMPLUBE. Cl. 15. 3–15–32. Continental Oil Company, Ponca City, Okla. Amended: In the statement, column 1, line 6, "oil" is deleted and *grease* is inserted.

399,596. VORITE. Cl. 6. 1–19–43. The Pierce Oil Products Corp. The Baker Castor Oil Company, Bayonne, N.J. Amended: In the statement, column 1, lines 6 through 14, the description of goods is deleted and *a processed vegetable oil product for industrial purposes in the chemical and paint field* is inserted.

524,810. NATIONAL GEOGRAPHIC. Cl. 107. 5–2–50. National Geographic Society, Washington, D.C. Amended to appear:

NATIONAL GEOGRAPHIC
TM 30

560,768. CAVANAGH ETC. AND DESIGN. Cl. 39. 7–1–52. Hat Corporation of America, Norwalk, Conn. Amended: In the statement, column 1, lines 7 through 10, the disclaimer is deleted and *no claim being made to the exclusive right to use the words "Hats" and "New York"* is inserted, and the drawing is amended to appear:



598,693. TRANS-OCEANIC. Cl. 21. 11–30–54. Zenith Radio Corporation, Chicago, Ill. Amended: In the statement, column 2, lines 1 and 2 "and parts thereof" is deleted, and the drawing is amended to appear:

TRANS-OCEANIC

600,657. MYZON. Cl. 18. 1–11–55. Arthur Meyerhoff, doing business under the name Meyerhoff Farms. Gray Realty Corporation, Chicago, Ill. Amended: In the statement, column 2, lines 1, 2 and 3, the description of goods is deleted and *dietary supplements and pharmaceutical compositions sold especially for domestic and farm animals, the former comprising vitamin combinations with and without minerals and antibiotics* is inserted.

612,579. DESIGN OF TWO HEARTS. Cl. 37. 9–20–55. Frawley Corporation. Paper Mate Manufacturing Company, Culver City, Calif. Amended: In the statement, column 2, line 1, "fountain" is deleted.

622,115. INTERCEPTOR AND DESIGN. Cl. 23. 2–28–56. Dearborn Marine Engines, Inc. Eaton Manufacturing Company, Cleveland, Ohio. Amended: In the statement, column 2, line 1, before "internal" *marine* is inserted.

640,597. TRYZOL. Cl. 18. 1–29–57. Arthur E. Meyerhoff, doing business as Tryzol Products Company. Gray Realty Corporation, Chicago, Ill. Amended: In the statement, column 2, lines 1 and 2, the description of goods is deleted and *dietary supplements and pharmaceutical compositions sold especially for domestic and farm animals, the former comprising vitamin combinations with and without minerals and antibiotics* is inserted.

661,039. TELL TALE. Cl. 31. 4–29–58. Rosaen Company. Nils O. Rosaen, Hazel Park, Mich. Amended: In the statement, column 2, line 1, after "strainers" *and filters* is inserted.

664,005. DRI-KAPS. Cl. 18. 7–8–58. American Cyanamid Company, New York, N.Y. Corrected: In the statement, column 2, line 2, "1946" should be deleted and *1956* should be inserted.

698,298. HI FI ETC. AND DESIGN. Cl. 200. 5–24–60. The Coca-Cola Company, Atlanta, Ga. Amended to appear:



699,844. KELLY GIRL TEMPO. Cl. 38. 6–21–60. Kelly Girl Service, Inc., Detroit, Mich. Corrected: In the statement, column 1, line 1, "Michigan" should be deleted and *Delaware* should be inserted.

700,046. WESTALLOY. Cl. 14. 6–28–60. The West Steel Castings Company, Cleveland, Ohio. Amended to appear:

WestAlloy

701,995. KG AND DESIGN. Cl. 101. 7–26–60. Kelly Girl Service, Inc., Detroit, Mich. Corrected: In the statement, column 1, line 1, "Michigan" should be deleted and *Delaware* should be inserted.

707,126. NANKOR. Cl. 18. 11–15–60. The Dow Chemical Company, Midland, Mich. Corrected: In the statement, column 2, line 1, before "the" *veterinary drug and animal health product for* should be inserted.

707,346. LEE. Cl. 2. 11–22–60. Golay & Co., Inc., by change of name from Converto Manufacturing Co., Inc., Cambridge City, Ind. Corrected: In the statement, column 1, line 1, "Goly" should be deleted and *Golay* should be inserted.

707,467. EF-ERT-LESS. Cl. 23. 11–22–60. Branick Manufacturing Company, Inc., Fargo, N. Dak. Corrected: In the statement, column 1, line 1, "Barnick" should be deleted and *Branick* should be inserted.

707,614. WAXON. Cl. 43. 11–22–60. Belding Heminway Company, Inc., doing business as Belding Heminway Corticelli, New York, N.Y. Corrected: In the statement, column 1, line 1, "Gelding" should be deleted and *Belding* should be inserted.

REGISTRATIONS PUBLISHED UNDER SEC. 12(c)

The following marks registered under the act of 1905, or the act of 1881, are published under the provisions of section 12(c) of the Trademark Act of 1946. These registrations are not subject to opposition but are subject to cancellation under section 14 of the act of 1946.

Class 1—Raw or Partly Prepared Materials

385,394. Feb. 25, 1941. John T. Opie, d.b.a. Opie Brush Company, Kansas City, Mo. Pub. by Opie Sponge Co., Kansas City, Mo.



For Chamois Skins.

Class 4—Abrasives and Polishing Materials

385,555. Mar. 11, 1941. Brillo Manufacturing Company, Inc., Brooklyn, N.Y. Pub. by registrant.



For Soaps, Cleaning, Scouring and Polishing Wads, Pads, Rolls and Cloths of Abradent Nature, for Removing Foreign Matter From Metal and Other Surfaces.

Class 5—Adhesives

139,865. Feb. 22, 1921. Perkins Glue Company, Lansdale, Pa. Pub. by Perkins Glue Company (new corporation), Lansdale, Pa.

PERKINS
183

For Starch Glue Material.

381,780. Oct. 8, 1940. Samuel D. Moore, d.b.a. Sam Moore & Co., Cleveland, Ohio, to Sam Moore & Company. Pub. by Samuel Moore & Company, Mantua, Ohio.

RUB-BUB

For Waterproof Rubber Cement for Securing Floor Coverings to Supporting Surfaces.

384,961. Feb. 11, 1941. United States Rubber Company, New York, N.Y. Pub. by registrant.

CLIMAX

For Adhesive Tape for Use by Bricklayers for the Protection of Their Hands.

Class 6—Chemicals and Chemical Compositions

86,947. June 11, 1912. Société Anonyme des Usines Remy, Wijgmael, Belgium. Pub. by registrant.

AMIDON ROYAL DE RIZ E. REMY & Cie * LOUVAIN - ANVERS *

For Starch for Laundry Purposes.

391,993. Dec. 2, 1941. Taylor, White Extracting Company, Camden, N.J. Pub. by The J. S. Young Company, Baltimore, Md.

TWECOTAN

For Tanning Extracts.

Class 8—Smokers' Articles, Not Including Tobacco Products

374,648. Jan. 23, 1940. Hijo de C. Gisbert Terol, Alcoy, Spain. Pub. by Papeleras Reunidas, S.A., Alcoy (Alicante), Spain.



For Cigarette Paper.

Class 12—Construction Materials

377,520. May 7, 1940. E. L. Bruce Company, Memphis, Tenn. Pub. by registrant.

BRUCE

For Hardwood Flooring, Hardwood Interior Trim, Hardwood Lumber and Hardwood Dimension.

377,916. May 21, 1940. E. L. Bruce Company, Memphis, Tenn. Pub. by registrant.

STREAMLINE

For Wood Flooring.

Class 14—Metals and Metal Castings and Forgings

386,522. Apr. 15, 1941. Hawkridge Brothers Company, Boston, Mass. Pub. by registrant.

MOCASE

For Steel in the Form of Bars, Blocks, Rods, and Pieces of Various Sizes.

Class 16—Protective and Decorative Coatings

378,111. May 28, 1940. E. L. Bruce Company, Memphis, Tenn. Pub. by registrant.

BRUCE

For Varnish Type Floor Finish, Floor Polish, and Paste Floor Wax.

384,553. Jan. 21, 1941. Standard Enamel and Paint Corporation, Indianapolis, Ind. Pub. by registrant.

Cromize

For Metallic Coating and Finishing Material Comprising Aluminum Ready Mixed Paint, Aluminum Metal Paste, Aluminum Powder and Packaged Combination of Aluminum Powder or Aluminum Paste With Bronzing Liquid in Separate Compartments.

Class 18—Medicines and Pharmaceutical Preparations

385,965. Mar. 25, 1941. Whittaker Laboratories, Inc., Peekskill, N.Y. Pub. by registrant.

Col-i-dized

For Preparations Used for the Treatment of Arthritis, Rheumatism, Joint Diseases, Alleviation of Pain, Improving Metabolism, and Similar Conditions.

Class 21—Electrical Apparatus, Machines, and Supplies

108,275. Jan. 25, 1916. Stromberg-Carlson Telephone Manufacturing Company, Rochester, N.Y. Pub. by General Dynamics Corporation, Rochester, N.Y.

DURATEX PRODUCTS

No claim is made to the word "Products."
For Insulated Cables and Electric Cables and Cords.

136,494. Nov. 2, 1920. Kellogg Switchboard and Supply Company, Chicago, Ill. Pub. by International Telephone and Telegraph Corporation, Chicago, Ill.



For Telephones, Switchboards, Power Boards, Telephone Field Sets, Electrical Switches and Automatic Electromagnetically-Controlled Switches.

215,238. July 18, 1926. Stromberg-Carlson Telephone Mfg. Co., Rochester, N.Y. Pub. by General Dynamics Corporation, Rochester, N.Y.

Stromberg-Carlson

For Telephonic Instruments and Apparatus and for Radio Apparatus, Parts, and Appurtenances—Namely, Telephonic Receiving and Talking Instruments, Signaling and Signal-Receiving Instruments, Telephonic Switchboards, Telephonic Central-Exchange Apparatus, Telephonic Line Apparatus, Circuit Protecting Devices, Assembled Radio Receiving Sets, Head Sets, Loud Speakers, Transformers, Vacuum Tubes, Plugs, Jacks, and Electrical Condensers.

329,319. Oct. 22, 1935. Stromberg-Carlson Telephone Manufacturing Company, Rochester, N.Y. Pub. by General Dynamics Corporation, Rochester, N.Y.

ACOUSTICAL LABYRINTH

The term "Acoustical" is disclaimed except in the combination "Acoustical Labyrinth."
For Loud Speakers and Sound Controlling Attachments for Use Therewith.

382,248. Oct. 22, 1940. The Silex Company, Hartford, Conn. Pub. by The Proctor-Silex Corporation, Chicago, Ill.

SILEX

For Electric Pressing Irons.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

384,368. Jan. 14, 1941. The De Laval Separator Company, Poughkeepsie, N.Y. Pub. by registrant.

DELATEX

For Liners, Milk Caps, and Mouth Pieces for Teat Cups of Milking Machines.

442,838. June 7, 1949. Société Genevoise d'Instruments de Physique, Geneva, Switzerland. Pub. by registrant.

ROTOPTIC

For Machine-Tools—Namely, Jig-Boring, Drilling, Boring and Milling Machines.

Class 26—Measuring and Scientific Appliances

271,706. June 17, 1930. Design Mfg. Co. Inc., Rochester, N.Y. Pub. by Art-Craft Optical Company, Inc., Rochester, N.Y.

Art-Craft

For Optical Frames.

Class 34—Heating, Lighting, and Ventilating Apparatus

415,319. Aug. 7, 1945. Orr and Sembower, Inc., Reading, Pa. Pub. by registrant.

Powermaster

For Fluid Fuel Burning Steam and Hot Water Generating Units, and Parts Thereof, for Use in Various Industrial and Domestic Installations, and Comprised of a Boiler, and Feeding Apparatus Therefor in Combination, With or Without a Burner.

Class 35—Belting, Hose, Machinery Packing, and Nonmetallic Tires

141,166. Apr. 12, 1921. Massasoit Manufacturing Company, Fall River, Mass. Pub. by Massasoit Company, Laurelton, N.J.

AETNA

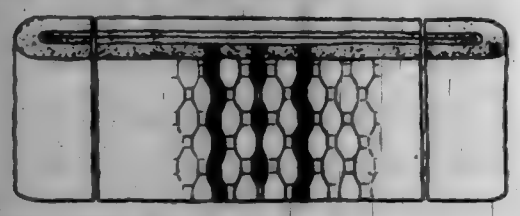
For Wicking, Used for Packing Purposes, Sometimes Called Wick-Packing, Manufactured in Balls and Not in the Piece.

385,569. Mar. 11, 1941. The De Laval Separator Company, Poughkeepsie, N.Y. Pub. by registrant.

DELATEX

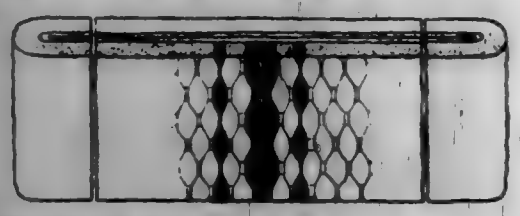
For Rubber Parts for Milking Machinery Parts Comprising Teat Cup Milk Tubes, Milk Transfer Tubes, Can Filler Milk Tubes, Milk Pump Milk Tubes, and Other Long and Short Milk Tubes; Main Vacuum Tubes, Milk Holder Vacuum Tubes, Transfer Valve Vacuum Tubes, Can Filler Vacuum Tubes, Milk Pump Vacuum Tubes, Milk Receiver Vacuum Tubes and Other Vacuum Tubes; Teat Cup Air Pulsation Tubes, Twin Air Pulsation Tubes, Releaser Air Pulsation Tubes, and Other Air Tubes; Operating Cover Gaskets, Check Valve Chamber Gaskets and Stall Cock Gaskets; Stall Cock Vacuum Seals.

386,144. Mar. 25, 1941. United States Rubber Company, New York, N.Y. Pub. by registrant.



For Cotton Fabric Hose Covers.

386,145. Mar. 25, 1941. United States Rubber Company, New York, N.Y. Pub. by registrant.



For Cotton Fabric Hose Covers.

Class 36 — Musical Instruments and Supplies

135,406. Oct. 12, 1920. The Cable Company, Chicago, Ill. Pub. by Conover-Cable Piano Co., Oregon, Ill.

Cable

For Pianos.

Class 37 — Paper and Stationery

383,044. Nov. 19, 1940. Statter Wall Paper Mills, Crystal Lake, Ill. Pub. by registrant.

"The Master's Touch"

For Wallpaper.

Class 38 — Prints and Publications

338,686. Sept. 15, 1936. Ticker Publishing Company, New York, N.Y. Pub. by registrant.

THE MAGAZINE OF WALL STREET AND BUSINESS ANALYST

For Printed Publications, Specifically Magazines Issued Periodically.

341,675. Dec. 22, 1936. Ticker Publishing Company, New York, N.Y. Pub. by registrant.

The Business Analyst

For Magazine Section.

342,784. Jan. 26, 1937. The Tea and Coffee Trade Journal Co., New York, N.Y. Pub. by The Tea & Coffee Trade Journal Co., New York, N.Y.

TEA & COFFEE TRADE JOURNAL

For Periodical.

Class 39 — Clothing

135,198. Sept. 28, 1920. Bell Manufacturing Company, Winder, Ga. Pub. by Bellgrade Manufacturing Co., Inc., Jefferson, Ga.



For Overalls, Overall Shirts, Jackets and Pants.

371,433. Sept. 26, 1939. Garfinkel & Ritter, New York, N.Y. Pub. by The Barbizon Corporation, New York, N.Y.

BRYN MODE

The word "Mode" is disclaimed.

For Women's Lingerie—Namely, Chemises, Panties, Nightgowns, Pajamas, Slips, Brassieres, Negligees, and Corsets.

382,651. Nov. 5, 1940. The Muskin Shoe Company, Baltimore, Md. Pub. by registrant.

Vitaflex

For Leather and Fabric Shoes.

383,869. Dec. 24, 1940. John B. Stetson Company, Philadelphia, Pa. Pub. by registrant.

VITA-FELT

For Hats and Caps for Men, Women, and Children.

385,803. Mar. 18, 1941. The Green Shoe Manufacturing Co., Boston, Mass. Pub. by registrant.

STARTRIGHT

For Shoes of Leather, Fabric, and Combinations of Leather and Fabric.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

385,402. Feb. 25, 1941. Stoffel & Co., Inc., New York, N.Y. Pub. by registrant.

JULEP CLOTH

For Silk, Satin, Rayon, and Cotton Fabrics, and Mixtures Thereof, in the Piece.

Class 46—Foods and Ingredients of Foods

139,431. Feb. 1, 1921. The Whitewater Flour Mills Co., d.b.a. The Rose Milling Co., Whitewater, Kans. Pub. by registrant.



The mark consists of "Betsy's Best" printed in red on a blue background.

For Wheat Flour and Gray Wheat Shorts.

177,162. Dec. 11, 1923. The Illinois Canning Company, Hoopeston, Ill. Pub. by registrant.

JOAN of ARC



For Canned Vegetables.

266,782. Feb. 4, 1930. E. C. Hall Company, d.b.a. Nation-Wide Service Grocers and Nation-Wide Stores Co., Brockton and Hyannis, Mass. Pub. by Nation-Wide Stores Company, Augusta, Maine.

NATION-WIDE

For Coffee, Tea, Canned Fruits, Canned Vegetables, Canned Fish, Cane and Maple Sugar, Butter, Cocoa, Canned Pork and Beans, Canned Fruit Salad, Marshmallow Cream, Evaporated Milk, Pickles, Canned Cranberry Sauce, Peanut Butter, Canned Sauerkraut, Orange Marmalade, Raspberry Jam, Tomato Catsup, Nut Margarine, Oleomargarine, Strawberry Jam, Pure Maple Syrup, Cane Sugar, Wheat Flour, Canned Berries, Mayonnaise, Cane and Maple Syrup, and Canned Baked Beans.

288,305. Oct. 20, 1931. E. C. Hall Company, d.b.a. Nation-Wide Service Grocers and Nation-Wide Stores Co., Brockton and Hyannis, Mass., and Augusta, Maine. Pub. by Nation-Wide Stores Company, Augusta, Maine.



For Group 1—Tea, Bread; Group 2—Coffee; Group 3—Gelatine Dessert; Group 4—Butter, Cane Sugar, Wheat Flour, Spices, Bacon, Macaroni, Spaghetti, Noodles, Eggs, Corn Syrup, Malt Syrup, Pancake Flour; Group 5—Canned Berries, Food Flavoring Extracts; Group 6—Olive Oil; Group 7—Olives; Group 8—Evaporated Milk, Mince Meat, Corn Flakes; Group 9—Nut Margarine, Oleomargarine, Canned Fish; Group 10—Marshmallow Creme; Group 11—Sandwich Spread, Mayonnaise, Canned Vegetables, Pure Maple Syrup, Cane and Maple Syrup, Tomato Catsup, Peanut Butter, Marmalade, Pickles, Cocoa, Berry Jams, Canned Fruits, Cranberry Sauce, Canned Baked Beans, Canned Pork and Beans.

289,656. Dec. 1, 1931. E. C. Hall Company, d.b.a. Nation-Wide Service Grocers and Nation-Wide Stores Co., Brockton and Hyannis, Mass., and Augusta, Maine. Pub. by Nation-Wide Stores Company, Augusta, Maine.



For Baking-Powder, Bleach Water, and Salt.

380,600. Aug. 27, 1940. Continental Foods, Inc., Chicago, Ill. Pub. by Thomas J. Lipton, Inc., Hoboken, N.J.



For Packaged Soups.

382,479. Oct. 29, 1940. Luigi Vaccheri, d.b.a. Gio-Batta Trabucco Limitada, Lisbon, Portugal. Pub. by Vaccheri & Lemos Limitada, Lisbon, Portugal.



For Canned Fish—Namely, Sardines, Tunny, Anchovies, Clams, Hors d'Oeuvre.

382,958. Nov. 19, 1940. Pacific American Fisheries, Inc., Bellingham, Wash. Pub. by registrant.

PRIDE of DIXIE

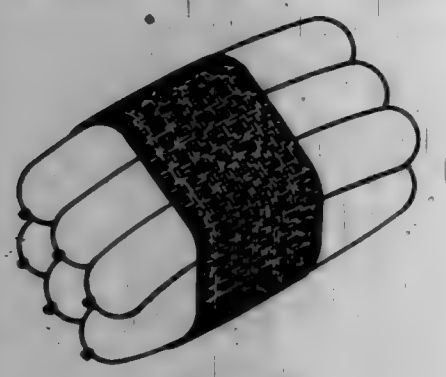
For Canned Salmon.

384,334. Jan. 14, 1941. Farm Crest Bakeries, Incorporated, Detroit, Mich. Pub. by registrant.

CRESTIES

For Cookies.

385,549. Mar. 11, 1941. Oscar Mayer & Company, Chicago, Ill. Pub. by Oscar Mayer & Co., Inc., Chicago, Ill.



For Sausage.

Class 49 — Distilled Alcoholic Liquors

315,653. Aug. 7, 1934. Schenley Distributors, Inc., New York, N.Y. Pub. by Affiliated Distillers Brands Corp., New York, N.Y.

CHAMPION

For Whiskey.

Class 50 — Merchandise Not Otherwise Classified

99,887. Sept. 22, 1914. Fr. Kaiser, Waiblingen, Wurttemburg, Germany. Pub. by registrant.

Aeroxon

For Fly-Catchers.

Class 51 — Cosmetics and Toilet Preparations

207,493. Jan. 5, 1926. Henry F. Remington, d.b.a. The N'-V Products Co., Nashville, Mich. Pub. by Approved Products, Inc., Philadelphia, Pa.

N'-V

For Face Cream, Hair Tonic, Shampoo, Etc.

381,894. Oct. 15, 1940. Saville Perfumery Ltd., Watford, England. Pub. by registrant.

Jane

For Perfumery, Lipstick, Hair Preparations, Toilet Powders, and Face Creams.

381,998. Oct. 15, 1940. Th. Goldschmidt Corporation, New York, N.Y. Pub. by Goldschmidt Chemical Corporation, New York, N.Y.

ISO-LAN

For Base for or Ingredient of Cosmetic Creams, Lotions, Salves, Ointments, Emulsions, and Lipsticks.

381,999. Oct. 15, 1940. Th. Goldschmidt Corporation. New York, N.Y. Pub. by Goldschmidt Chemical Corporation, New York, N.Y.

TEGACID

For Base for or Ingredient of Cosmetic Creams, Lotions, Salves, Ointments, Emulsions, and Lipsticks.

382,001. Oct. 15, 1940. Th. Goldschmidt Corporation, New York, N.Y. Pub. by Goldschmidt Chemical Corporation, New York, N.Y.

TEGOSEPT

For Crystalline Material, Having Preservative and Antiseptic Properties for Oils, Fats, Waxes, Gums, Casein, Cosmetic Creams, Lotions, Salves, Ointments, Emulsions, Lipsticks, Eye-Brow Pencils, and Perfumery.

382,002. Oct. 15, 1940. Th. Goldschmidt Corporation, New York, N.Y. Pub. by Goldschmidt Chemical Corporation, New York, N.Y.

TEGO STEARATE

"Stearate" is disclaimed apart from the mark as shown.
For Base for or Ingredient of Cosmetic Creams, Lotions, Salves, Ointments, and Emulsions.

420,582. Apr. 23, 1946. Arnold Marté, New York, N.Y. Pub. by Approved Products, Inc., Philadelphia, Pa.

Envy!

For Talcum Powder, Hand Cream, Perfume and Toilet Water.

INDEX OF REGISTRANTS

FEBRUARY 7, 1961

(Registered; Renewed; Canceled; Amended, Disclaimed, Corrected, etc.; New Certificates; 12c Publications.)

AA Patch Co., Inc., Holyoke, Mass. 710,906, pub. 11–22–60. Cl. 35.
ABC Vending Corp.: *See*—
Sanitary Automatic Candy Corp.
ARC Recording & Publishing Co., Inc., Brooklyn, N.Y. 599,690, canc. Cl. 36.
A/S Dumex (Dumex Ltd.), Copenhagen, Denmark. 651,664, canc. Cl. 18.
Abell, Edmund R., Morton Grove, Ill. 711,028, pub. 11–22–60. Cl. 107.
Acmeline Mfg. Co., Traverse City, Mich. 599,619, canc. Cl. 23.
Ad-Trix Corp., New York, N.Y. 710,925, pub. 11–22–60. Cl. 38.
Aerol Co., Inc., Los Angeles, Calif. 710,905, pub. 11–22–60. Cl. 35.
Affiliated Distillers Brands Corp.: *See*—
Schenley Distributors, Inc.
Agricultural Associates, Inc., Ardsley, N.Y. 599,696, canc. Cl. 38.
Air-Maze Corp., Cleveland, Ohio. 710,890, pub. 11–22–60. Cl. 31.
Air Puffs Co.: *See*—
Dorr, Raymond C.
Aktiebolaget Astra, Apotekarnes Kemiska Fabriker, Sodertalje, Sweden. 710,997, pub. 11–22–60. Cl. 46.
Aktiebolaget Astra, Apotekarnes Kemiska Fabriker, Sodertalje, Sweden. 711,013, pub. 11–22–60. Cl. 52.
Allen Electric & Equipment Co., Kalamazoo, Mich. 599,647, canc. Cl. 26.
Allied Optical Co., Pittsburgh, Pa. 599,635, canc. Cl. 26.
Alta Vineyards Co., d.b.a. Oil West Wine Co., Fresno, Calif. 711,001, pub. 11–22–60. Cl. 47.
Aluminum Specialty Co., Manitowoc, Wis. 711,006, pub. 11–22–60. Cl. 50.
Amerace Corp., New York, N.Y. 710,857, pub. 11–22–60. Cl. 22.
American Acceptance Corp., Philadelphia, Pa. 711,021, pub. 11–22–60. Cl. 102.
American Beauty Cover Co., Dallas, Tex. 710,918, pub. 11–22–60. Cl. 37.
American Brake Shoe Co., New York, N.Y. 599,582, canc. Cl. 19.
American Chain & Cable Co., Inc., Bridgeport, Conn. 710,763, pub. 11–22–60. Cl. 7.
American Cyanamid Co., New York, N.Y. 664,005, cor. Cl. 18.
American Fruit Growers Inc., Wilmington, Del., and Pittsburgh, Pa., to American National Growers Corp., Fullerton, Calif. 387,138, ren. 2–7–61. Cl. 46.
American Linen Supply Co.: *See*—
Steiner American Corp.
American Mfg. Co., Inc., Brooklyn, N.Y. 710,762, pub. 11–22–60. Cl. 7.
American-Marietta Co., Chicago, Ill. 710,800, pub. 11–22–60. Cl. 16.
American-Marietta Co., Chicago, Ill. 710,805, pub. 11–22–60. Cl. 16.
American National Growers Corp.: *See*—
American Fruit Growers Inc.
American-Saint Gobain Corp., New York, N.Y. 710,899, pub. 11–22–60. Cl. 33.
American San-Banum Co., Inc., Merrick, N.Y. 710,795, pub. 11–22–60. Cl. 15.
Approved Products, Inc.: *See*—
Remington, Henry F.
Archer-Daniels-Midland Co.: *See*—
Big Diamond Mills Co.
Larabee Flour Mills Corp., The.
Aridye Corp., Fair Lawn, N.J., to Interchemical Corp., New York, N.Y. 384,254, ren. 2–7–61. Cl. 6.
Aris Gloves, Inc., New York, N.Y. 710,944, pub. 11–22–60. Cl. 39.
Armco Steel Corp., Middletown, Ohio. 710,761, pub. 11–22–60. Cl. 7.
Armco Steel Corp., Middletown, Ohio. 710,775, pub. 11–22–60. Cl. 12.
Armour and Co., Chicago, Ill. 710,813, pub. 11–22–60. Cl. 18.
Armour and Co., d.b.a. The North American Provision Co., Chicago, Ill. 710,995, pub. 11–22–60. Cl. 46.
Armstrong Cork Co., Lancaster, Pa. 710,827, pub. 11–22–60. Cl. 20.
Arrivals, Ltd., Chicago, Ill. 711,011, pub. 11–22–60. Cl. 51.
Art-Craft Optical Co., Inc.: *See*—
Design Mfg. Co. Inc.
Atlantic Research Corp., Alexandria, Va. 710,769, pub. 11–22–60. Cl. 9.
Atlas Powder Co., Wilmington, Del. 710,766–7, pub. 11–22–60. Cl. 9.
Avco Mfg. Corp., Cincinnati, Ohio. 599,592, canc. Cl. 21.
B & M Corp., Houma, La. 710,781, pub. 11–22–60. Cl. 12.
Baker Castor Oil Co., The: *See*—
Pierce Oil Products Corp., The.
Balmain, Pierre: *See*—
Lee Parfums Pierre Balmain S.A.
Barbizon Corp., The: *See*—
Garfinkel & Ritter.
Barlin Knitting Mills, Inc., Brooklyn, N.Y. 710,966, pub. 11–22–60. Cl. 39.
Barrymoore House Co., Garden Grove, Calif. 711,018, pub. 11–22–60. Cl. 101.
Basic, Inc., Cleveland, Ohio. 710,772, pub. 11–22–60. Cl. 12.
Battenfeld Grease & Oil Corp., Inc., Kansas City, Mo. 711,016, pub. 11–22–60. Cl. 52.
Beck, A. S., Shoe Corp., New York, N.Y. 710,744, pub. 11–22–60. Cl. 3.
Belding Heminway Co., Inc., d.b.a. Belding Heminway Corticelli, New York, N.Y. 707,614, cor. Cl. 43.
Belding Heminway Corticelli: *See*—
Belding Heminway Co., Inc.
Bell Mfg. Co., Winder, by Bellgrade Mfg. Co., Inc., Jefferson, Ga. 135,198, 12(c) pub. 2–7–61. Cl. 39.
Bellgrade Mfg. Co., Inc.: *See*—
Bell Mfg. Co.
Bellsey, Dave, Co. Inc., New York, N.Y. 710,965, pub. 11–22–60. Cl. 39.
Bellwood Plastic Products: *See*—
George, Garland M.
Bettermade Garment Co., Los Angeles, Calif. 710,960, pub. 11–22–60. Cl. 39.
Big Diamond Mills Co., to Archer-Daniels-Midland Co., Minneapolis, Minn. 138,425, ren. 2–7–61. Cl. 46.
Bissinger, Elizabeth A., San Francisco, Calif. 710,946, pub. 11–22–60. Cl. 39.
Bloom, Abraham S., d.b.a. Pioneer Shoe Co., Minneapolis, Minn. 710,937, pub. 11–22–60. Cl. 39.
Bloom, Roy M., Inc., New York, N.Y. 710,822, pub. 11–22–60. Cl. 19.
Blumenthal, Sidney, & Co., Inc., New York, N.Y. 710,982–3, pub. 11–22–60. Cl. 42.
Borden Co., The, New York, N.Y. 382,685, ren. 2–7–61. Cl. 46.
Borman Sheep Lined Coat Co., Inc., New York, N.Y. 317,100, canc. Cl. 39.
Bradley, Milton, Co., Springfield, Mass. 710,854–6, pub. 11–22–60. Cl. 22.
Bramson Engineering Co.: *See*—
Bramson, Maurice.
Bramson, Maurice, d.b.a. Bramson Engineering Co., Oyster Bay, N.Y. 710,734, pub. 11–22–60. Cl. 2.
Branick Mfg. Co., Inc., Fargo, N. Dak. 707,467, cor. Cl. 23.
Brant Yarns, Inc., New York, N.Y. 599,742, canc. Cl. 43.
Braswell Sani-Soft Water Service, Inc., Flat River, Mo. 711,023, pub. 11–22–60. Cl. 106.
Brigid, Sister Mary, C.S.A.: *See*—
Brosnan, Margaret A.
Brillo Mfg. Co., Inc., Brooklyn, N.Y. 385,555, 12(c) pub. 2–7–61. Cl. 4.
Brine Service Co., Inc., Houston, Tex. 695,496, canc. Cl. 6.
Brite Mfg. Co., Providence, R.I. 710,787, pub. 11–22–60. Cl. 13.
Bronson, Melvin W., d.b.a. Bronson Products Co., Chicago, Ill. 710,756, pub. 11–22–60. Cl. 6.
Bronson Products Co.: *See*—
Bronson, Melvin W.
Brookhaven Textiles, Inc., New York, N.Y. 387,683, ren. 2–7–61. Cl. 42.
Brosnan, Margaret A., now known as Sister Mary Brigid C.S.A., Cleveland, Ohio. 710,821, pub. 11–22–60. Cl. 19.
Bruce, E. L., Co., Memphis, Tenn. 377,520, 12(c) pub. 2–7–61. Cl. 12.
Bruce, E. L., Co., Memphis, Tenn. 377,916, 12(c) pub. 2–7–61. Cl. 12.
Bruce, E. L., Co., Memphis, Tenn. 378,111, 12(c) pub. 2–7–61. Cl. 16.
Bruder, M. A., & Sons, Inc., Philadelphia, Pa. 710,804, pub. 11–22–60. Cl. 16.
Buckeye Incubator Co., The: *See*—
Buckeye Incubator Co., The.
Buckeye Incubator Co., The, to The Buckeye Incubator Co., Springfield, Ohio. 137,960, ren. 2–7–61. Cl. 50.
Bukovey, B. A., Co.: *See*—
Bukovey, Blodge A.
Bukovey, Blodge A., d.b.a. B. A. Bukovey Co., Akron, Ohio. 710,853, pub. 11–22–60. Cl. 22.
Bulova Watch Co., Inc., Flushing, N.Y. 710,910, pub. 11–22–60. Cl. 36.
C. H. Die Co.: *See*—
Heckman, Charles R.
Cable Co., The, Chicago, by Conover-Cable Piano Co., Oregon, Ill. 135,406, 12(c) pub. 2–7–61. Cl. 36.
California Spray-Chemical Corp., Wilmington, Del. 599,521, canc. Cl. 6.
Calree Co.: *See*—
Reece, Edward M.
Caltex Sales, Inc., Los Angeles, Calif. 710,818, pub. 11–22–60. Cl. 18.
Canterbury Knitters, Ltd., New York, N.Y. 710,928, pub. 11–22–60. Cl. 39.
Capitol Gears, Inc., St. Paul, Minn. 710,867, pub. 11–22–60. Cl. 23.

Cassella Farbwerke Mainkur Aktiengesellschaft, Frankfurt am (Main) Fechenheim, Germany. 710,752, pub. 11–22–60. Cl. 6.

Catalina, Inc., New York, N.Y. 710,765, pub. 11–22–60. Cl. 8.

Catalina, Inc., New York, N.Y. 710,898, pub. 11–22–60. Cl. 33.

Catalina, Inc., New York, N.Y. 710,916, pub. 11–22–60. Cl. 37.

Catalina, Inc., New York, N.Y. 710,931, pub. 11–22–60. Cl. 39.

Catalina, Inc., New York, N.Y. 710,969, pub. 11–22–60. Cl. 41.

Catalina, Inc., New York, N.Y. 710,971, pub. 11–22–60. Cl. 40.

Catalina, Inc., New York, N.Y. 710,990, pub. 11–22–60. Cl. 45.

Cavanagh, John, Ltd. Hat Corp. of America, Norwalk, Conn. 270,725. Am. 7(d). Cl. 39.

Celanese Corp. of America, New York, N.Y. 710,886, pub. 11–22–60. Cl. 29.

Central Rediffusion Services Ltd., London, England. 710,912, pub. 11–22–60. Cl. 36.

Central Retailer-Owned Grocers, Inc., Chicago, Ill. 710,994, pub. 11–22–60. Cl. 46.

Century 21 Exposition, Inc., Seattle, Wash. 711,032–4, pub. 11–22–60. Cl. 107.

Chamberlain, W. W., & Sons Ltd., Higham Ferrers, England. 599,514, canc. Cl. 1.

Champion Laboratories, Inc., Meriden, Conn. 599,665, canc. Cl. 31.

Chapman Brothers Felt Co., Chicago, Ill. 710,984, pub. 11–22–60. Cl. 42.

Chatham Mfg. Co., Elkin, N.C. 710,980, pub. 11–22–60. Cl. 42.

Check-A-Matic Co.: *See*—
Rubaloff, Sidney S.

Chemetron Corp., Chicago, Ill. 710,786, pub. 11–22–60. Cl. 18.

Chiksan Co.: *See*—
Chiksan Tool Co.

Chiksan Tool Co., to Chiksan Co., Brea, Calif. 383,725, ren. 2–7–61. Cl. 23.

Chiksan Tool Co., to Chiksan Co., Brea, Calif. 384,551, ren. 2–7–61. Cl. 13.

Ciba Pharmaceutical Products Inc., Summit, N.J. 710,814, pub. 11–22–60. Cl. 18.

Cleaver-Brooks Special Products, Inc., Waukesha, Wis. 710,903, pub. 11–22–60. Cl. 34.

Coca-Cola Co., The, Atlanta, Ga. 698,298. Am. 7(d). Cl. 200.

Colbol Photo Service: *See*—
Nichols, Norval N.

Compo Co. Ltd., The, Lachine, Montreal, Canada. 710,908, pub. 11–22–60. Cl. 36.

Connelly, Roger T., Jr., Bridgeport, Conn. 710,911, pub. 11–22–60. Cl. 36.

Conover-Cable Piano Co.: *See*—
Cable Co., The.

Consolidated Waste Materials Co., Inc., d.b.a. Sheffield Auto Parts, Kansas City, Mo. 710,774, pub. 11–22–60. Cl. 12.

Consolidated Paper Corp. Ltd.: *See*—
Wayagamack Pulp & Paper Co., Ltd.

Continental Diamond Fibre Corp.: *See*—
Diamond State Fibre Co.

Continental Foods, Inc., Chicago, Ill., by Thomas J. Linton, Inc., Hoboken, N.J. 380,600, 12(c) pub. 2–7–61. Cl. 46.

Continental Models, Inc., Great Neck, N.Y. 710,989, pub. 11–22–60. Cl. 43.

Continental Oil Co.: *See*—
Continental Oil Co., The.

Continental Oil Co., The. Continental Oil Co., Ponca City, Okla. 166,155. Am. 7(d). Cl. 15.

Continental Oil Co., Ponca City, Okla. 292,339. Am. 7(d). Cl. 15.

Converto Mfg. Co., Inc.: *See*—
Golay & Co., Inc.

Corson, G. & W. H., Inc., Plymouth Meeting, Pa. 385,860, ren. 2–7–61. Cl. 12.

Courtaulds, Inc., New York, N.Y. 710,979, pub. 11–8–60. Cl. 42.

Courtney, David, Ltd., Dublin, Ireland. 711,000, pub. 11–22–60. Cl. 47.

Cowles Co., The, Cayuga, N.Y. 599,601, canc. Cl. 23.

Cracker Jack Co., The, Chicago, Ill. 197,837. Am. 7(d). Cl. 46.

Crane Carrier Corp., Tulsa, Okla. 710,820, pub. 11–22–60. Cl. 19.

Cray-Pas Honpo Kabushiki Kaisha Sakura Shokai, Higashinari-ku Osaka, Japan. 710,914, pub. 11–22–60. Cl. 37.

Creative Poly Products, New York, N.Y. 710,726, pub. 11–22–60. Cl. 2.

Crescent Metal Products, Inc., Cleveland, Ohio. 599,586, canc. Cl. 19.

Crest Silver Mfg. Co. Inc., Matawan, N.J. 599,539, canc. Cl. 8.

Crown Zellerbach Corp., San Francisco, Calif. 710,780, pub. 11–22–60. Cl. 12.

Crucible Steel Co. of America, Pittsburgh, Pa. 710,790, pub. 11–22–60. Cl. 14.

Cummings & Nott, Philomath, Oreg. 599,639, canc. Cl. 26.

Curtiss-Wright Corp., Princeton, N.J. 710,835, pub. 11–22–60. Cl. 21.

Cushman and Denison Mfg. Co., Inc., Carlstadt, N.J. 710,917, pub. 11–22–60. Cl. 37.

Cutex Corp., to Northam Warren Corp., New York, N.Y., to Northam Warren Corp., Stamford, Conn. 142,978, ren. 2–7–61. Cl. 51.

Dade Reagents, Inc., Miami, Fla. 710,809, pub. 1–27–59. canc. Cl. 4.

Dairy Suppliers' Foundation, Inc., Philadelphia, Pa. 599,516, canc. Cl. 4.

Danbury Rubber Co., Inc., The, Danbury, Conn. 710,826, pub. 11–22–60. Cl. 20.

Dearborn Marine Engines, Inc. Eaton Mfg. Co., Cleveland, Ohio. 622,115. Am. 7(d). Cl. 23.

Deere & Co., to Deere & Co., Moline, Ill. 139,517, ren. 2–7–61. Cl. 23.

Deko Chemical Co., Inc., Hawthorne, Calif. 599,766, canc. Cl. 52.

De Laval Separator Co., The, Poughkeepsie, N.Y. 384,368, 12(c) pub. 2–7–61. Cl. 23.

De Laval Separator Co., The, Poughkeepsie, N.Y. 385,569, 12(c) pub. 2–7–61. Cl. 35.

Demert & Dougherty, Inc., Chicago, Ill. 710,755, pub. 11–22–60. Cl. 6.

Demert & Dougherty, Inc., Chicago, Ill. 710,794, pub. 11–22–60. Cl. 15.

Derby Co., The: *See*—
Derby, Roland E.

Derby, Roland E., d.b.a. The Derby Co., to Textile Aniline & Chemical Co., Lawrence, Mass. 384,351, ren. 2–7–61. Cl. 52.

Design Mfg. Co., Inc., by Art-Craft Optical Co., Inc., Rochester, N.Y. 271,706, 12(c) pub. 2–7–61. Cl. 26.

Dewey and Almy Chemical Co., to W. R. Grace & Co., Cambridge, Mass. 384,060, ren. 2–7–61. Cl. 2.

Dial-a-Mile Co., Dolton, Ill. 599,628, canc. Cl. 26.

Diamond State Fibre Co., Elsmere, and Bridgeport, Conn., to Continental Diamond Fibre Corp., Newark, Del. 141,532, ren. 2–7–61. Cl. 21.

Dillingham Mfg. Co., Sheboygan, Wis. 710,894, pub. 11–22–60. Cl. 32.

Dohrmann Hotel Supply Co., San Francisco, Calif. 599,610, canc. Cl. 23.

Domar Products, Inc., Cleveland, Ohio. 599,630, canc. Cl. 26.

Domestic and Foreign Missionary Society of the Protestant Episcopal Church in the United States of America, The, New York, N.Y. 711,029–31, pub. 11–22–60. Cl. 107.

Don Juan Foods Inc.: *See*—
Valk, S. J., & Son.

Dorr, Raymond C., d.b.a. Air Puffs Co., Indianapolis, Ind. 710,970, pub. 11–22–60. Cl. 40.

Dossmann & Co., G.m.b.H., Nadelfabrik, Iserlohn in Westphalia, Germany. 599,711, canc. Cl. 40.

Douglas Furniture Corp., Chicago, Ill. 599,676, canc. Cl. 32.

Douglas Holt (Est. 1919) Ltd., London, England. 599,546–7, canc. Cl. 12.

Dow Chemical Co., The: *See*—
Dowell Inc.

Dow Chemical Co., The, Midland, Mich. 384,130, ren. 2–7–61. Cl. 6.

Dow Chemical Co., The, Midland, Mich. 707,126, cor. Cl. 18.

Dow Chemical Co., The, Midland, Mich. 710,721, pub. 11–22–60. Cl. 1.

Dowell Inc., to The Dow Chemical Co., Midland, Mich. 385,466, ren. 2–7–61. Cl. 12.

Draper Brothers Co., Canton, Mass. 599,721, canc. Cl. 42.

Drexel Furniture Co., Drexel, N.C. 599,677, canc. Cl. 32.

Dun & Bradstreet, Inc., New York, N.Y. 710,922, pub. 11–22–60. Cl. 38.

Dutton, A. C., Lumber Corp., Poughkeepsie, N.Y. 710,799, pub. 11–22–60. Cl. 16.

Dynamic Industrial Products, Inc., Danbury, Conn. 599,525, canc. Cl. 6.

Eaton Mfg. Co.: *See*—
Dearborn Marine Engines, Inc.

Eisenberg, Jack, Miami, Fla. 599,557, canc. Cl. 18.

Encinal Terminals, Alameda, Calif. 710,736, pub. 11–22–60. Cl. 2.

Ensco, Inc., Salt Lake City, Utah. 710,834. Pub. 11–8–60, Cl. 21; pub. 11–8–60, Cl. 44. (Consolidated certificate, Classes 21 and 44.)

Erlanger, Emo D., d.b.a. Contour Ring Co., Los Angeles, Calif. 599,656, canc. Cl. 28.

Erwin Mills, Inc., Durham, N.C. 710,975, pub. 11–22–60. Cl. 42.

Evans Products Corp., Plymouth, Mich. 384,317, ren. 2–7–61. Cl. 23.

Eversharp, Inc., New York, N.Y. 710,860, pub. 11–22–60. Cl. 23.

Fairview Farms, Inc., Landrum, S.C. 710,718, pub. 11–22–60. Cl. 1.

Fairway Paint Stores, Inc., Baltimore, Md. 710,802, pub. 11–22–60. Cl. 16.

Falcon Alarm Co., Inc., Summit, N.J. 710,725, pub. 11–22–60. Cl. 2.

Farm Crest Bakeries, Inc., Detroit, Mich. 384,334, 12(c) pub. 2–7–61. Cl. 46.

Federal Products Corp., Providence, R.I. 142,520, ren. 2–7–61. Cl. 44.

Fenestra Inc., Detroit, Mich. 710,776, pub. 11–22–60. Cl. 17.

First Container Corp., Fort Worth, Tex. 710,773, pub. 11–22–60. Cl. 12.

First Federal Savings and Loan Association of Kansas City, Kansas City, Mo. 711,020, pub. 11–22–60. Cl. 102.

Flavor Fast Foods, Inc., Rockton, Ill. 710,888, pub. 11–22–60. Cl. 31.

Flexible Carbon Products, Inc., Miami, Fla. 599,530, canc. Cl. 6.

Flintkote Co., The, New York, N.Y. 710,798, pub. 11–22–60. Cl. 16.

Flo-Ex Chemical Co.: *See*—
Greer, John H.

Floridin Co., Tallahassee, Fla. 383,256, ren. 2–7–61. Cl. 6.

Fluid Energy Processing and Equipment Co., Philadelphia, Pa. 710,872, pub. 11–22–60. Cl. 23.

Fly Foto: *See*—
Nichols, Norval N.

Frawley Corp. Paper Mate Mfg. Co., Culver City, Calif. 612,579. Am. 7(d). Cl. 37.
Fre-Mar Industries, East Butler, Pa. 710,907, pub. 11–22–60. Cl. 35.
Futorian-Stratford Furniture Co., Chicago, Ill. 710,895, pub. 11–22–60. Cl. 32.
Garfinkel & Ritter, by The Barbizon Corp., New York, N.Y. 371,433, 12(c) pub. 2–7–61. Cl. 39.
Gates-Mills, Inc., Johnstown, N.Y. 599,709, canc. Cl. 39.
Geigy Chemical Corp.: *See*—
Geigy Co., Inc.
Geigy Co., Inc., New York, to Geigy Chemical Corp., Ardsley, N.Y. 143,012, ren. 2–7–61. Cl. 6.
General Aniline & Film Corp., New York, N.Y. 599,648, canc. Cl. 26.
General Dynamics Corp.: *See*—
Stromberg-Carlson Telephone Mfg. Co.
General Electric Co., East Cleveland, Ohio. 710,836, pub. 11–22–60. Cl. 21.
General Electric Co., Pittsfield, Mass. 710,847, pub. 11–22–60. Cl. 21.
General Fittings Co., Warwick, R.I. 710,902, pub. 11–22–60. Cl. 34.
General Motors Corp., Detroit, Mich. 710,842–8, pub. 11–22–60. Cl. 21.
General Tire & Rubber Co., The, Akron, Ohio. 599,599, canc. Cl. 21.
General Tire & Rubber Co., The, Akron, Ohio. 599,743, canc. Cl. 48.
George, Garland M., d.b.a. Bellwood Plastic Products, Bellflower, Calif. 710,729, pub. 11–22–60. Cl. 2.
Germaine Monteil Cosmetiques Corp., New York, N.Y. 387,754, ren. 2–7–61. Cl. 51.
Ginsburg and Abelson, Inc., New York, N.Y. 710,961, pub. 11–22–60. Cl. 39.
Gio-Batta Trabucco Limitada: *See*—
Vaccheri, Luigi.
Glyco-Metall-Werke Daelen & Loos G.m.b.H., Wiesbaden-Schierstein, Germany. 710,863, pub. 11–8–60. Cl. 23.
Gob Shops of America, Inc.: *See*—
Sterling Stores Corp.
Golay & Co., Inc., by change of name from Converto Mfg. Co., Inc., Cambridge City, Ind. 707,346, cor. Cl. 2.
Goldschmidt Chemical Corp.: *See*—
Goldschmidt, Th., Corp.
Goldschmidt, Th., Corp., by Goldschmidt Chemical Corp., New York, N.Y. 381,998–382,002, 12(c) pub. 2–7–61. Cl. 51.
Goldsmith Bros., New York, N.Y. 599,758, canc. Cl. 50.
Goodyear Tire & Rubber Co., The, Akron, Ohio. 385,656, ren. 2–7–61. Cl. 1.
Goodyear Tire & Rubber Co., The, Akron, Ohio. 710,823, pub. 11–22–60. Cl. 19.
Gordon Baking Co., Detroit, Mich. 710,993, pub. 11–22–60. Cl. 46.
Gordon-Ford Inc., Conshohocken, Pa. 710,964, pub. 11–22–60. Cl. 39.
Grace, W. R., & Co.: *See*—
Dewey and Almy Chemical Co.
Grant Oil Tool Co., Los Angeles, Calif., from Perfect Circle Corp., Hagerstown, Ind. 710,782, pub. 11–22–60. Cl. 13.
Graphic Supply Co., Inc., New York, N.Y. 710,861, pub. 11–22–60. Cl. 23.
Grand Union Co., The, East Paterson, N.J. 710,956, pub. 11–22–60. Cl. 39.
Gray Realty Corp.: *See*—
Meyerhoff, Arthur.
Great Western Garment Co., Ltd., The, Edmonton, Alberta, Canada. 599,732, canc. Cl. 42.
Green Shoe Mfg. Co., The, Boston, Mass. 385,803, 12(c) pub. 2–7–61. Cl. 39.
Greer, Louise P.: *See*—
Greer, John H.
Greer, John H., d.b.a. Flo-Ex Chemical Co., to Louise P. Greer, Quincy, Ill. 559,770, canc. Cl. 52.
Griffin, William A., d.b.a. 3 F Products Co., South Pasadena, Calif. 599,569, canc. Cl. 18.
Gross, Benjamin & Edward J., Co., Inc., New York, N.Y. 710,882, pub. 11–22–60. Cl. 27.
Grundig Radio-Werke G.m.b.H., Fuerth, Bavaria, Germany. 710,909, pub. 11–22–60. Cl. 36.
Gulf Oil Corp., Pittsburgh, Pa. 689,005, canc. Cl. 16.
Gulf Oil Corp., Pittsburgh, Pa. 710,757–8, pub. 11–22–60. Cl. 6.
HMH Publishing Co., Inc., Chicago, Ill. 711,035, pub. 11–22–60. Cl. 107.
H. M. Prince Textiles Inc., New York, N.Y. 599,733, canc. Cl. 42.
Hagan Publishing Corp., New York, N.Y. 710,921, pub. 6–23–59. Cl. 38.
Haggar Co., Dallas, Tex. 710,943, pub. 11–22–60. Cl. 39.
Hall, E. C., Co., also d.b.a. Nation-Wide Service Grocers and Nation-Wide Stores Co., Brockton and Hyannis, Mass., and Augusta, by Nation-Wide Stores Co., Augusta, Maine. 266,782, 12(c) pub. 2–7–61. Cl. 46.
Hall, E. C., Co., also d.b.a. Nation-Wide Service Grocers and Nation-Wide Stores Co., Brockton and Hyannis, Mass., and Augusta, by Nation-Wide Stores Co., Augusta, Maine. 288,305, 12(c) pub. 2–7–61. Cl. 46.
Hall, E. C., Co., also d.b.a. Nation-Wide Service Grocers and Nation-Wide Stores Co., Brockton and Hyannis, Mass., and Augusta, by Nation-Wide Stores Co., Augusta, Maine. 289,656, 12(c) pub. 2–7–61. Cl. 46.
Hall, Robert, Clothes, Inc., New York, N.Y. 710,934, pub. 11–22–60. Cl. 39.
Hammond, John E., Syracuse, N.Y. 710,730, pub. 11–22–60. Cl. 2.
Hampton Shirt Co., Inc., New York, N.Y. 710,935, pub. 11–22–60. Cl. 39.
Hartford Co., The, East Hartford, Conn. 710,783, pub. 11–22–60. Cl. 13.
Harsfield's, Inc.: *See*—
Parisian Cloak Co.
Haskel Engineering & Supply Co., Glendale, Calif. 710,873–4, pub. 11–22–60. Cl. 23.
Hat Corp. of America: *See*—
Cavanagh, John, Ltd.
Hat Corp. of America, Norwalk, Conn. 560,768. Am. 7(d). Cl. 39.
Hat Corp. of America, Norwalk, Conn. 710,932, pub. 11–22–60. Cl. 39.
Hawkridge Brothers Co., Boston, Mass. 386,522, 12(c) pub. 2–7–61. Cl. 14.
Hayakawa Electric Co. Ltd., Abeno, Osaka, Japan. 710,877, pub. 11–22–60. Cl. 24.
Haywood Publishing Co., Chicago, Ill. 599,697, canc. Cl. 38.
Health Knowledge, Inc., New York, N.Y. 710,924, pub. 11–22–60. Cl. 38.
Heckman, Charles R., d.b.a. C. H. Die Co., El Monte, Calif. 710,770–1, pub. 11–22–60. Cl. 9.
Heiland Research Corp., Denver, Colo., to Minneapolis-Honeywell Regulator Co., Minneapolis, Minn. 599,641, canc. Cl. 26.
Heppenstall, Sam, and Associates, Inc., Pittsburgh, Pa. 711,036, pub. 11–22–60. Cl. 200.
Hijo de C. Gisbert Terol, by Papeleras Reunidas, S.A., Alcoy (Alicante), Spain. 374,648, 12(c) pub. 2–7–61. Cl. 8.
Hilton Bowling Shirt Co., Chicago, Ill. 710,957, pub. 11–22–60. Cl. 39.
Hilton Lite Corp., San Francisco, Calif. 599,538, canc. Cl. 8.
Hobart Mfg. Co., The, Troy, Ohio. 710,831, pub. 11–22–60. Cl. 21.
Hobart Mfg. Co., The, Troy, Ohio. 710,875, pub. 11–22–60. Cl. 23.
Hollandisch-Deutsche Santaflor Comp. Heinz Petersen K.G., Hamburg, Germany. 710,719, pub. 11–22–60. Cl. 1.
Hook & Ackerman, Inc., New York, N.Y. 711,022, pub. 11–22–60. Cl. 103.
Hooker Chemical Corp., Niagara Falls, N.Y. 710,739, pub. 11–22–60. Cl. 2.
Houdaille Industries, Inc., Buffalo, N.Y. 710,868, pub. 11–22–60. Cl. 23.
House of Swandown, Inc., The, New York, N.Y. 599,738, canc. Cl. 42.
Hulett, Daniel H., d.b.a. Stereo-Parti, Inglewood, Calif. 711,025, pub. 11–22–60. Cl. 107.
Hunt, C. Howard, Pen Co., Camden, N.J. 599,624, canc. Cl. 23.
Hunter, William S., Rutland, Vt. 599,510, canc. Cl. 1.
Hydrotherm, Inc., Northvale, N.J. 710,900–1, pub. 11–22–60. Cl. 34.
Ideal Industries, Inc., Sycamore, Ill. 599,611, canc. Cl. 23.
Illinois Canning Co., The, Hoopeston, Ill. 177,162, 12(c) pub. 2–7–61. Cl. 46.
Imperial House, Inc., San Francisco, Calif. 710,958, pub. 11–22–60. Cl. 39.
Imperial Knife Associated Companies, Inc., Providence, R.I. 710,858, pub. 11–22–60. Cl. 23.
Indian Head Mills, Inc., New York, N.Y. 710,988, pub. 11–22–60. Cl. 42.
Interchemical Corp.: *See*—
Aridye Corp., Fair Lawn.
International Shoe Co., St. Louis, Mo. 710,950, pub. 11–22–60. Cl. 39.
International Silver Co., The: *See*—
International Silver Co.
International Silver Co., to The International Silver Co., Meriden, Conn. 385,300–1, ren. 2–7–61. Cl. 28.
International Telephone and Telegraph Corp.: *See*—
Kellogg Switchboard and Supply Co.
International Television Corp., Los Angeles, Calif. 710,829, pub. 11–22–60. Cl. 21.
Investographs, Inc., from E. S. Quinn, Rochester, N.Y. 711,019, pub. 11–22–60. Cl. 102.
Irwin, Neisler & Co., Decatur, Ill. 710,806, pub. 6–30–59. Cl. 18.
Jacoby-Bender, Inc., New York, N.Y. 599,655, canc. Cl. 28.
James Electronics, Inc., Chicago, Ill. 710,839, pub. 11–22–60. Cl. 21.
Jergens, Andrew, Co., The, Cincinnati, Ohio. 599,765, canc. Cl. 52.
Johnson, A. G., Electrotype Co., Minneapolis, Minn. 711,004, pub. 11–22–60. Cl. 50.
Kaiser, Fr., Waiblingen/Wurtt, Germany. 99,887, 12(c) pub. 2–7–61. Cl. 50.
Kellogg Switchboard and Supply Co., by International Telephone and Telegraph Corp., Chicago, Ill. 136,494, 12(c) pub. 2–7–61. Cl. 21.
Kelly Girl Service, Inc., Detroit, Mich. 699,844, cor. Cl. 38.
Kelly Girl Service, Inc., Detroit, Mich. 701,995, cor. Cl. 101.
Kirk, Morris P., & Son, Inc., Los Angeles, Calif. 383,465–6, ren. 2–7–61. Cl. 14.
Klapp, Wilbur P., Jr., to The Original Sight-Exchange Co., Paoli, Pa. 383,608, ren. 2–7–61. Cl. 9.
Knapp-Monarch Co., St. Louis, Mo. 599,515, canc. Cl. 4.
Koppers Co., Inc., Pittsburgh, Pa. 599,779, canc. Cl. 106.
Kreider's, W. L., Sons Mfg. Co., Inc., The, Palmyra, Pa. 710,968, pub. 11–22–60. Cl. 39.
Kresge-Newark, Inc., New York, N.Y. 710,978, pub. 11–22–60. Cl. 42.
Keystone Mfg. Co., Boston, Mass. 294,146, canc. Cl. 22.
Kwik-Kool Inc., Portland, Oreg. 599,579, canc. Cl. 19.
La Fred Plastic Mfg. Co., Inc., New York, N.Y. 710,745, pub. 11–22–60. Cl. 8.
Lane, Ltd., New York, N.Y. 710,807, pub. 11–22–60. Cl. 17.
Lange, A., Florist, Inc., Chicago, Ill. 711,007, pub. 11–22–60. Cl. 50.
La Poten, William, & Co., Inc., New York, N.Y. 599,618, canc. Cl. 23.

Larabee Flour Mills Corp., The, Hutchinson, Kans., and Kansas City, Mo., to Archer-Daniels-Midland Co., Minneapolis, Minn. 141,591, ren. 2–7–61. Cl. 46.
Lawton Chemical Inc., Spokane, Wash. 711,009, pub. 11–22–60. Cl. 50.
Les Parfums Pierre Balmain S.A., from P. Balmain, Paris, France. 711,010, pub. 4–26–60. Cl. 51.
Levine, Bernard, d.b.a. Santa Cruz Sportswear Co., Santa Cruz, Calif. 710,941, pub. 11–22–60. Cl. 39.
Liddell, William, and Co. Ltd., Belfast, Northern Ireland. 710,976, pub. 11–22–60. Cl. 42.
Lipton, Thomas J., Inc.: *See*— Continental Foods, Inc.
Lowe Brothers Co., The, Dayton, Ohio. 710,806, pub. 11–22–60. Cl. 16.
Lucky Wish Products, Inc., New York, N.Y. 710,781, pub. 11–22–60. Cl. 2.
Luden's Inc.: *See*— Roblin-Demerath Co.
Lykens Hosiery Mills, Inc., Marion, N.C. 710,926, pub. 11–22–60. Cl. 39.
Lyman Gun Sight Corp., The, Middlefield, Conn. 599,615, canc. Cl. 23.
Lyman Gun Sight Corp., The, Middlefield, Conp. 710,766, pub. 11–22–60. Cl. 9.
M.G.B. Enterprises, Inc., Los Angeles, Calif. 599,776, canc. Cl. 102.
Maiden Form Brassiere Co., Inc., to Maidenform, Inc., New York, N.Y. 384,683, ren. 2–7–61. Cl. 39.
Maiden Form Brassiere Co., Inc., to Maidenform, Inc., New York, N.Y. 385,699, ren. 2–7–61. Cl. 39.
Maidenform, Inc.: *See*— Maiden Form Brassiere Co., Inc.
Majestic Mfg. Co., St. Louis, Mo. 599,594, canc. Cl. 21.
Manufacturas del Vestido S.A., Madrid, Spain. 710,930, pub. 11–22–60. Cl. 39.
Marshall & Co. (Aberdeen) Ltd., Great Yarmouth, England, and Aberdeen, Scotland. 710,991, pub. 1–12–59. Cl. 46.
Marte, Arnold: *See*— Approved Products, Inc.
Marte, Arnold, New York, N.Y., by Approved Products, Inc., Philadelphia, Pa. 420,582, 12(c) pub. 2–7–61. Cl. 51.
Martin-Senour Co., The, Chicago, Ill. 384,107, ren. 2–7–61. Cl. 38.
Maso Steel Products, Inc., Chicago, Ill. 599,682, canc. Cl. 32.
Massasoit Co.: *See*— Massasoit Mfg. Co.
Massasoit Mfg. Co., Fall River, Mass., by Massasoit Co., Laurelton, N.J. 141,166, 12(c) pub. 2–7–61. Cl. 35.
Mayer, Oscar, & Co., Inc.: *See*— Mayer, Oscar, & Co.
Mayer, Oscar, & Co., by Oscar Mayer & Co., Inc., Chicago, Ill. 385,549, 12(c) pub. 2–7–61. Cl. 46.
McGraw-Edison Co., Chicago, Ill. 710,832, pub. 11–22–60. Cl. 21.
McGraw-Hill Co. of California, San Francisco, Calif. 710,923, pub. 8–18–59. Cl. 38.
McKesson & Robbins, Inc.: *See*— Wardall, William J.
Merck & Co., Inc., Rahway, N.J. 710,811, pub. 11–22–60. Cl. 18.
Metzger, Morris, and Sons Inc., New York, N.Y. 710,963, pub. 11–22–60. Cl. 39.
Meyerhoff, Arthur, d.b.a. Meyerhoff Farms. Gray Realty Corp., Chicago, Ill. 600,657. Am. 7(d). Cl. 18.
Meyerhoff, Arthur E., d.b.a. Tryzol Products Co. Gray Realty Corp., Chicago, Ill. 640,597. Am. 7(d). Cl. 18.
Meyerhoff Farms: *See*— Meyerhoff, Arthur.
Midwest Jobbers, Inc., Chicago, Ill. 710,777, pub. 11–22–60. Cl. 12.
Million Mfg. Co.: *See*— Million, Theodore L.
Million, Theodore L., d.b.a. Million Mfg. Co., Santa Barbara, Calif. 710,892, pub. 11–22–60. Cl. 32.
Milsan Mills, Inc., Lebanon, Pa. 599,699, canc. Cl. 39.
Minnesota Mining and Mfg. Co., St. Paul, Minn. 710,727, pub. 11–22–60. Cl. 2.
Miss Pat Fashions, Inc., New York, N.Y. 599,705, canc. Cl. 39.
Montalvo Farms, Montalvo, Calif. 710,998, pub. 11–22–60. Cl. 46.
Moore, Sam, & Co.: *See*— Moore, Samuel D.
Moore, Samuel, & Co.: *See*— Moore, Samuel D.
Moore, Samuel D., d.b.a. Sam Moore & Co., to Sam Moore & Co., Cleveland, by Samuel Moore & Co., Mantua, Ohio. 381,780, 12(c) pub. 2–7–61. Cl. 5.
Mueller, Robert L., Fort Washington, Pa. 710,833, pub. 11–22–60. Cl. 21.
Muskin Shoe Co., The, Baltimore, Md. 382,651, 12(c) pub. 2–7–61. Cl. 39.
Muter Co., The, Chicago, Ill. 710,840, pub. 11–22–60. Cl. 21.
Mutual Buying Syndicate, Inc., New York, N.Y. 710,942, pub. 11–22–60. Cl. 39.
N.V. Eerste Nederlandsche Naaldenfabriek A. & F. Museif, Vaals, Netherlands. 710,974, pub. 11–22–60. Cl. 40.
N'-V Products, Co.: *See*— Remington, Henry F.
National Engineering Co., Chicago, Ill. 710,869, pub. 11–22–60. Cl. 23.
National Foam Rubber Corp., Montebello, Calif. 599,673, canc. Cl. 32.
National Geographic Society, Washington, D.C. 242,090. Am. 7(d). Cl. 38.
National Geographic Society, Washington, D.C. 524,810. Am. 7(d). Cl. 107.
National Glove, Inc., Coshocton, Ohio. 710,954, pub. 11–22–60. Cl. 39.
National Marking Machine Co., The, Cincinnati, Ohio. 710,878, pub. 11–22–60. Cl. 24.
National Remedy Products Co., Inc., Springfield, Mo. 710,819, pub. 11–22–60. Cl. 18.
National Telefilm Associates, Inc., Los Angeles, Calif. 711,026–7, pub. 11–22–60. Cl. 107.
Nation-Wide Service Grocers: *See*— Hall, E. C., Co.
Nation-Wide Stores Co.: *See*— Hall, E. C., Co.
Netraco, Inc., New York, N.Y. 710,955, pub. 11–22–60. Cl. 39.
New Method Fur Dressing Co., South San Francisco, Calif. 711,024, pub. 11–22–60. Cl. 106.
Nichols, Norval N., d.b.a. Colbol Photo Service and Fly Foto, Jamaica, N.Y. 599,781, canc. Cl. 106.
Noble, F. H., & Co., Chicago, Ill. 711,008, pub. 11–22–60. Cl. 50.
Norcross, Inc., New York, N.Y. 710,741, pub. 11–22–60. Cl. 2.
North American Aluminum Corp., College Point, N.Y. 710,893, pub. 11–22–60. Cl. 32.
North American Provision Co., The: *See*— Armour and Co.
Northam Warren Corp.: *See*— Cutex Corp.
Northeast Shoe Co., Inc., Pittsfield, Maine. 71,959, pub. 11–22–60. Cl. 39.
Northwest Paper Co., The, Cloquet, Minn. 710,920, pub. 11–22–60. Cl. 37.
Norton Co., Troy, N.Y. 710,747–8, pub. 11–22–60. Cl. 4.
Nutone, Inc., Cincinnati, Ohio. 710,887, pub. 11–22–60. Cl. 31.
Oil West Wine Co.: *See*— Alta Vineyards Co.
Olin Mathieson Chemical Corp.: *See*— Western Cartridge Co.
Olympic Plastics Co., Inc., Los Angeles, Calif. 710,742, pub. 11–22–60. Cl. 2.
Opie, John T., d.b.a. Opie Brush Co., by Opie Sponge Co., Kansas City, Mo. 385,394, 12(c) pub. 2–7–61. Cl. 1.
Opie Sponge Co.: *See*— Opie, John T.
Orchard Industries, Inc., Hastings, Mich. 710,851, pub. 11–22–60. Cl. 22.
Original Sight-Exchange Co., The: *See*— Klapp, Wilbur P., Jr.
Orkin Exterminating Co., Inc., Atlanta, Ga. 710,750–1, pub. 11–22–60. Cl. 6.
Orlandella, Vito A., d.b.a. Vito Fruit Co., from Mario Salvi, d.b.a. Salvi & Co., Lodi, Calif. 599,749, canc. Cl. 46.
Orr and Sembower, Inc., Reading, Pa. 415,319, 12(c) pub. 2–7–61. Cl. 34.
Ostberg, John H., Chicago, Ill. 252,131, canc. Cl. 1.
P & V Specialty Co., Inc., Cleveland, Ohio. 710,746, pub. 11–22–60. Cl. 4.
Pacific American Fisheries, Inc., Bellingham, Wash. 382,958, 12(c) pub. 2–7–61. Cl. 46.
Packard Motor Car Co., Detroit, Mich. 599,585, canc. Cl. 19.
Papeleras Reunidas S.A.: *See*— Hijo de C. Gisbert Terol.
Paper Mate Mfg. Co.: *See*— Frawley Corp.
Paper Novelty Mfg. Co., Stamford, Conn. 711,005, pub. 11–22–60. Cl. 50.
Paperlynen Co., Columbus, Ohio. 710,951–2, pub. 11–22–60. Cl. 39.
Parisian Cloak Co., to Harzfield's, Inc., Kansas City, Mo. 142,740, ren. 2–7–61. Cl. 39.
Park & Tilford, New York, N.Y. 599,790, canc. Cl. 51.
Peerless Tube Co., Bloomfield, N.J. 710,728, pub. 11–22–60. Cl. 2.
Penfield Saw Works, Inc., The, Thomaston, Conn. 599,606, canc. Cl. 23.
Pennsylvania Optical Co., also known as Pennsylvania Optical Co., Reading, Pa. 599,627, canc. Cl. 26.
Perfect Circle Corp.: *See*— Grant Oil Tool Co.
Perkins Glue Co., by Perkins Glue Co., Lansdale, Pa. 139,865, 12(c) pub. 2–7–61. Cl. 5.
Personal Sportswear, Inc., Boston, Mass. 599,706, canc. Cl. 39.
Perth Woolen Co. Inc., Brooklyn, N.Y. 599,729, canc. Cl. 42.
Peters Food Stores Ltd., Harrow, England. 599,760, canc. Cl. 50.
Petri Cigar Co.: *See*— Petri Cigar Co., Inc.
Petri Cigar Co., Inc., San Francisco, to Petri Cigar Co., Redwood City, Calif. ren. 2–7–61. Cl. 17.
Pfeiffer Co., The, St. Louis, Mo. 710,815, pub. 11–22–60. Cl. 18.
Pierce Oil Products Corp., The The Baker Castor Oil Co., Bayonne, N.J. 399,596. Am. 7(d). Cl. 6.
Pindyck, Charles, Inc., New York, N.Y. 710,927, pub. 11–22–60. Cl. 39.
Pioneer Rubber Co., The, Willard, Ohio. 710,852, pub. 11–22–60. Cl. 22.
Pioneer Shoe Co.: *See*— Bloom, Abraham S.
Pixie Products Co., Inc., Pasadena, Calif. 599,680, canc. Cl. 32.
Plessner, Paul, Co., The, Detroit, Mich. 384,602, ren. 2–7–61. Cl. 18.
Polyfab Co., Los Angeles, Calif. 710,735, pub. 11–22–60. Cl. 2.
Popper Morson Corp.: *See*— Popper-Morson Co., Inc.
Popper-Morson Co., Inc., Jersey City, N.J., to Popper Morson Corp., New York, N.Y. 386,748, ren. 2–7–61. Cl. 49.

Portland Cordage Co., The, Portland, Oreg., to Tubbs Cordage Co., San Francisco, Calif. 142,709, ren. 2–7–61. Cl. 7.
Powell Pressed Steel Co., The, Hubbard, Ohio. 710,724, pub. 11–22–60. Cl. 2.
Procter & Gamble Co., The, Cincinnati, Ohio. 711,012, pub. 11–22–60. Cl. 51.
Procter & Gamble Co., The, Cincinnati, Ohio. 711,014–15, pub. 11–22–60. Cl. 52.
Proctor-Silex Corp., The: *See*—
Silex Co., The.
Propper Mfg. Co., Inc., Long Island City, N.Y. 599,745, canc. Cl. 44.
Pyle, F. B., Jr., Logan, N. Mex. 710,722, pub. 11–22–60. Cl. 1.
Quick Chemical Corp., Chicago, Ill. 710,749, pub. 11–22–60. Cl. 4.
Quinn, Edwin S.: *See*—
Investographs, Inc.
Rabbor Robes, Inc., New York, N.Y. 599,718, canc. Cl. 42.
Radio Corp. of America, New York, N.Y. 710,913, pub. 11–22–60. Cl. 36.
Radio Frequency Laboratories, Inc., Boonton, N.J. 710,845, pub. 11–22–60. Cl. 21.
Reece, Edward M., d.b.a. Calree Co., Baldwin, N.Y. 710,967, pub. 11–22–60. Cl. 39.
Regal Industries, Inc., Minneapolis, Minn. 711,003, pub. 11–22–60. Cl. 50.
Regal Mfg. Co., Inc., d.b.a. Regal Mfg. Co., Chicago, Ill. 710,929, pub. 11–22–60. Cl. 39.
Regal Mfg. Co.: *See*—
Regal Mfg. Co., Inc.
Relco Sales, Lawrence, Mass. 710,978, pub. 11–22–60. Cl. 40.
Reliable Stores Corp., Baltimore, Md. 710,885, pub. 11–22–60. Cl. 28.
Remington, Henry F., d.b.a. The N'-V Products Co., Nashville, Mich., by Approved Products, Inc., Philadelphia, Pa. 207,493, 12(c) pub. 2–7–61. Cl. 51.
Riley Bros., Inc.: *See*—
Riley Penn Oil Co.
Riley Penn Oil Co., to Riley Bros., Inc., Burlington, Iowa. 387,177, ren. 2–7–61. Cl. 15.
Robbins Floor Products, Inc., Tuscumbia, Ala. 710,824, pub. 11–22–60. Cl. 20.
Robinson-Wagner Co., Inc., New York, N.Y. 599,762, canc. Cl. 51.
Roblin-Demerath Co., Rochester, N.Y., to Luden's Inc., Reading, Pa. 139,029, ren. 2–7–61. Cl. 46.
Rockland Bleach and Dye Works Co., The, Baltimore, Md. 599,723, canc. Cl. 42.
Rodgers Hydraulic Inc., St. Louis Park, Minn. 710,871, pub. 11–22–60. Cl. 23.
Roken Inc., Fredonia, Wis. 710,732, pub. 11–22–60. Cl. 2.
Romar Tissue Mills, Inc., Hardwick, Mass. 701,835, canc. Cl. 37.
Root Mfg. Co., Inc., Baxter Springs, Kans. 710,866, pub. 11–22–60. Cl. 28.
Rosaen Co. Nils O. Rosaen, Hazel Park, Mich. 661,039. Am. 7(d). Cl. 31.
Rosaen, Nils O.: *See*—
Rosaen Co.
Rosenberg's, Inc., Washington, D.C. 710,981, pub. 11–22–60. Cl. 42.
Ross Milling Co.: *See*—
Whitewater Flour Mills Co., The.
Royal McBee Corp.: *See*—
Royal Typewriter Co., Inc.
Royal McBee Corp., Port Chester, N.Y. 710,870, pub. 11–22–60. Cl. 23.
Royal Typewriter Co., Inc., New York, to Royal McBee Corp., Port Chester, N.Y. 142,117, ren. 2–7–61. Cl. 23.
Rubaloff, Sidney S., d.b.a. Check-A-Matic Co., Los Angeles, Calif. 599,605, canc. Cl. 23.
Rylock Co., Ltd., San Leandro, Calif. 710,778, pub. 11–22–60. Cl. 12.
Rytex Co., The, Indianapolis, Ind. 383,331, ren. 2–7–61. Cl. 37.
Rytex Co., The, Indianapolis, Ind. 383,973, ren. 2–7–61. Cl. 37.
Rytex Co., The, Indianapolis, Ind. 384,095, ren. 2–7–61. Cl. 37.
Rytex Co., The, Indianapolis, Ind. 384,104, ren. 2–7–61. Cl. 37.
S.M.W. Buying Syndicate, Inc., New York, N.Y. 710,753, pub. 11–22–60. Cl. 6.
Sales Producers Associates, Inc., Kansas City, Kans. 710,996, pub. 11–22–60. Cl. 46.
Sandura Co., Jenkintown, Pa. 710,825, pub. 11–22–60. Cl. 20.
Sanitary Automatic Candy Corp., New York, N.Y., to ABC Vending Corp., Long Island City, N.Y. 384,733, ren. 2–7–61. Cl. 46.
Santa Cruz Sportswear Co.: *See*—
Levine, Bernard.
Saville Perfumery Ltd., Watford, England. 381,894, 12(c) pub. 2–7–61. Cl. 51.
Schenectady Varnish Co., Inc., Schenectady, N.Y. 710,801, pub. 11–15–60. Cl. 16.
Schenley Distributors, Inc., by Affiliated Distillers Brands Corp., New York, N.Y. 315,653, 12(c) pub. 2–7–61. Cl. 49.
Schering Corp., Bloomfield, N.J. 710,812, pub. 11–22–60. Cl. 18.
Schundler, F. E., & Co., Inc., Joliet, Ill. 599,662, canc. Cl. 31.
Schwab, Louis, S.A. Moutier, Moutier, Switzerland. 710,883, pub. 11–22–60. Cl. 27.
Schwarzenbach-Huber Co., The, New York, N.Y. 599,734, canc. Cl. 42.
Sealed Power Corp., Muskegon, Mich. 710,859, pub. 11–22–60. Cl. 23.
Seaporcel Metals, Inc., Long Island City, N.Y. 710,779, pub. 11–22–60. Cl. 12.
Sears, Roebuck and Co., Chicago, Ill. 710,947–9, pub. 11–22–60. Cl. 39.
Seco Co., Inc., St. Louis, Mo. 710,740, pub. 11–22–60. Cl. 2.
Seinsheimer, H. A., Co., The, Cincinnati, Ohio. 386,826, ren. 2–7–61. Cl. 39.
Selectra Industries Ltd., Toronto, Ontario, Canada. 710,891, pub. 11–22–60. Cl. 31.
Selectus Ltd., Biddulph, Stoke-on-Trent, England. 710,972, pub. 11–22–60. Cl. 40.
Seligmann, Otto, to American Collo Corp., New York, N.Y. 599,660, canc. Cl. 29.
Sewing Supplies, Inc., Chicago, Ill. 599,608, canc. Cl. 23.
Shamyer, Geo., & Co. Inc., New York, N.Y. 599,716, canc. Cl. 42.
Sheffield Auto Parts: *See*—
Consolidated Waste Materials Co., Inc.
Sherwin-Williams Co., The, Cleveland, Ohio. 384,679–80, ren. 2–7–61. Cl. 1.
Sherwin-Williams Co., The, Cleveland, Ohio. 710,876, pub. 11–22–60. Cl. 23.
Shoe Corp. of America, Columbus, Ohio. 710,850, pub. 11–22–60. Cl. 22.
Shulton, Inc., Clifton, N.J. 710,754, pub. 11–22–60. Cl. 6.
Silex Co., The, Hartford, Conn., by The Proctor-Silex Corp., Chicago, Ill. 382,248, 12(c) pub. 2–7–61. Cl. 21.
Silversmiths, Wallace, Inc., Wallingford, Conn. 710,884, pub. 11–22–60. Cl. 28.
Simmon Brothers, Inc., Long Island City, N.Y. 599,649, canc. Cl. 26.
Simoniz Co., Chicago, Ill. 599,517, canc. Cl. 4.
Skinner, William, & Sons, New York, N.Y. 710,977, pub. 11–22–60. Cl. 42.
Slumberest Co., Georgetown, Ky. 710,848, pub. 11–22–60. Cl. 21.
Smokerset Corp., New York, N.Y. 599,536, canc. Cl. 8.
Societe Anonyme des Usines Remy, Wijgmael, Belgium. 86,947, 12(c) pub. 2–7–61. Cl. 6.
Societe Genevoise D'Instruments de Physique, Geneva, Switzerland. 442,838, 12(c) pub. 2–7–61. Cl. 23.
Sonneborn Chemical and Refining Corp., New York, N.Y. 710,759, pub. 11–22–60. Cl. 6.
Sonneborn Chemical and Refining Corp., New York, N.Y. 710,793, pub. 11–22–60. Cl. 15.
Sonneborn Chemical and Refining Corp., New York, N.Y. 710,803, pub. 11–22–60. Cl. 16.
Sonneborn Chemical and Refining Corp., New York, N.Y. 710,810, pub. 11 22–60. Cl. 18.
Sonneborn Chemical and Refining Corp., New York, N.Y. 711,017, pub. 11–22–60. Cl. 52.
Sonntag, Pauline K., "Posey-Ann," Evansville, Ind. 599,666, canc. Cl. 32.
Soren Shirt Co., Inc., New York, N.Y. 710,962, pub. 11–22–60. Cl. 39.
Southern Pine Association, to Southern Pine Association, New Orleans, La. 384,495, ren. 2–7–61. Cl. 12.
Southwest Grease & Oil Co., Inc., Wichita, Kans. 710,792, pub. 11–22–60. Cl. 15.
Speer Carbon Co., St. Marys, Pa. 710,789, pub. 11–22–60. Cl. 14.
Speer Carbon Co., St. Marys, Pa. 710,846, pub. 11–22–60. Cl. 21.
Stacor Equipment Co., Newark, N.J. 710,896, pub. 11–22–60. Cl. 82.
Standard Enamel and Paint Corp., Indianapolis, Ind. 384,553, 12(c) pub. 2–7–61. Cl. 16.
Statter Wall Paper Mills, Crystal Lake, Ill. 383,044, 12(c) pub. 2–7–61. Cl. 37.
Stauffer Chemical Co., San Francisco, Calif. 710,841, pub. 11–22–60. Cl. 21.
Stayman, S. M., & Co., New York, N.Y. 599,719, canc. Cl. 42.
Steffen Dairy Foods Co., Inc., Wichita, Kans. 710,992, pub. 11–22–60. Cl. 46.
Steiner American Corp., Salt Lake City, Utah, by change of name from American Linen Supply Co., Chicago, Ill. 710,915, pub. 11–22–60. Cl. 37.
Stereo-Parti: *See*—
Hulett, Daniel H.
Sterling Stores Corp., now by change of name Gob Shops of America, Inc., Pawtucket, R.I. 599,617, canc. Cl. 23.
Stetson, John B., Co., Philadelphia, Pa. 383,869, 12(c) pub. 2–7–61. Cl. 39.
Stevens Band, Inc., New Orleans, La. 710,919, pub. 11–22–60. Cl. 37.
Stevens, J. P., & Co., Inc., New York, N.Y. 710,985–7, pub. 11–22–60. Cl. 42.
Stoffel & Co., Inc., New York, N.Y. 385,402, 12(c) pub. 2–7–61. Cl. 42.
Story-A-Day, Inc., New York, N.Y. 599,670, canc. Cl. 32.
Street & Smith Publications, Inc., New York, N.Y. 384,129, ren. 2–7–61. Cl. 38.
Street & Smith Publications, Inc., New York, N.Y. 384,131, ren. 2–7–61. Cl. 38.
Street & Smith Publications, Inc., New York, N.Y. 384,783, ren. 2–7–61. Cl. 38.
Stromberg-Carlson Telephone Mfg. Co., by General Dynamics Corp., Rochester, N.Y. 108,275, 12(c) pub. 2–7–61. Cl. 21.
Stromberg-Carlson Telephone Mfg. Co., by General Dynamics Corp., Rochester, N.Y. 215,238, 12(c) pub. 2–7–61. Cl. 21.
Stromberg-Carlson Telephone Mfg. Co., by General Dynamics Corp., Rochester, N.Y. 329,319, 12(c) pub. 2–7–61. Cl. 21.
Stuart, Alice, Inc., New York, N.Y. 599,710, canc. Cl. 39.
Sunbeam Anti-Corrosives Ltd., West Molesey, England. 710,796–7, pub. 11–22–60. Cl. 16.
Swivelier Co., Inc., Nanuet, N.Y. 710,830, pub. 11–22–60. Cl. 21.
Sylvania Electric Products Inc., New York, N.Y. 710,828, pub. 11–22–60. Cl. 21.
Taylor White Extracting Co., Camden, N.J., by The J. S. Young Co., Baltimore, Md. 391,998, 12(c) pub. 2–7–61. Cl. 6.

Tea & Coffee Trade Journal Co., The, New York, N.Y. 342,784, 12(c) pub. 2–7–61. Cl. 38.
Telautograph Corp., Los Angeles, Calif. 710,835, pub. 11–22–60. Cl. 21.
Telefonaktiebolaget L M Ericsson, Stockholm, Sweden. 710,837, pub. 11–22–60. Cl. 21.
Telefonaktiebolaget L M Ericsson, Stockholm, Sweden. 710,844, pub. 11–22–60. Cl. 21.
Teucke & Koenig, Hannover, Germany. 711,002, pub. 11–22–60. Cl. 49.
Textile Aniline & Chemical Co.: *See*—
Derby, Roland E.
3 F Products Co.: *See*—
Griffin, William A.
Ticker Publishing Co., New York, N.Y. 338,686, 12(c) pub. 2–7–61. Cl. 38.
Ticker Publishing Co., New York, N.Y. 341,675, 12(c) pub. 2–7–61. Cl. 38.
Tiffany & Co., New York, N.Y. 137,882, ren. 2–7–61. Cl. 4.
Tiffany & Co., New York, N.Y. 137,883, ren. 2–7–61. Cl. 22.
Tiffany & Co., New York, N.Y. 137,884, ren. 2–7–61. Cl. 38.
Trainer Associates, Inc., New Castle, Del. 710,865, pub. 11–22–60. Cl. 23.
Triangle Chemical Co., Macon, Ga. 710,760, pub. 11–22–60. Cl. 6.
Trilite Corp., The, Houston, Tex. 599,512, canc. Cl. 1.
Trimount Clothing Co., Inc., Boston, Mass. 710,945, pub. 11–22–60. Cl. 39.
Triumph International Aktiengesellschaft, by change of name from Triumph Textil- und Bekleidungswerke Aktiengesellschaft, Munich, Germany. 710,938–9, pub. 11–15–60. Cl. 39.
Triumph Textil- und Bekleidungswerke Aktiengesellschaft: *See*—
Triumph International Aktiengesellschaft.
Tryzol Products Co.: *See*—
Meyerhoff, Arthur E.
Tubbs Cordage Co.: *See*—
Portland Cordage Co., The.
Tucker Novelty Co., Inc., New York, N.Y. 670,223, canc. Cl. 28.
Tucker Products Corp., Leominster, Mass. 710,737, pub. 11–22–60. Cl. 2.
Tuffite Plastics, Inc., Ballston Spa, N.Y. 710,720, pub. 11–22–60. Cl. 1.
Twin Bear Gift Shops, West Yellowstone, Mont. 599,755, canc. Cl. 50.
Union Tank Car Co., Chicago, Ill. 710,880, pub. 11–22–60. Cl. 26.
United States Rubber Co., New York, N.Y. 384,961, 12(c) pub. 2–7–61. Cl. 5.
United States Rubber Co., New York, N.Y. 386,144, 12(c) pub. 2–7–61. Cl. 35.
United States Rubber Co., New York, N.Y. 386,145, 12(c) pub. 2–7–61. Cl. 35.
United States Steel Corp., Pittsburgh, Pa. 710,791, pub. 11–22–60. Cl. 14.
Universal Producing Co., Fairfield, Iowa. 710,738, pub. 11–22–60. Cl. 2.
Upjohn Co., The, Kalamazoo, Mich. 710,817, pub. 11–22–60. Cl. 18.
Vaccheri & Lemos Limitada: *See*—
Vaccheri, Luigi.
Vaccheri, Luigi, d.b.a. Gio-Batta Trabucco Limitada, by Vaccheri & Lemos Limitada, Lisbon, Portugal. 382,479, 12(c) pub. 2–7–61. Cl. 46.
Valk, S. J., & Son, New York, to Don Juan Foods Inc., Brooklyn, N.Y. 383,582, ren. 2–7–61. Cl. 46.
Vapor Heating Corp., Chicago, Ill. 710,784, pub. 11–22–60. Cl. 13.
Vio Bin Corp., Chicago, Ill. 385,912, ren. 2–7–61. Cl. 18.
Voigtlander A.G., Braunschweig, Germany. 710,879, pub. 11–15–60. Cl. 26.
Wardall, William J., trustee for the estate of McKesson & Robbins, Inc., to McKesson & Robbins Inc., New York, N.Y. 386,076, ren. 2–7–61. Cl. 18.
Warner-Lambert Pharmaceutical Co., Morris Plains, N.J. 710,816, pub. 11–22–60. Cl. 18.
Water Refining Co., Inc., Middletown, Ohio. 710,889, pub. 11–22–60. Cl. 31.
Wayagamack Pulp & Paper Co., Ltd., to Consolidated Paper Corp. Ltd., Three Rivers, Canada. 141,714, ren. 2–7–61. Cl. 37.
Weather-Proof Co., The, Cleveland, Ohio. 599,552, canc. Cl. 12.
Weilit Corp., The, New Haven, Conn. 710,953, pub. 11–22–60. Cl. 39.
Wellington Leather Co., Inc., Bradford, Mass. 599,513, canc. Cl. 1.
Wells Lamont Corp., Chicago, Ill. 710,933, pub. 11–22–60. Cl. 39.
West Steel Castings Co., The, Cleveland, Ohio. 700,048. Am. 7(d). Cl. 14.
Western Boiler Co., Los Angeles, Calif. 710,904, pub. 11–22–60. Cl. 34.
Western Cartridge Co., to Olin Mathieson Chemical Corp., East Alton, Ill. 139,426, ren. 2–7–61. Cl. 9.
Western Chef Products, Inc., Spokane, Wash. 599,582, canc. Cl. 6.
Western Machinery Co., San Francisco, Calif. 710,862, pub. 11–22–60. Cl. 23.
Western Woods Inc., Portland, Oreg. 599,603, canc. Cl. 23.
West Virginia Pulp and Paper Co., New York, N.Y. 710,783, pub. 11–22–60. Cl. 2.
White, John, Footwear Holdings Ltd., Higham Ferrers, England. 710,940, pub. 11–22–60. Cl. 39.
Whitewater Flour Mills Co., The, d.b.a. The Ross Milling Co., Whitewater, Kans. 139,431, 12(c) pub. 2–7–61. Cl. 46.
Whittaker Laboratories, Inc., Peekskill, N.Y. 385,965, 12(c) pub. 2–7–61. Cl. 18.
Wickes Corp., The, d.b.a. Wickes Lumber Co., Saginaw, Mich. 710,785, pub. 11–22–60. Cl. 13.
Wickes Lumber Co.: *See*—
Wickes Corp., The.
Wiedemann, Geo., Brewing Co., The: *See*—
Wiedemann, Geo., Brewing Co., Inc., The.
Wiedemann, Geo., Brewing Co., Inc., The, to The Geo. Wiedemann Brewing Co., Newport, Ky. 384,216, ren. 2–7–61. Cl. 48.
Wilbur-Ellis Co., San Francisco, Calif. 710,723, pub. 11–22–60. Cl. 1.
Will-Mark Co., Van Nuys, Calif. 599,671, canc. Cl. 32.
Wines, Henri, Ltd.: *See*—
Wines, Henri, Monsieur, Ltd.
Wines, Henri, Monsieur, Ltd., d.b.a. Henri Wines Ltd., Brooklyn, N.Y. 710,999, pub. 11–22–60. Cl. 47.
Wohl, L., & Co., Inc., New York, N.Y. 710,936, pub. 11–22–60. Cl. 39.
Wright, William E., & Sons Co., West Warren, Mass. 710,764, pub. 11–22–60. Cl. 7.
Yale & Towne Mfg. Co., The, New York, N.Y. 710,743, pub. 11–22–60. Cl. 2.
Yale & Towne Mfg. Co., The, New York, N.Y. 710,849, pub. 11–22–60. Cl. 21.
Yale & Towne Mfg. Co., The, New York, N.Y. 710,881, pub. 11–22–60. Cl. 26.
Yale & Towne Mfg. Co., The, New York, N.Y. 710,897, pub. 11–22–60. Cl. 32.
Young, J. S. Co., The: *See*—
Taylor White Extracting Co.
Zellweger Ltd., Uster, Switzerland. 710,864, pub. 11–22–60. Cl. 23.
Zenith Radio Corp., Chicago, Ill. 596,693. Am. 7(d). Cl. 21.
Zurn Industries, Inc., Erie, Pa. 710,788, pub. 11–22–60. Cl. 13.

U.S. GOVERNMENT PRINTING OFFICE: 0—1961

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February 14, 1961 Volume 763 Number 2

PATENTS

NOTICES

Board of Appeals Decisions Rendered in the Month of December 1960

Examiner affirmed	160
Examiner affirmed in part	24
Examiner reversed	45
Total	229

Steroid Punched Card File

The coding scheme for the steroid compounds has undergone major revision. All of the patents issued after January 1, 1961 will be coded under the new scheme.

A replacement deck complete through December 31, 1960, using the new coding scheme is offered to all of the current subscribers at the price of $15.00. The present subscription for upkeep service will continue through June 30, 1961. No cards will be made available after January 1, 1961 using the old method of coding.

Since this service is a by-product of research and development effort and directly dependent thereon, the Patent Office reserves the right to terminate this service at any time.

C. A. KALK,
Director of Administration.

Jan. 18, 1961.

Disclaimer

2,785,772.—*Dante Sentini*, Tenafly, N.J. ELEVATOR SYSTEM. Patent dated Mar. 19, 1957. Disclaimer filed Dec. 30, 1960, by the assignee, *Westinghouse Electric Corporation.*

Hereby enters this disclaimer to claim 1 of said patent.

Adjudicated Patents

(C.A.N.C.) Pannaci Patent No. 2,591,861 (26—52), for method and apparatus for the continuous setting of knitted fabrics formed of thermoplastic material, *Held* not infringed. *Lee Dyeing Co.* v. *Webco Dyers Inc.*, 283 F.2d 671; 127 USPQ 391.

(D.C. Pa.) Cramer, Raffensberg & Strine Reissue Patent No. 24,334 (214—75), for self-loading vehicle hoist. Claims 9, 10, 13, 14 and 18 *Held* invalid. *Side-O-Matic Unloader Corp.* v. *Aliquippa Block & Supply Co.*, 188 F. Supp. 510; 127 USPQ 380.

Patents Available for Licensing or Sale

2,960,022. Heat Diffuser, Humidifier and Draft Eliminator. Edward P. Dorsey, 308 Branford St., Hartford 12, Conn.

2,964,870. Fishing Lure. Cyrus L. Dishon, Wathena, Kans.

2,966,132. Shallow Water Warning Signal. Rudolph B. Mattson, 35 W. Barber Ave., Woodbury, N.J.

2,966,806. Antibacklash Gears. Alfred O. Luning, 2611 S. 8th St., Arlington 4, Va.

Correspondence concerning the following 4 patents should be addressed to: Eugene D. Farley, 1108–9 Equitable Building, 421 S.W. Sixth Ave., Portland 4, Oreg.

2,914,283. Stand and Bracket (Fireplace and Campfire Grill). Robert A. Jorgensen.

2,919,096. Adjustable Support for Lights and the Like. B. D. Mull et al.

2,924,058. Rotary Lawn Mower Cutter Assembly. Linzy W. Brooks.

2,938,835. Demountable Scaffold Unit and Clamps Therefor. Paul H. Watts.

General Electric Company is prepared to grant non-exclusive licenses under the following 17 patents upon reasonable terms to domestic manufacturers.

Applications for license under the following 6 patents may be addressed to: General Electric Company, Flight Propulsion Division, Cincinnati 15, Ohio. Attention: Patent Counsel.

2,805,543. Engine Acceleration Control System Employing Fuel-Flow Nozzle Area and Temperature Variations.

2,919,550. Combustion Chamber Screech Eliminator.

2,932,468. VTOL Aircraft.

2,935,843. Combustion Motor Starting and Signal Means.

2,935,844. System for Feeding Combustion Fluids to Rocket Motors.

2,936,973. VTOL Aircraft.

Applications for license under the following 2 patents may be addressed to: General Electric Company, Patent Counsel, Chemical and Metallurgical Division, 1 River Road, Schenectady 5, N.Y.

2,892,801. Catalysts.

2,904,481. Solid State Polymerization.

Applications for license under the following 4 patents may be addressed to: Patent Attorney, Ordnance Department, General Electric Company, Building #1, Room 1046, 100 Plastics Ave., Pittsfield, Mass.

2,900,432. Battery Casing.

2,938,091. Electromechanical Overspeed Limit Switch.

2,942,598. Internal Combustion Engine.

2,961,959. Torpedo Actuating Lanyard Seal.

Applications for license under the following 5 patents may be addressed to: Patent Counsel, Major Appliance Division, General Electric Company, Appliance Park, Louisville 1, Ky.

2,955,442. Automatic Ice Maker.

2,959,035. Air Conditioning Apparatus.

2,959,937. Refrigeration System for Air Conditioning Units.

2,960,093. Dishwashing Machine.

2,960,217. Shipping Container.

New Applications Received During December 1960

Patents	7,061
Designs	366
Plant Patents	9
Reissues	18
Total	7,474

Issue

Patents	955—	No. 2,971,194 to No.	2,972,148, incl.
Designs	38—	No. 189,739 to No.	189,776, incl.
Plant Patents	5—	No. 2,024 to No.	2,028, incl.
Reissues	3—	No. 24,934 to No.	24,936, incl.
Total	1,001		

CONDITION OF PATENT APPLICATIONS AS OF NOVEMBER 30, 1960

Total number of pending applications (excluding Designs)	189,708
Total number of pending Design applications	5,579
Total number of applications awaiting action (excluding Designs)	87,872
Total number of Design applications awaiting action	1,405
Date of oldest new application	June 17, 1959
Date of oldest amended application	June 18, 1959

M. C. ROSA, Director, Patent Examining Operation

PATENT EXAMINING GROUPS AND SUPERVISORY EXAMINERS	DIVISIONS
(I) STONE, I. G., CHEMICAL AND RELATED ARTS	6, 31, 38, 43, 46, 50, 56, 59, 60, 62, 64.
(II) EVANS, N. H., COMMUNICATIONS, RADIANT ENERGY AND ELECTRICAL ARTS	16, 26, 37, 41, 42, 44, 48, 51, 54, 68.
(III) YUNG KWAI, B., MECHANICAL MANUFACTURING, MACHINE ELEMENTS AND DESIGNS	2, 12, 13, 14, 21, 24, 57, 58, 61, 81, 83.
(IV) SPINTMAN, S., MATERIAL HANDLING AND TREATING, OPTICS, RAILWAYS AND AMUSEMENT DEVICES.	7, 11, 17, 27, 34, 35, 39, 52, 62.
(V) HULL, J. S., STATIC STRUCTURES AND INSTRUMENTS OF PRECISION	5, 8, 20, 29, 33, 36, 40, 52, 66.
(VI) MURPHY, T. F., AGRICULTURE, CALCULATORS, PUMPS AND MOTORS, TRANSPORTATION	1, 4, 9, 10, 18, 32, 33, 38, 45, 47.
(VII) KAUFFMAN, H. E., HEATING AND COOLING, PLASTIC SHAPING AND COATING, SEPARATION AND MIXING, BODY TREATMENT AND CARE.	3, 15, 19, 25, 30, 32, 49, 55, 67.
(CLASS.) GORECKI, G. A., ARTS UNDERGOING RECLASSIFICATION AS LISTED UNDER CLASSIFICATION DIVISIONS.	91, 92, 93, 94, 95.

DIVISIONS, EXAMINERS AND SUBJECTS OF INVENTION (Roman numerals in parentheses indicate Examining Group)	Oldest Application: New	Oldest Application: Amended
1. (VI) GOLDBERG, A. J., Brakes; Planting; Plant Husbandry; Scattering Unloaders; Earth Working	5-4-60	5-3-60
2. (III) STONE, A., Fishing, Trapping and Vermin Destroying; Presses; Tobacco; Textile Wringers; Buckles, Buttons and Clasps	6-1-60	5-25-60
3. (VII) MARMELSTEIN, N., Metal Founding and Treatment; Metallurgy (Process and Apparatus); Alloys; Electrical Resistors	4-25-60	4-11-60
4. (VI) FALLER, E. A., Hoists; Power Driven Conveyors; Handling Apparatus; Elevators; Pneumatic Dispatch; Store Service; Conveyors, Chutes, Skids, Guides and Ways	3-11-60	3-18-60
5. (V) ROBINSON, C. W., Harvesters; Unearthing Objects; Threshing; Knotters; Animal Husbandry; Bee Culture; Dairy; Butchering; Vegetable and Meat Cutters and Comminutors; Fences; Gates; Music; Signals and Indicators; Acoustics	10-20-59	11-12-59
6. (I) LIDOFF, H. J., Carbon Chemistry (part), e.g., Heterocyclic, General Organic Processes, Amides	12-28-59	2-9-60
7. (IV) ANDERSON, E. G., Optics	3-10-60	3-23-60
8. (V) BREHM, G. L., Beds; Chairs and Seats; Cabinets; Tables; Miscellaneous Furniture; Fire Escapes; Ladders; Deposit and Collection Receptacles; Scaffolds	5-10-60	6-1-60
9. (VI) BRANSON, J. H., Pumps; Fans; Turbines	3-16-60	4-4-60
10. (VI) HORTON, A. M. (acting), Firearms; Ordnance; Ammunition; Explosive Charge Making	4-14-60	4-13-60
11. (IV) BENHAM, E. V., Boots, Shoes and Leggings; Shoe and Leather Manufacture; Button, Eyelet and Rivet Setting; Nailing, Stapling and Clip Clenching; Card, Picture and Sign Exhibiting; Cutlery; Pipes and Tubular Conduits	3-25-60	3-7-60
12. (III) DURHAM, B. G. (acting), Machine Elements; Engine Starters; Interrelated Clutch and Motor Controls	4-5-60	3-25-60
13. (III) BEALL, T. E., Gear Cutting; Electric Lamp and Tube Manufacture; Needle and Pin Making; Metal Working (part), e.g. Special Work, Forging, Plastic Working, Drawing, Sawing, Milling, Planing, Turning	2-9-60	3-14-60
14. (III) WILTZ, W. A., Metal Working (part) e.g. Sheet Metal; Metal Bending, Miscellaneous Processes, Assembly and Disassembly Apparatus; Wire Fabrics	3-1-60	12-21-59
15. (VII) BRINDISI, M. V., Plastics; Plastic Block and Earthenware Apparatus	6-7-60	6-2-60
16. (II) ANDRUS, L. M., Telephony; Recorders (part)	10-6-59	10-15-59
17. (IV) LEIGHEY, R. A., Packaging; Typewriters; Printing; Type Casting and Setting; Sheet Material Associating or Folding; Sheet Feeding or Delivering	4-5-60	4-6-60
18. (VI) BLUM, A., Power Plants; Fluid Transmissions; Servomotor Systems; Jet Motors; Combustion Turbines; Speed or Acceleration	6-1-60	5-27-60
19. (VII) PATRICK, P. L., Stoves and Furnaces; Boilers; Fluid Fuel Burners; Heating Systems; Miscellaneous Heating; Automatic Temperature and Humidity Regulation; Illuminating Burners	5-16-60	3-18-60
20. (V) SEERS, J. D., Miscellaneous Hardware; Closure Fasteners; Locks; Safes; Bank Protection; Bread, Pastry and Confection Making; Tents and Canopies; Umbrellas; Canes; Undertaking; Electrical Connectors	6-3-60	6-3-60
21. (III) MADER, R. C., Textiles	4-18-60	4-18-60
22. (VI) BUCHLER, M. B., Aeronautics; Boats; Buoys; Ships; Marine Propulsion; Propellers; Windmills; Fluid Diaphragms and Bellows	2-22-60	2-9-60
23. (VI) SMILOW, L., Data Processors; Digital and Analog Computers; Calculators; Bookkeeping Machines; Cash and Fare Registers; Voting Machines; Counters	6-17-59	6-18-59
24. (III) HICKEY, T. J., Apparel (except Corsets and Brassieres); Apparel Apparatus; Sewing Machines; Textiles, Ironing or Smoothing; Clutches and Power-Stop Control; Work Holders	4-1-60	4-1-60
25. (VII) NEVIUS, R. D., Coating—Processes, Miscellaneous Products and Apparatus; Distillation; Wood Treating Apparatus; Paper Making	1-18-60	12-21-59
26. (II) RADER, O. L., Electricity—Generation, Motive Power, Transmission Systems, Voltage and Phase Control Systems, Furnaces, Battery Charging and Discharging, Arc Lamps, Prime Mover Dynamo Plants; Elevators (part), e.g. Miscellaneous Electric Control Mechanisms; Inductors; Transformers	2-19-60	1-14-60
27. (IV) JAMES, S., Brushing, Scrubbing and General Cleaning; Brush, Broom and Mop Making; Textiles, Fluid Treating Apparatus; Cleaning and Liquid Contact With Solids	5-20-60	5-11-60
28. (VI) BRAUNER, R. H., Internal Combustion Engines; Expansible Chamber Motors; Fluid Servomotors; Spring, Weight and Animal Powered Motors; Cylinders; Pistons; Drive Shafts; Flexible-Shaft Couplings; Chucks or Sockets; Fluid Current Conveyors; Pressure Modulating Relays; Wheel Substitutes	4-22-60	3-1-60
29. (V) FRITZ, M. M., Tools; Woodworking; Button, Barrel and Wheel Making; Baggage; Cloth, Leather and Rubber Receptacles; Package and Article Carriers; Valved Pipe Couplings; Rod Joints; Tool-Handling Fastenings	3-21-60	3-11-60
30. (VII) O'LEARY, R. A., Comminutors; Refrigeration; Fluid Sprinkling, Spraying and Diffusing, Separating and Assorting Solids (part)	6-7-60	6-3-60

DIVISIONS, EXAMINERS AND SUBJECTS OF INVENTION (Roman numerals in parentheses indicate Examining Group)	Oldest Application	
	New	Amended
31. (I) SULLIVAN, A. M. (acting), Carbon Chemistry (part), e.g., Urea Adducts, Silicon Containing Carbon Compounds, Hydrogenation of Carbon Oxides, Partial Oxidation of Non-Aromatic Hydrocarbon Mixtures, Hydrocarbons, Halogenated Hydrocarbons; Synthetic Resins (part) (e.g., Oil-Modified; Stabilized); Mineral Oils	5-3-60	5-3-60
32. (VII) BERMAN, H., Gas and Liquid Contact Apparatus; Heat Exchange; Agitation; Fire Extinguishers; Centrifugal Bowl Separators; Liquid Separation or Purification (part)	2-25-60	2-26-60
33. (V) MUSHAKE, W. L., Bridges; Hydraulic and Earth Engineering; Roads and Pavements; Building Structures	1-13-60	1-13-60
34. (IV) QUACKENBUSH, L., Railways—Draft Appliances, Switches and Signals, Surface Track, Rolling Stock, Track Sanders; Electricity, Transmission to Vehicles; Dumping Vehicles; Vehicle Fenders; Hand and Hoist Line Implements	1-11-60	1-12-60
35. (IV) DEMBO, L. J., Dispensing; Filling Receptacles; Toilet; Severing by Tearing or Breaking; Coin Controlled Apparatus; Dispensing Cabinets; Article Dispensing; Coin Handling	4-13-60	4-4-60
36. (V) EVANS, R. L., Measuring and Testing (part)	2-22-60	2-5-60
37. (II) LEVY, M. L., Electricity—Switches, Welding, Heating, Photo-Cell Circuits	1-25-60	2-4-60
38. (I) PARKER, C. B., Carbon Chemistry (part), e.g., Azo, Carbocyclic or Acyclic Compounds (part), e.g., Anthrones, Triarylmethanes, Esters, Acids, Ketones, Aldehydes, Ethers, Phenols, Alcohols, Proteins, Amines, Natural Resins	12-14-59	1-11-60
39. (IV) WEIL, L., Fluid-Pressure Regulators; Valves; Fluid Handling (except Pressure Modulating Relays, Float Valves, Diaphragms and Bellows)	4-25-60	4-25-60
40. (V) DRUMMOND, E. J., Receptacles—Metallic, Paper, Wooden, Glass; Special Receptacles and Packages	5-3-60	5-3-60
41. (II) LOVEWELL, N. N., Recorders (part); Sound Recording; Television; Telegraphy (part)	4-21-60	3-21-60
42. (II) REYNOLDS, E. R., Electric Signaling; Telegraphy (part)	3-21-60	3-21-60
43. (I) KNIGHT, W. B. (WOLK, M. O., acting), Medicines, Poisons, Cosmetics; Sugar and Starch; Skins and Leathers; Preserving, Sterilizing and Disinfecting (except Wood Treatment Apparatus); Bleaching, Dyeing, Fluid Treatment of Textiles	11-30-59	10-30-59
44. (II) JUSTUS, C. L., Directive Radio Systems; Nuclear Batteries; Nuclear Resonant Devices; Radar; Sonar; Torpedoes	11-30-59	11-6-59
45. (VI) MANIAN, J. A., Wheels, Tires and Axles; Railway Wheels and Axles; Lubrication; Bearings and Guides; Belt and Sprocket Gearing; Spring Devices; Animal Draft Appliances; Excavating	5-6-60	4-29-60
46. (I) WILES, W. G. (CAMPBELL, R. L., acting), Actinide Series (e.g., Fissionable) Compounds; Sintered Metal Stock; Explosives; Power Plants (part); Metallurgy (part); Radioactive Medicines; Nuclear Reactions; Carbon Chemistry (part).	3-8-60	3-8-60
47. (VI) KANOF, W. J., Mining, Quarrying, and Ice Harvesting; Motor Vehicles; Land Vehicles; Education	5-24-60	5-16-60
48. (II) BERNSTEIN, S., Electricity—Conversion Systems, Protective Systems; Measuring and Testing (except Meters); Switchboards, Relays, Magnets, Condensers, Transistors, Barrier Layer Rectifiers	3-8-60	2-8-60
49. (VII) BENDETT, B., Drying and Gas or Vapor Contact With Solids; Ventilation; Wells; Concentrating Evaporators; Earth Boring	2-29-60	1-8-60
50. (I) ARNOLD, D., Carbon Chemistry (part), e.g., Synthetic Resin Compositions (part), Synthetic Rubber Compositions, Natural Rubber; Synthetic Resins (part) (e.g., Butadiene Polymers and Copolymers, Polyacrylonitriles, Acrylate Polymers and Copolymers)	2-1-60	1-15-60
51. (II) WESTBY, G. N., Modulators; Piezoelectric Devices; Antennas; Oscillators; Miscellaneous Electron Space Discharge Device Systems; Radio Detectors	3-7-60	3-1-60
52. (V) LE ROY, C. A., Supports and Racks; Separating and Assorting Solids (part)	4-1-60	4-7-60
53. (IV) NINAS, G. A., Label Pasting and Paper Hanging; Books and Book Making; Manifolding; Printed Matter; Stationery; Paper Files and Binders; Flexible or Portable Closures or Partitions; Doors, Windows, Awnings, and Shutters; Harness; Whip Apparatus; Food Apparatus; Closure Operators; Illumination	5-31-60	4-15-60
54. (II) NILSON, R. G., Electric Lamps; Electronic Tubes; Miscellaneous Discharge Devices; Lamp, Cathode Ray and Gas Discharge Device Circuits; Ray Energy (e.g., X-Ray, Ultraviolet, Radioactive) Applications; Mass Spectrometers	3-21-60	4-20-60
55. (VII) WHITMORE, H. B. (acting), Surgery; Dentistry; Artificial Body Members	3-7-60	3-22-60
56. (I) SPECK, J. R., Abrading Compositions; Batteries; Coating or Plastic Compositions; Electrical and Wave Energy Chemistry	3-21-60	3-8-60
57. (III) TOMLIN, C. W. (acting) Bolt, Nut, Rivet, Nail, Screw, Chain, and Horseshoe Making; Driven and Screw Fastenings; Nut and Bolt Locks; Jewelry; Pipe Joints or Couplings; Cutting	2-15-60	3-3-60
58. (III) BRONAUGH, F. H., Rolls and Rollers; Making Metal Tools and Implements; Stone Working; Abrading Processes and Apparatus; Baths, Closets, Sinks, and Spittoons; Boring and Drilling; Paper Manufactures; Selective Cutting	3-31-60	3-21-60
59. (I) BRINDISI, M. A., Inorganic Chemistry; Fertilizers; Gas, Heating and Illuminating	12-30-59	11-23-59
60. (I) MANGAN, P. E., Carbon Chemistry (part), e.g., Synthetic Resins (part); Miscellaneous Polymers (e.g., Vinyl Polymers); Synthetic Resin Compositions (part), Synthetic Rubber; Photographic Processes and Products	4-4-60	4-1-60
61. (III) STRIZAK, J. P., Winding and Reeling; Pushing and Pulling; Horology; Railway Mail Delivery; Feeding of Indefinite Lengths	5-10-60	5-23-60
62. (IV) LOWE, D. B. (FULLER, E. E., acting), Games; Toys; Amusements and Exercising Devices; Mechanical Guns and Projectors; Photographic Apparatus	4-1-60	4-19-60
63. (I) WINKELSTEIN, A. H., Foods and Beverages; Fermentation; Carbon Chemistry (part), e.g., Lignins, Carbohydrate Derivatives, Fats, Sulfurized Compounds; Heavy Metal Compounds	3-8-60	2-17-60
64. (I) GREENWALD, J., Fuels; Miscellaneous Compositions	2-1-60	4-1-60
65. (II) SAX, E. J., Wave Guides; Electric Meters; Conductors; Insulators; Amplifiers	4-21-60	4-11-60
66. (V) LISANN, I., Geometric Instruments; Measuring and Testing (part)	11-18-59	11-18-59
67. (VII) KRAFFT, C. F., Liquid Separation or Purification (part); Laminated Fabrics	3-3-60	3-13-60
81. (III) MONCURE, J. A., Industrial Arts	9-7-60	9-14-60
82. (III) HUNTER, E. H., Household, Personal and Fine Arts	9-13-60	9-21-60
91. KENT, A. P. (acting), Ornamentation; Glass	5-2-60	4-26-60
92. GAUSS, H., Radio Transmitters, Receivers and Tuners	8-18-60	7-22-60
93. WAHL, R. A., Wire Working	6-27-60	6-21-60
94. BERLOWITZ, W., Gas Separation	5-20-60	5-11-60
95. ANGEL, C. D., Metallic Building Structures; Packed Rod Joints; Joint Packings	4-8-60	3-28-60
M. E. DIV. A (I) GASTON, L. H., Carbon Chemistry (part), e. g., Steroids; Synthetic Resins (part), i. e., Polyethylenes	4-6-60	3-4-60

EXPIRATION OF PATENTS

The patents within the range of numbers indicated below expire during January 1961, except those which may have been extended under the provisions of the Veterans Patent Extension Act (64 Stat. 316 as amended by 66 Stat. 221) and those which may have expired earlier due to shortened terms under the provisions of Public Law 690. A list of Veterans' patents which have been extended appears in the *Annual Index of Patents—1959*.

Patents..... Numbers 2,888,081 to 2,940,253, inclusive
Plant Patents..... Numbers 611 and 612

DECISIONS IN PATENT AND TRADEMARK CASES

In the United States Patent Office Before the Board of Appeals

EX PARTE SCHRACK

Appeal No. 60-53 Decided July 31, 1959

1. PATENTABILITY—INVENTION—USE OF ALTERNATING OR DIRECT CURRENT.

Upon consideration of appellant's contention that claims to an electromagnetic switch having a core and armature of high magnetic remanence and a circuit for operating the relay distinguished over a reference in the recitation of an alternating current operated relay, *Held* "that it would be a mere matter of choice to use either an alternating current or a direct current for operating the relay since the prior art, * * *, suggests the use of either one or the other for closing the circuit of a high remanence switch."

2. SAME—FEATURE OF CLAIM NOT SUPPORTED BY ORIGINAL DISCLOSURE.

Upon review of the rejection of claims of appellant's application, *Held* that "No patentable significance has been attached to the statement in the means clause relative to the 'interruption of the first conducting means * * * at zero value of the alternating current,' in view of appellant's failure to disclose in this case as originally filed a means which causes the circuit of the * * * coil of the electromagnet to open when the current passes through zero value."

3. SAME—INVENTION—MERE STRUCTURAL DIFFERENCE.

"* * *, if we assume *arguendo* that the claimed relay means is structurally different than the reference it is not apparent to us and appellant has not established by evidence based on a comparative test of the instant device and the reference device that the former produces any different result than the latter. It is well established that mere difference without distinction cannot be the basis for patentability."

4. SAME—SAME.

Held that a condition, other than differences in structure, must be met before a patentable distinction exists over the prior art, and "This condition is that the difference in structure must produce a new and unobvious result or an old result in a new manner."

5. SAME—SAME—SUBSTITUTION OF KNOWN DELAY MEANS.

Held that substitution in a reference of known delay means "would be a matter of choice or design in the absence of a showing of a new and unobvious result or an old result in an improved manner accruing to the claimed combination as a result of the use of a particular delay means."

6. SAME—PARTICULAR SUBJECT MATTER—ELECTROMAGNETIC SWITCH ASSEMBLY.

The rejection of certain claims to an electromagnetic switch assembly as being unpatentable over the prior art, affirmed.

APPEAL from the Examiner. Serial No. 398,848.

AFFIRMED.

Henry W. Bock, for appellant.

Before KREEK and KEELY, *Examiners-in-Chief*, and GONSALVES, *Acting Examiner-in-Chief*

KEELY, *Examiner-in-Chief:*

This is an appeal from the final rejection of claims 17, 18, 20 and 21. Claims 19 and 22, the only other claims in the case, stand withdrawn from further consideration under the provisions of Rule 142(b) as not readable on the elected species.

Claim 17 is representative and reads as follows:

17. In an electromagnetic switch assembly the combination comprising a source of alternating current, magnetizing coil means with a core of high residual magnetism, conducting means connecting the coil means to the alternating current source for magnetizing the core and by a high saturation alternating current, second conducting means connecting the coil means to the alternating current source for demagnetizing the core, an armature movable to and from the core and biased from its closed position with the core and after de-energization of the coil means held to the core by the residual magnetism thereof, a contact in the first conducting means and normally closed, and means rendered operative to open the contact by the movement of the armature toward the core with a delay assuring a more than momentary engagement of the armature with the core prior to the interruption of the first conducting means by the contact at the zero value of the alternating current whereby the opening of the contact interrupting the first conducting means is retarded after the engagement of the armature with the core, said contact being closed without delay on motion of the armature from the core.

The references relied upon are:

Wilms, 2,297,839, September 29, 1942.
Armstrong, 2,441,984, May 25, 1948.
German Patent, 717,215, February 9, 1942.

The rejected claims relate to an alternating current operated electromagnetic relay switch and a circuit for operating said relay.

The relay has a laminated iron core and armature both having high magnetic remanence which enables the relay to hold the switch in closed position by residual magnetism after the current supplied to the relay winding has been cut off.

This type of relay requires the application of a magnetic field to the armature in order to disengage the switch contacts.

The instant relay also has a delayed opening auxiliary switch which insures that the switch contacts will be in closed position and held there before the energizing circuit for the relay winding is opened.

In Fig. 1*a* of the drawing the switch contacts for closing the power circuit R–W are moved to open and closed position by an electromagnetic relay 2, 2′, 8 which is energized from any two of the power lines R, S or T.

The device operates in the following manner:

Switch 11 is in normally closed position when the operator actuates switch 9 thereby causing current to flow from said power lines through 0, 2′, 11, 8′, 9, 8. The magnetic field set up by the winding 2′ causes armature 3 to move to the left to close contacts 6—7 as well as 13—14. A set time after the contacts have been closed a delay device 10 in the form of an inertia weight 33 (Fig. 6) or a differential pressure responsive diaphragm 27 (Fig. 5) causes switch 11 to open as shown in Fig. 1*b* thereby opening the circuit of winding 2′. The switch contacts are now held in closed position by the residual magnetism between the fixed and movable metal members 3 and 21 (Fig. 5) of the electromagnetic relay.

When the operator closes switch 12 the winding 2—2′ of the relay is placed across any two of the feeder lines R–T thereby setting up a magnetic field in the armature 3 which causes it to move to the right and open switch contacts 6—7.

Claims 17 and 18 stand rejected as being directly readable on Armstrong.

This inventor, like appellant, discloses a high remanence type electromagnetic relay. In the modification shown in Fig. 5 the relay comprises a fixed magnetic member 1, a movable magnetic member 2, 5, 6 and a pair of windings W_1—W_2 mounted on the fixed

magnetic member 1. Winding W_1 is connected through the "On" switch to one pair of terminals of a bridge type rectifier the conjugate terminals of which are connected to an A.C. power line AS, while the winding W_2 is connected through the "Off" switch directly across said A.C. line.

Upon closure of the "On" switch, the armature 2 moves upward and closes the circuit 11, 12 while closing of the "Off" switch energizes W_2 which in turn causes the circuit 11—12 to open.

In the modification of the device shown in Figs. 5 and 6, a delay mechanism is provided for the purpose of opening the circuit of the closing winding after the circuit of contacts 11, 12 has been closed. This delay mechanism is described in the following terms in the patent:

"According to Fig. 5, the stationary structure 1 of the relay RR is connected by a support 15 with a stationary contact 16 whose terminal is denoted by 17. A movable contact 18 having a terminal 19 is also mounted on support 15. Contact 18 consists of a leaf spring which tends to remain in contact engagement with stationary contact 16. Mounted on support 15 is also a leaf spring 20 in face-to-face relationship to a bar or strip 21 of a material having cold flow properties. That is, this bar consists of a substance which, like thermoplastic and other resinous compositions of suitable consistency, offers a high resistance to sudden deformation but performs a gradual deformation when subjected to continuous stress. These cold flowing materials have the tendency to return into their original condition when released from such stress. In the embodiment shown in Fig. 5 such return motion is further secured by the backing spring 20 mentioned in the foregoing.

"The armature assembly is provided with a pin 23 which is biased by a spring 24 and slidably mounted on a holding member 25 attached to the armature assembly. When the armature 2 is attracted so that it seals against the field structure 1, the pin 23 is pressed against the bar 21 under compression of the spring 24. The pressure thus exerted by spring 24 on bar 21 causes the latter to deflect gradually towards the contact 18 until contact 18 is entrained and opens its engagement with contact 16. Consequently, a timed period elapses between the initial sealing moment of the armature and the opening of the contact between terminals 17 and 19.

• • • • • • •

"The relay shown in Fig. 6 has an interlock contact for opening the energizing circuit of the relay coil whose retardation is due to the inertia of a resiliently mounted mass. The relay has a stationary field structure 1 and an armature 2, the latter being provided with a tappet 5 for moving the insulating base 7 of a contact assembly, similar to the design according to Fig. 1. The base 7 carries main contacts (not shown in Fig. 6) and is also provided with actuating means for the interlock contact. These means comprise a pin 26 firmly attached to base 7, a mass 23′ slidably mounted on pin 26, and a spring 24′ which biases the mass 23′ away from base 7 toward a stop formed by pin 26. The interlock contact proper has an insulating base 15′ which carries two stationary contacts with terminals 17′ and 19′ and accommodates a movable contact bridge 18′. Springs 30 serve to bias the bridge 18′ toward engagement with contacts 17′ and 18′. The energizing coil circuit (not shown in Fig. 6) extends through contacts 17′ and 19′. When the relay magnet is energized, the armature 2 is suddenly lifted, while the mass 23′, due to its inertia does not follow immediately but compresses first the spring 24′ before it is also lifted. As a result, the magnet is sealed before the mass 23′ is moved against the bridge contact 18′, so that the interlock contact is interrupted with sufficient delay to secure the desired operation. The springs 24′ and 30 are dimensioned so that spring 24′ can lift the mass and the contact bridge in opposition to the weaker springs 30.

"According to the embodiment shown in Fig. 7, a time delayed interruption of the relay closing circuit is obtained by means of an auxiliary control relay denoted by CR. The closing and opening circuit for relay winding W is substantially similar to that shown in Fig. 4, except that the armature assembly of relay RR is provided with an interlock contact 27 which closes when the armature 2 seals against the field structure 1. This interlock connects the coil 28 of auxiliary relay CR to the alternating-current source AS so that a contact 29 in the closing branch of the circuit is opened later than the closure of contact 27."

Wilms also discloses a magnetic switch which like the instant device is operated by A.C.

As shown in Fig. 2 of this reference the switch comprises a fixed magnetic member 18, movable magnetic member 15, 19 which carries at its upper end switch contacts 5—5 for connecting A.C. feeder lines 60—61 to output lines 62—63. The operating winding 20 of the relay is a single coil which is tapped by lead 66 to form a first portion connected through leads 64–67, across the A.C. feeder lines to close circuit 4—5; and a second portion connected across the feeder lines 60—61 by leads 64, 68, 69, 67 to open circuit 4—5.

Regarding the operation of his device Wilms makes the following significant comments:

"Our invention may be practiced with the same structure where direct current is used for securing magnetization i.e., to cause engagement of the fieldpiece and armature and to maintain the switch in the closed position by virtue of the residual magnetism derived from the closing energization. The opening of the switch can then be obtained by using A.C. as described above or by means of D.C. magnetizing force of opposite polarity from the residual magnetism and of such magnitude that the switch opens.

"The specific example herein disclosed may be considered a magnetic device wherein the armature 19 becomes a magnet on a temporary energization of the fieldpiece 18 by the coil 20, and wherein the fieldpiece after energization becomes a keeper; and on second temporary energization of the keeper or fieldpiece, the armature or magnet has its magnetism reduced to a value to permit disengagement of fieldpiece and armature. It is to be understood that armature or keeper is biased to the disengaged position."

Fehrenbach discloses a magnetic relay comprising an armature F which is lifted upwardly by the magnetic field set up by current flowing in coil D. Upward movement of the armature permits a weight *n* to swing a lever *m* about K as a pivot. The end of the lever opposite the weight slides along a contact in the circuit of the coil D of an electromagnet. When the left end of the lever moves upward out of engagement with the aforesaid contact the circuit for the coil D is open.

In the rejection of claim 17 the Examiner applied Fig. 4 of Armstrong to the claim and purports to find in this reference every element recited in the claim.

With respect to claim 18 the Examiner takes the position that the delay means of Fig. 5 of the reference has an adjustable member 23, movement of which changes the bias on the spring 24.

Appellant challenged the rejection of these claims asserting that the claim distinguishes over the reference in the recitation of an A.C. operated relay as well as a delay means assuring a more than momentary engagement of the armature with the fixed coil prior to the interruption of the first conducting means by the contact at the zero value of the A.C.

He urges that the closing operation of the reference device is not caused by A.C. which necessitates the use of rectifiers in the reference circuit.

Appellant admits that the reference device has a delay means but contends it is an elaborate elastic construction which he urges cannot be:

"regarded as means rendered operative to open the contact by the movement of the armature toward the core."

We have reviewed the claims and the reference in the light of the Examiner's and appellant's comments and as a result of our review are in accord with the position of the Examiner.

[1] Appellant has correctly stated that Armstrong's circuit is closed by means of a rectified or pulsating direct current which is not regarded as an alternating current. However, it is our opinion that it would be a mere matter of choice to use either an alternating current or a direct current for operating the relay since the prior art, as for example Wilms, suggests the use of either one or the other for closing the circuit of a high remanence switch.

Furthermore, it appears to us that there are advantages and disadvantages in using either the pulsating direct current or the alternating current in closing an electromagnetic relay. The pulsating direct current relay requires a rectifier which may be disadvan-

tageous but this type of circuit in our opinion is more positive in its closing action and tends to remain closed without the presence of chatter whereas the alternating current relay, while it eliminates the rectifier, is subject to chattering and needs additional elements to eliminate this effect.

Likewise, we are unimpressed by appellant's comments regarding his delay means which, as broadly defined in the claims, is definitive of the structure of Armstrong.

[2] No patentable significance has been attached to the statement in the means clause relative to the "interruption of the first conducting means * * * at zero value of the alternating current,"

in view of appellant's failure to disclose in this case as originally filed a means which causes the circuit of the *c* coil of the electromagnet to open when the current passes through zero value.

[3] Furthermore, if we assume *arguendo* that the claimed relay means is structurally different than the reference it is not apparent to us and appellant has not established by evidence based on a comparative test of the instant device and the reference device that the former produces any different result than the latter. It is well established that mere difference without distinction cannot be the basis for patentability.

Accordingly we will sustain the rejection of these claims.

Claim 20 stands rejected as being unpatentable over the structure of Fig. 6 of Armstrong, which the Examiner considers to be the full equivalent of that recited in claim 20.

This claim also stands rejected as being unpatentable over Armstrong taken with the German patent.

In the latter ground of rejection the Examiner takes the position that it would be uninventive to substitute the delay means comprising the lever, weight, and conact of the German patent for the corresponding parts of Armstrong.

Appellant challenged this ground of rejection contending that the Examiner is in error in his assertion that the delay means of Armstrong is the equivalent of appellant's because his lever swings in a horizontal plane and its weighted end increases the inertia without being a "weight" in the sense in which 23′ of Armstrong is a weight.

With respect to the rejection of the claim on Armstrong taken with the German patent appellant takes the position that the lever mounted weight end of the German patent merely balances, more or less according to its position on end, and does not delay the opening of contact O.

We have reviewed the claim in the light of the Examiner's and appellant's comments and as a result of our review are in accord with the position of the Examiner.

[4] Claim 20 structurally defines over the device of Armstrong in the recitation of the delay means as contended by appellant. Appellant's argument, however, is merely an assertion of novelty. As pointed out in the pertinent case law another condition must be met before a patentable distinction exists over the prior art. This condition is that the differences in structure must produce a new and unobvious result or an old result in a new manner.

A careful inspection of the record of this case fails to reveal evidence of either a new or unobvious result or an old result in an improved manner. Consequently, insofar as this record is concerned appellant has met only one of the requirements for patentability, i.e., novelty. He has not sustained the burden of showing a new and unobvious result or an old result in an improved manner.

[5] Likewise, we are unimpressed by appellant's argument relative to the proposed modification of Armstrong in the light of Fehrenbach. In our opinion one skilled in the art upon reading the disclosure of Armstrong would be aware of many types of delay means which would satisfactorily operate in the structure of this reference and the substitution of one for the other would be a matter of choice or design in the absence of a showing of a new and unobvious result or an old result in an improved manner accruing to the claimed combination as a result of the use of a particular delay means.

Accordingly we will sustain the rejection of claim 20.

Claim 20 has also been rejected as drawn to an old combination of electromagnetic control circuit and an auxiliary contact retarding structure therefor.

In this ground of rejection the Examiner urges that there is clearly no new cooperation between the retarding structure and other elements in appellant's retarding system over that present in Armstrong.

Appellant traversed the rejection asserting that "a new cooperation of the elements is seen in the fact that the armature is guided for horizontal motion and the delaying lever swings in a horizontal plane."

A careful analysis of this claim and the reference in the light of the comments of appellant leads us to the conclusion that the Examiner's position relative to this claim is sound. It is established by a long line of decisions that a patentable combination is one wherein the elements thereof produce a new and unobvious result or an old result in an improved manner.

As pointed out above we do not find either of these elements present in the claimed structure. Consequently we are constrained to agree with the Examiner's holding that the claim is drawn to an old combination.

Claim 21 stands rejected on Armstrong in view of Wilms or Wilms in view of Armstrong.

In the rejection of this claim the Examiner takes the position that the specific tapped winding recited in the claims is found in Wilms and that the substitution of a single tapped winding for the two separate windings shown in Armstrong would be uninventive when the latter device was operated from an A.C. source.

With respect to the rejection on Wilms in view of Armstrong the Examiner takes the position that it would be uninventive to add a delay means such as shown by Armstrong to the relay of Wilms since a delay means produces only its expected result in a conventional manner without producing in the claimed combination a new or unobvious result or an old result in an improved manner.

Appellant challenged the rejection asserting that claim 21 distinguishes over the prior art in the same manner as claim 17.

Additionally, he urges that the Examiner has built up the references in the light of the instant disclosure

rather than from the references since neither one of them suggest that the other could be modified to produce the claimed structure.

In our view of the disclosure of Armstrong we noted that he shows a second switching contact "On" (Fig. 1), a third switching contact "Off" (Fig. 1) and a fourth contact 14 (Fig. 4). Consequently this claim differs from the reference only in the coil structure.

It is our view that it would involve merely following the teaching of the prior art, as for example Wilms, and therefore be uninventive to substitute a single tapped coil for the two coils of Armstrong when the device of that reference was operated directly from an A.C. line.

Likewise, it is our view that it would be uninventive to arrange the switch 46—49 for delayed operation since this modification of the reference involves merely adding thereto parts from the prior art in a manner taught by the prior art to produce the result stated in the prior art.

Accordingly we will sustain this ground of rejection of the claim.

[6] We have carefully considered the contentions and arguments presented in appellant's brief but we are of the opinion that the Examiner's rejection was proper and it will be sustained.

The decision of Examiner is affirmed.

AFFIRMED.

PATENT SUITS

Notices under 35 U.S.C. 290; Patent Act of 1952

2,103,137, I. Basgan, Rotary well drilling apparatus, filed Dec. 16, 1960, D.C., S.D.N.Y., Doc. 13/461, *Ion Basgan* v. *Standard Oil Company of New Jersey et al.*

2,254,214, E. G. Gage, Safety circuit for cathode ray tubes; **2,281,571**, same, Safety circuits for thermionic apparatus; **2,319,594**, same, Safety high potential electrical sources and circuits; **2,375,697**, same, High potential apparatus rendered safe for handling, filed Dec. 9, 1960, D.C., S.D.N.Y., Doc. 60/4878, *Lexington School for the Deaf et al.* v. *Stewart Warner Corporation et al.*

2,281,571. (See 2,254,214.)

2,316,065, C. H. Hapgood, Cow milking apparatus, filed June 9, 1958, D.C.N.J. (Camden), Doc. 675/58, *Swedish Crucible Steel Company* v. *Standard Tank and Seat Company*. Dismissed by stipulation Dec. 15, 1960.

2,319,594. (See 2,254,214.)

2,352,183, E. P. Bullard III, Control mechanism; **2,575,792**, R. D. Bullard et al., same, filed Dec. 15, 1960, D.C., W.D. Va. (Charlottesville), Doc. 68, *The Bullard Company* v. *General Electric Company*.

2,868,490, B. E. Kiest, Beet harvesters, filed Dec. 18, 1959, D.C., E.D. Idaho (Boise), Doc. 2206, *Bert E. Kiest* v. *International Harvester Company*. Order of dismissal without prejudice Sept. 22, 1960.

2,375,697. (See 2,254,214.)

2,379,567, S. N. Buchanan, Electrical connector; **2,666,464**, L. B. Paules, Wire cutting and stripping tool; **2,674,725**, S. N. Buchanan, Electrical connector; **Re. 23,688**, W. S. Watts, same, filed Dec. 20, 1960, D.C., N.D. Ohio (Cleveland), Doc. 36/580, *AMP Incorporated* v. *ETC Incorporated*.

2,866,862, A. D. Sarkisian, Lineguides for fishing rods, filed Dec. 12, 1960, D.C., S.D. Calif. (Los Angeles), Doc. 1357/60 WB, *Allen Gittleson, doing business as Allan Manufacturing Company* v. *Commerce Pacific Company*.

2,575,792. (See 2,352,183.)

2,611,106, Fyler and Crooker, Television sweep system; **2,947,812**, Parmet and Krakora, Jr., Remote control system, filed Dec. 14, 1960, D.C., N.D. Ill. (Chicago), Doc. 60c1920, *Motorola, Inc.* v. *Zenith Radio Corporation*.

2,666,464. (See 2,379,567.)

2,674,725. (See 2,379,567.)

2,867,192, Rongved and Erwin, Truss support, filed Dec. 15, 1960, D.C., S.D. Tex. (Houston), Doc. 13/456, *The Erwin-Newman Company* v. *American Steel Building Co., Inc.*

2,866,295, J. C. Berry, Sock package, filed Dec. 16, 1960, D.C., W.D.N.C. (Asheville), Doc. 419, *Berry Brothers Corporation* v. *Sigmon Hosiery Manufacturing Company*.

2,708,757, J. Jackson, Article lifting device, filed Dec. 19, 1960, D.C. Md. (Baltimore), Doc. 12/717, *American Machine & Foundry Company* v. *American Hatchery Engineers, Inc.*

2,801,123, Kubik and Schmid, Knob retainer for tubular lock, filed Dec. 5, 1960, D.C. Mass. (Boston), Doc. 60/889–F, *The Yale & Towne Manufacturing Company* v. *Independent Lock Company*.

2,809,730, C. R. Rolen, Panel and frame construction for buildings; **2,851,747**, same, Structural member, filed Dec. 15, 1960, D.C., S.D. Ohio (Columbus), Doc. 5995, *Carl R. Rolen* v. *Macomber, Incorporated*.

2,851,747. (See 2,809,730.)

2,856,458, L. M. Carver, Telegraph distortion analyzer, filed Dec. 15, 1960, D.C.N.J. (Trenton), Doc. 1042/60, *Stelma, Incorporated* v. *Bridge Electronics Co., Inc.*

2,863,954, H. H. Renneker, Telephone hand set supports; **Des. 188,189**, same, Telephone handset supporting device, filed Dec. 12, 1960, D.C., S.D. Calif. (Los Angeles), Doc. 1385/60–PH, *H. H. Renneker Co., Inc.* v. *Solari Manufacturing Company et al.*

2,867,156, R. J. Burg, Apparatus for making plastic bags, filed May 6, 1959, D.C., S.D.N.Y., Doc. 146/29, *Robert J. Burg* v. *Allied Converters, Inc.* Order of dismissal for lack of prosecution Dec. 14, 1960. Same, filed same, Doc. 146/30, *Robert J. Burg* v. *M. Korn Packaging Co., Inc.* Decree as above.

2,871,911, Goldsworthy and Landgraf, Apparatus for producing elongated articles from fiber-reinforced plastic materials, filed Nov. 10, 1960, D.C., S.D. Calif. (Los Angeles), Doc. 1278/60–WB, *Glastrusions, Inc.* v. *New Plastic Corporation et al.*

2,947,812. (See 2,611,106.)

Re. 23,688. (See 2,379,567.)

Re. 24,411, F. A. Robinson, Decorative member, filed Dec. 12, 1960, D.C., S.D. Ohio (Cincinnati), Doc. 4720, *Snowdrops, Inc.* v. *Cincinnati Cut Flowers Exchange, Inc.*

Des. 175,895, A. S. Staff, Lace, filed Nov. 21, 1958, D.C., S.D.N.Y., Doc. 140/148, *Texagon Mills, Inc.* v. *Fab Laces, Inc.* Order of discontinuance Dec. 7, 1960.

Des. 178,833, I. Greene, Lady's hat or similar article; **Des. 178,834**, same, filed Dec. 30, 1958, D.C., S.D.N.Y., Doc. 141/208, *Fashion Demonstrations, Inc.* v. *Jepco Corporation et al.* Order of dismissal for lack of prosecution Dec. 8, 1960.

Des. 178,834. (See Des. 178,833.)

Des. 188,189. (See 2,863,954.)

REISSUES

FEBRUARY 14, 1961

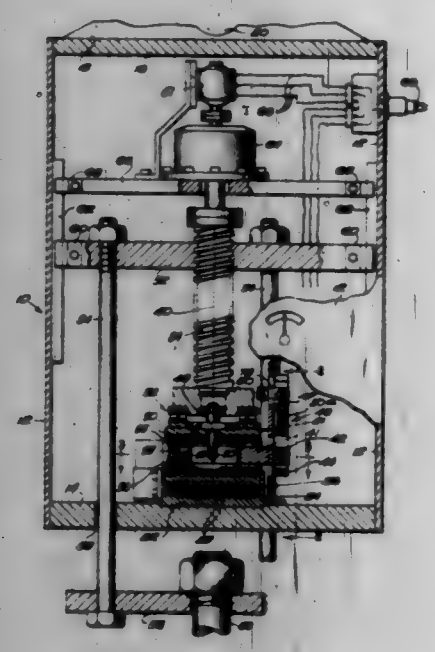
Matter enclosed in heavy brackets [ ] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates additions made by reissue.

24,934
PIPE HANGER

Alfred Zollinger, Providence, R.I., assignor to Grinnell Corporation, Providence, R.I., a corporation of Delaware

Original No. 2,918,238, dated Dec. 22, 1959, Ser. No. 756,179, Aug. 20, 1958. Application for reissue June 30, 1960, Ser. No. 40,498

10 Claims. (Cl. 248—58)



10. A motor operated constant support pipe hanger comprising a supporting member adapted to be secured to fixed structure, a jack having a first element rotatable with respect to the supporting member and having a second element in threaded engagement with said first element, one of said jack elements being rotatable with respect to the other, means for connecting a pipe load to one of said jack elements, means interposed between the supporting member and the other of said jack elements for transmitting the weight of the load to said supporting member, said latter means including a member movable with respect to said supporting member substantially parallel to the center line of action of the load thereon with changes in said load, a motor connected to the rotatable jack element to rotate said rotatable jack element, a switch electrically connected to said motor to turn said motor off and on, and means for connecting said switch to one of said members adjacent to said center line of the load weight.

24,935
HAMBURGER PRESS

Clarence S. Glenny, Rockford, Ill., assignor to The Washburn Company, Worcester, Mass., a corporation of Massachusetts

Original No. 2,929,099, dated Mar. 22, 1960, Ser. No. 633,964, Jan. 14, 1957. Application for reissue Aug. 23, 1960, Ser. No. 51,478

12 Claims. (Cl. 17—32)

1. A utensil of the character described comprising, in combination, a sheet metal ring shaped body of substantially uniform width and having an annular inwardly projecting shoulder provided therein, a disk having a close sliding fit in said ring body and adapted to be supported on said shoulder, whereby to define with said disk a recess in said ring body for use in the making of patties of plastic food or other material, the patties being expellable from said ring body with said disk, one edge portion of said ring body defining the entrance thereto being curled outwardly to define a rounded edge so that the entrance is flared and entry of said close fitting



disk is facilitated, said ring body having inwardly projecting ribs provided therein in circumferentially spaced parallel relation substantially at right angles to the aforesaid shoulder and all of approximately the same length measured from said shoulder and terminating in uniformly spaced relation to the aforesaid flared entrance, and said disk having notches provided in its periphery in the same circumferentially spaced relation as the ribs which receive said ribs loosely when the disk is supported on said shoulder.

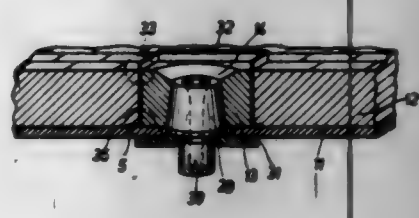
24,936
METAL CONTAINER ADAPTED TO RECEIVE HIGH-MELTING POINT LIQUID METALS

Werner Coupette, Adolf Sickbert, and Rudolf Westlb, Wattenscheid, Germany, assignors to Leybold-Hochvakuum-Anlagen, G.m.b.H., Koln-Bayental, Germany

Original No. 2,784,961, dated Mar. 12, 1957, Ser. No. 472,978, Dec. 3, 1954. Application for reissue Feb. 3, 1959, Ser. No. 790,994

Claims priority, application Germany Dec. 5, 1953

3 Claims. (Cl. 266—42)



1. A liquid-metal container suited to receive high-melting-point liquid metal, comprising an outer metal shell having an interior lining of refractory material, a body of ceramic material inserted into the bottom of the said interior lining and projecting through the outer metal shell which body has an opening formed therein, and a shield consisting of sheet metal which surrounds the said ceramic body and has two rims, one rim of which is connected [by welding] *gas-tightly* to the inner face of the metal shell, while the other rim projects into the space of the container reserved for the liquid metal so that said metal shield will extend into the liquid metal when said container is in operation.

PLANT PATENTS

GRANTED FEBRUARY 14, 1961

Illustrations for plant patents are usually in color and therefore it is not practicable to reproduce the drawing.

2,024

APPLE TREE

Philip J. Jenkins, Parker, Wash., assignor, by mesne assignments, to Stark Bro's Nurseries and Orchards Company, Louisiana, Mo., a corporation of Missouri

Filed May 2, 1960, Ser. No. 26,388

1 Claim. (Cl. 47—62)

A new and distinct variety of apple tree, substantially as herein shown and described, characterized particularly as to novelty by the unique combination of a semi-dwarf habit of growth, production of many fruiting spurs at an early age, a compact spurry growth comparable to that of the Bisbee Apple variety (Plant Patent No. 1,565), with the spurs, flower buds and shoots of much thicker caliper than those of the variety "Golden Delicious" and the spurs being borne much closer together on the laterals, a fruit form which is broader at the base and longer than the fruit of "Golden Delicious," said fruit having five large, relatively conspicuous points at the calyx end, and a high productivity of fruit comparable in quality to the fruit of "Golden Delicious."

2,025

CHRYSANTHEMUM PLANT

Eugene S. Boerner, Newark, N.Y., assignor to Jackson & Perkins Company, Newark, N.Y., a corporation of New York

Filed May 20, 1960, Ser. No. 30,695

1 Claim. (Cl. 47—60)

A new and distinct variety of chrysanthemum plant of the shaggy decorative class, substantially as herein shown and described, characterized particularly as to novelty by the unique combination of a branching habit of growth, Dark Cress Green color of the foliage, an early blooming habit, large flower size, and a distinctive White general color tonality of the flowers, with the lower half of the flower petals very lightly overcast with Barium Yellow color.

2,026

CHRYSANTHEMUM PLANT

Eugene S. Boerner, Newark, N.Y., assignor to Jackson & Perkins Company, Newark, N.Y., a corporation of New York

Filed May 20, 1960, Ser. No. 30,696

1 Claim. (Cl. 47—60)

A new and distinct variety of chrysanthemum plant of the shaggy decorative class, substantially as herein shown and described, characterized particularly as to novelty by the unique combination of an early blooming habit, large flower size, tubular effect of the flower petals at maturity, and a distinctive Carnelian Red lightly overcast with Scarlet general color tonality of the flowers.

2,027

CHRYSANTHEMUM PLANT

Eugene S. Boerner, Newark, N.Y., assignor to Jackson & Perkins Company, Newark, N.Y., a corporation of New York

Filed May 25, 1960, Ser. No. 31,789

1 Claim. (Cl. 47—60)

A new and distinct variety of chrysanthemum plant of the large, rounded ball type, substantially as herein shown and described, characterized particularly as to novelty by the unique combination of a vigorous habit of growth, airy form of the plant, an early blooming habit, stiff flower stems, large, rounded ball form of the flowers, and a distinctive Scarlet general color tonality of the flowers.

2,028

CHRYSANTHEMUM PLANT

Eugene S. Boerner, Newark, N.Y., assignor to Jackson & Perkins Company, Newark, N.Y., a corporation of New York

Filed May 25, 1960, Ser. No. 31,790

1 Claim. (Cl. 47—60)

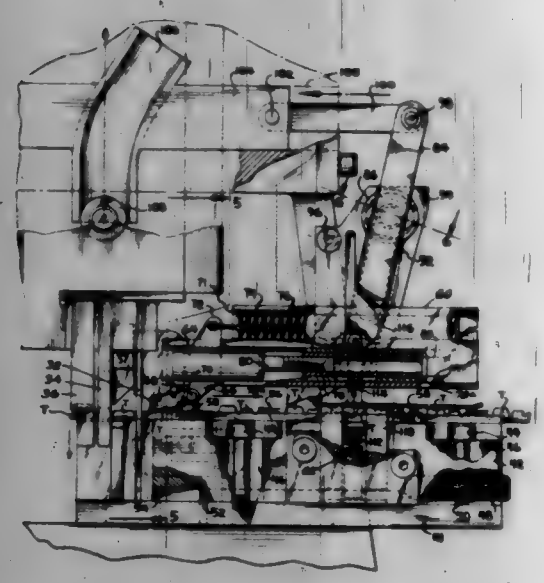
A new and distinct variety of chrysanthemum plant of the decorative class, substantially as herein shown and described, characterized particularly as to novelty by the unique combination of a hardy and vigorous habit of growth, large foliage, large flower size, crisp and firm flower petals, and a distinctive Spinel Red general color tonality of the flowers.

PATENTS

GRANTED FEBRUARY 14, 1961

GENERAL AND MECHANICAL

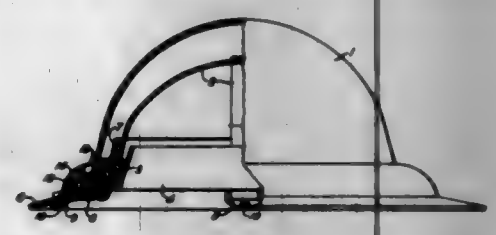
2,971,194
TERMINAL FEEDING MECHANISM
Paul T. Hahn, Harrisburg, Pa., assignor to AMP Incorporated, Harrisburg, Pa.
Filed July 15, 1958, Ser. No. 748,721
7 Claims. (Cl. 1—177)



1. Apparatus for feeding terminals comprising, a ram reciprocable towards and away from a crimping zone, a terminal feed track extending towards said zone, reciprocable feed means for pushing a terminal along said track towards said zone, a lever pivotally connected at one end to said reciprocable feed means, said lever being pivotally mounted intermediate its ends and being slidable relative to its intermediate pivotal mounting, a slide reciprocable along a path extending adjacent to, and transversely of the direction of reciprocation of, said ram, cam means acting between said slide and said ram for moving said slide in a first direction during descent of said ram and in the opposite direction during ascent of said ram, and a link connecting said slide to the opposite end of said lever thereby to oscillate said lever and actuate said feed means, said pivotal mounting being adjustable along a locus extending parallel to said lever when said feed means is in its forward position thereby to permit changing of the amplitude of the feed stroke without changing the forward limit of the feed stroke.

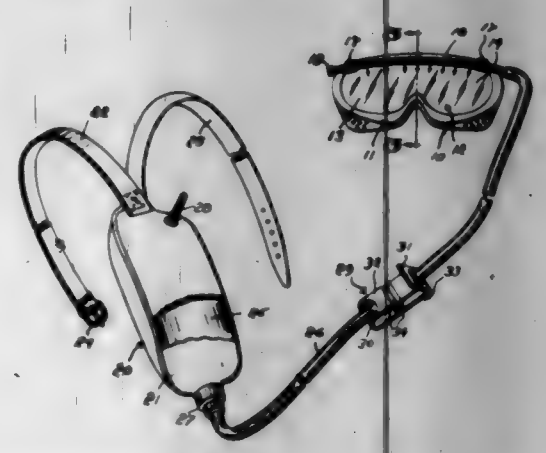
2,971,195
SAFETY HELMET
Donald J. Voss, Ingram, Pa., assignor to Mine Safety Appliances Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed June 2, 1958, Ser. No. 739,052
3 Claims. (Cl. 2—3)

1. A safety helmet comprising a cradle adapted to fit over the head and be supported thereby, a rigid brim supported by the lower part of the cradle and extending laterally away from it, a ring of crushable brittle material secured to the top of the brim around the cradle, and a rigid crown covering the cradle and spaced from it and the brim, the lower edge of the crown being located above said laterally extending brim, said ring being formed to support the crown and hold it in place, whereby when in use the crown accidentally receives an impact



of sufficient force said ring will be crushed and the shock of said impact thereby reduced.

2,971,196
GOGGLES WITH ATTACHED WASHING MEANS
Frederick A. Howell, 37 Morning St., Portland, Maine
Filed Nov. 5, 1958, Ser. No. 772,051
4 Claims. (Cl. 2—16)

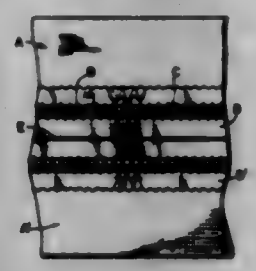


1. In combination, goggles for use in harness racing, said goggles comprising a frame provided with transparent portions and with means for attaching said frame to the head of a driver with one portion in front of each of his eyes, and liquid delivery means including a source of liquid under pressure, a tubular member having a series of orifices and affixed against and protruding forwardly as a shield from the upper edge of said goggles with said orifices disposed downwardly towards the upper part of the outer surface of said portions so that liquid delivered through said member flushes said outer surfaces, and a flexible conduit effecting communication between said tubular member and said source and including a normally closed valve dimensioned to be held, together with reins, in one hand and provided with a member operable by a digit of that hand, without release of the reins, to open the valve.

2,971,197
STRETCHABLE BAND OF SHIRRED FABRIC
Jack Nachman, Easley, S.C., assignor to Swirl, Inc., Easley, S.C.
Filed Aug. 28, 1957, Ser. No. 680,733
1 Claim. (Cl. 2—76)

A stretchable band of shirred fabric comprising an upper fabric panel, a lower fabric panel, each of said panels being reversely folded along a marginal edge thereof to form a marginal hemmed portion, said panels

being connected together in coplanar abutting engagement along the lines of fold of said hemmed portions, an elastic cord in a longitudinally tensioned state positioned against each of said hemmed portions and spaced inwardly of and substantially parallel to the connected and abutting lines of fold of said hemmed portions, and a line of zig zag stitching peripherally extending longitudinally about each of said elastic cords but not passing



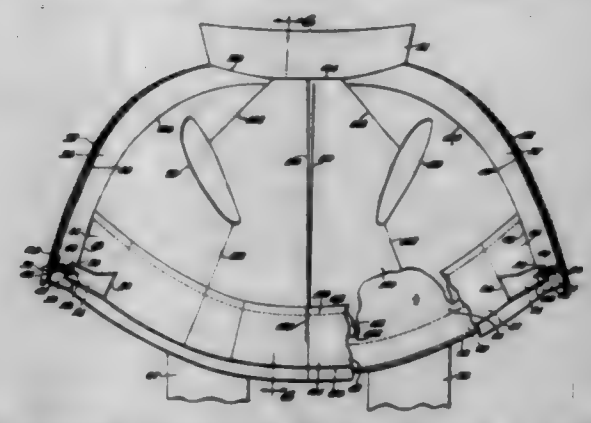
through the same, said line of stitching passing through the two layers of fabric constituting the respective hemmed portions, said elastic cords being held in position against the respective hemmed portions only by said lines of zig zag stitching, whereby shirring is formed along the hemmed portions and along portions of the fabric adjacent thereto upon release of the tension in said elastic cords.

2,971,198
RAIN CAPE AND HOOD COMBINATION WITH HOOD ADAPTED TO CONTAIN CAPE
Magdalena M. Tomich, 193 S. Arlington St., Apt. 9, Akron, Ohio.
Filed Mar. 27, 1959, Ser. No. 802,425
1 Claim. (Cl. 2—84)



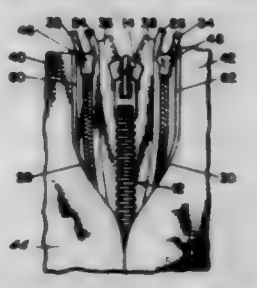
A combination rain garment which includes a generally rectangular hood and a cape with substantially vertical side edges, the entire central portion of the bottom edge of the rear of the hood being joined in flat contact to the central portion of the top edge of the cape with portions of both the bottom edge of the hood and the top edge of the cape extending forwardly on both sides of said portions which are joined together and being free of one another whereby the vertical edges of the cape can be folded inwardly independently of said free and outwardly extending portions of the hood, with means on the cape for fastening together and unfastening the tops of the vertical edges of the cape independently of said free and forwardly extending portions of the hood, separate means on the hood for fastening together and unfastening said free and forwardly extending portions of the hood, with slide fastener tracks on the opposite borders of the hood with the ends of the tracks joined at the center of the top of the front of the hood and the center of the bottom of the rear of the hood, and a slide fastener at one end of the tracks when the hood is open, the cape being foldable into the hood with said vertical edges folded toward the longitudinal centerline of the cape and the cape being folded transversely along said longitudinal centerline forwardly toward the hood to form a substantially rectangular mass which mass is then foldable backwardly along the centerline of the cape to form a smaller substantially rectangular mass which is smaller in dimensions than the dimensions of the hood whereby it is readily turnable into the hood by folding the garment along the juncture of the hood and the cape with said free portions of the hood closable about the cape and the cape being thereby enclosable in the hood by movement of the slide fastener along the tracks.

2,971,199
JACKETS
Louis Kozobarich, 5853 La Mirada, Hollywood, Calif.
Filed Aug. 6, 1958, Ser. No. 753,536
16 Claims. (Cl. 2—93)



1. A garment comprising in combination, a back panel having upper, lower, and side edges, and a pair of front panels having upper, lower, and side edges, means securing the side edges of the back panel to one side edge of each front panel, leaving a remaining side edge of each front panel free at the front of the garment, means securing the upper edges of the front panels to the back panel at the shoulder portion of the garment, and a collar attached to all said panels at the upper edges thereof, sleeves secured to the back and front panels at the sides of the garment, an outer waist band secured marginally to the lower edges of all the panels and extending completely around the back of the garment from the free side edge of one front panel to the free side edge of the other front panel, an inner waist band substantially coextensive in length with the outer waist band, and having opposite ends secured to the front panels near the free side edges thereof, said inner waist band being throughout its length spaced from the inside faces of the front and back panels, a liner having a transverse drop-pleat disposed within the space aforesaid, said liner having upper and lower ends fixed respectively to the collar and to the inner waist band for suspending the inner waist band inside the garment, the drop-pleat being flexible to extend and contract in correspondency with movements of the garment acting to elevate and lower the outer waist band relative to the inner waist band.

2,971,200
SLIDE FASTENER CONSTRUCTION
Boyd Lindsey, % Yuma Cleaners, Yuma, Colo.
Filed Feb. 19, 1958, Ser. No. 716,184
1 Claim. (Cl. 2—265)



In a sliding clasp fastener assembly, the combination which comprises spaced interlocking elements of a conventional sliding clasp fastener, fabric strips upon inner edges of which the interlocking elements are secured, a slider mounted to travel on said interlocking elements for engaging and disengaging said elements, stringers,

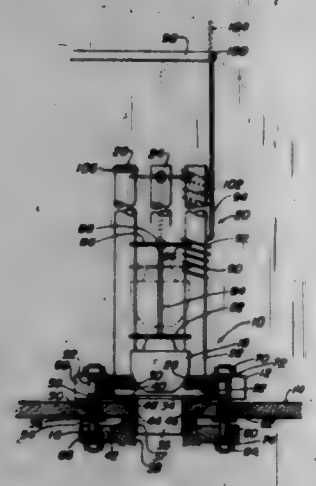
inner edges of which are secured to the fabric strips, spaced elements of sliding clasp fasteners secured to outer edges of the stringers, spaced interlocking elements of sliding clasp fasteners positioned in meshing relation with the spaced elements of the stringers, outer stringers on which the spaced interlocking elements of the sliding clasp fasteners are secured, sliders on the spaced interlocking elements of the stringers, and a garment having an elongated opening therein, outer edges of said outer stringers being secured to the inner surface of the garment at points spaced from edges of the garment at sides of the opening whereby edges of the garment at sides of the opening overlap.

2,971,201
WATER CLOSET FLUSHING APPARATUS WITH NON-SWEATING TANK
Robert E. Kurkoske, Van Nuys, Calif.
(12727 Sherman Way, North Hollywood, Calif.)
Filed June 20, 1960, Ser. No. 37,371
12 Claims. (Cl. 4—19)



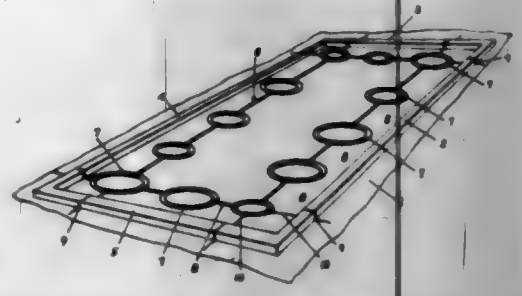
1. In a water closet flushing apparatus, in combination: a normally empty flushing tank having a filling inlet; a valve normally closing said outlet; a float tube rising above said valve and defining a float chamber having an opening at its upper end through which it will be filled when said tank has been filled with water to a level sufficient for flushing, and having at its lower end a restricted drain aperture for delayed draining of said chamber following the emptying of said tank; a float in said chamber; means operative between said float and valve to effect opening of the valve in response to rising of said float in said chamber when filled as aforesaid, and further operative upon said delayed draining of the chamber to effect the return of said valve to its closed position when the tank has been emptied; and means including a normally closed inlet valve and a manually operable valve opener for opening said inlet valve for filling said tank.

2,971,202
TOILET FLUSH VALVE ASSEMBLY
Philip J. Brewington, 106 E. 46th St., Austin 5, Tex.
Filed Dec. 4, 1958, Ser. No. 778,224
4 Claims. (Cl. 4—57)



1. In combination, a valve body having a central cavity and a valve seat communicating therewith, a series of overflow tubes equispaced about the axis of said seat to discharge into the cavity, a flush valve ball adapted to fall into the seat to close admission to the cavity, and means to raise the ball off its seat, said means including a circular member having peripheral sliding contact with at least three of the overflow tubes.

2,971,203
SWIMMING POOL SAFETY APPARATUS AND METHOD
Erlo B. Cookman, 5364 W. Streetsboro Road, West Richfield, Ohio
Filed Jan. 7, 1959, Ser. No. 785,370
4 Claims. (Cl. 4—172)



1. A pool having first opposite side walls and second opposite side walls transverse to the first for confining water therein, a plurality of spaced apart buoyant rings having spacer members attached thereto with flexible connecting means and in alternating relationship therewith, defining an inner floating periphery, first tie lines extending in opposite directions securing opposite sides of the inner periphery to said first opposite side walls and second tie lines extending in opposite directions transverse to the first tie lines securing the inner periphery to said second opposite side walls and maintaining the flexible connector means and spacers substantially in alignment.

2,971,204
PATIENT HOISTS
Lorraine McCoy, 1345 E. 6th St., Beaumont, Calif., and Roy E. Altom, P.O. Box 172, Cabazon, Calif.
Filed Jan. 7, 1958, Ser. No. 707,498
5 Claims. (Cl. 5—83)



1. A device of the character described comprising: a pair of hangers adapted to engage the one side rail of a hospital bed; a pendulum arm pivotally mounted to each of said hangers; an outer member pivotally mounted to the other end of one of said pendulum arms and extending generally upwardly and directionally towards the other pendulum arm; an inner member pivotally mounted to the lower end of the second pendulum arm and extending in a generally upward and directionally toward the other hanger; said outer and inner members being pivotally connected at a point where they cross one another; a horizontal tubular member pivotally connected to the upper end of said outer member; a second tubular member pivotally connected to the upper end of said inner member; said second tubular member being of smaller diameter than said first tubular member and being partially telescoped within said first tubular member; a sleeve surrounding said tubular members and freely slidable thereon; a second pair of hangers adapted to

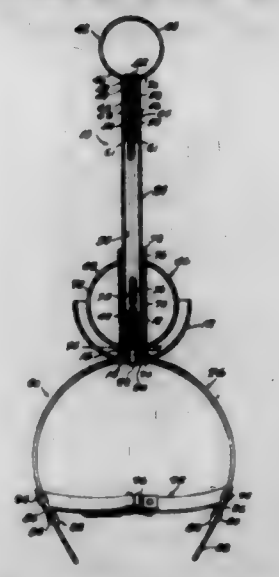
engage the side rail on the other side of said bed; a pendulum arm pivotally mounted to each of said hangers; an outer member pivotally mounted to the other end of said pendulum arms and extending generally upwardly and directionally towards the other pendulum arm; an inner member pivotally mounted to the lower end of the second pendulum arm and extending in a generally upward and directionally toward the other hanger; said outer and inner members being pivotally connected at a point where they cross one another; a horizontal tubular member pivotally connected to the upper end of said outer member; a second tubular member pivotally connected to the upper end of said inner member; said second tubular member being of smaller diameter than the said first tubular member and being partially telescoped within said first tubular member; a sleeve surrounding said tubular members and freely slidable thereon; a fabric belt extending between the two tubular members slidably mounted upon said telescoped horizontal tubular members on opposite sides of said bed; a pair of bars with an internally threaded collar attached to one end of each of said bars and attached at their other ends to the lower forward end of opposite sides of said two sets of pivotally connected outer and inner members; a second pair of bars fastened to a similar tubular collar and to the lower rear opposite ends of said sets of pivotally connected outer and inner members; a screw mechanism adapted to engage the collars on said sets of bars to be pulled together or pushed apart.

2,971,205
CAMPERS' COMBINED PACK, HAMMOCK AND SLEEPING BAG
Lowell D. Shultz, 1121 Laura St., Springfield, Oreg.
Filed Aug. 6, 1958, Ser. No. 753,545
2 Claims. (Cl. 5—343)



1. A combined pack, hammock and sleeping bag comprising a bottom panel, a top panel integrally joined to said bottom panel along one edge thereof and superposed on said bottom panel, said top and bottom panels having the side edges thereof releasably secured together, said panels having the other end edges free to provide sleeping bag access therebetween, a generally rectangular flap secured to the free edge of said bottom panel, said generally rectangular flap extending laterally beyond the side edges of said panels, a second generally rectangular flap secured to the first-mentioned edge of said top panel, a pair of shoulder straps each having one end secured to said top panel at the juncture of said top panel with said generally rectangular flap, said shoulder straps being arranged in spaced apart parallel relation, said top and bottom panels being transversely folded to overlie said first named generally rectangular flap, means securing said first named generally rectangular flap in encompassing relation to said folded top and bottom panels, and means on said second named generally rectangular flap for securing said second named generally rectangular flap in overlying relation with respect to said first named generally rectangular flap, said last named means cooperating with said shoulder straps at the free end edge of said top panel.

2,971,206
SUBMERSION SIGNAL
Robert Linn, General Delivery, Caledonia, Miss.
Filed Sept. 4, 1959, Ser. No. 838,300
5 Claims. (Cl. 9—9)



1. A submersion signal comprising a supporting means adapted to embrace the head of a wearer, an upstanding shaft having a lower end assembled to the supporting means and an open upper end, a buoyant signal element normally supportably engaged with the upper end of said shaft, a flexible and extensible tether within the shaft, said tether having a lower end secured within a lower part of the shaft and an upper end adapted to extend above the upper end of the shaft, means securing the upper end of the tether to said buoyant signal element, and a float slidably mounted on said shaft, said float normally occupying a depressed position on the shaft, said float being adapted to rise along the shaft upon submersion of the head of a wearer of the signal and push the signal element off the upper end of the shaft.

2,971,207
WATER SKI
Frank E. Eicholtz, San Diego, Calif., assignor to George J. Leach, San Diego, Calif.
Filed June 2, 1958, Ser. No. 739,143
2 Claims. (Cl. 9—310)

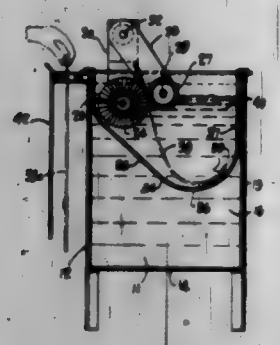


1. A water ski comprising a wooden sheet of substantially uniform thickness throughout its length, a resin impregnated fiberglass sheet bonded to the under surface of said wooden sheet, a second wooden sheet occupying approximately the middle one-third of the ski and having portions tapered towards each tip of the ski, a second resin impregnated fiberglass sheet bonded to the under surface of the second wooden sheet and the adjacent upper surface of the first wooden sheet forming an island adjacent the central section of the ski, and a further resin impregnated fiberglass sheet covering the remaining upper surface of said first wooden sheet and the upper surface of said second wooden sheet.

2,971,208
APPARATUS FOR SCRUBBING AUTOMOBILE FLOOR MATS
Harry E. Moore, 1860 Dover Center Road, Westlake, Ohio, and Jack E. Schmitt, 28412 W. Oviatt Road, Bay Village, Ohio
Filed June 6, 1958, Ser. No. 740,292
1 Claim. (Cl. 15—40)

Apparatus for scrubbing automobile floor mats, comprising in combination, a substantially rectangular sheet

material tank for holding washing liquid having bottom, front, rear, and end walls, and an open top, a smoothly curved false bottom suspended between the front and rear walls, spaced from the end walls, and inclined downward from a point proximate the front wall toward the center of the tank, and then curved upward to the top



edge of the rear wall, a motor driven cylindrical scrubber brush journaled between the end walls of the tank proximate the downwardly inclined front end of the false bottom, and a smooth surfaced idler roller pivotally mounted adjacent the scrubber brush and gravity biased thereagainst, at the liquid surface.

2,971,209

INDICATOR FOR AUTOMOBILE WINDSHIELD WIPERS

Joseph S. Coulter, Chicago, Ill.
(1831 Kiest Ave., Northbrook, Ill.)

Filed Jan. 20, 1958, Ser. No. 709,947
4 Claims. (Cl. 15—250.40)



1. A composite flexible blade for windshield wipers, squeegees and other wiper assemblies including a solid core composed of a material having the general properties with respect to hardness and wearing characteristics as rubber, and a jacket encasing the core, said jacket being securely bonded to the core and having a generally uniform thickness substantially less than that of the core at least in that portion surrounding the working portion of the core, said jacket being of a contrasting color to the core and having hardness and wear characteristics similar to the core so that exhaustion and fatigue failure of the core and jacket will occur substantially simultaneously, and a depressant incorporated into the jacket to accelerate the failure of the jacket.

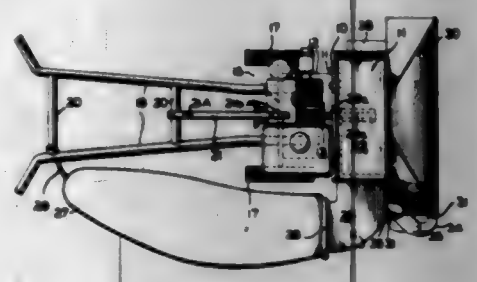
2,971,210

MOBILE INDUSTRIAL SUCTION CLEANER

Miles Courtney Thompson, 1022 N. Edgefield St., Dallas 8, Tex.

Filed Mar. 19, 1959, Ser. No. 800,508
5 Claims. (Cl. 15—346)

3. A mobile suction cleaner for floors and the like comprising a wheeled supporting frame, an encased suction-blower fan mounted on said supporting frame and having an intake opening and an exhaust opening, a relatively short right-angular elbow conduit connected to said exhaust opening and extending therefrom and having an arcuate wall on its anterior side, a trash collector means connected to the other end of said elbow conduit, a suction hood communicating with said intake opening and having a relatively wider downwardly extending mouth end adapted to admit litter and objects therein and therethrough, a plurality of air-jet means arranged along opposite lower edge portions of said hood to emit jets of air, under pressure, toward each other at an oblique angle to the surface to be cleaned, a take-off conduit communicatively connecting said jet means di-



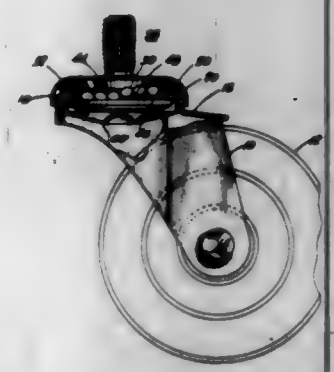
rectly with said elbow conduit at a point on its said anterior arcuate wall but spaced approximately 5 degrees from the beginning of said arcuate surface, in the direction of flow through said elbow conduit, that allows air pressure from the exhaust conduit to flow devoid of entrained litter to said jet means, a motor mounted on said frame and operatively connected to said fan, and means for guiding said wheeled frame.

2,971,211

SEALED CASTER

Michael Kramcsak, Jr., Bridgeport, Conn., assignor to The Bassick Company, Bridgeport, Conn., a corporation of Connecticut

Filed Aug. 18, 1958, Ser. No. 755,511
4 Claims. (Cl. 16—21)

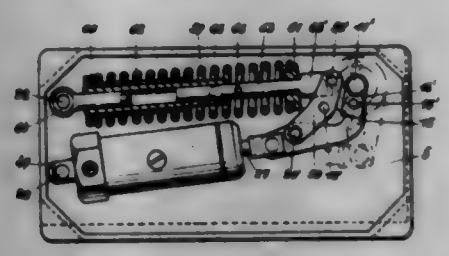


1. In a swivel assembly; a substantially circular series of anti-friction elements, an annular member forming a continuous circular bearing surface on one side of said circular series of anti-friction elements, at least one other member positioned on the other side of said circular series of anti-friction elements and defining with said annular member a bearing cavity between said members and forming an annular gap at the outer peripheral edge of said annular member, a resilient O-ring positioned adjacent the peripheral edge of said annular member and contacting said other member and adapted to seal said gap, a cap member rigidly positioned adjacent said annular member, said cap member having a portion extending beyond the peripheral edge of said annular member with said portion being directed toward said other member and acting to cover said O-ring, the distance from said cap portion to said peripheral edge of said annular member and said other member at said gap being less than the unstressed cross sectional diameter of said O-ring, whereby said cap member acts to compress said O-ring against the peripheral edge of said annular member and said other member to seal said gap.

2,971,212
DOOR CLOSING APPARATUS

Reinhold Vöster, Stuttgart-Degerloch, Walter Vöster, Stuttgart, and Wolfgang Schmid, Stuttgart-Feuerbach, Germany, assignors to Vereinigte Baubeschlagfabriken Gretsch & Co. G.m.b.H., Stuttgart-Feuerbach, Germany

Filed Oct. 17, 1956, Ser. No. 616,549
Claims priority, application Germany Oct. 18, 1955
24 Claims. (Cl. 16—55)

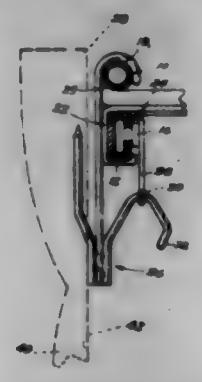


13. A door closing apparatus comprising, in combination, support means; a crank carried by said support means for turning movement about a first predetermined axis and having a crank portion extending radially from said axis; an elongated link pivotally connected at one end thereof to said crank portion; linkage means carried by said support means and being pivotally connected to said link intermediate the ends thereof, said linkage means including a lever turnable about a second predetermined axis spaced from said first axis; spring means operatively connected to said linkage means for yieldably resisting the opening of a door connected to said crank and for urging the door toward its closed position; and fluid brake means carried by said support means and pivotally connected to the other end of said link for retarding the movement of said link.

2,971,213
DRAPERY HANGING MECHANISM

Sallie H. Johnson, 715 Sherman Ave., Coeur d'Alene, Idaho

Filed Mar. 24, 1958, Ser. No. 723,340
1 Claim. (Cl. 16—87.2)



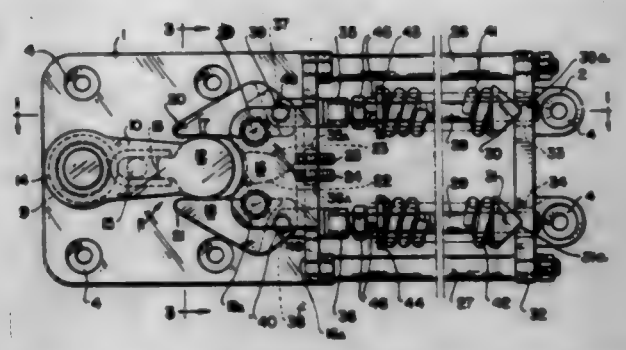
A drapery support member comprising a wire hook for penetrating and supporting a drapery from its upper end; a hook support member fixed to said hook and terminating spaced therefrom; a hook stabilizing member fixed to said hook and extending substantially in spaced parallel relation thereto; and means at the upper end of said stabilizer for releasably engaging a stabilizing glide.

2,971,214
DOOR CLOSER WITH HOLDING MEANS

Oliver C. Eckel, Carlisle, Mass., and George E. Gilpatrick, West Hartford, Conn., assignors to The Stanley Works, New Britain, Conn., a corporation of Connecticut

Filed Nov. 6, 1958, Ser. No. 772,313
4 Claims. (Cl. 16—185)

1. In a door closer, a frame, a pintle rotatably mounted on the frame, a pintle arm fixed to and extending outwardly from the pintle, said pintle and pintle arm being rotatable toward and away from a predetermined initial rotated position, a generally L-shaped control member having first and second angularly related arm portions, means pivotally mounting the control member on the frame for movement between a first rotated position wherein the first arm portion is in the path of movement

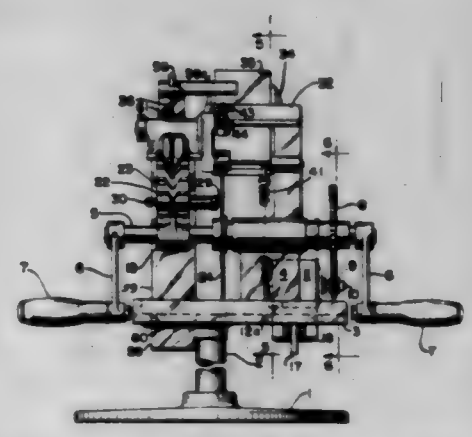


of the pintle arm away from said predetermined initial position in one direction, and a second rotated position wherein the second arm portion is in the path of movement of the pintle arm toward said predetermined initial position in the opposite direction, and means forming a toggle linkage with said control member stabilizing said control member in said first and second rotated positions.

2,971,215
APPARATUS FOR DEVEINING SHRIMP

Theodore H. Sloan, P.O. Box 58, Charleroi, Pa., assignor of one-half to William B. Jaspert, Pittsburgh, Pa.

Filed Sept. 24, 1958, Ser. No. 763,043
5 Claims. (Cl. 17—2)



1. In a shrimp deveining machine a driven shaft, a chuck arm mounted to rotate with said shaft, said chuck arm having a plurality of angularly spaced flexible leaves with V notches for supporting a shrimp body thereon, a slitting member for engaging the back of the shrimp mounted in the path of travel of said chuck arm and a pair of rollers with the slitting member disposed therebetween for engaging the back of the shrimp to depress the same against the resilient supports to maintain equal depth of cut of the slitting member throughout the length of travel of the shrimp body therebeneath.

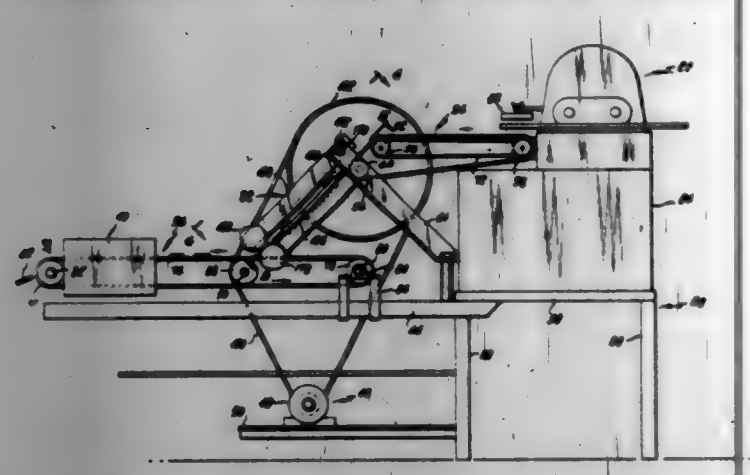
2,971,216
APPARATUS FOR MANUFACTURING MEAT PRODUCTS

Glenn B. Gwilliam and Harold C. Howell, Jr., both of 4611 Hill Road, Boise, Idaho

Filed Aug. 5, 1958, Ser. No. 753,218
8 Claims. (Cl. 17—25)

1. The apparatus for forming ground meat into steaks having the appearance and texture of natural steak comprising means forming a passageway into which one patty after another of ground meat is fed in spaced succession,

and means for repeatedly subjecting the patty in the passageway to a series of spaced multiple area compressions on both sides at the same time comprising opposed toothed members each having a multiplicity of dull ended teeth, said teeth extending toward the passageway and being operative to only compress said patty to produce said multiple area compressions, and means for cyclically



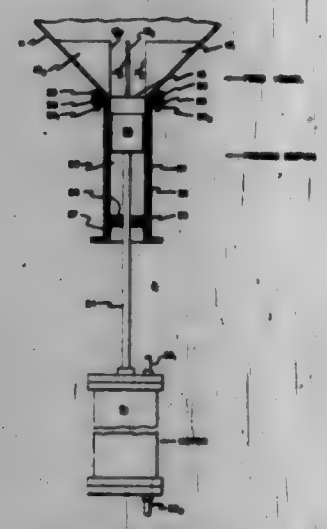
moving said toothed members in predetermined closed paths and for causing said tooth members to repeatedly enter and partially cross said passageway from opposite sides thereof to penetrate the patty in said passageway, the teeth of each said member being of such length relative to the width of the passageway and of such correlated travel in said closed paths that they penetrate only partly into the patty being compressed therebetween.

2,971,217

SLUDGE DELIQUEFYING APPARATUS

Henry A. Thomas and James H. Browning, Baton Rouge, La., assignors to Ethyl Corporation, New York, N.Y., a corporation of Delaware

Filed Apr. 30, 1959, Ser. No. 810,060
5 Claims. (Cl. 18—1)



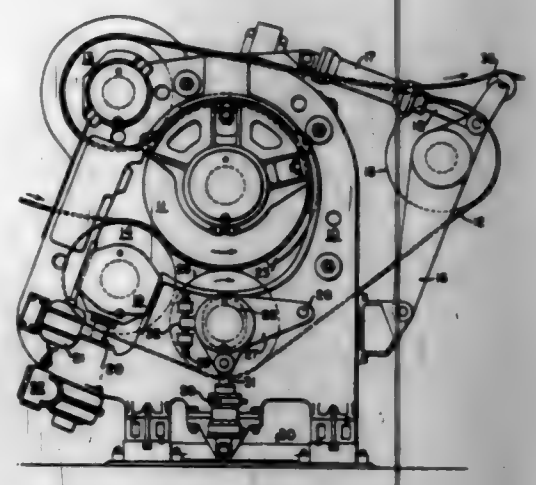
5. Process for treating high solids sludges, comprising sub-divided metals and at least one liquid phase, comprising providing a supply of said sludge in a supply zone having a bottom opening communicating with a processing zone, downwardly extending therefrom and having a discharge opening in the bottom thereof, and reciprocating a piston member, fitting in said processing zone, from a position approaching the discharge opening therein to a position entirely within the supply zone and above the bottom opening therefrom, feeding the sludge while the piston member is in said position in said supply zone, and then pressing the sludge by moving the piston members into the processing zone toward the discharge opening, and discharging the metal solids as a substantially liquid free shape.

2,971,218

MACHINE FOR CONTINUOUSLY CURING ELASTOMERIC MATERIAL IN SHEET FORM

John M. Bierer, Newton, Mass., assignor to American Biltrite Rubber Co., Inc., Chelsea, Mass., a corporation of Delaware

Filed Nov. 14, 1957, Ser. No. 696,438
8 Claims. (Cl. 18—6)



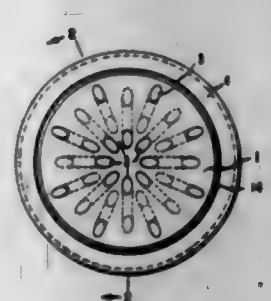
1. The process of continuously molding and curing elastomeric sheet material with the elimination of roll-back, which is characterized by the steps of first confining between the surfaces of a heated rotating drum and an encircling pressure band a length of sheet material equal to approximately 45° of the circumference of the drum under comparatively light initial pressure sufficient to cause compression and heating of the confined area of the elastomeric material without roll-back, then causing the band to apply a severe molding pressure to the material beyond its area of initial compression thereby reducing the thickness of the material while roll-back is prevented by an immediately following area of heated material compressed under the said light initial pressure.

2,971,219

MIXER DISTRIBUTION PLATE

Broadus E. Hill, Kinston, N.C., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Aug. 14, 1956, Ser. No. 603,934
6 Claims. (Cl. 18—8)



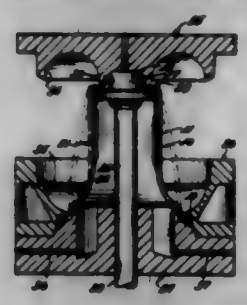
1. A spinneret assembly for spinning molten fiber-forming material comprising a perforated spinneret plate, a housing around the said plate in fluid-tight relationship therewith, means for delivering the molten material to the said housing, and a distribution plate within the said housing between the spinneret plate and the said means for delivering the molten material, the said distribution plate having diagonally disposed channels passing completely therethrough extending from near the center of each face of the plate to near the periphery of the opposite face.

2,971,220
METHOD FOR MANUFACTURING RUBBERIZED FABRIC ARTICLE

Ralph Charles Davis, Akron, Ohio, assignor to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

Original application Dec. 11, 1956, Ser. No. 627,580, now Patent No. 2,929,101, dated Mar. 22, 1960. Divided and this application June 20, 1958, Ser. No. 743,320

1 Claim. (Cl. 18—53)

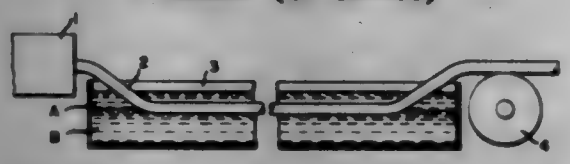


The method of vulcanizing an air spring having a convolution terminating in inextensible portions of different diameters with the smaller portion being capable of passing through the larger portion in a telescoping movement when the air spring is compressed in service, comprising the steps of supporting said air spring on the axially inner surface of said small diameter portion, clamping said large diameter portion, externally clamping said small diameter portion while supported, compressing said air spring axially to move said small and said large diameter portions axially relative each other, while subjecting the interior of said air spring to fluid under pressure, bulging said air spring body outwardly, and subjecting said air spring to vulcanizing temperatures and pressures while maintaining said air spring in said bulging condition.

2,971,221
PROCESS FOR CURING CONTINUOUS EXTRUSIONS OF COMPOUNDED ELASTOMERS

Melvin A. Schoenbeck, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Jan. 30, 1959, Ser. No. 790,234
3 Claims. (Cl. 18—53)



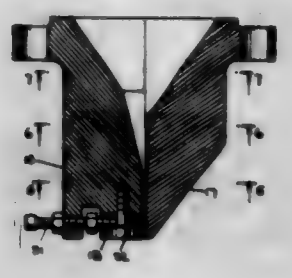
1. A process for curing a continuous length of extruded compounded elastomeric material at atmospheric pressure by continuously passing said material horizontally within the interface between two heated immiscible liquids, the lower liquid layer being substantially more dense than said elastomeric material, the upper liquid layer being substantially less dense than said elastomeric material, but of said immiscible liquid layers having a melting point of at least 100° F. below the operating temperature and a boiling point and flash point at least 25° F. above the operating temperature, said process being operated at a temperature within the range of 300° to 600° F.

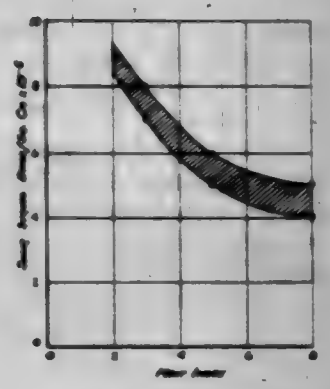
2,971,222
EXTRUSION OF UNIFORM FILM OF HIGH DENSITY POLYETHYLENE

Stanley N. Weissman, Cedar Grove, N.J., assignor to Celanese Corporation of America, New York, N.Y., a corporation of Delaware

Filed May 28, 1958, Ser. No. 738,392
8 Claims. (Cl. 18—57)

1. A process for extruding a flat, thin gauge film of high density polyethylene resin which comprises forming a melt of said resin, extruding said melt through a walled path, at least 4 inches in length, said path being extended and diverging in width and converging in thickness at a progressively decreasing rate beginning between about 1.0 and about 2.0 inches per inch of path and ending at a rate between about 0.02 and 0.04 inches per inch of path, to a wide, thin orifice having an opening of between about 2 and about 30 mils.





7. A process for extruding a flat, thin gauge film of high density polyethylene resin having a melt index between about 2.0 and about 8.0 which comprises forming a melt of said resin, subjecting said resin melt to a shear stress which is related to the melt index by being at a level within the shaded area of Figure 10 and passing said resin melt to a wide, thin orifice having an opening of between about 2 and about 30 mils.

2,971,223
PROCESS OF PREPARING CAST SYNTHETIC RESIN HAVING INTEGRAL SHEEN

Louis Grunin, 1 Trinity Ave., Spring Valley, N.Y., and Seymour Richman, Jeffrey Place, Monsey, N.Y.

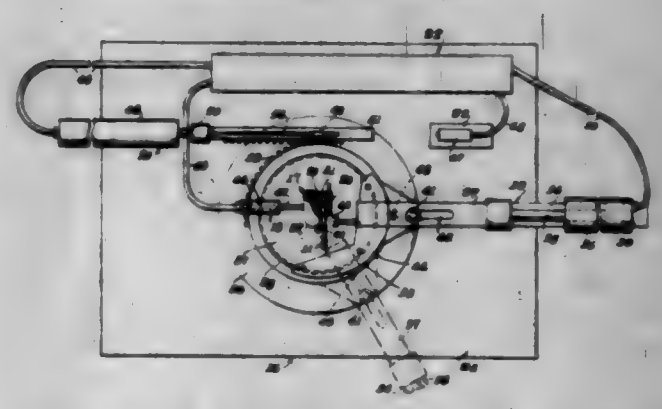
Filed Jan. 16, 1959, Ser. No. 787,193
5 Claims. (Cl. 18—58)

1. Process of preparing cast synthetic resin having integral sheen which comprises introducing a mixture of a liquid organic compound adapted to give a polymer solid at ordinary temperatures and a pigment into a mold having at least one patterned inner surface, subjecting the mold containing the liquid organic compound and pigment to a reciprocating motion, while the mold is subjected to polymerization conditions to induce polymerization of the organic compound to a polymer solid whereby pigment crystals are so oriented as to impart the integral sheen and withdrawing the polymer solid from the mold.

2,971,224
METHOD FOR PRODUCING RADAR PROBE

John S. Overholser, Los Angeles, Calif., assignor, by mesne assignments, to Tamar Electronics, Inc., Gardena, Calif., a corporation of California

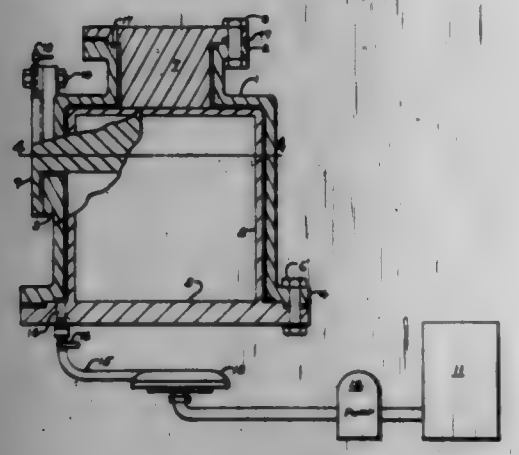
Filed July 28, 1958, Ser. No. 751,357
8 Claims. (Cl. 18—59)



1. A method for forming a bend in a probe comprising a metal probe rod and a covering sleeve of a tetra-

fluorethylene polymer, said method consisting of machining the longitudinal face of the sleeve to a straight size smaller than the ultimate size thereof while the same is in a semi-cured state, normalizing said sleeve for stress relief at a temperature substantially below the gel temperature of the polymer, inserting the probe rod into the straight sleeve, then, while heat is applied in the atmosphere around the sleeve-covered rod, bending the same to the desired shape, and, finally, heat-treating the bent sleeve to swell the same to its ultimate size while limiting the size to which the sleeve swells.

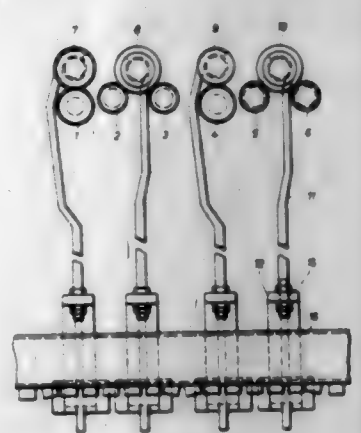
2,971,225
METHOD OF LINING METAL ARTICLES
Maurice D. Woodruff and Charles Victor Appel, Springfield, Ohio, assignors to The Baner Brothers Company, Springfield, Ohio, a corporation of Ohio
Filed Sept. 18, 1958, Ser. No. 761,781
5 Claims. (Cl. 18—59)



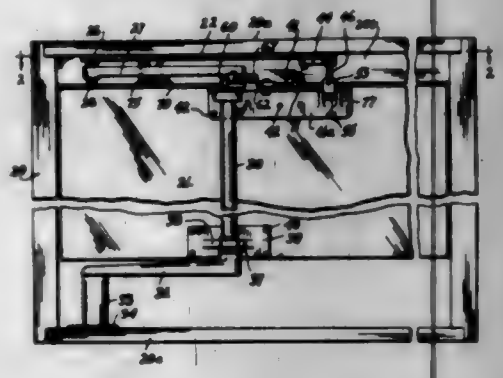
5. A method of coating the interior surface of a preformed article, comprising the steps of placing a removable mold in spaced relation to the interior surfaces of the article to be coated, a cavity being provided therebetween, introducing heat settable plastic material, having the property of elastic memory, in a flowable form into the cavity, subjecting said article, mold, and plastic material to a rapid increase in temperature to an appropriate level and inducing a gelling and setting of the plastic material on the interior surfaces of the article thereby, cooling the article, mold, and plastic, thereafter removing the mold and reheating the article and plastic to the level of elastic deformation of the plastic enabling the inherent elastic memory of the plastic material to cause it to reform and effect a tough, durable and smooth surface coating on the interior surface of the article, the reheating temperature being at a lower level than the temperature at said appropriate level.

2,971,226
LOADING DEVICE FOR DRAFTING ARRANGEMENTS
Eduard Eggenschwyler, Winterthur, Switzerland, assignor to Joh. Jacob Rieter & Co. Ltd., Winterthur, Switzerland, a corporation of Switzerland
Filed Jan. 30, 1957, Ser. No. 637,182
Claims priority, application Switzerland Feb. 15, 1956
5 Claims. (Cl. 19—135)

1. A loading device for the top rollers of a drafting arrangement including an internally pressurized elastic hollow body, a plurality of pressure shoes resting against the outside of said body, and a pressure transmitting element interposed between a plurality of said shoes and one of the top rollers and having a first portion engaging a plurality of said shoes, said pressure transmitting element having a second portion engaging a top roller, said elastic hollow body being in the form of a hose and said pressure shoes being arranged in a row substantially parallel to the longitudinal axis of the hose, said pressure shoes having head portions of a greater peripheral extension than the rest of said shoes, said head portions engaging said hollow body and laterally engaging the head portions of neighboring shoes, said head portions being so shaped as to afford relative tilting of adjacent pressure shoes and simultaneous retention of the positions of the pressure shoes relatively to the longitudinal axis of said hose.

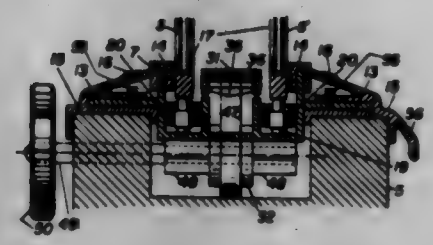


2,971,227
DOOR MOUNTING DEVICES
Charles B. Eliot, Woburn, Mass.
Filed Nov. 6, 1957, Ser. No. 694,817
5 Claims. (Cl. 20—16)



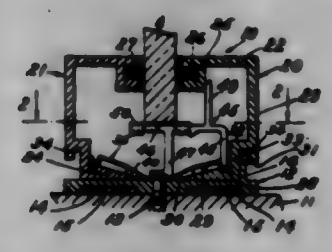
1. Apparatus for controlling the movement of a door between open and closed positions, comprising upper and lower stationary members adapted to be mounted in fixed positions adjacent a door, upper and lower arms pivoted to the respective upper and lower members for swinging horizontally about a common fixed vertical axis, a vertical shaft extending between and secured to free ends of said arms, upper and lower brackets adapted to be secured to a door and having said shaft rotatably journalled therein whereby to support the door for turning movement about the shaft, a link pivoted at one end thereof to the upper stationary member at a point spaced from said vertical axis, the other end of said link being pivoted to the upper bracket at a point spaced from said shaft, whereby said link may turn a door carried by said brackets about the axis of said shaft during swinging of said arms about said vertical axis, stop means provided for said upper arm at the closed and open positions of the door, and latch means for releasably sustaining the apparatus selectively in the open and closed door positions, said latch means comprising a pair of cam-shaped latch elements provided on said upper arm at opposite sides of said shaft, and a spring-biased latch member provided on the upper bracket and engageable with said latch elements.

2,971,228
WINDOW
Joseph Sunbo, Alpha, N.J.
(118 N. Bank St., Easton, Pa.)
Filed Nov. 15, 1957, Ser. No. 696,702
6 Claims. (Cl. 20—52.1)



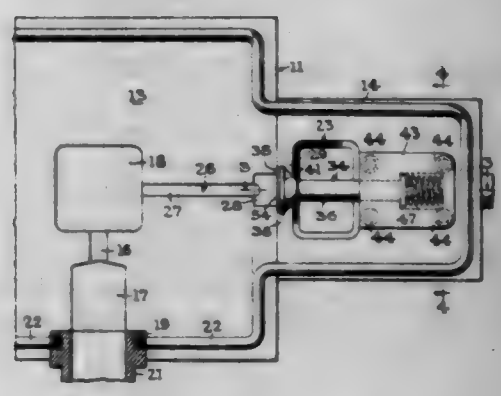
5. In a wall pocket window frame unit for installation at a window opening of a building, the improvement comprising, in combination, a frame mountable within said window opening and framing the periphery of said window opening, said frame having channel members adjacent a pair of opposite sides of said window opening, spaced apart inner and outer tracks in said channel members, a slidable outer sash member mounted in said outer track, a slidable inner sash member mounted in said inner track, each of said sash members being a closure for said window opening and having inner and outer edges, continuous gasket surrounds mounted about said frame for said window opening adjacent said inner and outer sash members, sealer means mounted intermediate of said sash members, said sealer means registering with the inner edges of each of said spaced apart sash members and being extendable to simultaneously engage said inner and outer sash members and move said sash members transversely of their tracks so that the outer edges of each of said sash members are in sealing relation with said gasket surrounds.

2,971,229
SNAP-IN GLASS SETTING CONSTRUCTION
Maurice May, Atlanta, Ga., assignor to American Art Metals Company, Atlanta, Ga., a corporation of Delaware
Filed June 3, 1957, Ser. No. 663,068
9 Claims. (Cl. 20—56.4)



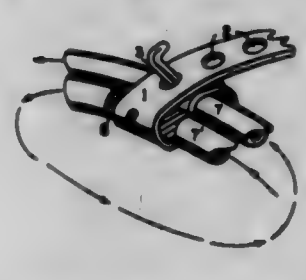
1. A glass setting assembly for supporting a sheet of glass or the like on edge with respect to a structural member, said assembly comprising a channel shaped stop member including a web portion and an upper flange and a lower flange projecting from said web portion, said upper flange terminating in an end portion which is in contact with one side of said glass or the like sheet, said lower flange resting upon said structural member and having an upper surface which includes a groove located adjacent to and extending substantially parallel to said channel web portion, and a spring clip fixed to said structural member, said spring clip including an upwardly extending arm having a downwardly extending tab adjacent the base of the arm and a downwardly extending lip member at the upper end of the arm, said lip member being biased by said arm into seating engagement in said groove and said tab member being biased by said arm into engagement with the upper surface of said lower flange adjacent the projecting end of said lower flange, the resiliency of said spring arm being such that said stop member may be detached readily with respect to said structural member to permit said glass sheet or the like to be removed.

2,971,230
DIE CASTING
Thomas E. Coleman and Raymond J. Schultz, Madison, Wis., assignors, by mesne assignments, to Madison Kipp Corporation, Madison, Wis.
Filed Jan. 2, 1959, Ser. No. 784,804
8 Claims. (Cl. 22—68)



1. In a die casting machine including stationary and movable die members which join along a parting line and have cooperating faces that define the die cavity, a gate for delivering molten metal to the cavity, and a parting line trap chamber formed by the mating faces of the die members and having an outlet port, the improvement which comprises a parting line vent passage connecting the trap chamber with the die cavity; a stop valve located in the vent passage and having a seat and a movable element shiftable longitudinally of the passage between passage-closing and passage-opening positions; means biasing the movable element toward its passage-opening position; and a reaction surface carried by the movable element and subject to the impact of the molten metal flowing through the vent passage from the die cavity for shifting the element to its passage-closing position.

2,971,231
CABLE FASTENER
Richard R. Stoddart, Los Angeles, Calif., assignor to Stoddart Aircraft Radio Co., Inc., Los Angeles, Calif., a corporation of California
Filed Aug. 13, 1959, Ser. No. 833,625
11 Claims. (Cl. 24—16)



1. Means for securing plural convolutions of cable or the like comprising one flexible strap having a number of holes along its length, said strap having an open-ended hook clamped thereto only by insertion through a hole in one end of said strap, said hook having a long shank and a transverse loop only sufficiently large to surround said strap, the shank of said hook being sufficiently long to receive plural thicknesses of said strap, and the open end of said hook suited to secure plural turns of said strap around at least some of the convolutions of the cable or the like.

2,971,232
CLIP FOR JOINING PRODUCE CONTAINERS
Walton B. Crane, South Pasadena, Calif., assignor to Allied Plastics Company, Los Angeles, Calif., a corporation of California
Filed July 18, 1958, Ser. No. 749,529
1 Claim. (Cl. 24—87)



A clip of the character described, comprising: a relatively rigid, channel-shaped member including a web portion and flanges along two opposite side edges of said web portion, said web portion having a generally rectangular opening substantially paralleling the side edges of said web portion, at least one inwardly extending, pointed tooth along each longitudinal side edge of said opening, and an arcuate, inwardly extending tab at each end of said opening, the edges of said tabs being spaced from the side edges of said opening to define a pair of recesses at opposite sides of each tab which open toward the opposite end of said opening.

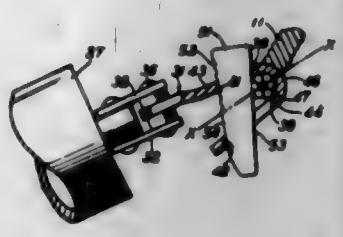
2,971,233
CLAMP
Roy F. Lo Presti, Chicago, Ill., and Arlan Vernon, Big Stone Gap, Va., assignors to Goodman Manufacturing Company, Chicago, Ill., a corporation of Illinois
Filed Mar. 5, 1959, Ser. No. 797,383
3 Claims. (Cl. 24—125)



1. A cable clamping device, comprising an elongated substantially C-shaped member having a somewhat flattened lower lip, a downturned upper lip and a back-adapted to form a channel to receive and overlie a cable and having an elongated portion of the back partially cut away and extended rearwardly therefrom and from the cable to form a connecting link, an intermediate portion of the downturned upper lip being removed to form a notch, a clamping screw mounted in the lower lip, a substantially U-shaped cable clamping jaw having a pair of substantially parallel legs, and one of said legs having an elongated slot engaged over said screw and the other leg received in said notch to engage and clamp said cable in said channel, said elongated slot in said one leg permitting tilting of the clamping member away from the notch to permit entry of a cable or the like into said channel.

2,971,234
ROPE SIDE FRAME CONVEYOR CLAMP
Loy D. Hagenbook, Chicago, Ill., assignor to Goodman Manufacturing Company, Chicago, Ill., a corporation of Illinois
Filed Mar. 21, 1958, Ser. No. 722,940
1 Claim. (Cl. 24—126)

In a conveyor apparatus including an elongated conveyor component extending between a pair of spaced flexible strand sideframes of a conveyor assembly, and a strand clamp disposed adjacent each end portion of the conveyor component, wherein each said clamp includes a bifurcated hanger having a bight portion and a pair of spaced leg portions extending from the bight portion in divergent relationship to each other and wherein one of said leg portions extends beyond the other leg portion and is provided with connecting means thereon for connecting the clamp to the respective end portion of the conveyor component; the improvement comprising an aperture in each of said leg portions extending generally perpendicularly therethrough to define a substantially square edge having right angle corner portions thereon, with said corner portions being offset and the corner in said one leg portion being nearest to said bight, and an elongated tapered locking pin for engaging the strand positioned within the bight portion of the respective hanger, said locking pin extending obliquely through the respective apertures with the end portions of said locking pin projecting generally outwardly beyond the respective leg portions, said locking pin having opposed generally longitudinally extending surfaces disposed intermediate the end portions thereof, one of said surfaces

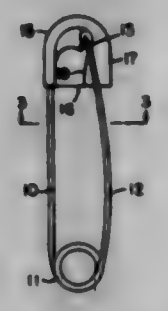


being substantially smooth and unobstructed throughout the longitudinal extent thereof and disposed in engagement with the respective strand in said bight, the other surface of the locking pin having a plurality of V-shaped teeth adjacent the wider end portion thereof for interlocking engagement with only one of said right angle corner portions of the square edge defined in said one and longer leg portion of the respective hanger for removably retaining said locking pin within the respective apertures, and a substantially smooth portion adjacent the other narrower end portion of said locking pin for oblique engagement with only one corner of the square edge of the shorter leg portion that is adjacent thereto for positioning the locking pin within the respective apertures, the opening in the shorter leg portion being materially larger than the opening in said one and longer leg portion, thereby providing said oblique offset relationship of said square edge portions and permitting said tapered pin to freely enter both said openings to engage said strand in said bight and to be canted thereby in said one leg portion relative to a line midway between the spaced leg portions for positive locking of said wider end portion of said pin on the square edge of the longer leg portion.

2,971,235
SAFETY PINS
Joseph A. Benoit, Vivian, La.
(P.O. Box 337, Spring Hill, La.)
Filed Oct. 4, 1957, Ser. No. 688,275
2 Claims. (Cl. 24—161)

1. A safety pin comprising, a body portion of spring wire, said body portion constituting a stationary arm and a relatively movable arm, said stationary arm provided with a guard at one end with the other arm being relatively free, said guard including a receiving slot and a socket portion for receiving and retaining the free end of said movable arm when the same is in a closed position, a stop member on said guard, said stop member being spaced inwardly from said receiving slot and pro-

jecting laterally from the plane of said guard and in the path of travel of said movable arm, said stop member



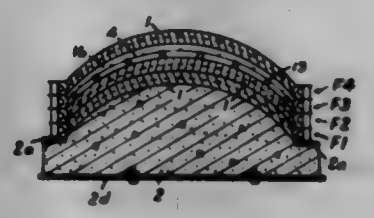
serving as a fulcrum point around which the free end of said movable arm must be further bent in its path of travel to align the same with said receiving slot.

2,971,236
DIAPER FASTENING DEVICE
Charles B. Baker, 5642 Hillcrest, Downers Grove, Ill.
Filed June 4, 1956, Ser. No. 589,125
2 Claims. (Cl. 24—248)



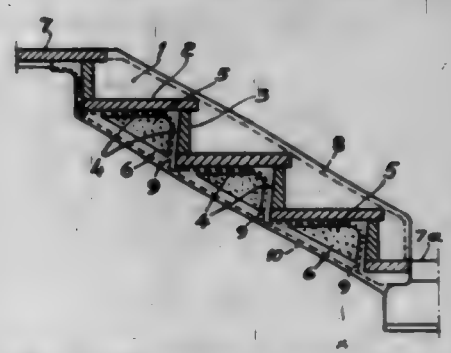
1. A fastening device for gripping a baby diaper, comprising: a U-shaped frame of resilient material having a pair of opposed arms, the free end of one of the arms having a pair of laterally extending stud journals, said one arm having a pair of slots extending rearwardly from the open end of the frame to form a pair of laterally spaced shoulders on opposite sides of the arm; and a swingable member of resilient, plastic material having a finger lever at one end and a pair of elements forming a forked portion at the other end, each of said elements including a cam head having an aperture adapted to be snapped upon and make a snug fit with one of the stud journals and a narrow guide portion extending between the cam head and the finger lever in alignment with one of the slots, said cam heads being swingable together between an open position and a closed position in which a diaper inserted between the opposed arms is gripped in spaced portions between a surface of each of the cam heads and the other of said arms, each of said guide portions being swingable with its respective cam head so as to enter into an aligned slot and bear against an adjacent shoulder so that each of the cam heads will be retained upon its respective stud journal as the cam heads grip the diaper in moving to closed position.

2,971,237
FLEXIBLE BUILDING PANEL FORM
Phillip Graham, 2825 Glenmore Ave., Pittsburgh, Pa.
Filed Jan. 6, 1959, Ser. No. 785,273
11 Claims. (Cl. 25—121)



1. A form for molding a precast cementitious building panel having metal reinforcing strands positioned in grid formation, said form comprising an elongated elastic strip, a base for supporting said strip, said strip being sufficiently rigid so as to prevent sagging of its top portion when supported on said base, said strip having an effective height substantially equal to the thickness of the building panel to be cast, said strip having a length at least sufficient to enclose the periphery of said molded building panel, said strip being bent to the shape of the contour of the edging of the said building panel and being sufficiently flexible so as to be bendable in all directions to allow it to follow the contours of curved and flat planes, said strip having an offset portion substantially centrally of the height of said strip extending throughout its length and protruding inwardly towards the said building panel for molding a keying groove in the edging of said building panel, said strip confining the fresh cementitious aggregate of said panel deposited onto said base and defining its shape, said strip having uniformly spaced transverse holes through an intermediate portion of its height and substantially parallel to the plane of the said base, said reinforcing strands of said building panel having end portions extending through said holes, and fastener means disposed along the periphery of said strip for fastening said strip to said base and for anchoring the ends of said reinforcing strands.

2,971,238
METHOD OF FORMING A PREFABRICATED STAIR UNIT
Karl Ivan Fernell, Norberg, Sweden
Filed Dec. 10, 1953, Ser. No. 397,389
2 Claims. (Cl. 25—154)

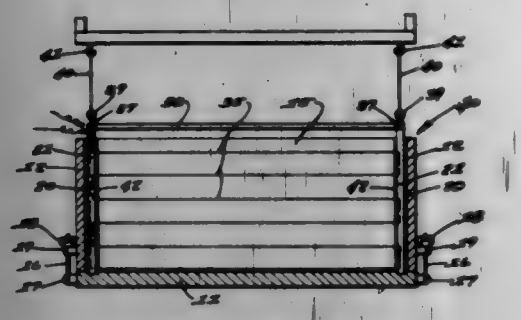


1. The method of forming a prefabricated stair unit comprising the steps of separately forming a pair of lateral stringer members with mutually corresponding and facing means to support intermediate tread and riser members, finishing those surfaces of said stringers which will be exposed in the completed unit, placing said prefinished stringers in an inverted and spaced position on a support, placing prefinished tread and riser members in inverted tread and riser position between said stringers and with their ends in supported engagement with the corresponding support means on the opposing faces of said stringers, positioning reinforcing members along said stringers and along the backs of said tread and riser members, securing said reinforcing members together, pouring a thin layer of concrete between said stringers and over said reinforcing elements, treads and risers to tie them together into a single unit, allowing said thin layer to harden, filling the angles between the tread and riser members with insulating material, and pouring a final layer of concrete over the entire exposed surface of the unit to secure said insulation in position and provide additional support for said unit.

2,971,239
METHOD OF MAKING CAST SHAPES
Wilbur A. Schaich, Maumee, Ohio, assignor to Owens-Illinois Glass Company, a corporation of Ohio
Filed Dec. 16, 1957, Ser. No. 702,955
6 Claims. (Cl. 25—155)

1. In a method of forming cast calcium silicate slabs, the steps of casting an aqueous calcium silicate slurry into

a space of unit slab length and width dimensions and of multiple slab thickness dimensions with electrically resistant cutting wires disposed therein at locations corresponding to unit slab thicknesses, passing an electric current through said wires to heat the cast slurry locally, pre-curing the slurry to an extent sufficient to form a self-



sustaining block, those heated block portions being precured to an extent greater than those portions not heated, and effecting relative movement of said wires and said cast block to sever the block into slabs of unit thickness along planes including said wires and encompassed by the heated block portions.

2,971,240
FIRING OF LIME REFRACTORIES

Albert L. Renkey, Pittsburgh, Pa., assignor to Harbison-Walker Refractories Company, Pittsburgh, Pa., a corporation of Pennsylvania

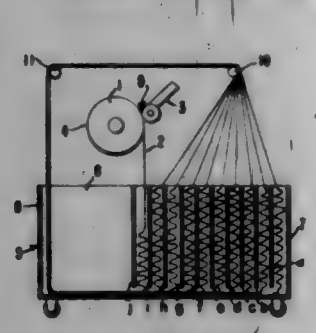
No Drawing. Filed Apr. 22, 1959, Ser. No. 808,014
3 Claims. (Cl. 25—157)

1. In a method of preparing refractory shapes of a composition that includes at least 50 weight percent of free lime, the step comprising firing the shape in a manner to raise its temperature to at least 1000° F. within a period of time that does not exceed about 5 minutes, to produce a lime refractory that is resistant to hydration.

2,971,241
PROCESS FOR HANDLING FABRIC

Francis J. Clendening, Jr., Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Mar. 31, 1958, Ser. No. 725,070
1 Claim. (Cl. 26—1)

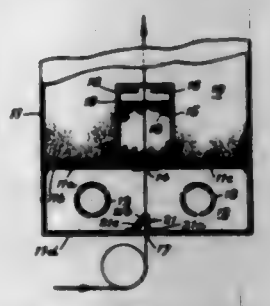


A process for forming a plurality of superimposed layers of fabric from a continuous length of fabric which comprises successively withdrawing predetermined lengths of fabric from a single supply source, collecting the major portion of each of said lengths at separate, essentially parallel positions in the order in which said lengths are withdrawn from said source, arranging said major portions side by side in a plaited configuration, arranging the minor portions of said lengths in superimposed relationship in the same order as said major portions to form interjacently disposed closed loops of said fabric, and thereafter bringing the major portions of said layers into superimposed relationship while loading said fabric onto a rotary carrier.

2,971,242
FLUIDISED BEDS

Jack Doleman, Cheadle Hulme, and William Vivian Morgan, Manchester, England, assignors to The British Rayon Research Association, Manchester, England, a British association

Filed Feb. 11, 1957, Ser. No. 639,480
Claims priority, application Great Britain Feb. 18, 1956
7 Claims. (Cl. 26—60)

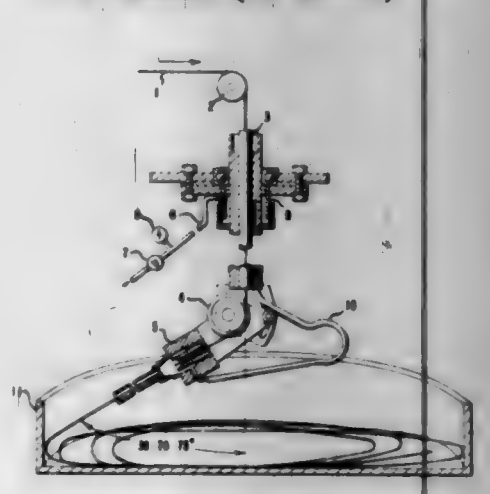


3. In an apparatus for treating elongated sheet material moving through a fluidised bed composed of small, discrete, solid particles, in combination, a pair of endless flexible members spaced from each other and extending through the bed, said pair of endless flexible members having, respectively, elongated attaching edge portions facing each other and adapted to engage longitudinal edge portions of the material to be treated to exercise weft-wise control thereover; and a pair of elongated guide means for guiding said endless flexible members during their movement through the bed, said guide means enclosing said endless flexible members with the exception of said attaching edge portions thereof and said guide means having elongated slots through which said attaching edge portions extend with clearance beyond said guide means, said clearances between said attaching edge portions and said guide means being smaller than the smallest of said particles of the bed so that said particles are prevented from entering through said clearances into said guide means.

2,971,243
METHOD AND APPARATUS FOR DEPOSITING TOW

John T. Burns, Ayden, N.C., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Feb. 3, 1960, Ser. No. 6,545
2 Claims. (Cl. 28—21)



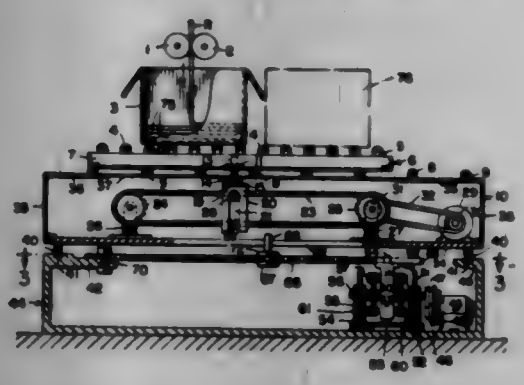
2. In an apparatus for depositing a rapidly moving tow in a helical coil on a support including means for feeding the tow in a downward direction to a tow depositing tube directed outwardly at an angle of 30° to 75° to said downward direction and means for revolving the discharge end of said tube around an axis corresponding to said downward direction of feed, tow forwarding means located at the entrance of said tube comprising a jet tube having a minimum throat cross-sectional

area in square inches which is numerically equal to a value within the range given by $0.000435\sqrt{D}-0.043$ and $0.000760\sqrt{D}-0.072$ where D is the total denier of the tow and D is from 10,000 to 500,000 denier, said jet orifice tapering outwardly from said throat at an angle of from 15 minutes to 3° in the direction of tow travel and at an angle of 0° to 10° in the inlet end direction, a tow feeding tube projecting into the inlet end of said jet tube, a gas chamber surrounding said tow feeding tube and opening into the inlet end of said jet tube, means for supplying gas to said chamber at a pressure of 26 to 163 pounds per square inch gage, means for adjusting the flow of gas into said jet tube to $(160\pm28)\sqrt{A}$ standard cubic feet per minute, where A is said cross-sectional area of the throat and the flow is determined with air at 60 pounds per square inch gage pressure without tow in the jet tube, and means for feeding tow to said feeding tube at a speed in yards per minute which is numerically equal to a value within the range given by $313\sqrt{P}-1491$ and $313\sqrt{P}-1097$ where P is the pressure of gas in said gas chamber in pounds per square inch gage.

2,971,244
PACKAGING MACHINERY FOR TEXTILE RIBBONS AND THE LIKE

Ernst Föller, Obernburg (Main), and Hans Matlok, Aschaffenburg (Main), Germany, assignors to Vereinigte Glanzstoff-Fabriken A.G., Wuppertal-Elberfeld, Germany

Filed Sept. 30, 1958, Ser. No. 764,391
Claims priority, application Germany Oct. 2, 1957
12 Claims. (Cl. 28—21)



1. In a machine for packaging articles in the form of a ribbon in parallelepiped receptacles, a platform adapted to support a receptacle to be filled with an article in the form of a ribbon, means for reciprocating said platform in a linear direction of travel, additional means for reciprocating said platform in another linear direction of travel at right angles to the first-mentioned direction of travel and stationarily-positioned roller means above said platform for feeding said article to a receptacle supported on said platform during reciprocation thereof, one of said means for reciprocating being operable at a frequency of reciprocation which is a multiple of the frequency of reciprocation at which the other means for reciprocation is operable.

2,971,245
PILE FABRICS

Theophilus A. Feild, Jr., and Charles W. Davisson, Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York

Filed Aug. 20, 1956, Ser. No. 605,224
17 Claims. (Cl. 28—78)

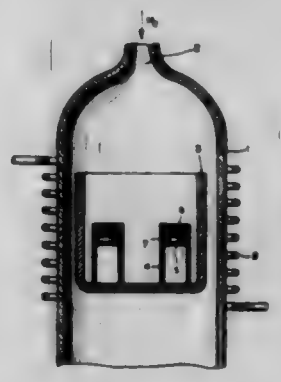
1. A pile fabric having in the pile component a synthetic resin fiber, said synthetic resin being an acrylonitrile polymer having a substantial amount of acrylonitrile polymerized therein and said fiber being characterized by being substantially unoriented, having a high degrec of opacity and a substantially nodular surface having nodes ranging in size between about 2 microns and 30 microns.



2,971,246
METHOD OF PRODUCING CAVITY-TYPE DISPENSER CATHODE

Albertus Venema and Cornelis Arnoldus Maria van den Broek, Eindhoven, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Dec. 31, 1957, Ser. No. 706,420
Claims priority, application Netherlands Jan. 26, 1957
2 Claims. (Cl. 29—25.14)



1. A method of making an improved dispenser cathode of the type comprising an internal cavity separated from the emitting surface by a porous member, comprising the steps of providing inside the cavity a mixture of barium-aluminate and tungsten and closing off the cavity with the porous member which is not in contact with the mixture, whereby there will be no absorption of the mixture by the porous body, thereafter heating the cathode to a temperature in the range of about 1900° K. to 2200° K. in a hydrogen-containing atmosphere for a short period of time not exceeding the order of one minute, and thereafter rapidly cooling the cathode.

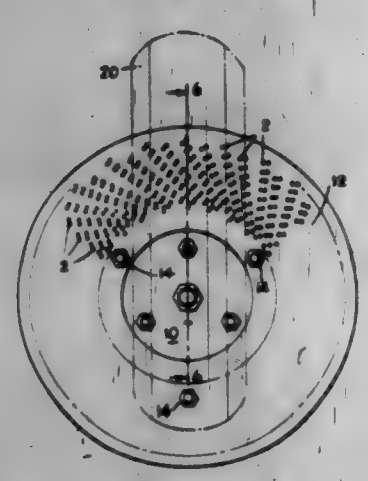
2,971,247
DISC RASP

William S. Cahill, Danville, Va., assignor to Cahill Manufacturing Co., Inc., Danville, Va., a corporation of Virginia

Filed July 15, 1959, Ser. No. 827,398
2 Claims. (Cl. 29—79)

1. A disc rasp comprising a flat circular base plate, a plurality of steel strips mounted on said base plate, each strip longitudinally extending at an angle of 50° with respect to the radii of said base plate, each strip having a plurality of equally spaced elongated, sharp-pointed cutting prongs projecting outwardly from said plate and spaced along opposite longitudinal edges of said strip, the prongs along one edge being staggered with respect to the prongs along the other edge, each prong having a sharp cutting edge which extends the full length thereof, the cutting edges of the prongs along one edge

of said strip being oppositely facing with respect to the cutting edges of the prongs along the other edge of said strip, each cutting edge facing outwardly of said strip in a direction transversely of the length of said strip, the side face of each prong opposite said cutting edges being flat and positioned inwardly of said strip, said cutting edge of each prong lying along the outer edge of said strip, each prong being curved in a direction



outward of said base plate, whereby the prongs positioned along the leading edge of said strip present their cutting edges to the work and cut the work without tilting said strip, and the prongs along the trailing edge of said strip present their flat faces to said work to scratch the work between the lines cut by said cutting edges, and the distance between each cutting and scratching line being substantially equal.

2,971,248

COMPOSITE BEARINGS AND METHOD OF FORMING THE SAME

Gerald V. Kingsley, Detroit, Mich., and Wilbur E. Wyatt, Greensburg, Ind., assignors to Bohn Aluminum & Brass Corporation, Detroit, Mich., a corporation of Michigan

Filed Jan. 27, 1958, Ser. No. 711,305
7 Claims. (Cl. 29—149.5)



2. In a method of forming bearings, the step of coating a backing strip with bearing material having a certain characteristic, forming spaced recesses in said coating with the walls thereof normal to its surface, filling said recesses with material having a different characteristic, concaving the surface of said coating intermediate said recesses and subsequent to the filling of the latter applying pressure to flatten out said concave portions, thereby pressing the walls of said recesses against the filling material therein.

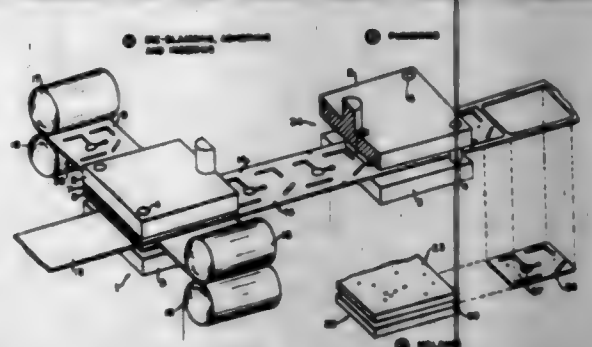
2,971,249

METHOD FOR APPLYING PATTERNS TO BASE MATERIAL

Paul L. Anderson, Vernon, Conn., John A. Zagusta, Jackson Heights, N.Y., and Norman L. Greenman, Danielson, Conn., assignors, by mesne assignments, to Rogers Corporation, Rogers, Conn., a corporation of Massachusetts

Filed Sept. 30, 1955, Ser. No. 537,792
7 Claims. (Cl. 29—155.5)

1. The method of making printed circuit units, comprising the steps of; supporting a sheet of moldable insulating base material at a fixed station, supporting a sheet of conductive material spaced above said sheet of base material, by applying pressure to the lower surface thereof over areas bounding a predetermined circuit pattern leaving said pattern area unsupported, applying pressure to the unsupported pattern areas at the upper surface of said sheet of conducting material to shear said pattern from said sheet, guiding said sheared pattern toward the upper surface of said base sheet while continuing to



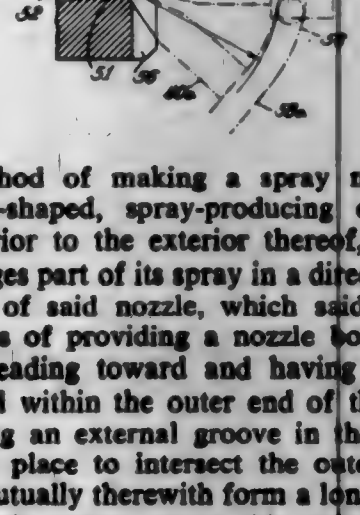
apply said pressure to said pattern area to thereby uninterruptedly push said sheared pattern onto the upper surface of said base sheet, and providing an adhesive between said pattern area and said base sheet whereby said pressure serves to adhere said sheared pattern to said base sheet.

2,971,250

SPRAY NOZZLE WITH CONTOURED ORIFICE AND METHOD OF CONTOURING THE ORIFICE

Fred W. Wahlin, Kane County, Ill., assignor to Spraying Systems Co., Bellwood, Ill., a corporation of Illinois

Filed Dec. 19, 1952, Ser. No. 326,866
10 Claims. (Cl. 29—157)



1. The method of making a spray nozzle with an elongated fan-shaped, spray-producing orifice opening from the interior to the exterior thereof, such that the orifice discharges part of its spray in a direction transverse of the length of said nozzle, which said method comprises the steps of providing a nozzle body with a passage therein leading toward and having the outer end thereof located within the outer end of the nozzle body and of forming an external groove in the outer end of the body at a place to intersect the outer end of such passage and mutually therewith form a long orifice having elongated, closely spaced groove side walls extending outwardly therebeyond, and, after said groove-forming step has been performed, interposing a rotatable orifice-widening tool between the opposite side walls of the groove, with its rotative movement in opposite directions respectively at the opposite sides of the groove and rotating the thus interposed tool at such depth in the groove and throughout such length thereof to increase the width of a selected portion of the length of the orifice.

2,971,251

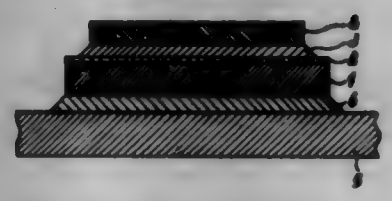
SEMI-CONDUCTIVE DEVICE

Theo Willem Willemse, Delft, Netherlands, assignor, by mesne assignments, to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed June 20, 1955, Ser. No. 516,690
Claims priority, application Netherlands July 1, 1954
9 Claims. (Cl. 29—195)

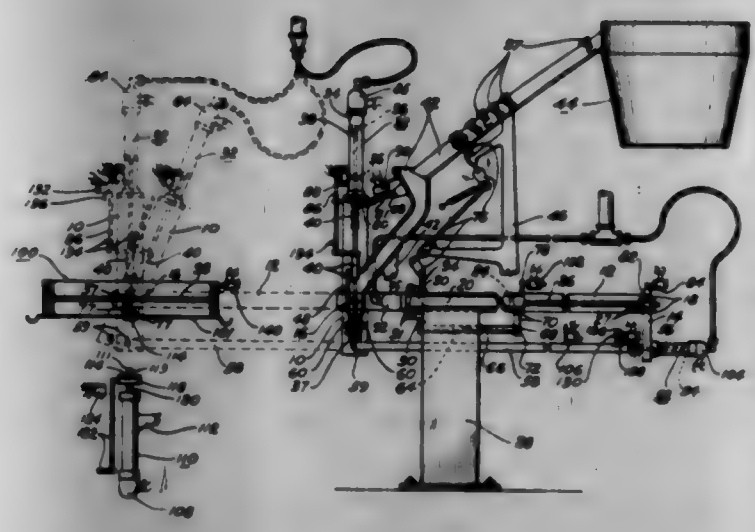
1. A semi-conductor electrical device with improved heat dissipating abilities comprising a semi-conductive

body selected from the group consisting of germanium and silicon, a plate-like support member for said semiconductive body consisting essentially of a metal selected from the group consisting of chromium, molybdenum



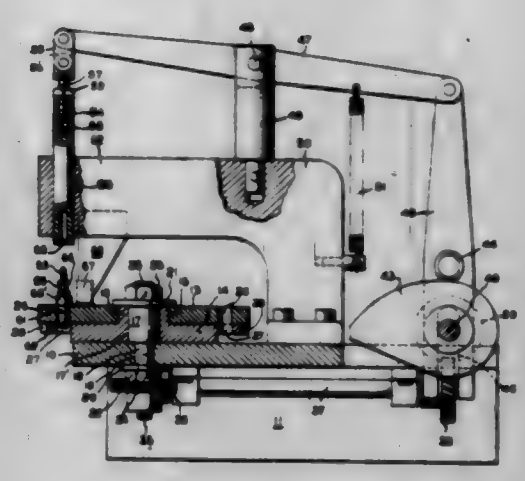
and tungsten, a gold layer bonded to a surface of said support member, and solder means securing said semiconductive body over a substantial surface area to said support member at said gold layer.

2,971,252
BRAKE ASSEMBLY MECHANISM
Leonard E. Austin, John H. Ettinger, and Arthur K. Brown, Jr., South Bend, Ind., assignors to The Bendix Corporation, a corporation of Delaware
Filed Oct. 17, 1957, Ser. No. 690,839
13 Claims. (Cl. 29—211)



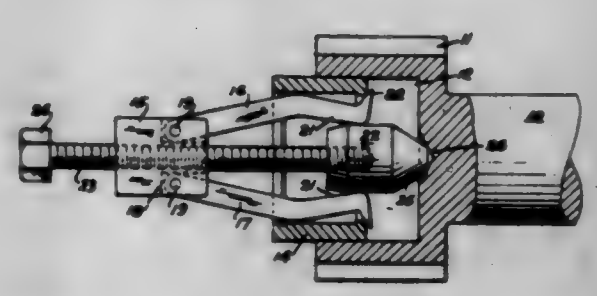
1. A power operated mechanism for incorporating a hold-down spring and an anchor unit in a brake unit said brake unit comprising a brake shoe having a web portion and further comprising a backing plate lying in a plane parallel or substantially parallel to the plane of said web portion, said mechanism comprising a frame structure provided with first, second and third members which are bodily movable as a unit, said first member being pivotally mounted on said second member and said third member being fixed to said second member, a fixedly mounted hold-down spring receiving chute mounted adjacent the frame structure, a spring receiving orientor member secured to the base of the chute, a motor mounted on said first member of the frame structure and operatively connected to mandrel means operative to pick-up a spring from the orientor member, a fixedly mounted motor having its power element connected to said second member of the frame structure and operative to bodily move said frame structure after the mandrel means has picked up a spring, a motor fixedly mounted on said second member for angularly moving the first member to facilitate both the operation of positioning an anchor member in an opening in the backing plate and the operation of coupling the anchor member with the spring, a motor for bodily moving a portion of the anchor member into said opening in the backing plate preparatory to interconnecting the spring with said anchor member, and electrical means, including switches actuated by portions of the motor or parts connected thereto, for controlling the operation of said motors.

2,971,253
CORE SLEEVING MACHINE
Arthur Bergland, Boca Raton, Fla., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Feb. 25, 1958, Ser. No. 717,417
3 Claims. (Cl. 29—234)



1. In a machine for assembling a flanged core member and a covering sleeve member adapted to fit closely over said core member, a work table having a cylindrical aperture therethrough for slidably receiving an arbor member, an arbor member adapted to fit within said aperture, said arbor comprising a first cylindrical section having an external diameter such that a covering sleeve frictionally grips said first section when placed thereover, the diameter of said aperture being slightly larger than the external diameter of said first section and smaller than the external diameter of said sleeve whereby said arbor may be supported within said aperture by the sleeve resting on said table, said first section being of a length to extend substantially below the sleeve and into said aperture to maintain said members and said aperture in firm alignment, said arbor having a second section having an external diameter slightly less than the internal diameter of a core member, said first and second sections of said arbor being coaxial whereby a core and a sleeve supported by said arbor are automatically maintained in coaxial relationship, and means positioned coaxially with said aperture and movable longitudinally for forcing said core into said sleeve and said arbor farther into said aperture and free of said sleeve.

2,971,254
PILOT BEARING RACE PULLER
Burton C. Fairfield, 577 Sawyer St., San Francisco, Calif.
Filed Apr. 4, 1957, Ser. No. 650,762
1 Claim. (Cl. 29—261)



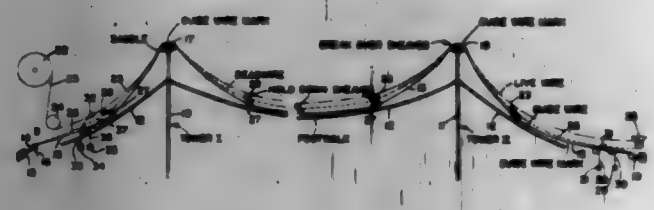
A tool for removing an annulus from a socket comprising a body member, at least a pair of legs spaced apart and connected to said body memberm at one end so as to permit the other ends of the legs to be spread apart, hooking means on the other end of each leg extending at an angle therefrom to engage a surface of said annulus, a jack screw threaded through said body mem-

ber and having a first end and a second end, said first end being disposed between said legs, said second end having a head to accommodate force applying means, a cylindrical body on said first end of said jack screw, said jack screw having threads extending from said head to said cylindrical body, said cylindrical body having a cylindrical main portion, said legs each having a recess intermediate said hooking means and said connected end for partially accommodating said main portion when said main portion is positioned intermediate said hooking means and said body member, and said legs converging towards each other at the end carrying said hooking means, said cylindrical body having a tapered first end adapted to spread said hooking means to underlie said annulus when said jack screw is rotated so as to advance said tapered first end past the portion of the legs converging towards each other, said cylindrical body adapted to engage the bottom of said socket upon further advancing of said screw, said cylindrical main portion maintaining said legs a selected distance apart upon further advancing of said jack screw such that while said legs retract said annulus at least partially from said socket said legs will be prevented from radial movement toward said jack screw.

2,971,255
METHOD OF SPINNING CABLES FOR SUSPENSION BRIDGES

John E. Nixon, Langhorne, Pa., assignor to The Colorado Fuel and Iron Corporation, a corporation of Colorado

Filed Nov. 6, 1958, Ser. No. 772,238
19 Claims. (Cl. 29—407)

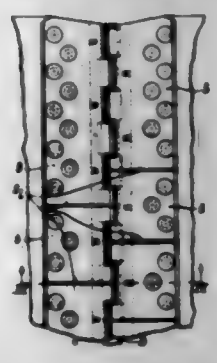


1. In a method of forming a parallel wire cable for a suspension bridge having an anchorage at each end and a plurality of towers between the anchorages, the steps comprising laying a guide wire from an anchorage at an unreeling station across the towers to the far side anchorage, adjusting said guide wire to conform with the catenaries desired for the cable in the several sections thereof, providing a fixed marking adjacent each anchorage and adjacent each tower, applying a cross mark to the adjusted guide wire in line with each of said fixed markings, then placing the guide wire under free running sheaves in fixed positions at suitably spaced points along the length of the guide wire and over free running sheaves at the towers to provide a path for the wire approximating the desired catenary pattern of the cable, applying a counterweight to the guide wire adjacent the far side anchorage, said counterweight being of adequate magnitude to retain the wire against the various sheaves, carrying a loop of wire from the unreeling station across the towers along a path approximating the form of the guide wire, said loop comprising a live wire fed from a reel at said station and a dead wire which is anchored at said station, passing the dead wire of said loop beneath spaced hold down sheaves and over sheaves at the towers arranged to retain said dead wire along a path paralleling that of the guide wire, applying to said dead wire adjacent said far side anchorage a counterweight of a magnitude substantially equal to that applied to the guide wire and applying to said dead wire cross markings aligned with those on the guide wire.

2,971,256
FASTENERS FOR CONVEYOR BELTS AND THE LIKE

Henri Leflon, 11 Rue Laperouse, Tangiers, Morocco

Original application Oct. 26, 1954, Ser. No. 464,705, now Patent No. 2,896,282, dated July 28, 1959. Divided and this application Oct. 13, 1958, Ser. No. 766,983
Claims priority, application France Feb. 9, 1954
6 Claims. (Cl. 29—411)

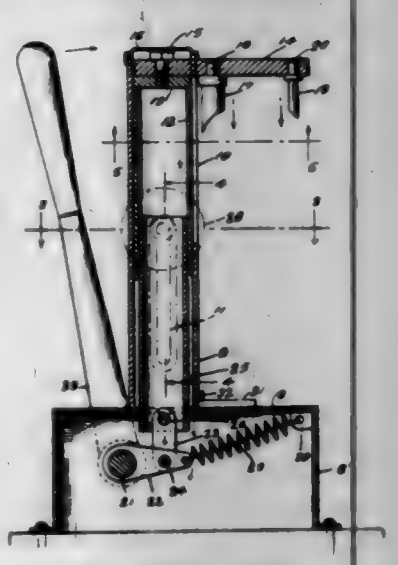


1. A method for the manufacture of belt fasteners of the type comprising two intermeshing fastener members hinged with each other, more particularly for conveyor belts, comprising the steps, first, of forming an elongated strip having a succession of fasteners of U-shape integral with said strip; secondly, of forming reinforced end elements having a succession of fasteners of U-shape integral with said elements; thirdly, of cutting a definite number of U-shaped fastener elements from said elongated strip having a succession of U-shaped fastener elements that are integral with the strip and are connected with each other on one side only of the U-shaped cross-section by frangible bridge portions, the successive elements being so spaced as to permit direct intermeshing of two such successions; and, fourthly, of welding a reinforced end element at each end of said succession cut from said elongated strip.

2,971,257
CAN PIERCING MECHANISM

Robert H. Everett, Rte. 1, Chipley, Fla.

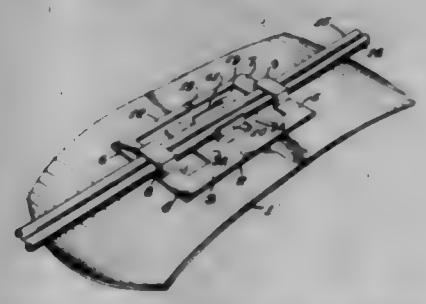
Filed Jan. 6, 1959, Ser. No. 785,278
2 Claims. (Cl. 30—6.1)



1. A can piercing device comprising a hollow base having a top wall and having an opening in said top wall, a vertical stationary supporting tube having one end thereof secured over said opening in said top wall communicating with the interior of said base through said opening, said supporting tube having a longitudinally disposed slot in the wall thereof, an upper vertically movable tube slidably mounted within said supporting tube, a laterally extended arm secured to said slidably mounted tube, extending through said slot, spaced piercing mem-

bers depending from said arm adapted to pierce the end of a cam supported on said base directly thereunder, a lower tube mounted for vertical sliding movement within said upper vertically movable tube, said lower tube having a slot aligning with said slot of said stationary supporting tube, disposed longitudinally of said lower tube, a connecting screw secured to said upper tube and extending through said aligning slots, a hand wheel threaded on said screw for effecting operation of said screw adjustably clamping said upper and lower tubes together, and means including a pivoted lever and link connected between said lever and lower tubular member for effecting vertical movement of said slidable tubes and can piercing members.

2,971,258
ORTHODONTIC APPLIANCE
Saul M. Bien, Lynbrook, N.Y., assignor to Paul Robert Bien Foundation, Lynbrook, N.Y.
Filed Nov. 25, 1955, Ser. No. 548,868
5 Claims. (Cl. 32—14)



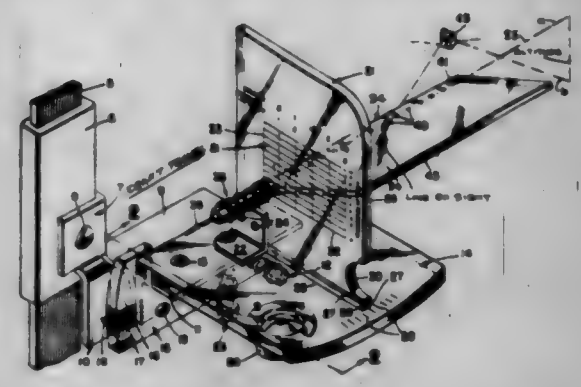
1. An orthodontic bracket for the retention of a least one arch wire, said bracket being formed from an elastically deformable piece of sheet material and including a flat supporting portion adapted to be mounted on a front surface of a tooth in a plane substantially parallel to said tooth surface; a central wire retaining portion located on said supporting portion and shaped so that the wire is removable from said central wire retaining portion by movement in a direction substantially normal to the plane of said supporting portion and away therefrom without movement of said central wire retaining portion relative to said supporting portion; and two lateral wire retaining portions integrally connected to said supporting portion in such a manner as to be bendable in a direction substantially normal to the plane of said supporting portion and away therefrom for release of the wire therefrom.

2,971,259
METHOD AND APPARATUS FOR DETERMINING THE POSITION OF SEWER LEAKS
Robert F. Hahnau, Hollywood, and Edwin D. O'Toole, North Miami, Fla., assignors to Industrial Pipe Repair Corporation, Fort Lauderdale, Fla., a corporation of Florida
Filed July 10, 1959, Ser. No. 826,305
8 Claims. (Cl. 33—1)



1. The method of detecting and measuring the location of any fluid infiltration faults and the like in subterranean pipe lines extending generally parallel to the ground surface to provide measurement data for locating the ground surface position directly above the fault site to permit external repair of the pipe line at the fault site, comprising the steps of drawing along the length of a subterranean pipe line between two axially spaced access openings at the opposite ends of the pipe line a target body, sensing at a location within the pipe line disposed a known fixed distance along the axis of the pipe line from the target body a composite image of the target body and the surrounding internal surface of the pipe line together with objects in the region within the pipe line adjacent the target body, producing at a remote location above the ground surface a reproduced image of the composite image sensed within the pipe line, observing the reproduced image to detect the conditions existing in the pipe line adjacent the target body, aligning the target body transversely of the axis of the pipe line with any infiltration fault site disclosed in the reproduced image by moving the target body axially along the pipe line while observing the spatial relationship of the imaged target body and fluid infiltration condition in the reproduced image, and measuring at the pipe line level the distance along the pipe line from the target body to a selected vertical reference axis adjacent one end of the pipe line when the target body is aligned with the infiltration fault site.

2,971,260
AIRCRAFT DRIFT SIGHT AND POSITION FINDER
Juston W. West, Honolulu, Hawaii (% Bureau of Naval (Officer) Personnel, Navy Department, Washington 25, D.C.)
Filed Apr. 27, 1955, Ser. No. 504,386
4 Claims. (Cl. 33—46)
(Granted under Title 35, U.S. Code (1952), sec. 266)

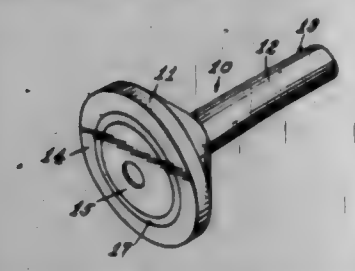


1. An aircraft navigation computer comprising; a first horizontally positionable plate having drift indicia thereon, a second plate vertically disposed on said first plate and pivotally mounted thereon for rotation about a vertical axis and formed to provide a marker for said drift indicia, said second plate having provided thereon a graph scaled in distance and in altitude, and a sight plate perpendicularly mounted on said second plate and tiltable about a horizontal axis through the origin of said graph, the attitude of said sight plate while sighting an object being readable on said graph to determine the lateral horizontal distance perpendicular to and between the sighted object and the intended track of the aircraft.

2,971,261
MAGNETIC CYLINDER SQUARE
Neil Buchanan Michie, Hazel Park, Mich., assignor to A. A. Gage Company, Ferndale, Mich., a corporation of Michigan
Filed Aug. 27, 1956, Ser. No. 606,280
2 Claims. (Cl. 33—112)

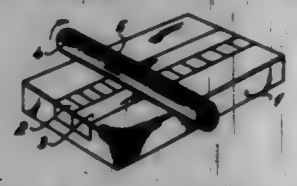
1. A square gaging fixture comprising a circular head of magnetic material and a cylindrical portion of magnetic material rigidly fixed on one face of said head and extending axially of said circular head, the diameter of

said cylindrical portion being substantially less than the diameter of said head, the axial extent of said cylindrical portion being substantially greater than the axial extent of said head, the opposite face of said head being formed with an axial opening defined by an annular portion of said face, an annular magnet, non-magnetic material completely surrounding the magnet and positioning the magnet centrally in said opening in spaced relation to said head and said cylindrical portions, all portions of said head and said cylindrical portion being magnetically spaced and isolated from said magnet, such that said magnet has minimum effect on said head and said cylindrical portion, said annular portion of said opposite face of said head surrounding said magnet presenting an accurately ground surface for engaging a workpiece, the



surface of said cylindrical portion presenting an accurately ground gauging surface which forms an accurate right angle with said annular portion of said opposite face of said head, said magnet having an outer exposed surface which is accurately ground and substantially coplanar with the accurately ground annular portion of the opposite face of said head, means on said opposite face of said head defining a surface for engaging one center of a grinding machine in coaxial relationship with the cylindrical portion, and means on the free end of the cylindrical portion which is remote from the head defining a surface for engaging the opposed center of said grinding machine so that said fixture may be mounted on said grinding machine for regrinding the annular portion of the opposite face and the cylindrical surface of the cylindrical portion in accurate right angle relation.

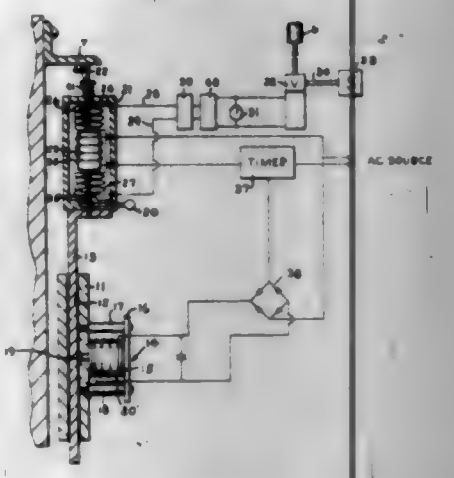
2,971,262
METHOD AND MEANS FOR CHECKING THE CIRCUMFERENCE OF ROUND OBJECTS
Hans Ulrich Müller, 269 Elbchaussee, Hamburg-Altona, Germany
Filed June 13, 1957, Ser. No. 665,469
Claims priority, application Germany June 13, 1956
11 Claims. (Cl. 33—125)



1. An apparatus for comparative checking and precision measurement of the circumference of soft or pressure-yielding cylindrical objects, comprising in combination a base plate having formed thereon two sets of graduations consisting of at least two scales one of which is the vernier of the other, and means for rolling a test object over said scales to print said scales on the circumference of said test object.

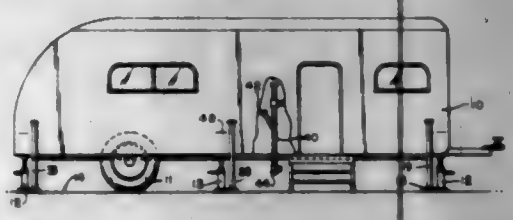
2,971,263
ELECTRICAL DEVICE
Stuart C. Rockefellow, Plymouth, Mich., assignor to Robotron Corporation, Detroit, Mich., a corporation of Michigan
Filed Apr. 30, 1958, Ser. No. 732,073
3 Claims. (Cl. 33—172)

1. An indicating device for indicating the change in the distance between a workpiece and a zero reference point, comprising in combination: an elongated guide sleeve of non-magnetizable material and means for locating said sleeve at a zero reference point; an elongated soft iron slider slidable axially through the central opening of said sleeve; an electromagnet structure mounted on said sleeve, said electromagnet structure including a core, an energizing winding around said core; a first pole connected to one end of said core, a conductive yoke carrying a pair of pole pieces connected to the other end of said core, said pole pieces extending through said sleeve into sliding contact with said slider and means connecting a D.C. source to the respective ends of said energizing winding; a transducer mounted on said slider, said transducer including a housing having the windings of a differential transformer therein, said windings in-



cluding a pair of axially spaced windings connected so that their outputs buck each other, a third winding located between said pair of windings and connected to an A.C. source; an elongated feeler extending through said housing and extending outwardly therefrom, a core carried on said feeler and slidable within said windings and adapted to provide a flux path between said third winding and said pair of windings; blocking means in said housing and engageable with said feeler and normally positioning same so that said core is midway between said pair of windings; spring means normally urging said feeler out of said housing; means, including an amplifier, for receiving the outputs of said pair of windings and translating same into a visual indication of the amount of movement of the feeler with respect to the housing.

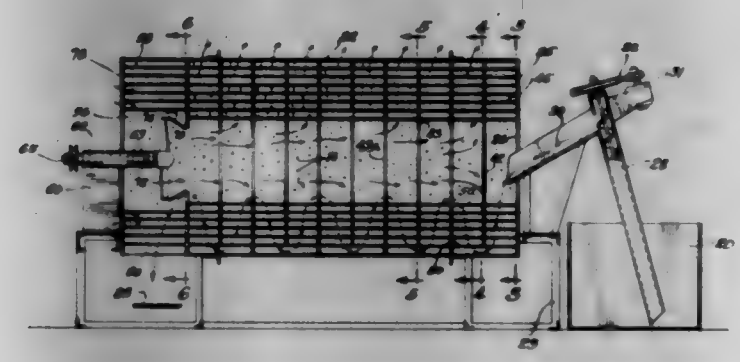
2,971,264
LEVELLING SYSTEM
James Stanley Cowan, % Nelson Green, 343 E. 46th St., Jacksonville 8, Fla.
Filed Jan. 29, 1959, Ser. No. 789,986
1 Claim. (Cl. 33—289)



In combination, means for levelling a portable house trailer having datum marks thereon which are all in the same horizontal plane when said trailer is level comprising, a plurality of tubular transparent gauging members, a support for each gauging member to hold it in a generally vertical position independently of said trailer adjacent its perimeter at a levelling station adjacent one of said datum marks, a supply pipe affixed to said trailer and adapted for selective connection at one end thereof to a water pressure main, a shut-off valve in said connection, fluid conducting means affixed to the bottom

of said trailer for connecting the other end of said supply pipe to each of a plurality of locations around the perimeter of said trailer and respectively adjacent said levelling stations, a flexible connection between each tubular gauging member near its bottom and said fluid conducting means at each of said plurality of locations, a removable cap for the top of each tubular gauging member, a selectively openable vent connection to said supply pipe at a level higher than the normally expected fluid level in any of said gauging members, and means including a shut-off valve connected to said conducting means at the lowest point thereof for draining said conducting means and said gauging members and said supply pipe, whereby each of said gauging members may be filled with water from said water main and said datum marks adjusted to be equidistant from the level of the fluid column in the respective gauging members to thereby level said trailer.

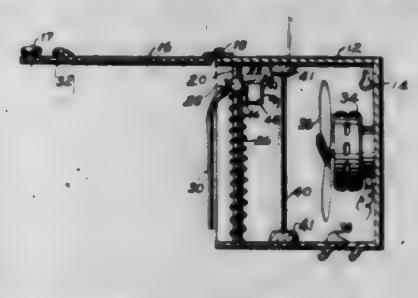
2,971,265
ROTARY DRUM GRAIN DRYER
Irvin L. Young, Palmyra, Wis.
Filed Mar. 31, 1958, Ser. No. 725,318
3 Claims. (Cl. 34—137)



1. An apparatus for drying grain comprising a drum having end walls, means journaling the drum for rotation on a substantially horizontal axis, one end wall having an opening in the region of the center to receive the grain, an imperforate partition forming a compartment inwardly of said end wall, a series of perforated partitions continuing after the first-mentioned one in the direction of the other end wall and forming further compartments, a perforated slide in each compartment in the form of a spiral centered on said axis, the winding direction of the slides being reversed from compartment to compartment and the perforated partitions having central openings therein and passages in the inner and outer portions for advancing the grain in outward and inward alternation during the rotation of the drum, deflectors extended from the partitions adjacent to the passages in the advancing direction, and second means operating in the center of the other end wall to direct a current of warm air through said central openings toward the first-named end wall, said other end wall having perforations remote from the center for said means to draw cool air from the exterior into the drum.

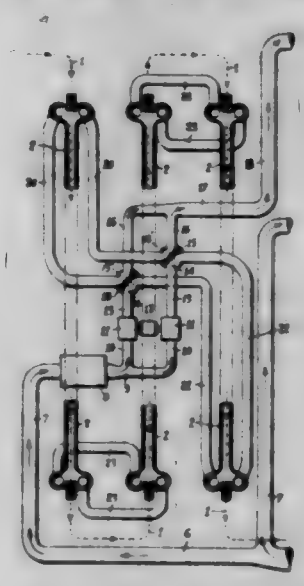
2,971,266
DRY AWAY TOWEL RACK
Vernon G. Silva, 3447 Montgomery Drive, Santa Rosa, Calif.
Filed Jan. 28, 1959, Ser. No. 789,616
1 Claim. (Cl. 34—151)

A combined towel rack and dryer comprising, in combination, a housing, bracket means supporting a towel within said housing for retractable movement outwardly thereof, air circulating means within said housing for moving air through said towel, heater means for heating said circulated air, switch means controlling the energization of said air circulating means and said heater means, said housing comprising a substantially hollow prismatic enclosure open at the front side, a closure hingedly carried by said housing for selective movement between a normally closed position and an open position relative to said open side of said housing, said bracket means comprising a pair of upright posts secured in spaced apart parallel relationship within said housing, a cross bar slidably supported at opposite ends upon said posts, spring means normally urging said cross bar toward corresponding ends of said posts, releasable spring clips carried by said cross bar for releasable engagement with the end of said towel, said air circulating means



comprising a fan having a set of fan blades mounted upon one side of said housing, said heater means being disposed intermediate said fan blades and said bracket means, said heater means comprising a plurality of spaced apart heater elements extending across said housing intermediate said fan blades and said bracket means, said switch means being connected in circuit relationship with said fan motor and said heater element, said switch means including a trip mechanism adjacent to said one end of said posts, and said cross bar being mounted for abutting engagement of said trip element of said switch means in response to said yielding movement of said springs toward said one end of said housing.

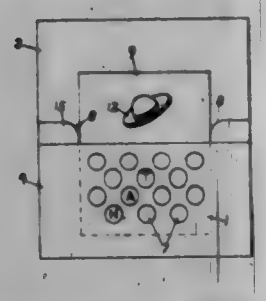
2,971,267
FLUID SUPPORTED WEB-DRYING DEVICE
Martin J. Berlyn, Montreal, Quebec, Canada, assignor to Dominion Engineering Works Limited, Montreal, Quebec, Canada
Filed July 15, 1957, Ser. No. 671,866
11 Claims. (Cl. 34—156)



1. Web drying apparatus adapted to thread the web therethrough before subjecting it to counter-current air drying, comprising means defining an elongated drying chamber having an opening at each end for the passage of a vertically aligned web, means for guiding the vertically aligned web through each of the end openings, and means for selectively admitting two streams of air at alternate ends of the chamber to flow longitudinal thereof in contact with opposite sides of the web, said last-named means comprising duct means for supplying the air streams and communicating with the chamber at oppositely disposed ports adjacent each end opening

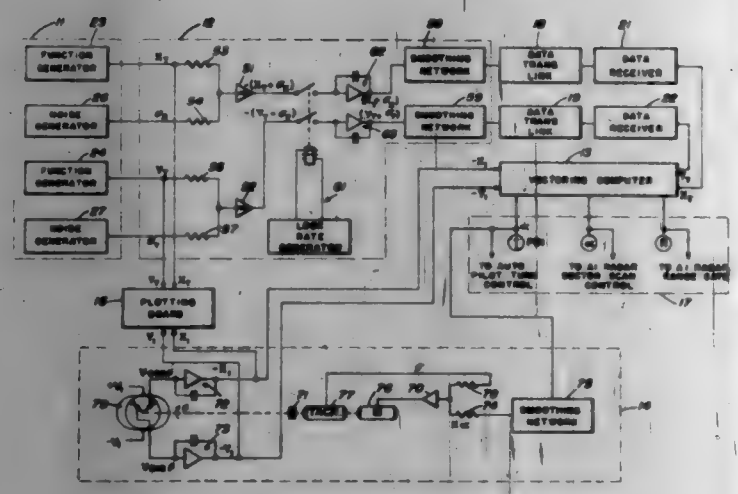
in the chamber, means associated with the duct means for dividing the air supply into two equal streams and selectively introducing the equal streams through the ports at alternate ends of the chamber, and means associated with the ports for directing the equal air streams into engagement with opposite sides of the web in a direction inclined toward the opposite end of the chamber.

2,971,268
QUIZ GAME DEVICES
Harry Zimmerman, New York, N.Y.
(930 Newark Ave., Jersey City 6, N.J.)
Filed Dec. 29, 1959, Ser. No. 862,617
6 Claims. (Cl. 35—9)



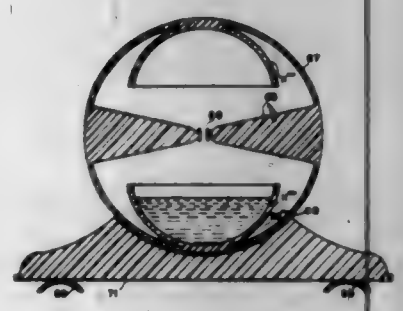
1. A quiz game device comprising cards, each having a side showing a problem and characters a number of which form the complete answer to said problem, the other characters being arranged in a confusing mixture with said first characters, and a single sheet adapted to be placed on any of said cards in a definite mutual position and having many perforations, more than corresponds to the number of characters answering problems shown on any single card, whereby definite areas of said card are visible through said perforations while the area between and around said visible areas is covered, the characters forming the answer being positioned in a number of said visible areas, all other characters being positioned in said covered area whereby the answer appears immediately when said single sheet is placed on said card.

2,971,269
VECTORING PHASE SIMULATOR
Russell C. Newhouse, Short Hills, N.J., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Jan. 18, 1957, Ser. No. 635,079
3 Claims. (Cl. 35—10.2)



1. A vectoring phase simulator comprising: target position data signal generating means; noise signal generating means; a radar simulator; circuit means coupling said radar simulator to said target position data signal generating means and to said noise signal generating means; a proportional navigation computer operative to provide a bearing order signal; an interceptor position data signal generating means comprising an electro-mechanical velocity servo loop, a sine-cosine potentiometer having the wiper arms thereof mechanically coupled to said electro-mechanical velocity servo loop to be actuated thereby, means to apply to the resistive portions of said sine-cosine potentiometer voltages proportional to the magnitude of the velocity of the simulated interceptor, and integrator means having the input circuit thereof coupled to said wiper arms; circuit means coupling the input circuit of said proportional navigation computer to said radar simulator and to the output circuit of said integrator means; circuit means coupling the bearing order signal from said proportional navigation computer to the input circuit of said electro-mechanical servo loop; display means; and circuit means coupling said display means to said target position data signal generating means and to the output circuit of said integrator means.

2,971,270
DRIVER TRAINING DEVICES
Jerome Allen Hasty, Box 1543, Santa Fe, N. Mex.
Filed Apr. 18, 1958, Ser. No. 729,317
2 Claims. (Cl. 35—11)



1. A driver trainer accelerometer comprising a transparent spherical housing, a pair of transparent substantially hemispherical vessels each having a size less than that of the housing supported in opposition on the interior wall of said housing with their axes aligned with a single axis of said housing, a transparent annular ring having a central opening and wedge-shaped cross section expanding from the opening to the periphery, being sealed at its outer edges to the inner wall of said housing on a plane at right angles to the axes of said vessels, a colored indicating fluid provided in said housing and being of a selected quantity to fill within a selected level one of said vessels, said housing being adapted to be supported with the axes of said vessels upright in a vehicle whereby said fluid will be contained in the lower of said two vessels, and whereby, if under the influence of abrupt acceleration, some of said fluid is spilled from said vessel into the housing, said housing may be manually inverted whereby said fluid will be funneled by said annular ring into the other of said vessels.

2,971,271
DISPLAY DEVICE
Allan B. Goldenthal, Woodside, N.Y., assignor to William Douglas McAdams, Inc., New York, N.Y., a corporation of New York
Filed Oct. 18, 1956, Ser. No. 616,689
3 Claims. (Cl. 35—17)

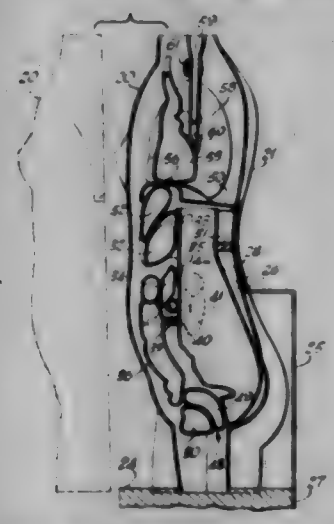
1. A display device comprising, in combination, a three-dimensional transparent body substantially conforming in shape to at least a portion of a physical structure, said three-dimensional transparent body being formed with a pair of slots located in planes perpendicular to each other; and an exchangeable slide means including a pair of crossing slides adapted to carry images of at least a part of said portion of said physical structure, said crossing slides

being removably mounted in said slots so that said part of said physical structure appears to be located in said



three-dimensional transparent body when said images are viewed through said transparent body.

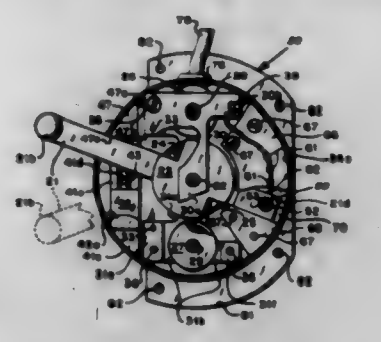
2,971,272
ANATOMICAL MODEL
Lou Barlow, New York, N.Y., assignor to William Douglas McAdams, Inc., New York, N.Y., a corporation of New York
Filed Jan. 29, 1957, Ser. No. 636,918
17 Claims. (Cl. 35—17)



1. An anatomical model comprising a hollow body in the shape of a life form, a plurality of hollow organ members secured to said body, each of said members having the surface configuration of an organ of said form and being positioned within said body in arrangements simulating the positions of corresponding organs of the living life form, at least a portion of a wall of each of said members being transparent, each of said members having an elongated opening therein, a plurality of information elements, each bearing anatomical features of said organs, inserted in said opening in each corresponding organ member and positioned within said member viewable through said portion.

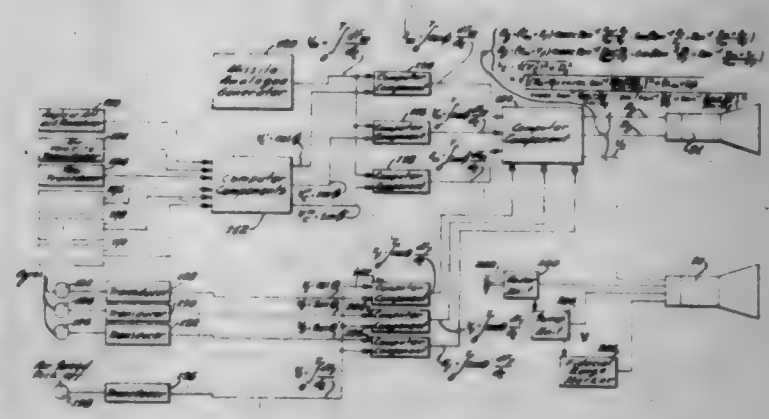
2,971,273
PERFORMANCE BAR
Paul Karnow, Philadelphia, and Robert M. Herrick, Hatboro, Pa., assignors to the United States of America as represented by the Secretary of the Navy
Filed Apr. 25, 1960, Ser. No. 24,628
10 Claims. (Cl. 35—22)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. In a device especially adapted for use in experimental psychology, a cylindrical housing having diametrically extending first and second stanchion means fixed therein, power drum means and takeup drum means disposed between and journaled in said first and second stanchion means, tape-like negative spring means connecting said take-up drum means with said power drum means and resiliently biasing said power drum means in one direction with a substantially constant torque independent of the relative angular position of said power drum means and independent of the amount of the earth's gravitational forces acting on the device, mass-balanced lever means fixed to said power drum means, electrical commutator



brush means mounted in one end of said lever means, first and second parallel sector-shaped planar insulator means fixed in said housing, electrical commutator contact means carried by said insulator means and adapted to be sequentially engaged by said electrical commutator brush means as said lever means is angularly displaced for indicating the instantaneous position of said lever means as the latter is displaced.

2,971,274
MISSILE SIMULATOR
William Edgar Thornton, Los Angeles, Calif., assignor to Del Mar Engineering Laboratories, Los Angeles, Calif., a corporation
Filed July 15, 1957, Ser. No. 672,058
7 Claims. (Cl. 35—25)



3. A system for displaying on the viewing screen of a cathode-ray tube the path of a simulated missile fired from an aircraft in flight, said system including: first transducer means for developing a signal representing the speed of the simulated missile; second transducer means for developing signals representing flight conditions of the aircraft at the firing point of the missile; means coupled to said first and second transducer means for developing first control signals representing the flight characteristics of the simulated missile; third transducer means for developing a signal representing the speed of the aircraft; fourth transducer means for developing signals representing departures of the aircraft from its course at the firing point; means coupled to said third and fourth transducer means for developing second control signals representing the flight characteristics of the aircraft subsequent to the firing point; computer means responsive to said first and second control signals for producing a pair of signals varying respectively in accordance with components of motion of said simulated missile along respective mutually perpendicular axes traversing the flight path of the aircraft; and means for utilizing

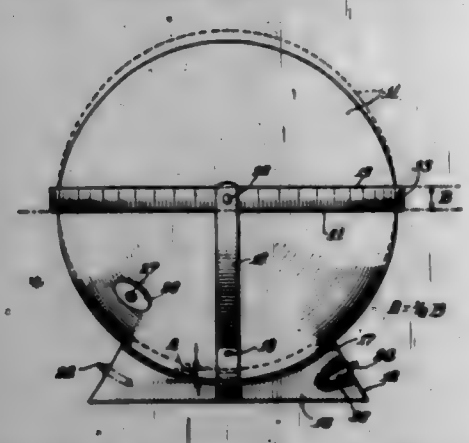
such control signals to control the deflection of the cathode-ray beam in said cathode-ray tube over said viewing screen.

2,971,275
EDUCATIONAL TOY
Dominick Provenzano, 4546 Malia St., Honolulu, Oahu, Hawaii
Filed Apr. 2, 1959, Ser. No. 803,636
5 Claims. (Cl. 35—31)



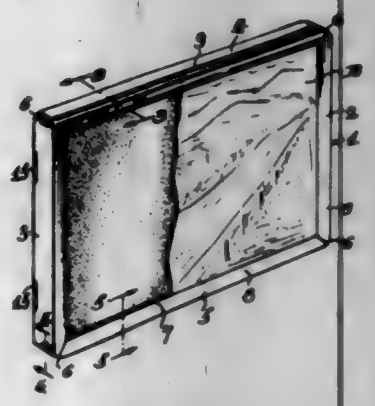
1. An educational toy comprising a generally plate-like member having a planar upper surface, said surface being divided into a plurality of problem areas with each area having indicia thereon forming a problem, said surface having a plurality of blank areas forming answer areas adjacent the problem areas, each answer area having a shaped recess therein with each different problem answer area having a different shaped recess, and a plurality of answer blocks for positioning in the answer areas with the answer blocks having indicia forming an answer on one surface thereof and a projection on the other surface thereof with the projection on the undersurface shaped identical to and having a size identical to the recess in the answer area which requires the answer indicia on that particular answer block for correct solution to the problem thereby preventing placement of an answer block having erroneous answer indicia thereon, in the answer area, each of said blocks having an identically shaped main body thereby requiring knowledge of the solution to the problem or comparison of the projection with the recess in order to properly place the answer block.

2,971,276
GLOBE MOUNTING
William F. Scarborough, Crete, and Gildo Tieri, Chicago Heights, Ill., assignors to Weber-Costello Co., Chicago Heights, Ill., a corporation of Illinois
Filed Dec. 16, 1958, Ser. No. 780,699
7 Claims. (Cl. 35—46)



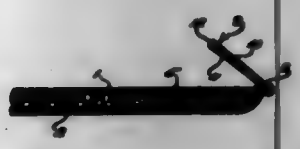
1. In a terrestrial globe, the combination of a globe ball, a base having a cradle surface for receiving the ball in freely rotatable relation, a meridian ring comprising a circular band having said ball rotatably and detachably journaled at its poles in said band, said band bearing external indicia providing a great circle scale at one circumferential edge thereof, and a pair of supports extending upwardly from said base in diametrically spaced relation and having said band swingably connected thereto for supporting said ball at a predetermined distance above the cradle surface of said base when said ball is journaled in said band, said distance being such that when the ball is detached from said band and supported on said cradle surface, the spherical center of the ball is aligned in the plane of said one edge of the band for providing accurate great circle measurements on the surface of said ball.

2,971,277
CONCEALABLE BLACKBOARD
Louis Georges Vaillancourt, Coleraine, Megantic County, Quebec, Canada
Filed Nov. 16, 1959, Ser. No. 853,226
3 Claims. (Cl. 35—62)



1. A blackboard comprising a frame having top, bottom and side members, a writing panel secured within said frame, said frame having a first slot made through said top member of said frame, a second slot made within the lower member of said frame, and grooves made in said side members and in communication with the ends of said first and second slots, said slots and grooves being disposed in a common plane immediately forwardly of said writing panel, said lower member having a bore communicating with said second slot and opening at one side of said frame, said slots and grooves being adapted for receiving an image for concealing the writing panel, a slit tube removably inserted within said bore for collecting through said second slot chalk dust and other substances produced when writing on the blackboard, means secured to the back of said writing panel for storing brushes, chalks and other objects, and means for supporting the blackboard in a writing position.

2,971,278
HOUSEHOLD OR BATH SLIPPER
William M. Scholl, 211-213 W. Schiller St., Chicago, Ill.
Filed Jan. 18, 1957, Ser. No. 634,935
1 Claim. (Cl. 36—9)

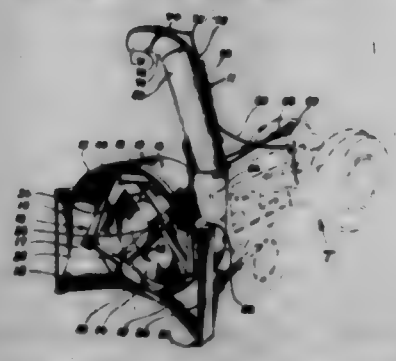


A scuff type slipper comprising an insole sheet and an outsole sheet formed of thin thermoplastic material, a layer of thermoplastic cushioning material interposed between said insole sheet and said outsole sheet, a thermoplastic vamp over the insole sheet to hold the slipper on the foot of a user, and a single unitary heat seal seam joining said insole sheet, said vamp, said layer of cushioning material, and said outsole sheet at the peripheral edges of all four of said elements.

2,971,279
ROTARY SNOW PLOUGH

Hilaire Blanchet, 865 Jean de Brebeuf St., St. Simon de Drummond, Drummondville, Quebec, Canada

Filed Aug. 19, 1957, Ser. No. 678,850
2 Claims. (Cl. 37—43)

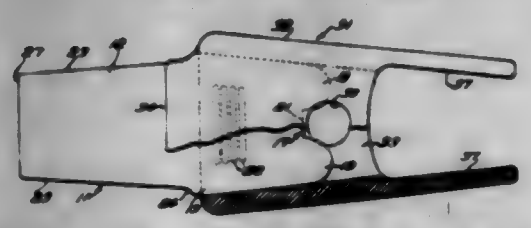


1. In a snow plough having a cylindrical casing with a tangential snow ejection duct; a rotary snow-cutting and throwing assembly mounted in said casing and comprising; a hub centrally located in said casing for rotation, a plurality of vanes radially extending from said hub, a snow-cutting edge on the forward face of each said vane and a radially extending snow-throwing surface rearwardly thereof; a corresponding number of snow-core cutting blades, each connected to and projecting forwardly of each said vane at their radial extremity thereof, and connected to the radial extremity of the vane next adjacent in the direction of rotation, said hub being otherwise unobstructed.

2,971,280
EXCAVATOR TOOTH

Harry H. Sneedley, 3142 Harrison St., Oakland, Calif.

Filed Mar. 11, 1957, Ser. No. 645,048
1 Claim. (Cl. 37—142)



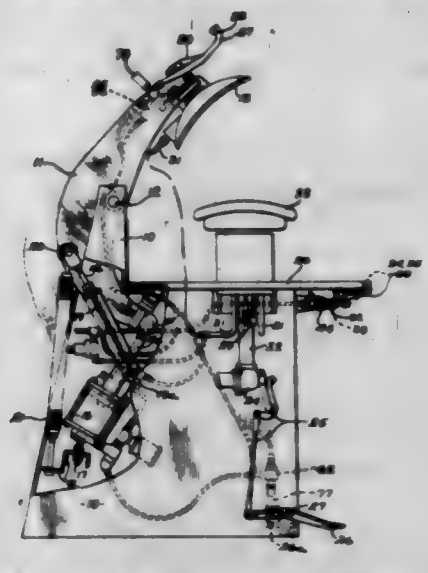
An excavator tooth comprising a rigid tip having an integral blade and shank with maximum tip width and height at the blad shank juncture; and an integral rigid body having a tapered socket adapted to receive and envelop all of said tip shank and including a rigid upper jaw having a portion extending outwardly of said socket into contact with at least a part of said tip blade and said portion having tapered sides extending no further than the blade sides, and the maximum width of the opposed edges of said blade having a lesser width than that of said body and merging therewith in a substantially continuous pattern.

2,971,281
TWO-SPEED, VARIABLE PRESSURE GARMENT PRESS

Edmund N. Neckel, North College Hill, Ohio, assignor, by mesne assignments, to McGraw-Edison Company, a corporation of Delaware

Filed Dec. 9, 1958, Ser. No. 779,114
8 Claims. (Cl. 38—41)

1. A laundry press of the character described having a movable pressing member, and a fixed pressing member, and means for moving said movable pressing member towards working contact with said fixed pressing member including a fluid pressure motor operatively effective on said movable pressing member, and means for transmitting fluid pressure to said motor comprising a first pipe route and a second pipe route, each said route having its respective flow control means whereby to admit fluid pressure in one or the other selected route, either said route being independently operable on said motor to



close said press, and flow restricting means in one said route to provide an available differentiation in press operating speed.

2,971,282
PICTURE DISPLAY MEANS

Sanders W. Petrey, Petrey Studio, Hazard, Ky.

Filed Apr. 28, 1959, Ser. No. 809,408
4 Claims. (Cl. 40—152)



1. A quadrangular picture frame having two side members, an upper member and a bottom member, said members enclosing a three-dimensional space, the front and rear edges of said frame members respectively defining the front and rear openings of said frame, the front opening of said frame being covered with a transparent window member, the forward edge of said upper frame member being inwardly curved to form a recess extending substantially across the front opening of said frame, the curve of said recess being substantially tangent to the rear opening of said frame, said frame being adapted to receive an inwardly curved picture-bearing member extending from side to side of the front opening of said frame, the curvature of said picture-bearing member corresponding to the curvature of the forward edge of said upper frame member.

2,971,283
WRITING INSTRUMENT

Daniel Parker, Milton Junction, Wis., assignor to The Parker Pen Company, Janesville, Wis., a corporation of Wisconsin

Filed May 23, 1958, Ser. No. 737,276
3 Claims. (Cl. 40—334)

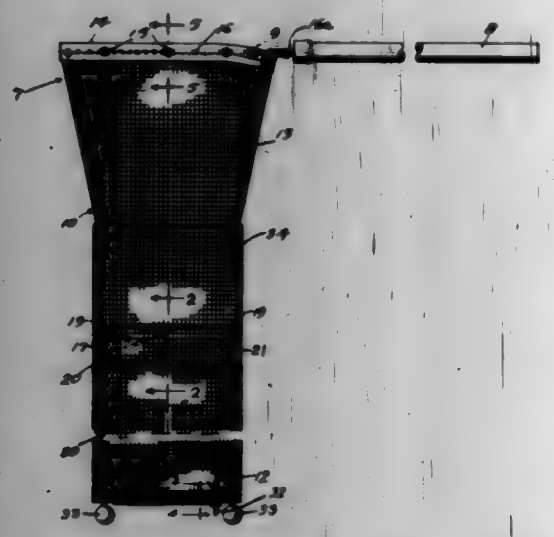
1. A retractable ball point writing instrument having moving message display means, said instrument comprising: a housing; a ball point cartridge member mounted in the housing; projection-retraction means including a reciprocable member for moving said cartridge member forwardly to a projected position and rearwardly to a retracted position and for simultaneously unidirec-

tionally rotating said cartridge member to successively different rotative positions upon successive operations of said reciprocable member; a longitudinal window in said housing; and a plurality of message segments disposed equidistantly circumferentially about said cartridge member for successively moving said segments into view



through said window upon said successive operations, the circumferentially consecutive ones of said message segments being staggered axially on said cartridge member for longitudinally centering the circumferentially alternate ones in said window in the two positions of said cartridge member.

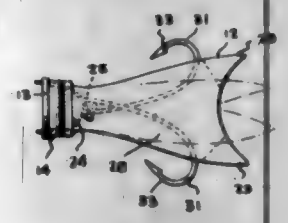
2,971,284
SHRIMP OR CRAB NET WITH ENTRAPMENT CHAMBER
Marietta C. Opel, 957 S. Kerens Ave., Elkins, W. Va.
Filed Nov. 20, 1959, Ser. No. 854,384
2 Claims. (Cl. 43—11)



1. A crab and shrimp net comprising an elongated net body having an open upper end and a normally closed lower end, means supporting said net body including a supporting handle and a hoop member to which the open end of the net body is attached and by which said open end is maintained in an open position; partition means secured within the net body at a point spaced from the ends thereof and separating the net body into end chambers including a lower entrapment chamber disposed between said partition means and the normally closed lower end of the net body, said partition means including a normally closed valve plate, spring hinge means mounting said plate for downward swinging movement into the entrapment chamber and to an open position and for returning the valve plate to a closed position, said normally closed bottom having an opening for emptying the entrapment chamber, and closure means normally closing said net bottom opening.

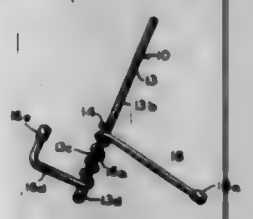
2,971,285
ARTIFICIAL CASTING BAIT
Stephen A. Murawski, 13422 Ave. K, Chicago 33, Ill.
Filed Mar. 31, 1959, Ser. No. 803,274
2 Claims. (Cl. 43—35)

2. In a fishing lure including a tail member, said tail member comprising a base member having means for securement to the body portion of a lure, said tail member being defined by a pair of flexible wall members, the upper and lower terminal ends of the wall members being secured together to provide a longitudinal passage between the wall members and forming a rear opening, the inner portions of the attached upper and lower ends of



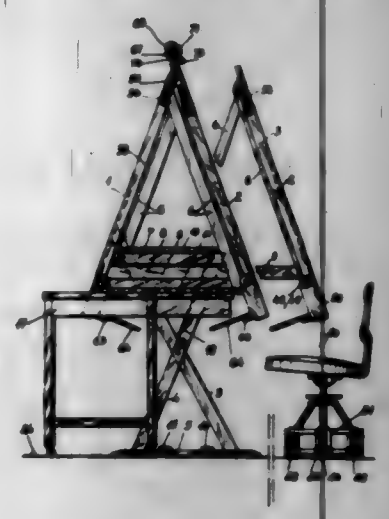
the tail member having a face inclined in the direction of said longitudinal passage, the bight portion of the hooks having frictional contacting engagement with respective inclined faces for retaining the hooks in set position within the passage.

2,971,286
FOLDABLE WIRE BOOK STUDY DEVICE
William B. Ernst, Owatonna, Minn., assignor to Protecto Mfg. Company, Owatonna, Minn., a corporation of Minnesota
Filed May 11, 1959, Ser. No. 812,399
5 Claims. (Cl. 45—85)



1. A book supporting device, comprising a main frame formed of wire and having leg bars spaced apart from each other on the lower end thereof, a spring helical coupling having a pressure fit with each leg bar to swing thereon, the lower end of each helical coupling having an L-shaped book rest arm and the upper end of each coupling having a rearwardly extendable brace arm, whereby the main frame may be supported on a horizontal support and a book in open condition engaged with the book rest arms may be restrained in its open condition against the main frame and thereby made available for reading the printed pages of the book.

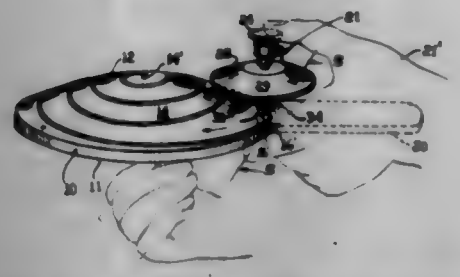
2,971,287
DRAWING DESK
Helmut Kurt Fritz Martin, Porto Alegre, Brazil
(Wagnerstr. 11, Geislingen (Steige), Germany)
Filed Jan. 29, 1958, Ser. No. 711,890
8 Claims. (Cl. 45—131)



1. Arrangement for positioning a sheet of drafting paper upon a drafting board comprising, in combination,

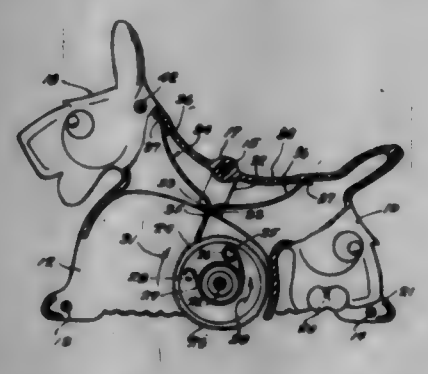
a board structure having a far transverse edge and a near transverse edge as well as a pair of side edges defining a front face to support said sheet of drafting paper; suspension means slidably located upon said front face of the board structure for holding the upper edge of said sheet of drafting paper; and movable guide means for slidably displacing and positioning said suspension means together with said sheet of paper parallel to itself upon said front face to a desired position between said near and far edges of the board structure so that a desired portion of the sheet is located near said near edge.

2,971,288
TOY
Ferdinand A. Gill, 7849 Keeler Ave., Skokie, Ill.
Filed July 24, 1959, Ser. No. 829,340
10 Claims. (Cl. 46—67)



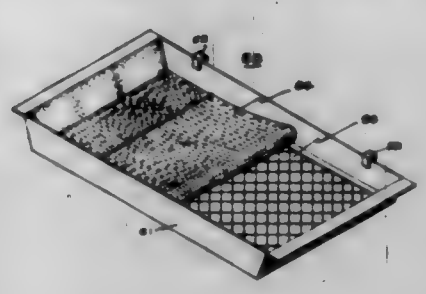
1. A device of the class described comprising a body having on at least one side thereof an inclined spiral raceway, the entrance to which is adjacent the peripheral edge of the body, a releasably manually operated holding device at said entrance, a spinning element temporarily and releasably held by said device at said entrance, and means for spinning said element while held by said holding device, said element when released by said holding device and while spinning projecting itself by centrifugal force along said raceway.

2,971,289
TOY
Bayard C. Reed and Gunars Licitis, Chicago, Ill., assignors to Marvin I. Glass, Chicago, Ill.
Filed Feb. 20, 1959, Ser. No. 794,681
2 Claims. (Cl. 46—104)



1. A toy comprising a body movable in opposite directions over a supporting surface, said body including side walls, an element capable of a limited amount of rocking movement pivotally mounted between said side walls, a head mounted on each end of said element and positioned so that rocking movement of said element exposes one or the other of said heads from between said side walls, a wheel mounted on said body to rotate on a horizontal axis and adapted to engage the said supporting surface and to be turned on its axis as an incident to such engagement, a motor spring adapted to be wound by the rotation of said wheel in one direction and to deliver motive force to said wheel for rotating said wheel in the other direction, and a switch member for rocking said head supporting element to expose one or the other of said heads depending upon the direction of rotation of said wheel, said switch member comprising a blade member connected at one end to said rockably mounted element and having its other end engaged against the periphery of said wheel, the end of said blade member which is engaged against the periphery of said wheel normally making an angle with a line normal to the periphery of said wheel and which extends to a point on said blade member spaced from the periphery of said wheel, said blade member being mounted for longitudinal and hinged movement whereby a change of direction of said wheel causes said blade member to move from one side of the line normal to the periphery of said wheel to the other side thereof, thereby concealing one of the heads and exposing the other.

2,971,290
SEED BED OPERATION IN HYDROPONIC SYSTEMS
Leslie B. Kyle, Dallas, Tex., assignor to Hydroponics, Incorporated, Indianapolis, Ind., a corporation of Indiana
Filed July 11, 1957, Ser. No. 671,180
7 Claims. (Cl. 47—1.2)



1. In a hydroponic culture system for controlled growth of seed, the combination of a seed basket adapted to be flooded periodically with a nutrient bearing fluid, a substantially rigid mesh bottom for said basket of mesh size much larger than that of said seed, and a perforated edible membrane within said basket supported by said mesh and characterized by perforations smaller in size than that of said seed whereby a rooting system may form through said membrane which is readily removable from said tray and said mesh.

2,971,291
PRODUCTION OF FAST GROWING FOREST TREES BY VEGETATIVE PROPAGATION
Siegfried Herrmann, 29 Entenbusch, Hannoversch Munden, Germany
No Drawing. Filed June 6, 1957, Ser. No. 663,872
Claims priority, application Germany June 11, 1956
3 Claims. (Cl. 47—58)

1. A method for the production of fast growing forest trees by vegetative propagation comprising taking cuttings from seed-produced mother trees at the time of their growth culmination phase and planting said cuttings.

2,971,292
PRESERVATION OF FLOWERS
George J. Malecki, 519 W. Surf St., Chicago 14, Ill.
No Drawing. Filed Mar. 3, 1958, Ser. No. 718,425
15 Claims. (Cl. 47—58)

1. In the method of preservation of flowers in fresh state the step comprising keeping said flower's moisture supplying organs in an aqueous gel made from a colloid selected from the group of colloids consisting of bentonite, attapulgite, china clay, kaolin, fuller's earth, wollstonite, alkali silicates, aluminum hydroxide, inorganic colloid swelling in water, Irish moss, carragheen, alginates, algin esters, algin derivatives, pectin, pectinates, pectates, tragacanth, gums of arabic, Karraya, kara,

Senegal, guar, ghatti, locust bean, Iceland moss, quince seed, flax extract, psyllium extract, agar-agar, gluten, zein, soya protein, casein, caseinates, albumin, albuminates, hydrophilic gums, gelatin, dextrin, starch, oxidized starch, instant gel starch, polygalacturonic acid, carboxymethylcellulose, hydroxyethylcellulose, water-dispersible acetylcellulose and ethycellulose, methylcellulose, polyethyleneoxide, carboxyethylcellulose, polyvinylalcohol, polyacrylic polymers and their copolymers, water-dispersible polyvinylchloride, rubber latex, synthetic rubber latex, hydrophilic colloid, water swelling colloid, water-dispersible colloid.

2,971,293

METHOD OF STABILIZING SOIL WITH SOLUBLE DRIED BLOOD

Erhard M. Winkler, 2521 Northview Drive, South Bend 16, Ind.

No Drawing. Filed Mar. 24, 1958, Ser. No. 723,607
12 Claims. (Cl. 47—58)

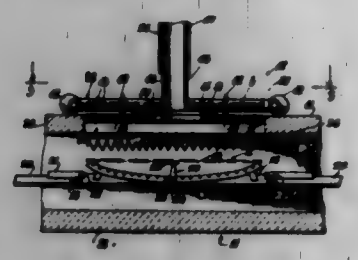
1. The method of stabilizing soil, consisting of spreading an aqueous solution of soluble dried mammal blood over the area of soil to be stabilized.

2,971,294

METHOD FOR FLAME SEAMING A GLASS SHEET

Frederick R. Hohmann, New Kensington, and Homer E. Neely, Jr., Tarentum, Pa., assignors to Pittsburgh Plate Glass Company, a corporation of Pennsylvania

Continuation of application Ser. No. 243,148, Aug. 22, 1951. This application Mar. 8, 1957, Ser. No. 644,951
2 Claims. (Cl. 49—77)



1. The process of flame seaming the edge of a glass sheet having said edge formed by cutting, comprising translating said glass sheet relatively with respect to a substantially continuous thin sheet of flame at least as long as said edge to cause said flame to impinge against the center of said edge for the entire length thereof, maintaining said edge in such impinging relation for a period of time only sufficient to seam the rough edge surface, and translating said glass sheet out of impinging relation with said sheet of flame to allow the seamed edge surface to harden.

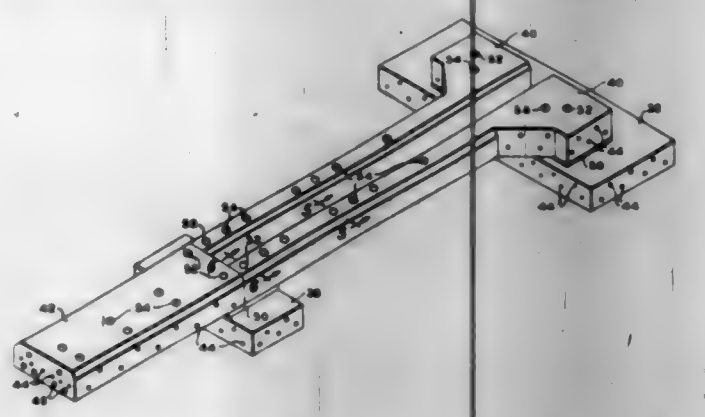
2,971,295

PRESTRESSED CONCRETE UNITS AND STRUCTURES

Orvel B. Reynolds, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Mar. 21, 1955, Ser. No. 495,717
6 Claims. (Cl. 50—133)

1. A portable concrete base for an oil well pumping unit and engine for operating same comprising a pair of individually post tensioned spaced-apart horizontal concrete runners having a plurality of post tensioning elements extending through same longitudinally thereof and having a pair of adjacent outwardly flared ends; a post tensioned engine block abutting the ends of said runners opposite the flared ends having post tensioning elements extending therethrough parallel with those in said runners; post tensioning elements extending through said runners and said block to post tension same as a unit; a pair of generally rectangular flat sills post tensioned by post tensioning elements extending both longitudinally and laterally thereof, both being positioned transversely to said runners, the first under the abutting ends of said runners and block and the second under the flared ends of said runners; several means firmly fastening said runners to said sills each comprising a metal plate embedded in the bottom of said sill having a first bolt attached thereto extending upwardly to a level below the top of



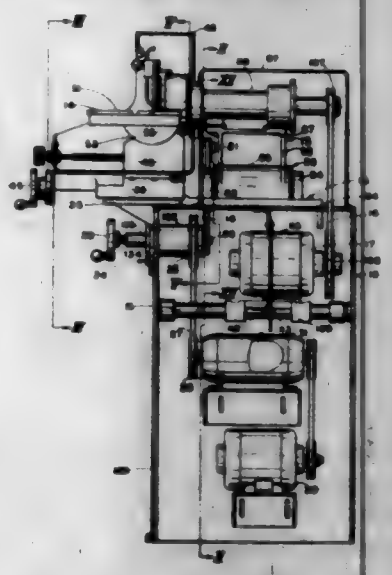
the sill and terminating in a threaded end, a threaded coupling on said threaded end, a second bolt threaded into said coupling from above and extending upwardly through a tubular conduit in said runner, a metal plate on the upper end of said second bolt adjacent the top surface of said runner, and a nut threaded on the upper end of said second bolt tightly against last said plate; and similar means fastening said engine block to said first sill.

2,971,296

GRINDER WITH OSCILLATING HEAD

Miles M. Bass, Kalamazoo, Ramsay M. Bell, Schoolcraft, and Lee C. Hammond and Philip J. Robiechaud, Kalamazoo, Mich., assignors to Hammond Machinery Builders, Inc., Kalamazoo, Mich., a corporation of Michigan

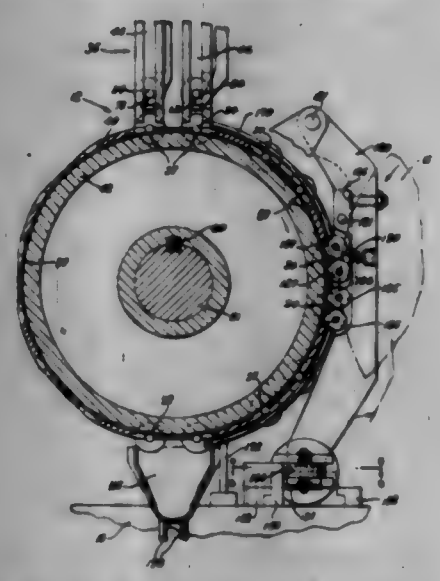
Original application Mar. 29, 1956, Ser. No. 574,728, now Patent No. 2,922,258, dated Jan. 26, 1960. Divided and this application May 11, 1959, Ser. No. 812,449
9 Claims. (Cl. 51—55)



1. In a grinding machine having a bracket supporting a grinding wheel for rotation around a first axis and a frame supporting said bracket for pivotal movement around a second axis spaced from and parallel with said first axis; an elongated pivot member pivotally supported upon said frame for pivotal movement around a pivot axis near to and parallel with said second axis; means connecting one end of said pivot member to said bracket whereby pivotal movement of said pivot

member effects pivotal movement of said bracket; bearing means supported upon said frame near said other end of said pivot member; a driven member supported within said bearing means for rotation around a third axis parallel with said second axis; a shaft having an axis parallel with said third axis, and positioning means drivingly connected to said driven member and to said shaft and supporting said shaft upon said driven member for radial movement into and out of a position coaxial with said third axis; means operatively connecting the other end of said pivot member to said shaft whereby movement of said shaft axis around said third axis pivots said pivot member around said pivot axis; and adjustment means connected between said driven member and said positioning means for effecting said radial movement of said shaft with respect to said third axis.

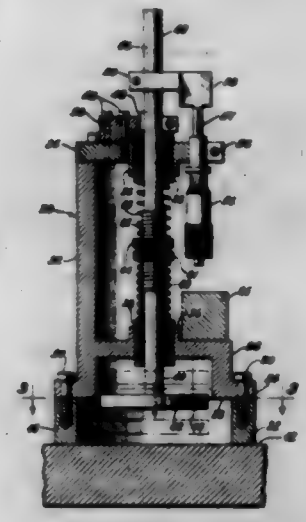
2,971,297
MACHINE TOOL
Edgar M. Hakanson, Vandalia, Ohio, assignor to The Sheffield Corporation, Dayton, Ohio, a corporation of Delaware
Filed Jan. 2, 1959, Ser. No. 784,777
14 Claims. (Cl. 51—108)



1. A grinding machine comprising a base, a regulating wheel, a grinding wheel, drive means for said grinding wheel, carriage means mounting said regulating wheel and said grinding wheel on said base for relative movement toward one another to grinding position and for relative retraction, support means on said base for holding a pair of workpieces in driven engagement with said regulating wheel at fixed grinding locations relatively circumferentially spaced along its periphery, and actuating means operatively connected to said carriage means for relatively moving said regulating and grinding wheels toward one another to bring them into grinding position with the grinding wheel in simultaneous grinding engagement with both said parts for a grinding operation thereon, whereby a plurality of workpieces are simultaneously ground while in association with the same cooperating regulating and grinding wheels.

2,971,298
WORKHOLDER FOR A LAPPING MACHINE
Albert N. Garthwaite, Poughkeepsie, and Frank T. Kristiansen, Monroe, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Oct. 3, 1958, Ser. No. 765,155
8 Claims. (Cl. 51—131)

1. An apparatus for holding a workpiece upon which a true flat surface is desired to be formed, said apparatus adapted to be used with a lapping machine having a rotatable lap with a lapping surface capable of producing by abrasion the desired true surface on the workpiece, said apparatus comprising; a rotatable annular wear ring having parallel end faces and an internal diameter substantially larger than the workpiece surface to be lapped, the lower end face of the wear ring adapted to frictionally bear upon the lapping surface, a supporting structure rigidly secured to the annular wear ring, a rigid upwardly extending portion of the supporting structure, a slide bearing contained within the upwardly extending portion of said supporting structure, a vertically movable workholder adapted to rigid hold a workpiece having a surface thereon desired to be



lapped, a journal portion of the workholder cooperating with the slide bearing for slideably mounting the workholder for vertical movement only, means cooperating between the upwardly extending portion of the supporting structure and the workholder to prevent rotational movement of the workholder about an axis in the direction of vertical movement of the workholder, whereby a surface of a workpiece desired to be lapped and rigidly attached to the workholder may move only perpendicular to the plane of the lap and will always be parallel to the plane defined by the lower end of the wear ring.

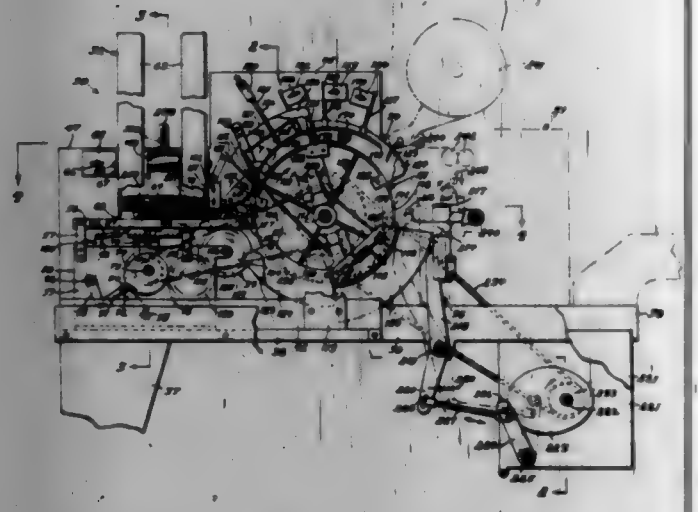
2,971,299
SICKLE AND MOWER KNIFE SHARPENER ATTACHMENT FOR ELECTRIC DRILLS
Cornelius D. Vreeland III, Chester, Mass.
(R.F.D. 2, Middlefield, Mass.)
Filed June 19, 1958, Ser. No. 743,077
1 Claim. (Cl. 51—173)



A hand grinding tool for sharpening sickle bars, comprising a handle having a bore therethrough and an enlarged co-axial counter bore at one end, a shaft rotatably supported in said bore and having a threaded end portion extending outwardly from said bore, the other end of said shaft being enlarged and surrounding a washer seating in said counter bore to prevent longitudinal displacement of said shaft, a first clamping nut on said shaft, a first dished clamping washer positioned on said shaft outwardly of said first clamping nut, said first clamping washer having a flat outer surface engaging said first clamping nut and an annular flange about its rim, a grinding wheel having a rim formed with opposed conical outer faces and oppositely positioned counter sunk central por-

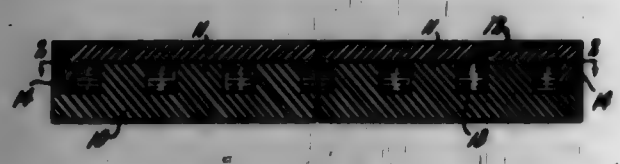
tions on said shaft, said flange of said first clamping washer engaging the face of said grinding wheel in the adjacent counter sunk center portion, with the flat outer surface of said washer lying wholly within said counter sunk center portion, a second dished clamping washer having a flat outer surface and an annular flange mounted on said shaft in opposed relation to said first clamping washer, said last-mentioned annular flange engaging the other face of said grinding wheel in its counter sunk center portion, and having its flat surface lying wholly within said last-mentioned counter sunk center portion, and a second clamping nut threaded on said threaded stem and seating against the flat outer surface of said second clamping washer.

2,971,300
ARTICLE COILING METHOD AND APPARATUS
James F. Hobbins, 1102 Bloomdale Road, Philadelphia 15, Pa.
Filed Jan. 4, 1957, Ser. No. 632,545
21 Claims. (Cl. 53—24)



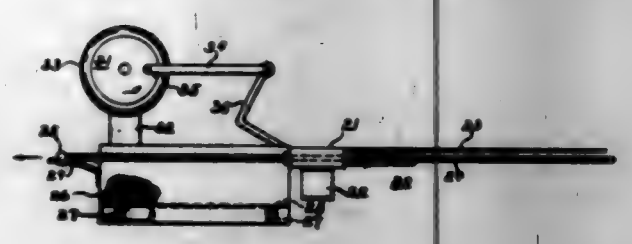
1. The method of rolling a pad of flexible resiliently compressible material, which comprises: engaging one face of said pad, conveying said pad by said engagement along and compressed against a guide, conveying said pad by said engagement beyond said guide to expand the advance portion of said pad and engage the latter with a slip-resistant surface facing toward the other face of said pad, further conveying said pad by engagement with said one pad face and with said advance pad portion in non-slip engagement with said slip-resistant surface to turn the advance pad portion into firm slip-resistant engagement with said other pad face, and additionally conveying said pad by said engagement and with said advance pad portion in said slip-resistant engagement to helically coil said pad and roll the same along said slip-resistant surface.

2,971,301
METHOD OF MAKING DRAG-REDUCING COVERING
Fitzhugh W. Bogus, Upper Montclair, N.J., assignor to United States Rubber Company, New York, N.Y., a corporation of New Jersey
Filed June 23, 1958, Ser. No. 743,634
4 Claims. (Cl. 53—25)



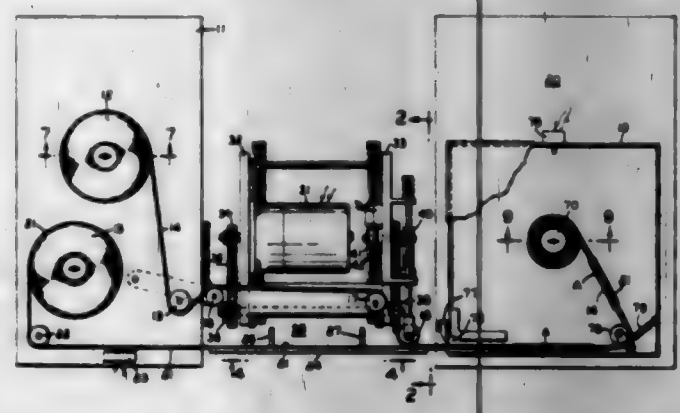
1. The method of making a liquid-filled drag-reducing covering comprising forming a resilient rubber base capable of retaining a liquid thereon and having a plurality of spaced stubs extending upwardly therefrom, pouring onto said base a damping liquid to a depth substantially equal to the height of said stubs, thereafter freezing said liquid and while said liquid is frozen adhering a rubber covering sheet to the top surfaces of said stubs and to the periphery of said base to enclose said liquid.

2,971,302
STOCKING PACKAGING MACHINE AND METHOD
John C. Berry, Box 946, and George W. Newton, both of Durham, N.C.; said Newton assignor to William J. Berry, Durham, N.C.
Filed Feb. 12, 1957, Ser. No. 639,686
7 Claims. (Cl. 53—26)



4. A stocking packaging apparatus comprising base means, first means for receiving a stocking pulled thereover in tensioned enveloping relationship therewith mounted at one end on said base means and extending outwardly therefrom in a substantially horizontal plane, and separate second means for receiving a stocking pulled thereover in tensioned enveloping relationship with said first stocking on said first frame means and mounted at one end on said base means and extending outwardly therefrom in a substantially horizontal plane, said first and second means being in separated superposed relationship with respect to one another with one of said means having a width greater than the width of the other of said means.

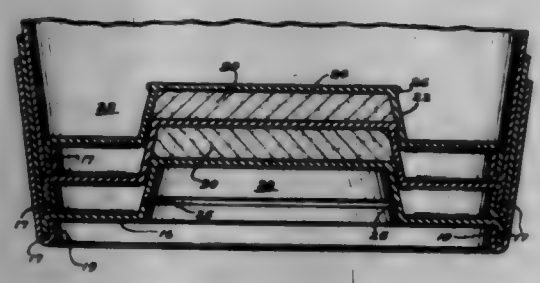
2,971,303
METHOD AND APPARATUS FOR COMPARTMENTIZING AND STORING AN ARTICLE
Luther G. Simjian, Laurel Lane, Greenwich, Conn.
Filed Dec. 22, 1958, Ser. No. 782,177
13 Claims. (Cl. 53—28)



1. Apparatus for compartmentizing and storing a plurality of individual articles in the form of a unitary deposit comprising: an article insertion station; material conveying means cyclically conveying a set of strips past said article insertion station; means causing said strips to be cyclically spaced from one another at said station to receive articles therebetween; article carrying means carrying individual articles successively to said article insertion station; means disposed at said station for removing successively each of the articles from the article carrying means and bringing the individual articles into stacked relation at said insertion station; means closing the space between a portion of said strips when said

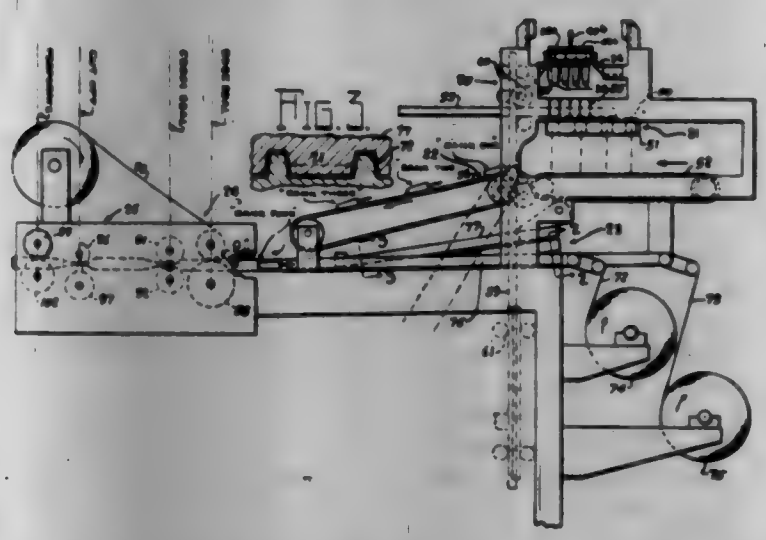
articles are in stacked relation thereby causing said articles to become retained between said strips, and means cyclically actuated for moving said stacked and compartmentized articles into a storage receptacle.

2,971,304
INTERLOCKING CONTAINER STRUCTURE AND METHOD
John G. O'Neil, 5156 Sheridan Ave. S., Minneapolis, Minn.
Filed Oct. 17, 1958, Ser. No. 767,971
3 Claims. (Cl. 53—37)



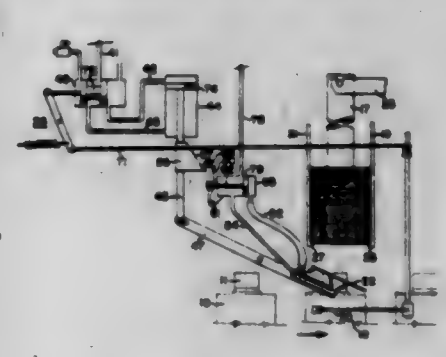
3. The method of forming and loading an interlocking container structure having an open end, consisting of the steps of inverting said container to have said open end positioned downwardly, forming an inwardly extending projection in the upwardly positioned bottom wall of said container, extending said projection inwardly of said container for a relatively short distance thus forming an open-ended recess, forming an annular groove in the side walls of said recess spaced a certain distance from the open end thereof, forming a rib about the top edge of the outer wall of said recess, said rib being adapted for locking engagement with the groove of a like nested container, placing an ingredient in said recess through the open end thereof, nesting a second container over said first container and having said rib of said second container disposed in said groove of said first container to form a sealed chamber therebetween.

2,971,305
PACKAGING MACHINE
Kenneth L. Webster, New Canaan, Conn., Walter M. Ball, Toledo, Ohio, and Harold R. Coon, Sr., Ida, Mich., assignors to Webwraps, Inc., New Canaan, Conn., a corporation of Delaware
Filed Sept. 8, 1958, Ser. No. 759,533
5 Claims. (Cl. 53—59)



2. In a packaging apparatus having means for feeding a continuous web of paper at a constant speed and means for forming laterally spaced pleats therein, the improvement comprising, in combination, article handling mechanism for depositing individual articles in said pleats spaced from each other along said pleats including a spacing member having a plurality of article pockets arranged in longitudinally spaced ranks corresponding in number of pockets to the number of pleats in the web of paper and delivery means for receiving the articles of each rank simultaneously and spaced longitudinally from the articles of a preceding rank, means for forming ridges in said paper between said pleats and for aligning the edges of said paper in the same plane as said ridges, a timing device protruding into said pleats for retarding articles deposited therein, means for feeding and sealing a closing web of paper onto said ridges and edges of said first web, means for cross sealing said webs of paper to each other in advance of and behind each of said individual articles, said timing device being operable to release said articles in timed relation to the operation of said cross sealing means for the prevention of cross sealing except between spaced articles, and means for cutting off packaged articles from the end of said sealed webs of paper.

2,971,306
DEVICE FOR APPLYING PUNCH TAGS
Ronald W. Phillips, Lakeview, Ontario, Canada, assignor to St. Lawrence Starch Company Limited, Port Credit, Ontario, Canada
Filed Aug. 24, 1959, Ser. No. 835,678
9 Claims. (Cl. 53—137)

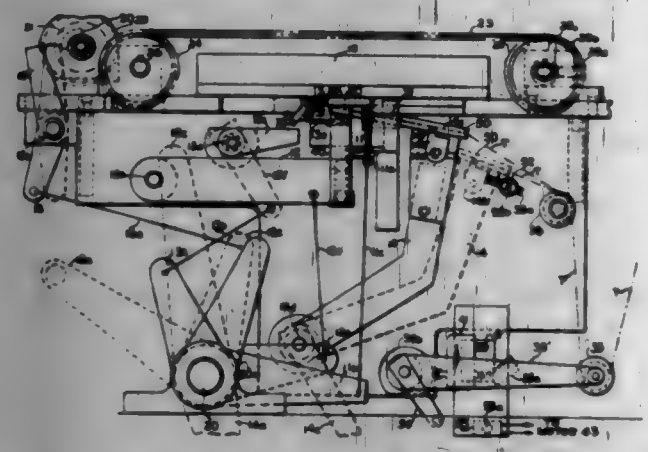


1. A mechanism for automatically applying punched tags over the necks of containers comprising in combination with a conveyor for advancing said containers in a row along a predetermined path of travel, a tag magazine adapted to receive and retain a stack of tags and to permit the tags to be withdrawn therefrom, vacuum operated tag withdrawing means adapted to withdraw the bottom tag from said stack and to deliver it at an angle to the horizontal in the path of said neck of said container, and vacuum operated suction means adapted to hold said tag at said angle with a light suctional holding force, the punched portion of the tag and its angle of position of delivery being such as to cause the neck of the container to pick up the tag.

2,971,307
ARTICLE BANDING MEANS
Floyd A. Lyon, Old Wheatley Road, Brookville, N.Y., and Theodore F. Aronson, 60 Crescent Beach Road, Glen Cove, N.Y.
Filed Sept. 25, 1958, Ser. No. 763,411
4 Claims. (Cl. 53—198)

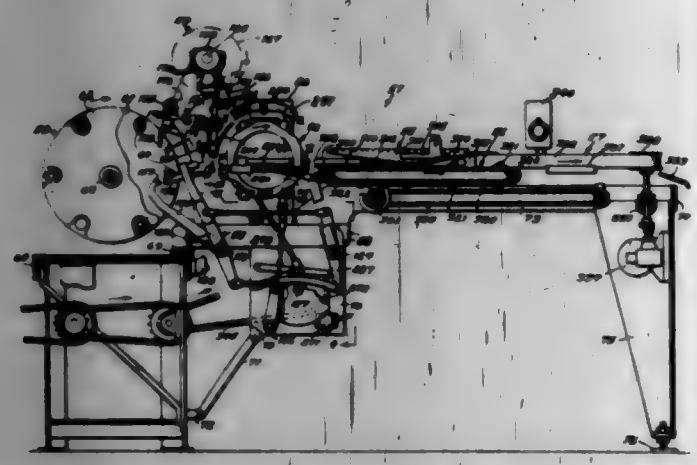
1. In means for banding boxes with tape of the type comprising a main frame, means to squeeze a box at said work location; a tape feeder arm pivotally mounted on said main frame and adapted to feed tape to said work location, tape clamping means at said work location, a continuous chain drive connected to said tape clamping means, including an adjustable stop connected to said chain drive sprocket, said stop being adjustably mounted on a clutch driven disc geared to said chain, a cam op-

erated stop arm adapted to contact said stop, means to furnish a constant tension supply of tape to said arm in-



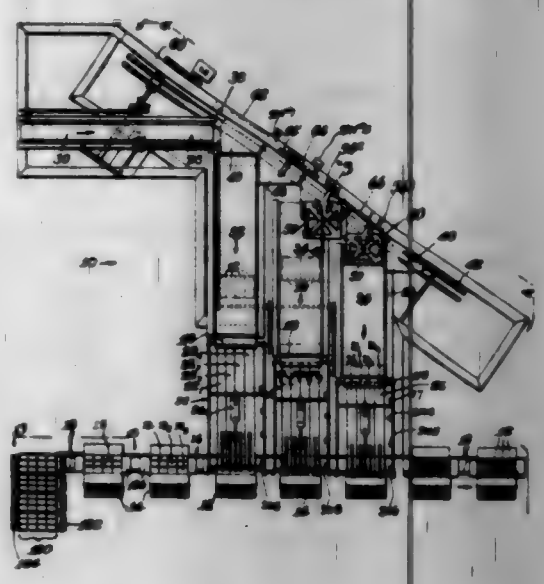
cluding a locking pawl, and adjustable means to open said locking pawl during travel of said tape clamping means.

2,971,308
WRAPPING METHOD AND APPARATUS, AND PACKAGE PRODUCED THEREBY
James F. Hobbins, 1102 Bloomdale Road, Philadelphia 15, Pa.
Filed Nov. 1, 1956, Ser. No. 619,834
1 Claim. (Cl. 53—225)



An article-wrapping machine comprising a movably mounted open pocket shaped to receive and substantially surround an article being wrapped, loading means located at a loading station along the path of movement of said pocket for inserting said article inward into substantially surrounded relation within said pocket, feeding means for interposing a flexible wrapping sheet of sufficient size to completely envelop said article into position between said loading means and pocket when the latter is at said loading station, so that said sheet is moved by said article into said pocket in partially enveloping relation with said article upon said insertion of the latter with an opposite pair of sheet margins extending outward from said pocket, securing means located along the path of movement of said pocket subsequent to said loading station for securing together said opposite pair of wrapping-sheet margins on the outer side of said article with the end portions of said one pair of sheet margins extending oppositely beyond said article, receiving means located at a discharge station along the path of movement of said pocket subsequent to said securing means and opening toward said pocket when the latter is at said discharge station for snugly receiving said article from said pocket, and ejection means located adjacent to said discharge station for moving said article and sheet outward from said pocket and snugly into said receiving means, whereby said receiving means engages with and folds the end portions of said one pair of sheet margins toward said article, said loading means comprising an open head mounted for movement toward and away from said pocket when the latter is at said loading station and adapted to carry and frictionally retain one of said articles, and a pusher mounted for movement in said head and engageable with the carried article to shift the latter from said head into said pocket when said head is at its position of movement toward said pocket.

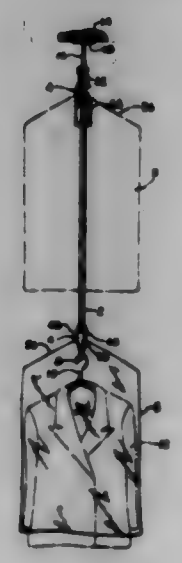
2,971,309
APPARATUS FOR LOADING ARTICLES INTO PARTITIONED CARTONS
John J. Mikel, Brooklyn, N.Y., and Kazmier Wysocki, Maywood, N.J., assignors to Chas. Pfizer & Co., Inc., Brooklyn, N.Y., a corporation of Delaware
Filed May 2, 1957, Ser. No. 656,581
14 Claims. (Cl. 53—248)



1. An apparatus for loading articles into cartons having rows of partitions comprising a loading chute for each row of partitions, conveyor means for advancing said cartons in a substantially straight-line path with their open ends adjacent said loading chutes, a supporting structure maintaining the end of each of said loading chutes adjacent said cartons at a level corresponding to an individual row of said partitions, supply means aligned with the entrance to each of said chutes for delivering groups of articles corresponding to the number of partitions in each of said rows to said chutes, control means operatively associated with said supply means and said carton conveyor means for providing a cycle of operation in which said cartons are advanced a distance equal to the distance between the centers of said chutes after a group of articles have been supplied and have traversed each of said chutes and passed into said cartons, a guide finger means is operatively associated with said chutes, said guide finger means including an aperture aligned with each of the channels of each of said chutes, guide fingers being disposed on opposite sides of said apertures for guiding articles passing down said channels into the partitions of said cartons, a movable linkage is operatively associated with said guide finger means for inserting them into said partitions during a predetermined phase of said cycle, pusher means being operatively associated with each of said chutes, said pusher means including a pusher foot operatively aligned with each of said channels for inserting articles disposed in each of said channels at the mouth of said carton into said carton, an actuating linkage being operatively associated with said pusher feet for alternately moving said pusher feet into said channels and retracting them during predetermined respective phases of said cycle, said control means including a single cycle timer for controlling movement of said carton conveyor and said guide finger means, a cycle

initiating switch being operatively associated with said article supplying means, said cycle initiating switch being actuated to start said timer at a predetermined phase in relation to the time of delivery of said articles to said chutes, said timer being associated with switch means for first stopping said carton conveyor after said cartons have moved a distance equal to the distance between the centers of said chutes and then inserting said guide fingers into said partitions, a pusher-actuating switch operatively associated with said supply means for actuating said pushers to drive said articles into said partitions a predetermined time after said articles have been delivered to said chutes, a guide head retracting switch operatively associated with said chutes in a position to be actuated by forward movement of said pushers for retracting said guide fingers from said partitions after said pushers have inserted said articles into said partitions, and pusher return actuating means operatively associated with said chutes in a position to be actuated by the return movement of said guide finger means for retracting said pushers after said guide fingers have been retracted.

2,971,310
GARMENT BAGGER
Frank Umbrisco, 3114 S. Princeton, Chicago 16, Ill.
Filed May 25, 1959, Ser. No. 815,340
10 Claims. (Cl. 53—256)



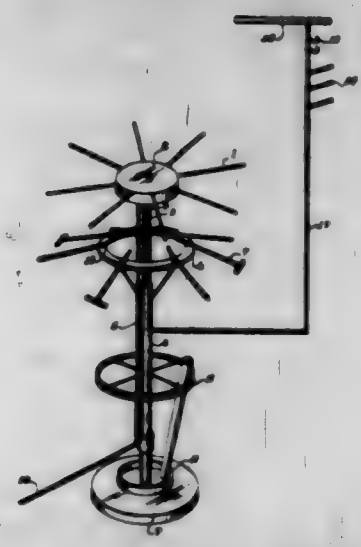
1. In a garment bagger comprising a vertical member having a length at least the height of the garment bag to be used therewith and supported at an elevation where the bottom thereof is elevated well above floor level so that the garment to be covered can be suspended from the bottom thereof, means at the bottom of said vertical member for receiving the hooked neck of a garment hanger, a bag carrier member slidably disposed on said vertical member for movement between a bottom position adjacent the bottom of said vertical member to a raised position spaced from said bottom position in the neighborhood of the height of said bag and means for urging said bag carrier to said raised position, the improvement in said bag carrier comprising: a tubular body and slidable along said vertical member, bag-holding means on said tubular body, said bag-holding means having a carrier holding portion which extends beyond said tubular body and a bag holding portion, means supporting said bag-holding means for movement on said tubular body between a carrier holding position where said carrier holding portion engages said vertical member and holds it in place and a bag-holding position where said bag-holding portion holds the bag on the carrier, and means for locking said bag-holding means in said carrier holding position and in said bag-holding position, said bag-holding means in said carrier-holding position frictionally engagng said vertical member to hold said carrier in place thereon.

2,971,311
APPARATUS FOR TREATMENT OF BAG MOUTHS AND THE LIKE
Edwin E. Messmer, Roslyn Heights, N.Y., assignor to Amsco Packaging Machinery, Inc., Long Island City, N.Y., a corporation of New York
Filed Apr. 4, 1960, Ser. No. 19,955
5 Claims. (Cl. 53—373)



1. In an apparatus for sealing the mouth of a plastic bag having two opposed side walls, a pair of sealing elements adapted to engage the two walls of the bag mouth between them, means for advancing the bag toward said sealing elements, and means for brushing the walls of the bag mouth away from the body of the bag just prior to the engagement thereof by said sealing elements, said brushing means compriting at least one rotary brushing instrument mounted on an axis parallel and adjacent to the path of movement of the bag toward said sealing elements, said brushing instrument being provided with brushing elements adapted to engage the bag mouth as the bag passes said instrument.

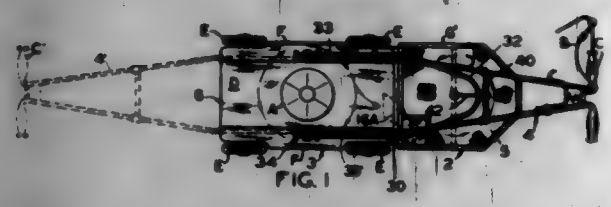
2,971,312
FOIL FOLDER
William Roland Bell, Jr., 804 25th St., Snyder, Tex.
Filed Feb. 16, 1959, Ser. No. 793,433
4 Claims. (Cl. 53—390)



1. A machine for folding foil around an object comprising: a stand, a platform mounted for movement relative to the stand, a plurality of platform rods extending radially from the periphery of the platform, a rest secured to the stand, and a plurality of folding rods extending radially, the platform rods and folding rods radiating from a common axis, the folding rods each pivoted intermediate their ends to the rest so that each folding rod has a hub end between the pivot and axis of radiation, the hub end of each rod in the path of travel of the platform; so arranged and constructed that as the platform is moved it contacts the hub end of the folding rods causing the other end of the folding rods to clamp foil around an object on the foil which is on the platform rods.

2,971,313
GRASS CATCHING BASKET FOR USE ON ROTARY LAWN MOWER

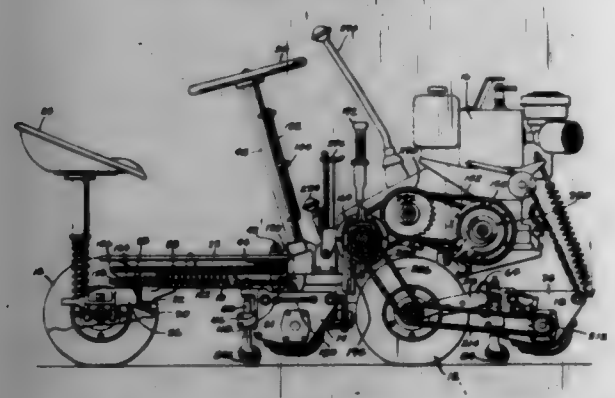
James E. Smart, Jr., 2202 N. 28th St., Phoenix, Ariz.
Filed Mar. 31, 1958, Ser. No. 725,377
1 Claim. (Cl. 56—25.4)


FIG. 1

For use in combination with a rotary blade mower having a housing including a grass discharge opening through which grass clippings are centrifugally discharged, a grass catching basket including attaching means thereon removably securing it to said housing in projecting relation from the grass discharge opening, said grass catching basket including a perforated end piece having an opening therethrough aligned with the grass discharge opening of said housing, said opening in the basket being disposed adjacent one side thereof, a cut-grass conveying chute mounted in said grass discharge opening and terminating within said basket adjacent said one side, said chute having a curved side wall projecting into said basket for receiving centrifugally discharged grass clippings and directing them in a curved path within said basket, said chute having an upwardly curved bottom wall for elevating said grass clippings to aid it in its circular path of movement, said basket including a closed bottom, a perforated top and closed side walls connected to a closed rear end wall having a frame comprising angularly extending pieces and an end piece forming a guide portion from the curved wall of said chute which is substantially semi-circular, the grass clippings being directed from said mower housing into said basket through said perforated end piece and around a substantially circular path terminating at said perforated end piece.

2,971,314
POWER LAWN MOWER

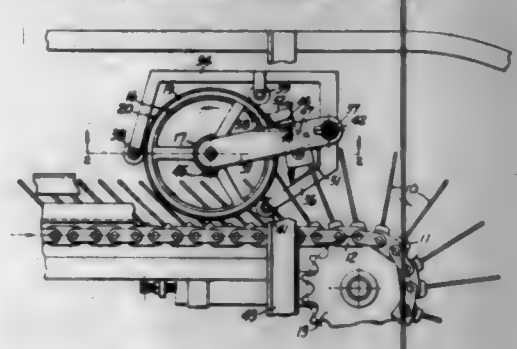
Evan T. Lewis, Stroudsburg, Pa., assignor to Worthington Mower Company, Stroudsburg, Pa., a corporation of Delaware
Original application Oct. 12, 1955, Ser. No. 540,063, now Patent No. 2,909,882, dated Oct. 27, 1959. Divided and this application Apr. 30, 1959, Ser. No. 819,797
2 Claims. (Cl. 56—26)



1. A power mower comprising a frame, an axle connected to the front of the frame and extending transversely thereof, a wheel rotatably mounted at each end of the axle to support and transport the front of the frame, at least one wheel rotatably mounted on the rear of the frame to support and transport the frame in conjunction with the first mentioned wheels, a power source mounted on the frame, a driving connection between the power source and at least one of the wheels to drive the wheel and move the frame, a mowing unit having cutting means, and means for attaching the mowing unit to the front of the frame, said attaching means comprising a yoke member pivotally mounted on said axle and extending forwardly of the frame to pivot about a substantially horizontal axis, and said attaching means also comprising a connecting member rotatably connecting the mowing unit and the center of the yoke, said connecting member being rotatable about a longitudinal axis of the frame.

2,971,315
MOISTENING ASSEMBLY FOR COTTON PICKING SPINDLE

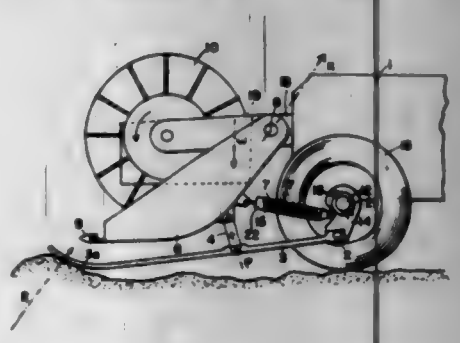
Mack D. Rust, Coalinga, Calif.
Filed Jan. 30, 1959, Ser. No. 790,229
10 Claims. (Cl. 56—42)



1. In a cotton picking machine of the type having a frame and spindles movably mounted thereon for movement along a fixed path; means for applying moisture to the spindles comprising an assembly mounted on said frame adjacent said path and including a plurality of vertically spaced wheels rotatable about means defining a common vertical axis, the periphery of each wheel having resilient material thereon providing deformable spindle-engaging side faces, the side faces of adjacent wheels being vertically spaced to permit spindles moving along said path to be drawn between the same, said spacing being normally less than the diameter of the spindles whereby the spindles frictionally engage and deform said side faces and rotate said wheels, said assembly being mounted on said frame for swinging movement about a fixed axis spaced from said common axis whereby said assembly is mounted on said frame for movement from a normal position in which the peripheries of said wheels are adjacent said path to a displaced position outwardly of said path.

2,971,316
GUIDING ATTACHMENT FOR AGRICULTURAL IMPLEMENTS

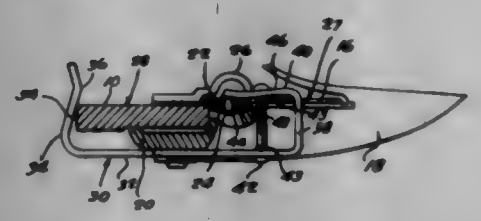
Wsewolod Popandopulo, Weimar, Germany, assignor to VEB Mähdrescherwerk Weimar, Weimar, Germany, a corporation of Germany
Filed Dec. 22, 1958, Ser. No. 782,068
8 Claims. (Cl. 56—208)



1. In an agricultural machine, in combination, a vehicle, a cutting unit pivotally connected with said vehicle for swinging about a horizontal axis, a longitudinally extending runner having a rear extremity pivoted to said vehicle and freely swingable in a vertical plane, said run-

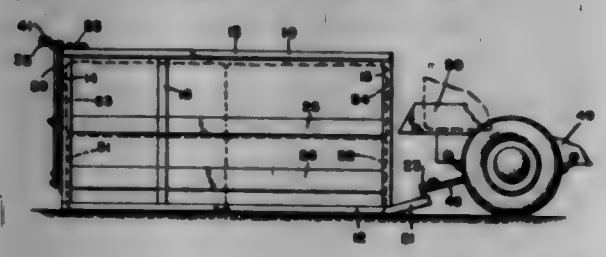
ner having a forward portion riding on the ground ahead of said vehicle, resilient brace means anchored to said vehicle and to said unit independently of said runner for absorbing part of the weight of said unit, and supporting means on said unit bearing upon said runner at a point intermediate said forward portion and said rear extremity with freedom of at least limited relative motion between said runner and said unit.

2,971,317
SAFETY CLIP FOR MOWING MACHINE CUTTER ASSEMBLIES
John W. Johnston, R.F.D. 3, Conneautville, Pa.
Filed Sept. 26, 1958, Ser. No. 763,627
5 Claims. (Cl. 56—296)



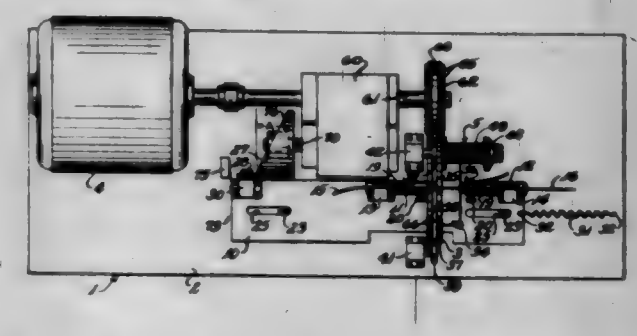
1. A safety clip device for use in combination with a sickle bar assembly comprising a stationary bar having forward and rear longitudinal edges, blades fixed on said bar and extending forwardly beyond said forward edge, said blades being forwardly tapered and having V-shaped notches therebetween, an endwise reciprocable bar mounted along the forward edge of the stationary bar and having forwardly projecting ledger plates overlying and in shearing relation to said blades, said reciprocable bar having an element positioned beneath the stationary bar, said safety clip comprising a flat body portion longer than the distance between the rear edge of the stationary bar and the forward edge of the reciprocable bar, said body portion being engaged with the under side of said element and being downwardly spaced from the stationary bar and the reciprocable bar, an upstanding reclining L-shaped element on the forward end of said body portion comprising a perpendicular standard and a horizontal foot portion, said foot portion extending rearwardly along and being spaced about said body portion and having a free rear end, a rivet extending between and fixed to said foot portion and said body portion, said standard portion being engaged with the sides of a notch between blades and said rivet being engaged in the bottom of the notch, and an upstanding retaining arm on the rear end of said body portion engaged over and tensioned against the rear edge of the stationary bar.

2,971,318
BALE STACKER
Thor Leif C. Solem and Casper F. Hanson, Minneapolis, Minn., assignors to Johnson Hydraulic Equipment Company, Minneapolis, Minn., a corporation of Minnesota
Filed Feb. 26, 1959, Ser. No. 795,822
11 Claims. (Cl. 56—473.5)



1. In a bale stacker drawn by a traveling rear delivery hay baler delivering at an elevation above the height of a bale, said stacker having longitudinally extending draft means connected to the baler and extending in a rearward direction, said draft means including spaced longitudinally extending runners engaging the ground and on which bales are deposited, the combination of a bale engaging member carried by said draft means and pivoted for swinging movement about a vertical axis, said bale engaging member being movable from a position engageable with a bale discharged from the baler and deposited on said runner to cause the bale to travel with the stacker and to a position to one side of the bale and free therefrom, the bale upon engaging the runners also engaging the ground and the bale engaging member being brought into engagement therewith upon travel of the stacker, said baler depositing a second bale upon said runners in front of said first bale, a third bale directly upon said second bale and a fourth bale in front of said third bale and progressing said fourth bale to cause said third bale to move to the end of said first bale, latch means acting between said bale engaging means and said draft means and holding said bale engaging means in bale engaging position, and trip means acting between said latch means and said draft means and engageable with the third bale subsequently discharged upon the first named bale to trip the latch means and release the bales from the stacker said first and second bales engaging the ground between runners and upon release coming to rest on the ground, propulsion of the baler causing the runners to be withdrawn from beneath the deposited bales.

2,971,319
SPLICING PLASTIC FILAMENTS
George A. Spencer, Akron, Ohio, assignor to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
Filed July 22, 1955, Ser. No. 523,896
3 Claims. (Cl. 57—22)

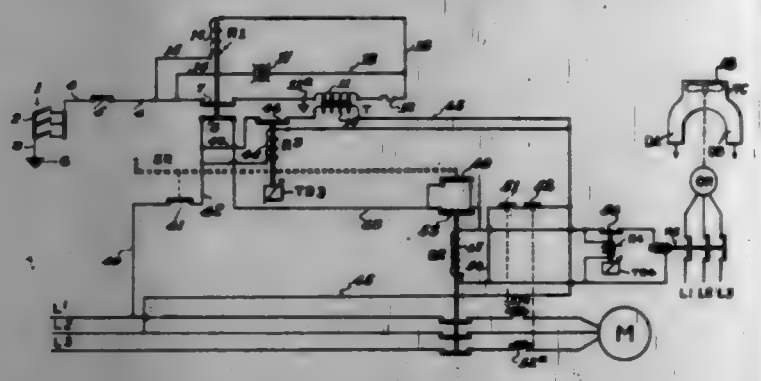


1. A cord splicing machine, comprising spaced means for holding overlapping cords in axially fixed relation, means to move said spaced means reciprocably while retaining said cords in said fixed axial relation, and splicing means intermediate said holding means and rotating about said overlapping cords, whereby to lay a helical wrap of a splicing cord about said overlapping cords.

2,971,320
CONTROL SYSTEM FOR TEXTILE MACHINES
Simpson James Adams, 4 E. Lewis Plaza, Greenville, S.C.
Filed Feb. 2, 1956, Ser. No. 563,005
6 Claims. (Cl. 57—81)

1. In a control system for a roving machine driven by a main motor and provided with a travelling lint cleaner for blowing a stream of air on the machine, said cleaner being operated by a separate motor from said driving motor, the combination of means normally energizing both of said motors, slack-detector means responsive to a predetermined slack in a roving for de-energizing both of said motors simultaneously, manual control means for re-starting said main driving motor, means controlled by said manual means for preventing control of said main driving motor by said slack-detector means for a predetermined time after the restarting of said main

driving motor, and means controlled by said manual means upon re-starting of said main driving motor for



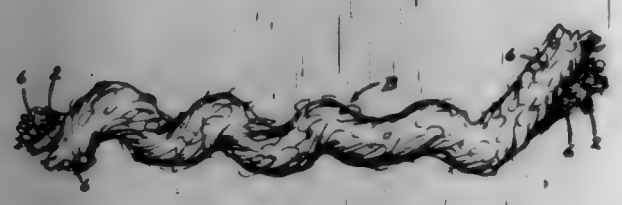
effecting the re-starting of said cleaner motor at a predetermined time after the starting of said main driving motor.

2,971,321
PLIED CORD ROPE CONSTRUCTION
David Himmelfarb, 117 Beaumont Ave., Newton, Mass., and William J. Kaes, 192 Union St., Randolph, Mass.
Filed Oct. 16, 1956, Ser. No. 616,356
12 Claims. (Cl. 57—139)
(Granted under Title 35, U.S. Code (1952), sec. 266)



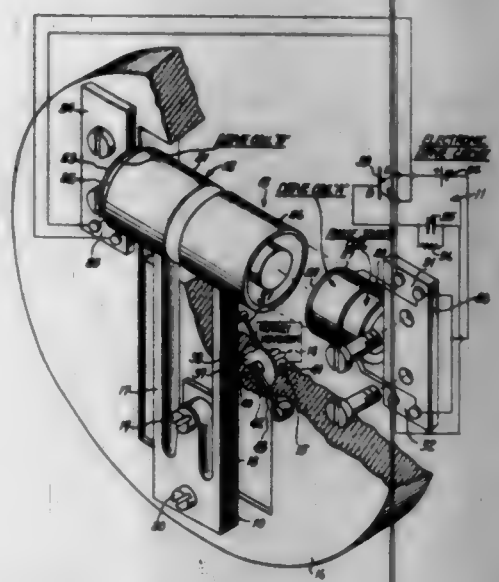
1. The method of forming a stranded rope structure which comprises successively twisting in one direction a plurality of fibers or filaments into yarn, twisting in the opposite direction a plurality of yarns, preferably three, into a cord which is in balance in relation to the torsional forces manifest between the yarns and the cord, twisting in said one direction a plurality of cords into a strand, and twisting in said opposite direction a plurality of strands into a rope.

2,971,322
STRETCH YARN
René Bouvet, Drexel Park, Pa., assignor to American Viscose Corporation, Philadelphia, Pa., a corporation of Delaware
Filed May 4, 1956, Ser. No. 582,740
2 Claims. (Cl. 57—140)



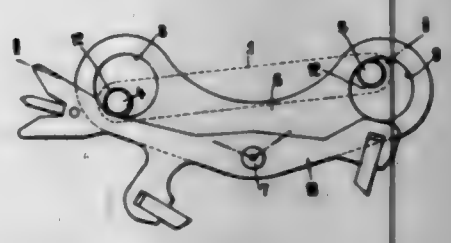
2. A stretch-type composite yarn comprising a crimped thermosensitive multifilament organic plastic core element, a fibrous covering around said core element, said covering comprising a pair of viscose rayon rovings wound around said core element so as to completely cover said core element in both its stretched and relaxed conditions, and said crimped core element comprising from 15% to 60% of the total yarn weight.

2,971,323
ELECTRONICALLY-CONTROLLED TIMEPIECE
Max Hetzel, Biel, Switzerland, assignor to Bulova Watch Company, Inc., New York, N.Y., a corporation of New York
Filed June 13, 1957, Ser. No. 665,480
Claims priority, application Switzerland June 19, 1953
13 Claims. (Cl. 58—23)



1. An electronically-controlled timepiece comprising a timekeeping standard including a tuning fork having a predetermined natural frequency of vibration, and an electronic drive system for applying impulses to said fork for a relatively brief interval in the course of each cycle of vibration to sustain the vibratory motion thereof at said frequency, said system having means responsive to the amplitude of said vibratory motion for varying the energy of said impulses as a function of said amplitude to effect amplitude regulation of said fork; a rotary timepiece movement; and a motion transformer intercoupling said fork and said rotary movement to convert said vibratory motion into rotary motion for actuating said movement accordingly.

2,971,324
LEVER ESCAPEMENT FOR TIMEPIECES
André Beyner, Neuchatel, Switzerland, assignor to Ebauches S.A., Neuchatel, Switzerland
Filed Jan. 28, 1958, Ser. No. 711,749
Claims priority, application Switzerland Mar. 16, 1957
7 Claims. (Cl. 58—28)

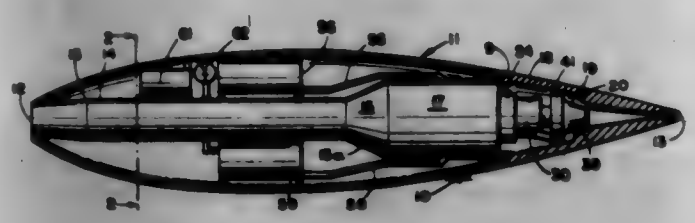


1. In a timepiece movement, a pillar plate, a spindle, a swingable escapement lever keyed on said spindle, a permanent magnet secured to the pillar plate, two magnetic banking pins bearing against the ends of said magnet, a member made of a magnetizable material, said member being keyed on the spindle of said lever and having two holes in each of which is engaged with play, one of said banking pins, so as to draw the lever into its end positions and to hold it in these positions, said banking pins thus limiting the oscillatory movement of said lever, said member being so shaped as to practically completely close the magnetic circuit of the permanent magnet.

2,971,325
JET PROPULSION DEVICE FOR OPERATION SUBMERGED IN WATER

Calvin A. Gongwer, Azusa, Calif., assignor, by mesne assignments, to Aerojet-General Corporation, Cincinnati, Ohio, a corporation of Ohio

Filed May 17, 1948, Ser. No. 27,574
7 Claims. (Cl. 60—35.5)

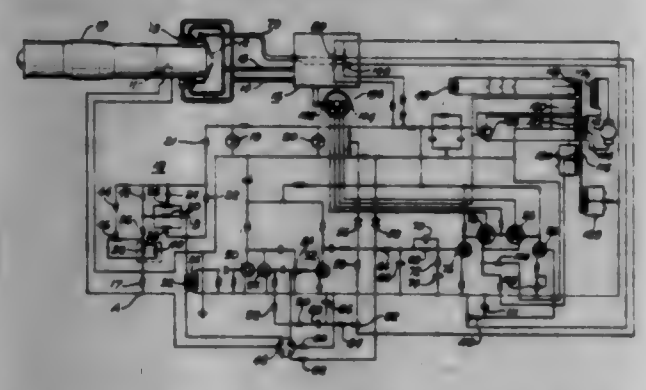


1. A jet propulsion device for operation in a water medium comprising a housing having an intake opening and an exhaust opening, said housing containing a water duct connecting said intake opening and said exhaust opening, a reaction chamber provided with an exhaust nozzle positioned within said duct, a steam injector pump having its entrance in communication with the duct and having its outlet discharging into said reaction chamber, conduit means leading from said reaction chamber to said steam injector pump for supplying steam into said pump, a plurality of nested frusto-conical nozzles having the forward nozzle substantially surrounding said reaction chamber exhaust nozzle with the rearward frusto-conical nozzle positioned to discharge into a converging-diverging mixing tube entering said exhaust opening, the converging-portion of said mixing tube being designed to reduce in area as it progresses toward its narrowest section to compensate for the decrease in volume resulting from the condensation of the steam passing uncondensed through the rearward frusto-conical nozzle into said mixing tube, conduit means for supplying a portion of the products of reaction from the reaction chamber to the region between said forward and rearward frusto-conical nozzles, water entrance means from the duct into the nested frusto-conical nozzles so that water is drawn into the nozzles from the duct by action of the steam passing through the nozzles, and conduit and injector means for supplying liquid water reactive fuel to the reaction chamber and conduit and injector means for supplying oxygen to said reaction chamber.

2,971,326
TEMPERATURE LIMITING SYSTEM FOR GAS TURBINE EXHAUST AREA CONTROL

Norman K. Peters and Donald A. Reynick, South Bend, Ind., assignors to The Bendix Corporation, a corporation of Delaware

Filed Jan. 23, 1956, Ser. No. 560,670
3 Claims. (Cl. 60—35.6)

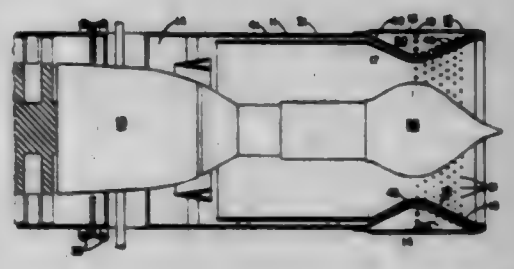


1. A system for controlling temperature in an aircraft engine equipped with a variable area exhaust nozzle and mechanism for actuating said nozzle comprising means for creating a signal representing actual engine operating temperature, circuit means for creating a signal representing a desired operating temperature including a resistor having an inverse temperature coefficient of resistivity and a voltage dividing means, means for comparing said signals thereby creating a temperature error signal, a chopper for modulating said temperature error signal, means for amplifying said temperature error signal including a plurality of electrical amplification stages including an output stage, means responsive to said amplified temperature error signal operatively associated with said mechanism including an electro-responsive device, a stabilization circuit for creating a signal varying with rate of change of movement of said mechanism including a voltage divider and a capacitor and means connecting said rate of change signal to one of said stages, and an additional stabilization circuit for creating a signal varying with position of said mechanism including a voltage divider operatively connected to said mechanism and electrical amplification means for amplifying the signal from said voltage divider including an output stage, said output stages being connected in a differential arrangement to provide a driving signal for said electroresponsive means.

2,971,327
DISCHARGE CONTROL OF AN OVEREXPANDING PROPULSION NOZZLE

Tsoy K. Moy, San Jose, Calif., and Robert G. Glenn, Merriam, Kans., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Nov. 26, 1957, Ser. No. 699,055
2 Claims. (Cl. 60—35.6)

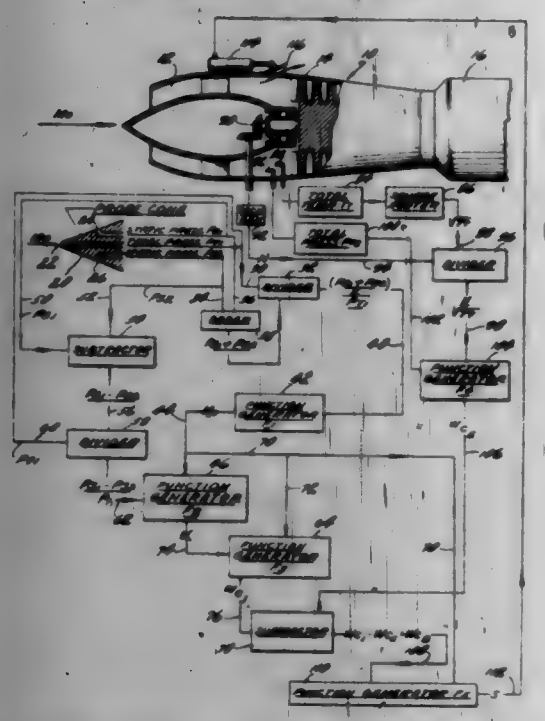


1. Motive fluid exhaust nozzle structure comprising a tubular casing defining a passageway for exhausting a hot pressurized gaseous fluid moving at a high velocity, annular shell structure communicating with said tubular casing and defining a divergent exhaust nozzle opening for ejecting said fluid to the ambient atmosphere, means for reducing the effective cross-sectional area of said exhaust nozzle opening including an annular array of apertures formed in said shell structure, a plurality of valves attached to said shell structure for directing fluid through said apertures into said nozzle opening, each of said valves comprising a tubular housing disposed in registry with its associated aperture and a piston member slidably disposed in said housing for movement normal to said shell structure, said piston members being responsive to the differential pressure between the gaseous fluid in the exhaust nozzle opening directed through said apertures and the atmospheric air surrounding said casing, said tubular housings and piston members being provided with openings and said piston members being individually movable in a direction to effect movement of the fluid into said nozzle opening through said apertures when the pressure of the gaseous fluid in the nozzle opening is lower that than of the atmospheric air, thereby to prevent overexpansion of the gaseous fluid in said exhaust nozzle opening.

2,971,328
CONTROL SYSTEM FOR AIR INLET BYPASS

George H. McLafferty, Manchester, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed July 22, 1958, Ser. No. 750,190
6 Claims. (Cl. 60—35.6)

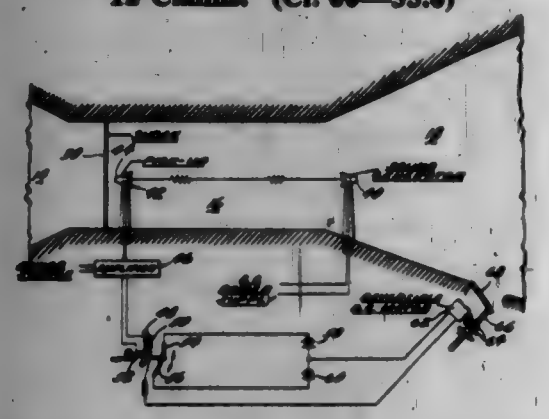


1. In combination, a turbine-type power plant including a compressor, a combustion chamber and a turbine for driving the compressor, an inlet for the compressor, an air inlet duct extending upstream from said inlet and terminating in an upstream ambient air-receiving opening and forming a substantially unobstructed passage, passage means in the wall of said duct and located between said opening and the upstream end of said compressor, said passage means bleeding air from said duct, means for varying the area of said passage means to vary the amount of air bled from said duct, means sensing a flow condition which is a function of the actual flow in said passage, and providing a first signal means responsive to at least a condition of the air flowing to the compressor, which condition is indicative of temperature of said air and a variable of operation of the power plant which is indicative of power output for producing a second signal, and means responsive to a difference of said signals for controlling said area varying means for matching the air flow to said inlet with the compressor requirements.

2,971,329
AIR-INLET CONTROLLER

Frank W. Barry, Manchester, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed July 20, 1959, Ser. No. 828,155
12 Claims. (Cl. 60—35.6)

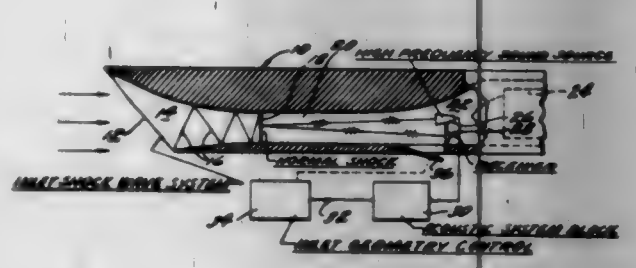


12. In a control for a duct having supersonic fluid flow in at least a portion of its length and having a region therein wherein a shock wave may be located, means for varying a parameter of flow in the duct, a signal generator in a downstream subsonic region of flow in said duct for generating a signal traveling upstream toward the shock, the propagation of said signal being affected by said shock, means in the vicinity of the shock for receiving the signals from said signal generator, means generating a control signal in response to the signal received by said receiving means, and means responsive to said control signal for varying said parameter varying means.

2,971,330
AIR-INLET SHOCK CONTROLLER

James W. Clark, Glastonbury, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed July 20, 1959, Ser. No. 828,285
13 Claims. (Cl. 60—35.6)

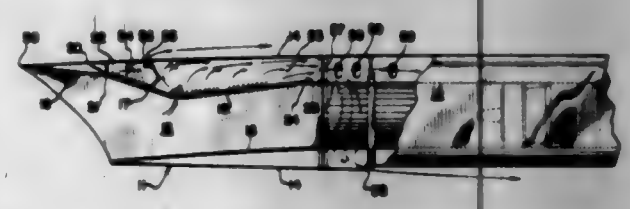


1. In a control for a duct having supersonic fluid flow in at least a portion of its length and having a region therein wherein a shock wave may be located, means for varying a parameter of flow in the duct, a signal generator in a downstream subsonic region of flow in said duct for generating a signal traveling upstream toward the shock, reflector means in said region for reflecting said signal as an echo signal moving in a downstream direction, a signal receiver spaced from said signal generator for receiving the reflected echo signals from said reflector means, means generating a control signal in response to the signal received by said receiver, and means responsive to said control signal for varying said parameter varying means.

2,971,331
AIRCRAFT AIR INLET SYSTEM

Stephen M. Silverman, Columbus, and Lester W. Throndson, Westerville, Ohio, assignors to North American Aviation, Inc.

Filed Aug. 4, 1959, Ser. No. 831,660
12 Claims. (Cl. 60—35.6)

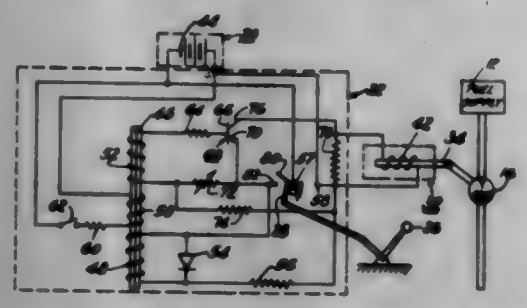


1. An aircraft engine air inlet system which includes: a converging-diverging duct, a fore porous ramp partially defining a converging part of said duct, an aft porous ramp located adjacent said fore porous ramp and partially defining a diverging part of said duct, a first bleed air chamber positioned outside said duct and defined in part by said fore porous ramp, and a second bleed air chamber positioned outside said duct and defined in part by said aft porous ramp, said bleed air chambers being separated from each other whereby air bled from within said duct and through said aft porous ramp is prevented from circulating through said fore porous ramp.

2,971,332
ELECTRICAL TIMING CONTROL APPARATUS

John L. Lowrance, South Bend, Ind., assignor to The Bendix Corporation, a corporation of Delaware

Filed Nov. 13, 1956, Ser. No. 621,577
11 Claims. (Cl. 60—39.14)

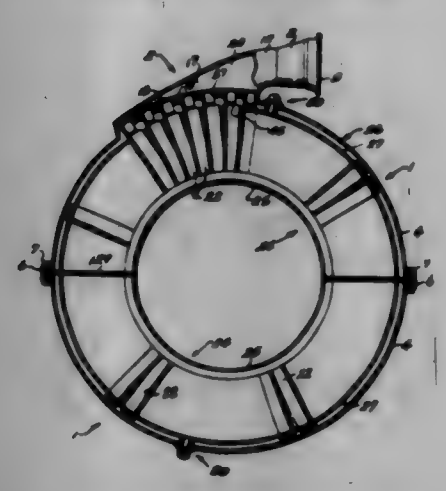


5. In electrical control apparatus for controlling the fuel supply to an engine, said apparatus being operative with a predetermined voltage source, the combination of a magnetically saturable core member, a first winding connected to said voltage source and operative with said core member for magnetizing said core member to saturation, a second winding operative with said core member for providing an induced voltage across said second winding during said magnetization of said core member to saturation, a variable impedance member connected to said voltage source for providing a voltage drop across said impedance member as a function of the value of said impedance member, means responsive to an operating condition of said engine, said responsive means operable, in response to said condition to vary the variable impedance member as a function of said predetermined operating condition of said engine related to power output, and an electrical control member responsive to said voltage drop as opposed by said induced voltage for controlling the operation of said engine as a function of said engine operating condition.

2,971,333
ADJUSTABLE GAS IMPINGEMENT TURBINE NOZZLES

Julian Paul Mendelsohn, Peabody, Robert Barron Grant, Jr., Marblehead, and Harold Joseph Barrial, West Peabody, Mass., assignors to General Electric Company, a corporation of New York

Filed May 14, 1958, Ser. No. 735,245
8 Claims. (Cl. 60—39.14)

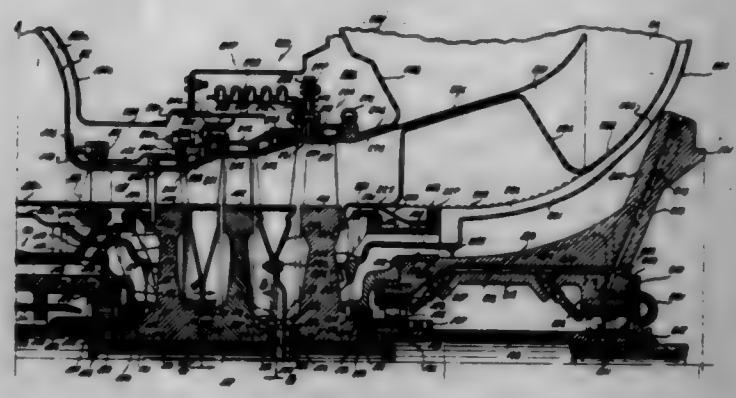


8. A turbine nozzle assembly comprising a cylindrical casing, a turbine nozzle, a gas impingement starter nozzle comprising an aerodynamic radial extension of said turbine nozzle, at least a part of said radial extension being physically separated from said turbine nozzle and affixed to said casing, and supporting means for securing said turbine nozzle adjustably in said casing for circumferential alignment with said radial extension; said supporting means comprising pin means engaging said nozzle assembly and extending along a first radial axis, bushing means, fastening means releasably securing said bushing means in a plurality of rotational positions about a second radial axis, said fastening means securing said pin means in said bushing means with said first and said second radial axes laterally offset.

2,971,334
GAS TURBINE ENGINE ADAPTABLE FOR MULTI-PURPOSE USE

Paul G. Carlson, San Diego, Calif., assignor to Solar Aircraft Company, San Diego, Calif., a corporation of California

Filed Jan. 4, 1955, Ser. No. 479,727
8 Claims. (Cl. 60—39.16)



1. In a dual shaft variable speed turbine engine comprising an axial flow compressor, a compressor outlet scroll, an axial flow multi-stage turbine assembly having first rotor means drivingly connected to said compressor and additional normally independently rotatable rotor means adapted for selective connection to said first rotor means to supplement the driving torque on the compressor, a turbine inlet scroll, a combustion chamber interconnecting said compressor outlet scroll and said turbine inlet scroll, a turbine casing connected to said turbine inlet scroll and adapted to direct the combustion gases from said combustion chamber successively through said several turbine stages to drive the turbine rotors of the successive turbine stages, and shaft means connected to said compressor and providing a power take-off shaft at the end of said compressor remote from said turbine assembly; means for converting said dual shaft variable speed turbine engine to a single shaft constant speed engine comprising first coupling means on said first rotor means immediately adjacent said additional normally independently rotatable rotor means; opposed coupling means on said normally independently rotatable rotor means; a coupling ring disposed between said respective rotor means and having peripherally opening key seats therein; and T-shaped keys mounted in said key seats with their stem portions extending radially outwardly to interconnect said first coupling means and said opposed coupling means to thereby connect said respective rotors for unitary rotation and convert said normally variable speed dual shaft engine to a constant speed single shaft engine.

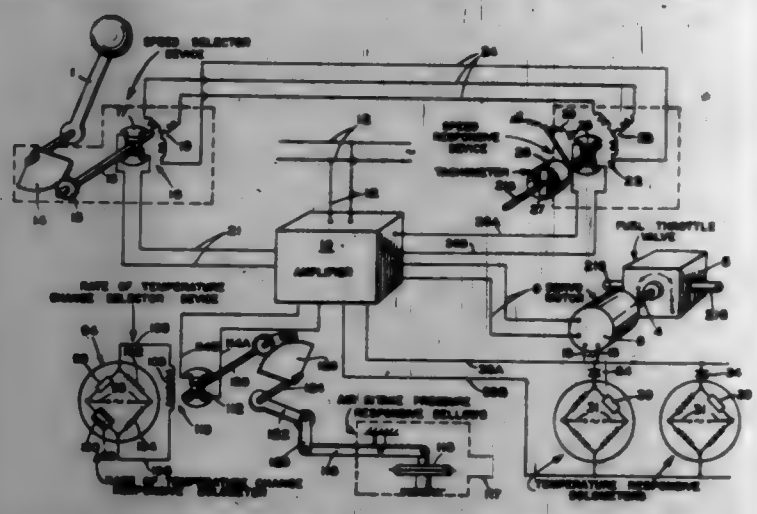
2,971,335
SPEED AND TEMPERATURE RESPONSIVE FUEL CONTROL SYSTEM FOR COMBUSTION ENGINES

William R. Polye, River Edge, and James E. Bevins, Ramsey, N.J., assignors to The Bendix Corporation, a corporation of Delaware

Filed July 27, 1948, Ser. No. 40,918
21 Claims. (Cl. 60—39.28)

1. A fuel control system for an engine plant of the class in which the engine speed is to be normally maintained within a predetermined range and the maximum temperature at a selected point in the plant kept below

a predetermined normal limit, comprising a pilot's control lever, a fuel throttle element, a first electric means for controlling the throttle element in accordance with the engine speed and including an operative connection to said first means from said lever to predetermine the normal operating speed range, a second electric means sensitive to the stated temperature for controlling said fuel throttle element when the predetermined normal limit is exceeded so as to decrease the fuel to said engine, a



third electric means also sensitive to the temperature at a point in the plant for controlling the fuel throttle element in response to the rate of change of the last-mentioned temperature to prevent excessive changes in said temperature, an electric servo-motor, a control circuit for said electric motor including said first, second and third means serially connected therein to operate said motor in accordance with the resultant effect of said means, and a connection by which said servo-motor normally operates said fuel throttle element.

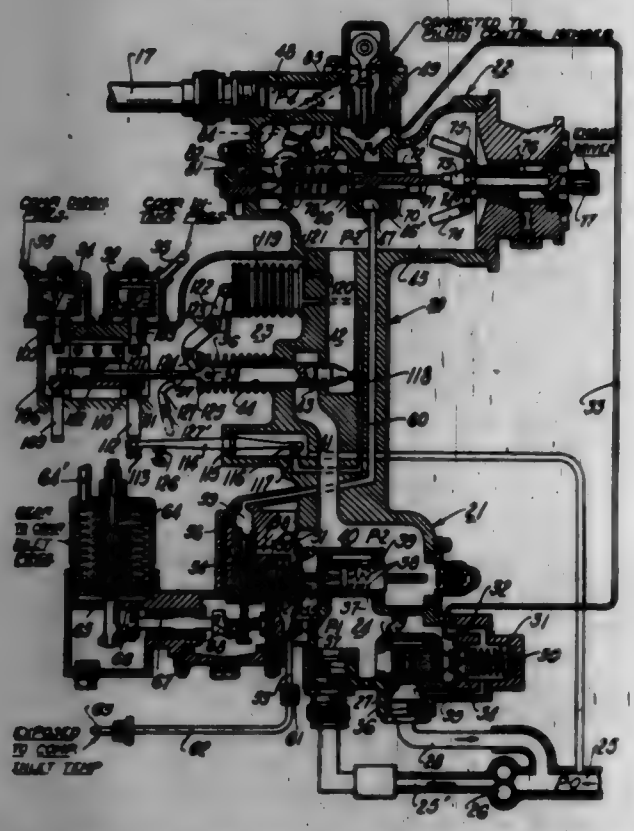
2,971,336

FUEL FEED AND POWER CONTROL SYSTEM FOR GAS TURBINE ENGINES HAVING MEANS FOR AVOIDING COMPRESSOR STALL

Frank C. Mock, South Bend, Ind., assignor to The Bendix Corporation, a corporation of Delaware

Filed Mar. 15, 1952, Ser. No. 276,791

9 Claims. (Cl. 60—39.28)



2. In a system for controlling the rate of fuel feed to a gas turbine engine having a compressor, a fuel metering orifice, a valve for controlling said orifice, means for regulating the metering head across said orifice, means for automatically obtainng the ratio between compressor inlet and compressor discharge pressures, means for regulating one of said fuel flow controlling means by said ratio obtaining means, and means for regulating the other of said fuel flow controlling means as a function of the pressure and temperature of the air entering the compressor.

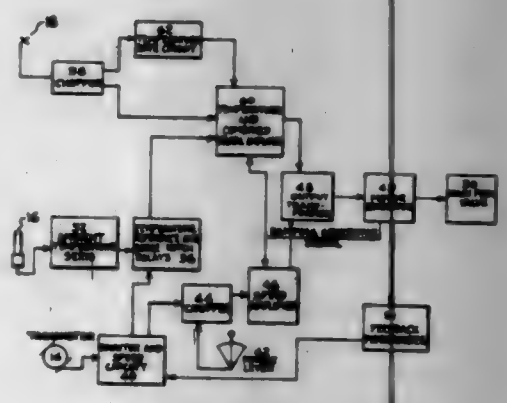
2,971,337

ELECTRONIC FUEL METERING SYSTEM FOR GAS TURBINE ENGINES

Warner C. Wintrode, South Bend, Ind., assignor to The Bendix Corporation, a corporation of Delaware

Filed Jan. 8, 1954, Ser. No. 402,976

17 Claims. (Cl. 60—39.28)



7. A control system for a gas turbine engine comprising a fuel conduit to said engine, a metering valve in said conduit, and means for controlling said valve including means for establishing a reference voltage corresponding to a pre-selected speed, means for establishing a voltage corresponding to actual engine speed, means for establishing a plurality of reference voltages corresponding to a plurality of pre-selected engine temperatures, relay means responsive to said actual speed voltage for selecting a desired temperature reference voltage, means for establishing a voltage corresponding to actual engine temperature, means for producing a speed error signal by combining said speed reference voltage with said actual speed voltage, means for producing a temperature error signal by combining said desired temperature reference voltage with said actual temperature voltage, means producing a signal varying with the rate of change of actual engine temperature and combining said signal with said temperature error signal, a motor for controlling the position of said valve, and means for combining and amplifying said error signals and supplying the resultant signal to said motor.

2,971,338

GAS TURBINE ACCELERATION CONTROL

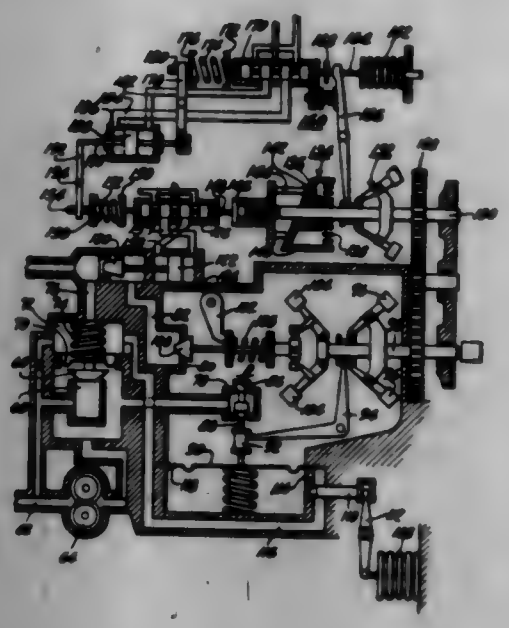
Rudolph Bodemuller, South Bend, Ind., assignor to The Bendix Corporation, a corporation of Delaware

Filed Dec. 6, 1954, Ser. No. 473,108

19 Claims. (Cl. 60—39.28)

12. In a fuel control system for a gas turbine engine, a first means for controlling fuel flow to accelerate said engine at a substantially constant combustion gas tem-

perature, a second means for controlling fuel flow to accelerate said engine at a constant acceleration, and



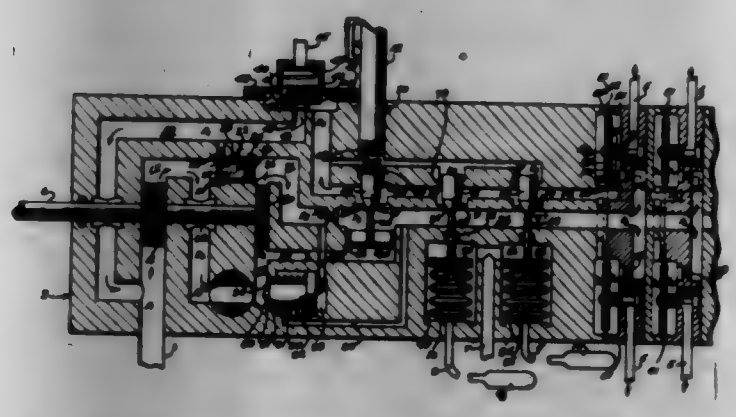
speed responsive means for transferring control of fuel flow from said first means to said second means.

2,971,339

GAS TURBINE CONTROL SYSTEM

Harold Gold, 3645 Tolland Road, Shaker Heights 22, Ohio, and David M. Straight, 23950 Lucille Drive, North Olmsted, Ohio

Filed Aug. 23, 1956, Ser. No. 605,769
3 Claims. (Cl. 60—39.28)



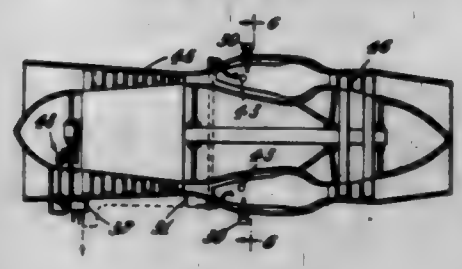
1. A fuel supply system for an internal combustion engine comprising a fuel conduit leading to a combustion zone, engine driven fuel pump means delivering fuel to said conduit at a rate varying in accordance with engine speed, said pump means including a first pump unit receiving fuel from a source and delivering the fuel to an intermediate pressure zone, and a second pump unit receiving fuel from said intermediate pressure zone and delivering fuel to said fuel conduit, pressure equalizing means between the fuel conduit and the intermediate zone including a controlled outlet passageway from the intermediate zone to said fuel source and permitting flow through said passageway to maintain a zero pressure gradient across said second pump to insure that there will be no leakage flow across the second pump unit whereby the fuel flow is in exact proportion to the rate of operation of the pump means, and valve means positioned in said intermediate zone downstream of said pressure equalizing means to positively stop the flow of fuel to the second pump unit under emergency conditions and cause the fuel to flow back to said fuel source, said pressure equalizing means opening said passageway in response to closing of said valve means.

2,971,340

IGNITION DEVICES FOR PROPULSION ENGINES OF THE CONTINUOUS COMBUSTION TYPE

Percie Francis Green and Leslie George Bullock, Bristol, England, assignors, by mesne assignments, to Bristol Siddeley Engines Limited, Bristol, England, a British company

Filed Jan. 27, 1958, Ser. No. 711,344
Claims priority, application Great Britain Jan. 30, 1957
5 Claims. (Cl. 60—39.82)



1. In a continuous combustion engine having a continuous combustion chamber, a reignition device comprising a carrier member mounted on the wall of the combustion chamber, a reigniter member carried by said carrier member and movable between an operative position in which the reigniter member projects into the zone of primary combustion in the combustion chamber and an inoperative position in which the reigniter member is withdrawn from said zone, motive means operatively connected with said reigniter member and operable to move the reigniter member to its operative position during normal running of the engine, and means for preventing operation of said motive means when the rotational speed of the engine has fallen below a predetermined value.

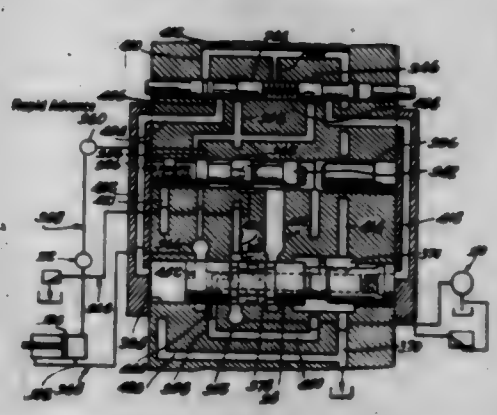
2,971,341

MACHINE TOOL CONTROL MEANS

Ernest J. Svenson, Rockford, Ill., assignor, by mesne assignments, of one-half to W. F. and John Barnes Company, Rockford, Ill., a corporation of Illinois, and one-half to Odin Corporation, Rockford, Ill., a corporation of Illinois

Original application June 16, 1954, Ser. No. 437,067, now Patent No. 2,921,437, dated Jan. 19, 1960. Divided and this application Mar. 19, 1959, Ser. No. 800,540

8 Claims. (Cl. 60—52)



1. In a fluid control system for a self-contained machine tool unit or the like, a control valve structure comprising a main body, said body having a first passageway adapted to be interconnected with an outlet of a rapid traverse pump, a second passageway adapted to be interconnected with a fluid motor, a third passageway adapted to be interconnected with an inlet of a feed pump, and a fourth passageway adapted to be interconnected with said fluid motor, a main valve stem shiftable within said valve body for selectively directing fluid from said first passageway to said other passageways, a second valve stem shiftable within said body in response to shifting of said main valve stem for controlling the flow of fluid

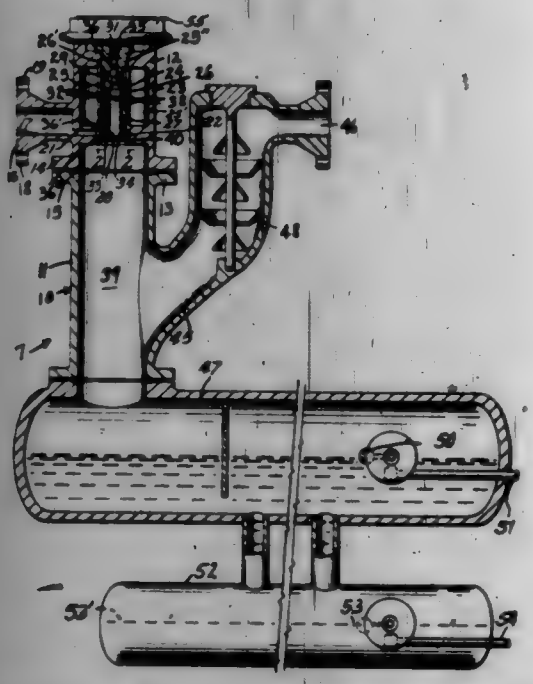
into said third passageway, and pilot valve stem means shiftable within said body for causing shifting of said main valve stem.

2,971,342

APPARATUS FOR SIMULTANEOUSLY REDUCING THE PRESSURE, DEHYDRATING AND SEPARATING FLUID FLOW

David W. Pilcher, P.O. Box 13124, Houston, Tex.

Filed Jan. 6, 1958, Ser. No. 707,384
2 Claims. (Cl. 62—5)



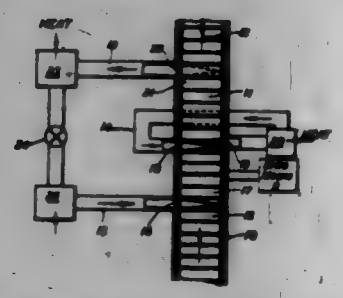
1. A device for dehydrating, reducing the pressure, and separating entrained liquids in fluid flow including an elongated body having a lateral opening for receiving fluid flow, a vortex tube type separator positioned within said body and extending longitudinally thereof, a restricted bore communicating said lateral opening with said separator whereby fluid flow may be conducted through said bore to reduce the pressure thereof and thereafter introduced into said separator for separating the fluid flow into a cold part and a hot part, said separator including openings for separately discharging said separated cold and hot parts therefrom, means communicating with said separator at said hot discharge for conducting said hot discharge in contact with and exteriorly of said separator throughout its length whereby said hot part is ejected adjacent said cold discharge to mix the separated parts together, and means connected with said housing for separating liquids from the mixture of hot and cold fluid flow.

2,971,343

PRESSURE EXCHANGER APPARATUS

Dudley Brian Spalding, 2 Vineyard Hill Road, Wimbledon, London SW. 19, England

Filed Mar. 19, 1956, Ser. No. 572,379
Claims priority, application Great Britain Mar. 24, 1955
12 Claims. (Cl. 62—6)



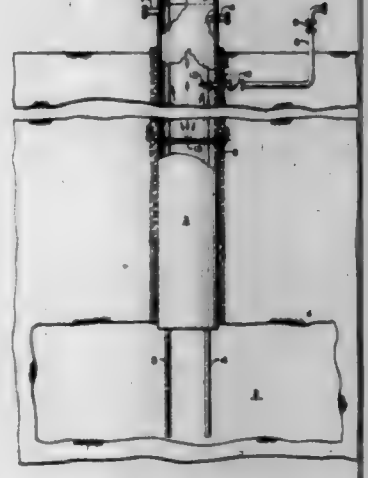
1. The combination of pressure exchanger and heat pump apparatus, comprising a series of cells for the compression and expansion of a fluid, the cells being arranged in a ring and having open ends, means defining common end walls for the cells and a series of ducts communicating with the cells at circumferentially spaced ports in the end walls, means for causing relative rotation between the ring of cells and the end walls, said series of ducts including in respective succession in one direction of rotation, a duct for admitting low temperature fluid to the cells, a duct for admitting hot compresesd fluid to the cells, a duct for removing high pressure fluid from the cells, and a duct for removing low pressure fluid from the cells, duct means forming a closed circuit between said third-named duct and said second-named duct and forming a closed circuit between said fourth-named duct and said first-named duct, means for heating the fluid in said first-named closed circuit, and means for cooling the fluid in said second-named closed circuit whereby it can serve as a refrigerant.

2,971,344

METHOD OF SEALING OFF FLOW FROM UNDERGROUND STORAGE CAVERN AND APPARATUS

Leonard P. Meade, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Jan. 31, 1958, Ser. No. 712,519
18 Claims. (Cl. 62—48)



1. An emergency method for controlling flow of gases from an underground storage of the same under super atmospheric pressure from which said gases can be flowed under normal conditions by way of a conduit leading to the ground surface, which comprises whenever normal control is not exercisable at or near said surface introducing into said conduit at a point substantially below the surface level a fluid in a manner such that it will accumulate in and seal said conduit due to the physical action of said gases against flow of said gases from said reservoir under the conditions prevailing whenever said normal control is not exercisable.

2,971,345

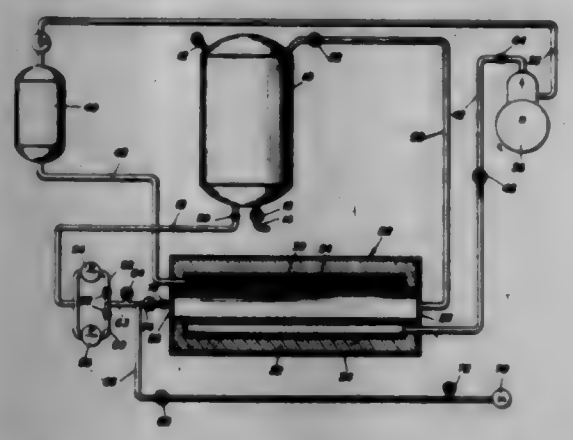
APPARATUS AND METHOD FOR VAPORIZING BUTANE

Grover J. Ball, Box 661, Tioga, N. Dak.

Filed May 20, 1958, Ser. No. 736,484
4 Claims. (Cl. 62—53)

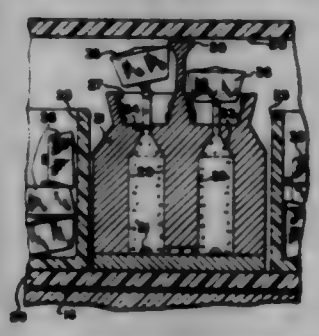
1. An apparatus for preparing butane for use as a liquid fuel in cold weather comprising a storage tank for butane, a vaporizer for evaporating liquid butane, means for continuously supplying heat from an external source to heat said vaporizer, a pump, means connecting the inlet side of said pump to said storage tank for receiving liquid butane from said tank, means including a delivery conduit connected to the discharge side of said

pump for receiving liquid butane therefrom for supply to a service line, conduit means for discharging liquid butane from said pump discharge side into said vaporizer for



evaporation therein, means for supplying vaporized butane from said vaporizer to said tank for raising the pressure and temperature of the liquid butane therein.

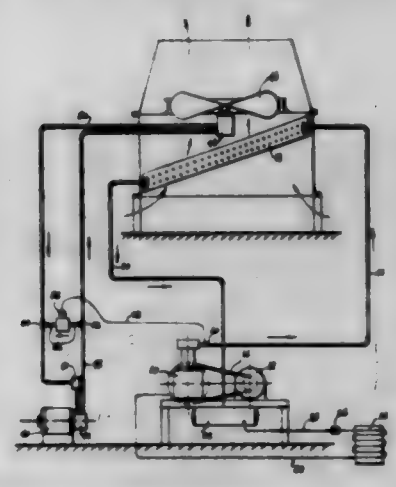
2,971,346
REFRIGERATION
Arthur J. Frei, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed June 11, 1958, Ser. No. 741,256
18 Claims. (Cl. 62—71)



1. In combination, a compartment, a freezing device having an ice storage means associated therewith in said compartment, said freezing device comprising a mold having a plurality of separate spaced apart cavities in the top thereof and a substantially liquid confining chamber below each of said cavities interconnected with one another, said chambers being of greater volume than the cavities and each having a choke portion provided with a restricted passage opening into a cavity thereabove, said chambers and said cavities of the mold containing water to be frozen respectively therein, a refrigerating system including an evaporator for cooling air in said compartment to a temperature below 32° F., said mold being out of thermal conductive relationship with said evaporator to cause simultaneous chilling of the cavities and chambers therein within said compartment whereby the water in said chambers is frozen subsequent to the freezing of water in said cavities into ice pieces, said choke portion of said chambers constricting expansion of freezing water and ice therein, and said ice pieces being shiftable outwardly of said cavities solely in response to the mass in said chambers expanding into and through said restricted passages for discharge thereof into said storage means.

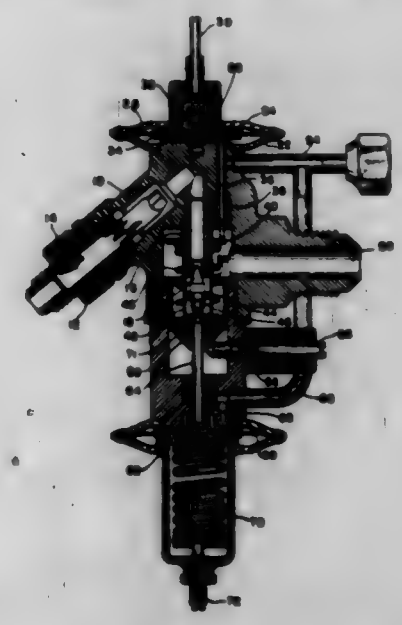
2,971,347
REFRIGERATION EQUIPMENT
Ernest F. Gygax, Glendale, Mo., assignor, by mesne assignments, of one-half to Edward T. Wright, Brentwood, Mo., and one-half to Roy Ellers, Clayton, Mo.
Filed Aug. 2, 1956, Ser. No. 601,824
12 Claims. (Cl. 62—183)

7. In a compression-expansion cooling system that includes a compressor, a condensing coil and an expansion coil, the improvement which comprises a rotating device that drives said compressor, a hydraulic motor adjacent said condensing coil, a blower mounted on and rotatable with the shaft of said motor, a hydraulic pump connected to said motor to drive same, and a pressure-responsive hydraulic bypass that varies the percentages of the output of said hydraulic pump that are directed to said hydraulic motor and that are bypassed to said hydraulic pump and that thereby varies the speed of said motor and therefore



of said blower, said bypass being responsive to the refrigerant pressure in a high pressure part of said compression-expansion system and responding to increases in said refrigerant pressure to decrease the speed of said motor and of said blower, said bypass being adapted to provide refrigerant pressure to increase the speed of said motor and of said blower and responding to decreases in said a plurality of individually different speeds for said motor and said blower.

2,971,348
THERMOSTATIC EXPANSION VALVE
Charles D. Orth, Cedarburg, Wis., assignor to Controls Company of America, Schiller Park, Ill., a corporation of Delaware
Filed Sept. 6, 1957, Ser. No. 682,405
7 Claims. (Cl. 62—212)



1. A thermostatic expansion valve comprising, a valve body having an inlet and an outlet, the outlet being adapted for connection to a refrigeration evaporator, a valve seat and a valve located in the body, temperature responsive means including a diaphragm operatively connected to the valve for opening the valve when the response temperature increases and vice versa, one side of said diaphragm being subjected to evaporator pressure, and normally inoperative means operative upon reduc-

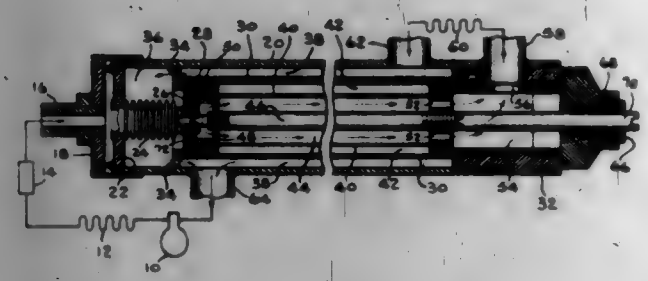
tion of the evaporator pressure to a preselected value to exert a closing force on the valve whereby the temperature responsive means retains control of the valve.

2,971,349

TEMPERATURE DIFFERENTIAL VALVE

Charles D. Orth, Cedarburg, and Ellsworth E. Burmeister, Milwaukee, Wis., assignors to Controls Company of America, Schiller Park, Ill., a corporation of Delaware

Filed Dec. 23, 1957, Ser. No. 704,685
6 Claims. (Cl. 62—214)



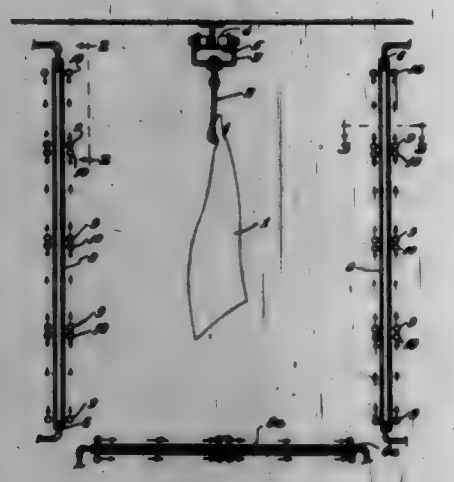
1. A valve comprising, a body having an inlet and an outlet with a flow path therebetween, a valve seat member in the flow path, flexible conduit means connecting the inlet to the seat member, the seat member being movable in the body, a valve member cooperating with the seat member to regulate flow to the outlet, temperature responsive means in the flow path downstream of the valve member and connected to one of the members to actuate it in accordance with temperature change, a second flow path through the valve body and including an inlet and an outlet, temperature responsive means in the second flow path connected to the other of said members to actuate it in accordance with temperature change.

2,971,350

RADIANT COOLING SYSTEMS

Clarence A. Mills, Cincinnati, Ohio, assignor to Reflectotherm, Inc., Cincinnati, Ohio, a corporation of Ohio

Filed Feb. 10, 1958, Ser. No. 714,164
3 Claims. (Cl. 62—272)



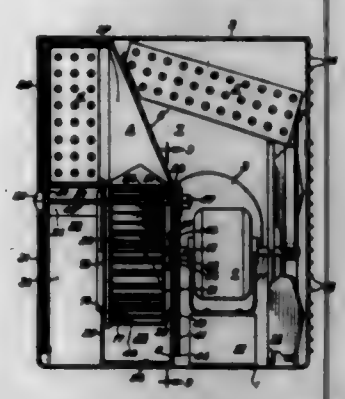
1. In combination with a carbon black coated cooling plate for absorbing ultra long infrared heat rays, means for preventing moisture condensation on the plate comprising a pipe having perforations positioned to direct air currents parallel with the surface of the plate and another pipe spaced from the first noted pipe and having perforations to provide intakes for the air from the perforations on the first noted pipe whereby a blanket of air will circulate along and insulate the surface of the cold plate, and means for controlling the dew point of the air in the air blanket to prevent moisture condensation on the plate.

2,971,351

ROOM AIR CONDITIONER

Wendell H. Webster, Albion, Mich., assignor to McGraw-Edison Company, Milwaukee, Wis., a corporation of Delaware

Filed June 3, 1957, Ser. No. 663,135
7 Claims. (Cl. 62—427)



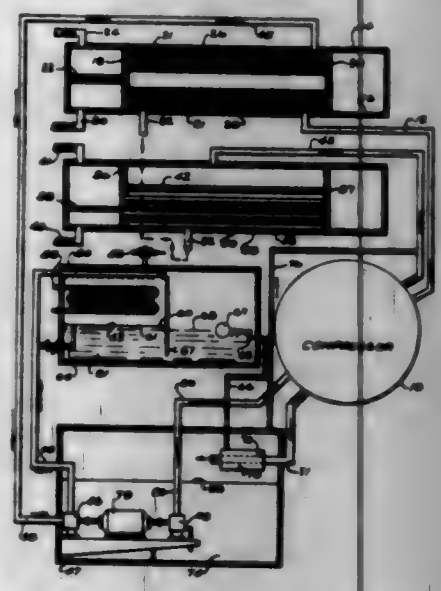
1. A self-contained room air conditioner including a housing and a partition wall separating said housing into a room communicating heat absorbing compartment and a heat dissipating compartment, a fan in said absorbing compartment adapted to impel the flow of air therethrough and discharge the same into the room being cooled, said partition wall being exposed to the intake side of said fan and provided with an intake port adjacent said intake side of said fan and further provided with an exhaust port, a substantialy planar rotary damper adjacent said partition wall and having a port registrable with the intake port in said wall, and means for rotating said damper for selectively placing said ports in registry and thereby interconnecting said compartments for drawing air from the second compartment axially through the fan and into the room being cooled.

2,971,352

NON-CONDENSIBLE GAS REMOVAL SYSTEM FOR REFRIGERANT UNITS

Thomas S. Parker, 1218 Melbourne Ave., Dallas, Tex.

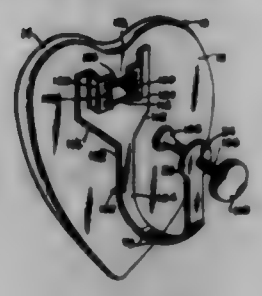
Filed Apr. 7, 1958, Ser. No. 726,988
10 Claims. (Cl. 62—475)



1. The combination comprising a refrigerating system including a refrigerant compressor, condenser and evaporator; a lubricant circulating circuit for the compressor bearings; means for diverting non-condensibles and vaporous refrigerant from the system; means operative on the diverted refrigerant and non-condensibles to liquefy the refrigerant and separate off the non-condensibles; and means for returning the diverted liquefied refrigerant back to the refrigerant system; said lubricant circuit including means for positioning high temperature lubricant

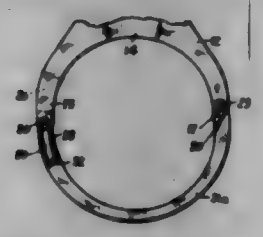
in heat transfer relationship with the diverted liquid refrigerant to thereby vaporize said refrigerant before its return to the system.

2,971,353
EARRING CLIP AND ANCHOR
Vincent J. Germana, 8717 18th Ave., Brooklyn, N.Y.
Filed Aug. 7, 1958, Ser. No. 753,707
2 Claims. (Cl. 63—14)



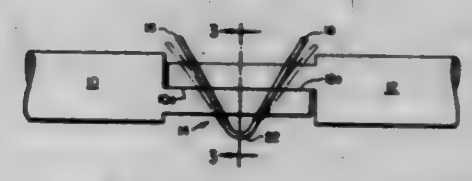
1. An earring including an ornamental portion, clasp means thereon adapted for engaging an ear lobe, and means extending laterally inwardly from the ornamental portion disposed above the clasp means and adapted for extension into the concha to provide an auxiliary support for the earring, said means being formed as a support arm, the clasp means including a frame fixedly connected to the ornamental portion, said frame including a flat, wide plate having a vertically extending guideway, the support arm being mounted in and being adjustable vertically along said guideway to provide vertical adjustment of the support arm, said plate being formed with outwardly offset flanges and with a vertical slot disposed between the flanges, said flanges and slot cooperating to provide said guideway, the support arm projecting through the slot, said support arm being formed with a crosshead extending transversely of the slot in back of said flanges, the flanges being formed with vertically spaced notches, the notches of each flange being aligned transversely of the slot with corresponding notches of the other flange, said crosshead being engageable in selected, transversely aligned notches in each position to which the support arm is vertically adjusted.

2,971,354
EXPANDABLE FINGER RING
Mechel Belzer, 146—12 N. Hempstead Turnpike, Flushing, N.Y.
Filed Mar. 10, 1958, Ser. No. 720,294
2 Claims. (Cl. 63—15.5)



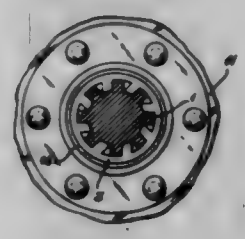
1. A finger ring comprising, in combination, an adjustable band, said band including a first segmental annular band portion, a second segmental annular band portion, hinge means pivotally connecting one end of said first segmental annular band to one end of said second segmental annular band portion for movement between a partially open and a fully closed position, and retaining means releasably securing the opposite ends of said first and second segmental annular band portions together in said fully closed position, said retaining means comprising a detent carried by said opposite end of one of said segmental annular band portions, and an indent in said opposite end of the other one of said segmental annular band portions for releasably receiving said detent, said opposite end of said one segmental annular band portion being bifurcated to define a pair of spaced apart arms, said opposite end of said other segmental annular band portion having a tongue extending into the space between said arms of said one band portion, said detent being secured to said arms, and said indent being defined by said tongue, said indent comprising an elongated arcuate slot within the confines of said tongue, said detent comprising a bar extending across said arms and through said slot for sliding engagement by the slot-defining portions of said tongue.

2,971,355
COUPLING FOR ROTATABLE SHAFTS
John A. Walsh, Woburn, Mass., assignor to National Company, Inc., Malden, Mass., a corporation of Massachusetts
Filed Apr. 30, 1959, Ser. No. 810,122
5 Claims. (Cl. 64—15)



1. A coupling for a pair of coaxially aligned rotatable shafts, an end of each shaft being provided with a driving surface extending diametrically thereacross. the driving surfaces of the shafts being engaged in overlying relation, and a clip resiliently holding said driving surfaces in engagement and comprising a pair of leg portions extending angularly of each other and resiliently connected at one end to permit flexing of the leg portions toward each other from a free unstressed position to a stressed shaft gripping position, each of the leg portions being provided with a shaft receiving aperture extending around both overlying shaft ends and each of the leg portions having a bordering edge portion resiliently gripping a peripheral portion of each shaft to urge the flat driving surfaces of the shafts into engagement and resist angular or axial movement between the shafts.

2,971,356
FLEXIBLE SHAFT CONNECTIONS
Franz Gottfried Reuter and Georg Sigfried Kindel, both of Leunforde, Hannover, Germany, assignors, by mesne assignments, to Mobay Chemical Company, Pittsburgh, Pa., a corporation of Delaware
Filed May 13, 1957, Ser. No. 658,651
Claims priority, application Germany May 15, 1956
9 Claims. (Cl. 64—27)

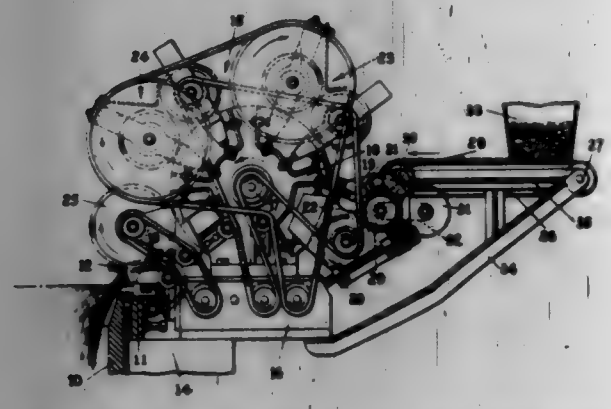


2. A shaft connection comprising a metallic shaft having splines thereon and a cast polyurethane plastic hub about said shaft having splines with notches therebetween meshing with the splines on the shaft, said notches being larger than the splines on the shaft, said polyurethane having a Shore hardness of from about 70° to about 100°, a tensile strength of from about 200 kg./cm.^{2} to about 300 kg./cm.^{2}, and an elasticity of from about 30 percent to about 60 percent; said hub having a metal reinforcement embedded in said hub protruding outwardly into an annular flange adapted to receive a clutch plate.

2,971,357
KNITTING MACHINE AND METHOD FOR FEEDING FIBERS THERETO

John H. Hill, Wayne, Pa., assignor to Wildman Jacquard Co., Norristown, Pa., a corporation of Pennsylvania

Filed Jan. 6, 1958, Ser. No. 707,333
3 Claims. (Cl. 66—9)

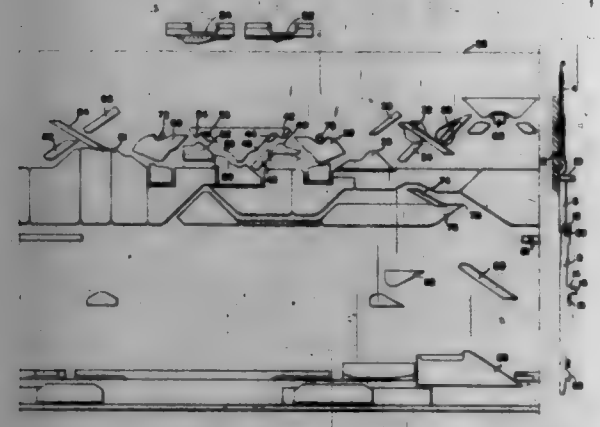


1. In a knitting machine of the type described having knitting instrumentalities and means for causing said instrumentalities to draw stitches to form a fabric, a carding means including a card cylinder, means for working fibers into a uniformly disposed layer on said card cylinder and a doffer cylinder for doffing fibers from the card cylinder and presenting them directly to said instrumentalities, conveyor means comprising belts for receiving said fibers and for feeding them in bulk form to said card cylinder and means for governing the delivery of said fibers thereby to feed a predetermined weight of stock to the card during a given time interval.

2,971,358
KNITTING MACHINE

John J. McDonough, Laconia, N.H., assignor to Scott & Williams, Incorporated, Laconia, N.H., a corporation of Massachusetts

Filed Jan. 14, 1957, Ser. No. 633,931
7 Claims. (Cl. 66—42)



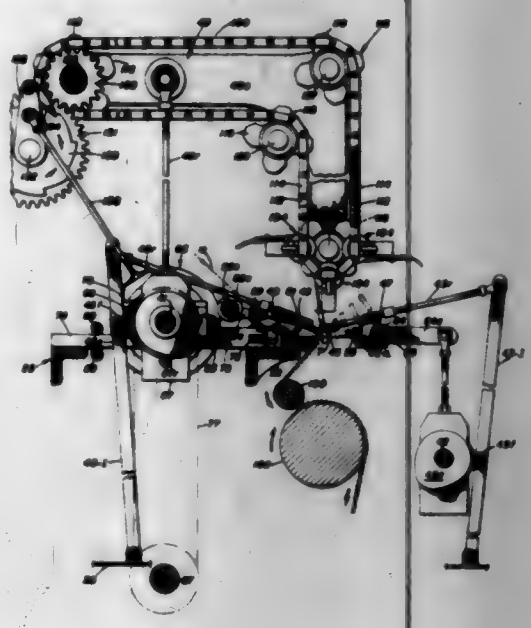
1. A circular knitting machine comprising needles and devices cooperating therewith for the formation of stitches, said devices comprising means for effecting multifeed knitting of the toe of a stocking during reciprocatory knitting and means for effecting single feed rotary knitting of a loopers' course following completion of the toe.

2,971,359
METHOD AND APPARATUS FOR MAKING KNITTED PILE FABRICS

John L. Hubbard, Cornwall-on-Hudson, N.Y., assignor to The Firth Carpet Company, Inc., New York, N.Y., a corporation of New York

Filed July 25, 1957, Ser. No. 674,142
10 Claims. (Cl. 66—84)

1. In a machine for making knitted pile fabrics having pile tufts bound therein, the combination comprising a flat bed warp knitting machine including means for interconnecting a weft backing with chain knitted warps, a spool frame mounted over the bed of the knitting machine, and a plurality of grippers movably mounted

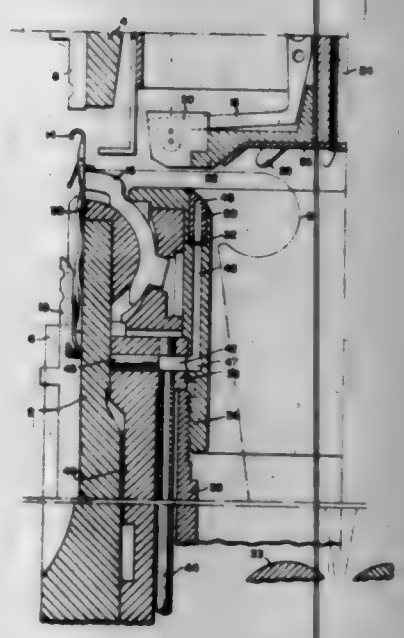


to grip and withdraw individual lengths of pile yarn from a spool of the spool frame and to insert the respective withdrawn lengths of tuft yarn between adjacent warp ends.

2,971,360
KNITTING MACHINE

Armand Landry, Laconia, N.H., assignor to Scott & Williams, Incorporated, Laconia, N.H., a corporation of Massachusetts

Filed Oct. 21, 1958, Ser. No. 768,592
4 Claims. (Cl. 66—150)

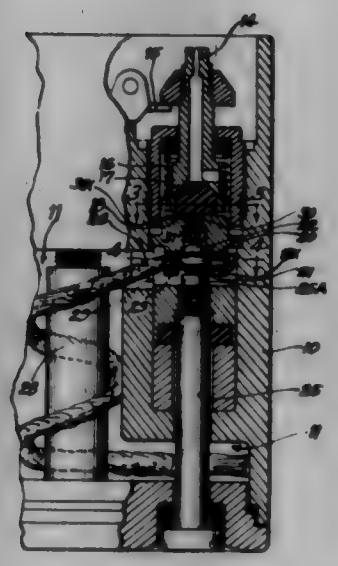


1. A circular stocking knitting machine comprising a needle cylinder, needles slidably mounted in said cylinder, instrumentalities associated with said needles for the formation of stitches, means for effecting wrapping of needles, first takeup means for imparting tension to completed fabric, axially movable second takeup means engageable with pockets formed in stockings, and means arranged to direct air against the exterior of the portion of fabric extending between the needles and the first takeup means to force completed pockets inwardly for engagement by said second takeup means.

2,971,361
METERING VALVE

Charles T. Breitenstein, Chicago, Ill., assignor to Raymond T. Moloney, Chicago, Ill.; American National Bank and Trust Company of Chicago, executor of said Raymond T. Moloney, deceased

Filed May 8, 1957, Ser. No. 657,878
1 Claim. (Cl. 67—7.1)



A valve structure for cigarette lighters employing liquefied gaseous fuel and comprising, namely: means providing an efflux passage for the fuel leading to a burner; a means providing a valve seat for a throttle ball interposed in said passage; a throttle ball engageable in said seat; ball adjusting means for pressing and relaxing said ball in said seat; means providing a wick passage directed crosswise of the direction of seating movement of the ball toward the seat and located substantially at the diametric mid-region of the ball; a fuel conducting wick in said passage and divided lengthwise into forking sections to pass around said ball in close contact therewith on opposite sides thereof whereby to deliver wet fuel onto the surface of said ball for gasification closely adjacent said seat.

2,971,362
WASHING MACHINE FILTER

Thomas H. Olding, Cincinnati, Ohio, assignor to The Murray Corporation of America, Syracuse, N.Y., a corporation of Delaware

Filed Jan. 2, 1958, Ser. No. 706,616
10 Claims. (Cl. 68—18)

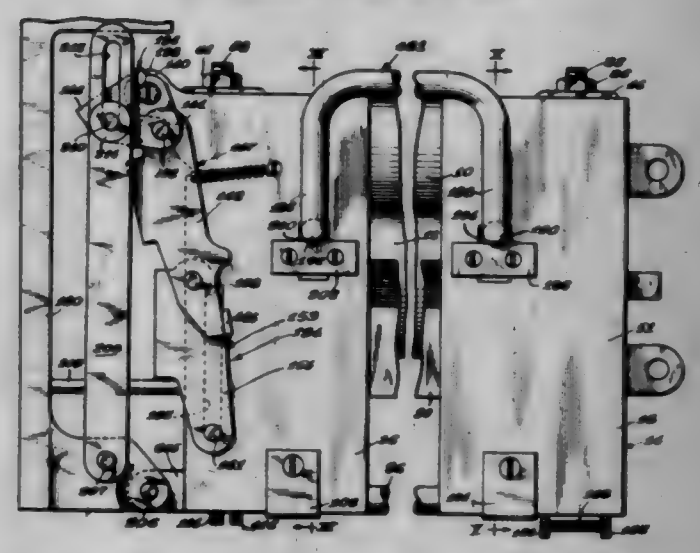


1. In a washing machine, a cabinet having a top deck, a rectangular well in said deck, a circular access aperture therein, a shallow filter tray having an annular perforate bottom filter trough projecting through said aperture, and a rectangular surrounding web lying in said well, a rectangular lid disposed in said well, means to releasably secure the filter tray to said lid and a tub disposed below said access aperture and having agitating means associated therewith projecting into the center region defined by said annular trough.

2,971,363
WRINGER

Nicholas L. Etten, Cedar Falls, Iowa, assignor to Chamberlain Corporation, Waterloo, Iowa, a corporation of Iowa

Filed Feb. 21, 1958, Ser. No. 716,602
11 Claims. (Cl. 68—263)

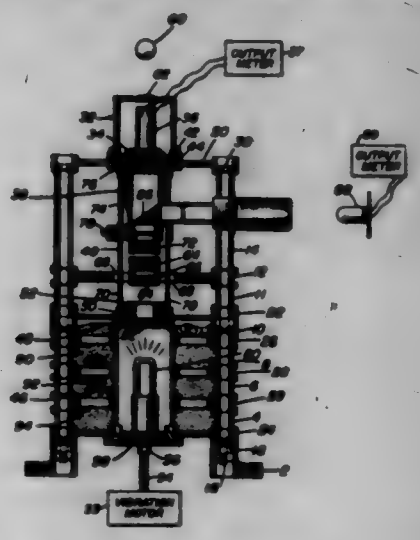


1. A clothes wringer comprising a first wringer roll being rotatably supported at each end, a second wringer roll being rotatably supported at each end, spring means at each end of said rolls for applying a tensioning pressure to urge said rolls together for wringing operation, first and second pressure members, each at an end of the rolls, movable between pressure and release position and operative when moved to cause said spring means to apply pressure to urge said rolls together, a resetting handle connected to the first pressure member to move said first pressure member to pressure position, a torsion rod extending parallel to the wringer rolls rotatable between pressure and release position, a first arm mounted on one end of the torsion rod and positioned to be moved to pivot the rod to pressure position when the resetting handle moves the first pressure member to pressure position, said first arm free of connection to said first pressure member, and a second arm at the other end of said torsion rod positioned to move said second pressure member at the other end of the rolls to pressure position when said rod is pivoted to pressure position.

2,971,364
APPARATUS AND METHODS FOR CALIBRATING MOTION TRANSDUCERS

Ernest K. Gatcombe, R.R. 2, Box 222, Carmel, Calif.

Filed Feb. 8, 1956, Ser. No. 564,332
9 Claims. (Cl. 73—1)
(Granted under Title 35, U.S. Code (1952), sec. 266)



2. A device of the character described comprising a base; a support adapted to support a motion transducer

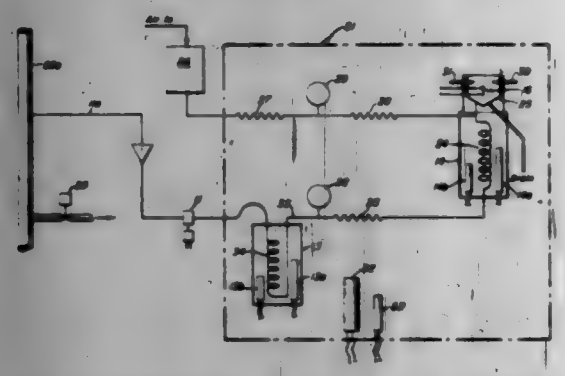
and mounted for substantially rectilinear displacement relative to said base; spring means interposed between said support and said base; means for applying force to said support to displace the same in opposition to the force of said spring means; and means for producing an output signal whose frequency is directly proportional to the instantaneous speed of said displacement.

2,971,365

FLASH DETECTOR APPROVING DEVICE

Joseph C. Rhodes, Park Forest, and Robert B. Jacobs, Homewood, Ill., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana

Filed Dec. 18, 1957, Ser. No. 703,677
8 Claims. (Cl. 73—1)



1. In an apparatus for periodically checking the operation of a thermocouple circuit which comprises in combination cycle timer means, switch means actuated by said cycle timer means and interrupting said cycle timer means, voltage source means controlled by said switch means, circut means for applying said voltage source to said thermocouple circuit through said switch means, first relay means in electrical series with said thermocouple circuit actuatable by said applied voltage from said source, second relay means, said second relay means being actuated by said first relay means when the thermocouple circuit is in proper operating condition, second power source, said second power source being controlled by said second relay to restart said cycle timer means, and third relay means actuated upon the operation of the second relay to reset the said first relay means and to hold the said second relay actuated whereby power is applied to the said cycle timer means until said switch means is actuated, causing the deactuation of the third relay and in turn the deactuation of the second relay.

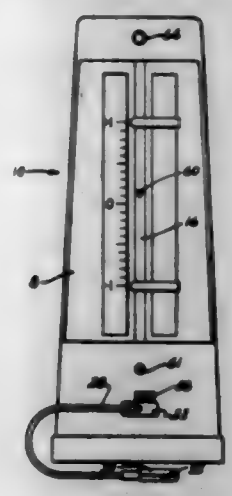
2,971,366

GAGE CALIBRATION DEVICE

Edward Tomkow, Dearborn, Mich., assignor to Dearborn Gage Company, Dearborn, Mich., a corporation of Michigan

Filed Sept. 27, 1957, Ser. No. 686,760
14 Claims. (Cl. 73—3)

1. The combination comprising a gaging element having a metering orifice therein, conduit means in communication with said metering orifice and adapted to receive fluid under pressure from a pressure source, indicator means responsive to fluid pressure in said conduit means for indicating the amount of fluid flow through said metering orifice, and calibrator means for said indicator means, said calibrator means including first and second wall members having opposed fluid metering surfaces of known spacing, and a passageway open to one of said metering surfaces and extending through one of said wall members into fluid communication with said conduit means downstream of said indicator means, said conduit means containing a portion between said calibrator means and said metering orifice adapted to be closed for interrupting flow of fluid downstream of its place of fluid communication with said passageway, whereby when said portion is closed and fluid is caused to flow from said conduit means through said passageway to the space between said fluid metering surfaces an indication is obtained on said



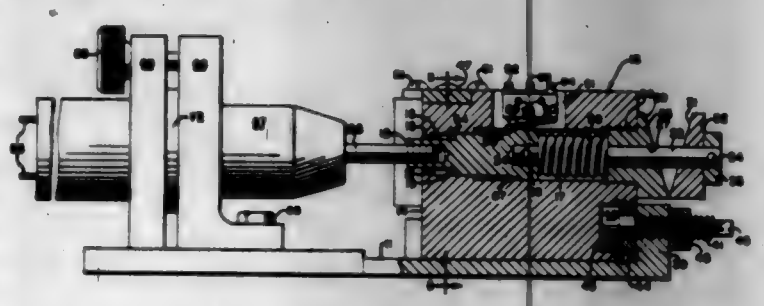
indicator means which indication permits adjustment of the pressures in said conduit means to obtain a calibrated reading on said indicator means.

2,971,367

FUZE TEST DEVICE

Maurice E. Shindledecker, Laurel, Md., assignor to the United States of America as represented by the Secretary of the Navy

Filed Jan. 30, 1958, Ser. No. 712,284
10 Claims. (Cl. 73—5)
(Granted under Title 35, U.S. Code (1952), sec. 266)



5. A projectile fuze tester comprising a base member, means secured to said base member for clamping a fuze to be tested, a ram carried by said base member and having a bore therein in alignment with the fuze, a spring actuated ram member slideably disposed within said bore and operatively connected to the fuze for imparting a sudden force thereto as the ram member is actuated from a cocked position to a released position, said force simulating the setback force applied to the fuze as the projectile is fired from a gun, means operable at will for moving the ram member to said cocked position, solenoid actuated means for releasably latching the ram member in said cocked position, and a rigid rod interconnecting the end of said ram member with the fuze whereby said sudden force is applied to the fuze by the rod as the ram member is released from said cocked position by said solenoid means.

2,971,368

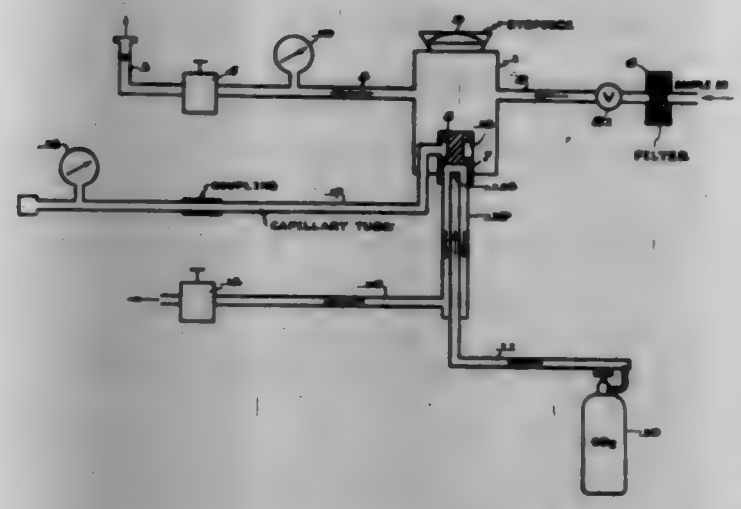
DETERMINATION OF CONCENTRATION OF COMPONENTS OF A GASEOUS MIXTURE

Gene C. Flumerfelt, Wilkinsburg, and William P. Yant, Murrayville, Pa., assignors to Mine Safety Appliances Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Apr. 12, 1956, Ser. No. 577,704
3 Claims. (Cl. 73—17)

1. That method of determining the concentration of one or more constituents of a gaseous mixture containing a plurality of constituents which have different vapor

pressures, comprising contacting the mixture with a heat conducting surface and progressively lowering its temperature to the dew point of the constituent of maximum dew point with formation at said surface of a deposit thereof that is soluble in liquid of next lower dew point, said gaseous mixture initially containing another constituent that cooperates to sharpen the visibility of the



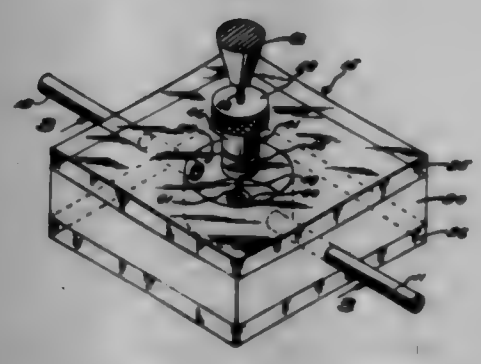
deposit, then lowering the temperature until liquid produced by condensation of the next lower dew point constituent begins to form upon said deposit with alteration of its visual appearance, and observing the temperature at which said alteration occurs, said temperature being characteristic of the concentration of said constituent of lower dew point under the prevailing pressure condition at said surface.

2,971,369

APPARATUS FOR ANALYZING A GAS

John Danaczko, Jr., Oak Park, and Floyd Joseph Vlasak, Chicago, Ill., assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Filed July 22, 1958, Ser. No. 750,176
2 Claims. (Cl. 73—19)



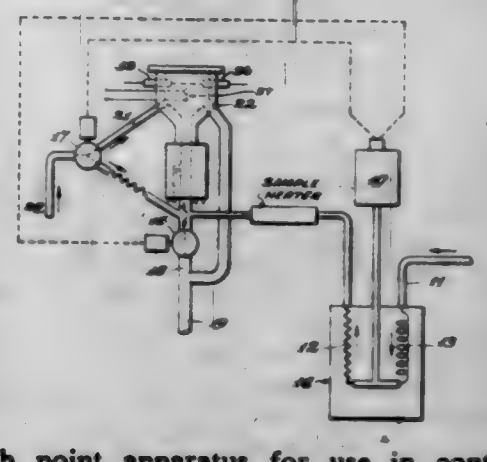
1. An apparatus for releasing a gas bubble occluded in metal sample, which comprises a rigid base plate for supporting a metal sample in a predetermined position, a rigid transparent cover plate parallel to the base plate having a threaded aperture therein in alignment with a gas bubble occluded in the metal sample, a resilient body having substantially parallel sides positioned between the base plate and the cover plate, said resilient body having an aperture therein perpendicular to the plates in alignment with the threaded aperture of the cover plate and having two radial openings extending therefrom through the resilient body, a drill bit air seal threadably mounted in the cover plate, a reciprocating drill inserted through the air seal, and clamps to hold the base plate, cover plate and resilient member in stacked relation with the drill bit in alignment with the occlusion of the metal sample.

2,971,370

GASOLINE-REJECTING MECHANISM FOR CONTINUOUS FLASH POINT INSTRUMENT

Robert B. Jacobs, Homewood, and Dominic Daniel Lo Giurato, Oaklawn, Ill., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana

Filed Dec. 10, 1957, Ser. No. 701,800
10 Claims. (Cl. 73—36)



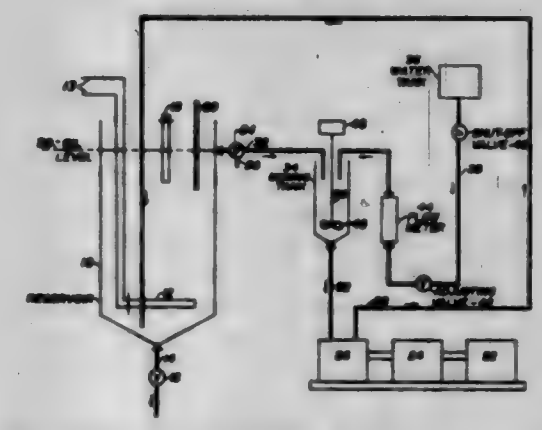
1. A flash point apparatus for use in continuously monitoring a first fluid flowing batch-wise with at least one second fluid in a pipeline, sample line means connected to said pipeline, flash point apparatus on said sample line, said flash point apparatus including a flash chamber, ignition means within said chamber, means for supplying air to said chamber, means for heating said chamber to a selected temperature correlated with the flash point specification of the first fluid, and means responsive to the occurrence of a flash in said chamber, discriminating means interposed said pipeline and said flash point apparatus on said sample line, said discriminating means being adapted to permit the making of a flash point determination only when the concentration of the second fluid does not exceed a predetermined value and comprising preheater means on said sample line, flow resistance means on said sample line downstream of said preheater means, and pressure responsive switch means on said sample line intermediate said preheater and said flow resistance, said switch means being adapted to cut out the flash point apparatus when the concentration of said second fluid exceeds the predetermined value and cut in the flash point apparatus when the second fluid concentration again diminishes below said predetermined value.

2,971,371

DYNAMIC DEMULSIBILITY METHOD AND APPARATUS

Elmer W. Brennan, Dundee, and Robert G. Moyer, Crystal Lake, Ill., assignors to The Pure Oil Company, Chicago, Ill., a corporation of Ohio

Filed Aug. 19, 1955, Ser. No. 529,552
19 Claims. (Cl. 73—53)



1. The method of determining the dynamic demulsibility of a test liquid with a second liquid of dissimilar density therefrom which comprises establishing a cir-

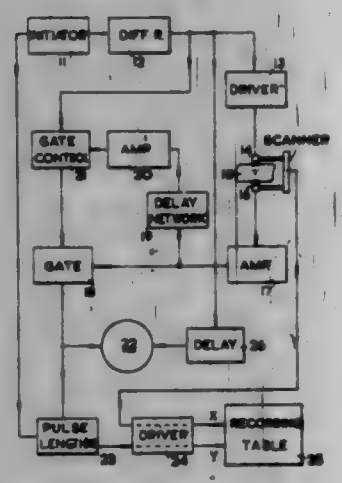
culating system of said test liquid at a substantially constant temperature between a reservoir and a mixing chamber, introducing incremental portions of said second liquid into said mixing chamber, maintaining said liquids in said mixing chamber for a time sufficient to achieve complete mixing thereof, and determining the volume ratios of said test liquid and said second liquid in selected samples taken from the top and bottom portions of said reservoir as an indication of the demulsibility of said test liquid.

2,971,372

ULTRASONIC TESTING APPARATUS

Ewart Gordon Lewis, Westmoreland Hills, Md., and Dennis Arthur George Eldridge, Waltham Abbey, Geoffrey Bradfield, Surbiton, and Hastings Charles Maxim Bertoya, Romford, England, assignors to Minister of Supply, in Her Majesty's Government of the United Kingdom of Great Britain and Northern Ireland, London, England

Filed Sept. 19, 1956, Ser. No. 610,837
5 Claims. (Cl. 73—67.5)



1. An ultrasonic testing apparatus for detecting flaws in solid articles and comprising an electrical transmitting circuit for producing a sequence of electrical pulses, a multivibrator for triggering said electrical transmitting circuit, an electro-mechanical transmitting transducer to which the electrical pulses are applied to provide a beam of pulses of ultrasonic waves from the transducer, an electro-mechanical receiving transducer positioned in the path of the beam, said solid articles positioned intermediate the transmitting transducer and the receiving transducer, said ultrasonic waves transmitted through said solid articles, said receiving transducer responsive to the ultrasonic waves transmitted through the solid articles, electrical receiving circuit for deriving a sequence of electrical pulse signals in accordance with the sequence of pulses of ultrasonic waves impinging on the receiving transducer, a delay circuit which imposes a delay of between a quarter and half a wavelength of an ultrasonic wave and to which the sequence of derived electrical signals is applied, an amplifier circuit to which the output of the delay circuit is applied whereby a large amplitude signal is produced having a steep leading edge between a quarter and half a wavelength after the beginning of each derived pulse signal, a gate control circuit to which the said large amplitude signal is applied to put the circuit in an off state, a gate circuit which is open to pass the leading part of each received electrical pulse signal and which closes shortly after the leading quarter ultrasonic wave in each pulse has passed therethrough, and an output circuit to which the derived sequence of pulse signals passed by the gate circuit are applied and which produces an output signal in accordance with the strength of the leading half wave of each derived electrical pulse signal.

2,971,373

METHOD FOR MINIMIZING DRILL PIPE FAILURES

Arthur P. Heldenbrand, 5 SE. 35th, Oklahoma City, Okla.

Filed July 5, 1957, Ser. No. 670,069
5 Claims. (Cl. 73—99)

1. A method of minimizing failures of drill pipe, comprising the steps of:

(*a*) placing aligned marks on the opposite ends of each joint of the drill pipe,

(*b*) running the drill pipe in a well through a drilling operation,

(*c*) removing the drill pipe from the well and disconnecting each joint,

(*d*) measuring the angular displacement of said marks to determine the amount of permanent twist in each joint resulting from the drilling operation, and

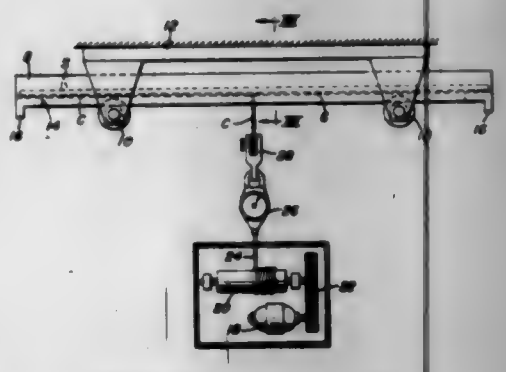
(*e*) discarding those joints having the largest permanent twist.

2,971,374

APPARATUS FOR TESTING RESIN COATED METAL SHEETS

George H. Rendel, Pittsburgh, Pa., assignor to United States Steel Corporation, a corporation of New Jersey

Filed Oct. 17, 1956, Ser. No. 616,479
4 Claims. (Cl. 73—150)



1. Apparatus for testing the bond between a resin coating and a base material of a sample comprising a carriage for receiving a sample to be tested, said sample having generally parallel longitudinal cuts in the coating down to the base material and a portion of the coating adjacent one end of the cuts separated from the base material, means mounting said carriage for reciprocating movement in the direction of said cuts, said carriage having a base for supporting said sample with the resin coating adjacent the base, said base having a longitudinal slot therein of greater width than the distance between the said parallel longitudinal cuts through which the separated end of the coating extends, means for pulling the separated end of coating in a direction substantially normal to the direction of movement of said carriage, and means for determining the amount of pulling tension required to separate the coating from the base material.

2,971,375

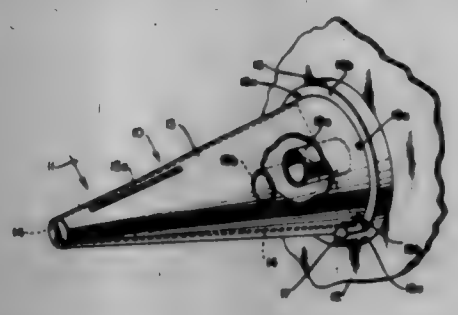
AIRSTREAM DIRECTION DETECTOR PROBE

Ivan O. Fieldgate, Halesite, N.Y., assignor to Specialties, Inc., Syosset, N.Y., a corporation of New York

Filed Sept. 21, 1959, Ser. No. 841,172
6 Claims. (Cl. 73—180)

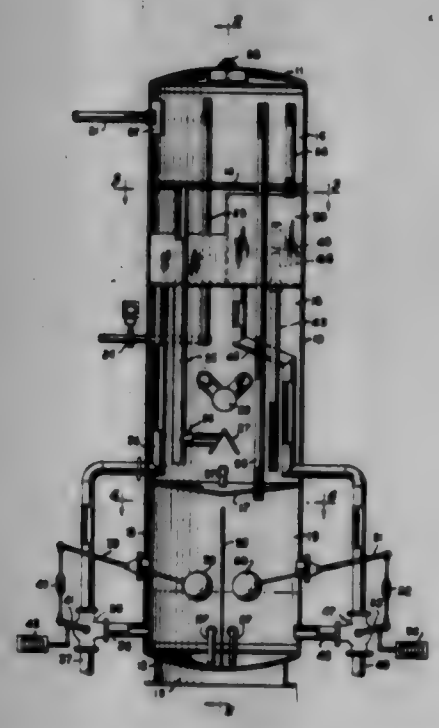
1. In apparatus for sensing the direction of an airstream, a probe assembly adapted to project laterally into the airstream and to be rotated about its projecting axis to angular positions indicative to airstream direction, comprising a tubular member, means defining at least a pair of internal pneumatic conduits extending along the length thereof, and means defining at least a pair of inlet ports in the wall of the tubular member at circumferentially spaced points and communicating respectively with

the internal conduits, a base portion including a radially extending shoulder exceeding the dimensions of the base of the tubular member to define a drip ring for water, and means forming a plurality of drain apertures in the



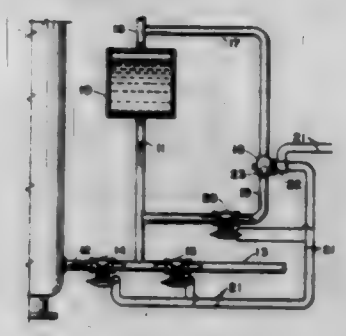
tubular member closely adjacent the shoulder, said apertures communicating with the pneumatic conduits of the tubular member, and duct means communicating with the pneumatic conduits to pass pneumatic signals.

2,971,376
METERING EMULSION TREATERS AND TREATING METHODS
Clarence O. Glasgow and Knox B. Henderson, Tulsa, Okla., assignors to National Tank Company, Tulsa, Okla., a corporation of Nevada
Filed Oct. 7, 1957, Ser. No. 688,571
17 Claims. (Cl. 73—200)



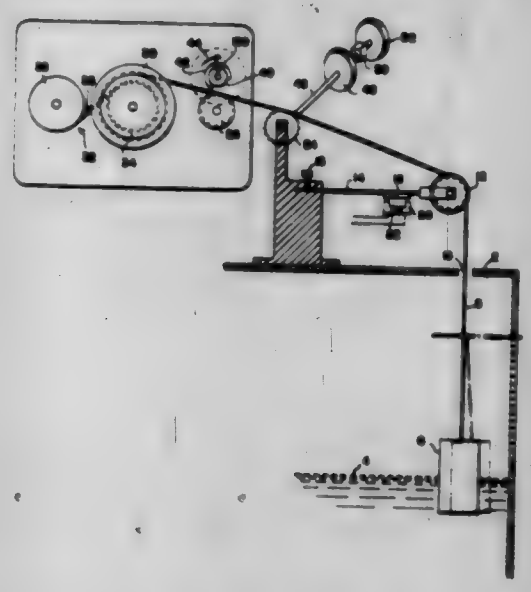
12. A structure for resolving an oil well production stream into its oil and water components including, a vessel, means for admitting a well stream to a vessel, means for heating the well fluids in the vessel, the vessel having a stratification space for receiving the heated well fluids, a water outlet from the vessel, a water-free oil metering chamber, means for conducting water-free oil from the stratification space to the water-free oil metering chamber and including a flow path for the water-free oil, a water-free oil surge chamber in the flow path for the water-free oil and forming a part of the means for conducting water-free oil from the stratification space to the water-free oil metering chamber, means responsive to the liquid level in the oil metering chamber for admitting to and discharging from the oil metering chamber water-free oil from the oil surge chamber, and means for recording the filling and emptying cycles of the oil metering chamber.

2,971,377
METERING APPARATUS
John V. Vogel, Kilgore, Tex., assignor to Shell Oil Company, a corporation of Delaware
Filed July 16, 1958, Ser. No. 748,951
4 Claims. (Cl. 73—224)



1. Apparatus for metering a constant volume of liquid which comprises a tank, inlet conduit means to said tank, outlet conduit means from said tank, vent means open at all times and leading from the top of said tank for maintaining a constant pressure above any fluid therein, overflow conduit means from said tank, a single liquid-level sensing device positioned adjacent said tank at a level below the inlet end of said tank outlet conduit means, said sensing device being in open communication with the overflow conduit means from said tank, a discharge conduit from said sensing device in communication with said outlet conduit means from said tank at a level below said sensing device, valve means in said inlet and in said outlet conduit means from said tank, power transmission means operatively connecting said liquid-level sensing means to said valve means in both said inlet and said outlet conduit means to open one of said valve means at a time while closing the other of said valve means, and pressure-equalizing valve means in said discharge conduit from said sensing device for equalizing the hydrostatic head between said sensing device and said tank when liquid is being drained therefrom.

2,971,378
TANK GAUGE
Fred M. Mayes, Newtown Square, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey
Filed July 11, 1955, Ser. No. 521,098
20 Claims. (Cl. 73—313)



1. Apparatus for gauging liquid level comprising a member movable with changes of the liquid level, a pair of variable impedances, means connecting said impedances to said member for different variations in response

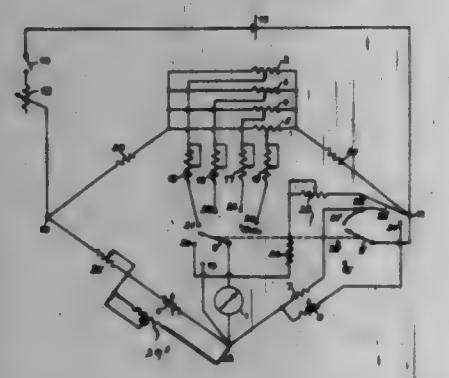
to movements of said member, a single balanceable circuit including said impedances and a pair of balancing impedances, each of said first mentioned impedances providing in said circuit substantially different responses to direct and alternating excitation, means providing both direct and alternating excitation for said balanceable circuit, and separate means automatically effecting, respectively, direct and alternating current balance of said circuit.

2,971,379

RESISTANCE THERMOMETER

Georg Weinheit, Trappenbergstrasse 37, Essen-Stadtwald, Germany

Filed June 27, 1957, Ser. No. 668,413
Claims priority, application Germany Aug. 24, 1956
7 Claims. (Cl. 73—362)



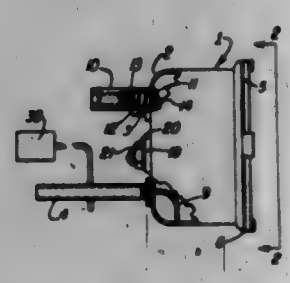
1. A thermometric device comprising a bridge circuit with four resistance arms defining an input diagonal and an output diagonal, one of said arms including a thermosensitive resistance element, current-measuring means inserted in said output diagonal, a controllable energizing circuit connected across said input diagonal, said energizing circuit including a source of voltage and an adjustable compensating resistor, and switch means for interrupting one of said arms and said output diagonal while connecting said current-measuring means in series with an adjacent one of said arms across said energizing circuit.

2,971,380

MANIFOLD PRESSURE GAUGE

David E. Maccabee, West Chicago, Ill., assignor to Stewart-Warner Corporation, Chicago, Ill., a corporation of Virginia

Filed Oct. 11, 1957, Ser. No. 689,549
7 Claims. (Cl. 73—411)



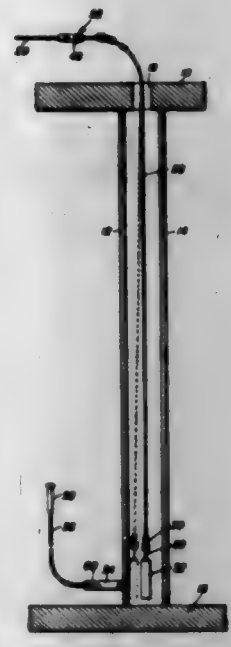
3. In an engine manifold pressure gauge of the type in which a substantially sealed case is connected in fluid conducting relation to a source of subatmospheric manifold pressure, in which an evacuated yieldable device is mounted within the case, and in which a pressure indicator connected to the device is operated by the device in accordance with instantaneous fluid pressure within the case, the combination with the case of a highly restricted atmospheric vent structure for admitting a predetermined restricted flow of atmospheric air into the case to scavenge fuel vapors from the case.

2,971,381

ELECTRICIAN'S TOOL

Julius M. Tesi, 212 4th St., Yorkville, Ohio

Filed Nov. 22, 1957, Ser. No. 698,133
2 Claims. (Cl. 73—432)



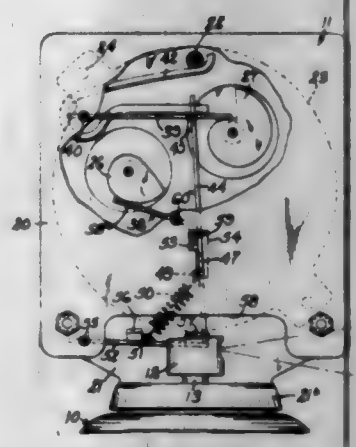
1. The method of locating a point vertically beneath a hidden point in wall structure, comprising lowering a body of magnetic material from said hidden point and within the wall structure, magnetically attracting said body toward a point outside the wall, and aurally detecting the point where said body strikes said wall.

2,971,382

SPRAY TIMER

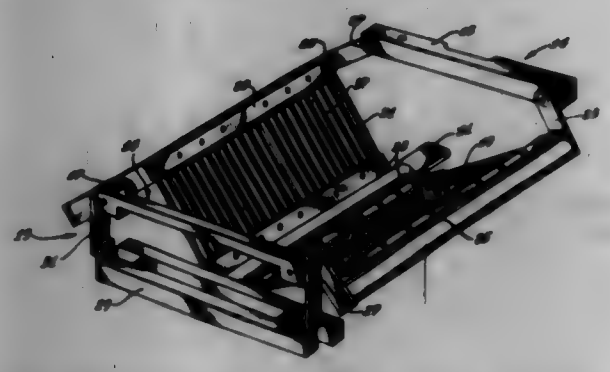
Dwight E. Harris, Watertown, Conn., assignor to The Lux Clock Manufacturing Company, Incorporated, Waterbury, Conn., a corporation of Connecticut

Filed June 23, 1958, Ser. No. 743,841
10 Claims. (Cl. 74—3.52)



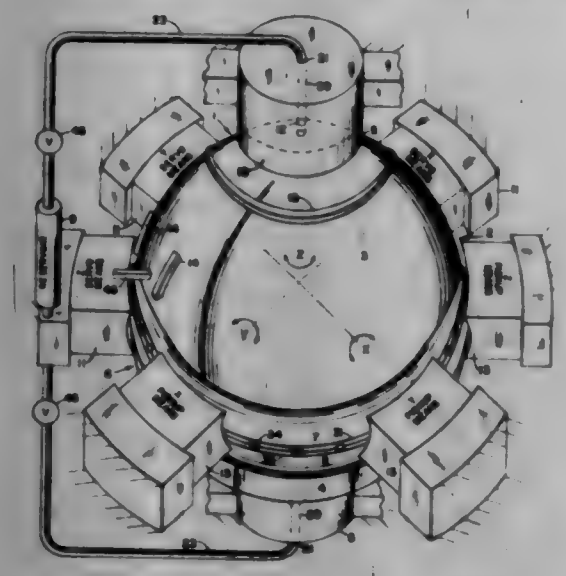
1. In a timer of the class described, a support, a motor carried by the support, valve-actuating means including an operating member movable from an armed inoperative position to an operative position and being spring biased toward the latter, the valve-actuating means including a latch member which when the last-mentioned means is in armed condition has latching engagement with a part on the support, and cam means operated by the motor through reduction gearing to periodically arm said member and then trip the latter, the cam means acting on said member to also govern the length of time the member is in the operative position thereof.

2,971,383
PRECISION IRROTATIONAL MOUNT
Howard G. Thrasher, Long Beach, Calif., assignor, by mesne assignments, to Litton Systems, Inc., Beverly Hills, Calif., a corporation of Maryland
Filed June 26, 1959, Ser. No. 823,163
12 Claims. (Cl. 74—5.9)



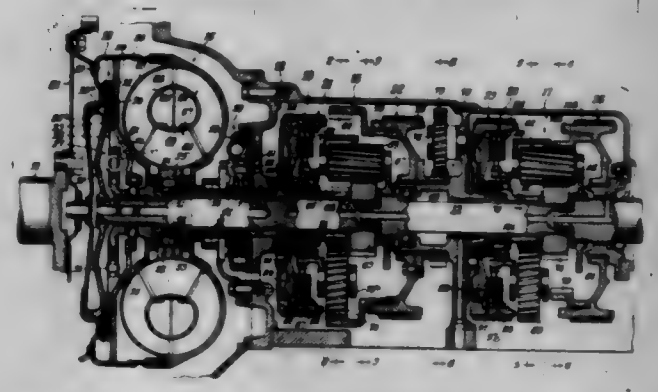
1. An irrotational mount for isolating a platform from vibration experienced by a base to which it is mounted, said mount comprising: a base plate adapted to be coupled to the base; a platform carriage for mounting the platform thereon; first means coupling said base plate to said platform carriage for restraining rotational movement of said platform with respect to said base plate about a first predetermined axis; second means coupling said base plate to said platform carriage for restraining rotation of said platform with respect to said base plate about second and third axes substantially orthogonal with respect to each other and said first axis and for isolating the platform from vibrations experienced by said base plate whereby the angular relationship of the platform with respect to the base is preserved.

2,971,384
TOROIDAL GYROSCOPE
James V. Johnston, 821 Giles Drive, Huntsville, Ala.
Filed Apr. 1, 1960, Ser. No. 19,429
7 Claims. (Cl. 74—5.7)
(Granted under Title 35, U.S. Code (1952), sec. 266)



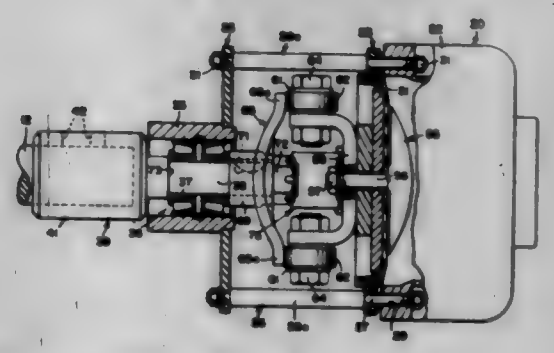
1. A gyroscope comprising: a ring-shaped stator having a peripheral, annular hollow space and a central cavity; a body having upper and lower portions, each of which has a spherical surface, said stator being fixed at substantially the center of said body, between said portions; a gyroscopic, ring-shaped rotor loosely housed within said peripheral annular hollow space; an upper and lower gaseous bearing means comprising a bearing support for universally mounting said body, each of said gaseous bearing means supporting one of said spherical surfaces on a gaseous film; means for supplying a source of pressurized gas to said bearing means; electromagnetic means rigid with said bearing support for placing said body in a position of zero displacement; pickup means rigid with said bearing support for indicating when said bearing support deviates in any direction; and means for simultaneously rotating said rotor and sustaining said rotor in a centered position, free of solid friction, within said annular hollow space.

2,971,385
FOUR SPEED AUTOMATIC TRUCK TRANSMISSION
James A. Miller, Jackson, Mich., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Filed Apr. 7, 1954, Ser. No. 421,665
6 Claims. (Cl. 74—15.86)



1. In a transmission, the combination of a drive shaft, a driven shaft, a planetary gear set having an input element connected with said drive shaft and an output element connected to the driven shaft and first and second reaction elements, a power take-off gear connected to one of said reaction elements, clutch means for locking one of said reaction elements with said output element and brake means for each of said reaction elements, said clutch means and said brake means each being engageable individually in order to complete two different speed ratios in forward drive and one speed ratio in reverse drive from said drive shaft to said driven shaft, said power take-off gear being driven from said drive shaft without driving the driven shaft.

2,971,386
FLUID PUMP DRIVE AND MOUNTING
Donald E. Lippke, Moline, Ill., assignor, by mesne assignments, to Deere & Company, a corporation of Delaware
Filed Dec. 31, 1956, Ser. No. 631,825
2 Claims. (Cl. 74—55)



1. The combination with a tractor having a power take-off shaft, of a shaft extension connected to said shaft and including shaft means having a socket section at one end and a reduced portion at the other end, the socket section being adapted to receive the rear end of the power take-off shaft of the tractor, a device including a movable part adapted to be driven, bearing means on the reduced portion of said shaft and including an inner race fixed to said reduced portion, an outer bear-

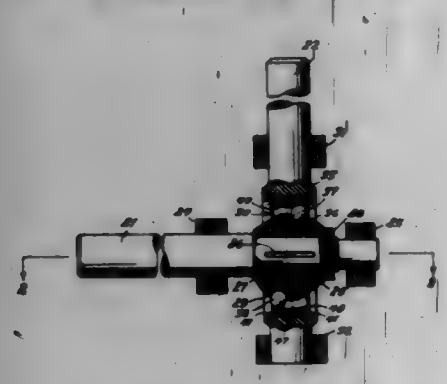
ing sleeve, and anti-friction means between said sleeve and said inner race, a tail plate fixed to said sleeve to be supported thereby, a head plate receiving said device, a plurality of peripherally spaced apart elongated members rigidly connecting said head plate to said tail plate in axially spaced apart relation, and connecting means disposed between said head and tail plates and connected with said movable part for driving the latter from the rear end of said shaft means.

2,971,387

OSCILLATORY MECHANISM AND BEARING THEREFOR

Attilio R. Spicacci, 500 W. Chelten Ave., Philadelphia 44, Pa.

Filed Feb. 6, 1959, Ser. No. 791,629
13 Claims. (Cl. 74—60)



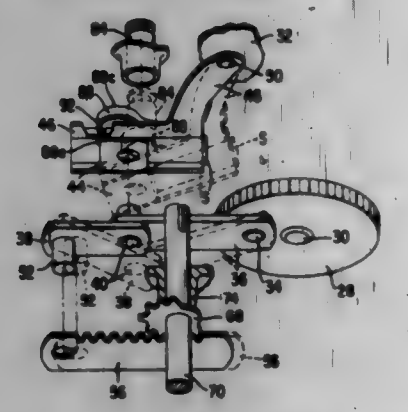
1. A rotary to oscillatory mechanism comprising a pair of inner and outer annular elements, one of said annular elements being mounted for rotation about an axis extending centrally and obliquely through said one annular element, the other annular element being mounted for oscillation about a generally diametral axis intersecting with said oblique axis, and engaging means between said annular elements effecting oscillatory movement of said other element upon rotation of said one element.

2,971,388

WIPER LINKAGE

Ernst R. Koppel, Perrysburg, Ohio, assignor to The Electric Auto-Lite Company, Toledo, Ohio, a corporation of Ohio

Filed May 7, 1958, Ser. No. 733,527
12 Claims. (Cl. 74—77)



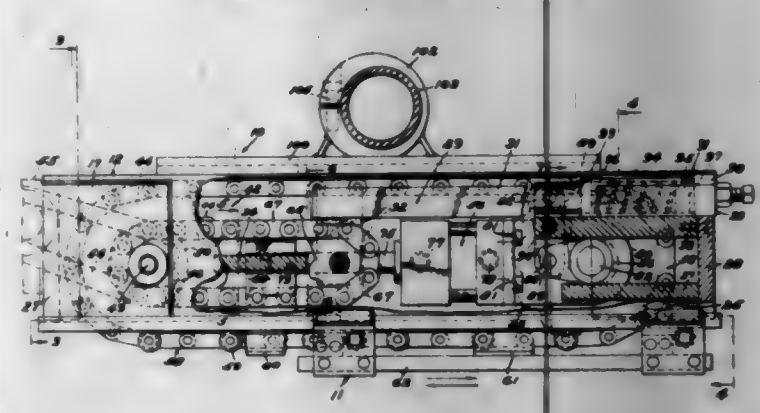
4. In a device of the class described, a rotary driving member, a reciprocating driven member, a broken knee driving connection between the driving and driven members comprising a pair of links pivotally connected together at one end and at their other ends being pivotally connected to the driving and driven members respectively, a slide means for the pivotal connection between the pair of links, movable guide means for the slide means to define a straight line movement of the pivotal connection whereby the angularity of the broken knee connection is controlled, a latch on the guide means adapted to selectively lock the links to the guide means when the parts are in a predetermined operative relation to enable the driving member to move the guide means in a direction to straighten the broken knee driving connection to increase the effective length of the driving connection comprising the links between the driving and driven members, and manual means to control the latch to initiate locking and unlocking of the links to the guide means, said latch being selectively released from its locking relation between the links and the guide means on the return stroke of the parts.

2,971,389

REVERSING STROKE RETRACTOR MECHANISM

Leland F. Blatt, 790 Shoreham Road, Grosse Pointe Woods 36, Mich.

Filed July 21, 1958, Ser. No. 749,824
20 Claims. (Cl. 74—110)



17. A mechanism of the class described, comprising a carriage mounted for reversing stroke travel, a first endless power chain operatively connected to said carriage to actuate the same for its travel, a pair of spaced sprockets of relatively large diameter about which said power chain is trained and by which it is driven, a further pair of spaced sprockets, one of which is fixed to and coaxially rotatable with one of the sprockets of the first pair, said further pair of sprockets being of substantially smaller diameter than said first pair, each sprocket pair including one mounted for floating movement transversely of its axis, a second endless driving chain trained about said further sprockets, and means driving said coaxial sprockets to oscillate in unison, said last named means comprising a fluid pressure operated reversing device having relatively movable elements, said device being mounted for floating movement, means drivingly connecting one of said elements to a reach of said second chain to reciprocate the latter, means operatively connecting the other element of said device to one of said floating sprockets to floatingly mount the same, including a pivoted and resiliently biased member guiding said fluid pressure device and last named floating sprocket for said floating movement.

2,971,390

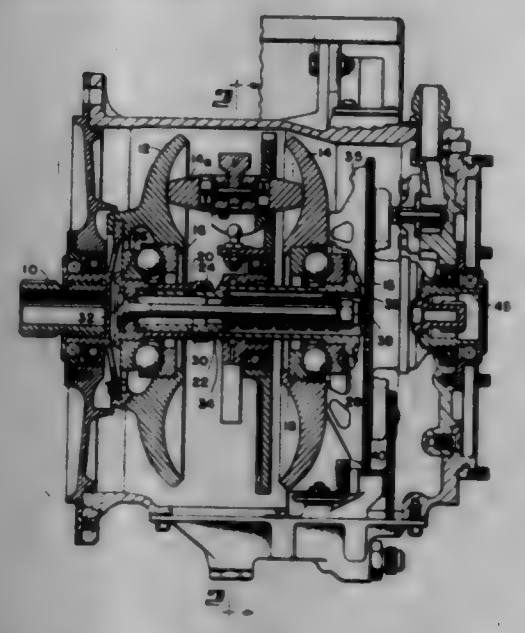
MEANS FOR IMPOSING PRESSURE ON TOROID DISCS OF VARIABLE TRANSMISSIONS

Joseph Rygelis, Monroe, Conn., and George C. Mueller, Walled Lake, Mich., assignors to Avco Corporation, Stratford, Conn., a corporation of Delaware

Filed Aug. 18, 1959, Ser. No. 834,429
3 Claims. (Cl. 74—209)

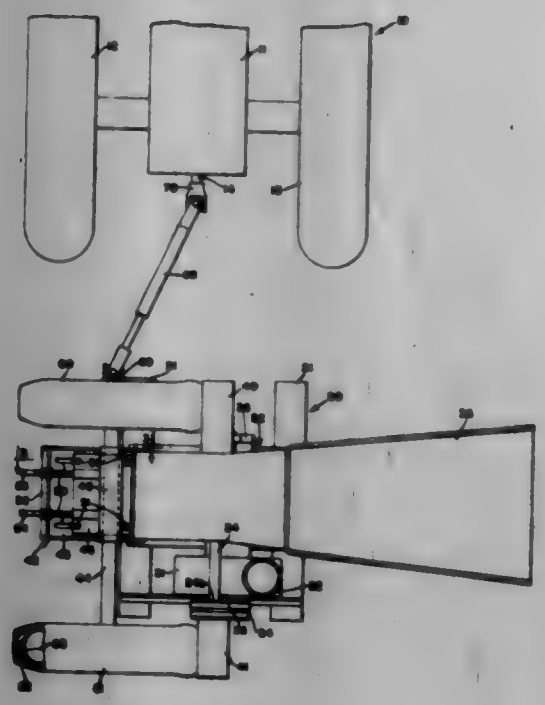
1. In a variable speed power transmission of the character described, a mechanism for supporting and imposing load upon rollers carried between two toroidal discs, said toroidal discs being disposed in opposed parallel planes, comprising: a sectional hollow shaft having coaxial hollow sections telescoping inside the other and each of said sections carrying one of said toroidal discs for rotation; said hollow shafts lying substantially within said parallel planes, a load bolt extending through the

hollow central portion of said sectional shaft; a plurality of coned disc springs surrounding said load bolt and providing a resilient connection imposing load on said toroidal



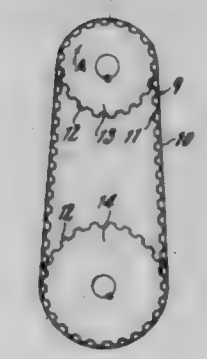
discs, said disc springs lying substantially within said parallel planes, whereby said disc springs tend to push said discs toward each other with imposition of a constant and even load on said rollers.

2,971,391
IMPLEMENT DRIVING MECHANISM
Keith D. Elwick, R.R. 3, Vinton, Iowa
Filed Aug. 4, 1958, Ser. No. 752,936
8 Claims. (Cl. 74—207)



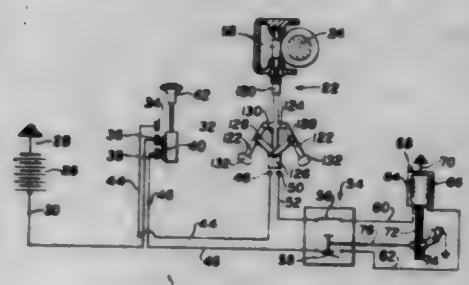
1. In a combination of tractor and material reducing unit in which the tractor has a rearwardly extending power take-off shaft and the material reducing unit has a main frame including housing structure, a material reducing rotor supported in the housing structure including a rotor shaft having opposite ends extending outwardly respectively of the housing structure, the improvement residing in drive means effecting rotation of the rotor shaft comprising: a support shaft substantially parallel to the rotor shaft and having opposite ends spaced on the order of and opposite respectively of the ends of the rotor shaft; a pair of pulleys mounted respectively on opposite ends of the rotor shaft; a pair of torus members mounted on opposite ends of the support shaft and having outer frictional surfaces engageable respectively with the pulleys, said torus members being composed of elastic material to effect resilient contact with the pulleys and being formed of a sealed envelope adapted for inflation or deflation to effect resiliency in the torus members; means mounting the support shaft on the main frame; and articulate connecting means between the power take-off shaft and the support shaft for effecting rotation of the torus members in response to rotation of the power take-off shaft.

2,971,392
NON-ARTICULATED GEARED METAL BELT
Richard Y. Case, Philadelphia, Pa., assignor to United States Rubber Company, New York, N.Y., a corporation of New Jersey
Filed June 24, 1957, Ser. No. 667,426
1 Claim. (Cl. 74—231)



A positive drive transmission belt comprising a continuous non-articulated load carrying metal band, solid, inflexible, metallic tooth bodies, each tooth body having a top and base surface, said band extending across the said base surface of each tooth body, and being molecularly united to the tooth body at every point of the said base surface and having thin flexible portions bridging the space between successive teeth, said teeth being positioned in repeating spaced apart relationship, whereby said teeth and band form a homogeneous metallic product.

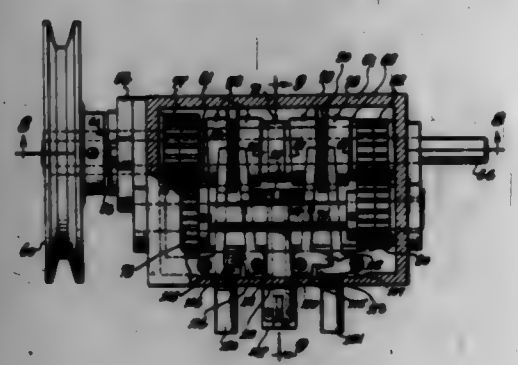
2,971,393
DISENGAGEMENT PREVENTING MEANS FOR A TWO SPEED AXLE
John R. Bartholomew, Cleveland Heights, Ohio, assignor to Eaton Manufacturing Company, Cleveland, Ohio, a corporation of Ohio
Filed Mar. 19, 1957, Ser. No. 647,079
3 Claims. (Cl. 74—336.5)



1. In a vehicle, a change speed transmission having a plurality of selective gear ratios, a control means for a multiple speed ratio axle means comprising an input driving means to said axle means, a control switch means to effect either a high speed ratio or a low speed ratio in said axle means and shift preventing means comprising speed responsive means responsive to the speed of said input driving means and being operable to prevent a shift out of said high speed ratio to neutral or to said low

speed ratio when the vehicle is operating above a predetermined speed and said shift preventing means being operable completely independent of the selected gear ratio in the change speed transmission.

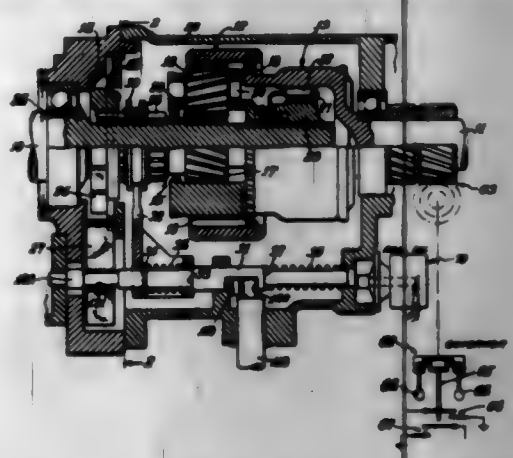
2,971,394
TRANSMISSION
Edwin S. Christensen, 2203 N. Santa Fe Ave., Compton, Calif.
Filed Mar. 24, 1958, Ser. No. 723,222
5 Claims. (Cl. 74—377)



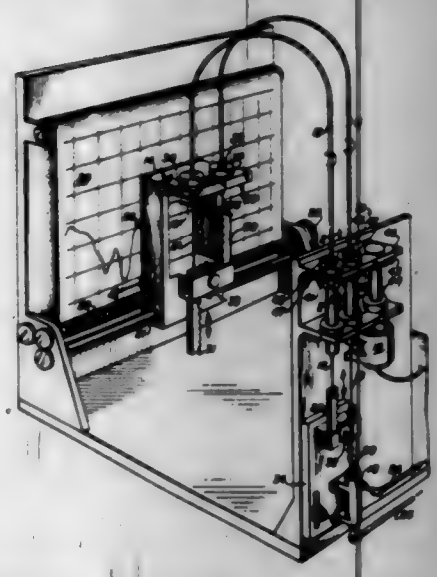
4. In a multispeed transmission, the combination of: a stationary member; first, second, and third sleeves rotatably mounted in said stationary member with said second sleeve fixed to a shaft and said first and third sleeves journalled on said shaft on opposite sides of said second sleeve, said first sleeve being rotatable about an axis in a positive direction and having a tapered surface facing said second sleeve, said second sleeve having a pair of tapered surfaces facing away from each other toward said first and third sleeves, respectively, said third sleeve having a tapered surface facing said second sleeve; countershaft means for coupling of said first and third sleeves; a first coil spring positioned between the facing tapered surfaces of said first and second sleeves for engagement therewith, the turns of said first spring winding around said axis away from said first sleeve toward said second sleeve in a negative direction; a second coil spring positioned between the facing tapered surfaces of said second and third sleeves for engagement therewith, the turns of said second spring winding around said axis away from said third sleeve toward said second sleeve in a direction opposite to the direction of rotation of said third sleeve; four apertured cups with each cup receiving an end of a spring to constrain the end to a predetermined diameter; and means carried on said stationary member for moving the pairs of cups constraining each spring together to axially compress the spring.

2,971,395
TRANSMISSION
Palmer Orr, Muncie, Ind., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Filed June 3, 1955, Ser. No. 512,965
5 Claims. (Cl. 74—472)

1. In a transmission for an automotive vehicle having a driving engine with a throttle and an ignition system, the combination of a drive shaft, a driven shaft, means for providing a power train between said shafts and including a positive engaging brake having parts which are engaged for rendering the power train effective, an accelerator for the engine throttle, means under the control of said accelerator for breaking said power train when the accelerator is moved toward open throttle position and including ignition grounding means for disabling said ignition system to relieve torque thrust on said parts of the positive engaging brake to permit them to disengage, and governor mechanism responsive to the speed of one of said shafts for rendering said ignition disabling means inoperative so as to maintain said positive engaging brake engaged and said power train completed when said last-named shaft is rotating above a predetermined speed regardless of movement of said accelerator toward open throttle position.



2,971,396
POSITIONING DEVICE
Donald H. Cronquist, Santa Clara, Calif., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed June 25, 1958, Ser. No. 744,582
5 Claims. (Cl. 74—502)

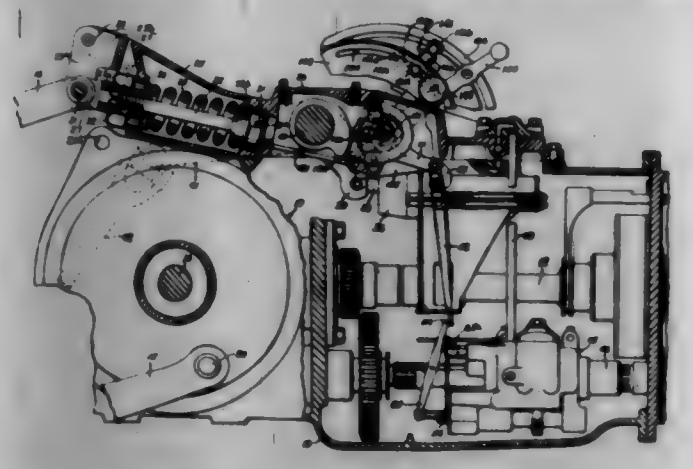


4. A positioning mechanism comprising: a pair of flexible tubes each having a wire therein; means rotatably supporting the tubes at each end thereof; means for substantially eliminating frictional resistance to relative axial movement between the tube and the wires, said means including a continuously rotating drive means mechanically coupled to rotate both of the tubes; differential coupling means mechanically associated with both of the wires at each end thereof for causing complementary translation thereof; a positioning drive means mechanically coupled to one end of the wires and operative to translate the wires axially with respect to the tube; and an actuation device coupled to the other end of the wires and responsive to the axial translation thereof.

2,971,397
MANUAL CONTROL ASSEMBLY FOR TRACTOR HYDRAULIC SYSTEMS
Ernest V. Bunting, Detroit, Mich., assignor to Massey-Ferguson Inc., Racine, Wis., a corporation of Maryland
Original application Aug. 20, 1954, Ser. No. 451,276. Divided and this application June 4, 1958, Ser. No. 739,882
4 Claims. (Cl. 74—526)

1. The combination in a power operating system for a tractor-borne implement hitch having a power operated

actuator for raising and lowering the hitch, of control means for the actuator including a lever pivoted adjacent one end to swing through a predetermined range, a guide quadrant supported at one side of said lever, said quadrant being formed with a slot arcuate about the pivot of the lever, a member slidable in said slot, means



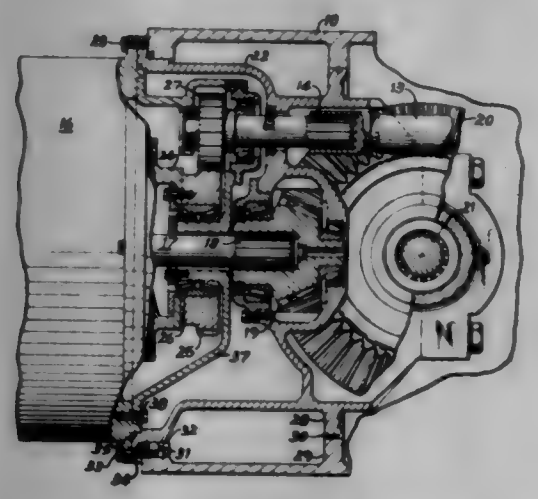
connecting said lever and said member for limited relative movement, and means for locking said member in any selected position in said slot to restrict said lever to swinging movement within a selected portion of its predetermined range determined by the limiting action of said connecting means.

2,971,398

TRACTOR TRANSMISSION AND DIFFERENTIAL ASSEMBLY

Alfred W. Sieving, Decatur, Ill., assignor to Caterpillar Tractor Co., Peoria, Ill., a corporation of California

Filed Dec. 22, 1958, Ser. No. 782,245
5 Claims. (Cl. 74—606)



1. In a tractor having a main housing containing a final drive assembly, a change speed transmission housing, a differential housing, means to secure said last two housings together as a unit, said main housing having spaced walls with openings therein, and said housing unit having parts machined to fit said openings whereby the housing unit is piloted into its proper position with respect to the main housing, said means to secure the transmission and differential housings together being exposed upon assembly of the three housings to permit removal of the transmission housing alone.

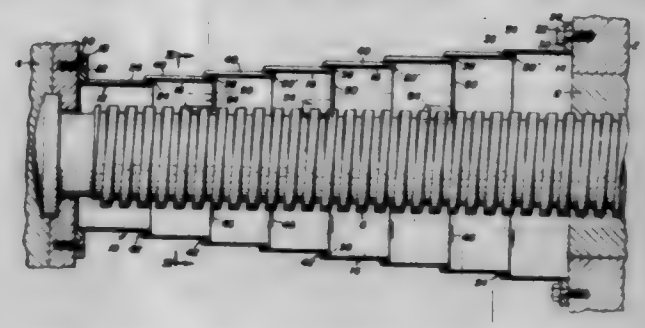
2,971,399

TELESCOPIC PROTECTOR

Samuel S. Roberts, Pittsburgh, Pa., assignor to McGraw-Edison Company, a corporation of Delaware

Filed May 27, 1959, Ser. No. 816,225
8 Claims. (Cl. 74—609)

1. A telescopic protector for traversing screws and the like comprising a plurality of overlapping rings which progressively decrease in diameter from one end of the protector to the other end, an inwardly extending flange on the overlapping end of each ring, the inner diameter of said flange being substantially equal to the outside diameter of the next succeeding smaller ring, an outwardly extending flange on the underlapping end of each ring, said outwardly extending flange having an outer diameter substantially equal to the inner diameter of the next succeeding larger ring, a keyway in each inwardly extending flange, a key fastened to the outer surface of each ring parallel to its axis and adapted to be received in the keyway of the associated overlapping ring, an inwardly extending flange fastened to the underlapping end of each ring, each of said last named flanges extending inwardly beyond its associated ring, at least part of said last named flanges having a guide at its inner end bearing on said screw.

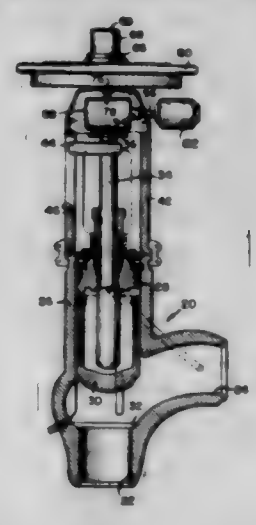


2,971,400

VALVE OPERATING MECHANISM

Bertram J. Milleville, Wadsworth, Ohio, assignor to Edward Valves, Inc., East Chicago, Ind., a corporation of Delaware

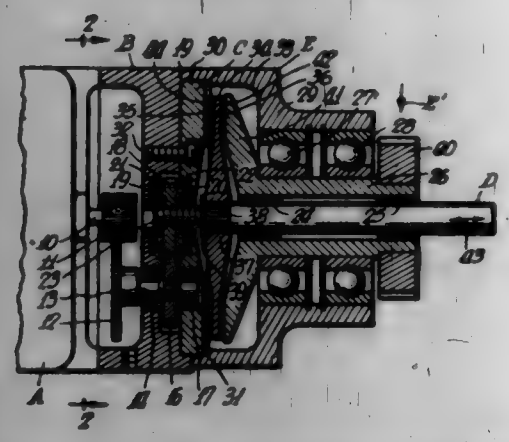
Original application Apr. 9, 1957, Ser. No. 651,732, now Patent No. 2,942,495, dated June 28, 1960. Divided and this application May 26, 1960, Ser. No. 31,926
4 Claims. (Cl. 74—625)



1. In a valve having a threaded stem element axially movable by relative rotation of said stem element and a mating threaded element mounted on the valve, drive means for effecting said relative rotation comprising, a drive assembly drivingly connected to one of said elements and having radial abutments; a handwheel mounted for free rotation about the axis of said stem and having surfaces adapted to engage said abutments after limited rotation of said handwheel; a ring gear rigid with said handwheel; a bracket assembly rigid with said valve beneath said handwheel and projecting radially outwardly from said valve; a first shaft mounted for rotation in said bracket assembly about an axis parallel to the axis of said stem, said shaft projecting upwardly from said bracket assembly, a pinion non-rotatably secured to the projecting upper end of said shaft and meshing with said ring gear; a bevel gear non-rotatably secured to said shaft adjacent the lower end thereof; a second

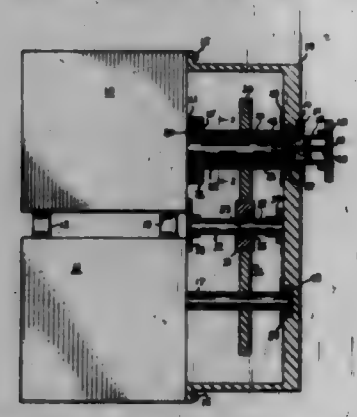
shaft mounted in said bracket assembly for rotation about an axis normal to the axis of said first shaft; one end of said second shaft projecting outwardly of said bracket assembly, a bevel gear on the other end of said second shaft meshing with said bevel gear on said first shaft, and means on the projecting end of said second shaft adapted to be drivingly connected to a portable motor whereby operation of said motor will rotate said drive means and move said stem axially.

2,971,401
CONSTANT SPEED AND SYNCHRONOUS DRIVE SYSTEMS
Maurits Ten Bosch, White Plains, and Paul Lang, Katonah, N.Y., assignors to M. Ten Bosch, Inc., Pleasantville, N.Y., a corporation of New York
Filed Jan. 11, 1956, Ser. No. 558,521
14 Claims. (Cl. 74—665)



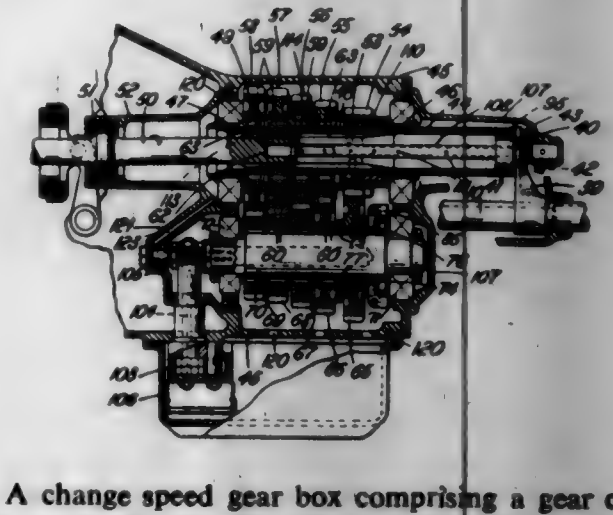
8. A constant speed and synchronous drive system having a main constant speed power supply including a motor, an output constant speed shaft, a drive connection therebetween, an auxiliary power input and automatic means to increase and decrease the power transmitted from said auxiliary input depending upon the power required by said shaft, said last mentioned means including a reciprocal clutch element mounted upon said shaft to cause connection and disconnection between said power input and said output shaft and means to reciprocate said shaft to cause variation of the degree of clutching depending upon the power required from said shaft.

2,971,402
DUAL ENGINE
Charles L. Lovercheck, 632 W. 7th St., Erie, Pa.
Filed Feb. 24, 1959, Ser. No. 794,968
4 Claims. (Cl. 74—665)



1. A drive for a propeller comprising a first engine and a second engine connected together and having crank shaft means extending from each of said engines parallel to each other, housing means disposed around said crank shaft means, a propeller drive tube and an outer tube disposed around one said crank shaft means, said propeller drive tube and said outer tube being piloted at the inner end on one of said engines and at the outer end in said housing means, clutching means connecting said outer tube to said drive tube and said one crank shaft means to said drive tube to drive said drive tube when said outer tube and said one crank shaft means are driven in one direction and to allow said drive tube to rotate independently of said outer tube and said one crank shaft means, and gear means connecting said other engine to said outer tube.

2,971,403
CHANGE SPEED GEARS FOR AUTOMOBILES
Archibald James Butterworth, 7 Grove Gardens, Frimley, Aldershot, Hampshire, England
Original application Mar. 20, 1953, Ser. No. 343,637, now Patent No. 2,807,340, dated Sept. 24, 1957. Divided and this application July 5, 1957, Ser. No. 670,141
9 Claims. (Cl. 74—700)

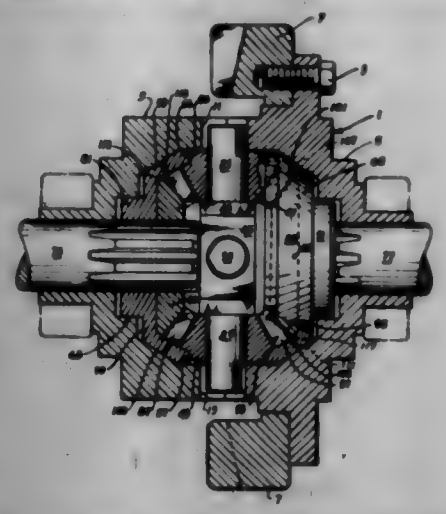


1. A change speed gear box comprising a gear casing having a closed extension adapted to be secured to an engine, a clutch in said casing having a driven shaft provided with external splines and which gear box has a hollow main shaft rotatable and axially slidable in a bearing in the said casing and provided with internal splines engaging said external splines on the clutch driven shaft and also has a plain outer surface, a number of dog teeth projecting from the plain surface of said main shaft, a set of different sized gear wheels fixed against axial movement and rotatably mounted side by side on said main shaft and each having on its inner circumference a number of slots selectively engageable by said dog teeth, another shaft rotatable in bearings in said casing in parallel relation with said main shaft and restrained against axial movement, a set of different sized gear wheels on said other shaft and in constant mesh with the wheels of the first set, and means adapted to impart step-by-step axial movement to said main shaft so that the dog teeth may successively engage the slots in the different gear wheels.

2,971,404
LOCKING DIFFERENTIAL
Ray F. Thornton, 8735 Jackson Road, Dexter, Mich.
Filed Aug. 26, 1958, Ser. No. 764,469
19 Claims. (Cl. 74—711)

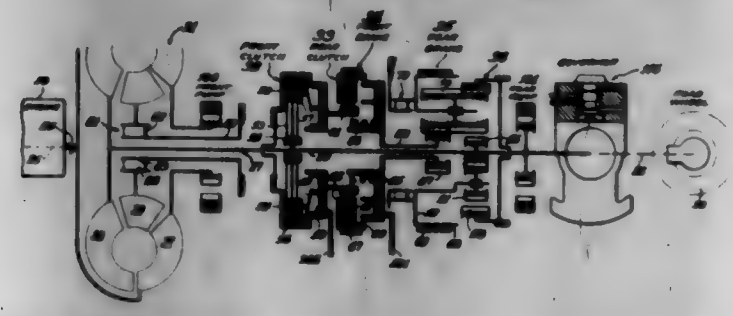
1. A differential power transmission for use with a power source, including rotatable driving means; first flat converging cam surfaces provided by said driving means; floating coupling means disposed in said driving means and providing second flat converging cam surfaces in slidable engagement with said first cam surfaces; a pair of power delivery members driven by torque applied through rotation of said driving means; differential gearing disposed in said driving means between said power delivery members; and clutch means for locking both of said power delivery members with said driving means for simultaneous rotation therewith upon rotation of said driving means by the power source, the rotation of said driving means

causing said second cam surfaces and floating coupling means to be displaced along the first cam surfaces on said driving means to move said clutch means to the locked position; rotation of one of said power delivery members



at a rate of rotation greater than the rate of rotation of the driving means reducing the displacement of said second cam surfaces and floating coupling means relative to the first cam surfaces and driving means and unlocking the said clutch means to provide normal differential driving action to both power delivery members.

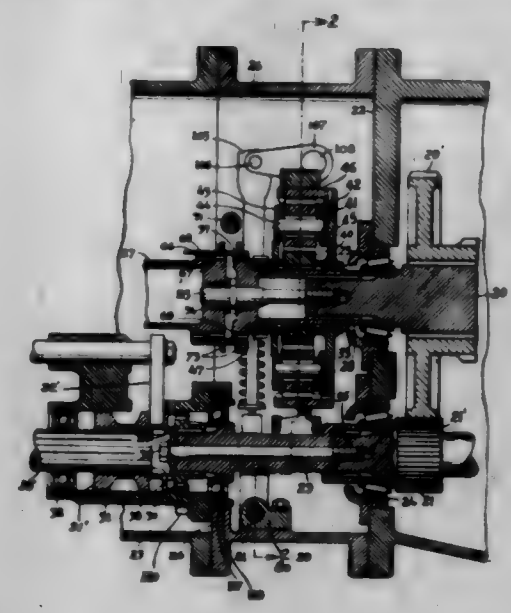
2,971,405
HYDRAULIC CONTROLS FOR TRANSMISSION
George E. Flinn, Muncie, Ind., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Filed Dec. 31, 1956, Ser. No. 631,929
13 Claims. (Cl. 74—752)



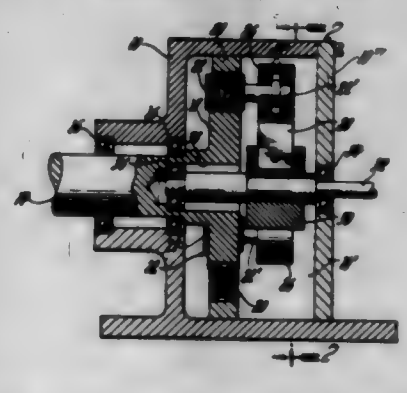
1. In transmission mechanism, the combination of a drive shaft, a driven shaft, means for providing a forward drive power train between said shafts, means for providing a reverse drive power train between said shafts, a manual selector having a reverse drive position, selector controlled means for rendering said reverse drive power train effective when said selector is in its reverse drive position, overruling means for said selector controlled means for rendering said reverse drive power train ineffective, forward drive control means for at times rendering said forward drive power train effective, means controlled by said overruling means for rendering said forward drive effective, and speed responsive means effective on both said overruling means and said forward drive control means to render said reverse drive power train ineffective with said selector being in its reverse drive position and for rendering said forward drive power train effective in lieu of the reverse drive power train.

2,971,406
EPICYCLIC TRANSMISSION AND CONTROL MECHANISM THEREFOR
Alexander Senkowski, Coventry, and Arthur E. Lynes, Sutton Coldfield, England, assignors to Massey-Ferguson Inc., a corporation of Maryland
Filed Jan. 17, 1955, Ser. No. 482,304
Claims priority, application Great Britain Jan. 18, 1954
9 Claims. (Cl. 74—785)

1. In combination with a tractor having change speed gearing comprising an output shaft and a layshaft and also having a transmission shaft coaxially disposed with said output shaft; an epicyclic gear unit for said tractor disposed between said output shaft and said transmission shaft comprising, a first extension shaft detachably secured to said output shaft, a sungear secured to said extension shaft, an annular gear rotatably mounted on said extension shaft and having a brake surface, a planet-carrier rotatably mounted on said extension shaft and having planet gears rotatably secured thereto for operative engagement with said annular gear and said sungear, clutch means for selectively engaging said transmission shaft with said first extension shaft or with said carrier, brake means adapted to be engageable with said brake surface and having a fixed portion and a movable portion; a cylinder secured within said tractor having a piston reciprocable therein, said piston having a rod connected therewith and operatively connected with said movable brake portion, fluid pump means having fluid communication with said cylinder for moving said piston and its associated movable brake portion into locking position, a second extension shaft detachably secured to said layshaft for rotation therewith and having a cam surface; mechanism for actuating said pump means including a yieldable means for supplying a pumping stroke and also including a lost-motion connection, said cam surface engaging said mechanism for imparting a suction stroke to said pump; adjustable control means for selectively placing said mechanism in an operative or inoperative position.



2,971,407
PRECISION GEAR TRAIN FOR SERVO CONTROL MECHANISM
Edwin F. Katz, Milwaukee, Wis., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Nov. 9, 1959, Ser. No. 851,691
6 Claims. (Cl. 74—801)



1. In a servo control mechanism, a data transmitting planetary gear mechanism comprising a housing defining

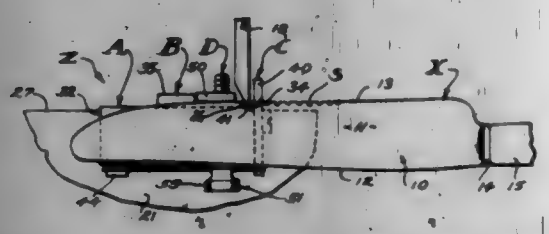
a gear mounting chamber, an input shaft mounted for rotation with respect to said housing and projecting within said housing chamber, a pinion gear on said input shaft within said housing chamber, a ring gear carried by said housing in concentric spaced relation to said pinion gear, an output shaft mounted for rotation with respect to said housing, said output shaft projecting within said housing chamber in coaxial alignment with said input shaft, a plurality of planetary gears equiangularly spaced and drivingly in mesh with said pinion and ring gears, and carrier means for drivingly connecting said planetary gears to said output shaft, said carrier means including bearing means for mounting each of said planetary gears for rotation about its respective axis and a plurality of relatively stiff spring means for independently and drivingly interconnecting and mounting each of said bearing means with respect to said output shaft.

2,971,408

KNIFE SERRATING APPARATUS

Holly K. Robinson, 800 S. Isis Ave., Inglewood, Calif.

Filed Dec. 10, 1957, Ser. No. 701,869
2 Claims. (Cl. 76—89.1)



2. A holder for positioning and controlling manipulated movement of a knife blade, and the like, for serration of the cutting edge thereof, and including, a frame means engaged by the cutting edge and longitudinally positioning the blade relative to the frame, and means stopping lateral movement of the blade relative to the frame and including, a plate engaged by the blade and shiftable laterally of the frame, an adjustment screw rotatably supported by the frame and threadedly carrying and positioning the plate, and a compression spring acting between the frame and plate to urge said plate into position.

2,971,409

DRILL CONSTRUCTION

Robert O. Peters, Royal Oak, and Daniel J. Sullivan, Jr., Huntington Woods, Mich., assignors to National Twist Drill & Tool Company, Rochester, Okla., a corporation of Michigan

Filed Nov. 17, 1958, Ser. No. 774,194
2 Claims. (Cl. 77—68)



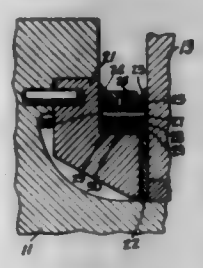
1. A drilling tool comprising a tubular shank having a central coolant-carrying passage therein, a plurality of longitudinal, circumferentially spaced axial notches intermediate the ends of said shank, said notches being formed in the outer periphery of said shank, each of said notches having only two flat, angularly disposed side wall portions, a transverse slot formed at one end of said shank in the shank wall on opposite sides of said coolant-carrying passage, a separate cutting element fixed in said slot to said one end of said shank and having a cutting radius greater than the radius of said shank, the width of said cutting element being less than the width of said coolant-carrying passage in the cutting element area so that the coolant can flow along the sides of said cutting element, separate guide strips independent of said cutting element received in said axial notches, each of said guide strips including a pair of flat surfaces intersecting at an angle equal to the angle between the wall portions defining said notches and adapted to seat against said wall portions, said guide strips extending radially outwardly from the wall of said shank a distance substantially equal to said cutting element radius whereby said strips will bear against the wall of the hole drilled by said cutting element to guide the drilling tool in its drilled path, the spacing between said guide strips exterior of said shank providing a chip disposal and return coolant path.

2,971,410

ROLL MOUNTING FOR A DRAW ROLLING MILL

Julius B. Tiedemann, Milwaukee, Wis., assignor to A. O. Smith Corporation, Milwaukee, Wis., a corporation of New York

Application Mar. 26, 1954, Ser. No. 418,966, which is a continuation of application Ser. No. 388,177, Oct. 26, 1953, now abandoned. Divided and this application Mar. 13, 1958, Ser. No. 721,175
8 Claims. (Cl. 80—55)



1. A pressure roll mounting for a rolling mill comprising a pair of aligned bearing members secured in spaced relation to each other, a pressure roll trunnioned in the bearing members, a pair of annular, complementary axially aligned retaining rings disposed between the roll and each said bearing member with each pair of rings being individually spaced to intimately contact the end surfaces of the roll and the bearing members, respectively, means individually connecting each pair of rings to retain the rings from relative rotation with respect to each other, biasing means disposed between each individual pair of rings to retain the same in intimate contact with the bearing members and roll, respectively, and a gasket annularly disposed between each individual pair of rings, said rings and gasket serving to protect the bearing members from foreign matter and permitting limited axial movement of the roll with respect to the bearing members to compensate for wear in the elements and heat expansion in service.

2,971,411

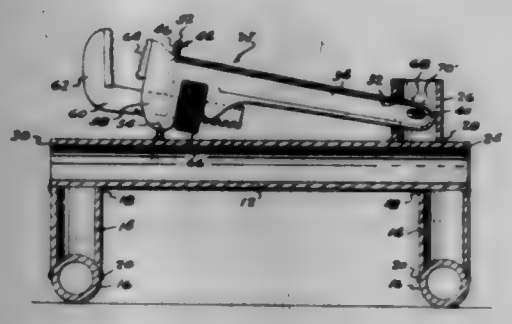
PIPE WRENCH STAND

Joseph L. Dull, Seminole, Okla.
(P.O. Box 65, Pampa, Tex.)

Filed June 5, 1959, Ser. No. 818,446
3 Claims. (Cl. 81—41)

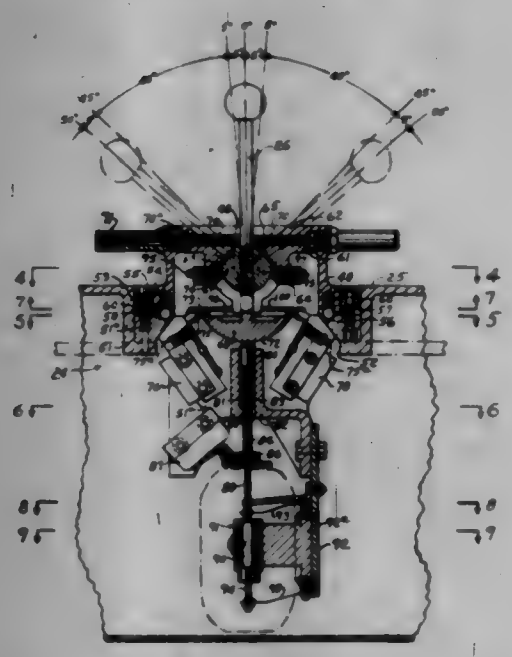
1. A pipe wrench stand comprising an elongated horizontal bar having first and second ends, a tubular standard

fixed on and upstanding on said bar at said first end, said standard having a closed wrench handle receiving slot in the side thereof facing the second end of the bar, a removable retaining pin extended crosswise through said



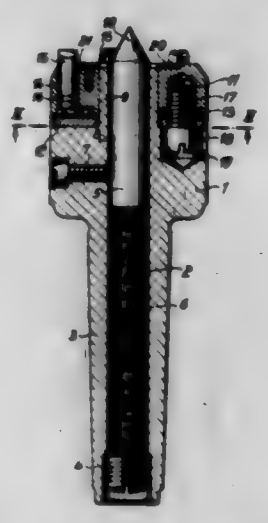
standard for retaining engagement with a wrench handle, and an upstanding bracket fixed on said bar at said second end having therein slot means for non-rotatably receiving the frame of a pipe wrench and an outer side to be abutted by a wrench frame.

2,971,412
MACHINE TOOL CONTROL ELEMENT
John Fisher, Cleveland Ohio, assignor to The Warner & Swasey Company, Cleveland, Ohio, a corporation of Ohio
Filed Dec. 14, 1956, Ser. No. 628,349
29 Claims. (Cl. 82—2)



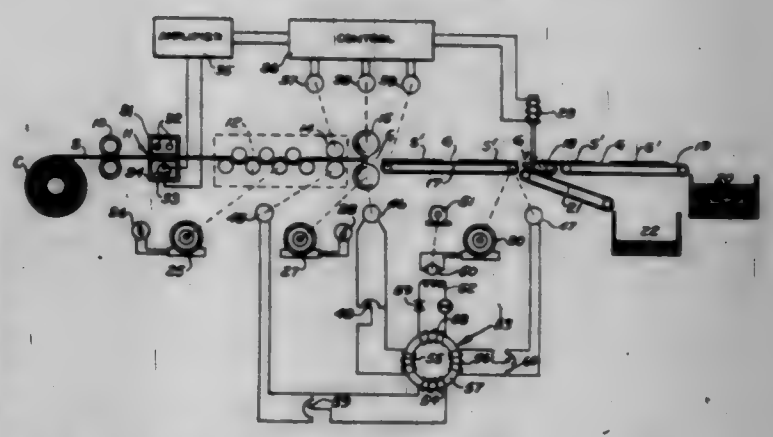
28. A control system for a machine tool having a rotatable spindle, a slide, a drive for effecting relative feed movement between said spindle and slide and including variable speed control means responsive to a variable characteristic of an electrical input signal to effect the relative movement at a rate dependent upon the magnitude of said characteristic, said relative movement effecting relative feed movement between a tool and workpiece, electrical circuit means providing an electrical control signal having said variable characteristic and including adjustable control means selectively actuatable to vary said characteristic of said electrical control signal independently of the setting of said variable speed control means and means responsive to spindle rotation to vary said characteristic of said control signal independently of said adjustable control means and in accordance with spindle rotation whereby said control signal has a selectively variable component and a component dependent on spindle rotation, and circuit means for applying said control signal to said variable speed control means as the input signal thereof.

2,971,413
LATHE POINT
Günther Horst Röhm, Muhlstrasse 9, Sontheim, Germany
Filed Jan. 20, 1958, Ser. No. 710,136
Claims priority, application Germany Jan. 24, 1957
2 Claims. (Cl. 82—33)



1. In combination with a lathe center casing having a bore in an end face thereof for slidable mounting of a center point and an annular groove in said end face, coaxial with the bore and a plurality of recesses in the bottom of the groove, an annular gripping head slidably engaged in the groove and having an annular chamber therein coaxial with the bore in the casing and filled with pressure fluid, means on one end thereof engaged in the recesses in the casing to prevent relative rotation between the head and the casing, a series of borings in the other end thereof spaced symmetrically about the bore in the casing and communicating with the chamber, and a corresponding number of gripping elements slidably mounted in the borings and hydraulically supported by the fluid in the chamber.

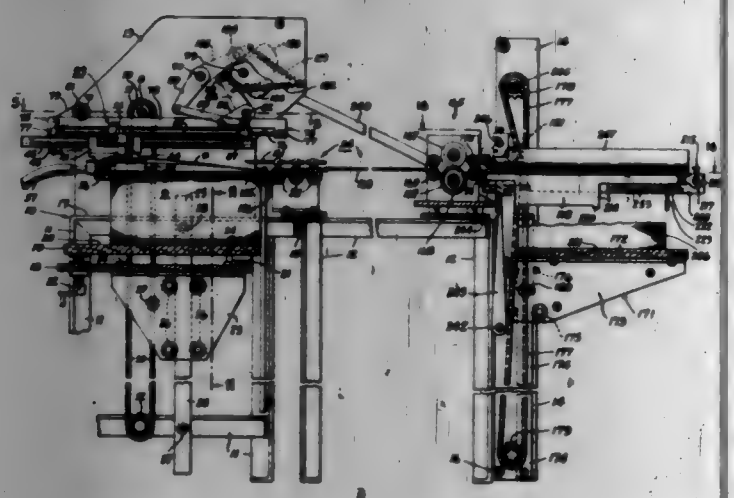
2,971,414
CONSTANT GAP CONTROL FOR SHEET SHEARING LINES
Albert G. Owen, Rockville, Md., assignor to Blaw-Knox Company, Pittsburgh, Pa., a corporation of Delaware
Filed Nov. 4, 1959, Ser. No. 850,917
10 Claims. (Cl. 83—75)



8. In a strip shearing line having a shear, means for delivering strip to the shear, means for driving said delivering means at varying rates of speed, means for operating said shear at varying numbers of cuts per minute, a conveyor for receiving sheets cut by said shear, an electric motor for driving said receiving conveyor at varying rates of speed in excess of the speed of said delivering means, and means for controlling the speed of said motor and said receiving conveyor in response to the speed of said delivering means and the speed of said shear to maintain the gap between the sheets on said conveyor

substantially equal to a predetermined value regardless of changes in the speed of said delivering means and changes in the number of cuts per minute made by said shear, said controlling means comprising a variable voltage generator for supplying electrical energy to said motor, a tachometer generator driven by said delivering means, a tachometer generator driven by said shear and a tachometer generator driven by said receiving conveyor, and means responsive to the outputs of said tachometer generators for supplying excitation to the field of said variable voltage generator.

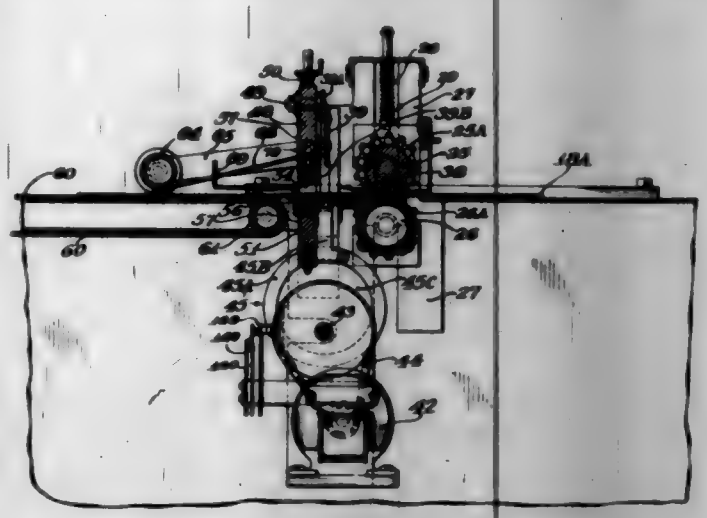
2,971,415
APPARATUS FOR FEEDING, CUTTING AND STACKING FLAT STOCK
George A. Gibson, Jr., New York, N.Y.
(165 Clymer St., Brooklyn 11, N.Y.)
Filed July 7, 1954, Ser. No. 441,820
28 Claims. (Cl. 83—94)



20. Apparatus for feeding and processing flat stock such as sheets and the like comprising in combination input means adapted to receive said stock, delivery means including separating means adapted to select work pieces from said stock on said input means, said separating means including stock pick-up means and actuating means therefor, said actuating means including longitudinal drive means and vertical drive means, said longitudinal drive means being movably carried on said vertical drive means, processing means adapted to receive said stock from said delivery means and to process the same, output means adapted to be displaced by gravity and arranged to receive the processed stock, and control means, said control means being responsive to the magnitude of said stock and including means for controlling said input means and for controlling, independently of the weight of said stock received by said input means, the displacement by gravity of said output means whereby said input means and output means are coordinately adjusted in relation to the magnitude of said stock.

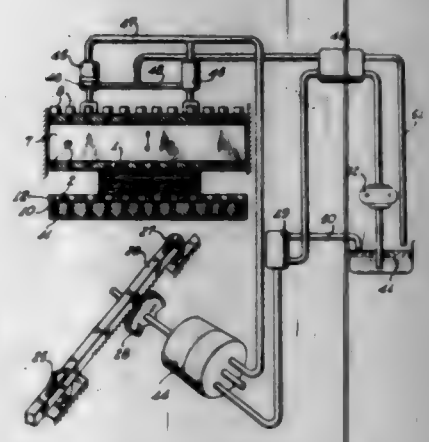
2,971,416
MEASURING-TYPE STRIP-FEEDING MACHINE
Walter Von Stoeser, Lake Villa, Ill., assignor to Lectromatic Devices, Inc., Chicago, Ill., a corporation of Illinois
Filed Dec. 31, 1954, Ser. No. 478,991
6 Claims. (Cl. 83—155)

1. A machine of the class described including sheet-feeding means and a driving motor therefor; sheet cut-off means and a driving motor therefor; outfeed conveyor means for cut sheets and a driving motor therefor; selectively operable measuring-switch and circuit control means connected for operation to actuate said feeding motor to feed selected lengths of sheet; cut-off circuit means connected for control by said measuring-switch and circuit control means to actuate said cut-off motor at the conclusion of each feeding actuation of the feeding motor



as aforesaid; and further circuit means cooperable with said measuring-switch and circuit control means and connecting with said outfeed motor for actuating of the latter concurrently with the actuation of the feeding motor as aforesaid.

2,971,417
WORK SENSING CLAMPING PRESSURE ADJUSTING MEANS
Rolf Hermann Chlebus, Leipzig, Germany, assignor to VEB Leipziger Buchbindereimaschinenwerk, Leipzig, Germany
Filed Dec. 10, 1956, Ser. No. 627,414
Claims priority, application Germany Aug. 16, 1956
9 Claims. (Cl. 83—364)



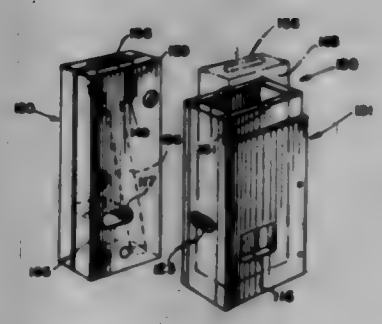
1. An automatic pressure control device for paper and the like sheet cutting machines having a cutting table, and a transverse pressure bar and cutting knife each reciprocally arranged in parallel relation above the cutting table, means for moving said cutting knife toward said cutting table on its cutting strokes for successively cutting piles of sheet material fed along the table, means for moving said pressure bar toward said cutting table in advance of said cutting knife to clamp said piles of sheet material, means for controlling the clamping pressure of said last named means, comprising a plurality of sensing means arranged in spaced relation longitudinally of and substantially coextensive with said pressure bar, each of said sensing means being operative to be actuated in dependence upon the pile of sheet material along which the cut is to be made directly thereunder, and means controlled jointly by the actuation of said sensing means for adjusting the pressure applied by said pressure bar to said pile of material prior to the cutting operation.

2,971,418
APPARATUS HAVING A SHELL WITH TWO SPACED CUTTING EDGES AND A HOLLOW RECIPROCATING CLOTTED MEMBER COOPERATING THEREWITH FOR SHEARING METAL PARTS

Kenneth F. Johnson, Oaklawn, and Hilton G. Kohr, Chicago, Ill., assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Continuation of application Ser. No. 397,561, Dec. 11, 1953. This application June 24, 1958, Ser. No. 744,891

3 Claims. (Cl. 83—580)



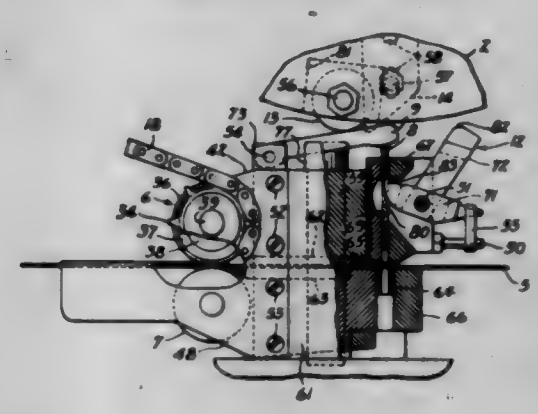
1. In combination with a wire-working apparatus including a first grooved clamping means for gripping a first wire within the groove, a second grooved clamping means for gripping a second wire within the groove, and a frame mounting the first and the second clamping means in spaced apart opposed positions with the grooves of each in coaxial alignment; an improved apparatus for shearing a pair of wires, which comprises a hollow shell open at one end slidably supported within the frame for movement into and out of the space between the clamping means, the open end of the shell having aligned grooves formed on opposite sides thereof forming cutting edges at the inner ends of the grooves, a hollow shear slidably mounted within the shell having an elongated slot formed through each of a pair of opposite walls, the outer edges of the slots forming knife edges for cooperation with the cutting edges of the shell grooves, the elongated slots being arranged for overlapping alignment with the grooves of the shell when the shell and shear are moved to wire-loading positions such that a wire held by each clamping means may easily be inserted over an associated one of the grooves and through an associated one of the slots into the hollow interior of the shear, means affixed to the frame for moving the shell and the shear from retracted positions outside the space between the clamping means to the wire loading positions in the space between the clamping means, the shell having an opening formed in one wall, a bushing mounted adjustably in the frame, a shaft having an eccentric pin on the end thereof mounted rotatably and slidably in the bushing and engageable with the sides of the opening in the shell to move the shell relative to the frame and the shear to a shearing position such that the grooves of the shell are aligned with the grooves of the clamping means and the cutting edges of the grooves are against and support the wires closely between the cutting edges of the slots and the cutting edges of the grooves for a shearing operation, means for limiting rotative movement of the shaft between two positions whereby the shell first is moved and held in the wire loading position and subsequently is adjusted to the shearing position by alignment of the grooves of the shell with the grooves of the clamping means, and means for moving the shear relative to the shell to sever the wires, the cut ends of which then pass through the hollow interior of the shear.

2,971,419
PERFORATING MACHINE WITH POSITIVE ACTING RETURN

Walter Scott Baker, Clearwater, Fla., and Howard M. Dodge, Marion, Ind., assignors to The General Tire and Rubber Company, Akron, Ohio, a corporation of Ohio

Original application Nov. 5, 1952, Ser. No. 318,908, now Patent No. 2,800,959, dated July 30, 1957. Divided and this application May 1, 1957, Ser. No. 656,457

1 Claim. (Cl. 83—588)



A high speed perforating machine comprising a frame, a punch with a slot formed therein along the line of movement of said punch, a die mounted on said frame for receiving the lower end of said punch, means including a pair of feed rollers for feeding continuously a strip between said punch and said die, means on said frame slideably guiding and mounting said punch for vertical reciprocation, means for actuating said punch to cause high speed reciprocation thereof including a rigid swingable punch lever pivotally mounted on said frame and resting on the top of said punch and a flywheel mounted on said frame for rotation about a horizontal axis and having a series of regularly circumferentially spaced impact rollers mounted thereon for striking said lever at intervals to actuate said punch, motor means for rotating said flywheel and said feed rolls continuously in synchronism, and means for yieldably resisting movement of the punch and for retracting the punch including a bell crank, an endless band of elastic rubber, and a series of regularly circumferentially spaced rigid impact cams mounted on said flywheel, means mounting said bell crank on said frame to swing about a horizontal axis which is below the flywheel and said lever and parallel to said first-named axis, said bell crank having a first arm with one end portion fitting into said slot and having a second upwardly extending arm with an upper end portion movable into and out of the path of movement of said impact cams, the impact of each cam with said upper end portion causing the bell crank to move in a direction to lower said second arm and to elevate said first arm, whereby said first arm engages the punch at the top of said slot to raise said punch and said lever to a position wherein the lever is in the path of movement of said impact rollers, said bell crank having a projecting band-receiving portion at the other end of said first arm connected to the upper end of said band, and means connecting the lower end of said band to the frame and locating the band to resist downward movement of the first arm and to bias the punch upwardly to a position wherein the lever is in the path of movement of said impact rollers.

2,971,420
ELECTRICAL MUSICAL INSTRUMENT

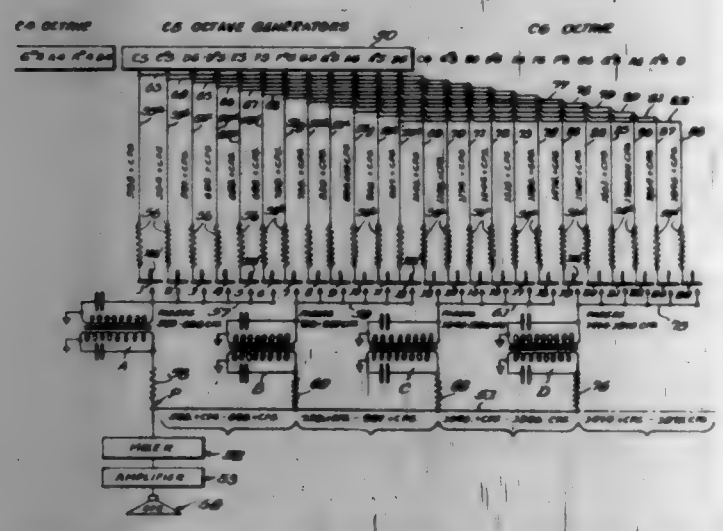
Walter J. Anderson, Elgin, Ill., assignor to The Lowrey Organ Company, Chicago, Ill., a corporation of Illinois

Filed Mar. 14, 1958, Ser. No. 721,545

15 Claims. (Cl. 84—1.22)

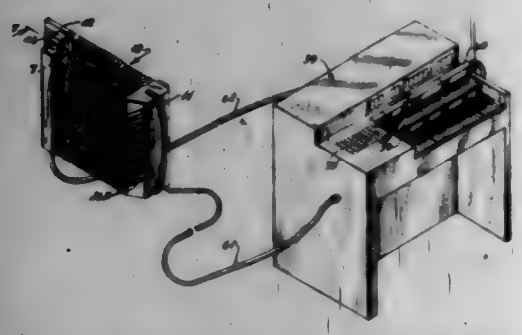
2. A musical instrument comprising an electrical tone generator producing an output tone signal comprising

frequency components n and $2n$, an electroacoustic output system, a first circuitry interconnecting the generator to the output system via a band pass filter of the type



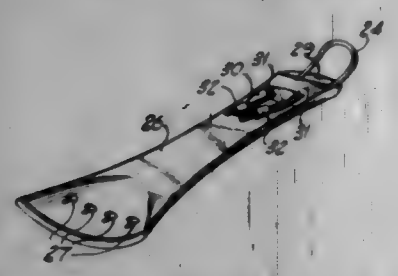
passing thereto only the frequency component n, and a second circuitry connecting the generator to the output system via a band pass filter of the type passing only the frequency component $2n$ to said system.

2,971,421
MUSICAL INSTRUMENT
James J. Borell, 2509 Azales Drive, Orlando, Fla.
Filed Oct. 15, 1957, Ser. No. 690,311
11 Claims. (Cl. 84—170)



1. In combination a multi-note producing instrument having note producing circuits, an accordion type instrument having a chord producing portion wherein a single button has a plurality of actuators for operating a plurality of note producing means, circuitry interconnecting said actuators with the corresponding circuits in said multi-note producing instrument, whereby the actuation of a single chord button on said accordion type instrument will directly produce corresponding tones in said multi-note producing instrument.

2,971,422
TAILPIECE RETAINER FOR STRINGED INSTRUMENTS
Frank Pasan, 391 Sutter St., San Francisco, Calif.
Filed July 22, 1957, Ser. No. 673,355
1 Claim. (Cl. 84—302)



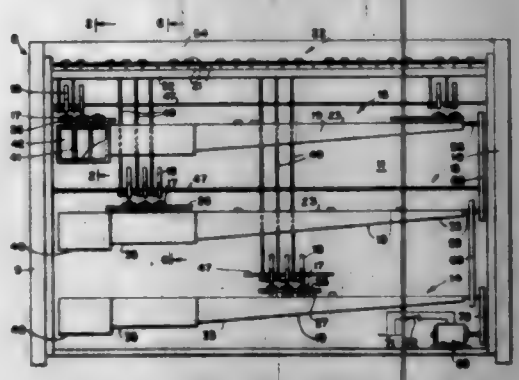
A retainer for the tailpiece of a stringed instrument, said tailpiece having a pair of longitudinal openings adjacent one end through which the ends of said retainer are inserted, said retainer comprising: a length of flexible, compressible, substantially inextensible nylon, both ends of which are threaded; and a pair of knurled metallic nuts in threaded engagement with said ends, said nuts having an outer diameter larger than said openings to prevent the ends of said retainer from slipping out, the thread diameter of said nuts being smaller than that of said ends whereby said nuts are held firmly in place on said nylon.

2,971,423
BRACE FOR MUSICAL INSTRUMENT
Leon Leblanc, Paris, France, assignor to G. Leblanc Corporation, Kenosha, Wis., a corporation of Wisconsin
Filed June 24, 1958, Ser. No. 744,234
4 Claims. (Cl. 84—380)



1. In a musical instrument having a bell, said bell including a flare, a substantially U-shaped bowl secured at one end to said flare, a receiver fixed to the opposite end of said bowl adapted to releasably hold a body of the instrument, a bracket on said receiver having a bore therein, a bracket on said flare having threaded anchor means, an elongated diagonal brace, said brace having an angularly disposed end portion received in said bore, the opposite end of said brace having an eyelet, and threaded fastening means cooperable with said threaded anchor means, one of said threaded means extending through said eyelet.

2,971,424
VIBRATING BAR TYPE MUSICAL INSTRUMENT HAVING STRIKERS
Larry Kent, 15 Center St., Mount Vernon, N.Y., and Thomas W. Norum, 1418 Parker St., Bronx 62, N.Y.
Filed Jan. 10, 1958, Ser. No. 708,124
7 Claims. (Cl. 84—404)



1. A musical instrument comprising bars mounted for transverse vibration, a hammer mounted adjacent each of said bars, and a manually operable key operatively connected with each said hammer whereby said bars can be struck with the hammers by actuating the keys, a resonator chamber disposed adjacent said bars closely spaced therefrom with a wall thereof confronting said bars, transverse partitions disposed in said chamber providing a resonator box for each bar, means defining an opening in said wall to each said resonator box, each said opening being spaced

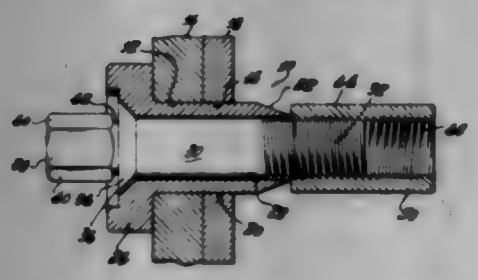
from the next adjacent openings and aligned with the bar, of its resonator box, a shaft which is mounted for rotation and extends longitudinally of the resonator chamber and across the openings, a closure plate disposed in each said opening, the closure plates being mounted in spaced relationship on said shaft, each said closure plate having a portion of the periphery thereof on each side of its axis of rotation parallel to said axis, the periphery of each opening conforming to the periphery of its closure plate and being closely spaced therefrom when its closure plate is in the closed position, means defining a groove in said wall extending from each opening to a next adjacent opening each said groove being adapted to receive and having positioned therein the portion of said shaft intermediate the closure plates positioned in the openings joined by the groove, a cover plate over each said groove, and means for continuously rotating said closure plates whereby each said opening is alternatively open and closed.

2,971,425

BLIND FASTENER HAVING AN EXPANDABLE NUT DRAWN INTO ENDWISE ABUTMENT WITH WORK SURFACE

Richard H. Blakeley, 2608 Via Ramon, Palos Verdes Estates, Calif.

Filed Dec. 31, 1956, Ser. No. 631,536
4 Claims. (Cl. 85—40)



1. In a blind fastener, the combination of: a bushing having a convergent inner end and having a head at the outer end thereof, said bushing also having an outwardly facing screw head seat; a screw extending through said bushing and having an inner end projecting inwardly beyond said convergent inner end of said bushing, said screw also having a head which is engageable with said screw head seat; and a circumferentially continuous nut threaded on said inner end of said screw and having inner and outer ends, said outer end of said nut being engageable with said convergent inner end of said bushing and being expansible thereover in response to axial movement of said nut toward said bushing as the result of rotation of said screw relative to said nut, the outside diameter of said nut being less than the outside diameter of said bushing, said nut being internally threaded throughout its entire length and having substantially constant internal cross-sectional dimensions throughout its entire length.

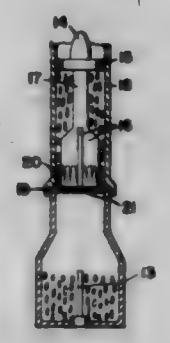
2,971,426

METHOD OF LOADING FIN STABILIZED AMMUNITION

George C. Potts, Philadelphia, Pa., assignor to the United States of America as represented by the Secretary of the Army

Filed Mar. 26, 1959, Ser. No. 802,264
1 Claim. (Cl. 86—20)
(Granted under Title 35, U.S. Code (1952), sec. 266)

A process for filling a cartridge case for a projectile having stabilizing fins and a sabot, said process comprising: partially filling such a cartridge case with its base lowermost with the propellant to a height contiguous stabilizing fins of a projectile when later inserted; placing a propellant supporting cylinder around a projectile with its fins uppermost and with said cylinder extending longitudinally between the stabilizing fins and the sabot for the purpose of retaining propellant around the projectile until said projectile with propellant is later enclosed and held by the cartridge case; placing a retaining cup washer having an open base and hinged split sides over a rear end of the stabilizing fins, so that the slit sides extend longitudinally between the fins and the propellant supporting cylinder; loading propellant through the open base of said retaining cup washer to fill said cylinder between said sabot and said cup washer, said sabot retaining the propellant after it is loaded into the supporting cylinder around the projectile; securing a back-up plate to the rear end of the stabilizing fins and closing the base of said cup washer, to prevent the propellant from falling out when the supporting cylinder and projectile are inverted; inverting the propellant supporting cylinder and



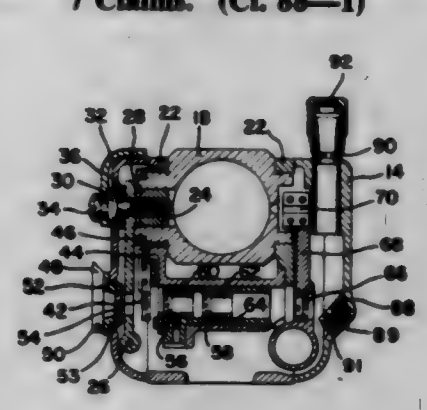
projectile; positioning said cylinder and projectile at the mouth of the cartridge case preparatory to pressing the projectile with propellant into the cartridge case; pressing the projectile and propellant out of the supporting cylinder and into the partially filled cartridge case until said back-up plate, which is substantially coincident with the rear end of the stabilizing fins, is contiguous the top of the propellant in the partially filled cartridge case, the said hinged slit sides of said cup washer having spread outwardly due to the weight of the propellant, to continue to contain the propellant as the projectile moves into an enlarged throat portion of said cartridge case; and withdrawing the supporting cylinder from the mouth of the cartridge case, leaving the propellant substantially filling a space within the cartridge case around the projectile, between the base of the cartridge case and the sabot.

2,971,427

SELF-CORRECTING ALIDADE

Carl W. Keuffel, Bernardsville, Allister L. Baker, Denville, and Conway D. Hillman, Millburn, N.J., assignors to Keuffel & Esser Company, Hoboken, N.J., a corporation of New Jersey

Filed Jan. 17, 1955, Ser. No. 482,036
7 Claims. (Cl. 88—1)



7. An optical instrument comprising a support provided with horizontal bearing means, a horizontal axle pivoted in said bearing means, a telescope carried on said horizontal axle having its line of sight perpendicular to the axis of said horizontal axle, an arcuate protractor scale mounted on said horizontal axle pivoted with said telescope and centered on the axis of said horizontal axle and an optical system for reading said protractor scale

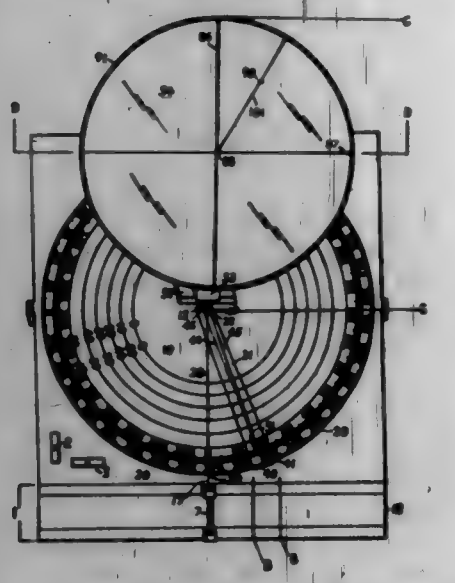
including at least one lens element mounted on a pendulum member pivoted with respect to said support on the axis of said horizontal axle in a plane perpendicular to said horizontal axle and free to find an equilibrium position determined by the direction of gravity, at least the portion of said optical system which is nearest to said protractor scale having an axis parallel to said horizontal axle, a reticle having an index mark on the axis of said optical system, said optical system imaging a portion of said protractor scale against an index mark so that the reading of said protractor scale indicates the true elevation angle of the line of sight of said telescope with respect to gravity even if said support is not perfectly level.

2,971,428

GREAT CIRCLE GUIDE

Francis Byron Guthrie, Jr., Philadelphia, Pa.
(724 Anderson Ave., Drexel Hill, Pa.)

Filed Feb. 6, 1958, Ser. No. 713,735
1 Claim. (Cl. 88—2.4)



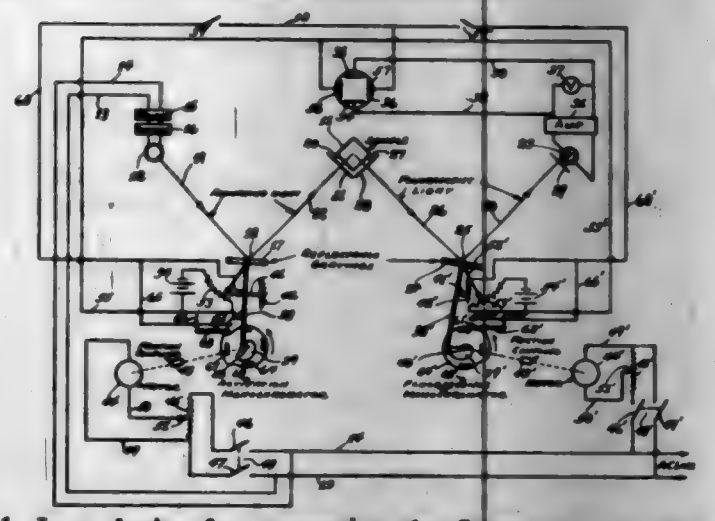
A great circle guide comprising a base, two concentric rings mounted thereon for rotation about a common vertical axis, said rings being independently rotatable with respect to said base and with respect to one another, each of said rings together bearing central concentric markings also indicia of degrees 0 through 360 on the outer edges thereof, a pin fitted in said base axially aligned with said vertical axis and extending through said rings for rotation about said axis, a radius arm fitted on said pin and overlying said rings for relative rotation with respect to said rings and said base, said radius arm embodying straight-line markings diverging and lying along the center line and functioning to point out coincidence one relative to the other of angular indicia and divisions thereof of underlying rings, surface levels on said base and a resilient compressible insert underlying as a means for leveling upper plate of said base, a fixed reference line on said base serving as a point of reference in the horizontal plane about the vertical axis common to the inner ring, outer ring, and radius arm as a means for each to establish angular relationships coordinately or independently thereto, a grommet fitted on said pin to, when pushed down, receive the top of radius arm snugly serving thereafter to coordinate pin and radius arm causing their turning as one, above said grommet and embodying a fixed reference line a quadrant of circular conformance through a total length of 95 degrees supported by aforesaid pin which threaded into the underside causes the two to rotate about the pin's axis of rotation as one, a mirror support of circular conformance through a total length of 135 degrees to turn about the pin-quadrant axis of rotation and mounted by means of channelled quadrant receiving correspondingly formed contours of mirror support as a means also to turn mirror support 90 degrees about the horizontal axis established by said movement, said mirror support embodying two radius arms overlying and movable one to the other each bearing straight line markings along and diverging from their respective center line, said markings in conjunction with underlying equidistant concentric markings and indicia of degrees of mirror support contributing with fixed reference line on aforementioned quadrant to establish angular relationships and divisions thereof between mirror support and quadrant, a flat circular mirror held indirectly by aforesaid quadrant by means of permanent or removable attachment to leading edge of mirror support and movable and establishable with mirror support 90 degrees about the horizontal axis established by mirror support's channelled travel, said mirror embodying on its surface by means of a mirror ring embodying a set screw a rotatable radius rotatable and fixable through 360 degrees, the axis of said rotation when mirror is established in the vertical a horizontal one intersecting and at right angles to the horizontal axis hereinbefore mentioned as determined by mirror support's channelled travel, said axis of rotatable radius giving way to diverse axes as the mirror is moved through 90 degrees by means of mirror support's channelled travel about the horizontal axis determined by said travel, means all hereinbefore pointed out for leveling said base to establish the pin vertical, for moving the mirror through 360 degrees about a vertical axis, for moving the mirror 90 degrees about a horizontal axis, for moving or fixing a rotatable radius on the face of said mirror 360 degrees about diverse axes from the horizontal to the vertical, for adjusting the mirror 360 degrees about the first mentioned vertical axis in accordance with the azimuth of a celestial body, for adjusting the mirror about the second mentioned horizontal axis in accordance with the computed altitude of a celestial body, for adjusting the rotatable radius 360 degrees about the third mentioned diverse axes and fixing it to bisect a star image brought into view on the mirror's surface, all the aforesaid means serving to establish the rotatable radius as a guide for a great circle course to be made good, this same great circle component thereafter through use of all the necessary interrelated functions contributing to its method of establishing a guide for the great circle path to be traveled is used in conjunction with a star image as a guide for the great circle course to be made good, as a means to establish relative position with regard to that great circle course, as a means to establish relative position with regard to destination.

2,971,429

SPECTRO-FLUORESCENCE MEASURING INSTRUMENT

Hugh K. Howerton, Silver Spring, Md., assignor to American Instrument Company, Inc., Silver Spring, Md.

Filed Feb. 6, 1957, Ser. No. 638,572
3 Claims. (Cl. 88—14)



1. In a device for measuring the fluorescent response of a fluorescent material, a support formed with a first

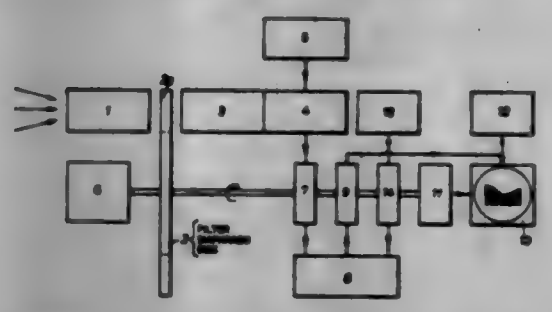
housing, a second housing extending at a substantial angle to said first housing and having a rear end located adjacent the rear end of the first housing, and an additional housing located between and communicating with the rear ends of said first and second housings, a transparent sample cell adapted to contain fluorescent material mounted in said additional housing, a source of light communicating with the rear end of said first housing, a first reflectance grating pivotally mounted in the rear portion of said first housing and facing forwardly therein, a pair of spaced mirrors mounted in the forward portion of said first housing, one of said mirrors being positioned to reflect light from said source to said grating and the other mirror being positioned to reflect light from said grating to said additional housing and to said sample cell, a cathode ray oscilloscope having vertical deflection means and horizontal deflection means, a further housing communicating with the rear end of said second housing, a photo-sensitive device mounted in said further housing, a second reflectance grating pivotally mounted in the rear portion of said second housing and facing forwardly therein, a second pair of spaced mirrors mounted in the forward portion of said second housing, one of said second mirrors being positioned to reflect light from said sample cell to said second reflectance grating and the other of said second pair of mirrors being positioned to reflect light from said second reflectance grating to said photo-sensitive device, means connecting said photo-sensitive device to said vertical deflection means, means to selectively oscillate said reflectance gratings, respective sawtooth sweep voltage generators associated with said gratings, means constructed and arranged to at times simultaneously drive each grating and its associated sweep generator, means to selectively connect said sweep voltage generators to the horizontal deflection means, and switch means mechanically coupled to the gratings and constructed and arranged to short-circuit the output of each sweep voltage generator substantially at the end of each cycle of oscillation of its associated grating.

2,971,430

AUTOMATIC FILTER SPECTROGRAPH

Ernst Rohmer and Max J. O. Strutt, Zurich, Switzerland, assignors, by mesne assignments, to Pretema A.G., Zurich, Switzerland

Filed Dec. 9, 1957, Ser. No. 701,572
Claims priority, application Switzerland Dec. 12, 1956
4 Claims. (Cl. 88—14)



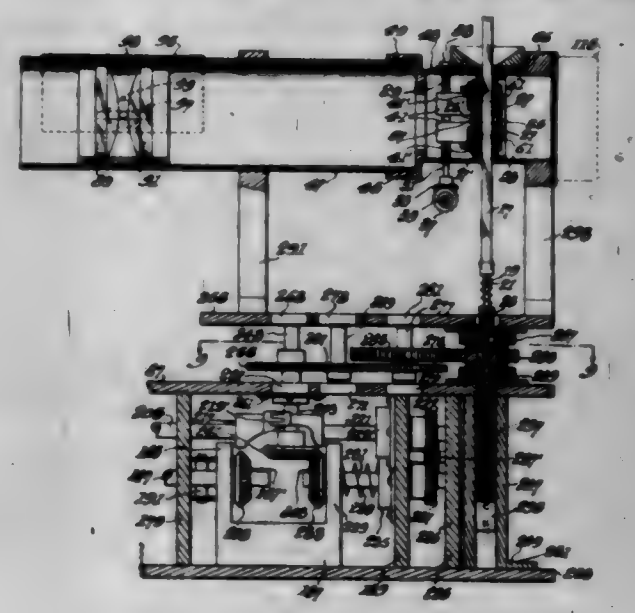
1. A filter spectrograph for automatically indicating the spectrum of objects, comprising a collimator for producing a beam of parallel rays from the radiation emanating from an object, a series of interference filters, a movable filter carrier on which said interference filters are mounted, said carrier being mounted for successively moving said filters in a closed path across the said beam of rays for producing radiation impulses, a mechanical diaphragm associated with each filter for adjusting the sensitivity of the individual filters for calibrating purposes, radiation converting means mounted in the path of the impulses after they have passed said mechanical diaphragm and said filters and including a voltage impulse generator responsive to said radiation impulses, a commutating device driven synchronously with the filter carrier and having segments to which said radiation converting means is successively connected, a separate load impedance corresponding to each filter connected to each segment and having a continuously variable tap to provide for continuous electrical variation of the sensibility of the individual filters, a cathode ray tube having a vertical deflection system to which said load impedances are connected for contro' by the outgoing impulses of said voltage impulse generator and a horizontal deflecting system controlled by the movement of said filter carrier for producing on the screen of said tube a sequence of impulses corresponding to the passage of the rays collimated by said collimator through the individual filters.

2,971,431

TURBIDIMETER

William G. Glenn, Box 284, School of Aviation Medicine, USAF, Brooks Air Force Base, San Antonio, Tex.

Filed July 29, 1959, Ser. No. 830,439
5 Claims. (Cl. 88—14)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A turbidimeter for measuring and indicating turbidities in a specimen exhibiting successive zones of varying turbidities and retained in a tubular columnar and light-transmitting container, which comprises, in combination, means for directing a continuous beam of light from a constant source of light through the specimen, so that the beam of light continuously scans the specimen, mechanism for dimensionally adjusting the beam of light, light-responsive means actuated by light transmitted through the specimen, means actuated by electrical output from the light-responsive means for rendering visible the said output responsively to densities of zones of turbidity in the specimen being secured, mechanism for scanningly actuating the specimen column at a selected one of several scanning speeds, the said mechanism comprising a motor, gear-train means actuated by the motor, speed-selector means engaging the gear train means and driving mechanism interconnecting the speed-selector means and the specimen column for reversing direction of travel of the specimen column responsive to predetermined distance of travel of the column through the scanning light, the gear train means actuated by the motor including a first gear-train shaft continuously driven by the motor, a series of gears on the first shaft, the gears being independent of each other and rotatable independently with respect to the shaft, a second gear-train shaft adjacent to the first shaft and parallel thereto, a series of gears on the second shaft and independently rotatable with respect to the shaft, each gear on the

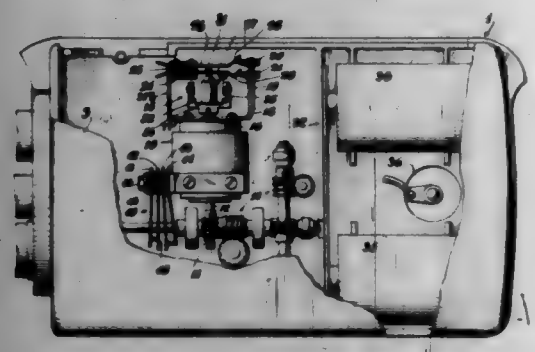
first shaft intermeshing with a corresponding gear on the second gear-train shaft, the speed-selector means including a manually shiftable yoke having a pair of intermeshing gears mounted between spaced parallel arms extending from a manually operable lever, one of the pair of gears of the speed-selector means being an inner gear and the other gear of the pair being an outer gear, the inner gear of the pair being engageable with a selected gear of the second gear-train shaft and operable thereby for driving the outer gear, a power-transmitting shaft mounted in the outer gear extending parallel to the first and second gear-train shafts and provided with a key slot enabling selective positioning of the selector means on a gear on the second gear-train shaft, thereby rotating both gears of the speed-selector means together with the power-transmitting shaft in the outer gear of the speed-selector means, a second shaft parallel to the power-transmitting shaft and adjacent thereto, a power-transmitting spur gear adjacent to an outer end of the second shaft and meshing with an adjacent spur gear on said first gear-train shaft, a beveled gear on the second shaft, a beveled gear on the first gear-train shaft adjacent to an outer free end thereof, reversible clutch means including the oppositely beveled gears and having a top beveled gear operable selectively with the said oppositely beveled gears, a gear-train leading from the top beveled gear to the specimen tube for actuating the specimen tube for raising and lowering the tube, selectively, responsively to whichever of the beveled gears the top beveled gear meshes, means for shifting the clutch and means operable by cycles of operation of the specimen tube for controlling operation of the latter.

2,971,432

D.C. MOTOR SPEED CONTROL AND SIGNALLING SYSTEM, PARTICULARLY DESIGNED FOR MOTION PICTURE CAMERAS

Fritz A. Blank, Flushing, N.Y., assignor, by direct and mesne assignments, of one-half to A. Kip Livingston, West Hempstead, N.Y., and one-half to Longines-Wittnauer Watch Co., Inc., New York, N.Y., a corporation of New York

Filed Dec. 14, 1956, Ser. No. 628,283
6 Claims. (Cl. 88—16)



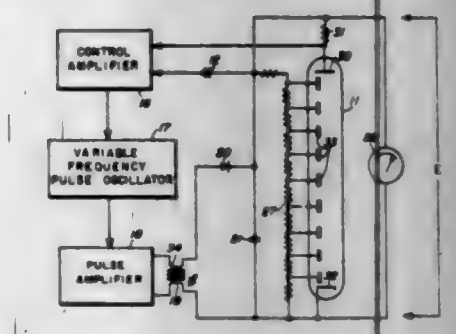
1. In a battery operated motion picture camera having shutter and film transport mechanism, the combination comprising a battery source of direct current power, a direct current motor connected with said source for driving the camera mechanism, said motor being operable at speeds below a predetermined critical speed upon depletion of said battery source with resulting drop in source voltage, a view finder on said camera having defined therein a viewable field, visual signal means having telltale means mounted in said view finder with an indicating element thereof observable in the viewable field, the observed condition of said indicating element informing of a reduction in motor speed below the predetermined critical speed, a speed controlled governor driven by said motor, means connecting said motor to said governor to limit the motor speed to a predetermined maximum, and means connecting said signal means to said governor to cause said signal element to show a condition indicating reduction in motor speed below the critical speed.

2,971,433

TRANSISTORIZED PHOTOMULTIPLIER PHOTOMETER CIRCUIT

Royal H. Akin, 2285 Meadow Lark Drive, San Diego 11, Calif.

Filed Jan. 7, 1959, Ser. No. 785,538
6 Claims. (Cl. 88—23)
(Granted under Title 35, U.S. Code (1952), sec. 266)



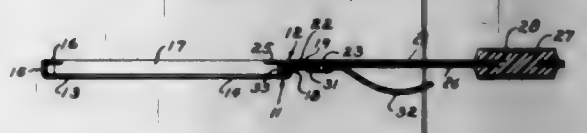
1. An electro optical system comprising an electron multiplier phototube provided with an anode, a photocathode and multiple electrostatic focusing secondary emission electrodes, means responsive to variations of phototube anode current resulting from phototube light input variations for varying the amplitude of the voltage across the multiple electrodes, said means including a pulse generator controlled in frequency by said anode current, the output of said pulse generator coupled to the input of a rectifier having positive and negative output terminals and connected to supply the operating potentials on said phototube.

2,971,434

PROJECTION SLIDE HOLDER

William Bruce Pester, Ann Arbor, Mich., assignor, by mesne assignments, to Sylvania Electric Products Inc., Wilmington, Del., a corporation of Delaware

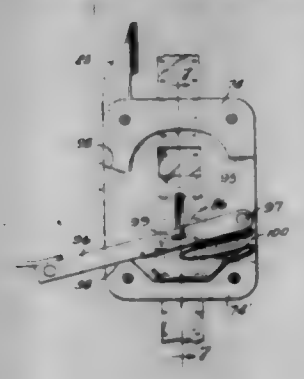
Filed Jan. 23, 1957, Ser. No. 635,760
7 Claims. (Cl. 88—28)



1. A projection slide holder for use in a projection device having an apertured slide receiving housing forming an open slide holder guide channel, a shutter carried by said housing in said guide channel for covering said housing aperture in closed position, and yieldable means urging said shutter into registry with said housing aperture, said slide holder comprising a support frame having a projection aperture adapted to register with said housing aperture when said support frame is inserted into said guide channel, opposed slide edge receiving channels on opposite sides of said support frame aperture and a slide supporting ledge below said support frame aperture, one of said channels at one side of said support frame aperture having an exterior end surface adapted to abuttingly engage said shutter against the force exerted by said yieldable means when said support frame is inserted into said housing to shift said shutter out of registry with said housing aperture, a handle portion projecting away from the other side of said support frame aperture and adapted to at least partially protrude beyond said guide channel when said support frame aperture is in registry with said housing aperture, and a holder positioning spring mounted on said other side of said support frame aperture adjacent said handle portion and extending away from said support

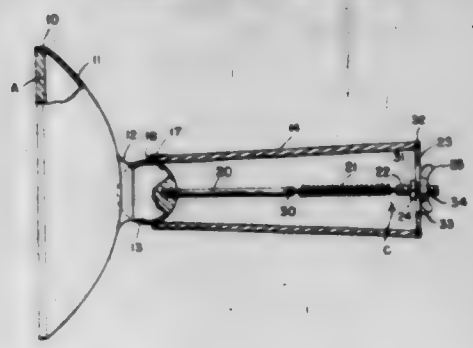
frame for engagement with the interior of said housing when said support frame is inserted into said housing in a position to displace said shutter out of registry with said housing aperture, said spring being compressible in the direction of said support upon engagement with said housing to establish a holding force that is opposed to the force exerted by said yieldable means, the holding force exerted by said spring normally being sufficiently great to overcome the tendency of the force exerted by said yieldable means urging said shutter into registry with said housing aperture, thereby being operable to maintain said support frame positioned in said housing with said projection aperture in registry with said housing aperture.

2,971,435
FILM STRIP PROJECTOR
Charles C. Singleterry, Bethesda, Md., assignor to Classroom Film Strip and Projector Corporation, Arlington, Va., a corporation of Delaware
Filed Dec. 31, 1957, Ser. No. 706,399
4 Claims. (Cl. 88—28)



1. In a projector for marginally perforated film strips, film gate means defining an elongated film guideway for guiding the film strip longitudinally along a substantial vertical axis past the optical aperture of the projector, a film advancing mechanism positioned adjacent said guideway comprising an upwardly opening, U-shaped resiliently deformable carriage formed of a strip of flat spring metal bent to provide a transverse web portion and laterally spaced upwardly extending legs, means forming a guide chamber including a pair of laterally spaced vertical guide surfaces abutting the oppositely extending surfaces of the legs of said carriage for guiding the same in a rectilinear vertical path lying wholly below the optical axis of the projector, front and rear walls bounding said guide chamber for restraining said carriage against tilting movement therein a bell crank claw member pivotally coupled to the upper end portions of said carriage legs and supported therebetween for pivotal movement about a horizontal axis paralleling the plane of the film guideway and including a depending arm having a pair of claw points at the lower end thereof extending toward the guideway and an actuating arm angularly related to said depending arm, a manually operable lever supported for pivotal movement in a vertical plane and having a slot accommodating said actuating arm of said bell crank member to pivot the bell crank member in a direction approaching the film guideway on downward movement of the lever to project said claw points into the film perforations and in a direction receding from the film guideway on upward movement of the lever to withdraw the points from the guideway, a return spring for said lever for urging the same to its uppermost position, said film gate means including a plate member rearwardly bounding the film guideway providing a surface in said film guideway in the path of movement of said claw points limiting pivotal movement of the claw member in a film approaching direction to cause downward translatory movement of said carriage member during the terminal portion of the downward stroke of said lever, and stop means positioned in the path of downward movement of said carriage to abut the web thereof when said claw points reach a preselected position registering an image frame on the film strip with the optical axis of the projector, and said front wall of said guide chamber being positioned to be engaged by said depending arm upon preselected pivotal movement of said bell crank member withdrawing the same from said guideway to effect upward translatory movement of said carriage member and bell crank member.

2,971,436
REAR VIEW MIRROR STRUCTURE
Ephraim K. Smith, 680 Washington Road, Grosse Pointe 30, Mich.
Filed Nov. 4, 1957, Ser. No. 694,199
5 Claims. (Cl. 88—98)

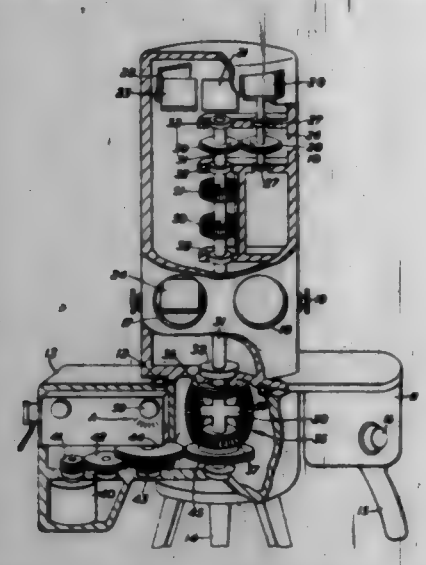


1. A rear view mirror structure, comprising an elongated tubular casing having openings respectively at opposite ends thereof and provided with supporting means, a mirror unit at one end of said tubular casing and including a mirror, and a casing for said mirror having a supporting element provided with a rounded portion substantially closing and movable relative to one of the openings aforesaid, a rotatable disc substantially closing the other of the openings aforesaid and having connecting slots therein, and manually operable means by which the mirror unit may be adjusted relative to said tubular casing and by which said mirror unit will return automatically to said adjusted position in the event such mirror unit is moved accidentally from said adjusted position, including a pair of longitudinally spaced substantially axially aligned elongated members within said tubular casing, one of said elongated members being secured at one end to the mirror supporting element aforesaid, the other of said elongated members extending through one of said connecting slots and having an end portion projecting outwardly beyond said disc, said other elongated member being manually adjustable from one to another of said connecting slots, a tension spring extending between and terminally connected to said longitudinally spaced elongated members at the adjacent ends thereof, and means for holding said other elongated member in adjusted position, including an element upon the outer side of said disc and manually adjustable on the outwardly projecting end portion of said other elongated member.

2,971,437
APPARATUS FOR GUIDED MISSILES
Howard Surtees, % The Fairey Aviation Co. Ltd., N. Hyde Road, Hayes, Middlesex, England
Filed June 3, 1955, Ser. No. 513,115
8 Claims. (Cl. 89—1.7)

1. In an aiming device, the combination comprising an optical system including an eyepiece movably mounted to aim its center line at a target, optical means for presenting a rearward field of view capable of movement with said eyepiece and also movable relative to the forward field through a substantial angle on either side of an aligned position and automatic program means including a servo-system for controlling the rotation of a portion

of said optical means to control the rearward field of view, said servo-system including motor means operatively connected to said optical means, amplifier means connected in



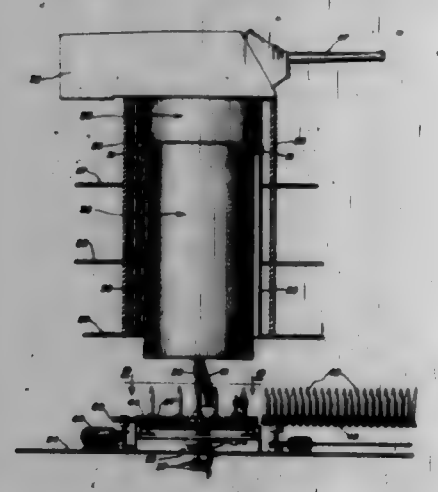
driving relationship to said motor means and programme means connected to said amplifier means and to said optical means to deliver a plurality of signals to said amplifier means.

2,971,438

OFF-MOUNT MAGAZINE AMMUNITION TRANSFER MECHANISM

Paul L. Fox, Upper Providence Township, Pa., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed May 11, 1951, Ser. No. 225,735
24 Claims. (Cl. 89—45)



1. Equipment for supplying projectiles to a rotary gun mount structure comprising a magazine movable relative to said mount structure, a transfer carriage movable relative to said mount structure and provided with projectile transfer means thereon, and planetary gearing actuable by relative movement of said magazine and carriage to shift said carriage relative to the mount structure and to cause said transfer means to shift a projectile from said magazine to said mount structure.

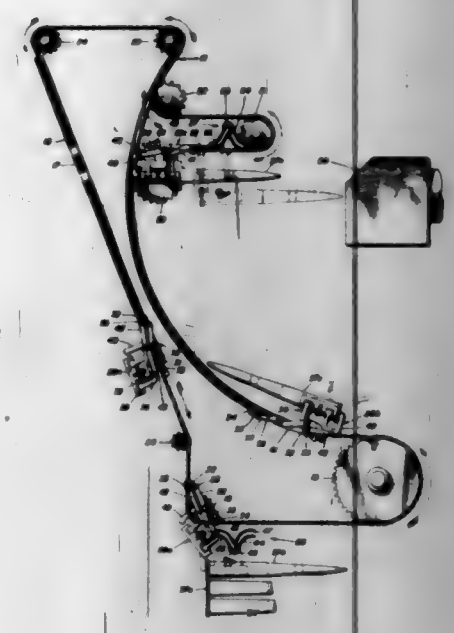
2,971,439

AMMUNITION CRADLE FOR CONTINUOUS HOIST

Paul E. Ebersole, Jr., 4923 N. 34th Road, Arlington, Va., and Raymond W. Warren, Rte. 2, Box 555, McLean, Va.

Filed July 1, 1952, Ser. No. 296,778
7 Claims. (Cl. 89—46)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. In a conveyor of the character described, a linear element moving along a conveyor path and passing a pickup station, a cradle base fastened to the linear element for movement therewith, a gripper carrier, object gripping mechanism on said gripper carrier, parallel linkage supporting said gripper carrier for swinging movement from a forward to a rearward position relative to



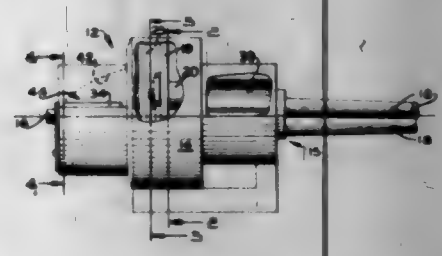
said base to decelerate the carrier, a pickup cam follower connected to said parallel linkage, and a cam at said pickup station acting on said cam follower to swing said carrier rearwardly on said parallel linkage as the cradle base passes the pickup station, thus decelerating the carrier for object pickup without impact.

2,971,440

ROTATING MULTIPLE BARREL AIRCRAFT GUN

John F. O'Brien, Springfield, Mass., assignor to the United States of America as represented by the Secretary of the Army

Filed Jan. 23, 1956, Ser. No. 560,910
3 Claims. (Cl. 89—126)
(Granted under Title 35, U.S. Code (1952), sec. 266)



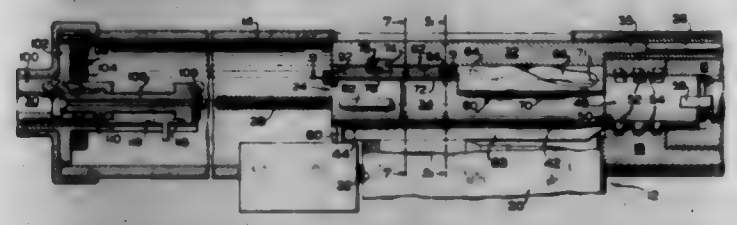
1. A gun for firing cylindrical cartridges at a firing station therein comprising, a receiver, a cylindrical rotor mounted for rotation in said receiver and provided with a concentric larger diameter portion at the rear end thereof, a plurality of barrels mounted to the rotor symmetrical to the axis thereof, chamber members corresponding to said barrels and provided respectively with bores for passage of the cartridges therethrough, carriage means for mounting said chamber members in said larger diameter portion for sliding reciprocation between a battery position in aligned communication with corresponding ones of the said barrels and an extraction position wherein said bores are clear of said rotor, and cam means disposed between said receiver and said carriage means for moving said chamber members to the battery position when rotated with corresponding ones of said barrels to the firing station and for moving said chamber members to the extraction station for rotation therein during a portion of the rotation of said rotor.

2,971,441

FIRE RATE CONTROL MEANS FOR A TELESCOPIC-TYPE TWO-PIECE FIREARM BOLT

Frederick P. Reed, Ludlow, Mass., assignor to the United States of America as represented by the Secretary of the Army

Filed Jan. 22, 1959, Ser. No. 788,474
10 Claims. (Cl. 89—130)
(Granted under Title 35, U.S. Code (1952), sec. 266)



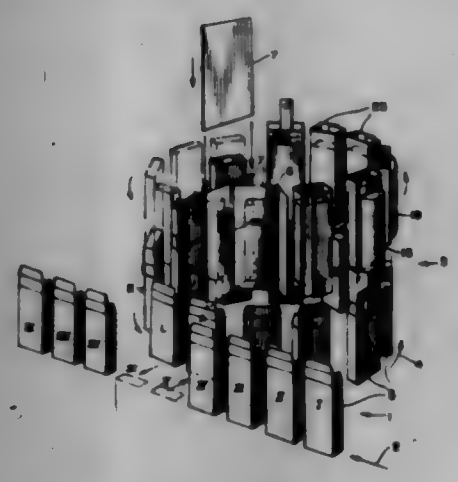
1. The combination including a receiver for a firearm, a nonrotatable carrier slidingly disposed in the receiver, a bolt telescopically mounted in said carrier, and a plurality of cam means selectively mounted in said carrier for sliding engagement by a cooperating follower on said bolt for converting relative longitudinal movement therebetween to rotation of said bolt and for selectively regulating the firing rate of the firearm.

2,971,442

BAG FORMING AND INSERTING MECHANISM

Harry E. Engleson, Chicago, and Elmer D. Sramek, Cicero, Ill., assignors to F. B. Redington Co., Chicago, Ill., a corporation of Delaware

Filed Nov. 28, 1955, Ser. No. 549,380
6 Claims. (Cl. 93—12)



1. In a packaging machine having a movable conveyer, apparatus for forming a bag container comprising an elongated rectilinear form having two side faces, a front face and a back face, means for supporting said form on the conveyor, said supporting means attaching to the top of said form thereby leaving the faces free from attachments, means associated with said conveyer for guiding a sheet of bag forming material into a position against a side face of the form, clamping means attached to said conveyor or holding the material against the form, means positioned in spaced relation with the conveyer for wiping the material around the faces of the form and for overlapping the material to establish a seam extending vertically along the front face of the form, heating means positioned adjacent to the conveyer for heating the overlapped seam, chilling means adjacent to the conveyer in a position subsequent to the position of the heating means, said chilling means being operable to chill and bond the overlapped seam of material, a grooved indentation extending along the entire length of one of said faces and substantially parallel to the longitudinal axis of said body, and an elongated breakaway member slidably mounted in the grooved indentation along the entire length thereof, and means for sliding said breakaway member in said grooved indentation relative to said form to break the bag container loose from the form.

2,971,443

MACHINE FOR CLOSING CARTON LIDS

Charles D. Striplin, Concord, Calif., assignor to Fibreboard Paper Products Corporation, San Francisco, Calif., a corporation of Delaware

Filed Nov. 3, 1958, Ser. No. 771,504
2 Claims. (Cl. 93—36)



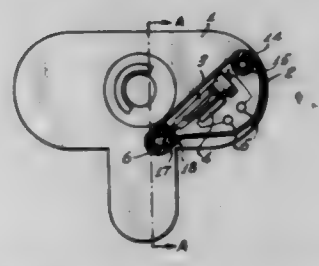
2. A machine for closing hinged carton lids which comprises, a driven belt to support and advance cartons, a second driven belt disposed over the first belt and inclined at an angle which diminishes in the direction of movement of the cartons to engage and close the lids of the cartons, means to drive the belts in opposite directions whereby the bottom reach of the second belt will travel in the same direction as the top reach of the first belt, and means to correlate the speeds of the belts to obtain identical resultants in the plane of operation of the first belt.

2,971,444

FILM MARKING DEVICE

Rudolf Grötzschel and Heinz Hofmann, Dresden, Germany, assignors to VEB Kamera- und Kinowerke Dresden, Dresden, Germany

Filed June 12, 1957, Ser. No. 665,253
Claims priority, application Germany June 21, 1956
2 Claims. (Cl. 95—1.1)



1. A film magazine comprising a housing, a door on said housing, a film marking device including a casing secured to the door of said housing, a light within said casing, means to actuate said light electrically, a hollow shaft extending from said casing into the interior of said magazine in the path of the film located in a position to cause said film to engage and bend around said shaft when in an operative position, means on said shaft for directing light from said lamp through said shaft and into the interior of said magazine, and means on said shaft to direct light onto the portion of the film which engages said shaft.

2,971,445

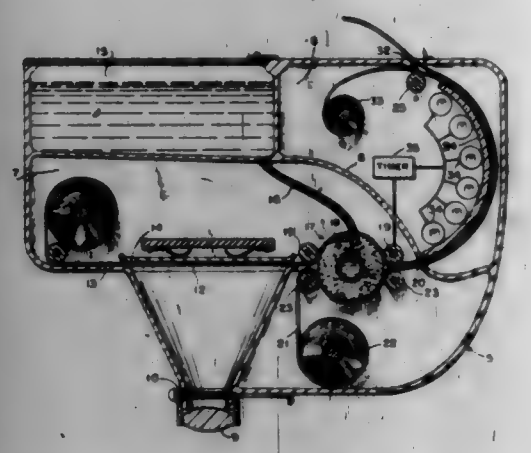
PHOTOGRAPHIC METHOD AND APPARATUS

Carl Orlando, New Shrewsbury, N.J., assignor to the United States of America as represented by the Secretary of the Army

Filed Dec. 3, 1957, Ser. No. 700,526
3 Claims. (Cl. 95—13)
(Granted under Title 35, U.S. Code (1952), sec. 266)

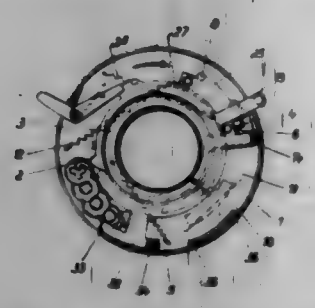
1. Photographic apparatus comprising a supply of photographically sensitized negative and positive material, means to impress a latent image on said negative

material, a processing solution applicator filled with a combination developing and fixing solution, means to move said positive and negative material into operative engagement with said applicator, said applicator comprising a flexible walled hollow body to contain the solution and at least one liquid applying narrow slot in said wall extending transversely across the negative and positive material, valve means for each slot having a resilient gate portion and a closing lip cooperating to close said



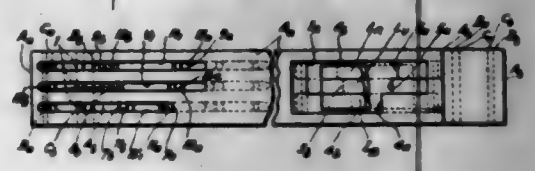
slots, a projection from said wall at each valve engaged by the sensitive material and operable by the tension therein to open said gates, said gates acting automatically to close said slots in the absence of tension, means to adhere the emulsion faces of the negative and positive material with a film of solution therebetween and a source of light positioned to expose said positive material through the processed negative material bearing an image of the subject while the negative and positive materials are adhered.

2,971,446
LENS SHUTTERS
Rolf Noack and Heinz Schulze, Dresden, Germany, assignors to VEB Kamera- und Kinowerke Dresden
Filed Apr. 21, 1958, Ser. No. 729,809
3 Claims. (Cl. 95—42)



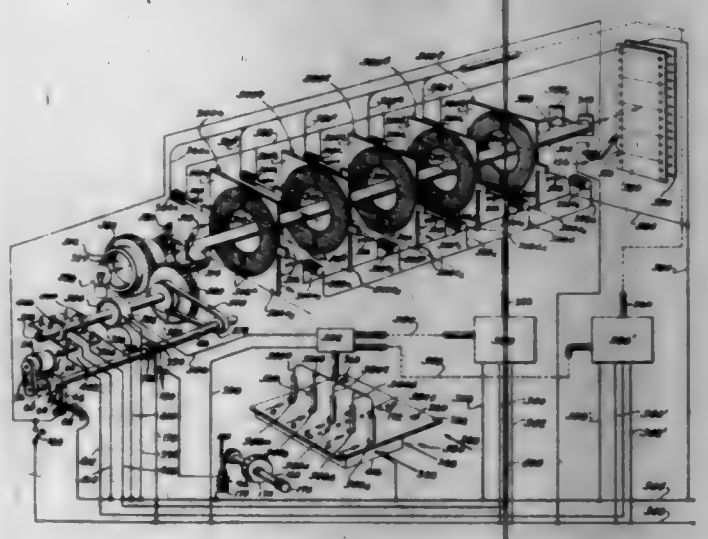
2. In a shutter for a photographic lens having a housing, a bearing ring rotatably mounted on said housing, a driving ring rotatably mounted on said housing coaxial with respect to said driving ring, a plurality of shutter blades movably mounted in said bearing ring and said driving ring, said shutter blades being pivotally movable into and out of the field of the lens by relative rotation of said bearing and said driving rings; a setting ring rotatably mounted in said housing coaxial with respect to said driving ring, a spring lever mounted on said setting ring for rotation therewith, a sheet bar secured to said housing, switch cams mounted on said sheet bar in the path of travel of said spring lever, a radial arm mounted on said driving ring in the path of said spring lever; resilient means independently biasing said setting ring, said driving ring and said bearing ring in the same rotary direction; said spring lever engaging said radial arm during manual setting of said shutter against said biasing means, delay means delaying return of said setting ring as the result of said biasing means, said switch means disengaging said spring lever from said radial arm.

2,971,447
LIGHT BEAM CONTROLS FOR COLOR PRINTING
Andre Victor Leon Clement Debrie, 111 Rue Saint-Maur, Paris, France
Filed Dec. 11, 1957, Ser. No. 702,181
Claims priority, application France Dec. 21, 1956
9 Claims. (Cl. 95—73)



1. In a color-film printing machine including a light source forming three primary light beams of different primary colors, an arrangement for separately controlling the intensity of each of said primary light beams comprising, in combination, three rectangular diaphragms, each corresponding to and co-operating with one of the three primary colour beams constituting the printing light, each said diaphragm being formed by two co-operating thin elongated strips superimposed upon each other; a cut-out provided towards one extremity of each said strip, said cut-outs being formed in such manner that they allow the two other primary colour beams to pass freely at any opening value of the diaphragm considered; means for displacing said cooperating strips of each diaphragm longitudinally and respectively in opposite direction, whereby the light intensities of the primary colour beams co-operating with the said diaphragms may be individually increased or decreased at will.

2,971,448
LIGHT MODULATING APPARATUS FOR FILM PRINTER
Harlan L. Baumbach and Howard M. Little, Los Angeles, and Fred J. Scobey, Canoga Park, Calif., assignors to Unicorn Engineering Corporation, Los Angeles, Calif., a corporation of California
Filed June 7, 1956, Ser. No. 589,989
17 Claims. (Cl. 95—75)



1. In film printing apparatus having means for directing a printing light beam through a developed film strip and toward a strip of raw film stock, light modulating means for said beam comprising at least two light filters possessing different light transmission characteristics located in transverse planes of the beam, said two filters being relatively movable for independent positioning relative to the beam and being positionable with given bounding edges thereof in a common plane paralleling the beam and with the two filters lying at opposite sides

of said common plane, means for effecting relative movement between said beam and said filters along transverse direction lines of said common plane to shift the relative positions of the beam and filters between a first position in which said beam passes totally through one of the filters and a second position in which the beam passes totally through the other of said filters in such manner that the relative positions of said filters remain fixed and relative transition of the beam from said one filter to said other filter occurs across said given bounding edges of the filters whereby said given bounding edges intersect common longitudinal direction lines of the beam at each instant of said relative transition.

2,971,449
DAMPER ARRANGEMENT FOR ROOM AIR CONDITIONER

Charles R. Huckleberry, Clarksville, Ind., assignor to American Radiator & Standard Sanitary Corporation, New York, N.Y., a corporation of Delaware

Filed Apr. 10, 1958, Ser. No. 727,719
8 Claims. (Cl. 98—38)

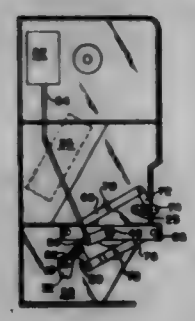


1. In a room air conditioner having a casing with oppositely disposed inlet passageways and a common discharge passageway, improved damper means comprising a first damper pivoted on an axis along one edge thereof to open and close one of said inlet passageways, means for pivoting said damper toward open position, a second damper having two integral walls pivoted on a common axis, one of said walls being positioned to swing in an arc to slidably engage said first damper to swing said first damper toward closed position as well as to present therewith a barrier between said two inlet passageways, the other of said walls being swingable in the same direction in unison with said one wall and positioned in said other inlet passageway to decrease communication between said other inlet passageway and said discharge passageway when said first damper is pivoted toward open position and to increase said communication when said first damper is pivoted toward closed position.

2,971,450
DAMPER CONTROL APPARATUS FOR UNIT VENTILATOR

William V. Millman, Moline, Ill., assignor to American Air Filter Company, Inc., Louisville, Ky., a corporation of Delaware

Filed July 3, 1958, Ser. No. 746,430
4 Claims. (Cl. 98—38)

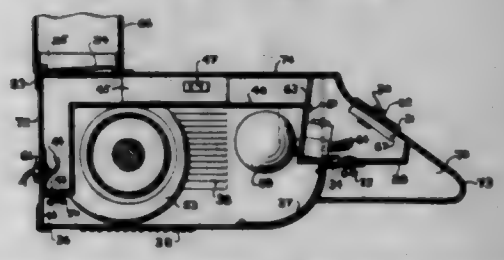


1. In a room unit ventilator having outdoor-room air damper means controlling the proportions of outdoor and room air admitted to said unit, and by-pass damper means for controlling the proportions of said admitted air directed through and around heat exchange means, damper control apparatus comprising: cam means mounted on a rotatable control shaft including a first cam having a first segment for controlling first linkage means, and a second and separate cam spaced on said shaft from said first cam and having a second segment for controlling second linkage means; first linkage means connected for controlling the position of said by-pass damper means and controlled by said first segment to obtain positioning of said by-pass damper in accordance with the radial dimension of said first segment at the first linkage control point; second linkage means connected for controlling the position of said outdoor-room air damper means and controlled by said second segment to obtain positioning of said outdoor-room air damper means in accordance with the radial dimension of said second segment at the second linkage control point; said first segment of said first cam is provided with a first selected peripheral configuration including an initial peripheral portion of uniform radius operative, as said control shaft is progressively rotated through the arc corresponding to said initial peripheral portion, to maintain said by-pass damper in a position to direct air admitted to said unit through said heat exchange means, an intermediate peripheral portion of progressively increasing radius operative, as said shaft is progressively rotated through the arc corresponding to said intermediate peripheral portion, to progressively increase the proportion of air directed around said heat exchanger, and a final peripheral portion of uniform radius operative, as said shaft is progressively rotated through the arc corresponding to said final peripheral proportion, to maintain said by-pass damper in a position to direct all air around said heat exchange means; said second segment of said second cam includes a second selected peripheral configuration including an initial peripheral portion of progressively increasing radius operative, as said shaft is progressively rotated through said arc corresponding to said initial peripheral portion, to progressively increase the percentage of outdoor air admitted to said unit ventilator, an intermediate peripheral portion of uniform radius to maintain said outdoor-room air damper in a position to permit the admission of a selected minimum percentage of outdoor air as said shaft is rotated through the arc corresponding to said intermediate peripheral portion; means for mounting said first and second cams relative to each other to obtain simultaneous rotation of both of said cams through said initial arc and through said intermediate arc; auxiliary cam means having a plurality of segments of radially extended peripheral configuration relative to said second segment configuration; and, means for detachably securing said auxiliary cam means in a selected angular disposition relative to said second cam to position one of said radially extended segments within the arc of rotation controlling said second linkage means.

2,971,451
VENTILATOR UNIT

Jerome H. Feig, North Hollywood, Calif., assignor to Progress Manufacturing Company, Philadelphia, Pa., a corporation of Pennsylvania

Filed June 16, 1958, Ser. No. 742,254
6 Claims. (Cl. 98—115)



1. A ventilating hood assembly including top and rear walls joining in a substantially right angled corner with

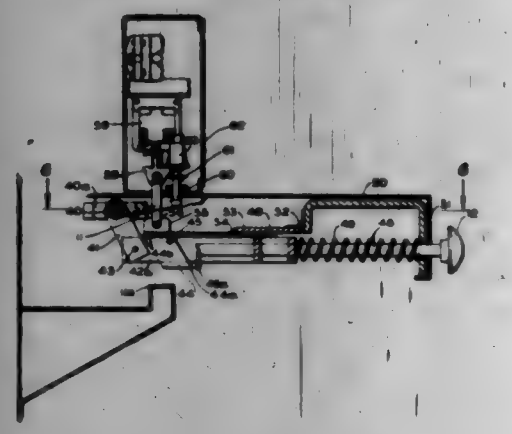
each wall being apertured proximate said corner, an electrically operated blower assembly including an outward-by flanged exhaust mouth, blower mounting means attached to said apertured walls on opposite sides of and closely adjacent to the said wall apertures for removably securely mounting said blower assembly exhaust mouth in registration with either one of said wall apertures for optional top or back venting of said hood, said blower mounting means comprising first and second angle brackets each having a pair of mounting feet and a lipped portion offset from each of said feet, one of said pair of mounting feet of each bracket being secured to said back wall and the other of said pair being secured to said top wall, said lipped portions forming with said back wall a first pair of parallel facing channels and forming with said top wall a second pair of parallel facing channels, said wall apertures lying intermediate said facing channels, each of said facing channels enclosingly slidably engaging an edge of said blower exhaust mouth flange, screw means threaded through said bracket lipped portions for pressing the exhaust mouth flange firmly against the hood venting wall, and an automatic damper assembly including an exhaust duct mounting flange securable over the apertured portion of either of said top or back walls whereby an exhaust duct may be connected for optional top or back venting of said hood.

2,971,452

GREASE EXTRACTING ATTACHMENT FOR VENTILATORS FOR KITCHEN RANGES

Edward Graswich and Jack W. Cedarquist, San Francisco, Calif., assignors to Dohrmann Hotel Supply Co., San Francisco, Calif., a corporation of Nevada

Filed Aug. 11, 1958, Ser. No. 754,374
5 Claims. (Cl. 98—115)



1. In a ventilator structure adapted to be used for exhausting gases from cooking ranges the combination of a wall structure having means for defining a cooking gas exhausting passage therethrough, a door for closing the lower end of said passage to cut off air circulation from said passage in case the cooking gases are accidentally ignited in the cooking surface of the range, means for rotatably supporting said door on said wall structure so that the distinctive open and closed positions of said door are each easily visible and recognizable by the operator of said cooking range while operating said range, said means including a shaft fixedly attached to said door, operating means for opening and closing said door, said operating means comprising a lever having one end fixedly attached to said shaft, a pair of elongated telescoping members, bearing means for slidably mounting one of said elongated members on the other of said members, means for pivotally connecting said one of said members to the free end of said lever, a hand grip connected to the free end of said other member, means for slidably supporting the forward member of said elongated members on said wall structure so that said hand grip extends out in front of said wall structure, stop means on the inner end of said other member for limiting the outward extension of said other member when said door is being opened, a spring mounted on said other member for urging said members into their extended position, holding means comprising a lug on said one member and a member pivotally mounted on said supporting means for engaging said lug and for holding said door in open position, and means mounted on said one member adapted to be engaged by said stop means for moving said pivotally mounted member to disengage it from said lug and permit said spring to urge said door into its closed position.

2,971,453

MILK TREATING SYSTEM WITH DEAERATOR

Edwin K. Kintner, Johnstown, Pa., assignor to Sanitary Manufacturing Company of Pittsburgh, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Apr. 12, 1957, Ser. No. 652,478
11 Claims. (Cl. 99—252)



1. Milk treating apparatus including a deaerator for supplying milk to a homogenizer and through which the milk passes on its way to the homogenizer, the deaerator having a vapor chamber with inside walls, means for flowing heated milk down the inside walls, a liquid chamber in which liquid accumulates at the lower ends of said inside walls and into which the said inside walls extend whereby milk flows from the inside walls and into the milk accumulation in the liquid chamber without splashing, a steam-operated vacuum jet for withdrawing air and vapor from a location above the liquid chamber and along the length of the vapor chamber to create a partial vacuum in the vapor chamber of the deaerator, means for introducing steam against said walls on the sides of the walls opposite to the sides in contact with the milk to heat the milk by conduction of heat through the walls and without contact of the steam and milk, and conduits through which steam discharged from the vacuum jet is introduced into space of the deaerator on the sides of the walls opposite to the sides in contact with the milk.

2,971,454

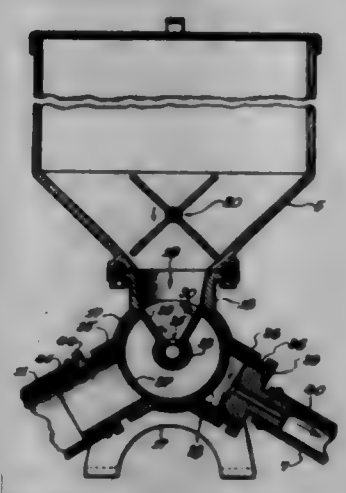
CONTINUOUS TEA MAKER

James J. Hill, Miami, Fla., assignor to Apco, Inc., a New York company

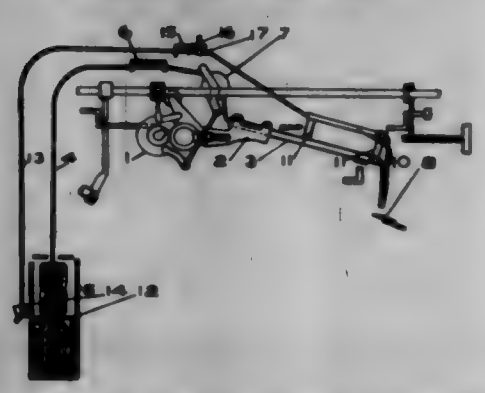
Filed Jan. 6, 1958, Ser. No. 707,172
2 Claims. (Cl. 99—289)

1. In a continuous tea maker machine of the character described a housing forming a cylinder with openings through the wall thereof forming an inlet port for beverage ingredients, an outlet port for infused products, and a scavenger outlet port, substantially normal to the axis

of said cylinder for conducting spent material, a hopper mounted above and in communication with said inlet port, a rotor journalled in said housing at opposite ends thereof for coaxial rotation in said cylinder with the outer surface thereof in close proximity to the wall of said cylinder and having a coaxial bore therein entering one end thereof, said rotor having a segmental cavity extending into said outer surface for rotating spent material therein into register with said scavenger port in a discharge position, said cavity defined by substantially planar radial walls adapted to coincide with the inner shape and margin of said scavenger port and terminating in an inner apex forming elongated orifice means opening into said bore parallel the axis thereof, said orifice being in fixed alignment with said apex of said segmental cavity, a source of pressurized water, conduit means including a rotary coupling and valve means connecting said bore and said source of water whereby the operation of said valve means will permit water to enter said bore and be projected by said orifice means along the walls of said cavity to discharge said spent ingredients from said cavity through said scavenger port when said rotor is rotated to said discharge position, and whereby said elongated orifice means directs patterns of water flow along said walls to break down the bridging mass of spent material that adheres to the said radial walls of said cavity.

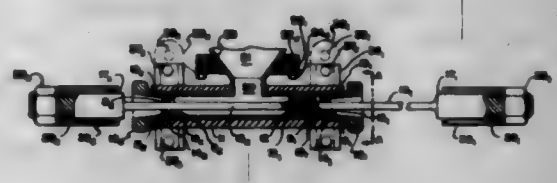


2,971,455
TWINE HOLDING ARM FOR BALERS
Robert Edgar Wade and William Cecil Wade, both of Consort, Alberta, Canada
Filed Dec. 17, 1958, Ser. No. 780,996
1 Claim. (Cl. 100—5)



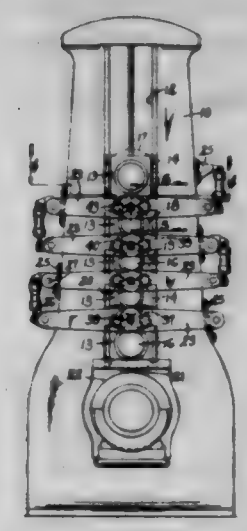
In a traveling baler of a character in which hay is rolled into a bale and the bale rotated to be wound with twine, said baler having an arm mounted to be mechanically moved from a depending to a horizontal position in spirally winding twine on a bale and a primary tubular arm carried by the mechanically moved arm and through which the twine is fed, a secondary tubular arm, means mounting the secondary arm on the primary arms spaced from and parallel therewith and with the outlets from the two arms vertically aligned when the arms are horizontal, and twine feeding means in the baler delivering through the secondary tubular arm.

2,971,456
RECOVERY APPARATUS AND METHOD
Henry A. Thomas, Baton Rouge, La., assignor to Ethyl Corporation, New York, N.Y., a corporation of Delaware
Filed Apr. 30, 1959, Ser. No. 810,059
5 Claims. (Cl. 100—37)



1. Apparatus for treating a sludge of subdivided malleable metal solids in at least one liquid component and for forming the solids thereof into substantially liquid-free, bar-like shapes, comprising an elongated chamber of uniform cross section, reciprocatable piston means therein and piston rods attached to said piston means and extending through apertures in both ends of said chamber, a feed port at the approximate mid-point of said chamber for receiving fresh sludge, and die means in each end of said chamber defining openings of smaller cross sectional area than in the transverse area of said chamber, and motor means for reciprocating said piston means by operative engagement in tension with the piston rod.

2,971,457
CALENDERS
Peter Hold, Milford, Conn., assignor to Farrel-Birmingham Company, Incorporated, Ansonia, Conn., a corporation of Connecticut
Filed Aug. 13, 1958, Ser. No. 754,791
5 Claims. (Cl. 100—163)



1. A calender comprising end stands, journal boxes mounted for sliding substantially vertical movement in said stands, a plurality of superposed rolls, each having end portions rotatably mounted in corresponding pairs of journal boxes, hydraulic means for applying pressure to said journal boxes in a vertical direction, said means applying pressure to the journal boxes of each roll individually, said means comprising brackets, one secured to the end stand at each side of the roll, a lever pivoted at one end to the bracket on one side and extending past the journal on the outer side thereof, a piston and cylinder structure carried by the bracket on the other side of the roll and connected to said lever, means to supply

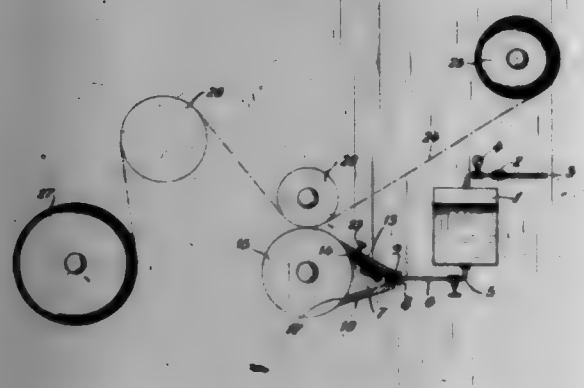
pressure fluid to said cylinder, a plate pivoted to the lever to oscillate about a horizontal axis, and arms carried by said plate and projecting inwardly to be disposed between the superposed journal boxes to apply pressure thereto.

2,971,458

PROCESS OF COLORING TEXTILE MATERIALS

Charles A. Kumins, Chappaqua, and Jerome Fine, Oceanside, N.Y., and Vernon L. Chase, Oakland, N.J., assignors to Interchemical Corporation, New York, N.Y., a corporation of Ohio

Filed Dec. 30, 1957, Ser. No. 705,867
3 Claims. (Cl. 101—170)



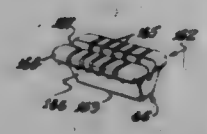
1. A process of printing on textiles which includes applying a foamed print paste having a density between 0.1 and 0.9 to the engravings of an intaglio printing cylinder, said print paste being maintained in an enclosed feeding device which excludes air from contact with the print paste in the vicinity of its contact with the engraved cylinder, and then contacting the printing cylinder engravings with the textile to be printed to transfer the print paste from the engravings to the textile.

2,971,459

RESILIENT PRINTING DIE

Maurice V. Johnson, Jr., Upland, and Donald C. Savage, Ontario, Calif., assignors to Sunkist Growers, Inc., Los Angeles, Calif., a corporation of California

Original application Feb. 2, 1956, Ser. No. 563,045. Divided and this application Sept. 15, 1958, Ser. No. 761,050
2 Claims. (Cl. 101—379)



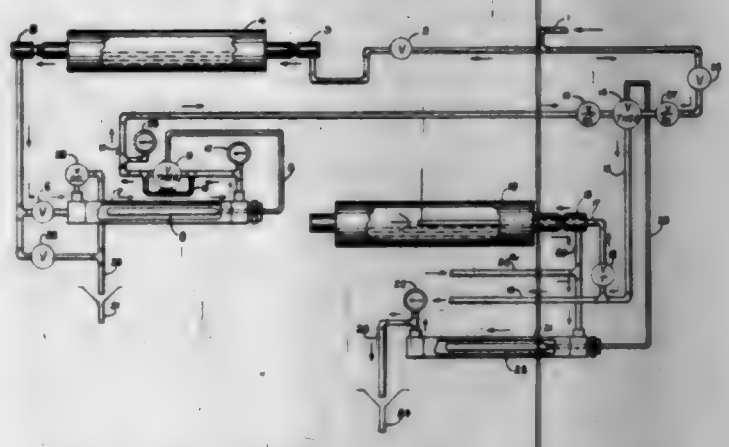
1. A printing die comprising an integral flexible resilient body having both a transverse and longitudinal trapezoidal section, the face of said body being defined by one parallel side having the smaller area and the base of said body being defined by the other parallel side having the larger area, said face bearing printing indicia, said base having a peripheral rounded flange protruding therefrom and extending completely around its periphery, said body being provided with a central longitudinal slit extending throughout the length thereof to enable said base to be laterally compressed and having a plurality of transverse slits extending thereacross to permit said base to be longitudinally compressed, each of said longitudinal and transverse slits extending through said peripheral flange and said base and terminating within said body, whereby said base may be contracted both laterally and longitudinally to permit the same to be inserted into a die opening having an undercut groove to receive the rounded flange, the die opening being of shorter length and less width than the flanged base when in its uncontracted state.

2,971,460

METHOD AND APPARATUS FOR AUTOMATIC TEMPERATURE CONTROL OF ROTARY PRINTING PRESS INK ROLLERS

George H. Shindle, 305 Sunset Lane, Mount Morris, Ill.

Filed Mar. 30, 1959, Ser. No. 802,938
15 Claims. (Cl. 101—416)



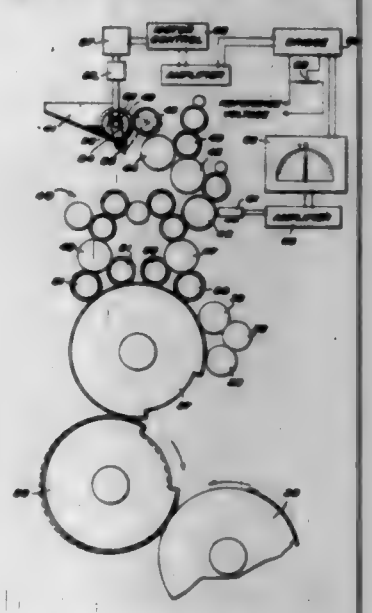
1. The method herein described of heating ink in a rotary, web-fed printing press, wherein the web is subjected to heating for drying of the ink thereon, which method consists in passing a liquid coolant through a device for cooling the web after its passage through the dryer, circulating said liquid coolant so heated in heat transfer relationship to the ink before its application to the web in the printing operation, and regulating the temperature of the heated coolant by mixture therewith of unheated coolant before it comes into heat transfer relationship with the ink to be heated thereby.

2,971,461

METHOD AND MEANS FOR MEASURING INK FILM THICKNESS

John R. Bradford, Morristown, N.J., and Dolor N. Adams, Independence, Ohio, assignors to Harris-Intertype Corporation, a corporation of Delaware

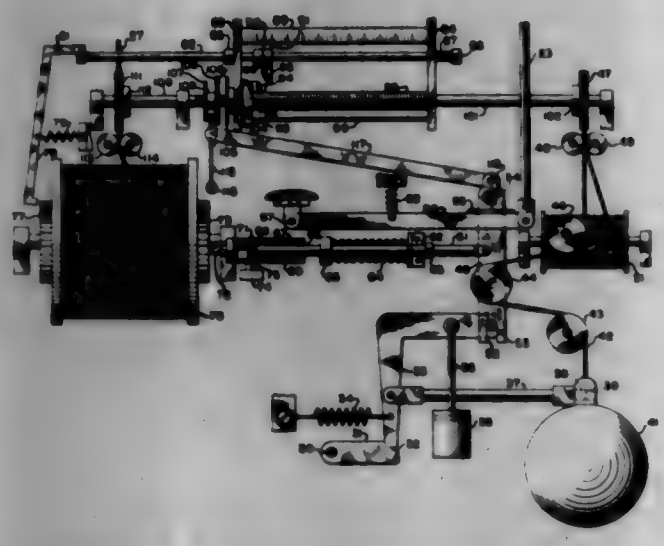
Filed Apr. 22, 1955, Ser. No. 503,317
23 Claims. (Cl. 101—426)



18. The method of controlling the amount of liquid coating material being applied to a base member as it passes through a machine which includes cylinder means for applying the coating material to the base member comprising at least one roll normally having a coating thereon of said material the thickness of which is indicative of the thickness of the coating applied to said base member, supplying the material to said roll to provide a coating of said material thereon, determining the thickness of the coating on said roll by subjecting the coating thereon to radiation to establish a radiation field which varies in accordance with the thickness of said coating,

measuring said radiation field to ascertain the thickness of said coating and controlling the supply of the coating material to said roll in accordance with the radiation field to control the thickness of the coating applied to said base member.

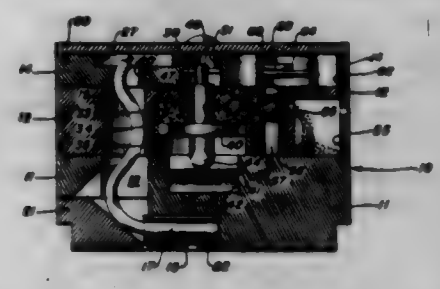
2,971,462
SUBMARINE MINE AND MOORING MEANS THEREFOR
John C. Goff, Copley Lane, Rte. 1, Silver Spring, Md.
Filed Sept. 14, 1951, Ser. No. 246,700
16 Claims. (Cl. 102—13)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A submarine device comprising a buoyant casing, an anchor housing, means for detachably mounting said casing on said anchor housing, a mooring cable contained within said anchor housing and having one end attached to said casing, a plummet, a plummet cable contained within said anchor housing and having one end attached to said plummet, separate means for paying out said mooring cable and said plummet cable respectively, a movable member, means selectively operable for moving said member in one direction responsive to paying out of said plummet cable and in the opposite direction responsive to paying out of said mooring cable, an adjustable stop member positioned in the path of travel of said movable member and engageable thereby only when moving in said opposite direction, means for operatively connecting said means for paying out said plummet cable to said means for moving said movable member, means responsive only to a decrease of tension on said plummet cable on contact of the plummet with the bottom of a body of liquid for locking said means for paying out said mooring cable and operatively connecting said means for paying out said mooring cable with said means for moving said movable member, means responsive to either a decrease or increase of tension on said plummet cable for releasing said casing from said anchor, a timer control for releasing said locking mechanism after a predetermined interval of time and paying out said mooring cable, and means actuatable by said stop member for again locking said mean for paying out said mooring cable in response to engagement by said movable member in said opposite direction to position said casing at a depth below the surface determined by the position of said adjustable stop member.

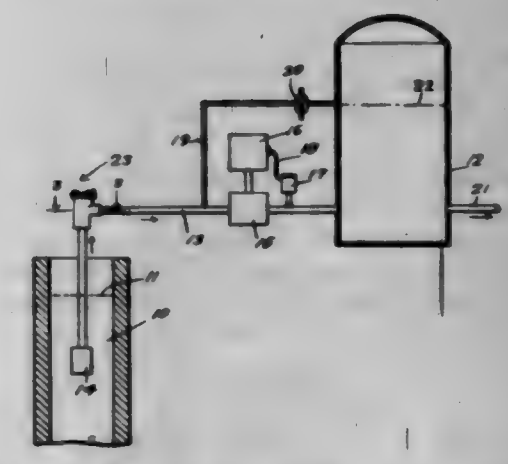
2,971,463
SPHERICAL PELLET DELAY DEVICE
Ellis Burrell, Rochester, N.Y., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed July 30, 1951, Ser. No. 239,286
2 Claims. (Cl. 102—70.2)

1. A delay arming device for a rotating artillery projectile containing an electrically-operated detonating squib comprising an insulating body having an axial recess, a reservoir, a cylindrical aperture arranged radially between said recess and said reservoir, and aligned radial orifices connecting said axial recess and cylindrical aperture and said cylindrical aperture and reservoir, rupturable means for normally maintaining a short circuit across the electrical circuit for said squib, piston means adapted to be moved within said axial recess, spring means for moving said piston means, a multiplicity of uniformly spherical pellets of substantially uniform size and smaller than said orifices arranged within said axial recess for preventing movement of and maintaining said piston means in spaced relation with respect to said rupturable means, centrifugally-operated means having a



valve portion provided with an aperture and arranged within said cylindrical aperture, and resilient means operatively connected to and normally maintaining said centrifugally-operated means in a position in which said portain maintains said pellets in said axial recess against any force of set-back, said centrifugally-operated means being rotated, only in response to centrifugal force sufficient to overcome the effect of said resilient means, to a position in which the aperture therein is aligned with said orifices for permitting said piston means and centrifugal force to expel said pellets at a predetermined rate from said axial recess into said reservoir whereby breaking of said rupturable means to unshort said electrical circuit is delayed until a predetermined number of pellets have been expelled into said reservoir.

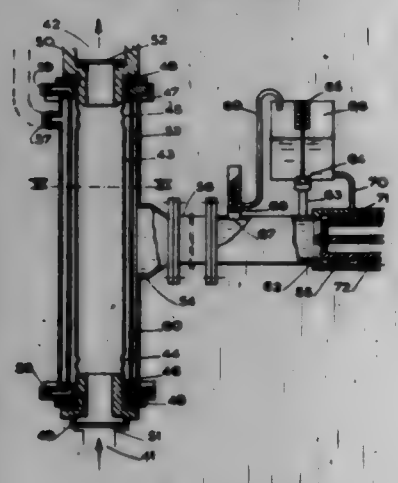
2,971,464
DELAY OPENING VALVE
Curtis T. Stevens, Sea Island Road, St. Simons Island, Ga.
Filed Dec. 28, 1959, Ser. No. 862,242
9 Claims. (Cl. 103—6)



1. In combination with an automatic water supply system including a water source, a motor-driven pump, a pressure storage tank, a conduit leading from the water source to the tank in which conduit the pump is interposed, a pressure switch connected to the pump motor and to said conduit between the pump and tank, a branch conduit connected to the upper part of said tank and to said conduit between the water source and pump, and an air volume control unit interposed in said branch conduit and actuated by a vacuum therein for automatically replenishing air in the storage tank; a delay opening valve inter-

posed in said conduit between the water source and said branch conduit including a valve body forming a part of said conduit and a valve element movably mounted in said valve body and disposed in a closed position when said pump is not in operation, said valve element being disposed to be urged toward an open position by the vacuum created in the conduit between said valve body and the pump when the pump is activated, and means contained in said valve body momentarily resisting movement of the valve to an open position to cause a predetermined vacuum to be built up in said branch conduit sufficient to effect operation of said air volume control unit.

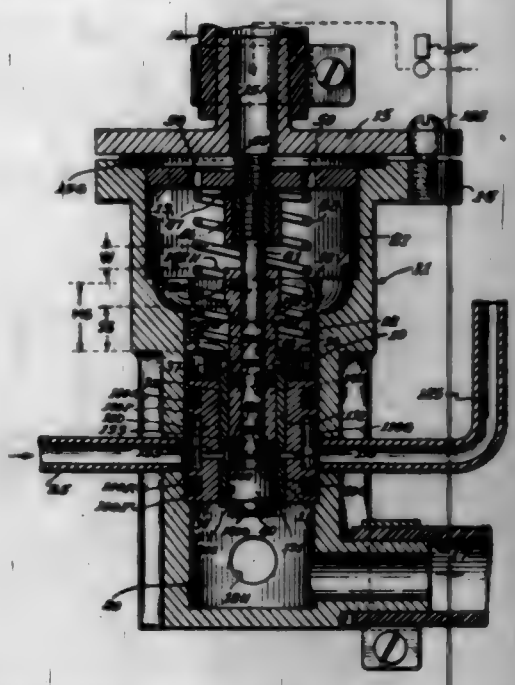
2,971,465
DIAPHRAGM PUMPS
Michel Eugène Caillaud, Suresnes, France, assignor to Societe Anonyme Francaise pour la Separation, l'Emulsion et le Melange (Procedes S.E.M.), Paris, France
Filed May 14, 1957, Ser. No. 659,140
Claims priority, application France May 15, 1956
3 Claims. (Cl. 103—44)



1. A pumping system comprising a cylindrical cross-sectionally deformable tubular diaphragm open at both ends, and made of polyfluorethylene, a tubular screen surrounding the diaphragm and provided with perforations lying in two diametrically opposed areas, a rigid chamber enclosing said screen and said diaphragm and forming with the latter an annular compartment containing an auxiliary driving liquid, a reciprocating piston acting through said auxiliary liquid on the diaphragm to deform the latter intermittently, a circuit for the liquid to be conveyed, extending through the inside of said tubular diaphragm inside which the last-mentioned liquid is subjected to the action of the deformation of the diaphragm and is constrained thereby to progress through its circuit by batches accurately equal in volumes to the volumes displaced by the piston for each forward stroke of the latter and non-return valves controlling the passage of the liquid through the said circuit respectively ahead of and beyond the diaphragm.

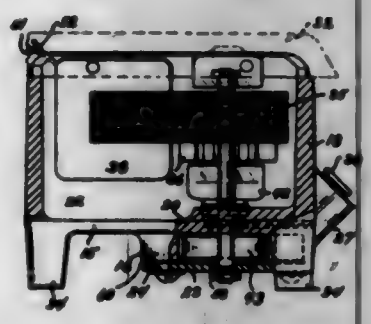
2,971,466
MEASURING PUMP
Thomas H. Corbett, 500 S. Throop St., Chicago, Ill.
Filed Mar. 21, 1958, Ser. No. 723,047
4 Claims. (Cl. 103—50)

1. In a measuring pump, a pump body having a cylinder with a lateral supply opening intermediate its ends and said body having a discharge chamber into which one end of said cylinder opens, a piston rod disposed axially in said cylinder with a main piston fixed thereon at the end of said rod that is adjacent said chamber, actuating means connected to the other end of said rod for operating said piston from a predetermined retracted position through a forward stroke and then through a return stroke, a sleeve piston reciprocable in said cylinder and slidably surrounding said piston rod, said main piston being operable in a return stroke to engage and return the sleeve piston to a rear position wherein the engaging surfaces of the pistons are located opposite said supply opening, abutment means on said rod to engage



said sleeve piston during and after completion of a portion of a forward stroke of said rod to advance said sleeve piston to a forward position wherein the leading end of the sleeve piston is located substantially at said one end of the cylinder, and yielding detent means for retaining the sleeve piston in either its forward or rear positions.

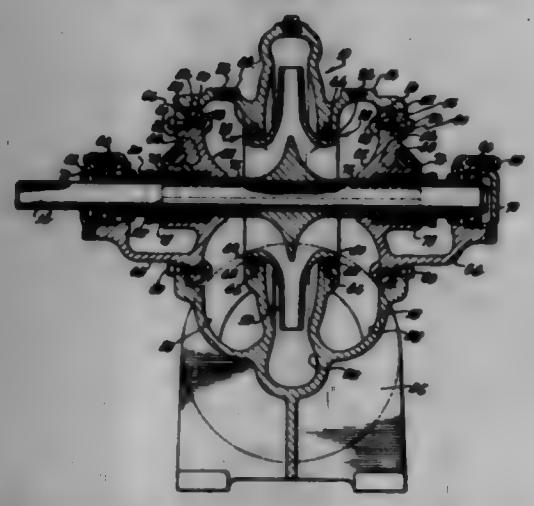
2,971,467
CONDENSATE PUMP
Bernard E. Konopka, Fort Wayne, Ind., and Willy F. Zimmermann, Chicago, Ill., assignors to March Manufacturing Co., Skokie, Ill., a corporation of Illinois
Filed May 7, 1956, Ser. No. 582,981
1 Claim. (Cl. 103—87)



In a small portable condensate pump of the class described: a housing providing a motor chamber; a pump chamber below said motor chamber; a transverse partition between said motor chamber and said pump chamber; a vertical bore centrally located in said partition; a motor supported in said motor chamber and having its shaft extending downwardly through said bore into said pump chamber; said pump chamber embodying an inlet opening for liquid, an outlet opening for liquid and an impeller cavity; a plurality of small, vertical, air-bleed passages arranged in the upper lateral wall of the impeller cavity in proximity to said vertical bore; said passages having their lower ends forming an entrance into the central portion of said cavity; a horizontal air channel of sufficiently greater diameter than the diameter of said small vertical passages extending from the upper end portion of said air-bleed passages to the exterior of said housing; the lower ends of said air-bleed passages

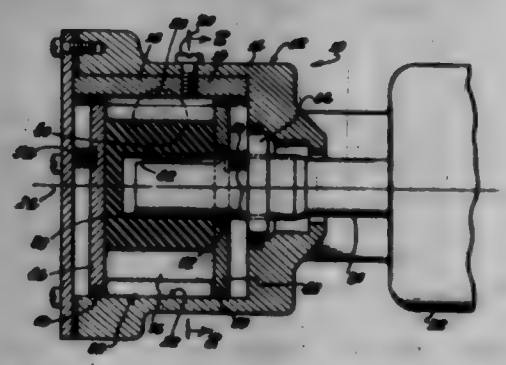
being the proximal ends thereof, the outer end of said air channel being the distal end thereof, and a pump impeller in said impeller cavity rigidly secured to and designed with the lower end of said motor shaft and rotatable therewith; whereby the distal end of said air channel is open to the atmosphere and the proximal end of said air-bleed passages are in communication with the central portion of said impeller cavity allowing entrapped air within the impeller cavity to escape into the atmosphere.

2,971,468
CENTRIFUGAL PUMP
Harold W. McDaniel, Rivera, Calif., assignor, by mesne assignments, to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware
Filed May 11, 1956, Ser. No. 584,293
5 Claims. (Cl. 103—104)



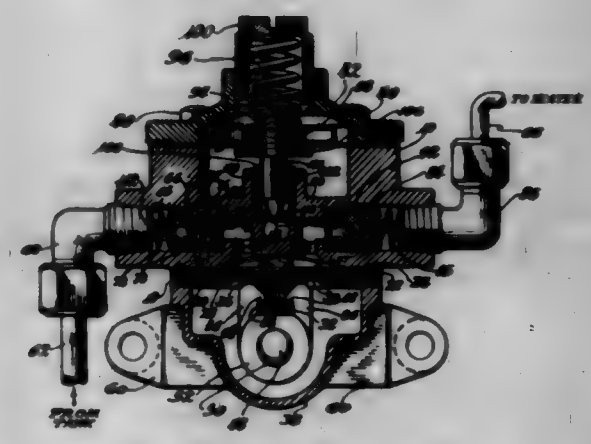
1. In a pump, the combination of: a housing having two axially spaced end bores respectively encircled by inwardly facing annular shoulders, said housing being divided in a plane containing the axis of said bores; two one-piece end closures respectively closing said end bores and provided with outwardly facing annular shoulders respectively seated against said inwardly facing annular shoulders, said end closures respectively having openings therethrough which are coaxial with said end bores; shaft means in said housing and extending into said openings; an impeller on said shaft means; and two annular sealing means respectively engaging said end closures and engaging said shaft means to prevent leakage from said housing between said shaft means and the peripheries of said openings, respectively, each of said annular sealing means comprising annular packings means carried by the corresponding end closure.

2,971,469
PUMP WITH FLOATING END PLATES
Murray G. McLean, North Tustin, Calif., assignor to Jabsco Pump Company, Costa Mesa, Calif., a corporation of California
Filed Sept. 14, 1959, Ser. No. 839,955
1 Claim. (Cl. 103—117)



In a pump, the combination of: housing means having an axis and provided therein with an impeller chamber having a peripheral wall, one portion of said peripheral wall of said impeller chamber comprising a cylindrical surface coaxial with said axis, the other, remaining portion of said peripheral wall of said impeller chamber comprising a radially inwardly concave, generally arcuate and generally chordal surface located on one side of said axis and located closer to said axis than said cylindrical surface, said housing means being provided therein with circumferentially spaced inlet and outlet ports in communication with said impeller chamber adjacent the respective ends of said generally chordal surface; a shaft in said impeller chamber and coaxial with and rotatable about said axis; an impeller in said impeller chamber and fixed on said shaft for rotation therewith, said impeller having axially spaced ends and having circumferentially bendable, elastomeric vanes sequentially slidably engageable with said cylindrical surface and said generally chordal surface of said peripheral wall of said impeller chamber; end plates in said impeller chamber and having peripheral walls in engagement with said peripheral wall of said impeller chamber, one portion of said peripheral wall of each of said end plates comprising a cylindrical surface coaxial with said axis and engaging said cylindrical surface of said peripheral wall of said impeller chamber, the other, remaining portion of said peripheral wall of each of said end plates comprising a radially outwardly convex, generally arcuate and generally chordal surface engaging said generally chordal surface of said peripheral wall of said impeller chamber, said end plates being slidable relative to said peripheral wall of said impeller chamber in directions parallel to said axis and into slidable engagement with said ends of said impeller, respectively, at least one of said end plates having a cylindrical opening therethrough which is coaxial with said axis and the peripheral wall of which is in engagement with said shaft; outer seals carried by said peripheral walls of said end plates, respectively, and engaging said peripheral wall of said impeller chamber; an inner seal carried by said peripheral wall of said cylindrical opening in said one end plate and engaging said shaft; and spring means engaging said housing means and respectively engaging said end plates and biasing said end plates into engagement with said ends, respectively, of said impeller.

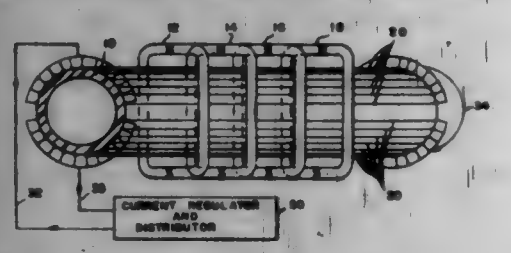
2,971,470
CONSTANT PRESSURE PUMPING APPARATUS
John F. Wein and Samuel I. Wendell, Indianapolis, Ind., assignors to Stewart-Warner Corporation, Chicago, Ill., a corporation of Virginia
Filed Aug. 3, 1955, Ser. No. 526,100
8 Claims. (Cl. 103—150)



1. In a fluid pump of the type in which a substantially flat diaphragm of rubberlike material reciprocates in a pumping chamber to draw fluid from a source into the chamber by way of an inlet check valve and to expel the fluid from the chamber by way of an outlet check valve, the combination with the diaphragm of an actua-

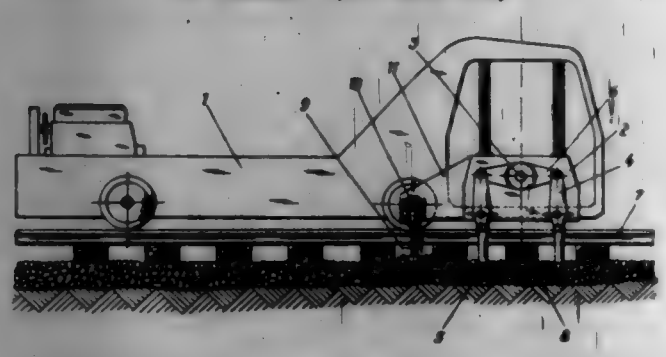
tor assembly comprising a thickened central portion on one side of the diaphragm forming a connecting base extending away from the pumping chamber, a connecting head integrally formed on the outer end of the base and extending away from the pumping chamber the head defining an irregularly shaped surface in the direction extending away from the chamber in the line of movement of said diaphragm, the connecting head and base being formed of the same rubberlike material as the diaphragm and hardened to a degree greater than the hardness of the portion of the diaphragm encircling the base, and a reciprocable actuator defining a corresponding irregular surface embracing the head and engaging said connecting base to impart reciprocable pumping motion thereto.

2,971,471
PUMP
Eugene C. Huebschman, 5549 Grass Drive, Dayton 31, Ohio
Filed Feb. 25, 1960, Ser. No. 11,112
11 Claims. (Cl. 103—152)
(Granted under Title 35, U.S. Code (1952), sec. 266)



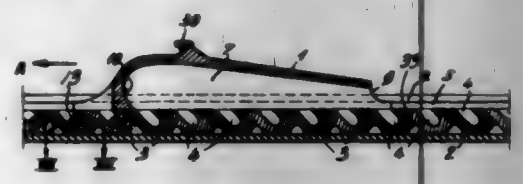
1. A pump comprising a flexible-wall tube defining a fluid passage, conducting wires attached to said tube running lengthwise with respect to said tube at spaced intervals around said tube, means for applying current that varies in magnitude with time to the said wires attached to the upper half of the said tube, means for returning the said current through said wires attached to the lower half of the said tube, and a series of magnets extending along said tube, said magnets diminish in magnetic field intensity starting from the end of said tube from which the fluid is driven.

2,971,472
MOBILE TRACK TAMPING MACHINE
Franz Plasser and Josef Theurer, both of Johannesgasse 3, Vienna, Austria
Filed Sept. 24, 1957, Ser. No. 685,863
Claims priority, application Austria Sept. 27, 1956
3 Claims. (Cl. 104—12)



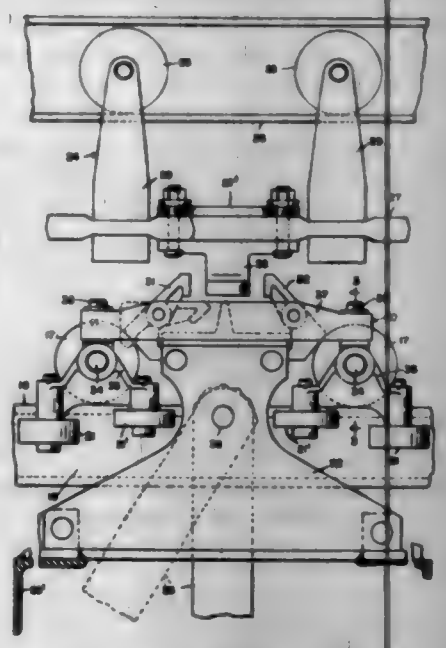
1. In combination with a track tamping machine having a vertically adjustable tamping tool carrier mounting a pair of laterally movable tamping tools laterally adjacent each track rail for tamping ballast under a tie: at least one vertically downwardly working tamper associated with each tamping tool pair and mounted on the machine behind the tamping tool pair and at such a distance therefrom that it is adapted to tamp the ballast between two successive ties previously tamped by the tamping tool pair.

2,971,473
LAUNCHING APPARATUS FOR MOVABLE OBJECTS
Camille Raynaud, 3 Ave. Paul Adams, Paris, France
Filed Dec. 27, 1956, Ser. No. 630,811
20 Claims. (Cl. 104—134)



1. Launching apparatus for movable objects comprising, in combination, a launching strip formed with a row of recesses, each recess adapted to receive an explosive charge; guide track means extending along said row of recesses; a slide member guided along said guide track means and being formed with a chamber having an opening extending over at least one of said recesses so that said chamber and the respective recess together form a combustion chamber for the explosive charge contained in the respective recess, said chamber having an exhaust opening facing rearwardly with respect to the launching direction in such a manner that consecutive detonation of the explosive charges contained in said recesses effects forward movement of said slide member for launching a movable object through the jet-effect of the combustion gases escaping through said exhaust opening; and means for detonating said explosive charges successively in launching direction.

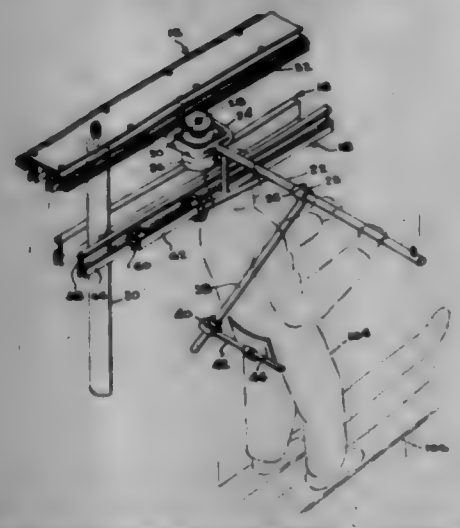
2,971,474
POWER AND FREE CONVEYOR SYSTEM
Paul Klamp, Detroit, Mich., assignor to Mechanical Handling Systems, Inc., Detroit, Mich., a corporation of Michigan
Original application July 30, 1956, Ser. No. 601,001. Divided and this application Dec. 3, 1956, Ser. No. 625,646
2 Claims. (Cl. 104—172)



1. A traveling work supporting unit comprising a carriage provided with forward and rearward load bearing rollers journaled on parallel axes and adapted to roll on a track, a dog connected with said carriage for driving the carriage, said dog projecting upwardly in relation to said forward and rearward roller axes and between the same for forward driving engagement above said axes by a power member acting in a force-couple about the forward axis, and means for pivotally suspending a load supporting hanger on said carriage on an axis between said forward and rearward roller axes and in sufficiently

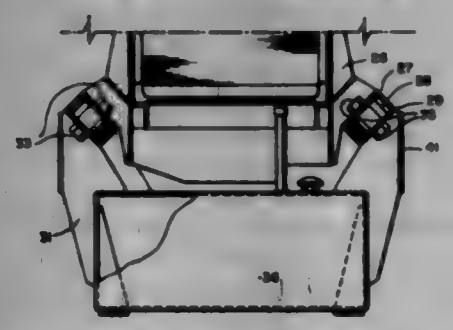
closely adjacent vertical relation to and below a plane through said roller axes to at all times, regardless of the slope of travel of said unit, maintain the gravitational action of said hanger and its load on a line between downward components of combined load action on said forward and rearward load rollers and force-couple action of said power member about said forward axis, thereby to prevent up-ending of said rearward rollers from said track, as in ascending a slope.

2,971,475
SKI TOW APPARATUS
John M. Weber, Weber's Resort, Marenisco, Mich.
Filed Aug. 29, 1958, Ser. No. 757,991
4 Claims. (Cl. 105—29)



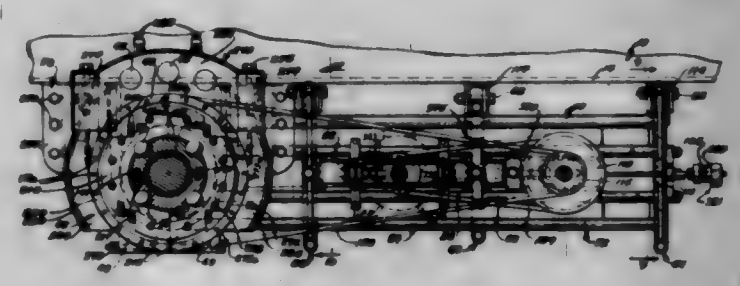
1. A ski tow apparatus comprising a trackway arranged in a closed path and adapted to be positioned adjacent to and spaced from a ground surface over which skiers are to be towed, said trackway embodying a pair of tracks arranged in vertical spaced relation, a grasping bar positioned adjacent to and spaced from the outer side of said trackway and extending transversely with respect to said trackway, a support rod arranged in an upwardly and forwardly sloping direction positioned intermediate the ends of said bar and having the upper end fixedly secured to said bar, a back rest positioned on the side of said support rod facing said grasping bar and supported by said support rod adjacent the lower end of the latter, a motor having a vertically disposed drive shaft, said bar encompassing and supporting said motor and extending on opposite sides of said motor, and vertically spaced rollers operatively connected to said grasping bar and rollably engaging the upper and lower tracks, and driving means on said drive shaft interengaging means on said trackway for propelling said bar therealong.

2,971,476
ENGINE MOUNT
Gösta Wasastierna, Gilbert Larsson, and Börje Lindblad, Eskilstuna, Sweden, assignors to Aktiebolaget Bolinder-Munktell, Eskilstuna, Sweden, a corporation of Sweden
Filed Nov. 21, 1958, Ser. No. 775,636
9 Claims. (Cl. 105—133)



1. An engine mount for mounting a prime mover in a railway car comprising at least three mounting brackets located in a horizontal plane and secured to said prime mover, a base including support arms in registry with said mounting brackets, and resilient means interposed between said mounting brackets and said support arms for connecting the same, said horizontal plane being through the center of gravity of said prime mover.

2,971,477
RAILROAD CAR AXLE-GENERATOR SYSTEM AND SUSPENSION THEREFOR
Glen V. Ireland, 6605 W. Bennett Ave., Milwaukee, Wis.
Filed Aug. 20, 1959, Ser. No. 835,122
9 Claims. (Cl. 105—133)

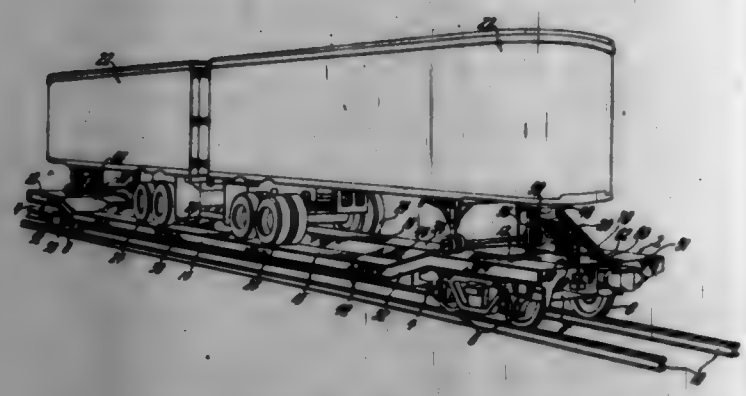


2. A generator support and drive for cushion underframe railroad cars of the type having a floating center sill positioned between spaced longitudinally extending beams of the car underframe, said underframe being carried by trucks each including several wheeled axles, said support and drive comprising, a pair of spaced horizontally disposed tracks secured to said longitudinally extending beams and beneath the center sill, a further pair of spaced horizontal tracks secured to said beams above the center sill of the body, a generator slidably mounted on the further pair of tracks and including a drive shaft extending crosswise thereof, a step-up sheave shaft slidably mounted on the first mentioned pair of tracks, said step-up sheave shaft extending crosswise of said first mentioned pair of tracks, a pinion driving member fixed to one of the axles of one of the trucks, a driven sheave member encircling said driving member, a plurality of ball elements keying said sheave member to said driving member, one of said members being formed with a plurality of generally spherical sockets corresponding in number to the number of said ball elements, said sockets being aligned in the same plane transversely of said members, and the other of said members being formed with elongate grooves corresponding in number to the number of said ball elements and in which the respective ball elements engage, said grooves extending generally longitudinally of said one axle, said sheave member being formed with an annular recess about its periphery, a centering device fixed to said underframe beams in parallelism with the center sill, said centering device including a planar centering component received within said recess about said sheave member, endless connecting means trained over said sheave member and said step-up sheave shaft, said endless connecting means engaging sheave means keyed to said step-up sheave shaft adjacent the portion thereof that underlies said center sill, further endless connecting means trained over said step-up sheave shaft and said generator shaft, said further endless connecting means engaging sheave means on said step-up sheave shaft and said generator shaft that are disposed to one side of said center sill, resilient means interposed between said generator and said car body opposing the tension of said further endless connecting means, and further resilient means interposed between said step-up sheave shaft and said underframe opposing the tension of the first mentioned endless connecting means.

2,971,478
RAILWAY VEHICLE

Richard M. Dilworth, Hinsdale, John Markestein, Westchester, and Corless B. Nelson, Chicago, Ill., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Aug. 26, 1953, Ser. No. 376,601
4 Claims. (Cl. 105—368)

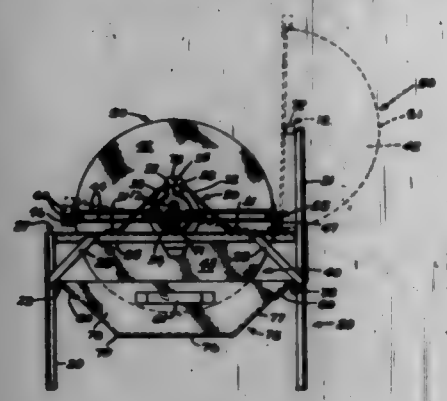


1. A railway vehicle for the transporting of wheeled vehicles comprising a pair of end sections having supporting wheels and axles disposed thereunder, a depressed center section intermediate said end sections, a raised beam extending along the middle of said depressed center section intermediate the sides thereof, said raised beam defining a pair of ways along the sides of said depressed center section for the reception of the wheels of said wheeled vehicles, and inclined surfaces extending between said ways and the upper surface of said beam forming ramps for guiding the wheels of said wheeled vehicles over said center section.

2,971,479
OUTDOOR TYPE DOMESTIC INCINERATOR

Robert V. Spalding, 2731 Canyon View Drive, Salt Lake City 9, Utah

Filed Feb. 17, 1960, Ser. No. 9,271
5 Claims. (Cl. 110—18)

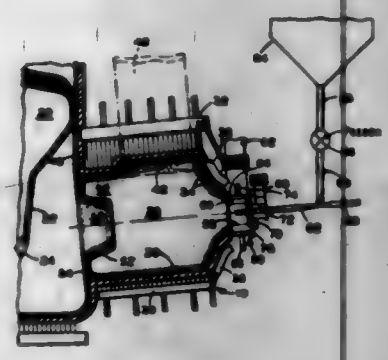


1. An incinerator including a support structure, bearing members carried thereby, an incinerator housing, pivot means secured to said housing and rotatably carried by said bearing members for rotatably supporting said housing, said housing having end and side walls defining a combustion compartment having a normally upwardly-opening mouth, and an upwardly-opening ash receptacle slidably carried by said support structure below said housing and having an upwardly-extending wall, portions of said walls of said housing being disposed within the path of travel of said upwardly-extending wall when said housing is lowermost and its mouth is uppermost, whereby said receptacle cannot be removed from said support structure, and said portions of said walls of said housing being disposed out of the path of travel of said upwardly extending wall when said housing is uppermost and said mouth is lowermost.

2,971,480
CYCLONE FURNACE

Warnie L. Sage, Louisville, Ohio, assignor to The Babcock & Wilcox Company, New York, N.Y., a corporation of New Jersey

Filed Oct. 8, 1957, Ser. No. 688,891
6 Claims. (Cl. 110—28)



1. A cyclone furnace having a combustion chamber of substantially circular cross-section defined by walls having an inner exposed refractory surface; a substantially circular fuel inlet chamber of smaller diameter than and axially opening into one end of said combustion chamber; means for introducing a stream of primary air and slag-forming particle fuel into said fuel inlet chamber at a high velocity and effecting a helical path of travel therein along the circumferential wall of said fuel inlet chamber; means defining a restricted gas outlet at the opposite end of said combustion chamber; means for introducing a high velocity stream of secondary air tangentially to the circumferential wall of said combustion chamber at a location between the point of fuel entry and the gas outlet; fly ash supply means for introducing a stream of air and fly ash in suspension axially into said combustion chamber, said last named means including means for collecting fly ash, a conduit disposed within and extending along the axis of said fuel inlet chamber and axially opening in the direction of said combustion chamber, and means for supplying the collected fly ash and air to said conduit for flow therethrough to said one end of the combustion chamber inwardly and axially of and separate from the whirling stream of primary air and fuel entering said combustion chamber; fluid cooled tubes for said combustion chamber walls proportioned for the maintenance of said refractory under a normal mean temperature in said combustion chamber above the fuel ash and fly ash fusion temperatures; and a slag outlet in the lower part of said combustion chamber.

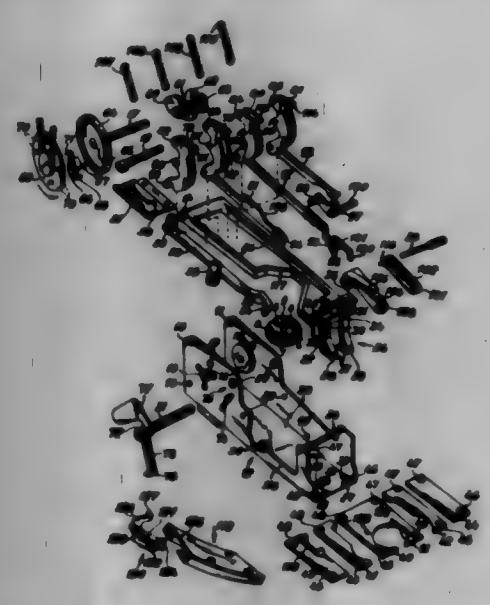
2,971,481
DEVICE FOR INSERTING BUTTONS IN THE BUTTON CLAMP OF BUTTON SEWERS

Rudolf Reeber and Günther Mall, Kaiserslautern, Pfalz, Germany, assignors to G. M. Pfaff A.-G., Kaiserslautern, Pfalz, Germany

Filed July 30, 1958, Ser. No. 752,048
Claims priority, application Germany July 31, 1957
7 Claims. (Cl. 112—113)

1. In a button sewer machine having a machine arm supporting a needle bar and a needle, a material supporting arm disposed below said machine arm, a mounting plate, a button supply container having a discharge end proximate and above said mounting plate and a button feeding device operatively associated with said container, a button clamp disposed on said supporting arm at one end of said mounting plate and below said needle bar in operative alignment with said needle, mechanism adapted to slide buttons with their holes in aligned position into said button clamp, said mechanism including a disk pivot supporting a rotatable disk proximate said one end of said plate between said container and said clamp, resilient means presenting an aperture adapted to receive and

release buttons in directions radially of said disk, means operative to rotate said disk from a position of said aperture in receiving relation to the discharge end of said container to a position of said aperture in button feeding alignment with said clamp and back to starting position, including a slot in said disk, and an operating bar having one end in engagement with said slot, a synchronously movable button pusher bar extending parallel to said operating bar having one end operative to move buttons dis-



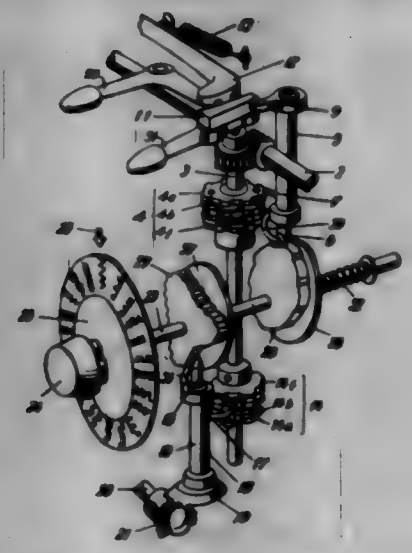
charged from said container onto said disk, a button feeler bar proximate said operating bar and said pusher bar having one end movable longitudinally and vertically relative to said disk over and into engagement with buttons on said disk and over said clamp, where the angle of rotation of said buttons on said disk below said feeler is equal to at least the angular distance between two adjacent holes in the buttons, and a drive shaft and cam means at the other ends of said bars operative to engage and move said bars in synchronism.

2,971,482

AUTOMATIC ZIGZAG-STITCH SEWING MACHINE

Fuji Koike, Nagoya, Japan, assignor to Nippon Sewing Machine Mfg. Co. Ltd., Nagoya, Japan, a corporation of Japan

Filed Nov. 22, 1955, Ser. No. 565,761
Claims priority, application Japan June 2, 1955
10 Claims. (Cl. 112—158)



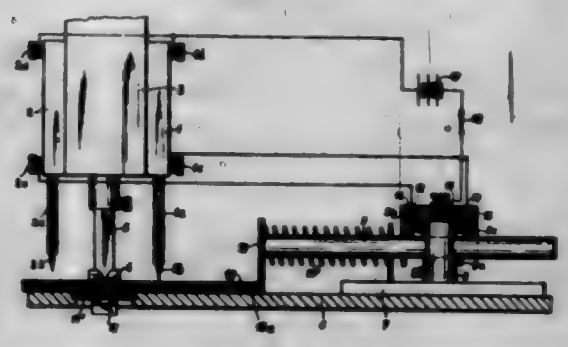
1. A sewing machine including in combination a base, a standard extending therefrom, an arm connected to said standard, a head carried by said arm and aligned with said base, a needle bar mounted by said head for both reciprocating and lateral movements, a feed dog movably carried by said base at a point substantially in line with said bar, a shiftable regulator shaft operatively connected to said feed dog and mounted within said base, means including a rotatable drive shaft operatively connected to said needle bar for reciprocating the latter, a rotatable cam shaft, means drivingly coupling said cam and drive shafts, a series of cam elements carried by said cam shaft to turn therewith, a reciprocable rod connected with said needle bar for laterally moving the same, a pair of cam followers, means mounting said followers and cams for axial movements relative to each other whereby each of said followers is alignable with different elements of said cam series, means for causing said followers to each engage elements of said series, a single control shaft, means for supporting said shaft for both axial and rotary movements with respect to said standard, manually operable means connected to said control shaft for causing such movements, means operatively connecting said control shaft with said followers for disengaging them from said cam elements in response to an axial shaft movement, and means for causing relative movement and traversal of the element series by said followers in response to rotation of said control shaft.

2,971,483

WORK FEED CONTROL FOR SEWING AND THE LIKE MACHINES

André Cordier, Bordeaux, France

Filed Jan. 7, 1958, Ser. No. 707,574
Claims priority, application France Jan. 8, 1957
9 Claims. (Cl. 112—205)



1. In a sewing or the like machine having a needle and feed dog mechanism to normally advance the work being sewn along a predetermined feeding line, a control system comprising a pair of retractable impaling members having impaling points arranged closely adjacent to and at opposite sides of said needle in respect to said line, each of said members operable to engage the work being sewn to effect rotation thereof about said impaling points as centers, means to scan the contour of the work being fed through the machine, to establish a pair of electric current paths responsive to convex and concave work contour variations, respectively, in respect to a straight contour parallel to said line, and individual electrically actuatable control means for said members each connected in one of said current paths, whereby to operate said members and to rotate the work responsive to varying contour configuration thereof, to thereby cause the seam being stitched by said needle to substantially follow said contour configuration.

2,971,484

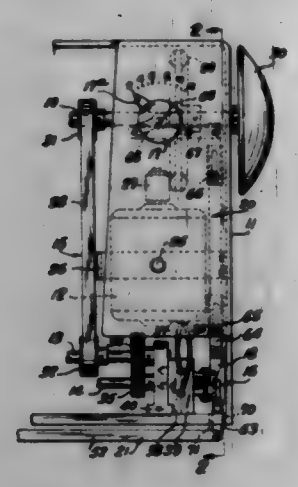
DIAL SPEED MECHANISM FOR A SEWING MACHINE

Sidney J. Hamlett, Parma, Ohio, assignor to White Sewing Machine Corporation, Lakewood, Ohio, a corporation of Delaware

Filed Jan. 28, 1959, Ser. No. 789,667
3 Claims. (Cl. 112—220)

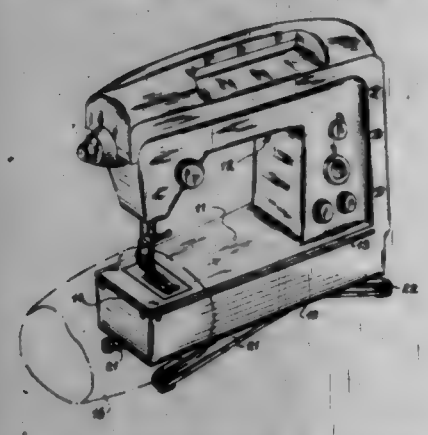
1. In a sewing machine, a drive motor, an adjustable centrifugal governor including a first contact movably responsive to centrifugal forces and a second contact co-

operating therewith for controlling energization and de-energization of said motor, selectively settable control means operable to adjust said second contact relative to said first contact to establish a preselected speed of said motor, said settable control means being ineffective to close said first and second contacts and additional control



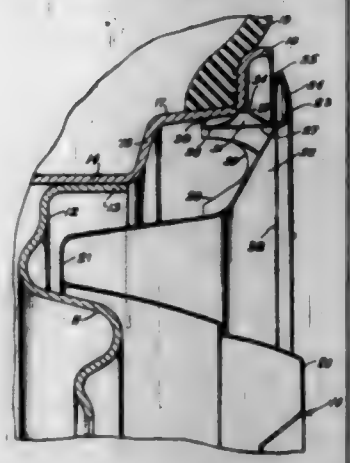
means operable by an operator to adjust said second contact relative to said first contact without disturbing the adjustment of said second contact effected by said settable conrol means for energizing and de-energizing said motor and for varying the speed of the motor up to said preselected speed.

2,971,485
SEWING MACHINE
Sidney J. Hamlett, Parma, Ohio, assignor to White Sewing Machine Corporation, Lakewood, Ohio, a corporation of Delaware
Filed Nov. 15, 1957, Ser. No. 696,694
1 Claim. (Cl. 112—258)



In a sewing machine assembly, a sewing machine including a base having an upper work surface and a bottom wall beneath the work surface and generally parallel to the work surface, said bottom wall having a threaded bore and a polygonal recess aligned with said bore and coaxial therewith, and a pedestal detachably secured to said base beneath said bottom wall, said pedestal including a body portion having an upper surface and opposing sides and a bore therethrough, supporting means extending outwardly from said opposing sides of said body portion, a spacer block portion fixedly carried by said upper surface of the body portion and extending upwardly therefrom, said block portion engaging said bottom wall of said base and having a bore therethrough aligned with the said bore in said body portion and a polygonal extension on the upper surface thereof complementary to and interfitting said polygonal recess in said bottom wall of said base and having the bore in said block portion extending therethrough, and a threaded attaching member extending through said bores on said body and block portions and said extensions and screwed into said threaded bore in said bottom wall.

2,971,486
METHOD OF MAKING WHEEL COVERS
George Albert Lyon, 13881 W. Chicago Blvd., Detroit, Mich.
Original application Apr. 29, 1955, Ser. No. 504,978, now Patent No. 2,921,548, dated Jan. 19, 1960. Divided and this application Dec. 27, 1956, Ser. No. 630,988
8 Claims. (Cl. 113—116)



2. In a method of making from a sheet metal blank a single circular wheel cover or trim member wherein substantially the entire outer periphery of the blank is employed to form the periphery of and retaining means for the single member, the steps of centrally dishing the blank body to provide an annular generally axially extending dished surface, cold working the outer blank margin to form therein an annular rib of generally U-shaped cross-section and with a radially inner leg merging into said dished surface and with its other and outer leg merging into a cover retaining flange, working said flange into axially extending position, bending said rib laterally and radially outwardly through and beyond the circle of said flange into a position at an angle to said dished surface whereby to increase the overall diameter of the ensuing member and with said flange extending generally axially thereunder and radially inward thereof, working generally axial corrugations opening through the edge of the flange structure for reenforcing the flange structure, and forming a portion of the flange to provide cover retaining means.

2,971,487
HIGH SPEED TOW TARGET
John Plum, 1611 Connecticut Ave. NW., Washington, D.C.
Filed Nov. 12, 1952, Ser. No. 320,162
20 Claims. (Cl. 114—66.5)
(Granted under Title 35, U.S. Code (1952), sec. 266)

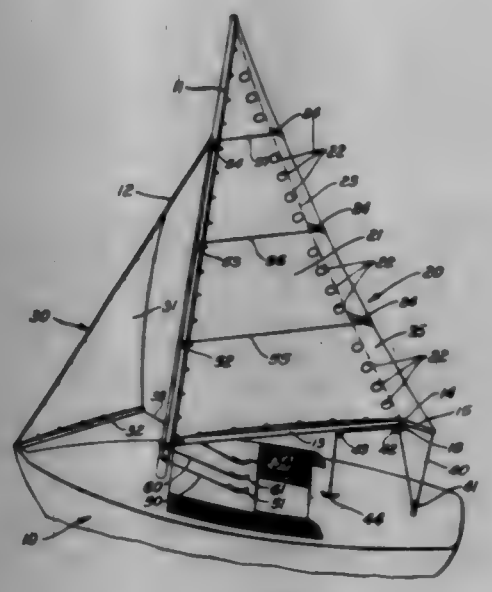


15. A tow target comprising a hull having a bow and stern, a centerline girder, said hull having a bottom with bottom-sides sloping transversely upwardly from the centerline girder, and means for securing a tow line to said target, the last said means providing a single tow point at the bottom of said centerline girder.

2,971,488
SAIL BOAT SAILS
Ray J. Morissette, 3915 Madison, Riverside, Calif.
Filed Nov. 29, 1957, Ser. No. 699,552
3 Claims. (Cl. 114—103)

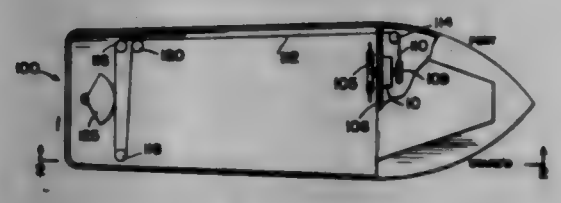
1. In a sail boat having a vertical mast and a horizontal boom adjacent the lower end thereof, a flexible

sail attached along one edge to said mast and along its bottom edge to said boom, said sail being provided with a plurality of vertically spaced apertures adjacent the rear edge thereof, said boom having a short extension hinged adjacent its outer end for horizontal swinging movement, and a rope secured to the outer end of said boom and passing through a pulley on the center line



of the boat below the hinge point on said boom and through a pulley adjacent the hinge point on said boom and through another pulley on said boom forward of said hinge point, the portion of said sail rearwardly of said apertures being attached to said hinged extension of said boom whereby that portion of the sail aft of said apertures may be deflected at an angle with respect to the main portion of said sail.

2,971,489
RUDDER CONTROL
William L. Losser, Jr., Philadelphia, Pa. (303 Park Ave., Maple Shade 3, N.J.)
Filed Mar. 30, 1956, Ser. No. 575,077
4 Claims. (Cl. 114—154)



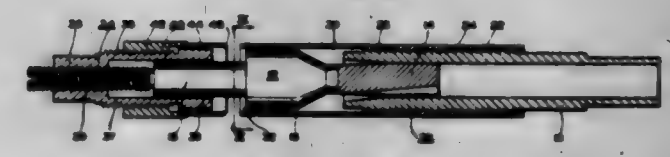
1. Steering gear for vessels comprising, in combination, a steering wheel, a rotatable rudder, fixed ratio control means between said steering wheel and said rudder for transmitting movement therebetween, and variable ratio control means associated with said steering wheel, rudder, and said fixed ratio control means for varying the ratio of the rotational movement of said steering wheel between fixed limits in both directions and the rotation of said rudder, said steering wheel and said rudder being adapted to be mounted upon opposite extremities of the vessel, said fixed ratio control means including a first wheel adapted to be rotated by said steering wheel, a return wheel, and a plurality of guide wheels, flexible cable means operatively engaging said first wheel, said return wheel, and said guide wheels, and said rudder being operatively connected to said flexible cable means between the points of engagement thereof with said return wheel and said guide wheels.

2,971,490
EXPLOSIVE STREAMER
Dickson S. McKinney, Lackey, Va., and George D. Mylchreest, 6915 Leuwood Ave., Washington, D.C.
Filed May 13, 1944, Ser. No. 535,560
18 Claims. (Cl. 114—240)
(Granted under Title 35, U.S. Code (1952), sec. 266)



2. In an explosive streamer of the class disclosed, the combination of means for preventing damage to the streamer by countermine shocks received thereby, means for firing the streamer, means for providing complete propagation of the explosion of the streamer when the streamer is fired, and means for maintaining the buoyancy of the streamer substantially constant as the streamer is towed through the water.

2,971,491
SIGNAL WHISTLE
Henry L. Yeagley, State College, Pa., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Oct. 9, 1952, Ser. No. 313,845
3 Claims. (Cl. 116—137)

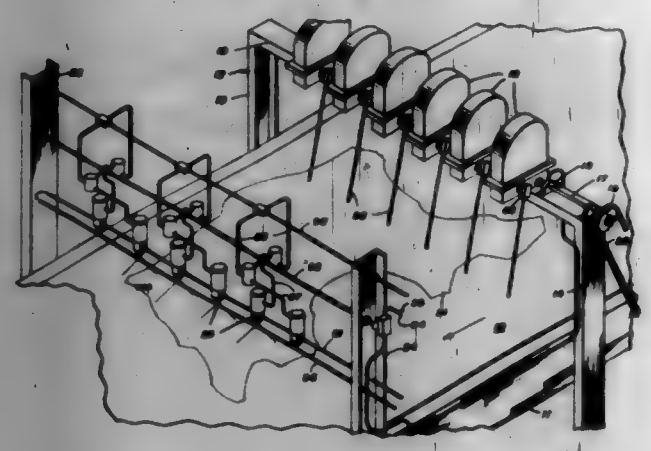


1. In a supersonic whistle having a cylindrical upper lip member, a cylindrical lower lip member spaced therefrom, and a cylindrical languet within said lower lip and forming with the lower lip member an annular passage, the improvements comprising, means forming with the upper lip member a toroidal acoustic cavity, said cavity being coaxial with said annular passage, the outer diameter of the acoustic cavity being substantially equal to the outer diameter of the annular passage, the inner diameter of the acoustic cavity being less than the inner diameter of the annular passage, means for varying the depth of the acoustic cavity, other means for varying the distance the lower lip member projects past the languet toward the upper lip member, and independent means for varying the spacing between the upper and lower lip members.

2,971,492
CONTROL SYSTEM BASED UPON RECORDING AND MEMORY FUNCTIONS
Bruno E. Ensslie, P.O. Box 387, Boulder, Colo.
Filed Aug. 5, 1959, Ser. No. 831,783
4 Claims. (Cl. 118—2)

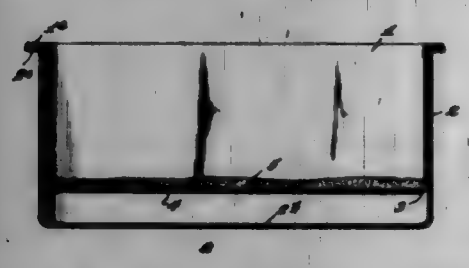
4. In combination with a conveyor, a control system for a group of devices operating at a particular station along said conveyor, comprising: a plurality of detecting units, each one of said units being associated with only one of said devices, each unit including a normally moving member operably connected with said conveyor for movement in predetermined relationship therewith, recording means carried by said moving member, an actuator having a portion responsive to the presence of an object carried by said conveyor at a particular station for activating said recording means, means for maintaining the position of said recording means determined by said actuator with respect to said moving member for a

predetermined portion of the path of movement of said recording means established by said moving member, and signal means disposed at a selected point along said portion of the path of movement of said recording means and responsive thereto; and control means for said device responsive to said signal means, the distance in the direc-



tion of movement of said conveyor from said actuator to said device being related to the distance along the path of movement of said recording means from said actuator to said signal means, with respect to the relative rate of movement between said conveyor and said moving member, to cause said device to operate on points on objects detected by said detecting units.

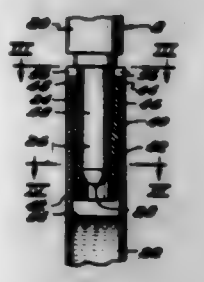
2,971,493
SANITARY SAND BOXES FOR CATS
Howard E. Robb, 1079 Bellview Ave. NW., Barberton, Ohio
Filed Dec. 30, 1958, Ser. No. 783,918
1 Claim. (Cl. 119—1)



A device of the character described comprising upper inner and lower outer pans, each having a flat bottom and an open top, said pans nesting with their sides in substantial contact and being of such relative size and shape, that, when nested, a substantial space is provided between the bottoms thereof, the bottom of said inner pan being formed at least in part of a sheet of woven wire netting permanently secured around its edges to said pan, and a layer of filter sand supported on said netting, the mesh of said netting being sufficiently fine to substantially prevent said sand from sifting through.

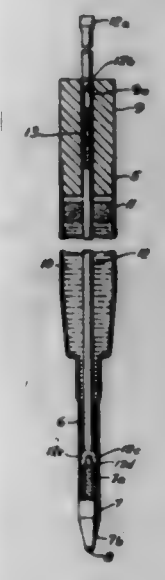
2,971,494
TANDEM WRITING IMPLEMENT
Frank H. Seyer, Los Angeles, Calif., assignor, by mesne assignments, to Paper Mate Manufacturing Company, Culver City, Calif., a corporation of Delaware
Filed Oct. 3, 1955, Ser. No. 538,135
11 Claims. (Cl. 120—42.1)

1. In combination with a structural writing unit comprising at least two ink cartridges each including a cartridge body with a writing tip at one end the provision of: means to interconnect the cartridges in a structurally rigid coaxial assembly adapted to be employed as an integral writing unit, said means comprising a hollow non-rigid resilient elongated member having a resilient cylindrical wall portion provided with longitudinally extending surfaces for gripping frictional engagement with a cartridge body and having another resilient wall portion providing an internal passageway with circumferentially



spaced internal surfaces for gripping frictional engagement with a writing tip, received therewithin, said member including at one end thereof a radially outwardly extending flange providing seating faces lying in spaced planes extending across the axis of the member to determine longitudinal relation of said cartridges.

2,971,495
WRITING INSTRUMENT
Wilson P. Green, Janesville, Wis., assignor to The Parker Pen Company, Janesville, Wis., a corporation of Wisconsin
Filed Dec. 5, 1958, Ser. No. 778,486
1 Claim. (Cl. 120—42.16)



A ball point cartridge comprising a main reservoir section, a reduced feed section extending forwardly from said main reservoir section, a ball point unit carried by said feed section and having a freely rotatable writing ball mounted therein in ink feeding communication with said main reservoir and feed sections, an auxiliary reservoir tube fixed in and extending through said main reservoir section into said feed section and extending rearwardly of said main reservoir section, said auxiliary reservoir tube being closed at its rear end, the forward end of said auxiliary tube being flattened and cut out to form a pair of spreading ear portions for spacing the forward open end of said auxiliary tube from the inner end of said ball point unit and from the walls of said feed section and for permitting ink to feed from said main reservoir section to said feed section through said cut out between said ear portions, and said auxiliary reservoir tube being scored immediately adjacent the rear end of said main reservoir section providing a plane of weakness thereat for frangibly opening the rear end of said auxiliary reservoir tube, said writing ball being the only moving part of said cartridge.

2,971,496

FLUID PRESSURE ACTUATOR AND COOLING MEANS THEREFOR

Howard M. Geyer, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed June 9, 1958, Ser. No. 740,845
3 Claims. (Cl. 121—38)



1. A fluid pressure operated actuator including, a cylinder, a reciprocable piston disposed in said cylinder, said piston dividing said cylinder into an extend chamber and a retract chamber, said piston having an expandable piston ring means engaging the bore of said cylinder and normally preventing flow of fluid between said chambers, said cylinder having an annular groove of larger diameter than the bore of said cylinder so as to form an internal shoulder, said piston ring means being expandable into said annular groove and engageable with said shoulder for locking the piston against movement, said piston ring means permitting flow of fluid between said chambers when said piston ring means are within said annular groove, said piston including a rod extending outside of said cylinder, a pressure drop bushing disposed between an end wall of said cylinder and the outer periphery of said rod, the inner surface of said pressure drop bushing being radially spaced from the outer periphery of said rod so as to form an orifice through which a metered amount of fluid can flow due to a pressure differential across said bushing, an extend conduit connected with said extend chamber, a retract conduit connected with said retract chamber, and a drain conduit connected with said orifice and disposed within said retract conduit whereby the flow of fluid through said retract conduit will cool said drain conduit.

2,971,497

HIGH CAPACITY RELEASE MECHANISM

Valmore F. De Voet, Silver Spring, Md., assignor to the United States of America as represented by the Secretary of the Navy

Filed Oct. 6, 1959, Ser. No. 844,836
3 Claims. (Cl. 121—40)
(Granted under Title 35, U.S. Code (1952), sec. 266)



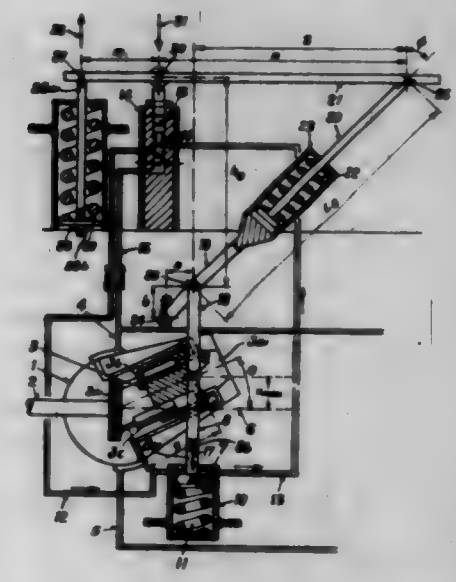
1. In shock testing and launching apparatus, a cylinder having an end portion adapted to be pressurized: a piston positioned in said cylinder so as to form a pressure chamber in conjunction with the end of the cylinder so adapted; means to high pressurize the chamber; an annular member having one end attached to the pressurized side of the piston and projecting rearwardly into the chamber, having an annular raised portion near the opposite end projecting outwardly to act as a latch, and further having an annular beveled face which slopes inwardly from the level of the raised portion and away from the piston; radially moveable catch means to catch and hold the raised portion of the annular member so that the piston is selectively constrained from axial movement while the chamber is pressurized which comprises an annular thrust ring positioned inside the pressure chamber and constrained from axial movement, an annular disk retainer positioned in the pressure chamber rearwardly of the thrust ring and constrained from axial movement, one end of the disk retainer abutting the thrust ring and having a multiplicity of open-ended longitudinal slots equidistantly spaced about its periphery, the slots being longer at the outer surface than at the inner so as to form a taper, a multiplicity of disk-like rollers, each positioned within a slot identical thereto, being of such a thickness to fit within the walls of the slot, and being of such a diameter to pass through the tapered slot from the outer surface until constrained from further inward movement by the tapered end of the slot so that no part of the roller projects outwardly from the disk retainer and so that a portion of the roller projects inwardly from the disk retainer below the level of the raised portion of the annular member attached to the piston; a sleeve closely surrounding the disk retainer, moveable longitudinally with respect thereto and having the end nearest the rollers adapted to exert a camming effect upon the rollers to force them inwardly as the sleeve moves towards the piston and having a portion of constant diameter immediately behind the cam-adapted end portion so as to hold the rollers in the position into which they were forced; and means connected to the sleeve for moving it longitudinally.

2,971,498

HYDRAULIC CONTROL DEVICE FOR A HYDROSTATIC DRIVE

Peter Bloch, Solothurn, Switzerland, assignor to Gesellschaft der Ludw. von Roll'schen Eisenwerke A.G., Gerlafingen, Switzerland

Filed Feb. 20, 1957, Ser. No. 641,347
Claims priority, application Switzerland Feb. 21, 1956
2 Claims. (Cl. 121—41)



1. A hydraulic device controlling the pressure of a hydraulic operating circuit comprising pressure sensing means arranged in said hydraulic operating circuit for displacement in accordance with variations of said pressure acting thereon, auxiliary pressure circuit means including valve means and moving means, said valve means being operatively connected with said pressure sensing means for displacement thereby to vary the pressure in

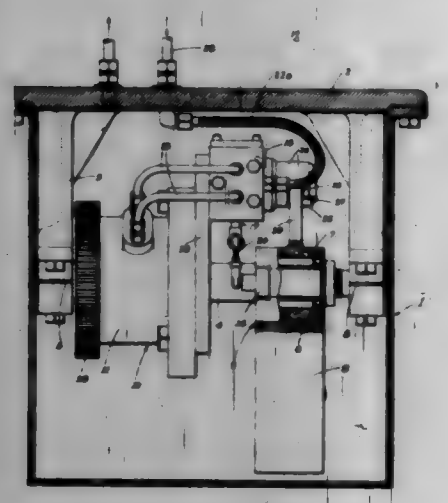
said auxiliary circuit means, said moving means being automatically movable in dependency to variations of said pressure in said auxiliary circuit means for thereby influencing said pressure in said operating circuit sensed by said sensing means, transmission means comprising pivotable arm means cooperating with said pressure sensing means, lever means hingedly connecting said arm means with said moving means and extending at an acute angle with respect to said arm means, said lever means including spring means tending to displace said pressure sensing means over said arm means against the pressure in said operating circuit acting thereon, said transmission means transmitting the movement of moving means in response to said pressure variations in said auxiliary circuit as a function of the adjustable initial tension of said spring means and of said acute angle to said pressure sensing means, to thereby control said moving means by said pressure sensing means and as a function of said adjustable initial tension of said spring means and of said acute angle between said arm means and said lever means.

2,971,499

PENDULUM-ACTUATED SERVO MECHANISM

John Curlett, Los Gatos, Calif., assignor to Gurries Manufacturing Co., San Jose, Calif., a corporation of California

Filed June 8, 1959, Ser. No. 818,923
3 Claims. (Cl. 121—41)



3. A pendulum-controlled hydraulic valve operating mechanism comprising a pendulum, a normally closed valve mounted adjacent the pendulum and having a fluid pressure conduit connected thereto, means between the pendulum and valve to open the latter upon relative swinging of the pendulum from a normal position, and means to lock the pendulum against swinging movement upon the absence of pressure in the conduit; such means comprising a fixed body extending lengthwise of the axis of the pendulum and offset therefrom, a boss rigid with the pendulum and projecting radially of the axis thereof the boss having a notch intermediate its end and facing the pendulum axis and into which the boss normally projects, and a slidable spring-advanced and pressure retracted locking pin mounted in the body to extend across and beyond the notch when advanced, the boss having a cradle then engaging about the portion of the pin exposed in the notch.

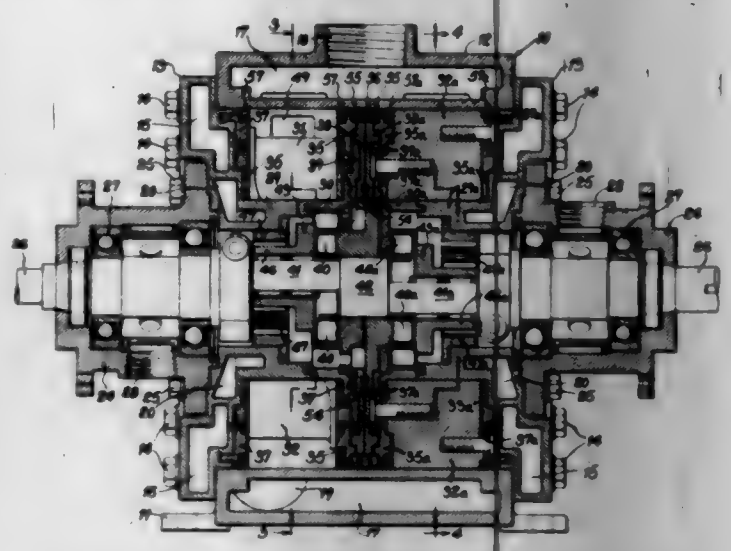
2,971,500

ROTARY ENGINE,

Charles Bancroft, Ferris Hill Road, New Canaan, Conn.

Filed July 28, 1958, Ser. No. 751,471
18 Claims. (Cl. 123—11)

17. A rotary piston engine comprising a double throw crankshaft having diametrically opposed crankpins, means to define an annular enclosure effectively divided into two substantially identical rotary piston chambers each of which surrounds said crankshaft at axially spaced positions thereon, each of said chambers encircling one of the crankpins of said crankshaft, a pair of rotary piston assemblies of the accelerating and decelerating type rotatably movable within each chamber and operatively coupled to said crankshaft, each assembly being constituted by four piston elements fixedly mounted relative to each other at equally spaced positions within the associated chamber and rotatable about the shaft therein, each of said pistons having associated therewith segmental side walls to define end enclosures for the associated chamber, the two end enclosures of each of said chambers having substantially the same area whereby the end pressures on each of said chambers is substantially balanced, four driving rings rotatably movable between said chambers, sealing means between said side walls and said driving rings to prevent leakage of fluid between said chambers, said driving rings having sealing means associated therewith to prevent leakage of fluid between said driving rings, each of said pistons having sealing means associated therewith to prevent leakage of fluid across said pistons, the pistons of each of said piston assemblies being connected to one of said driving rings, two pins on each of said driving rings, said pins

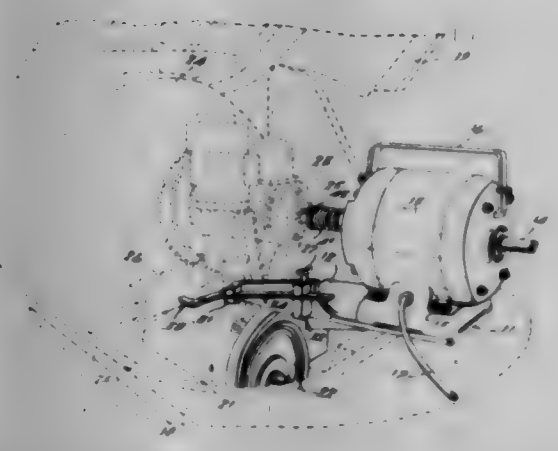


being positioned on opposite sides of each of said driving rings at diametrically opposed positions thereon, a connecting member rotatively mounted on each of said crankpins, each of said connecting members having four radial slots at equally spaced positions thereon, a pillow block slidably movable in each of said slots, the pins on each of said driving rings engaging one pillow block in each of said connecting members whereby each driving ring is connected to both of said connecting members, a spur gear on each of said connecting members, a stationary ring gear for each said spur gears whereby the piston assemblies in each of said chambers alternately accelerate and decelerate to provide overlapping power strokes, the pistons in one chamber being at their closest proximity when the pistons in the other chamber are spaced equally apart, two diametrically opposed radial inlet ports in each of said chambers for introducing a fluid therein at points situated between adjacent pistons of different assemblies one of which is moving at a greater velocity than the other thereof thereby causing compression of said introduced fluid, two diametrically opposed ignition chambers in each of said chambers for expanding said fluid introduced therein to produce a force accelerating said other piston, and two diametrically opposed outlet ports in each of said chambers in advance of said accelerating pistons for expulsion of said expanded fluid from said chambers.

2,971,501
DEVICE FOR DRIVING ENGINE COOLER

Kenneth Wright, Flint, Mich., assignor to Leon Hart Motors, Inc., Flint, Mich., a corporation of Michigan

Filed Feb. 16, 1959, Ser. No. 793,577
7 Claims. (Cl. 123—41.01)

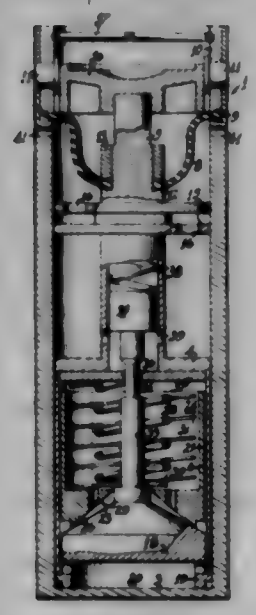


1. In a portable device for driving a rotary component of a vehicle engine cooling system, a portable base separate from the vehicle engine, means on said base adapted to be detachably secured to portions of the vehicle engine, an electric motor on said base and having a shaft, and means for detachably connecting the shaft of said motor to said rotary component of the engine cooling system.

2,971,502
SILENT CAM FOLLOWER

Donald Charles Wride, 42 Landseer Crescent, Dernham Court, South Australia, Australia

Filed Aug. 10, 1960, Ser. No. 48,659
Claims priority, application Australia Aug. 12, 1959
13 Claims. (Cl. 123—90)

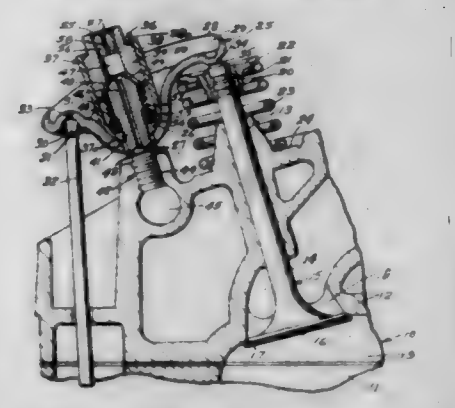


1. A cam follower for an internal combustion engine comprising an outer tubular member, an inner member movable in an axial direction within the outer tubular member, a pressure space comprising cylindrical walls and divided from a reservoir space within the outer tubular member by a valve, a piston frictionally engaging said cylindrical walls and axially movable to open or close said valve, a leakage path for restricted liquid flow from the pressure space to the reservoir space during the operating period of the follower, and spring means to urge said inner member in an outward direction from said outer member during the recovery period of the follower, characterised in that the frictional engagement of the piston opens said valve during the recovery period.

2,971,503
FULCRUM ADJUSTER

Julius W. Schnabel, Lyndhurst, Ohio, assignor to Thompson Ramo Wooldridge Inc., Cleveland, Ohio, a corporation of Ohio

Filed Apr. 22, 1959, Ser. No. 808,178
12 Claims. (Cl. 123—90)

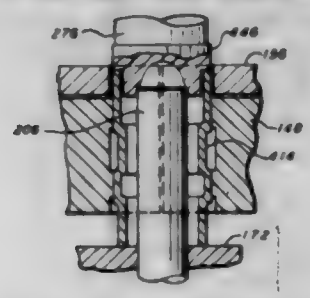


1. A valve lash adjuster for a valve linkage including a rocker arm for operating a valve for an engine having a pressurized oil supply system, the lash adjuster comprising a bearing member having a surface for supporting engagement with an engine rocker arm to hold the rocker arm in non-lash relationship with a valve, a cylinder formed by a wall having a cylindrical interior surface to form a pressure chamber with an upper open end and being connected to said bearing member, a piston slidably housed in said cylinder and closing the upper open end of the pressure chamber, a support member connected to said piston for rigidly positioning it relative to the engine in which the lash adjuster operates, means defining a centrally located oil supply chamber within the piston, an oil supply conduit means connected to said oil supply chamber for delivering pressurized oil from the engine supply system to the chamber, a plurality of radially downwardly inclined passages extending through and circumferentially spaced around the piston and communicating between said oil supply chamber and said pressure chamber, and return flow preventing valve means connected to said passages for preventing the flow of oil from said pressure chamber to said oil supply chamber so that the bearing member will be operated by pressurized oil to prevent lash of the engine rocker arm.

2,971,504
FUSED PRODUCT

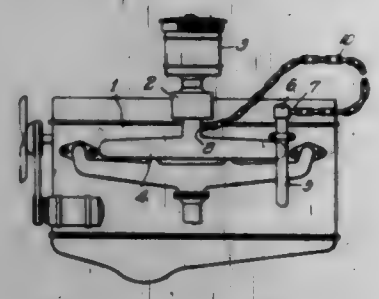
Earl A. Thompson, Ferndale, Mich.

Original application Dec. 30, 1957, Ser. No. 706,116, now Patent No. 2,935,596, dated May 3, 1960. Divided and this application July 13, 1959, Ser. No 826,755
7 Claims. (Cl. 123—90)



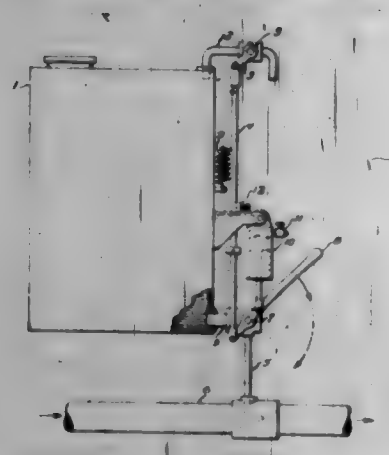
1. As a new article of manufacture a blank for a valve tappet body comprising a base piece of cast iron fusion bonded directly to a tubular steel body wherein the surface of junction has one end portion in which solid state cast iron and solid state steel are in tight mechanical abutment, wherein the cast iron, along at least the mid portion of the surface, is in a fused bond with the steel, and wherein the surface of junction terminates at the opposite end in a zone of die-formed material displaced beyond the original confines of the two pieces.

2,971,505
ATTACHMENT FOR INTERNAL COMBUSTION ENGINE
Grant S. Fortney, 7458 Kingston Ave., Chicago 49, Ill.
Filed July 28, 1959, Ser. No. 830,068
13 Claims. (Cl. 123—119)



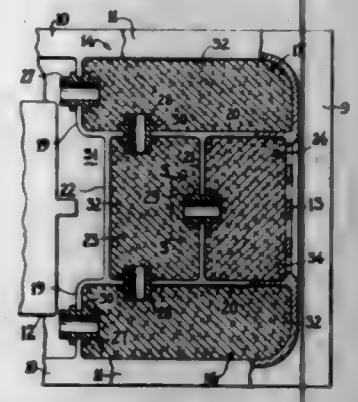
1. The combination with an internal combustion engine having an intake manifold and a crankcase, a conduit having one end in communication with the crankcase to receive vapors therefrom, the other end of said conduit being in communication with the intake manifold, whereby the vacuum within said manifold draws vapor from the crankcase to said manifold, said conduit having means comprising a series of alternate small openings and chambers for causing said vapors to successively pass therethrough to said manifold.

2,971,506
APPARATUS FOR IMPROVING DIESEL FUEL IGNITION QUALITY
Robert T. Pollock, 11 E. 87th St., Apt. 6B, New York 28, N.Y.
Original application Nov. 2, 1956, Ser. No. 620,062, now Patent No. 2,915,054, dated Dec. 1, 1959. Divided and this application July 10, 1959, Ser. No. 826,262
3 Claims. (Cl. 123—187.5)



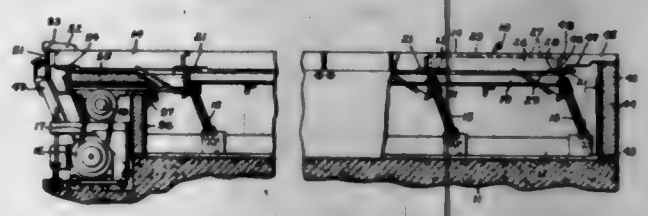
1. In apparatus for supplying a blended mixture of diesel fuel and cetane-boosting additive to a diesel engine which apparatus includes separate storage tanks for the fuel and the additive, and includes means for conducting the diesel fuel as a confined stream from the fuel storage tank to the engine, the improvement which comprises metering valve means associated with the additive tank and settable between a closed position and a maximum-opening position, for metering a stream of liquid additive from said tank into said stream of diesel fuel flowing to the engine, said metering valve means being independent of said diesel fuel conducting means, operator-controlled means for opening said metering valve means to any desired set opening between said closed position and said maximum-opening position, means energized by the opening of said valve means, for automatically and gradually closing said valve means from the set opening to said closed position opening and settable means for controlling the rate-of-closure of said metering valve means.

2,971,507
SILENCING CHAMBER AND AIR INLET FOR OUTBOARD MOTORS
Elmer Carl Kiekhaefer, 157 Western Ave., Cedarburg, Wis.
Filed Sept. 26, 1957, Ser. No. 686,454
7 Claims. (Cl. 123—198)



1. An outboard motor having a cowl forming an internal-combustion engine chamber, said cowl having an air inlet rearwardly thereof, an air cleaner within the rear portion of said cowl and adjacent said inlet, and a silencing chamber within said cowl and adjacent said cleaner whereby air entering said inlet passes through said cleaner and then through said silencing chamber and to said engine chamber.

2,971,508
GRATE
Russell C. Rivers, Boylston, Mass., assignor to Riley Stoker Corporation, Worcester, Mass., a corporation of Massachusetts
Filed Dec. 26, 1957, Ser. No. 705,438
5 Claims. (Cl. 126—174)

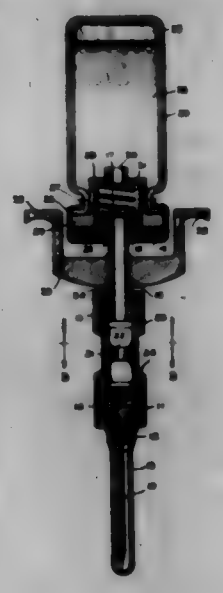


5. A furnace grate of the type constructed to vibrate for the movement of ash to one end for discharge into an ash pit, comprising a frame having parallel, spaced, horizontal support members extending laterally of the grate, elongated grate bars extending longitudinally of the grate, each grate bar having a flat upper surface and a plurality of downwardly-extending ribs extending longitudinally thereof, air holes extending vertically through each bar between pairs of the ribs, each grate bar having each of its ends resting on one of said support members, each of said grate bars being provided with a coil spring placed in tension by attachment at one end of the under side of the grate bar at the end thereof closely adjacent the discharge end of the grate and at the other end to the lower part of one of the support members on which the grate bar rests, the spring constituting substantially the sole fastening existing between the grate bar and the support member, the under side of each grate bar being formed with a stop which engages the supporting member to which its spring is attached to limit movement in the direction of the discharge end of the grate.

2,971,509
DISPOSABLE HYPODERMIC SYRINGE
Milton Joseph Cohen, 5437 Connecticut Ave. NW., Washington, D.C.
Filed Sept. 26, 1958, Ser. No. 763,745
2 Claims. (Cl. 128—216)

2. A disposable hypodermic syringe comprising a container for medicament and fluid and having an open end

and an attaching flange thereabout, a hollow needle, and a connection between said container and said hollow needle including a tube, valve means for controlling the discharge through said tube and said needle, and a finger



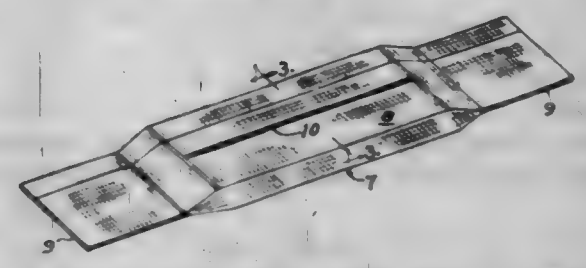
grip on said tube so that such finger grip may be engaged while the thumb is pressed against the end of said container to operate said valve, said tube having a compressible portion for aspiration to indicate improper application of said needle.

2,971,510
SURGICAL DRAINAGE DEVICE
Leon Berger, Rosedale, N.Y., assignor to Atlantic Surgical Company, Inc., Rosedale, N.Y., a corporation of New York
Filed Mar. 18, 1960, Ser. No. 16,055
5 Claims. (Cl. 128—283)



3. A surgical drainage appliance comprising a resilient flanged pad having a central opening, said pad having spaced, annular peripheral flanges defining a groove therebetween, a rigid ring having a cylindrical wall and spaced parallel annular flanges at opposite edges of the wall defining a channel therewith, one of the flanges of the ring fitting snugly into said groove between the flanges of the pad, one of said flanges of the pad snugly fitting into said channel between the flanges of the ring, the other flange of the ring having a frusto-conical flange portion directed radially and obliquely inward toward said one flange of the ring, and a flexible bag having an open end, said end of the bag being reversely folded around said frusto-conical flange portion and around the one flange of the pad disposed in said channel between the flanges of the ring, said pad having perforations around said central opening for passing perspiration from the body of the patient into said bag.

2,971,511
CELLULOSIC PRODUCT
Kenneth J. Harwood, Neenah, Wis., assignor to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware
Filed Jan. 13, 1958, Ser. No. 708,672
2 Claims. (Cl. 128—290)



1. A sanitary napkin of generally planar configuration comprising plural layers of fibrous absorbent material maintained in unitary assembly by an enclosing fluid permeable wrapper, the outermost wrapper-enclosed face of one layer providing the upper or body contacting side of the napkin, and an outermost wrapper enclosed face of another of said layers providing the lower face of the napkin during use, said lower face of said last mentioned layer being provided substantially centrally thereof with a longitudinally extending impress confined to said lowermost layer to aid transverse folding, said impress being defined by a longitudinally extending area of fiber compression and increased fiber density.

2,971,512
URINE SPECIMEN RECEIVERS AND HOLDERS
Alberta C. Reinhardt, 601 SE. 101st Ave., Vancouver, Wash.
Filed May 14, 1958, Ser. No. 735,145
1 Claim. (Cl. 128—295)



A urine receiver and holder for infants comprising a two-part separable container, an outwardly extending annular flange formed on one part of said container, an arcuate annular flange formed on the other part of said container and arranged to encompass said first flange sealing the parts of said container together, a tubular well formed on said one part of said container and projecting inwardly therefrom toward said other part of said container, said well terminating adjacent to but spaced from said other part of said container, a sealing cover for said well including a depending annular flange extending into said well, said depending annular flange having an annular sealing groove formed therein, an annular bead formed in said well adjacent the outer end thereof over which said annular sealing groove in said cover snaps sealing said cover in said well, and an upstanding bead integrally formed on said container surrounding said well and extending outwardly beyond said container for sealing engagement with the body of the infant with which the device is used.

2,971,513
BRASSIERES
Marcel Gingras, Quebec, Quebec, Canada, assignor to Dominion Corset Company Limited, Quebec, Quebec, Canada
Filed May 9, 1958, Ser. No. 734,204
4 Claims. (Cl. 128—494)

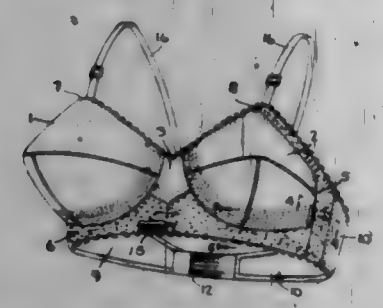
1. A brassiere including a pair of breast pockets joined together along their inner margins, a pair of side panels

arranged outwardly of said breast pockets to encircle the wearer, an elastic diaphragm band secured to the lower edge of each breast pocket to stretch circumferentially of the brassiere, each diaphragm band having its inner margin secured to the other and being provided with an outwardly directed elastic extension secured along its outer margin to a lower portion of the forward margin of an adjacent side panel, a first elastic intermediate side section secured between the outer side margin of a breast pocket and the forward margin of an adjacent side panel and secured to the upper margin of the brassiere and to the lower margin of the diaphragm band extension in lapping relation with said diaphragm band extension to



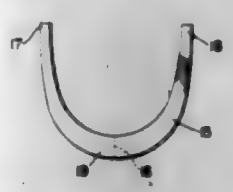
exert tension on said breast pocket at an upwardly and outwardly oblique angle to the line of stretch of said diaphragm band with a lower portion of the first elastic intermediate side section and the overlapping portion of said diaphragm band extension exerting a combined oblique and circumferential tension, and a second elastic intermediate side section secured between the upper portions of said breast pocket outer margin and said side panel forward margin in overlapping relation to the upper portion of said first intermediate side section to exert a downwardly and outwardly inclined tension in combination with the upward and outward tension of the lapping portion of said first intermediate side section.

2,971,514
BRASSIERE
Pearl J. Steinmetz, Evanston, Ill., assignor to The H. W. Gossard Co., Chicago, Ill., a corporation of Illinois
Filed Apr. 13, 1959, Ser. No. 805,792
2 Claims. (Cl. 128—494)



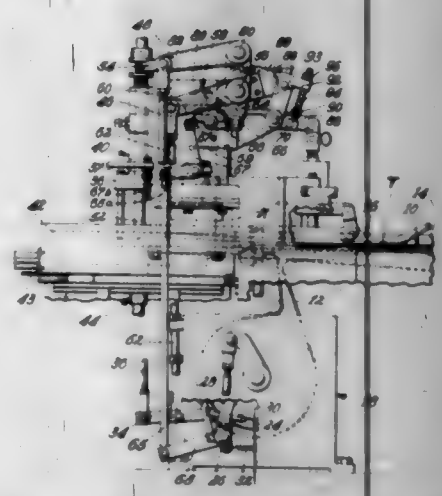
1. A brassiere comprising a front portion having a pair of bust pockets composed of inelastic material, a median band of inelastic material connecting said bust pockets, a marginal front body portion composed of two-way stretch elastic fabric secured to said bust pockets and having a first part extending from the central part of the upper edge of each of the bust pockets angularly downward and outward along said upper edge, a second part extending from the first part downwardly along the outer side edge of the bust pocket and a third part extending from said second part longitudinally below said bust pockets and said median band all the way across the space between the second parts and connected to the lower edges of said bust pockets and said median band, end sections secured to the outer side edges of the second parts, means for resiliently connecting the outer ends of said end sections together at the back of the brassiere, and inelastic shoulder straps each having one end secured to one of the end sections and the other end secured to one of the first parts adjacent the central upper edge of one of the bust pockets whereby tension on said shoulder strap is communicated directly to said two-way stretch elastic fabric.

2,971,515
FOUNDATION GARMENT
Gladys W. Geissmann, 2 Beekman Place, New York, N.Y.
Filed May 8, 1958, Ser. No. 733,974
7 Claims. (Cl. 128—542)



1. In a foundation garment, a fabric frame assembly including a waist-encircling portion of relatively heavy material having limited elasticity girthwise of the wearer, a body portion of relatively lighter, more resilient material supported by the frame assembly to envelop the hip and buttock area of the wearer, and an inverted arch member including upstanding arm portions and comprising a band of relatively heavy material having limited elasticity lengthwise of the arm portions of the arch member and secured at the free ends of its arm portions to the waist-encircling portion adjacent the hips of the wearer and extending continuously down the sides of the garment and curving continuously downwardly rearwardly, said downwardly extending and rearwardly curving portions joining at the back of the garment adjacent its lower end to underlie the buttocks to impart vertical support thereto by means of forces derived from the waist-encircling portion.

2,971,516
SKIP FEED DEVICE FOR CIGAR MACHINE
Sterling T. Gustavson, Rosedale, N.Y., assignor to International Cigar Machinery Company, a corporation of New Jersey
Filed Feb. 2, 1959, Ser. No. 790,510
6 Claims. (Cl. 131—21)



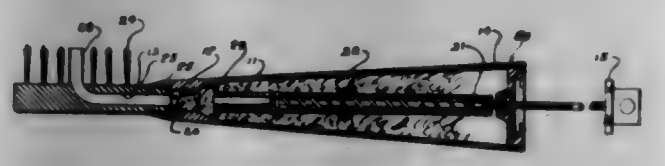
1. In a cigar machine having an intermittently advanced crossfeed for advancing a stream of tobacco filler, a vertical knife mounted to reciprocate vertically to sever advanced portions of said strip during the intermittency of feed, a presser foot to press and firm a preceding segment of said stream during the operation of said knife, a lever, said lever being mounted to move about a center and operative to raise said knife and said presser foot in one direction of said movement and to lower said knife and said presser foot in the opposite direction of movement, a second lever being mounted to swing about a point, drive means to swing said second lever to and fro about said point, latch means operative when in latching position to provide driving connection between

said second lever and said first lever in at least one direction, and means operative when energized to disengage said latch.

2,971,517
PROCESS FOR THE PREPARATION OF AN INSOLUBLE TOBACCO SHEET OR WEB
Lennart O. Pihl, Solna, Sweden, assignor to Arenco Aktiebolag, Stockholm, Sweden, a joint-stock company of Sweden
No Drawing. Filed June 11, 1959, Ser. No. 819,547
Claims priority, application Sweden June 30, 1958
5 Claims. (Cl. 131—140)

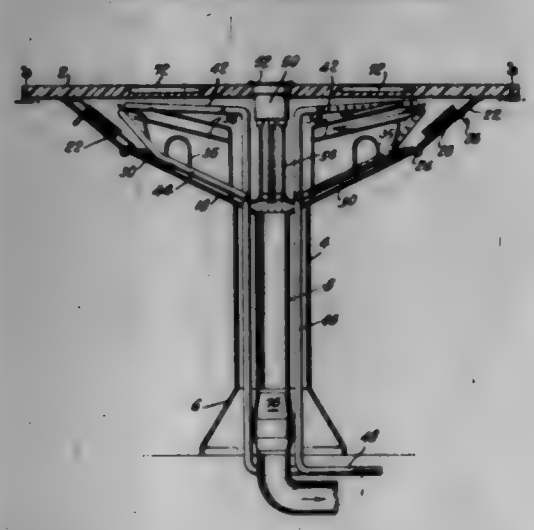
1. A process for the preparation of an insoluble tobacco sheet or web, which process comprises mixing finely divided tobacco with water and a mixture of a water soluble alginate and carboxymethyl cellulose constituting a binder containing at least 10% by weight of the alginate, homogenizing the mixture, adding an acid to adjust the pH to 3–4, spreading or casting the mixture in the form of a thin film, and drying the film to form a sheet or web.

2,971,518
TOOTHBRUSH WITH TOOTHPASTE DISPENSER
James C. O'Neal, 2806½ Ensley Ave., Birmingham, Ala.
Filed Sept. 8, 1958, Ser. No. 759,814
8 Claims. (Cl. 132—84)



8. A toothbrush with dentifrice dispenser comprising an elongated handle having a dentifrice chamber therein, a brushhead on one end of said handle, there being a measuring chamber intermediate said dentifrice chamber and said brushhead and in communication with said dentifrice chamber for receiving a predetermined amount of dentifrice, a curved passageway in said brushhead communicating said measuring chamber with said brushhead, means transferring said dentifrice from said dentifrice chamber to said measuring chamber, and an elongated flexible plunger adapted for reciprocatory movement into said curved passageway for transferring the dentifrice onto the bristles of said brushhead.

2,971,519
COMBINED DINING TABLE AND DISHWASHER
Winifred Willson, 48 Commerce St., New York 14, N.Y.
Filed Aug. 6, 1957, Ser. No. 676,673
10 Claims. (Cl. 134—58)



1. A combined dining table and dishwasher, comprising a single central supporting standard, walls carried by the upper part of said standard and extending diagonally upwardly and outwardly from said standard, a fixed horizontal table top of substantial horizontal area for supporting dishes and tableware thereon, said walls extending substantially to the underside of said table top, said walls and the underside of said table top defining between them a dishwashing zone extending circumferentially around the central supporting standard, water spray pipes and dish supporting racks in said dishwashing zone, water inlet pipes in said central supporting standard operatively connected with said spray pipes, a drain pipe in said central supporting standard, and watertight door means in said diagonal walls, for providing access to said dishwashing zone.

2,971,520
RINSING APPARATUS FOR DISHES
Gilbert M. Motis, Northridge, and Charles H. Fritz, Long Beach, Calif., assignors to Waste King Corporation, Los Angeles, Calif., a corporation of California
Filed June 18, 1956, Ser. No. 591,996
5 Claims. (Cl. 134—172)

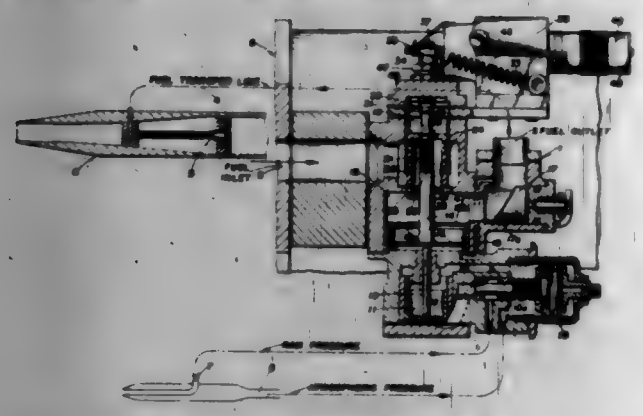


1. In a rinsing device, the combination of: a support; a rigid tube having an end mounted on said support; a flexible conduit in said tube and having an end anchored relative to said support, said conduit being rotatable relative to said tube and being longer than said tube so that a portion of said conduit projects from the other end of said tube a substantial distance; a discharge means connected to the other end of said flexible conduit at the end of said projecting portion thereof and rotatable with said conduit relative to said tube; and a flexible sheath covering said projecting portion of said flexible conduit and connected at one end to said discharge means and extending into said other end of said tube and being rotatable with said conduit relative to said tube.

2,971,521
FUEL CONTROL INITIATOR
David A. Washburn, Silver Spring, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed Oct. 11, 1950, Ser. No. 189,599
5 Claims. (Cl. 137—72)

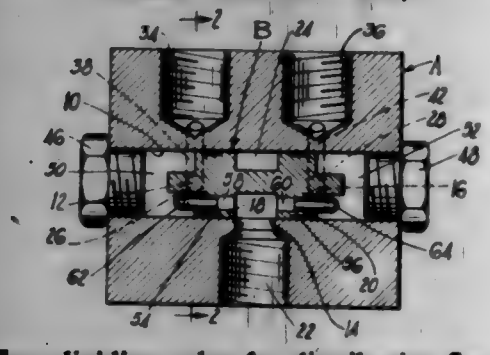
1. A fuel flow control mechanism comprising a casing having a fuel inlet opening and a fuel outlet opening, a valve in said casing to control the flow of fuel between said openings, a valve rod movable axially in said casing and carrying said valve, a shaft extending into said casing, a latch carried by said shaft, and coacting with said rod to hold it against axial movement when in one position and to free said rod when in another position, and means outside said casing and operable to release the rod for axial movement, said means including a spring urging

the latch out of engagement with the rod, a wire restraining the spring and maintained under tension by said spring,



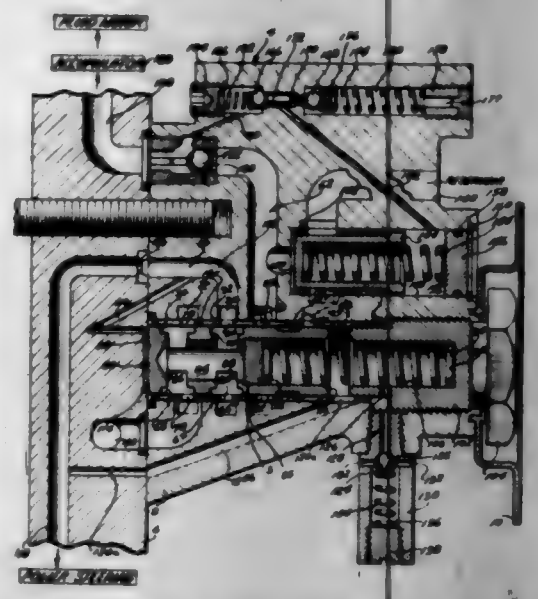
and a device for severing said wire and thus releasing the spring to move the latch.

2,971,522
FLOW PROPORTIONING VALVE
Richard L. Lewis, St. Joseph, Mich., assignor to The Bendix Corporation, a corporation of Delaware
Filed Sept. 20, 1957, Ser. No. 685,308
4 Claims. (Cl. 137—101)



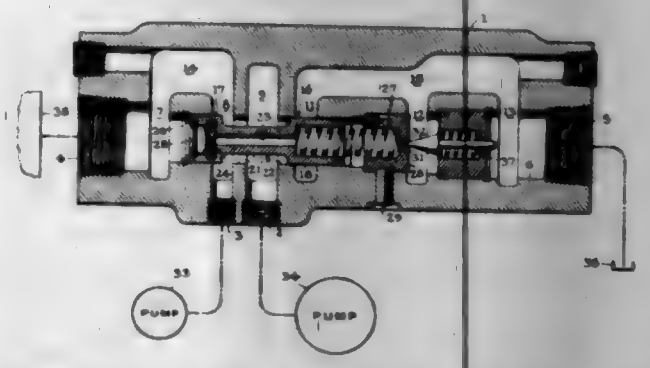
1. In a flow dividing valve for distributing flow between first and second motor parts: a body member having an enclosed cylindrical valve chamber therein with sidewalls spaced about a longitudinal axis, a movable valve member in said chamber forming first and second opposite end opposing chambers, means defining a first flow path passing through said first opposing chamber and said movable and body members to said first motor part, means defining a second flow path passing through said second opposing chamber and said movable and body members to said second motor part, said first flow path being constructed and arranged to produce a pressure drop in said first opposing chamber which varies with flow and which changes direction of fluid flow in said movable member to produce a reaction on said movable member having an axial component and a tangential component which acts on a line of force spaced from said axis to produce a turning movement on said movable member, said second flow path being constructed and arranged to produce a pressure drop in said second opposing chamber which varies with flow and which changes direction of fluid flow in said movable member to produce a reaction on said movable member having an axial component and a tangential component which acts on a line of force spaced from said axis to produce a turning movement on said movable member, the axial components of said first and second flow paths substantially balancing each other and the tangential components of said first one second flow paths producing moments in the same direction, and suitable adjustable throttling means in said first and second flow paths constructed and arranged to reduce flow through said first flow path when pressure unbalance in said opposing chambers is created in favor of said second opposing chamber and to reduce flow through said second flow path when pressure unbalance in said opposing chambers is created in favor of said first opposing chamber.

2,971,523
PUMP AND VALVE ASSEMBLY
Edward C. Dudley, Euclid, Ohio, assignor to Thompson Ramo Wooldridge, Inc., a corporation of Ohio
Filed Jan. 11, 1957, Ser. No. 633,653
10 Claims. (Cl. 137—108)



7. A hydraulic system comprising a first flow conduit means for leading to an accessory unit requiring a continuing supply of fluid, a second flow conduit means for leading to a fluid storage unit to supply intermittent flow for intermittent requirements of an accessory, fluid supply means connected to said conduits for providing a continuing flow of fluid, a flow control valve connected to said first and second conduit means and dividing flow therebetween, valve operating means connected to said first conduit means to be responsive to fluid flow in said first conduit means and to vary the opening of said control valve as a function of flow in said first conduit means to maintain a flow through said first conduit means whereby the flow requirements of said first conduit means are first met and the remainder of fluid is directed through said second conduit means, a pressure relief passage leading from said second conduit means, a pressure relief valve in said relief passage whereby fluid in excess of the requirements of both said first and second conduits may be discharged and a check valve automatically closed by reverse flow between said fluid storage unit and said pressure relief passage and being connected in said second conduit downstream of said pressure relief passage to be between the pressure relief passage and the fluid storage unit.

2,971,524
VALVE
Charles A. L. Ruhl, Kalamazoo, Mich., assignor to The New York Air Brake Company, a corporation of New Jersey
Filed Feb. 17, 1958, Ser. No. 715,627
5 Claims. (Cl. 137—108)



1. In a hydraulic system having primary and secondary sources of pressure fluid, a common delivery passage,

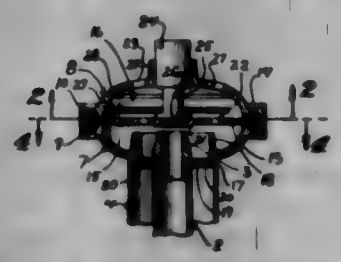
and an exhaust passage, the combination of primary and secondary supply passages connecting the delivery passage with the primary and secondary sources, respectively; a control passage connecting the delivery passage with the exhaust passage; a relief valve normally interrupting flow from the delivery passage to the exhaust passage through the control passage; an unloading passage connecting the primary supply passage with the exhaust passage; first and second valves controlling flow through the primary supply passage and the unloading passage, respectively, the first valve being located in the primary supply passage downstream of the junction between this passage and the unloading passage; and means responsive to flow through the control passage for opening and closing the second and first valves, respectively, when the relief valve is open, and for shifting these valves in the reverse senses when the relief valve is closed.

2,971,525

FLOAT-OPERATED VALVE

Armand E. Antunez, Jr., 20123 E. Sierra Madre, Ave., Glendora, Calif.

Filed Jan. 5, 1959, Ser. No. 784,966
5 Claims. (Cl. 137—217)



1. A valve construction, comprising: complementary upper and lower housing members, said lower housing member having restricted outlet ports, said upper housing member having anti-siphon ports; a yieldable apertured membrane interposed between said housing members to define therewith a lower inlet chamber and an upper anti-siphon chamber; an inlet tube extending into said lower housing and inlet chamber and terminating in a valve seat confronting said membrane, the confronting portion of said membrane forming a valve element engageable with said valve seat; a plunger slidably mounted in said upper housing member and engageable with said membrane to urge said valve element against said valve seat; and a yieldable check valve loosely mounted on said plunger and upwardly movable by the force of water passing through said apertured membrane to close said anti-siphon ports during flow of water into said inlet chamber from said inlet tube and out of said inlet chamber through said restricted outlet ports.

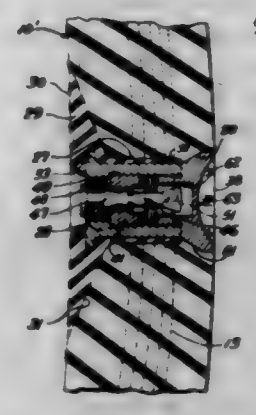
2,971,526

SIDEWALL VALVE FOR TUBELESS TIRES

Ralph K. Boyer, Cleveland, and Roger H. Nece, Maple Heights, Ohio, assignors to The Dill Manufacturing Company, Cleveland, Ohio, a corporation of Ohio

Filed Jan. 6, 1958, Ser. No. 707,423
2 Claims. (Cl. 137—223)

2. A valve for a tubeless tire or the like having a sidewall, said valve comprising an elastomer sleeve having at one end an enlarged thickened head flange, a tubular rigid insert having at one end a peripheral flange embedded in said head flange, said tubular insert having an internally threaded portion adjacent its opposite end and a cylindrical passageway coaxial with said threaded portion and adjacent said one end and in proximity to said peripheral flange, a threaded bushing screwed in said threaded portion of said insert and having a port therethrough, a valve pin extending through said port in said bushing and reciprocable therein and having one end thereof extending into said passageway and provided with a pair of axially spaced flanges of larger diameter than said port but of smaller diameter than said passageway, and a resilient O-ring sealing means mounted on said valve pin between said flanges and engaged thereby,



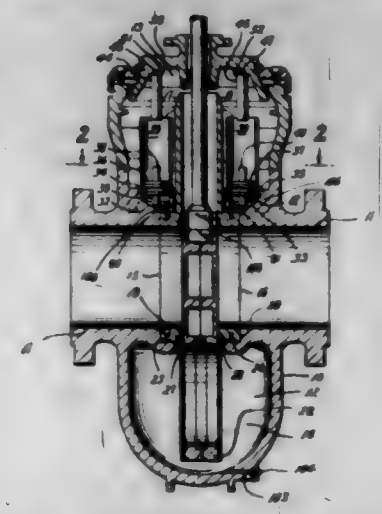
said O-ring sealing means extending beyond the circumferences of said flanges a substantial distance, said sealing means being movable by reciprocation of said valve pin into and out of said passageway for sealing the same, one of said flanges when said sealing means is in said passageway abutting the inner end of said bushing.

2,971,527

AUTOMATIC PLASTIC SEALED VALVES

Robert Eichenberg and Allen F. Rhodes, Houston, Tex., assignors, by mesne assignments, to McEvoy Company Houston, Tex., a corporation of Texas

Filed Aug. 29, 1955, Ser. No. 531,187
4 Claims. (Cl. 137—246.12)



1. A gate valve including a body having a flow passage therethrough and a chamber intersecting the flow passage, seat means in said flow passage at opposite sides of said chamber, a reservoir means associated with each said seat means, each said reservoir means comprising a tubular member and a recess in the wall of said chamber adapted to tightly and removably receive the base of the tubular member, and a passage in said body between each said seat means and the reservoir associated therewith, whereby each said tubular member may be removed by movement thereof in a direction axially of the tubular member.

2,971,528

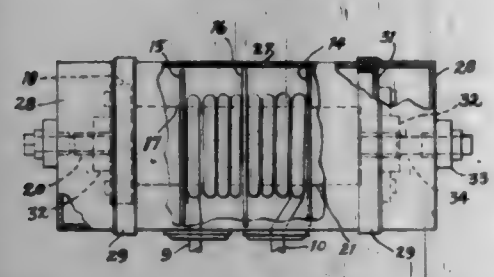
CONTROLLING APPARATUS FOR THE BRAKE HOSE LINE OF TRUCKS

John A. Rocca, 709 15th St., Union City, N.J.

Filed Sept. 19, 1958, Ser. No. 762,114
2 Claims. (Cl. 137—355.12)

1. Apparatus for controlling exposed flexible conduits to supply pressure fluid to the brakes of a truck comprising a trailer and a tractor, said apparatus including a

hollow rotary member having a hollow trunnion at each end, said member containing a chamber for said fluid at each end thereof, said member also having a central portion between said chambers, exterior flanges on said central portion, another flange between said flanges, the spaces between said flanges forming a pair of reels, a hose wound upon each of said reels, each of said hoses having one end connected to the member and in communication with one of said chambers, a casing at one end of said member containing a spiral spring secured at one end to said casing, a housing having a central section containing said member and casing, the ends of said section being closed and having bearings, terminal sections secured to the ends of the central section, the casing containing said spring being adjacent one end of the central section, a stud attached to said end to which the other end of said spring is secured, couplings in the terminal sections, nipples within the trunnions received by said couplings, said housing having openings through which the opposite ends of the hose may be drawn, said member by reason of said nipples and said couplings being rotatably mounted in said housing.

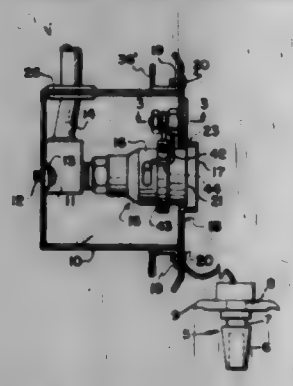


2,971,529

TAMPERPROOF GAS OUTLET

Francis J. Eichelman, Brookfield, Ill., assignor to Chemetron Corporation, Chicago, Ill., a corporation of Delaware

Filed Mar. 21, 1955, Ser. No. 495,490
1 Claim. (Cl. 137—361)



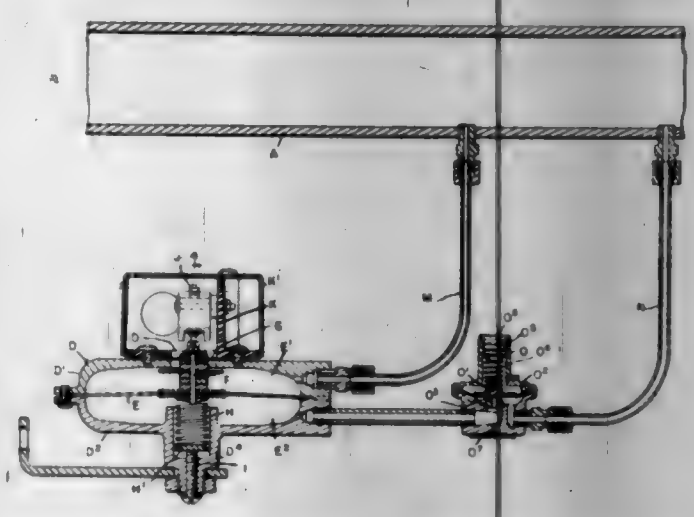
In a hospital fluid distribution outlet of the type having a socket coupling member connected to a gas line which socket member includes an internal jaw member biased toward a closed position, the socket member being adapted to receive a male coupling member attached to either a conduit or a cover and having a conformation adapted to receive the internal jaw member to hold the members in coupled relation, the improvement comprising an enclosure for the socket coupling member, a cover plate for said enclosure, said plate having an opening in alignment with said socket coupling member to receive a male coupling member, and tamperproof key-operated means within said enclosure adjoining the cover plate for controlling the release of the male coupling member, said means including a linkage for rotating a barrel on the socket member to disengage the internal jaw from a male coupling member, and linkage engaging means including a ring mounted on the outer periphery of the barrel and in fixed relation therewith arranged to interlock with said linkage, and a key opening in said cover plate opposite said linkage so that a key inserted through said key opening may be turned to move said linkage to rotate the barrel thereby to release a male coupling member.

2,971,530

HIGH-LOW PRESSURE CONTROL MEANS FOR FLUID SUPPLY SYSTEMS

Maurice J. Dewey, 34036 E. Jefferson, St. Clair Shores, Mich.; Katherine Dewey, executrix of the estate of said Maurice J. Dewey, deceased

Filed Mar. 18, 1957, Ser. No. 646,723
5 Claims. (Cl. 137—458)



1. Automatic gas controlling means responsive to gas pressures in a supply line, either higher or lower than predetermined limits, comprising a casing, a flexible diaphragm dividing said casing into two chambers sealed from each other, a rod centrally connected to said diaphragm having one end passing out from said casing through an aperture therein, sealing means between said casing and said portion of the rod preventing communication from said casing through said aperture, an electric switch operatively connected to the outer end of said rod, separate conduits respeectively connecting said chambers with said gas supply line, each conduit being connected at the periphery of the chamber at a point remote from the central zone thereof, said casing being otherwise closed thereby subjecting the chambers on opposite sides of said diaphragm to only those pressures which are derived from said conduits, one conduit being in continuous communication, a normally closed valve in the other conduit, means other than gas pressures within said chambers for biasing said diaphragm to move in opposition to gas pressure in the chamber connected to said open conduit if less than the low limit, and means for opening said valve by gas pressure in the conduit having said valve when the gas pressure therein is above the high limit, whereby gas pressures on opposite sides of said diaphragm are equalized, permitting said biasing means to operate said controlling means.

2,971,531

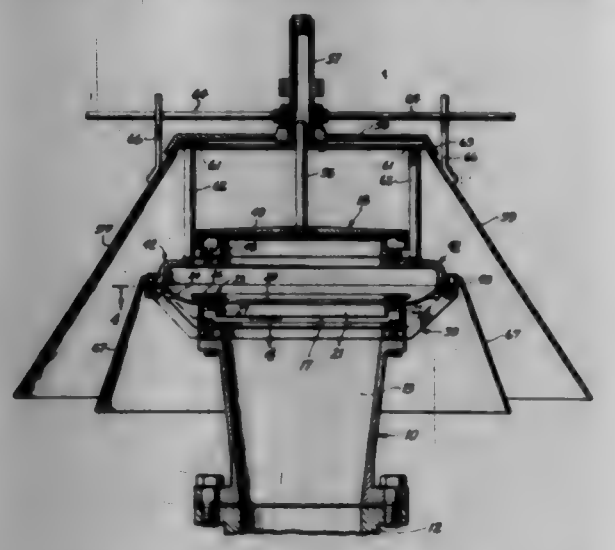
RELIEF VALVE

Peter C. Jurs, Oakland, and Joesph F. Van Overveen, Lafayette, Calif., assignors to Shand and Jurs Company, Berkeley, Calif., a corporation of California

Filed Feb. 27, 1956, Ser. No. 568,016
2 Claims. (Cl. 137—493.9)

1. In a relief valve, a body having a flow passage adapted to be connected to a source of fluid pressure or vacuum, an annular seat, a rigid annular member carried by the body, a rigid annular member having an opening therethrough communicating with the passage of the body, pressure valve means carried by the rigid annular member to permit flow of fluid from said passage under conditions of excess pressure, a hood mounted on said

rigid annular member and being formed to provide a continuously expanding flow passage between the hood and the body, an annular seat carried by the body and forming a horizontal valve working surface, an annular pallet assembly overlying the seat and including a flexible diaphragm member extending outwardly from the seat and having its outer margin secured to and sealed with respect the said annular member, said vacuum pallet assembly also including a ring assembly secured and sealed with respect to the inner margin of the diaphragm, a



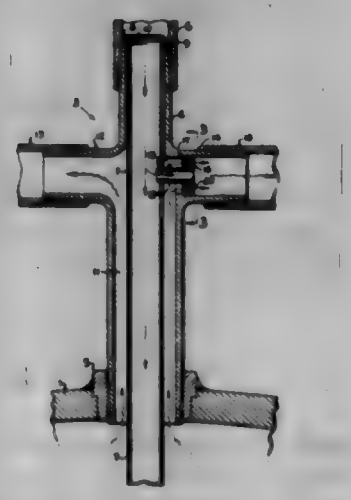
portion of said ring assembly overlying the seat and the inner margin of the diaphragm member and serving to press the diaphragm member into sealing engagement with the valve working surface of the annular seat for closed position of the vacuum pallet assembly, a major portion of the ring assembly being disposed within the annular seat, said ring assembly having a continuously open flow opening therethrough in alignment with the passage in said body, and an additional hood secured to the rigid annular member and arranged within the first named hood to provide a flow passage leading to said vacuum pallet assembly.

2,971,532

WATER HEATER FITTING FOR DELIVERING TWO TEMPERATURES OF HEATED WATER

David J. McLaren, Bradley, Ill., and Russell J. Soucie, Benton Harbor, Mich., assignors to A. O. Smith Corporation, Milwaukee, Wis., a corporation of New York

Filed Apr. 5, 1956, Ser. No. 576,415
6 Claims. (Cl. 137—592)



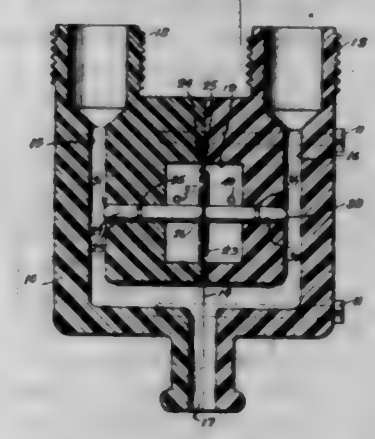
6. A fitting to be connected to a single opening in a tank containing hot water or the like, comprising hot water conduit means adapted to be secured within the opening of the tank and having a first opening adapted to communicate with the interior of the tank and having a high temperature outlet opening adapted to discharge high temperature hot water and having an intermediate temperature outlet opening adapted to discharge water at an intermediate temperature, cold water conduit means disposed within said hot water conduit means and spaced therefrom to provide a passage therebetween, said passage providing communication between said first opening and said high temperature outlet opening and said intermediate temperature outlet opening and serving to conduct hot water from the tank to said high temperature and intermediate temperature openings, the outer end of said cold water conduit means communicating with a cold water supply and the inner end of said cold water conduit means extending beyond said first opening and adapted to extend a substantial distance into said tank, and by-pass conduit means connecting said cold water conduit means and said intermediate temperature outlet opening for conducting a portion of the cold water directly to said intermediate temperature outlet opening to thereby obtain a mixing of hot and cold water and an intermediate water temperature.

2,971,533

PRESSURE OPERATED MIXING VALVE

Carl C. Bauerlein, Lincolnwood, Ill., assignor to The Dole Valve Company, Morton Grove, Ill., a corporation of Illinois

Filed May 12, 1958, Ser. No. 734,539
1 Claim. (Cl. 137—607)



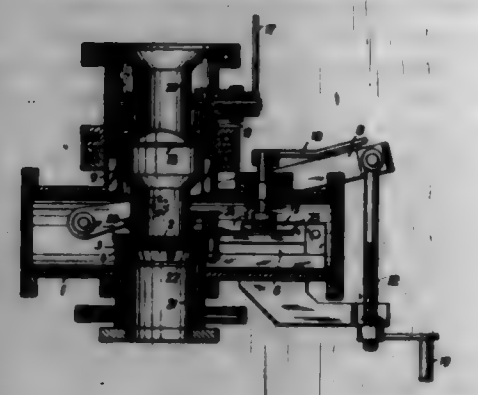
In a tempering valve for water and the like, a two part valve body having a hot water inlet passageway leading into one part thereof, and a cold water inlet passageway leading into the other part thereof in generally parallel relation with respect to said hot water inlet passageway, a common outlet leading from said valve body along the joint between the halves thereof, a diaphragm chamber in each part of said valve body between said inlet passageways, a pin slidably extending through said diaphragm chamber and guided in each of said body parts at opposite ends of said diaphragm chamber for movement axially of said diaphragm chamber and transversely of said inlet passageways and having valve means on opposite ends thereof metering the flow of hot and cold water through said passageways, said valve means comprising hemispherical valve faces struck from radii equal to the radius of said passageways to conform to half of the cylindrical wall of each passageway, fluid pressure inlets in each body part leading to opposite sides of said diaphragm chamber, a diaphragm extending across said diaphragm chamber at the juncture of said body parts and having an outer annular rib recessed within adjacent faces of said body parts and also having a central diaphragm plate having connection with said metering pin for operating said metering pin and the hemispherical valves on opposite ends thereof to control the flow of water along said passageways and the delivery of water through said outlet, and means securing the parts of said valve body together and bringing the annular rim of said diaphragm into sealing engagement with the adjacent faces of said valve body.

2,971,534

GASTIGHT SHUTOFF DEVICE FOR THE PASSAGE OF DUST-CONTAINING SUBSTANCES

Ludwig Bender, Brühl, near Cologne, Germany, assignor to Knapsack-Griesheim Aktiengesellschaft, Knapsack, near Köln, Germany, a corporation of Germany

Filed Aug. 20, 1957, Ser. No. 679,193
4 Claims. (Cl. 137—613)



1. A valve assembly for introducing substances which contain dust into a gastight apparatus wherein the valve assembly packings are protected against contamination by the dust of the substance passing through the assembly, said assembly comprising a walled, gastight, valve housing, an inlet conduit for the housing which extends through one wall of the housing, a feed tube for the substance supported within and by the inlet conduit, an outlet conduit for the housing having one end extending into the housing through the opposite wall to lie in alignment with the feed tube, an axially moveable protective tube positioned within the housing with its axis in alignment with the feed tube and outlet conduit, one end of the protective tube being enlarged so as to encompass with clearance one end of the feed tube, means for moving said protective tube against and away from said one end of the outlet conduit, a swingable valve disc for closing off said one end of the outlet conduit when the protective tube is removed from the said one end thereof, means for moving said valve disc, sealing means positioned between the exterior of the protective tube at the inner side of the inlet conduit to seal off the area adjacent the inlet conduit from the housing interior, and a closure fastened to the feed tube to retain and admit respectively the passage of substances through said one end of the feed tube.

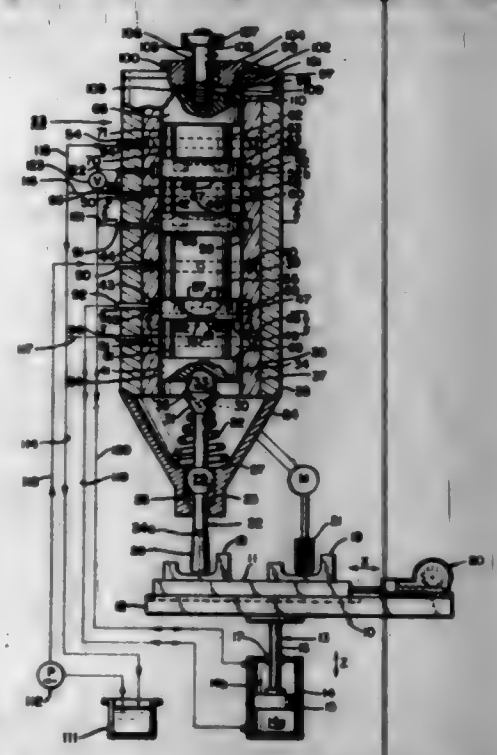
2,971,535

MACHINE TOOL CONTROL

Paul J. Weaver, Downey, Calif., assignor, by mesne assignments, to Bendix Industries, Inc., Los Angeles, Calif., a corporation of Connecticut

Filed Nov. 17, 1958, Ser. No. 774,523
7 Claims. (Cl. 137—620)

1. A valve adapted to make contact with a pattern for controlling movement of a portion of a machine tool, which portion is reciprocable in both directions along a machine axis, and has a biased tendency to move in one of said directions, the portion being movable by a motor having a biased and unbiased side, the biased side being that side on which force must be exerted to overcome the biased tendency, said valve comprising: a sleeve member; an interior wall in said sleeve member which defines a substantially circular cylindrical spool passage having a valve axis, a pressure inlet port, a pair of motor supply ports, and a pair of exhaust ports opening through said wall into said spool passage, said ports being axially spaced apart from each other, a circular cylindrical spool member slidably and rotatably disposed in said spool passage, said spool member having a central pressure groove adapted to connect one or the other of said motor supply ports to the pressure inlet port upon axial shifting of the spool in the passage, and an exhaust groove on each side of the pressure groove adapted to simultaneously connect the remaining motor supply port to one of the exhaust ports, said motor supply ports being adapted for connection to a motor, the side of each exhaust groove closest to the pressure groove incorporating a hollow, and the side of the motor supply ports farthest from the pressure inlet port incorporating a depression, each hollow and each depression including a first segment extending



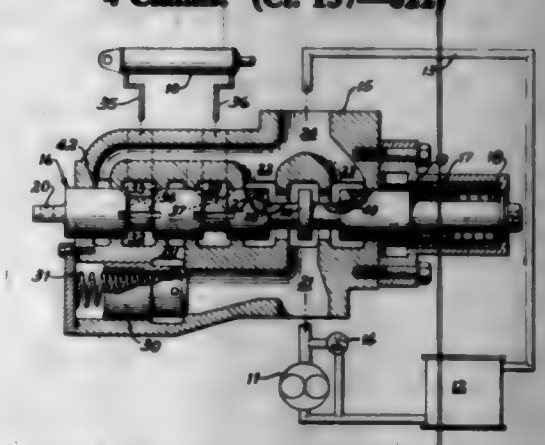
non-parallel to the valve axis, and a second and third segment intersecting the first segment and departing therefrom on the same side thereof, all hollows and depressions being adapted for simultaneous alignment, the overlap of depressions and hollows being a function of both the axial and rotational position of the spool in the sleeve, there being a greater number of depressions and hollows in communication with the unbiased side of said motor than with the biased side thereof.

2,971,536

HYDRAULIC CONTROL VALVE THROTTLING MECHANISM

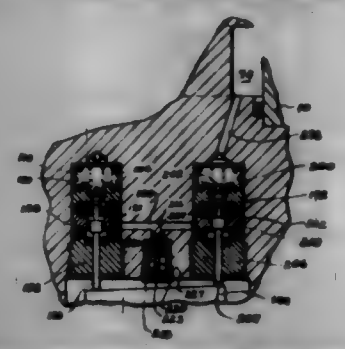
John A. Junck and James E. Scheidt, Joliet, Ill., assignors to Caterpillar Tractor Co., Peoria, Ill., a corporation of California

Filed June 26, 1958, Ser. No. 744,721
4 Claims. (Cl. 137—622)



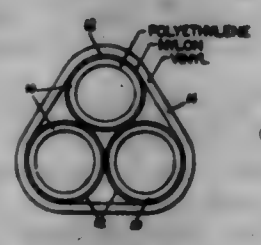
1. In a control valve having a spool reciprocable in a cylinder and having a land for opening and closing a port in the cylinder upon movement of the spool in one direction and a spring urging the spool in the opposite direction, the improvement which comprises a shallow throttling notch intercepting an edge of said land and forming a pocket wherein reaction of fluid passing through the notch will urge the spool in the same direction as the spring.

2,971,537
CONTROL VALVES FOR SENSING PRESSURE CHAMBER
Slawomir Kowalski, Rockaway, Donald A. Worden, Pompton Plains, and Sam Robert Smolen, Clifton, N.J., assignors to Marotta Valve Corporation, Boonton, N.J., a corporation of New Jersey
Filed Nov. 27, 1957, Ser. No. 699,382
9 Claims. (Cl. 137—636.1)



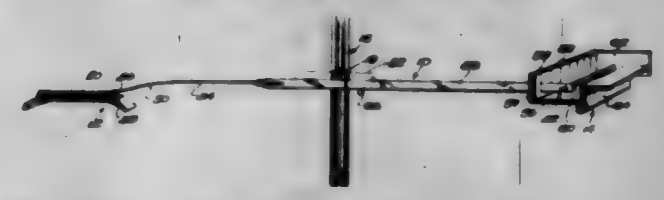
1. In apparatus for controlling the pressure, a pressure loading chamber, two valve chambers, the first of which has a passage for receiving gas at high pressure and the second of which has a passage for the flow of gas to and from the loading chamber, a third passage through which both of the valve chambers communicate with one another, a first valve element in the first chamber at a location to control the flow of the high pressure gas through said first chamber, a second valve element in the second chamber at a location to control the flow of gas to and from the loading chamber, common operating means for both the first and second valve elements including mechanism that operates both valve elements when the common operating means moves in one direction and mechanism that operates only the second valve element when said operating means is moved in the other direction, and a bleed conduit through which gas escapes from said third passage, the cross section of the bleed conduit being substantially smaller than the cross section of the passages through which gas flows to the loading chamber when the valve elements are in open position whereby gas cannot escape from the bleed conduit as rapidly as it enters the loading chamber.

2,971,538
EXTRUDED TUBING
Robert E. Brumbach, Manton, Ohio, assignor to Samuel Moore & Co., Manton, Ohio, a corporation of Ohio
Filed Jan. 31, 1958, Ser. No. 712,473
2 Claims. (Cl. 138—49)



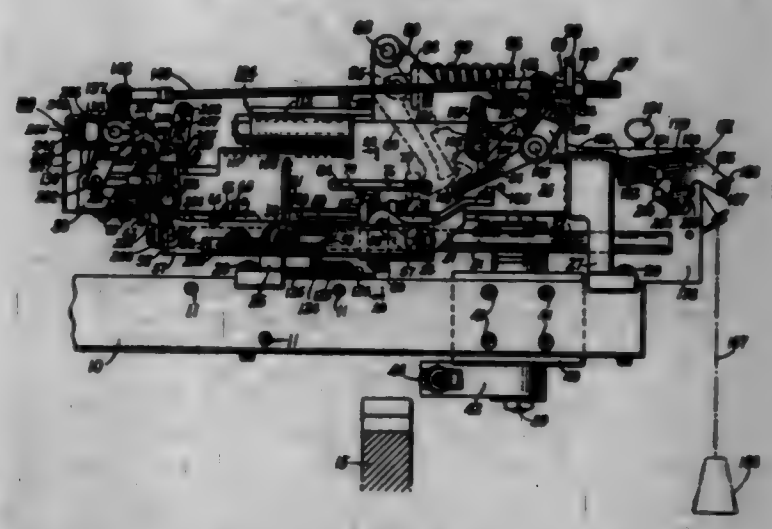
1. A plural duct assembly for use as instrument tubing and the like comprising, a plurality of unconnected elongated flexible tubular elements of composite structure disposed in juxtaposed relation to each other, each of said tubular elements comprising a continuous inner layer of extruded polyethylene material and a continuous outer layer of extruded nylon material encircling said inner layer for the full axial length thereof and being bonded thereto, said outer layer providing a protective and impermeable sheath for said inner layer, and an extruded vinyl plastic envelope, such as polyvinyl chloride, surrounding and firmly binding the bundle of tubular elements together, said outer layer of each of the tubular elements preventing any reaction between said envelope and said inner layer and preventing adhesion between the inner layers of the adjacent tubular elements, said vinyl envelope protecting said outer layers of said tubular elements against the deleterious effects of weathering and providing for the ready exposure of the ends of said tubular elements for assembly of the same with individual hose fittings.

2,971,539
LENO-TYPE LOOM ASSEMBLY AND PILE WIRE THEREFOR
Robert O. Sparling, Harmony, R.I.
(29 Austin Ave., Greenville, R.I.)
Filed Jan. 30, 1959, Ser. No. 790,116
8 Claims. (Cl. 139—46)



1. In a Leno-type loom having a frame, a system of harnesses supported by said frame and having doup heddles carried thereby, at least one pile wire member comprising a flat, elongated shank substantially rigid in its own plane, means at one end of said shank for anchoring the same to the loom frame, and the other end of said shank having an elongated normally substantially straight, resilient and flexible wire united therewith and extending therefrom with an end portion adapted to be offset for retention in slightly spaced relation over the ground fabric being woven and held in position by the pile loops being formed thereover, an intermediate portion of said flat shank being received through a respective doup heddle of the harnesses so as to have the pile thread looped from side to side of the pile wire member.

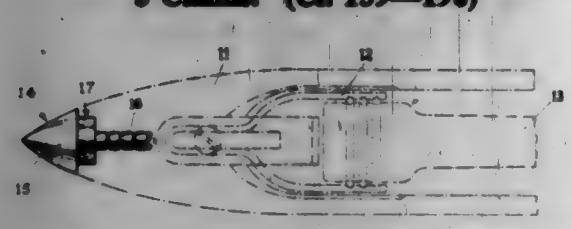
2,971,540
LOOMS
George W. Dunham, Wilton, Conn.
(Box 148, Westport, Conn.)
Filed May 22, 1959, Ser. No. 815,149
18 Claims. (Cl. 139—126)



1. In a loom having mechanism for reciprocating a laybeam, the combination comprising a laybeam, a pilot-projecting device, said device including a box for receiving a pilot and means for projecting a pilot from said box, means for releasing a thread from thread-gripping means on a pilot in said box, means for controlling the operation of said pilot-projecting means and of said thread-releasing means, said controlling means including a slide rod carrying a member adapted to actuate said pilot-projecting means to effect a projection of a pilot from said box as said slide rod moves in one direction and an element adapted to actuate said thread-releasing

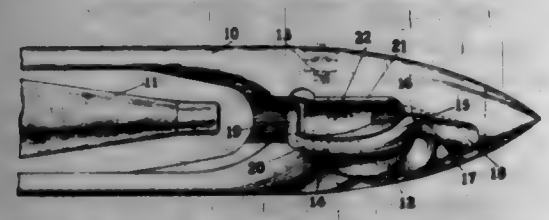
means as said slide rod moves in the reverse direction, means for avoiding actuation of said thread-releasing means by said element during every other reverse movement of said slide rod, and means for reciprocating said slide rod in unison with the reciprocating movements of said laybeam.

2,971,541
SHUTTLE STRUCTURE
Joseph R. Evans, Milford, Mass., assignor to Draper Corporation, Hopedale, Mass., a corporation of Maine
Filed Dec. 1, 1959, Ser. No. 856,495
5 Claims. (Cl. 139—196)



1. For a loom shuttle, a shuttle spur comprising a conical tip and a shank extending therefrom, a recess in said tip concentric with said shank, and a sleeve adapted to have an end thereof forcingly received into said recess, said sleeve having a plurality of longitudinal slits extending from said end partially across the length of said sleeve.

2,971,542
THREADING BLOCK
Antonio Villani, Milford, and James W. Rankin, Jr., Uxbridge, Mass., assignors to Draper Corporation, Hopedale, Mass., a corporation of Maine
Filed Jan. 26, 1960, Ser. No. 4,680
5 Claims. (Cl. 139—223)



1. A threading block for loom shuttles comprised as a non-ductile metal casting and having means defining a longitudinal thread channel, a side eye recess and a horn with a thread confining lip and a scroll cast integrally with said block and positioned separate from and in advance of the thread channel considering the direction of passage of the filling through the block.

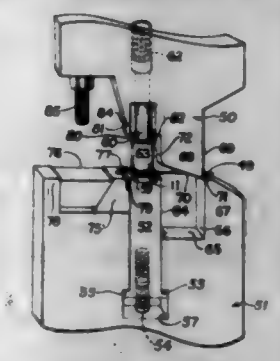
2,971,543
WIRE MESH MACHINE
Theodore W. Glynn, Kingsport, Tenn., assignor, by mesne assignments, to American-Saint Gobain Corporation, Wilmington, Del., a corporation of Delaware
Filed Mar. 26, 1958, Ser. No. 724,045
11 Claims. (Cl. 140—3)

1. A machine for making wire mesh continuously, comprising a pair of laterally spaced endless chains having downwardly traveling parallel lengths adjacent each other, means for advancing said chains continuously, uniformly spaced pins projecting from opposite sides of each chain, first wire-supplying means, means for continuously moving said wire-supplying means around said downwardly moving chain lengths in an inclined plane for wrapping wire tightly around them to provide inclined strands on opposite sides of the chains, second wire-supplying means below said first means, means for continuously moving said second wire-supplying means around said chain lengths in a plane inclined in the opposite direction to said first inclined plane for wrapping additional wire tightly around said chain lengths to provide inclined strands crossing the first-mentioned strands, whereby a downwardly moving flat tubular mesh is formed, means for directing each wire under a pin at one side of each chain and then over a pin on the other side of that chain, and the wire-engaging surfaces of the two pins at their inner ends being positioned to displace the downwardly moving inclined strands of each wire into parallel relation with one another, there being between the chains below



said second wire-supplying means a welding means where the parallel inclined strands of a wire at each side of the chains can be welded to the wire strands intersected thereby, and means below said welding means for severing from said strands the chain-engaging portions thereof to produce a separate strip of traveling wire mesh at each side of the machine.

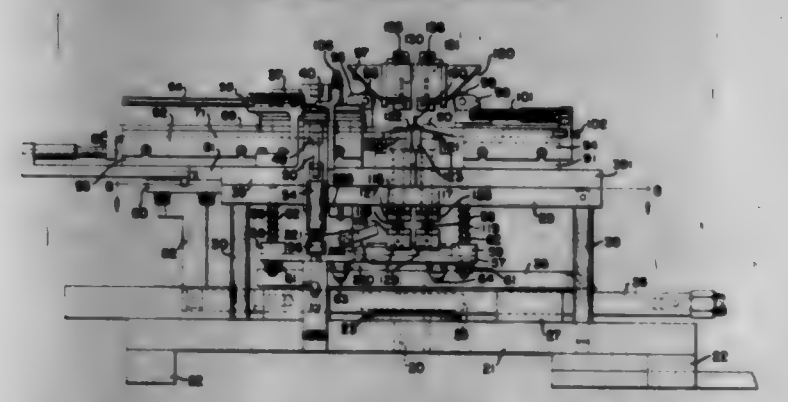
2,971,544
APPARATUS FOR CUTTING AND FORMING LEADS OF ELECTRONIC COMPONENTS
Norman R. Newman, Rochester, N.Y., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Jan. 16, 1951, Ser. No. 206,143
3 Claims. (Cl. 140—71)



1. A device for severing one electrical lead of a cylindrical component to a predetermined length and for forming right angle bends in the predetermined length and in a second lead, comprising a base having a horizontal surface, a slide resiliently mounted for movement vertically of said base and having its upper surface in the same plane as and spaced from said horizontal surface by at least the thickness of a lead, said base having a U-shaped opening therein with a portion of the slide away from said horizontal surface forming an upright first wall of said opening, a forming member reciprocable vertically of said base and having a first downwardly extending male portion spaced from said first upright wall by at least the thickness of a lead and adapted to fit into said U-shaped opening with a snug fit against the second upright wall of the U-shaped opening, and resiliently mounted means on said forming member cooperating with said slide for supporting the body of said component against the upper surface of said slide with a first lead of the component on said horizontal surface and with a second lead stretched across said U-shaped open-

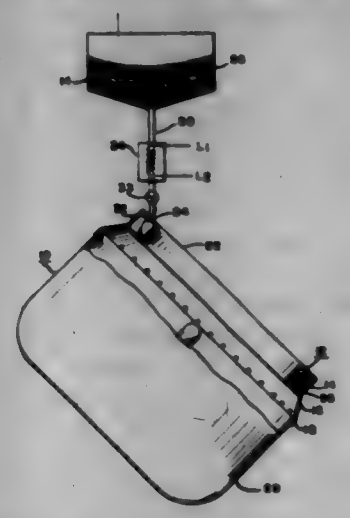
ing with the body of the component a predetermined distance from the second upright wall, said forming member having a second downwardly extending portion spaced from said horizontal surface by at least the thickness of a lead and adapted to press the portion of the first lead adjacent said body against the upper surface of said slide when said forming member is reciprocated toward said base, whereby when said forming means is reciprocated toward said base the second lead is severed by said first downwardly extending portion at said second upright wall and is bent downward against said first upright wall, and said second downwardly extending portion forces said slide downward past the horizontal surface and bends the first lead upward around said second downwardly extending portion.

2,971,545
SPRING HOOKING MACHINES
Robert James Shoemaker, Dayton, Ohio, assignor to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland
Filed May 16, 1957, Ser. No. 659,647
9 Claims. (Cl. 140—103)



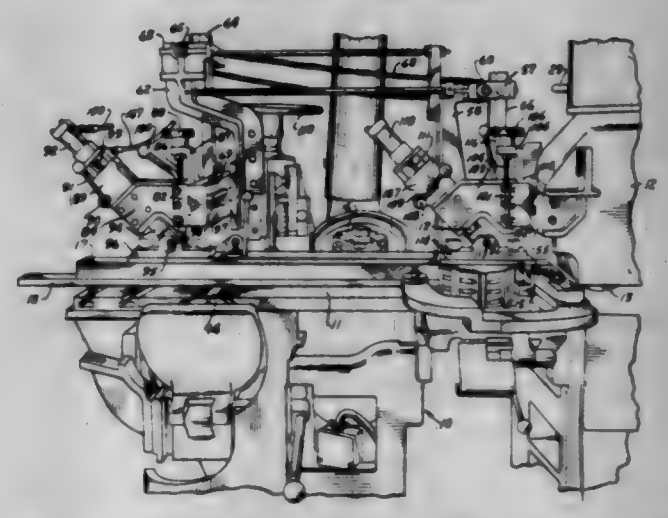
6. In a machine for simultaneously looping both ends of a coil spring, the combination of spring rest means; means for spreading an end helix from each end of said spring; lower, movable anvils located adjacent each end of the spring; upper, movable anvils coacting with said lower anvils to form each spread helix into a loop; and machine drive means actuating said spreading means, lower anvils, and upper anvils, in a timed sequence to form both loops during a single operation of the machine.

2,971,546
METHOD OF FILLING A HOLLOW BALLAST RING WITH DEMAGNETIZED MATERIAL
Richard S. Gangler, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Oct. 18, 1957, Ser. No. 691,058
1 Claim. (Cl. 141—11)



A method of filling an annular ballast ring having an annular chamber therein and an inlet port in the ring to the chamber, comprising the steps of, tilting the ring in a position to place the inlet port uppermost, initially passing a magnetizable granular material of substantially uniform size through an alternating magnetic field to demagnetize the granular material, and subsequently causing the demagnetized material to flow into the inlet port until the ring is completely and homogeneously filled with granular material.

2,971,547
POWER OPERATED ADJUSTMENT FOR MOULDERS
Robert W. Voges and Orville E. Mowery, Wabash, Ind., assignors to The G. M. Diehl Machine Works, Inc., Wabash, Ind., a corporation of Indiana
Filed Mar. 31, 1958, Ser. No. 725,109
9 Claims. (Cl. 144—242)

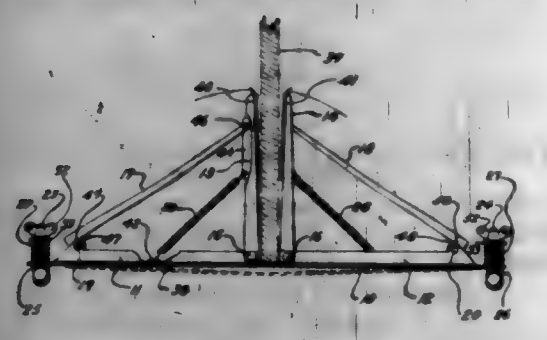


1. In a moulder comprising a frame, a work table, cutter means oriented with respect to said table, and means for moving work upon said table past said cutter means, work hold-down means mounted for adjustment relative to said table, said hold-down means comprising a pair of parallel guides fixed with respect to said frame, elongated in a direction substantially perpendicular to said table and spaced from each other in the direction of work movement past said cutter means, a slide movably mounted on each of said guides, a hold-down bar, means supported by each of said slides and bearing on said hold-down bar to restrain movement of said bar away from said table, a reciprocating fluid motor including a cylinder element and a piston element, one of said motor elements being secured to said frame and the other of said motor elements being secured to one of said slides whereby relative movement of said motor elements in one direction will move said one slide away from said table and relative movement of said motor elements in the opposite direction will urge said one slide toward said table, means enforcing corresponding movement of the other of said slides in response to movement of said one slide, locking means for each of said slides actuable to secure said slides, respectively, in any position of adjustment relative to their guides, against movement by said motor, and fluid-operated means for actuating both of said locking means concurrently between slide-securing condition and slide-releasing condition.

2,971,548
COLLAPSIBLE DOOR VISE
Hugh L. House, Rte. 3, Rogersville, Tenn.
Filed Feb. 17, 1959, Ser. No. 793,876
2 Claims. (Cl. 144—296)

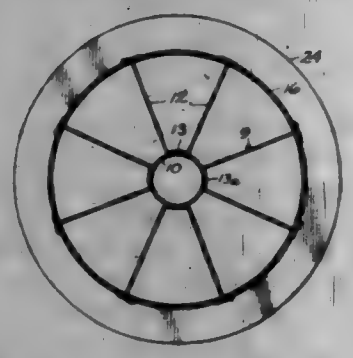
1. A door vise comprising a spring bar, transversely disposed supporting legs depending from the ends of the spring bar, a pair of oppositely extending channel bars mounted for sliding adjustment on said spring bar spaced vertically disposed gripping jaws pivotally mounted on

the opposed ends of said channel bars and positioned to fold to-nested positions on said channel bars, the angles between the vertically disposed gripping jaws and the spring bar being less than right angles, braces pivotally mounted on the outer ends of the channel bars and temporarily connected to the extended ends of the jaws,



fingers on said channel bars centrally thereof, resilient means extended from the fingers on the channel bars and connected to the jaws for urging the jaws outwardly and against the braces, and means for adjusting the channel bars to vary the positions of the jaws and braces, on the spring bar.

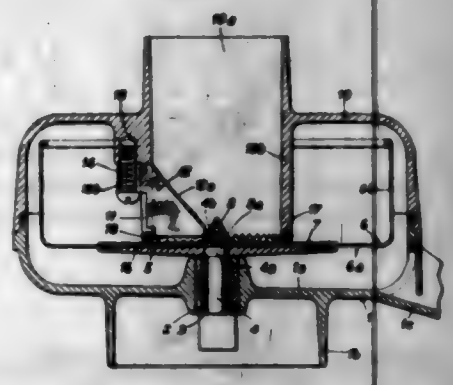
2,971,549
CORING AND SECTIONING DEVICE
Victor H. Langville, 4175 SW. 110th St., Beaverton, Oreg.
Filed July 25, 1958, Ser. No. 750,945
2 Claims. (Cl. 146—40)



1. In a sectioning device; a center ferrule with a substantially cylindrical wall; a surrounding substantially concentric ring; elongated relatively thin knife members between the ferrule and ring; each of said knife members having a pair of blade portions extending radially between the ferrule and ring and with the faces of the blade portions disposed in axially extending planes, and a yoke portion integral with and joining the blade portions with an inner surface substantially conforming to the curvature of and abutting said ferrule wall; means fixing the yoke portions of the knife members to the ferrule; and means anchoring each blade portion to the ring whereby it is prevented from twisting and also from pulling inwardly of the ring; the latter means comprising means defining an opening in the ring having an axially extending edge and an opposed projection, and a tongue integral with the blade portion projecting through said opening and in engagement with said edge and the projection engaging said tongue.

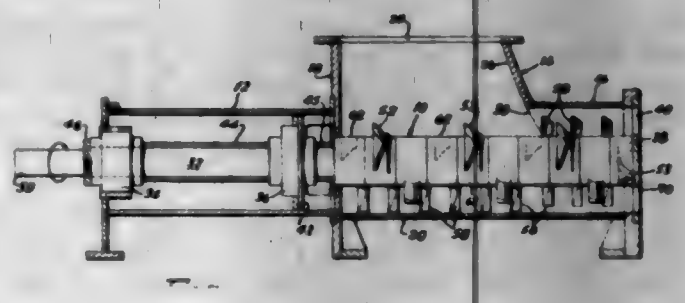
2,971,550
JUICE EXTRACTOR
Leo Henzirohs, Oberbuchsiten, Switzerland, assignor to Jura Elektroapparate-Fabriken L. Henzirohs A.G., Niederbuchsiten, Switzerland
Filed Dec. 10, 1957, Ser. No. 701,806
Claims priority, application Switzerland Nov. 11, 1957
4 Claims. (Cl. 146—76)

1. In an apparatus for comminuting food having a fibrous structure to extract juice therefrom and to shred the fibers thereof, in combination, a feeding tube having an axis; a rotor coaxial with said feeding tube, said feeding tube having at one of its ends a coaxial toothed annulus formed with an annular groove, said annulus being located closely adjacent to but spaced from said rotor, and said rotor having at least one tooth extending into



the groove of said toothed annulus, said toothed annulus and said rotor defining an annular passage through which the food must move during operation of the apparatus; and means operatively connected to said rotor for rotating the same about said axis.

2,971,551
PREBREAKER
Carl A. Rietz, San Francisco, Calif., assignor to Rietz Manufacturing Co., Santa Rosa, Calif., a corporation of California
Filed Jan. 6, 1958, Ser. No. 707,402
5 Claims. (Cl. 146—182)

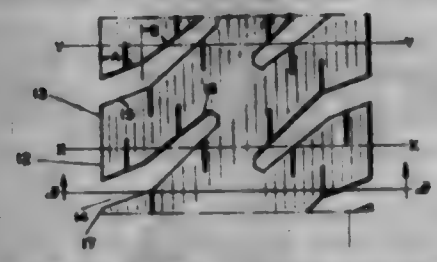


1. In a disintegrating machine: a housing including a hopper section having an opening for receiving feed material, and a cylindrical breaker section having an end opening for discharge of disintegrated material; said hopper section having a lower cylindrical wall, a portion of which is offset so as to be spaced from a cylinder of revolution passing therethrough, and an upper wall portion inclined from said receiving opening forwardly to said cylindrical breaker section; a pair of spaced cylindrical bearings mounted externally of said hopper section; a rotatable horizontal shaft journalled in said bearings so as to extend through the cylindrical portions of said hopper and breaker sections, the extending end of said shaft being adjacent to but spaced from said discharge opening; a plurality of vane-like breaker arms angularly displaced with respect to each other and integral with said shaft; each arm including a thickened web portion inclined with respect to the axis of the shaft so as to urge material being disintegrated toward the discharge end of the housing, and a pointed, beak-like material engaging end; and spaced breaker anvils mounted on the housing and extending between paths of movement of said breaker arms, said anvils being disposed to pass between adjacent breaker arms and spaced in relationship thereto so as to hold the material being disintegrated in the path of the pointed material engaging ends of said breaker arms.

2,971,552
PNEUMATIC TIRE

Gordon E. Williams, Charles G. Wyman, and Paul N. Kaufmann, Dayton, Ohio, assignors to Dayco Corporation, a corporation of Ohio

Filed June 12, 1958, Ser. No. 741,558
3 Claims. (Cl. 152—209)

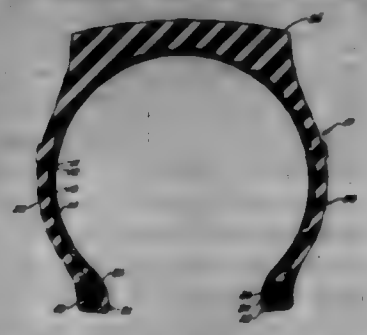


1. A cross rib tire having a tread comprising a ground-contacting surface and a plurality of voids, said voids in the form of circumferentially spaced grooves extending partially across the width of said tread, the outer portion of said grooves located at an angle of between 65 and 75 degrees with the longitudinal axis of the tread and the inner portion of the grooves located at an angle of between 50 and 55 degrees with the longitudinal axis of the tread, said ground-contacting surface providing no less than 76 percent and no more than 81 percent of the total width of said tread at the intersection of any radial plane with the plane of said tread.

2,971,553
TIRE CONSTRUCTION

William R. Woodall, Akron, Ohio, assignor to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

Filed Mar. 4, 1957, Ser. No. 643,630
2 Claims. (Cl. 152—362)



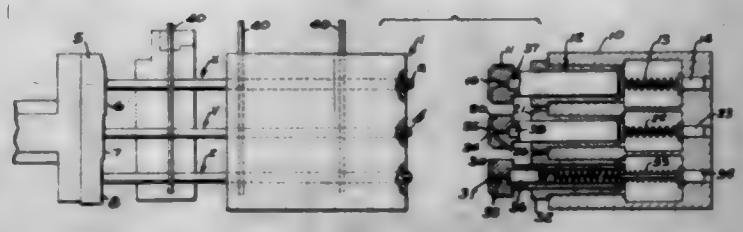
1. A pneumatic tire having a body comprising at least one ply extending from one bead to the other bead of said tire, the strain-resisting elements of said ply having margins wrapped about and anchored to circumferential, substantially inextensible members comprising the cores of said tire beads, respectively, and cushioning means positioned in each of said tire beads and extending in a direction axially outwardly beyond and adjacent said cores, said cushioning means being in supporting contact with said strain-resisting elements and comprising a rubbery stock having a hardness substantially less than the sidewall and tread stocks of said tire, whereby said strain-resisting elements pull laterally into said cushioning means and shorten their said effective lengths when said tire is inflated and said elements are placed in tension.

2,971,554
SHAPING OF ENDS OF HOLLOW WORK PIECES

David R. Knox, Huntington Woods, Mich., assignor to Bundy Tubing Company, Detroit, Mich., a corporation of Michigan

Filed Feb. 8, 1954, Ser. No. 408,828
13 Claims. (Cl. 153—2)

1. The method of shaping an end portion of a metal tubular work piece which comprises, shaping said end portion into inward generally tapering constricted form, positioning the work piece in a die opening with a part of the constricted form adjacent the normal tube wall positioned within the die opening, and with a part projecting from the die opening, striking said projecting end portion with a shaping tool which delivers an impact to the work piece axially thereof to further generally taperingly constrict said projecting portion and to cause the metal of said constricted portion which lies within the die opening to upset outwardly against the walls of the die opening, again placing the work piece in a die

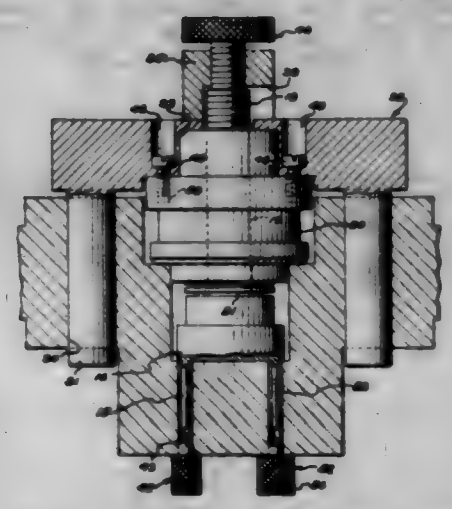


opening with a part of the constricted metal within the die opening and with a part projecting therefrom, and again striking said projecting part with a forming tool to further shape said projecting portion inwardly and cause the metal of the constricted portion within the die opening to upset outwardly against the walls of the opening whereby to maintain the outside diameter of the work piece.

2,971,555
METHOD OF ALIGNING PINS ON AN ARTICLE

Christian Paulson, St. Paul, Minn., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Original application May 27, 1954, Ser. No. 432,727. Divided and this application Sept. 30, 1957, Ser. No. 691,784
2 Claims. (Cl. 153—32)



1. A method of aligning in parallel relation to each other and to a first axis a plurality of straight tuning pins each fixed at one end to a tuning head of a magnetron which comprises engaging only the free end of each of the pins, revolving said end in a relatively small circle about a second axis parallel to said first axis and in concentric relation to the fixed end of the pin to cause the pin to flex at the fixed end thereof and to gyrate through a conical path and be conditioned thereby for movement into alignment with said axis, and disengaging said pin.

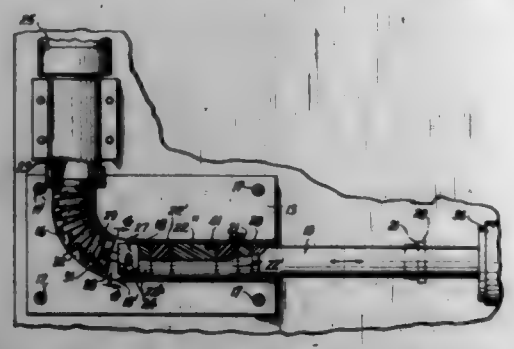
2,971,556
COLD TUBE BENDING AND SIZING

David E. Armstrong, Cherry Lane, Doylestown, Pa.; Thomas J. J. Dunn, 9809 Burwood St., Philadelphia County, Pa.; Walter H. Stulen, 17 Hamilton Drive E., North Caldwell, N.J.; and Gerald P. Roeser, Lahaska, Bucks County, Pa.

Filed Nov. 12, 1959, Ser. No. 852,462
20 Claims. (Cl. 153—32)

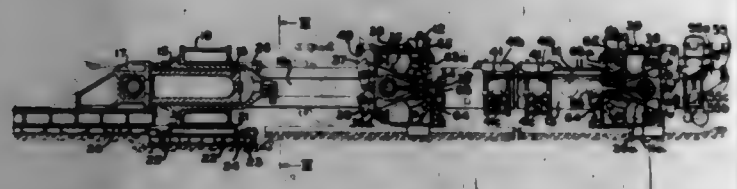
11. Apparatus for simultaneously cold-forming and cold-sizing an open ended tubular workpiece to its final

shape without upsetting the material of the workpiece in a shaping die comprising a removably expansible multiple part elastomer mandrel having the same cross-sectional external shape as the internal cross-sectional shape of said workpiece and being easily slidable into and through said workpiece, said multiple part mandrel comprising end sections having a modulus of elasticity lying between about 300 to 25,000 pounds per square inch, a



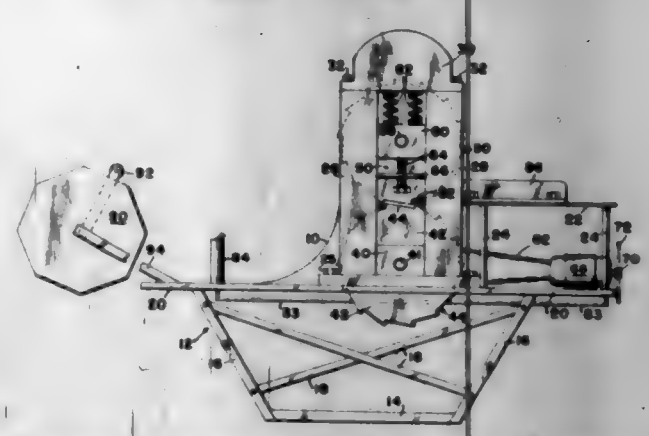
hardness value on the Shore Durometer D scale of between about 12 and 75 and good elastic recovery and a middle section of soft elastomer having good elastic recovery, said mandrel being locked in frictionally fixed position within the workpiece under the pressurizing action of a force applied within the workpiece against the front face of the mandrel and a greater cold-working force applied against the trailing edge of the workpiece and mandrel.

2,971,557
SHEET AND PLATE STRETCHING APPARATUS
Morris D. Stone and Howard H. Talbot, Pittsburgh, Pa., assignors to United Engineering and Foundry Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Sept. 23, 1957, Ser. No. 685,490
2 Claims. (Cl. 153—35)



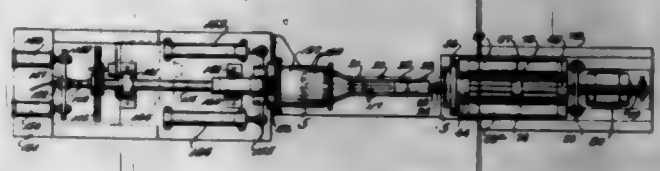
1. Apparatus for performing a stretching operation upon elongated workpieces comprising a normally stationary workpiece gripper head, a movable workpiece gripper head, a pair of carriages interposed between said heads adapted to support a workpiece thereon, transversely movable side guards mounted upon said carriages engageable with and for centering a workpiece on said carriages, means for adjusting said stationary head in a direction toward and away from said movable head, a pair of longitudinally extending parallel bars having spaced transversely opposite openings in the sides thereof, pins carried by said stationary head adapted to be inserted in said openings thereby to secure said normally stationary head in a selected position along said bars, an entablature rigidly secured to said bars, a cross head, a pair of links connected to said movable head and to said cross head, power means operatively connected to said cross head and to said entablature adapted to displace said cross head in a direction away from said entablature and said normally stationary head, guides secured to said entablature and in slidable engagement with said links, a base upon which said entablature is slidably mounted, yieldable means in engagement and normally restraining movement of said entablature upon said base during a stretching operation and operatively arranged to permit relative movement between said entablature and said base in the event breakage of a workpiece occurs during a stretching operation thereby to prevent damage to said apparatus from sudden shock forces incident to such breakage and to return said entablature to its original position after such relative movement takes place.

2,971,558
APPARATUS FOR PRODUCING STEPPED ARTICLES
Sidney H. Vicknair, Jr., Atlanta, Ga., assignor to Reynolds Aluminum Supply Company, Atlanta, Ga.
Filed July 29, 1957, Ser. No. 674,679
6 Claims. (Cl. 153—77)



1. In combination: a first drum mounted to rotate about a fixed first axis; a second drum mounted to rotate about a second axis which is movable in a plane which passes through said first axis; equal step forming teeth around the periphery of said first drum, said teeth having relatively short riser forming edges which are generally radially directed from said first axis and which have radially inner and outer borders, said teeth also having relatively long flat tread forming surfaces between said inner border at their leading edge and said outer border at their trailing edge, said tread forming surfaces being slightly less than perpendicular to a respective plane extended from said first axis to the respective leading riser forming edge; equal step forming teeth around the periphery of said second drum substantially identical in shape to said first step forming teeth; means to rotate said first drum; means to movably urge said second drum toward said first drum, to receive a metal strip between the teeth of said drums, to form steps with relatively long treads and relatively short risers, said riser forming edges and said tread forming surfaces being proportioned so only one step of said strip at any one time is in the grip of the leading and trailing edges of said teeth to prevent any substantial stretch in the tread forming material of said strip.

2,971,559
APPARATUS FOR MAKING PNEUMATIC AIR SPRINGS
Jack L. Hollis, Akron, Ohio, assignor to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
Filed Dec. 5, 1956, Ser. No. 626,451
32 Claims. (Cl. 154—1)



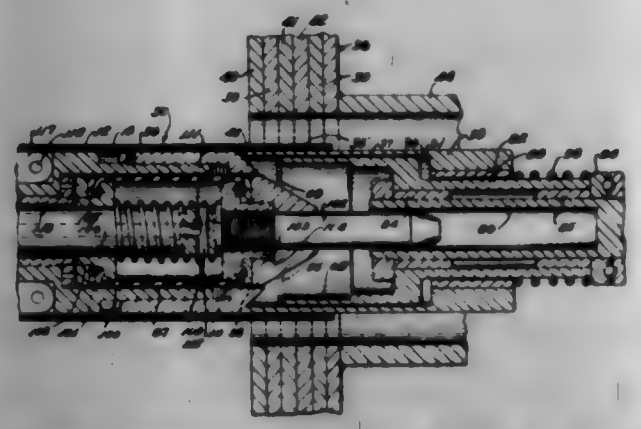
1. Apparatus for manufacturing an air spring having a single convolution wall comprising flexible ply material, the ends of which terminate in a large bead and a small bead, respectively, the small bead being of a diameter enabling it to telescope completely through the large bead when said air spring is fully deflected, said apparatus comprising a normally cylindrical drum upon which said ply material is formed into an initially cylindrical body,

said drum having a diameter larger than the diameter of said small bead and smaller than the diameter of said large bead, means to withdraw a portion of said drum from a position of support for the end portion of said cylindrical body leaving said end portion of ply material projecting axially from the remaining shoulder of said drum, a first means to contract said one end portion radially inwardly and then around a substantially inextensible ring to form said small bead and means to expand the other end portion radially outwardly and then around a second, substantially inextensible ring to form said large bead, said first means comprising a mechanism encircling said drum and having a plurality of radial fingers grouped in a circle about said drum, said fingers normally being arranged with their inner ends positioned in a circle having a diameter greater than said drum diameter and means to move said fingers radially inwardly until their inner ends lie in a circle substantially smaller than said drum diameter.

2,971,560
APPARATUS FOR MAKING PNEUMATIC AIR SPRINGS

Jack L. Hollis and Alexander G. Jefferys, Cuyahoga Falls, Ohio, assignors to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

Filed Dec. 24, 1956, Ser. No. 630,317
9 Claims. (Cl. 154—1)



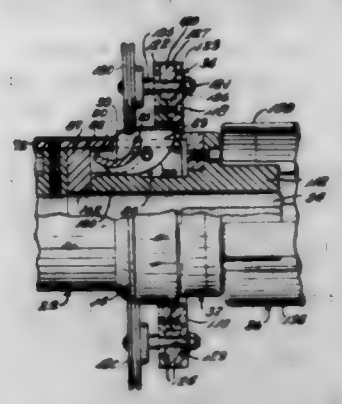
1. For the manufacture of an air spring in which rubberized fabric is formed into an initially cylindrical body and one end portion thereof turned radially inwardly and then outwardly about a bead ring to form a beaded edge, improved apparatus comprising a tubular shaft and a substantially cylindrical drum mounted on the outborad end thereof to provide a support for the forming of said cylindrical body, a central shaft extending through and journalled within said tubular shaft, inflatable radially expansible ply-turning means mounted on the outboard end of said central shaft, said means having an inoperative position within said drum but being movable axially outwardly of said drum into operative position adjacent the shoulder of said drum, means to expand said ply-turning means to turn the ply ends radially around said ring, and means to impart relative axial movement to said central shaft with respect to said tubular shaft to bring said ply-turning means to and from its operative and inoperative positions.

2,971,561
BEAD SETTING MECHANISM IN AN APPARATUS FOR MAKING AIR SPRINGS

Jack L. Hollis, Cuyahoga Falls, and Arthur W. Sekus, Akron, Ohio, assignors to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

Filed Jan. 31, 1957, Ser. No. 637,387
3 Claims. (Cl. 154—1)

1. Apparatus for manufacturing an air spring which comprises a body terminating in an edge reinforced and strengthened by a substantially inextensible bead ring, said apparatus comprising, in combination, a plurality of jaws arranged in a substantially circular pattern and contractible radially to exert clamping pressure upon the external surfaces of the outside diameter of said bead ring to hold said bead ring concentric with and adjacent one edge of said air spring body and means to expand

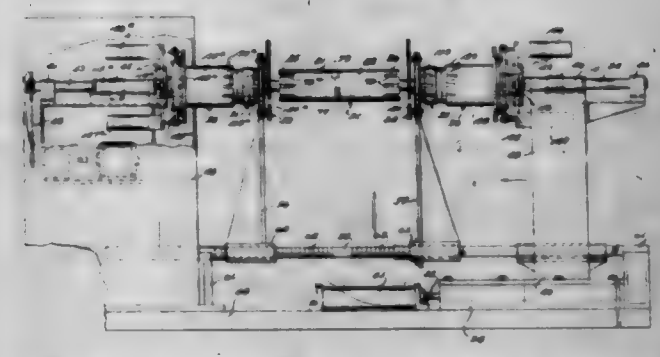


said air spring body outwardly into wedging engagement with the inside diameter of said bead ring while said ring is held by said jaws, said jaws comprising grooved rolls, the grooved portions of which engage only the outer surfaces of said bead rings when said jaws are in contracted position.

2,971,562
METHOD AND APPARATUS FOR MANUFACTURING AIR SPRING

Jack L. Hollis, Cuyahoga Falls, Ohio, assignor to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

Filed Feb. 1, 1957, Ser. No. 637,793
19 Claims. (Cl. 154—1)



1. For the manufacture of an air spring in which the air spring is formed in the shape of an initially cylindrical body of flexible, vulcanizable material, apparatus adapted to turn one end portion of said body radially outwardly and then axially inwardly about a substantially inextensible bead ring to form a beaded edge at said end, said apparatus comprising a substantially cylindrical drum providing internal support for said end portion, a plurality of circumferentially spaced segments inset in said drum and underlying said end portion, said segments having surfaces initially lying flush with the outer surface of said drum and said segments being rotatable, and an expanding mandrel movable with respect to said segments to rotate said segments to swing them outwardly in a radial direction to expand said end portion radially outwardly into a flared form.

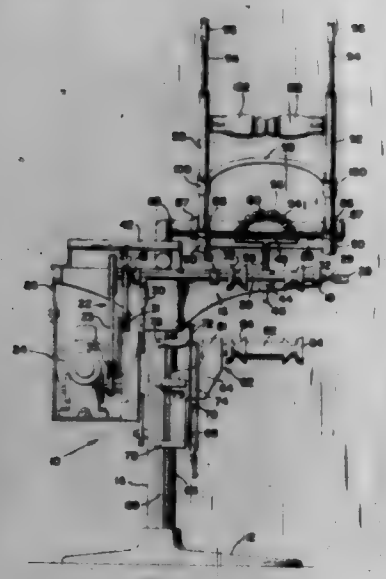
2,971,563
METHOD AND APPARATUS FOR APPLYING TREAD TO RUBBER TIRES

William Sterling Cahill, 306 Court St., Danville, Va.

Filed Oct. 2, 1956, Ser. No. 613,501
5 Claims. (Cl. 154—9)

1. A device for applying a tread to a tire comprising a base, a standard on said base, a support on said standard, a pair of tire bead engaging drive rollers rotatably

mounted on said support, drive means for rotating said drive rollers, a pressure roller assembly vertically movable on said standard below said drive rollers for each of the two tire beads, including a pressure roller for each tire bead in said assembly, in vertical alignment with said drive rollers, thereby providing three point support on each tire bead said drive rollers and each pressure



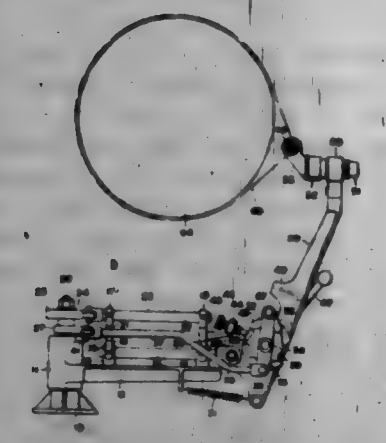
roller being of similar, generally smooth, spool-shaped contour, and a stitcher roller assembly pivotally connected to said support, said stitcher roller assembly including a pair of pivoted arms, each having a rotatable stitcher roller extending laterally therefrom toward each other and arranged to apply lateral as well as direct pressure on the tread on the tire as said arms are pivoted downwardly.

2,971,564

TIRE BANDS APPLYING APPARATUS

Takashi Nakane, Tokyo, Tatsuo Kobayashi, Fujisawashi, and Masao Akimoto and Haruo Senzawa, Mishimashi, Japan, assignors to The Yokohama Rubber Company, Limited, Tokyo, Japan

Filed Nov. 5, 1957, Ser. No. 694,651
Claims priority, application Japan Jan. 17, 1957
4 Claims. (Cl. 154—10)



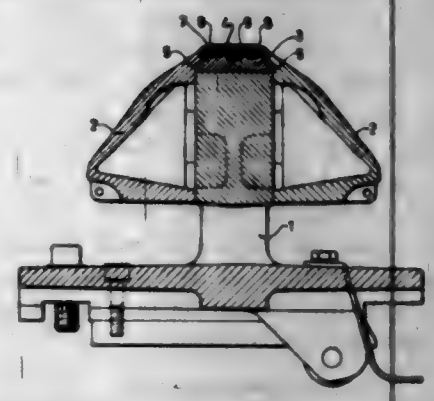
1. A tire ply band applying device for a tire building machine, comprising a fixed vertical support on the tire building machine, a link mechanism including an arm pivoted at one end on said fixed support, a horizontal pivot at the other end of the arm, a frame pivotally mounted on said pivot, a support for a tire ply band applying roller on said frame, and an adjusting mechanism on said frame and actuated by said linkage for causing the frame to move through a fixed angle radially away from the tire building drum of the machine each time the arm is swung from a first position directed at a right angle to the tire drum axis to a second position at an angle other than 90° to said axis.

2,971,565

COUNTER-PRESSURE JAW

Harry Sigurd Valdemar Järund, Otto Lindblads vag 18, Lund, Sweden

Filed Jan. 23, 1957, Ser. No. 635,726
Claims priority, application Sweden Jan. 25, 1956
3 Claims. (Cl. 154—42)



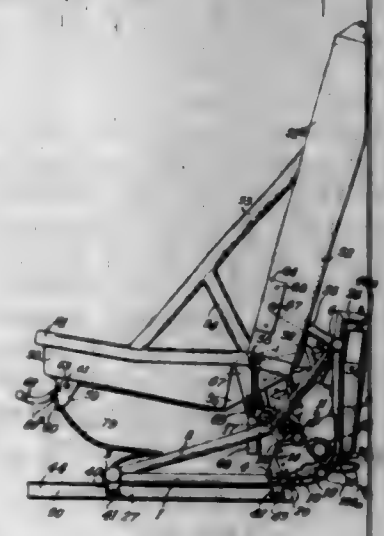
1. A counter-pressure jaw to effect sealing of a multilayer workpiece inserted between said jaw and a pressure jaw, said counter-pressure jaw comprising a jaw body of rigid material, said jaw body being provided with a dove-tail groove closed at both ends thereof, and a pad of elastic material seated in said groove and being of substantially the same length and width as said groove, the face of said pad constituting a yieldable pressure exerting face and the operative thickness of said pad when in a normal unloaded condition exceeding the depth of said groove, the sides of said pad confronting the sloping side walls of said dove-tail groove being sloped in the same direction as the side walls of said groove but being flatter than the latter thereby to reduce wear of said pad along the upper edges of the side walls of said groove.

2,971,566

PILOT SEATS FOR AIRCRAFT, MORE PARTICULARLY FOR HELICOPTER

Pierre Negroni, Saint-Mande, France, assignor to Sud-Aviation Societe Nationale de Constructions Aeronautiques, Paris, Seine, France

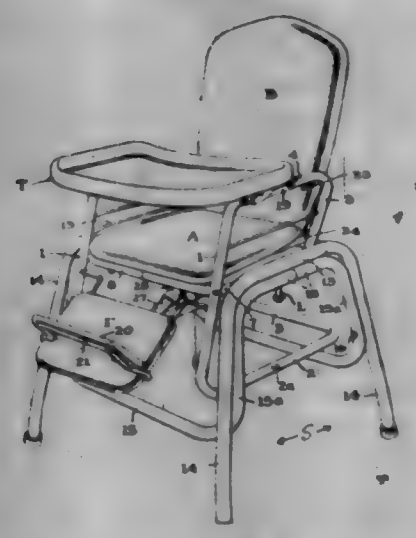
Filed Jan. 26, 1959, Ser. No. 789,038
Claims priority, application France Jan. 27, 1958
8 Claims. (Cl. 155—9)



1. A pilot's seat for aircraft, more particularly for helicopter, adjustable in position according to the size of the pilot, comprising, in combination, a frame longitudinally displaceable on the aircraft structure, means secured on the aircraft for supporting said frame, a well-seat carrying the seat and backrest proper, a pair of articulated parallelogram linkage means fixed to either side of said well-seat and to said frame, levers articulated on said frame and adjustable with respect to said frame in

vertical planes, shock-absorbers interposed between the free ends of said levers and said well-seat, a control device for locking said frame with respect to the means for supporting it, and a control device for locking said levers with respect to said frame.

2,971,567
CHILDREN'S HIGH CHAIR
Merle J. Kimmel, P.O. Box 906, Steubenville, Ohio
Filed Aug. 17, 1959, Ser. No. 834,300
2 Claims. (Cl. 155—38)



1. A multi-duty child's chair, comprising, in combination.

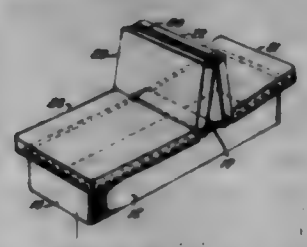
a chair having parallel side frames each including opposite horizontally spaced floor engaging rails and also having upper spaced opposite horizontally disposed seat supporting rails above said floor engaging rails,

and a cradle comprising an outer frame including inverted U-shaped portions forming legs,

and an inner frame nested within said inverted U-shaped outer frame, said inner frame having front and rear bottom rails disposed transversely between the medial portions of said legs and connected with upright portions registering with said legs, said upright portions terminating in horizontal rails beneath and in registry with the horizontal portions of said inverted U-shaped side frames,

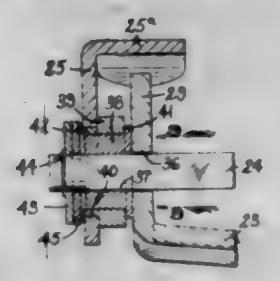
and means for supporting the chair carried by the upper horizontal vertically registering portions of the U-shaped outer frames and the horizontal portions of the cradle to provide a guideway for selectively receiving the floor engaging rails of said chair or the seat supporting rail of the chair frame.

2,971,568
CONVERTIBLE SEAT
George C. Rorie, Dallas, and James W. Alford, Arlington, Tex., assignors to Lone Star Boat Company, Grand Prairie, Tex., a corporation of Texas
Filed June 29, 1959, Ser. No. 823,567
4 Claims. (Cl. 155—45)



1. A convertible seat including a substantially rectangular base having upright end and side walls, a pair of spaced seat bottom cushions having portions overlying the end portions of the base and resting on the ends and side walls of the base, one of the said bottom cushions being movable longitudinally of the base to an extended position relative thereto, to provide a portion extending beyond said base, means depending from the outer end portion of the movable cushion to support said end portion when said cushion is extended; a pair of seat back cushions having outer end portions arranged to rest on the side walls of the base portion between the inner end portions of said bottom cushions when the movable bottom cushion is in retracted position, to thereby support the back cushions in upright position, and provide a pair of back to back cushions co-acting with said bottom cushions to form back to back seats, means for pivotally connecting the inner end portions of said back cushions to permit said back cushions to swing toward and away from each other, whereby said back cushions may be moved into co-planar relationship for resting on said side walls to form a bunk in co-action with said bottom cushions when said movable bottom cushion is extended, and means carried by the back cushions, engageable with the base member to limit the movement of such outer ends toward each other when the back cushions are in upright position.

2,971,569
TILTABLE OFFICE CHAIR
Henry Wheeler Parrott, Shelton, and Sidney Albert Ericson, Bridgeport, Conn., assignors to The Bassick Company, Bridgeport, Conn., a corporation of Connecticut
Filed Aug. 16, 1956, Ser. No. 604,394
6 Claims. (Cl. 155—77)



1. A chair iron comprising a frame in the form of an upwardly directed wide shallow yoke having apertured short arms at the respective sides, a torsion bar of square cross section above and extending across the body of the yoke and having its ends projected through the respective arms, attaching plates for application to the lower surface of a chair seat at the respective sides of the chair having downwardly turned portions outside of the yoke arms and spaced therefrom, said plate portions being supported by the extremities of said bar, one end portion of said bar being locked to its corresponding yoke arm and the other end of the bar being fixedly engaged in bearings rotatable respectively in the arm at that end of the bar and in the plate at that end, a lever having one end fixed to the torsion bar between said bearings, and an adjusting screw having a shank extended through the remote end of said lever and adapted to be engaged by a plate when the seat is tilted rearwardly in order to effect a turning movement of the bar end.

2,971,570
FOLDING HIGH CHAIRS
Joseph Vander Bush, deceased, late of 518 S. Daisy St., Santa Ana, Calif., by Grace A. Vander Bush, administratrix, of Santa Ana, Calif.
Filed Mar. 25, 1957, Ser. No. 648,037
2 Claims. (Cl. 155—148)

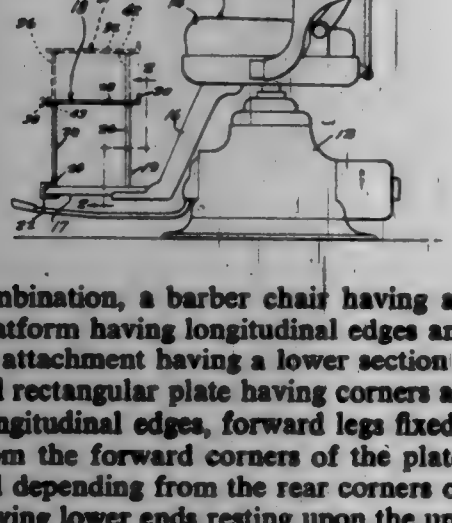
1. A folding high chair for infants comprising a seat frame, brackets rigidly secured to side margins of said seat frame adjacent the rear thereof and upstanding therefrom, pivot means on the upper portions of said brackets, a back frame and a back integral therewith pivoted on

said pivot means for movement between a position parallel to said seat frame and an erect position, said back frame having portions extending downwardly beyond said pivot means, latching means in said portions engaging with said brackets to hold said back frame erect, arm rests at the sides of said seat secured pivot-



ally to side members of said back frame and extending forwardly therefrom, links pivotally connecting the forward ends of said arm rests to said seat, and a web connecting the rearward ends of said arm rests rearwardly of said back frame at a level above said arm rests, said web being in contact with said back frame when said latching means are engaged with said brackets.

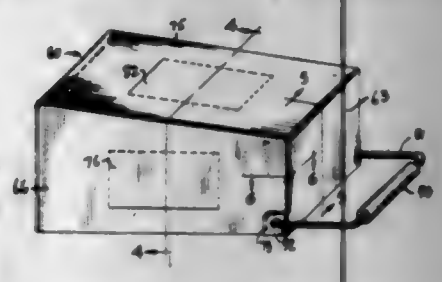
2,971,571
FOOT REST ATTACHMENT FOR BARBER CHAIRS
Ezekiel D. Dennis, 205 N. 1st St., Lufkin, Tex.
Filed July 11, 1958, Ser. No. 747,910
4 Claims. (Cl. 155—172)



1. In combination, a barber chair having a horizontal foot rest platform having longitudinal edges and an upper surface, an attachment having a lower section comprising a horizontal rectangular plate having corners and forward and rear longitudinal edges, forward legs fixed to and depending from the forward corners of the plate, rear legs fixed to and depending from the rear corners of the plate, said legs having lower ends resting upon the upper surface of the platform, and rearwardly opening C-shaped hooks on the lower ends of the forward legs engaged over a longitudinal edge of the platform, the rear legs being devoid of hooks.

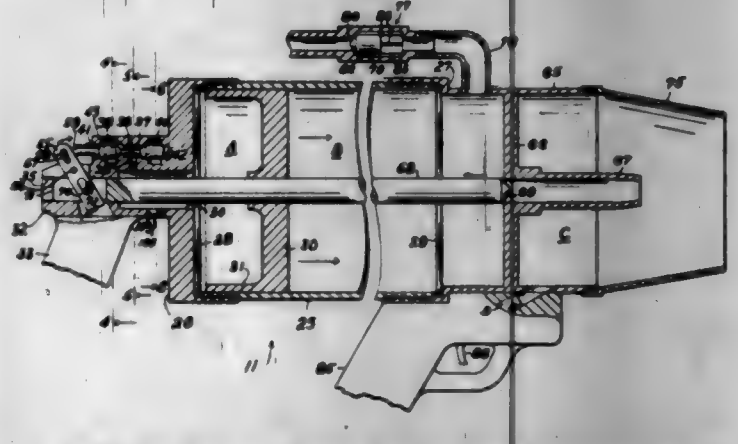
2,971,572
COMBINATION AUTOMOBILE ARM REST AND HAND BAG
Sammy Watkins, 3580 Washington Blvd., University Heights, Ohio
Filed Sept. 15, 1958, Ser. No. 761,245
2 Claims. (Cl. 155—198)

1. A combination automobile arm rest and hand bag, comprising a unitary rigid sheet material blank having a bottom panel, a pair of opposed inner side panels articulated to the opposite edges of said bottom panel, a front panel articulated to one of the other edges of said bottom panel, a top panel articulated to the front panel along the edge opposite the bottom panel, a pair of opposed outer side panels articulated to the opposite edges of the top panel adjacent the front panel, the said outer side panels having opposed end flaps articulated to the paired front and rear edges thereof, a rear panel articulated to the remaining edge of the top panel, said rear panel being smaller in area than the aforesaid front panel and having a pair of opposed ears articulated to the opposite side edges thereof and a tongue articulated along the remaining edge thereof, the said several panels, flaps and tongue of the blank being foldable relative to



one another to provide a rigid hollow structure having front, rear and side walls and a top wall extending backward and downward at an angle toward the bottom wall, from the front to the rear wall, with the rear wall ears folded over the side walls at their junction with the bottom wall, and a rearwardly extending handle pivotally mounted on the so erected structure at the junction of the rear and bottom walls, through the ears and side walls; said handle acting to lock the structure in its erected condition and also acting to anchor same in position on an automobile seat when inserted between the seat and back cushions thereof.

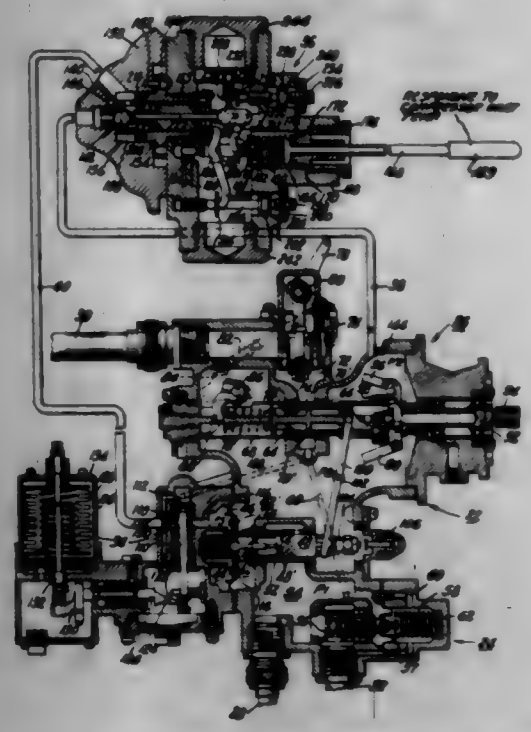
2,971,573
FLAME THROWER
Donald Neilson Griffin, Hamden, and Richard Walter Wanter, Wallingford, Conn., assignors to Olin Mathieson Chemical Corporation, a corporation of Virginia
Filed Jan. 16, 1958, Ser. No. 709,416
7 Claims. (Cl. 158—28)



1. A liquid fuel projector for a flame thrower having a high pressure propellant gas source and a low pressure liquid fuel supply, which includes a hollow receiver, a piston slidably mounted in said receiver for reciprocation therein dividing the interior of said receiver into a fuel receiving zone located on one side of said piston and a propellant gas receiving zone located on the opposite side of said piston, a discharge outlet from said receiver connected to said fuel receiving zone, first conduit means interconnecting said low pressure liquid fuel supply and said fuel receiving zone for feeding fuel from said supply to said receiving zone, second conduit means interconnecting said high pressure propellant gas supply and said propellant gas receiving zone, first valve means having an open position and a closed position for opening and closing communication between said fuel receiving zone

and said discharge outlet, second valve means having an open position and a closed position for opening and closing communication between said second conduit means and said propellant gas receiving zone, and a movable control element connected to said first valve means and connected to said second valve means, said movable control element having a normal position holding said first and second valve means in said closed positions thereof and having an actuated position holding said first and second valve means in said open positions thereof.

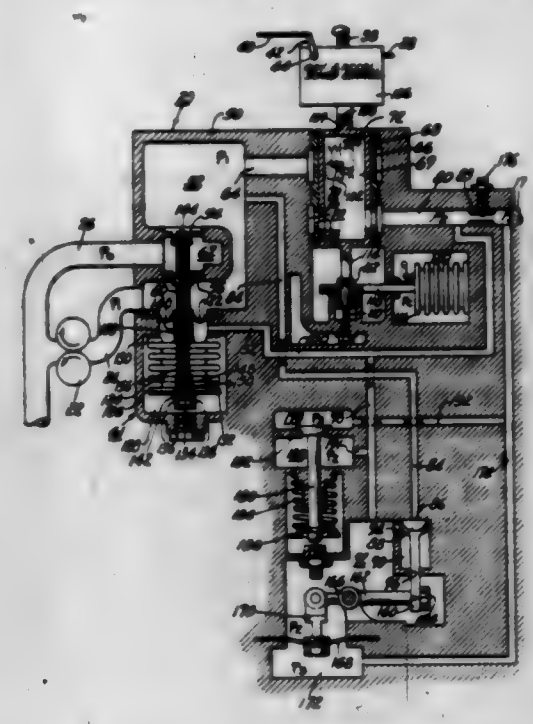
2,971,574
FUEL FEED AND POWER CONTROL DEVICE FOR GAS TURBINE ENGINES
Frank V. Kazmitz, James M. Eastman, and Robert G. Rose, South Bend, Ind., assignors to The Bendix Corporation, a corporation of Delaware
Filed Sept. 24, 1952, Ser. No. 311,206
13 Claims. (Cl. 158—36.4)



11. In a fuel feed system for a gas turbine engine having a burner fuel passage means adapted to conduit fuel to the burner, a flow restriction in said passage means, engine speed responsive fuel enrichment valve means normally closing said restriction during operation below predetermined engine speeds and adapted to open said restriction above said predetermined engine speeds for enriching the fuel flow to the burner, and means responsive to a temperature anterior of the burner and operatively connected to said speed responsive valve means for increasing the engine speed at which said valve means begins to open said restriction with increases in said temperature, said operative connection including resilient means for variably urging said valve means towards closed position as a function of said temperature.

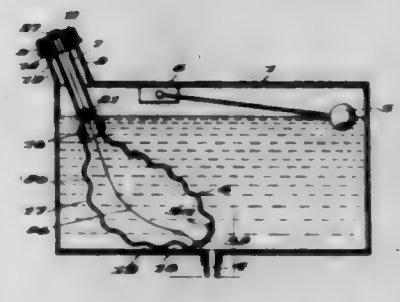
2,971,575
FUEL FLOW CONTROL FOR ENGINES
Howard J. Williams, South Bend, Ind., assignor to The Bendix Corporation, a corporation of Delaware
Filed Apr. 14, 1955, Ser. No. 501,346
18 Claims. (Cl. 158—36.4)

1. A fuel flow control for an engine comprising conduit means for conducting fuel to the engine, said conduit means including parallel branch passages leading to a fuel flow restriction, first valve means for controlling the fuel flow through one of said branch passages, second valve means responsive to the fuel flow through said restriction for controlling the flow of fuel through the other of said branch passages, said first and second valve means being simultaneously operable in coordinated relation with each other during a certain range of operation in such a manner that the flow controlled by said second



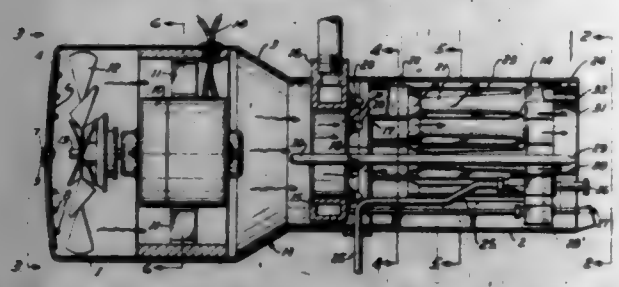
valve means decreases in relation to an increase in flow through said restriction as controlled by said first valve means.

2,971,576
MULTIPLE TANK ASSEMBLY
Willard B. Anker, 3428 Anker St., Alexandria, Va.
Filed Sept. 30, 1957, Ser. No. 687,987
1 Claim. (Cl. 158—46.5)



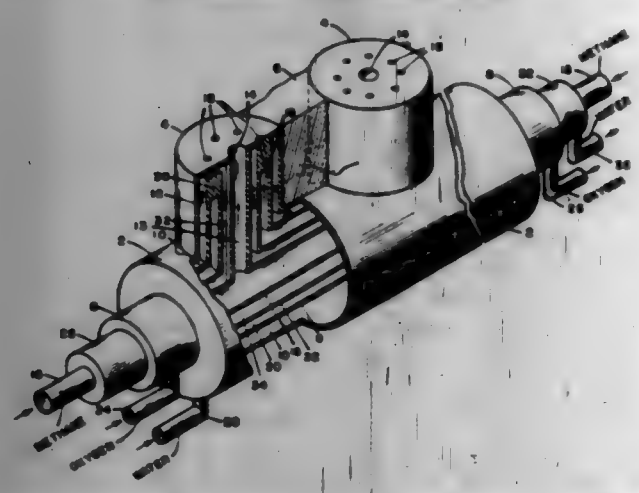
In a multiple tank assembly, a main tank including an inlet tube, an auxiliary tank including a second tube for insertion through said inlet tube, said second tube being provided at its outer end with a radial flange extending beyond the second tube to be mounted upon the inlet tube, said second tube having side openings near its inner end, a collapsible and expansible flexible receptacle having corrugations in its side, said receptacle having its upper end open to receive the lower end of the second tube, means to detachably clamp said upper open end to the second tube, the corrugated receptacle being adapted to be spirally folded upon itself to be inserted through the inlet tube with the second tube, a severing wire disposed at the bottom of the flexible receptacle and originally arranged upon the exterior of the bottom and having one end attached to said bottom and its opposite end extending through said bottom to the interior of said receptacle, a cap to be removably mounted upon the inlet tube, and a flexible cord secured to the cap and attached to the inner end of the severing wire, the arrangement being such that when the cap is removed from the inlet tube the movement of the cap may be employed to pull the cord which will cause the severing wire to be drawn from the exterior to the interior of the receptacle to sever the receptacle.

2,971,577
GAS BURNER
Donald C. Wallace, Lakewood, Ohio, assignor to The Barber Manufacturing Company, Cleveland, Ohio, a corporation of Ohio
Filed Aug. 22, 1958, Ser. No. 756,577
4 Claims. (Cl. 158—106)



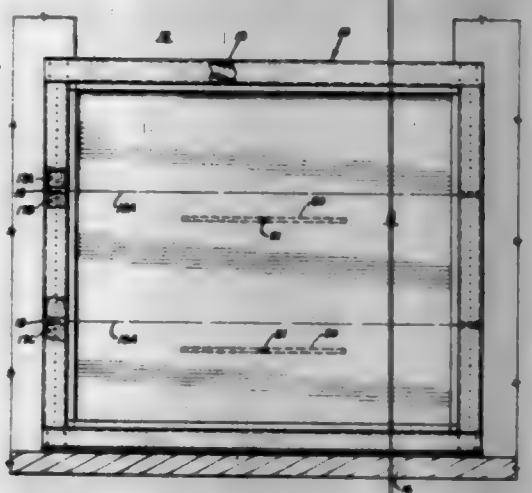
1. A gas burner including a tubular housing, axial flow fan means disposed within said housing adjacent one end thereof, a plurality of open ended gas and air mixing tubes of venturi form having reduced area throat portions and being disposed around and closely adjacent to the inner surface of said tubular housing downstream of said fan means, a baffle wall extending across said housing adjacent the upstream ends of said mixing tubes, said baffle wall having a secondary air opening centered relative to said mixing tubes and the open upstream ends of said mixing tubes having a close fit in and extending therethrough, said gas and air mixing tubes extending from said baffle wall substantially to the other end of said tubular housing and having their outlet ends flattened and abutting each other whereby a substantially continuous discharge opening is provided extending circumferentially of said tubular housing and spaced inwardly from the inner surface thereof, and gas outlet jets aligned with said open upstream ends of said mixing tubes and adapted to discharge gas thereinto and having their discharge ends spaced upstream of said throat portions of said mixing tubes.

2,971,578
BURNER APPARATUS
Glen R. Davis, Tulsa, Okla., assignor to Pan American Petroleum Corporation, a corporation of Delaware
Filed Oct. 10, 1956, Ser. No. 615,105
10 Claims. (Cl. 158—109)



1. In a burner apparatus the combination comprising a burner body having means for receiving two separate and confined gas streams and means for receiving a separate and confined coolant stream, individual means for maintaining each of said streams separate until ejected from said burner body and means within said body for effecting cooling thereof during operation, apparatus for separately supplying coolant and said gas streams to said burner body and for withdrawing coolant therefrom comprising a first conduit having said burner body mounted thereon, a second conduit within and concentrically spaced with respect to said first conduit defining a first passageway between said conduits, said passageway being connected with said cooling means, a third conduit within and concentrically spaced with respect to said second conduit defining a second passageway between said second and third conduits, said second passageway being connected with one of said individual means, and a fourth conduit connected with the other of said individual means, said fourth conduit being within and concentrically spaced with respect to said third conduit defining a third passageway therebetween which is connected with said cooling means.

2,971,579
GRAIN DOOR
Henry Webster, Deephaven, Minn.
(Circle Drive, Rte. 3, Wayzata, Minn.)
Filed July 15, 1957, Ser. No. 672,088
9 Claims. (Cl. 160—368)

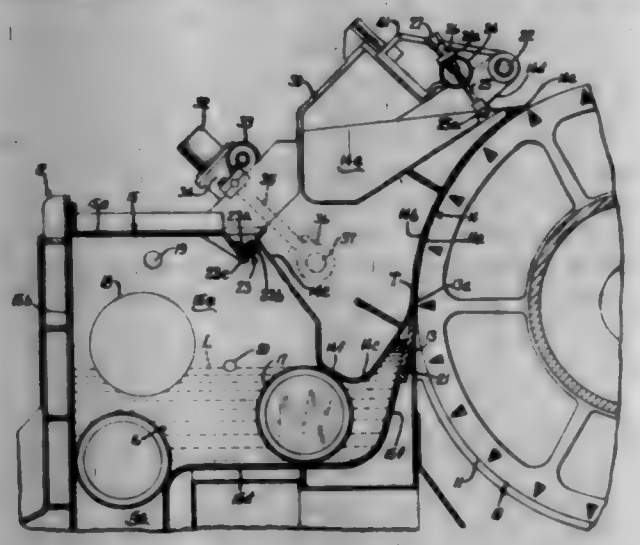


1. A prefabricated load-retaining door member comprising a web of flexible sheet material of a width in excess of the door opening of a railroad boxcar to which it is to be applied whereby the opposite side marginal edge portions of the sheet extend beyond the door opening and seat against the inside car wall, a first elongated substantially rigid horizontal reinforcing strip of a length in excess of the width of the door opening secured to the top marginal edge of said sheet material, a second similar elongated substantially rigid horizontal reinforcing strip parallel to the first and secured to said flexible sheet material adjacent to the bottom marginal edge thereof, and a third similar elongated substantially rigid horizontal reinforcing strip secured to said flexible sheet material parallel to and slightly spaced apart from said second reinforcing strip whereby said second reinforcing strip may be folded to project at right angles from said third strip, and an elongated substantially rigid vertical reinforcing strip secured to said flexible sheet material adjacent to each of the side marginal edge portions between and perpendicular to said first and third horizontal reinforcing strips, said vertical reinforcing strips being comprised of a plurality of elongated substantially rigid reinforcing sections, the corresponding reinforcing sections on opposite edges of the sheet material being approximately equal in length and aligned end to end but slightly spaced apart between their adjacent ends, whereby said door member may be folded horizontally.

2,971,580
SLICE TIP MOUNTING
Edward D. Beachler and John E. Goodwillie, Beloit, Wis., assignors to Beloit Iron Works, Beloit, Wis., a corporation of Wisconsin
Filed Jan. 29, 1958, Ser. No. 711,957
7 Claims. (Cl. 162—340)

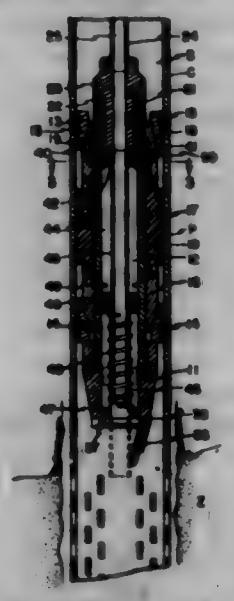
1. In a paper machine having a rotatably mounted foraminous roll, a stock supply duct for supplying stock to said roll which comprises an inner wall having a leading edge extending parallel to the roll axis and in close

proximity to the outer roll surface, an outer wall having a leading edge extending parallel to the roll axis and in close proximity to the outer roll surface and in spaced relation to the leading edge of the inner wall, a housing mounting the inner wall, a pressure air supply connected to the housing to form an air chamber in the upper portion of the housing for pressurizing the stock flowing between said inner and outer wall, a stock level control maintaining the stock in the lower portion of the hous-



ing, pivot means on said housing adjacent the leading edge of said outer wall swingably mounting the entire outer wall for movement toward and away from the leading edge of the inner wall, and sealing means spaced from the pivot means interposed between said housing and said outer wall forming an air seal therebetween in said upper portion of the housing during swinging movement of said outer wall to define a closed stock receiving chamber with said housing and said walls.

2,971,581
WELL PRODUCTION APPARATUS
Charles R. Reglin, 1955 Hoyt St., Lakewood 15, Colo.
Filed Aug. 30, 1956, Ser. No. 607,231
8 Claims. (Cl. 166—148)



1. In apparatus for wells, a casing within the well extending from the surface to adjacent a production zone, a packer unit having an elongated body with a passage therethrough adapted to be set in sealed off condition in the well casing adjacent the bottom thereof, a production shut off valve connected to the lower end of said body and normally biased to closed position to close the lower end of said passage, hollow tubing connectable with the upper end of said body and extending to adjacent the surface of said well, said casing and tubing forming an annular passageway from above the packer unit to the well surface, a plurality of ports in said body for providing liquid flow relationship between said passage and passageway, production pipe positioned within said body passage communicating with said tubing and forming with the interior wall of said body an annular space extending from above the points of entry of said ports into said passage to adjacent the lower end of said body, means for sealing the top of said annular space, a piston within said annular space having depending therefrom a second production pipe arranged to telescope relative to said first pipe from an extended to a retracted position, means for normally biasing said piston upwardly to a retracted position within the space whereupon said second pipe is within said body and above said valve, and means controlled at the surface of the well for applying liquid under sufficient pressure in said annular passageway and through said ports into said space to force said piston downwardly therein and thus cause said second pipe to move to an extended position to thus fully open said shut off valve and communicate with the production zone therebeneath.

2,971,582
WELL TOOLS
Gareld E. Marsh, Houston, Tex., assignor to Schlumberger Well Surveying Corporation, Houston, Tex., a corporation of Texas
Filed Aug. 29, 1958, Ser. No. 757,954
7 Claims. (Cl. 166—241)



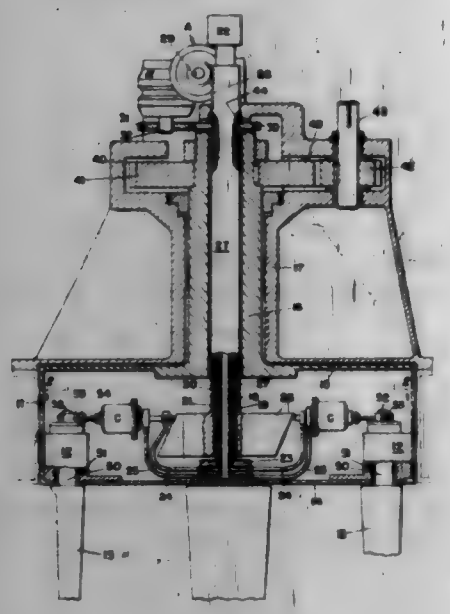
2. A centralizing means for apparatus adapted for passage through a well bore including an elongated housing, a plurality of elongated arm members spaced circumferentially about said housing and bowed outwardly therefrom so as to space said housing from the sidewall of the well bore, said arm members being constructed primarily of elastic material, said arm members respectively having end portions and an arched central portion, supporting members embedded in said arm members for providing lateral stability and preventing circumferential displacement, each of said supporting members respectively having a first elongated rigid part in one of said end portions and an adjacent, second rigid part in a central portion, said central portion having an opening adjacent to one end of said second rigid part, said supporting members further including a hinge connection between the adjacent ends of said first and second rigid parts, the axis of said hinge connection being in a plane perpendicular to the longitudinal axis of said housing and spaced from said housing, and means to secure said first rigid parts and the corresponding end portions to said housing whereby said second rigid parts may swing about said hinge connection permitting movement of said central portion towards and away from said housing and whereby the portions of said arms adjacent to said hinge connection which extend outwardly from said housing provide a minimum spacing of said housing from the well bore.

2,971,583

VERTICAL AXIS PROPELLER MECHANISM

Bendt H. Hansen, 7203 Brookville Road, Chevy Chase, Md., and John W. Barden, 508 Cleve Drive, Falls Church, Va.

Filed July 2, 1959, Ser. No. 824,754
3 Claims. (Cl. 170—148)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A cycloidal ship propeller comprising a rotor housing having a tubular drive shaft extending vertically from its upper wall and mounted in the ship structure for revolving the rotor in a horizontal plane, a group of circumferentially spaced blades, each blade depending from the housing and having its shank end supported vertically within the housing to permit pitch adjustment of each blade, a rotatable tubular steering control shaft disposed concentrically of the tubular drive shaft and having a control cam at its lower end within the rotor housing, means for adjusting the pitch of the blades, said means comprising a group of inner and outer fluid circulating conduit assemblies spaced circumferentially within the rotor and with their longitudinal axis extending radially between the cam and the blade shanks, each of said conduit assemblies being arranged for the circulation of fluid between the inner and outer conduits, the outer end of each assembly being operatively connected to a blade shank and the inner end of each assembly having a cam follower, concentric inner and outer conduits disposed within the tubular control shaft providing inner and outer fluid passageways, a first manifold for the inner passageway and a second manifold for the outer passageway, a flexible connector between each assembly inner conduit and said first manifold and a flexible connector between each assembly outer conduit and said second manifold for circulating fluid simultaneously through each of said assemblies and means carried by said inner and outer conduit assemblies and operable by said cam followers to permit movement of each assembly under pressure of the circulated fluid for simultaneously adjusting the position of each blade as the cam is rotated.

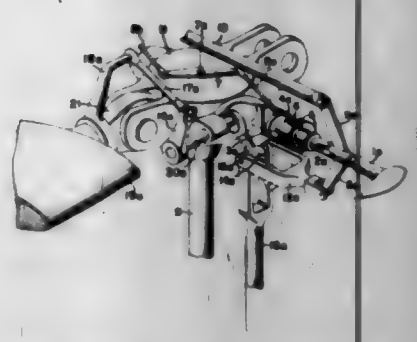
2,971,584

DEVICES FOR STABILISING HELICOPTER AIRCRAFT

Richard Schön, Prague, Czechoslovakia, assignor to Výzkumný a zkušební letecký ústav, Letnany, near Prague, Czechoslovakia

Filed Feb. 25, 1957, Ser. No. 642,192
4 Claims. (Cl. 170—160.16)

1. A stabilizing device for a helicopter having a lifting rotor including a rotated rotor head, rotor blades extending radially from the rotor head with each blade being mounted to turn about its longitudinal axis for varying its angle of attack and to swing up and down about a pivot lying in the plane of rotation of the rotor head, and a cyclic and collective pitch control including a control bar for each blade extending substantially parallel to the axis of rotation of the rotor head; said stabilizing device comprising radially extending arms carrying weights at their outer ends, a radially extending sleeve fixed with respect to the rotor head for each weight carrying arm, a plunger slidable in said sleeve and carrying a pivot at its outer end to which the inner end of the related weight carrying arm is connected so that the latter can swing about said pivot in a plane passing through the axis of rotation of the rotor head, means limiting the sliding of each plunger relative to the corresponding sleeve in the radially inward and outward directions, spring means urging each plunger radially inward with respect to the related sleeve so that, during



normal powered flight of the helicopter, centrifugal force acting on said weights overcomes said spring means and moves said plungers to their radially outermost positions, whereas, upon engine failure and a consequent decrease in the rotational speed of the rotor, said spring means dominates the opposed centrifugal forces acting on the weights and moves said plungers to their radially innermost positions, control means for regulating the angle of attack of each rotor blade under the influence of the related control bar of the cyclic and collective pitch control, and means operatively connecting each weight carrying arm to said control means for the related rotor blade to effect stabilizing control of the angle of attack of the latter in response to swinging of the weight carrying arm in said plane passing through the axis of rotation while the plungers are in said radially outermost positions, and to automatically decrease the angle of attack of the blade for ensuring autorotation of the rotor when said plungers move to said radially innermost positions in response to an engine failure.

2,971,585

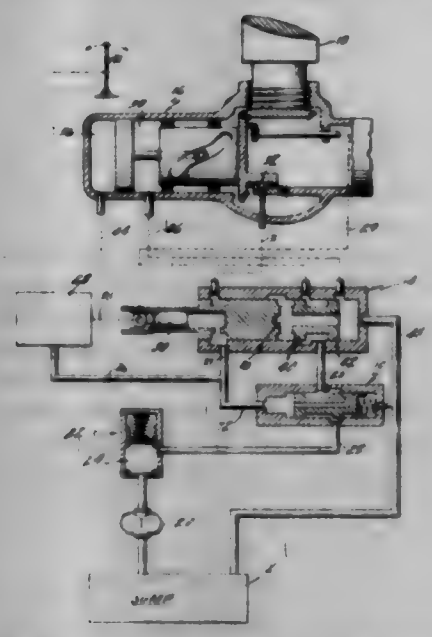
SEQUENCING AND PRESSURE REDUCING VALVE UTILIZING V-SHAPED ORIFICE TO EFFECT PRESSURE AND GAIN REGULATION

Richard H. Whittle, Unionville, and Joseph R. Barrasso, Hebron, Conn., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed July 29, 1957, Ser. No. 674,864
9 Claims. (Cl. 170—160.32)

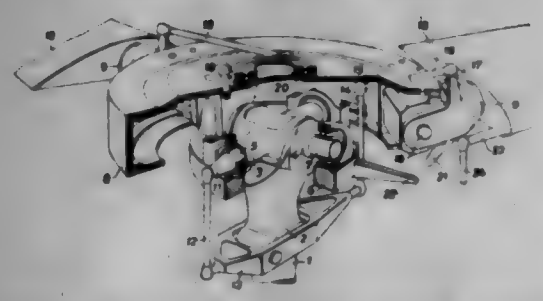
3. In a propeller having variable pitch blades, means for varying the pitch of said blades, means for controlling said pitch varying means including fluid operated mechanism, a fluid distributor valve controlled by said controlling means for directing fluid to said pitch varying means, a source of fluid under pressure, a regulating device hydraulically connected to said source and said distributor valve, said regulating device including a spring biased movable element for initially blocking the flow of fluid from said source to said distributor valve while porting the flow of fluid from said source to said fluid operated mechanism until the pressure therein reaches a predeter-

mined value and then permitting the flow of fluid from said source to said distributor valve while maintaining the



pressure in said fluid operated mechanism at said predetermined value.

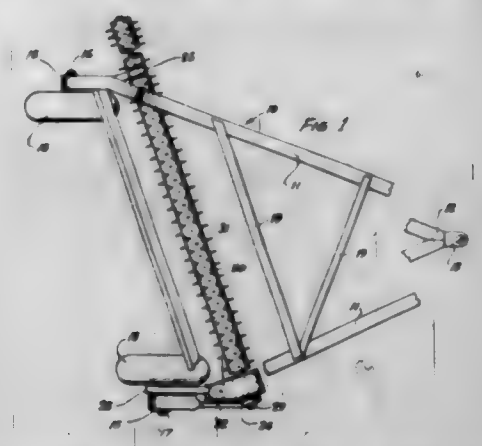
2,971,586
ROTOR HUB FOR HELICOPTER AIRCRAFT
Richard Schön, Prague, Czechoslovakia, assignor to Vyzkumny a zkusebni letecky ustav, Letnany, near Prague, Czechoslovakia
Filed Apr. 2, 1957, Ser. No. 653,725
6 Claims. (Cl. 170—160.56)



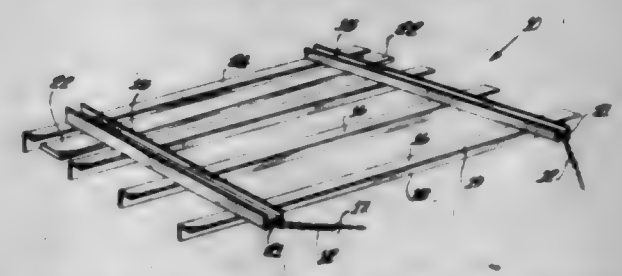
1. A rotor hub for helicopter aircraft comprising a shaft having a fork at its upper end, a first universal member having first and second pins at right angles to each other, said first pins being pivotally mounted in said fork for swinging of said first universal member relative to said shaft about an axis perpendicular to the latter, a second universal member pivotally mounted on said second pins and, in turn, carrying diametrically opposed pins having their axes lying in the plane passing through the axis of said shaft and the axis of said first pins, a frame pivotally mounted on said pins of the second universal member so that said fork, first and second universal members and frame form a double universal joint system having a common tilting axis defined by said second pins of the first universal member, rotor blades mounted on said frame, and means connected between one of said second pins and said frame to move said common tilting axis into a plane which bisects an angle between a plane perpendicular to the axis of said shaft and the plane of said frame upon deviation of the latter from said plane perpendicular to the shaft axis.

2,971,587
ROCK MOVER
Leslie A. Anderson, Box 56, Frontier, Saskatchewan, Canada
Filed July 22, 1958, Ser. No. 750,168
1 Claim. (Cl. 171—63)

In a rock mover, the combination of a frame, wheel supported axles on said frame, a gear housing mounted for pivotal movement on one of said axles, an elongated bearing member mounted on said axle adjacent to said gear box, an elongated rotatable rock moving member having a shaft, one end of said shaft extending through said gear housing, mounted in said elongated bearing, a brace including a bearing pivotally mounted for vertical swinging movement on the frame in which the other end of said shaft is disposed, said rotary rock moving member being disposed at an acute angle with respect to said frame with its discharge end disposed a substantial distance beyond one side of said frame beyond the path of travel of the adjacent supporting wheel, teeth on said rotary rock moving member adapted to direct rocks laterally of said frame and away from said gear housing, depositing rocks at one end of said rotary rock moving member, gearing in said gear housing operating said rotatable rock moving member, and manually controlled means for effecting vertical movement of said rotatable rock moving member, elevating said rock moving member above the large or solid rocks within the path of travel of the rock mover.



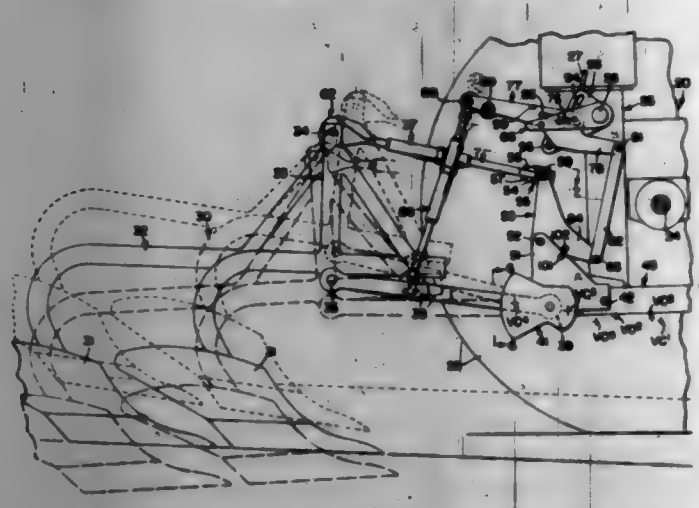
2,971,588
SOIL LEVELING MULCHER
Edward J. Schwab, R.F.D. 1, Shipman, Ill.
Filed May 31, 1956, Ser. No. 588,393
2 Claims. (Cl. 172—146)



1. A soil leveling mulcher comprising, in combination, four parallel blades, a support base for each blade rigidly secured to said blade and extending forwardly to form a shelf, a frame for said blades and the support bases attached thereto, said frame including a pair of parallel members, means securing said blades and support bases beneath and to the frame members in rectangular fashion, said support bases being spaced to provide rectangular open areas between the support bases and open-end portions between the ends of the blades, said blades being perpendicular to the direction of travel and the frame members parallel to the direction of travel, drag means secured at a forward portion of the frame, and a member secured transversely and forward of the rear blade and its support base in the open area forward thereof partially closing said open area to prevent collected earth from spilling over the rear blade and to float the mulcher higher in the rear thereby counteracting the upward pull on the drag means and shifting the static weight of the leveling mulcher forwardly, the various members so oriented and proportioned that the ratio be-

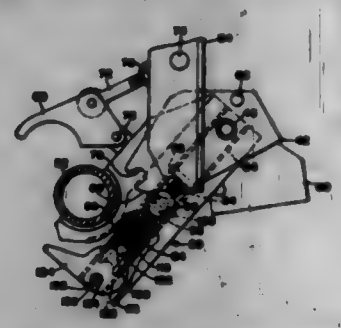
tween the depth of the blades and the center distance between the blades falls within the range of 1:3.6 and 1:6.

2,971,589
HITCH DEVICE
Wallace H. Du Shane, Waterloo, Iowa, assignor, by mesne assignments, to Deere & Company, a corporation of Delaware
Continuation of abandoned application Ser. No. 344,865, Mar. 26, 1953. This application Mar. 1, 1957, Ser. No. 643,262
27 Claims. (Cl. 172—239)



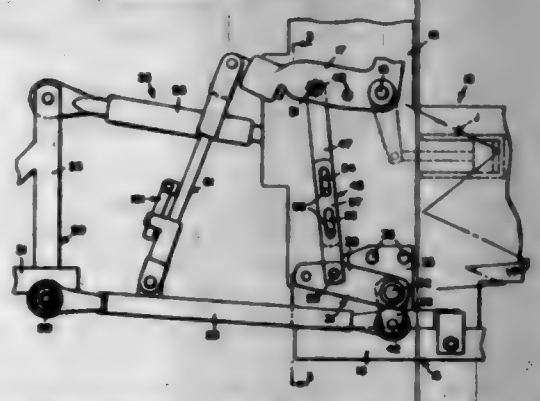
1. In a mounted implement, the combination of a tractor having a power-operated member adapted to be moved to and held in different selected positions, a ground-working means, including a frame, upper and lower, generally vertically swingable link means connected at their rear ends with said implement frame, a bell crank pivotally mounted on the tractor and having one arm pivotally connected with the forward end of said upper link means, a lever pivotally connected at a mid-point with said power-operated member and swingable in generally opposite directions about an axis at said midpoint relative to said power operated member when the latter is held in selected position, means at one side of said axis connecting one end of said lever with the lower link means, and means at the other side of said axis pivotally connecting the other end of said lever with the other arm of said bell crank.

2,971,590
MOUNTING AND DISMOUNTING MEANS FOR TRACTOR-ASSOCIATED IMPLEMENTS
Norman F. Andrews, Des Moines, Iowa, assignor to Deere & Company, Moline, Ill., a corporation of Delaware
Filed Sept. 22, 1958, Ser. No. 762,628
17 Claims. (Cl. 172—273)



1. Mechanism cooperative between a supporting frame and an associated dismounted implement for shifting the implement to a mounted position relative to the frame, comprising: a work member movable on the frame from a starting position proximate to and engaging the implement to a mounting position for effecting shifting of the dismounted implement to its mounted position; and initially released retaining means operative responsive to shifting of the member to its mounting position to lock said member in said mounting position, said retaining means including an element on the frame and a cooperative element on the member, one of said elements having a notch therein and a cam portion leading to said notch and the other element having a lock initially out of the notch and adapted to follow the cam portion, a first spring on said other element biasing the lock to follow the cam portion and to enter the notch, a second spring on said other element opposing the first spring and acting on the lock, and selective means for loading the first spring to overcome the second spring so that upon movement of the member to its mounting position the lock will automatically enter and remain in the notch and said selective means being operative in the mounting position of the member to unload the first spring so that the second spring is effective to automatically move the lock out of the notch whereby the member is returnable to its starting position.

2,971,591
FLOATING HITCH DEVICE
Walter H. Silver, Moline, Ill., and William V. Lohrman, Davenport, Iowa, assignors, by mesne assignments, to Deere & Company, a corporation of Delaware
Filed Apr. 26, 1956, Ser. No. 580,893
18 Claims. (Cl. 172—444)

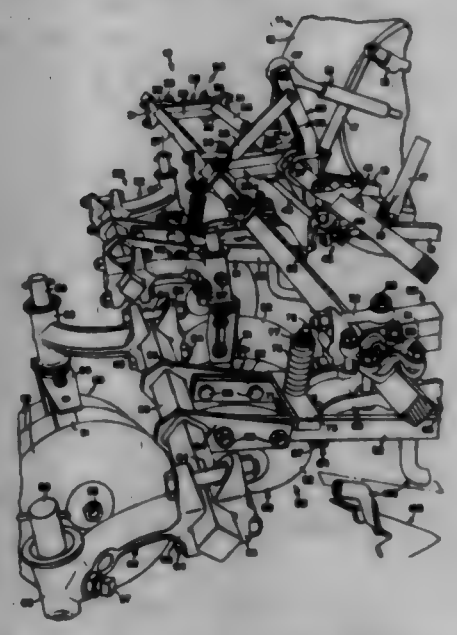


1. The combination with a tractor having lift arm means and a power lift system for operating said lift arm means, of a ground following implement, means including lower link means connected at their rear ends with said implement, a first means connecting the lift arm means with the lower link means, bell crank means pivotally mounted on the tractor and having a first arm means pivotally receiving the forward ends of said lower link means, whereby the pull of the tractor and the soil resistance acting against the implement tend to cause said bell crank to rotate in one direction, said bell crank means having a second arm means, and a second means connecting the second arm means with said lower link means, said bell crank arms extending generally at a right angle, one with respect to the other, whereby any resistance to upward movement of the lower link means acts to prevent rotation of said bell crank means in said one direction, and said connecting means including lost motion means adapted to transmit movement of said bell crank in said one direction to said lift arm means as a lifting force but accommodating upward movement of said lift arm means without entailing movement of said bell crank means.

2,971,592
FLEXIBLE DISK GANG BEDDER
John I. Cantral, Moline, Ill., assignor, by mesne assignments, to Deere & Company, a corporation of Delaware
Filed Sept. 30, 1957, Ser. No. 687,093
1 Claim. (Cl. 172—572)

A tractor mounted flexible gang bedder, comprising a transverse tool bar structure supported on the tractor to

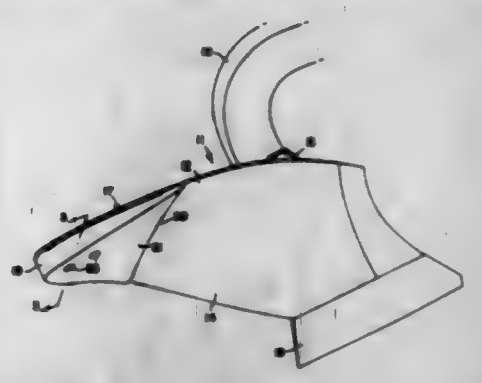
be raised and lowered thereby, a plurality of mounting brackets fixed to said tool bar structure, each mounting bracket including a forward depending portion and a rear depending portion, the forward depending portion being disposed forward of the associated part of said tool bar structure, a plurality of gang frames, one for each of said brackets and each gang frame including a pair of laterally spaced apart generally fore-and-aft extending frame bars pivoted to the forward depending portion of the associated mounting bracket and extending rearwardly of the tool bar structure and lying substantially in contact with laterally opposite portions of the rear depending mounting bracket portion, a pair of laterally outwardly extending stop lugs carried by the lowermost part of each depending bracket portion and spaced to engage the lower edges of the associated laterally spaced apart frame



bars so as to serve as stops therefor, a tool bar section fixed to the rear portion of each gang frame and spaced rearwardly of the tool bar structure, said tool bar sections being generally in transverse alignment, a plurality of pairs of disk brackets, one pair for each tool bar section, each of said disk brackets including a tool bar section receiving portion, a laterally offset disk receiving portion, and means fixing said disk brackets to the associated tool bar sections so that, on one gang frame the disk brackets extend rearwardly and laterally outwardly from the associated tool bar section, and on the adjacent gang frame, the disk brackets extend forwardly and laterally outwardly, each of said gang frames having a length so as to extend rearwardly of the transverse tool bar structure a distance sufficient to accommodate said forwardly extending disk brackets, and a gang of disks carried on the outer end portion of each disk bracket.

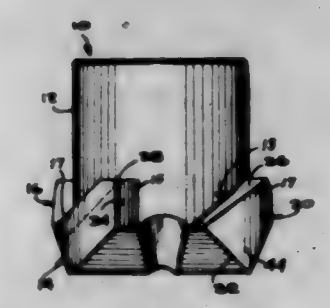
2,971,593
MOLDBOARD PLOW ATTACHMENT
Charles W. Matthews, East Moline, Ill., assignor, by mesne assignments, to Deere & Company, a corporation of Delaware
Filed Apr. 7, 1958, Ser. No. 726,922
4 Claims. (Cl. 172—765)

1. A plow attachment for the moldboard of a moldboard plow of the type in which the moldboard is shaped for relatively high speed operation, said attachment comprising a pad attachable to the wing portion of said moldboard and including a part having an outer face shaped to change the relative contour of the moldboard surface at the outer portion so as to provide an increased degree of curvature as compared with the curvature of said wing portion, the rear face of said pad presenting a plurality of three spaced apart peripheral moldboard-engaging ridge sections shaped to fit the wing portion of said moldboard, said rear face being relieved within said ridge sections, and fastening means lying within lines



interconnecting said ridge sections fixing said pad to said moldboard and pressing said three ridge sections against the face of the moldboard.

2,971,594
ROCK DRILL BIT
Sherren F. Spencer, Mancos, Colo., assignor to Spencer Rock Drill Co., Inc., Mancos, Colo., a corporation of Colorado
Filed Aug. 22, 1958, Ser. No. 756,621
2 Claims. (Cl. 175—400)

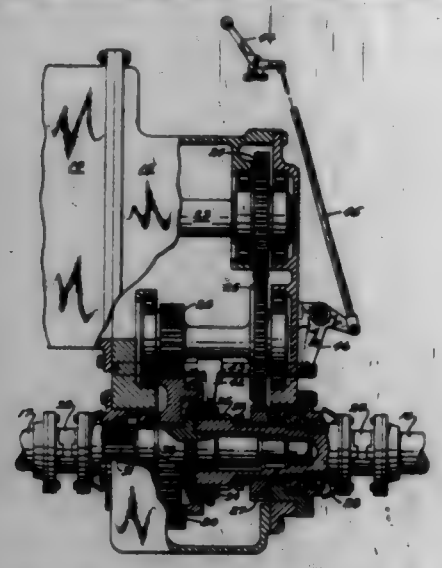


1. In a rock drill bit, an upstanding cylindrical body, a plurality of upstanding wings radiating from the longitudinal axis of said body, the lower end of each of said wings being shaped to a main cutting edge embodying a pair of inclined leading and trailing surfaces extending in a diverging direction upwardly from said cutting edge, each of said wings having a front face, a rear face, a side face, a shoulder joining said front and rear faces, the junction of said front and side faces forming a side edge, the main cutting edges being disposed in cruciform shape, there being an upwardly-sloping channel on the front face of each of said wings and extending from the inclined leading surface of the main cutting edge to the shoulder, the junction of the inclined leading surface of said main cutting edge of each wing and the adjacent side face forming a cutting leading edge.

2,971,595
DUAL RANGE TWO AND FOUR WHEEL DRIVE FOR VEHICLES
Raymond W. Fabere and Karl J. Mogk, Naperville, Ill., assignors to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed May 11, 1959, Ser. No. 812,442
2 Claims. (Cl. 180—49)

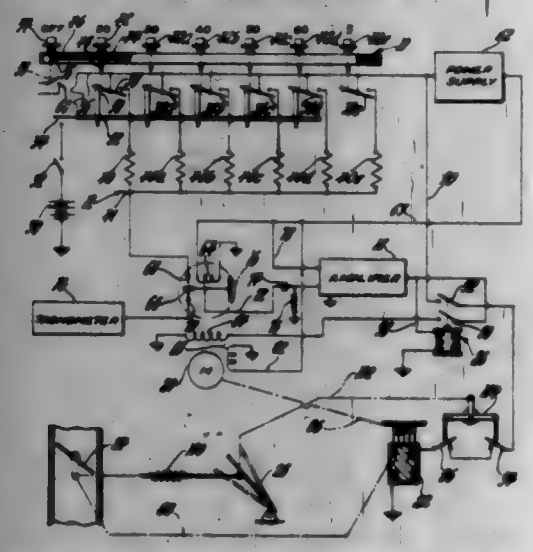
1. In a four wheel drive vehicle having front and rear drive shafts, a transmission housing receiving aligned ends of said shafts, a constant mesh high range gear train and a constant mesh low range gear train in the housing, a normally rotatable driven gear in each train axially aligned with and freely rotatable on a respective one of said drive shafts, each of said drive shafts and driven gears having clutch teeth formed thereon, and a shifting collar slidable axially with respect to the shafts and having clutch teeth arranged to mesh with the clutch teeth

on the high range driven gear and one drive shaft when shifted in one direction and with the clutch teeth on the



low range driven gear and both drive shafts when shifted in the opposite direction.

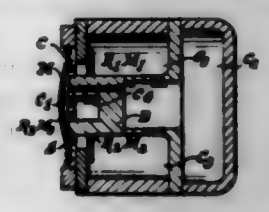
2,971,596
VEHICLE SPEED CONTROL SYSTEM
Harry M. Davis and Reino O. Karell, Milwaukee, Wis., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Nov. 29, 1957, Ser. No. 699,739
6 Claims. (Cl. 180—82.1)



1. A speed control system for a self-propelled vehicle having a variable speed motive power means and a controller for said power means, a reference signal generator for developing a reference signal voltage corresponding to the desired speed of the vehicle, a speed signal generator for developing a speed signal voltage corresponding to the actual speed of the vehicle, combining means connected with said generators for developing a control voltage corresponding to the difference of said signal voltages, an actuator interconnected between the combining means and said controller for displacing the controller in accordance with the amplitude and sense of the control voltage thereby reducing the difference between the signal voltages to null value, and relay means connected with the combining means for disabling said actuator when the difference between the first and second signal voltages exceeds a predetermined value.

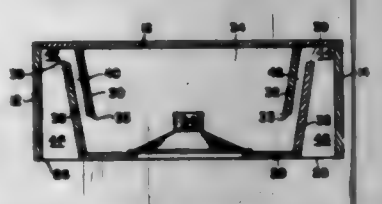
2,971,597
ELECTRO-ACOUSTIC DEVICES
Rudolf Görike, Vienna, Austria, assignor to Henry Heinrich & Co.
Filed Sept. 5, 1941, Ser. No. 409,712
6 Claims. (Cl. 181—31)

1. An electro-acoustic sound transducing device for transmitting a predetermined frequency range, comprising a diaphragm of the piston type, wall means cooperating with the rear side of said diaphragm to define an air cushion in back of the latter, wall means defining an air channel communicating, at one end, with said air cushion and opening, at the other end, into a relatively large volume of air, the air in said channel being directly coupled to said diaphragm by way of said air cushion to vibrate in phase with said diaphragm, the length of said channel being less than one half the wavelength



of the highest frequency of said range and being sufficiently large in relation to the cross-sectional area of the channel as to cause a longitudinal vibration of the air in said channel in response to vibration of said diaphragm, said channel being dimensioned to contain a mass of air defining an acoustic impedance which is at least ten times as large as the mechanical impedance of said diaphragm so that said mass of air and said diaphragm constitute a vibrating system having a lower natural frequency than the diaphragm alone.

2,971,598
LOUD SPEAKER
George Jerome Sieler, 10460 San Pablo Ave., El Cerrito, Calif.
Filed Aug. 23, 1956, Ser. No. 605,748
2 Claims. (Cl. 181—31)



1. A loud speaker, comprising: wall means forming a right rectangular cabinet, a main wall of said cabinet having a treble opening therein, a driving unit mounted in said opening for forward discharge, said cabinet also having bass openings therein located symmetrically relative said treble opening; port walls, each free at one edge, defining with the cabinet walls a back-loading acoustic cavity surrounding the backside of said driving unit, said acoustic cavity having a discharge opening adjacent the free edge of each port wall; a horn wall spaced parallel from each port wall, said horn wall with said port wall and with the cabinet walls defining an elongated, straight tube port of uniform cross-section extending from the associated opening from said acoustic cavity; each said horn wall forming within said cabinet walls a bass horn having a throat at the end of the related tube port, said horn flaring outwardly to a bass opening from the cabinet; the cross-sectional area of each tube port being less than the cross-sectional area of the related horn throat and discharging without constriction thereto.

2,971,599
MUFFLER
Roy H. Tobias, 21807 Colony Road, St. Clair Shores, Mich., assignor of one-third to Joseph D'Angelo, Warren, Mich., and one-third to Wilfrid L. Burke, Detroit, Mich.
Filed Sept. 22, 1958, Ser. No. 762,374
3 Claims. (Cl. 181—53)

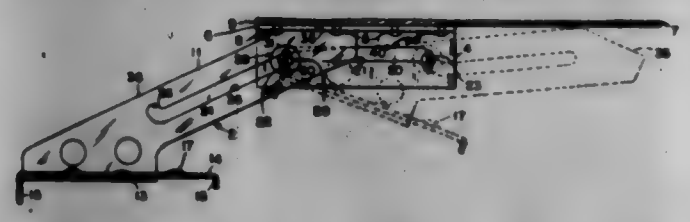
1. A muffler comprising, in combination, a tubular casing, an inlet pipe of reduced diameter as compared with the casing leading into one end of the casing, a discharge

pipe of reduced diameter as compared with the casing supported therein spaced rearwardly from the inlet pipe and providing a discharge from the opposite end of the casing, a cone-shaped baffle supported within the casing between the inlet pipe and the discharge pipe and with the pointed end of the cone extending into the inlet pipe spaced therefrom providing a passageway about the cone within the inlet pipe, the opposite flaring end of the cone surrounding and overlapping the adjacent end of the discharge pipe spaced therefrom providing a passageway within the cone about the discharge pipe com-



municating with the interior of the discharge pipe, and a second baffle of a tapered tubular shape supported within the casing spaced rearwardly of the first-mentioned baffle and surrounding the discharge pipe and with the reduced end of said second baffle projecting toward the first-mentioned baffle within the casing encircling and connected with the discharge pipe rearwardly of the rear end of the first-mentioned baffle and with the large end of said second baffle projecting toward the discharge end of the casing and connected therewith and sealed thereagainst.

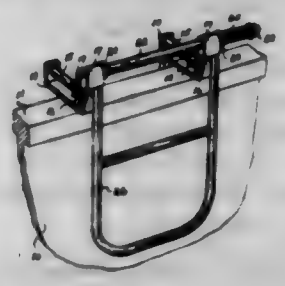
2,971,600
EXTENSIBLE AND RETRACTABLE STRUCTURE
Ralph Schultz, Whittier, Calif., assignor to Kelsey-Hayes Company, Detroit, Mich., a corporation of Delaware
Filed Feb. 16, 1959, Ser. No. 793,324
9 Claims. (Cl. 182—88)



1. Structure of the character described comprising an extensible and retractable unit, support means including a fixed member, and means for supporting said unit on said support means for movement between extended and retracted positions including guides on said fixed member and unit elongated in the direction of movement of said unit and a connecting member slidably engaging said guides, said guides each having an offset portion at their corresponding ends to enable said unit to be moved from one of said positions to an intermediate position during which time the connecting member slides in one guide and engages the offset portion of the other guide and from said intermediate position to the other of said first-mentioned positions during which time said connecting member slides in the said other guide and engages the offset portion of said one guide, said connecting member being simultaneously engageable with the offset portions of both guides to determine said intermediate position.

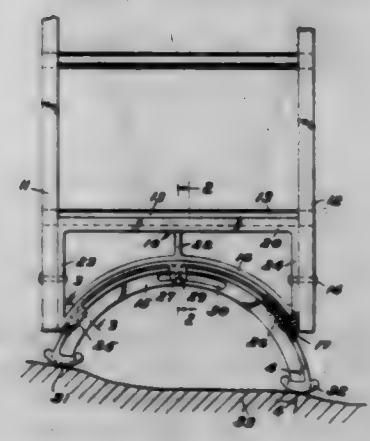
2,971,601
BOAT LADDER
William J. Fortune, Elkhart, Iowa
Filed July 29, 1959, Ser. No. 830,376
4 Claims. (Cl. 182—97)

1. In a ladder structure, two spaced apart brackets adapted to be secured in spaced relationship on a supporting member, a horizontal shaft on each of said brackets, a bearing slidably and rotatably mounted on each of said shafts, a second bearing operatively secured to each of said two first mentioned bearings and each arranged transversely of the bearing to which it is operatively secured, a shaft rotatably and slidably mounted in said two second bearings, a ladder having one of its



ends rigidly secured to said last mentioned shaft, and an inverted U-member secured to at least one of said second bearings overlapping a portion of said ladder when said last mentioned shaft is in one position of its sliding movement.

2,971,602
LADDER LEG LEVELLING DEVICE
Claude A. West, 541 Romeo Road, Leonard, Mich.
Filed Oct. 6, 1958, Ser. No. 765,455
2 Claims. (Cl. 182—200)



1. The combination of a ladder and a supporting base leveling device compressing a ladder having side rails and interconnecting rungs between the rails including a bottom rung spaced above the bottom ends of said rails and bolt apertures in said rails below said bottom rung and a leveling device having a frame including a cross-member disposed below said bottom rung having a longitudinal socket half round in cross-section receiving and contacting said bottom rung in supporting relationship, side members at their upper ends connected to said cross member having bolt apertures aligned with said rail apertures, pins disposed in said rail and side member apertures connecting said side members and rails together, springs on said side members urging said pins into said rail apertures; said pins being retractable against said spring to move out of said rail apertures for removing said leveling device from said ladder; an arch member disposed between and connected to said side members at their lower ends and curving toward cross member, a strut between said arch member and said cross member, paired depending flanges on said arch member at least at the center thereof and at either end thereof forming a channel with said arch member for receiving an arcuate bridge member, an arcuate bridge member disposed concentrically relative to said arch member having a concentric arcuate slot in the center thereof adjacent said center flanges, a bolt disposed between said center flanges lying in said bridge member arcuate slot permitting limited angular concentric movement of said bridge member relative to said arch member, ground contacting feet on said bridge member; and brake pads on said arch

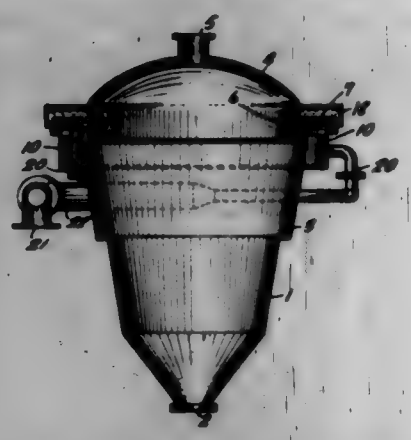
member at either end thereof engaging said bridge member at a tangential high-shear cam angle; said brake pads preventing concentric angular movement between said arch and bridge members when the ladder and load bears a said bridge member via said pads; said bridge member dropping out of engagement with said pads when said ladder and load are lifted upwardly to permit relative angular movement of said bridge member to said arch member said bridge member arcuate slot being larger in width than said bolt diameter to permit radial inward movement to lock in position and outward movement of said bridge member relative to said arch member to unlock for adjusting movement.

2,971,603

APPARATUS FOR TREATING MATERIAL FOR MAKING ARTIFICIAL FIBERS

William Richard Schmitz, 4 Yonbancho, Chiyoda-ku, Tokyo, Japan

Filed Apr. 17, 1958, Ser. No. 729,162
Claims priority, application Japan Apr. 30, 1957
4 Claims. (Cl. 183—2.5)



1. An apparatus for deaerating a solution, comprising a container having a lower conical section, a cover having an annular depending flange adapted to fit within the conical section, a radially extending annular flange attached to the annular depending flange on the cover, an annular upper edge of the conical section being formed accurately to predetermined dimensions, a radially extending annular flange attached to the conical section such that its upper surface is in substantial radial alignment with the upper edge, means interposed between the flange attached to the cover and the flange attached to the conical section for defining a substantially annular slot, means defining an annular manifold adjacent the upper edge of the conical section, whereby a solution to be deaerated contained in the manifold may be injected through the slot so that entrapped gases are released within the container and the flange depending from the cover maintains the deaerated solution in the vicinity of the container walls, and means for removing the deaerated solution.

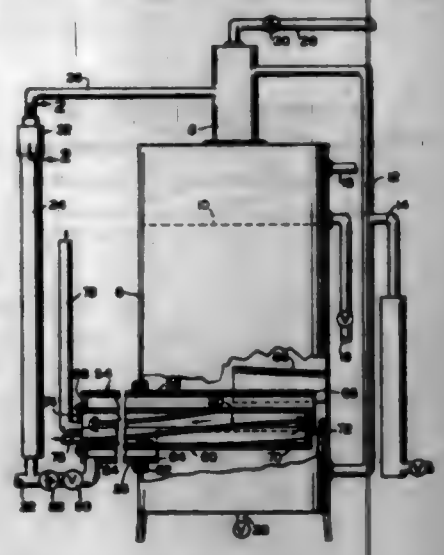
2,971,604

SYSTEM FOR SEPARATING THE OIL, GAS, AND WATER IN A CRUDE OIL STREAM

Charley Lowery, Rte. 8, Box 153, Oklahoma City, Okla.

Filed Jan. 2, 1959, Ser. No. 784,476
4 Claims. (Cl. 183—2.7)

1. In combination with a crude oil wash tank or the like having an opening in one side wall thereof, a heater, comprising a tubular shield of a size to extend horizontally through the opening and having a length equal to substantially twice the diameter of the wash tank, flanges around the central portion of the shield for engaging the tank around the edge of said opening to support the shield with substantially one half its length inside the tank and substantially one half its length outside the tank and to prevent leakage between the shield and the periphery of the opening, the inner end of the shield being open and suspended freely in the tank, a fire box secured in the outer end of the shield and extending inwardly in the shield in the manner of a cantilever, said fire box having a length substantially equal to the length of the shield, the outer end of the shield being closed around the fire box, a fuel supply line connected to the outer end of the fire box for directing combustion



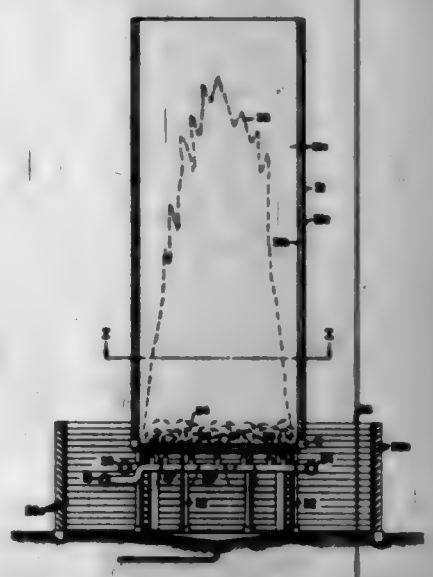
gases into the fire box, an exhaust flue communicating with the outer end of the fire box for discharging the products of combustion, a crude oil inlet in the outer end portion of the shield below the fire box, whereby the various components of the crude oil will be at least partially separated prior to entering the wash tank, and a plurality of baffles in said fire box, said baffles cooperating to direct the products of combustion from the fuel supply line to the inner end of the fire box and back to the exhaust flue.

2,971,605

METHOD AND APPARATUS FOR FLARING COMBUSTIBLE GASEOUS MATERIALS

Edward E. Frost, San Diego, Calif., Hoyt C. Hottel, Winchester, Mass., and John P. Longwell, Westfield, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

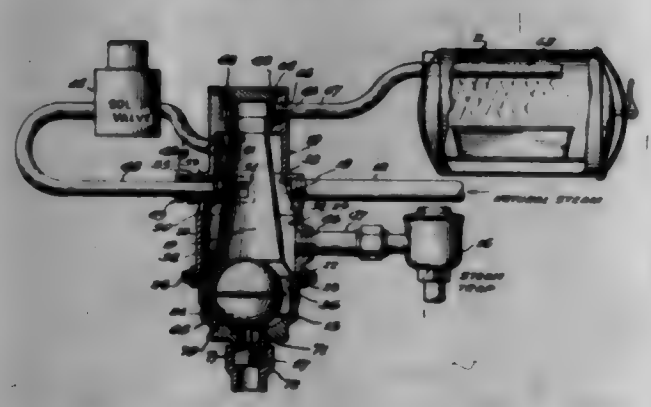
Filed Feb. 18, 1957, Ser. No. 640,749
12 Claims. (Cl. 183—6)



1. A method of flaring combustible gaseous materials, comprising dividing an initial, confined stream of said materials into a plurality of confined, substantially coplanar, laterally spaced streams of lesser cross-section than said initial stream, discharging said streams of lesser cross-section upwardly into an ambient atmosphere of air

as a plurality of jets spaced one from another longitudinally of each stream of lesser cross section and from stream to stream, dispersing a major portion of each of said jets angularly outward and upward therefrom into an initial combustion zone substantially intermediate and immediately above said parallel, confined streams of lesser cross-section, and upwardly therefrom as a partially consumed, turbulent mixture of said gaseous materials with air from said ambient atmosphere thereof, into a vertically defined secondary combustion zone in open communication at each end with ambient atmospheric air while encompassing the overall area of said jets and extending upwardly from an inlet to said secondary zone at a level spaced above the level of dispersion of said jets, admitting air from said ambient atmosphere to said secondary combustion zone through, around and over said initial combustion zone, and igniting said jets of said combustible, gaseous materials in the vicinity of discharge from said parallel streams.

2,971,606
VAPOR SEPARATOR
Alfred Vischer, Jr., Park Ridge, Ill. (% Vischer Products Company, 2815 W. Roscoe St., Chicago 18, Ill.), assignor of small percentages to various assignees
Filed Jan. 10, 1958, Ser. No. 708,259
9 Claims. (Cl. 183—41)



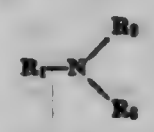
1. A two-stage steam separator comprising a housing refining an annular, vertically disposed, first stage separating chamber, a passageway communicating with said chamber intermediate the top and bottom thereof for admitting steam thereto, said passageway opening into said chamber substantially along a tangential plane thereof to cause said steam to swirl in said chamber, a drain line including a steam trap near the bottom or base end of said chamber for emitting water and other particles from said chamber, a steam outlet conduit opening into said chamber near the upper end thereof for emitting steam from said chamber, a hollow, thin walled, heat conductive member centrally disposed in said chamber, said member defining therein a conical, second stage separating chamber which is substantially concentric with said first stage separating chamber, sealing means interconnected between said first and second stage separating chambers for isolating them one from the other, a passageway opening into said second stage separating chamber substantially along a plane tangential to the conical surface defined by the wall of said second stage separating chamber, a steam carrying connection between said last-named passageway and said steam outlet conduit, a shut-off valve disposed within said connection for interrupting the passage of steam from said first stage separating chamber to said second stage separating chamber, a drain valve located in the bottom of said second stage separating chamber for emitting water and other particles from said second stage separating chamber, and a steam outlet connected to said second stage separating chamber near the top thereof for connecting said steam separator to a load.

2,971,607
METHOD FOR PURIFYING SILANE
Earl G. Caswell, Danville, Ind., assignor to Union Carbide Corporation, a corporation of New York
No Drawing. Filed July 14, 1958, Ser. No. 748,162
10 Claims. (Cl. 183—114.2)

1. A method for selectively removing volatile impurities such as hydrides of arsenic, phosphorus and boron from silane which comprises treating impurity-containing silane with a crystalline zeolitic molecular sieve, and selectively adsorbing said volatile impurities into said molecular sieve.

2,971,608
POLYMERIZATION INHIBITOR
Oscar A. Serabia, Texas City, Tex., assignor to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed June 22, 1959, Ser. No. 821,619
9 Claims. (Cl. 183—115)

1. In a process for the recovery of acetylene from an acetylene-containing gas stream derived from hydrocarbons wherein the acetylene-containing gas stream is contacted with a solvent for selective absorption of acetylene therefrom and said solution is thereafter stripped to recover acetylene therefrom, the improvement which comprises incorporating in the solvent employed from about 0.1% to about 10% by weight of the solvent of an alkanolamine of the formula



wherein R_1 is a hydroxyalkyl radical containing from 2 to 6 carbon atoms, R_2 is chosen from the group consisting of hydrogen, hydroxyalkyl radicals containing from 2 to 6 carbon atoms, and alkyl, aryl, aralkyl, and alkaryl radicals containing from 1 to 8 carbon atoms, and R_3 is chosen from the group consisting of hydrogen and alkyl, aryl, aralkyl, and alkaryl radicals containing from 1 to 8 carbon atoms, said solvent being non-reactive with said alkanolamine under the conditions employed.

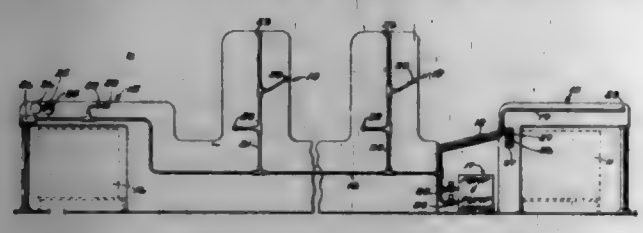
2,971,609
METHOD OF LUBRICATING SURFACES WITH A VAPOROUS LUBRICANT
Stanley S. Soreng, Orinda, and Charles H. Bailey, Berkeley, Calif., assignors to Shell Oil Company, a corporation of Delaware
No Drawing. Filed Sept. 11, 1956, Ser. No. 609,087
6 Claims. (Cl. 184—1)

1. A process of lubricating solid surfaces subjected to elevated temperatures which comprises contacting said surfaces with a vaporous lubricant consisting essentially of a blend of free-oxygen-containing gaseous material and a vaporized petroleum resin in the weight ratio of from 7:1 to 10:1, respectively.

2,971,610
LUBRICATION SYSTEM
Victor N. Yingling, Cleveland, Ohio, assignor to Harris-Intertype Corporation, Cleveland, Ohio, a corporation of Delaware
Filed Mar. 2, 1960, Ser. No. 12,449
7 Claims. (Cl. 184—7)

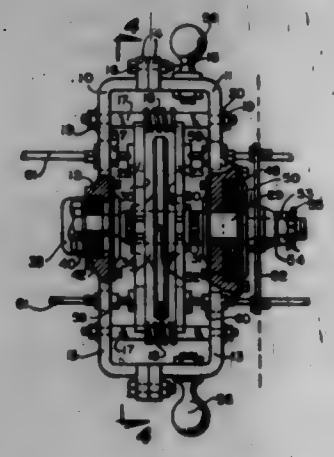
1. In an automatic lubrication system for applying lubricant to a plurality of lubrication points of a machine during a minor portion of a predetermined time cycle which is substantially longer than said minor portion, a pump for the lubricant, a motor for initiating and maintaining operation of the pump, a fluid line extending from said pump to the lubrication points, a pressure-operated doser at each of said lubrication points adapted to deliver a preselected quantity of lubricant each time the

pressure in said line is built up, a solenoid-operated normally closed valve in the fluid line intermediate the pump and said lubrication points, a first reset timer adapted to be operated throughout said predetermined time cycle and automatically reset to its starting position at the end of said cycle, means for initiating operation of the first timer, motor and valve solenoid in response to operation of the machine, a pressure-operated normally open switch in said fluid line adapted to be closed upon creation of a predetermined pressure in the line by the pump, said predetermined pressure being at least as great



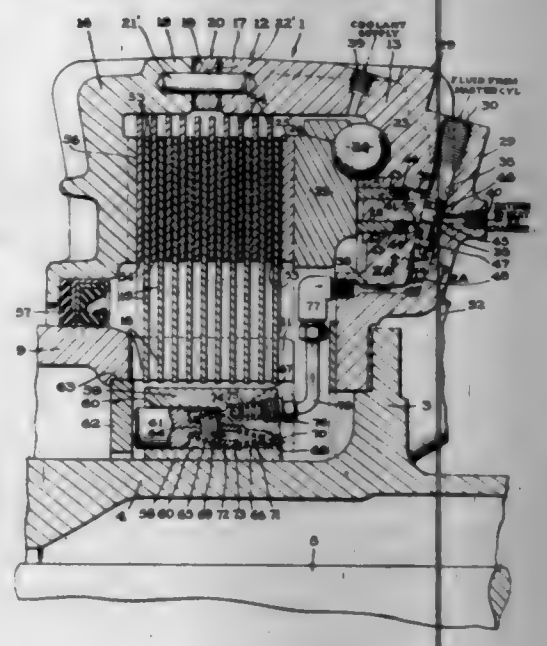
as that required to operate the pressure-operated dosers, means actuated by closing of the pressure-operated switch for deenergizing the motor and the valve solenoid, means operated by the first timer at the end of said time cycle to repeat the lubrication cycle if the machine is in operation at the end of the cycle, a second reset timer operated only during the selected minor portion of the time cycle, and means operated by the second timer for deenergizing the pump motor and valve solenoid at the end of the selected minor portion of the cycle in the event the pressure-operated switch fails to close.

2,971,611
DISC-TYPE BRAKES
Bruce Gage, P.O. Box 10222, San Antonio, Tex.
Filed July 28, 1958, Ser. No. 751,397
11 Claims. (Cl. 188—72)



1. In a braking assembly, a pair of annular braking surfaces disposed in spaced substantially parallel planar relation to one another, supporting means for preventing rotation of said surfaces, said supporting means slidably engaging said pair of surfaces thereby to permit both said surfaces to be moved toward and away from one another, a rotatable shaft extending transverse to said pair of annular braking surfaces, said shaft including a braking disc fixedly attached thereto and rotatable therewith at a position between said pair of braking surfaces, said disc extending in substantially parallel planar relation to said pair of annular braking surfaces and being attached to said shaft by means inhibiting axial movement of said braking disc relative to said shaft, means on said disc adapted to effect a forced circulation of air past said pair of braking surfaces during rotation of said shaft and braking disc, said means for effecting said forced circulation of air comprising a plurality of independent projecting surfaces of frictional material disposed in substantially circumferentially spaced relation to one another on both sides of said disc, the projecting frictional surfaces on one side of said disc being interleaved in position with the frictional surfaces on the other side of said disc, and control means for simultaneously moving both of said pair of annular braking surfaces toward one another into frictional contact with the opposed sides of said fixedly attached braking disc thereby to inhibit rotation of said braking disc and shaft.

2,971,612
LIQUID COOLED DISC BRAKE WITH AUTOMATIC BOOSTER
Walter Graber, St. Joseph, Mich., assignor, by mesne assignments, to Lambert Brake Corporation, St. Joseph, Mich., a corporation of Michigan
Filed Aug. 4, 1958, Ser. No. 753,607
26 Claims. (Cl. 188—72)

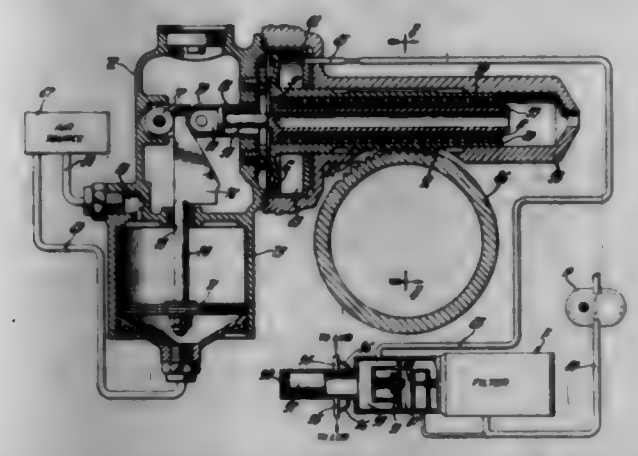


1. A friction device of the class described, comprising a sealed housing, relatively rotatable interengageable friction members disposed within said housing for interengagement with each other and with said housing, at least one of said friction members having provision for operatively connecting the same to a rotary member and another of said friction members being relatively stationary, dual operator means for effecting interengagement and disengagement of the friction members aforesaid, one of said operator means being responsive to manual operation and the other of said operator means including and being responsive to a reciprocable fluid pump continuously operable responsive to rotation of the rotary member aforesaid, said pump including a fixed pump housing having its longitudinal axis disposed substantially parallel to the axis of the friction device, and said pump being wholly enclosed within said housing.

2,971,613
PROPELLER BRAKE
Robert G. Larkin, Victor W. Peterson, and Herbert H. Schaepel, Indianapolis, Ind., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Apr. 19, 1957, Ser. No. 653,885
5 Claims. (Cl. 188—118)

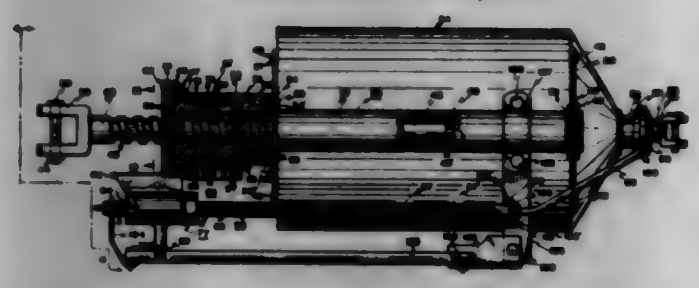
1. A brake mechanism for braking a rotatable member including a spiral brake band spaced from and surrounding said rotatable member, a relatively fixed member spaced from and surrounding said spiral band, one end of the band being anchored to said fixed member, band control means carried by the other end of said spiral band for winding or unwinding the same on said rotatable member for respectively preventing or allowing rotation of said rotatable member, movable operating means con-

nected to said band control means for operating the same, biasing means for at times urging said operating means in a band winding direction, fluid pressure responsive means for overcoming said biasing means to move said



operating means in a band unwinding direction, and additional means independent of said fluid pressure means connected to said biasing means for rendering it effective or ineffective to urge said operating means in a band winding direction.

2,971,614
AUTOMATIC TRAVEL ADJUSTER FOR AIR BRAKE PISTONS
Ivan A. Farnworth, 441 S. State St., Orem, Utah
Filed Aug. 31, 1959, Ser. No. 837,094
12 Claims. (Cl. 188—202)



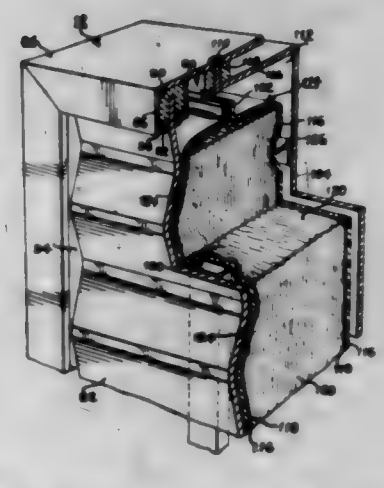
1. For a braking system which includes brake linkage, a brake cylinder having a brake operating piston and a hollow piston rod, and a push rod disposed within said piston rod, actuatable by said piston, and connected to said rigging, a compensating mechanism to adjust slack in said rigging for enabling brake set to be achieved at desired piston travel, said compensating mechanism including, in combination: an actuating, adjustment rod securable to said brake rigging and having a threaded shank; an internally threaded adjustment gear threadably receiving said threaded shank of said adjustment rod; means securing said adjustment gear against translatory movement when said adjustment rod is caused to thread through said adjustment gear and to be translationally displaced with respect thereto; gear means disposed in engagement with said adjustment gear for rotating said adjustment gear; a selector plate fixedly disposed with respect to said securing means and provided with a plurality of finger deflecting, travel paths corresponding to long travel, short travel, and normal travel conditions as relates to piston travel; an engagement unit; means slideably and pivotally mounting said engagement unit in uniform, spaced relationship with said selector plate, for constraining said engagement unit to longitudinal and also to lateral-pivotal movement with respect to said selector plate, said engagement unit being provided with finger means engageable with said selector plate paths; a pair of rack means for selectively producing in said gear means a selected rotation for translationally displacing, selectively, said adjustment rod, said rack means being alternately engageable with opposite sides of said gear means, on return trips of said engagement unit, in accordance with the pivotal displacement, if any, of said finger means in one of said deflecting paths from neutral position; and means connected to said engagement unit for coupling said engagement unit to said piston rod for longitudinal travel in accordance with the travel of said piston rod.

2,971,615
BRAKE ELEMENT
John W. Ryznar, La Grange, Ill., assignor to Nalco Chemical Company, a corporation of Delaware
Filed Feb. 17, 1956, Ser. No. 566,255
2 Claims. (Cl. 188—256)



1. A rigid braking element comprising a metal braking surface adapted for engagement with a complementary metal braking element comprising at least on a portion of said metal braking surface an area containing silica, said silica consisting essentially of particles having a specific surface area of 20 to 800 square meters per gram, and an average ultimate particle size within the range of 8 to 1000 millimicrons in diameter, said particles being capable of being dispersed in water to form a silica sol.

2,971,616
BUILDING PANEL
Elden D. Bayley, Jr., Springfield, Ohio, assignor to The William Bayley Co., a corporation of Ohio
Filed Dec. 6, 1956, Ser. No. 626,693
10 Claims. (Cl. 189—34)



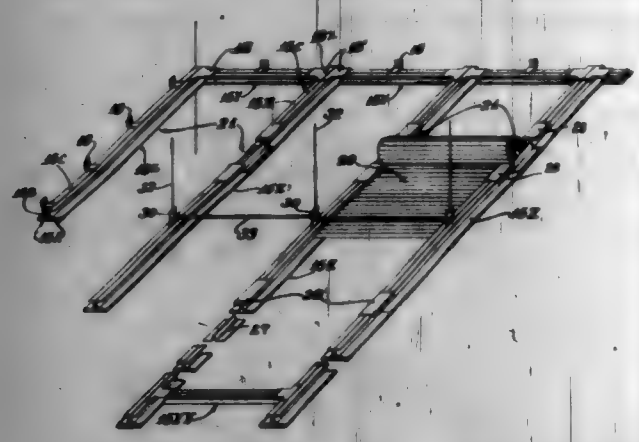
1. A building panel for use in skin wall construction and the like, said panel comprising an exterior panel member, a frame surrounding said exterior panel member, said frame having an inwardly directed channel in the perimeter thereof receiving the margins of the exterior panel member, first insulation means disposed in said channel for supporting the margins of said exterior panel member in spaced relation to said frame whereby said exterior panel member is thermally insulated from said frame, an interior panel member provided with normally disposed flange portions at the margins thereof positioned telescopically within said frame, means for securing said interior panel member to said frame in spaced parallel relation to said exterior panel member, there being a cavity between said panel members, and second insulation means partially filling said cavity.

2,971,617

CEILING STRUCTURE

Gean Smith and Gilbert Tuten, Chicago, Ill., assignors to L. J. Segil Co. (Inc.), Chicago, Ill., a corporation of Illinois

Filed Dec. 14, 1953, Ser. No. 397,946
10 Claims. (Cl. 189—85)



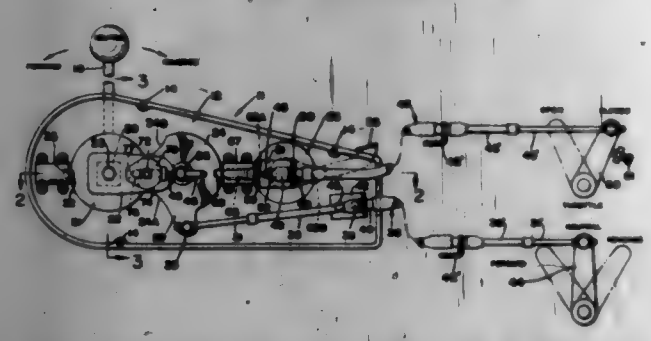
1. In a ceiling framework structure, track sections comprising hollow elongated members having hollow, oppositely divergent bottom flanges and correspondingly divergent top flanges joined to the bottom flanges by a hollow web, the opposite walls of which slope toward each other upwardly into conjunction respectively with one of said top flanges to define therebetween a narrow top slot along the length of the section; together with coupling means joining said members end to end and respectively comprising an elongated member having a pair of laterally-divergent bottom flanges joined to an upwardly projecting longitudinal rib which is widest near said bottom flanges and has opposite side walls which slope upwardly toward each other fitting telescopingly into the sloping web of said track section with the bottom flanges of the bottom section also telescoped into the hollow bottom-flange portion of said track section.

2,971,618

THROTTLE CONTROL MECHANISM FOR SINGLE LEVER CONTROL

John F. Morse, 21 Clinton St., Hudson, Ohio

Filed Sept. 26, 1958, Ser. No. 763,621
6 Claims. (Cl. 192—.096)



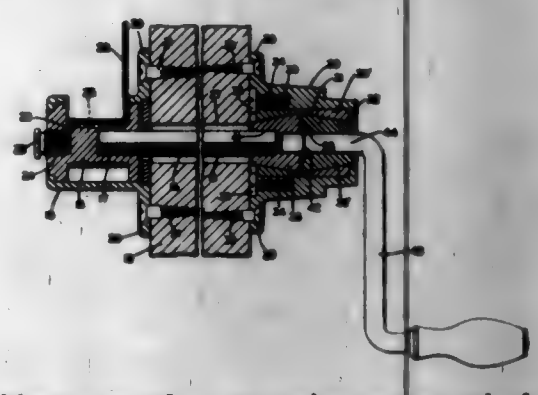
1. In a single lever engine control unit having a housing, a throttle control arm and a clutch control arm operatively connected thereto for rotation only during the first portion of rotation of the throttle control arm, said arms adapted for connection to the cores of push-pull cables for operating the throttle and clutch of said engine, the improvement comprising a terminal link connected to the throttle cable core and having a radially movable connection with said throttle control arm, a cam surface on said link, a follower on said throttle control arm engaging said cam surface to cause said link to swing on an elongated radius during the first portion of movement of the control lever in either direction from neutral, and a stop on said terminal link to prevent radial movement of said link when the control lever is in neutral.

2,971,619

AWNING OPERATING AND CONTROL MECHANISM

Robert C. Koslo, Cleveland, Ohio, assignor to The Astrup Company, Cleveland, Ohio, a corporation of Ohio

Filed Apr. 1, 1959, Ser. No. 803,396
9 Claims. (Cl. 192—8)



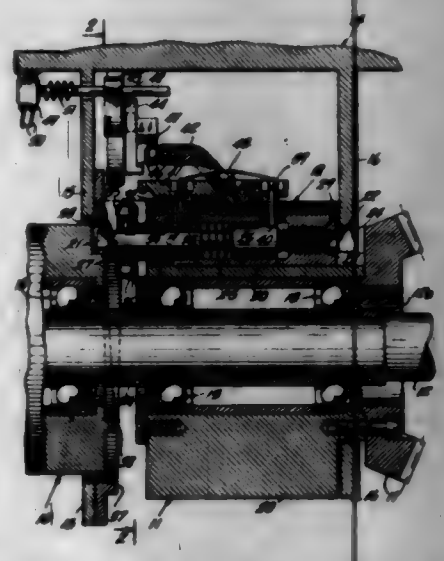
1. Locking means for an awning operator including a winding shaft adapted to be extended through a fixture from the outer side to the inner side thereof, and an awning operating mechanism operated by the outer end of the winding shaft, said locking means comprising a locking housing attached to the inner side of said fixture and encircling the inner end of the winding shaft, there being oppositely disposed internally coned surfaces within said locking housing, a pair of oppositely disposed truncated conical lock dogs rotatably mounted within said internally coned surfaces, means attaching one of said lock dogs to the inner end of said winding shaft, interengaging lug and recess means on the opposed ends of said lock dogs for urging the lock dogs in opposite directions and into frictional contact with said internally coned surfaces when a torque load is applied to said one lock dog through the winding shaft, an operating handle, and means for detachably connecting said operating handle to the lock dogs for applying a torque load in the opposite direction to said other lock dog for causing said lug and recess means to urge the lock dogs toward each other for rotating said lock dogs.

2,971,620

POSITIONING CLUTCH

Roger P. Rice, Jr., Darien, Conn., assignor to Time, Incorporated, New York, N.Y., a corporation of New York

Filed Apr. 21, 1958, Ser. No. 729,642
16 Claims. (Cl. 192—18)



9. A positioning clutch comprising rotary input means having recess means spaced from the axis of rotation, rotatably mounted output means arranged to transmit motion from the input means when the clutch is engaged, connecting means included in the output means

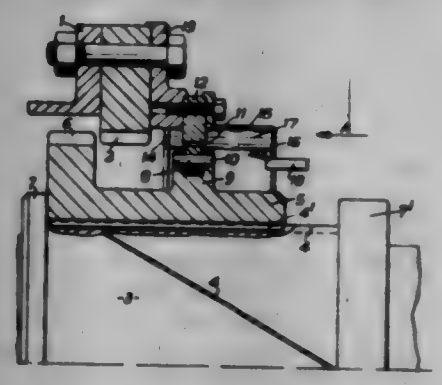
movable between a first position engaging the recess means of the input means and completing a driving relation therewith and a second position spaced therefrom, spring means adapted to urge the connecting means in either direction between the two positions according to the position of spring cocking means, spring cocking means movable between two positions in response to rotation of the input means to cock the spring means so that the connecting means is urged thereby in the direction to engage the recess means when the input means is at a predetermined angular position and in the opposite direction when it is at a second angular position, and control means normally retaining the connecting means in the position engaging the recess means and the cocking means in the position urging the connecting means away from the recess means adapted to selectively release the connecting means when the input means is at the predetermined angular position and the cocking means when the input means is at the second angular position.

2,971,621

SYNCHRONOUS SELF-SHIFTING CLUTCHES

Harold Sinclair, Windsor, and Philip J. Short, Wokingham, England, assignors to S.S.S. Gears Limited, Isleworth, England, a British company

Filed Aug. 20, 1957, Ser. No. 679,228
Claims priority, application Great Britain Nov. 7, 1956
12 Claims. (Cl. 192—67)



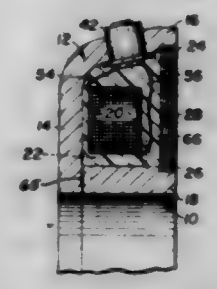
1. A synchronous self-shifting clutch comprising a first rotary clutch member provided with jaw clutch teeth, a second rotary clutch member mounted coaxially with said first clutch member, an intermediate member carried by said second clutch member and provided with jaw clutch teeth, and means constraining said intermediate member for helical movement relative to said second clutch member whereby to bring the clutch teeth of said intermediate member into and out of engagement with the clutch teeth of said first clutch member, and a ratchet drive for initiating precise interengagement of the clutch teeth of said intermediate member and said first clutch member, upon relative angular movement in one direction between said first and second clutch member, said ratchet drive comprising a ring of internal ratchet teeth carried by said first clutch member and spaced axially from the clutch teeth of said first clutch member, and at least one pawl carried by said intermediate member, which pawl in a disengaged condition of the clutch is positioned for cooperation with said ratchet teeth, when there is relative angular movement in said one direction between said first and second clutch members, to draw said intermediate member into toothed engagement with said first clutch member, a chamber open towards the clutch axis, in which said ratchet teeth and the part of the said pawl for cooperation therewith are disposed, and means for continuously feeding liquid to said chamber at least during periods of rotation of said first clutch member to form in said chamber during rotation of said first clutch member an annulus of liquid the radially inner surface of which when undisturbed is radially inward relative to and just clear of said ratchet teeth, and over the surface of which annulus the nose of said pawl can skim at high speeds of rotation of said annulus relative to said pawl when said intermediate member is positioned axially for cooperation between said pawl and said ratchet teeth.

2,971,622

ELECTROMAGNETIC FRICTION CLUTCH

Ralph L. Jaeschke, Kenosha, Wis., assignor to Eaton Manufacturing Company, Cleveland, Ohio, a corporation of Ohio

Filed Feb. 4, 1957, Ser. No. 638,130
2 Claims. (Cl. 192—84)



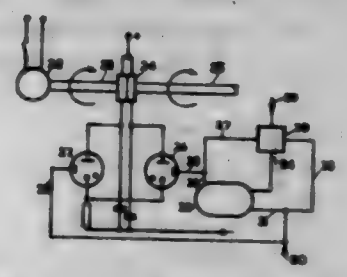
1. An electromagnetic clutch structure comprising a magnetic pole housing having a sleeve shaped pole piece, a first annular pole piece portion positioned substantially normal to the axis of said sleeve shaped pole piece and being axially spaced from an end surface of said sleeve shaped pole piece to form an anti-residual gap between said sleeve shaped pole piece and said pole piece portion, a second annular pole piece portion integral with and disposed at an angle to said first pole piece portion and being substantially axially coextensive with said sleeve shaped pole piece, an annular energizing coil disposed radially between said sleeve shaped pole piece and said second annular pole piece portion and axially intermediate thereof, an annularly disposed friction material means positioned axially remote from said first pole piece portion and lying in a plane normal to the axis of said sleeve shaped pole piece, and resin bonding material completely filling the volume defined by said sleeve shaped pole piece and said pole piece portions and said friction material and being in bond contacting relationship with said sleeve shaped pole piece and said pole piece portions and said friction material throughout the entire lateral surface of said volume to bond said pole pieces and said friction material into a unitary structure.

2,971,623

MEANS CONTROLLING THE EXTENT OF MECHANICAL MOVEMENTS IN PRINTERS, LINE-COMPOSING MACHINES AND OTHER MACHINERY

Gerhard Dirks, 44 Morfelder Landstrasse, Frankfurt am Main, Germany

Filed Aug. 26, 1957, Ser. No. 680,291
Claims priority, application Great Britain Aug. 24, 1956
4 Claims. (Cl. 192—142)



1. Apparatus for controlling the extent of a mechanical movement in dependence on a value represented by a train of pulses, comprising, in combination, a constantly rotating driving shaft; a driven shaft the extent of movement of which is to be controlled; electronic

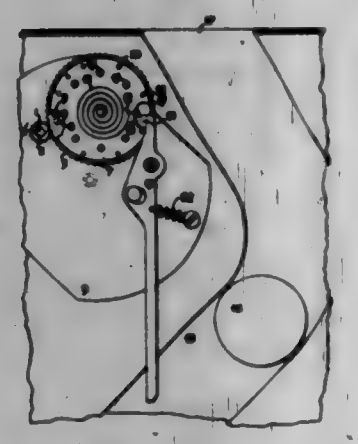
switch means with first and second stable states adapted to be switched in response to signals applied thereto; a coupling device operable by electrical potentials derived from said electronic switch means and capable of coupling said driving and driven shafts together when said switch means is in its first stable state and capable of decoupling said shafts and of holding said driven shaft stationary when said switch means is in its second stable state; an electronic counter having first and second inputs and being responsive to pulses applied thereto so as to add and subtract respectively, and to generate a signal upon registration of a predetermined value; a variable frequency pulse generating device; means for applying a signal to said pulse generating device to predetermine its pulse frequency; means for applying a train of pulses to said pulse generating device to render it operative so as to apply pulses to one input of said counter at the set frequency; means for applying said train of pulses to the other input of said counter; means for applying said train of pulses to said electronic switch means to switch it to its first stable state; and means, operative in response to the registration of a predetermined value by said counter, for applying a signal to said electronic switch means to switch it to its second stable state and to said pulse generating device to render it inoperative.

2,971,624

PRE-PAYMENT DEVICES ADAPTED TO LIMIT THE DURATION OF OPERATION OF A CLOCKWORK MOVEMENT

Max Weber, Renens, Switzerland, assignor to Etablissement Amora, Vaduz, Liechtenstein

Filed Jan. 31, 1958, Ser. No. 712,421
Claims priority, application Switzerland Feb. 5, 1957
4 Claims. (Cl. 194—19)



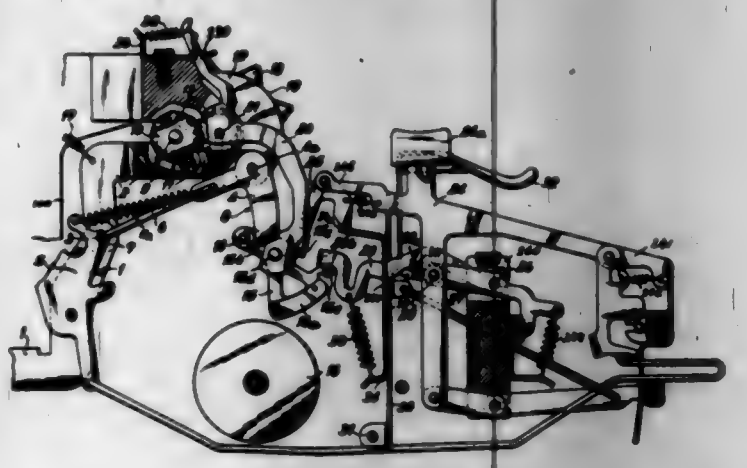
1. In a pre-payment device adapted to limit the duration of operation of a clockwork movement, said device having a winding mechanism, an orifice for the introduction of a coin, a passage for guiding said coin into a receptacle, and an oscillating lever located in the path of said coin, so as to be displaced by each coin introduced into said orifice, the combination comprising, means adapted to register the number of coins introduced including a rotatable member engaging with said winding mechanism, said rotatable member comprising a first wheel driven in rotation by said winding mechanism and a movable part for locking said rotatable member and thus locking said winding mechanism, said movable part comprising a second wheel located in side by side relation to said first wheel, each of said wheels having cooperating stop means secured to their opposed faces, said stop means serving to limit the relative rotation of said two wheels, means for driving said second wheel in rotation through an angle proportional to the number of coins introduced into said orifice to permit the rewinding of said clockwork movement until the said stop means of said first wheel engages the stop means of said second wheel and prevents said first wheel from turning further, thus locking the rewinding of the movement, said oscillating lever acting on said movable part to move it out of its locking position and to allow the rewinding of the clockwork to a value depending on the number of coins introduced in said orifice.

2,971,625

REPEAT ACTUATION ARRANGEMENT FOR TYPEWRITERS

Albert Rix, Wilhelmshaven, Hoffhausen, Germany, assignor to Olympia Werke A.G., Wilhelmshaven, Germany

Filed Jan. 13, 1959, Ser. No. 786,495
Claims priority, application Germany Jan. 18, 1958
20 Claims. (Cl. 197—17)



18. Repeat actuation arrangement for typewriters, comprising, in combination, a frame; a rotary drive means; carrier means mounted on said frame movable between a normal position farther spaced from said drive means and an operative position closer spaced from said drive means; a member movably mounted on said carrier means, said member engaging said drive means when said carrier means is in said operative position so as to be moved by said drive means; actuatable means operatively connected to said member so as to be actuated by the same; manually operated means for moving said carrier means from said normal position to said operative position so that said drive means moves said member for actuating said actuatable means; and manually operated control means independent of said manually operated means and movable between a normal inoperative position and a blocking position located in the path of movement of said member for blocking return movement of the same, said control means tending to remain in each of said positions thereof whereby said drive means moves said member repeatedly to effect repeated actuations of said actuatable means whenever said manually operated means is operated while said control means is in said blocking position.

2,971,626

JUSTIFYING APPARATUS FOR POWER OPERATED TYPEWRITERS

Gerhard Dirks, Morfelder Landstrasse 44, Frankfurt am Main, Germany

Filed May 5, 1958, Ser. No. 732,892
Claims priority, application Germany Oct. 1, 1948
11 Claims. (Cl. 197—34)

1. Apparatus to record a justified line from data recorded magnetically comprising a typing means having at least one control contact related to standard line length, a rotatable magnetizable member, means operatively connected with said typing means and with said magnetizable member for recording thereon information typed on said typing means, a character-by-character printing means, means to read out said recorded information and for accordingly operating said printing means, a plurality of frequency generating means for producing a plurality

of different frequencies, respectively, and means under control of said control contact to select from said frequencies, for the proper spacing of the characters printed by said printing means, one frequency for lines of standard length and proportionately different frequencies ap-



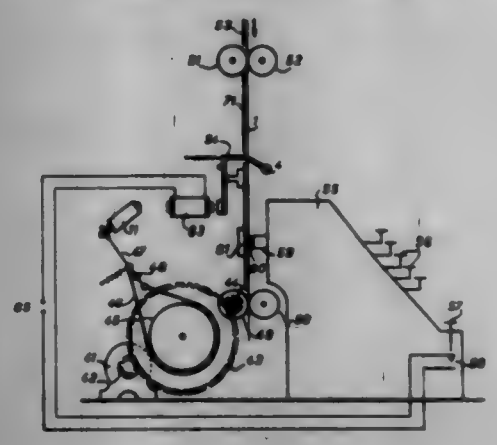
propriate for each excess character present in any line, said printing means including spacing means for producing different spacing of said characters in response to a respectively selected frequency applied to said spacing means.

2,971,627

MEANS FOR POSITIONING AN ACCOUNT OR RECORD SHEET IN AN ACCOUNTING MACHINE

Henri G. Feisel, Paris, France, assignor to Machines Automatiques Modernes (Societe a Responsabilite Limitee), Paris, France

Filed Oct. 8, 1957, Ser. No. 688,865
Claims priority, application France Oct. 10, 1956
3 Claims. (Cl. 197—127)



1. Device for setting a record sheet in an accounting machine, comprising a driving motor adapted to displace said sheet in a first direction, a relay, an electro-magnetic brake for said motor controlled by said relay, means for temporarily energizing said relay when said record sheet reaches the printing position whereby said sheet is temporarily stopped beyond the printing position, means controlled by the energization of said relay for reversing the direction of the rotation of said motor and diminishing its speed so that said record sheet is moved in a direction opposite to said first direction with a reduced speed, means for again energizing said relay when said record sheet again reaches the printing position whereby said sheet is braked again, and means for breaking the feeding of the motor whereby said sheet is stopped.

2,971,628

COPY MOUNTING AND LABEL HOLDING AND DISPENSING ATTACHMENT FOR A TYPEWRITER CARRIAGE

Rolf P. Griffith, 5657 N. Afton, Baton Rouge, La.

Filed Nov. 13, 1959, Ser. No. 852,836
4 Claims. (Cl. 197—133)

1. A copy mounting and label holding and dispensing attachment for a typewriter, comprising: a substantially rectangular panel member of thin-sheet lightweight material provided with pressure-sensitive adhesive mounting means carried by a substantially flat strip at the bottom of the rear surface of the panel member for removably mounting said panel member upon a substantially flat portion of a typewriter carriage in upstanding relationship with respect thereto with the front surface of said panel member in a position visibly observable by a typist during typing use of a typewriter slidably mounting the typewriter carriage, the front of said panel member being provided with copy member mounting means mountingly cooperable with a thin-sheet copy member of substantially



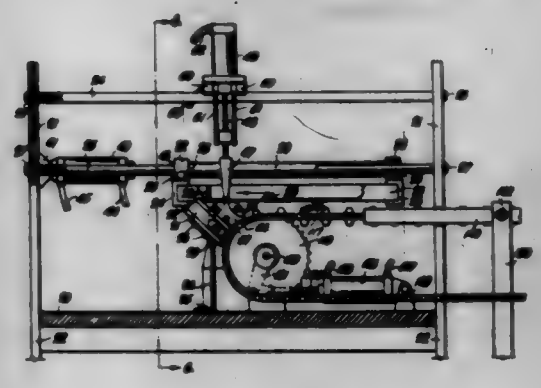
rectangular front elevational shape adapted to visibly bear thereon copy which is to be typed, said panel member defining substantially horizontal slot means communicating the front and rear surfaces thereof and being positioned above said mounting means, the rear surface of said panel member being provided with holding and carrying means adapted to removably hold and carry a continuous spirally wound strip of material comprising a typing medium and to dispense same through said slot means to the platen of the typewriter.

2,971,629

SILK SCREEN PRINTING APPARATUS IMPROVEMENT

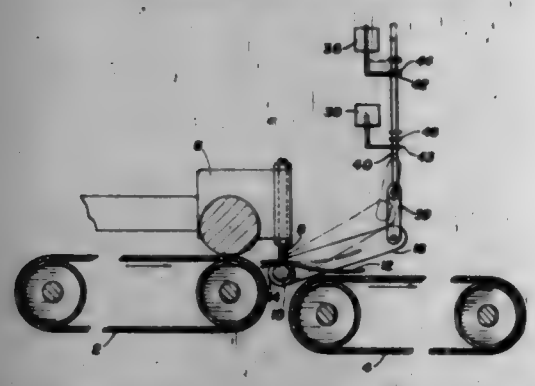
Clarence D. Black, Hickman Mills, Mo., assignor to Injection Molding Company, Kansas City, Mo., a corporation of Missouri

Filed Mar. 26, 1956, Ser. No. 573,908
7 Claims. (Cl. 198—24)



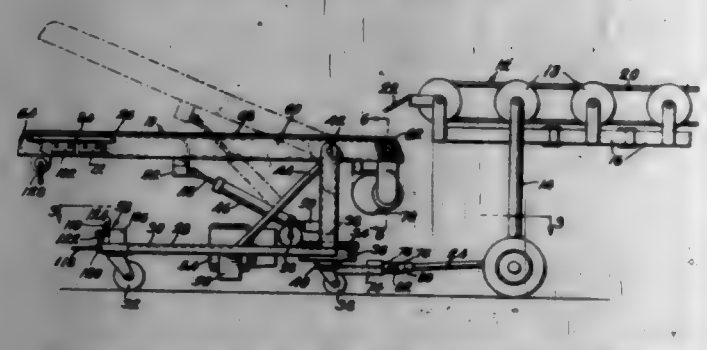
1. Apparatus for handling a plurality of plastic containers in a process of silk screen printing of a portion of the surface of each said container comprising a rotatable magazine having a plurality of spaced cavities extending axially therethrough, each said cavity so formed as to receive and closely confine substantially an entire container, the peripheral portion of each said cavity open to expose an area of a container to be printed positioned therein, means positioned opposite one end of said magazine to feed unprinted containers to a position next said one end of said magazine, a first charging means positioned on the side of said feed means away from the magazine but next the same end of said magazine operative to charge a cavity thereof from said feed means and discharging means positioned next the other end of said magazine from said charging means operative to discharge a container from another cavity of said magazine than the one to be charged by said charging means.

2,971,630
SHEET LAPPING APPARATUS
Clyde D. Michaels, Birmingham, Ala., assignor to United States Steel Corporation, a corporation of New Jersey
Filed May 23, 1956, Ser. No. 586,808
1 Claim. (Cl. 198—35)



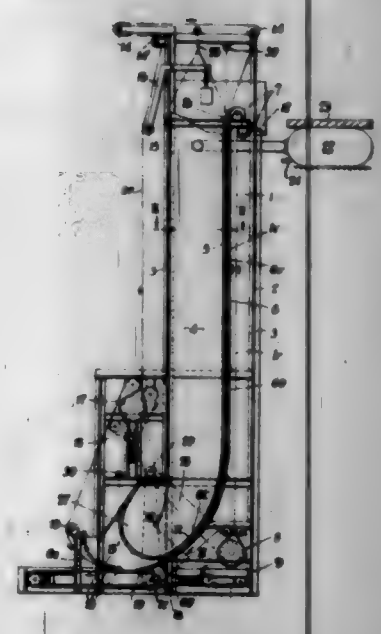
Sheet lapping apparatus comprising a first conveyor for receiving the unlapped sheets, a second conveyor for receiving the sheets from the first conveyor, said first conveyor traveling at a speed greater than the speed of the second conveyor, a support arranged transversely of the conveyors at the exit end of the first conveyor, a plate pivotally mounted on said support with its free end extending over said second conveyor, and means for automatically rotating the plate around its pivot to adjust the height of the exit end thereof in accordance with the speed of the first conveyor, said means including a movable arm connected to said plate, two spaced collars mounted on said arm for movement therewith, two spaced solenoids adjacent said arm, two eyes around said arm one operably connected to each of said solenoids, one of said eyes adapted to engage one of said collars and the other of said eyes adapted to engage the other of said collars, and means for selectively energizing said solenoids.

2,971,631
SWIVEL STACKER
Franklin P. Gray, 2600 E. Flora Place, Denver, Colo.
Filed Dec. 19, 1958, Ser. No. 781,734
16 Claims. (Cl. 198—119)



1. A swivel stacker of the type particularly suited for use in unloading filled bags and the like from a conveyor, a carriage including a bedframe and an upright frame depending from the rear end thereof, a pair of casters supporting the front end of the bedframe, a fixed brake element depending from the rear end of the bedframe, a movable brake element mounted on the fixed brake element for relative rotation about a substantially vertical axis, a friction element depending from the fixed brake element for movement upon actuation into engagement with the movable brake element to prevent relative rotation therebetween, actuating means operatively connected to the friction element adapted to set and release the brakes, at least one caster mounted on the movable brake element supporting the rear end of the bedframe, an endless belt conveyor assembly including a conveyor frame with the rear end thereof mounted on the upper end of the upright frame for tiltable movement about a transverse substantially horizontal axis, a drive roller and at least one driven roller journalled for rotation in longitudinally spaced substantially parallel relation transversely of the conveyor frame, an endless belt operatively interconnecting the drive and driven rollers, drive means carried by the conveyor frame and operatively connected to the drive roller for rotating same to move the endless belt, a hydraulic cylinder and piston interconnecting the carriage with the conveyor assembly at a point spaced forward of the rear thereof, a power-driven hydraulic pump connected to the hydraulic cylinder operative upon actuation to extend the piston and elevate the conveyor assembly, and control means connected to the hydraulic pump operative to actuate same and extend or retract the piston.

2,971,632
CONVEYORS
Robert Leon Seavee, Erith, England, assignor to Sovex Limited, Erith, England
Filed Nov. 13, 1956, Ser. No. 621,733
Claims priority, application Great Britain Nov. 22, 1955
3 Claims. (Cl. 198—165)

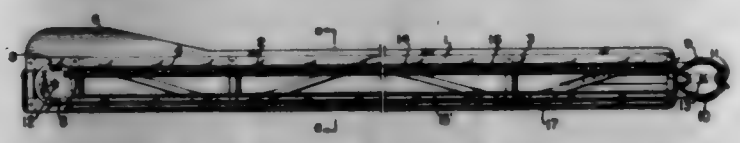


1. A conveyor arrangement comprising an endless conveyor band whose conveying flight has a rising conveyor section, a substantially horizontal entry section and a transition section between the said entry and rising sections, a fluid-filled flexible envelope which is arranged opposite the said rising section and extends into the said transition and entry sections for pressing the articles against the said conveyor band in all of the said sections, an endless loading band having an active flight located between said envelope and said conveyor band coacting with said conveying flight of said conveyor band in said entry section, said transition section, and said rising section, tensioning means operably connected with said loading band for promptly and automatically taking up slack in said loading band resulting from the discharge of articles from between the conveyor band and said loading band, and driving means directly contacting and driving said loading band at a point beyond the point where the articles are discharged.

2,971,633
CONVEYOR
Henri Fernand Geoffroy, Fragny-par-Cacogne, Nievre, France
Filed Feb. 6, 1959, Ser. No. 791,620
Claims priority, application France Feb. 21, 1958
4 Claims. (Cl. 198—178)

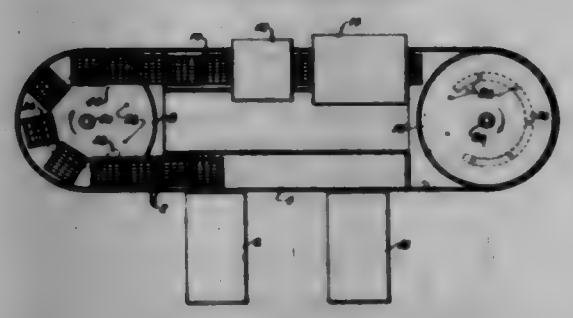
1. A conveyor comprising an elongated frame, two pairs of pulleys with each pair being rotatably mounted at an opposite end of said frame, a pair of endless cables

extending parallel to one another within said frame and each passing around a pulley of said two pairs of pulleys, a plurality of battens extending across said cables at spaced intervals and parallel to one another, said pulleys having peripheral grooves positioned for receiving one of said battens at a time therein as said cable passes around said pulleys, a plurality of pins each extending



through one of said battens and the portion of the cable adjacent thereto retaining said battens in their spaced positions on said cables, a drum rotatably mounted at one end of said frame between the pulleys at said frame end and said drum having an oval cross-sectional configuration with peripheral indentations for receiving said battens therein and forming an ejector for material carried by said battens.

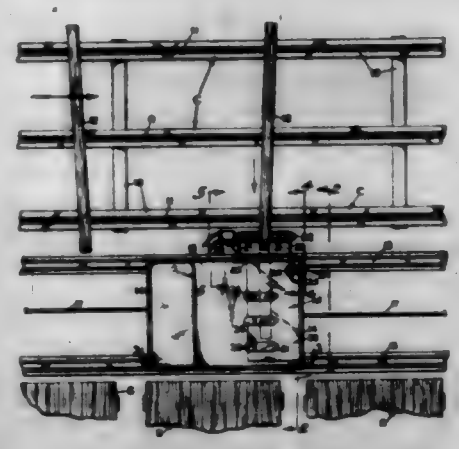
2,971,634
DISHWASHING EQUIPMENT
Alexander E. Wilde and James H. Wilde, Little Silver, N.J., assignors to Faspray Corporation, Red Bank, N.J., a corporation of Delaware
Filed June 11, 1958, Ser. No. 741,342
7 Claims. (Cl. 198—181)



1. In a combination with a dishwasher, means forming a path for dish racks which extends to and from said dishwasher, means forming a return path for dish racks extending parallel to the first path, means for pushing said dish racks along said paths including turntables positioned adjacent the opposite ends of said paths in position to receive dish racks from one of said paths and deliver them to the other of said paths, means for rotating said turntable, and rack engaging means movable with said turntable and into engagement with racks moving onto said turntable from one of said paths to positively move the racks with the turntable, said rack engaging means being movable to disengage said racks as they reach the other of said paths.

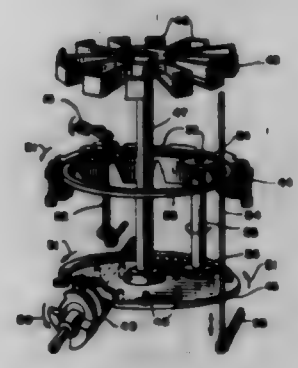
2,971,635
LUMBER SORTING MACHINE
Amos A. Horner, Star Rte. 2, Cascadia, Oreg.
Filed Sept. 4, 1956, Ser. No. 607,897
2 Claims. (Cl. 198—185)

1. A lumber sorting machine for selectively removing lumber from a lumber conveyor comprising a trackway positioned adjacent and parallel to said conveyor, a vehicle movably mounted on said trackway, power means on said vehicle for moving said vehicle on said trackway, a pair of arms arranged on said vehicle in spaced parallel transversely extending relation, a longitudinally extending horizontal shaft pivotally mounting said arms to said vehicle, a rotatable conveyor roller journalled between said arms spaced from and parallel to said shaft, power means on said vehicle for pivoting said arms about said shaft raising said conveyor roller with relation to said vehicle to contact and slightly raise lumber arranged in overlying relation thereto on said lumber conveyor, and



power means connected to said conveyor roller for rotating said roller on its axis to move lumber resting thereon transversely of said vehicle off of said lumber conveyor.

2,971,636
ROTARY CONVEYOR STRUCTURE
Harry E. Engleson, Chicago, and Elmer D. Sramek, Cicero, Ill., assignors to F. B. Redington Co., Chicago, Ill., a corporation of Delaware
Original application Nov. 28, 1955, Ser. No. 549,380. Divided and this application Dec. 29, 1958, Ser. No. 783,257
8 Claims. (Cl. 198—209)

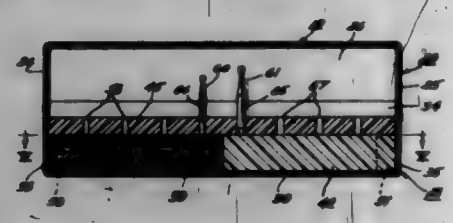


1. A circular conveyer comprising an upper wheel structure for mounting conveyer attachments, a vertical shaft attached to and supporting the upper wheel structure, a lower wheel structure attached to the shaft at a level below the upper wheel structure, drive means coupled to the lower wheel structure for rotating the lower wheel structure, the shaft and the upper wheel structure, a circular ring structure positioned at a level intermediate between the upper wheel structure and the lower wheel structure, and gear means mechanically coupled between the ring structure and the lower wheel structure, said ring structure having conveyer attachments positioned in spaced relation for cooperation with the attachments on the upper wheel structure.

2,971,637
DENTAL BUR HOLDER
John H. Simons, 5962 NE. Circle Ave., Chicago, Ill.
Filed Feb. 11, 1959, Ser. No. 792,573
3 Claims. (Cl. 206—17)

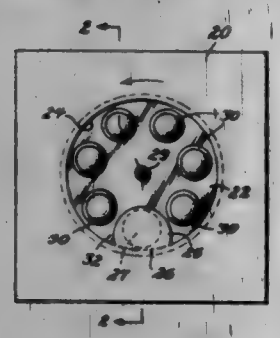
1. A holder for dental burs comprising a liquid tight container having a bottom wall and upwardly extending sidewalls integral with each other and with said bottom wall, a perforated plate in spaced parallel relation with respect to said bottom wall for receiving said dental

burs, support members contacting said plate for maintaining said spacing, and a lubricant receiving pad dis-



posed between said plate and said bottom wall, said pad serving to support said dental burs in said perforations.

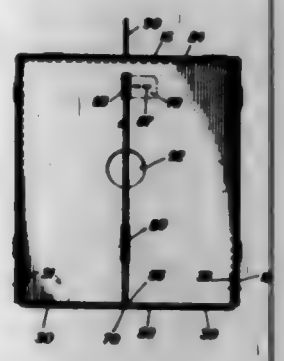
2,971,638
DISPENSING CONTAINERS
Crawford G. Allison, Plymouth Meeting, Maurice D. Hartman, Jr., Telford, and George C. Sparks, Philadelphia, Pa., assignors to The Sparks Corporation, Philadelphia, Pa., a corporation of Pennsylvania
Filed May 24, 1956, Ser. No. 587,143
3 Claims. (Cl. 206—42)



1. A dispensing container for pills comprising a form-retaining transparent inner sheet provided with a plurality of pill-receiving indentations spaced from the periphery of said sheet and defining recesses on one side of said sheet and protrusions on the other side of said sheet, a pair of outer sheets arranged in facing relation with respect to each other on opposite sides of said inner sheet and having their marginal-edge portions secured in facing engagement beyond the periphery of said inner sheet, the outer sheet on said other side of said inner sheet being provided with an opening receiving said protrusions, outlet means provided on the outer sheet on said one side of said inner sheet for passing pills outward from said recesses through said last-mentioned outer sheet, said inner sheet being mounted on the outer sheet on said one side of said inner sheet for rotation relative to the last-mentioned outer sheet, said recesses being arranged circularly on said inner sheet about the axis of inner-sheet rotation, whereby rotation of said inner sheet successively positions said recesses in communication with said outlet means, and a stop tab extending from the bounding edge of said opening in the outer sheet on said other side of said inner sheet and into said opening for normal disposition in the path of movement of said protrusions, said tab thus normally engageable with an adjacent one of said protrusions to limit movement of the latter and being swingable out of the path of protrusion movement to allow rotation of said inner sheet.

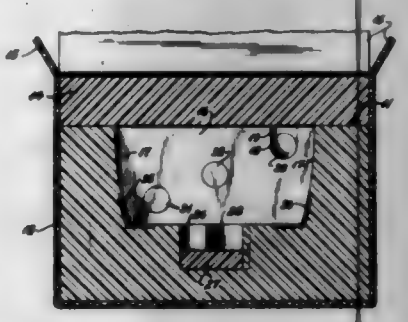
2,971,639
TOMATO CARTON
Thaddus D. McHan, 912 N. Sparkman St., Hartselle, Ala.
Filed Apr. 10, 1958, Ser. No. 727,594
5 Claims. (Cl. 206—45.34)

3. A carton for packaging produce subject to damage if shipped in a bulk container, said carton comprising a generally rectangular horizontal bottom, a pair of end panels extending vertical from the ends of said bottom, said bottom and end panels being of unitary construction, each end panel having outwardly extending strips along the top and side edges thereof for forming a reinforcement for the end panels and also an attachment flange, a transparent panel including a horizontal top and depending side walls of unitary construction, means securing the end edges of the transparent panel to the outwardly extending strips on the end panels, the side edges of said bottom having upwardly extending tabs thereon disposed against the inner surface of the lower edge por-



tion of the side walls, and means securing said tabs to the lower edge portion of said side walls, said bottom having openings therein adjacent the side edges and in transverse alignment with the tabs whereby access is provided for a tool when installing the means for securing the tabs to the side walls with the produce in the carton, said openings also providing ventilation for the interior of the carton, and handle means connected to the end panels to facilitate handling of the carton.

2,971,640
PLASTIC FOAM PACKAGING
Charles D. Snelling, Breinigsville, Pa.
(% Standard Plastics Inc., Fogelsville, Pa.)
Filed Apr. 7, 1958, Ser. No. 726,977
8 Claims. (Cl. 206—46)

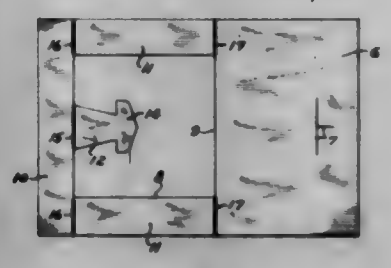


1. A package comprising a container, an irregularly shaped object to be shipped having parts of varying resistance to shock and spaced within the receptacle, and a resilient lining between the object and the wall of the container, said resilient lining comprising a plastic foam of varying densities, the denser portions of the foam adapted to directly support parts of the object well capable of resisting shock and the lining being of lesser density where supporting parts of the objects where such parts are of least resistance to damage by jarring, said portions of the lining being fused together to form an integral body of lining forming a well to receive the object, and a block of dense lining, having spaced portions of plastic foam of less density, fitting one side wall of the well.

2,971,641
COMMODITY CONFINING AND DISPLAY BAND
Milton E. Griem, Milwaukee, Wis., assignor to Milprint, Inc., Milwaukee, Wis., a corporation of Delaware
Filed July 28, 1958, Ser. No. 751,359
4 Claims. (Cl. 206—46)

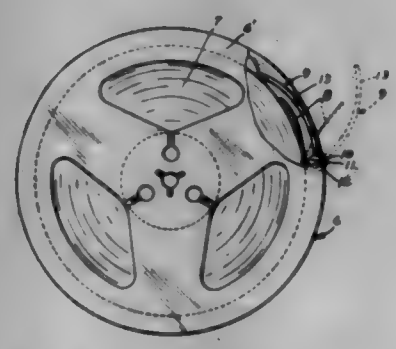
1. A commodity confining and display band comprising, a unitary flat blank of sheet material having a window opening bounded along one side by a commodity sup-

porting panel and along its opposite side by a flap the opposite ends of which are connected directly to the panel ends by window end bounding strips while its medial portion is provided with a locking tongue projecting into the window opening toward the panel, said



strips being foldable relative to both said panel and said flap along lines coinciding with opposed sides of said window opening and said tongue being foldable relative to said flap along a line coinciding with the line of fold of said flap.

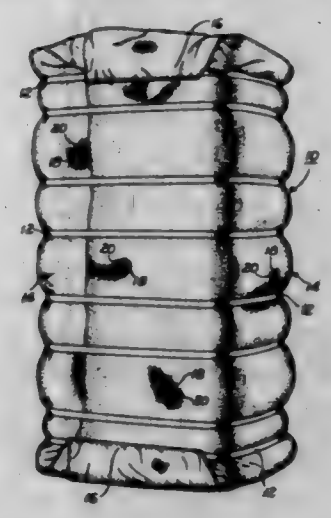
2,971,642
KEEPER AND IDENTIFICATION MEANS FOR MOUNTING ON SOUND TAPE AND FILM STRIP REELS
Edward Schoen, 2329 W. Broadway, Minneapolis, Minn.
Filed May 1, 1959, Ser. No. 810,358
3 Claims. (Cl. 206—53)



1. A keeper for retaining the free end portions of sound tapes, film strips, and the like wound on storage reels having transversely spaced side plates comprising in combination, a longitudinally bowed elongated body section terminating at one of its end portions in an annular split ring, a compressible member of greater width transversely, than the width of the elongated body section, said compressible member being mounted and frictionally held in said annular ring, the outer end portions of the compressible member being transversely extended beyond its mounting ring for frictional engagement with the side plates and a markable surface on the elongated body section.

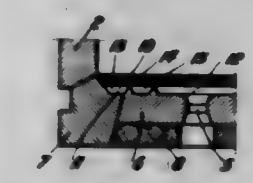
2,971,643
BALE WRAPPER
Marvin O. Farley, El Centro, Calif., assignor to Bale Guard Corporation, El Centro, Calif., a corporation of California
Filed Apr. 1, 1957, Ser. No. 649,874
1 Claim. (Cl. 206—83.5)

A generally rectangular bale of compressible material comprising: a woven fabric cover encompassing said material; spaced parallel bands encircling said material and cover and being under tension, whereby said material and cover bulge outwardly between said bands; said woven fabric cover being arranged with its warp and woof threads extending oblique to said bands; said cover including a continuous coating of stretchable nonadherent impervious material on each face of said fabric, whereby



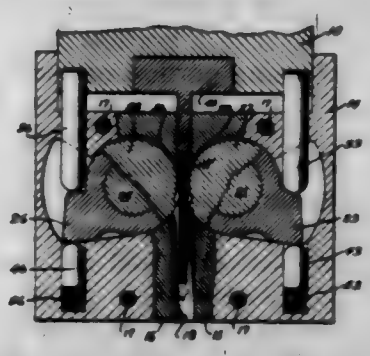
said cover and impervious material may stretch to conform to said bulges without rupturing.

2,971,644
EXTRUSION DIES
Jacques Sejournet, Paris, France, assignor to Compagnie du Filage des Metaux et des Joints Curty
Filed May 9, 1955, Ser. No. 507,000
Claims priority, application France Feb. 11, 1955
7 Claims. (Cl. 207—17)



1. In an extrusion die having an orifice, a throat at the entrance side of the orifice and a face surrounding the throat, the die being adapted for use in extruding a heated metal billet from a container by interposing a solid body of lubricant between the end of the billet and said face of the die and forcing the billet through the die orifice, the improvement characterised in that said face of the die is provided with grooves completely surrounding and spaced radially from the die orifice and from each other for retaining the lubricant on the die face and feeding it uniformly to the die orifice.

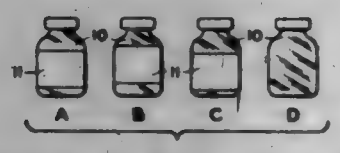
2,971,645
EXTRUSION DIE
Raymond M. Bluck, Euclid, Ohio, assignor to Thompson Ramo Wooldridge, Inc., a corporation of Ohio
Filed Feb. 21, 1958, Ser. No. 716,610
2 Claims. (Cl. 207—18)



1. An extrusion die assembly for use between the bed and reciprocable ram of a press, comprising in combination: a holder adapted to be supported by the bed; a pair of shafts rotatably journalled in said holder, the rotational axes of said shafts being generally parallel to each other and lying in a common plane normal to the

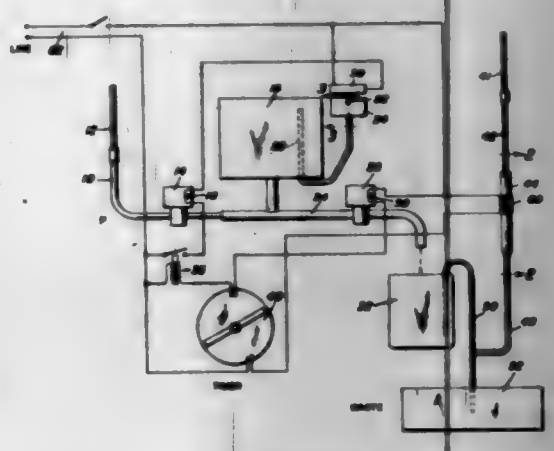
direction of ram movement; a pair of separate lever elements extending radially from said shafts, each of said shafts supporting one of said lever elements and being co-rotatable therewith; a pair of generally cylindrical die elements, each of said shafts supporting one of said die elements and being co-rotatable therewith, said die elements each having a mutually adjacent peripheral extrusion groove located at a point axially offset but generally diametrically opposite to said lever elements, the bottom of which groove extends partially about the rotational axis and is disposed a varying distance therefrom; a plurality of actuator members slidably received in said holder and disposed to be actuated by the ram and to act on said lever elements to rotate each of said die elements about said axis so that said extrusion grooves move in a direction opposite to the workpiece during extrusion thereof, whereby the workpiece section is reduced by extrusion alone; said holder having walls defining a recess intermediately disposed and aligned with the ram and said grooves for receiving a workpiece blank to be extruded; a plunger adapted to be reciprocated by the ram into said recess against the workpiece blank; separate means operated independently of the ram for applying a torque to said die elements about said axes in the other direction; brake means operative on said shafts for preventing rotation of said die elements during the return stroke of the ram; and an ejector reciprocably disposed in alignment with said recess and operative on the portion of the workpiece which has passed through said die elements to move the workpiece in the direction of the return stroke of the ram.

2,971,646
ARTICLE INSPECTION AND SORTING APPARATUS
Henry F. Coffey, Indianapolis, Ind., assignor to Eli Lilly and Company, Indianapolis, Ind., a corporation of Indiana
Filed Aug. 17, 1959, Ser. No. 834,225
8 Claims. (Cl. 209—111)



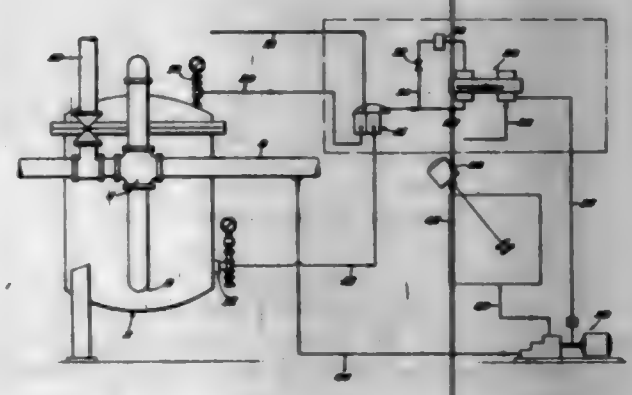
7. An apparatus for sorting a series of similarly labeled, like containers for absence or presence and position of labels upon said containers; said apparatus comprising a conveyer for transporting said labeled containers seriatim in a path past an inspection station; a reject lever associated with said conveyer and normally effective in one position to engage and remove containers from said conveyer and movable into another position for permitting passage of said containers; an A.C. source; vibrating light beam means at said inspection station positioned to scan a portion of each of said containers and an adjoining portion of each of their respective labels as said containers move past said light beam; said light beam means being connected to said A.C. source; a D.C. source; a photoelectric cell positioned at said inspection station to receive light reflected from the scanned portions of said labels and containers; a D.C. to A.C. conversion network; said cell and said network being interconnected to said D.C. source; an A.C. magnetic induction motor having an operating coil and a control coil; said operating coil being connected to said A.C. source and said control coil being connected to the output of said D.C. to A.C. conversion network; and said motor having its rotor connected in operative association with said reject lever to move said lever from its container reject position to its container pass position only when said control coil is energized.

2,971,647
AUTOMATIC SAND WASHER
Robert A. Petrusek, Arlington, Va.
(Rte. 1, Steenson Hollow, Sheffield, Ala.)
Filed Oct. 9, 1956, Ser. No. 614,894
5 Claims. (Cl. 209—209)



1. An automatic sand washer comprising a receptacle for sand to be washed, a syphon tube having an intake port in said receptacle at a predetermined level therein, water supply means including a valve for admitting only a measured quantity of water to said receptacle to raise the water level therein an exactly predetermined height above the syphon inlet port, a syphon control device, and an automatic timer connected to said valve and said syphon control device to initiate syphon operation a predetermined interval after completion of admission of water to said receptacle to syphon off water and suspended particles therein to the level of the syphon intake after a predetermined settling period, said automatic timer being operable to provide continuously repeated cycles of water addition, a settling period, and syphon withdrawal of water from said receptacle.

2,971,648
METHOD AND APPARATUS FOR CONTROLLING THE FEED OF FILTER AID TO A FILTER ARRANGEMENT
Marvin Lane, Cranford, N.J., and Jacob S. Samkoff, Yonkers, N.Y., assignors, by mesne assignments, to Union Tank Car Company, Chicago, Ill., a corporation of New Jersey
Filed June 19, 1957, Ser. No. 666,512
6 Claims. (Cl. 210—75)

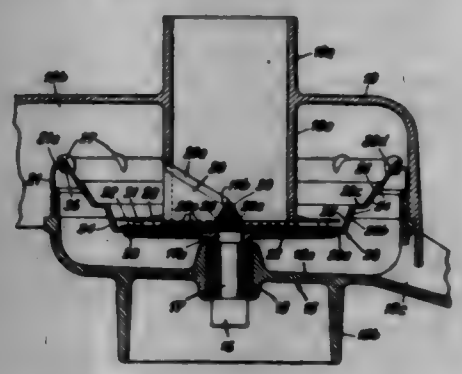


1. In a method of controlling the flow of filter aid co-mingled with the influent to a filter unit, the steps of measuring pressure differential across the unit, producing an output signal proportional to said differential, measuring the rate of change of the variation in intensity of said signal, and controlling the volume of aid co-mingled with the influent in response to said measured rate of change.

2,971,649
JUICE EXTRACTOR

Leo Henzirohs, Oberbuchsiten, Switzerland, assignor to JURA Elektroapparate-Fabriken L. Henzirohs A.G., Niederbuchsiten, Switzerland

Filed Nov. 20, 1957, Ser. No. 697,698
Claims priority, application Switzerland Oct. 25, 1957
3 Claims. (Cl. 210—369)

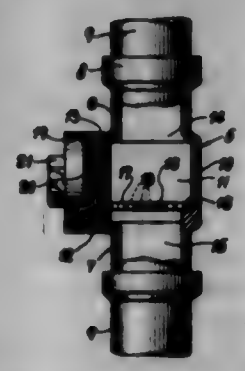


1. In a juice extractor, a rotary strainer basket having a bottom wall portion and an annular perforated side wall portion connected to and extending upwardly from the outer periphery of said bottom wall portion and said annular side wall portion being too steep to advance material by centrifugal force upwardly along said side wall portion during rotation of the strainer basket; and means comprising an annular member having a lower substantially flat surface and being operatively connected to said bottom wall portion, spaced thereabove and from said side wall portion, cooperating with said bottom wall portion and said side wall portion for feeding material upwardly along said side wall portion during rotation of the basket.

2,971,650
TRAP

William Miranda, Preakness, N.J.
(157 Ryerson Ave., Paterson, N.J.)

Filed Sept. 23, 1957, Ser. No. 685,450
1 Claim. (Cl. 210—447)

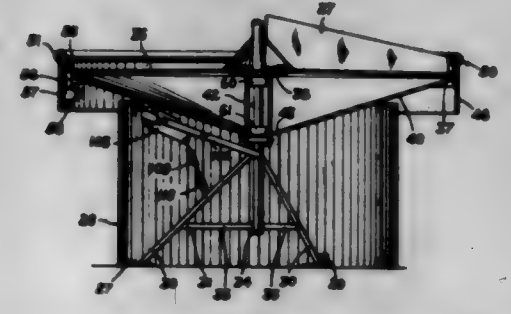


A drainpipe trap comprising a housing having inlet and outlet ports at the top and bottom, respectively, of said housing and provided with a threaded circular clean-out flue laterally of said ports, said housing having integrally formed therein a three-sided, rectangular, horizontal interior ledge between said ports and opening into said flue, a flat, rectangular strainer plate removably seated on said ledge and extending transversely of said housing for removing and collecting debris from water flowing through said housing from said inlet to said outlet ports and through said plate, a detachable threaded closure member threaded into said flue for closing the latter, said horizontal ledge being located below the horizontal diameter of said circular clean-out flue, the width of said strainer plate being greater than the chord of said clean-out flue in register with said clean-out plate when seated on said ledge the threads of said member and said flue cooperating to seal said flue against leakage of said water from said housing through said flue and with said threads constituting the sole means for effecting said seal, the inner end of said closure member when threaded into said flue being flat and extending substantially into abuting engagement with the unseated edge of said strainer plate to prevent the passage of water and debris around said plate, said plate being of a size and shape to preclude its removal from said housing through said ports, said flue being of a size to permit withdrawal of said plate and collected debris from said housing when said member is removed from said housing.

2,971,651
TABLE

Willie M. Shoffner, Dayton, Ohio, assignor to The Fogarty Manufacturing Company, Dayton, Ohio, a corporation of Ohio

Filed Apr. 30, 1959, Ser. No. 810,161
8 Claims. (Cl. 211—1.6)

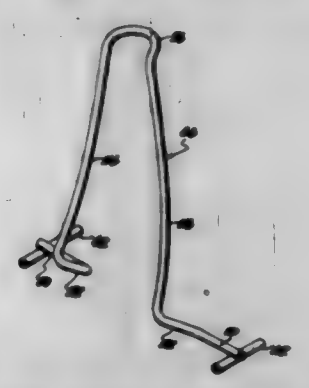


6. A produce table comprising an upper plate of sheet material forming the top of said table and having a circumferentially turned lip, a generally frustoconical lower supporting plate of sheet metal circumferentially secured to the lower side of said upper plate, a spacer extending axially from the underside of said upper plate through said lower plate, means securing the smaller end of said lower plate to said spacer in spaced relation with said upper plate causing said spacer to effect stressed elevation of the center of said upper plate in relation to its periphery, an annular rim fixed to said upper plate at said lip with at least a portion thereof extending above said upper plate to provide for the retention of produce on said table, a supporting post having legs arranged to hold said post in upstanding relation, means including said spacer for rotatably mounting said table on said post, table drive means including a table drive pulley, a drive motor, and a friction clutch interposed in driving relation between said pulley and said motor to provide for the moving of said table independently of said motor.

2,971,652
DISH RACK

Robert M. Getchell, Monrovia, and Horace E. Karig, Pasadena, Calif., assignors to Waste King Corporation, Los Angeles, Calif., a corporation of California

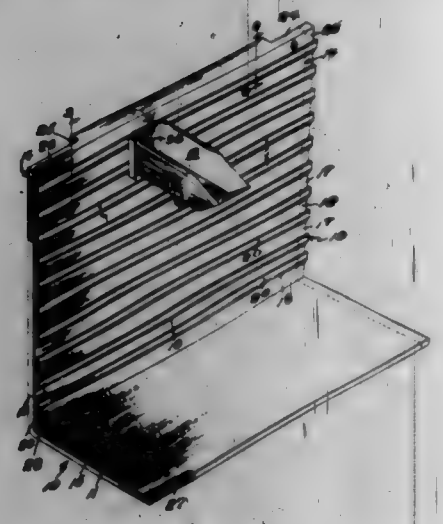
Filed Nov. 30, 1956, Ser. No. 625,434
1 Claim. (Cl. 211—41)



A dish retaining member having forward and rearward sides respectively engageable with the bottom of a

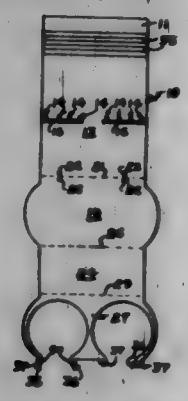
dish disposed forwardly of such retaining member and the top of a dish located rearwardly thereof, said retaining member having adjacent its lower end two upwardly and forwardly sloping, upwardly converging portions, said retaining member having arcuate, forwardly concave, upwardly converging, and upwardly and rearwardly sloping portions connected at their lower ends to the upper ends of said upwardly and forwardly sloping portions, respectively, said retaining member having at its upper end a generally horizontal, arcuate, forwardly concave, rearwardly offset portion connected at its ends to the upper ends of said upwardly and rearwardly sloping portions, respectively.

2,971,653
SUPPORT FOR CONTAINERS
Richard A. Shaw, Scituate, R.I., assignor to Stackbin Corporation, a corporation of Rhode Island
Filed Aug. 1, 1958, Ser. No. 752,634
2 Claims. (Cl. 211—72)



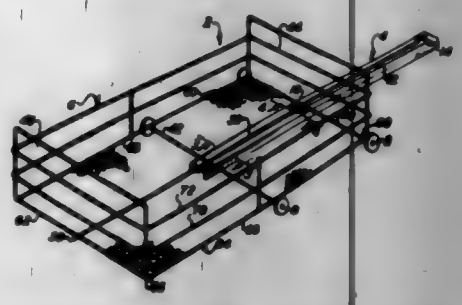
1. A panel for the mounting of a group of storage bins and the like comprising an upright support generally horizontal parallel sheet metal body strips carried by said support one above the other each strip having an outwardly extending channel formation at one longitudinal edge thereof with the outer side of the channel extending parallel to the body of the strip, the opposite marginal edge of a lower strip extending on an outward upward slant and with its free edge engaging the channel portion of a strip above at the outer edge of the channel to provide a support therefor.

2,971,654
CARRIER
Robert J. Whorton, 1604 8th Ave. W., Birmingham, Ala.
Filed Jan. 29, 1959, Ser. No. 790,012
5 Claims. (Cl. 211—73)



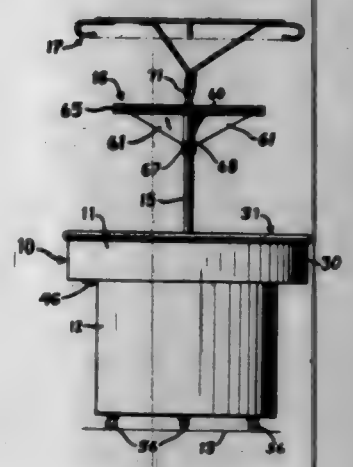
1. A carrier for generally cylindrical objects comprising a back wall panel having a plurality of laterally spaced vertically extending slots connected by a common laterally extending opening, a bottom wall panel foldably connected to the back wall panel, a front wall panel foldably connected to said bottom wall panel opposite the side thereof on which said back wall panel is connected, a top wall panel foldably connected to said front wall panel on the side thereof opposite said bottom wall panel, said top wall panel having at least one opening therein adapted to receive said objects in retaining relation, and a flexible retaining member defining a side of said opening having a free edge with securing means thereon adapted to be inserted in said common laterally extending opening and to engage a selected one of said slots to adapt the top panel to receive objects of varying diameters.

2,971,655
RECIPROCATING TRAY UNIT
Philip DuBoff and Harvey Miller, Kearny, N.J., assignors to Shelfmaker Products Corp., Kearny, N.J., a corporation of New Jersey
Filed July 8, 1960, Ser. No. 41,637
14 Claims. (Cl. 211—126)



1. A reciprocating tray unit adapted to be disposed on a shelf in a storage area whereby items can be conveniently inserted in, or removed from, the storage area, said unit comprising guide means adapted to be fixed to said shelf, a tray means having a base and wheels carried by said base and extending therebelow whereby said tray means is rollable over said shelf above said guide means, at least one retaining member forming a part of one of said means and cooperating with the other of said means whereby said tray means is reciprocally movable, and guided, along a given axis, and abutment means carried by the other of said aforementioned means and cooperating with said retaining member to limit reciprocal movement of said tray means along said given axis.

2,971,656
TABLE
Willie M. Shoffner, Dayton, Ohio, assignor to The Fogarty Manufacturing Company, Dayton, Ohio, a corporation of Ohio
Filed Apr. 30, 1959, Ser. No. 810,162
8 Claims. (Cl. 211—141)



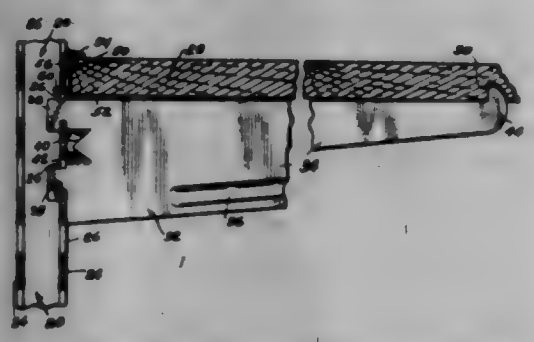
5. A wet table adapted for the support and display of iced fresh produce comprising a base, an upper portion

supported on said base including a tubular reinforcing member, a plurality of outwardly extending upwardly inclined reinforcing arms each secured at an inner end to said member, a generally circular table top formed of sheet material having a circumferential turned lip, means fixing said top to said arms in a flexed condition in conformity with the incline of said arms to provide for the stressed elevation of said lip in relation to said central reinforcing member, a circumferential rim fixed in sealing relation to said top at said lip with at least a portion thereof extending above said top for the retention of produce and water on said table, a shelf supporting standard threaded into said member for extension substantially normal to said top for the support of shelving in spaced relation to produce on said top, and drain openings in said standard for removing accumulated water from the surface of said table.

2,971,657
MERCHANDISE DISPLAY ASSEMBLY

Milton Zadek, Winnetka, Ill., assignor to Reflector Hardware Corporation, Melrose Park, Ill., a corporation of Illinois

Filed Mar. 18, 1959, Ser. No. 800,200
8 Claims. (Cl. 211—147)



1. A merchandise display assembly comprising, a pair of upright laterally spaced-apart standards, each of said standards having at least one row of vertically aligned openings provided in its forward face, a shelf bracket for each of said standards, each bracket having an ear thereon removably hooked over the lower edge of a predetermined one of the openings of the associated standard for supporting said bracket thereon, a shelf extending between and resting upon said shelf brackets, and a removable shelf clip for each of said shelf brackets, each of said shelf clips including means extending into and occupying the upper portion of the opening over the lower edge of which said ear of the associated shelf bracket is hooked and means engaging the rear edge of said shelf to hold said shelf in fixed position relative to said support brackets.

2,971,658
DRIVE-IN STORAGE RACK

Thomas N. D'Altrui, 495 S. 21st St., Irvington 11, N.J.

Filed Dec. 7, 1959, Ser. No. 857,885
6 Claims. (Cl. 211—147)

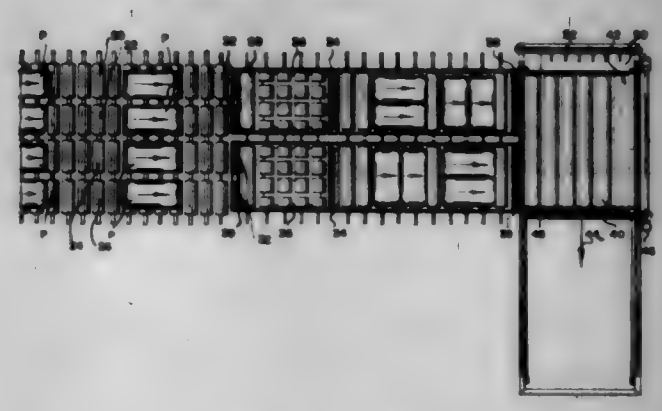


1. In a drive-in storage rack, an upright frame post of tubular form including flat parallel side walls, a flat front wall joining said side walls at right angles thereto to form front corners, and a substantially V-shaped rearwardly convex rear reinforcing wall joining said side walls to stiffen the post and prevent buckling of the side and front walls under load strains and to form an exterior corner having angularly arranged locking faces, portions of both front corners being cut away at vertical intervals to provide uniformly longitudinally spaced side-by-side vertically elongated and horizontally shallow rectangular entrance slots each of which opens at least laterally through the corresponding side wall; at least one horizontally propecting pallet-supporting bracket including: a horizontal arm having a base portion to abut a selected side wall of the upright post, and a flat connector plate projecting longitudinally from the front edge of said arm and being arranged in a vertical plane, said connector plate including plural vertically co-planar tongues projecting longitudinally from the base portion of said arm and being vertically spaced to correspond to the vertical spacing of adjacent post entrance slots, each tongue being dimensioned to fit with slight clearance in an engaged entrance slot and being provided with a vertical anchor slot in its lower edge to embrace the lower edge of the side wall portion of the engaged slot; and means to secure the post-engaged bracket in operative position against rearwardly swinging displacement including a horizontal brace arm projecting from the rear edge of the pallet-supporting bracket arm for abutment against the adjacent locking face of the rear reinforcing wall of the upright post.

2,971,659
APPARATUS FOR PALLETIZING

Frank H. Miller, Jr., Louisville, Ky., assignor to Miller Engineering Corporation, Louisville, Ky., a corporation of Kentucky

Filed Oct. 29, 1956, Ser. No. 619,036
6 Claims. (Cl. 214—6)



4. An apparatus for palletizing rectangular packages and comprising; a first conveyor system consisting of a plurality of parallel supply conveyors to advance said packages longitudinally and substantially abreast of each other along said conveyors, a plurality of turning stations equal in number to the number of pairs of supply conveyors to selectively turn pairs of packages 90°, a second conveyor system to move turned and straight packages in the same direction as that of the first conveyor system, a retractable member adapted to receive a layer of said turned and straight packages, means for retracting said member from beneath said layer to transfer said layer onto a pallet load, and elevator means for successively lowering said pallet load.

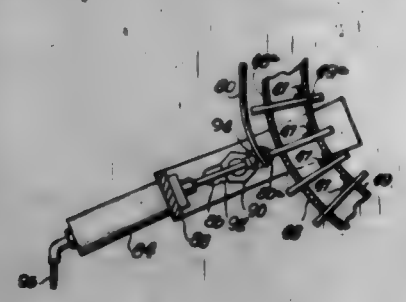
2,971,660
SELECTOR MECHANISM FOR A FLATWORK IRONER OR THE LIKE

Eugene C. Lash, South Bend, Ind., and Lawrence L. McClain, Decatur, Ill., assignors to F. W. Means & Company, a corporation of Illinois

Filed July 1, 1958, Ser. No. 745,969
2 Claims. (Cl. 214—11)

1. A device for use with a flatwork ironer or the like having a power driven conveyor means to carry the flat

work through the ironer or the like from a loading end to a discharge end, said device comprising: a frame; a drum mounted on said frame for rotation about an axis, said drum having two sides; means connecting said drum with said conveyor to rotate said drum in a given direction at a speed which is a function of the speed of travel of an iem of flat work through said ironer with said drum rotating less than one revolution in the time said item travels through said ironer; a plurality of pins mounted on said drum, each of said pins extending through said drum in a predetermined alignment, each of said pins being movable along its line of alignment between a first position at which one end of said pin extends an ineffective distance at one of said sides of said drum to a second position at which said pin extends a greater distance beyond said one side of said drum; a switch having an actuating member, said switch being mounted with said actuating member on said one side of said drum, said actuating member being positioned a greater distance from said drum than is said one end of said pins in the first position and a lesser distance than is said one end of said pins in said second position; a cam mounted on said frame and positioned on said one side of said drum and in said direction from said switch, said cam being closer to said drum at the one end thereof in said direction than it is at the other end thereof, said other end of said cam being spaced from said drum a distance greater than said one end of said pins is when said pins are in said second position, said one end of said cam being spaced from said drum a



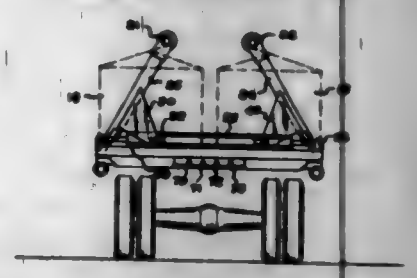
distance equal to the distance of said one end of said pins to said drum when said pins are in said first position; pin actuating means including a camlike member positioned on the other side of said drum, one end of said cam-like member being affixed to said frame with said cam-like member extending in said direction from said one end circumferentially about said drum to the other end of the cam-like member, said other end of said cam-like member being beyond said cam in said direction, said one end of said cam-like member being positioned a distance from said drum greater than the distance of the other ends of the pins from said drum when said pins are in said first position, the other end of the cam-like member being movable between a first position at which said other end is spaced from said drum a distance greater than the distance of the other ends of the pins from said drum when said pins are in the first position to a second position at which said other end of said cam-like member is spaced a distance from said drum equal to the distance from said drum of said other ends of said pins when said pins are in said second position, said actuating means resiliently urging said cam-like member to said first position, and means operatively associated with said other end of said cam-like member to move said other end to said second position, said last mentioned means including a remote control positioned adjacent the loading end of said ironer; and gate means adjacent said discharge end of said conveyor, said gate means being connected to said switch to redirect the movement of an item of flat work when said switch is actuated.

2,971,661

VEHICULAR-MOUNTED APPARATUS FOR LOADING AND UNLOADING PACKAGED LOADS AT A SIDE OF THE VEHICLE

William Bruce Isaacs, Jr., 1240 Standish Way, Lexington, Ky.

Filed Jan. 14, 1958, Ser. No. 708,836
3 Claims. (Cl. 214—30)



1. In combination, a vehicle for carrying packaged loads and having self-contained loading and unloading means including a prime mover, a flat vehicular bed having unobstructed sides and terminating at side edges disposed in the plane of said bed, a superstructure mounted on said bed and comprising a torsion member extending longitudinally of said bed and having first and second arms of equal and fixed length supporting said member at the respective ends thereof, said member being disposed above the load at all times, one end of each of said arms being pivotally mounted on pins extending from the respective front and rear edges of said bed and located closely adjacent one side edge of said bed and the other end of each of said arms being fixedly attached to said member whereby said member may be pivoted as a unit in an arc extending from a first vertical plane inboard of said bed to a second vertical plane outboard of said bed, a flexible load-lifting means of predetermined length attached at one end to, and in winding and unwinding relation upon said member and detachably connected at a second end to said load and being adapted to remain attached to said load at all times while said load is in motion, the length of said load-lifting means in contact with said member being increased as said superstructure is moved from said first plane to said second plane and with a corresponding diminution of the free length of said load-lifting means between the point of tangency thereof with said member and the point of connection thereof with said load, said member having a periphery in contact with said load-lifting means sufficiently large to insure a diminution of said free length adequate to enable said superstructure to swing said load over the said one side edge of said bed during movement from said first plane to said second plane, a fluid pressure system carried by said bed and including a pump driven by said prime mover and a double-acting pressure fluid cylinder, said cylinder being pivotally mounted on said bed adjacent the side opposite to the mounting of said superstructure thereon, said cylinder having piston means attached to said first arm for pivotally moving said superstructure in said arc, and control means for supplying pressure fluid from said pump to alternate ends of said cylinder for effecting movement of said member in a selected winding and unwinding direction, whereby said load may be loaded upon or unloaded from said bed by movement across the said one side edge thereof as said superstructure is moved by said piston means.

2,971,662

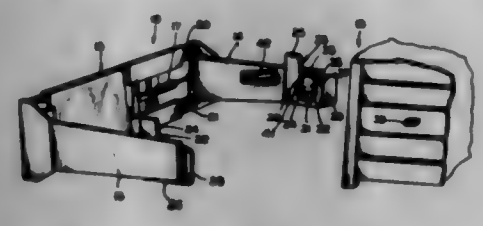
BOX ROTATOR ATTACHMENT

Elmer J. Dunham, Battle Creek, Mich., assignor to Clark Equipment Company, a corporation of Michigan

Filed Dec. 30, 1957, Ser. No. 706,025
1 Claim. (Cl. 214—313)

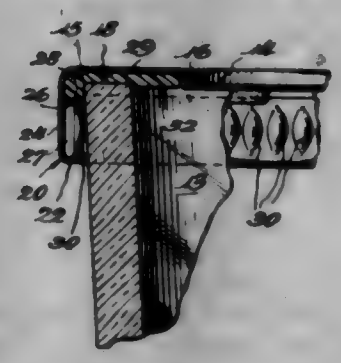
In material handling means comprising a box having trunnions on its sides, a lift truck including laterally movable arms disposed to opposite sides of the box and

having trunnion receiving members thereon, means for moving said arms toward and away from one another for engaging said members with said trunnions, and means for rotating said members for dumping the box, the improvement comprising that said means for moving said arms is normally de-energized when said trunnions are positioned in said members, said trunnions at the lower sides thereof are inclined downwardly and outwardly



relative to the box, and the trunnion receiving members at their upper sides have an inclination complementary to that of the lower sides of the trunnions thereby defining complementary wedge surfaces between each trunnion and its receiving member for causing said arms to move conjointly with said trunnions upon deflection of the sides of said box and for preventing the trunnions from dropping off the arms in a direction transversely of the arms.

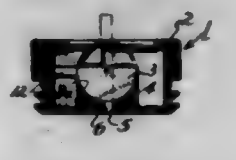
2,971,663
SEALING CAP FOR CONTAINERS
Clarence A. Tevander and Robert A. Clark, Maywood, Ill., assignors to Swan Metal Cap Co., Inc., Chicago, Ill.
Filed July 2, 1959, Ser. No. 824,605
4 Claims. (Cl. 215—40)



2. A sealing cap for a container having an annular open top comprising; a circular cover portion, said cover portion being formed with an annular upstanding recess, an annular skirt depending from the marginal edges of said cover portion, said skirt being inwardly returnbent to afford an outer flange and an inner flange in spaced substantially parallel relationship with each other, said inner flange being continuously knurled, said outer flange being smooth on the exterior thereof, an annular sealing gasket positioned in said recess and sealing the space between said outer and inner flanges to afford a sealed air pocket therebetween, said inner flange being circumferentially resilient so that cap may be press-fitted over the top of said container to provide a releasable seal therefor, said sealing gasket adapted to render said releasable seal hermetic, said sealed air pocket adapted to maintain the spaced parallel relationship between said outer and inner flanges.

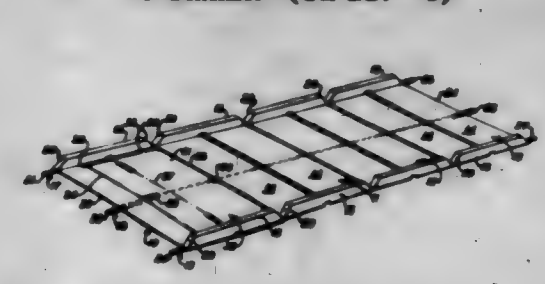
2,971,664
DRAW-THROUGH STOPPER FOR VACUUM BOTTLES OR THE LIKE
Robert H. Jacob, Milwaukee, Wis., assignor to Aladdin Industries, Incorporated, Nashville, Tenn., a corporation of Illinois
Filed Feb. 17, 1959, Ser. No. 794,200
2 Claims. (Cl. 215—76)

1. A draw-through closure, comprising a generally cup-shaped stopper adapted to be received in the mouth of a vacuum bottle or the like, said stopper having a generally cylindrical side wall and a bottom wall extending across the lower end thereof, said side wall and said bottom wall defining an upwardly opening cavity in said stopper, means on the upper side of said bottom wall forming an upwardly facing arcuately curved valve seat, said bottom wall having a first substantially vertical passage extending therethrough from said valve seat, a draw-through member having an arcuately curved valve face slidably engaging said valve seat, a tubular spout mounted on and extending from said draw-through member, said member and said spout having a bore extending from said curved valve face and through said member and said spout, means rotatably mounting said draw-through member in said cavity of said stopper for swinging movement with said curved valve face engaging said curved valve seat, said draw-through member being swingable between an open



position in which said spout is generally vertical and said bore is aligned with said first passage and a closed position in which said spout is generally horizontal and said draw-through member closes said first passage, and passage means in said draw-through member and said bottom wall of said stopper and movable into mutual registration when said draw-through member is in said open position for admitting air through said stopper, said draw-through member being of less height and width than said cavity and being entirely received within the confines of said cavity, said spout being of greater height than said cavity to project above said side wall when said spout is in said generally vertical position, said spout being of less radial extent than the radial extent of said cavity and being entirely received within the confines of said cavity when said spout is in said generally horizontal position.

2,971,665
LINED WIREBOUND BOX BLANK
John H. Roberts, Homestead, Fla., assignor to Vernon E. Ramsey, Suffolk, Va.
Filed Dec. 31, 1958, Ser. No. 784,365
4 Claims. (Cl. 217—3)



1. A lined wirebound box blank including panels forming front, bottom, rear and top walls when erected to form a box, a cleat secured to the inner surface of each panel at opposite end edges, said panels being secured together in spaced, side by side relationship with said cleats in alignment by wires spaced longitudinally of and extending transversely of said panels, said wires being secured to each panel and terminating in loop fasteners at the free side edges of the panels forming said front and top walls, a sheet of lining material on the inner surface of each panel forming bottom, rear and top walls, said sheets being disposed between said cleats and said panels to secure said sheets in place, a folded sheet of lining material providing inner and outer layers dis-

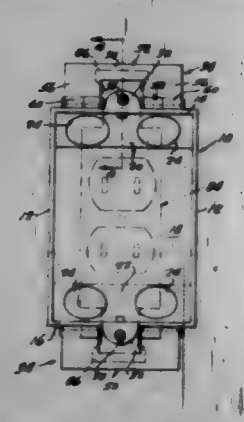
posed on the inner surface of the panel forming said front wall with the folded edge of said folded sheet spaced inwardly from the free edge of said front wall and with the free edges of said folded sheet disposed adjacent the opposite edge of said front wall, the outer layer of said folded sheet being disposed between the inner surface of said front wall and the cleats thereon to secure said sheet thereto, the inner layer of said folded sheet being of less length than said outer layer with the end edges of said inner layer being disposed inwardly of the inner sides of said cleats, tabs extending from the end edges of said inner layer and disposed beneath the adjacent cleats, said tabs being secured between said cleats and said outer layer and providing the sole means for maintaining said folded sheet in folded position, said tabs being disposed adjacent the free edge of said inner layer, a fold line extending longitudinally of said inner layer, said fold line being spaced from said folded edge a distance equal to the distance between said folded edge and the free edge of said front panel, a finger engaging notch in the free edge of said inner layer, a slot in said inner layer at said folded edge for receiving one of said loop fasteners and a flap for closing said slot, whereby said tabs may be torn to permit movement of said inner layer outwardly to cover the remainder of said front wall and said inner layer folded along said fold line to provide a flap for covering the contents of the box at the juncture between said front wall and said top wall.

2,971,666

HINGED MOUNTING BRACKETS

Noble L. Randall, Rte. 1, Wheeling, Mo.

Filed Aug. 28, 1959, Ser. No. 836,749
2 Claims. (Cl. 220—3.6)



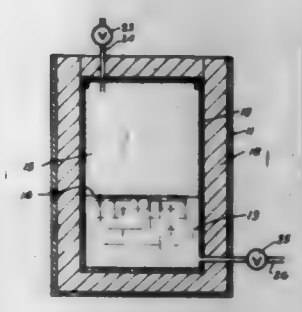
1. An outlet box having an end wall and an open front, said end wall having a lateral lug thereon at said open end, a bracket comprising a base plate having outer and inner ends, a dog hinged on the outer end of the base plate to swing between a forward depressed position and an erect operative position, spring means biasing the dog toward a fixed erect position, means for stopping the dog in its erect position, and means mounting the base plate to the exterior of the box end wall in inwardly spaced relation from said lug, said mounting means comprising a slot extending in said base plate between its outer and inner ends, and a stud extending through the slot and threaded into the box and wall, said base plate being T-shaped and having a standard portion in which said slot extends lengthwise, and a cross head composed of two laterally elongated arms, separated by said slot, said arms having free ends and outer edges, first hinge barrels on said outer edges, said dog having second hinge barrels related to said first hinge barrels, hinge pins extending through related first and second hinge barrels, said dog being a flat U-shaped plate having a bight portion and spaced depending legs, said legs having lower edges carrying said second hinge barrels, said stop means being lugs on the second hinge barrels to engage the base plate in the erect position of the dog.

2,971,667

EXPANSIBLE-WALL CONTAINER FOR LOW-TEMPERATURE FLUIDS

Walter L. Benson, Needham, and Norman C. Dahl, Lexington, Mass., assignors, by mesne assignments, to Conch International Methane Limited, Nassau, Bahamas, a corporation of the Bahamas

Filed Apr. 3, 1958, Ser. No. 726,111
5 Claims. (Cl. 220—10)



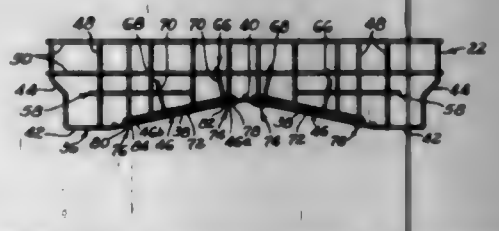
1. A tank in the shape of a polyhedron completely enclosed by walls and provided with inlet and outlet means, at least one of said walls being constructed of a plurality of rectangularly pan-shaped modular members curved outwardly and arranged in side-by-side and in end-to-end relation to provide a continuous wall therebetween having a plurality of outwardly extending curvilinear pockets with rims of angular shape extending substantially perpendicularly inwardly from the edges with the rims extending in side-by-side relation having substantial distance between adjacent pans and joined one to the other along their inner edges only whereby the rims of each pan-shaped member outwardly from the edges is capable of movement toward and away from the adjacent rims of the adjacent pan members without disturbing the sealing connection between their edges.

2,971,668

DISH RACK

Walter Peglow, Whittier, Calif., assignor to Waste King Corporation, Los Angeles, Calif., a corporation of California

Filed Dec. 28, 1956, Ser. No. 631,370
4 Claims. (Cl. 220—19)

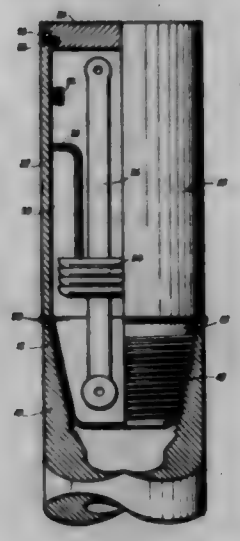


1. In a dish rack, the combination of: an open-framework basket including generally horizontally spaced, parallel, wire-like supporting members; and an open-framework insert including a wire-like locking member positioned crosswise of said supporting members and having a central portion seated on and supported by at least some of said supporting members, said locking member having at the ends of said central portion integral, downwardly extending stop portions which are engageable with two of said supporting members, respectively, said locking member having at the lower ends of said stop portions integral end portions which are downwardly offset from and substantially parallel to said central portion, which are substantially axially aligned with each other and face in opposite directions, and which are inserted under said two supporting members, respectively, the distance between said stop portions differing from the distance between said two supporting members.

2,971,669
THREAD BOX TOOL PROTECTOR

Franklin L. Le Bus, Sr., Longview, Tex., assignor to Le Bus Royalty Company, Longview, Tex., a partnership

Filed July 7, 1958, Ser. No. 746,766
1 Claim. (Cl. 220—23)

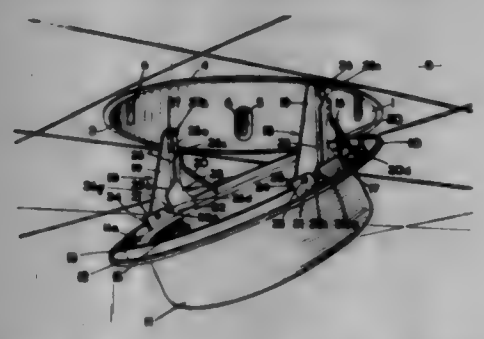


In combination with an internally threaded tubular member utilized in oil well drilling, a tool box thread protector comprising a hollow externally threaded portion complementary to the internal threads, an outwardly extending circumferential shoulder provided on the externally threaded portion, a cylindrical housing rigidly secured to the shoulder and extending longitudinally from the externally threaded portion providing a chamber within the housing and externally threaded portion for receiving tools therein, and a removable cover provided for the housing.

2,971,670
LIGHTING FIXTURE

Donald C. McCormack, Toronto, Ontario, Canada, assignor to J. A. Wilson Lighting & Display Limited, Toronto, Ontario, Canada, a corporation

Filed Mar. 11, 1957, Ser. No. 645,185
3 Claims. (Cl. 220—38)

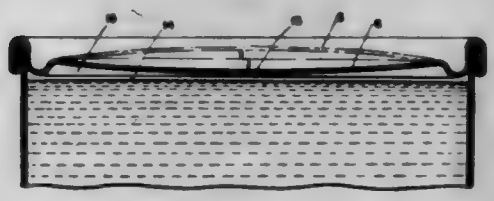


1. A lighting fixture comprising an upper housing having an open lower end, a pin protruding inwardly from one side of the housing and a similar pin protruding inwardly from the opposite side, a bottom for the housing including a light-transmitting part, and a pair of devices at opposite sides of said bottom for supporting said bottom on the pins in a normal upper position and in a lowered position, each of the devices comprising an arm, a pivot for the arm on said bottom, the arm having a slot extending generally upwardly and having a closed lower end portion adjacent the pivot and a closed upper end, the slot being adapted to receive one of the pins of the housing, the location of the pin in the slot varying from the lower end portion of the slot to the upper end as said bottom is moved from its normal upper position to its lowered position, a projection on said bottom adapted to obstruct the lower end portion of the slot, the arm being pivotable between a normal position where the lower end portion of the slot is obstructed by the projection and another position where the slot is substantially unobstructed by the projection, a coil spring connected between a point on said bottom and a point on said arm that is farther from the pivot than the lower end portion of the slot, the spring normally holding the arm in its said normal position when the pin is in the lower end portion of the slot, the projection having a camming edge engaged by the pin when said bottom is being moved between its said positions to pivot the arm to said other position against the force of the spring.

2,971,671
CONTAINER

James G. Shakman, Wilmette, Ill., assignor to Pabst Brewing Company, Milwaukee, Wis., a corporation of Delaware

Filed Oct. 31, 1956, Ser. No. 619,519
2 Claims. (Cl. 220—66)

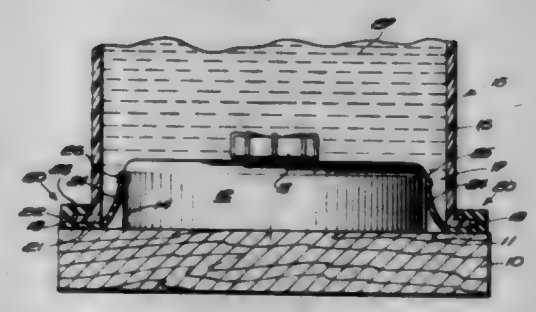


2. A can for carbonated beverages comprising a tubular body portion, and end closures mounted on said body portion, said end closures being recessed, and each of said end closures comprising a continuous outer rim, a normally continuously inwardly concave central portion extending substantially across said end closure, and a continuous inwardly concave other portion extending around said central portion and directly connected at one edge to said central portion and at another edge to said outer edge, said one rim being normally disposed outwardly, longitudinally of said body portion, of the other portions of said closure disposed within said outer rim, said central portion being flexible into a continuously convex shape within the confines of said recess of said closure and outwardly, longitudinally of said body portion, of said one edge under the influence of internal pressure within the can.

2,971,672
GASKET BOWL SEAL

Frederick J. Price, Jr., Saugus, Mass., assignor to Samuel Dane, Brookline, Mass.

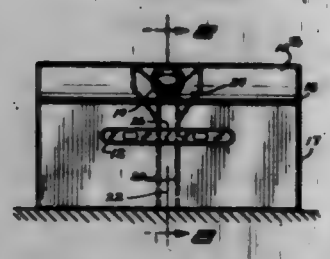
Filed June 15, 1959, Ser. No. 820,457
4 Claims. (Cl. 220—81)



1. A liquid seal comprising a support having a generally horizontal top surface, a housing rising from said surface and presenting a generally vertical surface, a liquid containing bowl having a generally vertical wall enclosing the vertical surface of said housing and generally uniformly spaced therefrom, a flange extending outwardly from the vertical wall of said bowl, a soft gasket having a rim portion extending beneath the lower edge of the vertical wall contacting said horizontal top surface and hooking over the outer and upper edge of the

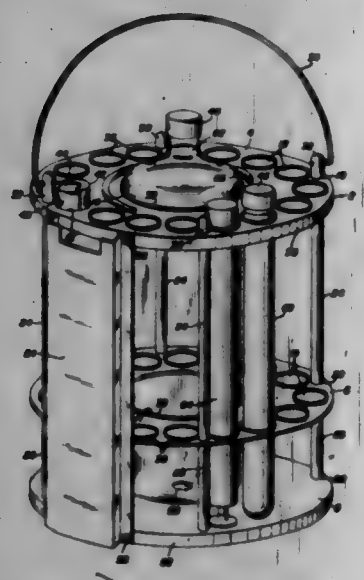
flange and a tongue portion extending upwardly along the vertical surface of said housing with its inner surface snuggly elastically gripping the housing, the opposite surfaces of the tongue portion being in contact with the liquid between the housing and said wall.

2,971,673
PROPORTIONAL MIXING TANK
Richard Beck, Jr., Minneapolis, Minn., assignor to McCulloch Corporation, Marine Products Division, Minneapolis, Minn., a corporation of Minnesota
Filed May 18, 1959, Ser. No. 813,919
8 Claims. (Cl. 220—86)



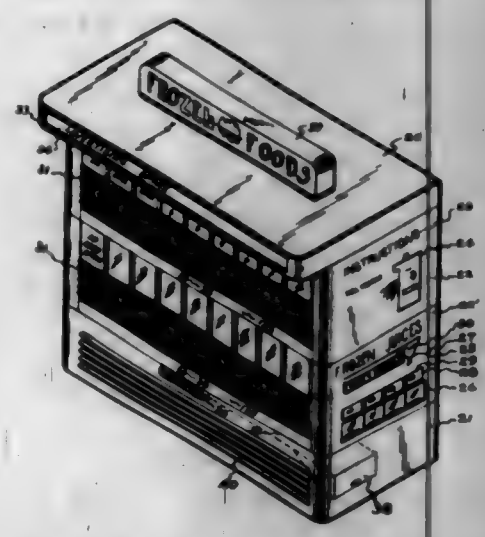
1. A proportional mixing tank comprising a fluid holding housing having longitudinally extending adjacent housing sides with a spout therebetween and a spout diagonally opposing corner portion, the tank being pivotable about the corner portion between fluid mixing and non-mixing positions, a transversely extending divider inside the housing forming chambers on each side thereof and having one edge spaced from one of the said two housing sides for providing a fluid passageway between said chambers, the spout being effectively disposed to one longitudinal side of the divider such that it is communicatively connected with the one chamber and having its opening extending closer to the housing side opposite the one side than said one edge, and the passageway formed between said edge and one side extending transversely across the tank whereby at least a portion thereof is lower than said spout when the tank is resting on the side opposing the other adjacent side whereby the tank is in a mixing position.

2,971,674
BOTTLE RECEPTACLE APPARATUS
John R. Wicoff, Gary, Ind., assignor of one-half to S. Anton Wladis, Chicago, Ill.
Filed Jan. 5, 1959, Ser. No. 785,071
3 Claims. (Cl. 220—103)



1. An apparatus for carrying sample removing equipment comprising a top plate, an intermediate plate and a base plate, a pair of screw connected standards comprising lower and upper posts having inwardly facing surfaces in restraining contact with the outward facing surfaces of said top plate and base plate at diametrically opposed points, sleeved spacers on each of the lower posts for supporting said top, intermediate and base plates in axially spaced relationship, said top and intermediate plates having a plurality of apertures spaced around the peripheral portions thereof and central openings therethrough, each aperture and central opening in the intermediate plate is aligned with a corresponding aperture and central opening in the top plate so that said aligned apertures and central openings may receive tubular articles for retention, a tubular container secured in an aligned pair of said apertures, said tubular container having an article dispensing opening above said top plate and a dispensing positioner reacting from the base plate, and a bail handle connected to the upper posts of said pair of standards for lifting said apparatus.

2,971,675
DISPENSING DISPLAY CABINET
Theodore H. Allegri, College Park, Md.
Filed Mar. 11, 1955, Ser. No. 493,680
6 Claims. (Cl. 221—124)

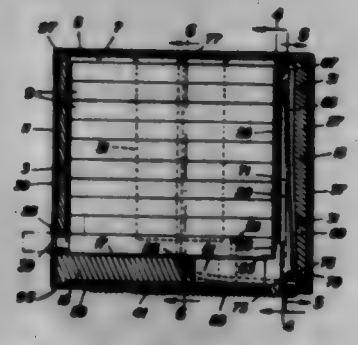


1. In a dispensing display cabinet, a base, a plurality of interchangeable and removable casing units open at the top and bottom thereof and stacked on said base, a removable top covering the open end of the uppermost unit of said casing units, each of said units having at least one package holding rack slidable outwardly from a housed position in said casing unit to a fully extended position, each of said racks having a front wall and a plurality of vertical guide chutes forming a plurality of adjacent stacks of packages behind said wall, said chutes being in alignment from front to rear of said slidable rack, said chutes further being open at the top to admit packages for refilling when said rack is in extended position, each of said chutes from rear to front of said rack being shorter in length than the adjacent chute, and separate slidable package ejection means extending from the front wall of said rack to the bottom of each of said vertical guide chutes, said means being in superposed alignment from the bottom of said rack upwardly, and each means ejecting at the front wall of said rack.

2,971,676
CIGARETTE CASE
Peter Houcharenko, 4071 Glendale, Detroit 38, Mich.
Filed July 3, 1958, Ser. No. 746,585
3 Claims. (Cl. 221—232)

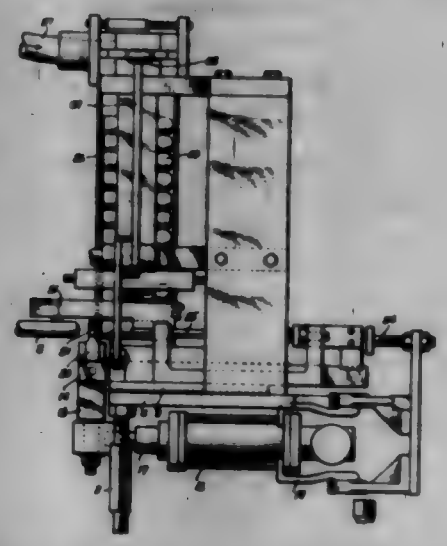
1. A pocket cigarette case comprising an open top rectangular receptacle having front and rear end and side walls respectively, and a bottom wall forming a bottom trough for containing the bottom one of a stack of

cigarettes placed in the receptacle, an open bottom rectangular cover slidably fitting downwardly over said receptacle and having a front wall, said front walls having registering cigarette discharge openings therein in line with said trough, said bottom wall having a longitudinal slot therein and said rear end wall having a longitudinal slot therein opening into said longitudinal slot in said bottom wall, an ejector slide beneath said bottom wall mounted thereon for advance and retraction, a pusher finger on said slide extending into said longitudinal slot therein for advance by said slide against one end of a cigarette in said trough to eject said cigarette outwardly of said openings, spring means in the longitudinal slot in



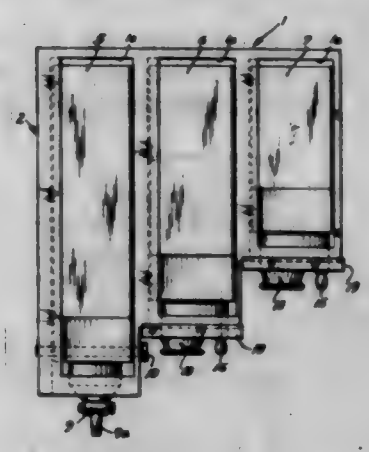
the rear end wall extending into the longitudinal slot in the bottom wall and connected to said slide to retract the same, and resilient follower means for a stack of cigarettes extending from said rear end wall alongside said bottom wall and over a stack of cigarettes in the container for urging said stack toward said trough, said spring means comprising a helical spring terminally attached in the longitudinal slot in said rear end wall, and a pull cord terminally attached to said spring and extending into the longitudinal slot in the bottom wall and attached to said slide, said rear end wall including an external removable section exposing when removed the slots in said bottom and rear end walls for access to said spring and pull cord to renew the same.

2,971,677
FEEDING DEVICE
Edgar F. Ardell, 409 Pine St., Middletown, Conn.
Filed Aug. 26, 1957, Ser. No. 680,335
6 Claims. (Cl. 221—236)



1. A device for successively feeding tubular shells from a feeding station onto a work carrier constituted by a continuous train of spindles adapted to receive and convey said shells and extending radially from a wheel rotating relative to said station at a predetermined speed, said device at said feeding station comprising a base plate, a carriage resting on said base plate and connected thereto by cam rolls such that said carriage is moveable on said base plate in a direction corresponding to that of said spindles, said carriage supporting a slider mechanism moveable thereon and adapted to advance axially toward said carrier, power means to advance said slider mechanism, roller means interconnecting said slider mechanism and said carriage and adapted to shift the position of said carriage on said base plate at a speed corresponding to that of the spindles as the slider mechanism is advanced axially toward said carrier, a shell receptacle secured to said carriage and moveable therewith and adapted to receive shells such that they are in axial alignment with said carrier, and rod means adapted to eject a shell from said receptacle as said slider mechanism advances axially toward said carrier whereby said shell is received coaxially by a spindle thereon.

2,971,678
MULTIPLE-CONTAINER
Armando Carnevale, Buenos Aires, Argentina
Filed Nov. 23, 1956, Ser. No. 623,985
3 Claims. (Cl. 222—131)

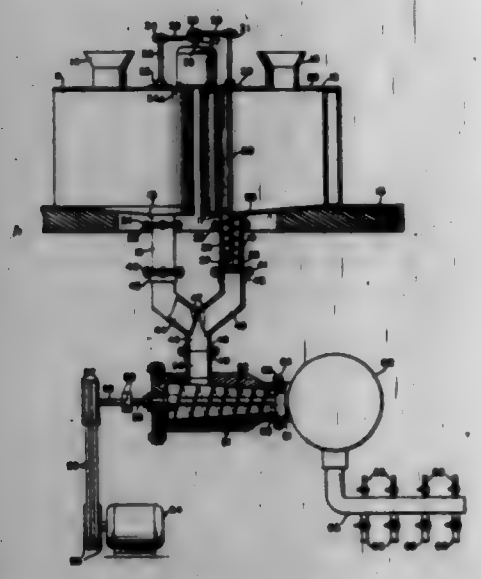


1. A multiple dispensing container arrangement comprising, in combination, a stepped support structure, at least three aligned inverted vertical containers mounted in said support structure and each adapted to receive a liquid or a granular material, each container having a lower end with the lower end of the second container located at a level below the lower end of the first container and the lower end of the third container located at a level below the lower end of said second container; a downwardly directed spout connected to the lower end of each container; and valve means operatively associated with each spout for controlling the discharge of material from the respective container, the spout of said second container located at a level below the spout of said first container and the spout of said third container located at a level below the spout of said second container, whereby each of said spouts is freely accessible.

2,971,679
APPARATUS FOR PROCESSING MATERIALS
Charles Pavia, Timberville, Va.
Filed Nov. 28, 1958, Ser. No. 777,034
4 Claims. (Cl. 222—142)

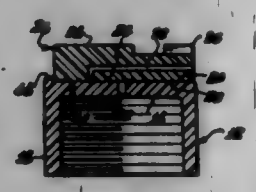
1. A transfer device for a pair of tanks, said tanks having each an outlet for material therein, said device comprising a conduit having an outlet branch and a pair of inlet branches converging to the outlet branch, said inlet branches being connected, respectively, to said tank outlets to receive material discharged from the tanks, a free swinging valve gate in said conduit between said inlet branches, said gate being disposed so as to swing between a position to close one inlet branch and another position to close the other inlet branch, a material conveyor in each of said inlet branches, and means for reversibly actuating said conveyors simultaneously, there-

by urging materials within said inlet branches to be conveyed therethrough simultaneously but in opposite directions, respectively, and to cause, by the said move-



ment of the materials therein, the gate to be biased to a position to close one of the inlet branches against material entering therein from the other inlet branch.

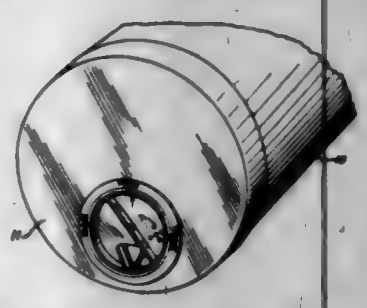
2,971,680
DISPENSING CAPS
Woodrow S. Wilson, 1970 N. Altadena Blvd., Pasadena, Calif., and Dell M. Malick, 725 N. Pickering Ave., Whittier, Calif.
Filed May 27, 1957, Ser. No. 661,679
6 Claims. (Cl. 222—512)



1. A cap structure which includes a cap member formed of a material having resilient properties, said cap member being formed so as to have an external groove partially covered by resilient overhanging shoulders formed thereon, said groove having a bottom, said cap member having a hole formed therein leading from said bottom of said groove into the interior of said cap member, said cap member including a deformable sealing ridge having a V-shaped cross-sectional configuration located in said bottom around said hole; and a spout having a flat bottom resiliently held in said groove against said sealing ridge by engagement with said shoulders, said spout being a passage formed therein terminating adjacent to the bottom of said groove, said spout having a flat bottom adjacent to said bottom of said groove, said spout being capable of being moved so as to place said passage in communication with said hole, said spout deforming said ridge so as to form a seal around said hole at all times; and means for limiting movement of said spout with respect to said cap for use in aligning said hole and said passage.

2,971,681
DISPENSING TYPE CLOSURE
Jerome J. Galbierz, Glendale, Mo., assignor to R.C. Can Company, Overland, Mo., a corporation of Missouri
Filed Jan. 31, 1957, Ser. No. 637,459
3 Claims. (Cl. 222—548)

2. A flexible disk-like dispensing closure adapted to be bent transversely for insertion in a notched aperture in a paper top of a paper can after the can is filled nearly to the top with a particulate material so as to reduce the air space within the can, said closure comprising a short cylindrical, disk-like, under closure of pliable material, means forming a shallow recess opening in the upper side of said under closure, means forming a centrally located aperture in said under closure, a turn top of pliable material, registering dispensing openings formed in cooperating seating surfaces on said disk-like under closure and on said turn top, an integrally formed compressible hollow boss with an externally flanged end projecting from said turn top for rotatably securing said turn top in said recess of said under closure with said projection in said aperture so as to hold said seating surfaces together said pliable material in said seating surfaces and said boss providing the necessary local deformation to accommodate any particulate material trapped between the parts which would normally prevent relative turning therebetween, a flange surrounding the upper open outer wall



of said cylindrical under closure, a projection in the outer cylindrical wall of said under closure, an abrupt shoulder with a beveled lower edge on said outer surface of said cylindrical under closure spaced from said flange and forming a groove around the body and around the projection suitably dimensioned to receive the thickness of the paper in the paper can top, said projection and notch forming the starting point for full engagement of said groove with the edge of said aperture, and said disk-like closure being bendable transversely for full engagement of the portion of said groove on said projection and subsequently flatten so that said lower beveled edge engages in the aperture sealing the same against the escape of air from the container, whereby the paper in the can top is supported during full engagement of the groove with the aperture in the can top by the internal air pressure trapped under the top and created by full insertion of said closure.

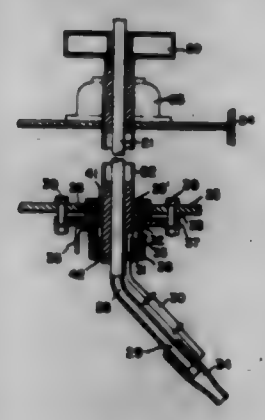
2,971,682
METHOD OF MAKING TWO-TONE HATS
Stanley G. Hoffman, Norwalk, and Fred C. Van Eat, Danbury, Conn., assignors to Hat Corporation of America, Norwalk, Conn., a corporation of Delaware
Filed Feb. 17, 1958, Ser. No. 715,694
6 Claims. (Cl. 223—7)



6. The method of forming a two-tone, smooth-finish hat comprising the steps of felting down a light colored conical body of fur fibers to the final cone dimension, folding, shifting and refolding the relative position of portions of said cone frequently during said felting operation to prevent edge creases having uneven felted areas from being formed therein, cone blocking and drying said body, lightly shearing said body to remove loose surface fur and provide a smooth inner and outer sur-

face and a body of substantially uniform thickness, ironing the outer surface to provide a flat surface, dyeing the brim portion with a darker color and storing the body for a short period to permit the dye to level out, steaming the body to set the dye, applying a stiffening material to the body, and thereafter blocking and finish trimming said body into a hat.

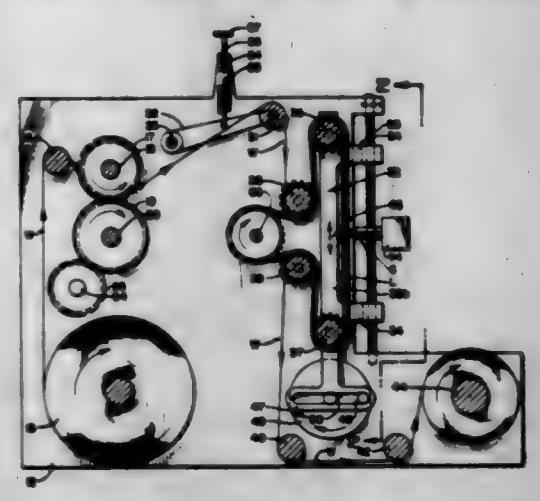
2,971,683
STRAND DELIVERY
William F. Paulsen, Kinston, N.C., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Mar. 1, 1955, Ser. No. 491,345
4 Claims. (Cl. 226—97)



1. An apparatus for delivering a rapidly traveling continuous strand in a helical configuration into a receptacle which comprises a hollow vertical shaft, supporting means including a bearing for rotatably supporting the upper end of the shaft, supporting means including a bearing for rotatably supporting the lower end of the shaft, drive means for rotating the shaft about its vertical axis, stationary housing means surrounding a portion of the shaft and forming therewith an annular air space, a pair of packing rings located respectively in upper and lower portions of the stationary housing means and compressed about the shaft to prevent leakage of air from said annular air space during rotation of the shaft, vertical strand-conducting means for guiding a traveling strand downwardly through the shaft, angled strand-conducting means affixed to the lower end of the shaft for guiding a traveling strand from the end of the shaft downwardly and outwardly at a diversion angle of 30° to 75° with said vertical axis of the shaft, convergent nozzle means mounted on the lower end of the angled strand-conducting means to form a jet of strand-forwarding air discharging from the nozzle directly into said receptacle, inlet means into said annular air space through the stationary housing for introducing air under pressure, and nozzle supply means including an air tube connecting said nozzle means with said annular space through a channel in the shaft, the combination of air supply means and nozzle means being adapted to pull a strand through the strand-conducting means at speeds of over 1000 yards per minute and discharge the strand in a helical configuration into said receptacle during rotation of the shaft.

2,971,684
SCANNING DEVICE FOR MOVING WEBS
William F. Huck, Forest Hills, N.Y., assignor to Huck Company, a co-partnership of New York
Filed Feb. 28, 1958, Ser. No. 718,324
5 Claims. (Cl. 226—124)

1. In a machine including means for continuously feeding a web from a supply thereof to a recipient of the web and a rotary printing couple acting continuously on the web at a constant rotational speed as the web is so fed; a device for permitting direct scanning of the web beyond said printing couple during the continuous feeding of the web, comprising two spaced apart rotatable rollers around and between which the web extends to form a flight of constant length passing a fixed scanning station, means for reciprocating said rollers together in a path along the direction in which said flight extends to alternately increase and decrease the speed of movement of the web flight in relation to said fixed station so that, in each period of such decreased speed, the web in said flight can be directly viewed from said fixed station, means positively driving said rollers in synchronism with



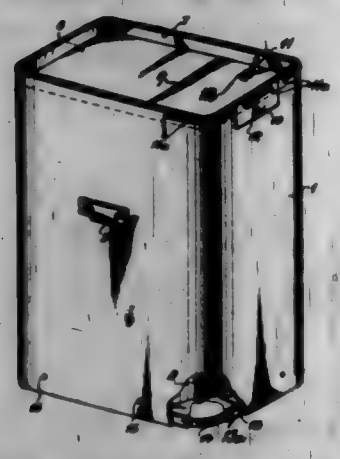
the continuous feeding of the web and responding to the reciprocation of the rollers for varying the rotational speeds of the latter in accordance with such reciprocation, thereby to avoid the imparting of inertial forces from said rollers to the web during the alternate increase and decrease of the speed of movement of the web in said flight, and variable transmission means connected to said means positively driving the rollers and responding to fluctuations of the tension in the web approaching said rollers to vary the speed of said driving means so as to maintain substantially constant tension in the web.

2,971,685
MOLDED CARTON FOR FRAGILE ARTICLES
Grover George Treida, Kokomo, Ind., assignor to Kingston Products Corporation, Kokomo, Ind., a corporation of Indiana
Filed May 3, 1957, Ser. No. 656,856
4 Claims. (Cl. 229—2.5)



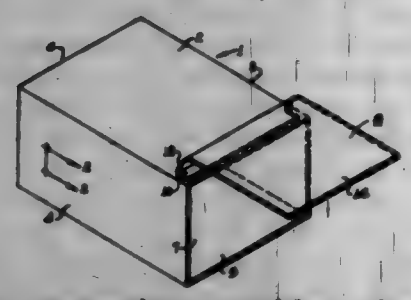
3. In a carton for supporting at least one fragile article, the carton having a pair of generally rigid base and cover members jointly having top, bottom, and load-carrying side walls, and jointly defining at least one packing cavity, said side walls being convergingly tapered toward at least said bottom wall and adapted to support the article in spaced relation from the bottom wall, the improvement comprising: a first rigid hard hollow formation in one of the top and bottom walls extending inwardly into the cavity in spaced relation from the article; and a second rigid hard formation in the other of the top and bottom walls extending outwardly of the closed carton for being nestingly received in a hollow formation of another similar carton, which is similar to said first hollow formation, with which other carton said carton is to be stacked, thereby to prevent relative lateral displacement between the cartons when stacked, and also to prevent engagement of the article by either of said formations.

2,971,686
CONTAINER FOR STORING AND TRANSPORTING POURABLE MATERIALS
Friedrich Mühlhoff, Köln-Bickendorf, Germany, assignor to Mauser Kommandit-Gesellschaft, Köln-Ehrenfeld, Germany
Filed Nov. 22, 1957, Ser. No. 698,308
Claims priority, application Germany Jan. 11, 1957
2 Claims. (Cl. 229—7)



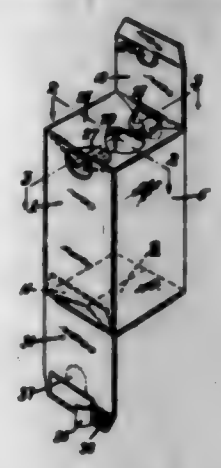
1. A double-walled container assembly comprising an outer container having outer jacket walls and a base, an inner container provided with a filling opening and pouring spout, said inner container being disposed within said outer container and spaced from said outer jacket walls, said inner container having a top and being defined by inner jacket walls connected to said top, a top cover for said outer container insertable substantially on the top of said inner container and in contact with said jacket walls of said outer container, said top cover being provided with a rim, at least a portion of said rim being jointed to said outer jacket walls, a portion of said top cover being movable and forming a lid, said lid being pivoted to the rest of said top cover and being adapted to overlie said filling opening, sealing means attachable to said portion for prevention of tampering with said filling opening, a hinged spout-closing flap overlying said pouring spout, said hinged spout-closing flap being pivoted to one of said outer jacket walls of said outer container contiguous to said spout and operably arranged on said one of said jacket walls to be fastenable by said aforementioned sealing means to prevent tampering with said spout, said sealing means including matching holes in said lid, said flap and in said outer jacket walls in registering alignment with each other, and a fracturable sealing element threaded through said holes.

2,971,687
TEA COZY
Fred A. Wales, 31200 Stafford Drive, Birmingham, Mich.
Original application Apr. 5, 1954, Ser. No. 421,146. Divided and this application Oct. 29, 1958, Ser. No. 770,417
1 Claim. (Cl. 229—14)



A tea cozy construction comprising a housing having a bottom wall, a pair of opposed upstanding side walls, and a top wall cooperating together to define a side access opening for insertion of a teapot into the housing interior, the length of the bottom wall normal to the acess opening being at least as great as the spacing between the top wall and bottom wall, whereby the housing is adapted to receive conventional teapots, the walls of said housing being formed of a paper backing layer faced with bright heat-reflective metal on at least one of its surfaces, whereby a teapot located within the housing and having a mixture of initially boiling water and tea leaves is maintained at a temperature above 200° F. for a period of approximately three minutes after the pot is positioned within the housing, said construction further including a flap hingedly carried on the housing top wall and extending downwardly therefrom so as to substantially cover the access opening, said flap being provided with an integrally formed mounting strip carried on the upper surface of the housing top wall, an angularly turned portion extending from said mounting strip in overlapping superjacent relationship thereto, and a main flap portion extending downwardly from said angularly turned portion.

2,971,688
DISPOSABLE REFUSE CONTAINER
Victor I. Akers, 852 Arlington Ave., Berkeley, Calif.
Filed Mar. 11, 1957, Ser. No. 645,033
13 Claims. (Cl. 229—38)

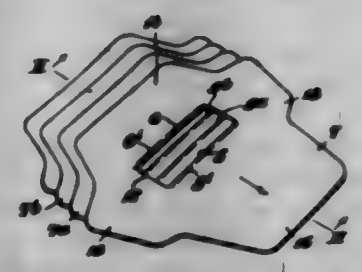


1. A disposable container for refuse or the like comprising a front wall, a rear wall, a pair of side walls connecting said front and rear walls and a bottom closing the lower end of said container, means connecting with one of said walls for hanging said container, means for precluding accidental discharge of material from said container, while permitting essentially full open end access thereto for deposit of refuse without lifting flaps or the like, comprising a flap hingedly secured adjacent the upper edge of a wall of said container and extending in the direction of the opposing wall, means connecting with another of said walls and overlapping a proximate edge portion only of said flap below the open end of said container and resisting lifting of said flap for restraining said flap from rising above the plane of the open end of said container while permitting the same to be depressed at will into said container, and means extending from the lower end of said container for anchoring said container in its suspended position, to a proximate surface out of contact therewith, but at an angle to the walls of said container.

2,971,689
OPEN WINDOW ENVELOPES
James Gibbon, West Bromwich, England, assignor to Kenrick & Jefferson Limited, West Bromwich, England, a British company
Original application Mar. 5, 1958, Ser. No. 719,266. Divided and this application Nov. 24, 1958, Ser. No. 775,822
Claims priority, application Great Britain Mar. 13, 1957
5 Claims. (Cl. 229—71)

1. An envelope blank comprising a sheet of material having foldable side and end flaps and formed with an

open window having parallel transverse edges, said end flaps terminating respectively in leading and trailing edges as determined by the normal direction of feed of said blanks from a stack, and a narrow lip extending

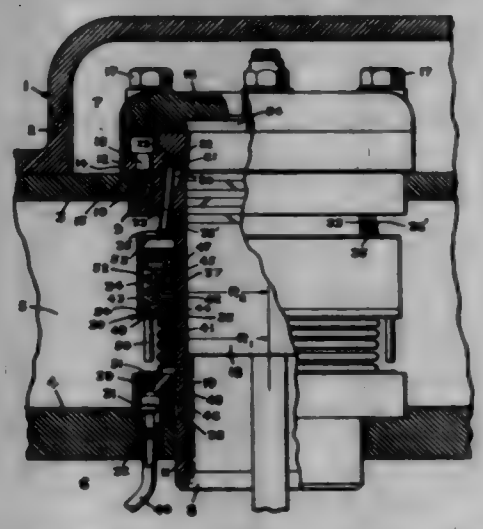


along one of said transverse edges and projecting angularly with respect to the plane of the sheet, said lip being formed of material bent out of said sheet at said one edge.

2,971,690
UNLOADING MEANS FOR A RECIPROCATING COMPRESSOR

Andrew J. Nicholas, Suffield, Conn., assignor to Worthington Corporation, Harrison, N.J., a corporation of Delaware

Filed Oct. 24, 1958, Ser. No. 769,364
9 Claims. (Cl. 230—30)



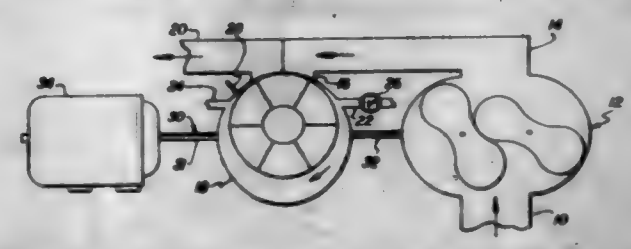
1. Unloader means for varying the capacity of a reciprocating compressor including a casing, a cylinder in said casing, a piston slidably disposed in said cylinder, a suction inlet and a discharge outlet for said cylinder and having valve means operatively associated therewith to control fluid flow into and out of said cylinder, said unloader means comprising an annular resilient fluid-containing chamber mounted about said cylinder and concentric therewith, fluid supply means operatively connected to said resilient fluid-containing chamber and for supplying a source of fluid thereto, movable means about said cylinder and operatively connected to said resilient fluid-containing chamber, and valve actuating means disposed on said movable means and in abutment with said suction valve means whereby upon supply of fluid to said resilient fluid-containing chamber said movable means moves said valve actuating means out of abutment with said suction valve means.

2,971,691
PUMPING SYSTEM

Albert Lorenz, Hanau am Main, Germany, assignor to W. C. Heraeus, G.m.b.H., Hanau am Main, Germany, a corporation of Germany

Filed Aug. 13, 1956, Ser. No. 603,722
Claims priority, application Germany Aug. 16, 1955
4 Claims. (Cl. 230—45)

1. In a vacuum pumping system: the combination which comprises a Roots type vacuum pump having an inlet for coupling the pump to an area being evacuated and an outlet for discharging pumped gases, a water ring type pump having an inlet connected to the Roots pump outlet for pumping the gases discharged from the Roots

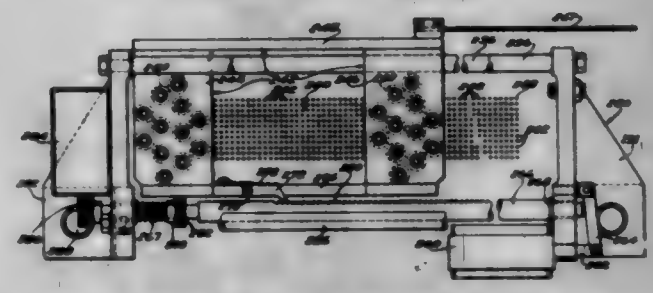


pump, and a constant speed motor including a shaft, the Roots type pump and the water ring type pump being directly coupled to the shaft whereby the pumps will be driven over their entire operating ranges at a constant speed.

2,971,692
SYSTEM FOR PRODUCING JACQUARD CARDS AND THE LIKE

James O. Hetherington, 242 Cedar St., Bristol, Pa., and James S. Hetherington, 3 Lyndeboro Place, Boston 16, Mass.

Filed Sept. 3, 1958, Ser. No. 758,718
10 Claims. (Cl. 234—40)



1. Apparatus for producing Jacquard cards or the like, said apparatus comprising: holder means for positioning a squared design sheet for reading; selector means contiguous with said holder means including vertical designating means for discriminating among different rows of squares of said design sheet and horizontal designating means for discriminating among different squares of ones of said rows; vertical stepping means for moving said vertical designating means with respect to said holder means; to sequential vertical positions; horizontal stepping means for moving said horizontal designating means with respect to said holder means to sequential horizontal positions; an annunciating circuit for translating representations of indicia at said sequential positions to signals corresponding thereto; and a punch assembly including a plurality of punch elements which may be designated individually by said signals and a punch set for actuating punch elements so designated simultaneously.

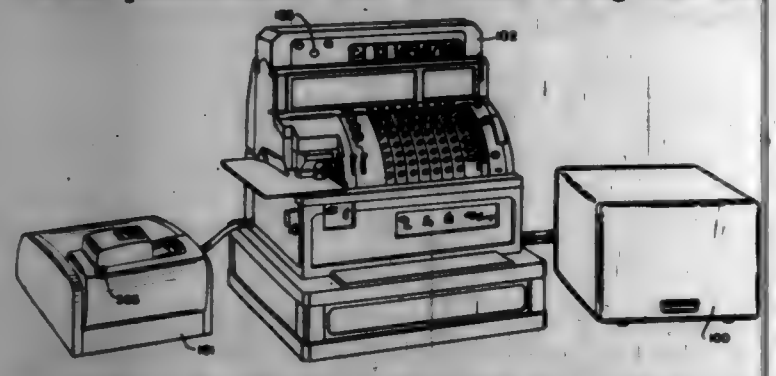
2,971,693
READING APPARATUS

Ervin C. Dobberstein, Dayton, John W. Bennett, Germantown, William C. Preston, Dayton, and Louis K. Sandor, Knollwood, Ohio, assignors to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland

Filed Aug. 9, 1957, Ser. No. 677,349
17 Claims. (Cl. 235—61.11)

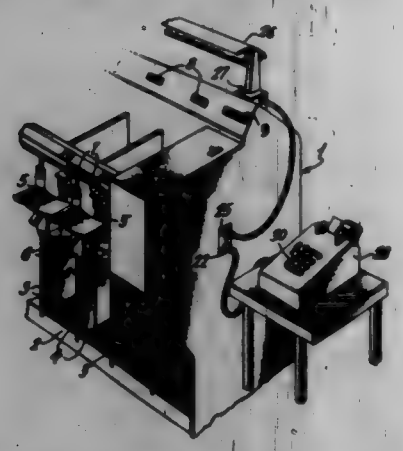
17. In an apparatus for reading different classes of data from different record members, the combination comprising sensing means capable of performing two separate data-sensing operations; first control means for enabling the sensing means to sense simultaneously a plurality of data columns on a record member in a first sensing operation; second control means for controlling said sensing means to sense sequentially a plurality of data columns on a record member in a second sensing operation; driving means to drive the apparatus through

a reading operation; means to enable the sensing means to initiate operation of the driving means in the event that certain predetermined data is sensed during said first



sensing operation; and means to enable the sensing means to provide signals according to the data read in said second sensing operation.

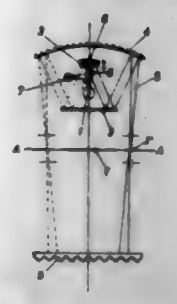
2,971,694
MONEY COUNTING MACHINE
Thomas E. Hayes, 619 H St. NW., Washington, D. C.
Filed Aug. 2, 1957, Ser. No. 675,927
4 Claims. (Cl. 235—92)



3. In a machine for sorting and counting paper money having a plurality of bill-receiving compartments each divided depthwise by horizontally positioned downwardly swingable flap shelves into upper and lower chambers, bill-feeding means associated with each compartment to feed bills into the upper chambers to fall upon the flap shelves, a motor to operate said bill-feeding means, and a totalizing counter common to all compartments, in combination; an operating circuit for said motor, and an accessory for use with said machine including a switch, said accessory having a movable part adjacent said switch, said switch being operable by movement of said accessory part and forming part of said motor operating circuit, whereby said motor operation may be stopped by movement of said accessory part, means to cause downward swinging movement of said flap shelves including a switch operable to closed position by resetting said totalizing counter to zero, and a switch operable to closed position by downward swinging movement of said shelf flaps included in said motor circuit, whereby after said motor has been stopped by movement of said accessory part the totalizer must be set to zero and the shelf flaps swung downwardly before the motor can be restarted.

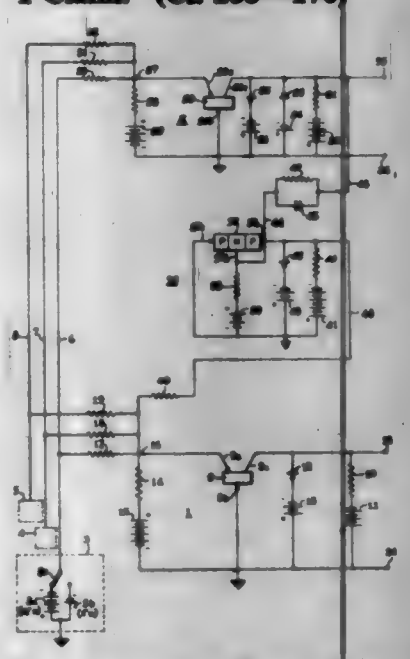
2,971,695
PHOTOELECTRIC APPARATUS
Erwin Sick, 7–9 An der Alle, Waldkirch, Breisgau, Germany
Filed Dec. 23, 1958, Ser. No. 782,578
Claims priority, application Germany Dec. 23, 1957
15 Claims. (Cl. 235—92)

1. An apparatus for the counting of elements passing therethrough comprising a source of light, means to produce a narrow beam of light and means to focus said beam of light in a first plane, means to oscillate said beam of light on a second plane, guide means arranged to guide the elements in said first plane and through said



second plane, photoelectric means and means to direct said oscillating beam of light to impinge upon said photoelectric means, counting means electrically connected with said photoelectric means to count the elements passing therethrough.

2,971,696
BINARY ADDER CIRCUIT
Robert A. Henle, Hyde Park, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Feb. 26, 1954, Ser. No. 412,697
1 Claim. (Cl. 235—176)



A binary adder, comprising three input signal generators, each shiftable between low and high conductivity states, respectively representing On and Off signals, a sum circuit, and a carry circuit; said carry circuit comprising a first junction, a first source of unidirectional electrical energy, a first impedance connecting said source to said junction, a first set of three resistors connecting the respective generators to said junction, said generators being poled oppositely to said source with respect to said junction and cooperating with said source to control the potential at said junction in accordance with the number of generators producing On and Off signals, a first transistor having high gain characteristics and asymmetrically conductive emitter, base and collector electrodes, an output network connected to said base and collector electrodes and having low and high conductivity states respectively representing On and Off signals, means connecting said emitter electrode to said junction, and means connecting the terminal of said source opposite the junction to the base electrode, said generators cooperating with said source when no more than one of said generators is On to establish the emitter electrode at a potential to maintain the output network Off, said generators cooperating with said source when at least two of the generators are On to produce a potential drop across said first impedance sufficient to estab-

lish the emitter electrode at a potential to hold said output network On, means in said output network to establish the minimum conductivity state thereof at a value substantially equal to the Off conductivity state, so that the conductivity state of the output network is Off when either none or one of said generators is On, means in said output network to establish the maximum conductivity state thereof at a value substantially equal to the On conductivity state, so that the conductivity state of the output network is On when either two or three of said generators are On, carry signal output means connected in said output network to produce an On signal only when said output network is in its high conductivity On state, and an Off signal when said output network is in its low conductivity off state; an inverter amplifier connecting the output network of the carry circuit to the sum circuit, said inverter amplifier including a second transistor of the junction type and having a base electrode, an emitter electrode and a collector electrode, an output network connected between said collector and base electrodes of said second transistor and including a branch circuit having low and high conductivity states, and an input network connected to the base electrode of the second transistor and including means coupling the output network of the carry circuit to the input network of the inverter amplifier and biasing means cooperating with said second transistor to produce in said branch circuit a low (On) current flow when said carry circuit output network is in its low conductivity (Off) state, and a high (Off) current flow when said carry circuit output network is in its high conductivity (On) state; said sum circuit comprising a second junction, a second source of unidirectional electrical energy, a second impedance connecting said second source to said second junction, a second set of three resistors connecting the respective generators to said second junction, means connecting said inverter amplifier branch circuit to said second junction, said generators being poled oppositely to said second source with respect to said second junction and cooperating with said branch circuit connecting means and second source to control the potential at said junction in accordance with the number of generators producing On and Off signals and the current flow in said branch circuit, a third transistor having high gain characteristics and asymmetrically conductive base, emitter and collector electrodes, an output network connected to said base and collector electrodes of the third transistor and having low and high conductivity states, respectively representing Off and On signals, means connecting said emitter electrode of said third transistor to said second junction, and means connecting the terminal of said second source opposite the second junction to the base electrode; said second source, said generators, and said carry and inverter circuits cooperating when one or three of said generators are On to produce through said second impedance a current low enough so that the second source biases said third transistor On and when two or none of said generators are On to produce through said second impedance a greater current flow effective to produce thereacross a potential drop sufficient to overcome said second source and cut said third transistor Off; and signal output means connected in said sum circuit output network to produce an On signal only when said last-mentioned transistor is On.

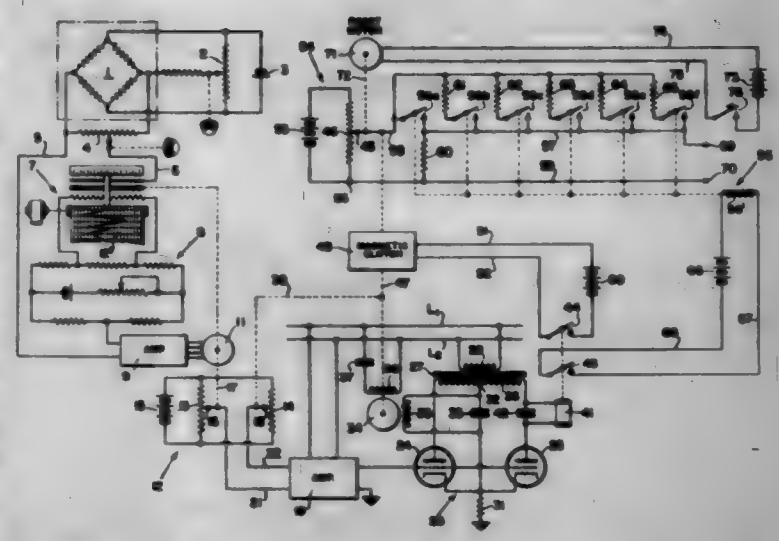
2,971,697

ELECTRICAL MEASURING APPARATUS

Edgar J. Harter, Broomall, Pa., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware

Filed Aug. 2, 1957, Ser. No. 676,015
10 Claims. (Cl. 235—193)

5. An apparatus for providing an electrical signal having a magnitude proportional to the average magnitude of a condition subject to successive variations comprising, in combination, an electrical bridge circuit, means responsive to said condition for unbalancing said bridge circuit, an electro-mechanical rebalancing means for said bridge circuit, an adjustable voltage source, means driven by said rebalancing means, when said rebalancing means



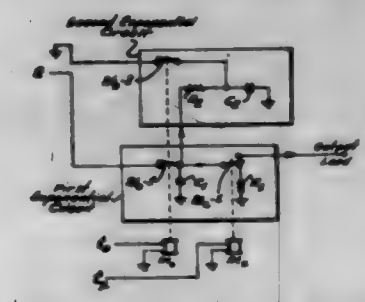
is balancing an unbalance of said bridge circuit representative of an increase in the magnitude of a successive variation in said condition, to increase the output of said source, and means connected to said source and controlled by said rebalancing means to divide the output of said source by the number of said variations each time the magnitude of said condition increases.

2,971,698

FUNCTION GENERATING CIRCUITS REQUIRING ONLY LINEAR ELEMENTS

Brooks Ehrmon Cowart, Pacoima, Lloyd David Ball, Los Angeles, George Bruer Crane, Redondo Beach, and Orin Henry Knowlton, Jr., Los Angeles, Calif., assignors to Gilfillan Bros. Inc., Los Angeles, Calif., a corporation of California

Filed Mar. 14, 1955, Ser. No. 494,178
1 Claim. (Cl. 235—197)



A hyperbolic function generator comprising: a first circuit including direct-current source of potential, a switch, and a resistor connected in series; a second circuit including a first capacitor connected in parallel with said resistor; a third circuit including a resistor and a second capacitor connected in series, said third circuit also being connected in parallel with said resistor; a switch connected in parallel with said second capacitor; and means for opening said switches simultaneously.

2,971,699

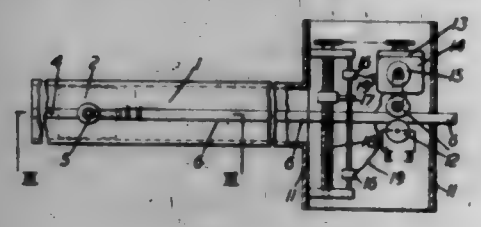
LIQUID SPRAY ARRANGEMENTS

August Reiss, London, England, assignor to The Reiss Engineering Company Limited, Stanmore, England, a British company

Filed Feb. 5, 1958, Ser. No. 713,403
Claims priority, application Great Britain Feb. 27, 1957
2 Claims. (Cl. 239—184)

1. A liquid spray arrangement comprising a flexible supply hose for delivering a liquid under pressure, a block

having a liquid passage therethrough and being connected to said supply hose with one end of said passage communicating with said hose at the delivery end thereof, elongated spray means connected to said block at another end of said passage and communicating through said passage with said supply hose to receive liquid therefrom, said spray means being arranged substantially perpendicularly to the axis of the delivery end of said supply hose, an elongated guide tube having a slot extending in the longitudinal direction thereof, said guide tube ac-



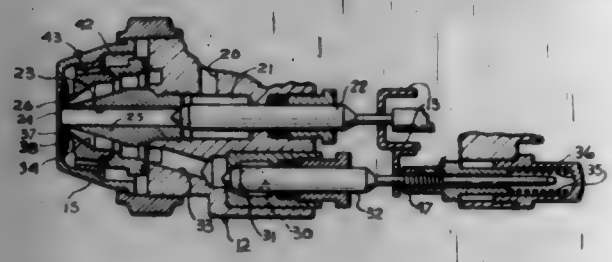
commodating snugly said block, said block being movable without substantial play within said guide tube in the longitudinal direction thereof, said supply hose entering said guide tube at one end and said spray means protruding from said guide tube through said slot, and drive means arranged outside said guide tube and immediately adjacent said one end of said guide tube and adapted to act on said supply hose for frictionally reciprocating the same in the longitudinal direction of said tube.

2,971,700

APPARATUS FOR COATING ARTICLES WITH CHEMICALLY REACTIVE LIQUIDS

Donald J. Peeps, Rossford, Ohio, assignor to The De Vilbiss Company, Toledo, Ohio, a corporation of Ohio

Filed July 22, 1957, Ser. No. 673,426
3 Claims. (Cl. 239—296)



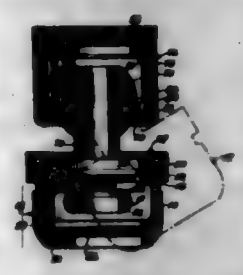
1. A spray gun for spraying an article with a coating material formed of two liquid portions which react chemically when combined, said spray gun comprising a first stationary cap member having a central passage terminating in a central liquid discharge orifice, a second stationary cap member cooperating with said first member to form a second passage terminating in a liquid discharge orifice located concentrically about said first liquid orifice, a third stationary cap member cooperating with said second member to form an air conduit, means to isolate said air conduit from both of said central and second passages, separate air nozzles at the end of said air conduit in spaced relationship to said liquid orifices, means for supplying a first completely liquid portion to said first liquid orifice, means for supplying a second completely liquid portion to said second liquid orifice, means for supplying unencumbered air to said air nozzles, separate needle valve means capable of independent operation for controlling each of the liquid supply means, a separate air valve means, and a trigger for operating all of said valve means.

2,971,701

UNIVERSAL BALL-JOINT CONNECTOR

Harold Shames, 5 Agnes Circle, and Sidney J. Shames, 19 Agnes Circle, both of Ardsley, N.Y.

Filed Mar. 9, 1959, Ser. No. 797,938
6 Claims. (Cl. 239—587)



1. In a ball type connector to which a liquid flow-restricting discharge device is to be connected; the improvement comprising, in combination: bored ball means having a spherical external surface and through which liquid under pressure is conveyed; an annular, elongated coupling nut receiving therein the ball means to permit relative pivoting movement between the ball means and coupling nut, said coupling nut having connector means at one end thereof, rigid, circular ball engaging means at the other end of said coupling nut normally in contact with said ball means and rigidly and slidably engaging the external spherical surface of said ball means, so that the portion of said ball means of greatest dimension is disposed between the ends of said coupling nut, there being an equatorial plane of said ball means which is perpendicular to the axis of said coupling nut, said coupling nut having an internal circumferential groove therein, an elastic O-ring type seal retained in said circumferential groove and extending radially inwardly of the coupling nut and engaging the external spherical surface of the ball means on a peripheral circle located closely adjacent to said equatorial plane and between said equatorial plane and the circle against which said ball engaging means abuts, said O-ring type seal being stressed against its inherent elasticity a predetermined amount to effect a predetermined maximum liquid-tight sealing pressure when said ball engaging means on said coupling nut normally engages said ball means, and a flow-restricting liquid discharge device connected to one of said pair of members consisting of said ball means and coupling nut for effecting firm, but readily pivotable, engagement between said ball means and ball engaging means of said coupling nut and to effect liquid-tight engagement with said seal means.

2,971,702

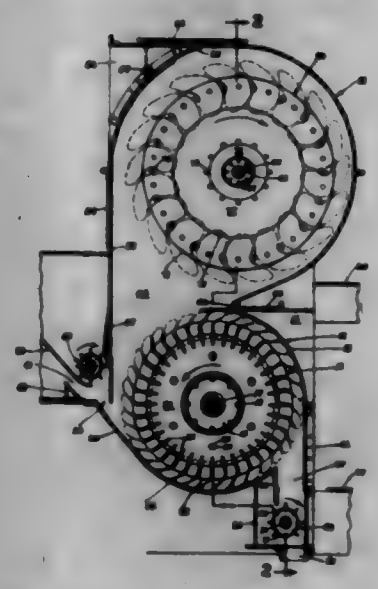
FLUID ENERGY CLASSIFYING MILL

Henry G. Lykken, Minneapolis, and William H. Lykken, Edina, Minn.; Frances Lykken, Hennepin County, Minn., administratrix of said Henry G. Lykken, deceased, assignors to Microcyclomat Co., Minneapolis, Minn., a corporation of Delaware

Filed Dec. 16, 1957, Ser. No. 703,077
10 Claims. (Cl. 241—5)

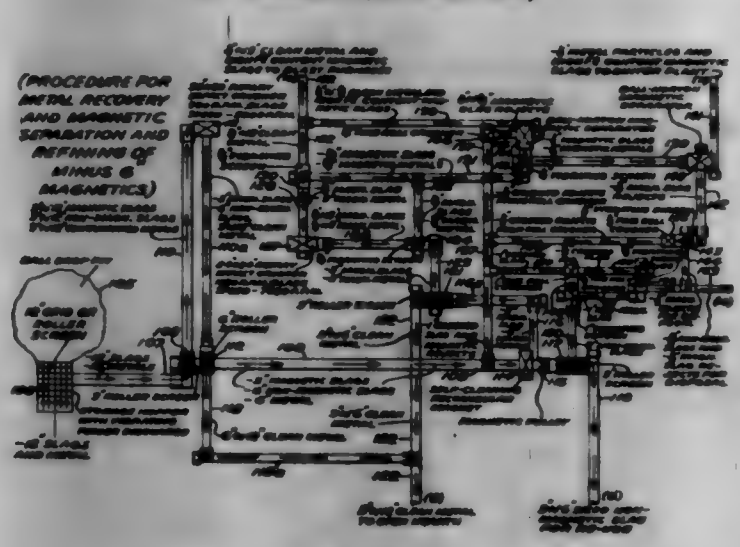
10. An open rotor dry material fluid energy classifying mill including a housing having a reducing rotor journaled therein for rotation on a horizontal axis, said reducing rotor consisting of an assembly of relatively narrow closed end radial blade rotor units, said mill having a tangential horizontal material inlet extending the full length of the rotor, a controlled tangential air inlet the full length of the reducing rotor associated with the material feed inlet to the reducing rotor, said reducing rotor being spaced in the housing with a substantial running clearance equal to about ten percent of the diameter of the rotor whereby a continuously circulating highly fluidal mill load of constant and controlled density may be maintained, a material segregating chamber dis-

posed below the full length of the reducing rotor and discharge means in the bottom of said chamber for controllably and progressively extracting denser material, a tangential fine material discharge extending the full length of the rotor, and a peripheral inlet, centripetal



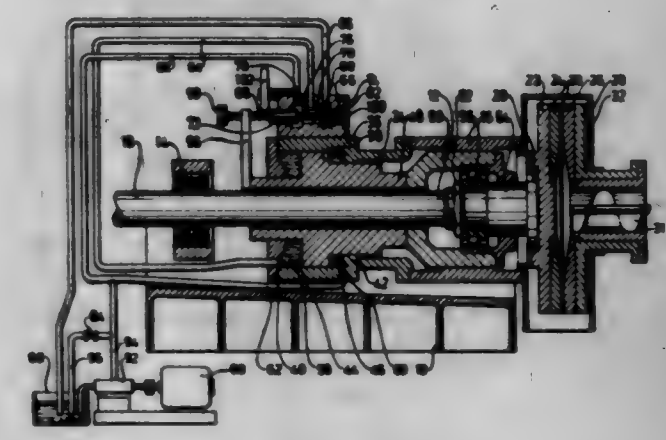
extraction, axial outlet horizontal axis classifying rotor superimposed above the material discharge from the reducing rotor and associated and integrated with the reducing rotor, a separate controlled tangential air inlet through the housing to the classifying rotor, said air inlet extending the full length of the classifying rotor at the top thereof.

2,971,703
PROCESS FOR CLEANING AND RECOVERING SCRAP METAL FROM SLAG AND THE LIKE
Frank E. Rath, 724 E. Brady St., Butler, Pa.
Filed June 4, 1958, Ser. No. 739,823
16 Claims. (Cl. 241—24)



16. A method of recovering metal in the nature of iron and steel of sufficient purity for open hearth utilization from slag dump refuse containing refractory material, magnetic and non-magnetic malleable metal, magnetic or non-magnetic friable slag and magnetic ore and metal of large to small sizes that are held by slag which comprises, continuously moving a mass of the slag dump refuse while progressively subjecting it to a rotary hammer impaction of increased intensity and freeing metal of progressively smaller size from the slag, passing the mass being impacted through passageways of progressively smaller size that at least correspond to the size of the metal to be then removed, breaking up the friable portions of the mass into a size smaller than the size of the metal to be then removed, selectively removing the metal of progressively smaller sizes by-passed by the impacting passages by size-separating it from the friable portions of the mass, and during the processing, progressively magnetically separating lower and non-magnetic from higher magnetic materials of the mass.

2,971,704
GRINDING APPARATUS FOR DISINTEGRATING FIBROUS MATERIAL
Sven Herbert Johannson, Bromma, Sweden, assignor to Arne Johan Arthur Asplund, Bromma, Sweden
Filed Nov. 7, 1955, Ser. No. 545,497
1 Claim. (Cl. 241—37)

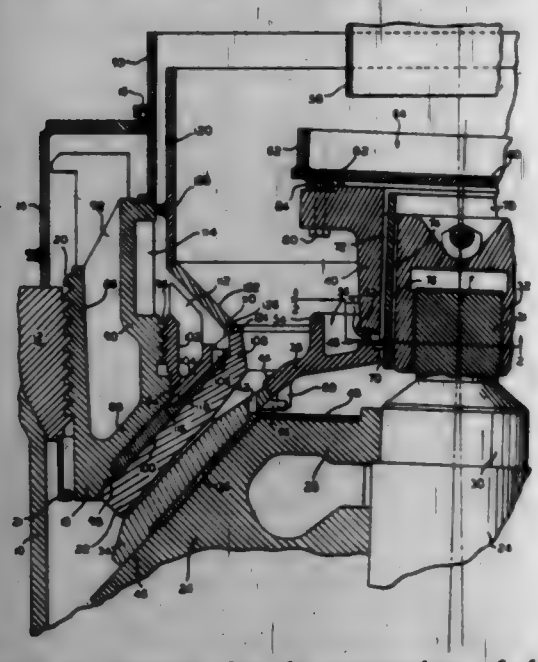


A grinding apparatus for fibrous material comprising, a rotatable grinding element, a stationary grinding element, one of said elements being axially movable with respect to the other for the purpose of adjusting the width of the grinding space between the said grinding elements and for the purpose of conveying the grinding pressure, said axially movable grinding element being fixedly connected to a piston arranged for movement in a fixedly mounted cylinder, said cylinder having chambers on each side of the piston connectible by means of a conduit and a valve to a pressure source and a discharge, the valve having a body axially adjustable with respect to the piston for the purpose of adjusting the piston to a predetermined width of the grinding space between the grinding elements, said valve body being so coupled to the piston that any deviation from this width due to variations in the rate of feed will cause the valve body to accompany the piston in its axial movements and thereby while both chambers are connected to the pressure source produce a variable pressure differential on the piston so that the axial forces affecting the piston will always operate to return the piston to a position to restore the predetermined width of the grinding space.

2,971,705
GYRATORY CRUSHERS
Ewald Werner, Milwaukee, Wis., assignor to Nordberg Manufacturing Company, Milwaukee, Wis., a corporation of Wisconsin
Filed May 8, 1957, Ser. No. 657,930
9 Claims. (Cl. 241—202)

1. In a gyratory crusher or the like, a gyratable head constructed to define a somewhat frusto-conic crushing cavity with a surrounding bowl, a frusto-conic mantle of manganese steel or the like on the head, an annular mantle extension on the head above and in engagement with the upper edge of the mantle, a lock nut adjustably connected to the head to as to bear against the mantle extension to apply a downward thrust against the mantle and mantle extension thereby holding them on the head, a torch ring between the lock nut and mantle extension through which the compressive forcee of the lock nut is applied to the mantle extension, and an upstanding continuous somewhat annular rib on the mantle extension

outwardly bounding the torch ring and defining an inner material collecting trough around the torch ring to re-



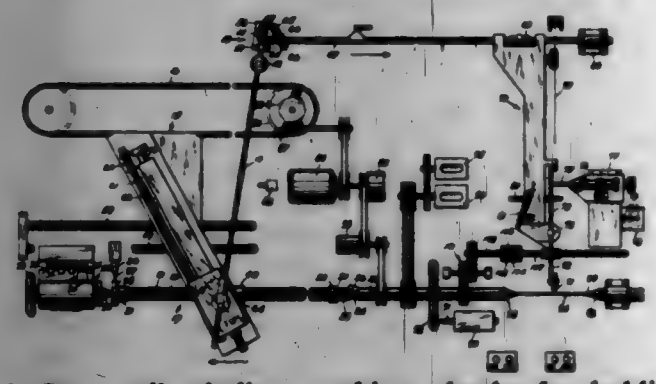
ceive a pad of material for the protection of the torch ring during grinding.

2,971,706

VARIABLE PITCH COIL WINDING MACHINE

Edward A. Ellis, Reading, Edward T. Stocker, Groveland, Robert A. Waddell, Winthrop, and Richard R. Whipple, Haverhill, Mass., assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Filed May 28, 1958, Ser. No. 738,419
7 Claims. (Cl. 242—9)



1. In a coil winding machine, chucks for holding a winding core, a lead screw, end members for holding the lead screw, means for driving the chucks and lead screw, means for changing the speed of the driving means, a carriage driven by the lead screw, a wire guide for guiding wire from a supply to the core, a distributor mechanism actuated by the carriage for moving the guide to distribute the wire between starting and finishing positions on the core, means for adjusting the ratio of the movement of the guide to the movement of the carriage, means for disengaging the carriage from the lead screw and returning it to its starting position, and contacting means adjacent one end member of the lead screw for activating the speed changing means to cause the driving means to run at a predetermined speed according to the length of the lead screw held by said end member.

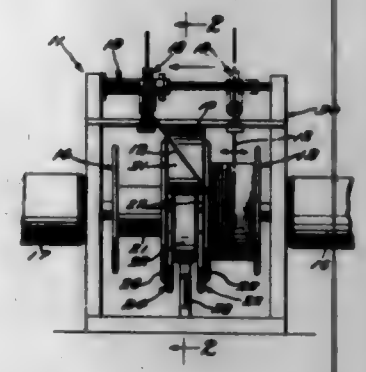
2,971,707

CUTOVER MECHANISMS FOR STRAND-REELING INSTALLATIONS

Harry R. Jacobs, Jr., Omaha, Nebr., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Filed Jan. 27, 1960, Ser. No. 5,015
6 Claims. (Cl. 242—25)

1. In combination with a strand-reeling installation of the type including a pair of spaced, axially aligned, rotary take-up reels; a traversing distributor for guiding a strand to either reel, the distributor being indexed from a position opposite to a full reel to a position opposite to an empty reel when it is desired to cut over between the reels; a pair of toothed snagger plates mounted one for rotation with each reel adjacent to the inner end thereof, the snagger plates being designed to catch and grip the strand extending between the reels after the distributor indexes from the full reel to the empty reel; and a cutter mounted between the reels so as to sever the strand gripped by the snagger plates: an improved cutover mechanism for such a strand-reeling installation, which



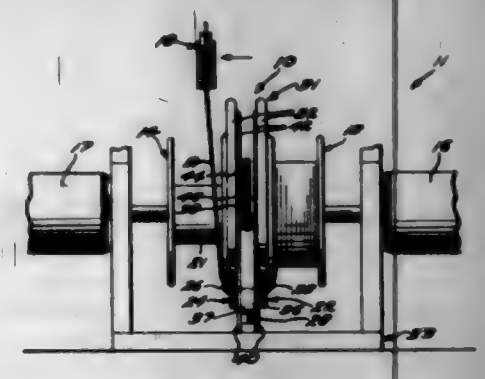
includes a composite curved guide member, said guide member having a first portion that covers both snagger plates and is so disposed as to support the strand clear of the snagger plates during and shortly after the time that the distributor indexes from the full reel to the empty reel, said guide member also having a second portion that is designed to support the strand and extends from the first portion toward the cutter and between the snagger plates, the second portion being so constructed and arranged that the strand is pulled off of the first portion and is engaged first by the full-reel snagger plate and later by the empty-reel snagger plate.

2,971,708

APPARATUS FOR CUTTING OVER BETWEEN TAKE-UP REELS FOR A STRAND

Judson N. Detrick, Chicago, Ill., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Filed Jan. 27, 1960, Ser. No. 5,063
6 Claims. (Cl. 242—25)

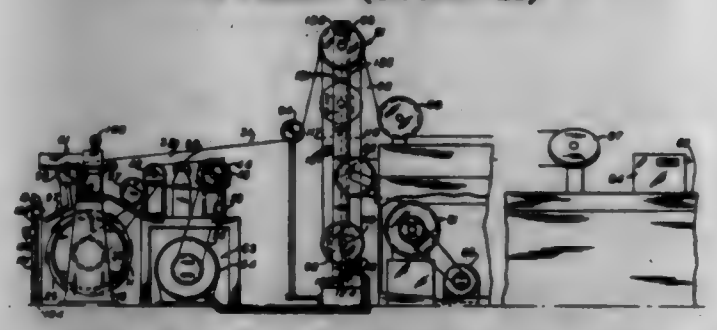


1. In a strand-reeling installation of the type including a pair of rotary take-up reels for alternately taking up a strand, and a strand distributor which is indexed from a position opposite to a full reel to a position opposite to an empty reel when it is desired to cut over between the reels; an improved cutover apparatus which comprises means mounted for rotation with the empty reel for snagging the strand extending between the reels as the distributor indexes, and means for guiding the strand into engagement with said snagging means at such a position that a line drawn from the snagging point to the operating position of the distributor when opposite to the empty reel is substantially tangent to the core of the empty reel.

2,971,709
APPARATUS FOR CONTINUOUSLY REELING STRAND MATERIAL

Benjamin C. Ellis, Jr., Baltimore, Md., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Filed May 3, 1957, Ser. No. 656,956
13 Claims. (Cl. 242—25)

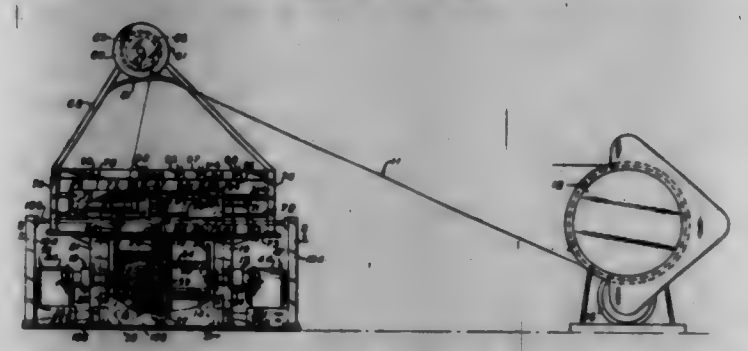


9. Apparatus for reeling strand material, which comprises a plurality of reels, means for rotating said reels, means for operating said rotating means for rotating said reels in a predetermined sequence, accumulator means for preventing slack from forming in a portion of the strand material and for controlling the speed of one reel while the strand material is being supplied to another reel, and braking means for stopping the other reel in order to provide slack in the strand during a cutover operation.

2,971,710
APPARATUS FOR CONTINUOUSLY REELING STRAND MATERIAL

Tillman Tenney Bunch, near Ashland, Md., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Filed May 3, 1957, Ser. No. 656,978
15 Claims. (Cl. 242—25)



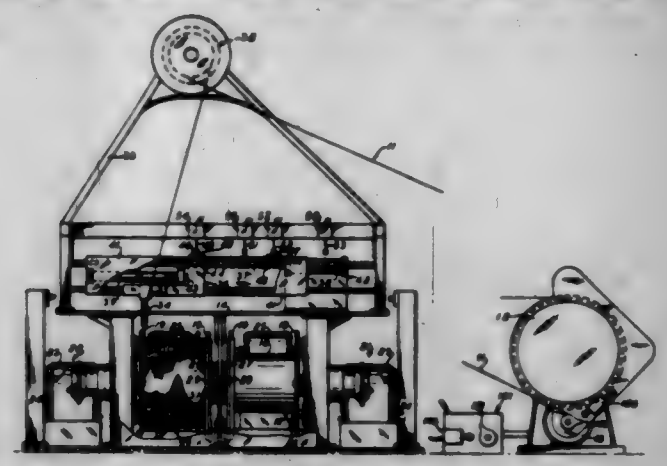
2. Apparatus for reeling advancing strand upon rotatably driven takeup reels comprising a plurality of takeup reels, means for rotating a first of said reels, means for directing the strand back and forth upon the winding surface of said first reel for distributing the strand thereon for reeling the strand on said first reel, means for rotating a second of said reels, means for connecting a portion of the strand operatively to said first reel, means for reducing the speed of rotation of said first reel so as to develop slack in the strand to permit a transfer of the strand from said first reel to said second reel without introducing excessive stresses in the strand during such transfer, means for transferring the strand to said second reel, and means for connecting a portion of the strand operatively to said second reel.

2,971,711
APPARATUS FOR REELING STRAND

Charles E. Hauer, Baltimore, Md., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Filed Dec. 31, 1958, Ser. No. 784,193
8 Claims. (Cl. 242—25)

4. Apparatus for reeling strand continuously onto successive take-up reels, which comprises means for distributing the strand transversely back and forth across the winding surface of one of the reels, means for detecting the length of the strand remaining to be taken up on the take-up reel, means responsive to the detecting means for insuring that the distributing means is directed toward the inside flange of the reel when each of a

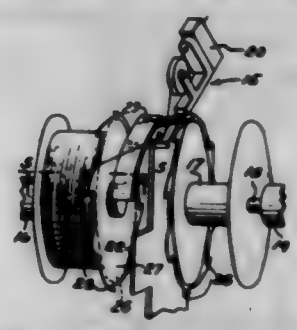


plurality of predetermined lengths of the strand of progressively smaller amounts remain to be taken up on the reel, means for always reversing the distributing means whenever the distribution of the strand reaches the inside flange, and means for indexing the distributing means to a succeeding reel when the remaining length of the strand has been taken up on the first-mentioned reel.

2,971,712
TRANSFER DEVICES

Harry R. Jacobs, Jr., Robert F. Minehart, and John F. Sheehan, Jr., Omaha, Nebr., assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Filed May 13, 1959, Ser. No. 812,994
2 Claims. (Cl. 242—25)



1. In combination with a continuous strand winding apparatus of the type having a pair of take-up reels coaxially mounted for rotation in spaced relationship to each other and a strand distributor means mounted for movement transversely of said reels; a snagger plate mounted on each of said reels, each snagger plate having a plurality of gripping teeth positioned about the periphery thereof, a strand severing plate positioned between said reels having a severing surface projecting outwardly therefrom below the rotational axis of said reels, and a curved deflector plate mounted on said severing plate fixedly so as to be concentric about the axis of the take-up reels and projecting beyond said gripping teeth of said snagger plates for maintaining the strand free from engagement therewith.

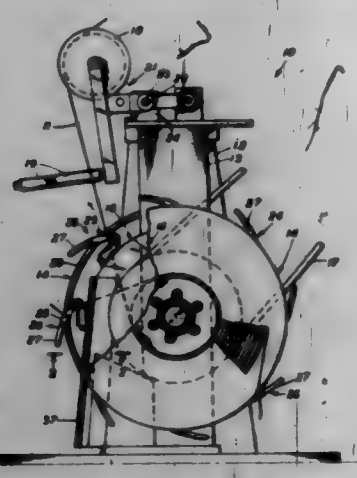
2,971,713
SNAGGING DEVICES FOR STRANDS

George E. Henning, Baltimore, Md., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Filed Oct. 2, 1959, Ser. No. 843,964
5 Claims. (Cl. 242—25)

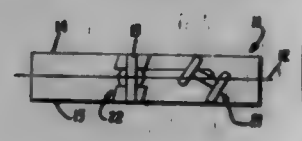
1. An improved snagging device for strands, which comprises a removably mounted, rotatably driven take-

up reel having a flange on one end thereof, a rotatable snagging disc mounted adjacent to and coaxially with the flange of the take-up reel and connected operably to the take-up reel for rotation therewith, a snagging member having an end secured pivotably to the snagging disc and having a free end projecting outwardly and in the direction of rotation of the take-up reel to form a snagging finger, resilient means for urging the free end of



the snagging member into cooperative engagement with the flange of the take-up reel to form a resilient clamp for the strand, and means for driving the snagging disc in unison with the take-up reel so that as a portion of strand is caught by the snagging finger and is directed into the clamp the strand is held thereby and is automatically released when the reel is removed from the device.

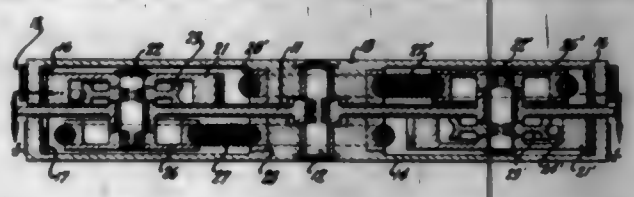
2,971,714
MAGNETIC TAPE REEL WITH DIFFERENTIALLY CONNECTED DOUBLE HUB
Ulyss S. Mitchell, 1150 Yew St., San Mateo, Calif., and Ray F. Newton, Menlo Park, Calif.; said Ray F. Newton assignor to Ulyss S. Mitchell
Filed Oct. 22, 1959, Ser. No. 848,076
5 Claims. (Cl. 242—55.12)



1. An improved double-hub reel for magnetic tape, comprising a pair of separate hubs rotatably mounted upon a first shaft through a central plate, a second shaft having a friction wheel affixed to each end thereof and pivotally mounted between said hubs to dispose the wheels at different lengths of hub radii, and switching means frictionally engaging said hubs interiorly thereof and connected to said second shaft for pivoting same to engage the friction wheels with different hubs, depending upon the direction of hub rotation, whereby driving of one hub transmits a differential drive to the other.

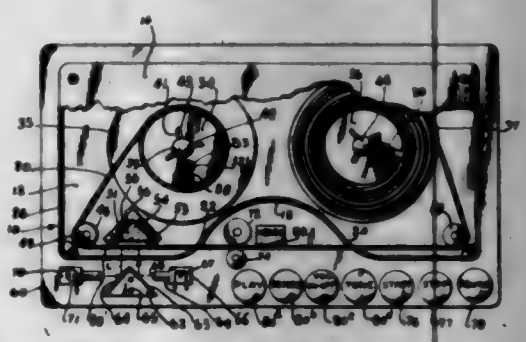
2,971,715
TAPE CARTRIDGE WITH BELT DRIVE
Ulyss S. Mitchell, 1150 Yew St., San Mateo, Calif.
Filed May 5, 1960, Ser. No. 27,211
6 Claims. (Cl. 242—55.13)

1. An improved magnetic tape cartridge comprising a central plate, a pair of hollow drums disposed in facing relation on opposite sides of said plate and mounted for rotation about a common axle, a pair of drive members geared to separate drums through reversing clutches of opposite sense, means mounting said drive members for rotation in said plate in extension therethrough, and a pair of loop springs separately engaging the two drums and the drive means therein extending from the geared attachment of same whereby forced rotation of one drum as by withdrawal of tape wound thereabout drives the



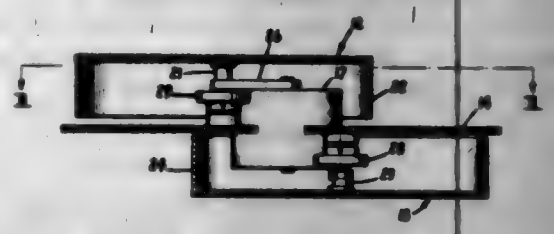
other drum to rotate at the ratio of the gearing as modified by slippage of the spring engagement.

2,971,716
AUTOMATIC TAPE CARTRIDGE FOR MAGNETIC RECORDERS
Sidney O. Sampson, 216 E. 31st St., New York, N.Y.
Filed May 25, 1959, Ser. No. 815,349
2 Claims. (Cl. 242—55.13)



1. In a magnetic tape recorder, a base, a magnetic tape cover mounted on said base, said base and cover constituting a substantially closed casing, a pair of reels rotatably mounted in the casing, a tape having opposite transparent ends engaged on the reels and transportable in a path therebetween, said casing having an indented portion, said tape passing through a wall of the casing in said portion so that the tape passes outside of the casing for cooperation with magnetic heads disposed in said path, and means excitable in the presence of said transparent portions for stopping and reversing direction of motion of the tape, said means comprising a photoelectric cell disposed adjacent to said wall of the casing on said body, a lamp disposed near said cell and arranged to pass light into the casing through a transparent portion of the tape, and an optical leement for reflecting light from the lamp back through the tape to said cell, said optical element being a fixed prism disposed adjacent the tape within the casing, with the tape being interposed between the prism and said wall, said lamp and cell being disposed outside the casing.

2,971,717
DIFFERENTIAL HUB MAGNETIC TAPE REEL
Ulyss S. Mitchell, 1150 Yew St., San Mateo, Calif., and Alva Robert Myers, San Francisco, Calif.; said Myers assignor to said Mitchell
Filed Sept. 16, 1959, Ser. No. 840,312
5 Claims. (Cl. 242—55.13)



1. A magnetic tape cartridge comprising a pair of hubs having rims thereabout and engaging separate shafts for rotation therewith, means mounting said shafts in parallel axially offset relation, a first arm pivotally engaging the shaft of a first of said hubs, a first idler wheel rotatably mounted upon said first arm and ex-

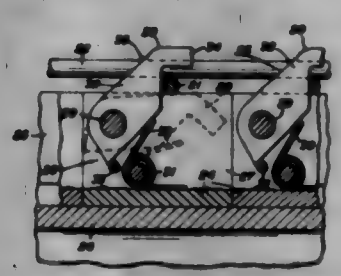
tending into rolling contact with the rim of said hub and into contact with the shaft of the other hub for rotating the latter in response to rotation of said first hub, a second arm pivotally engaging the shaft of said other hub, and a second idler wheel rotatably mounted upon said second arm and extending into rolling contact with the rim of said other hub and into contact with the shaft of said first hub for reverse drive.

2,971,718
DOUBLE-HUB TAPE REEL
Ulyss S. Mitchell, 1150 Yew St., San Mateo, Calif.
Filed Oct. 5, 1959, Ser. No. 844,506
7 Claims. (Cl. 242—55.13)



1. An improved cartridge for magnetic tape comprising a pair of independently rotatable hubs mounted upon the same axis and having facing peripheral rims, a pair of friction wheels disposed between said hubs and mounted upon a common axis inclined with respect to the axis of said hubs, said wheels being disposed to engage one of same with the interior surface of one hub and the other engaging the interior surface of the other hub, and said points of engagement being at different lengths of hub radii, whereby rotation of one hub frictionally drives the other hub to rotate at a differential ratio.

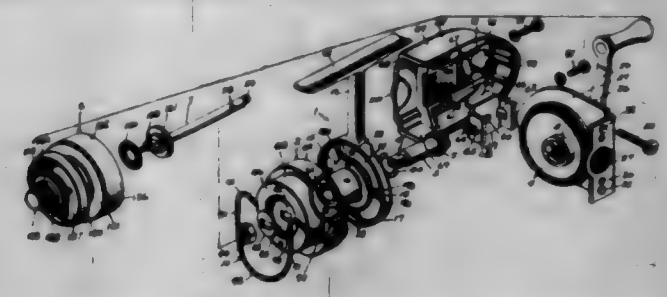
2,971,719
WELDED WIRE FABRIC REELING MANDREL
Donald P. Cochrane, Brecksville, and Albert L. Stoeckel, Euclid, Ohio, assignors to United States Steel Corporation, a corporation of New Jersey
Filed June 24, 1958, Ser. No. 744,235
10 Claims. (Cl. 242—81)



1. In a reel for winding wire fabric, a winding mandrel, a plurality of anchoring hooks arranged at spaced intervals along the length of said mandrel for winding engagement with fabric to be wound, means mounting said hooks on said mandrel for pivotal movement respectively about spaced parallel axes extending transversely with respect to the axis of said mandrel between operative winding positions in which they project outwardly from said mandrel and retracted positions in which they are recessed in said mandrel, each of said hooks having a spring biasing its pivotal movement to said operative position and a stop for limiting its movement beyond said operative position.

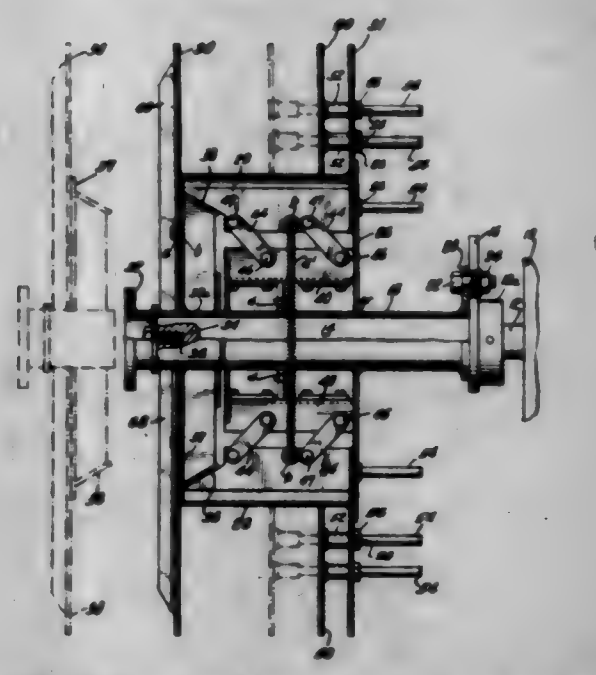
2,971,720
SPINNING REEL
Morris E. Wood, Bronson, Mich., assignor to Higbie Manufacturing Company, Rochester, Mich., a corporation of Michigan
Filed Dec. 5, 1955, Ser. No. 550,910
11 Claims. (Cl. 242—84.21)

9. A fishing reel comprising a frame of short axial extent having a substantially round relatively thick head provided with a pillar extending therefrom for attaching the frame to a pole, a first mounting member having a plate portion and a flange secured to one side of the annular portion of the frame to locate the plate portion in a plane substantially perpendicular to the head, a driving element rotatably mounted on the plate portion and provided with a drive gear, a rotatable tubular shaft extending through the head and the flange and provided with a pinion engaging the drive gear, a reciprocable shaft extending through the tubular shaft, a spool supported on the outer end of the reciprocable shaft and a fitting



having spaced abutments carried by the inner end of said reciprocable shaft, a rotor carried by the tubular shaft and provided with a pickup member for directing a line onto the spool, a second mounting member secured against the head of the frame and having a wall disposed in spaced parallel relation to the plate portion, said wall on its inner side being provided with a longitudinally extending guideway in which the fitting is disposed for sliding movement, and said drive gear being provided with an eccentric arranged between the abutments on the fitting for reciprocating the reciprocable shaft, fitting and spool as a unit when the driving element and gear are operated to rotate the tubular shaft and rotor carried thereby.

2,971,721
CONSTRUCTION OF COIL BLOCKS
Robert Edward Jones, Oneida County, N.Y., assignor to Rome Cable Corporation, Rome, N.Y., a corporation of New York
Filed June 26, 1957, Ser. No. 668,190
11 Claims. (Cl. 242—110.2)



9. A coil block comprising an arbor, a fixed flange and a demountable flange movable axially of the arbor mounted on the arbor in spaced relation, a multi-part support surface for a coil, a support frame mounted on the arbor between said flanges, and means comprising a plurality of swinging arms pivotally interconnected between the frame and the parts of said support surface

respectively, said swinging arms being responsive to movement of said demountable flange, the parts of said support surface defining inclined cam surfaces and the demountable flange carrying on its inner surfaces cam means adapted to engage said cam surfaces and to move the parts of said support surface outwardly as the demountable flange is moved into assembled position.

2,971,722

YARN TENSIONING AND CONTROL MECHANISM

Montgomery B. Penman, Bloomsburg, Pa., assignor to The Magee Carpet Company, Bloomsburg, Pa., a corporation of Pennsylvania

Filed Mar. 29, 1956, Ser. No. 574,745
12 Claims. (Cl. 242—149)



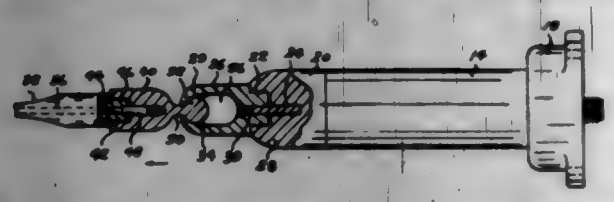
1. A yarn tensioning mechanism for multiple needle tufting machines comprising a yarn guiding member mounted above the needle bar of the machine, said member having a panel formed with a plurality of transverse shoulders in vertical stepped relation to each other, each shoulder having a row of passages extending downwardly through the panel for the passage of yarns, solenoids mounted on the ends of said panel in corresponding stepped relation to said shoulders and plungers operated by said solenoids, said plungers being slidably mounted in openings in the ends of said panel disposed in stepped relation and intersecting said passages whereby said plungers are movable to grip the yarns.

2,971,723

ANTENNA JETTISON ATTACHMENT

Stanley W. Munson, R.R. 2, New Carlisle, Ohio

Filed Aug. 16, 1956, Ser. No. 604,575
4 Claims. (Cl. 244—1)
(Granted under Title 35, U.S. Code (1952), sec. 266)



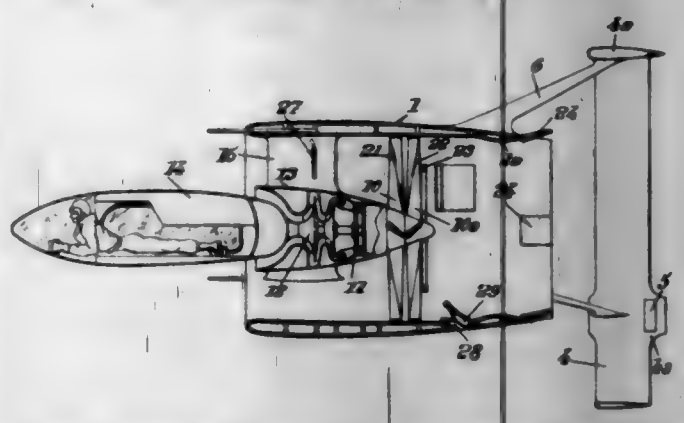
4. A vehicle, an antenna wire mounted exteriorly on said vehicle, attaching means for attaching the ends of said antenna wire at locations fore and aft on the exterior of said vehicle, means for releasing at least one of said attaching means and jettisoning said antenna under lateral displacement and continued absence of tension, said means comprising a spherical member on said antenna, a socket secured to said vehicle, upper and lower jaws on said socket, said upper and lower jaws having complementary interior spherical surfaces, said socket having also an enlarged transverse opening entirely therethrough, located rearwardly of said jaws and of sufficient width to allow passage of said spherical member.

2,971,724

ANNULAR WING FLYING MACHINES

Helmut Ph. G. A. R. von Zborowski, Chateau de Boussy, Saint Antoine, par Brunoy, Seine-et-Oise, France

Filed Apr. 3, 1956, Ser. No. 575,731
Claims priority, application France Feb. 19, 1952
4 Claims. (Cl. 244—12)



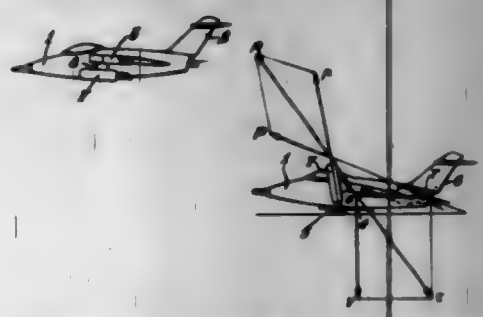
2. An aircraft comprising a tunnel-shaped wing of airfoil shaped longitudinal section coaxial with the longitudinal axis of the aircraft and having longitudinally spaced leading and trailing edges, the leading edge being of rounded shape, a power plant mounted substantially coaxially of said wing to produce a thrust parallel to said axis, said wing being of such shape and dimensions as to produce at a predetermined positive angle of incidence with respect to the direction of travel of the aircraft in the air and at a speed within the power of the power plant a lift the vertical component of which is at least equal to most of the weight of the aircraft, said power plant being so housed within the space bounded by the outer wall of said wing as to provide a longitudinally extending streamlined passage of substantial cross-section through the wing, the inner wall of the wing forming the outer wall of said passage, means carried by said wing for controlling the aircraft in flight, said control means being adapted to maintain said wing at a positive angle of incidence to its trajectory, said power plant having a thrust at least equal to the weight of the aircraft, said power plant including means for producing a propulsive jet in said passage, and means carried by said aircraft for varying the thrust of said power plant along the longitudinal axis of the aircraft independently of the fuel feed rate to said power plant.

2,971,725

AIRCRAFT TAKE-OFF AND LANDING APPARATUS

Wsiewolod John Jakimiuk, Paris, France, assignor to Sud-Est Aviation Societe Nationale de Constructions Aeronautiques, Paris, France

Filed Dec. 20, 1955, Ser. No. 554,383
Claims priority, application France Dec. 31, 1954
7 Claims. (Cl. 244—63)



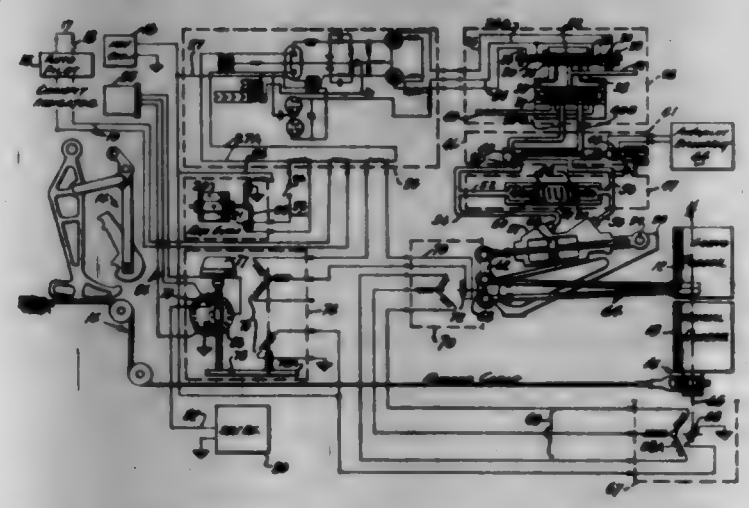
1. A fixed-wing jet-propelled aircraft comprising a fuselage, a conventional monoplane wing structure secured on said fuselage and having conventional ailerons, a conventional tail-unit having an elevator and a rudder, three jet engines mounted the central one in the tail portion of the fuselage and the other two lateral on either side of said

fuselage under the wing structure, a first set of adjustable devices for varying the direction of the jets of said engines, a second set of adjustable devices for varying the power output of said lateral jet engines with deflected jets, whereby under the action of said two sets of adjustable devices the take-off and the landing of said aircraft may be obtained after a short run by applying to said aircraft a thrust resultant substantially parallel to the take-off direction thereof which passes through its center of gravity and has a value sufficient to relieve its weight, and a combined automatic and manual pilot unit adapted to simultaneously correct the adjustment of the adjustable device for varying the direction of the jet of the central jet engine, of the adjustable device for varying the power output of the two lateral jet engines and of the stabilization setting of the control-surfaces provided by the pilot for a relative speed of the aircraft lower than the limit speed of conventional control-surfaces maneuverability.

2,971,726
YAW DAMPING SPLIT RUDDER

Robert W. Bratt, 428 Via Linda Vista, Redondo Beach, Calif.; Vern D. Kirkland, 2008 Wendy Way, Manhattan Beach, Calif.; and Leslie F. Kurrasch, 8413 Vicksburg Ave., Los Angeles 45, Calif.; and Mike W. Fossier, Bedford, Mass.

Filed June 6, 1955, Ser. No. 514,672
(Filed under Rule 47(a) and 35 U.S.C. 116)
7 Claims. (Cl. 244—76)



7. A yaw damping system for aircraft, comprising: a first pilot-powered rudder; a second servo rudder mounted for movements independent of those of the first rudder; hydraulic actuator means connected to the second rudder for moving the same; yaw-responsive signal-emitting means connected to the actuator for controlling same and moving the second rudder counteractively to yawing; electrical means connected to the first rudder to be operated by same; other electrical means arranged and connected for actuation by the first-said electrical means so as to shift the second rudder to a new neutral corresponding to that of the first rudder.

2,971,727
ENERGY ABSORBING MEANS AND RETRIEVING CAPSULE

Robert J. Haber, Wilmington, Del., assignor to All American Engineering Company, Wilmington, Del., a corporation of Delaware

Filed Dec. 4, 1957, Ser. No. 700,644
3 Claims. (Cl. 244—110)

1. A novel installation for an energy absorbing means of the class described comprising a plurality of tube sections mounted below ground level longitudinally along a landing surface, each of said sections being formed with an intermediate arrest tube section having a retrieve end and an arrest end installed underground below a known frost line of a known locality, a lead-off tube coupled to the arrest end of said arrest tube section, said lead-off tube being directed angularly upward toward ground level, a box adjacent the retrieve end of each respective arrest tube section having an opening located

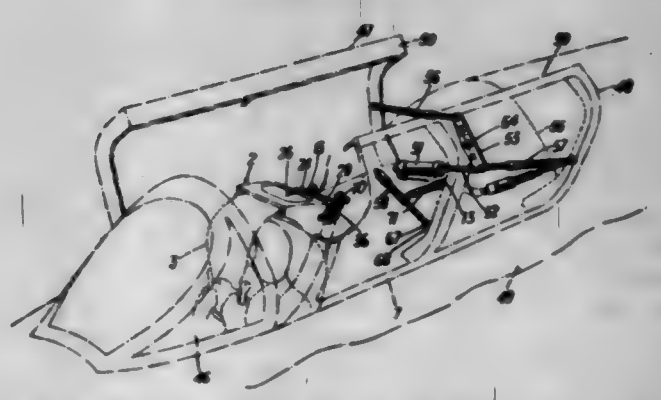


at ground level, a retrieving means mounted in the box located at the retrieve end of the installation, and a cable extending through the lead-off tube connected to the arrest end of the installation, said cable lead-off tube at ground level serving to direct a cable around surface mounted sheave means.

2,971,728
FIRING MECHANISM FOR AIRCRAFT SEAT EJECTION DEVICES

James Martin, Southlands Manor, Southlands Road, Denham, near Uxbridge, Middlesex, England

Filed June 24, 1958, Ser. No. 744,250
Claims priority, application Great Britain June 26, 1957
4 Claims. (Cl. 244—121)



1. A firing mechanism for an ejection gun employed for ejecting a seat from an aircraft cockpit normally covered by a canopy, said gun having a firing pin, a spring-loaded plunger for actuating said firing pin, said plunger having therein a transverse hole and a transverse slot spaced at right angles to each other, first and second means, independently operable in any order, for restraining said plunger, said first means comprising a restraining pin slidably positioned in said hole, rigid link means having one end connected to one end of said restraining pin and the other end connected to said canopy so that displacement of said canopy causes said link means to withdraw said pin from said hole, said second restraining means comprising a sear positioned in said transverse slot of said plunger and releasable manually.

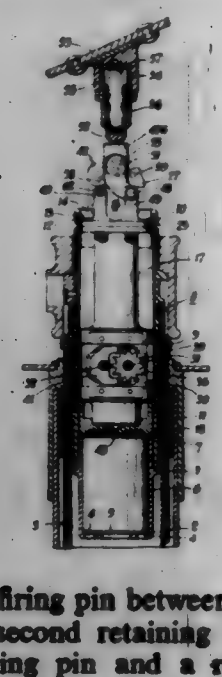
2,971,729
SEAT EJECTION GUN FIRING PIN CONTROL DEVICE

James Martin, Southlands Manor, Southlands Road, Denham, near Uxbridge, Middlesex, England

Filed May 31, 1957, Ser. No. 662,883
Claims priority, application Great Britain June 7, 1956
13 Claims. (Cl. 244—122)

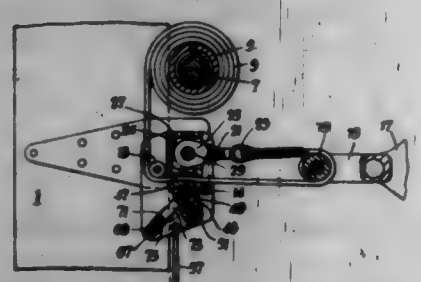
1. In an aircraft having a displaceable exit cover and a seat ejection device including an ejection gun adapted for launching a seat from the aircraft, said gun comprising a structure defining a breech chamber which is adapted

to receive an explosive cartridge therein, firing mechanism for said ejection gun comprising a housing; a firing pin carried by said housing and biased for movement from a locked position towards a released position; a striker carried by said firing pin for detonating, as the said firing pin moves into its released position under the action of its biasing, an explosive cartridge placed in said breech chamber; a first retaining member simultaneously engaging said firing pin and a first part fixed relatively to said housing to retain said firing pin in its locked position; a displaceable member carried by a second part fixed relatively to said housing; a second retaining member carried by said displaceable member so as to be movable with the latter relatively to said



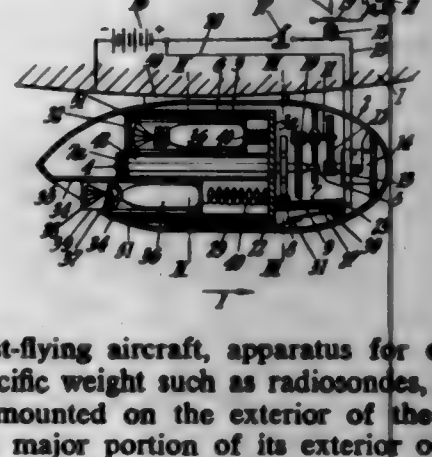
housing and to said firing pin between a restraining position in which said second retaining member engages a part of the said firing pin and a released position in which said second retaining member is disengaged from such part of the firing pin; and holding means coupled to said exit cover and normally engaging said displaceable member so as to hold said displaceable member and its second retaining member in their restraining positions until the said exit cover is displaced, whereupon said holding means is automatically withdrawn, permitting said displaceable member and said second retaining member to move into their released positions, said first and second retaining members being independent of one another and operable in any order.

2,971,730
AIRCRAFT EJECTION SEATS
James Martin, Southlands Manor, Southlands Road, Denham, near Uxbridge, Middlesex, England
Filed Dec. 17, 1957, Ser. No. 703,405
Claims priority, application Great Britain Dec. 21, 1956
3 Claims. (Cl. 244—122)



1. An aircraft ejection seat of the kind set forth, having means for coupling a seat harness of an occupant of the seat to the seat, such means comprising: a rotatable drum mounted on the seat; a flexible member wound on said drum and having a first end connected to the latter; spring means connecting said drum to the seat and tending to rotate the drum to wind the flexible member on to the latter; apertured link means on said seat harness, the second end of said flexible member extending forwardly from the drum and passing freely through said apertured link means and thence rearwardly to the seat; locking means on the seat for releasably securing said second end of the flexible member to the seat; release mechanism connected to said locking means for actuating the latter to release the flexible member therefrom; holding means on said seat engaging said flexible member to inhibit unwinding of the same from said drum; and seat occupant operable release means connected to said holding means and acting upon operation to effect positioning of said holding means so as to allow unwinding of the flexible member from the drum upon application of a forwardly directed load to said apertured link means.

2,971,731
EJECTION CONTAINER FOR RADIO PROBES
Josef Graw, Nurnberg, Germany, assignor to Dr. Graw Messgerate G.m.b.H., Nurnberg, Germany
Filed Mar. 8, 1956, Ser. No. 570,360
Claims priority, application Germany Mar. 10, 1955
1 Claim. (Cl. 244—137)

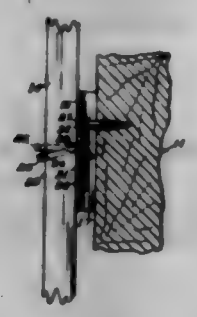


In a fast-flying aircraft, apparatus for ejecting loads of low specific weight such as radiosondes, comprising a container mounted on the exterior of the aircraft and having the major portion of its exterior of streamlined form and symmetrical about an axis extending in the normal direction of flight of the aircraft, a drum rotatably mounted in the container about an axis extending in the normal direction of flight of the aircraft, said drum being provided with a turning device and an electric motor energised via electric conductors from a source within the aircraft, said turning device and said motor being situated within said container, and with a plurality of circumferentially spaced axially extending cylinders for accommodating the respective loads, said cylinders having open rear ends, a wall having an opening in its lower portion fixedly mounted in the container across the open ends of the cylinders, an opening in the rear wall of the container in alignment with the opening in the wall, spring means within each cylinder continuously urging the load rearwardly against said wall whereby, upon adjustment of the drum to align the lowermost cylinder with the opening in the wall, the load will be ejected rearwardly from said cylinder.

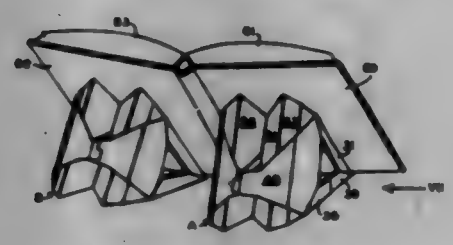
2,971,732
MIRROR BRACKET
George D. Woody, 30 E. Club Drive NE., Atlanta, Ga.
Filed Mar. 8, 1957, Ser. No. 644,895
8 Claims. (Cl. 248—28)

1. In a mirror and dresser system of the class wherein a standard extends vertically along the back of the dresser beyond the upper surface of the dresser and is fixed to the back of the mirror so as to support the mirror above the surface of the dresser, the combination therewith of a bracket aligned with said standard and fixed to the back of said dresser, said bracket compris-

ing a base having a body, spaced parallel side flanges extending from opposite edges of said body in a plane about normal to the plane of said body, there being provided aligned apertures in said flanges, a substantially U-shaped bridle with a transverse bit engaging and retaining said standard between said base and said transverse bit, the ends of said bridle extending inwardly through said aligned apertures, and a limit stop on one of said ends of said bridle for precluding pivotal movement of said bridle upwardly beyond about a horizontal position.



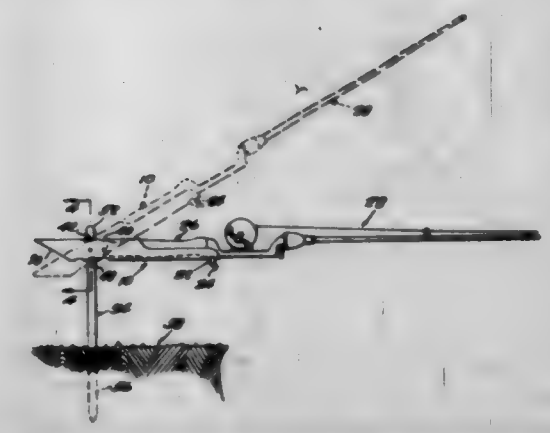
2,971,733
PORTABLE BOOKREST
Elsie B. Silverman, 1405 Burch St., Borger, Tex.
Filed Feb. 14, 1958, Ser. No. 715,362
8 Claims. (Cl. 248—37)



1. In a bookrest for supporting a book in inclined position on a relatively horizontal surface, said book having a cover, the combination of panels all foldably and permanently connected which includes a rigid compression structure, this rigid structure comprising a first flat panel with a folding rib structure attached thereto, this folding rib structure comprising a flat trapezoidal panel contacting the first flat panel along a first edge of the trapezoidal panel, and being flexibly and permanently connected thereto, and rib structure holding means extending from a second edge of such trapezoidal panel, which second edge is opposite from said first edge, to the first flat panel and which rib structure holding means is permanently and flexibly attached to and rigidly holds the trapezoidal panel in a plane at an angle to the plane of the first panel whereby said flat trapezoidal panel, in the operating book supporting position of the bookrest acts as a rib to reinforce and make rigid the first panel; a flat inclined member flexibly joined to the upper edge of said rigid compression structure and extending to the lower edge of a cover of said book; and a further foldable member flexibly joined to a lower edge of said rigid compression structure and extending to the lower edge of said book cover.

2,971,734
FISHING ROD HOLDER
William E. Grimes, 117 W. Delaware St., Fairfield, Ill.
Filed Jan. 22, 1960, Ser. No. 4,086
6 Claims. (Cl. 248—44)

3. A fishing rod holder comprising an elongated rod handle receiving body having a tubular rear portion and a concavo-convex forward portion, and combined stop and mounting means connected to said tubular portion for mounting said body on a support, said tubular portion having top, bottom, and side walls, and said combined means comprising longitudinally spaced upper holes in said top wall, longitudinally spaced holes in said bottom wall, a ground-anchored perpendicular stake having an upper end portion engaged through selected ones of the upper and lower holes, the upper end portion of the stake



present in said tubular portion serving as a fishing rod handle stop, and a pin extending through said side walls and the upper end portion of the stake, some of said upper and lower holes being in vertical alignment with each other, and at least one lower hole being disposed behind the upper holes, with the upper end portion of the stake engaged through said one lower hole and an upper hole.

2,971,735
FISHING ROD HOLDER
Allen B. Johnson, 917 S. Maple, McPherson, Kans.
Filed Sept. 9, 1958, Ser. No. 759,873
1 Claim. (Cl. 248—46)



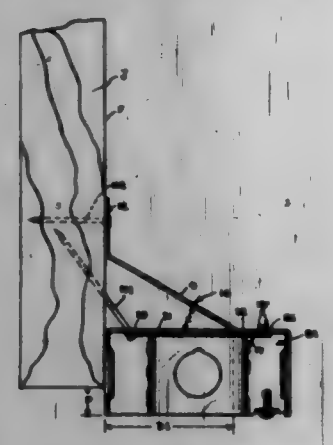
A fishing rod holder comprising a wide main section tapered towards one end, adapted to be driven into a supporting surface, the other end of said main section forming an offset hinge member providing a shoulder, a pivot bolt on which said hinge member is mounted, a fishing rod supporting arm, one end of said rod supporting arm being upturned and bifurcated providing a fishing rod rest, the other end thereof being hingedly mounted on said pivot bolt, said supporting arm resting on said shoulder normally holding said supporting arm in an inclined supporting position with respect to said main section, lugs extending from the hingedly mounted end of said rod supporting arm, a substantially short plate hingedly mounted on said bolt, adapted to pivot laterally resting against said lugs, normally holding said plate in a position at right angles to said rod supporting arm, and said plate having forwardly extended corners under which the handle of a fishing rod is held against accidental displacement.

2,971,736
SUPPORT SYSTEM FOR LARGE AREA BODIES
Paul Ernst Essoper, Rheinhausen, Lower Rhine, Germany, assignor to Beteiligungs- und Patentverwaltungsgesellschaft mit beschränkter Haftung, Essen, Germany
Filed Oct. 15, 1959, Ser. No. 846,684
Claims priority, application Germany Oct. 18, 1958
24 Claims. (Cl. 248—163)



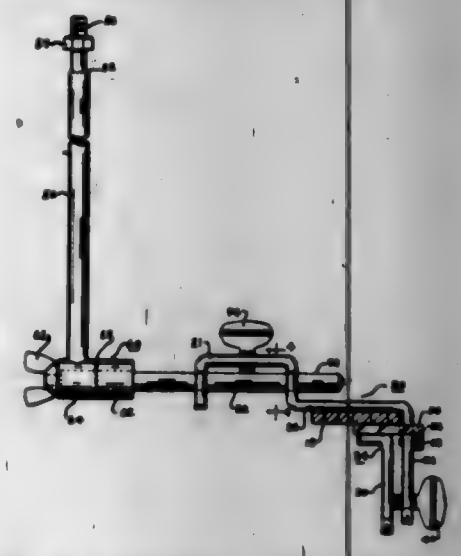
23. In a support system comprising a large area body and an endless support connected thereto: pressure and pull-resistant supporting elements having one end thereof connected to spaced portions of said endless support and having their other ends converge into a nodal point located within the maximum projection of said body, said endless support and said supporting elements forming with each other a supporting structure, the distance of said nodal point from said body being less than the maximum dimension of the latter, means supporting said supporting structure at at least three points one of which is formed by said nodal point, said means including two vertical supporting members substantially tangential to said endless support and pivotally connected to diametrically oppositely located points of said endless support for absorbing the vertical forces in the plane of said endless support and the torques produced thereby, said supporting means also including bearing means engaging the circumference of said endless support for absorbing forces acting in horizontal direction within the plane of said endless support, a pair of additional supporting members supporting said bearing means, and foundation means supporting said additional supporting members and also supporting said two vertical supporting members.

2,971,737
SUPPORT FOR ELECTRICAL OUTLET BOX
Harold C. Parker, 12108 Sunrise Lane, Hopkins, Minn.
Filed July 3, 1958, Ser. No. 747,294
4 Claims. (Cl. 248—205)



1. In combination with an outlet box having spaced apertures in the bottom surface, a support for mounting said box comprising a metal strut having an end portion bent with reference to the length of the strut, the bent portion of said strut extending through an aperture in the bottom of the box and along the interior surface of the bottom of the box, the other end portion of the strut also being bent with reference to the length of the strut to form a fastening area for securing the strut to a portion of a structure on which the outlet box is mounted, said fastening area forming an angle with reference to the length of the strut so that when the length of the strut is at an angle to the bottom of the box, and the end portion within the box is against the interior of the bottom surface of the box the fastening area extends against a portion of said structure on which the outlet box is mounted.

2,971,738
MUSICAL INSTRUMENT SUPPORTING DEVICE
George H. Way, 225 E. Jackson St., Elkhart, Ind.
Filed Aug. 8, 1958, Ser. No. 753,914
3 Claims. (Cl. 248—226)

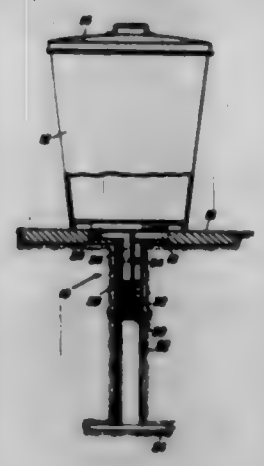


1. A device for supporting a musical instrument on a drum having a hoop with an overhanging edge, comprising a transversely curved longitudinal portion for engaging at its edges the upper side of the hoop, a portion attached to said portion and extending downwardly over the edge of the hoop, a flat member pivoted on said second mentioned portion and extending beneath the overhanging edge of said hoop, an inverted L-shaped member secured to said pivoted member and extending downwardly alongside said second mentioned portion, a thumb screw threaded through a hole in said second mentioned portion and engaging said L-shaped member for tightening said pivoted member against said hoop, an inverted U-shaped portion attached to said first mentioned portion and having aligned holes in the arms thereof, a rod having a flat side thereon extending through said holes, a thumb screw threaded through a hole in the connecting part of said U-shaped portion and engaging the flat side of said rod, a collar fixedly secured to said rod and having a knurled portion on the end thereof, a collar rotatably mounted on said rod between said first mentioned collar and the end of said rod and having a knurled portion on the end thereof adjacent the knurled portion of said first mentioned collar, a winged nut threadedly received on the end of said rod for holding said knurled portions in interlocking engagement, a rod secured at one end to said rotatable collar and extending radially therefrom, and a shoulder and a nut for securing a musical instrument to the other end of said last mentioned rod.

2,971,739
TRASH CAN HOLDER
Horace S. Kirkland, 234 W. 22nd St., Jacksonville, Fla.
Filed Apr. 29, 1960, Ser. No. 25,603
12 Claims. (Cl. 248—361)

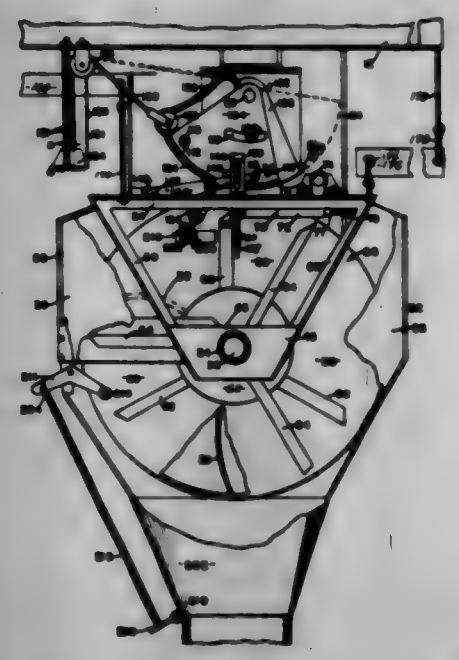
1. A trash can and lid holder comprising, support means upon which a trash can may rest, recess means disposed within said support means and defining an area on the support means over which said trash can is to be posi-

tioned, magnetic means operative to magnetize said trash can, said magnetic means being extensibly mounted above said recess, adjustable means for adjustably connecting said magnetic means to said support means for holding



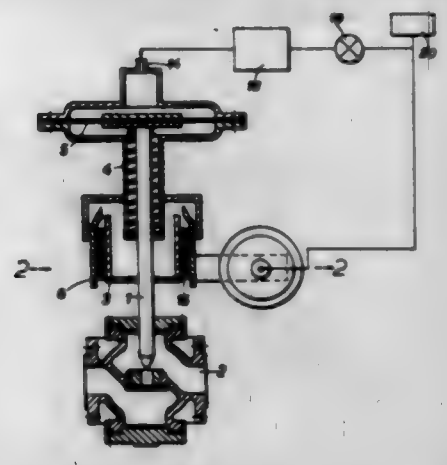
said trash can with lid, on said support means, and retaining means operatively connected to said adjustable connecting means to prevent removal of said magnetic means from said support means so that said trash can may be lifted out of the influence of said magnetic means.

2,971,740
BULK WEIGHING AND TRANSFER MACHINE
Carey L. Davis, Decatur, Ga.
(1691 Dresden Drive NE., Atlanta 19, Ga.)
Filed Mar. 11, 1957, Ser. No. 645,377
13 Claims. (Cl. 249—19)



1. In a machine for measuring and dividing units of material from a bulk feed source such as a storage hopper feeding by gravity and wherein said machine includes a compartmented hopper rotatably mounted on its own axis and also vertically movable beneath the bulk feed source, a stationary frame support for said hopper supporting said hopper for vertical and rotatable movement thereon, a hopper support frame, a weight frame having said hopper support frame attached thereto at one position thereon and being attached to said stationary frame at another position thereon, a weight frame platform attached to said stationary frame, counterweights mounted on said weight frame counterbalancing said hopper to maintain same in substantial upright position, said counterweights being detachable and selective in amounts, other setting weights supported on said weight frame and being detachable and selective to add to the counterbalancing of said hopper thereby setting the amount to be weighed in close approximation, a dribble weight mounted on said weight platform and being relatively light in weight to represent the difference between the setting weights and the exact weight desired on each measurement, a valve on said machine between said bulk feed and said rotatable hopper to feed into the upper hopper compartment, a control segment operatively connected with said valve, movable to open and close the valve, a fast feed stop on said segment, a dribble feed stop on said segment spaced from said fast feed, a track member on said segment, a movable member confined for movement on said track, a flexible member connected with said movable member, a counterweight for said flexible member, said counterweight urging said segment from fast to dribble feed, a stop member on said frame engageable with said stops, an actuating member mounted with said hopper and acting on said stop member when said hopper moves downwardly to bring same out of contact, a hopper stop member on said frame, a plurality of hopper fill stop arm members mounted with said hopper in spaced, arcuate position, a plurality of hopper re-set arms mounted with said hopper in spaced, arcuate relation thereon and a re-set member connected with said segment to move same to re-set.

2,971,741
RETAINING MEANS FOR DIAPHRAGM VALVES OPERATED BY COMPRESSED AIR
Kurt Eppler, Leverkusen, and Franz J. Kollbach, Koln-Dunnwald, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
Filed July 14, 1958, Ser. No. 748,470
Claims priority, application Germany July 20, 1957
4 Claims. (Cl. 251—61)



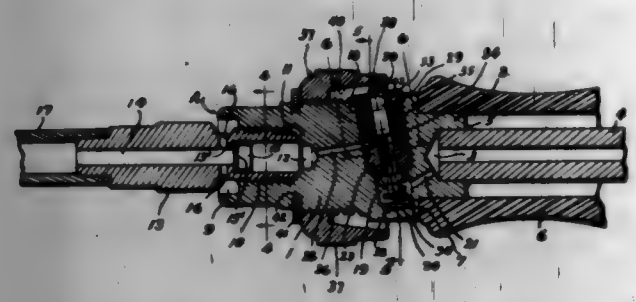
1. An automatic flow regulating device comprising a housing, a diaphragm forming with said housing a fluid pressure chamber having a port therein for receiving a control pressure fluid, a spring engaging the side of the diaphragm opposite said chamber, a valve casing having a valve member therein for controlling a flow passage through said casing, a valve spindle operatively engaged between said diaphragm and said valve member, said spring urging said diaphragm toward the valve open position, releasable clamping means engageable with said spindle for preventing movement thereof, second means responsive to said control pressure fluid connected to said clamping means for disengaging said clamping means from said spindle, and spring means urging said second means in a direction to engage said clamping means whereby upon failure of said control fluid pressure said clamping means will engage said spindle to prevent movement thereof.

2,971,742
GAS BURNING TORCHES

Irwing F. Fausek, Clayton, and Willis L. Reedy, St. Louis, Mo., assignors to Modern Engineering Company, St. Louis, Mo., a corporation of Missouri

Continuation of application Ser. No. 591,938, June 18, 1956. This application June 18, 1959, Ser. No. 821,317

4 Claims. (Cl. 251—340)

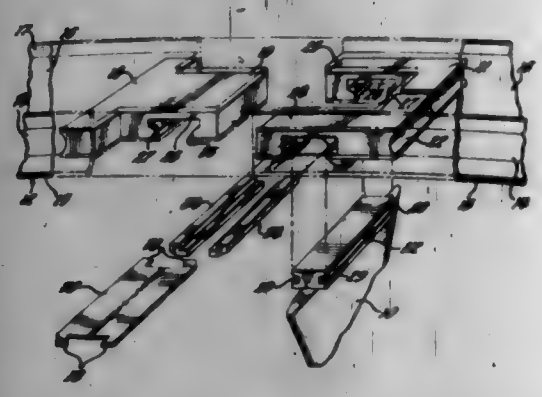


1. A valve comprising a body portion having an obstructible passageway therethrough, a sleeve concentric with said body portion, said sleeve having on its inner surface thread means engaging thread means on the outer surface of said body portion so that said sleeve is spirally movable relative to said body portion, said sleeve having a substantially frusto-conical interior face, and a valve operating member obstructing said passageway and extending outwardly from said body portion and biased into engagement with said frusto-conical interior face so as to be moved with respect to said body portion by spiral movement of said sleeve.

2,971,743
INTERLOCKED BLADE SHROUDING

Harvey W. Welsh, Indianapolis, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Aug. 14, 1957, Ser. No. 678,090
6 Claims. (Cl. 253—77)

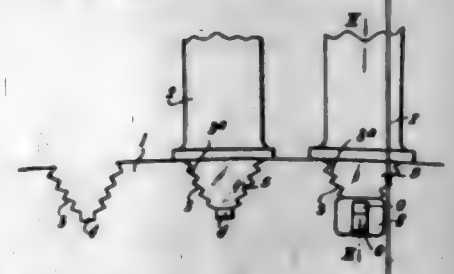


1. A shrouded turbomachine rotor structure comprising, in combination, a rotor, a ring of blades extending from the rotor, a shroud mounted on the tips of the blades, the shroud comprising a number of segments mounted end-to-end to provide a shroud around the tips of the blades, each shroud segment having two tongues spaced chordwise of the blade at one end and a tongue at the other end extending between the two tongues at the said one end of the adjacent shroud segment, the tongues having an undercut slot extending chordwise of the blade providing ledges facing outwardly from the rotor, each blade having a head on the tip thereof extending chordwise of the blade, the head being dimensioned so as to be insertable radially into the slot and defining a shoulder facing inwardly toward the rotor at each face of the blade, and keys insertable by movement lengthwise of the slot engaging between the shoulders and the ledges retaining the segments on the blades.

2,971,744
BLADE LOCK

Joseph Szydlowski, Bordes (Basses-Pyrenees), France

Filed Nov. 21, 1957, Ser. No. 697,970
Claims priority, application France Nov. 27, 1956
6 Claims. (Cl. 253—77)



1. Blade lock, notably for rotor blades of turbines, compressors and like machines which are fastened on the rotor wheel through a series of longitudinal conjugate ribs and grooves respectively formed on the blade roots and in the rotor wheel, comprising, in combination, for each blade, two flat washers respectively engaging the adjacent registering lateral walls of the blade root and rotor wheel on either side of said blade root and rotor wheel, and two pins in contacting engagement extending through said washers and through a longitudinal bottom groove formed in the rotor wheel beneath the blade fastening groove and having the shape of the washer hole, said pins having heads at their their ends to abut parts of the washers, the two heads abutting the same washer being opposite to each other.

2,971,745
FABRICATED BLADE AND BUCKET ROTOR ASSEMBLY

Robert Evans Warren and William Widlansky, Marblehead, Mass., assignors to General Electric Company, a corporation of New York

Filed Jan. 12, 1959, Ser. No. 786,404
5 Claims. (Cl. 253—77)

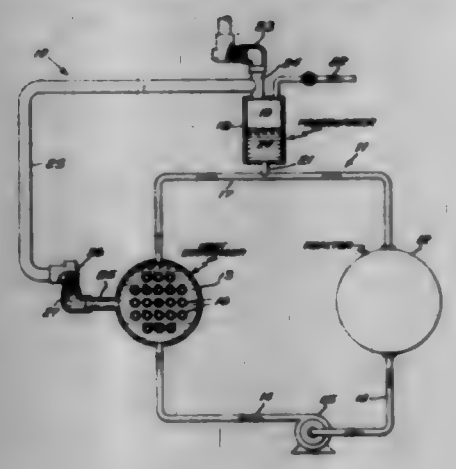


1. In combination with a rotor for use in a gas turbine powerplant, a circumferential row of inner blade elements secured to said rotor and having radially outwardly extending first spaced-apart tangs formed therein, a plurality of outer blade elements arranged concentrically about said row of inner blade elements each of said outer blade elements having radially inwardly extending second spaced-apart tangs formed therein and positioned to interengage with said first tangs a corresponding one of said inner blade elements, an annular segmented shroud member arranged concentrically between said rows of blade elements and having a plurality of radially disposed slots positioned to receive said first and said second tangs, interengaging tangs of corresponding ones of said inner and outer blade elements and said shroud member having aligned openings therein, and blade locking means received in said aligned openings for releasably securing corresponding ones of said inner and outer blade elements to said shroud member.

2,971,746
PRESSURE SAFETY ASSEMBLY FOR HEAT EXCHANGERS

Alan Bell, Cookham, England, assignor to Foster Wheeler Corporation, New York, N.Y., a corporation of New York

Filed Aug. 27, 1957, Ser. No. 680,516
6 Claims. (Cl. 257—1)



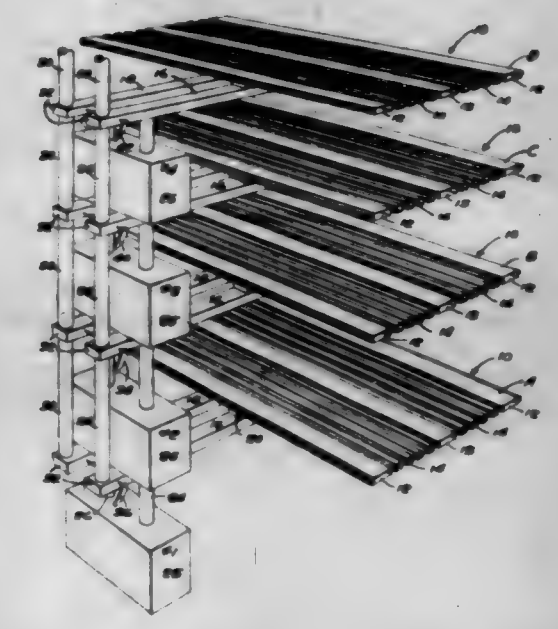
1. In a fluid heat exchange system having a fluid heating means to provide a heated fluid, a heat exchanger communicating with said heating means to receive the heated fluid therefrom and a source of fluid to be heated at a pressure substantially greater than the pressure of the heated fluid, said heat exchanger being adapted to pass said heated fluid and fluid to be heated in indirect heat exchange relationship with each other, said heat exchanger being connected to deliver cooled heated fluid to said heating means for reheating, a pressurizer having a vapor and liquid space, said pressurizer being in communication with said heat exchanger to receive heated fluid in said liquid space thereof and with a source of pressurizing fluid under pressure to receive pressurizing fluid in said vapor space to maintain the heated fluid under a relatively low pressure; the combination of a pressure safety assembly comprising, a first discharge conduit connected to communicate with the vapor space of the pressurizer and atmosphere, a first pressure relief device in said conduit, said first pressure relief device being operative to prevent flow of pressurizing fluid through said conduit and to pass pressurizing fluid and heated fluid through said conduit when a pressure rise of the heated fluid causes a rise in pressure in the pressurizer above a maximum safe operating pressure, a second unobstructed discharge conduit connected at one end to the heat exchanger to receive heated fluid and at the other end connected to the pressurizer to receive pressurizing fluid from the vapor space of the pressurizer, and a second pressure relief device disposed in said second conduit in close proximity to said heat exchanger, said second pressure relief device being operative to prevent flow of heated fluid through said conduit and to pass the heated fluid therethrough, before said first pressure relief device becomes operative to pass heated fluid through said first conduit, when the heated fluid attains a pressure value in the heat exchanger in excess of the maximum safe pressure of the assembly.

2,971,747
AIR CONDITIONING AND DISTRIBUTING SYSTEM

James H. Young, Pittsburgh, Pa., assignor to H. H. Robertson Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed July 11, 1957, Ser. No. 671,156
7 Claims. (Cl. 257—295)

1. In a multi-story building, an air conditioning and distributing structure comprising an individual air distributing duct system for each story of the building, individual independently operated package air conditioning units at selected stories of the building, each individual package unit being connected to the duct system of its story, means normally free of conditioned air for interconnecting the air distributing duct systems of the stories

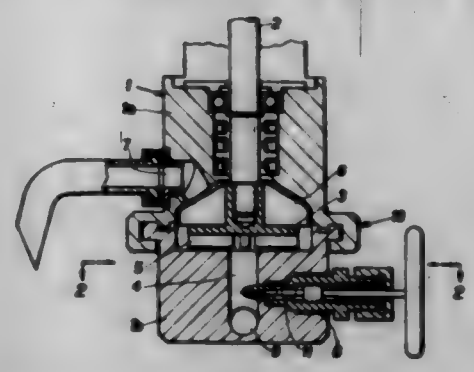


of the building, and means for controlling the distribution of conditioned air from the duct systems of selected stories of the building to the duct systems of other selected stories of the building through said interconnecting means.

2,971,748
CONTINUOUS MIXER

Konrad Ellegast, Leichlingen, Germany, assignor to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

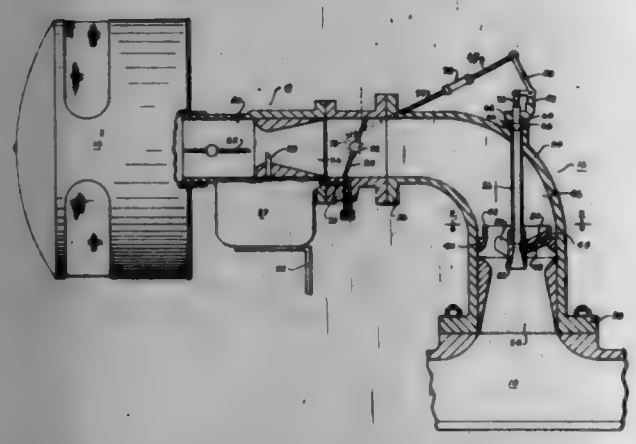
Filed May 20, 1958, Ser. No. 736,599
Claims priority, application Germany July 3, 1957
3 Claims. (Cl. 259—7)



1. An apparatus for continuously mixing a number of liquids comprising a mixer housing including a cavity, a disc-type stirrer rotatably mounted within said cavity, said housing including an inlet duct connected to said cavity at a portion thereof adjacent one face of said stirrer and an outlet duct connected to said cavity at a point adjacent a central portion of the other face of said stirrer, radially directed blades mounted upon both faces of said stirrer, drive means connected to said stirrer for rotating it in one direction, said blades upon the face of the stirrer disposed adjacent said inlet conduit being swept backwardly away from their direction of rotational movement for imparting a centrifugal pumping action upon liquid within said inlet duct and inducing said liquid to flow into said cavity and radially outwardly through the centrifugally-pumping blades, said blades upon the face of said stirrer adjacent said outlet duct being swept forwardly in their direction of rotational movement for acting centripetally upon said liquid and inducing it to flow

radially inwardly through the centripetally-acting blades and into said outlet passageway in a thoroughly mixed condition, said backwardly-swept blades terminating substantially at the periphery of said stirrer, said forwardly-swept blades extending a short distance past the edge of said stirrer, and said cavity including a cylindrical wall enclosing both of said blades which provides a space between the outer edges of said backwardly-swept blades and the protruding edges of said forwardly-swept blades for conducting said liquid through the outer edges of said backwardly-swept blades into the protruding edges of said forwardly-swept blades.

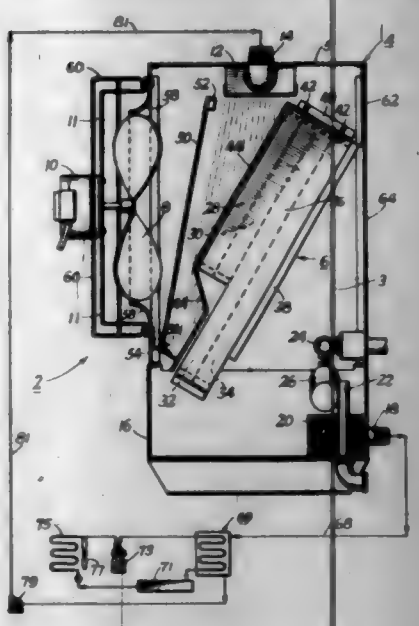
2,971,749
CARBURETION SYSTEM AND METHOD
William E. Leibing, South Pasadena, Calif.
(P.O. Box 163, Cambria, Calif.)
Filed July 14, 1959, Ser. No. 827,089
14 Claims. (Cl. 261—47)



1. In an induction system of an internal combustion engine having a manifold and a carburetor with a throttle valve therein: walls forming an induction passage between said carburetor and manifold having a substantially right angle curve therein, an annular member in said passage forming an annular channel adjacent the walls thereof on the downstream side of said curve, a small venturi disposed in said passage and extending downstream from said annular member, three arms connected to said annular member and supporting said venturi, passages in said arms connecting said channel with said venturi, a large venturi around the outlet of said small venturi and adjacent the outlet of said passage, a tube extending through the wall of said passage to the inlet of said small venturi for supplying air thereto, a valve for controlling the flow of air through said tube, and a linkage connected to the throttle valve of the carburetor for increasing and decreasing the flow of air through said tube when the throttle valve is moved toward open and closed position, respectively.

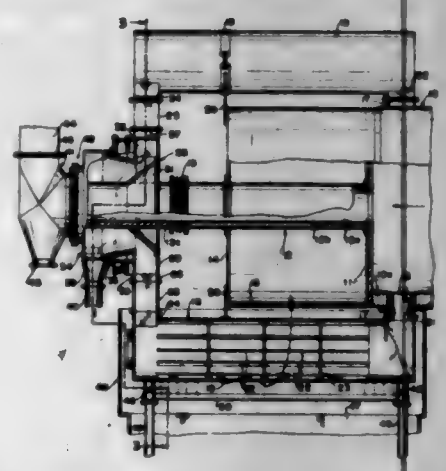
2,971,750
EVAPORATIVE COOLING TOWER AND THE LIKE
Cecil Boling, West Hartford, Conn., assignor to Dunham-Bush, Inc., West Hartford, Conn., a corporation of Connecticut
Filed Aug. 3, 1955, Ser. No. 526,105
6 Claims. (Cl. 261—111)

1. In evaporative cooling apparatus, a unit comprising a plurality of rectangular assemblies each of which is formed by a rectangular frame and a fin assembly mounted in said frame, each of said rectangular assemblies having two opposite faces, said fin assemblies comprising a plurality of corrugated strips mounted within said frame with the corrugations extending generally between said opposite faces but at a small angle from lines transverse to said faces whereby passageways are provided which are slightly offset, said corrugated strips being positioned so that the passageways formed by one strip



are offset oppositely from the passageways of the next adjacent strip.

2,971,751
COOLING APPARATUS
Axel Brix Andersen, Larchmont, N.Y., assignor, by mesne assignments, to F. L. Smidth & Co., New York, N.Y., a corporation of Delaware
Filed Feb. 11, 1958, Ser. No. 714,583
6 Claims. (Cl. 263—32)



1. The combination comprising a rotary kiln shell having a closed lower end with a central opening and a plurality of discharge ports through the periphery thereof, the discharge ports being located in a circumferential series adjacent to its lower end, a plurality of cooling cylinders mounted in a circumferential series on the kiln shell and encircling its lower end, the cylinders extending lengthwise of the kiln shell and terminating beyond its lower end, inlet conduits extending in a generally radial direction with respect to said kiln shell and connecting said discharge ports with the upper ends of said cooling cylinders for conducting into the cylinders material leaving the kiln shell through said ports, a casing secured to the lower end of the kiln shell coaxially thereof to rotate therewith, the casing lying inwardly relatively to the cylinders, generally radially-extending outlet connections from said cylinders for conducting cooled material from the cylinders at their lower ends into the rotating casing, a stationary casing adjacent to and receiving cooled material from the rotating casing, a seal between the rotating and stationary casings, and a tube directly connected to the lower end of the kiln shell around the central opening for conducting gases from the kiln shell, the tube extending through the stationary and rotating casings and discharging the gases outside the casings.

2,971,752

METHOD OF HEATING AND REFORMING HYDROCARBONS AND OTHER GASES

Julius D. Madaras, Longview, Tex., assignor to Gas Incorporated, Detroit, Mich., a corporation of Michigan

No Drawing. Filed Aug. 30, 1954, Ser. No. 453,164
9 Claims. (Cl. 263—52)

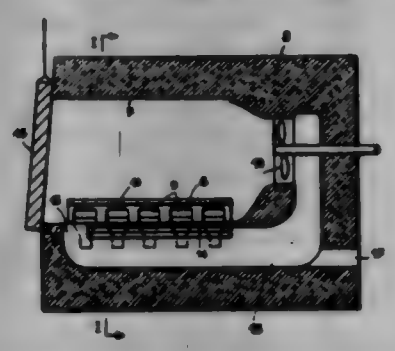
1. Method of heating gases which comprises preheating a checker heater to a relatively high temperature, introducing a gas into said preheated checker heater at higher pressure, and increasing the pressure within the checker heater, then exhausting the gaseous products to lower pressure, repeating the cycle of introducing the gas, increasing the pressure and exhausting the gas until the temperature of the checker heater is substantially reduced, then again preheating the checker heater to the said high temperature, and continuing with the cycle.

2,971,753

PROCESS AND AN OVEN FOR THE BAKING OF ENAMELS ON ARTICLES OF FERROUS METAL

Fernand Victor François Hermans, 16 Rue Papenkasteel, Uccle, Belgium

Filed July 1, 1955, Ser. No. 519,603
Claims priority, application Belgium July 8, 1954
3 Claims. (Cl. 263—52)



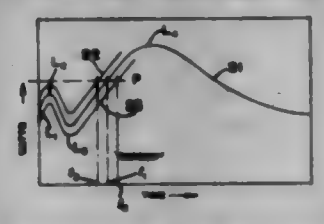
1. A process for removing combined water from porcelain enamels and for vitrifying porcelain enameling material on articles of ferrous metal by fusion of the enameling material in an oven heated by combustion gases, comprising introducing said combustion gases into said oven in contact with the enamel-coated articles, circulating the combustion gases at an effective speed by applying a positive pressure to said gases during contact thereof with the enameling material being melted, removing from said oven the combustion gases as they are being circulated, and removing from said oven the combined water contained in the enameling material during the heating of the latter preceding their fusion as the circulated gases are removed from said oven, thereby preventing injurious oxidation of the metal by combined water originally contained in the enameling material.

2,971,754

CONTROL OF HIGH FREQUENCY INDUCTION HEATING

Richard F. Seyfried, Cleveland, Ohio, assignor to The Ohio Crankshaft Company, Cleveland, Ohio, a corporation of Ohio

Filed July 16, 1958, Ser. No. 749,018
3 Claims. (Cl. 266—5)



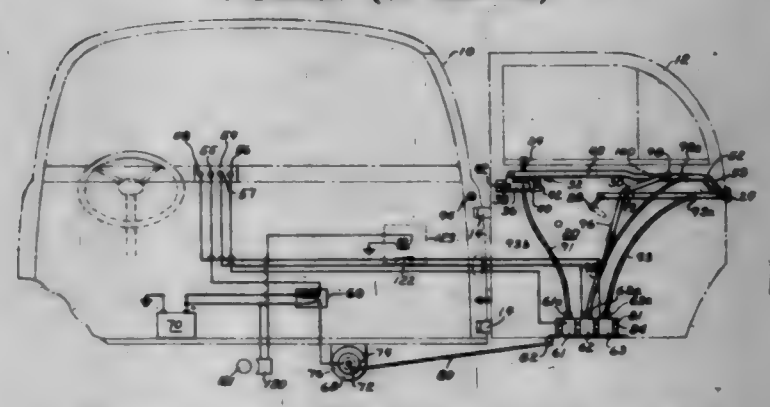
1. In a high frequency induction heating apparatus including a high frequency power source, a load and contactors for controlling the energization of the load, means for closing the contactors to start a heating cycle and means for opening the contactors to terminate a heating cycle, the improvement which comprises said last-mentioned means being comprised of a watt meter actuated by the power input at an instant to the load, means on said watt meter associated with said contactors for opening same when the power input at an instant to the load reaches a predetermined value, and thus terminating a heating cycle, quenching means for discharging quench fluid onto the load, and means operated by said watt meter for initiating the operation of said quenching means to discharge quench fluid onto the load when the power input at an instant to the load reaches said predetermined value.

2,971,755

DOOR ACTUATOR AND LOCKING SYSTEM

William H. M. Green, Washington, D.C., assignor to Systems Control, Inc., Hyattsville, Md., a corporation of Maryland

Filed Aug. 18, 1959, Ser. No. 834,565
7 Claims. (Cl. 268—65)



1. A door actuator and locking system including a door, a door catch means, a lock release arm operable by a handle, a remote control lock arm operable by a push button mounted on the door for locking the door catch means when in a lock-position so that the lock release arm as operable by the handle does not unlock the door, the invention comprising a solenoid operable by a push-button mounted remotely of the door, a flexible cable coupling the solenoid to the remote control lock arm so that when the solenoid is actuated, the remote control lock arm is moved to a lock position, a second solenoid operable by a push-button mounted remotely of the door, a second flexible cable coupling the second solenoid to the remote control lock arm so that when the second solenoid is actuated, the remote control lock arm is removed from the lock position, a third solenoid operable by a push-button mounted remotely of the door, a third flexible cable coupling the third solenoid to the door catch means so that when the third solenoid is actuated, the door catch means is released for allowing the door to open, a spring element mounted on the door for urging the door open when the door catch means is released, a motor mounted remotely of the door operated by a push button means and having a rubber spool mounted on its shaft, a fourth flexible cable coupled at one end to said rubber spool and to the door at the other so that when the motor is energized, the cable connected thereto is wound upon the spool pulling the door closed, and a spring in bias relation to the motor and spool for maintaining the fourth flexible cable stressed.

2,971,756

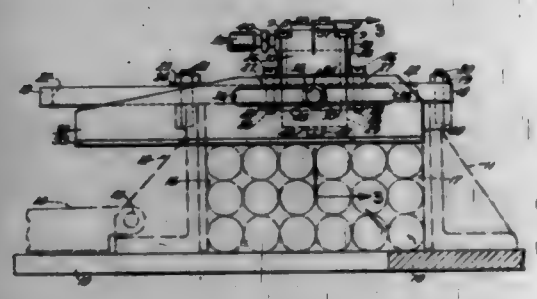
WORKHOLDING DEVICE

Victor Debs, Ridgewood, N.Y., assignor to American Machine & Foundry Company, a corporation of New Jersey

Filed Aug. 16, 1957, Ser. No. 678,566
8 Claims. (Cl. 269—142)

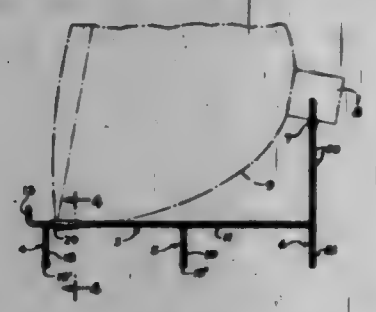
1. A nesting device adaptable for holding a number of work pieces and to be used in combination with a

base plate, a pair of jaws having opposed faces mounted along said base plate, at least one of said jaws being movable toward and away from said other jaw, said nesting device comprising an elongated main support member fixed to the upper portion of one of said jaws and slidably movable with respect to the other of said jaws, a hold down bar disposed substantially parallel to said base plate extending from the face of one jaw toward and beyond said other jaw, means mounting said hold



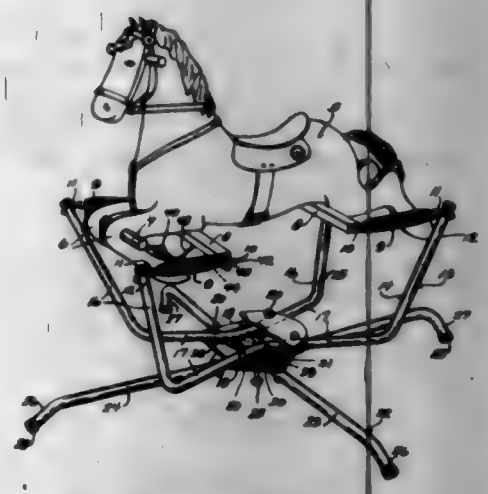
down member on said main support member and means engaging said main support member and said hold down bar to exert a work-holding force on said hold down bar, said means being longitudinally adjustable with respect to said support means and said hold down bar so said force may be exerted on said hold down bar at a point midway between said jaws so that work pieces clamped between said jaws may be clamped between said base plate and said hold down bar.

2,971,757
RACK FOR TELEVISION PICTURE TUBE
Sydney Terman, 5643 W. North Ave., Chicago, Ill.
Filed Feb. 3, 1958, Ser. No. 712,751
1 Claim. (Cl. 269—163)



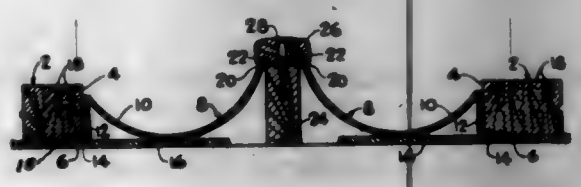
A rack for a television picture tube having a curved bottom and a neck, said rack comprising: a one-piece elongated rectangular, horizontally oriented, wire-rod, tube support base frame having spaced, longitudinal sides in the same horizontal plane for cradling the curved bottom of a picture tube, a transverse end joining one of the ends of said longitudinal sides, the opposite ends of said longitudinal sides terminating in short, upwardly-extending portions which are joined at their tops by a horizontal end portion extending at right angles to and above said longitudinal sides to act as an end retaining means for preventing a picture tube supported by said longitudinal sides from slipping off the end of the rack; a pair of one-piece, wire-rod, leg-forming pieces for elevating said tube support frame and supporting the same in said horizontal position, said leg-forming pieces each having a horizontal frame bracing portion from the ends of which depend legs, the frame bracing portion of one of said leg-forming pieces secured to and beneath corresponding ends of said longitudinal base frame sides, the frame bracing portions of the other leg-forming piece secured to and below the central portion of said base frame; and a one-piece, wire-rod, saddle and leg-forming means having upstanding sides secured to the base frame at the end thereof opposite to the end having said retaining means, said upstanding sides extending below said base frame to form support legs, the bottoms of which are in the same plane as the legs of the other of said leg-forming pieces, said upstanding sides extending above said base frame and the top thereof and terminating in a downwardly bent portion forming an open-top saddle for supporting the neck of a television picture tube, the bottom of said saddle being spaced substantially above said tube support frame; and the otherwise exposed metal portion of said rack being coated with an insulating material.

2,971,758
ROTATABLE ROCKING TOY
Edward J. Zimmers, 1600 Junction Ave., Racine, Wis.
Filed Apr. 21, 1958, Ser. No. 729,808
9 Claims. (Cl. 272—51)



1. A rotatable rocking toy comprising, a base frame having a non-vertical axis, an upper frame rotatably mounted on said base frame for rotation about said non-vertical axis, and a toy having a seat for a child and rockably mounted in a central portion of said upper frame whereby a child is mounted centrally in said upper frame and can rock and simultaneously shift his weight from one side of said axis to another to cause gravity to rotate said horse about said axis.

2,971,759
GUTTER FOR BOWLING ALLEY
Melvin Blatt, 1610 Westover Road, Morrisville, Pa.
Filed July 14, 1958, Ser. No. 748,235
7 Claims. (Cl. 273—51)



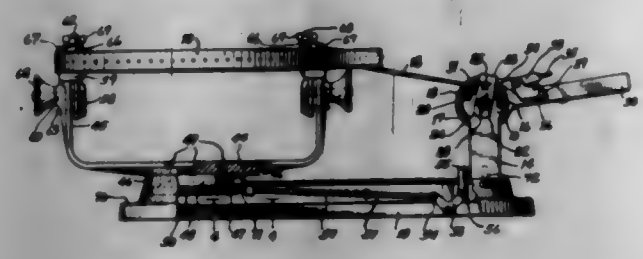
1. A bowling alley comprising a playing surface having an edge board with a longitudinally extending recess in the laterally facing surface thereof and an elongated gutter element positioned adjacent said edge board and having a concave upwardly facing ball receiving channel therein, the edge of the gutter element adjacent the edge board having an outwardly projecting flange thereon positioned in the recess in the edge board, the opposite edge of the gutter element being fixedly secured in place and said gutter element being transversely flexible and resilient whereby the inherent resiliency thereof serves continuously to urge said flange into said recess.

2,971,760

APPARATUS FOR STRINGING TENNIS RACKETS AND THE LIKE

Mary Morris Boykin, 189 Boulevard, Pelham, N.Y., and Robert D. Stubbs, 6310 SW. 19th Terrace, Miami, Fla.

Filed Jan. 10, 1958, Ser. No. 709,725
(Filed under Rule 47(a) and 35 U.S.C. 116)
4 Claims. (Cl. 273—73)



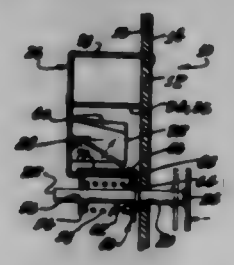
1. A portable device for stringing tennis rackets and the like comprising a base, a pair of rotatably opposed spaced vertical arms at one end of said base, each of said arms having an opposed horizontally movable racket frame holding clamps, opposed horizontal pins mounted in said clamps and through said frame, means for moving said pins inwardly whereby said clamps are moved inwardly decreasing the distance between said clamps, pressure means above said clamps, said means pressing downwardly on the racket frame when said frame is held in the racket holding clamps, a cog wheel having a collar affixed to said vertical arms within said base, a longitudinally adjustable locking rod fitted in said wheel, gear means connected to said rod whereby it may be moved into and out of a locking position, a string tensioning device connected to the other end of said base having a vertically extending arm, said arm being drum shaped at one end, a calibrated tensioning scale on said drum, an adjustable stop plate overlapping said scale, a reciprocally rotatable handle centrally pivoted at said drum, pawl means on said handle to cooperate with said stop plate over said calibrated scale to prevent upward motion, a string winding plate affixed to said handle at said pivot, and counter rotation locking means on said handle.

2,971,761

TOY DISPENSING TARGET

Clair Omar Musser, Studio City, Calif., assignor to Knickerbocker Plastic Company, Inc., North Hollywood, Calif., a corporation of California

Filed May 21, 1956, Ser. No. 586,164
6 Claims. (Cl. 273—102.3)



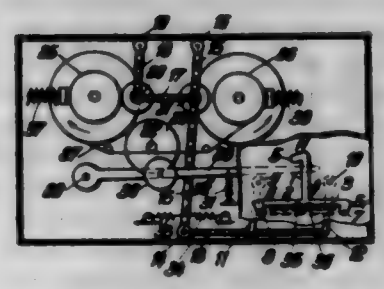
1. A toy dispensing target which comprises: a support having front and rear sides, said support being designed to be disposed in a vertical plane; means for holding said support in a vertical plane; means defining a centrally located aperture in said support; a rod positioned perpendicular to said support and extending through said aperture so as to project from both sides of said support; a target member attached to the extremity of said rod on the front side of said support, said target member having a surface remote from said front side of said support which is parallel to said front side, said surface being designed to be engaged by a projectile so as to actuate said target; a first inclined chute having an open top, a bottom wall and a side opening adjacent to and above said bottom wall located on the rear side of said support generally above said rod so that said bottom wall is located adjacent to, and spaced from said rod; a second inclined chute having first and second openings located in the lower side thereof positioned on the rear side of said support so that said first side opening in said second inclined chute is in communication with said side opening in said first chute, said first side opening in said second inclined chute being located above said second side opening in said second inclined chute; a third inclined chute having a top side opening located on the rear side of said support with said top side opening in communication with said second side opening of said second chute; means defining a dispensing opening in said support leading from the bottom of said third inclined chute to the front side of said support; a container adapted to receive articles passing through said chute attached to said front side of said support beneath said dispensing opening, said container having an open top; a member secured to said rod so as to extend therefrom, said member located on said rod adjacent to the rear side of said support; bearing means attached to the rear side of said support so as to support an extremity of said rod remote from said support; a bell crank lever having an opening in one arm thereof positioned on the rear side of said support so that said rod passes through said opening in said lever, said arm of said lever containing said opening being located on said rod so as to be spaced from said support by said member secured to said rod, the other arm of said bell crank lever being located within said first chute adjacent to said bottom wall, part of said first chute serving as a fulcrum to said lever; a coil spring located between said bearing means and said bell crank lever around said rod, said coil spring serving to normally hold one arm of said bell crank lever and said member secured to said rod against one another and against said support, said coil spring being capable of deformation when said target member is engaged by a projectile so as to allow said bell crank lever to rotate causing an article located in said first chute to be moved to said second chute from which said article moves by gravity to said third chute and through said dispensing opening into said container.

2,971,762

CONTROLLING MAGNETIC SOUND RECORDING AND REPRODUCING DEVICES

Werner Zorn, Schillerstrasse 5, Berlin-Zehlendorf-West, Germany

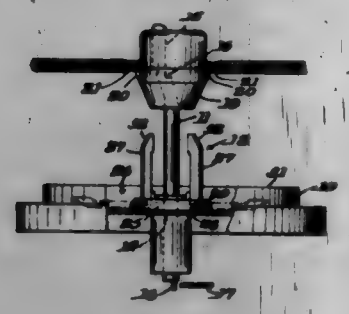
Filed June 3, 1957, Ser. No. 663,310
Claims priority, application Germany June 5, 1956
4 Claims. (Cl. 274—4)



1. A magnetic tape apparatus for recording and/or reproducing sound with a motor-driven mechanism for performing different tape speeds and tape directions, said apparatus containing the following parts: a case, tape spool discs arranged on the upper wall of said case, a first slot lying rectangularly to the connecting line between the axes of said tape spool discs provided in said upper wall,

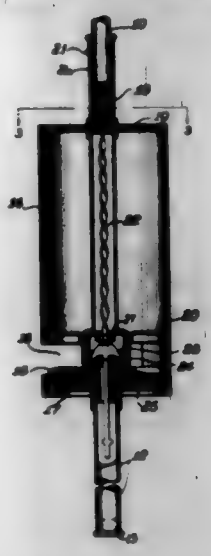
a second slot in said upper wall lying rectangularly to said first slot and forming a T with it, a control lever one end of which is pivotally mounted within said case, the other end of said control lever projecting through said slots is movable by user's hand along said slots, two turnable levers, one end of each being pivotally mounted on an axis arranged rectangularly to said upper wall of said case, and the free ends of said turnable levers being arranged near the ends of said second slot, a rod connecting said free ends of said two levers with each other, a third turnable lever one end of which is pivotally mounted on an axis arranged rectangularly to said upper wall of said case and the free end of which is pivotally connected with said rod, said third lever carrying at least one coupling disc coupled with said driving motor and adapted to be frictionally applied to the periphery of one of said spool discs for performing "rapid speed," said two turnable levers, said rod and said third turnable lever being arranged in such a manner that by shifting said control lever into one of the ends of said second slot one of said two turnable levers together with said rod and said third turnable lever is shifted into a position in which said coupling disc is applied to one of said spool discs for performing "rapid speed left" or "rapid speed right," and a fourth turntable lever lying about rectangularly to said first slot and carrying an attach disc adapted to be applied to a tape capstan, one end of said fourth turnable lever being pivotally mounted on an axis arranged rectangularly to said upper wall of said case, and the free end of it being arranged near one end of said first slot in such a manner that by shifting said control lever into said slot end for performing "normal speed," said fourth turnable lever is shifted into a position in which said attach disc is applied to said tape capstan.

2,971,763
PHONOGRAPH RECORD ADAPTER
Marcel Jules Helene Staar, 30 Square du Solboech, Brussels, Ixelles, Belgium
Filed May 21, 1956, Ser. No. 586,074
Claims priority, application Belgium Sept. 17, 1955
4 Claims. (Cl. 274—10)



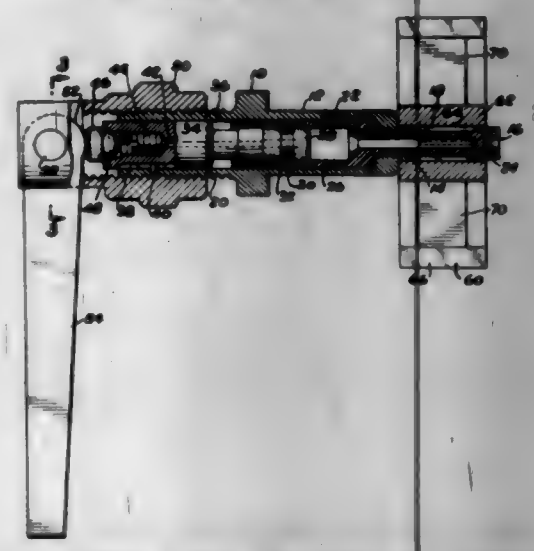
1. In a phonograph record player having a record turntable and a non-rotatable small diameter spindle extending above the turntable for stacking and playing phonograph records having like sized center holes, an adapter assembly enabling the playing of phonograph records having relatively large diameter center holes, comprising, in combination, a head adapted to be carried on the spindle for supporting a stack of such records above the turntable, said turntable having a recess in the center thereof, and a plurality of arms pivotally mounted in the recess and disposed equidistantly about the central axis of the turntable, said arms being pivotable from a first position in the recess below the turntable surface whereby records having small diameter center holes may be played on the turntable, to a second erect position standing below the head for receiving, guiding and centering on the turntable records released from the stack, whereby said records may be played on the turntable.

2,971,764
SPREADER FOR GRANULAR MATERIAL
Vincent P. McLaughlin, 287 Poland-Center Road, Poland 14, Ohio
Filed Dec. 18, 1958, Ser. No. 781,396
4 Claims. (Cl. 275—12)



1. A spreader for granular material comprising a hopper, a depending body member supporting said hopper, a main disc rotatably positioned in the bottom of said hopper adjacent a slot in the wall of said hopper, a tubular member in said hopper and a body member telescopically engaged in said tubular member and extending thereabove, a twisted rod secured to said body member and extending axially thereof through said tubular member and said disc and means engaging said rod and said disc for rotating said disc when said rod is moved vertically, downwardly, said means comprising a slotted spider positioned in the bottom of said hopper on said twisted rod and co-operating with a deformable disc positioned therebeneath and on said main disc.

2,971,765
HYDRAULICALLY EXPANSIBLE ARBOR
George L. Atherholt, Sr., Van Dyke, Mich., assignor to A & C Engineering Co., Warren, Mich., a corporation of Michigan
Filed Aug. 16, 1957, Ser. No. 678,594
5 Claims. (Cl. 279—4)



1. An expansible arbor comprising a hollow metal body having one end open and the other end closed, the body including a thick-walled portion adjacent the open end and a thin-walled portion adjacent the closed end, a unitary liner of synthetic plastic material having elastic properties lining both portions of the body, a plunger slideable in the liner at the thick-walled portion of the body, a charge of fluid in the liner, and means for forcing the plunger into the liner to expand the thin-walled portion of the body.

2,971,766
FABRICATED SKI
Danforth Holley, 209 Lake Shore Road, Grosse Pointe Farms, Mich.
Filed July 28, 1958, Ser. No. 751,371
13 Claims. (Cl. 280—11.13)



1. A ski comprising a runner substantially rectangular in cross section having the lower surface thereof inclined upward for a short distance from each bottom corner toward the middle of said runner, a covering material bonded to the lower surface of said runner, and elongated edge strips attached to said inclined surfaces between said runner and said covering material said edge strips extending to the sides of said runner, the outside edge portion of said edge strips being turned down along a longitudinal fold line to form an obtuse angle with the sides of said runner, the extreme outer edge of the edge strips forming an acute angle with the lowermost face of the outside edge portion of the edge strips, whereby sideways slipping of said ski in use is restricted, the lowermost surface of the outside edge portion of the edge strips together with the covering material forming the running surface of the ski.

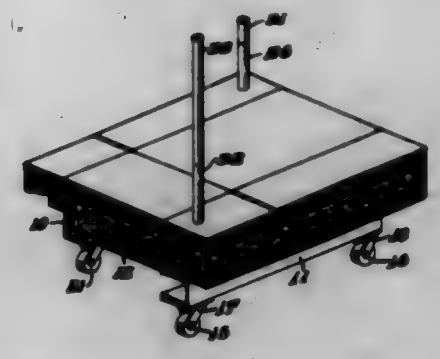
2,971,767
SNOW COASTER DEVICE
Donald K. Eaton, 42½ E. 16th Ave., Eugene, Oreg.
Filed Jan. 4, 1960, Ser. No. 313
7 Claims. (Cl. 280—12)



1. A toboggan device comprising a saucer-like body adapted to receive an occupant and support the occupant for sliding movement down a slope, and a rib element on the bottom surface of said body extending outwardly from the central portion thereof and terminating at said central portion, said rib element being adapted to develop a reaction causing the body to spin as it slides down the slope.

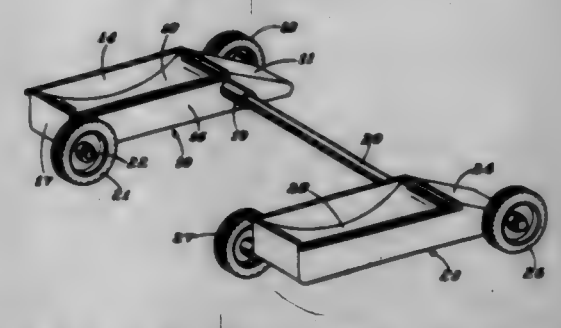
2,971,768
EXTENSIBLE DOLLY
Edward M. Ackley, North Wales, Pa., and Edward J. Pfeiffer, Cherry Hill Apts. E., Merchantville, N.J.
Filed Jan. 9, 1959, Ser. No. 785,972
5 Claims. (Cl. 280—35)

1. An extensible dolly for collapsible containers comprising in combination a pair of straight rigid, frame-members, said frame-members having an elongated and generally U-shaped construction, said frame members being so aligned that the open side of each of said frame-members opposes the open side of the other of said frame-members, said frame members being disposed in substantially parallel relation and arranged for horizontal movement toward and away from each other, roller means for supporting said frame-members, said roller means being mounted to swivel about a vertical axis, a rigid, elongated arm-member, said arm-member being pivotally secured at each end within the open side of one of said frame-members, said arm member having a limiting stop at each end thereof whereby



the maximum extended distance between said frame-members is limited by said arm-member, said arm-member having dimensions such that it is wholly contained within said frame-members when said frame-members are in abutment with each other, said frame-members each having an opening in a horizontal surface thereof, and telescopic vertical support means adapted to be detachably positioned in said openings in said frame-members and arranged for impalement by said containers whereby said dolly is maintained in its extended condition.

2,971,769
TOWING DOLLY
Roy Gaddis, 2672 1st Ave. W., Cedar Rapids, Iowa
Filed Apr. 16, 1959, Ser. No. 806,860
1 Claim. (Cl. 280—79.1)



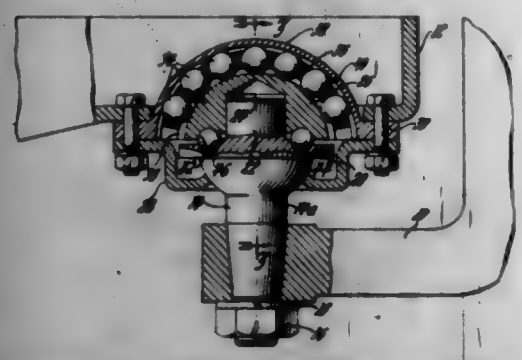
A dolly for towing a motor vehicle comprising a pair of wheel-supporting portions, the wheel-suporting portions each formed with side walls curved outwardly at the top and a curved wheel-receiving pocket formed in each wheel-supporting portion, the rear of each wheel-supporting portion formed substantially vertical and the front end of each portion formed by a lower member extending forwardly from the wheel receiving pocket and an upper member secured to the upper end of the wheel receiving pocket opposite said substantially vertical portion and extending downwardly and forwardly therefrom and secured at its forward end to the forward end of said forwardly extending member, shaft guides attached to each wheel-supporting portion adjacent the forward end thereof, a shaft with its opposite ends detachably received within the shaft guides, a first pair of ground wheels rotatably attached to the first wheel-supporting portion at diagonally opposite corners with the wheel on the side of the shaft guide mounted at the rear of the wheel-supporting portion, and a second pair of ground wheels rotatably attached to the second wheel-supporting portion at diagonally opposite corners with the wheel on the side of the shaft guide mounted at the rear of the wheel-supporting structure.

2,971,770

BALL JOINT ASSEMBLY FOR VEHICLE WHEEL SUSPENSION

Elmer R. Wagner, Bay City, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Mar. 24, 1958, Ser. No. 723,576
5 Claims. (Cl. 280—96.1)



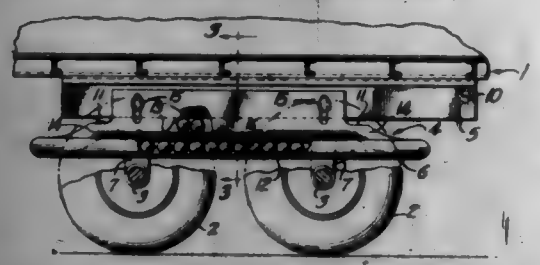
1. In a suspension system including a steering knuckle and a control arm, a ball joint interconnecting said knuckle and said arm comprising: a stud member connected at one end to said knuckle and having a radially enlarged portion at its other end, a retainer element secured to said arm and seating said radially enlarged portion of said stud, a cover piece fixed to said arm and forming a socket, a hemispherical member carried in such socket with its flat face in juxta-position to said radially enlarged portion of said stud, anti-friction means in the form of a plurality of balls between said cover piece and said hemispherical member and between said hemispherical member and said portion of said stud, race means confining said anti-friction means, said race means permitting rotary movement of said stud relative to said cover piece and said hemispherical member and bi-planar tilting of said cover piece relative to said hemispherical member and said stud, the tilting motion in one plane being slight as compared to the tilting motion in the other plane.

2,971,771

ENDLESS TRACK BALL SPRING SUSPENSION FOR VEHICLES

Robert A. Jewell, Savannah, Ga., assignor to Great Dane Trailers Inc., Savannah, Ga., a corporation of Georgia

Filed June 12, 1958, Ser. No. 741,657
9 Claims. (Cl. 280—104.5)



1. Vehicle suspension means comprising, an endless track having a portion open at the top and the remainder enclosed, an endless row of spherical support members of resilient deformable material on said track, and a load-bearing member resting upon the support members in the open topped portion of the track.

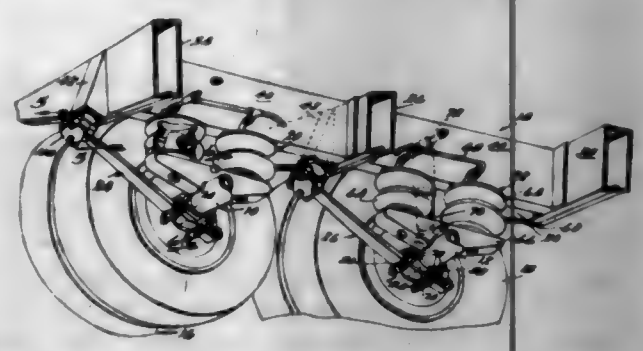
2,971,772

WHEEL SUSPENSION AND CANTILEVER SPRING BRACING THEREFOR FOR TRAILER

Keith W. Tantlinger, Grosse Pointe Shores, and Robert G. Flagan, Mount Clemens, Mich., assignors to Fruehauf Trailer Company, Detroit, Mich., a corporation of Michigan

Filed Mar. 18, 1959, Ser. No. 800,255
6 Claims. (Cl. 280—124)

1. A trailer having a body structure and a wheel suspension therefor comprising a rigid frame underlying said body structure and fastened thereto at the side edges thereof, a transverse through axle carrying road wheels disposed under said frame, air springs interposed between the frame and the axle supporting the weight of the body and its load on said axle, uniform stress cantilever springs extending longitudinally of the trailer at opposite sides thereof and forwardly of the axle, supports fixed to said axle having seats receiving the trailing end portions of said cantilever springs and shoulders embracing and snugly fitting the sides of said cantilever springs, said cantilever springs being individually slidably adjustable on said seats between said shoulders, and means holding said cantilever springs securely in selected adjusted positions including backup screws connected to said supports



and to said cantilever springs, said backup screws being adjustable to align the axle under the trailer and to hold the same in a selected adjusted position, and pivot connections between the forward ends of said cantilever springs and said frame comprising ball mountings on the frame, hemispherical connecting portions on said cantilever springs overlying said ball mountings, caps overlying the connecting portions of said cantilever springs and fastened to said mountings, and formed rubber bushings interposed between and confined by said connecting portions and said ball mountings and between said connecting portions and said caps permitting free rotational or deflectional pivoting of said cantilever springs on said ball mountings but restricting translatory movement of said cantilever springs in all directions.

2,971,773

POGO MONOCYCLES

Charles C. McKissick, 135 Behrens St., El Cerrito, Calif.; Maude E. McKissick, administratrix of the estate of said Charles C. McKissick, deceased

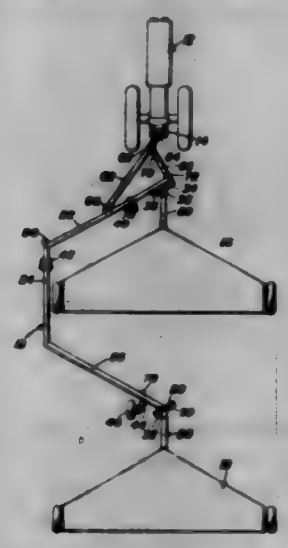
Filed Feb. 6, 1959, Ser. No. 791,740
1 Claim. (Cl. 280—205)



A pogo monocycle comprising a vertically elongated rigid stick having a handle on its upper end and a rigid fork on its lower end, said fork having laterally spaced legs, laterally outwardly extending foot rests fixed on the fork legs, a rotary vertically compressible and resilient ground-engaging wheel mounted between and on the fork legs, a U-shaped brake lever disposed transversely of

said fork and extending rearwardly beyond said wheel and having its legs fixed to related fork legs, said brake lever having a bight portion constituting a rear end, and a ground-engaging brake shoe on said rear end.

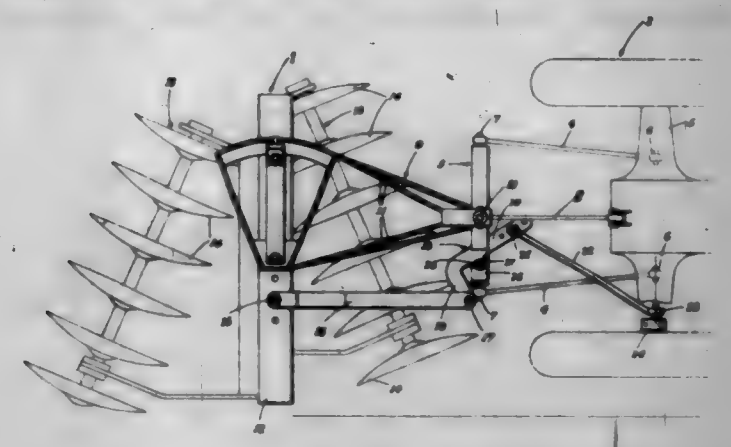
2,971,774
DOUBLE IMPLEMENT DRAWBAR
Walter A. Bertel, Fairview, Okla.
Filed Jan. 6, 1960, Ser. No. 737
4 Claims. (Cl. 280—412)



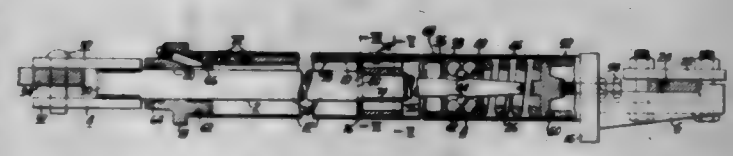
1. A double implement drawbar for towing two implements behind a towing vehicle comprising a substantially U-shaped frame disposed in horizontal position, ground engaging wheels supporting said frame, means at the free end of each leg of the U-shaped frame for connection with an implement, the lateral horizontal dimension of the legs of the U-shaped frame being at least equal to one-half of the width of the implement so that the bight portion of the U-shaped frame and the implement may be disposed in perpendicular relation to each other with the bight portion of the U-shaped frame being parallel with the path of movement of the tractor whereby the implements attached to the free ends of the legs of the U-shaped frame will be disposed in tandem relation for over the road movement, and means on one of said legs for attachment to a tractor, said means including a hitch pivotally connected to the center of one leg, and means connecting the hitch in angular relation to said leg for orientating the hitch in different angular positions whereby the pulling force will be exerted from the outer end of said one leg for orientating the implements in tandem relation or applied from the juncture between the leg and the bight portion whereby the implements will trail the frame in side-by-side relation for a field setting.

2,971,775
SIDE DRAFT CONTROL UNIT FOR TRACTOR-DRAWN IMPLEMENTS
Frank M. Fraga, 2133 East Terrace, Fresno 3, Calif.
Filed Nov. 30, 1959, Ser. No. 856,134
2 Claims. (Cl. 280—446)

1. In the combination of a tractor, an implement which includes a transverse frame and ground working members having ground engaging faces normally disposed at a predetermined forward acute angle to the line of draft of the implement, a hitch structure extending rearwardly from the tractor and including a transverse frame swivelly connected to the tractor for lateral movement relative thereto, and a draft unit extending between the frames, said unit being rigid with one frame and pivoted on the other, the tractor and implement being normally disposed in predetermined longitudinally alined relation to each other; a side draft unit connected to the tractor and the frames and functioning upon such relative swinging of the implement and lateral movement of the frame of the hitch structure to decrease the angle of the faces of the ground engaging members of the implement from said predetermined normal whereby the lateral soil pressure against said faces will be reduced to cause the implement to swing back to a normal position as the tractor and implement advance; said control unit comprising a lever pivoted on the hitch frame to one side of the connection of the draft unit therewith, a generally laterally extending link connected at one end to the lever and swivelly mounted at its other end on the tractor adjacent one side thereof, and a bar pivotally connected at one end to the lever and at the other end to the implement to one side of the draft unit.



2,971,776
TRACTOR HITCH
Walter G. Charley, La Crescent, Minn., and Robert S. Reaves, Waukesha, Wis., assignors to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Oct. 6, 1958, Ser. No. 765,508
4 Claims. (Cl. 280—450)

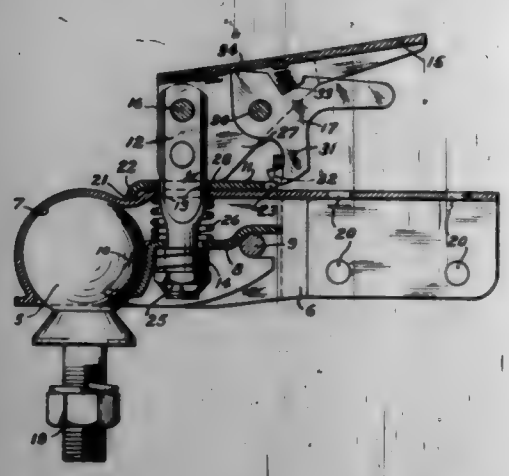


1. In a yieldable hitch for interconnecting a tractor and an implement, the combination comprising: a contractible and extendible member having opposite ends, means connecting one end of said member to said tractor; means connecting the other end of said member to said implement; releasable nonenergy storing detent means connected to, and cooperating with said member, said detent means including movable means and force means, said movable means being moved by said force means to a position preventing said member from extending until a predetermined force of separation between said implement and tractor is reached, said force means in response to movement of said member, storing energy when said member is contracted and giving up said energy when said member extends; and, cushion means connected to, and cooperating with said member, said cushion means providing continually increasing resistance to extension of said member while dissipating the energy imparted to said cushion means so said hitch is neutral.

2,971,777
TRAILER COUPLING
Bernard R. Weber and William H. Lieber, Wauwatosa, Wis., assignors to The Fulton Company, Milwaukee, Wis., a corporation of Wisconsin
Filed Feb. 19, 1960, Ser. No. 9,818
3 Claims. (Cl. 280—512)

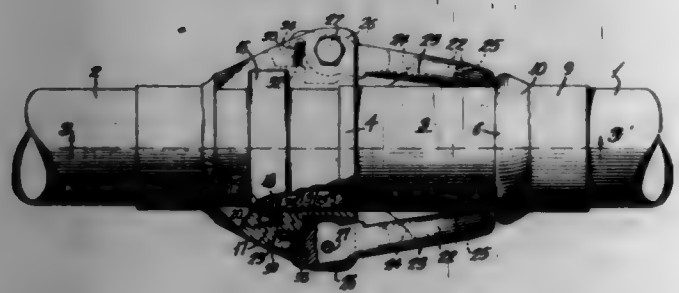
1. A trailer coupling comprising, a ball member, a socket member formed to coact with said ball member

and being provided with a flat top having an external transverse recess therein, a ball retainer movably suspended from said socket member, a bearing plate loosely mounted upon said socket member and having a lip at one end engageable with said recess to prevent shifting of the plate relative to the socket member and also having an upstanding flange at its opposite end, a rod extending through said socket member and the medial portion of



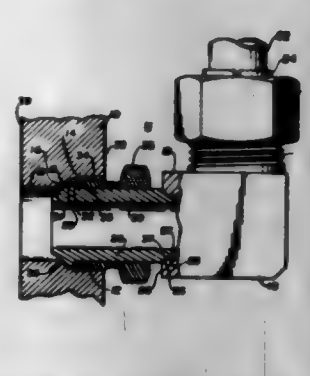
said plate and having its inner end cooperable with said retainer to move the later, a cam lever secured to the outer end of said rod and having cam surfaces coacting with said plate to press said plate against said socket member top and to move the rod, and a latch movably suspended from said lever and being latchingly engageable with said bearing plate flange to lock said members together.

2,971,778
PIPE WITH COUPLING ENDS AND METHOD OF ATTACHING
Austin T. Race, Jr., Winter Haven, Fla.
Filed Oct. 19, 1955, Ser. No. 541,397
1 Claim. (Cl. 285—6)



A method of joining a coupling to the end of a section of tubing comprising, providing a thickened wall section on one end of a coupling, snugly fitting a sleeve over the end of the tubing leaving a length of the tubing end projecting beyond the sleeve, inserting the tubing end into the coupling with the end of the sleeve spaced from the end of the coupling, and rotating the tubing, sleeve, and coupling through one complete revolution, applying welding means to the coupling and tubing to fuse said inserted end of the tubing and said coupling together in a first complete circumferential pass and during said first pass so directing and operating said welding means on said enlarged coupling end and tubing end that the heat of fusion will not substantially affect the end of said sleeve adjacent said coupling end, rotating said coupling, tube and sleeve through a second complete revolution, applying said welding means to said tubing, sleeve and coupling in such a manner that the heat thereof is concentrated in the said space between said sleeve and said coupling and thereby fusing together said sleeve, coupling and tube by said welding means during said second complete revolution.

2,971,779
SWIVEL PORTHOLE TUBE FITTING HAVING A COINABLE FLUID SEAT
George V. Woodling, 815 Union Commerce Bldg., Cleveland, Ohio
Filed Apr. 23, 1959, Ser. No. 808,426
4 Claims. (Cl. 285—215)



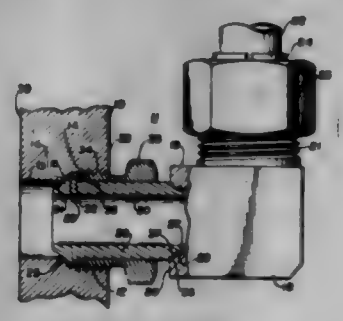
1. A coined metal-to-metal porthole fluid sealing connection comprising, a connection body, a fitting device threadably and sealingly connected to said body, said connection body having an outer surface and a porthole extending inwardly from said outer surface, said porthole defined by a porthole wall having female threads thereon, said porthole wall terminating in a transversely extending substantially non-expandible abutment wall, said connection body having a fluid passageway defined by an annular wall meeting with said abutment wall and defining an annular corner therewith, said annular wall at said annular corner having an initial predetermined diameter, said fitting device having a porthole body portion in substantial axial alignment with said fluid passageway in said connection body and having on a forward end thereof a substantially conical sealing surface engaging said annular corner and flaring from a minimum diameter less than said initial predetermined diameter to a maximum diameter in a direction toward said outer surface, said substantially conical sealing surface being harder than said annular corner, means including male thread means for threadably engaging said female threads on said porthole wall for forcing said substantially conical sealing surface against said annular corner to substantially conically deform and thereby coin said annular corner into a self-aligned substantially conical seating surface of a width greater than .003 inch which self-matches said substantially conical sealing surface, said substantially conical seating surface having a coined minimum diameter less than said initial predetermined diameter of said annular wall at said annular corner, said annular wall at said minimum diameter being deformed and comprising an annular ledge extending inwardly from said initial predetermined diameter, said sealing head portion of said fitting device comprising steel having a carbon content less than 1.7 percent and said annular corner comprising cast iron matrix having a total carbon content falling in a range approximately between 1.7 to 5.0 percent, said carbon in the ascast condition of said iron matrix being predominately free graphite and including nodules the majority of which ranging in size approximately from .0001 to .003 inch thereacross, said nodules being spaced apart from each other in individual cavities throughout the iron matrix, said cavities each having an iron matrix wall completely surrounding each nodule, said cavity walls being discontinuous whereby said walls may not form a connected series of cavities extending across the coined substantially conical seating surface and allow fluid leakage.

2,971,780
PORTHOLE TUBE FITTING HAVING SELF-ALIGNED COINED FLUID SEAT

Matthew F. Bauer, 16129 Northvale Blvd., Cleveland 12, Ohio

Filed Apr. 23, 1959, Ser. No. 808,434
4 Claims. (Cl. 285—215)

1. A coined metal-to-metal porthole fluid sealing connection comprising. a connection body, a fitting device threadably and sealingly connected to said body, said connection body having an outer surface and a porthole extending inwardly from said outer surface, said porthole defined by a porthole wall having female threads thereon, said porthole wall terminating in a transversely extending substantially non-expandible abutment wall, said connection body having a fluid passageway defined by an annular wall meeting with said abutment wall and defining an annular corner therewith, said annular wall at said annular corner having an initial predetermined diameter, said fitting device having a shank portion with a sealing head portion fixedly and sealingly secured thereto and mounted in said porthole, said shank portion having a fluid passageway therein communicating with said fluid passageway in said connection body, said sealing head portion having on a rearward side thereof a shank shoulder and having on a forward side thereof a substantially conical sealing surface engaging said annular corner and flaring from a minimum diameter less than



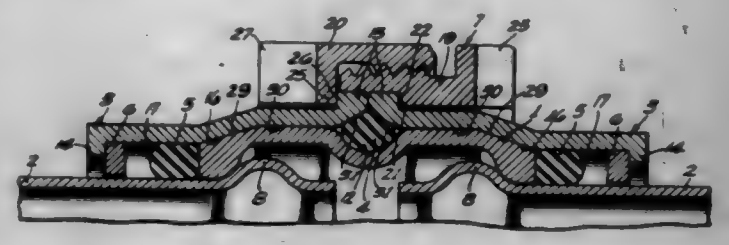
said initial predetermined diameter to a maximum diameter in a direction toward said outer surface, said substantially conical sealing surface being harder than said annular corner, a sleeve nut surrounding said shank portion and having a nut end abuttable against said shank shoulder, said nut end and said shank shoulder making an annular nut shoulder engagement, said sleeve nut having male threads thereon to threadably engage said female threads on said porthole wall for forcing said substantially conical sealing surface against said annular corner to substantially conically deform and thereby coin said annular corner into a self-aligned substantially conical seating surface which self-matches said substantially conical sealing surface, said substantially conical seating surface having a coined minimum diameter less than said initial predetermined diameter of said annular wall at said annular corner, said annular wall at said minimum diameter being deformed and comprising an annular ledge extending inwardly from said initial predetermined diameter.

2,971,781
FLEXIBLE COUPLING FOR BEADED END TUBING

Jorge U. Torres, Los Angeles, Calif., assignor to E. B. Wiggins Oil Tool Company, Inc., Los Angeles, Calif., a corporation of California

Filed Feb. 4, 1957, Ser. No. 638,869
15 Claims. (Cl. 285—233)

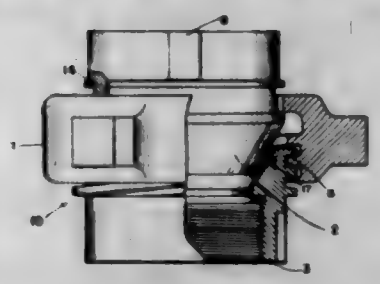
1. A coupling for forming a flexible fluid tight joint between the beaded ends of tubing comprising: a tubular coupling member for surrounding said beaded ends; said coupling member having inwardly directed portions for engaging the beads on said ends to preclude axial separation of said ends; a pair of sleeves having an inside diameter permitting free axial movement of said sleeves over said beaded ends and movement of said sleeves into axially opposed relation over said coupling member; sealing rings adapted to be mounted on said tubing; said sleeves having inclined internal surfaces extending longitudinally thereof arranged to radially compress said rings against said tubing during movement of said sleeves over said coupling member; said coupling member having inclined surfaces extending longitudinally from the ends thereof for contacting said inclined surfaces of said sleeves; said sleeves having end portions adapted to extend outwardly from the ends of said coupling member; said end portions having internal surfaces contiguous said inclined surfaces of said sleeves arranged to radially compress said rings against said tubing; and securing means engageable with said sleeves for holding said sleeves in place on said coupling member.



2,971,782
CRYOGENIC PIPE COUPLING

Orval Sparkman, 1036 Bayfield Drive, and Chester T. Wasilcski, 4018 Heatherhill Road, both of Huntsville, Ala.

Filed Dec. 30, 1958, Ser. No. 784,007
1 Claim. (Cl. 285—332.3)
(Granted under Title 35, U.S. Code (1952), sec. 266)



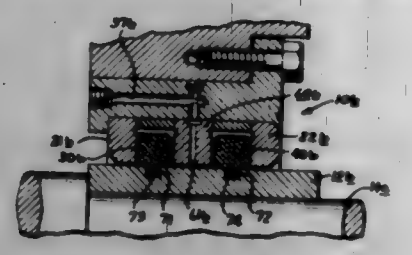
A cryogenic coupling for connecting the ends of a conduit carrying liquid oxygen, said coupling comprising a female seating element of short tubular form having an interior surface tapering inwardly as a partial cone, said interior surface having a circumferential groove therein, a male element having an interior tapering partial conical portion at one end complemental to said interior partial conical portion of said female element, a shoulder adjacent the outer end of said conical portion, said male element having spaced exterior terminal lugs at the other end thereof, a union locking nut having a central opening therethrough and provided with an internal terminal lip having an internal diameter less than the outer diameter of said shoulder and having a plurality of intermittently spaced notches with which said lugs cooperate to permit the passage of said male element through the central opening of said nut, means between said lugs and said terminal lip for retaining said nut on said male member, means on said nut and female element cooperating rotatably and releasably for holding said elements together, and an annular "Teflon" gasket having a corner projecting from said partial cone and positioned in and filling said groove in the female member, said projecting corner adapted to sealingly engage said conical portion of the male member and prevents metal to metal contact between said male and female elements when assembled.

2,971,783
ROTARY SEAL

William F. Laser, Hinsdale, Ill., assignor to City National Bank and Trust Company of Chicago, as trustee

Filed Mar. 4, 1957, Ser. No. 643,574
5 Claims. (Cl. 286—8)

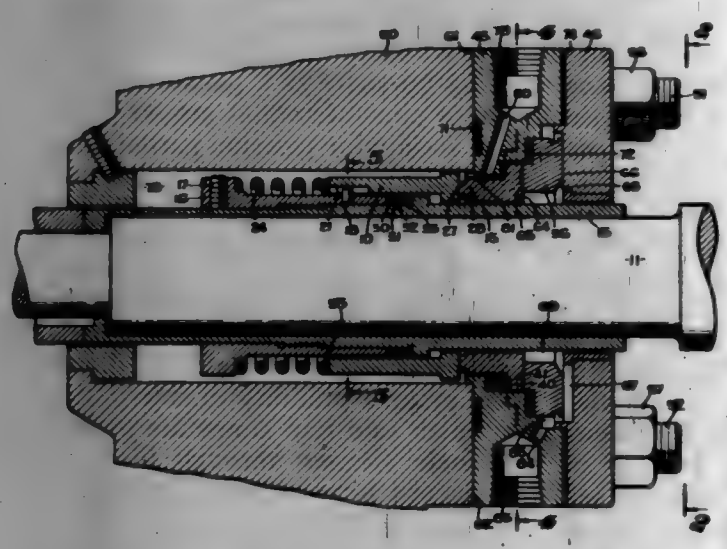
1. A fluid seal for rotatable shaft assemblies comprising, in combination, an annular stator surrounding the rotatable shaft, said stator having a pair of opposed and spaced radial walls with inner radial, flat, lapped, sealing surfaces, a cylindrical sealing surface formed on said shaft and disposed within the surrounding stator, said surface having an annular recess formed therein, a pair of annular rotors loosely but closely fitted on said cylindrical sealing surface between said walls, a resilient compressible sealing ring disposed within said recess and in engagement with one of said rotors to provide a seal between said shaft and said rotor, each of said rotors having radial, flat, lapped, sealing surfaces facing the sealing surfaces of the walls, said rotors and said cylindrical surface being formed of materials having different thermal coefficients of expansion so that said sealing rings are compressed and the rotors seized on said surface at high temperatures, a housing surrounding said rotors and sealed to said walls to define an annular chamber, and means to introduce a gas under pressure to said chamber between said rotors when the shaft is at rest so as to both establish a gas pressure region in said chamber resisting seal leakage and to urge the two rotors apart into sealing contact with the stator walls.



2,971,784
SEAL ASSEMBLY

Herbert E. Tracy, Alhambra, Calif., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois

Filed Oct. 4, 1955, Ser. No. 538,317
6 Claims. (Cl. 286—9)

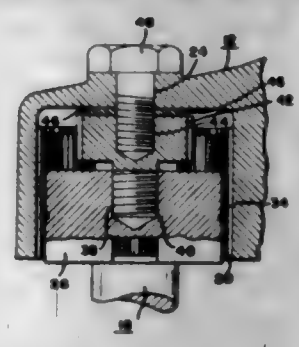


1. A seal assembly for a rotatable pump shaft, comprising a pump casing having a seal chamber, an annular housing flange abutting the pump casing, a rigid end plate abutting the housing flange, means securing the housing flange and end plate on said pump casing, sealing gaskets between said casing and said housing flange and between said housing flange and said end plate, a rotatable pump shaft passing from said chamber through an aperture in said end plate, and mechanical sealing means for preventing the flow of fluid along the pump shaft and out of the seal chamber, said mechanical sealing means including relatively rotatable seal rings having abutting, lapped surfaces, one of said seal rings being rotatable with the pump shaft, means keying the other of said seal rings to said housing flange to prevent its rotation, one of said seal rings being movable relative to the shaft, means biasing said seal rings into sealing contact, and a rigid, symmetrical back-up ring interposed between one of said seal rings and said end plate, the latter seal ring abutting said back-up ring along lapped radially disposed surfaces, and said end plate abutting said back-up ring, whereby upon thermal expansion of the seal assembly the back-up ring will uniformly expand due to its symmetry and preserve a radially disposed surfaces to the seal ring which abuts it.

2,971,785
WIPER ARM CONNECTION

Henry C. Rohr, Fort Lauderdale, Fla., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed June 19, 1957, Ser. No. 666,516
9 Claims. (Cl. 287—53)



1. In combination, a wiper actuating member having a head portion, a wiper arm having a socket portion telescoped over said head portion, gear means rotatably supported by the head portion and drivingly engaging the socket portion permitting relative angular movement between the socket portion and the head portion throughout at least one complete revolution, and means carried by one of said portions and engageable with said gear means for locking said gear means against rotation relative to the head portion to establish a driving connection between said actuating member and said socket portion at an infinite number of angular positions of the socket relative to said head portion.

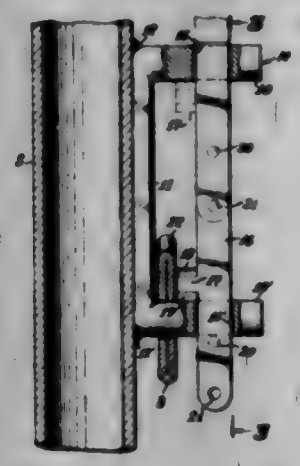
2,971,786
BRACE BAR SECURING MEANS FOR PREFABRICATED TUBULAR STRUCTURES

Marvin M. May, Los Angeles, Calif., assignor to Tubular Structures Corp. of America, Los Angeles, Calif., a corporation of California

Filed Apr. 25, 1958, Ser. No. 730,987
4 Claims. (Cl. 287—53.5)

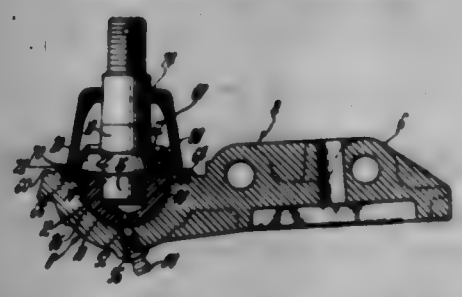
1. Means for securing the perforated end of a brace-bar to a vertically upright standard, said means comprising a substantially U-shaped member, the bight section of said member being secured onto said standard with the U-arms thereof extending outwardly therefrom in alignment with the longitudinal axis of said standard, the lower of said arms having a size, shape and configuration to permit the perforated brace-bar end to be seated thereon, slide pin openings adjacent the ends of said U-arms, the axes of said slide pin openings being coincident and lying in the same plane parallel to the longitudinal axis of the standard, a slide pin disposed in said slide pin openings the length thereof being substantially greater than the spacing therebetween and an

extension on the inner face of said slide pin having a width adapted to slidingly engage a brace-bar end en-



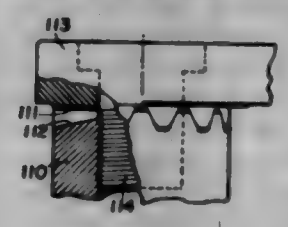
gaged on said lower U-arm to engage and hold the brace bar substantially against said bight portion.

2,971,787
BALL JOINT ASSEMBLY
Clovis W. Lincoln, Saginaw, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Oct. 29, 1956, Ser. No. 619,018
6 Claims. (Cl. 287—90)



1. A ball joint assembly comprising in combination, a housing formed to provide a semi-spherical socket, a truncated ball disposed in said socket having a central depression therein, said ball being provided with circumferential intersecting grooves and a radial passage extending from the point of intersection of said grooves to said depression, said grooves and passage serving in the containment and conveyance of lubricant, a stud piloted in said depression, and an apertured cover member surrounding said stud, said cover serving to retain said assembly in operating relation and being secured by means integral with said housing.

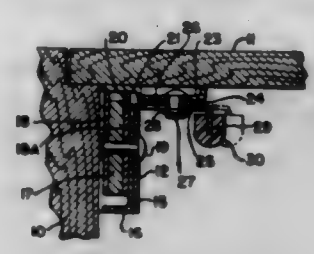
2,971,788
TOOTHED MEMBER
Ernest Wildhaber, Brighton, N.Y.
(124 Summit Drive, Rochester 20, N.Y.)
Filed Nov. 26, 1956, Ser. No. 624,343
8 Claims. (Cl. 287—103)



1. A pair of interengaging toothed members, one of which has straight teeth tapering in depth along their lengths and arranged about an axis and projecting from a tapered root surface in a chiefly axial direction, the profiles of said teeth in cylindrical sections coaxial with said axis being approximately straight in development and being inclined to the direction of said axis increasingly with increasing distance from said axis, on both sides of said teeth.

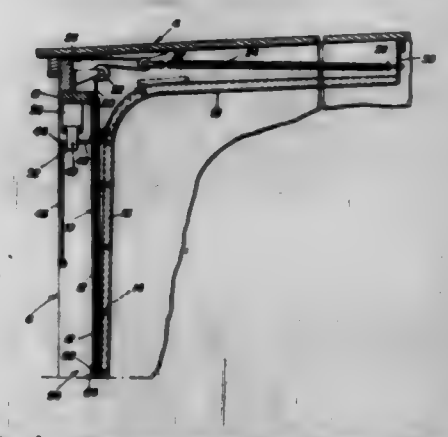
2,971,789
MAGNETIC DOOR LATCH
Earl W. Weaver, Struthers, Ohio, assignor to Hutch Manufacturing Company, Struthers, Ohio, a corporation of Ohio
Filed Sept. 28, 1959, Ser. No. 842,853
4 Claims. (Cl. 292—145)

1. A magnetic latch for a storm door and comprising a permanent magnet, a housing for said magnet, said magnet being secured to said housing and said housing being adapted to be mounted on a storm door frame, a keeper plate adapted to be mounted on a storm door in a position to be engaged by said magnet, a latch bar



movably positioned on said keeper plate at one side of said magnet and engageable against one side of said magnet when moved longitudinally and a latch bar engaging formation on said magnet for mechanically engaging and magnetically securing said keeper bar when engaged in said formation.

2,971,790
OVERHEAD DOOR SAFETY DEVICE
Robert S. Reid, 51 Clark St., Brooklyn, N.Y., and Rudolph B. Jordan, 30 Miller Place, Valley Stream, N.Y.
Filed Oct. 7, 1958, Ser. No. 765,749
4 Claims. (Cl. 292—235)



1. A safety device for use in conjunction with an upper frame member of a garage door frame and wherein the garage door is a slidably mounted overhead type mounted on track means, said device embodying a fixture having forward and rearward slots aligned with each other, a lever having a median portion pivotally mounted on said fixture, said lever having a forward end projecting through and beyond the forward slot and provided with a manually actuatable depending pull cord which when the forward end is pulled down the rearward end rocks upwardly to an inclined position, said rearward end projecting through and beyond the rearward slot and the projecting portion thereof constituting a door check, said door check being adapted to assume a position in close proximity to an outer side of the liftable and lowerable portion of the garage door, and a companion bracket adapted to be mounted on a marginal portion of the lift-

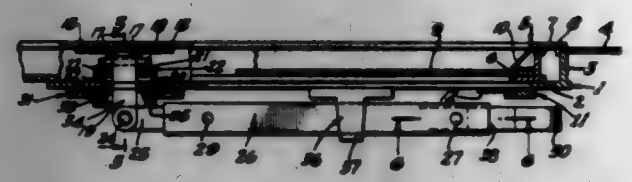
able and lowerable portion of the door, said bracket having a rigid lip-like flange providing a movable door stop, said door stop being in the path of operation of the door check and capable of passing the door check when the liftable portion of the garage door is slid up to open position, but being engageable with the door check when the door is lowered unless, of course, the depending pull cord is actuated to trip the door check to an out-of-the-way position relative to the door stop.

2,971,791

WINDOW CONTROL DEVICE

Axel W. Anderberg and Thomas W. S. Reid, Los Angeles, and George A. Taylor, Glendale, Calif., assignors to A. W. Anderberg Manufacturing Co., Los Angeles, Calif., a corporation of California

Filed Aug. 26, 1957, Ser. No. 680,202
4 Claims. (Cl. 292—262)



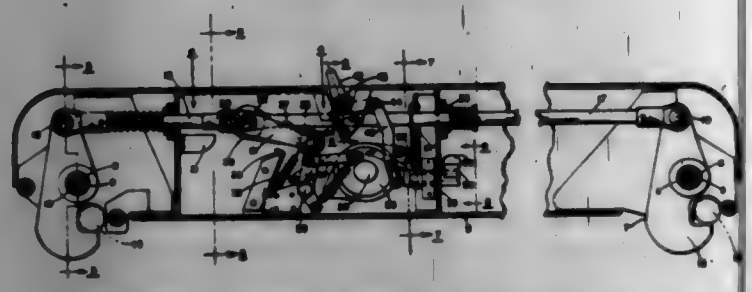
3. A window control device for use in a window having a window frame and a pivotable window sash, comprising: a bracket adapted for attachment to said window sash; a link member; means connecting said link member to said bracket; said means including a yieldable element tending to retract said link member relative to said sash; a push bar pivotably connected to said link member; a guide member mounted on said window frame for slidably receiving said push bar for opening and closing said window sash relative to said window frame, and also receiving said link member as said window sash approaches its closed position; fulcrum means engageable with said push bar on pivoting of said push bar as said window sash approaches its closed position, to draw said link member against the action of said yieldable element thereby to draw said window sash tightly against said window frame.

2,971,792

STORE RETAINING DEVICE

John C. Steinmetz, Anaheim, Calif., assignor to North American Aviation, Inc.

Filed July 2, 1957, Ser. No. 669,616
3 Claims. (Cl. 294—83)



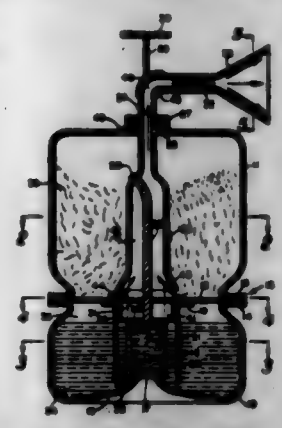
1. A store retaining device comprising an elongate housing, a duality of hooks, said hooks being pivotal in the same direction with respect to said housing between a closed store-retaining position and an open store-releasing position, each of said hooks being provided with a retaining link pivotally connected thereto for holding the same in a closed position, the first of said retaining links being shorter than the second of said retaining links, a bellcrank pivotally positioned within said housing and mounted from the side walls of said housing for rotation in the elongate direction of the housing, said links each having an end pivotally interconnected to one end of said bellcrank with said bellcrank pivot, said link interconnections and said links being substantially coplanar in a store retaining position whereby only a small rotative moment is imposed on said bellcrank by said links when the hooks are in their closed position with the other end of said bellcrank being free and unconnected to other structure, said first retaining link being loaded by its hook in compression and said second retaining link being loaded by its hook in tension, a single lever detent engaging said bellcrank free end at a location remote from said pivotal interconnection of said retaining links, said pivotal connections of said retaining links to said bellcrank being arranged relative to the pivotal connection of the bellcrank to the housing to impose only a relatively small moment on said bellcrank when said hooks are in said closed positions and progressively impose a larger moment on said bellcrank as said hooks are moved to said open position, and said detent imposes a relatively large moment on said bellcrank resisting said moment of said retaining links, means for moving said detent to a position remote from said bellcrank for permitting said moment by said retaining links to pivot said bellcrank to a second position wherein said hooks are in said open positions, an opening member pivotally connected to said housing coaxially with said bellcrank, said opening member engaging said bellcrank, a spring urging said opening member to pivot relative to said housing and to impose an additional moment on said bellcrank urging said bellcrank to said second position for thereby assisting said retaining links in causing movement of said bellcrank to said second position when said detent is moved to said remote position and assisting in moving said hooks to said open position.

2,971,793

MEANS OF IMPROVING THE TRACTION OF WHEELED VEHICLES

Glen Peterson, 540 S. 83rd East Ave., Tulsa, Okla., and Dale Peterson, 2414 St. Marys Drive, Salt Lake City, Utah

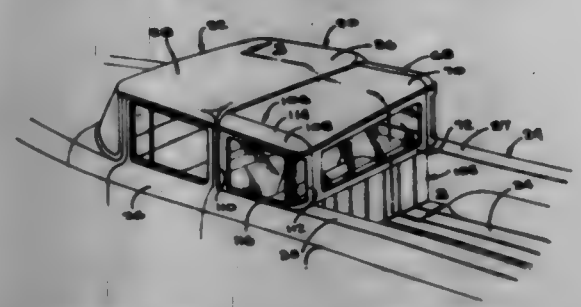
Filed Oct. 24, 1957, Ser. No. 692,212
5 Claims. (Cl. 291—1)



5. An assembly for producing and attaching traction aiding devices of an expendable variety to automobile tires, and the like, comprising a closed cylindrical container which generally consists of upper and lower cup-like portions adjoining each other in brim-to-brim relationship and separated by a disc-like portion, said upper cup-like portion being inverted with respect to said lower cup-like portion, each cup-like portion being generally fabricated from one piece of metal and having bottoms, shells and brims which are generally continuous and which together with said disc-like portion provide separated upper and lower chambers, respectively, said disc-like portion and said two brims coming together to form a pressure tight joint, said upper cup-like portion having a neck through which a tubular stem passes, said tubular stem having portions internal and external with respect to said cylinder container and provided with a gasket seal for internal pressure, said gasket seal fitting tightly around said stem and pressing tightly against the internal surface

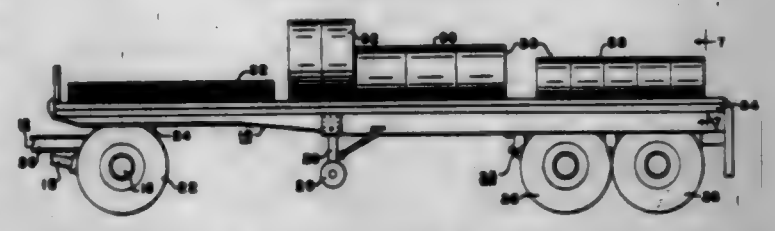
of said neck which has a flared edge preventing the escape of said gasket, the internal portion of said tubular stem opening into a cylindrical chamber the walls of which are a continuation of said tubular stem, said tubular stem and cylindrical chamber being fastened together by means of a joint, said tubular chamber extending internally to the vicinity of said disc-like portion and opening into said upper chamber, said disc-like portion being provided with ports in the region where said tubular chamber opens into said upper chamber, said disc-like portion having a centrally located cylindrical piece fastened to it which extends into said lower chamber to a region near the bottom of said lower cup-like portion, said cylindrical piece having a cylindrical valve seat attached to its inner wall and extending a short distance into said lower chamber just below said ports, said tubular chamber being provided with a centrally-located valve stem which is attached to one wall thereof and which passes through an opening in said disc-like portion and extends into said lower chamber and is there attached to a cylinder of approximately the same diameter as said valve seat, said cylinder being provided with a valve gasket on the surface adjacent said valve seat, said cylinder and said valve seat being in alignment, said cylinder being provided with a spring which pushes against the bottom of said lower cup-like portion and against said cylinder to hold said valve gasket against said valve seat, said tubular stem, said tubular chamber, said valve stem, said valve cylinder and said valve gasket forming an assembly having freedom of motion along an axis generally coincident with the axes of said cylindrical container, said freedom of motion being opposed by said spring and stopped by said valve gasket and said valve seat, said lower chamber being generally filled with a mixture of adhesives and pressure producing materials, said upper chamber being generally filled with pulverized traction aiding materials.

2,971,794
VEHICLE BODY ASSEMBLY HAVING PASSENGER ENCLOSURE EXTENSION OR ADDITION MEANS
Clarence D. Garcia, Midway Island, Va.
(209 S. Waldo Ave., Fullerton, Calif.)
Filed Sept. 9, 1958, Ser. No. 760,016
13 Claims. (Cl. 296—26)



1. In a vehicle having a cab including sides and a roof, and having a body extending rearwardly from the cab and including a bed and side panels; a cab extension assembly including a roof panel, means mounting the roof panel to said roof of the cab for rearward movement therefrom to constitute a rearward prolongation of said cab roof, a pair of side frame members movably carried by the side panels and mounted for movement vertically therefrom into erected positions disposed above the side panels, means for moving the side frame members into and out of erected positions to complement the roof panel when in erected positions, means carried by the roof panel defining an upper panel section for the cab when the roof panel is in a forward position and forming an upper panel section for the cab extension assembly when the roof panel is in a rearward position and means complementing the foregoing means and forming a lower panel section for the cab extension assembly.

2,971,795
COIL HAULING VEHICLE
Mortimer C. Winski, 2nd and Dyson Sts., Michigan City, Ind.
Filed Mar. 21, 1960, Ser. No. 16,604
2 Claims. (Cl. 296—28)



1. A trailer for hauling coils of steel strip material, comprising two spaced parallel I-beams, a plurality of cross members between the lower portion of said beams, outriggers secured to the outside of said beams, flooring on said outriggers, parallel members between said beams in spaced relation forming a channel extending longitudinally substantially the full length of said trailer, each of said members having an upwardly and inwardly facing convex surface for receiving and supporting coils in end-to-end position, the curvature of said surface having a radius greater than approximately four inches, plate-like vertical members supported by said cross members and connected to said beams for supporting said coil receiving members, a pair of inwardly and downwardly extending panels forming the bottom of said channel and being spaced from one another in the vertical direction at the center of the channel to form a drain opening for the channel, and a plurality of inserts, each insert having a plate extending across said channel forming a cover therefor.

2,971,796
BABY CARRIAGE
Alexander Morvai and Stephen Phillips, both of 3953 58th St., Woodside, N.Y.
Filed Nov. 24, 1958, Ser. No. 776,048
2 Claims. (Cl. 296—28)



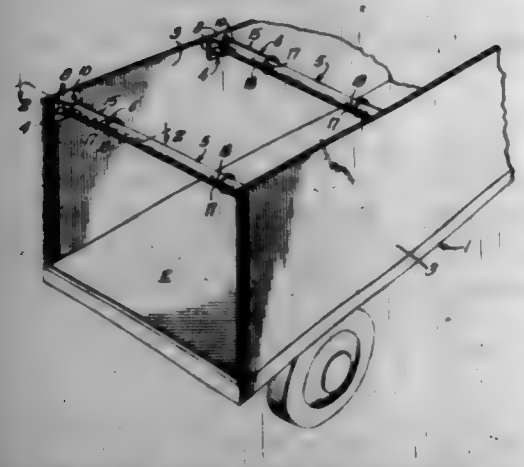
1. In a baby carriage, a pair of parallel side wall structures, each side wall structure constituted by a pair of closely spaced inner and outer wall members, each side wall structure having upstanding enlarged rear end portions with grooves respectively opening inwardly in opposed relation, a roll top constituted by a plurality of parallel bars pivotally secured to each other, said roll top slidably disposed in said grooves and providing a retractable hood for the carriage, one side wall structure having an opening extending through the wall members thereof, a stub shaft extending loosely through said opening and rotatably and slidably mounted therein, an elongated curved spring finger secured at one end to said stub shaft inside the wall structure, the other end of said spring finger adapted to engage said roll top for holding same against movement, means on the outer end of the stub shaft for moving said stub shaft for carrying said spring finger into and out of holding engagement with the roll top, and means associated with the stub shaft for preventing movement of the spring finger into holding engagement.

2,971,797

RELEASABLE SPREADER FOR VEHICLE BODIES

Johnny T. Watters, Savannah, Ga., assignor to Great Dane Trailers Inc., Savannah, Ga., a corporation of Georgia

Filed June 9, 1959, Ser. No. 819,123
9 Claims. (Cl. 296—40)



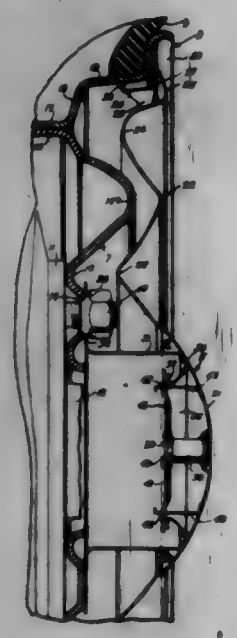
4. In a spreader to span the body and interconnect the side walls of an open topped load carrying vehicle, means to couple the spreader to the vehicle walls comprising, a pin carried by the wall spaced from the wall, the spreader having adjacent one end a notch opening to one side of the spreader to form a seat for the pin, the notch being elongated in the direction of the spreader length, a fulcrum formed on the spreader transversely spaced from the notch, a latch bar separate from the spreader engageable with the fulcrum and the pin seated in the notch and swingable about the fulcrum to draw the pin to one end of the notch, and means to hold the latch bar in position holding the pin against said one end of the notch.

2,971,798

WHEEL COVER

George A. Lyon, Jr., Birmingham, Mich. (13881 W. Chicago Blvd., Detroit 28, Mich.)

Filed Aug. 31, 1956, Ser. No. 607,495
2 Claims. (Cl. 301—37)



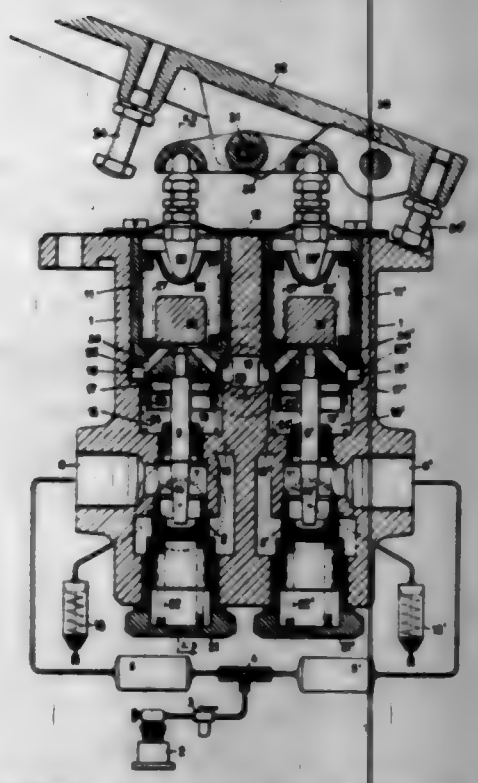
In a wheel structure including a wheel body having a central bolt-on flange and carrying a tire rim for a pneumatic tire, a cover member for ornamental and protective disposition over the outer side of the wheel including a central crown dome portion for overlying the bolt-on flange and enclosing the central portion of the wheel, a tubular member having means thereon by which it is attached to said bolt-on flange, the tubular member projecting axially outwardly centrally from the bolt-on flange and having on its outer end portion a cover-engageable turned shoulder projecting generally radially inwardly and of annular form against which the axially inner side of the crown dome of the cover member is engageable in firmly seated relation, said shoulder having extending generally radially and axially inwardly an inturned annular flange terminating in an underturned inner bead-like axially inwardly facing shoulder flange terminal, and locking means carried by the crown dome portion of the cover and including a key operated lock unit projecting axially inwardly from the center of the crown dome portion and having on its inner end portion locking bolt arms projecting generally radially outwardly and engageable in cover retaining snug sliding relation with the underturned shoulder terminal to hold the crown dome portion of the cover against said annular shoulder of the tubular member, said key operable lock unit being operable from the axially outer side of the cover for actuating said bolt arms relative to said shoulder flange terminal.

2,971,799

BRAKE VALVE

Alfred Knecht, St. Aubin, Switzerland, assignor to BEKA St. Aubin A.G., St. Aubin, Switzerland, a firm

Filed Mar. 11, 1958, Ser. No. 720,769
Claims priority, application Switzerland Mar. 13, 1957
7 Claims. (Cl. 303—84)



1. Brake valve arrangement comprising in combination, a hollow valve body having an inlet for compressed air, a pressure outlet adapted to be connected to a brake cylinder, and a venting outlet; venting valve means movable in said valve body in a first direction for opening said venting outlet, and in an opposite second direction for closing said venting outlet, said venting valve means being urged by the pressure in said valve body to move in said first direction; valve seat means movably mounted in said valve body and being engaged by said venting valve means during movement of the same in said second direction whereby said venting outlet is first closed whereupon said valve seat means moves with said venting valve means in said second direction; means urging said valve seat means to move in said first direction; means for limiting movement of said valve seat means; feeding valve means movable in said valve body in one direction to a closed position for closing said pressure outlet, and in another opposite direction for connecting said inlet with said pressure outlet, the pressure in said valve body tending to move said feeding valve means in said other

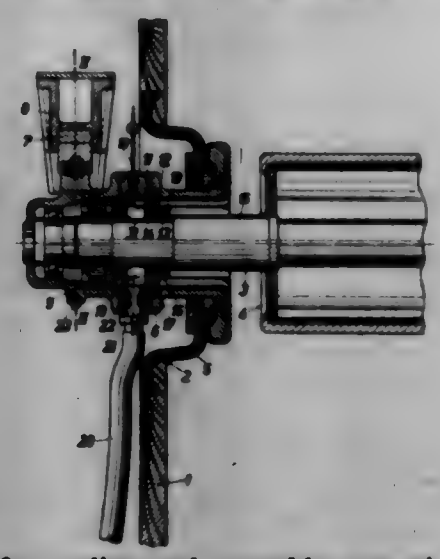
direction; biasing means for urging said feeding valve means in said one direction with a force sufficient to overcome the maximum pressure in the valve body and to hold said feeding valve means in said closed position; connecting means operatively connected to said venting valve means and engaging said feeding valve means during movement of said venting valve means with said valve seat means for moving said feeding valve means in said other direction out of said closed position when said venting valve means moves with said movable valve seat means after said venting outlet is closed; and operating means for moving said venting valve means in said second direction, whereby only a small force on said operating means is required for opening said feeding valve means in said other direction due to the action of the pressure in the valve body on said feeding valve means, and whereby the resistance against movement of said operating means increases upon increase of the brake pressure and upon decrease of the pressure of the compressed air supplied through said inlet so that the operating conditions are indicated to the operator.

2,971,800

MEANS FOR SEALING AND ROTATABLY MOUNTING A ROTARY SHAFT IN A LIQUID-FILLED CONTAINER

Othmar Ruthner, 6 Salmgasse, Vienna III, Austria

Filed Oct. 21, 1958, Ser. No. 768,750
Claims priority, application Austria Oct. 23, 1957
13 Claims. (Cl. 308—36.1)



1. Means for sealing and rotatably mounting a rotary shaft in a liquid-filled container, comprising a container wall portion defining an aperture, a bearing housing inserted in the aperture, a diaphragm disposed between and connected to the housing and the wall portion defining the aperture to constitute a portion of the seal, a stationary rigid frame, a rotary shaft, said bearing housing carrying one end of the shaft and being vertically adjustably connected to the rigid frame, said frame being disposed on the exterior side of the wall portion, a set of cooperating slip rings in the bearing housing and extending at right angles to the shaft axis and contacting each other along their faces to complete the seal on the interior side of the container wall portion, one slip ring facing the interior of the said liquid-filled container being fixed to the shaft and another slip ring facing the bearing housing being stationary in the housing.

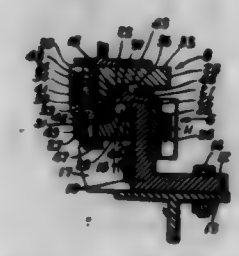
2,971,801

TURNTABLE STRUCTURE

John L. Grandon, E. 16th and Howard Drive, Des Moines, Iowa

Filed Dec. 4, 1957, Ser. No. 700,617
1 Claim. (Cl. 308—227)

In a portable turntable unit, a main frame and a rotatable frame mounted thereon, said main frame comprising a stationary base element substantially Z-shaped in vertical section and including a horizontally disposed outwardly extending projection for mounting purposes, said outwardly extending projection having a rectangular outline in plan, an annular element extending upwardly from the inner end of said projection, and a projection extending inwardly from the upper end of said annular element, a ring gear extending about the peripheral outer surface of said annular element and secured thereto, an annular rotatable ring positioned below said inwardly extending projection and extending inwardly thereof, the bottom face of said ring being spaced above said outwardly extending projection, an annular rotatable member of L-shape in transverse cross section including a horizontal leg disposed above and extending inwardly of said inwardly extending projection, and another leg depending from the inner end of said hori-



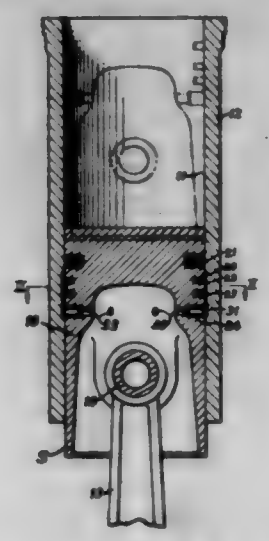
zontally disposed leg to an adjustably spaced position above said annular rotatable ring, the outer peripheral edge of said L-shaped member being located inwardly of the outer peripheral edge of said ring gear, complementary raceways formed in the surfaces between said horizontally disposed leg and said inwardly extending projection, and between said annular rotatable ring and said inwardly extending projection, ball bearings disposed within each pair of complementary raceways, clamping means for adjustably clamping said depending leg to said annular rotatable ring, the open center portions of said annular rotatable member and said annular rotatable ring providing access to said clamping means and the internal wall of said annular element, and said rotatable frame being fixed to the horizontal leg of said L-shaped member and including means to engage said ring gear to turn said rotatable frame.

2,971,802

GROOVED CYLINDER LINER FOR REDUCED RING GROOVE WEAR

Robert E. Kennemer, Pekin, John A. Immel and Robert B. Cambron, Peoria, and James S. Barton, Morton, Ill., assignors to Caterpillar Tractor Co., Peoria, Ill., a corporation of California

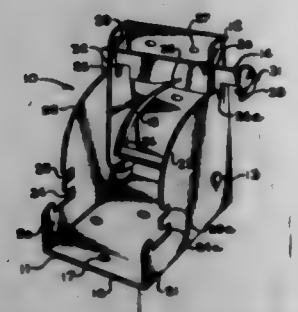
Filed Oct. 2, 1958, Ser. No. 764,887
5 Claims. (Cl. 309—2)



1. In combination with a cylinder having a reciprocating piston therein wherein the piston has circumscribing

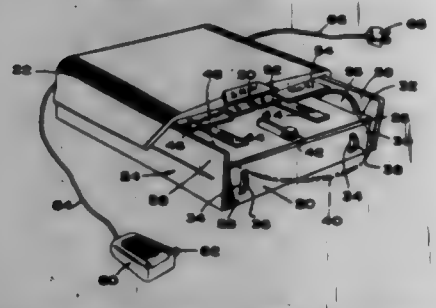
grooves and expansible rings to form a seal against leakage of pressure from the head end of the piston, the improvement which comprises said cylinder having grooves in its inner wall which register with all of said rings when the piston is in bottom dead center position except the ring nearest the head end of the piston to relieve pressure trapped in the ring area without relieving pressure from the head end.

2,971,803
MULTI-POSITION LEG BRACKET
Frederick Wallin, Van Nuys, Calif. (2911 Whittier Blvd., Los Angeles 23, Calif.)
Filed July 6, 1959, Ser. No. 824,974
3 Claims. (Cl. 311—99)



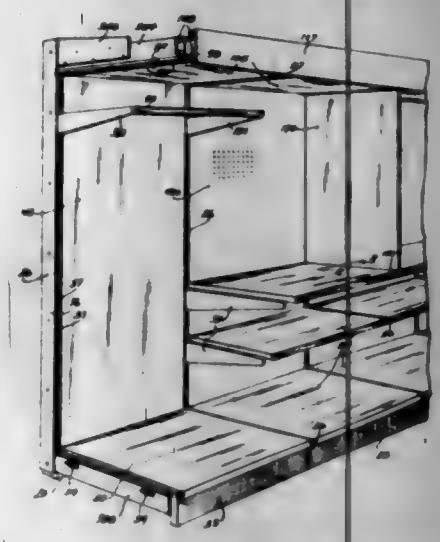
1. A multi-position table-leg mounting which includes: a table bracket comprised of an attachment plate for fastening the mounting to the underside of the table, and two parallel side plates projecting substantially normally from said attachment plate; a leg bracket hingeably mounted adjacent one end thereof to and between said side plates for rotation between a plurality of positions relative to said attachment plate, the other end of said leg bracket being a swinging end; walls on said side plates defining arcuate guide surfaces along the path of the swinging end of said leg bracket, said side plates having matching location slots of rectangular cross-section formed therein at a plurality of locations for said leg bracket, said slots being open to said guide surfaces; a location bolt of rectangular cross-section closely receivable in said rectangular location slots, said location bolt being reciprocably mounted in the swinging end of said leg bracket and movable transversely in said swinging end between a leg bracket locking and a leg bracket shifting position; walls defining a pair of shifting slots in said location bolt, said shifting slots being in registry with said arcuate guide surface when said bolt is moved to said shifting position; and a leaf spring defining a surface generally normal to the sides of said location bolt, said leaf spring having one end anchored to said leg bracket and having the opposite end engaging said location bolt, the spring biasing said bolt into said locking position.

2,971,804
SOUND TRANSDUCING APPARATUS
Philip J. Thomas, Southington, and Frank L. Moore, Newington, Conn., assignors to The Gray Manufacturing Company, a corporation of Connecticut
Filed Mar. 19, 1958, Ser. No. 722,406
13 Claims. (Cl. 312—8)



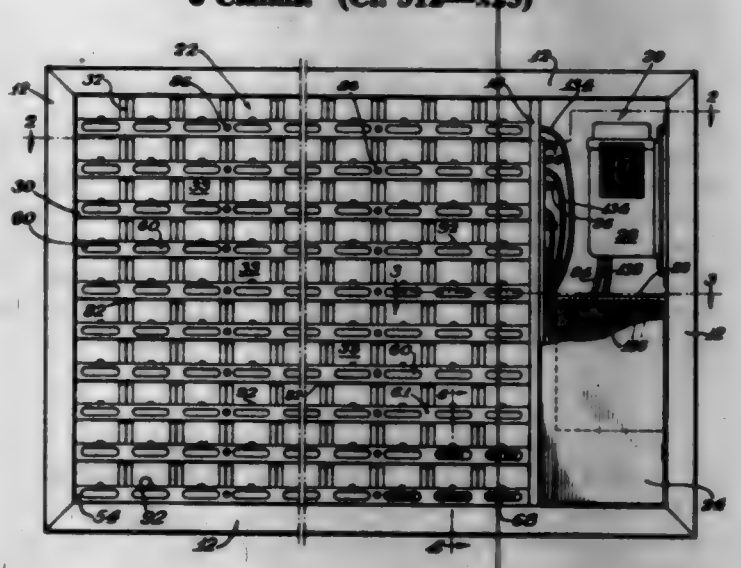
10. Sound transducing apparatus comprising a frame having side walls, a pin secured to each of said side walls and projecting outwardly therefrom, a bottom cover for said frame having side walls containing slots opening upwardly to receive said pins and extending longitudinally to accommodate relative axial movement, a top cover provided with slots registrable with said pins, and clamping means interengaging said top cover and frame for advancing said pins axially relative to said slots and advancing said covers towards said frame.

2,971,805
MODULAR CABINET STRUCTURE AND COMPONENTS USED THEREIN
Martin S. Weiss, 315 W. Court St., Milwaukee, Wis.
Filed Feb. 29, 1956, Ser. No. 568,529
7 Claims. (Cl. 312—108)



1. In a cabinet structure designed to receive and mount brackets having terminal hooks, the combination with prefabricated structural cabinet units each comprising side, top and bottom frame members, of a flitch plate disposed between the side members of said units and supported thereby and comprising at least one substantially planiform metal strip, said one strip having a series of marginal hook-receiving notches with portions opening to a margin of the said strip and other portions extending longitudinally of the strip from the portions first mentioned, and means conecting said units with each other through said flitch plate at points which do not interfere with bracket hook manipulation into and from selected notches.

2,971,806
IN-AND-OUT PAGER CABINET
Norman H. Andreasen, 814 Mulford St., Evanston, Ill.
Filed July 18, 1957, Ser. No. 672,818
6 Claims. (Cl. 312—123)



1. An in-and-out pager cabinet for receiving pocket pagers comprising a frame, a shelf detachably mounted

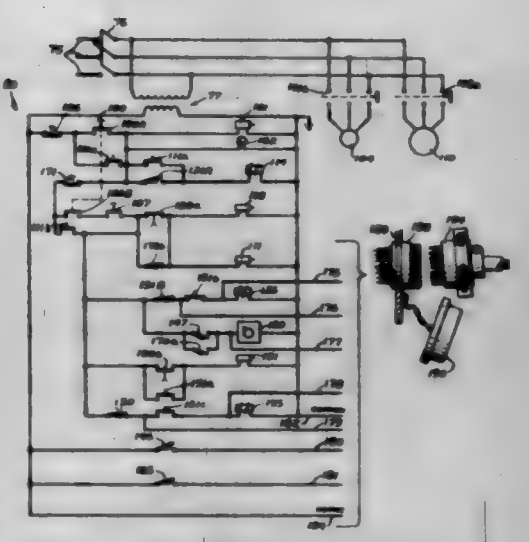
in said frame and providing a plurality of pager receiving positions, said shelf having a visible window therein associated with each of said positions, means including a normally closed switch and a lamp for illuminating each of said windows, switch actuating means associated with each of said illuminating means adapted to open the circuit through any of said illuminating means upon deposit of a pocket pager in the position associated with said illuminating means, a multiple circuit connector including a plug and a receptacle, said plug cuit connector ncluding a plug and a receptacle, said plug being secured to said shelf and said receptacle being secured to said frame to effect a union of said plug and receptacle when said shelf is positioned within said frame, a circuit through one pair of terminals of said connector energizing said illuminating means in parallel and circuits connecting the other sides of said illuminating means separately to other terminals of said connector.

2,971,807
PATIENT'S ROOM COMPOSITE STORAGE CABINET
Eugene E. La Vigne, Creve Coeur, Mo., assignor, by mesne assignments, to Brunswick Corporation, a corporation of Delaware
Filed Aug. 1, 1958, Ser. No. 752,661
1 Claim. (Cl. 312—287)



As an article of manufacture, a mobile composite storage cabinet comprising a casing having parallel upstanding side walls, a top wall, a bottom wall, said casing being open in its rearward side portion, a front wall member extending transversely between the lower portions of said side walls, a partition member dependingly supported from the under surface of the top wall spacedly from the forward and rearward edges of said side walls, said partition extending transversely between said side walls and terminating at its lower edge spacedly above the bottom wall, said partition together with the rearward side portions of said side walls and the rearward portion of said top wall defining a rearward compartment, a clothes hanger support member provided in the upper portion of said rearward compartment and being fixed at one end to said partition and extending rearwardly therefrom, drawer support means provided forwardly of said partition, drawers slideably supported on said drawer support means for movement inwardly and outwardly of the front portion of said casing, a flat, surface-forming member slideably disposed forwardly of said partition in vertical alignment with said drawers, a shelf extending transversely between said side walls spacedly above said bottom wall and spacedly below the lower edge of said partition, a closure for said shelf mounted on said front wall, said front wall, shelf closure, and outer faces of said drawers and surface-forming members being aligned planarwise when said cabinet is in closed condition, said shelf having a short upstanding rearward portion the upper edge of which terminates spacedly below said partition to define an opening therethrough for opening said shelf to the atmosphere through the open rearward portion of said casing, said shelf defining with the portions of the side walls therebeneath a storage area continuous with said rearward compartment.

2,971,808
MACHINE CYCLE RECORDING SYSTEM
Willis Fay Aller and Norman L. Jeglum, Dayton, Ohio, assignors, by mesne assignments, to The Sheffield Corporation, a corporation of Delaware
Filed Sept. 4, 1956, Ser. No. 607,942
6 Claims. (Cl. 346—33)

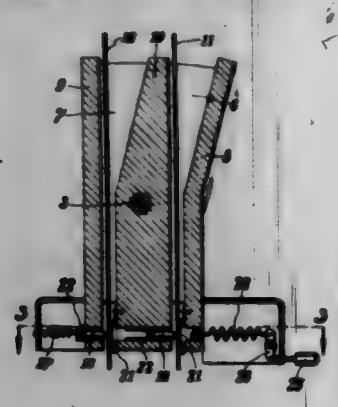


1. In a machine having an automatic sequential operating cycle, a controlling electrical system having electric signal sources in signal circuits for automatic actuation of machine components in a predetermined cycle, a monitoring electric system having leads connected in parallel to signal sources in each of said signal circuits for energization or deenergization with the signal sources, whereby said leads are automatically energized in relation to machine operation, and a common connection for said leads for simultaneous quick connection to and disconnection from a recorder for recording the relationship of the signals provided and the timed relationship of the actuation of the machine components, the circuits through said leads all being broken when the recorder is disconnected, whereby such connection for recording can be made without breaking the signal circuits or disturbing continued machine operation.

2,971,809
MAGNETIC MARKING MEANS FOR RECORDING MEDIA OF BUSINESS MACHINES
Heinz Schmidt, Frankfurt am Main, Germany, assignor to Taylorix Organisation Stiegler, Hausser & Co., Stuttgart, Germany
Filed Apr. 30, 1957, Ser. No. 655,980
Claims priority, application Germany Apr. 30, 1956
3 Claims. (Cl. 346—74)

2. A device for indicating magnetic markings on a magnetizable layer on a sheet comprising, in combination, feed-in means for supplying a sheet to be marked, a slide, magnetic marking means carried within said slide, actuation means for reciprocating said slide in a substantially linear path into and out of contact with a magnetizable layer of a sheet after same has been supplied into said feed-in means, said magnetic marking means including a permanent magnet capable of recording a marking on a magnetizable layer, resilient abutment means fixed to said feed-in means with a sheet being receivable between said magnetic marking means and said resilient abutment means, said actuation means in-

cluding spring-actuated means and a pushbutton to thereby impart movement to said slide and said marking



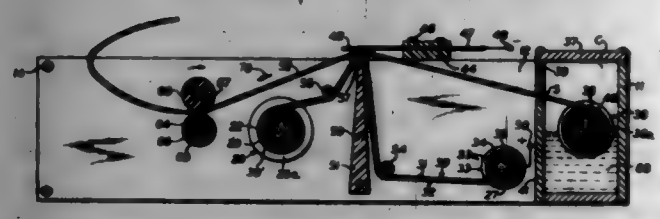
means, and a cushioning spring connected to said slide to limit pressure on said marking means.

2,971,810

GRAPHIC RECORDING APPARATUS

Hugh C. Reasler, Bayside, N.Y., assignor, by mesne assignments, to Hogan Faximile Corporation, a corporation of Delaware

Filed Aug. 13, 1958, Ser. No. 754,733
16 Claims. (Cl. 346—74)



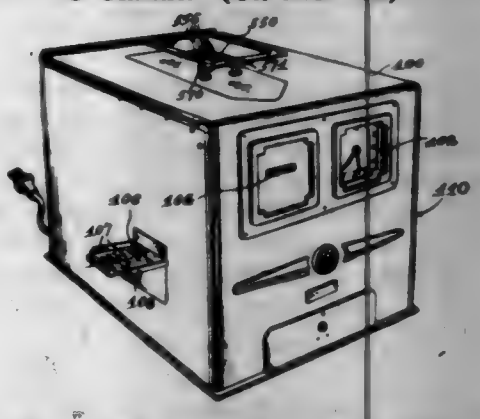
1. A recorder for forming a transparent record, comprising a web including a flexible transparent base carrying an opaque metal film, means for continuously moving the web in one direction between supply and takeup means, means for applying a positive voltage to the metal film, a paper web impregnated with an electrolyte for passing current through said web, means for continuously advancing the paper in said direction with one side of the paper in contact with said metal film along a marking line, an electrode disposed to contact the other side of the paper and extending across said marking line, and means for applying a negative voltage to the electrode, whereby upon the passage of current from the metal film through the impregnated paper web to the electrode metal is electrolytically removed from the metal film thereby exposing the transparent base.

2,971,811

TIME DATA RECORDING APPARATUS

Albert James Findlay, deceased, late of Montreal, Quebec, Canada, by Edith Jessie Findlay, executrix, Montreal, Quebec, Canada, and George C. Widdup, Valleyfield, Quebec, Canada, assignors to Canadian Patents and Development Limited, Ottawa, Ontario, Canada, a company

Filed Nov. 25, 1957, Ser. No. 698,718
5 Claims. (Cl. 346—86)



1. In an electrically operated card punching apparatus having a casing and extending within and through said casing, a guideway for receiving a card preperforated with a locating perforation, card advancing means adapted to convey said card in a continuous and single direction through said guideway, sensing means adapted to sense said card locating perforation, card actuated control means for said card advancing means and said sensing means, card punching means including a plurality of recording punches for recording time data and at least one additional punch for punching a successive locating perforation in said card, and control means associated with said sensing means adapted first to render said card advancing means inoperative and in succession to actuate said card punching means and re-actuate said card advancing means; means for recording additional code data on said card comprising a further plurality of recording punches, and manually operable punch selecting means including a plurality of indicia bearing plates mounted for sliding movement on the upper portion of said apparatus in aligned juxtaposed relationship, an access opening in said casing in alignment with said indicia bearing plates, slide arresting means adapted to individually retain said slides at a manually selective position bringing one of said indicia in alignment with a common registering point, and linkage means operatively connecting each of said slides with one of said data recording punches, said further plurality of punches being actuated simultaneously with said time recording and locating punches under the control of said control means associated with said sensing means.

CHEMICAL

2,971,812

VAT DYE DISPERSIONS CONTAINING POLYVINYLPYRROLIDONE

Albert E. Moran, Somerville, and Earl Kaplan, North Plainfield, N.J., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Feb. 14, 1958, Ser. No. 715,177

13 Claims. (Cl. 8—83)

1. A vat dye paste composition comprising at least 6% of a vat dye, water, and at least 0.2% but not over 3.0% polyvinylpyrrolidone based on the total paste weight.

2,971,813

TREATMENT OF MONTAN WAX WITH CHROMIC ACID AND SIMULTANEOUS FORMATION OF CHROMIC TANNING MASH

Antoni Sentek, Swierczewskiego-street 149, m.104, Warsaw, Poland

No Drawing. Filed Oct. 4, 1957, Ser. No. 688,140
Claims priority, application Poland Oct. 16, 1956
5 Claims. (Cl. 8—94.26)

5. A method for improving montan wax comprising the steps of dispersing montan wax in an aqueous solution of nitric acid having a concentration of about between 40–50%, so as to cause an exothermic reaction between said montan wax and said aqueous nitric acid, thereby raising the temperature of the thus formed reaction mixture; allowing said mixture to react for a period up to one hour while preventing the temperature thereof

from rising above about 80° C.; cooling said reaction mixture so as to substantially terminate said reaction; separating the thus treated montan wax from the remainder of said reaction mixture; subjecting said separated montan wax to the action of an oxidizing agent selected from the group consisting of chromic acid and bichromates, so as to improve the quality of said montan wax and simultaneously to form a chromic tanning mash; separating the thus treated montan wax from said tanning mash; and spray drying the thus separated tanning mash so as to transform the same into a powdery dry substance.

2,971,814

TANNING WITH ALKALINE GLYOXAL

Ludwig Seligsberger, Newton Center, Mass., assignor to the United States of America as represented by the Secretary of the Army

No Drawing. Filed Dec. 23, 1957, Ser. No. 704,846
4 Claims. (Cl. 8—94.33)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. In the production of leather, the process of immersing a hide in an alkaline aqueous salt solution having a pH of about 9 to about 10.5 until chemical equilibrium between said salt solution and said hide has been reached, the concentration of said salt solution being about 1–2.5 N, then adding glyoxal to said salt so'ution, lowering the pH of said hide after tannage has been effected by treating said hide with an acidic liquor prior to rinsing and drying said hide, until said hide is stablized at a pH of not more than about 7, and drying the tanned stabilized hide; whereby a full, strong and pliable leather having a grain structure substantially free from swelling and cracking is obtained.

2,971,815

CHEMICALLY MODIFIED TEXTILES

Austin L. Bullock, Metairie, and John D. Guthrie, New Orleans, La., assignors to the United States of America as represented by the Secretary of Agriculture

No Drawing. Filed Oct. 31, 1957, Ser. No. 693,786
13 Claims. (Cl. 8—116.2)
(Granted under Title 35, U.S. Code (1952), sec. 266)

10. A process for chemically modifying fibrous cellulosic materials while preserving their fibrous form which comprises reacting a fibrous cellulosic material containing free hydroxyl groups with a cross linking agent which is a member of the group consisting of polyfunctional cellulose etherifying and esterifying agents and with a member of the group consisting of monofunctional cellulose etherifying and esterifying agents.

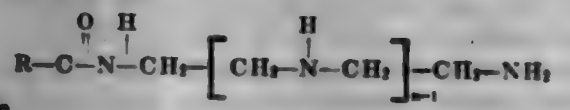
2,971,816

PROCESS OF PRODUCING VISCOSE RAYON

John P. Holliban, Jr., Chester, Pa., John A. Howsmon, Wilmington, Del., and Wayne A. Sisson, Media, Pa., assignors to American Viscose Corporation, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed Nov. 3, 1954, Ser. No. 466,680
5 Claims. (Cl. 18—54)

1. In a method of producing shaped bodies of regenerated cellulose by extruding viscose into a coagulating and regenerating bath, the improvement which comprises modifying the viscose by incorporating therein from 0.2% to 4% based on the weight of the cellulose in the viscose, of an alkali-soluble reaction product of an alkylene oxide and a compound having the following structural formula:



wherein



is a straight chain acyl radical containing 8 to 24 carbon atoms and *n* is an integer from 1 to 10, said reaction product having from 10 to 30 units of alkylene oxide per molecule, and extruding said modified viscose into a bath containing from about 10% to about 25% sodium sulfate, from about 3% to about 15% zinc sulfate and sulfuric acid, the percentage sulfuric acid content of the bath exceeding the slubbing point but not exceeding about 1.3 times the percentage of caustic soda in the viscose so as to produce shaped bodies consisting substantially entirely of skin, said modified viscose having a sodium chloride salt test of greater than 6 at the time of extrusion.

2,971,817

PRODUCING ALL SKIN RAYON

Wayne A. Sisson, Media, and Byron A. Thumm, Prospect Park, Pa., assignors to American Viscose Corporation, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed June 29, 1955, Ser. No. 518,934
13 Claims. (Cl. 18—54)

1. In a method of producing shaped bodies of regenerated cellulose consisting substantially entirely of skin, the step which comprises extruding viscose into an aqueous spinning bath in the presence of a polyoxyalkylene glycol ether of triethanolamine containing at least about 9 alkylene oxide units per molecule of triethanolamine, the bath containing from about 10% to 25% sodium sulfate, from about 3% to 15% zinc sulfate and sulfuric acid, the sulfuric acid content of the spinning bath exceeding the slubbing point but not exceeding about 8.5%, the glycol ether being present in an amount of from about 0.5% to about 4%, based upon the weight of the cellulose in the viscose when present in the viscose and from about 0.03% to about 0.5%, based on the weight of the spinning bath, when present in the spinning bath.

2,971,818

PRODUCTION OF AMMONIUM HEXAMETAPHOSPHATE BY CATION EXCHANGE RESIN

Murray A. Kaplan, Syracuse, and Frank H. Buckwalter, De Witt, N.Y., assignors, by mesne assignments, to Bristol-Myers Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 28, 1957, Ser. No. 680,666
3 Claims. (Cl. 23—107)

1 A process for the production of an aqueous solution consisting of ammonium hexametaphosphate and water comprising passing an aqueous solution of sodium hexametaphosphate containing, as impurities, sodium ions, orthophosphate ions, and pyrophosphate ions, through a column containing a sulfonic acid cation exchange resin capable of removing the sodium ion impurities, immediately neutralizing the effluent from said column to a pH of about 7.0 with ammonia and recovering an aqueous solution consisting of ammonium hexametaphosphate and water from said effluent.

2,971,819

PROCESS FOR IMPROVING THE QUALITY OF SULFURIC ACID

Marvin S. Anteisman, University City, Mo., assignor to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Jan. 10, 1958, Ser. No. 708,062
2 Claims. (Cl. 23—172)

1. The method of improving the quality of sulfuric acid containing nitrogen-oxygen compound impurities and having an H_2SO_4 content of not less than 60% which comprises the steps of (1) determining the amount of said impurities in said acid and (2) thereafter passing acetylene in an amount of from 2 to 500 parts by weight thereof for each part by weight of said impurities in said acid, below the surface of said acid, which is at a tem-

perature of 20° C. to 125° C., for a period of time only sufficient for the acetylene to react with and remove said impurities, the amount of acetylene employed within the said range of 2 to 500 parts by weight being higher at the lower temperatures of said acid and lower at the higher temperatures of said acid.

2,971,820

PREPARATION OF CYANAMIDE

William R. Rolingson, Texas City, Tex., assignor to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Sept. 22, 1958, Ser. No. 762,256
7 Claims. (Cl. 23—190)

1. The process of preparing cyanamide which comprises heating together hydrogen cyanide and ammonia in contact with an inorganic material of high surface area chosen from the group consisting of alumina, silica gel, fuller's earth, kieselguhr, celite and pumice at a temperature in the range from about 400° C. to about 1000° C. and at substantially atmospheric pressure.

2,971,821

SEED FOR PRODUCTON OF RUTILE TITANIUM DIOXIDE PIGMENT AND PROCESS

Frank O. Rummery, Reuben Roseman, Frederick L. Appel, and Paul S. Hamshey, Jr., Baltimore, Md., assignors to The Glidden Company, Cleveland, Ohio, a corporation of Ohio

No Drawing. Filed Jan. 13, 1958, Ser. No. 708,363
18 Claims. (Cl. 23—202)

2. A process for producing a stable colloidal rutile-inducing and yield-inducing seed which comprises treating washed and purified orthotitanic acid under conditions of agitation with a combination of a hydrofluoric acid-forming material, the amount of hydrofluoric acid formed being from about 0.001 gram to 0.05 gram per gram of titanium dioxide, and an inorganic acid selected from the group consisting of hydrochloric acid, hydrobromic acid, hydriodic acid and nitric acid, the amount of said inorganic acid being from about 0.2 gram to 0.5 gram for the hydrochloric acid and a chemically equivalent weight for the hydrobromic acid, hydriodic acid and nitric acid, per gram of titanium dioxide and thereafter curing the admixture.

8. A cured, stable colloidal rutile-inducing and yield-inducing seed comprising a disperaion of hydrated titanium oxide in a mixture of from about 0.001 gram to 0.05 gram of hydrofluoric acid per gram of titanium dioxide and an inorganic acid selected from the group consisting of hydrochloric acid, hydrobromic acid, hydriodic acid and nitric acid, the amount of said inorganic acid being from about 0.2 gram to about 0.5 gram for the hydrochloric acid and a chemically equivalent weight for the hydrobromic acid, hydriodic acid and nitric acid per gram of titanium dioxide.

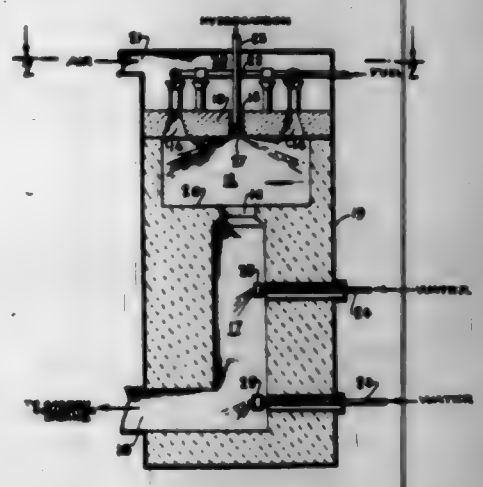
2,971,822

PROCESS FOR PRODUCING CARBON BLACK

Ira Williams, Borger, Tex., assignor to J. M. Huber Corporation, Borger, Tex., a corporation of New Jersey

Filed Aug. 2, 1956, Ser. No. 601,675
7 Claims. (Cl. 23—209.4)

1. In a carbon-producing process employing a combustion chamber of shallow depth from end to end having in one end wall a centrally located hydrocarbon injector and burner means disposed around said chamber, said burner means being supplied with fuel and excess air and projecting flames and gases directly along the side wall of said chamber into impingement with its other end wall to maintain a turbulent mass of flames and gases around said chamber adjacent said other end wall, said other end wall having an outlet orifice substantially at its center, the steps which comprise introducing into said chamber through said injector a mist of a carbon-producing hydrocarbon oil of positive free energy in the form of a hollow cone expanding obliquely toward said side wall into said turbulent mass of flames and gases, the



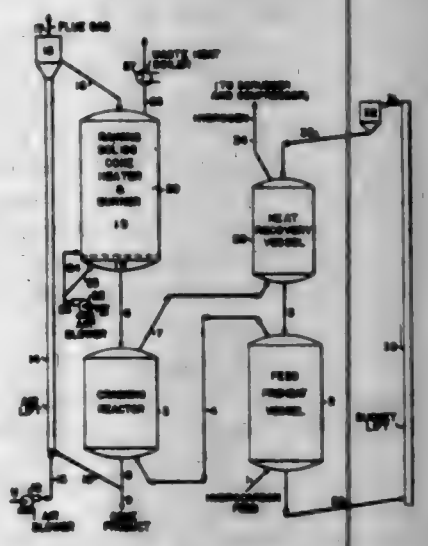
angle of said cone being at least 50°, decomposing said hydrocarbon oil predominantly within said chamber, flowing the resulting carbon and reaction gases through said outlet orifice, and quenching the outflow promptly after its emergence from said outlet orifice, whereby carbon of extremely fine particle size is obtained.

2,971,823

SUPPLYING HEAT TO A HYDROCARBON CONVERSION VESSEL

Charles E. Jahnig, Rumson, and Peter L. Silveston, Union, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

Filed Jan. 12, 1959, Ser. No. 786,197
7 Claims. (Cl. 23—212)



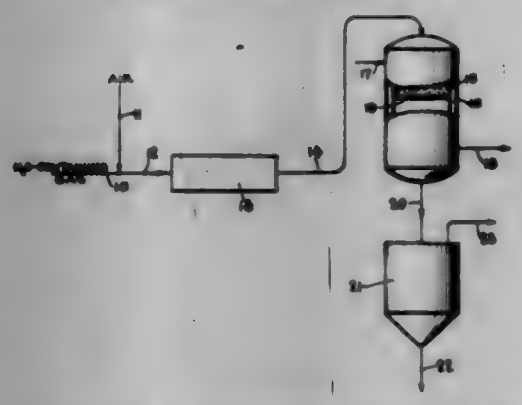
1. A method of providing heat to a reactor vessel used to convert hydrocarbon gas to hydrogen and coke which comprises maintaining a moving bed of coke particles in the lower portion of a burner vessel, passing a stream of air through the particles in the moving bed to form carbon monoxide gas, passing a separate stream of air above the moving bed of coke particles to oxidize the carbon monoxide gas passing up from the moving bed to carbon dioxide gas, introducing coke particles at the top portion of the burner vessel, showering the coke particles as raining solids through the rising carbon dioxide gas to the moving bed at the lower portion of the burner vessel, withdrawing flue gas from the top portion of the burner vessel and passing the coke particles from the moving bed to a reactor vessel.

2,971,824

PROCESS FOR RECOVERING SULFUR FROM HYDROGEN SULFIDE-CONTAINING GASES

George C. Johnson, Woodbury, and George T. Kerr, Delaware Township, Camden County, N.J., assignors to Socony Mobil Oil Company, Inc., a corporation of New York

Filed Aug. 11, 1958, Ser. No. 754,355
18 Claims. (Cl. 23—225)



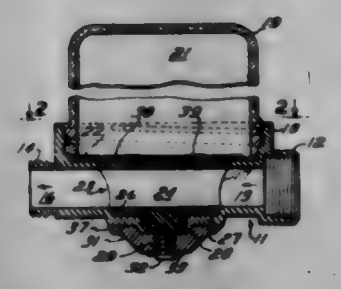
16. In a process for recovering elemental sulfur from a hydrogen sulfide-containing gas by means of direct oxidation of hydrogen sulfide, the steps which comprise mixing said gas with a second gas containing a sufficient quantity of free oxygen to react with the hydrogen sulfide present to produce elemental sulfur, contacting the resulting mixture of gases with a catalyst consisting essentially of a solid crystalline aluminosilicate zeolite characterized by a rigid three-dimensional network and a homogeneous pore structure made up of uniform interstitial dimensions of at least about 5 Angstrom units in cross section at a temperature between about 175° C. and about 700° C. and recovering the sulfur product.

2,971,825

MIXING AND DISPENSING DEVICE

Ronald C. Kersh, 11 La Campana, Orinda, Calif.

Filed Oct. 4, 1957, Ser. No. 688,297
4 Claims. (Cl. 23—272.7)



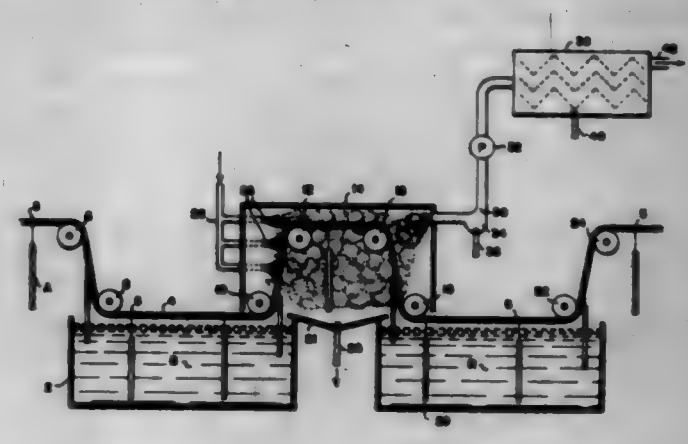
1. A mixing and dispensing device comprising a body defining a circular central opening communicating with spaced inlet and outlet passages and adapted for connection in a fluid flow line, means defining a mixing chamber communicating with said central body opening and adapted to contain a soluble solid to be dispensed by fluid flow through the body, a single cylindrical member movably disposed diametrically within said circular body opening in substantially sealing relation with a portion of the walls thereof and defining a single bore adapted to communicate between said inlet and outlet passages, said cylindrical member being spaced from the walls of the circular opening, and control means exteriorly of said body engaging said member for angularly displacing same within said body to controllably misalign said bore and inlet and outlet passages to vary the relative communication between said passages and said bore and said passages and said mixing chamber for controlling the relative amount of material in said mixing chamber carried away by fluid, a screen carried by the upper portion of said movable member and disposed only between said mixing chamber and the portion of said body opening communicating with said outlet passage for creating turbulent fluid flow in said mixing chamber to minimize dissolving of material therein and provide uninterrupted flow into said mixing chamber from said inlet passage.

2,971,826

CHEMICAL POLISHING METHOD

Charles C. Cohn, Atlantic City, N.J., and Samuel L. Cohn, Philadelphia, Pa., assignors to Samuel L. Cohn and Charles C. Cohn, copartners, trading as Colonial Alloys Company, Philadelphia, Pa.

Filed Nov. 3, 1954, Ser. No. 466,556
2 Claims. (Cl. 41—42)



1. A method comprising the steps of immersing an article of aluminum or an alloy of aluminum in a bath comprising phosphoric acid, nitric acid and water having a brightening action on the surface of said article, withdrawing said article from said bath at substantially the time of completion of the desired extent of said chemical action, and treating said article immediately and while it carries adhering liquid from the bath with an aqueous solution of nitric acid adapted to stop further chemical action on the surface of the article.

2. A method comprising the steps of immersing an article of aluminum or an alloy of aluminum in a bath comprising phosphoric acid, nitric acid and water having a brightening action on the surface of said article, withdrawing said article from said bath at substantially the time of completion of the desired extent of said chemical action, treating said article immediately and while it carries adhering liquid from the bath with an aqueous solution of nitric acid adapted to stop further chemical action on the surface of the article, and thereafter using the last mentioned treating solution as a makeup constituent of the first mentioned bath.

2,971,827

FUEL OIL ADDITIVE

Arthur V. Churchill, Oakmont, and Edward Mitchell, Valencia, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Filed Dec. 2, 1957, Ser. No. 699,910
10 Claims. (Cl. 44—64)

1. A fuel oil composition comprising a major amount of a hydrocarbon fuel oil that has an API gravity less than about 34°, and that normally tends to form smoke and soot during combustion, and containing a small amount, sufficient to reduce the smoke and soot forming tendencies of the oil, of a salt of hydrazine and an oil-soluble hydrocarbon sulfonic acid selected from the group consisting of petroleum sulfonic acids and long-chain aliphatic hydrocarbon-substituted benzene sulfonic acids.

10. A fuel oil-soluble salt of hydrazine and an oil-soluble hydrocarbon sulfonic acid selected from the group consisting of petroleum sulfonic acids and long-chain ali-

phatic hydrocarbon-substituted benzene sulfonic acids, said salt being capable of reducing the smoke and soot forming tendencies of hydrocarbon fuel oils.

2,971,828

HYDRAZINE-CONTAINING FUEL OIL COMPOSITION

Arthur V. Churchill, Oakmont, and Edward Mitchell, Valencia, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Filed Dec. 2, 1957, Ser. No. 699,911
4 Claims. (Cl. 44—64)

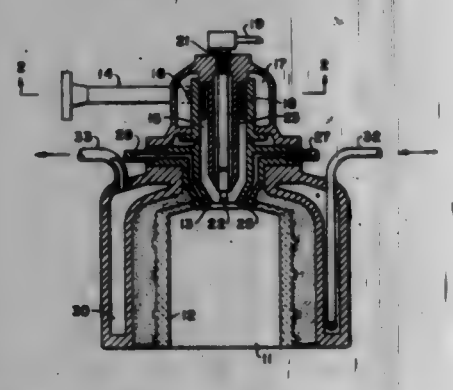
1. A fuel oil composition comprising a major amount of a hydrocarbon heating oil that has an API gravity less than about 34°, and that normally tends to form smoke and soot during combustion in a heating oil burner, and containing a small amount, sufficient to reduce the smoke and soot forming tendencies of the oil, of hydrazine, said small amount being a fraction of 1 percent by weight of the composition.

2,971,829

HYDROCARBON GASIFICATION

Jacobus J. Van Rossum and Marinus J. Hofstede, Delft, Netherlands, assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

Filed Dec. 23, 1958, Ser. No. 782,471
3 Claims. (Cl. 48—196)



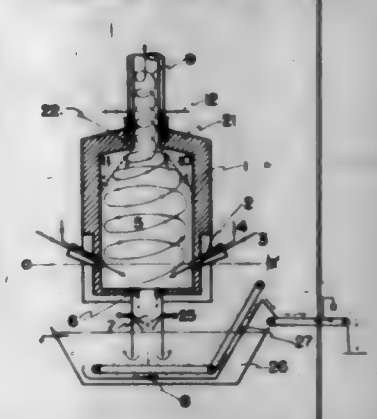
1. In a method of preparing gas mixtures containing predominently hydrogen and carbon monoxide by partial combustion of a first and second fluid, one of the fluids being a carbonaceous fuel and the other an oxygen-containing gas, wherein the first fluid is introduced from an outer encircling plenum at an angle through a plurality of openings into a first zone having a boundry of a surface of revolution with a velocity sufficient to form an annular rotating column of said first fluid advancing forwardly toward an open throat in one end of said zone and wherein there is a gradual reduction in the cross section of said zone and accordingly of the annular rotating column to the dimension of said throat and wherein there is an injection of the second fluid outwardly from a conduit disposed axially within said first zone into the rotating annular column of the first fluid and wherein there occurs a rapid expansion of the outwardly moving, rotating column from the restricted throat into a sharply enlarged combustion zone having a boundary wall of substantially a surface of revolution, the improvement comprising introducing the first fluid into the first zone through the several openings at an angle defined by a tangential line to an imaginary cylinder having a diameter not greater than two-thirds of the diameter of the first zone and not less than the diameter of the axially disposed conduit of said zone, and providing a pressure drop over each of said plurality of openings between the plenum and the first zone in excess of the maximum pressure differential existing between any two points in the plenum.

2,971,830

METHOD OF GASIFYING PULVERIZED COAL IN VORTEX FLOW

Toshio Kawai, Toshio Taniyama, Hideo Yoshida, Yoshiichi Karato, Tetsuya Oorui, and Koichi Yasuhara, Niihama-shi, and Teruyoshi Usamoto, Akita-shi, Japan, assignors to Sumitomo Chemical Company, Ltd., Higashi-ku, Osaka, Japan

Filed June 18, 1958, Ser. No. 742,807
3 Claims. (Cl. 48—206)



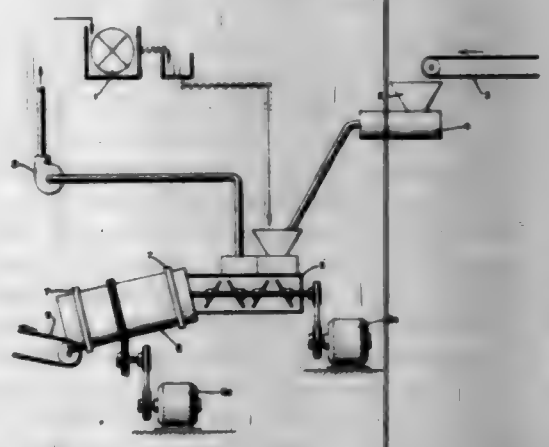
1. A method for gasifying pulverized coal by injecting, in a downward and tangential direction towards a hypothetical horizontal circle and with high velocity into the lower part of a gasification zone having a substantially rectangular vertical section which zone connects with a narrow cylindrical cooling zone at the top and the center thereof, a mixture consisting of pulverized coal, flux and a gaseous medium containing molecular oxygen in admixture with steam, causing the mixture to ascend helically in said gasification zone so as to form a vortex-type stream, the flux being selected from the group consisting of metallic iron and pyrite cinder, employing an amount of steam sufficient to maintain the lower part of the gasification zone as an oxidizing atmosphere so that iron in the flux is in the form of FeO, sharply restricting the vortex type stream at the upper part of the gasification zone and forming a stagnant zone at the upper corners of the rectangular section outside of the restricted stream into which stagnant zone pulverized coal which has not been gasified is thrown for return to the vortex-type stream, directing the restricted stream to the cooling zone, and injecting tangentially a cooling medium at a stagnant region formed at the lower part of the cooling zone.

2,971,831

MANUFACTURE OF SUPERPHOSPHATE

Yves Martin, Chauny, Aisne, France, assignor to Compagnie de Saint-Gobain, Paris, France

Filed May 2, 1957, Ser. No. 656,725
Claims priority, application France May 7, 1956
3 Claims. (Cl. 71—40)



1. A method of making superphosphate having a major proportion of granules between 1.5 and 5 mm. diameter

that comprises admitting to a rotating cave tube a sludge of mixed sulfuric acid and phosphate of fertilizer grade containing proportions of the phosphate and acid producing at least 5–6% of total P_2O_5 insoluble in ammoniacal citrate of ammonia in the final product after aging, advancing and tumbling the reaction mass in the tube, passing cooling air countercurrent through the tube at a rate producing a reaction mass temperature less than 80° C. at the discharge end of the tube, and aging the product for a period of days to a hardness about 1,000 g.

2,971,832

GRANULATION OF MIXED FERTILIZERS

Thomas H. Stewart, Jr., Atlanta, Ga., and Robert A. MacDonald, Highland Park, Ill., assignors to International Minerals & Chemical Corporation, a corporation of New York

No Drawing. Filed Dec. 6, 1955, Ser. No. 551,216
4 Claims. (Cl. 71—64)

1. The process of producing a granular mixed fertilizer product of relatively uniform size wherein at least about 90% of the granules of the product are substantially distributed throughout a size range which passes a predetermined maximum mesh size limit (x) within the range of about 4 to about 14 mesh and which are held by a predetermined minimum mesh size limit (y) within the range of about 14 to 35, said mesh range $-x +y$ embracing at least 8 mesh sizes which comprise admixing solid predominantly phosphate and potash fertilizer components to provide a mix having

(a) larger size particles substantially distributed throughout a mesh size range which will pass about ($x+2$) mesh and be retained on about a ($y+7$) mesh; and

(b) fine size particles having a maximum size which will pass about a ($y+7$) mesh:

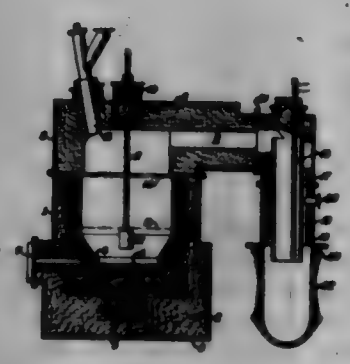
the larger size particles (a) constituting from about 40% to about 65% of the mixture (a)+(b); introducing into the mix an aqueous ammoniacal solution to produce a completed mixture having a temperature between about 180° F. and about 220° F. which, upon discharge from the mixing step, exits in the form of wetted particles and crumbly aggregates of particles, and removing water from the wetted material while tumbling to produce a granular product in which at least about 90 of the granules are in the desired range.

2,971,833

PROCESS OF MANUFACTURING MAGNESIUM

Jean Artru, Paris, and Jacques Marchal, Bagneres-de-Bigorre, France, assignors to La Societe dite Le Magnesium Thermique (Magnetherm), Paris, France, a corporation of France

Filed Apr. 7, 1959, Ser. No. 804,642
Claims priority, application France Apr. 9, 1958
9 Claims. (Cl. 75—10)



1. A process for producing magnesium by the reduction of a substance comprising magnesia by a metallic reducing agent, comprising the steps of: dissolving said substance in a liquid slag consisting essentially of lime, silica and alumina, wherein the following molecular ratios hold true:

$$\frac{\text{Number of molecules CaO}}{\text{Number of molecules } SiO_2}$$

is at least 1.8, and

$$\frac{\text{Number of molecules } Al_2O_3}{\text{Number of molecules } SiO_2}$$

is at least 0.26, dispersing said metallic reducing agent in said liquid slag and heating said slag by electric current flowing between carbon electrodes in contact with said slag and said magnesia, thereby producing and evaporating magnesium metal while avoiding the formation of carbon monoxide.

2,971,834

PROCESS IN SELECTIVE REDUCTION OF CHROME ORE

Arne Backström and Karl Olof Nordin, Avesta, Sweden, assignors to Avesta Jernverks Aktiebolag, Avesta, Sweden, a Swedish joint-stock company

No Drawing. Filed Dec. 27, 1957, Ser. No. 705,478
Claims priority, application Sweden Jan. 16, 1957
3 Claims. (Cl. 75—11)

1. A process for upgrading the chrome content of a chrome ore having a ratio of chromium to iron of less than about 2 to 1, comprising melting said chrome ore in an electric arc furnace, to form a molten bath of said ore, adding a basic fluxing material to said molten bath, introducing into said bath a reducing agent consisting essentially of between about 20% and 45% chromium, between about 40% and 75% silicon and up to about 30% iron, said reducing agent acting selectively to reduce to metallic iron a substantial portion of the iron oxide in said ore to form a metal phase containing principally iron and to suppress the reduction of chromium oxide and form a slag phase containing substantially all of the chromium oxide initially present in said ore and a substantially smaller quantity of the iron oxide initially present in the ore, and separating said slag phase from said metal phase.

2,971,835

RECOVERY OF NICKEL AND COBALT FROM MIXTURES OF THE SAME WITH IRON SULFIDE, AS IMPURITY

Raphael F. Matson, New Orleans, La., assignor to Freeport Sulphur Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Feb. 17, 1958, Ser. No. 715,486
12 Claims. (Cl. 75—115)

1. In the purification of non-ferrous metal sulfide mixtures precipitated from leach liquors obtained by the leaching of ores, which mixture of sulfides includes nickel sulfide with a ferrous sulfide impurity, having as an intermediate object the dissolution of the iron content along with the non-ferrous metal content and as its ultimate purpose the recovery of the non-ferrous metal content in purer form involving sulfation by the action of oxygen in aqueous acid solution, the improvement which comprises, introducing oxygen into an acidic aqueous suspension of said sulfides while the suspension is maintained at an elevated temperature under pressure above the vapor pressure of the solution until a substantial part but not all of the metal content including the iron has been sulfated and dissolved, discontinuing this sulfation operation before any of the iron content has precipitated, separating the product liquor containing the dissolved metal sulfates from the residue consisting of sulfides and separating the iron from the non-ferrous metals in said liquor.

2,971,836

SEPARATION OF NICKEL AND COBALT

James D. Hall, 21811 Westchester Road, Shaker Heights, Ohio

No Drawing. Filed Apr. 29, 1957, Ser. No. 655,479
12 Claims. (Cl. 75—119)

8. The method of separating cobalt from an aqueous solution containing nickel and cobalt salts which comprises the steps of introducing chlorine into the solution, adding an alkali metal hydroxide to the solution to maintain the pH between about 1.8 and about 3.0, discontinuing the addition of chlorine and said hydroxide to the solution when precipitation of cobaltic hydroxide has substantially ceased, and separating and removing the resulting solid phase containing cobaltic hydroxide from the liquid phase containing nickel substantially free from cobalt contamination.

2,971,837

HIGH TEMPERATURE NICKEL-BASE ALLOY

John C. Freche, Parma, Ohio, assignor to the United States of America as represented by the Administrator of National Aeronautics and Space Administration

No Drawing. Filed Oct. 23, 1959, Ser. No. 848,481
5 Claims. (Cl. 75—171)
(Granted under Title 35, U.S. Code (1952), sec. 266)

5. A nickel base alloy capable of high-load carrying capacity at elevated temperatures consisting essentially of from 65 to 82 percent nickel, molybdenum and tungsten in combination such that the total amount of both elements present in the alloy is from 6 to 10 percent, from 4 to 8 percent aluminum, from 4 to 8 percent chromium, from 1 to 3 percent zirconium, from 3 to 7 percent vanadium, and from 0.125 to 0.30 percent carbon.

2,971,838

HIGH TEMPERATURE NICKEL BASE ALLOY

John C. Freche, Parma, Ohio, assignor to the United States of America as represented by the Administrator of National Aeronautics and Space Administration

No Drawing. Filed Oct. 23, 1959, Ser. No. 848,482
4 Claims. (Cl. 75—171)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A nickel base alloy capable of high load carrying capacity at elevated temperatures consisting essentially of from 70% to 85% nickel, from 5% to 10% molybdenum from 4% to 8% chromium, from 4% to 8% aluminum, and from 1% to 3% zirconium.

2,971,839

HARD METAL CARBIDE PRODUCTS

Leon Nussbaum, London, England, assignor to Titanium Products Corporation Limited, Tel Aviv, Israel

No Drawing. Filed Nov. 21, 1955, Ser. No. 548,261
Claims priority, application Great Britain Dec. 2, 1954
13 Claims. (Cl. 75—203)

5. A process for the manufacture of hard-metal carbide products which comprises mixing a comminuted recrystallized carbide material, a major portion of which consists of titanium carbide, with between about 7 and about 45% by weight of the resultant mixture of a binder material containing nickel and chromium, the chromium being present in the binder material in an amount at least equal to the nickel, heating the mixture to a temperature sufficient to liquefy the binder material, allowing the mixture to cool, comminuting the cooled mixture, and subsequently pressing and sintering the comminuted mixture to form the desired products.

2,971,840

PROCESS FOR THE PRODUCTION OF NON-LATERALLY REVERSED POSITIVE COPIES BY HEAT DEVELOPMENT

Hildegard Haydn and Anita von König, Leverkusen, Germany, assignors to Agfa Aktiengesellschaft

No Drawing. Filed Jan. 31, 1956, Ser. No. 562,578
Claims priority, application Germany Feb. 7, 1955
8 Claims. (Cl. 96—29)

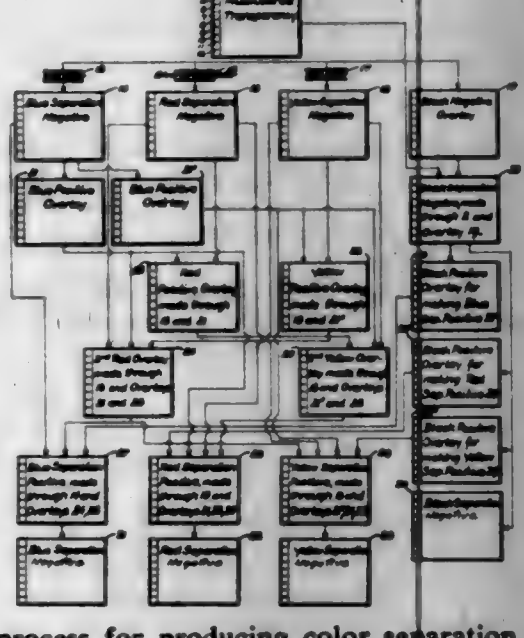
1. Process for the production of non-laterally reversed photographic sulfur-dyestuff images without the use of treating baths, said process being characterized by the steps of providing a light-sensitive solid silver halide emulsion layer that contains an organic silver halide developer selected from the class consisting of aromatic amino and aromatic hydroxy developers which forms a sulfur-dyestuff when heated to from 80 to 150° C. with a compound splitting off sulfur, providing a separating supported transfer layer containing a compound which splits off sulfur at a temperature of about 80 to 150° C., at least one of said layers containing hydrated material that liberates sufficient moisture on heating to 80 to 150° C. to facilitate transfer between the layers, photographically exposing the emulsion layer, contacting the exposed emulsion layer with the transfer layer, and subjecting said combined layers to a heat treatment at a temperature of about 80 to 150° C., to cause only said organic developer to transfer from the unexposed places of said silver halide layer into said transfer layer and react in the transfer layer to form a positive sulfur-dyestuff image of the original to which the silver halide layer was exposed, and thereafter separating said two layers.

2,971,841

PROCESS FOR THE PRODUCTION OF COLOR SEPARATION NEGATIVES OR POSITIVES FOR COLOR REPRODUCTION

Kenneth W. Moore, Fairway, Kans.
(5307 Falmouth, Kansas City 3, Kans.)

Filed Feb. 20, 1956, Ser. No. 566,615
1 Claim. (Cl. 96—30)



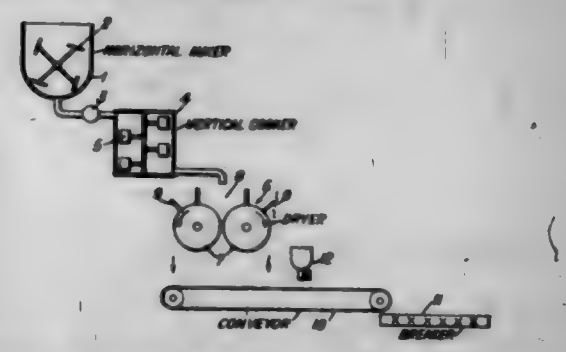
The process for producing color separation negatives and positives for color reproductions which comprises, photographing an original copy to make a multi-colored transparency of same, making a similar multi-colored transparency of a scale showing patches of three primary printing colors of process inks and patches of combinations of each of these primary colors combined with the other two colors and one patch of black process ink and one patch without ink showing white paper to be used in printing reproductions of the respective separation plates, placing said transparencies in side by side

relation, making color separation photographic negatives of the multi-color transparencies by exposing one light-sensitive film to said multi-color transparencies with red light having substantially the transmission characteristics of the Wratten filter #29 to make a blue separation negative, exposing a second light-sensitive film to said multi-color transparencies with a blue-green light having substantially the transmission characteristics of the combination of Wratten filters #61 and #45 to make a red separation negative, exposing a third light-sensitive film to said multi-color transparencies with a blue light having substantially the transmission characteristics of the Wratten filter #47B to make a yellow separation negative, adjusting the exposure in each case to make the difference in density between the white patch and the printing color patch approximately the same, exposing a fourth light-sensitive film direct to the multi-colored transparencies using no filter and making the white patch a density of approximately one-half the density range between the white patch and the black ink patch on the multi-color transparencies to make a black negative overlay, making a blue positive overlay by exposing a light-sensitive film through said blue separation negative causing the blue ink patch to have a density approximately equal to the difference between the blue patch and white on the red separation negative, making a red positive overlay by exposing a light-sensitive film through said red separation negative and blue positive overlay in registry with the density of the red patch equal to the density difference between the red and white patches on the yellow separation negative, making a yellow overlay by exposing a light-sensitive film through the yellow separation negative and a blue positive overlay with the density of the blue ink patch approximately the density difference between the blue and white on the yellow separation negative, making a second red overlay by exposing a light-sensitive film through the red separation negative with the blue and yellow overlays in registry with the density of the red patch approximately the density difference between the red and white patches of the yellow separation negative, making a second yellow overlay by exposing a light-sensitive film through the yellow separation negative and the blue and first red overlays in registry with the yellow patch density approximately the density difference between the yellow and the white patch on the red separation negative, making a black separation negative by exposing a light-sensitive film through the multi-colored transparency and the black negative overlay in registry, making a corrected blue separation positive by exposing a light-sensitive film through the blue separation negative and said second red overlay in registry, making a corrected red separation positive by exposing a light-sensitive film through the red separation negative and blue overlay and the second yellow overlay in registry, making a corrected yellow separation positive by exposing the light-sensitive film through the yellow separation negative and the blue overlay and second red overlay in registry, and making a black separation positive from the black separation negative, each of said overlays being made to a density of the difference between the printing color and white of the unwanted colors, the exposure of each of the light-sensitive films in the steps of the process being such that said films are developed to a gamma of one.

2,971,842
LIGHT SENSITIVE LAYERS FOR PHOTOMECHANICAL REPRODUCTION
Ralph G. D. Moore, Chenango Forks, and Peter T. Woltsch, Jr., Binghamton, N.Y., assignors to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Mar. 21, 1956, Ser. No. 572,835
18 Claims. (Cl. 96—33)

1. A photosensitive coated product suitable for the photolithographic manufacture of greasy, ink-receptive planographic printing plates comprising a base used for the manufacture of printing plates and selected from the class consisting of aluminum, zinc, regenerated cellulose, surface-saponified cellulose acetate, polyvinyl acetate and copolymers of maleic anhydride with an aliphatic vinyl ether, said base having a top coating of a light sensitive layer which is adapted to be converted to imaged and non-imaged areas, said light sensitive layer including a heterocyclic diazo compound containing not more than three heteronitrogen atoms in the heterocyclic ring, said diazo compound being selected from the class consisting of 3-diazo-3H-pyrrolenines; 3-diazo-3H-isopyrazoles; 4-diazo-4H-isoimidazoles; 4-diazo-4H-isopyrazoles; 4-diazo-4H-1,2,3-triazoles; 3-diazo-pseudoindoles and 3-diazo-indiazoles, said pyrrolenines, isopyrazoles, isoimidazoles and 1,2,3-triazoles having at least two carbon atoms of the heterocyclic ring thereof substituted by a radical selected from the class consisting of a benzo radical, a naphtho radical and a phenyl radical.

2,971,843
METHOD OF MAKING AN ANIMAL FEED
Robert Alexander Spencer Templeton, Cereal House, 58 Mark Lane, London E.C. 3, England
Filed July 1, 1957, Ser. No. 669,312
Claims priority, application Great Britain July 5, 1956
9 Claims. (Cl. 99—2)



1. The method of making a foodstuff which comprises soaking a mixture of food ingredients including ingredients containing starches and proteins in an amount of water which is at least 50% of the combined weight of the food ingredients and water at a temperature below that at which substantial gelatinization of starches and substantial conversion of proteins takes place for at least about thirty minutes to cause water-soluble substances to be dissolved out of the various ingredients and to become admixed with one another in the resulting solution and to form a porridge-like mass, and thereafter drying the resulting porridge-like mass to form a dry product.

2,971,844
METHOD FOR PREPARING LINDEN BLOSSOM TEA CONCENTRATE
Beatrice Bosanac, Washington, D.C. (1430 S. 73rd St., West Allis 14, Wis.)
No Drawing. Filed June 29, 1959, Ser. No. 823,324
6 Claims. (Cl. 99—77)

1. A method for preparing linden blossom tea concentrate from dried linden blossom leaves comprising (*a*) steam distilling said dried blossoms under diminished pressure at a temperature below 150° F. to recover an essential oil containing distilland, (*b*) extracting the blossom residue from steam distillation with about 12–25 times the weight of said residue with hot water at a temperature of 190–212° F., (*c*) concentrating said water extract under vacuum between about 100–125° F. until inorganic solids appear in the concentrate, (*d*) filtering said concentrate to remove at least about 2 grams of alkali metal and alkaline earth salt per 100 grams of said concentrate and (*e*) combining the filtrate from (*d*) with the essential oil distillate from (*a*) whereafter the product is further concentrated.

2,971,845
CONTINUOUS BREAD MAKING METHODS
Charles G. Ferrari, Evanston, Ill., assignor to J. R. Short Milling Company, Chicago, Ill., a corporation of Illinois
No Drawing. Filed June 27, 1958, Ser. No. 744,896
3 Claims. (Cl. 99—90)

1. In the continuous production of bread by preparing a fermented yeast brew, continuously combining the brew with other, conventional dough-forming ingredients, passing the resulting mixture through a preliminary mixing zone and therein subjecting the same to a mild mixing treatment sufficient to produce a uniform mixture, in which the solid ingredients are brought into intimate contact with the liquid phase of the mixture, but insufficient to develop a completed dough, and then subjecting such preliminary dough mixture to a high speed mixing treatment capable of developing a complete dough within a few minutes, the improvement which comprises continually introducing to the preliminary mixing zone a bread improver comprising a particulate bread improver agent selected from the group consisting of calcium peroxide, the persulfates of calcium, potassium, sodium and ammonium, potassium bromate, potassium iodate and sodium thiosulfate, the particles of which carry a continuous protective covering of at least one water-emulsifiable material selected from the group consisting of monoglycerides having an iodine value not exceeding 50, mixed mono- and diglycerides which mixtures have an iodine value not exceeding 50, and tartaric acid esters of mono- and diglycerides having an iodine value not exceeding 50, the amount of said covering being equal to 50–200% of the weight of said bread improver agent.

2,971,846
PREPARATION OF CHEESE SLICES FOR PACKAGING
Donald M. Greer, Hinsdale, Ill., assignor to Armour and Company, Chicago, Ill., a corporation of Illinois
No Drawing. Filed Mar. 15, 1951, Ser. No. 215,875
4 Claims. (Cl. 99—115)

3. As a new article of manufacture, a package comprising readily separable slices of cheese normally having an external continuous water phase and an internal discontinuous oil phase, the said slices having cut surfaces in contact, the said slices having only at their said cut surfaces their oil phase external to their water phase, whereby a continuous film of oil intervenes between the hydrated protein phase of successive cheese slices.

4. The article of claim 3 in which the cheese comprises a natural cheese.

2,971,847
CREAMED COTTAGE CHEESE
Frederick J. Babel, West Lafayette, Ind., and Donald W. Mather, Walton, N.Y., assignors to Research Corporation, New York, N.Y., a corporation of New York
No Drawing. Filed Nov. 18, 1958, Ser. No. 774,606
16 Claims. (Cl. 99—116)

13. A flavor enhancing and stabilizing composition for creamed cottage cheese comprising a substantially pure culture of a citric acid-fermenting organism in a citric acid-containing milk substrate.

2,971,848
ARTIFICIAL SWEETENING PRODUCT
Emery Polya, Tarrytown, N.Y., assignor to General Foods Corporation, White Plains, N.Y., a corporation of Delaware
No Drawing. Filed May 12, 1958, Ser. No. 734,427
3 Claims. (Cl. 99—141)

1. An edible product containing as an artificial sweetener cyclamate, saccharin and adipic acid.

2,971,849
COATING FOODS AND COMPOSITION THEREFOR
Havard L. Keil, Clarendon Hills, Ill., assignor to Armour and Company, Chicago, Ill., a corporation of Illinois
No Drawing. Filed Oct. 7, 1957, Ser. No. 688,410
20 Claims. (Cl. 99—166)

1. The method of manufacturing a coating material for food products comprising the step of reacting gelatin in a water solution with the acid salt of a metal selected from the group consisting of aluminum and non-toxic heavy metals.

2,971,850
SCAVENGER PACKET
Richard R. Barton, Waldwick, N.J., assignor to Miles Laboratories, Inc., Elkhart, Ind., a corporation of Indiana
Filed Nov. 25, 1958, Ser. No. 776,388
11 Claims. (Cl. 99—171)



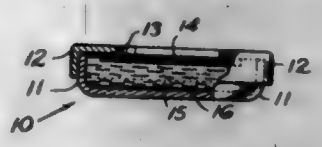
1. A deoxygenating body comprising a liquid enzyme system having glucose oxidase activity and a substrate for said enzyme system, said deoxygenating body being enclosed in a water-impermeable, gas-permeable membrane, said liquid enzyme system being separated from said substrate by separating means including a seal rupturable upon application of pressure to said membrane.

2,971,851
SCAVENGER PACKET
George W. Kurtz, Villa Park, Ill., assignor to Miles Laboratories, Inc., Elkhart, Ind., a corporation of Indiana
Filed Nov. 25, 1958, Ser. No. 776,389
6 Claims. (Cl. 99—171)



1. A deoxygenating body comprising an enzyme system having glucose oxidase activity and a substrate in liquid form for said enzyme system, said deoxygenating body being enclosed in a water-impermeable, gas-permeable membrane, said enzyme system being separated from said substrate by separating means which include a seal rupturable upon application of pressure to said membrane.

2,971,852
TEMPERATURE TELLTALE
Joseph Schulein, P.O. Box 212, Corvallis, Oreg.
Filed July 23, 1956, Ser. No. 599,497
12 Claims. (Cl. 99—192)



1. A thermosensitive telltale device adapted to be frozen at a predetermined temperature and denoting after freezing the occurrence of a temperature rise which comprises a semi-opaque to opaque unfrozen emulsion formed of immiscible liquids, said emulsion having the

property on a freeze-thaw cycle of breaking down and separating into continuous liquid phases at temperatures above said predetermined temperature and signal means associated therewith which is rendered operably effective as a telltale sign at the end of said freeze-thaw cycle by virtue of the formation of said continuous liquid phases.

2,971,853
CERAMIC BODY AND METHOD OF MAKING IT

Stanley D. Stookey, Corning, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York

No Drawing. Filed Nov. 19, 1959, Ser. No. 854,028
28 Claims. (Cl. 106—52)

1. The method of producing a ceramic article which comprises providing an article of photothermally opacifiable glass consisting essentially by weight of 60–85% SiO_2, 5.5%–15% Li_2O, 2–25% Al_2O_3, the ratio Al_2O_3/Li_2O being less than about 1.7/1, and the indicated proportion of the photosensitive metal selected from the group consisting of about 0.001–0.03% of gold computed as Au, about 0.001–0.3% of silver computed as AgCl, and about 0.001–1% of copper computed as Cu_2O, the essential constituents totalling at least 90%, exposing substantially the entire article to short-wave radiations, heating the exposed article between the annealing and softening points of the glass for a time sufficient to opacify the glass by forming therein siliceous crystallites, including lithium metasilicate in an amount sufficient to provide a crystalline structure which is rigid enough to prevent distortion of the article upon heating to the softening temperature of the original glass, and finally heating the article to a temperature above the softening point of the original glass and above 800° C. but not above 950° C. to cause further crystallization, including conversion of lithium metasilicate to a lithium-containing silicate having a lower weight percentage of lithium.

2,971,854
OPTICAL GLASS

Walter Geffcken, Mainz, Germany, assignor to Jenaer Glaswerk Schott & Gen., Mainz, Germany, a German corporation

No Drawing. Filed May 23, 1958, Ser. No. 737,220
Claims priority, application Germany May 23, 1957
13 Claims. (Cl. 106—54)

1. An optical glass having an index of refraction of at least 1.77 and consisting essentially of the following composition:

	Percent
La_2O_3	24 to 33
ThO_2	16.5 to 25.5
$B_2O_3+SiO_2$	19.5 to 30, in which
SiO_2	<6
Bivalent oxides	10 to 18, in which
$CaO+SrO+BaO$	<7
$CdO+ZnO$	3 to 15, in which
ZnO	0 to 10
Ta_2O_5	0 to 13
WO_3	0 to 10, in which
$Ta_2O_5+WO_3$	<15

2,971,855
POLYMERIC COMPOSITION CONTAINING FATTY ACID DERIVATIVE OR MORPHOLINE

Harold P. Dupuy, Lee A. Goldblatt, and Frank C. Magne, New Orleans, La., assignors to the United States of America as represented by the Secretary of Agriculture

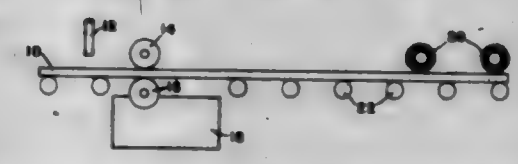
No Drawing. Filed Jan. 13, 1959, Ser. No. 786,661
12 Claims. (Cl. 106—176)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A plastic composition which is stable against exudation of plasticizer comprising a mixture containing a polymer selected from the group consisting of cellulose acetate, polyvinylchloride and a vinyl chloride-vinyl acetate copolymer which contains a predominant amount of vinyl chloride, and a plasticizer therefor comprising selected from the group consisting of 1,12-di-β-cyanoethoxy-9-octadecene, 4-ricinoleoylmorpholine, 4-(12-hydroxystearoyl)morpholine 4-ricinelaidoylmorpholine, 4-(12-acetoxyoleoyl)morpholine, 4-(12-acetoxystearoyl)-morpholine, 4-(12-beta-cyanoethoxyoleoyl)morpholine, and 4-(12-beta-cyanoethoxystearoyl)morpholine, said plasticizer being present in the proportion of about from 10 to 80 parts per 100 parts of the vinyl chloride polymer.

2,971,856
SURFACE DECORATED FIBERBOARD AND METHOD OF MAKING THE SAME

Edgar A. Lauring, International Falls, Minn., assignor to Minnesota and Ontario Paper Company, Minneapolis, Minn.

Filed Mar. 8, 1957, Ser. No. 644,799
7 Claims. (Cl. 117—10)

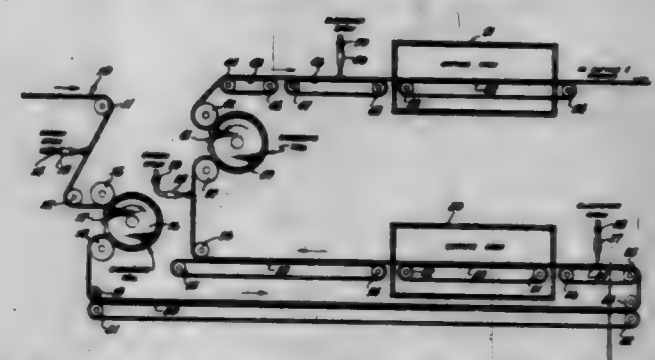


1. A process of coating and decorating a hot pressed vegetable fiber board, comprising applying a pigmented oil coating composition to a hot pressed vegetable fiber board having a surface temperature not less than about 250° F., drying the said coating composition by the internal heat of board for a predetermined time, and then passing the coated board under at least one rotating brush while the surface of the coating is partially dried by the said internal heat.

2,971,857
EMBOSSED RUG CUSHION AND METHOD OF PRODUCING THE SAME

Stanley V. Baxter, Downey, Calif., assignor, by mesne assignments, to Allen Industries, Inc., Detroit, Mich., a corporation of Delaware

Filed Oct. 20, 1959, Ser. No. 847,625
21 Claims. (Cl. 117—10)



7. A method of embossing a rug cushion of a relatively thick, compressible and foraminous sheet of matted fibers, comprising the steps of forming upon one surface of the sheet a substantially uniformly applied deposit of starchy material in an amount which is effective to coat the fibers on those surfaces thereof which are exposed in plan view of said one surface and to extend into the foramina between the surface fibers to partially coat at least some of those fibers which are disposed immediately below the surface fibers, thereafter compacting the fibers transversely of the sheet throughout predetermined spaced apart areas to form alternate elevation and depression areas in said one surface and to make the outside surface of said deposit smoother in and throughout the depression areas than in and through-

out the elevation areas, and whereby the fibers which are disposed immediately below the surface fibers in the elevation areas will have on them an amount of said deposit which is substantially equal to that on their corresponding fibers in the depression areas, thereafter coating the outside surface of said deposit with a substantially uniformly applied coat of polymeric plastic material in an amount which is effective to coat the outside surface of said deposit and yet leave the surface of the coated sheet appreciably foraminous, and setting said polymeric plastic, whereby the fibers which are disposed immediately below the surface fibers in the elevation areas will have more of said plastic material on them than their corresponding fibers in the depression areas, and the fibers in and adjacent the surface of the depression areas will be more closely adhered to one another with said starchy material and said plastic material than their corresponding fibers in the elevation areas.

2,971,858

SYNTHETIC PAPER AND PROCESS FOR PRODUCING SAME

Enzo di Giulio, Ferrara, and Paolo Parrini, Terni, Italy, assignors to Montecatini Societa Generale per l'Industria Mineraria e Chimica, Milan, Italy

Filed June 4, 1957, Ser. No. 663,414
Claims priority, application Italy June 13, 1956
11 Claims. (Cl. 117—12)

2. As an article of manufacture, a sheet of polypropylene having an intrinsic viscosity of at least 0.5 as measured in tetralin at 135° C. and consisting for at least 70% of isotactic macromolecules non-extractable with boiling n-heptane, said sheet having one of its surfaces opaque and composed of precipitated polypropylene which is integral with the sheet and renders said surface rough in texture and ink-receptive, the other surface of the sheet being smooth, transparent and lucid, and printing or writing on the opaque surface being invisible from the transparent surface.

2,971,859

LUMINESCENT MATERIALS AND METHODS OF PREPARATION THEREOF

Thomas E. Simeros, Gas City, and Robert T. Watson, Marion, Ind., assignors to Radio Corporation of America, a corporation of Delaware

Filed June 30, 1958, Ser. No. 745,294
11 Claims. (Cl. 117—33.5)

1. A luminescent material comprising finely-divided phosphor particles selected from the group consisting of zinc sulfides and zinc cadmium sulfides, each particle having a thin coating of a material selected from the group consisting of tin dioxide and zirconium dioxide, said coating being 0.001 to 2.0 weight percent of the weight of said phosphor.

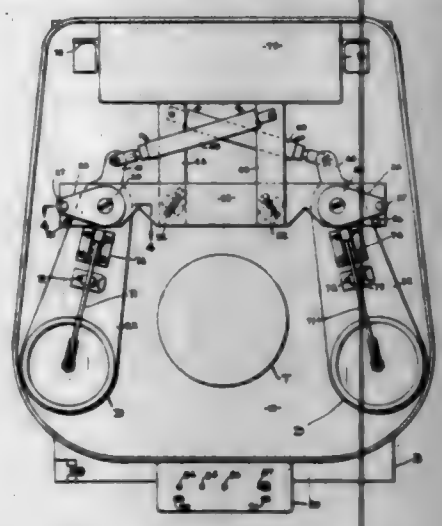
2,971,860

METHOD OF DECORATING ARTICLES OF TABLEWARE

Royden M. Fitzgerald, Solvay, N.Y., assignor to Onondaga Pottery Company, Syracuse, N.Y., a corporation of New York

Filed Feb. 21, 1957, Ser. No. 641,544
3 Claims. (Cl. 117—45)

2. The method of applying decoration to articles of tableware, such as plates, the improvement consisting in applying a predetermined quantity of liquid decorative material to the center of a piece of ware, rotating the ware about a vertical axis to spread the decorative material over the surface of the ware, applying a second liquid decorative material of different color and containing a vehicle immiscible with the vehicle of said first decorative material to the center of the ware, rotating the piece of ware to spread said second decorative material over the surface of the ware, and removing said



decorative materials from a portion of the surface of the ware.

2,971,861

SURFACE TREATMENT PROCESS

John D. Reese, Santa Monica, and Simon J. Sluter, Los Angeles, Calif., assignors to Rock Fabricates and Mining Corporation, Beverly Hills, Calif., a corporation of California

No Drawing. Filed June 14, 1954, Ser. No. 436,700
15 Claims. (Cl. 117—54)

1. A surface treatment process comprising treating the surface with a chromic acid solution, to place the surface in a receptive state, then treating the surface with an alkaline solution of sodium methyl siliconate and a dye coupler selected from the group consisting of

O-hydroxyl-diphenyl
2,4-dichloro-alpha-naphthol
4-chloro-ortho-phenylphenol
1,5 dihydroxy 2,6 dibromonaphthalene

Para-nitrophenylacetonitrite
b-Naphthylacetonitrite
2-cyano acetyl coumarone
1-para nitrophenyl 3 methyl 5 pyrazolone
2-5, dichloroaceto acetanilide

Acetoacetanilide
b-Naphthoyl acetone
Benzoyl acetanilide

activating the dye coupler by treatment with a solution of weak acid, drying the surface to produce a deposit of siliconized dye coupler thereon, then treating the surface with a solution of sodium methyl siliconate and a color developer selected from the group consisting of

p-Phenylene diamine hydrochloride
2-amino 5 diethylaminotoluene hydrochloride
p-Amino diethylaniline hydrochloride
Monobenzo-p-aminophenol, and drying said surface to develop said color and a siliconate finish thereon.

2,971,862

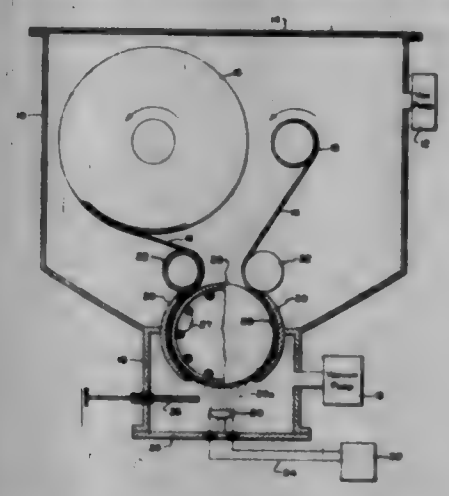
VAPOR DEPOSITION METHOD AND APPARATUS

Charles A. Baer, Needham, Wallace F. Bugbee, Boston, Edward S. Candidus, Cambridge, and Philip J. Clough, Reading, Mass., assignors to National Research Corporation, Cambridge, Mass., a corporation of Massachusetts

Filed Apr. 26, 1957, Ser. No. 655,384
14 Claims. (Cl. 117—61)

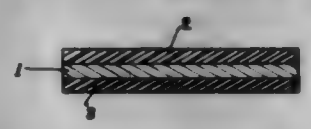
1. A process for coating aluminum onto a heat-sensitive substrate, such as paper, which contains adsorbed and absorbed volatiles, which comprises the steps of ex-

posing the substrate to a vacuum of between about 20 and about 200 microns Hg abs. for a period sufficient to remove substantial quantities of entrapped gases, subsequently passing the substrate into and out of a coating chamber maintained at a pressure below about 20 microns Hg abs., exposing the front surface of the substrate to aluminum vapors while it is in the coating chamber, the concentration of aluminum vapors being sufficient to produce a coating having at least 70 per-



cent reflectance, the substrate moving at such a rate that no unit area of the substrate is exposed to the high vacuum of the coating chamber for a period in excess of 1/10 second, back surface of the substrate being held in contact with an impermeable surface moving at the same speed as the substrate for substantially all of the time that the substrate is in the high vacuum coating chamber, whereby the content of sorbed volatiles in the substrate remains substantially unchanged.

2,971,863
PRESSURE SENSITIVE TAPE
Harold V. Kindseth, Minneapolis, and Thomas B. Ludlow, St. Paul, Minn., assignors to Bemis Bro. Bag Company, Minneapolis, Minn., a corporation of Missouri
Filed Mar. 11, 1957, Ser. No. 645,027
23 Claims. (Cl. 117—68.5)



23. A method of making a composite unvulcanized pressure sensitive adhesive sheet material which comprises masticating 100 parts by weight of an elastomer selected from the group consisting of natural rubber and polyisobutylene synthetic rubbers at an elevated temperature, adding from about 0.2 to one part by weight of a rubber curing agent with continued mixing, slowly admixing from about 5 to 70 parts by weight of a permanently thermoplastic hydrocarbon resin compatible with said elastomer with continued heating, admixing from about 4 to 50 parts by weight of at least one component selected from the group consisting of low molecular weight polybutylene and petroleum oil softeners and applying the resultant mixture by hot calendering to one side of a backing sheet.

2,971,864
AMINATED MONO-ORGANOSILANES AND METHOD OF DYEING GLASS THEREWITH
John L. Speier, Midland, Mich., assignor to Dow Corning Corporation, Midland, Mich., a corporation of Michigan
No Drawing. Filed Mar. 26, 1958, Ser. No. 723,991
8 Claims. (Cl. 117—124)

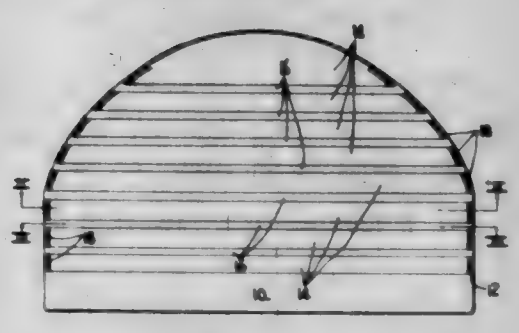
7. A method of dyeing glass which comprises treating the glass with an aqueous solution of a silane of the formula $(RO)_3Si(CH_2)_3NHCH_2CH_2NH_2$ in which each R is an alkyl radical of less than four carbon atoms, drying the treated glass, contacting the glass with an acid dye and thereafter washing the dyed glass and drying it.

2,971,865
FUSIBLE IMPREGNATION OF POROUS METALLIC BODIES
Arthur G. Metcalfe, Park Forest, and Harvey B. Nudelman, Chicago, Ill., assignors to the United States of America as represented by the Secretary of the Army
No Drawing. Filed Mar. 15, 1957, Ser. No. 646,503
1 Claim. (Cl. 117—130)

In a method of decreasing the porosity of metal surfaces, the improvement comprising the steps of subjecting a metal surface to subatmospheric pressure, immersing said surface while under said subatmospheric pressure in a suspension of a finely powdered reaction mixture consisting essentially of iron oxide and aluminum in a volatile liquid carrier, subjecting said surface while so immersed to superatmospheric pressure, removing said surface from the subjection to said superatmospheric pressure, and heating the thus treated said surface to a temperature sufficient to initiate reaction of said mixture.

2,971,866
WITHDRAWN

2,971,867
COATING SURFACES
William O. Lytle, New Kensington, Pa., assignor to Pittsburgh Plate Glass Company, Allegheny County, Pa., a corporation of Pennsylvania
Filed Dec. 19, 1957, Ser. No. 703,922
20 Claims. (Cl. 117—211)

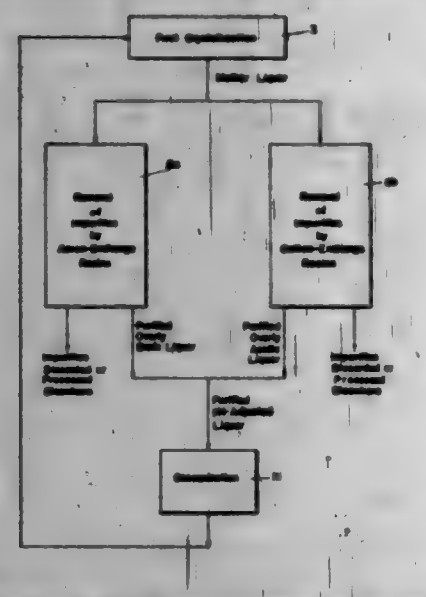


1. In a transparent electroconductive article comprising a transparent base of non-conductive material, spaced stripes of transparent, substantially colorless electroconductive material fixed to the base and stripes of transparent, substantially colorless substantially non-electroconductive material fixed to the base and extending between adjacent stripes of transparent electroconductive material, the improvement comprising stripes of substantially non-conductive material of sufficient width and thickness to provide a continuous coating of uniform light transmission wherein interfaces between the electroconductive and non-conductive stripes are not noticeable to the naked eye.

2,971,868
ION EXCHANGE PROCESS
Giuseppe Assalini, Genoa, Italy, assignor to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware
Filed May 2, 1958, Ser. No. 729,896
16 Claims. (Cl. 127—46

1. In a process for recovering sugar from a sugar-bearing fluid containing impurities derived from the natural source of said sugar, the improvement which comprises

passing through an ion exchange resin bed, whose particles are in the salt form at least in that half of the bed which extends interiorly from the effluent end with substantially the remainder of the particles which extend interiorly from the influent end having a different form of exchangeable ions derived from a regeneration treatment with a solution of non-salt electrolyte, in repeated cycles (1) the sugar solution, (2) water sufficient to remove the



sugar from the bed, (3) a regenerant to essentially restore the form of the resin particles at the influent end of the bed which they had before addition of the sugar solution, (4) water to flush the bed of salts liberated by the regenerant, and withdrawing effluent from the bed during each cycle in at least two portions, one of which contains sugar in relation to impurities in a higher ratio than in the solution passed into the bed.

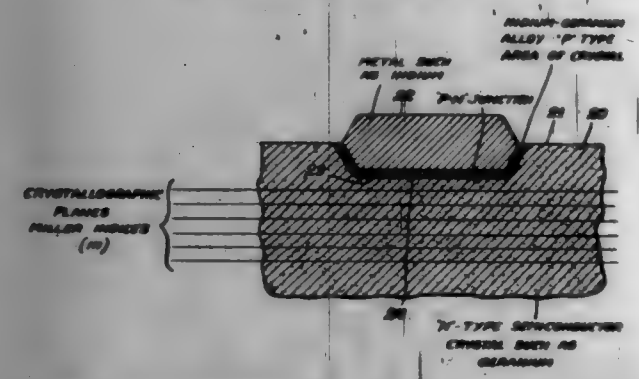
2,971,869

SEMICONDUCTOR ASSEMBLY AND METHOD OF FORMING SAME

William E. Taylor, Phoenix, Ariz., assignor to Motorola, Inc., Chicago, Ill., a corporation of Illinois

Continuation of application Ser. No. 409,339, Feb. 10, 1954. This application Aug. 27, 1957, Ser. No. 680,601

8 Claims. (Cl. 148—1.5)



1. The method of fabricating an alloyed junction semiconductor assembly so as to provide at least one junction in a semiconductor crystal element in such assembly which junction is substantially parallel to a predetermined crystallographic (111) plane within such element, which method includes the steps of preparing a semiconductor crystal element having at least one face which is known to be oriented substantially parallel to a (111) crystallographic plane within the element, providing an impurity body at said face and in contact therewith, alloying said impurity body to said element at said face by subjecting said element and said impurity body to heat of a temperature such that said impurity body and the portion of the semiconductor crystal element adjacent thereto alloy to one another to form a junction therein with said semiconductor crystal element, said junction being substantially planar in configuration over at least a portion thereof and with said latter portion being substantially parallel to said (111) plane as a result of having the adjacent face of the semiconductor crystal element substantially parallel to said (111) plane within said element.

6. A semiconductor assembly in a semiconductor device of the alloyed junction type, said assembly including in combination a semiconductor crystal element having two opposite faces which were originally identified in the preparation of the element as being substantially parallel to a crystallographic plane within the crystal element designated by Miller Indices (111) and which are each known to be so oriented, at least one electrode at each said face of said element oppositely disposed thereon and alloyed thereto, an alloyed region corresponding to each electrode and extending into said semiconductor crystal element from a corresponding face and corresponding electrode, with each said alloyed region having a junction formed between the innermost portion thereof and the adjacent region within the semiconductor crystal element, said junctions each having a substantially flat portion which is substantially parallel to the (111) crystallographic plane within the semiconductor crystal element and which is substantially parallel to the corresponding face, and with said substantially flat portions of said junctions being substantially parallel to one another.

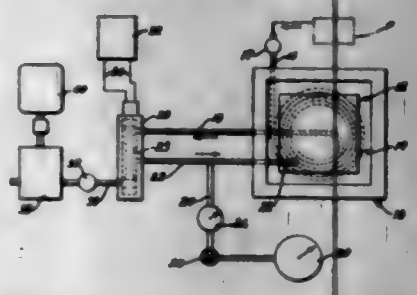
2,971,870

CYCLING OF BELLOWS

Girard N. Conti, Mount Clemens, and Edward S. Stankowski, Centerline, Mich., assignors to Holley Carburetor Company, Van Dyke, Mich., a corporation of Michigan

Filed Oct. 25, 1957, Ser. No. 692,373

7 Claims. (Cl. 148—13)



6. The method of cycling bellows and like units to stress-relieve the same, comprising the steps of heating said bellows, in an externally sealed space, to a temperature in substantial excess of the ambient adjacent temperature and subjecting said bellows as so heated in said space to repeated fluid pressure changes within said space, while preheating the fluid to be applied to effect said changes by circulating the fluid in a separate closed path in such heat transfer relation to said space as to cause the temperature of the circulated fluid to approach the temperature of said space.

2,971,871

ANNEALING FURNACE SEAL

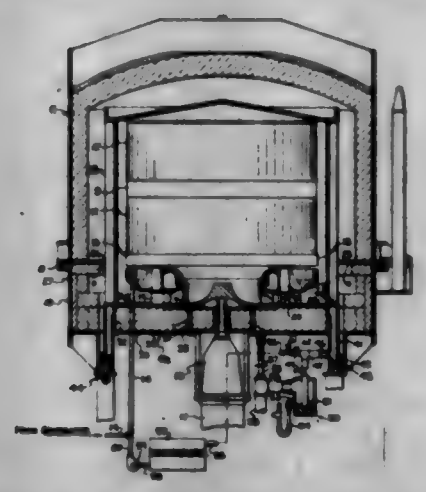
Donald Beggs, Toledo, Ohio, assignor, by mesne assignments, to Midland-Ross Corporation, Cleveland, Ohio, a corporation of Ohio

Filed Jan. 29, 1958, Ser. No. 711,995

2 Claims. (Cl. 148—16)

1. The method of operating a bell annealer containing an inner cover to heat the work charge therein and prevent contamination of said work charge, which comprises: supplying heat to the inner cover; transferring at least a portion of the heat from said inner cover to said work by circulating atmosphere within said inner cover contiguous

to at least a portion of the inner cover side wall, said atmosphere being introduced to the inner cover at a rate sufficient to produce a positive outward flow of escaping atmosphere at the juncture of said inner cover and the base; collecting such escaping atmosphere together with any entrained contaminants in a liquid containing trough

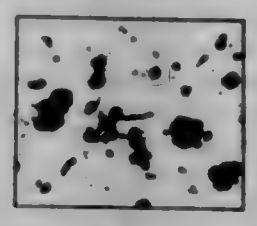


forming part of the sealing means between said base and said inner cover; discharging the excess liquid and contaminants occasioned by such collecting in a manner to maintain a fixed level of liquid in said trough and simultaneously withdrawing a portion of the circulating atmosphere through the refractory portion of the base at a predetermined rate.

2,971,872
IRON POWDER AND THE MANUFACTURE OF MAGNETIC CORES THEREFROM

Thornley Athelstan Dunton and David Kenneth Worn, Birmingham, England, assignors to The International Nickel Company, Inc., New York, N.Y., a corporation of Delaware

Filed Nov. 27, 1957, Ser. No. 699,285
Claims priority, application Great Britain Sept. 16, 1954
2 Claims. (Cl. 148—105)



1. In a method for making electromagnetic cores for induction coils wherein the cores are pressed from iron powder mixed with a aqueous solution of sodium silicate and a phenol-formaldehyde resin binder, the improvement which comprises sulfiding a fibrous carbonyl iron powder having a mean particle size below about 3 microns with hydrogen sulfide gas to a sulfur content of from 0.3% to 1.2% by weight of iron powder for a period of time of from about 2 minutes to about 4 minutes, and subjecting the powder to a ball milling treatment with a charge of steel balls weighing over 5 times the weight of the powder, whereby higher Q values at very high frequencies are obtained in cores made therefrom.

2,971,873
METHOD OF MAKING HEATER CORDS

Russell Winkelman, Richmond, Ind., assignor to Belden Manufacturing Company, Chicago, Ill., a corporation of Illinois

Filed May 22, 1956, Ser. No. 586,432
1 Claim. (Cl. 154—2.25)

The method of manufacturing a heater cord comprising applying a jacket of a heat-resistant elastomer insulation to each of a pair of stranded metallic conductors, vulcanizing each of said elastomer jackets, applying axially extending stripes of a fluid mixture of a latex rubber adhesive and a thinner to the surface of each of said vulcanized elastomer jackets, spirally wrapping a layer of asbestos serving over each of said vulcanized elastomer jackets after said fluid mixture has been ap-

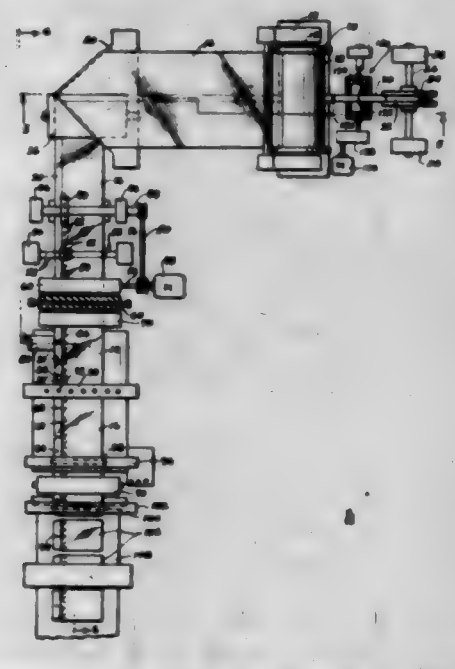


plied thereto and before said thinner evaporates to thereby spread said adhesive over a major portion of the surface of said vulcanized elastomer jackets, spirally winding the pair of asbestos-wrapped, insulated conductors about each other and then applying an outer covering of braided fabric tightly about said assembly so as to compress said assembly into a generally circular cross section.

2,971,874
METHOD OF MAKING PLASTIC BAGS

Leonard E. Canno, New York, N.Y., assignor to Equitable Paper Bag Co. Inc., Long Island City, N.Y., a corporation of New York

Filed Mar. 14, 1960, Ser. No. 14,933
7 Claims. (Cl. 154—83)



1. The method of making plastic bags, each of which has a top compartment sealed off from the remainder of the bag and with a reinforcing strip enclosed in the sealed-off compartment, which method comprises advancing a web of plastic film from a supply source and simultaneously advancing a continuous length of the reinforcing strip with the film web, folding the web of plastic film with the strip within the fold, sealing confronting faces of the web to one another immediately below the strip to form, within the fold, a compartment enclosing the strip and extending lengthwise of the strip, also sealing the confronting faces of the web together

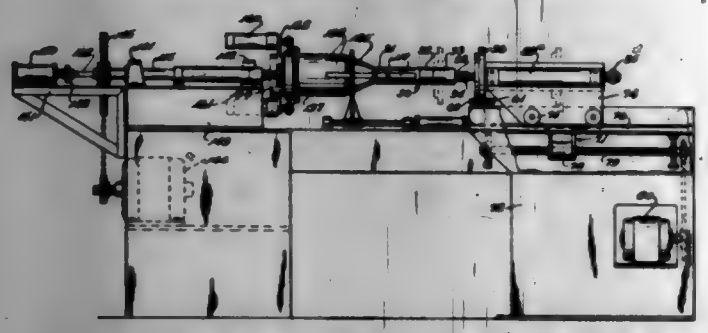
at regions spaced from one another lengthwise of the length of the web and strip and with said regions extending transversely of the folded web, and severing the web at said regions across the full width of the web and through the strip to form separate bags.

2,971,875

APPARATUS AND METHOD OF MAKING PNEUMATIC AIR SPRINGS

Herbert H. Deist and Jack L. Hollis, Akron, Ohio, assignors to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

Filed Dec. 5, 1956, Ser. No. 626,808
14 Claims. (Cl. 154—83)



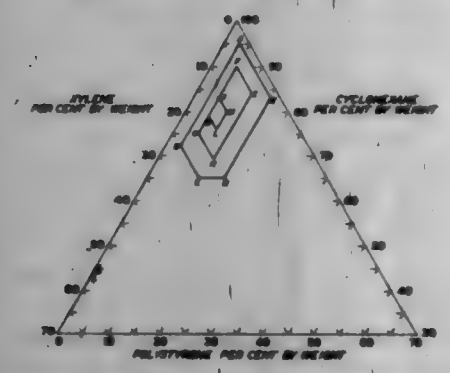
1. Apparatus for manufacturing an air spring having a single convolution wall comprising a plurality of plies the ends of which terminate in a large bead and a small bead, respectively, the small bead being of a diameter enabling it to telescope completely through the large bead when said air spring is fully deflected, said apparatus comprising a normally cylindrical drum upon which said plies are assembled to form an initially cylindrical body, said drum having a diameter larger than the diameter of said small bead and smaller than the diameter of said large bead, means to withdraw a portion of said drum from a position of support for the end portion of said cylindrical body leaving said end portion projecting axially from the remaining shoulder of said drum, means to contract said one end portion radially inwardly and then around a substantially inextensible first bead ring to form said small bead and means to expand the other end portion radially outwardly and then around a second, substantially inextensible bead ring to form said large bead.

2,971,876

ADHESIVE COMPOSITION

Robert J. Phair, Hoboken, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Dec. 4, 1956, Ser. No. 626,269
9 Claims. (Cl. 154—139)



1. A method for bonding polystyrene surfaces comprising wetting the said surfaces with a fluid adhesive composition which comprises a solvent for polystyrene solids, polystyrene solids dissolved therein, and a diluent which is a member of a class consisting of cyclohexane and methylcyclohexane and ethylene glycol monomethyl ether and placing the wetted surfaces into contact to thereby effect bonding of said surfaces.

2,971,877

SYNTHETIC FIBER PAPER AND PROCESS FOR PRODUCING THE SAME

Hanns F. Arledter, Stockbridge, Mass., assignor, by mesne assignments, to Hurlbut Paper Company, a corporation of Ohio

No Drawing. Filed Mar. 5, 1956, Ser. No. 569,293
13 Claims. (Cl. 162—101)

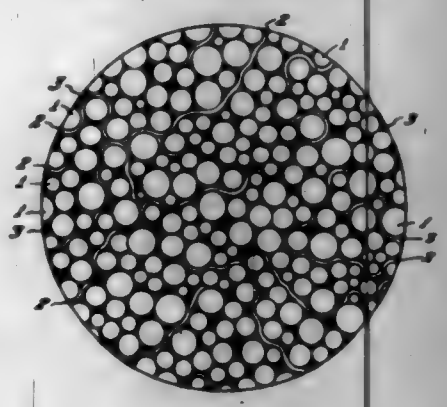
1. The process of preparing a synthetic fiber paper comprising forming a paper web of from about 70% to about 90% of slightly acid soluble synthetic fibers selected from the group consisting of synthetic resin fibers and metallic fibers and from about 30% to about 10% respectively of acid soluble fibers selected from the group consisting of cellulosic fibers and glass fibers and treating the paper web with an acid in which said acid soluble fibers are soluble to remove the acid soluble fibers therefrom.

2,971,878

INSULATION MATERIAL AND METHOD OF MAKING SAME

Russell H. Heilman, Pittsburgh, and Robert W. Ortmiller, Glenshaw, Pa., and Arthur P. Mueller, Cincinnati, Ohio, assignors to The Philip Carey Manufacturing Company, Lockland, Cincinnati, Ohio, a corporation of Ohio

Filed Aug. 21, 1953, Ser. No. 375,774
20 Claims. (Cl. 162—153)



16. A molded light weight insulating material consisting essentially of particles of expanded perlite some of which are as fine as 100 mesh in size, the perlite particles being in substantial contact, said contacts being characterized by point contacts as distinguished from surface contacts, thereby leaving a multitude of connecting interstices between the particles, and a minor amount of short fiber lying in said interstices and constituting a fiber network to hold said perlite in the molded shape, and a non-combustible mineral binding constituent.

2,971,879

WATER-LAID FIBROUS SHEETS

Jay L. Piersol, East Hempfield Township, Lancaster County, Pa., assignor to Armstrong Cork Company, Lancaster, Pa., a corporation of Pennsylvania

No Drawing. Filed Nov. 12, 1957, Ser. No. 695,520
9 Claims. (Cl. 162—169)

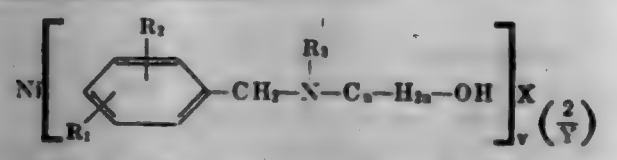
1. In the process of producing felted fiber products by suspending fibers in a solution containing the dissolved salt of the metal of the group consisting of aluminum, magnesium, and zinc, mixing with said solution and the fibers suspended therein an aqueous solution of ammonium hydroxide to a substantially neutral pH, and thereafter mixing with the thus treated fibers in suspension a latex of a synthetic rubber to form a papermaking slurry of rubber-coated fibers, the step of improving the drainage rate of said slurry by adding finely divided zinc oxide thereto subsequent to the addition of said ammonium hydroxide and prior to the addition of said synthetic rubber latex.

2,971,880
RUST ERADICATION

Harry L. Keil, Philadelphia, and Hans P. Frohlich, Newtown, Pa., assignors to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed Jan. 30, 1958, Ser. No. 712,088
21 Claims. (Cl. 167—14)

14. The process of eradicating rust pathogens on a living plant host which comprises contacting aboveground portions of rust-infected plant host with a composition containing as principal active ingredients a metal salt of alkylenebisdithiocarbamic acid and a nickel compound other than nickel alkylenebisdithiocarbamate which provides nickel expressed as nickel metal equivalent to from about 0.5 to about 95% by weight of the composition, the amount of said composition being sufficient to provide effective rust eradication without substantial phytotoxic damage to said plants and said nickel compound being selected from the group consisting of inorganic nickel salts; nickel salts of fatty acids containing up to about 18 carbon atoms; nickel salts of organic acids containing up to about 6 carbon atoms and selected from the group consisting of hydroxy acids, halogen substituted fatty acids, and thiocarboxylic acids; nickel salt complexes of the formula:



in which R_1 is alkyl containing from 4 to 18 carbon atoms, R_2 is selected from the group consisting of hydrogen and lower alkyl, R_3 is selected from the group consisting of hydrogen, lower alkyl and 2-hydroxyethyl, X is an anion, *n* is an integer of from 2 to 3, Y is the valence of the anion X, and V is an integer of from 1 to 2; and complexes of inorganic nickel salts with a member of the group consisting of ammonia, alkylamines, alkylene polyamines, hydroxy alkylamines, arylamines and aralkylamines.

2,971,881
INSECTICIDAL REPELLENT

Willis Nels Bruce, Champaign, Ill., assignor to Lee Ratner, Miami Beach, Fla.

No Drawing. Original application Jan. 31, 1958, Ser. No. 712,333. Divided and this application Jan. 19, 1960, Ser. No. 3,282
5 Claims. (Cl. 167—22)

1. An insecticidal repellent comprising a combination of from about 1% to about 98% by weight of di-n-butyl succinate and from about 2% to about 99% by weight of a thiocyanate insecticide selected from the group consisting of iso-bornyl thiocyanate and B-butoxy, B-thiocyano diethyl ether.

2,971,882
DIMETHYL-1,2-DIBROMO-2,2-DICHLORO-ETHYL PHOSPHATE AND ITS APPLICATION AS A MULTIFUNCTIONAL PESTICIDE

Joseph Nils Ospenson, Concord, and Gustave K. Kohn, Oakland, Calif., assignors to California Research Corporation, San Francisco, Calif., a corporation of Delaware

No Drawing. Filed Nov. 19, 1957, Ser. No. 697,334
5 Claims. (Cl. 167—22)

2. The preparation of dimethyl-1,2-dibromo-2,2-dichloroethyl phosphate which comprises reacting dimethyl-2,2-dichlorovinyl phosphate with bromine in the presence of an inert aliphatic solvent and under photochemical catalysis while maintaining a free bromine content in the reaction mixture less than about 4% by weight and a temperature in the range of 0°–30° C., thereafter stripping the volatiles from the reaction system and recovering a low viscosity product which crystallizes to a white crystalline solid.

5. A method of destroying pests which comprises contacting said pests with dimethyl-1,2-dibromo-2,2-dichloroethyl phosphate.

2,971,883
METHOD AND COMPOSITION FOR PREVENTING THE GROWTH OF MICRO-ORGANISMS ON SURFACES

Theodore C. Swinyar, Benton, Ark. (Collegedale Medical Center, Collegedale, Tenn.)

No Drawing. Filed Aug. 7, 1958, Ser. No. 753,614
2 Claims. (Cl. 167—31)

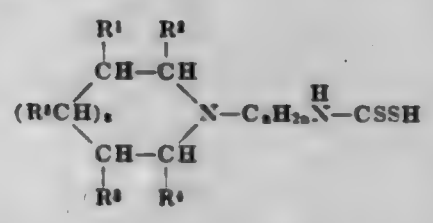
1. A method of protecting the walls of X-ray photo development tanks against the development of microorganisms on the tank walls which consists in coating the surface of the tank walls with a substantially saturated solution of 2,4,5 trichlorophenol in a solution of paraffin in benzene, the evaporation of the benzene producing a viscous coating consisting of an intimate mixture of the trichlorophenol with the paraffin, the microorganisms repelling and destroying and water-insoluble trichlorophenol being thus held on the wall of the tank during a succession of film development, fixing and watering operations carried out within the tank during a protracted period of time, the relative proportions of said coating solution being, for each 100 cc. of benzene, about 4.5 grams of paraffin and about 50 grams of 2,4,5 trichlorophenol.

2,971,884
METHOD FOR THE CONTROL OF FUNGAL ORGANISMS

Richard H. Gruenhagen, Blacksburg, Va., Bruce A. Ashby, Schenectady, N.Y., and Edgar C. Britton and Lee H. Horsley, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Mar. 12, 1959, Ser. No. 798,801
8 Claims. (Cl. 167—33)

1. A method which comprises applying to fungal organisms and their habitats a fungicidal amount of a compound having the formula



wherein, *n* represents an integer from 2 to 4, inclusive; R^1 and R^2 each represent a member selected from the group consisting of hydrogen, lower alkyl and ethylene radicals joined together to form with the carbon atoms of attachment of the heterocyclic ring a six-membered saturated ring; R^3, R^4 and R^5 each represent a member selected from the group consisting of hydrogen and lower alkyl; and, *x* represents an integer from 0 to 1, inclusive.

2,971,885
ANIMAL FEEDS

Herbert G. Luther, Warren M. Reynolds, and William C. Sherman, Terre Haute, Ind., assignors to Chas. Pfizer & Co., Inc., Brooklyn, N.Y., a corporation of Delaware

No Drawing. Filed Sept. 10, 1958, Ser. No. 760,076
10 Claims. (Cl. 167—53)

1. A composition which comprises a nutritive animal feed together with a growth stimulating amount of N-p-chlorobenzhydryl-N'-hydroxyethoxyethylpiperazine.

2,971,886

1-DEHYDRO - 17 - HYDROXYPROGESTERONE ACYLATES AND THERAPEUTIC COMPOSITION THEREOF

John C. Babcock, Portage Township, Kalamazoo County, and Raymond L. Pederson, Kalamazoo, Mich., assignors to The Upjohn Company, Kalamazoo, Mich., a corporation of Michigan

No Drawing. Filed Nov. 27, 1957, Ser. No. 699,169
8 Claims. (Cl. 167—55)

1. 17-acylates of 1-dehydro-17α-hydroxyprogesterone in which the acyl group is that of a hydrocarbon carboxylic acid containing from one to twelve carbon atoms, inclusive.

2,971,887

INHIBITION OF ISONIAZID ACETYLATION

Willard J. Johnson, Montreal, Quebec, Canada, assignor to Frank W. Horner, Limited, Montreal, Quebec, Canada, a corporation of Canada

No Drawing. Filed Dec. 3, 1956, Ser. No. 625,622
Claims priority, application Canada May 30, 1956
6 Claims. (Cl. 167—65)

1. A therapeutic composition comprising, as its active ingredients, isoniazid and an acetylation inhibitor consisting of a soluble organic compound selected from compounds having the general formula:

R—A

where R is at least one member selected from the group consisting of hydrogen, halogen, hydroxyl, amino, lower alkyl radicals having not more than three carbon atoms, phenyl and carboxyl, and where A is selected from the group consisting of pyridine, benzamide, benzoic acid hydrazide, and benzoylhydroxamic acid, and pharmaceutically acceptable salts thereof.

2,971,888

CONCENTRATED, STABLE AQUEOUS SOLUTIONS OF DIETHOXY-(DIETHOXYBENZYL) ISOQUINOLINE HYDROCHLORIDE

Peter C. Hereid, Bergenfield, N.J., assignor to Chemo Puro Manufacturing Corporation, Newark, N.J., a corporation of New York

No Drawing. Filed June 20, 1958, Ser. No. 743,471
5 Claims. (Cl. 167—65)

1. A concentrated, stable aqueous solution of diethoxy-(diethoxybenzyl) isoquinoline hydrochloride containing diethoxy-(diethoxybenzyl) isoquinoline hydrochloride, 3-o-toloxy-1,2-propanediol and guaiacol glyceryl ether, the concentration of diethoxy-(diethoxybenzyl) isoquinoline hydrochloride present in the aqueous solution being greater than its normal solubility in water and ranging up to and including about 7.5%.

2,971,889

PRESS COATED ENTERIC TABLETS AND PROCESS FOR PREPARING THEM

Joseph V. Swintosky, Perkiomenville, Pa., assignor to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Mar. 18, 1958, Ser. No. 722,155
11 Claims. (Cl. 167—82)

1. A press coated enteric tablet comprising a medicament core completely surrounded by a granulation mixture comprised of about 50–98% of a pharmaceutically acceptable organic acid with a dissociation constant of from about 1×10^{-3} to about 1×10^{-7} and a solubility in water of less than about 1%, weight to volume, and a pharmaceutical binder, said granulation being compressed around the medicament core.

2,971,890

FERMENTATIVE PROCESS FOR PRODUCING L-GLUTAMIC ACID FROM FUMARIC ACID

Tetsuo Ogawa, Tokyo, Toshinao Tsunoda, Zushi-shi, and Ryohei Aoki, Kazumoto Kinoshita, and Shinji Okumura, Tokyo, and Yasuhiro Kondo, Kawaguchi-shi, all in Japan, assignors to Ajinomoto Co., Inc., Tokyo, Japan, a corporation of Japan

No Drawing. Filed Mar. 18, 1958, Ser. No. 722,147
Claims priority, application Japan Apr. 16, 1957
3 Claims. (Cl. 195—30)

1. A fermentive process for producing L-glutamic acid comprising the steps of approximately neutralizing a culture medium containing fumaric acid as the main carbon source, a nitrogen source and mineral salts essential to living microorganisms, inoculating said medium with a living microorganism selected from the group consisting of *Bacillus pumilus, Bacillus subtilis, Aerobacter aerogenes, Serratia marcescens, Bacillus natto, Bacillus megatherium, Bacillus cereus, Escherichia coli, Micrococcus pyogenes, Xanthomonas pruni* and *Pseudomonus aeruginosa*, subjecting the inoculated medium to a culture at its growth temperature to accumulate L-glutamic acid, and separating the L-glutamic acid from the fermentation broth.

2,971,891

PREPARATION OF CYANOCOBALAMINS

Helmuth Corda, Middlesex County, N.J., and John C. Megna, Kern County, Dale W. Grant, Santa Clara County, and Earl M. Butterworth, Kern County, Calif., assignors to Olin Mathieson Chemical Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed Apr. 8, 1959, Ser. No. 804,871
2 Claims. (Cl. 195—114)

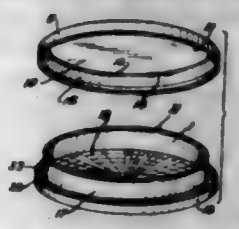
1. The process of preparing cyanocobalamins which comprises culturing a vitamin B_{12} producing microorganism of the genus Propionibacteria in a nutrient medium containing cuprous cyanide as a source of cyanide ions.

2,971,892

PETRI DISH

Theodore J. Carski, Baltimore, Md., assignor to Baltimore Biological Laboratory, Inc., Baltimore, Md., a corporation of Maryland

Filed June 16, 1958, Ser. No. 742,357
2 Claims. (Cl. 195—139)



2. A Petri dish assembly including in combination a body comprising a base, a pair of walls of limited height extending upwardly from said base, said walls being disposed one within and spaced from the other to furnish a trough portion between them and with the inner wall defining a shallow receptacle, a cover body, a skirt depending therefrom, said cover being disposed above said base and being formed with a groove receiving the edge zone of said inner wall as said skirt sealingly engages said outer wall, said groove being formed with recessed portions, and projections extending outwardly from said inner wall into said recessed portions.

2,971,893

PHENOL PURIFICATION

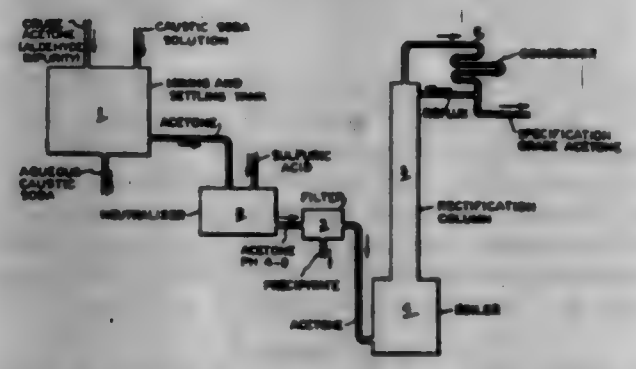
Horace E. Hood, New Castle, Del., assignor to Hercules Powder Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed May 29, 1958, Ser. No. 738,623
8 Claims. (Cl. 202—46)

1. In the method for the recovery of phenol from a cumene hydroperoxide cleavage mixture by fractional

distillation, said mixture comprising phenol and acetone as principal components, the improvement which comprises the steps of subjecting said mixture to fractional distillation to remove acetone and then contacting in the liquid phase any substantially acetone-free, predominantly phenol-containing material, which material contains genetic impurities comprising mesityl oxide, an alkyl-substituted benzofuran, and at least one precursor of said alkyl-substituted benzofuran, these precursors comprising at least one member selected from the group consisting of an α-diketone, an α-ketoalcohol formed by partial hydrogenation of an α-diketone and an α-ketoalcohol formed by partial hydrogenation of an α-ketoaldehyde, with an aqueous alkaline solution of hydrogen peroxide at a temperature in the range of about 0° C. to about 160° C., until the mesityl oxide and precursor-type genetic impurity have been substantially completely reacted and converted to products boiling outside the phenol range, fractionally steam distilling the treated phenol-containing material until alkyl-substituted benzofuran has been substantially removed from said material and subsequently collecting a purified phenol-containing material.

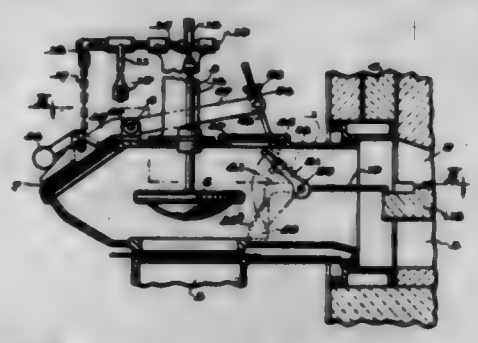
2,971,894
PROCESS FOR PURIFYING ACETONE
William T. Kendall, Florham Park, N.J., assignor to Allied Chemical Corporation, a corporation of New York
Filed May 21, 1957, Ser. No. 660,483
6 Claims. (Cl. 202—57)



1. In the process wherein a crude liquid acetone containing aldehyde impurity is treated with aqueous caustic solution, the thus treated acetone is layer separated from the caustic solution and is distilled to recover a purified liquid acetone, that improvement which comprises adding acid to the liquid acetone, after separation from the caustic solution and before distilling it, to bring the acetone to a pH of 4–9 and thereafter distilling the thus treated acetone, separated from the caustic solution, with rectification of the vapors by contact with a reflux of liquid condensate from the vapors and condensing thus rectified vapors as the purified acetone distillate product of the distillation, which meets the permanganate test for specification acetone.

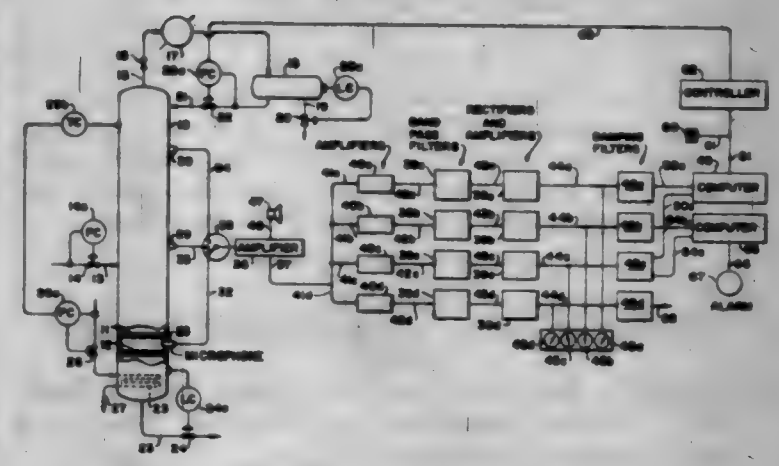
2,971,895
REVERSAL MEANS FOR REGENERATIVE COKE OVEN BATTERIES
Paul Van Ackeren, Essen, Germany, assignor, by mesne assignments, to Koppers Company, Inc., Pittsburgh, Pa., a corporation of Delaware
Filed Mar. 12, 1958, Ser. No. 721,960
2 Claims. (Cl. 202—141)

1. Reversal means for regenerative coke oven batteries which have subdivided adjacent regenerator sole flue sections comprising a regenerator flow reversal box having a communicable connection for said sections and valves operated in unison by a reversing winch through a drive means to open and close in alternation for inflow of combustion media to and outflow of waste heat gases from the interior of the flow box for separate regulation of the combustion media supplied to and the waste heat gases withdrawn from the adjacent subdivided regenerator sections of a battery of regenerators, characterized by: a regulating valve arranged in the box and pivoted on a shaft in the plane between the adjacent regenerator sole flue sections, in the vicinity of the communicable connection for both sole flue sections for movement into the path of flow between either sole flue section and the combustion media and waste heat gas valves, the shaft of said regulating valve being operatively connected outside the box with the drive means for the waste heat gas and combustion media valves to completely open the path of flow through each flue section and partially close the



flow path through the other in alternation in correspondence with the alternate opening and closing of the waste heat valve for the flow reversal box, and in which the operative connection between the drive means and the shaft of the regulating valve comprises a rod fixedly connected to said shaft and having an abutment member adjustable along the same, and a member of said drive means freely slidable along said rod into and out of abutting relation with said abutment member to move the same in one direction only on abutting engagement therewith to move the regulating valve completely out of the path of one sole flue section and partially across the path of the other sole flue section in alternation, in correspondence with the alternate opening and closing of said combustion media and waste heat valves.

2,971,896
ACOUSTIC DETERMINATION OF OPERATING CONDITIONS
Rane L. Curl, Oakland, Calif., assignor to Shell Oil Company, a corporation of Delaware
Filed Dec. 23, 1957, Ser. No. 704,735
8 Claims. (Cl. 202—160)



1. Apparatus for interaction between a gaseous and a liquid phase which comprises a vessel adapted to contain said phases and including means to effect between said phases such relative motion as establishes certain physical operating conditions which generate characteristic sonic vibrations, a transducer acoustically coupled to said phases for receiving said sonic vibrations and emitting equivalent electrical signals, an electronic analyzer

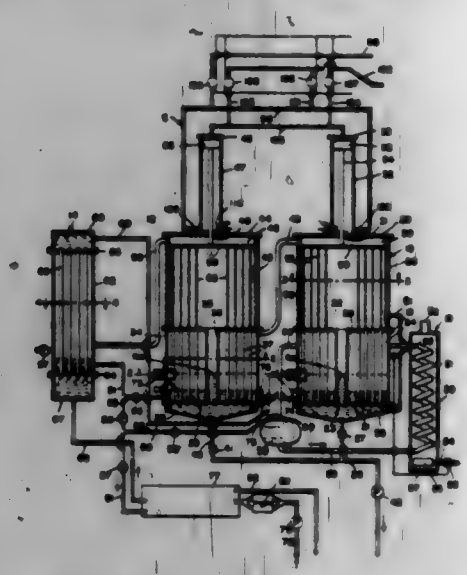
connected electrically to said transducer and including circuit means for segregating the electrical signals according to frequency into a plurality of different frequency bands, and means connected electrically to said analyzer for determining the amplitudes of the signals within a plurality of different bands.

2,971,897

WATER DISTILLATION PLANT DESIGNED FOR AUTOMATIC CONTINUOUS OPERATION

Bernard Chapman, 2717 New York St., New Orleans, La.

Filed June 28, 1957, Ser. No. 668,731
16 Claims. (Cl. 202—174)



1. A water distillation plant comprising an evaporator unit having a condensate section, a head section lying thereover and joined thereto and a raw water sump beneath and joined to the condensate section, the condensate section embodying top and bottom tube sheets and water heating tubes between and opening through the sheets into the head section and into the sump, a fluid heater operatively connected with the condensate section for circulating heating fluid therethrough around the tubes, a condenser unit embodying a condensate chamber and water conducting conduits passing therethrough, conduit means for conveying vapor from said head section to the condenser, means for carrying off condensate from the condenser, means for conveying raw water to be distilled from said condenser conduits into said sump through one of said tubes and for maintaining a desired water elevation in the tubes, and mechanism for removing deposited sediment from the interior of said tubes comprising an elongate cleaner element for each tube, a carrier for the cleaner elements in the head section, the carrier having an elevated position in which the cleaner elements are aligned with and fully withdrawn from their respective tubes, and means for effecting reciprocation of the carrier in the head section to run the cleaner elements through and withdraw them from the tubes.

2,971,898

ELECTROPLATING FERROUS-BASE MOLDED BODIES

Pálma Széky, Izidor Neményi, and Terezia Eöllös, Budapest, Hungary, assignors to Altalános Géptervező Iroda, Budapest, Hungary

No Drawing. Filed June 13, 1958, Ser. No. 741,720
Claims priority, application Hungary July 12, 1957
2 Claims. (Cl. 204—23)

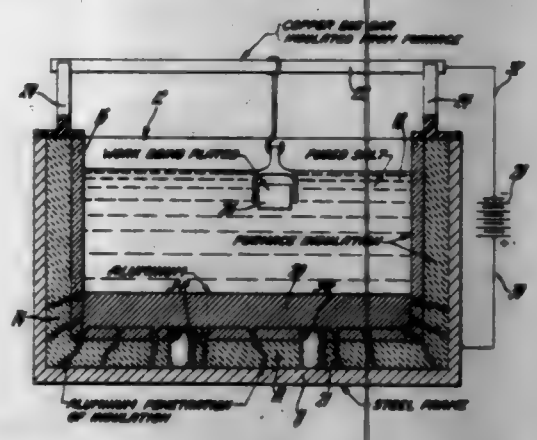
1. A process for electroplating ferrous-base molded bodies having a porosity ranging between 10 and 30% manufactured by powder metallurgy, comprising first providing the bodies with a blue oxide layer by treatment with superheated steam, and, after cooling, electrolytically depositing a metal coating on the blue oxide layer.

2,971,899

METHOD OF ELECTROPLATING ALUMINUM

Dean K. Hanink, Indianapolis, Ind., and Albert A. Shoudy, Jr., Royal Oak, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Sept. 10, 1957, Ser. No. 683,066
3 Claims. (Cl. 204—29)



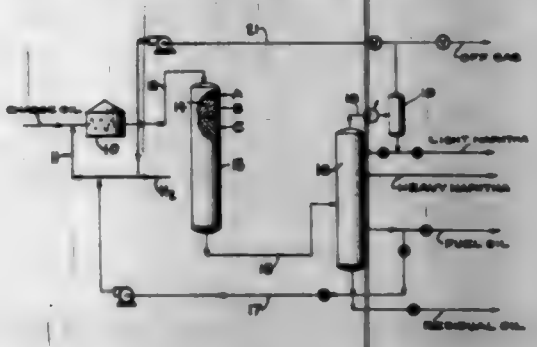
1. A method of forming an aluminum alloy coating on a surface of an article formed from a metal selected from the group consisting of nickel base alloys and cobalt base alloys, said method comprising heating said article to a temperature of approximately 1250° F. to 1600° F., applying a fused salt bath having a temperature of about 1250° F. to 1600° F. to the surface of said article, said fused salt bath being in contact with a molten aluminum anode and comprising, by weight, approximately 0.5% to 12% aluminum fluoride, 8.0% to 20% cryolite, 25% to 45% potassium chloride and 37% to 57% sodium chloride, imposing a negative potential on said article while it is in contact with said salt bath so as to induce a current density thereon of about 0.1 ampere to 30 amperes per square inch to thereby electrodeposit aluminum onto the surface of said article at a rate not substantially greater than the rate at which aluminum diffuses therein, subsequently cooling said article and removing any residual salts from said surface.

2,971,900

HYDROCRACKING OF HYDROCARBONS

Vern W. Weekman, Jr., Woodbury, N.J., assignor to Socony Mobil Oil Company, Inc., a corporation of New York

Filed Oct. 17, 1958, Ser. No. 767,923
4 Claims. (Cl. 208—59)



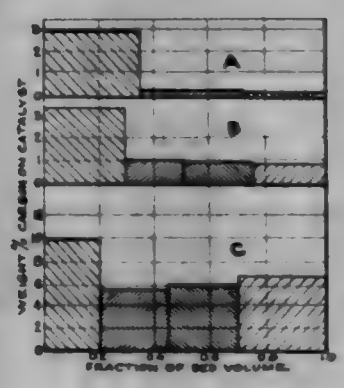
1. A process for the catalytic hydrocracking of a high boiling liquid hydrocarbon charge containing at least one of the following components in at least the quantity indicated: nitrogen 0.05 percent by weight, sulfur 0.2 percent by weight, oxygen 0.1 percent by weight, unsaturates 20 percent by volume, which comprises: maintaining three separate hydrocracking zones, each filled with a catalyst and arranged in series, the catalyst in the last zone in the series being greater in volume than the total volume of catalyst in the other two zones and having both hydrogenation and cracking activity, the catalyst in the second

of said zones having a greater ratio of hydrogenation activity to cracking activity than the ratio of said activities of the catalyst in the last of said zones and the catalyst in the first of said zones having a ratio of hydrogenation activity to cracking activity less than the ratio of said activities in the second of said zones; passing the hydrocarbon charge through said zones in succession under hydrocracking reaction conditions which include a reaction temperature in each zone above 700° F., whereby uniform deposition of carbonaceous contaminant on all of the catalyst is promoted.

2,971,901
MULTICATALYST HYDROCONVERSION

Raymond R. Halik, Pitman, and Vern W. Weekman, Jr., Woodbury, N.J., assignors to Socony Mobil Oil Company, Inc., a corporation of New York

Filed Oct. 17, 1958, Ser. No. 767,924
6 Claims. (Cl. 208—59)

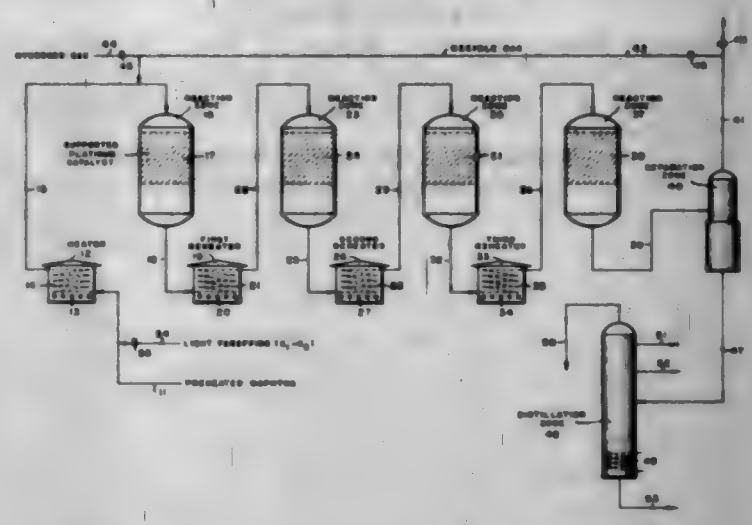


1. A process for the hydrocracking of hydrocarbon fractions boiling above 400° F. which contain at least one of the following components in at least the quantity indicated: nitrogen 0.05 percent by weight; sulfur 0.2 percent by weight; oxygen 0.1 percent by weight; unsaturates 20 percent by volume, which comprises: maintaining a bed of hydrocracking catalyst within an enclosed housing; maintaining an outlet region of said bed which extends from the end thereof from which products are removed for a distance amounting to at least two-thirds of the total length of the bed containing a standard hydrocracking catalyst; maintaining a middle region of said bed which next precedes said outlet region with a catalyst having a higher ratio of hydrogenation activity to cracking activity than the catalyst in said outlet region; maintaining an inlet region of said bed extending from the end of the bed to which the hydrocarbon fraction is supplied to said middle zone filled with a catalyst having a lower ratio of hydrogenation activity to cracking activity than the catalyst in said middle zone; maintaining said bed at a pressure within the range 500 to 10,000 pounds per square inch gauge; supplying the hydrocarbon fraction and hydrogen to the inlet end of said bed at a temperature within the range 700° F. to 1000° F. and passing said petroleum fraction and hydrogen through the bed to effect a conversion, at least in part, to lower boiling products and produce exothermic heat of reaction throughout said bed; removing said products from said bed and separating the desired lower boiling products from higher boiling recycle material; returning said higher boiling recycle material to said bed and injecting said material into said bed at the inlet to said middle region at a temperature and in a quantity that the effluent from the first region of the bed thereabove is cooled to a temperature below about 790° F.; and passing said recycle material through the middle and outlet regions of the bed, whereby uniform deposition of carbonaceous contaminants on all of the catalyst in said bed in promoted.

2,971,902
AROMATIZATION OF HYDROCARBONS

Robert A. Blome, Jack M. Andrews, and Willard S. Reaves, Baytown, Tex., assignors, by mesne assignments, to Esso Research and Engineering Company, Elizabeth, N.J., a corporation of Delaware

Filed Apr. 3, 1959, Ser. No. 803,862
9 Claims. (Cl. 208—65)



1. In a method for increasing yields of high octane number components in which a naphthenic hydrocarbon feed having a molecular weight in the range from about 80 to about 150 is subjected to hydroforming conditions in a plurality of serially interconnected reaction zones each containing a platinum catalyst and in which the product from each reation zone excepting the last reaction zone is reheated before charging to the next of said reaction zones, the improvement which comprises maintaining the temperature drop in each of said reaction zones substantially equal in the range between about 70° and about 85° F. while operating said reaction zones each at a greater temperature within the range from about 750° F. to about 1000° F. than the next preceding reaction zone.

2,971,903
HYDROCARBON CONVERSION CATALYST

Charles Newton Kimberlin, Jr., and Elroy Merle Gladrow, Baton Rouge, La., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Feb. 5, 1957, Ser. No. 638,232
11 Claims. (Cl. 208—119)

11. A process for cracking a gas oil which comprises contacting said feed at a temperature of about 800° to 1000° F. and at a pressure of about 0 to 1000 p.s.i.g. with a catalyst consisting essentially of a crystalline magnesium alumino-silicate having a uniform pore opening of about 6 to 13 Angstrom units.

2,971,904
PETROLEUM PROCESS CATALYST SUPPORTED ON A MOLECULAR SIEVE ZEOLITE

Elroy Merle Gladrow and Paul Thomas Parker, Baton Rouge, La., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Feb. 12, 1957, Ser. No. 639,646
20 Claims. (Cl. 208—135)

1. A process for upgrading hydrocarbons which comprises contacting a hydrocarbonaceous fluid at elevated temperatures with a hydrocarbon conversion catalyst selected from the class consisting of metals and compounds of the platinum group, oxides of molybdenum, chromium, tungsten, vanadium, nickel, copper, cobalt, cobalt molybdate, and mixtures thereof, deposited on a zeolitic

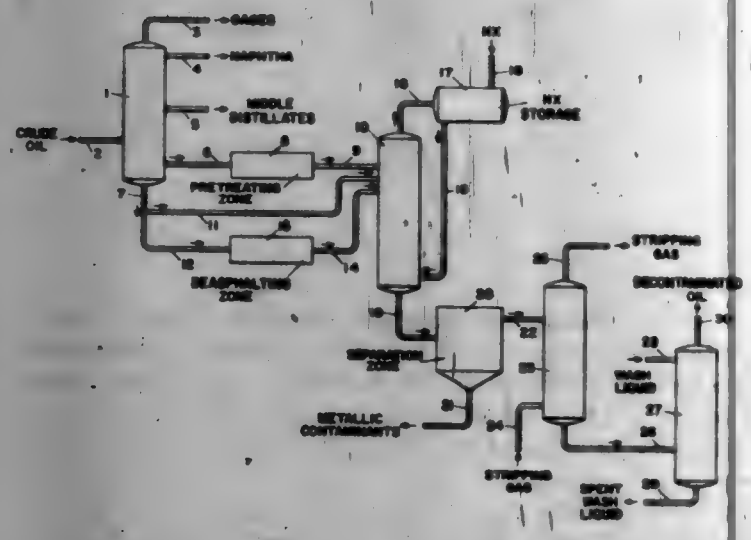
crystalline molecular sieve alumino-silicate base having uniform pore openings between about 6 and about 15 Angstrom units, said molecular sieve being further characterized in that it contains no more than 10% sodium, calculated as Na_2O.

2,971,905

PROCESS FOR REMOVING METALLIC CONTAMINANTS FROM OILS

Herman Bieber, Rahway, Walter M. Basch, Ramsen, and Louis Dauber, Cranford, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

Filed July 31, 1957, Ser. No. 675,431
11 Claims. (Cl. 208—252)



1. A process for upgrading a hydrocarbon oil including constituents boiling in excess of about 950° F. which comprises in combination the steps of pretreating said oil at a temperature in the range of about 300° F. to about 900° F. for the conversion of volatile metallic contaminants therein to a nonvolatile form, coagulating nonvolatile metallic contaminants in said oil by contacting the oil with a hydrogen halide gas at a temperature in the range between about 30° F. and about 300° F., separating said oil and said coagulated contaminants, and recovering a treated oil of reduced metals content.

11. A process for the selective removal of metallic contaminants from an asphaltic petroleum oil which comprises segregating an asphaltic petroleum crude oil into two oil fractions, the first oil fraction boiling in the range between about 950° F. and about 1300° F. and the second oil fraction comprising residual oil boiling above about 1300° F., pretreating said first oil fraction at a temperature in the range of about 300° F. to about 900° F. for a sufficient time to convert volatile metallic contaminants contained therein to a nonvolatile form, deasphalting said second oil fraction, contacting said first and second oil fractions with a hydrogen halide gas at a temperature in the range of from about 30° F. to about 300° F. to coagulate metallic contaminants present in said fractions and thereafter segregating said oil fractions from said coagulated metallic contaminants.

2,971,906

PROCESS FOR REMOVING NITROGENOUS COMPOUNDS FROM HYDROCARBON OILS

Alfred Bentley Webster, Wallasey, England, assignor to Shell Oil Company, a corporation of Delaware

No Drawing. Filed Aug. 17, 1956, Ser. No. 604,599
Claims priority, application Great Britain Aug. 25, 1955
7 Claims. (Cl. 208—254)

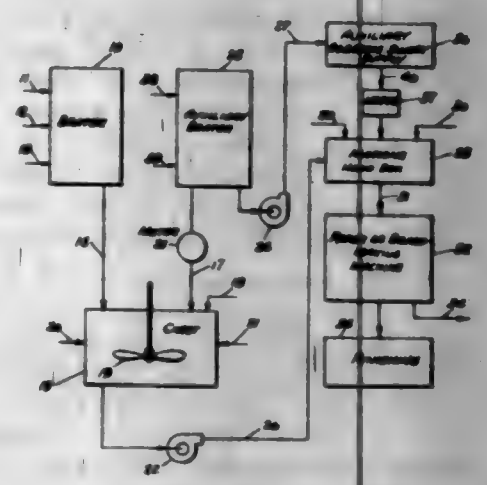
1. A process for removing nitrogen bases from hydrocarbon oils with phosphoric acid and then regenerating said spent liquid aqueous phosphoric acid treating solution containing nitrogenous compounds extracted from the nitrogen base-containing hydrocarbon oil, the steps comprising intimately mixing said spent phosphoric acid containing nitrogenous compounds with added water and a relatively water-immiscible organic solvent having a boiling point below 160° C. at atmospheric pressure and a solubility in water under 25 grams per liter at 20° C. to achieve a substantially complete transfer of the nitrogenous compounds from the phosphoric acid to the water-immiscible organic solvent, said water being added in an amount sufficient to dilute the spent acid to a phosphoric acid concentration greater than 30 percent and not more than 60 percent by weight H_3PO_4, separating the aqueous phosphoric acid phase from the organic solvent and thereafter distilling the aqueous phosphoric acid phase to remove from it such a quantity of water as to provide a regenerated phosphoric acid of sufficient strength for reuse in extraction of nitrogen bases from a further quantity of hydrocarbon oil, said distilling being carried on to provide a regenerated acid of at least 70 percent by weight H_3PO_4, and reusing the regenerated acid for removing the nitrogen bases from said hydrocarbon oils containing the same.

2,971,987

FILTER MEDIA AND METHOD OF MAKING

Walter J. Smith, Arlington, Mass., assignor, by mesne assignments, to the United States of America as represented by the United States Atomic Energy Commission

Filed Aug. 17, 1955, Ser. No. 529,012
2 Claims. (Cl. 210—504)



1. The process for making a filter medium capable of filtering particles in the submicron range from a liquid without causing any appreciable pressure drop in the passage of said liquid across said filter medium, which consists essentially of forming a first aqueous dispersion of inorganic vitreous monofilament fibers, forming a second aqueous dispersion of inorganic fibrous material of mineral derivation, mixing said first and said second dispersions to form a final dispersion, adding to said final dispersion a binding agent, the pH of said first, second and final dispersions being maintained at from about 3 to 7, matting out the solids from said final dispersion and removing substantially all the water from the mat so formed to give a filter medium, said inorganic fibrous material being substantially uncoated by said binder and being capable of filtering out particles less than one micron in size, said binding agent being a flexible linear polymer and being present in an amount which is between about 1 and 10% of the total weight of said filter medium and is enough to give sufficient strength to said filter medium to make it self-supporting, said filter medium being adapted to withstand temperatures up to at least 500° F.

2,971,908

PROCESS FOR REINFORCING POLYTETRAFLUOROETHYLENE RESIN

Frank Richard Chaffin, Los Angeles, Calif., assignor to W. S. Shamban & Co., Culver City, Calif., a corporation

No Drawing. Filed Aug. 15, 1957, Ser. No. 678,433
2 Claims. (Cl. 252—12)

1. A process for forming a composition of matter which includes polytetrafluoroethylene resin and a filler of boron nitride, the process comprising, grinding a selected quantity of polytetrafluoroethylene resin and a proportionate quantity of 5%–25% by weight of boron nitride to a powder at a reduced temperature of the order of —250 degrees Fahrenheit in a liquefied inert gas and intimately intermixing the same, and permitting the resulting mixture to rise to room temperature.

2,971,909

NON-CORROSIVE LUBRICANT COMPOSITIONS

Ellis K. Fields, Chicago, Ill., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana

No Drawing. Filed Dec. 6, 1957, Ser. No. 700,981
18 Claims. (Cl. 252—32.7)

1. A new composition of matter, the oil-soluble product obtained by reacting an aldehyde, an alkyl mercaptan, and 2-amino-5-thio-1,3,4-dithiazolidine in the molar ratio of from 1:1:1 respectively to 2:2:1 respectively, said reaction product having corrosion and oxidation inhibiting properties and being suitable for addition to an oil to impart corrosion and oxidation resistant properties thereto.

2,971,910

LUBRICATING COMPOSITIONS

George M. Calhoun, Berkeley, Calif., assignor to Shell Oil Company, a corporation of Delaware

No Drawing. Filed Dec. 16, 1957, Ser. No. 702,749
9 Claims. (Cl. 252—34)

1. A lubricating composition comprising a major amount of lubricating oil and a minor amount sufficient to impart extreme pressure properties to the oil of an oil-soluble complex obtained by reacting at a temperature of from about room temperature to about 85° C. and in equivalent amounts an oil-insoluble unsubstituted aliphatic dicarboxylic acid, said aliphatic portion of the molecule which separates the two acid groups having C_{4-8} carbon atoms, a marginally oil-soluble fatty acid having from 8 to 18 carbon atoms and an oil-soluble aliphatic amine having 8 to 24 carbon atoms.

2,971,911

CORROSION-RESISTANT LUBRICATING GREASE COMPOSITIONS

Gerard P. Caruso, New Orleans, La., assignor to Shell Oil Company, a corporation of Delaware

No Drawing. Filed Apr. 7, 1958, Ser. No. 726,633
5 Claims. (Cl. 252—42.1)

1. A lubricating grease composition comprising a lubricating oil thickened to a grease consistency with about 5–25% by weight of soaps of substantially saturated hydroxy fatty material, 0.25–2% by weight of an oil-soluble imidazoline, and about 0.05–1% by weight of a water-soluble alkali metal nitrite.

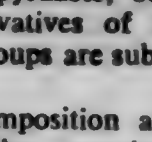
2,971,912

LUBRICATING OIL COMPOSITIONS

John Scotchford Elliott, and Eric Deecamp Edwards, London, England, assignors to Castrol Limited, a British company

No Drawing. Filed May 13, 1957, Ser. No. 658,519
Claims priority, application Great Britain May 14, 1956
11 Claims. (Cl. 252—46.7)

1. A lubricating composition consisting essentially of a substantially neutral saturated organic carboxylic acid ester having a viscosity index of at least 100, a pour point not exceeding —40° F., a boiling temperature not less than 600° F., and a flash point not less than 350° F., the said ester being selected from the group consisting of an ester having the general formula



wherein R is a radical selected from the group consisting of saturated aliphatic and cycloaliphatic hydrocarbon radicals having from 2 to 8 carbon atoms, and R_1 and R_2 are radicals selected from the group consisting of branched-chain alkyl and alkyl-substituted cycloalkyl radicals having at least four carbon atoms, and an ester having the general formula

$$R_3OOCRCOOR_3OOCRCOOR_1$$

wherein R is a radical selected from the group consisting of saturated aliphatic and cycloaliphatic hydrocarbon radicals having from 2 to 8 carbon atoms, and R_1 and R_2 are radicals selected from the group consisting of branched-chain alkyl and alkyl-substituted cycloalkyl radicals having at least 4 carbon atoms, and R_3 is selected from the group consisting of saturated hydrocarbon radicals and polyglycol radicals having not more than 12 carbon atoms; from 0.05 to 5.0% by weight on the weight of the final composition of a compound selected from the group consisting of di(hydroxy aryl) thioethers and dibenzothiazines having good antioxidant properties at elevated temperatures; and from 0.01 to 2.0% by weight on the weight of the final composition of at least one compound selected from the group consisting of imidazole, benzimidazole, pyrazole, benzotriazole and indazole and methyl derivatives of any of the foregoing wherein said methyl groups are substituents of the carbon atoms of the ring.

3. A lubricating composition as claimed in claim 1 wherein said composition contains about 0.5 to about 10% by weight on the weight of the final composition of an additional compound selected from the group consisting of neutral organic phosphate and phosphite esters.

2,971,913

SYNTHETIC LUBRICANT COMPOSITIONS

Vernon W. David, Chester, and Francis H. Waight, Wirral, England, assignors to Shell Oil Company, a corporation of Delaware

No Drawing. Filed Sept. 15, 1958, Ser. No. 760,867
8 Claims. (Cl. 252—48.4)

8. A lubricating composition comprising a major proportion of an oleaginous aliphatic polyester lubricant of the group consisting of aliphatic diesters and esters of pentaerythritol and between about 0.2% and about 10% of a chlorinated dimethanonaphthalene of the group consisting of 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro - 1,4,5,8 - dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-6,7-epi-1,4,4a,5,6,6,7,8,8a-octahydro - 1,4,5,8 - dimethanonaphthalenes, wherein epi is an epatomic radical of the group consisting of epoxy, episulfido and epi-imino, and mixtures thereof.

2,971,914

THICKENED OIL COMPOSITIONS CONTAINING ALKYLENE HIGHER FATTY ACID DIAMIDES

Milton J. Shoemaker, Madison, Wis., assignor to Research Products Corporation, Madison, Wis.

No Drawing. Filed Oct. 14, 1957, Ser. No. 689,746
10 Claims. (Cl. 252—51.5)

1. A thickened oil composition consisting essentially of a liquid oil base and a minor proportion of a thickening agent in an amount sufficient to impart thixotropic properties to said composition, said thickening agent

being present in said base in the physical form resulting from solution thereof in said base at elevated temperature and shock-cooling said solution, said thickening agents consisting of a compound having the structural formula:



wherein R and R' are alkyl groups containing 15 to 17 carbon atoms and R'' is an alkylene group containing from 1 to 4 carbon atoms.

2,971,915

LUBRICATING OIL COMPOSITIONS

Victor N. Borsoff and George M. Calhoun, Berkeley, Calif., assignors to Shell Oil Company, a corporation of Delaware

No Drawing. Filed Feb. 11, 1957, Ser. No. 639,237
18 Claims. (Cl. 252—56)

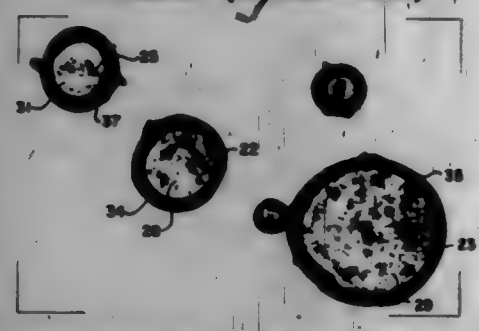
1. A lubricating oil composition comprising a major amount of lubricating oil and from about 0.1% to about 2% of an aliphatic dicarboxylic acid having the formula $HOOCC_nH_{2n-m}R_mCOOH$ wherein R in the side chain of the hydrocarbon group $C_nH_{2n-m}R_m$ and is an alkyl radical of from 1 to 4 carbon atoms, *n* is an integer of from 3 to 6, *m* is an integer of from 1 to 6 inclusive and the total number of carbon atoms in all R's is from 1 to 6.

2,971,916

MICROSCOPIC CAPSULES CONTAINING MAGNETIZABLE MATERIAL

Lowell Schleicher and Charles S. Banghman, Dayton, Ohio, assignors to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland

Filed Jan. 30, 1957, Ser. No. 637,270
1 Claim. (Cl. 252—62.5)



A microscopic capsule having a wall of hardened organic colloid material enclosing an oily liquid containing a dispersion of magnetic powder.

2,971,917

STABILIZED SOAP COMPOSITION

Victor C. Fusco, Baltimore, Md., and Richard C. Harshman, Kenmore, N.Y., assignors to Olin Mathieson Chemical Corporation, a corporation of Virginia

No Drawing. Filed June 2, 1955, Ser. No. 512,863
21 Claims. (Cl. 252—107)

1. A soap composition consisting essentially of a soap of an aliphatic monocarboxylic acid containing from 12 to 18 carbon atoms and a hydrazinium salt of an organic acid in an amount effective to stabilize the composition against discoloration and undesirable odor formation.

2,971,918

PAINT STRIPPER COMPOSITION

Henry A. Goldsmith, Detroit, and Benjamin Ray, Dearborn, Mich., assignors to Solventol Chemical Products, Inc., Detroit, Mich., a corporation of Michigan

No Drawing. Filed Jan. 7, 1957, Ser. No. 632,651
5 Claims. (Cl. 252—135)

1. A paint stripping composition in the form of a substantially dry free-flowing particulated mixture consisting essentially of at least one chlorinated phenol, said chlorinated phenol being an alkali soluble ring chloro-substitution product of:



wherein R_1 is a radical selected from the group consisting of hydrogen, sodium and potassium; wherein R_2 is a radical selected from the group consisting of an alkyl, phenyl, alkyl-phenyl, hydroxy phenyl, phenyl-alkyl, and hydroxy phenyl-alkyl and in which the alkyl radical contains 1 to 5 carbon atoms inclusive; and wherein *n* represents a number from 0 to 3 inclusive, and at least one alkali compound selected from the group consisting of an alkali metal hydroxide and an alkali metal silicate, said chlorinated phenol and said alkali compound being present in the proportion of 4 parts by weight of said chlorinated phenol to from 400 parts to 1 part by weight of said alkali compound.

2,971,919

PAINT STRIPPER COMPOSITION

Henry A. Goldsmith, Detroit, Mich., assignor to Solventol Chemical Products, Incorporated, a corporation of Michigan

No Drawing. Filed Feb. 27, 1958, Ser. No. 717,830
18 Claims. (Cl. 252—139)

1. A paint stripping composition adapted for use in water, said composition consisting essentially of at least one phenol compound ring-substituted with at least one chlorine, at least one alkali compound, and at least one glycol ether compound, said chlorinated phenol being soluble in aqueous alkali solutions and the phenol compound having the formula:



in which R^1 is a radical selected from the group consisting of hydrogen, sodium and potassium, R^2 is a radical selected from the group consisting of alkyl, phenyl, alkyl-phenyl, hydroxy phenyl, phenyl-alkyl, and hydroxy phenyl-alkyl and in which the alkyl radical contains 1 to 5 carbon atoms inclusive, and *n* represents a number from 0 to 3 inclusive, said alkali compound being selected from the group consisting of caustic alkali and alkali metal silicate, and said glycol ether being of the formula:

$$R^3O(CH_2CHR^4O)_xR^5$$

in which R^3 represents a radical selected from the group consisting of phenyl, cyclohexyl and an alkyl radical having the formula

$$C_yH_{(2y+1)}$$

in which y represents a number from 2 to 8 inclusive, R^4 represents a radical selected from the group consisting of H and CH_3, R^5 represents a radical selected from the group consisting of H and R^3 and *x* is a number selected from the group consisting of 1 and 2, said compounds being present in the proportion of 4 parts by weight of said chlorinated phenol to from 8 to 400 parts by weight of said alkali compound and from 1 to 10 parts by weight of the glycol ether.

2,971,920

FINGER NAIL POLISH REMOVER

Gabriele Wurmböck, née Magg; Rolf Niemann; Egon Wurmböck, Landshuter Alle 73; and Oscar Wurmböck, Kaiserstrasse 39, all of Munich, Germany; said Gabriele Wurmböck, née Magg, and Rolf Niemann assignors to said Egon Wurmböck and said Oscar Wurmböck

No Drawing. Filed Feb. 25, 1957, Ser. No. 641,808

Claims priority, application Germany Feb. 29, 1956

4 Claims. (Cl. 252—143)

1. A nail polish remover having a pH of between 3 and 3.50 when about 15 parts by volume thereof are added to about 50 parts of water by volume, comprising 89 parts of ethyl glycol acetate, 5 parts of the ethylene oxide condensate of lauryl alcohol having 7 to 8 moles of ethylene oxide, 5 parts of polyoxyethylene sorbitan mono-oleate, and 1 part of acetic acid.

2,971,921

MANGANESE COMPLEXES OF NITROSOPHENOLS AS INFRARED ABSORBERS

Ralph A. Coleman, Middlesex, and John L. Rodgers, Somerville, N.J., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Jan. 26, 1959, Ser. No. 788,737

5 Claims. (Cl. 252—300)

1. A method of increasing the infrared absorption of materials which comprises incorporating therein at least 0.01% by weight of the manganous complex of an o-nitrosohydroxy compound selected from the group consisting of 5-di-lower alkylamino-2-nitrosophenol, 4-methyl-2-nitrosophenol, 5-methoxy-2-nitrosophenol, 5-acetamino-2-nitrosophenol, 1-nitroso-2-naphthol, 1-nitroso-2-naphthol-6-sulfonamide and 1-methyl-7-isopropyl-10-nitroso-9-phenanthrol.

2. A method of protecting materials from incident infrared rays which comprises interposing between the source of said infrared rays and the material to be protected, a barrier containing at least 0.01 gram per square foot of barrier of the manganous complex of an o-nitrosohydroxy compound selected from the group consisting of 5-di-lower alkylamino-2-nitrosophenol, 4-methyl-2-nitrosophenol, 5-methoxy-2-nitrosophenol, 5-acetamino-2-nitrosophenol, 1-nitroso-2-naphthol, 1-nitroso-2-naphthol-6-sulfonamide and 1-methyl-7-isopropyl-10-nitroso-9-phenanthrol.

2,971,922

ORGANOPHILIC MINERAL COMPOSITIONS

Arthur G. Clem, Des Plaines, Ill., assignor to American Colloid Company, Skokie, Ill., a corporation of Delaware

No Drawing. Filed Sept. 23, 1957, Ser. No. 685,386

11 Claims. (Cl. 252—316)

1. An organophilic mineral composition consisting essentially of 25 to 70 parts by weight of a clay of the group consisting of montmorillonite and palygorskite and 30 to 75 parts by weight of a water-insoluble neutral amide of the group consisting of R—CO—NH—X and RCONH—Alk—NHCOR, wherein R is a hydrocarbon radical containing at least 10 and not more than 25 carbon atoms, X is a member of the group consisting of hydrogen and hydrocarbon radicals containing not more than 25 carbon atoms and Alk is an alkylene radical containing at least 2 and not more than 10 carbon atoms.

2,971,923

PROCESSES FOR BREAKING PETROLEUM EMULSIONS, ESPECIALLY IN DESALTING OPERATIONS

Alice Walker and Virgil L. Seale, Houston, and Willard H. Kirkpatrick, Sugar Land, Tex., assignors to Visco Products Company, Houston, Tex., a corporation of Delaware

No Drawing. Filed Mar. 7, 1955, Ser. No. 492,798

9 Claims. (Cl. 252—342)

1. A process for breaking emulsions of the water-in-oil type which comprises subjecting the emulsion to the action of an organic polycarboxy acid ester of an oxyethylated castor oil oxyethylated with 15 mols to 45 mols of ethylene oxide per mol of caster oil wherein the ester is composed of at least one mole of the acid per mol of the castor oil.

2,971,924

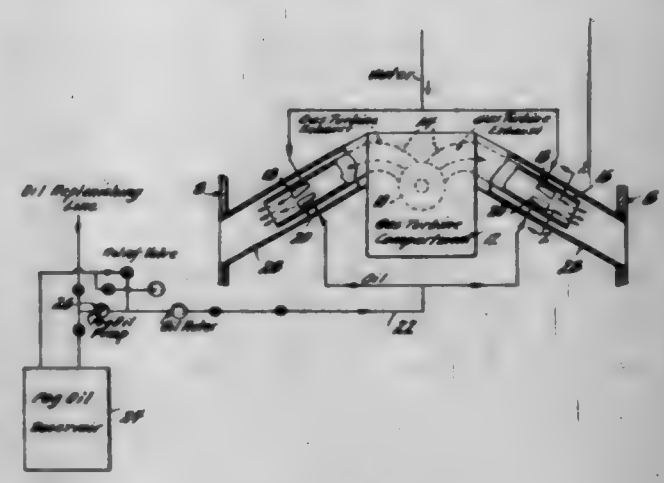
APPARATUS FOR SMOKE GENERATION

Roy R. Peterson, Rte. 2, Sterling, Va.

Filed June 25, 1956, Ser. No. 593,775

1 Claim. (Cl. 252—359)

(Granted under Title 35, U.S. Code (1952), sec. 266)



A smoke generator comprising a gas turbine, a gas turbine enclosing compartment, an eductor pipe attached to and extending through a wall of said compartment and having one end thereof open to the interior of said compartment and the opposite end open to the surrounding atmosphere outside said compartment, an exhaust pipe connected to and extending from said turbine, said exhaust pipe being spaced from and concentrically mounted within said eductor pipe and terminating short of the atmospheric end of said eductor pipe, a first tubular nozzle within said exhaust pipe, said tubular nozzle having a constricted venturi type passage extending therethrough, an open ended pipe extending into the throat portion of said constricted passage and connected to a source of fog oil, the reduced pressure in said constricted passage serving as a means for drawing said fog oil into said nozzle, whereby said fog oil has vaporized in said exhaust pipe by exhaust gases from said turbine, thereby forming smoke; a second tubular nozzle located in said exhaust pipe adjacent said first nozzle; said second tubular nozzle having a constricted venturi type passageway extending therethrough, an open ended tubular member extending into the throat portion of said constricted passage in said second tubular nozzle and connected to a supply of water, the reduced pressure in said venturi type passageway in said second nozzle serving as a means for drawing water into said passageway whereby water is injected into said exhaust pipe during vaporization of said fog oil, thereby cooling said exhaust pipe, and preventing coking of the fog oil.

2,971,925
POLYMERIZATION CATALYSTS

De Loos E. Winkler, Orinda, and Kenzie Nozaki, El Cerrito, Calif.; said Winkler assignor to Shell Oil Company, a corporation of Delaware

No Drawing. Filed Feb. 16, 1959, Ser. No. 793,250
4 Claims. (Cl. 252—429)

1. A catalyst composition prepared by the sequence of steps comprising (1) reacting hydrocarbon solutions of aluminum triethyl and titanium tetrachloride in a mole ratio ranging from about .1:1 to less than .4:1 at elevated temperatures until at least the aluminum triethyl is completely oxidized and (2) thereafter reacting the total product of (1) with a hydrocarbon solution of aluminum diethyl chloride in an amount to give a total aluminum to titanium mole ratio of at least 1:1.

2,971,926
DEHYDROGENATION CATALYSTS

William D. Stillwell, Shaker Heights, Ohio, assignor to The Harshaw Chemical Company, Cleveland, Ohio, a corporation of Ohio

No Drawing. Filed June 18, 1957, Ser. No. 666,492
3 Claims. (Cl. 252—441)

1. As a new catalyst characterized by low surface area and high crushing strength, the calcination product of a four component mixture of iron, potassium, chromium and fluorine compounds, said fluorine compound being selected from the class consisting of KF, K_2SiF_6, CaF_2, MgF_2, BaF_2, and ZnF_2 in amounts capable of yielding from 2 to 10 parts by weight of fluorine in the calcined product, said iron compound being selected from the class consisting of iron oxide and iron carbonate in amounts capable of yielding from 60 to 80 parts by weight Fe_2O_3 in the calcined product, said potassium compound being selected from the class consisting of K_2O, KOH, and K_2CO_3, in amounts capable of yielding 10 to 30 parts by weight K_2O in the calcined product and said chromium compound being selected from the class consisting of Cr_2O_3, CrO_3, K_2CrO_4 and $K_2Cr_2O_7$ in amounts capable of yielding from 2 to 10 parts by weight Cr_2O_3 in the calcined product.

2,971,927
DEHYDROGENATION CATALYST

William R. Price, Louisville, Ky., assignor to Catalysts and Chemicals Inc., Louisville, Ky., a corporation of Delaware

No Drawing. Filed Nov. 17, 1958, Ser. No. 774,100
6 Claims. (Cl. 252—443)

1. A non-hygroscopic catalyst resistant to the disintegrating action of steam under pressure suitable for the dehydrogenation of olefins and aralkyl hydrocarbons in the presence of steam, which consists of iron oxide in a concentration by weight of from about 45 to about 60%, a compound of potassium selected from the group consisting of potassium nitrate, potassium sulfate, and potassium carbonate in a concentration by weight of from about 5 to about 40%, chromium oxide in a concentration by weight of from about 1 to about 5%, kaolin in a concentration by weight of from about 10 to about 30%, and an alkaline earth metal oxide present in a weight ratio in relation to the kaolin of about 1–3:10, said catalyst being further characterized by a micro surface area in the range of from about 3 to about 10 $m.^2/gram$.

2,971,928
PLATINUM-ALUMINA CATALYSTS

Harry M. Brennan, Hammond, Ind., and Edmund Field, Chicago, Ill., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana

No Drawing. Filed Nov. 30, 1955, Ser. No. 560,277
5 Claims. (Cl. 252—466)

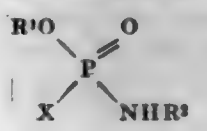
1. A method for preparing an alumina-supported platinum catalyst which comprises adding an alkaline substance to an alumina hydrosol, said alkaline substance having an ionization constant, and being used in a quantity, sufficient to raise the pH of the resulting mixture of said alkaline substance and said alumina hydrosol to a level within the range of about 8.5 to 12, wherein said pH is insufficient to convert any considerable proportion of the alumina into aluminate salts, maintaining said mixture at a pH within said range and a temperature between about 50 and 250° F. until the alumina contained therein is converted into a filterable slurry comprising a liquid phase and solid, hydrous alumina, separating the liquid phase at least in part from said solid hydrous alumina, further treating said solid, hydrous alumina with a second alkaline substance, said second alkaline substance having an ionization constant, and being used in a quantity, sufficient to raise the pH of the mixture of said solid hydrous alumina and said second alkaline substance to between about 8.5 and 12, continuing to treat said solid hydrous alumina at a pH within said range and at a temperature below about 600° F. for a period in excess of about one hour, drying the treated alumina to a volatiles content between about 15 and 50 percent by weight, wet basis, impregnating the dried alumina with an aqueous platinum solution to a platinum level between about 0.05 and 1 percent by weight, based on dry Al_2O_3, and drying and calcining, whereby there is obtained a catalyst comprising at least about 5 weight percent eta alumina.

2,971,929
TEXTILE TREATMENT WITH NOVEL AQUEOUS DISPERSIONS TO ACHIEVE FLAME-RESISTANT AND WATER-REPELLANT FINISHES

Nathaniel J. Glade, Somerville, N.J., assignor to American Cyanamid Company, New York, N.Y., a corporation of Maine

No Drawing. Filed May 22, 1956, Ser. No. 586,382
8 Claims. (Cl. 260—21)

1. A composition of matter which comprises an aqueous dispersion of (1) between about 50 and 1000 parts by weight of a resinous component selected from the group consisting of water-solution aminotriazine-aldehyde resins and aqueous colloidal aminotriazine-aldehyde resins and mixtures of said aminotriazine-aldehyde resins with a water-soluble textile finishing agent selected from the group consisting of methylated methylol urea, methylol alkylene urea and methylated methylol alkylene urea containing between about 6 and about 100% of said textile finishing agent based on the weight of said aminotriazine-aldehyde resin; (2) 100 parts of a hydrophobic component selected from the group consisting of a wax-like compound melting above 100° F. containing an hydroxylated aliphatic acyl radical of between about 12 and about 30 carbon atoms and a composition comprising such a wax-like compound and a wax melting above 100° F., said wax in such compositions not being present in an amount exceeding about four times the weight of said wax-like compound; (3) between about 0.5 and about 20 parts of a hydrophilic protective colloid free from rewetting tendencies after drying; (4) between about 0.5 and about 15 parts of an emulsifying agent of the group consisting of sulfonated fatty acids, alcohols and esters containing an aliphatic chain of between 8 and about 30 carbon atoms, sulfonated lignin, condensation products of polyalkylene polyamines with fatty acids containing between 8 and about 30 carbon atoms, dialkyl alkylol alkylamide quaternary ammonium salts and water-dispersible reaction products of an aliphatic amine containing from 8 to about 22 carbon atoms with epichlorohydrin and (5) an aliphatic phosphoramidate containing from 1 to 6 carbon atoms and having the structural formula:



wherein R^1 is selected from the group consisting of alkyl, alkoxyalkyl halogenated alkyl radical having from 1 to 4 carbon atoms, R^2 is selected from the group consisting of hydrogen and an alkyl radical having from 1 to 4 carbon atoms, and X is selected from the group consisting of —OR^1 and —NHR^2 in a quantity equal to between about 25 and about 200% of the weight of the amino-triazine-aldehyde resin.

2,971,930

TEXTILE TREATMENT WITH NOVEL AQUEOUS DISPERSION TO ACHIEVE WATER-REPELLENT FINISHES

Nathaniel J. Glade, Somerville, N.J., assignor to American Cyanamid Company, New York, N.Y., a corporation of Maine

No Drawing. Filed May 22, 1956, Ser. No. 586,357
10 Claims. (Cl. 260—21)

1. A composition of matter which comprises an aqueous dispersion of (1) between about 30 and about 600 parts of a resinous component selected from the group consisting of water-soluble aminotriazine-aldehyde resin and aqueous colloidal aminotriazine-aldehyde resins and mixtures of said aminotriazine-aldehyde resins with a water-soluble textile finishing agent selected from the group consisting of methylated methylol ureas, methylol alkylene urea and methylated methylol alkylene urea, said mixtures containing between about 6.6 and about 100% of said textile finishing agent based on the weight of aminotriazine-aldehyde resin; (2) 100 parts of an hydrophobic component selected from the group consisting of a wax-like compound melting above 100° F. containing an hydroxylated aliphatic acyl radical of between 12 and about 30 carbon atoms and a composition comprising such a wax-like compound and a wax melting above about 100° F., said wax in such compositions not being present in an amount exceeding about four times the weight of said wax-like compound; (3) between about 0.5 and about 20 parts of a hydrophilic protective colloid free from rewetting tendencies after drying and (4) between about 0.5 and about 15 parts of an emulsifying agent of the group consisting of sulfonated and sulfated acids, alcohols and esters containing an aliphatic chain of between 8 and about 30 carbon atoms, sulfonated lignin, condensation products of polyalkylene polyamines with fatty acids containing between 8 and about 30 carbon atoms, dialkyl alkylol alkylamide quaternary ammonium salts and water-dispersible reaction products of an aliphatic amine containing from 8 to about 22 carbon atoms with epichlorohydrin.

2,971,931

TEXTILE TREATMENT WITH NOVEL AQUEOUS DISPERSIONS TO ACHIEVE FLAME-RESISTANT AND WATER-REPELLANT FINISHES

Nathaniel J. Glade, Somerville, N.J., assignor to American Cyanamid Company, New York, N.Y., a corporation of Maine

No Drawing. Filed May 22, 1956, Ser. No. 586,358
9 Claims. (Cl. 260—21)

1. A composition of matter which comprises an aqueous dispersion of (1) 100 parts of a hydrophobic component selected from the group consisting of a wax-like compound melting above 100° F. containing an hydroxylated aliphatic acyl radical of between 12 and about 30 carbon atoms and a composition comprising such a wax-like compound melting above 100° F. and a wax melting above 100° F., said wax in said compositions being present in an amount not exceeding about four times the weight of said wax-like compound; (2) between about 0.5 and about 20 parts of a hydrophilic protective colloid free from rewetting tendencies after drying; (3) between about 0.5 and about 15 parts of an emulsifying agent of the group consisting of sulfonated and sulfated fatty acids, alcohols and esters containing an aliphatic chain of between 8 and about 30 carbon atoms, sulfonated lignin, condensation products of polyalkylene polyamines with fatty acids containing between 8 and about 30 carbon atoms, dialkyl alkylol alkylamide quaternary ammonium salts containing two lower alkyl groups of from about 1 to 4 carbon atoms, a 1 to 4 carbon alkylol radical, a halogen radical containing a higher alkylamide of about 8 to 30 carbon atoms combined with a 1 to 4 carbon atoms alkyl group, and water-dispersible reaction products of an aliphatic amine containing from about 8 to about 22 carbon atoms with epichlorohydrin; (4) between about 200 to about 1200 parts of monomethylol dicyandiamide and 50 to 500 parts of a phosphoric acid.

2,971,932

OIL-MODIFIED ALKYD COMPOSITION WITH HALOGENATED COAL ACIDS

Herbert B. Rickert, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Sept. 19, 1957, Ser. No. 684,839
14 Claims. (Cl. 260—22)

1. An oil-modified alkyd composition comprised of the esterified product of reaction between (*a*) from 2 to 3 equivalents of a polyhydroxy glycol compound selected from the group consisting of liquid polyethylene glycols that contain at least three condensed ethylene oxide units in their molecules, liquid polypropylene glycols that contain at least two condensed polypropylene units in their molecules, liquid glycols and polyglycols that contain at least four carbon atoms in their molecules and have at least one secondary hydroxyl substituent group when they consist of less than 6 carbon atoms and mixtures thereof; (*b*) from about 0.1 to 1.80 equivalents of a monobasic unsaturated drying oil fatty acids mixture; and (*c*) from about 1.9 to 0.2 equivalents of chlorinated coal acids, said coal acids being the water-soluble mixed aromatic polycarboxylic acids that are the products of oxidation of carbonaceous materials, which have acids typically an average molecular weight of from 200 to 300, an apparent average equivalent weight of from 70 to 90 and contain an average of from 2.5 to 5 carboxylic groups per aromatic nucleus in their molecule, said chlorinated coal acids having a combined chlorine content between about 0.5 and 35 percent by weight.

2,971,933

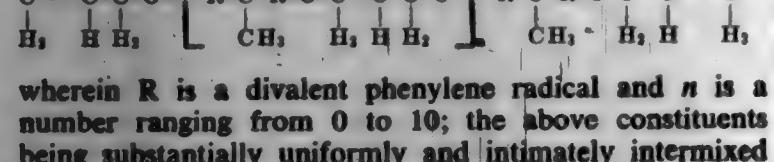
HEAT-HARDENING PLASTIC COMPOSITION

Carl L. Beal, Huntington, N.Y.
(42 Kendrick Lane, Huntington Station, N.Y.)

No Drawing. Filed July 5, 1957, Ser. No. 669,919
11 Claims. (Cl. 260—23)

1. A flowable plastic composition capable of becoming a rigid tough hard solid by heating and suitable for making superior hollow high plastic heels by gyrational casting, which composition comprises 100 parts by weight of a dispersion-type polyvinyl chloride resin of fine particle size ranging for the most part from about 0.1 to 10 microns; 25 to 75 parts by weight of liquid dispersant for said polyvinyl chloride resin containing at least one of the methacrylate diesters of an ethylene glycol selected from the class consisting of ethylene glycol dimethacrylate, diethylene glycol dimethacrylate, triethylene glycol dimethacrylate and tetraethylene glycol dimethacrylate; 2 to 5 parts by weight of a free-radical peroxide catalyst; 12 to 25 parts by weight of a fluid polyamide resin consisting essentially of the reaction product of a fat acid of the formula nHOOC—R—COOH with an aliphatic polyamine of the formula nH_2N—R′—NH_2, wherein R is a hydrocarbon radical, R′ is an aliphatic hydrocarbon radical, and n is the number of molecules of each of the two reactants forming the polyamide resin; and 10 to 20

parts by weight of an epoxy resin comprising a reaction product of the formula



wherein R is a divalent phenylene radical and *n* is a number ranging from 0 to 10; the above constituents being substantially uniformly and intimately intermixed to produce a flowable plastic composition.

2,971,934

AQUEOUS COMPOSITION COMPRISING A SALT OF A MALEIC ANHYDRIDE-DIISOBUTYLENE COPOLYMER, A LINEAR COPOLYMER, AND A WAX

George L. Brown, Moorestown, N.J., and Robert W. Percival, Havertown, Pa., assignors to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed Feb. 23, 1956, Ser. No. 567,065
4 Claims. (Cl. 260—28.5)

1. An aqueous composition comprising (A) polymeric material consisting essentially of (1) a salt of a member selected from the group consisting of ammonium hydroxide and volatile amines with an approximately 1:1 mole ratio conpolymer from maleic anhydride and diisobutylene, said salt having an average molecular weight of about 500 to 5000, and (2) a water-insoluble linear addition copolymer, having a T_1 value of 35° C. to about 100° C. determined at 300 kg./cm.², selected from the group consisting of (*a*) copolymers of at least one monomer selected from the group consisting of esters of acrylic acid with primary and secondary alkanols having 1 to 18 carbon atoms, and esters of methacrylic acid with an alkanol having 5 to 18 carbon atoms with at least one monomer selected from the group consisting of lower alkyl methacrylates in which the alkyl group has 1 to 3 carbon atoms, styrene, acrylonitrile, methacrylonitrile, vinyl chloride, and vinylidene chloride, and (*b*) copolymers of at least 85% by weight of a member selected from the group consisting of acrylonitrile and styrene with up to 15% by weight of butadiene, the proportions between (1) and (2) being from 4 to 6 parts by weight of the former to 6 to 4 parts of the latter, and (B) wax, the ratios of the total amount of (1) and (2) to the wax being between 3 to 6 parts of (1) and (2) to each part of the wax.

2,971,935

METHOD OF PREPARING DISPERSION OF A COPOLYMER OF A MONOVINYL COMPOUND AND A VINYL SULFONIC ACID

Vernon D. Floria, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed July 15, 1954, Ser. No. 443,697
10 Claims. (Cl. 260—29.6)

1. A method of making aqueous colloidal dispersions of interpolymers of non-ionizable mono vinyl aromatic compounds and water-soluble salts of vinyl aromatic sulfonic acids which comprises agitating and heating to a polymerization temperature a mixture comprising, as its essential ingredients from 65 to 99 parts by weight of at least one liquid, water-immiscible, non-ionizable mono vinyl aromatic compound of the benzene series having the vinyl radical attached to a carbon atom of the aromatic nucleus, from 1 to 35 parts by weight of at least one water-soluble salt of a vinyl aromatic sulfonic acid, from 0.03 to 10 weight percent of a water-soluble, inorganic salt having an ionization constant greater than 10^{-5} at 25° C., other than a peroxy compound water, a polymerization catalyst comprising a water-soluble peroxy compound as an essential ingredient, said catalyst being present in a proportion corresponding to between about 0.1 and about 1 percent of the combined weight of the same and the water, and the water being present in amount sufficient to dissolve the vinyl aromatic sulfonate, the inorganic salt, and the water-soluble peroxy compound.

2,971,936

POLYETHER RESINS FROM ALKALINE CONDENSATION OF POLYHYDRIC PHENOL WITH ALIPHATIC POLYHYDRIC ALCOHOL HAVING TERMINAL HYDROXYL GROUPS ESTERIFIED WITH SULFURIC ACID AND METHOD OF MAKING SAME

Marcel Dubien and Pierre Vacelet, Paris, France, assignors to Stoner Mudge, division of American Marietta Company, Chicago, Ill., a corporation of Illinois

No Drawing. Filed July 28, 1958, Ser. No. 751,118
22 Claims. (Cl. 260—43)

9. A composition of matter having as at least one component thereof a cross-linking agent selected from the group consisting of reactive isocyanates, polyanhydrides, aldehydes, phenol-aldehyde resins, melamine-aldehyde resins, urea-formaldehyde resins and mixtures of these and a polyether resin which is the alkaline-condensation product of an alkali metal salt of a polyhydric phenol with a terminally substituted sulfate diester of an aliphatic polyhydric alcohol having terminal hydroxy groups esterified with sulfuric acid, said product prepared by condensation at a temperature of at least 90° C. and said polyether resin being free from any sulfate ester and having a melting point of from at least 60° C. to about 115° C.

2,971,937

FIBER FORMING COMPOSITION CONTAINING ACRYLONITRILE POLYMER AND ACRYLONITRILE N-VINYLPYRROLIDONE COPOLYMER

George E. Ham and Alfred B. Craig, Decatur, Ala., assignors to The Chemstrand Corporation, Decatur, Ala., a corporation of Delaware

No Drawing. Filed May 29, 1953, Ser. No. 358,536
7 Claims. (Cl. 260—45.5)

1. A dyeable fiber forming composition comprising a blend of a polymer of at least 75 percent acrylonitrile and up to 25 percent of another polymerizable mono-olefinic monomer, and a copolymer of from 30 to 90 percent by weight of N-vinylpyrrolidone and 10 to 70 percent of acrylonitrile, the components of the blend being so proportioned as to provide from 2 to 10 percent of N-vinylpyrrolidone in polymeric form, based on the total weight of polymerized monomers in the blended polymer.

2,971,938

PLASTICIZING HIGH MOLECULAR WEIGHT POLYISOBUTYLENE WITH TERPENE-PHENOL RESINS

Lester R. McNall, Los Angeles, Calif., and William John G. McCulloch, Plainfield, and Charles E. Farnsworth, South Orange, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Aug. 28, 1957, Ser. No. 680,677
5 Claims. (Cl. 260—45.5)

1. A composition of matter, of improved processing properties, comprising a physical mixture of from 2 to 30 parts by weight of a resinous condensation product of a terpene and a phenol with from 98 to 70 parts by weight of a polymer having a molecular weight in the range of 100,000 to 500,000 of an isoolefin having from 4 to 5 carbon atoms.

2,971,939

PROCESS FOR PREPARING HOMOGENEOUS COPOLYMERS OF A VINYLIDENE MONOMER AND A MALEIC MONOMER AND PRODUCT THEREOF

Massimo Baer, Longmeadow, Mass., assignor to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Jan. 30, 1959, Ser. No. 790,074
10 Claims. (Cl. 260—45.5)

5. A process for preparing a mixture of a homopolymer of a vinylidene compound and a substantially homogeneous copolymer containing at least 60 mol percent of a vinylidene compound and not more than 40 mol percent of a maleic compound which consists essentially of the steps: (1) polymerizing at least 60 molar proportions of the vinylidene compound with agitation, (2) throughout step (1) adding not more than 40 molar proportions of the maleic compound to the polymerizing vinylidene compound continuously and at a uniform rate throughout the polymerization of the vinylidene compound, the addition of the maleic compound being started after polymerization of the vinylidene compound is initiated, and (3) after terminating the addition of the maleic compound continuing the polymerization reaction until substantially all of the vinylidene compound has polymerized; said vinylidene compound being selected from the group consisting of a vinyl ester of a monobasic alkanoic acid containing 1–18 carbon atoms, vinyl chloride, a vinylidene aromatic hydrocarbon, a ring-alkyl substituted vinylidene aromatic hydrocarbon, a ring-halogen substituted vinylidene aromatic hydrocarbon, a ring-alkyl, ring-halogen substituted vinylidene aromatic hydrocarbon, vinyl pyridine, a vinyl alkyl ether, and mixtures thereof; said maleic compound being selected from the group consisting of maleic anhydride, maleinimide and mixtures thereof.

2,971,940

NICKEL PHENOLATE STABILIZED POLYPROPYLENE

Charles H. Fuchsman, Cleveland Heights, Albright M. Nicholson, Warrensville Heights, and Stanley B. Elliott, Bedford, Ohio, assignors to Ferro Corporation, Cleveland, Ohio, a corporation of Ohio

No Drawing. Filed Mar. 20, 1959, Ser. No. 800,629
8 Claims. (Cl. 260—45.75)

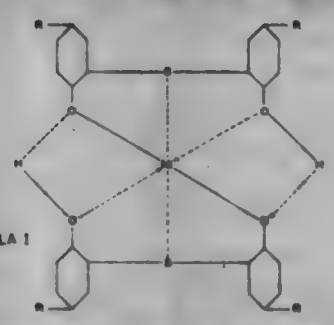
1. A crystalline polypropylene composition containing in intimate admixture therewith from about 0.05% to about 5% by weight of a nickel phenolate of a bis-(p-alkylphenol) monosulphide in which the alkyl group contains from 2 to 12 carbon atoms, and which coacts in said crystalline polypropylene to preserve elongation and flexibility therein after exposure to ultraviolet light.

2,971,941

NICKEL BIS-(p-OCTYLPHENOL) MONOSULPHIDE STABILIZED POLYETHYLENE

Charles H. Fuchsman, Cleveland Heights, Albright M. Nicholson, Warrensville Heights, and Stanley B. Elliott, Bedford, Ohio, assignors to Ferro Corporation, Cleveland, Ohio, a corporation of Ohio

Filed May 15, 1959, Ser. No. 813,459
4 Claims. (Cl. 260—45.75)



1. Polyethylene containing in intimate admixture therewith from about 0.05% to about 5% by weight of a nickel phenolate of a crystallizable o,o'-bis-(p-octylphenol) monosulphide containing no more than 6.2% nickel, and which coacts in said polyethylene to preserve elongation and flexibility after prolonged exposure to ultraviolet light.

2,971,942

EPOXIDE RESINS

John E. Masters and Harold G. Cooke, Jr., Louisville, Ky., assignors to Devoe & Raynolds Company, Inc., Louisville, Ky., a corporation of New York

No Drawing. Filed Oct. 1, 1956, Ser. No. 612,974
10 Claims. (Cl. 260—2)

1. The method of producing epoxide resins which comprises reacting with heat cyanuric acid with epichlorhydrin in admixture with an organic solvent for cyanuric acid and an organic base as a catalyst and in admixture with a monofunctional reactant selected from the class which consists of monofunctional monohydric phenols and monofunctional 1,2-monoepoxides to form chlorhydrins, and subjecting the chlorhydrins so produced to dehydrohalogenation with a dehydrohalogenating agent to form the epoxide resin, said monofunctional reactant being present in a sufficient amount so that each molecule of epoxide resin produced has reacted therewith at least one molecule of a monofunctional reactant.

2,971,943

PROCESS FOR PREPARING ALCOHOL MODIFIED MELAMINE RESIN

Louis J. Lombardi, Kansas City, Mo., assignor to Cook Paint & Varnish Company, North Kansas City, Mo., a corporation of Delaware

No Drawing. Filed Apr. 28, 1959, Ser. No. 809,353
4 Claims. (Cl. 260—67.6)

3. In the process of preparing an alcohol modified melamine resin by reacting together melamine, butyl alcohol, and formaldehyde in the presence of an acid catalyst and at a temperature from 212° Fahrenheit to and about 270° Fahrenheit, the melamine and formaldehyde being employed in the molar ratio of from 1:4 to 1:6, the improvement consisting in employing as the acid catalyst cobaltous nitrate in an amount from about .02% to and not exceeding .2% by weight.

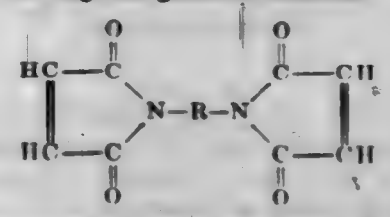
2,971,944

MALEIMIDE POLYMERS

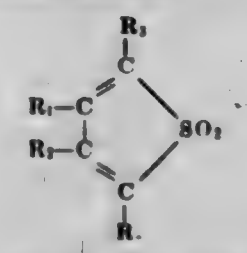
Sui-Wu Chow, Montclair, and John M. Whelan, Jr., Murray Hill, N.J., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Oct. 20, 1958, Ser. No. 768,094
9 Claims. (Cl. 260—78)

1. A normally solid thermoplastic polymer of an N,N'-bis-maleimide having the general formula



wherein R represents a divalent hydrocarbon group, and an approximately equimolar amount of a thiophene dioxide having the general formula



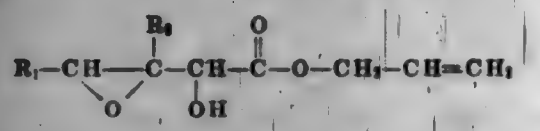
wherein R_1, R_2 R_3 and R_4 are members selected from the group consisting of hydrogen and monovalent hydrocarbon radicals reacted at a temperature above 80° C.

2,971,945
POLYMERS OF ALLYL 3,4-EPOXY-2-HYDROXYALKANOATES

John R. Kilsheimer, South Charleston, W. Va., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Dec. 19, 1956, Ser. No. 629,228
16 Claims. (Cl. 260—78.3)

1. A copolymer of an epoxide monomer having the formula:



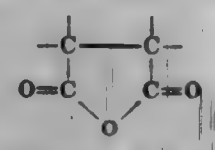
wherein R_1 and R_2 represents at least one member selected from the group consisting of hydrogen and lower alkyl groups containing from 1 to 4 carbon atoms; and a polymerizable compound selected from the group consisting of vinyl chloride, acrylonitrile, vinyl acetate, vinylidene chloride, methyl acrylate, ethyl acrylate and chlorostyrene; said epoxide polymerized through the olefinic group.

2,971,946
RUBBERY COPOLYMERS CONTAINING MINOR AMOUNTS OF A MONOMETHACRYLATE ESTER OF AN ALKYLENE GLYCOL

Robert A. Hayes, Cuyahoga Falls, and Floyd M. Smith, Akron, Ohio, assignors to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

No Drawing. Filed Aug. 22, 1957, Ser. No. 679,785
15 Claims. (Cl. 260—78.4)

1. The process of curing an elastomeric copolymer of at least substantially 50 percent by weight of a conjugated aliphatic diolefin monomer, and substantially 2 to 20 percent by weight of a glycol monoester of the class consisting of ethylene, propylene and butylene glycol monoesters of acrylic and methacrylic acids, which process comprises heating the copolymer with a substantial amount of a polyanhydride of a polycarboxylic acid containing at least two cyclic anhydride units per molecule each of which units has the structure



to effect a cure, the amount of the anhydride units present being not in substantial excess of the amount required for the reaction of one anhydride unit with each hydroxyl group of the copolymer.

2,971,947
ANTI-STATIC MOLDING RESINS

Vernon D. Floria and Frank E. Towsley, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Mar. 30, 1956, Ser. No. 574,945
10 Claims. (Cl. 260—79.3)

1. A moldable thermoplastic copolymer consisting essentially of copolymerized vinylidene compounds having only a single olefinic linkage in the molecule and comprising a major proportion of at least one unsulfonated vinyl aromatic compound, selected from the class consisting of monovinyl aromatic hydrocarbons and nuclear halogenated derivatives thereof, and a minor proportion, corresponding to from 1.5 to 8 mole percent of the combined amount of the vinylidene compounds, of at least one ar-vinyl aromatic sulfonic acid salt, which copolymer is much more conductive to electricity than is polystyrene under similar test conditions.

2,971,948
PROCESS FOR PREPARING COPOLYMERS OF VINYL CHLORIDE

Günter Messwarb, Kelkheim (Taunus), and Walter Denk and Hans Scherer, Frankfurt am Main, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed May 7, 1957, Ser. No. 657,478
Claims priority, application Germany May 9, 1956
4 Claims. (Cl. 260—80.5)

1. A copolymer of 0.1–10 percent by weight of a member selected from the group consisting of vinyl phosphonic acid and vinyl phosphonic acid dichloride and 99.9–90 percent by weight of a mixture of vinyl chloride and a vinyl monomer selected from the group consisting of vinyl acetate, vinyl formate, vinyl propionate, vinyl octanoate, vinyl stearate, vinylidene chloride, acrylonitrile, and acrylic- and methacrylic-acid esters, the ratio, in parts by weight, of vinyl chloride to said vinyl monomer being in the range between 95:5 and 5:95.

2,971,949
FLUORINATED POLYMERIC PEROXIDES

John Lynde Anderson, Orlando, Fla., and Robert Ervin Putnam, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Aug. 14, 1958, Ser. No. 755,112
10 Claims. (Cl. 260—92.1)

4. A copolymer of (1) 1,1,4,4-tetrafluoro-1,3-butadiene and (2) oxygen, said copolymer containing recurrent peroxide (—O—O—) linkages.

2,971,950
PRODUCTION OF ISOTACTIC POLY(ALPHA-OLEFINS) HAVING REGULATED MOLECULAR WEIGHT

Giulio Natta, Italo Pasquon, Ettore Giachetti, and Francesco Scalari, all of Milan, Italy, assignors to Montecatini-Societa Generale per l'Industria Mineraria e Chimica, Milan, Italy

No Drawing. Filed July 29, 1958, Ser. No. 751,608
Claims priority, application Italy Aug. 5, 1957
8 Claims. (Cl. 260—93.7)

1. In a process for the anionic stereospecific polymerization of propylene directly to a crude polypropylene consisting prevailingly to substantially of isotactic macromolecules, in which propylene is contacted in an inert hydrocarbon solvent with a stereospecific catalyst prepared by (1) starting with solid crystalline titanium trichloride and (2) mixing the trichloride with an alkyl almuinum compound, the improvement which comprises regulating the molecular weight of the polypropylene produced by including in the reaction mass, per 100 mols of the alkyl aluminum compound, from 0.5 to 100 mols of a polar compound having the formula AX in which A is selected from the group consisting of hydrogen and alkyl radicals containing from 1 to 5 carbon atoms, and X is halogen.

2,971,951
PROCESS FOR THE PRODUCTION OF SOLID POLYMER

Martin R. Cines, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed June 25, 1956, Ser. No. 593,757
4 Claims. (Cl. 260—94.9)

3. A process which comprises maintaining a fluidized catalyst in a polymerization zone positioned above and in open communication with a washing zone, adding a gaseous olefin monomer at a lower part of said polymerization zone, said monomer being polymerizable to a particulate solid non-tacky polymer, passing a liquid hydrocarbon diluent which is inert and nondeleterious to said catalyst under the polymerization conditions upwardly through said washing zone and said polymeriza-

tion zone, maintaining said polymerization zone at a pressure sufficient to maintain said diluent substantially in the liquid phase, maintaining a linear flow velocity within said polymerization zone sufficient to fluidize the bulk of said catalyst, producing in the polymerization zone particulate solid non-tacky polymer having a particle size exceeding the maximum size fluidizable in said monomer and diluent whereby said particles settle through said polymerization zone and said washing zone and recovering said particles.

2,971,952
POLYMERIZATION OF ETHYLENICALLY UNSATURATED COMPOUNDS WITH ORGANIC HYPONITRITE CATALYSTS

John Woolley Batty, Arthur Lambert, and Gerald Scott, Blackley, Manchester, and Frank Bebbington and Leslie Seed, Northwich, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed Oct. 7, 1957, Ser. No. 688,416
Claims priority, application Great Britain May 2, 1956
11 Claims. (Cl. 260—94.9)

1. Process for the polymerization of a compound containing the group $>C=CH_2$, which comprises polymerizing said compound in the presence of a catalytic amount of a hyponitrite selected from the group consisting of esters having the formula

$$X—O—CYY'—O—N=N—O—CY'Y—O—X$$

wherein X is selected from the group consisting of alkyl, alkoxyalkyl, cycloalkyl, aryl and a divalent hydrocarbon radical forming part of a ring that also includes O and Y, Y is selected from the group consisting of hydrogen, alkyl, alkoxyalkyl, cycloalkyl, aryl, alkoxy and a divalent hydrocarbon radical forming part of a ring that also includes O and X, and Y' is selected from the group consisting of hydrogen and lower alkyl, and polymeric esters of hyponitrous acid prepared by reaction of a metal hyponitrite and a compound having the formula

$$Hal—R—Hal$$

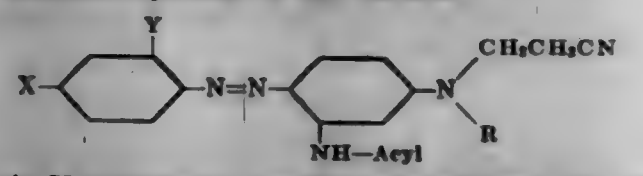
in which R represents an X—O—CY'Y group at a temperature between about −20° C. and 10° C.

2,971,953
WATER-INSOLUBLE AZO-DYESTUFFS

Paul Rhyner, Basel, Switzerland, assignor to Ciba Limited, Basel, Switzerland

No Drawing. Filed Dec. 2, 1958, Ser. No. 777,582
Claims priority, application Switzerland Dec. 11, 1957
6 Claims. (Cl. 260—207.1)

1. Monoazo-dyestuffs of the formula



wherein X represents a member selected from the group consisting of nitro, cyano and methylsulfonyl, Y is a member selected from the group consisting of hydrogen, chlorine, bromine, cyano and methylsulfonyl, R represents an alkyl group containing at most 4 carbon atoms and "Acyl" represents an aliphatic acyl group containing at most 4 carbon atoms.

2,971,954
PURIFICATION OF PHOSPHATE-MODIFIED STARCHES

Rudolph Kodras, Skokie, Ill., assignor to International Minerals & Chemical Corporation, a corporation of New York

No Drawing. Filed June 24, 1958, Ser. No. 744,064
10 Claims. (Cl. 260—233.5)

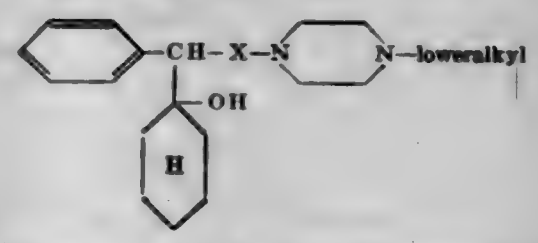
1. A process for treating an alkali-metal phosphate-modified starch and separating therefrom a phosphate-modified starch fraction of higher purity and increased viscosity when dispersed in water, said modified starch having been obtained by reaction of ungelatinized starch with an alkali-metal orthophosphate in the presence of less than about 15% by weight of water at a temperature between about 120 and about 175° C., which comprises contacting said alkali-metal phosphate-modified starch at a pH below about 3 with an aqueous solvent comprising an inert oxygen-containing water-miscible organic liquid in a proportion, between about 35 and about 65% by volume of the total solvent, such that phosphate-modified starch fractions of higher viscosity are insoluble therein while unbound inorganic salts and lower-viscosity starch fractions are soluble, and separating a phosphate-modified starch fraction of higher viscosity as the solid phase from the resulting slurry.

2,971,955
CYCLOHEXYLCARBINOL DERIVATIVES OF PIPERAZINE

Harold E. Zaugg, Lake Forest, and Robert W. De Net, Waukegan, Ill., assignors to Abbott Laboratories, North Chicago, Ill., a corporation of Illinois

No Drawing. Filed Dec. 29, 1958, Ser. No. 783,107
6 Claims. (Cl. 260—268)

6. A compound selected from the group consisting of bases having the formula:



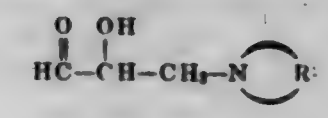
where X is selected from the group consisting of a carbonyl radical and a methylene radical; the non-toxic acid addition salts thereof; and the non-toxic lower alkyl quaternary ammonium salts thereof.

2,971,956
BETA-(CYCLIC AMINO)-ALPHA-HYDROXY-ALKANALS

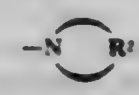
John B. Wright and Edward H. Lincoln, Kalamazoo Township, Kalamazoo County, Mich., assignors to The Upjohn Company, Kalamazoo, Mich., a corporation of Michigan

No Drawing. Filed Apr. 30, 1956, Ser. No. 581,272
6 Claims. (Cl. 260—294.7)

1. Acid addition salts of β-(carbomonocyclic amino)-α-hydroxypropionaldehyde compounds of the formula



wherein



is a member of the group consisting of pyrrolidino, 2-methypyrrolidino, piperidino, thiamorpholino, 1.2,3,4-tetrahydroquinolino, and benzimidazolyl.

5. β-Piperidino-α-hydroxypropionaldehyde hydrochloride.

2,971,957
CITRAZINIC ACID-AMMONIA-OXYGEN DYES

Frederick L. Thomas, 609 Piper Drive, Madison, Wis.

No Drawing. Filed Oct. 23, 1958, Ser. No. 769,062
10 Claims. (Cl. 260—295)

1. The method for the preparation of 2,6-dihydroxy-4-carboxy pyridine-ammonia composition of matter which comprises, reacting 2,6-dihydroxy-4-carboxy pyri-

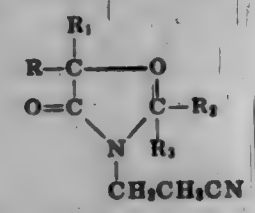
dine with ammonia in the presence of a hydrogen peroxide water solution, heating, and removal of water by evaporation.

2,971,958
CYANOETHYLATED OXALACTAMS

John W. Lynn, Charleston, W. Va., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Mar. 17, 1959, Ser. No. 799,848
7 Claims. (Cl. 260—307)

5. The cyanoethylated oxalactams represented by the general formula



wherein R, R_1, R_2 and R_3 are radicals such that the cyanoethylated oxalactams are selected from the group consisting of N-(2-cyanoethyl)-2,5-diphenyloxazolidinone-4, N-(2-cyanoethyl)-2,2,5,5-tetramethyloxazolidinone-4, N-(2-cyanoethyl)-2-methyloxazolidinone-4, N-(2-cyanoethyl) - 2 - ethyl - 5 - cyclobutyloxazolidinone - 4, N - (2 - cyanoethyl) - 2 - allyl - 5 - ethyloxazolidinone-4, N - (2 - cyanoethyl) - 2 - propyl - 5 - phenyloxazolidinone - 4, N - (2 - cyanoethyl) - 2 - tolyl - 5 - allyloxazolidinone - 4, N - (2 - cyanoethyl) - 2 - phenylethyl - 5 - methyloxazolidinone - 4, N - (2 - cyanoethyl) - 2,5 - dimethyloxazolidinone - 4, N - (2 - cyanoethyl) - 2,5 - diallyl - 2,5 - dimethyloxazolidone - 4, N - 2 - cyanoethyl) - 2 - propyl - 5 - phenyloxazolidinone - 4, N-(2 - cyanoethyl) - 2 - cyclobutyl - 5 - tolyloxazolidinone-4, and N-(2-cyanoethyl)-2,5-ditolyl-2,5-dimethyloxazolidinone-4.

2,971,959
PRODUCTION OF N-BROMINATED ORGANIC NITROGEN COMPOUNDS

Thomas D. Waugh, 3645 Broadway, and Richard C. Waugh, 3915 Broadway, both of Boulder, Colo.

No Drawing. Continuation of applications Ser. Nos. 638,203, 638,207, and 638,209, Feb. 5, 1957. This application Apr. 14, 1958, Ser. No. 728,091
10 Claims. (Cl. 260—309.5)

1. A method of producing an N-brominated organic compound from an N-organic compound selected from the group consisting of succinimide, glutarimide, phthalimide, lower alkyl succinimides, lower alkyl glutarimides, phenyl succinimide, phenyl glutarimide; monoamides having the formula $RCONH_2$, where R is selected from the group consisting of hydrogen, lower alkyl, cyclopentyl ethyl, carboxyethyl, phenyl, tolyl and benzyl; hydantoin, 5,5-di lower alkyl hydantoins, 5-phenyl hydantoin and 5,5-pentamethylene spirohydantoin; urea, biuret, oxamide, terephthalamide, succindiamide and adipamide, which comprises treating said N-hydrogen organic compound with bromine in an aqueous solution containing a bromate ion producing reagent and at a pH in the acid range.

5. A method according to claim 1, wherein the N-hydrogen organic compound is 5,5-dimethylhydantoin.

2,971,960
PRODUCTION OF N-BROMINATED IMIDES AND HYDANTOINS

Thomas D. Waugh, 3645 Broadway, and Richard C. Waugh, 3915 Broadway, both of Boulder, Colo.

No Drawing. Filed Dec. 29, 1958, Ser. No. 783,076
11 Claims. (Cl. 260—309.5)

1. A method of producing an N-brominated organic compound from an N-hydrogen organic compound selected from the group consisting of succinimide, glutarimide, hydantoin and 5,5-di lower alkyl hydantoins, which comprises treating said N-hydrogen organic compound with bromine in an aqueous solution containing a hypochlorite ion reagent and at a pH of about between 1.0 and 4.0.

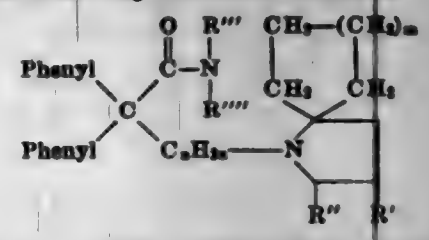
7. A method according to claim 1, wherein the N-hydrogen organic compound is hydantoin.

2,971,961
SPIRO(CYCLOALKYLPYRROLIDYL)-α,α-DIPHENYL ALKANOAMIDES

Robert B. Moffett, Kalamazoo, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Michigan

No Drawing. Filed Mar. 22, 1956, Ser. No. 573,082
15 Claims. (Cl. 260—313)

1. A compound of the group consisting of (1) a compound of the following structural formula:



in which *m* is a whole number from one to two, inclusive, *n* is a whole number from two to six, inclusive, $—C_nH_{2n}—$ is an alkylene group having from two to six carbon atoms, inclusive between the valences, R′ and R″ are each a member of the group consisting of hydrogen and the methyl radical, R‴ and R⁗ taken singly are selected from the group consisting of hydrogen and a lower-alkyl radical of from one to eight carbon atoms, inclusive, and taken collectively are selected from the group consisting of an alkylene radical and an oxa-alkylene radical, said alkylene and oxa-alkylene radicals of from four to six carbon atoms, inclusive, and (2) pharmacologically acceptable lower-alkyl quaternary ammonium and acid addition salts thereof.

2,971,962
METHOD OF MAKING THE LACTONE OF 2-HYDROXYBIPHENYL-2′-CARBOXYLIC ACID

John O. Hawthorne, Pittsburgh, and Myron H. Wilt, Monroeville, Pa., assignors to United States Steel Corporation, a corporation of New Jersey

No Drawing. Filed Jan. 22, 1959, Ser. No. 788,253
3 Claims. (Cl. 260—343.2)

1. A method of making the lactone of 2-hydroxybiphenyl-2′-carboxylic acid which consists in reacting orthophenylphenol with an aqueous solution of sodium hydroxide, then while maintaining the reaction product below —5° C., adding phosgene thereto, collecting the solid material thus formed from the solution and reacting it with aluminum chloride.

2,971,963
PROCESS FOR THE PREPARATION OF HALOGENATED 3-KETO-STEROIDS

Willem Jacob van der Berg, Oss, Netherlands, assignor to Organon Inc., West Orange, N.J., a corporation of New Jersey

No Drawing. Filed Mar. 16, 1959, Ser. No. 799,448
Claims priority, application Netherlands Apr. 28, 1958
4 Claims. (Cl. 260—397.3)

1. Process for the preparation of a 3-keto-steroid which is mono-halogenated in the alpha-position relative to the 3-keto group, which comprises reacting a steroid selected from the group consisting of the ring A saturated steroids of the androstane and pregnane series having as the sole substituent in ring A a member selected from the group consisting of a 3-keto group and a 3-hydroxy group, with a halogenic acid selected from the group consisting of chloric acid and bromic acid, in the presence of an organic solvent and at a temperature below about 50° C.

2,971,964
PREPARATION OF 11α-HYDROXY PROGESTERONE

Edward S. Rothman, Philadelphia, and Monroe E. Wall, Oreland, Pa., assignors to the United States of America as represented by the Secretary of Agriculture

No Drawing. Filed Mar. 4, 1958, Ser. No. 719,171
9 Claims. (Cl. 260—397.45)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A process for preparing 11-alpha-hydroxy progesterone comprising converting a sapogenin derivative selected from the group consisting of 11-alpha-hydroxy diosgenin, 11-alpha-hydroxy yamogenin, and the respective mono- and di-acetates thereof to its pseudosapogenin acetate by heating in acetic anhydride containing a trace of acetic acid for 3 to 20 hours at 170–200° C., oxidizing the pseudosapogenin acetate with chromium trioxide in cold, aqueous acetic acid to produce oxidized pseudosapogenin acetate, hydrolyzing the oxidized pseudosapogenin acetate by the prolonged contact with potassium hydroxide in tertiary butanol to produce 3-beta,11-alpha-dihydroxy-5,16-pregnadiene-20-one, reacting the latter with hydrogen in the presence of a palladium catalyst to hydrogenate the 16,17 double bond to produce 3-beta,11-alpha-dihydroxy-5-pregnene-20-one, and then oxidizing said 3-beta,11-alpha-dihydroxy-5-pregnene-20-one with an aluminum tertiary alkoxide and cyclohexanone in an inert organic solvent to form 11-alpha-hydroxy progesterone.

2,971,965
OIL ADDUCTS

Willard H. Kirkpatrick, Sugar Land, and Virgil L. Seale and Robert E. Law, Houston, Tex., assignors to Visco Products Company, Houston, Tex., a corporation of Delaware

No Drawing. Filed Aug. 26, 1958, Ser. No. 757,182
7 Claims. (Cl. 260—398)

1. An adduct of castor oil with a mixture of ethylene oxide and 1,2-propylene oxide mixed prior to reaction with the castor oil, in which the weight ratio of ethylene oxide to propylene oxide is within the range of 2:1 to 1:2 and the total mixed oxide content is within the range of 25% to 75% by weight of the adduct, said adduct being further characterized by the fact that it remains liquid and stable at a temperature of —20° C. for six days.

2,971,966
PROCESS OF PREPARING VITAMIN A ESTERS

William E. Stieg, Mystic, and Axel T. Nielsen, Old Mystic, Conn., assignors to Chas. Pfizer & Co., Inc., Brooklyn, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 30, 1957, Ser. No. 681,182
10 Claims. (Cl. 260—410)

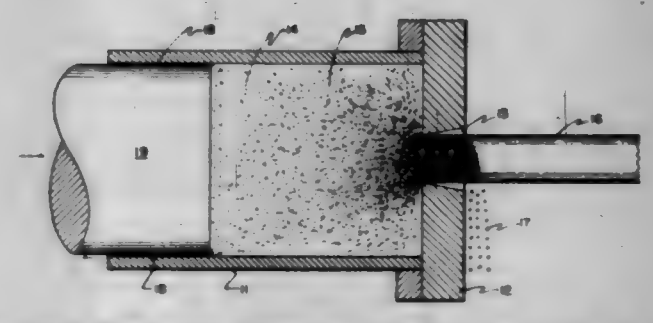
1. A transesterification process which comprises contacting, in the presence of an alkaline catalyst, an ester of vitamin A and a monobasic alkanoic acid having from about two to about six carbon atoms with a lower monohydric aliphatic alcohol ester of an acid selected from the group consisting of monobasic alkanoic and alkenoic acids having from about ten to about twenty-two carbon atoms and removing the by-product ester of the lower alkanoic acid.

2,971,967
RECOVERY PROCESS

Elwood R. Anderson, Wilton, Conn., assignor to Ethyl Corporation, New York, N.Y., a corporation of Delaware

Filed Dec. 10, 1956, Ser. No. 627,184
3 Claims. (Cl. 260—437)

1. In a process for manufacture and recovery of a tetraalkyllead compound, said process providing a reaction product mixture including a normally liquid tetraalkyllead, finely subdivided lead metal particles and other concurrent reaction products, the improved method of recovery, and the concurrent treatment of the said lead particles, comprising, separating a portion only of the tetraalkyllead by a primary separation, said separation including contacting the reaction product mixture with an aqueous liquid, separating the portion of tetraalkyllead, and forming a high solids sludge comprising finely divided lead solids, the non-separated tetraalkyllead, and an aqueous liquid, then applying pressure to said sludge in an elongated extrusion zone having an end die boundary, and forcing the said sludge toward said die boundary, and displacing thereby portions of both of the said liquids in a direction away from said die boundary and out of said zone, and then by further pressure concurrently extruding the lead solids and forcing the remaining liquids through an extrusion orifice in said end boundary, said orifice having a smaller area than the transverse area of the extrusion zone, the further pressure applied in the extrusion zone being sufficient to extrude the lead solids as a cohesive, substantially liquid free, lead shape, and to provide the portions of the liquids forced through the said orifice as essentially solids free liquids.



2,971,968
ORTHO, ORTHO'-BIS(PARA-1,1,3,3-TETRAMETHYL-BUTYLPHENOL) MONOSULPHIDE

Albright M. Nicholson, Jr., Warrensville Heights, and Baruch Zaremsky, South Euclid, Ohio, assignors to Ferro Corporation, Cleveland, Ohio, a corporation of Ohio

Filed Jan. 29, 1959, Ser. No. 789,908
5 Claims. (Cl. 260—439)

3. In the process of making the nickel phenolphenolate of crystalline o,o,'-bis-(p-1,1,3,3-tetramethylbutylphenol) monosulphide, the steps which comprise reacting crystalline p-1,1,3,3-tetramethylbutylphenol dissolved in an aliphatic hydrocarbon solvent with SCl_2 in an amount sufficient to form the monosulphide of said phenol under conditions of time and temperature sufficient to substantially complete the reaction as evidenced by the cessation of evolution of HCl, recovering crystalline o,o,'-bis-(p-1,1,3,3-tetramethylbutylphenol) monosulphide from the reaction medium by mechanically removing the liquid phase, dissolving said crystalline monosulphide in an aromatic hydrocarbon, and adding thereto one-half the stoichiometric amount of nickel acetate tetrahydrate for replacement of all the phenolic hydrogen, and removing the solvent and by-products of reaction.

2,971,969
PREPARATION OF TRIALKYLALUMINUM COMPOUNDS

Paul A. Lobo, Ponca City, Okla., assignor to Continental Oil Company, Ponca City, Okla., a corporation of Delaware

Filed Apr. 16, 1959, Ser. No. 806,965
6 Claims. (Cl. 260—448)

1. A process for the production of trialkylaluminum compounds of the general formula

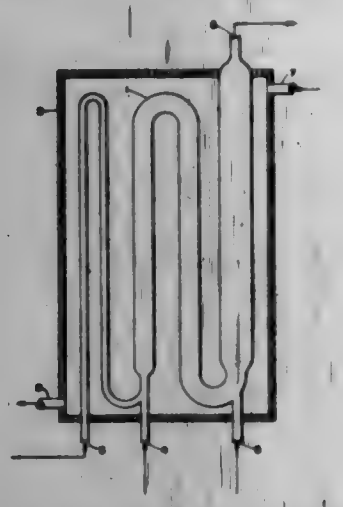
$$Al\,RR'R''$$

wherein the R's may be the same and represent alkyl

groups containing from 2 to 100 carbon atoms characterized further in that at least one of said R's contains at least three carbon atoms which comprises passing a trialkylaluminum compound of the general formula

$$Al\ R_1R_2R_3$$

wherein the R's may be the same and represent alkyl groups containing from 2 to 10 carbon atoms and ethylene through an elongated reaction vessel, one end of which is of larger cross section than the other, at a temperature varying from 50 to 200° C. and at a pressure varying from 10 to 300 atmospheres, said reaction vessel being provided with an inlet at the smaller end, an outlet at the larger end, and a plurality of inlets spaced along the



axis of elongation of said elongated reaction vessel between said first-mentioned inlet and said outlet, injecting a mixture of ethylene and the second-mentioned trialkylaluminum compound into said reaction vessel through the first-mentioned inlet in the approximate ratio of 0.25 to 12 parts of ethylene per part of the trialkylaluminum compound whereby reaction between the ethylene and the trialkylaluminum compound results, injecting an additional quantity of ethylene into said reaction vessel through the inlets distributed along the axis thereof, the additional quantity of ethylene so injected being an amount which is in excess of that required to saturate the trialkylaluminum compound contained therein with ethylene and then recovering the trialkylaluminum compounds formed.

2,971,970

ORGANOSILICON PROCESS

Ben A. Bluestein, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

No Drawing. Filed Dec. 29, 1958, Ser. No. 783,102
28 Claims. (Cl. 260—448.2)

1. The method of forming a cyanoalkylsilane having the formula

$$\left(\begin{array}{cc} CN & H \\ | & | \\ YC & -C \\ | & | \\ H & Y \end{array}\right)_b \begin{array}{c} (X)_{4-(n+a)} \\ | \\ Si(H)_{a-b} \\ | \\ (R'')_n \end{array}$$

which method comprises effecting reaction by contacting a hydrolyzable silicon hydride having the formula

$$(R'')_nSi(H)_a(X)_{4-(n+a)}$$

with an alpha,beta-unsaturated olefinic nitrile having the formula

$$YCH{=}\overset{Y}{\overset{|}{C}}CN$$

where a is an integer equal to from 1 to 3, inclusive, b is an integer equal to from 1 to 2, inclusive n is a whole number having a value of from 0 to 1, inclusive, the sum of $n+a$ is from 1 to 3, inclusive, and $a-b$ is a whole number from 0 to 2, inclusive, X is halogen, R'' is a monovalent hydrocarbon radical and Y is a member selected from the class consisting of hydrogen and the lower alkyl radicals, said reaction being carried out in the presence of a catalyst composition comprising in mole percent, based on the total number of moles of said hydrolyzable silicon hydride and said alpha,beta-unsaturated olefinic nitrile, (A) from 0.1 to 20 mole percent of a cuprous compound selected from the class consisting of cuprous oxide and cuprous halides, (B) from 0.1 to 20 mole percent of a diamine having the formula $(R)(R')N(CH_2)_mN(R')_2$ where m is an integer equal to from 1 to 6, inclusive, R is a lower alkyl radical and R' represents members selected from the class consisting of hydrogen, lower alkyl radicals, aminoalkyl radicals, alkylaminoalkyl radicals, and dialkylaminoalkyl radicals, and (C) from 0 to 20 mole percent of a trialkylamine having the formula $(Y')_3N$ where Y' is a lower alkyl radical, the total number of nitrogen atoms in said catalyst composition being in excess of the total number of copper atoms.

19. A catalyst composition comprising, on a mole ratio basis, (A) from 0.1 to 20 moles of a cuprous compound selected from the class consisting of cuprous oxide and cuprous chloride, (B) from 0.1 to 20 moles of a diamine having the formula:

$$(R)(R')N(CH_2)_mN(R')_2$$

where m is an integer equal to from 1 to 6, inclusive, R is a lower alkyl radical, and R' represents members selected from the class consisting of hydrogen, lower alkyl radicals, aminoalkyl radicals, alkylaminoalkyl radicals, and dialkylaminoalkyl radicals, and (C) from 0 to 20 moles of a trialkylamine, the total number of nitrogen atoms in said catalyst composition being in excess of the total number of copper atoms.

2,971,971

ADDITION OF METHYLDICHLOROSILANE TO ACRYLONITRILE IN PRESENCE OF A DIAMINE-TRIALKYLAMINE-$PdCl_2$ CATALYST COMPOSITION

Ben A. Bluestein, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

No Drawing. Filed Dec. 29, 1958, Ser. No. 783,103
8 Claims. (Cl. 260—448.2)

1. A method of forming alpha-cyanoethylmethyldichlorosilane which comprises contacting methyldichlorosilane and acrylonitrile in the presence of a catalyst composition comprising from 0.1 to 20 mole percent palladium (II) chloride, from 0.1 to 20 mole percent of a trialkylamine, and from 0.1 to 20 mole percent of a diamine having the formula:

$$(R)(R')N(CH_2)_mN(R')_2$$

where m is an integer from 1 to 6, inclusive, R is a lower alkyl radical, and R' is a member selected from the class consisting of hydrogen, lower alkyl radicals, aminoalkyl radicals, alkylaminoalkyl radicals, dialkylaminoalkyl radicals and mixtures thereof, said mole percents being based on the total number of moles of methyldichlorosilane and acrylonitrile.

2,971,972

ADDITION REACTION

Ben A. Bluestein, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

No Drawing. Filed Mar. 30, 1959, Ser. No. 802,669
8 Claims. (Cl. 260—448.2)

1. A method of forming β-cyanoethylphenyldichlorosilane which comprises contacting phenyldichlorosilane with acrylonitrile in the presence of a catalyst composition consisting essentially of a cuprous compound selected from the class consisting of cuprous oxide and cuprous halides, and a trialkylamine, both the cuprous compound and the trialkylamine being present in an

amount equal to from 0.1 to 20 mole percent based on the total number of moles of phenyldichlorosilane and acrylonitrile.

5. A catalyst composition consisting essentially of ingredients in the ratio of from 0.1 to 20 moles of a trialkylamine and from 0.1 to 20 moles of a cuprous compound selected from the class consisting of cuprous oxide and cuprous halides.

2,971,973

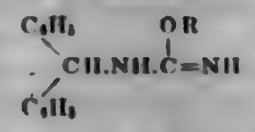
N-BENZHYDRYL-O-ALKYLPSEUDOUREAS AND THEIR SALTS

Stanley O. Winthrop, Montreal, Quebec, Canada, assignor to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed July 17, 1957, Ser. No. 672,371

9 Claims. (Cl. 260—453)

1. A compound selected from the group which consists of free bases of the formula



where R represents lower alkyl, and the hydrohalide and maleate salts of said bases.

2,971,974

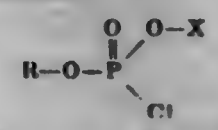
O-ARYL O-LOWER ALKYL PHOSPHOROCHLORIDATES

Etcyl H. Blair, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Jan. 11, 1960, Ser. No. 1,432

4 Claims. (Cl. 260—461)

1. An O-aryl O-lower alkyl phosphorochloridate corresponding with the formula



wherein X represents lower alkyl and R represents a member of the group consisting of alkyl-chlorophenyl and alkylbromophenyl in which alkyl contains from 1 to 12 carbon atoms, inclusive.

2,971,975

METHOD OF PREPARING SODIUM SALTS OF DIETHYLSTILBESTROL DIPHOSPHATE

Norman D. Dawson, Elkhart, Ind., assignor to Miles Laboratories, Inc., Elkhart, Ind., a corporation of Indiana

No Drawing. Filed Aug. 30, 1955, Ser. No. 531,579

3 Claims. (Cl. 260—461)

1. A process for producing the tetra-sodium salt of diethylstilbestrol diphosphate which comprises reacting diethylstilbestrol with phosphorus oxychloride, adding the resulting product to an aqueous solution of sodium bicarbonate, removing a portion of the water and filtering the remainder to provide a reaction mixture having a pH of about 8.4, treating the last said reaction mixture with sodium hydroxide until a pH of about 10.0 is reached, and separating the tetra-sodium salt of diethylstilbestrol diphosphate from the resulting mixture.

2,971,976

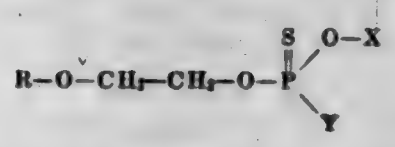
PHOSPHOROAMIDOTHIOATES

Harry F. Brust, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Nov. 2, 1959, Ser. No. 850,098

6 Claims. (Cl. 260—461)

1. The phosphoroamidothioates corresponding to the formula



wherein R represents a member of the group consisting of lower alkylphenyl, chlorophenyl and lower alkylchlorophenyl, X represents a member of the group consisting of lower alkyl and lower alkenyl and Y represents lower alkyl amino.

2,971,977

PREPARATION OF ETHYLIDENE MALONODINITRILE

Günter Kolb, Koln-Stammheim, Germany, assignor to Agfa Aktiengesellschaft für Photofabrikation, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed May 28, 1957, Ser. No. 660,076

Claims priority, application Germany June 12, 1956

3 Claims. (Cl. 260—465.8)

1. A process of producing monomeric ethylidene malonodinitrile which comprises reacting 1.0–10 mols of acetaldehyde with 1 mol of malonodinitrile in an inert medium wherein the content of water and compounds with alcoholic hydroxy groups is restricted to not more than 10% by weight of the reaction mixture, at a pH of about 1–7 in the presence of a basic catalyst at a temperature of about −50° to 50° C. and recovering the reaction product in the form of a colorless liquid having a boiling point of about 65–68° C. at 1 mm./Hg.

2,971,978

PROCESS OF PRODUCING 1β-CARBOXYMETHYL-2β - METHOXYCARBONYL - 3α - METHOXY - 4β-ACETOXY-6-β-FORMYL CYCLOHEXANE

Robert Joly, Montmorency, Georges Muller, Nogent-sur-Marne, and Julien Warnant, Neuilly-sur-Seine, France, assignors to Les Laboratoires Français de Chimiotherapie, Paris, France, a corporation of France

No Drawing. Filed Apr. 11, 1958, Ser. No. 727,788

Claims priority, application France June 21, 1957

6 Claims. (Cl. 260—468)

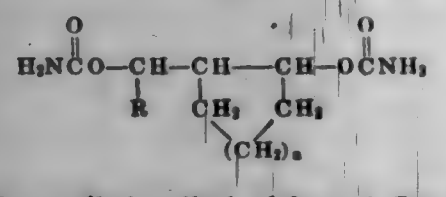
1. The process of producing dextrorotatory in pyridine 1β-carboxy methyl-2β-methoxy carbonyl-3α-methoxy-4β-acetoxy-6β-formyl cyclohexane, which comprises the steps of subjecting a solution of the methyl ester of 3β-acetoxy-2α-methoxy-7-oxo-1,2,3,4,4aα,7,8,8aα - octahydronaphthalene-1β-carboxylic acid in an inert organic solvent to the action of ozone at a temperature between −15° C. and −30° C., removing the unreacted ozone, decomposing the resulting ozonide at said temperature by means of water in the presence of small amounts of a phenolic antioxidant, thereafter slowly increasing the temperature of the reaction mixture to a temperature of about 35° C., and isolating said dextrorotatory in pyridine 1β-carboxy methyl-2β-methoxy carbonyl-3α-methoxy-4β-acetoxy-6β-formyl cyclohexane.

2,971,979
DICARBAMATES OF 1-ALKYL-2,3 ALKYLENE-1,3-DIOLS

Werner Meiner, Stefan Breitner, Wolfgang Wirth, and Horst Kreiskott, all % Farbenfabriken Bayer A.G., Wuppertal-Elberfeld, Germany

No Drawing. Filed Nov. 25, 1958, Ser. No. 776,196
Claims priority, application Germany Dec. 24, 1957
5 Claims. (Cl. 260—482)

1. A chemical compound represented by the formula



wherein R is an alkyl radical of from 1–7 carbon atoms chain-length, and *n* is an integer of from 1 to 3, inclusive.

2,971,980
PREPARATION OF PARA-NITROBENZALDEHYDE AND PARA-NITROBENZOIC ACID

Samuel W. Tinsley, South Charleston, W. Va., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed May 3, 1957, Ser. No. 656,752
4 Claims. (Cl. 260—515)

1. A process for the simultaneous preparation of para-nitrobenzaldehyde and para-nitrobenzoic acid which includes the steps of heating a solution of para, beta-dinitrostyrene and concentrated sulfuric acid of a strength of at least 70 percent, said mixture containing at least five parts by weight of sulfuric acid per part of para, beta-dinitrostyrene to a temperature at least sufficient to initiate the evolution of carbon monoxide and after such evolution is substantially complete, admixing the reaction mixture with sufficient water to hydrolyze the said mixture and recovering the para-nitrobenzaldehyde and para-nitrobenzoic acid thus produced.

2,971,981
PREPARATION OF ALPHA-HYDROXYISO-BUTYRIC ACID

Robert S. Aries, New York, N.Y.
(225 Greenwich Ave., Stamford, Conn.)

No Drawing. Filed May 10, 1957, Ser. No. 658,216
1 Claim. (Cl. 260—533)

In the process for the preparation of alpha-hydroxy-isobutyric acid which comprises contacting gaseous isobutylene with at least 4 moles of nitrogen dioxide per mole of isobutylene at a temperature between about 0° and 20° C., and removing unreacted nitrogen oxides by vacuum distillation, the improvement which comprises thereafter adding to the reaction mixture nitric acid having a concentration between about 5% and 20% until the reaction mixture contains about 50% of organic material, maintaining the mixture at about 30° C. for about ½ to 3 hours to hydrolyze any alpha-nitratoisobutyric acid present, and recovering the alpha-hydroxyisobutyric acid.

2,971,982
METHOD OF MAKING 9-FLUORENONE

John O. Hawthorne, Pittsburgh, and Edward L. Mihelic, Sr., Wilkinsburg, Pa., assignors to United States Steel Corporation, a corporation of New Jersey

No Drawing. Filed Mar. 5, 1959, Ser. No. 797,337
3 Claims. (Cl. 260—590)

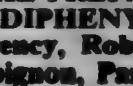
1. A method of making 9-fluorenone which consists in heating 2-formyl-2'-biphenylcarboxylic acid to a temperature between 300 and 400° C. while suspended in an inert liquid medium.

2,971,983
PRODUCTION OF ORGANO 2-HALO-1-PROPENYL KETONES

Joseph P. Henry, South Charleston, Robert M. Manyik, St. Albans, and Wellington E. Walker, Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed May 12, 1958, Ser. No. 734,438
11 Claims. (Cl. 260—593)

1. A process for the production of organo 2-halo-1-propenyl ketones which comprises reacting propadiene with a carboxylic acid halide having the general formula:



wherein "R" represents a monovalent hydrocarbon radical and "X" represents a halogen atom, in the presence of a catalytic amount of a Friedel-Crafts catalyst, and recovering the organo 2-halo-1-propenyl ketone product thereby formed.

2,971,984
PROCESS FOR PREPARING BUTYRALDEHYDE

Otto Horn, Frankfurt am Main, Germany, assignor to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed July 16, 1957, Ser. No. 672,111
4 Claims. (Cl. 260—601)

1. In a process for preparing butyraldehyde, which process comprises subjecting crotonaldehyde to hydrogenation at a temperature in the range between 160° and 250° C. in the presence of a catalyst prepared by reducing nickel oxides, applied to a carrier material selected from the group consisting of pumice grains, ceramic materials, kieselguhr, silica gel and pumice powder, the improvement which comprises adding to the nickel oxides to be reduced copper sulfate in an amount which corresponds to 0.5 to 5 percent by weight based on the weight of nickel oxides and carrier.

2,971,985
PROCESS FOR THE PREPARATION OF 4,4'-DICHLORODIPHENYLSULFONE

Robert Joly, Montmorency, Robert Barcourt, Villiers-le-Bel, and Colette Fabignon, Paris, France, assignors to UCLAF, Paris, France, a corporation of France

No Drawing. Filed Apr. 16, 1959, Ser. No. 806,767
Claims priority, application France July 5, 1958
4 Claims. (Cl. 260—607)

1. A process for the preparation of 4,4'-dichlorodiphenylsulfone which comprises reacting an equimolar mixture of dimethylpyrosulfate and sulfur trioxide with chlorobenzene at temperatures below 100° C. and recovering 4,4-dichlorodiphenylsulfone.

2,971,986
METHOD OF PREPARATION OF p-ISOPROPYL-α-METHYL-BENZYL ALCOHOL

Frederick H. Norton, Concord, and Alice C. Young, Berkeley, Calif., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Feb. 24, 1958, Ser. No. 716,869
1 Claim. (Cl. 260—618)

A method of preparing p-isopropyl-α-methylbenzyl alcohol which comprises (1) reacting a methyl magnesium halide and p-isopropylbenzaldehyde to obtain an intermediate condensation product, (2) hydroylzing the intermediate condensation product, and (3) distilling the resulting mixture under subatmospheric pressure and at increasing temperatures in the presence of at least a minor amount of activated alumina of from 8 to 14 mesh particle size.

2,971,987

PROCESS FOR PRODUCING CRYSTALLINE TRIMETHYLOLPHENOL

Cal Y. Meyers, Princeton, N.J., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed July 29, 1957, Ser. No. 674,627
13 Claims. (Cl. 260—621)

1. A process for the preparation of crystalline 2,4,6-trimethylolphenol which includes the steps of forming a mixture of a metal salt of 2,4,6-trimethylolphenol selected from the group consisting of the alkali metal and alkaline earth metal salts of 2,4,6-trimethylolphenol in an inert organic solvent for 2,4,6-trimethylolphenol, neutralizing the said mixture with an acidic material forming a neutral and substantially insoluble salt with the cation of the metal salt in the neutralized mixture at a temperature below about 65° C., under such conditions that the water content of the neutralized mixture is no greater than about one mole per mole of 2,4,6-trimethylolphenol formed, removing said neutral and substantially insoluble salt from the mixture, and recovering crystalline 2,4,6-trimethylolphenol from the said organic solvent.

2,971,988

METAL-AMIDE ALCOHOLATES AND PROCESS OF PREPARATION

Fred N. Hill, South Charleston, and Frederick E. Bailey, Jr., and John T. Fitzpatrick, Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Dec. 29, 1958, Ser. No. 783,106
13 Claims. (Cl. 260—632)

1. A metal amide-alcoholate characterized by the following formula:

$$H_2N—M—OR$$

wherein M is a member selected from the group consisting of magnesium, calcium, zinc, strontium, cadmium, and barium; and wherein R is a monovalent hydrocarbon radical selected from the group consisting of alkyl, cycloalkyl, aryl, alkaryl, aralkyl, and alkenyl.

2,971,989

PRODUCTION OF ALPHA-GLYCOLS

Seymour J. Lapporte, Berkeley, and William A. Sweeney, San Rafael, Calif., assignors to California Research Corporation, San Francisco, Calif., a corporation of Delaware

Filed Mar. 21, 1958, Ser. No. 722,995
6 Claims. (Cl. 260—636)

1. Process for preparing a 1,2-glycol having 5 to 20 carbon atoms in the molecule, which comprises reacting approximately equimolecular quantities of chlorine and a C_5–C_{20} 1-olefin in the presence, for each mol of olefin, of 10 to 100 mols of acetic acid containing up to 20 weight percent water at a temperature of 10° to 30° C., whereby a crude reaction product mixture including the dichloride, the chlorohydrin acetate, and the diacetate of the olefin is produced, hydrolyzing said mixture at a temperature of 200° to 250° C. in the presence of at least 2 mols of sodium acetate per mol of olefin charged to the chlorination zone, and in the presence of an organic cosolvent selected from the group consisting of acetone, dioxane, methylethylketone, and tetrahydrofuran, said cosolvent containing about 10 to 50 volume percent water, and recovering the 1,2-glycol.

2,971,990

2-BROMO-1,1,1,2-TETRAFLUOROETHANE

Eric R. Larsen, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Sept. 25, 1957, Ser. No. 686,025
3 Claims. (Cl. 260—653)

1. 2-bromo-1,1,1,2-tetrafluoroethane.

2,971,991

METHOD FOR INCREASING THE RATE OF AIR OXIDATION OF POLYMERS AND COPOLYMERS OF BUTADIENE

Donald F. Koenecke, Westfield, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Oct. 1, 1958, Ser. No. 764,494
5 Claims. (Cl. 260—669)

1. A process for improving the rate of oxidation of an oily diolefin polymer chosen from the group consisting of homopolybutadiene and copolymers of butadiene and styrene which comprises contacting the said oil in a solvent having a kauri butanol value of at least 40 with an oxygen-containing gas at a temperature between 20° and 120° C. in the presence of 0.001 to 1.0% of a metal drier and 1 to 20 parts of 1,10 (ortho) phenanthroline ethyl hexoate per part of metal in metal drier until the desired amount of oxygen has been incorporated into the polymer.

2,971,992

ALKYLATION OF AROMATIC HYDROCARBONS

Herman S. Bloch, Skokie, Ill., assignor, by mesne assignments, to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

Filed Dec. 30, 1957, Ser. No. 705,860
7 Claims. (Cl. 260—671)

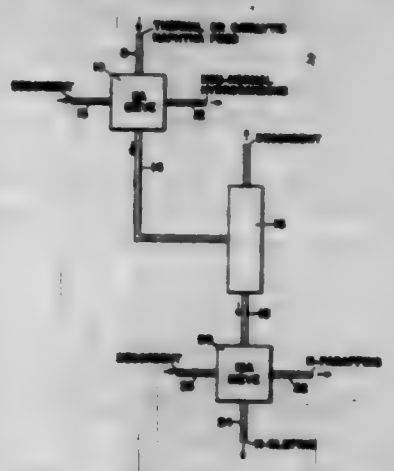
1. In the alkylation of an aromatic hydrocarbon in the presence of boron trifluoride in a reaction zone, the process which comprises separating from the reaction zone effluent a gaseous fraction containing boron trifluoride, a liquid mono-alkylated aromatic hydrocarbon fraction and a liquid basic polyalkylated aromatic hydrocarbon fraction, scrubbing said gaseous fraction with an absorber liquid consisting essentially of at least a portion of said liquid polyalkylated aromatic fraction to absorb boron trifluoride in the last-named fraction, and supplying the resultant BF_3-containing polyalkylated aromatic hydrocarbon fraction to the reaction zone.

2,971,993

SEPARATION OF OLEFINIC HYDROCARBONS WITH Co, Ba, K, OR Ag SUBSTITUTED 10 TO 13 ANGSTROM MOLECULAR SIEVES

Charles Newton Kimberlin, Jr., and William Judson Mattox, Baton Rouge, La., assignors to Esso Research and Engineering Company, a corporation of Delaware

Filed June 4, 1958, Ser. No. 739,903
8 Claims. (Cl. 260—677)



1. An improved process for concentrating olefins from olefin-containing streams which comprises passing a vaporized stream containing olefinic and non-olefinic constituents through a molecular sieve adsorption zone, maintaining in said zone a catalytically inert crystalline zeolitic molecular sieve having uniform pore openings

of from 10 to 13 Angstrom units, said molecular sieve having the formula

$$\frac{Me_2}{n}O.Al_2O_3.2.7(\pm 0.5)SiO_2$$

where Me is a metal selected from the class consisting of divalent cobalt, barium, potassium and silver, and n is its valence, withdrawing unadsorbed hydrocarbon constituents from said zone, thereafter desorbing said zone and recovering a high purity olefin concentrate.

2,971,994

PREPARATION OF LONGER CHAIN POLYMERS

Louis Schmerling, Riverside, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed June 26, 1959, Ser. No. 822,991
11 Claims. (Cl. 260—683)

1. A process for the preparation of propylene pentamer which comprises hydrohalogenating propylene tetramer with a hydrohalogenating agent selected from the group consisting of hydrogen chloride and hydrogen bromide, condensing the resultant dodecyl halides with propene and dehydrohalogenating the resultant pentadecyl halide to form the desired propylene pentamer.

2,971,995

PRODUCTION OF OLEFINS

Robert P. Argenbright, Galveston, Tex., assignor to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed June 22, 1959, Ser. No. 821,626
3 Claims. (Cl. 260—683.3)

1. A process for the production of propylene which comprises reacting propane with hydrogen chloride and oxygen in the presence of a catalyst which consists essentially of magnesium chloride supported upon pumice at a temperature above about 450° C.

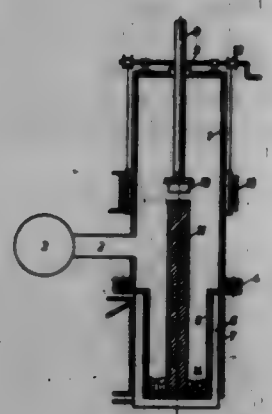
ELECTRICAL

2,971,996

VACUUM ARC FURNACE WITH CONSUMABLE ELECTRODE

Helmut Gruber and Helmut Scheidig, Hanau (Main), Germany, assignors to W. C. Heraeus G.m.b.H., Hanau (Main), Germany, a firm

Filed May 14, 1959, Ser. No. 813,181
Claims priority, application Germany May 31, 1958
7 Claims. (Cl. 13—31)



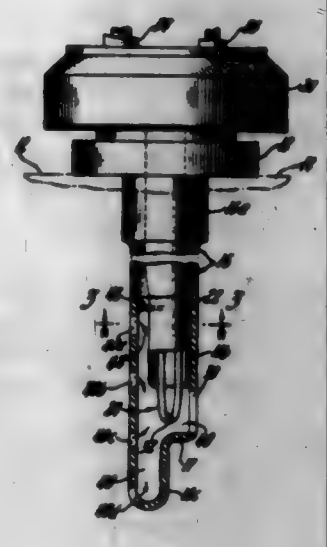
1. A vacuum arc furnace comprising an upper furnace part, a crucible, insulating means intermediate said upper part and said crucible, means for removably securing said crucible to said upper part, means for evacuating said furnace, a consumable electrode first arranged to be held in a fixed upright position in said crucible, an electrode supporting rod passing from the outside into said furnace through the upper end thereof, means for sliding said supporting rod in a substantially vertical direction within said furnace and into engagement with the upper end of said electrode and for raising and lowering said supporting rod with said electrode thereon after being welded to each other, a field coil at said upper furnace part, means for adjusting said field coil in a substantially vertical direction for placing the same substantially at the level of and surrounding the upper end of said electrode, means for supplying a current to said crucible and said supporting rod, and means for supplying a direct current to said field coil to concentrate a welding arc between the lower end of said supporting rod and the upper end of said electrode for welding said ends to each other.

2,971,997

SAMPLING THERMOCOUPLE

Billy J. Carrico, Indianapolis, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Mar. 6, 1958, Ser. No. 719,613
6 Claims. (Cl. 136—4)



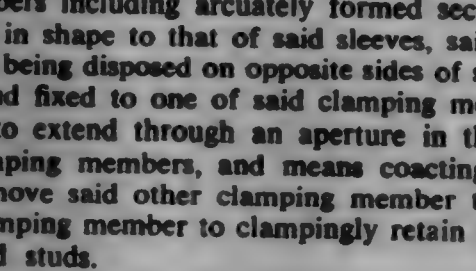
1. A gas probe comprising a body portion adapted to be supported by the wall of a gas duct and a gas collector tube having an inner end adjacent said body portion and an outer end extending into said duct, a downstream gas outlet hole in said tube intermediate its inner and outer ends, a plurality of axially spaced upstream inlet holes in said tube, a wire carrying member of smaller cross-section than the cross-section of said tube extending into the same from said body portion to form a first gas passage between the inside of said tube and outside of said member for conducting gases from some of said inlet holes to said outlet hole, a pair of wires extending through and out of said member and connected to form a junction adjacent said outlet hole, said tube having its outer end portion of reduced internal cross-section to form a second gas passage, one of said inlet holes opening into said second gas passage whereby said second gas passage will conduct gases from said one inlet to said outlet hole of substantially the same cross-section as said first gas passage.

2,971,998

THERMOCOUPLE LEAD ATTACHMENT

James W. Thomas, Indianapolis, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Aug. 5, 1958, Ser. No. 753,319
2 Claims. (Cl. 136—4)



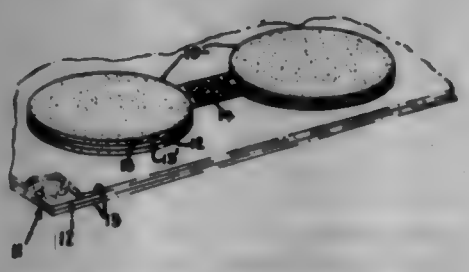
1. A thermocouple assembly comprising a probe casing, a cover casing connected to said probe casing, a pair of electrically connected thermocouple wires disposed within said probe casing substantially throughout the length of the latter, a plurality of spaced studs mounted upon and including a portion extending within said cover casing, each of said stud portions being respectively connected to said thermocouple wires, means electrically insulating said studs from said cover casing, each stud including a supporting flange, a split sleeve mounted upon each of said stud supporting including flanges, said sleeve being longitudinally slotted throughout their length and adapted to be mounted upon said studs such that the slotted openings therein generally open toward each other, a lead wire connected to each of said sleeves, and a common connecting member adapted to clampingly retain said sleeves in electrical contact with said studs, said connecting member being electrically insulated from said sleeves and studs, said common connecting device comprising a pair of identically formed dish-shaped clamping members, said clamping members including arcuately formed sections corresponding in shape to that of said sleeves, said clamping members being disposed on opposite sides of said sleeves, and a stud fixed to one of said clamping members and adapted to extend through an aperture in the other of said clamping members, and means coacting with said stud to move said other clamping member toward said other clamping member to clampingly retain said sleeves upon said studs.

2,971,999

GAS-TIGHT COUNTER VOLTAGE CELL OR ALKALINE STORAGE BATTERY AND METHOD OF MAKING SAME

Pierre A. C. Jacquier, Paris, France, assignor to Societe des Accumulateurs Fixes et de Traction (Societe Anonyme), Romainville, France, a company of France

Filed Jan. 27, 1958, Ser. No. 711,263
Claims priority, application France Jan. 28, 1957
23 Claims. (Cl. 136—6)



1. In a sealed alkaline storage battery of the character described, a multipart metallic casing whose parts are insulated eleectrically from each other, sets of alternately disposed positive and negative electrode plates within said casing, a positive plate of the positive plate set being connected to another positive plate of the same set by a conductive strip coated with an electrolyte-impervious insulating material and united to both, a negative plate of the negative plate set being connected to another negative plate of the same set by a conductive strip coated with an electrolyte-impervious insulating material and united to both said negative plates, independent separators between opposed surfaces of adjacent positive and negative electrode plates, a positive electrode plate being in electrical connection with one of said parts and a negative electrode plate being in electrical connection with another of said parts and the parts thereby providing positive and negative terminals for the battery.

2,972,000

PLATE SHEATH FOR SECONDARY OR STORAGE BATTERIES AND METHOD FOR PRODUCING SAME

Lino Boriolo, 1 Via Giusti, Cinisello Balsamo, Milan, Italy

Filed Jan. 30, 1957, Ser. No. 637,151
Claims priority, application Italy Feb. 3, 1956
8 Claims. (Cl. 136—43)



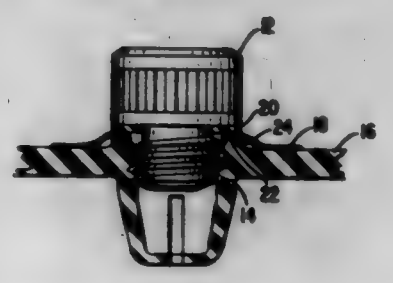
1. A textile plate sheath for electric storage batteries of the type wherein a battery plate includes a plurality of individual elements of active material located in spaced individual pockets of said sheath, the sheath comprising two spaced layers of fabric made from heat-shrinkable thermoplastic acid-resistant material incapable of giving up chlorine and chlorine derivatives when exposed to the operating conditions of said electric storage battery, said fabric being in heat-shrunk stressed condition so as to be shape-retaining; and portions of said fabric interlinking said two layers so as to form a plurality of pockets between said layers and said portions.

2,972,001

WATER-PROOF VENT SEAL FOR BATTERIES

William R. Clingenpeel, Toledo, Ohio, assignor to The Electric Auto-Lite Company, Toledo, Ohio, a corporation of Ohio

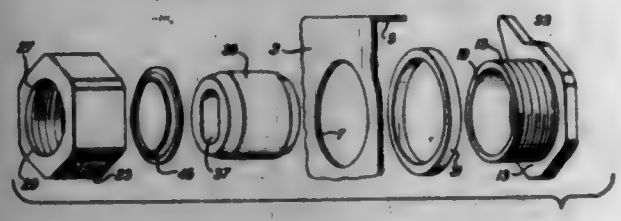
Filed May 14, 1958, Ser. No. 735,162
3 Claims. (Cl. 136—170)



1. In a hermetic seal for the filling opening of a battery container, a vent plug adapted to fit into said filling opening in a threaded relation, an impermeable membrane positioned between the vent plug and the filling opening

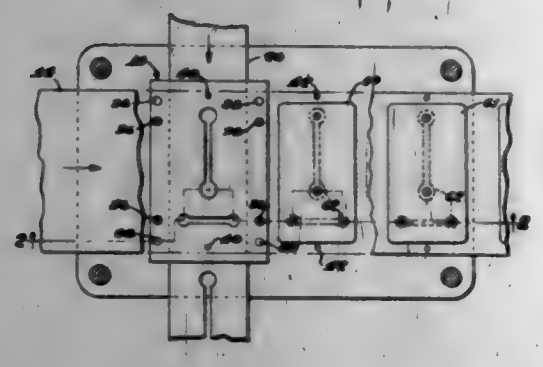
in the threaded portions and an adhesive between the membrane and the container adhering to the container to hold the membrane in position to form the seal.

2,972,002
FLUID-TIGHT JOINT AND CABLE MOUNTING
Ted A. Wayman, Youngstown, Ohio. (% The M. & W. Electric Manufacturing Company, Inc., P.O. Box 87, East Palestine, Ohio)
Filed Jan. 28, 1958, Ser. No. 711,687
2 Claims. (Cl. 174—65)



1. A casing for an electrical measuring instrument, comprising a wall, the wall having an opening therethrough, an electric cable extending through the opening, and means for sealingly securing the cable in the opening, said means comprising an annular socket having an enlarged head at its inner end disposed within the casing, the head being of a diameter larger than the diameter of the opening, an elastic deformable sealing ring sealingly disposed between the enlarged head of the socket and the inner side of the wall of the casing about the opening, the socket being movable relative to the casing and having a reduced generally cylindrical externally screw-threaded portion projecting outward through the opening, a lock nut screw-threadedly carried by the reduced portion disposed outside the casing having an inner end of a diameter larger than the diameter of the opening, an elastic deformable bushing disposed within the socket and the lock nut about the cable, the inner end of the socket and the outer end of the lock nut having radially inwardly extending annular shoulders spaced apart a distance such that when the inner end of the lock nut is tightened down on the outer side of the wall of the casing about the opening and the sealing ring is compressed between the head of the socket and the inner side of the wall of the casing about the opening, the shoulders will coact to compress between them the bushing into tight sealing contact with the cable.

2,972,003
PRINTED CIRCUITS AND METHODS OF MAKING THE SAME
Norman L. Greenman, Danielson, Conn., John A. Zagusta, Jackson Heights, N.Y., and Paul L. Anderson, Rockville, Conn., assignors to Rogers Corporation, Manchester, Conn., a corporation of Massachusetts
Filed Feb. 21, 1956, Ser. No. 566,962
13 Claims. (Cl. 174—68.5)



1. In the method of making a so-called printed circuit, the steps comprising die cutting an electrically conductive pattern from a conductive material and then applying and adhesively securing the electrically conductive pattern on a surface of a moldable insulating fibrous base sheet embodying a curable resin as an impregnant thereof, and then subjecting the assembly of the pattern and the base sheet to a molding operation at temperatures and pressures which cause the base sheet to assume a predetermined shape and the curable resin impregnant to flow to cause a molded skin to be formed upon and to cover all edges of the sheet to thereby reduce to a minimum the water absorption therethrough.

2,972,004
CABLE JOINT CASING
Edwin J. Merrell, Scarsdale, and Raymond A. Russbach, Yonkers, N.Y., assignors to Phelps Dodge Copper Products Corporation, New York, N.Y., a corporation of Delaware
Filed Sept. 4, 1958, Ser. No. 759,035
8 Claims. (Cl. 174—91)

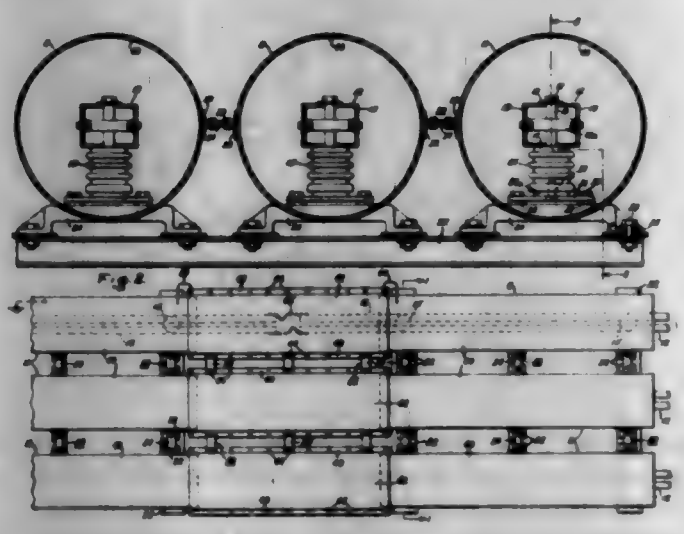


1. A casing for the joint between two lengths of electric cables each having an outer protective metal sheath, said casing comprising a pair of sleeves adapted to be interconnected at adjacent ends to form a composite sleeve surrounding said joint, a split clamp located within the composite sleeve adjacent each end of the composite sleeve and movable bodily toward said adjacent ends of the sleeve, each clamp having separable arcuate sections and releasable means for drawing the sections together around the sheath of a corresponding cable length, whereby said sections grip the sheath tightly, means releasably securing the composite sleeve at the opposite end portions thereof to the respective clamps to form a substantially closed space around said joint, and connecting means releasably interconnecting said adjacent ends of the sleeves to form said composite sleeve, said releasable securing means including an annular end member adapted to surround and slide on each cable sheath and releasably secured to the corresponding split clamp.

2,972,005
ISOLATED PHASE BUS DUCT APPARATUS
Robert H. Brealey, Jr., Broomall, and Lawrence L. Mankoff, Drexel Hill, Pa., assignors to General Electric Company, a New York corporation
Filed Oct. 31, 1958, Ser. No. 770,970
7 Claims. (Cl. 174—99)

1. Isolated-phase bus duct apparatus for an electric circuit comprising at least two tubular enclosing ducts of generally circular cross-section disposed in substantially parallel, laterally spaced-apart relationship with the longitudinal axes thereof located in a predetermined plane; said ducts each being formed of low resistance sheet metal having a sufficiently high conductivity to provide appreciable eddy current shielding for the interior portions thereof; bracing structure provided between said ducts and attached to said ducts at longitudinally-spaced locations disposed along said predetermined plane; a single substantially rigid phase conductor within each duct; resilient means mounting said conductor substantially coaxially with respect to its corresponding duct; said resilient mounting means comprising at locations longitudinally spaced-apart along said conductor single rigid supporting posts of insulating material mounted within each duct adjacent the wall thereof; all said posts in any said duct lying

in a common plane perpendicular to the plane including the axes of said ducts; said resilient means allowing said conductor under short circuit conditions to move from its coaxial position transversely to said common plane and being so constructed that transverse movement of the conductor through a predetermined range is required in order to fracture an insulating supporting post; said bracing structure being constructed to limit distortion of each



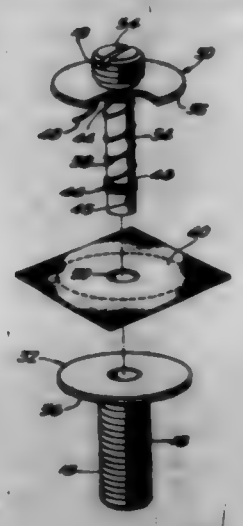
of said ducts under phase-to-phase short circuit conditions to an extent which causes the zero-force line position of the stressed duct to be located within said predetermined range of movement; the wall thickness of each of said ducts being of such value that, in the absence of said bracing structure, said phase-to-phase short circuit conditions would produce sufficient duct-distortion to cause the zero-force line position of the distorted duct to be located beyond said predetermined range of movement.

2,972,006

TESTING EQUIPMENT AND INSULATED MOUNTING STUD THEREFOR

Bernard A. Shoor, Pasadena, Calif., assignor to Endevco Corporation, Pasadena, Calif., a corporation of California

Filed Nov. 3, 1958, Ser. No. 771,578
11 Claims. (Cl. 174—138)



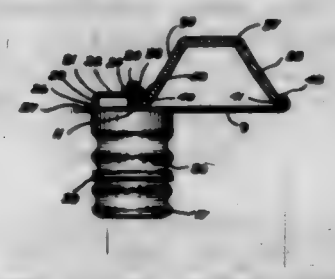
3. In an insulating mounting for electrical equipment:
a pin having a stem axially aligned therewith;
a sleeve having a bore receiving said pin;
means on said stem for attaching the latter to a test instrument;
means on said sleeve for attaching the same to an object to be tested;
a radially extending plate-like member carried by one end of said sleeve;
a plate-like member extending radially of said pin between said pin and its stem, said plate-like members being disposed closely adjacent each other;
and insulating means between said plate-like members and between said pin and said sleeve and firmly bonding said plate-like members and said pin and sleeve together into a rigid coherent whole.

2,972,007

CLAMP FOR ELECTRIC WIRE FENCE

Milton G. Zoeller, Falls City, Nebr. (Reserve, Kans.)

Filed Nov. 19, 1958, Ser. No. 775,064
1 Claim. (Cl. 174—163)



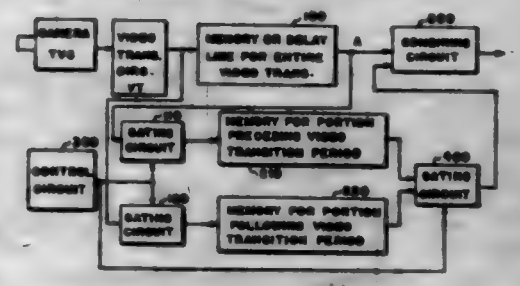
In combination with a metal post of substantially U-shaped cross-section and having arms presenting outer surfaces which taper outwardly terminating in outer edges, apparatus for securing an electrically charged wire on said post comprising, a clamping arm extending between the outer edges of said post arms and having an opening therein spaced outwardly of the outer edge of one of said post arms and a hooked end engaging the outer edge of the other of said post arms, a fastening clip having an opening adjacent one end thereof, said fastening clip opening aligning with the opening in the clamping arm, said clip being held substantially parallel to and spaced from said clamping arm by having said clip end adjacent said clip opening contacting said tapered outer surface of said one post arm and the other end of said fastening clip turned laterally toward and contacting said clamping arm, a bolt extending transversely through said openings in said clamping arm and fastening clip, a nut threadedly engaged with said bolt for drawing said clamping arm and fastening clip together causing said fastening clip to be urged away from said other post arm and against said bolt which urges said clamping arm away from said other post arm, movement of said clamping arm being resisted by said hooked end of said clamping arm engaging with said outer edge of said other post arm providing tensile forces in said clamping arm, an insulator secured to said bolt, and means securing said wire to said insulator.

2,972,008

CODING METHODS AND SYSTEM

Louis N. Ridenour, Los Angeles, and William F. Gunning, Anaheim, Calif., assignors, by mesne assignments, to Paramount Pictures Corporation, New York, N.Y., a corporation of New York

Filed Apr. 23, 1956, Ser. No. 579,973
5 Claims. (Cl. 178—5.1)



1. A system for minimizing the possibility of unscrambling by utilizing correlation techniques resulting from the introduction of functions into information transmitted by the introduction of discontinuities therein with

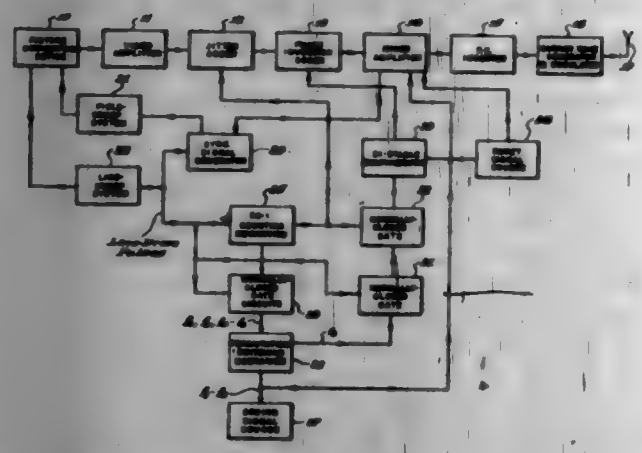
a preset period for transition from information-to-discontinuity and from discontinuity-to-information, said system comprising first means for receiving and storing the entire transmission for a period corresponding to the interval selected for a transition from the information portion to precede a discontinuity in information transmission to that portion to follow the discontinuity, second means for selecting and storing the information portion to precede said transition period, third means for selecting and storing the portion to follow said transition period, fourth means coupled to said second and third means for combining selected portions of the signals produced by said second and third means to produce a composite output signal with minimized correlation to said discontinuity, and fifth means coupling said first and fourth means for combining the stored transmission and the composite signal produced by said fifth means to form a transmission where discontinuities have been minimized.

2,972,009

SUBSCRIPTION TELEVISION SYSTEM

Erwin M. Roschke, Des Plaines, Ill., assignor to Zenith Radio Corporation, a corporation of Delaware

Filed Aug. 1, 1957, Ser. No. 675,764
14 Claims. (Cl. 178—5.1)



1. A subscription television system comprising: means for developing a television signal; encoding apparatus coupled to said television-signal-developing means and including first and second encoding devices responsive to applied signals for varying two different characteristics of said television signal to effect two different types of encoding; means including an adjustable code selector for developing two different actuating signals representing first and second distinctly different code schedules as determined at least in part by the instantaneous adjustment of said code selector; means for utilizing said actuating signals for effecting operation of said first and second encoding devices in accordance with said first and second encoding devices in accordance with said first and second code schedules, respectively, to develop an encoded television signal; and means for utilizing said encoded television signal.

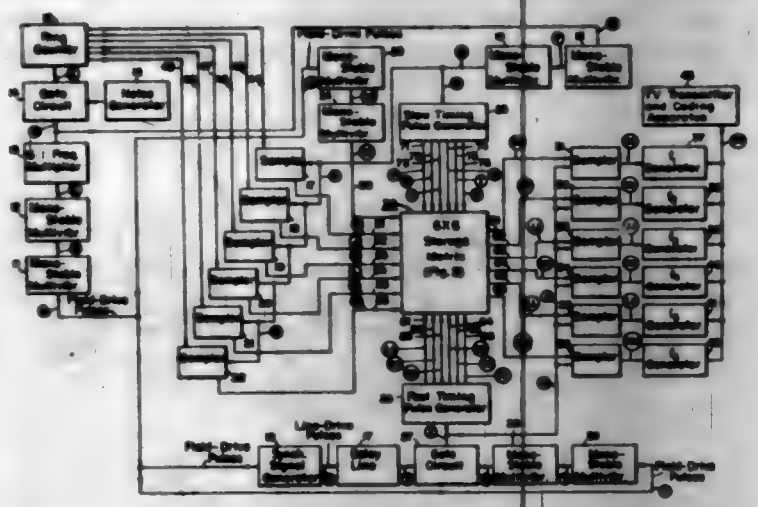
2,972,010

SIGNAL TRANSLATING METHOD

Carl G. Ellers, Fairbury, and Erwin M. Roschke, Des Plaines, Ill., assignors to Zenith Radio Corporation, a corporation of Delaware

Original application Oct. 21, 1954, Ser. No. 463,702. Divided and this application Oct. 22, 1959, Ser. No. 847,965
4 Claims. (Cl. 178—5.1)

1. A method of translating a composite television signal including video-signal components in recurring trace intervals and synchronizing-signal components in intervening retrace intervals, the steps comprising: developing during one of said trace intervals a first encoding signal representing predetermined coding information; storing said coding information during said last-mentioned trace interval; reading out the stored coding information during one of said retrace intervals subsequent to said last-



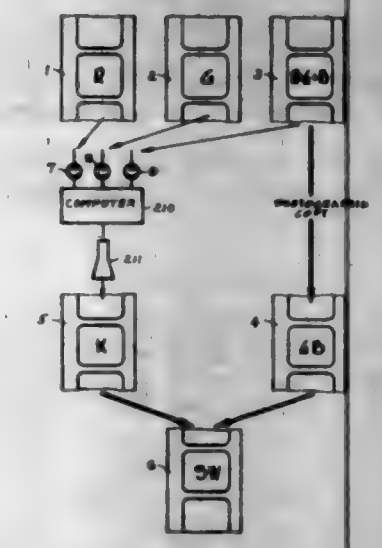
mentioned trace interval to derive a second encoding signal containing said coding information; and utilizing said second encoding signal to vary the operating mode of said television signal in accordance with said coding information effectively to encode said television signal.

2,972,011

METHOD FOR PROCESSING A SUBTRACTIVE MOTION PICTURE FILM

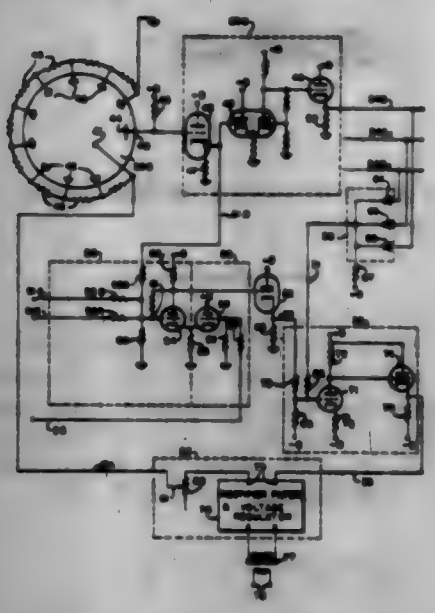
Edgar Gretener, Otterweg 25, Zurich, Switzerland, assignor to Dr. Edgar Gretener A.-G., Zurich, Switzerland

Filed Jan. 27, 1958, Ser. No. 711,479
Claims priority, application Switzerland Sept. 29, 1954
9 Claims. (Cl. 178—5.2)



1. The method of producing a black-and-white recording for use as a brightness control in a multi colored reproduction process comprising three color components and said black-and-white recording, said method comprising the steps of photographically producing from said color components a basic black-and-white recording having a density at each image point corresponding to the sum of the transparencies of said color components, electrically spot scanning said color components to produce a correction black-and-white recording having a density at each and every point equal to the ratio of the sum of the transparencies of said color components to the largest of said transparencies at said point and combining said basic and correction black-and-white recordings to produce a composite black-and-white recording.

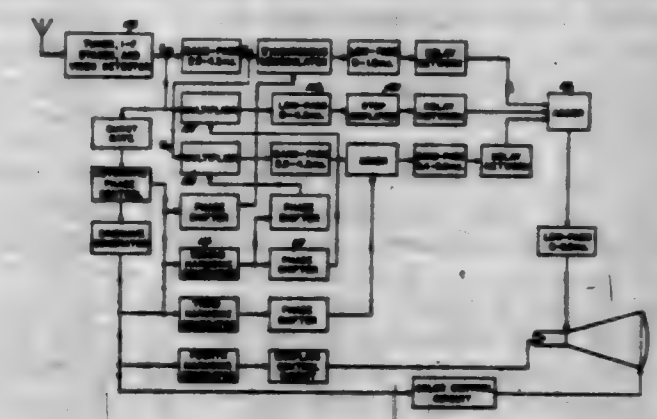
2,972,012
PHOTOELECTRIC UNSHARP MASKING APPARATUS
Monroe Farber, Jericho, N.Y., assignor to Fairchild Camera and Instrument Corporation, a corporation of Delaware
Filed Oct. 5, 1959, Ser. No. 845,451
11 Claims. (Cl. 178—5.2)



1. In a system for deriving from a color object a plurality of color-separation-representative signals and including means for optically scanning said object to develop one or more light beams representative of the luminance and chrominance of successive elemental areas of said object, photoelectric unsharp masking apparatus for deriving from said light beam or beams color-separation-representative signals with sharpened boundaries comprising: an optical system exposed to said light beam or beams including a sharp aperture and an unsharp aperture for respectively developing a sharp beam and an unsharp beam and beam-splitting means and filter means in the path of said sharp beam for producing a plurality of color-separation beams; a plurality of photoelectric devices individually exposed to said color-separation beams and to said unsharp beam for developing signals individually representative thereof; a plurality of signal channels for individually translating said color-separation-representative signals to an image-reproducing device; means for developing a signal representative of the luminance of said sharp beam; means for differentially combining said luminance signal and the signal representative of said unsharp beam to develop a control signal; and means responsive to said control signal for similarly modifying the outputs of said signal-translating channels to sharpen the boundaries of a reproduced color image without affecting the color balance thereof.

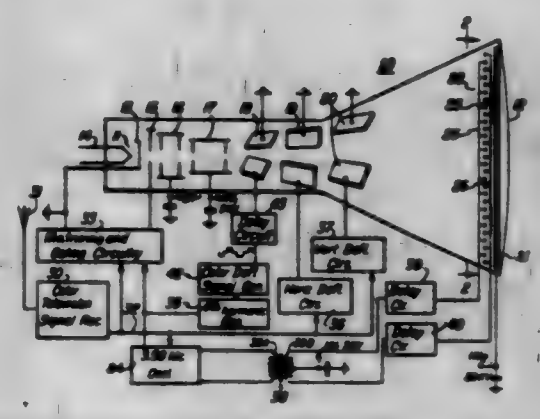
2,972,013
COLOR TELEVISION RECEIVER SYSTEM
Stephen K. Altes, Syracuse, N.Y., assignor to General Electric Company, a corporation of New York
Filed Oct. 27, 1954, Ser. No. 465,009
5 Claims. (Cl. 178—5.4)

1. A signal-processing network comprising a plurality of diverse branches for operating upon an input signal, said input signal comprising at least a lower-frequency component and a higher-frequency component, the frequency of said higher-frequency component being determined by at least one carrier wave, a first one of said diverse branches including multiplier means for causing the interaction of said both components of input signal with a wave of frequency substantially equal to twice that of said carrier, a second one of said diverse branches including means for causing the interaction of said higher-frequency component with a wave of frequency substantially equal to that of said carrier wave, a third one of said diverse branches including multiplier means for causing the interaction of said higher-frequency component with a wave of frequency substantially twice that



of said carrier wave, said third one of said diverse branches including further a mixer for introducing into said third diverse branch a wave of frequency substantially three times that of said carrier wave, means for effectively adding the outputs of said plurality of diverse branches for application to an output device.

2,972,014
SINGLE GUN COLOR TELEVISION BEAM DEFLECTING SYSTEM
Herbert E. Welch, 4601 43rd St., Lubbock, Tex.
Filed Dec. 19, 1956, Ser. No. 629,371
13 Claims. (Cl. 178—5.4)



1. In a dot-sequential color television system including a picture display tube provided with an electron gun for emitting a beam of electrons, a picture display area composed of an electron target made up of a plurality of horizontally disposed phosphor strips including strips of a first color and of a second color and of a third color arranged in a repeated color-sequence, means for deflecting the beam to scan the target in a horizontal line raster wherein the electron beam traverses a horizontally disposed second color strip during each line scan, and means for modulating the electron beam with first color information pulses and second color information pulses and third color information pulses in the repeated color-sequence; the combination comprising, a deflector in addition to the deflecting means and effective upon the electron beam for the period of each line scan to deflect the electron beam from the scanned second color strip approximately toward the adjacent first color strip during the interval of each first color pulse and from the scanned second color strip approximately toward the adjacent third color strip during the interval of each third color pulse in order to cause the electron beam to be directed approximately toward a first color strip and

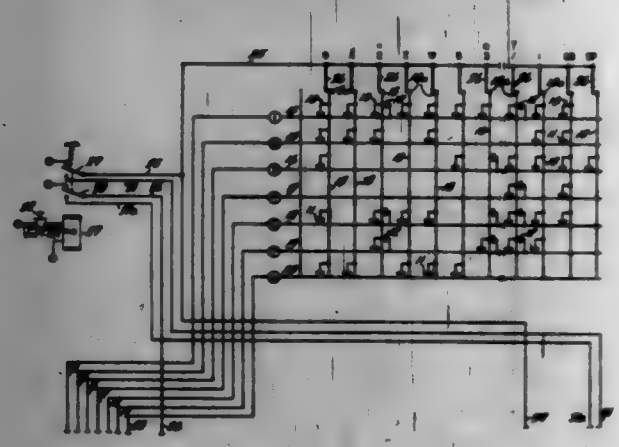
toward a second color strip and toward a third color strip of the electron target respectively during the corresponding color pulse intervals thereof, a color grid disposed in the electron beam path adjacent to the electron target and including first color grid wires in parallel alignment with the first color strips and third color grid wires in parallel alignment with the third color strips, and a voltage generator for biasing said first color grid wires positive with respect to said third color grid wires during the intervals the electron beam is directed approximately toward one of the first color strips and for biasing said third color grid wires positive with respect to said first color grid wires during the intervals the electron beam is directed approximately toward one of the third color strips in order to cause the electron beam to be further deflected and accurately directed onto a first color strip and onto a second color strip and onto a third color strip of the electron target respectively during the corresponding color pulse intervals thereof, whereby the first color and the second color and the third color modulated portions of the electron beam register accurately respectively on a first color strip and on a second color strip and on a third color strip of the electron target to produce in composite a color picture display.

2,972,015

CODING APPARATUS

Joseph J. Saykay, Sea Cliff, N.Y., assignor to Fairchild Camera and Instrument Corporation, Syosset, N.Y., a corporation of Delaware

Filed May 8, 1957, Ser. No. 657,886
23 Claims. (Cl. 178—17)



8. In coding apparatus, a diode matrix generating coded signals when energized, a plurality of switch means actuated to energize said matrix, first means responsive to coded signals generated in response to actuation of one of the switch means to provide signals representative of code symbols identifying the general nature of the character represented by the one switch means, and second means responsive to termination of said last-mentioned coded signals by deactuation of the one switch means to generate signals representative of code symbols identifying the specific nature of the character represented by the one switch means.

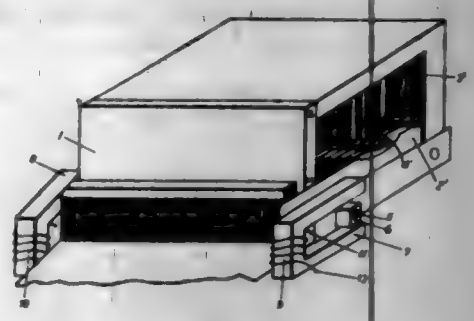
2,972,016

TELETYPING MEANS FOR THE PRINTING OR OTHER INDICATION OF NUMBERS AND OTHER INFORMATION

Gerhard Dirks, 44 Morfelder Landstrasse, Frankfurt am Main, Germany

Filed Mar. 30, 1955, Ser. No. 498,041
Claims priority, application Germany Oct. 1, 1948
12 Claims. (Cl. 178—23)

1. A means for transmission of signals and comprising, in combination, an input means for producing input signals in serial order; output means for producing output signals; and at least one electronic distributor for converting input signals received in serial order from



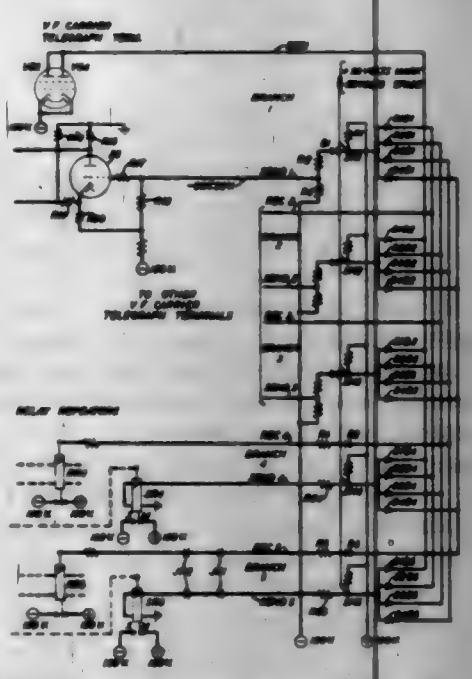
said input means into signals of said output means effective in parallel order.

2,972,017

HUB TELEGRAPH CIRCUIT

James R. Davey, Franklin Township, Somerset County, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Aug. 10, 1959, Ser. No. 832,836
10 Claims. (Cl. 178—73)



1. A telegraph hub circuit, said hub circuit having two or more branch circuits interconnected to form a hub, means in said hub circuit whereby any one of said branch circuits can transmit to all of the other branch circuits simultaneously, each of said branch circuits having an individual receiving leg for transmitting signals incoming toward said hub circuit toward all of the other branch circuits connected to the hub and an individual sending leg for transmitting signals received by said hub circuit from all of the other branches, each of said receiving legs having an individual connection to the sending leg of each of the branches other than the sending leg in its own branch, and an individual diode in each of said sending legs in each said connection.

2,972,018

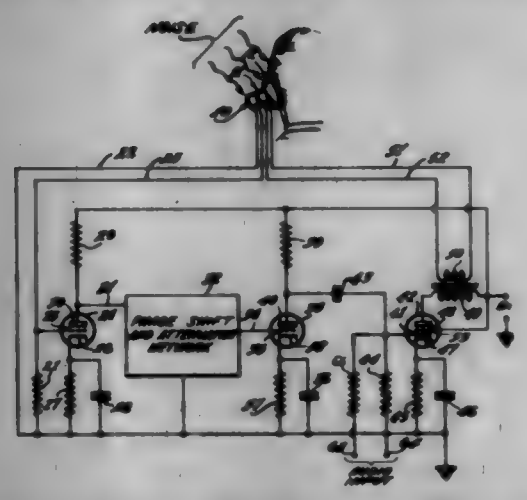
NOISE REDUCTION SYSTEM

Moses E. Hawley, Collingswood, and Elvin D. Simshauser, Merchantville, N.J., assignors to Radio Corporation of America, a corporation of Delaware

Filed Nov. 30, 1953, Ser. No. 394,918
8 Claims. (Cl. 179—1)

8. In a communication system including an earphone having a transducer for actuating a vibratile element to generate acoustic waves in response to electrical operating signals, a noise reduction system comprising another

transducer for translating acoustic waves into electrical signals, said other transducer being disposed in the path of noise waves from the ambient directed upon said earphone whereby said noise waves are translated by said other transducer into corresponding electrical noise signals, a network having a predetermined phase shift and attenuation characteristic, means for applying said noise signals from said other transducer to said network, means



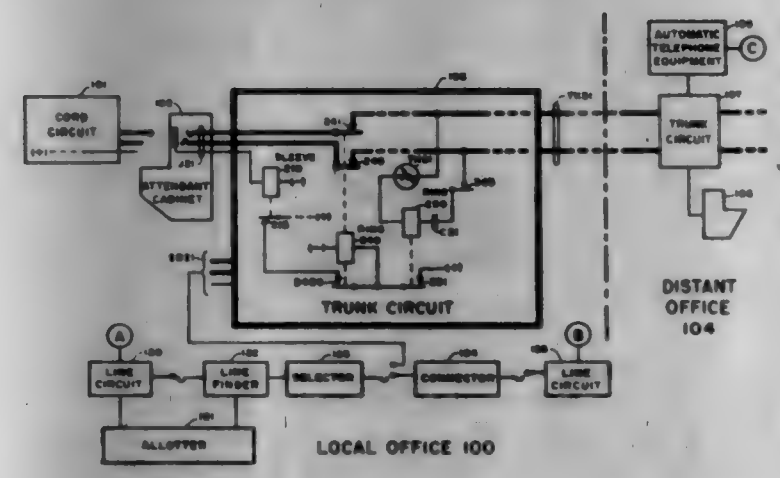
for applying said noise signals from the output of said network to said first named transducer for operating said transducer to generate an acoustic wave corresponding to said noise waves and substantially 180 degrees out of phase therewith, and means for applying other electrical signals representing an audio input to be translated into audio signals to said first named transducer simultaneously with said noise signals from the output of said network.

2,972,019

AUTOMATIC TELEPHONY RINGING CIRCUIT

William W. Pharis, Rochester, N.Y., assignor to General Dynamics Corporation, Rochester, N.Y., a corporation of Delaware

Filed Oct. 4, 1956, Ser. No. 616,317
8 Claims. (Cl. 179—18)



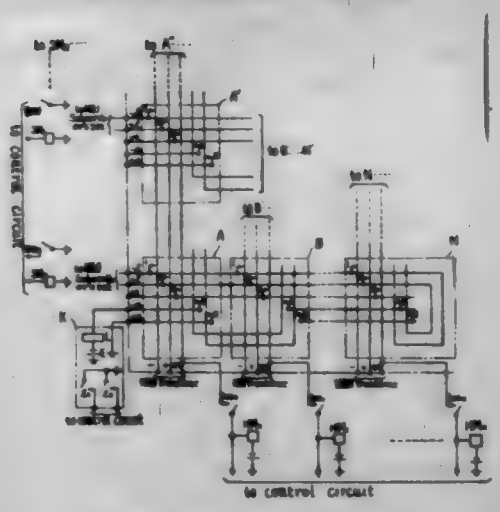
6. A telephone system comprising two offices interconnected by a trunk line, a trunk circuit connected to said trunk line in a first of said offices, means for transmitting interrupted ringing current from the other of said offices over said trunk line to said trunk circuit, means in said trunk circuit including a first relay for operating and releasing responsive to said interrupted ringing current, second relay means in said trunk circuit, means responsive to operation of said first relay for operating said second relay means, means responsive to operation of said second relay for blocking transmission of said ringing current through said trunk circuit, a locking circuit for said second relay, means responsive to operation of said second relay for completing said locking circuit whereby said second relay remains operated independently of said first relay as it operates and releases responsive to said interruptions of said ringing current, means in said first office for extending a connection to said trunk line via said trunk circuit and means responsive to the operation of said connection extending means for breaking said locking circuit thereby releasing said second relay immediately if said first relay is not then operated by said ringing current and releasing said second relay at the next interruption of ringing current if said first relay is then operated by ringing current.

2,972,020

CROSS BAR SYSTEM AUTOMATIC TELEPHONE EXCHANGE

Kunishige Nogami and Tetsuo Hotta, Yokohama City, and Ryokichi Torisu, Tokyo, Japan, assignors to Hitachi Limited, Tokyo, Japan

Filed Nov. 29, 1957, Ser. No. 699,642
Claims priority, application Japan Dec. 28, 1956
3 Claims. (Cl. 179—27.54)



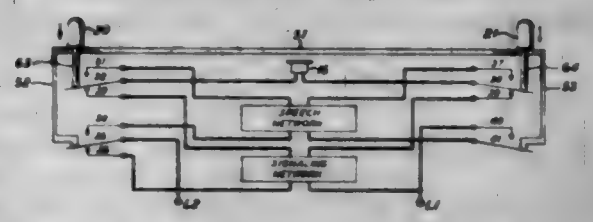
1. An automatic telephone exchange comprising one or more cross bar switches, each of said cross bar switches including a plurality of vertical and horizontal paths, a like plurality of contacts with one contact operatively associating one horizontal path with one vertical path of each of said cross bar switches, said cross bar switches being arranged in columns and rows, one selecting magnet being coupled to each said row of a cross bar switch, at least two holding magnets, one holding magnet being coupled to each said column of a cross bar switch and a call circuit coupled to a path on the side of said selecting magnet, one of the contacts associated with each said cross points of cross bar switches being a break contact for controlling said call circuit.

2,972,021

TELEPHONE SUBSTATION APPARATUS

Herbert W. Bryant, Chatham, N.J., Homer G. Jordan, Lafayette, Ind., and George C. Porter, Martinsville, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

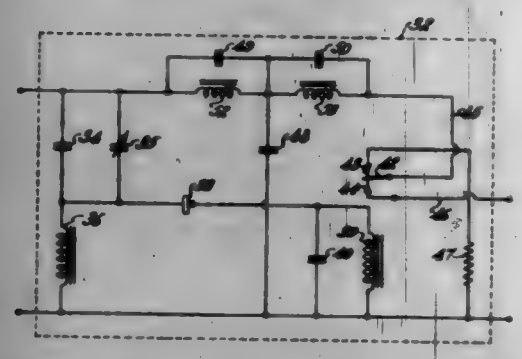
Filed July 3, 1958, Ser. No. 746,551
10 Claims. (Cl. 179—100)



1. In a telephone subset, a handset including a receiver, a transmission line termination, a signaling circuit for causing the receiver to emit audible tones in response to incoming call signaling, a cradle for the hand-

set, a switching means associated with the cradle and comprising first and second independently operable plungers separated from each other by a barrier means to prevent facile simultaneous operation of both plungers by means other than cradling or uncradling of the hand-set, a first linkage operable by the first plunger, a second linkage operable by the second plunger, a third linkage operable by either or both plungers, first and second serially connected switch means operable by the first and second linkages, respectively, for coupling the receiver with the signaling circuit and a third switch means operable by the third linkage for coupling the line termination with the signaling circuit whereby both plungers are required to be depressed before receiver signaling is possible.

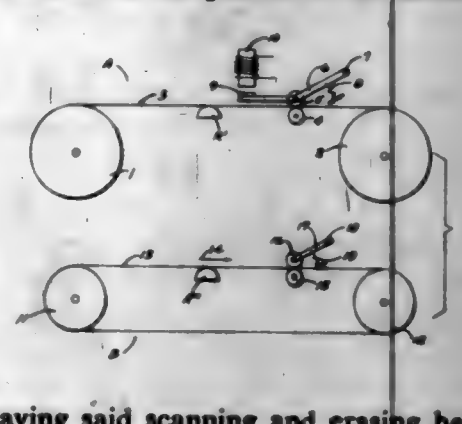
2,972,022
NOISE SUPPRESSOR FOR THEATER SOUND REPRODUCTION
John F. Byrd, Ashland, and Cataldo U. Falco, Merchantville, N.J., assignors to Radio Corporation of America, a corporation of Delaware
Filed Jan. 31, 1955, Ser. No. 485,278
7 Claims. (Cl. 179—100.1)



1. In a multi-channel sound reproducing system employing a plurality of parallel-positioned sound tracks, individual means for detecting each of said sound tracks separately, a plurality of amplifiers, each coupled to a different one of said detecting means, and at least one loudspeaker connected to each of said amplifiers, the combination of a filter connected between at least one of said amplifiers and its connected loudspeaker, said filter including a shunt portion as a series resonant circuit including a condenser and inductor for passing a certain signal from one of said sound tracks, a relay connected to said shunt portion and actuable by said signal passed by said shunt portion, actuation of said relay connecting and disconnecting said filter to and from its connected loudspeaker, and a resistor to which said filter is connected and disconnected alternately with the connection and disconnection of said filter to its said loudspeaker, said filter also including a series portion as a parallel resonant circuit including a condenser and inductor for rejecting said certain signal transmitted by said shunt portion, said shunt and series portions being interconnected as a unit.

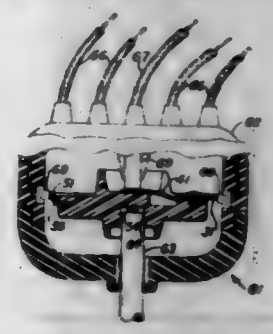
2,972,023
APPARATUS FOR REPEATING THE LAST POSITION OF A MAGNETIC RECORDING
Rudolf Singer, 110—05 71st Ave., Forest Hills, N.Y.
Filed Aug. 10, 1956, Ser. No. 603,372
3 Claims. (Cl. 179—100.2)

1. A magnetic sound recording and reproducing apparatus comprising, in combination, a first pair of spools mounted for turning movement about parallel axes; a magnetic scanning and erasing device mounted between said spools of said first pair of spools; an elongated magnetic medium wound about one of the spools of said first pair of spools and adapted to be moved past said magnetic scanning device onto the other of said spools for recording sound waves thereon as the medium is moved past said first scanning device; at least a second pair of spools mounted for turning movement coaxially with said first pair of spools; a magnetic scanning and erasing head mounted between said spools of said second pair of spools, said erasing and scanning head being shiftable from recording to playing position and back; and an endless magnetic medium wound about said second pair of spools and movable past said scanning head for simultaneously recording said sound waves thereon, said sound waves being recorded, when said scanning head is in recording position, on the portion of the endless magnetic



medium leaving said scanning and erasing head and the record of the sound waves being erased as said portion is re-entering said second scanning and erasing device, so that only the last sound waves recorded on said elongated magnetic medium remain always recorded on said endless magnetic medium, whereby when said second magnetic scanning and erasing device is in said playing position the latest sound waves recorded on said elongated and on said endless magnetic mediums can be played back from said endless magnetic medium while said elongated magnetic medium remains at standstill.

2,972,024
DISTRIBUTOR
Stanley D. Behrbaum, 19136 Mayberry Drive, Castro Valley, Calif.
Filed Aug. 8, 1958, Ser. No. 754,006
4 Claims. (Cl. 200—24)

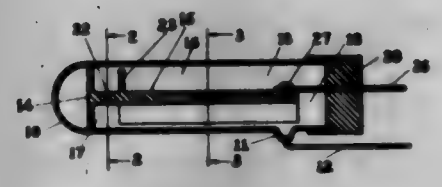


1. An ignition distributor for spark plugs having both grounded and high voltage electrodes comprising an insulating rotor adapted to rotate and having a contact extending therefrom for traversing a circle about the rotor axis, contact means for energizing said contact with a high voltage during rotation, a ring contact extending from both sides of said contact out of electrical contact therewith in a circle having a radius equal to that of the circle or traverse of said contact, a point contact disposed substantially on the axis of said rotor, and means electrically connecting said ring contact and said point contact; and an insulating housing about said rotor with an electrically grounded drive shaft rotatably mounted therein for engaging said rotor in driving relation at the axis thereof in electrical contact with said point contact, and a plurality of ignition points spaced about the circle of traverse of said rotor contact for sequentially engaging same whereby spark plugs connected to said ignition points are at all times either electrically energized by the rotor contact or electrically grounded by said ring contact.

2,972,025
TIME DELAY MERCURY SWITCH

Waldo H. Banks, Hopedale, Mass., assignor to Draper Corporation, Hopedale, Mass., a corporation of Maine

Filed Sept. 22, 1959, Ser. No. 841,471
3 Claims. (Cl. 200—33)

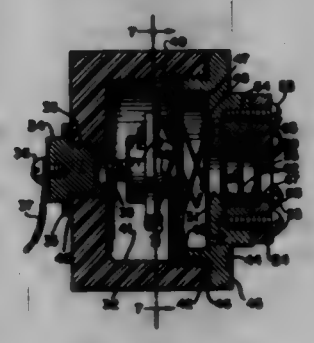


1. A time delay mercury switch of the delayed opening type which comprises a main tiltable tube of insulating material, a pool of mercury in said tube, a conductive member extending lengthwise along the major portion of said tube to form a first upper compartment and a second lower compartment therein, said compartments being adapted to communicate freely at one end of said tube, a capillary opening in said conductive member at the opposite end thereof for permitting a gradual flow of mercury from said second compartment upwardly into said first compartment, a baffle plate extending across said upper compartment between said opening and said one end of said tube effective to maintain a portion of said pool of mercury in continuous contact with the upper end of said capillary opening while permitting free flow of mercury across the top of said plate, and a pair of electrical contacts adapted upon tilting of said tube to maintain a closed circuit through said pool of mercury for a predetermined period of time.

2,972,026
DAMPED INERTIA SWITCH

James M. Kendall, Coral Hills, Md. (Naval Ordnance Laboratory, White Oak, Silver Spring 19, Md.)

Filed May 7, 1948, Ser. No. 25,771
12 Claims. (Cl. 200—61.5)
(Granted under Title 35, U.S. Code (1952), sec. 266)

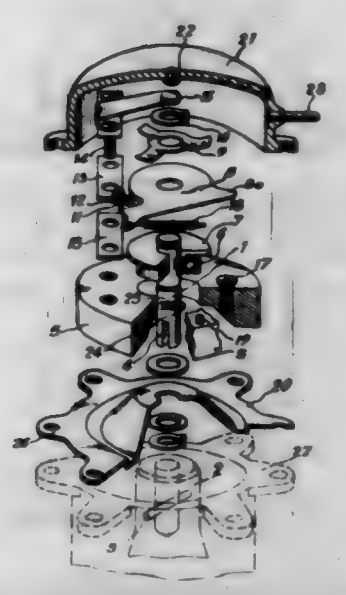


11. An inertia switch for a torpedo exploder mechanism comprising a hollow housing, an electrical contact comprising an electroresponsive surface secured to said housing and exposed to the hollow interior thereof, an electroconducting inertia responsive element mounted within said hollow housing for electrical coaction with said electroresponsive surface, spring means mounting said inertia element on said housing and normally maintaining said inertia element in spaced relation to said electroresponsive surface, and means for damping the oscillations of said inertia element due to countermine shock whereby upon impact of the torpedo with a target said inertia element moves into contact with said electroresponsive surface overcoming the resistance of said spring means and said damping means.

2,972,027
INERTIA SWITCH

Edmond Henry-Biabaud, Paris, France, assignor to Societe Anonyme Andre Citroen, Paris, France, a company of France

Filed Apr. 15, 1959, Ser. No. 806,707
Claims priority, application France Apr. 17, 1958
4 Claims. (Cl. 200—61.46)

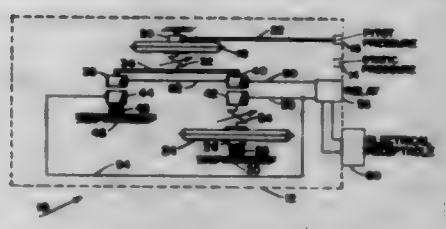


1. An inertia switch of the type described for an automotive vehicle wheel axle, and comprising a shaft, means for connecting the shaft for rotation with said wheel axle, a flywheel rotatably journalled on said shaft, a friction disk secured to said shaft, a friction drive element engaging said friction disk so as to be normally driven by the latter for rotation with said shaft, cooperating drive surfaces on said drive element and said flywheel, spring means normally urging said drive surfaces into engagement to drive the flywheel from said drive element, and electrical contacts respectively mounted on said drive element and said flywheel and spaced from each other when said drive surfaces are in engagement, said contacts being mutually engaged when said drive surfaces are disengaged due to relative rotation of said flywheel and drive element in opposition to said spring means upon deceleration of said wheel due to over-braking, and the impact of said contacts during engagement thereof being limited by slipping of said friction drive element relative to said friction disk.

2,972,028
SENSITIVE SPEED INSTRUMENT FOR AIRCRAFT

Carl E. Johnson and Alan A. Lorenz, Davenport, Iowa, assignors to The Bendix Corporation, a corporation of Delaware

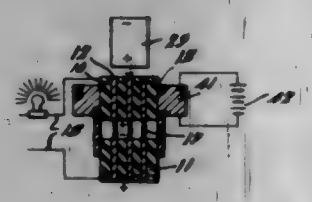
Filed Oct. 16, 1958, Ser. No. 767,685
9 Claims. (Cl. 200—81.4)



1. A switch for activation at a predetermined indicated airspeed or Mach number, whichever is first reached, comprising a static pressure responsive capsule movable with pressure variations incident to changes in ambient pressure, dynamic pressure responsive capsule movable with impact pressure variations incident to changes in airspeed, first and second movable airspeed contacts carried by said dynamic pressure responsive capsule, a third

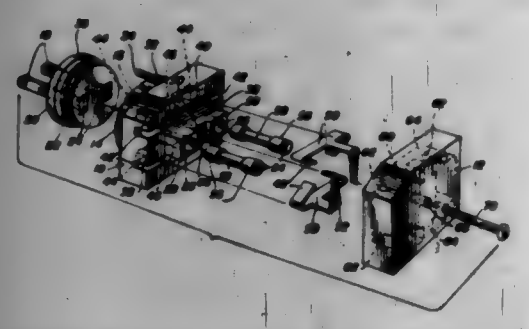
non-movable contact disposed in the path of one of said movable airspeed contacts for engagement therewith when said predetermined airspeed is reached, a fourth movable Mach contact carried by said static pressure responsive capsule disposed in the path of the other of said airspeed contacts movable towards and away from said airspeed contact and disposed for engagement with said airspeed contact when said predetermined Mach number is reached.

2,972,029
PROXIMITY SWITCH
Stanford R. Ovshinsky, Detroit, Mich., assignor to Tann Corporation, Detroit, Mich., a corporation of Michigan
Filed Mar. 6, 1957, Ser. No. 644,228
18 Claims. (Cl. 200—87)



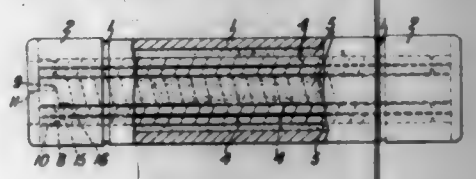
1. In a proximity switch, magnetizable means having a cavity therein connected across a circuit, a plurality of magnetizable balls within the cavity, and a magnet which produces an attractive flux path across the cavity when relatively moved to the vicinity thereof to cause chains of the balls to form and complete the circuit, the removal of the magnet permitting the magnetizable means to produce a repellent flux across the cavity.

2,972,030
FUSED PLUG-IN RECEPTACLE
Charles A. Lindeman, 4919 Roosevelt Road, Cicero 50, Ill.
Filed Mar. 26, 1959, Ser. No. 802,247
10 Claims. (Cl. 200—115.5)



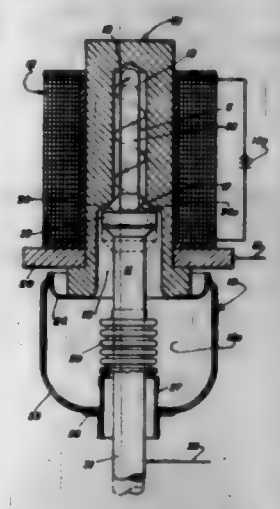
1. A fused plug-in receptacle comprising a bladed plug adapted to be inserted in an electric outlet receptacle, means forming a fuse receptacle having a base secured to the plug, the inner ends of the blades terminating in separate contacts adjacent the wall of the base, the base formed with bores extending therethrough and registering with the said contacts and with transverse recesses at the sides of the bores, fuses inserted in said bores, contact members seated in the recesses extending transversely of the base, each having a contact tongue extending therefrom and overlying one of the bores and adapted to engage the adjacent end of a fuse in the corresponding bore and to press it resiliently against the blade contact, the contact members having means extending in the recesses to opposite ends of the base from said tongues for engaging blades of other connectors, and a cover for the receptacle adapted to engage the contact members in the receptacle and to hold them firmly in place.

2,972,031
ELECTRIC FUSES
John E. Cox, Drayton, Salop, England, assignor to Electric Transmission Limited, Staffordshire, England, a company of Great Britain
Filed Aug. 31, 1959, Ser. No. 837,140
8 Claims. (Cl. 200—120)



1. An electric fuse comprising an insulating body containing arc-quenching material, a plurality of elongated substantially parallel star-section insulating cores mounted in said body, a plurality of fusible elements wound helically about said cores with a common pitch and embedded in said material, and means connecting said elements electrically in parallel wherein in each pair of adjacent elements, each pair of points of minimum divides the respective elements into first and second lengths, the ratios between the resistances of the first and second lengths for the two elements being substantially the same.

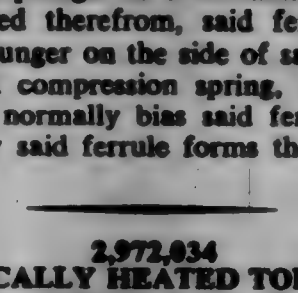
2,972,032
VACUUM INTERRUPTER
Karl-Birger Persson, Ballston Spa, N.Y., assignor to General Electric Company, a corporation of New York
Filed Jan. 2, 1959, Ser. No. 784,769
8 Claims. (Cl. 200—144)



1. A vacuum interrupter for alternating currents comprising in combination: a pair of relatively movable telescoping inner and outer electrodes defining an elongated annular space, the electrodes in position of maximum insertion having engaging contact-making conformations near one end of said space, and in partially withdrawn contact-breaking position having said conformations spaced while still defining an elongated annular space; means for connecting said electrodes to an alternating current circuit, the circuit connecting means for said outer electrode being displaced from said contact-making conformations in a direction away from the position of maximum insertion of said inner electrode and providing for a generally reentrant current path with current flowing in said electrodes in opposite directions; means defining a vacuum space including said annular space and sustaining said electrodes in insulated relationship whereby withdrawal of the electrodes from said position of maximum insertion to said contact-breaking position creates an arc between said conformations that is propelled by magnetic action into said space; means creating a longitudinal magnetic field in said annular space to cause the arc to spiral about said space as it travels, the length of the annular space when said electrodes are partially withdrawn being

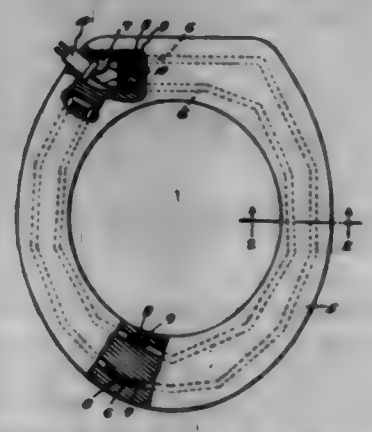
sufficient in relation to the frequency of the currents to bring the arc to interruption before it reaches the opposite end of the cavity.

2,972,033
PLUNGER SWITCH
Charles A. Woodcock, Springfield, Ill., assignor to Stewart-Warner Corporation, Chicago, Ill., a corporation of Virginia
Filed Aug. 18, 1958, Ser. No. 755,569
6 Claims. (Cl. 200—159)



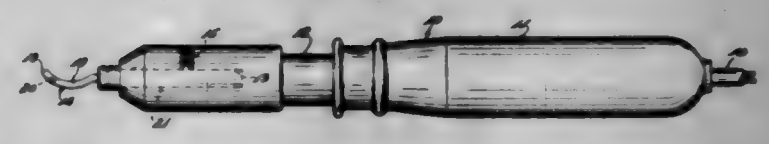
6. A plunger-type switch comprising; a supporting bracket including spaced first and second upstanding lugs, each of said lugs having an aperture formed therein, the aperture formed in said first lug being smaller than that formed in said second, said first lug forming the stationary contact of said switch, a plunger mounted on said bracket and extending through said apertures for reciprocatory movement therein, said plunger having three stepped portions of differing diameter including an end portion of greatest diameter, an intermediate portion of somewhat smaller diameter, and another end portion of smallest diameter, whereby first and second shoulders are formed on said plunger, said plunger being mounted within said apertures so that said largest diameter portion of said plunger is positioned within the aperture formed within said second lug and the intermediate diameter portion of said plunger is positioned within the aperture formed within said first lug, a compression spring surrounding said plunger and positioned between said lugs with one end of said compression spring abutting said first shoulder, and the other end of said compression spring abutting the inner surface of said first upstanding lug, a generally cylindrical ferrule mounted on said plunger at said smallest diameter portion and insulated therefrom, said ferrule being positioned on said plunger on the side of said first lug opposite that of said compression spring, said compression spring acting to normally bias said ferrule against said first lug whereby said ferrule forms the moving contact of said switch.

2,972,034
ELECTRICALLY HEATED TOILET SEAT
Morris E. Easley, 5300 22nd Ave., Sacramento, Calif.
Filed Mar. 21, 1958, Ser. No. 723,042
1 Claim. (Cl. 219—19)



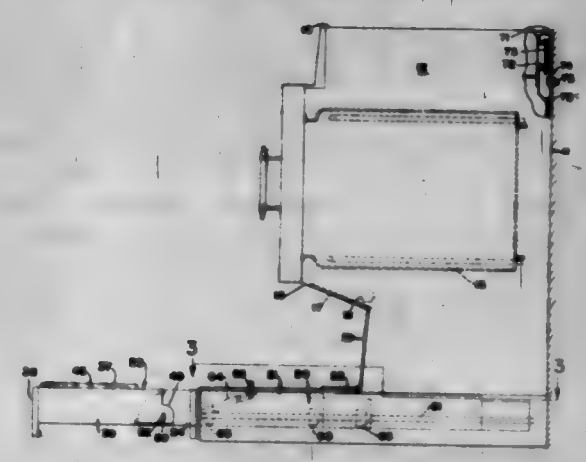
An electrically heated toilet seat comprising a solid body having a pair of grooves spaced apart and extending throughout the lower surface of said body, said grooves extending inwardly from the bottom of said seat, said grooves being connected at one of their respective ends, a compartment formed in said body with which the other ends of said grooves communicate, the wall of said compartments having an electric plug opening, an electric plug mounted in said plug opening, asbestos tubing sealed within said grooves, a continuous electric resistance coil extending throughout the length of said asbestos tubing, the ends of said electric resistance coil terminating within said compartment, and said electric resistance coil being connected to said plug through which electric current is passed to said resistance coil.

2,972,035
ELECTRICALLY HEATED TRIMMING KNIFE
Theodore A. Miller, 861 Chestnut Blvd., Cuyahoga Falls, Ohio
Filed Sept. 3, 1958, Ser. No. 758,724
2 Claims. (Cl. 219—21)



1. An electrically heated knife for trimming flash from plastic molded articles, said knife comprising a longitudinally bowed blade of substantially uniform thickness having substantially parallel convex and concave faces, the end of the blade being formed with a V-notch extending into its bowed portion and relieved toward the concave face of the blade to provide relatively sharp margins defining the notch at the convex face of the blade, the convex face along said notch and rearwardly thereof defining a smooth heated convex sole surface about the notch and rearwardly thereof to smooth the trimmed area of the article, an axially directed shank integral with said blade for holding it and conducting heat thereto, and an electrically heated handle member having a socket for receiving and holding the blade with its notched end extending from said member.

2,972,036
RANGE
Earl S. Pollock, Lexington, and Edward L. Hoeflich, Bellville, Ohio, assignors to The Tappan Company, Mansfield, Ohio, a corporation of Ohio
Filed Apr. 10, 1959, Ser. No. 805,558
13 Claims. (Cl. 219—37)



2. Range construction comprising an enclosure, an oven mounted in an upper portion of said enclosure, the latter having a front wall beneath said oven and side extensions which project forwardly of such front wall below the same, a drawer slidable in the enclosure in the lower portion thereof and between such side extensions, the

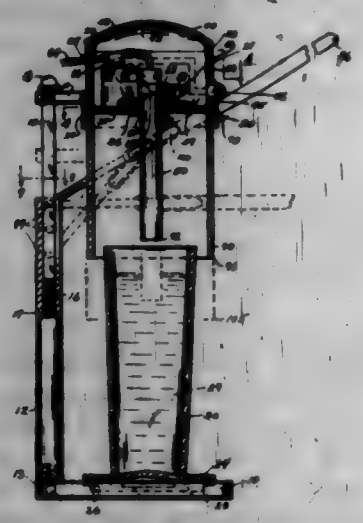
drawer when closed having an outer section exposed at the top forward of such front wall and an inner section concealed by the enclosure behind such front wall, surface heating means carried by such inner section of the drawer, a counter-like panel removably attached at the top of such outer drawer section, said heating means being exposed for use by moving the drawer outwardly, and means for disabling said heating means in response to inward movement of the drawer.

2,972,037

APPARATUS FOR MULLING BEVERAGES

Richard H. Taves, 10611 W. Nevada, Melrose Park, Ill.

Filed Dec. 7, 1959, Ser. No. 857,858
9 Claims. (Cl. 219—41)



1. A beverage mulling apparatus comprising, in combination, a main base formed to rest upon a bar or the like, a vertical substantially hollow support, a straight rigid bar slidably mounted within said hollow support, a compression spring within said hollow support and effecting upward movement of said bar arranged in contact with the upper end thereof, said housing having a supporting arm horizontally and integrally formed therewith, said supporting arm and said housing reciprocally supported on the upper end of said bar and said housing carrying a downwardly projecting electrical resistance heating element at sufficient elevation to permit a beverage container to be moved laterally to dispose it under and remove it from under the said heating element, said housing embodying a closed chamber with a dome shaped top portion removably secured to its bottom portion, said chamber enclosing a thermostat therein which is connected with said heating element, an operating arm having a pivot means at one end and a handle portion at the opposite end thereof, said pivot means at said one end pivotally connected with the side wall of said support, the intermediate portion of said operating arm slidably connected with said housing, said operating arm to reciprocate the housing to move the said heating element downwardly and upwardly by the user, said hollow support having a bottom wall, said compression spring resting upon said bottom wall and arranged between said bottom wall and the bottom end of said bar, the hollow cavity in said hollow support being of non-circular cross-section and said bar being of non-circular cross-section.

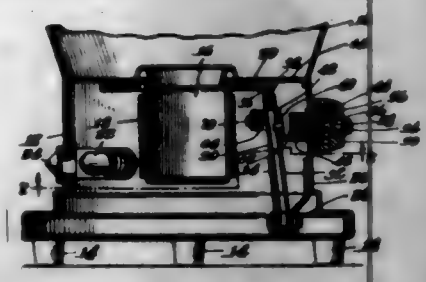
2,972,038

CONTROL FOR COFFEE MAKER

John R. Gomersall, Elgin, Ill., assignor to McGraw-Edison Company, Elgin, Ill., a corporation of Delaware

Filed Mar. 10, 1958, Ser. No. 720,463
4 Claims. (Cl. 219—44)

1. A domestic electric appliance comprising base means, electric heating means on said base means, means for connection to an electric line, a first switch arm on said base means having a first switch contact thereon, a second switch arm on said base means having a second contact thereon in cooperative opposition to said first contact, said contacts normally being in engagement, means effecting connection of said heating means to said electric connection means through said switch arm and said contacts, an armature on said second switch arm, a magnet supported from said base means substantially in alignment with said armature and attracting said armature against said magnet when said second arm tends to position said armature within a predetermined range of said magnet, a thermostatic element mounted from said base means and having



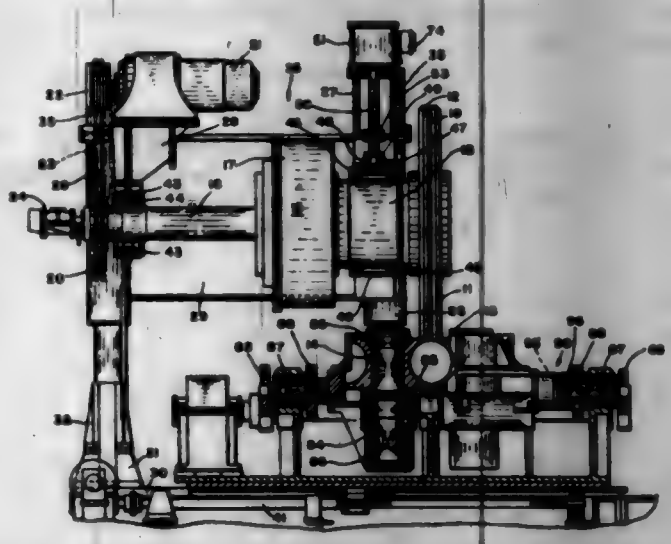
presser means thereon engageable with said first switch arm on the side thereof opposite said magnet, said thermostat on heating thereof forcing said presser means against said first arm, said first arm acting through said first and second contacts to move said second arm toward said magnet whereby to move said armature within said predetermined range of said magnet, said magnet thereupon pulling said armature against said magnet and moving said second contact away from said first contact, and a manually operable pushbutton extending through said magnet, said pushbutton being engageable with said second arm opposite to said presser means for moving said armature away from said magnet and said second switch contact back into engagement with said first switch contact.

2,972,039

TUBE MILL AND PRESSURE CONTROL THEREFOR

William E. Sheak, Hubbard, Ohio, assignor to The McKay Machine Company, Youngstown, Ohio, a corporation of Ohio

Filed Mar. 13, 1958, Ser. No. 721,313
28 Claims. (Cl. 219—63)



1. In an electric resistance tube mill having a rotary transformer and a pair of welding electrode wheels supported in vertically disposed relation with respect to a path of strip travel, means for vertically moving said transformer and said welding electrode wheels, means to control said means for vertically moving, and said

means to control comprising means responsive to the force exerted on the side edges of a tube length by said electrode wheels.

2,972,040

METHOD OF AND APPARATUS FOR THE MANUFACTURE OF LONGITUDINAL SEAM WELDED PIPES

Hans Thierfelder, 15 Schottenring, Vienna, Austria
Filed Jan. 22, 1959, Ser. No. 788,465
Claims priority, application Switzerland Nov. 5, 1958
8 Claims. (Cl. 219—67)

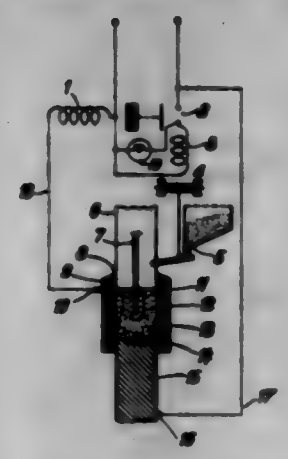


1. A method of manufacturing pipes, comprising the steps of deforming one band of sheet material by bending the lateral portion thereof to form a U-shaped profile, deforming said U-shaped profile into a slitted profiled member having an oval cross-section, joining the longitudinal edges of said slitted profiled member by pressing said edges together while applying an electrical current to the lateral portions to form a flat oval pipe having a closed profile, having flat sides and semicylindrical end portions, and finally passing said pipe into a die having a circular opening further deforming said pipe into a substantially circular cross-section.

2,972,041

DEVICE FOR CONTROLLING THE LEVEL OF MOLTEN SLAG

Martin Mosný, 14 Zahradnicka, and Vilem Pavelka, 9 Jeruzalemska, both of Bratislava, Czechoslovakia
Filed May 14, 1958, Ser. No. 735,325
Claims priority, application Czechoslovakia May 18, 1957
7 Claims. (Cl. 219—73)



1. In an automatic electric welding machine for welding together edges of work pieces which extend at a substantial angle with respect to the horizontal; the combination of a welding assembly moving upwardly along the edges of the work pieces as the welding operation proceeds and including a welding electrode which projects downwardly between the edges of the work pieces and deposits molten weld metal when connected to an electric welding circuit and elements confining the molten weld metal between the edges of the work pieces until the molten weld metal solidifies; means for supplying flux to form a layer of molten slag above the molten weld metal and into which said welding electrode normally depends; and an auxiliary electric circuit independent of the electric welding circuit and including an electrically conductive probe electrically insulated from said upwardly moving welding assembly and mechanically connected to the latter for movement therewith, said probe projecting through one of said elements so as to be disposed a predetermined distance above the level of the molten weld metal and thereby contacted by said molten slag when said layer of the latter has a thickness exceeding a predetermined value, an electrical source, and conductors connecting said source to said probe and the solidified weld metal, respectively, so that the auxiliary circuit is completed through said molten slag and weld metal when said probe is contacted by the slag and the auxiliary circuit is interrupted when the thickness of the layer of molten slag decreases below said predetermined value, and a device operated in response to interruption of the auxiliary electric circuit to sense a dangerous reduction in the thickness of the layer of molten slag covering the welding electrode and the molten weld metal deposited by the latter.

2,972,042

SUBMERGED ARC WELDING APPARATUS

Charles A. Ashbaker, Springfield, Ill., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Apr. 9, 1959, Ser. No. 805,176
8 Claims. (Cl. 219—126)

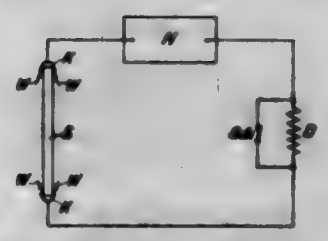


1. In a submerged arc welding machine of the type wherein one of either the work piece or welding electrode is relatively movable with respect to the other, a flux dam assembly comprising: a rigid plate member having a pair of lateral edges and being connected on said welding machine for movement with and adjacent one side of the welding electrode; a pair of rigid wing plates respectively having a lateral edge hingeably connected on the lateral edges of said plate member for swinging movement about an axis parallel to said edges; guide means carried respectively on said wing plates for following the contours of the work piece during relative movement between the work piece and welding electrode; and biasing means acting against said wing plates for maintaining said guide means in contact with said work piece.

2,972,043

RESISTANCE HEATING PROCESS AND APPARATUS

Wilhelm Stich, Bochum, Germany, assignor to Bochumer Verein fuer Gusstahlfabrikation Aktiengesellschaft, a corporation of Germany
Filed Oct. 8, 1956, Ser. No. 614,565
8 Claims. (Cl. 219—156)



1. A process for resistance heating elongated electrically conductive workpieces such as steel billets and other similar semi-finished members to a substantially even elevated temperature throughout the entire workpiece, comprising the steps of applying a pair of contacts to the ends of the workpiece and conducting a high current

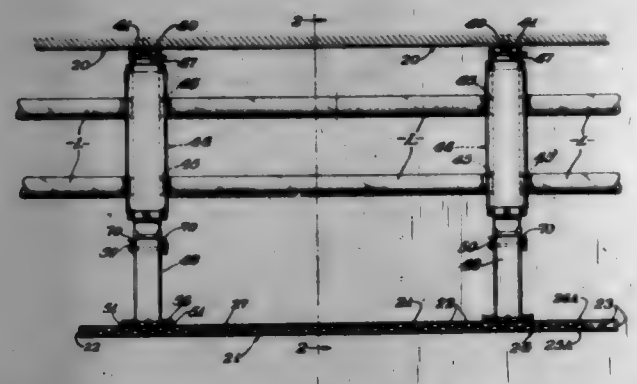
through the same in order to heat the workpiece rapidly, whereby more heat is developed in end portions of said workpiece located adjacent said contacts than in commensurate portions of said workpiece which are farther distant from said contacts; and applying a cooling fluid to said end portions of said workpiece at least during a part of the time that it is heated by the passage of said current therethrough so as to absorb a portion of the heat developed in said end portions and to cool the same sufficiently to substantially maintain an even temperature throughout the entire length of said workpiece.

2,972,044

LUMINOUS CEILING STRUCTURE

Gean Smith, Chicago, Ill., assignor to Luminous Ceilings, Inc., Chicago, Ill., a corporation of Illinois

Filed Aug. 8, 1955, Ser. No. 526,869
7 Claims. (Cl. 240—9)



1. In a luminous ceiling structure, elongated hanger-channel means pendantly supported from a main ceiling, a plurality of spans of elongated track sections supported in parallelism in a horizontal plane from said hanger-channel means, each track section including: a central channel flanked on opposite sides by a pair of upper and lower longitudinally-extensive flanges defining a laterally opening track channel to receive one longitudinal edge of a ceiling sheet the opposite edge of which is supported in the confronting track channel of an adjacent parallel track section; electrically energized illumination lamps supported by said hanger-channel means, the latter having an open lower end fitting against the conjunctive ends of certain track sections; the latter having energizing feed conductors in the central channel portions thereof and connecting with plug-in connector means disposed in the central channel portion of said certain track section at said conjunctive ends thereof to establish connection between the conductors in said conjoined sections; the hanger-channel means which supports said certain track sections having plug-in connector means at said open lower end thereof electrically engageable with said track plug-in means and connecting with the appertaining said lamp means; said complementary plug-in connector means in the conjoined track sections providing a structural interconnection which couples the apertaining track sections together.

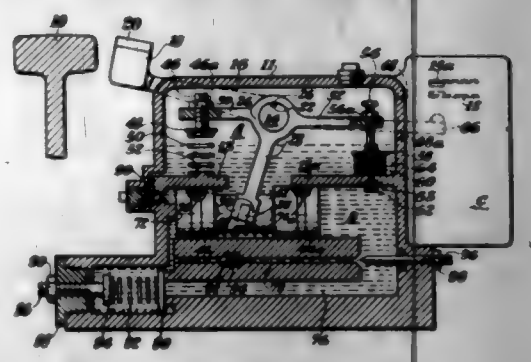
2,972,045

TRACK INSTRUMENTS

Rankin J. Bush, Jeannette, Pa., assignor to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania

Filed June 12, 1958, Ser. No. 741,509
4 Claims. (Cl. 246—248)

1. A track instrument comprising an actuating member mounted for movement between a first and a second position, a contact, means controlled by said member for actuating said contact in response to movement of said member from its first to its second position, means for biasing said actuating member to its first position, and a buffer mechanism comprising a cylinder, a piston reciprocable in said cylinder between a first and a second position, means operatively connecting said piston with said member for moving said piston between its first and second positions in response to movement of said member between its first and second positions, a first fluid passageway connecting the opposite ends of said cylinder, a first valve means in said first passageway for controlling the flow of fluid in response to movement of said piston from its first toward its second position, a second fluid passageway connecting the opposite ends of said cylinder, a second valve means for preventing the flow of fluid



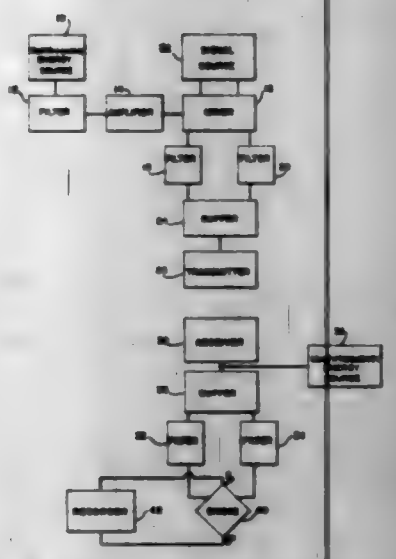
through said second passageway in response to movement of said piston from its first toward its second position but permitting flow of fluid through said second passageway in response to movement of said piston from its second toward its first position, means for controlling the rate of flow of fluid through said second passageway in response to movement of said piston from its second toward its first position to prevent rapid return movement of said actuating member due to its biasing means, and adjustable biasing means cooperating with said first valve means for controlling the fluid pressure required to open said first valve means.

2,972,046

BANDWIDTH MODULATION INFORMATION TRANSFER SYSTEM

Stuart L. Seaton, Clarksburg, Md., assignor to Research Corporation, New York, N.Y., a corporation of New York

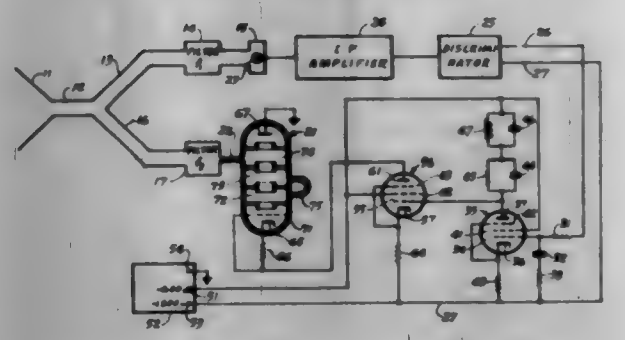
Filed Aug. 30, 1957, Ser. No. 681,381
6 Claims. (Cl. 250—6)



1. An energy transfer system comprising a multi-frequency energy source, a transmitter, a first and a second transmitter filter means connected between said source and said transmitter, said first filter means having a narrower pass band than said second filter means and each having the same central frequency, means for selectively connecting said multi-frequency source to said transmitter through the first and second filter means, a receiver, a

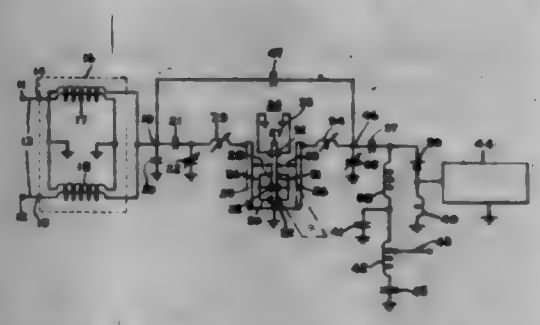
bridge circuit, a first and a second receiver filter means connected between said receiver and said bridge, said first and second receiver filter means having the same characteristics as said transmitter filter means, and means for sensing the output of said bridge.

2,972,047
TRANSMITTER-RECEIVER
Robert V. Werner, San Diego, Robert C. Weaver, La Jolla, and James W. Crooks, Jr., San Diego, Calif., assignors to General Dynamics Corporation, San Diego, Calif., a corporation of Delaware
Filed Nov. 21, 1955, Ser. No. 548,182
4 Claims. (Cl. 250—15)



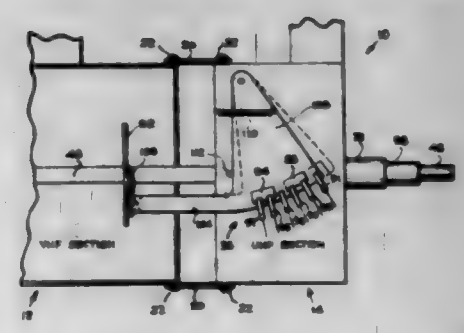
1. A transponder adapted to receive a signal at a first frequency and transmit a signal at a second frequency comprising a receiver including wave receiving means, a mixer, an intermediate frequency amplifier and a discriminator for generating modulating signals in accordance with the received signal, a compensating circuit associated with said receiver comprising a first electron discharge device having a control electrode and a cathode connected to said discriminator, an anode, a frequency responsive impedance network connected to said anode, said impedance network including a first parallel circuit including a capacitor and a resistor and a second parallel circuit including a capacitor and an inductance in serial relationship with said first parallel circuit whereby an equalized signal is produced at said anode, an oscillator comprising a velocity modulated electron discharge device for generating said second frequency signal, means for frequency modulating said oscillator in accordance with the equalized modulating signals comprising a second electron discharge device having a control electrode connected to the anode of said first electron discharge device and an anode in series with said oscillator, means for applying a portion of said second frequency signal to said mixer to produce an intermediate frequency, and wave transmitting means associated with said oscillator.

2,972,048
ULTRA-HIGH FREQUENCY CONVERTER
John C. Coykendall, Syracuse, N.Y., assignor to General Electric Company, a corporation of New York
Filed Dec. 19, 1958, Ser. No. 781,532
1 Claim. (Cl. 250—20)



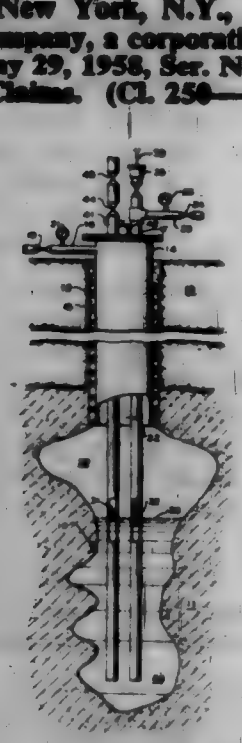
An ultra-high frequency converter for converting an ultra-high frequency signal to a desired intermediate frequency signal comprising in combination a preselector, a crystal, and an ultra-high frequency oscillator, said preselector having a tuned circuit input and a tuned circuit output which are inductively coupled, said tuned circuit output having a point therein which provides a low-impedance path to ground for intermediate frequency signals, a coupling capacitor connected between said point and said crystal for coupling the output of said preselector to one side of said crystal, said coupling capacitor being of such value as to reduce the loading on said tuned circuit output, means for coupling the output of said oscillator to the other side of said crystal, a capacitor connected between said point and the input of said preselector for coupling a voltage which is out-of-phase with the oscillator voltage inductively coupled through said preselector thereby neutralizing the oscillator voltage at the input of said preselector, a series circuit comprised of a choke coil for ultra-high frequencies and a circuit that is resonant at said intermediate frequency, the said series circuit being connected shunt with said crystal and the said means for coupling the output of said oscillator to said crystal, and an intermediate frequency output terminal coupled to said resonant circuit.

2,972,049
CHANGEOVER SWITCH ARRANGEMENT FOR VHF-UHF TUNER
Francis G. Mason, Weston, Conn., assignor to Aladdin Industries, Incorporated, Nashville, Tenn., a corporation of Illinois
Filed Feb. 17, 1959, Ser. No. 793,857
1 Claim. (Cl. 250—40)



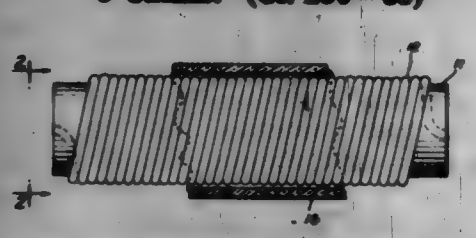
In a unit for tuning a television receiver or the like, the combination comprising a first tuner for covering a first frequency band, said first tuner having a first chassis with variable tuning means thereon, a first tuning shaft rotatably mounted on said first chassis for operating said tuning means, said shaft extending forwardly from said first chassis, a second tuner having a second chassis with variable tuning means thereon for covering a second frequency band, a hollow tuning shaft rotatably mounted on said second chassis for operating said second tuning means, means securing said second chassis to the front of said first chassis, said first tuning shaft extending coaxially through said hollow tuning shaft, said first tuning shaft being rotatable to a plurality of channel positions and an additional changeover position, said second tuner comprising a switch mounted on said second chassis and movable between first and second positions, said switch being effective in said first position to activate said first tuner while being effective in said second position to activate said second tuner, said switch having an operating member movable forwardly and rearwardly and projecting rearwardly from said second tuner to said first tuner, and a cam on said first tuning shaft of said first tuner, said cam having a forwardly projecting cam lobe thereon engageable with said operating member of said switch and effective to shift said switch between said first and second positions when said first shaft is moved into said changeover position.

2,972,050
UNDERGROUND STORAGE
James H. Allen, New York, N.Y., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed May 29, 1958, Ser. No. 738,807
6 Claims. (Cl. 250—43.5)



1. In combination with an underground storage cavern completely enclosed by an impermeable formation for storing large volumes of fluid products including an access bore from ground surface, a heavier liquid in a lower level and a lighter fluid in an upper level thereof immiscible with said heavier liquid and forming an interface therewith: a first tubing suspended through said bore from ground level to a level below said interface; a capsule containing a source of penetrative radiation floating on said interface within said first tubing free to move therein; a second tubing suspended through said bore from ground level to a level below said interface spaced close to said first tubing; a radiation detector on a line within said second tubing and movable vertically thru the area of said interface; means for measuring the depth of said detector; and amplifying and recording means sensitive to said radiation for detecting the level of said source of radiation.

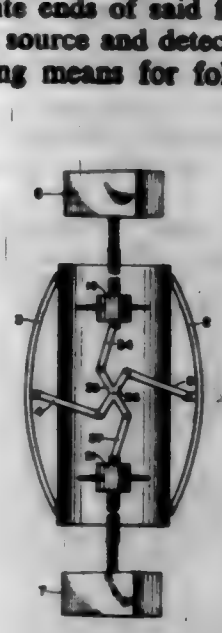
2,972,051
POCKET RADIATION DOSIMETER
John W. Beam, Chicago, Ill., assignor to Armour Research Foundation of Illinois Institute of Technology, Chicago, Ill., a corporation of Illinois
Filed July 16, 1958, Ser. No. 748,958
5 Claims. (Cl. 250—83)



1. A radiation dosimeter comprising in combination: a light opaque mandril, a radiation sensitive member spirally wound about such mandril, and a light transmission comparator positioned at one end of said mandril

2,972,052
RADIOACTIVE LOGGING APPARATUS
Laymond D. Wann, Ponca City, Okla., assignor to Continental Oil Company, Ponca City, Okla., a corporation of Delaware
Filed Dec. 6, 1955, Ser. No. 551,250
6 Claims. (Cl. 250—83.1)

1. A radioactive logging device adapted to pass within a well bore containing well fluids, said device comprising a cylindrical frame, a movable neutron source consisting of a mixture of radium and beryllium, and a movable radioactive detector, said neutron source and said radioactive detector mounted longitudinally in respect to said frame and at opposite ends of said frame, elastic means forcing said neutron source and detector away from each other, wall contacting means for following the contour



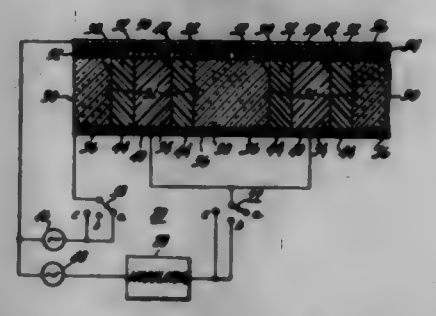
of the bore hole, connecting means between said contacting means and said movable neutron source and said detector whereby a horizontal movement of said contacting means causes a vertical movement of said movable neutron source and detector so that the ratio spacing between said movable neutron source and detector to the bore hole diameter remains constant.

2,972,053
AIMING STAKE
Edward P. Anderson, Livingston, N.J., assignor, by mesne assignments, to Engelhard Industries, Inc., Newark, N.J., a corporation of Delaware
Filed Oct. 14, 1957, Ser. No. 690,153
9 Claims. (Cl. 250—85)



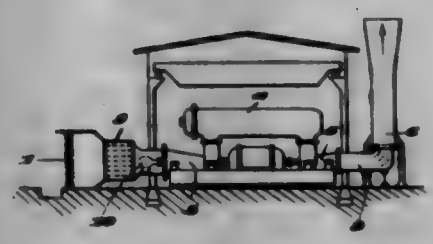
3. In a self contained portable aiming stake for marking an unknown location by infrared radiation from said location, a tubular housing, a catalytic combustion chamber mounted in and substantially adjacent one end of said housing, a fuel reservoir connected to said combustion chamber, another reservoir for a compressed, oxygen-containing gas attached to the housing at the end opposite the combustion chamber and connected to the fuel reservoir, a spike attached to one of said reservoirs for maintaining the aiming stake in a desired position when driven into the ground, said housing having at least one infrared radiation transmissive window arranged to face the combustion chamber.

2,972,854
LIGHT AMPLIFIER AND STORAGE DEVICE
Egon E. Loebner, Princeton, N.J., and Donald C. Darling, Levittown, Pa., assignors to Radio Corporation of America, a corporation of Delaware
Filed May 29, 1958, Ser. No. 738,870
8 Claims. (Cl. 250—213)



1. An electroluminescent device comprising an electroluminescent cell and two photoconductive cells, and means including a switch for selectively connecting said electroluminescent cell in series with either one of said photoconductive cells, means for exposing one of said photoconductive cells to external incident light and shielding said one of said photoconductive cells to light emitted by said electroluminescent cell, means for exposing the other of said photoconductive cells to light from said electroluminescent cell and shielding said other of said photoconductive cells from external incident light.

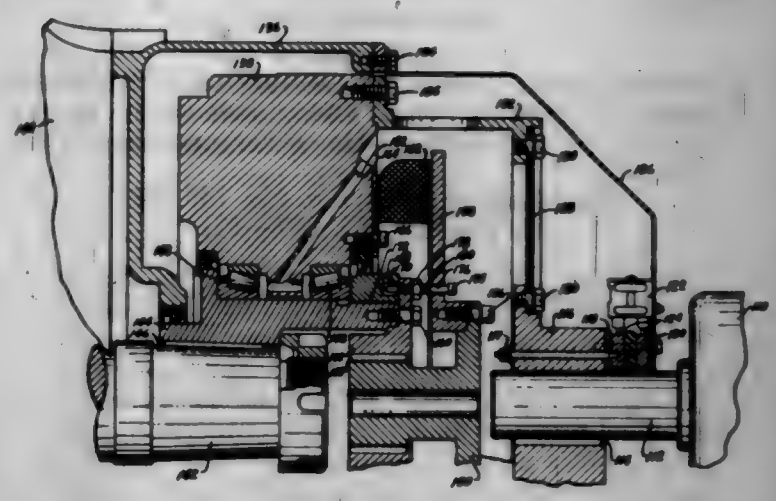
2,972,855
GAS TURBINE PLANT FOR THE GENERATION OF ELECTRIC POWER
Tadeusz Zaba, Wettingen, Switzerland, assignor to Aktiengesellschaft Brown, Boveri & Cie., Baden, Switzerland, a joint-stock company
Filed May 18, 1959, Ser. No. 814,075
Claims priority, application Switzerland May 27, 1958
1 Claim. (Cl. 290—2)



Gas turbine power plant for the generation of electric power, including at least an air compressor, a combustion chamber, a gas turbine and a generator, characterized in that the generator is arranged in axial alignment between the air compressor and the gas turbine, so that air is fed axially to the air compressor and waste gases from the gas turbine are exhausted axially on the opposite side, and in that the combustion chamber is so arranged above the generator that its flow direction is parallel to the axial direction of the generator.

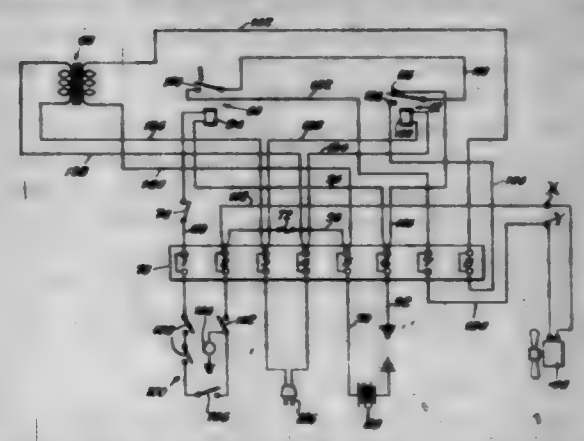
2,972,856
ENGINE GENERATOR SET
Wesley E. Park and Matthew J. Wenner, Milwaukee, Wis., assignors to Automatic Power, Inc., Houston, Tex., a corporation of Texas
Filed July 25, 1958, Ser. No. 750,931
14 Claims. (Cl. 290—30)

1. In a power plant, a starting-generating unit having a shaft extending therefrom, an engine associated with the starting-generating unit and having a crank shaft, a fly wheel rotatably mounted on the engine crank shaft so as to be supported thereby but free for relative rotation, a drive between the fly wheel and the shaft of the starting-generating unit so that they rotate together, and a coupling between the fly wheel and the crank shaft which is actuated when outside current fails, thus causing



the engine to drive the starting-generating unit, so as to supply electric current.

2,972,857
CONVERSION UNIT
Andrew P. Boehmer, Des Plaines, and William E. Lauterbach, Chicago, Ill., assignors to Dole Refrigerating Company, Chicago, Ill., a corporation of Illinois
Filed Mar. 13, 1957, Ser. No. 645,810
13 Claims. (Cl. 307—10)



1. In a circuit for operating a fan unit for use in a refrigerated vehicle or the like, a D.C. source of current, a fan motor adapted to be driven by both A.C. and D.C. current, a first relay, a first circuit between the D.C. source of current and the first relay for energizing said first relay, a door switch in the first circuit adapted to be opened and closed by the door of the vehicle, a second circuit between the D.C. source of current and the fan motor for energizing said fan motor, including contacts in the first relay adapted to be closed when the first relay is energized but otherwise open, an A.C. plug adapted to be connected to a source of A.C. current, a second relay, a third circuit between the A.C. plug and the second relay for energizing said second relay, and a fourth circuit between the A.C. plug and the fan motor for energizing said fan motor, including contacts in the second relay, said first and second relays and their contacts and said fourth circuit being constructed so that the fan motor will be energized by the D.C. source of current only when the A.C. plug is not connected to the A.C. source of current but will be energized by the A.C. source of current only when the A.C. plug is connected to the A.C. source, the second relay including a double set of contacts, one set in the second circuit and the other set in the fourth circuit, said relay being spring biased so as to normally close only the said one set of contacts when the second relay is not energized and to close only the said other set of contacts when the second relay is energized thereby automatically opening the second circuit

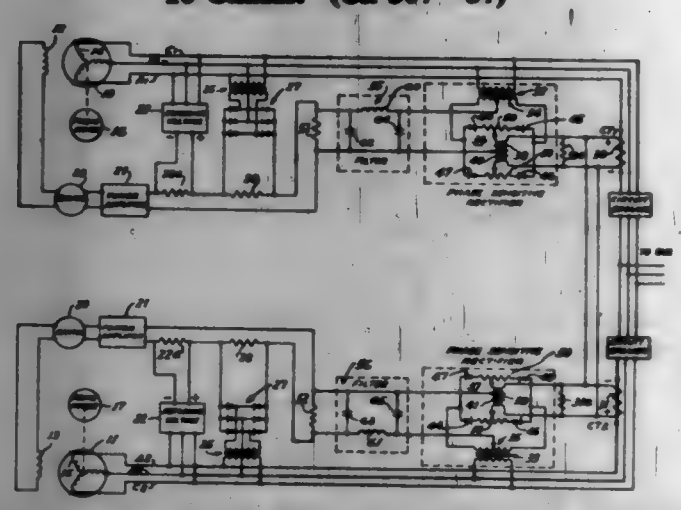
between the D.C. source of current and the fan motor when the A.C. plug is connected to the A.C. source of current.

2,972,058

ALTERNATING CURRENT GENERATOR SYSTEMS

Hermann A. Kahle, Solon, Ohio, assignor to Jack & Heintz, Inc., Cleveland, Ohio, a corporation of Delaware

Filed June 30, 1958, Ser. No. 745,568
10 Claims. (Cl. 307—57)



10. In a generator system, first and second three-phase synchronous generators having their outputs connected in parallel, regulating means for each geneator responsive to a direct current input signal for controlling the load of the corresponding generator, a current transformer and a voltage transformer for each generator and connected to the output of the corresponding generator to provide first and second alternating current voltages having a phase relationship dependent on the load of the generator to be controlled, each of said voltage transformers having a center-tapped secondary coil, means interconnecting said current transformers so as to provide a first voltage only when the line current of one generator is different from the average line current, a rectifying bridge for each generator comprised of a plurality of rectifying elements each having its cathode connected to the anode of the following rectifier element when proceeding around the bridge in one direction, an input transformer for each bridge having its primary coil connected to said current transformers and a center-tapped secondary coil, means connecting the secondary coils of said input transformers across one diagonal of the corresponding bridge, means connecting the voltage outputs from the secondary coils of said voltage transformers across the other diagonal of the corresponding rectifier bridge, an output impedance for each bridge connected between the center tap connections of the secondary coils of the voltage transformers connected to the particular bridge, and means including a low pass filter and an amplifier for connecting the voltage drop across each of said output impedances to the input of the respective regulating means.

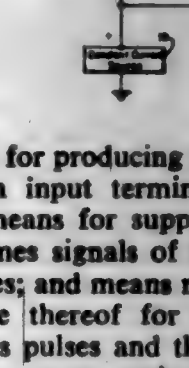
2,972,059

BIASED CARRIER FOR MAGNETIC AMPLIFIERS

Theodore H. Bonn and Richard W. Spencer, Philadelphia, Pa., assignors to Sperry Rand Corporation, a corporation of Delaware

Filed Nov. 12, 1954, Ser. No. 468,468
11 Claims. (Cl. 307—88)

1. A magnetic amplifier comprising two cores of magnetic material each of which has first and second windings thereon, means connecting said first windings to one another and to a source of signal potential, means coupling one end of each of said second windings to one end of a load impedance, transformer means having a primary winding energized by a carrier wave of alternating potential, said transformer means having a secondary winding the opposite ends of which are coupled respectively to the other ends of each of said second windings, said transformer secondary winding further having a



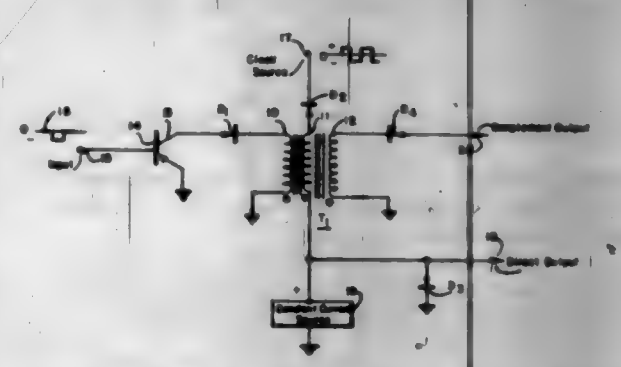
center tap coupled to the other end of said load impedance, and means shifting the average value of said carrier wave potential whereby said carrier is asymmetrical in potential.

2,972,060

LOGICAL ELEMENTS

Robert D. Torrey, Philadelphia, Pa., assignor to Sperry Rand Corporation, a corporation of Delaware

Filed Aug. 18, 1955, Ser. No. 529,284
9 Claims. (Cl. 307—88)



1. A logic circuit for producing complement output signals comprising an input terminal and a plurality of output terminals; means for supplying to said input terminal at certain times signals of the form of pulses and the absence of pulses; and means responsive to said pulses and to the absence thereof for respectively producing at said certain times pulses and the absence of pulses at a first one of said output terminals and for respectively producing at said certain times the absence of pulses and pulses at a second one of said output terminals, said responsive means including a pulse transformer having substantially no remanence and having a first winding connected at one terminal thereof to one of said output terminals, and having a second winding connected at one terminal thereof to another of said output terminals, means for supplying clock pulses of a certain polarity to another terminal of said first winding, and means responsive to said input signals for controlling the voltage across said first winding thereby to control the voltage at said one output terminal and to control the voltage induced in said second winding and the voltage at said another output terminal.

2,972,061

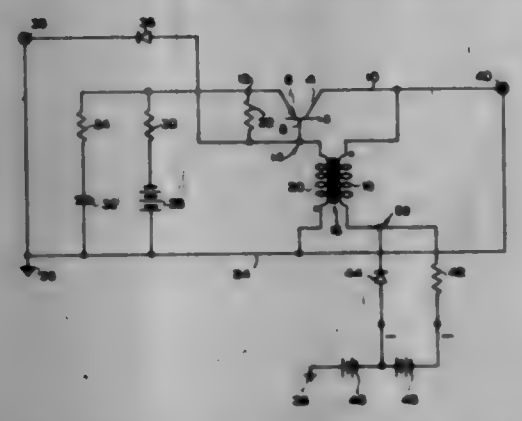
STABILIZED BLOCKING OSCILLATOR

Frank J. Mueller, Syosset, N.Y., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed July 24, 1957, Ser. No. 673,986
2 Claims. (Cl. 307—88.5)

1. A stabilized transistor blocking oscillator for generating a pulse comprising a transistor having an emit-

ter, a base, and a collector; a biasing circuit connected to said emitter comprising a first circuit comprising a biasing battery and a first resistor in series and a second circuit connected in parallel to said first circuit comprising a capacitor and a second resistor in series, said parallel circuits connected between said emitter and ground; a feedback transformer having a primary winding with one end connected to said collector and a secondary winding having one end connected to ground and the other end connected to said base; a secondary winding discharge and transistor protective resistor connected be-



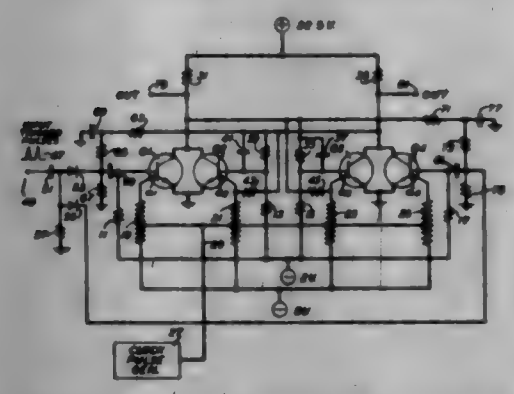
tween said base and said emitter; and a pulse length determining constant voltage source connected to the other end of said primary winding comprising a diode having a cathode connected to said other end of said primary winding and an anode adapted to be connected to a first source of voltage and a resistor having one end connected to said other end of said primary winding and the other end adapted to be connected to a second voltage source whereby the constant voltage source has a low impedance to current flow during a pulse and has a high impedance to current flow at the end of said pulse.

2,972,062

TRANSISTOR BINARY COUNTER

Omer P. Clark, New Vernon, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Oct. 28, 1957, Ser. No. 692,706
11 Claims. (Cl. 307—88.5)



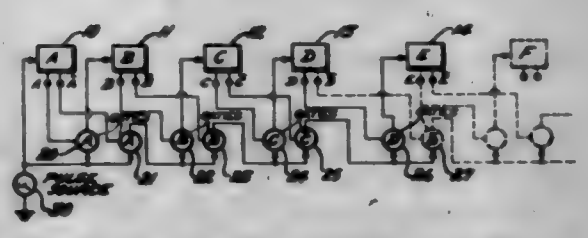
9. A binary counter comprising a pair of transistors which each have a collector, a normal base and an auxiliary base, voltage coupling means cross-connecting the collector of each of said transistors to the normal base of the opposite transistor to form a regenerative feedback loop wherein one of said transistors assumes a first operating state in which the voltage at its collector is at a reference level and the opposite transistor assumes a second operating state in which the voltage at its collector is at a second level, said transistors being adapted to interchange their states in response to application of a voltage pulse to the normal base of the transistor in a selected one of said states while an enabling voltage is present at the auxiliary base of each of said transistors, a clock pulse source connected to the auxiliary bases of said transistors for applying an enabling voltage thereto during predetermined time intervals, a pair of diodes which each have an input terminal and an output terminal, first voltage delay means connected at its input terminal to the collector of the first of said transistors and at its output terminal to the output terminal of the first of said diodes, second voltage delay means connected at its input terminal to the collector of the second of said transistors and at its output terminal to the output terminal of the second of said diodes, each of said voltage delay means being adapted to produce a first bias voltage at its output terminal a predetermined delay after application of a constant voltage at said reference level to its input terminal and to produce a second bias voltage at its output terminal the same predetermined delay after application of a constant voltage at said second level to its input terminal, said predetermined delay being shorter than any of said predetermined time intervals, a pair of normally nonconducting pulse amplifiers further respectively connecting the output terminals of said first and second diodes to the collectors of said second and first transistors, each of said pulse amplifiers being adapted to become conducting when a pulse is produced at the output terminal of the diode connected thereto, a source of trigger voltage pulses occurring during said predetermined time intervals and extending from the level of said first bias voltage to the level of said second bias voltage, the duration of each of said trigger voltage pulses being less than said predetermined delay, and means for connecting said trigger voltage pulse source to the input terminals of said diodes.

2,972,063

BINARY COUNTING

Arthur William Carlson, Harrison, Maine, assignor to the United States of America as represented by the Secretary of the Air Force

Filed Jan. 21, 1958, Ser. No. 710,378
3 Claims. (Cl. 307—88.5)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. An impulse responsive circuit comprising a plurality of flip-flops having two outputs and a trigger input, a plurality of coincidence means arranged in pairs, with successive pairs connected to and responsive to the respective outputs of the preceding flip-flop unit, and with one of each pair of said means being additionally connected to and responsive to the output of one only of the preceding pair of said coincidence means, and each of said flip-flop trigger inputs being connected to and responsive to the other only of the preceding pair of said coincidence means, so that not more than two of said flip-flop units can change state in any one impulse-receiving cycle, and means for priming said coincidence means.

2,972,064

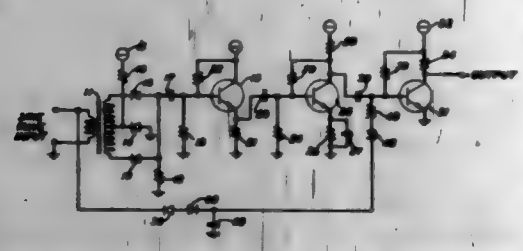
ZERO PHASE MARKER INDICATOR

Harold D. Hurlbut, Jr., Morristown, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Nov. 5, 1958, Ser. No. 772,032
7 Claims. (Cl. 307—88.5)

6. A circuit for providing a marker indication of the zero phase occurrence of a sine wave comprising full-

wave rectifying means responsive to said sine wave to produce a series of pulses having cusp-like intersections corresponding to the crossover points of said sine wave, differentiating means connected to said rectifying means for producing a marker pulse of given polarity for each cusp, means responsive to said sine wave to produce a signal of cyclically alternating polarity which is delayed with respect to said sine wave, a transistor amplifier



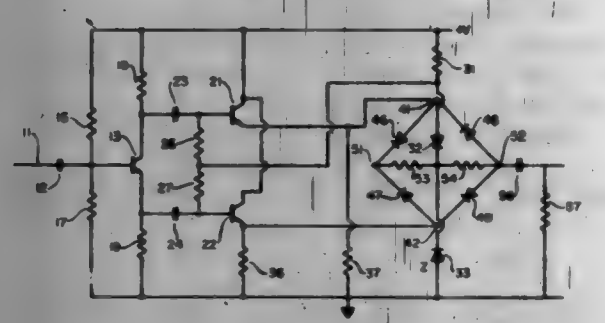
having a predetermined normal state of conduction, diode means serving to couple to said transistor amplifier those excursions of said cyclically alternating signal which are of a preselected polarity, said excursions serving to maintain said transistor amplifier in said predetermined state of conduction, and means coupling said marker pulses to said transistor amplifier to momentarily change the state of conduction thereof when the same is not being maintained under the influence of said excursions.

2,972,065

PULSE RECTIFIER AND PHASE INVERTER

Albert E. Hayes, Jr., Redwood City, Calif., assignor to Ampex Corporation, Redwood City, Calif., a corporation of California

Filed July 20, 1959, Ser. No. 828,253
3 Claims. (Cl. 307—88.5)



1. A pulse rectifier and phase inverter comprising a phase splitter adapted to receive an input signal and split and invert the same, a pair of transistors each having emitter, base and collector electrodes connected in emitter-follower circuits, the bases of said transistors connected to receive signals from the phase splitter, a bridge rectifying circuit having first and second pairs of terminals, means for connecting the first pair of bridge terminals to the emitters of said transistors, means for deriving a reference voltage, resistive means for applying said reference voltage to the second pair of bridge terminals, and means for applying the reference voltage to the base of said transistors.

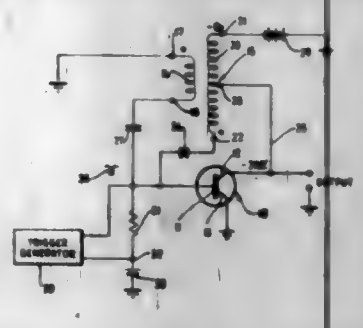
2,972,066

TRANSISTOR BLOCKING OSCILLATOR WITH MEANS TO PREVENT SATURATION OF TRANSISTOR

Ray L. Riley, Los Angeles, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

Filed Dec. 1, 1959, Ser. No. 856,419
4 Claims. (Cl. 307—88.5)

1. A transistor device for generating pulses of electrical energy comprising a pulse transformer having first and second windings with first and second extremities, respectively, and an intermediate tap on said second winding, said windings being poled in opposite directions relative to said first and second extremities thereof and said first extremity of said first winding being connected to a terminal maintained at a substantially fixed reference potential; a transistor having a base, a collector and an emitter, said emitter being connected to said terminal maintained at said substantially fixed reference potential and said collector being connected to said intermediate tap on said second winding; a capacitor connected from said second extremity of said first winding to said base



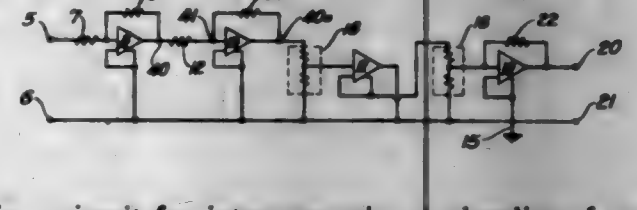
of said transistor; a source of negative bias potential connected to said first extremity of said second winding for applying a negative bias to said collector of said transistor; and a diode connected from said second extremity of said second winding to said base of said transistor, said diode being poled to allow current to flow from said second winding to said transistor during the generation of pulses thereby to maintain the potential of said base positive relative to the potential of said collector during the generation of said pulses.

2,972,067

MODULE INTERCONNECTIONS FOR A DATA HANDLING SYSTEM OR THE LIKE

Noel B. Braymer, Garden Grove, Calif., assignor to Beckman Instruments, Inc., a corporation of California

Filed Oct. 29, 1958, Ser. No. 770,519
10 Claims. (Cl. 307—149)



1. In a circuit for interconnecting a plurality of modules of a system, which modules have points between which potential values appear that are significant to the system output, the combination of: a system ground comprising a piece of conducting material that is small relative to the size of the modules; a plurality of transfer terminals, with each of said transfer terminals being positioned adjacent and electrically isolated from said ground; and a plurality of cables, each of said cables comprising a portion of a module and including leads for connecting said module points to said transfer terminals and ground, with module points that are to be intercoupled being connected to the same transfer terminals, such that the only common connections between modules are at said transfer terminals and ground.

2,972,068

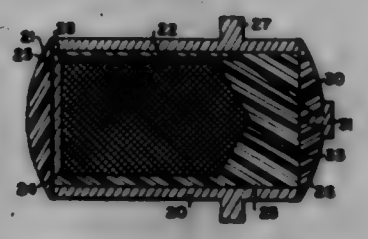
UNI-DIRECTIONAL ULTRASONIC TRANSDUCER

Douglass H. Howry, Denver, and Gerald J. Posakony, Boulder, Colo., assignors to Automation Instruments, Inc., Pasadena, Calif., a corporation of California

Filed July 6, 1956, Ser. No. 596,203
4 Claims. (Cl. 310—8.2)

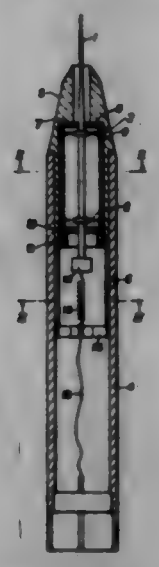
2. A transducer suitable for generating highly damped ultrasonic energy pulses comprising a flat piezoelectric

crystal having parallel front and back surfaces, electrode means in contact with the front and back surfaces, and a large block of damping material in intimate association with the back surface of the crystal, the damping material having a high ultrasonic energy absorption characteristic and an acoustic impedance substantially matching



the acoustic impedance of the crystal, the material consisting of a mass of fine powder of heavy metal suspended in a resin, the metal powder comprising the major portion of the block by weight and having a maximum particle size of the order of one-tenth wavelength at the operating frequency of the ultrasonic energy for which the transducer is designed.

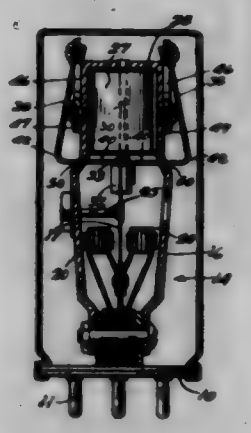
2,972,069
ULTRASONIC FLAW DETECTING APPARATUS
Donald Orr Sproule, London, England, assignor of one-half to Glass Developments Limited, London, England, a company of Great Britain
Filed Mar. 3, 1958, Ser. No. 718,793
2 Claims. (Cl. 310—8.3)



1. An electro-acoustic transducer device for the injection of ultrasonic vibrations into a solid by contact therewith without damaging the surface thereof, comprising a rod tapering gradually to a rounded point, said point having a diameter appreciably less than a quarter of the wavelength of said vibrations in said solid, a casing surrounding and spaced from said rod, means supporting and permitting movement normal to the axis of said rod upon application of pressure thereto for preventing undue pressure from being placed on said rod, an electro-acoustic transducer element mounted on the end of said rod remote from said point, and a resilient conductor connecting said transducer element to said casing.

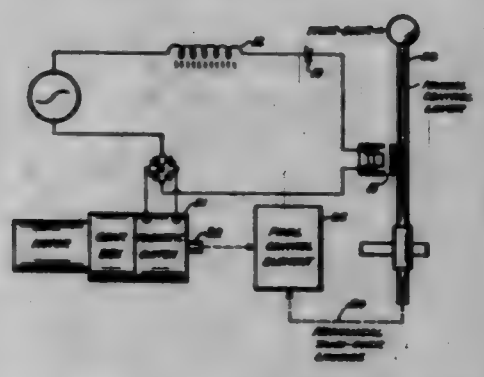
2,972,070
VIBRATOR
Lawrence V. Leverde, Chicago, Ill., assignor to Oak Manufacturing Co., a corporation of Delaware
Filed Dec. 2, 1957, Ser. No. 700,129
3 Claims. (Cl. 310—25)

1. A vibrator comprising a ferro-magnetic frame, a ferro-magnetic reed having one end rigidly secured to said frame and having the other end free, an armature carried at the free end of the reed, an electromagnet carried by said frame and having an active pole face in proximity to said armature, said electromagnet including a winding, contacts controlled by said reed and adapted to be opened and closed during reed vibration at which time said armature sweeps back and forth past said pole face, connections between said contacts and the winding of said electromagnet so that said vibrator may maintain itself in operation, said frame and reed forming part of the magnetic circuit for said electromagnet, at least one magnetic shunt comprising an angle piece of ferro-magnetic material, said angle piece having a spring portion



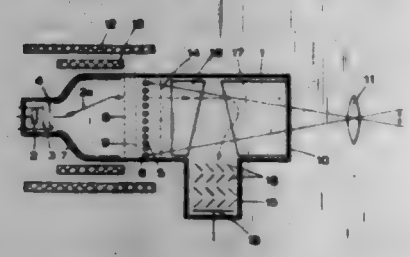
and a pole portion, means for rigidly attaching said spring portion of said angle piece to said frame in such a position that said pole portion extends toward said pole face but stops short thereof to provide an air gap therebetween, said frame and shunt providing a ferro-magnetic path from the pole face through part of the frame and said magnetic shunt to the pole portion of said shunt adjacent the pole face, said spring portion being sufficiently flexible to permit said shunt to adjust itself to control the size of the air gap between the pole portion and pole face according to the intensity of magnetization whereby the reed frequency may be maintained substantially constant over variations in existing potential.

2,972,071
ELECTROMAGNETIC CONTROL OF CURRENT FLOW
Cullman Kaye Leonard, Hamilton, Ohio, assignor to the United States of America as represented by the Secretary of the Air Force
Filed June 20, 1956, Ser. No. 592,697
1 Claim. (Cl. 310—94)



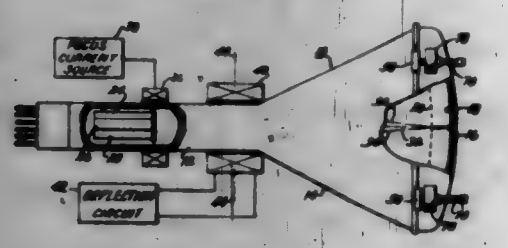
In an electric system wherein a variable core inductance operates to control current flow, the combination with said variable core inductance of a magnetic drive control, means including a saturable core inductance in series relation to said variable core inductance for controlling the energization of said drive control and coupling means for linking said magnetic drive control to said variable core inductance and operative to inhibit current flow in said system by the sudden desaturation of said serially connected saturable core inductance.

2,972,072
ELECTRON DISCHARGE DEVICES
Hans Gerhard Lubszynski, Waltham, St. Lawrence, England, assignor to Electric & Musical Industries Limited, Hayes, Middlesex, England, a company of Great Britain
Filed Dec. 10, 1958, Ser. No. 779,467
Claims priority, application Great Britain Dec. 13, 1957
15 Claims. (Cl. 313—65)



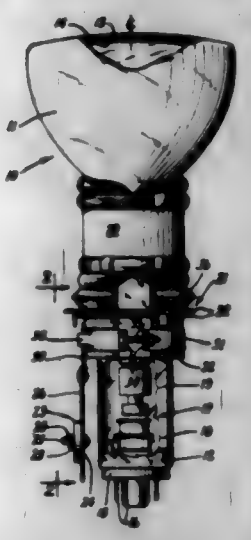
1. An electron discharge device having a target electrode comprising a substantially transparent foraminated member, a light sensitive surface on one side of said member, and said member is positioned so that an optical image can be projected through said member onto said light sensitive surface to cause elemental areas of said surface to change in potential by an amount dependent upon the intensity of corresponding elemental areas of said optical image, means facing said light-sensitive surface for generating electrons for projection towards said member during a restoration period, so that said elemental areas of said light sensitive surface are restored to an equilibrium potential, means for causing some of said electrons to pass through the foramina of said member during said restoration period and means for collecting said last mentioned electrons.

2,972,073
ELECTRON BEAM CONTROLLING APPARATUS
Burton R. Clay, Woodbury, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Aug. 31, 1955, Ser. No. 531,705
10 Claims. (Cl. 313—77)



1. In combination, a cathode-ray tube having a central axis and wherein beam-electrons may be subjected to undesired radial and tangential departures from their normal paths of scan in their transit to discrete elemental areas of an electron-sensitive screen of the mosaic variety, a permanent magnet disposed in such close proximity to said mosaic screen that said beam-electrons are subjected to the influence of the field of said magnet immediately prior to their impingement upon the discrete elemental areas of said screen, a rotatable shaft upon which said magnet is secured with its north and south poles extending radially in opposite directions therefrom, and means permanently supporting said shaft, and hence said magnet for rotation about a single fixed axis substantially parallel to said tube axis whereby the effective field of said magnet may be rotated between a first position whereat said field is substantially tangential to said screen to correct for said undesired radial departures of said beam-electrons from their said normal paths and a second position whereat said effective field is substantially radial of said screen to correct for said undesired tangential departures of said beam-electrons from their said normal paths.

2,972,074
MAGNETIC BEAM-CONTROLLING MEANS FOR CATHODE RAY TUBES
Henry S. Vasilevskis, Ardsley, Pa., assignor to Philco Corporation, Philadelphia, Pa., a corporation of Pennsylvania
Filed Oct. 14, 1959, Ser. No. 846,337
11 Claims. (Cl. 313—84)

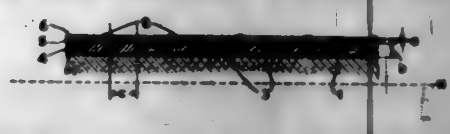


1. In combination with beam-centering magnetic rings for cathode ray tubes, a sleeve adapted to fit over the tubular section of a tube envelope and having a portion on which said rings are mounted to rotate concentrically about said sleeve, an elongated member carried by said sleeve and extending longitudinally therefrom, a magnet supported by said member in a position remote from said rings, and means interconnecting said member and said magnet to mount the latter for rotation on said member and for sliding motion along the length thereof.

2,972,075
COLOR-PHOSPHOR SCREENS
Martin R. Royce and Austin E. Hardy, Lancaster, Pa., assignors to Radio Corporation of America, a corporation of Delaware
No Drawing. Filed Apr. 1, 1958, Ser. No. 725,496
3 Claims. (Cl. 313—92)

1. A cathode ray tube having a glass faceplate and a color-phosphor screen of the mosaic variety on the inner surface of said faceplate, said color-phosphor screen being characterized by substantial uniformity in the optical contact of the different color-phosphors with the glass, whereby said screen when activated by electron-bombardment is substantially free from color haze when viewed at a wide angle.

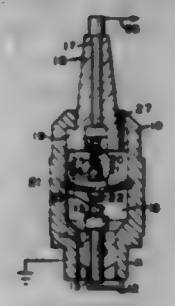
2,972,076
SOLID-STATE IMAGE INTENSIFIER
Johannes Gerrit van Santen and Gerhard Diemer, Eindhoven, Netherlands, assignors, by mesne assignments, to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Jan. 7, 1957, Ser. No. 632,923
Claims priority, application Netherlands Feb. 14, 1956
14 Claims. (Cl. 313—108)



1. A radiation-sensitive device comprising a variable-impedance, photo-sensitive element and an electroluminescent element adjacent one another, and a pair of electrodes for applying an electric voltage to the adjacent variable-impedance and electroluminescent elements, one of said electrodes contacting the variable-im-

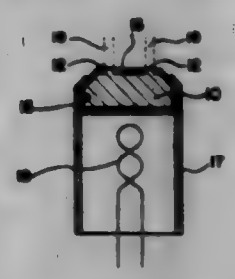
pedance element, the other of said electrodes contacting the electroluminescent element, said electrodes being positioned such that their projections onto a surface parallel to the device are spaced from one another.

2,972,077
IGNITION SYSTEM AND SPARK PLUG
Darrel M. Chapman, 2223 Neilson Way, Ocean Park, Calif.
Filed June 4, 1957, Ser. No. 663,453
3 Claims. (Cl. 313—123)



1. In a spark plug, a potential input conductor, a first electrode forming a first firing point, a second electrode forming a second spaced firing point, and circuit control means between said input conductor and said first firing point, said means comprising a pressure responsive device in the form of a transverse diaphragm, said diaphragm being movable toward and away from said input conductor to make and break a circuit between said input conductor and said first firing point.

2,972,078
CARBURIZATION OF DISPENSER CATHODES
Roberto Levi, New York, N.Y., assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Jan. 23, 1959, Ser. No. 788,603
20 Claims. (Cl. 313—346)



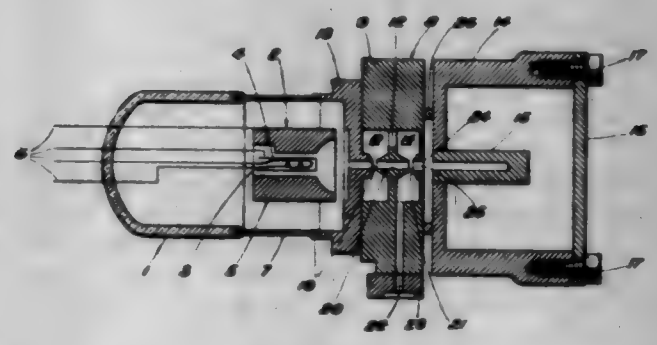
2. An electron device comprising a dispenser-type cathode generating a barium-containing contaminant, a surface receiving said contaminant and tending to emit electrons, and a substance selected from the group consisting of tungsten carbide and molybdenum carbide on said surface and inhibiting its emission, said surface being maintained at an elevated temperature.

2,972,079
CERAMIC SUPPORTED ELECTRODE MOUNTS
Herbert J. Wolkstein, Newark, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Oct. 27, 1958, Ser. No. 769,687
13 Claims. (Cl. 315—3.5)



5. A helix mount for a traveling wave tube comprising an elongated hollow ceramic cydinder and an elongated helical conductor disposed concentrically within said ceramic cylinder, said ceramic cylinder having been shrunk upon said helical conductor to securely fix said conductor relative to said cylinder solely by virtue of the mechanical bond therebetween effected by the shrinkage of said ceramic cylinder, the coefficients of thermal expansion of said ceramic cylinder and said helical conductor being so related that said parts will not separate due to differential expansion or contraction during fabrication of said mount.

2,972,080
KLYSTRON
George A. Espersen, Dobbs Ferry, N.Y., assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed May 25, 1959, Ser. No. 815,565
4 Claims. (Cl. 315—5.38)



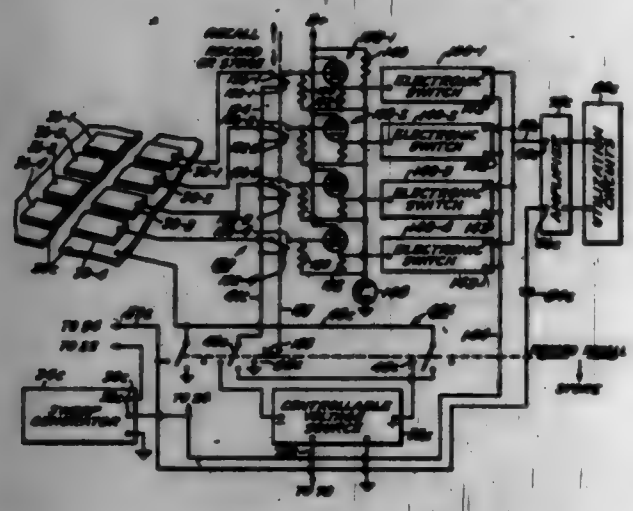
1. A klystron comprising an electron gun, a collector electrode, and a hollow anode between the collector and the gun, said anode defining a drift tube through which the electron beam travels toward the collector, said drift tube having two spaced portions defining an interaction gap therebetween said anode having a resonant output cavity opening onto the drift tube, the diameter of the portion of drift tube on the side of the interaction gap adjacent the collector being greater along its entire length than the diameter of the portion of the drift tube on the other side of the interaction gap.

2,972,081
LOW NOISE AMPLIFIER
Thomas J. Bridges and Rudolf Kompfner, Far Hills, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed June 20, 1957, Ser. No. 666,812
16 Claims. (Cl. 315—5.43)



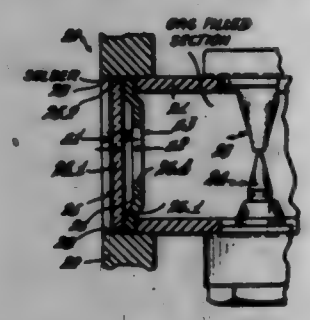
1. In an electron discharge device, means including an electron gun for forming and projecting an electron beam along a path, means positioned adjacent at least a portion of said path for maintaining signal wave energy in interacting relationship with said beam, means for applying to said means adjacent said path a signal to be amplified, means for varying the reactance of said means adjacent said path at a frequency rate greater than the frequency of said signal, said means for varying the reactance including means for modulating said beam at said greater frequency rate, and means for extracting the amplified signal directly from said means adjacent said path.

2,972,082
DATA STORAGE METHOD AND APPARATUS
Hartmut P. Kallmann, Flushing, and Barnett Rosenberg, New York, N.Y., assignors to Research Corporation, New York, N.Y., a corporation of New York
Filed Feb. 14, 1955, Ser. No. 487,889
9 Claims. (Cl. 315—10)



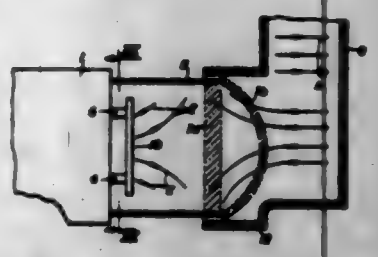
1. Data storage apparatus comprising a matrix of conductively isolated regions of internally polarizable material, electrically-conductive means in contact with opposite faces of said regions, a source of electricity coupled to said conductive means for establishing in said matrix an electric field, means for scanning each of said regions by a beam of energy, and means for varying the product of intensity and energy level of said beam and of said field during the scanning of each of said regions in accordance with characteristics of items of data to be stored, whereby a persistent internal polarization potential related to the characteristics is established in each of the regions of the matrix.

2,972,083
SEALING WAVEGUIDE WINDOWS
Richard M. Walker, Roxbury, and William P. Toorin, Beverly, Mass., assignors to Microwave Associates, Inc., Burlington, Mass., a corporation of Massachusetts
Original application May 7, 1957, Ser. No. 657,585. Divided and this application Apr. 14, 1960, Ser. No. 22,290
8 Claims. (Cl. 315—39)



1. A waveguide transmit-receive switch device comprising, in combination: a metallic waveguide portion constituted of a first metal; gap electrodes across said waveguide portion providing a gap adapted to break down electrically in the presence of electromagnetic wave energy propagating in said waveguide portion at an energy level exceeding a prescribed level; a metallic iris component located within said waveguide portion a given distance from said gap electrodes and having a wave controlling iris opening, said iris component being made essentially of a second metal different from said first metal which substantially will not sputter onto dielectric window material in close proximity thereto in the presence of an electric discharge across said iris opening; a hermetic sealing component having dielectric window means framed in a frame metal hermetically sealed to said dielectric window means located adjacent the outer side of said iris component relative to the interior of said waveguide portion containing said gap electrodes, the frame aperture of said frame metal being everywhere larger than said iris opening and located so that all points on the periphery of said iris opening confront substantially only the dielectric material of said window means, said dielectric window means and said iris component in the vicinity of said iris opening being both substantially planar and parallel to each other, said iris component and the frame metal of said sealing component being peripherally hermetically sealed to each other, said frame metal being hermetically sealed to said waveguide portion by a totally metallic seal, and the distance between the outer surface of said dielectric window means and the interior surface of said iris element being a minor fraction of said given distance from said gap electrodes, whereby said window means and said iris element are located essentially the same electrical distance from said gap electrodes.

2,972,084
MAGNETRONS
Maurice Esterson and Francis James Weaver, Essex, England, assignors to English Electric Valve Company Limited, London, England, a company of Great Britain
Filed July 31, 1958, Ser. No. 752,277
Claims priority, application Great Britain Mar. 31, 1958
2 Claims. (Cl. 315—39.53)

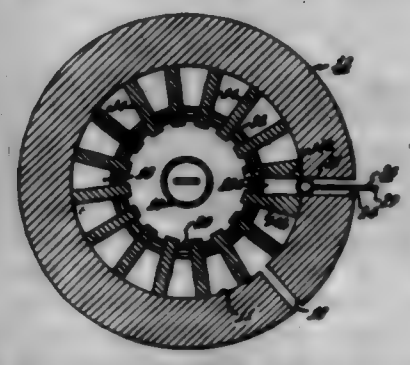


1. A magnetron and symmetrical power output arrangement for launching an axially symmetrical waveguide mode comprising a multi-cavity resonator magnetron, the vacuum-tight envelope of which includes a length of circularly sectioned waveguide closed at one end by a dielectric window and attached at the other to one end of the magnetron anode block, a disc mounted coaxially both with said guide length and the anode system of the magnetron and connected to alternate anodes of the magnetron by connectors mounted within said guide length adjacent and parallel to said one end of the anode block, an output waveguide and a transition waveguide member arranged between said length of circularly sectioned waveguide and said output waveguide.

2,972,085
TUNABLE MAGNETRON
Frank E. Vaccaro, Orange, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Jan. 15, 1958, Ser. No. 709,161
8 Claims. (Cl. 315—39.61)

1. A tunable magnetron including a cathode, an anode structure symmetrical about said cathode and comprising conductive means forming an annular array of radially-extending anode cavities, at least one of said cavities being tunable and the remaining cavities being untuned, said untuned cavities having identical geometry including a predetermined length and a predetermined width at the outer end, said tunable cavity having a width at its outer end less than said untuned cavities and having parallel side walls extending radially outwardly beyond said untuned cavities and having a radially movable end wall

extending between said side walls, whereby the electrical length of said tunable cavity can be adjusted by moving said end wall from an inner position wherein the electrical length of said tunable cavity is less than said untuned cavi-



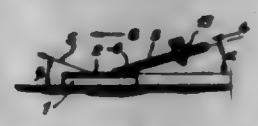
ties to an outer position wherein the electrical length of said tunable cavity is greater than said untuned cavities, to either increase or decrease the operating frequency of the magnetron relative to the untuned frequency.

2,972,086

REMOVAL OF STATIC ELECTRICITY IN FIBERS, TEXTILE MATERIALS, AND OTHER MATERIALS CAPABLE OF BEING CHARGED WITH STATIC ELECTRICITY

Albert Nau-Touron, Paris, France, assignor to Centre Technique Industriel dit Institut Textile de France, Paris, France

Filed July 12, 1955, Ser. No. 521,588
Claims priority, application France July 28, 1954
6 Claims. (Cl. 317—2)



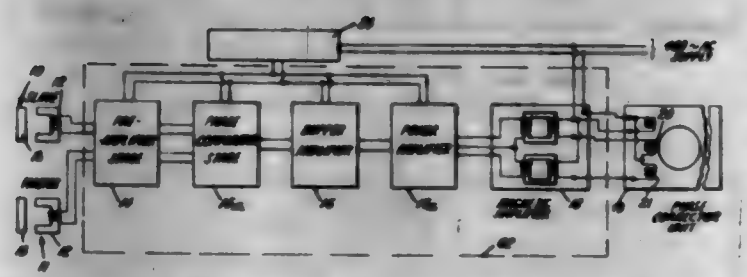
1. An apparatus for removing parasitic static electricity from dielectric materials which comprises means defining an exposed radio-active surface, a support for said surface, a nozzle for connection to a source of gas under a pressure greater than atmospheric, said nozzle directing a stream of said gas into intimate contact with said exposed surface, means for directing the gas stream after impingement upon said radio-active surface into engagement with said dielectric materials, a hinge connection between said support and said nozzle, and an inclinable collar in which said nozzle is telescopically mounted for adjustment of the distance between the end of the nozzle and said surface.

2,972,087

PHASING APPARATUS

John Alfred Chilman, Alfred George Mapp, John Michael Masterman, and John Cripps, all of Gloucester, England, assignors to Rotol Limited, Gloucester, England, a British company

Filed Oct. 13, 1958, Ser. No. 766,847
Claims priority, application Great Britain Oct. 14, 1957
12 Claims. (Cl. 317—6)



1. Apparatus for correcting any difference in speed, and automatically setting to a predetermined value the phase difference, between a master rotary member and a slave rotary member, comprising in combination a first dynamo electric machine, means energizing the said machine so that its rotor tends to rotate in a manner corresponding to the magnitude and sense of any difference between the speeds of the said rotary members, whereby the said first dynamo electric machine provides a first output, means for producing a master pulse of electrical energy each time the master rotary member occupies one or more predetermined angular master positions, means for producing a slave pulse of electrical energy each time the slave rotary member occupies one or more predetermined angular slave positions, there being a slave position corresponding to the, or each master position, means for comparing the succession of slave pulses with the succession of master pulses and producing an electrical phase difference error correcting signal which is directly proportional in magnitude. and corresponds in sense, to any error in the said phase difference, a second dynamo electric machine operated by the said signal at a rate proportional to the magnitude thereof and in a sense corresponding to the sense of the said signal, whereby the said second dynamo electric machine provides a second output, means combining the outputs of the two dynamo electric machines to provide a single correcting output, and means for adjusting the speed of the slave rotary member in accordance with the said correcting output.

2,972,088

ASSEMBLY FOR USE IN BARE WIRE MULTIPLE

Frank R. Edgarton, Los Angeles, Calif., assignor to General Dynamics Corporation, Rochester, N.Y., a corporation of Delaware

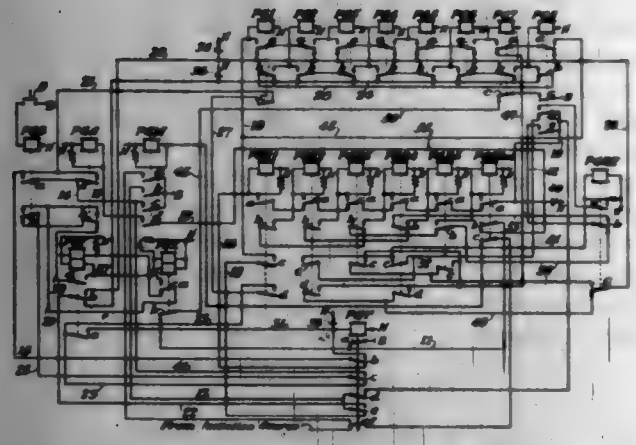
Filed Sept. 11, 1957, Ser. No. 683,260
6 Claims. (Cl. 317—112)



1. In a bare wire bank assembly, a plurality of straight, parallel conductors, a plurality of substantially identical insulating blocks similarly oriented with respect to each other embracing each of said conductors at equally spaced apart points along the lengths of said conductors for maintaining said conductors in a row, each of said insulating blocks having first and second opposing surfaces through which said conductors pass, a plurality of subassemblies, each of said subassemblies comprising a plurality of parallel rods together with connecting blocks embracing each of said rods at a point along its length for maintaining said rods in a row, a plurality of bores in each of said first surfaces for receiving a first end of each of said rods in one of said subassemblies, a series of pockets in each of said second surfaces for receiving the other ends of said rods of one subassembly, a plurality of channels in each of said second surfaces communicating between the edge of said second surface and each of said pockets for admitting the other ends of said subassembly rods to the appropriate ones of said

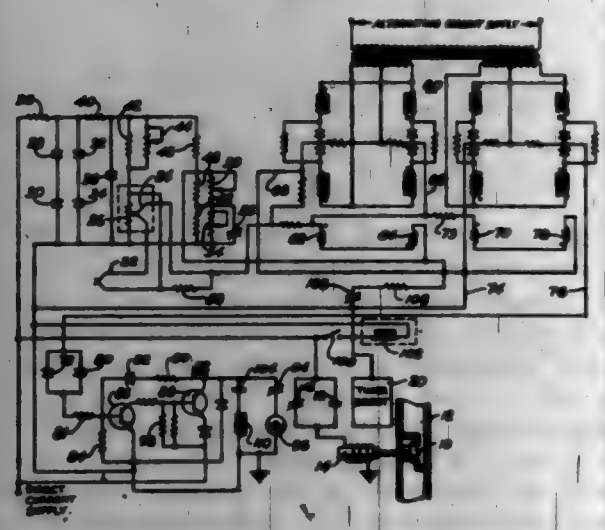
pockets, said channels intersecting said pockets at points remote from the portions of said pockets occupied by the ends of said rods, whereby said subassemblies are normally retained between adjacent ones of said blocks and may be removed by passing the other ends of said rods through the appropriate ones of said channels after said rods are laterally flexed.

2,972,089
PROGRAMMING CIRCUITS
Arthur P. Jackel, Penn Township, Allegheny County, Pa., assignor to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania
Filed Sept. 26, 1957, Ser. No. 686,323
8 Claims. (Cl. 317—140)



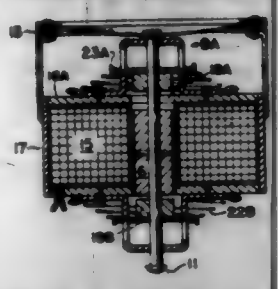
1. A program chain comprising a plurality of electrically connected groups of counting relays, means providing control signals, means responsive to the control signals for energizing and operating the relays of the first group successively, operation of the last relay in said first group resetting said first group to its initial condition and energizing the next numerical higher group, operation of the last counting relay in each group resetting the respective group to its initial condition and controlling the energization of successive ones of the relays in said next higher group.

2,972,090
BI-STABLE ELECTRIC SWITCHING SYSTEM
John L. Lowrance, South Bend, Ind., assignor to The Bendix Corporation, a corporation of Delaware
Filed July 11, 1958, Ser. No. 748,042
11 Claims. (Cl. 317—148.5)



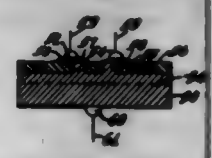
1. A bi-stable electrical switching system for use with a condition sensing system comprising a direct current voltage source, means producing a direct current voltage varying with the magnitude of a variable quantity, means producing first and second direct current reference voltages, means comparing one of said first or second reference voltages with said varying direct current voltage to produce an error voltage, a push-pull, full wave magnetic amplifier for amplifying said error voltage and converting said voltage into pulsations, the amplitude of which are variable with the magnitude of said error voltage, a saturable bi-stable amplifier for receiving said pulsations including a Zener diode and a plurality of stages and having positive feedback, a relay connected to be operated by the output of said amplifier, means controlled by said relay for varying the values of said variable condition, relay means for switching said one reference voltage out of the circuit and switching said other reference voltage into the circuit, means including said relay means connecting said direct current voltage source to said magnetic amplifier such that upon energization of said relay means a large negative voltage pulse is supplied to the control windings of said magnetic amplifier to cause said magnetic amplifier to produce an output signal capable of causing current flow through said Zener diode to be cut off thereby turning said bi-stable amplifier off.

2,972,091
ELECTROMAGNETIC DEVICE
Warner W. Clements, 13435 Java Drive, Los Angeles, Calif.
Filed Feb. 24, 1959, Ser. No. 795,255
11 Claims. (Cl. 317—190)



1. An electromagnetic device comprising at least: armature means mounted to be movable into two stable positions in alternating sequence; a stator frame arranged to generally define in combination with said armature means an operationally symmetric magnetic structure; coil means adapted to intermittently magnetize said magnetic structure in response to intermittent electrification of said coil means; and controlling means including auxiliary magnetic material, said controlling means being adapted to respond during each period of de-energization to the preceding movement of said armature means by transporting the entirety of said auxiliary material into one or the other of two yieldably maintained relative positions so determined that in each of said positions the closest portion of said auxiliary material is at a slight distance from a respective point on said magnetic structure at which the subsequent application of said auxiliary material will unbalance the magnetic symmetry of said magnetic structure in that sense which is sequentially appropriate upon each occasion.

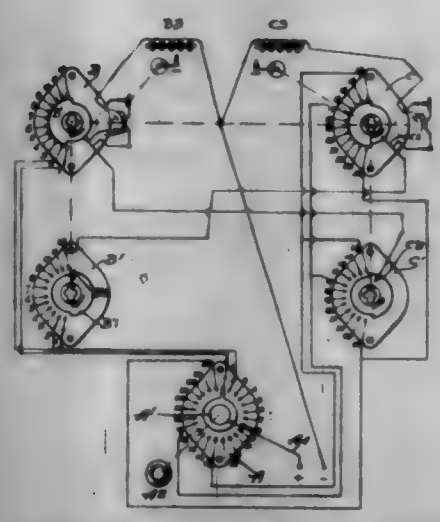
2,972,092
SEMICONDUCTOR DEVICES
Herbert Nelson, Princeton, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Aug. 11, 1959, Ser. No. 833,031
12 Claims. (Cl. 317—235)



1. A circuit element comprising a semiconductor wafer having two opposed major faces; at least one mesa of

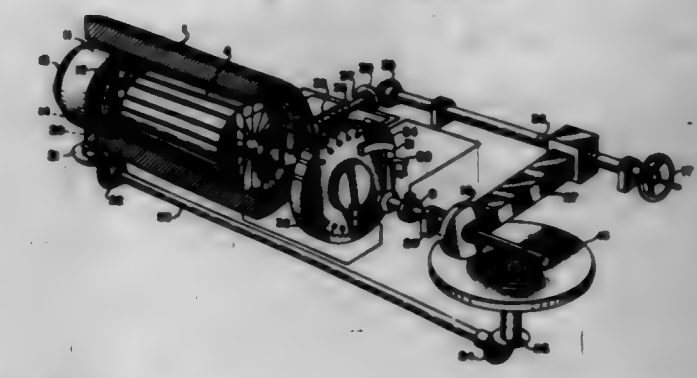
semiconductor material on one of said major wafer faces; an insulating coating on said one major wafer face around each said mesa; and a conductive film over the top of, and in contact with, each said mesa and the surrounding coating.

2,972,093
BIDIRECTIONAL STEPPING MOTOR SERVOSYSTEM
Raymond J. Silhavy, Chicago, Ill., assignor to Oak Manufacturing Co., a corporation of Delaware
Filed Oct. 10, 1958, Ser. No. 766,482
2 Claims. (Cl. 318—19)



1. A bi-directional remote control master and slave system adapted to operate over a predetermined number of separate index positions, said system comprising a master switch section, such switch section having a common return and having a number of separate switch contacts corresponding to a number of total operating switch positions, said master switch including means for selecting a switch position so that a corresponding switch contact is connected to said common return, at least one remote slave section, said slave section comprising four oriented rotary switch sections, the first and second switch sections operating as one unit for movement in one direction, the third and fourth switch sections operating as a second unit for movement in the opposite direction, a common shaft for all said four switch sections, each switch section including a rotor rotatively coupled to said shaft, each switch section including a stator having a plurality of active contacts, each of the four switch sections having index switch positions equal in number to the switch positions of said master switch section, the first two switch sections having active stator contacts corresponding to the first half of the total index switch positions with corresponding contacts for the same switch position connected together, the rotors for said first two switch sections each having a rotor contact, each rotor contact having an active switching portion, the active rotor switching portion of the first switch section subtending an angle equal to one less than one half the number of index switch positions, the active rotor contact for the second switch section subtending an angle equal to one-half the number of index switch positions, the active rotor contact portions of the first two switch sections being angularly displaced by one-half of the total number of index switch positions, the third and fourth switch sections being correspondingly constructed, the third and fourth switch sections having active stator contacts corresponding to the second half of the total index switch positions, the rotor contacts for the third and fourth switch sections being similar to the rotor contacts for the first two switch sections except that the third rotor contact is the one which has the active portion subtending an angle equal to one-half of the index switch positions, wires connecting the active contacts corresponding to the same switch positions of the master switch section and the switch sections, a grounding contact for each rotor contact of the four switch sections, cross connections between the rotor grounding contact of the first and fourth switch sections on the one hand and between the second and third switch sections on the other hand, stepping means including a winding for stepping said four switch sections one switch position at a time in one direction, similar stepping means including a winding for stepping the four switch sections in the reverse direction, a connection from one terminal from said one stepping means winding to the grounding contact for the rotor of the first switch section, a connection from the one terminal of the other stepping means winding to the grounding contact of the rotor switch section, and a common connection at the remaining terminals of the windings of the two stepping means, said last named common connection and the common return for the master switch section constituting terminals for connection to a source of electric power for energizing the stepping means.

2,972,094
VARIABLE SPEED ASYNCHRONOUS MOTOR
Wolfgang Karl Schmid, 20 Ave. des Bleuets, Gagny, Seine-et-Oise, France
Filed June 29, 1954, Ser. No. 440,163
Claims priority, application Germany June 29, 1953
3 Claims. (Cl. 318—232)

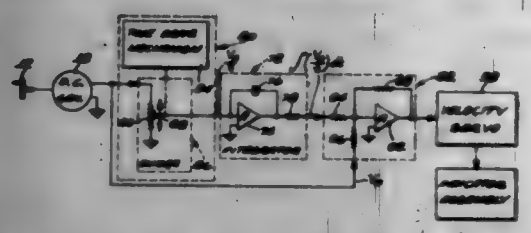


1. An electro-magnetically controlled driving mechanism, comprising, in combination, a stator having a stator winding adapted to produce a magnetic field in said stator, a rotary armature arranged in said stator and having an armature winding, a member electrically connected with said armature winding and allowing the same to be energized by periodically interrupted current pulses, an armature shaft, a first control device controlling the number of revolutions per min. of said armature shaft, said first control device shortening said pulses when the number of revolutions of said armature shaft exceeds a predetermined value and lengthening said pulses when the number of revolutions of said armature shaft falls below said predetermined value, a second control device becoming operative whenever said armature carries out jerky motions about the positions corresponding to a continuous run at a constant speed, and resistor means connected with the circuit of said armature, said resistor means being controlled by said second control device and causing said armature to run continuously at constant speed.

2,972,095
VELOCITY SERVOSYSTEM FOR MEMORY-POINT TRACKING SYSTEM
George A. McDaniel, Gardena, and George M. Salamonovich, Hollywood, Calif., assignors to Gilfillan Bros., Inc., Los Angeles, Calif., a corporation of California
Filed Aug. 21, 1956, Ser. No. 605,691
18 Claims. (Cl. 318—329)

9. In a memory-point tracking system having manually operable means, an indicator assembly having a

controlled index, and a velocity servo for moving the controlled index at a velocity proportional to the sum of the input signals to said velocity servo, the combination



comprising: means for producing a first signal V_D proportional to the speed of the manually operable means, means for producing an intermediate signal substantially proportional to

$$\frac{V_D}{t}$$

and means responsive to said intermediate signal for producing a second signal V_V substantially proportional to the integral of

$$\frac{V_D}{t}$$

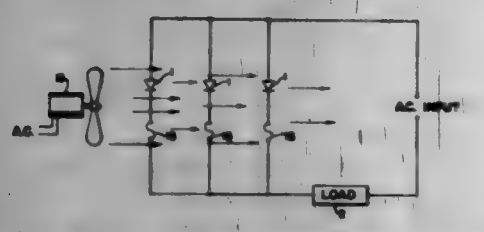
with respect to time, said input signals to said velocity servo being said first signal and said second signal.

2,972,096

PROTECTION OF A TEMPERATURE SENSITIVE DEVICE

Arthur E. Johnson, Elkhorn, Wis., assignor to A. O. Smith Corporation, Milwaukee, Wis., a corporation of New York

Filed Nov. 26, 1957, Ser. No. 699,014
5 Claims. (Cl. 321—14)



5. In a rectifying circuit employing germanium rectifying elements, air-cooling means operatively associated with the rectifying means to pass cooling air over the means to dissipate the heat generated by current in the rectifying means, and strip fuse means serially connected one each with each rectifying element and having a smaller internal thermal capacity than said elements and having a mass characteristic establishing heating of the strip fuse means essentially independent of said cooling means during the maximum operating overload period of said germanium rectifying elements, said fuse being disposed in the path of said cooling air to dissipate the heat generated by normal current flow through the fuse, said fuse acting effectively independently of said cooling air during passage of predetermined overload currents to open the circuit within the maximum overload operating period of the associated element incident to corresponding overload currents.

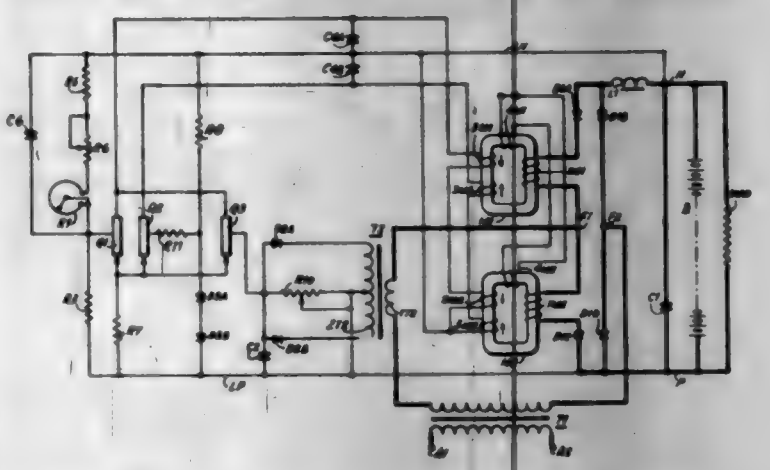
2,972,097

REGULATED POWER RECTIFIER

Warren J. Dornhoefer, deceased, late of Littleton, Mass., by Edna M. Dornhoefer, executrix, Littleton, Mass., assignor to The Warren Manufacturing Company, Inc., Littleton, Mass., a corporation of Massachusetts

Filed June 23, 1959, Ser. No. 822,229
7 Claims. (Cl. 321—18)

1. A battery charger comprising alternating-current supply means, a rectifying magnetic amplifier connected to said supply means and having respective positive and negative buses for constant direct-current output voltage, said magnetic amplifier having two control windings of mutually opposed inductive relation for jointly regulating said output voltage, a sum-current network comprising two transistors having respective collectors connected through said respective windings with one of said buses and having respective emitters which are both connected to said other bus, a common emitter resistor serially interposed between said latter bus and said two emitters, a source of constant reference voltage, a compensating resistor, one of said transistors having its base connected



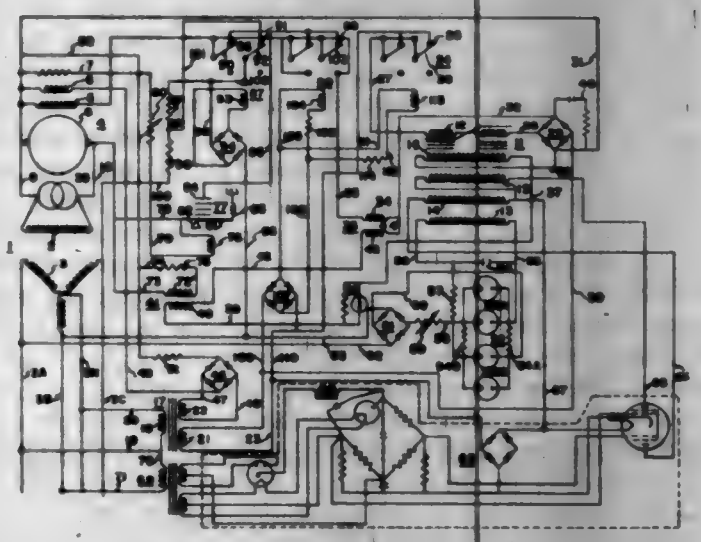
through said compensating resistor and said source to said other bus, a voltage divider extending between said buses and having a divider point of voltage substantially equal to said reference voltage when the bus voltage has the correct value, said other transistor having its base connected to said divider point, the respective total external resistances of the two base-emitter circuits thus formed being substantially equal due to the resistance of said compensating resistor, whereby said network regulates said magnetic amplifier for constant output voltage irrespective of temperature-responsive resistance changes of said transistors.

2,972,098

VOLTAGE REGULATING SYSTEM

George A. Phelan, East Orange, N.J., assignor to The Bendix Corporation, a corporation of Delaware

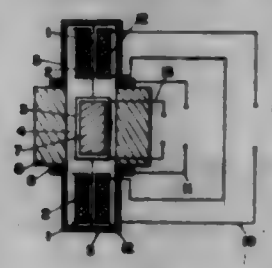
Filed July 25, 1956, Ser. No. 600,141
4 Claims. (Cl. 322—24)



1. A voltage regulating system for an alternating current generator having a direct current exciter, said exciter having a shunt field winding, a bucking field winding and an armature winding, comprising a saturable device having an alternating current winding, a main control winding, trimmer windings and a feedback winding, circuit means for energizing said alternating current wind-

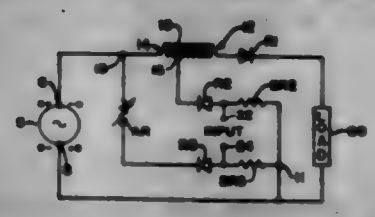
ing from the output of said generator, voltage sensing means responsive to the output voltage for energizing said main control winding, electronic means for energizing said trimmer windings in accordance with the R.M.S. value of said output voltage, said last two windings coacting to provide a cumulative control for said alternating current winding, means for energizing said shunt field winding from the output of said alternating current winding, means for energizing said bucking winding in accordance with said generator output voltage in a direction to oppose said shunt field winding, and a stabilizing circuit connected in series with said feedback winding across the output of said alternating current winding.

2,972,099
TRANSFORMER CONTROL SYSTEM
Bořivoj Dubský, Oldřich Straka, and Miloslav Pan, all of Prague, Czechoslovakia, assignors to Výzkumný a zkušební letecký ústav, Letňany, near Prague, Czechoslovakia
Filed Aug. 6, 1957, Ser. No. 676,679
Claims priority, application Czechoslovakia Aug. 11, 1956
2 Claims. (Cl. 323—52)



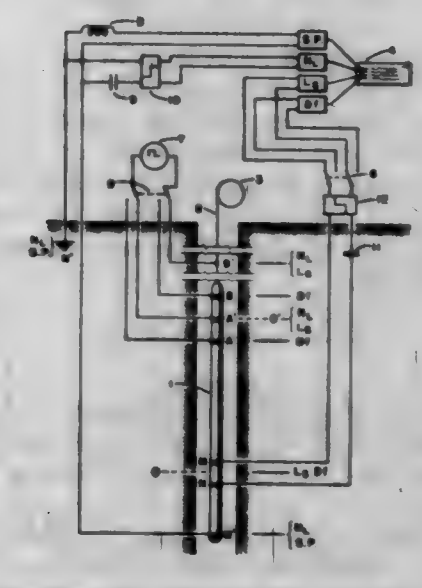
1. An electromagnetic converter for D.C. voltages comprising means producing a constant fixed magnetic field, a movable coil disposed in said magnetic field, means for supplying the D.C. voltages to be converted to said movable coil so that the latter is turned in said magnetic field, wires of ferro-magnetic material supporting said movable coil and being twisted by turning of the latter, means for feeding an alternating exciting current to said wires to produce a normally cylindrical magnetic field around the latter which is helically deformed in response to twisting of said wires so that the field produced by the exciting current then has a component in the direction of the axis of said wires, and pick-up coils surrounding said wires and having alternating output voltages induced therein by said component in the direction of the axis of the wires, which output voltages vary in accordance with the D.C. voltages to be converted and have magnitudes depending upon the magnitude and frequency of said alternating exciting current.

2,972,100
HALF-WAVE MAGNETIC AMPLIFIER CIRCUITS
George Scholten, 1825 T St. NW., Apt. 501, Washington, D.C.
Filed July 12, 1957, Ser. No. 671,675
5 Claims. (Cl. 323—89)
(Granted under Title 35, U.S. Code (1952), sec. 266)



5. In a single-ended half-wave magnetic amplifier having reactor means with load winding means thereon energized from an alternating current source, the combination comprising a pair of terminals for connection to a control signal source, and an input circuit interconnecting said alternating current source with a portion of said load winding means and being connected to said terminals for receiving control current from said control source to thereby establish respectively therefrom the reference and control flux levels in said reactor means, said input circuit including in series circuit relation said portion of said load winding means and a pair of rectifiers, said rectifiers being similarly phased relative to said alternating current source and in polarity opposition in said series circuit relation.

2,972,101
ELECTRIC WELL LOGGING
Leendert de Witte, Laguna Beach, Calif., assignor to Continental Oil Company, Ponca City, Okla., a corporation of Delaware
Filed June 28, 1955, Ser. No. 518,509
6 Claims. (Cl. 324—1)

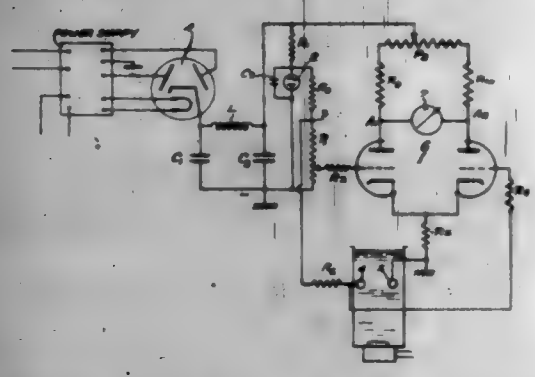


4. An apparatus for electrically logging a bore hole filled with an aqueous liquid comprising: a housing adapted to be lowered by a cable means axially into said bore hole; a pair of current emitting electrodes mounted in fixed space relationship on said housing; a pair of voltage pickup electrodes mounted in fixed space relationship a fixed distance from said current emitting electrodes, the spacing between each of said current emitting electrodes and the spacing between each of said voltage pickup electrodes being substantially less than the average distance between said pairs of electrodes; voltage generating means connected to said current emitting electrodes; subtraction means; means for applying the voltage pickup by said voltage pickup electrodes to said subtraction means, said subtraction means being adapted to subtract the voltage pickup from one electrode from the voltage pickup from the other electrode; and means for recording said resultant subtracted voltage as a function of depth within said bore hole, whereby the second differential of said voltage pickup electrodes with regard to said current emitting electrodes versus the depth of said voltage pickup electrodes is obtained.

2,972,102
METHOD AND DEVICE FOR THE TITRATION OF VARIOUS SOLUTIONS AND SIMILAR PURPOSES
Jacques Emile Dubois, 3 Max-Planckstrasse, Saarbrucken, Saarland
Filed Dec. 28, 1955, Ser. No. 554,330
Claims priority, application France Dec. 31, 1954
8 Claims. (Cl. 324—30)

1. A titrating device for indicating changing of electrode polarization to determine an inflection point appearing on a curve drawn to show voltage indications in function of added titrating solution in a solution to be titrated,

comprising a high voltage current generator, stabilizer means connected to said generator for rectification and stabilization of the generated current to obtain a stabilised direct current, said stabilizer means including an anode connected through a potentiometrically controlled circuit and a large resistance to a first electrode to be at least in part immersed into the solution to be titrated, a



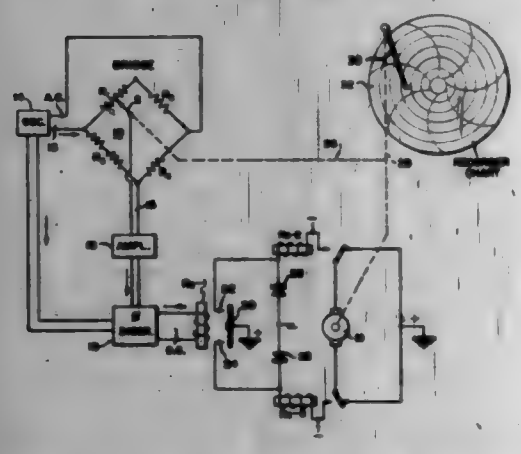
second electrode also to be at least in part immersed into the solution to be titrated, said second electrode being grounded, two amplifying devices respectively connected to said two electrodes to differentially amplify the voltage variations between said two electrodes during titration, and a measuring apparatus inserted between said two amplifying devices to determine any changing of electrode polarization.

2,972,103

PORTABLE RECORDING INSTRUMENT

Leo C. Cunniff, Cedar Grove, N.J., assignor to Industrial Instruments, Inc., Cedar Grove, N.J., a corporation of New Jersey

Filed Oct. 31, 1957, Ser. No. 693,667
6 Claims. (Cl. 324—30)



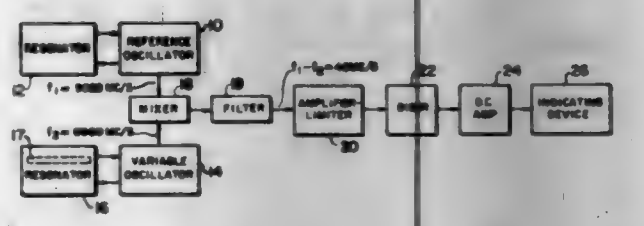
3. A portable, battery-operated, light-weight conductivity recorder instrument comprising an A.C. Wheatstone bridge having a first resistor arm, a second resistor arm directly connected thereto, a network containing a thermistor for the third arm and an electrical conductivity cell for the fourth arm, a movable slide or tap on said first resistor arm, a transistorized oscillator, a transistorized buffer stage coupled to said oscillator and supplying alternating current to one diagonal of the bridge, a transistorized amplifier coupled to and taking off output from the other diagonal of the bridge, one connection from said amplifier being to said slide or tap, a transistorized phase discriminator, connections to said discriminator from both said oscillator and amplifier, said discriminator serving to convert phase differences in the signals supplied thereto by said oscillator and amplifier to direct current voltages, relay means including a sensitive null-seeking relay coupled to the output of said discriminator and responsive to voltages of different polarities in the output of said discriminator, a direct current reversible motor coupled to and controlled by said relay means, a spring-wound clock-work chart mechanism having a pen, and mechanical linkages between the shaft of said motor and said pen and said slide, whereby the rotation of said motor is always in such direction as to restore bridge balance, and a pair of batteries for supplying power to said instrument, circuitry under control of said relay means for supplying power to said motor from only one of said batteries and for supplying power to said transistorized oscillator, amplifier and discriminator from both of said batteries in series.

2,972,104

MAGNETIC FIELD RESPONSIVE APPARATUS

Roy C. Ward, Rolling Hills, Calif., assignor to Space Technology Laboratories, Inc., Los Angeles, Calif., a corporation of California

Filed May 11, 1959, Ser. No. 812,430
13 Claims. (Cl. 324—43)



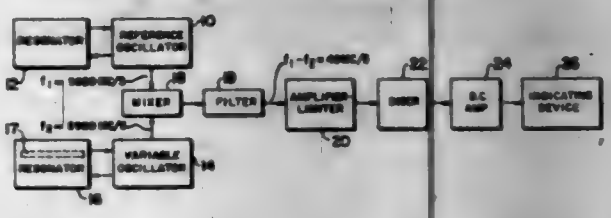
1. Apparatus for measuring environmental magnetic fields, comprising: a first source of microwave signal energy connected to provide a first microwave signal output; a second source of microwave signal energy connected to provide a second microwave signal output; a ferrite loaded resonant cavity magnetic field responsive means coupled to said second source to change the frequency of the output signal of said second source in response to variations in environmental magnetic field applied to said magnetic field responsive means; said magnetic field responsive means being mounted to successively sense each of a series of environmental magnetic field components having successive different angular orientations and lying generally in a common plane, thereby to provide a modulation of the frequency of the output signal of said second source for minimizing the effect of frequency change due to signal source drift; and means coupled to said first and second sources to compare the frequencies of said first and second microwave signal outputs and to produce a resultant signal which is a function of the magnitude of the environmental magnetic field applied to said magnetic field responsive means.

2,972,105

MAGNETIC FIELD RESPONSIVE APPARATUS

Rabindra N. Ghose, Los Angeles, Calif., assignor to Space Technology Laboratories, Inc., Los Angeles, Calif., a corporation of Delaware

Filed May 11, 1959, Ser. No. 812,507
15 Claims. (Cl. 324—43)



1. Apparatus for measuring magnetic fields, comprising: a first source of microwave signal energy connected to provide a first microwave signal output; a second source of microwave signal energy connected to provide a second microwave signal output; magnetic field responsive means coupled to said second source to change the

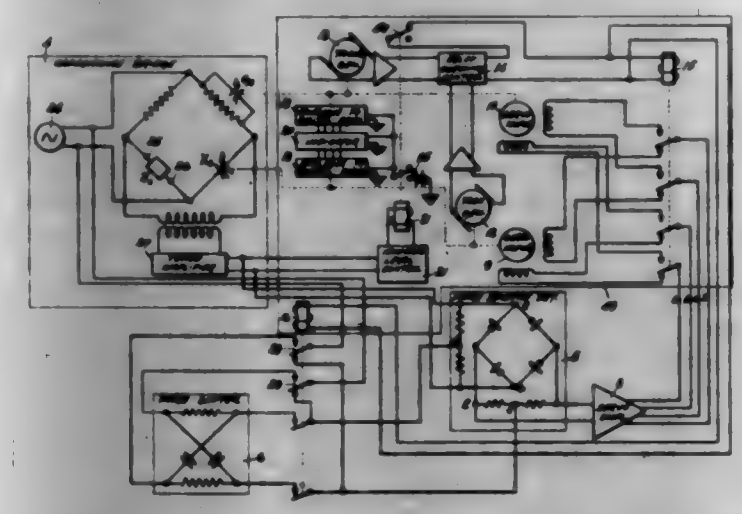
frequency of the output signal of said second source in response to variations in magnetic field applied to said magnetic field responsive means; and means coupled to said first and second sources to compare the frequencies of said first and second microwave signal outputs and to produce a resultant signal which is a function of the magnitude of the magnetic field applied to said magnetic field responsive means; said magnetic field responsive means including at least one cavity resonant to one frequency in the absence of a magnetic field and resonant to a frequency different from that of said one frequency in the presence of a magnetic field.

2,972,106

AUTOMATIC ALTERNATING CURRENT BRIDGE

Edward E. Hyrne, Matawan, N.J., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Filed Apr. 9, 1958, Ser. No. 727,373
9 Claims. (Cl. 324—57)



1. A test set for automatically determining the reactance and conductance of electrical impedance elements comprising an alternating current bridge having means for receiving impedance elements to be tested therein, an adjustable reactance balancing element, and an adjustable conductance balancing element, a source of alternating current connected to the input of the bridge for energizing the bridge, a phase-sensitive detector connected to the output of the bridge, a first reversible driver connected to said reactance balancing element for adjusting said reactance element, a second reversible driver connected to said conductance balancing element for adjusting said conductance element, means for switching the output of the detector between the drivers, means responsive to a polarity reversal in the output of the detector for actuating the switching means, means responsive to the operation of the switching means, including a phase shifter connectable between the alternating current source and the detector, for alternately applying two phase reference potentials to the detector, the phase reference potentials having predetermined phase relationships to the input alternating current, and indicating means actuated in accordance with the positions of the adjustable elements for indicating the value of the reactive and conductive components of the impedance of a tested element.

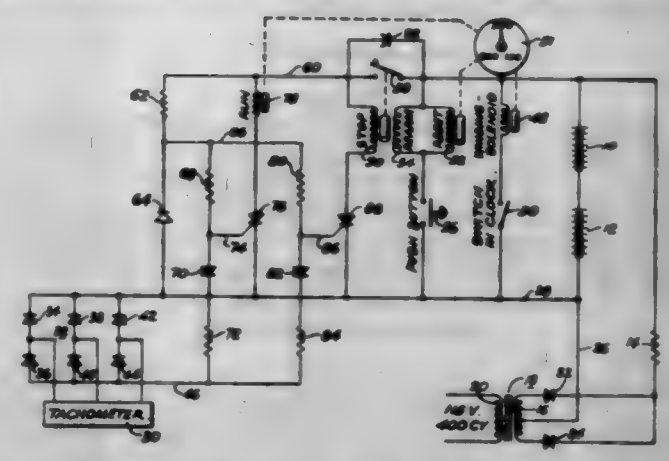
2,972,107

VOLTAGE SENSITIVE TIMING DEVICE

Daryl L. Criswell, South Bend, Ind., assignor to The Bendix Corporation, a corporation of Delaware

Filed Jan. 4, 1960, Ser. No. 359
7 Claims. (Cl. 324—70)

1. A device for timing the transition in speed of a rotating member from a first rotational speed to some lower second rotational speed including a clock device and means for controlling the operation of said clock device comprising a source of substantially constant direct current voltage of a first polarity, a source of direct current voltage of the opposite polarity which varies in magnitude with the instantaneous rotational speed of said member, a relay, a first circuit connected across said first named source including in series a switching device and two windings connected in parallel for simultaneous energization, one of which when energized acts to reset said clock device to indicate zero elapsed time and the other which when energized acts to close said relay, a second voltage regulating circuit including a zener diode connected across said first named voltage source, a third circuit connected across said first named source including a controlled rectifier having a control element and a



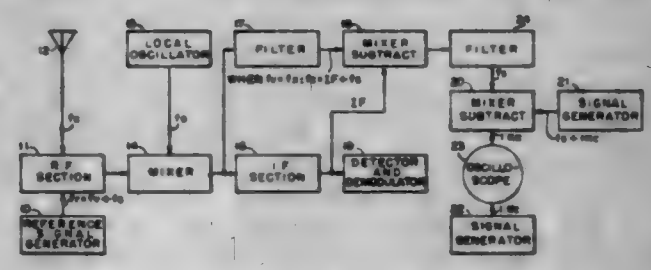
winding which when energized starts said clock device, a fourth circuit connected across said first named source including a controlled rectifier having a control element and a winding which when energized opens said relay to stop said clock device, and first and second voltage dividing circuits connected across said Zener diode and said second named voltage source, said first voltage dividing circuit including a diode and a connection to said first named control element to cause its controlled rectifier to conduct when the voltage on said control element is representative of said first rotational speed, and said second voltage dividing circuit including a diode and a connection to said second named control element to cause its controlled rectifier to conduct when the voltage on said control element is representative of said second rotational speed of said member.

2,972,108

FREQUENCY MEASURING SYSTEM EMPLOYING FREQUENCY COMPARISON

Robert R. Stone, Jr., Rosecroft Park, Md., assignor to the United States of America as represented by the Secretary of the Navy

Filed Mar. 17, 1959, Ser. No. 800,961
7 Claims. (Cl. 324—79)
(Granted under Title 35, U.S. Code (1952), sec. 266)



2. In a frequency measuring system, means for receiving a signal having a frequency within a predetermined band of frequencies, signal generating means for providing a reference signal having a frequency substantially equal to the sum of a variable frequency and a prede-

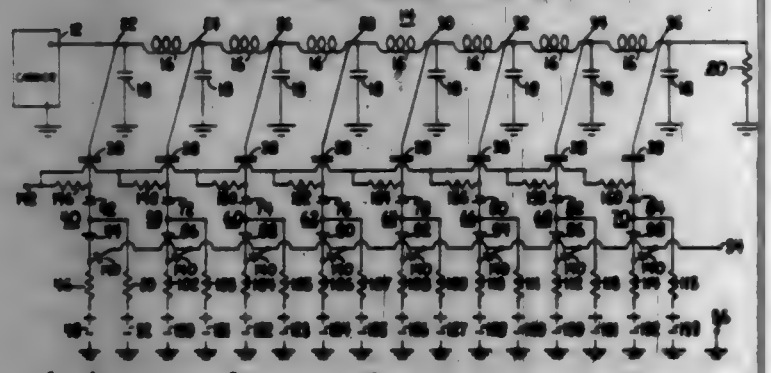
termined frequency, a local oscillator, first mixing means connected to said first mentioned means, said signal generating means, and said local oscillator for heterodyning the received signal, the output of said local oscillator and said reference signal, first channel means for providing a first signal having a selected intermediary frequency, second channel means for providing a second signal having a frequency substantially equal to the sum of said intermediary frequency and the predetermined frequency of said reference signal, means for applying the output of said first mixing means to said first channel means and said second channel means, second mixing means connected to said first channel means and said second channel means for subtracting the frequency of said first signal from the frequency of said second signal, an output circuit, and means for connecting said output circuit to said second mixing means.

2,972,109

APPARATUS FOR GENERATING SIGNALS HAVING SELECTABLE FREQUENCY DEVIATION FROM A REFERENCE FREQUENCY

Madison G. Nicholson, Jr., Snyder, N.Y., assignor, by mesne assignments, to Sylvania Electric Products Inc., Wilmington, Del., a corporation of Delaware

Filed June 11, 1956, Ser. No. 590,721
3 Claims. (Cl. 328—15)



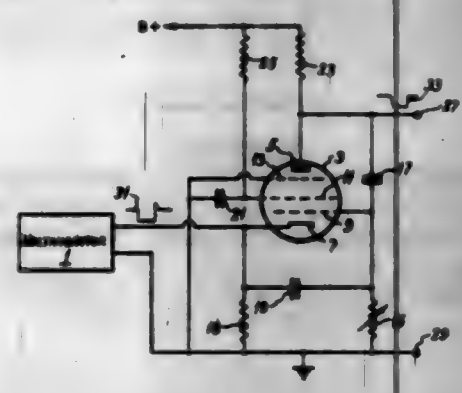
1. Apparatus for generating an output signal having a desired constant frequency deviation from the frequency of a carrier signal comprising, in combination, a phase delay line to which said carrier signal is applied for developing a plurality of carrier waves at the frequency of said carrier signal progressively displaced in phase from each other by substantially equal increments starting from a zero reference phase through 360 electrical degrees at said carrier frequency, output terminals, a like plurality of progressively arranged switches each energized by a respective one of said progressively phase displaced carrier waves, each of said switches being operative to transmit the respective applied carrier wave to said output terminals only in response to the application thereto of a switching signal having an amplitude within a predetermined range, the operative amplitude range of each of said switches being substantially equal, the minimum amplitude for operation of each switch being equal to the maximum amplitude for the immediately preceding one of said switches in said progression thereof, means for providing a signal having said desired deviation frequency, said deviation frequency signal having a constant frequency and a substantially sawtooth waveform, each full cycle of said sawtooth waveform having a unidirectional variation from a minimum amplitude within the range of switching signal for operation of the first of said progressively arranged switches and having a maximum amplitude within the range of switching signal for operation of the last of said progressively arranged switches, means for continuously applying said deviation frequency signal as a switching signal in parallel to all of said switches, whereby said switches transmit to said output terminals said output signal having frequency as aforesaid.

2,972,110

PULSE-GENERATING CIRCUIT

Robert L. Watters, Schenectady, N.Y., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Continuation of abandoned application Ser. No. 359,007, Apr. 21, 1953. This application May 22, 1958, Ser. No. 737,181
4 Claims. (Cl. 328—35)



1. A circuit for generating an output pulse having a sloping leading edge and a sharp trailing edge, said circuit comprising means producing a substantially rectangular control impulse, the leading edge of which extends in a negative direction, a pentode having a plate, a suppressor grid, a screen grid, a control grid and a cathode, circuit means connected to said plate, cathode, suppressor and screen grids adapted to impress conduction potentials on the elements of said pentode when a supply potential referenced to ground is applied to said circuit means, means for applying said rectangular control impulse output to the cathode of said pentode to initiate the conduction thereof on the leading edge of such control impulse, and to terminate conduction on the trailing edge, a series resistance-capacitance network connected in parallel with the plate circuit of said pentode, said series network being connected between the plate of said pentode and ground, the plate being connected to the capacitor and the control grid of said pentode being joined to a point between the resistor and capacitor of said network, the other end of said resistor being connected directly to ground, the rate of current increase through the tube being dependent in part upon the time constant of said series network, said resistor of the series network being variable to vary the time constant of said network and hence the slope of the leading edge of said output pulse, and means for deriving said output pulse from the plate of said pentode.

2,972,111

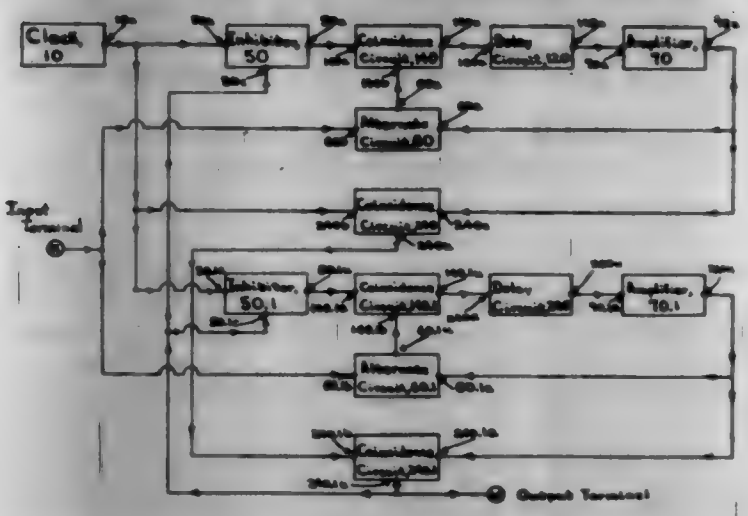
CLOCK-OPERATED DELAY CIRCUIT

Charles W. Hoover, Jr., 135 Butler Parkway, Summit, N.J.

Filed Aug. 13, 1958, Ser. No. 754,852
3 Claims. (Cl. 328—56)

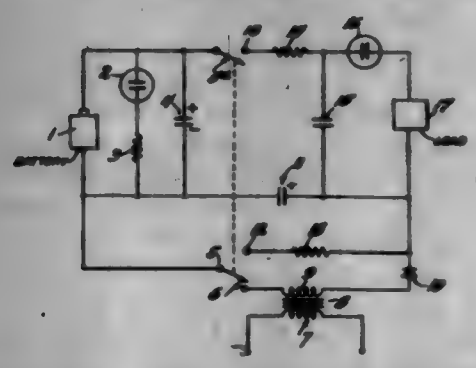
1. A clock-operated delay circuit comprising a clock producing pulses at regular time intervals, an input terminal for receiving a starting pulse which is coincident with a clock pulse, a first bi-stable element containing a delay element whose period of delay is an integral multiple of the clock period, a second bi-stable element containing a delay element whose period of delay is an integral multiple of the clock period and differs from the period of delay of the delay element of the first bi-stable element by an integral multiple of the clock period, a stopper for each bi-stable element connected between the bi-stable element and the clock, a starter for each bi-stable element connected between the bi-stable element and the input terminal, and a coincidence circuit having one input connected to the delay element of the first

bi-stable element and a second input connected to the delay element of the second bi-stable element, and its



output connected to the stoppers and to an output terminal.

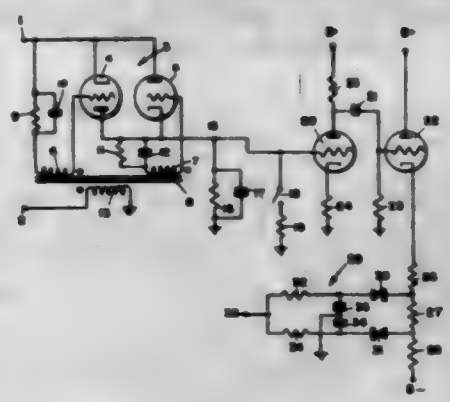
2,972,112
DELAY TIMER
Jeremiah E. Langan, Cresskill, N.J., assignor to Lescom Corporation, Cranston, R.I., a corporation of Massachusetts
Filed Feb. 28, 1958, Ser. No. 718,347
4 Claims. (Cl. 328—72)



1. A delay timing circuit comprising a constant voltage stored energy circuit having a nuclear battery, a diode and first resistance in series and a first capacitor in parallel with said battery, a time interval defining circuit comprising a transformer, a rectifier and a second capacitor connected in series with the secondary winding of said transformer, switch means operable to disconnect said second capacitor from said secondary winding and said rectifier and connect it in series with a second resistance, a third capacitor connected in series with a second diode and a load and connected in series with said first and second capacitors, said switch means completing said last-named series connection when operated as aforesaid.

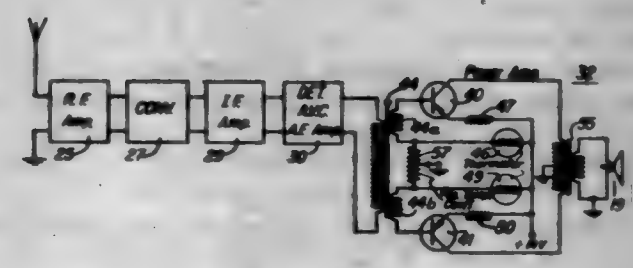
2,972,113
HIGH GAIN TIME DISCRIMINATOR
Gary J. Hissler, Lakewood, and Ottie C. Mitchell, Whittier, Calif., assignors to North American Aviation, Inc.
Filed May 14, 1956, Ser. No. 584,641
2 Claims. (Cl. 328—109)

1. In an electronic circuit, an input terminal connected to be responsive to bipolar signals, a first unidirectional current path connected to said input terminal, a second unidirectional current path connected to said input terminal, said second unidirectional current path oppositely disposed from said first unidirectional current path, means for controlling the conduction of said first and second unidirectional current paths, said controlling means being connected to be responsive to signals from a common source whereby one or the other of said unidirectional current paths conducts depending on the time phase of signals applied to said input terminal and said means for controlling the conduction of said unidirectional current paths, a storage circuit connected to receive the output of said current paths and present



output pulses of predetermined width, amplifier means connected to receive the output of said storage circuit, rectifier means connected to receive the output of said amplifier, and means for back biasing said rectifier whereby only signals above predetermined values are rectified.

2,972,114
AMPLIFIER CIRCUIT
Richard Silberbach, Chicago, Ill., assignor to Motorola, Inc., Chicago, Ill., a corporation of Illinois
Filed Dec. 23, 1957, Ser. No. 704,593
2 Claims. (Cl. 330—15)

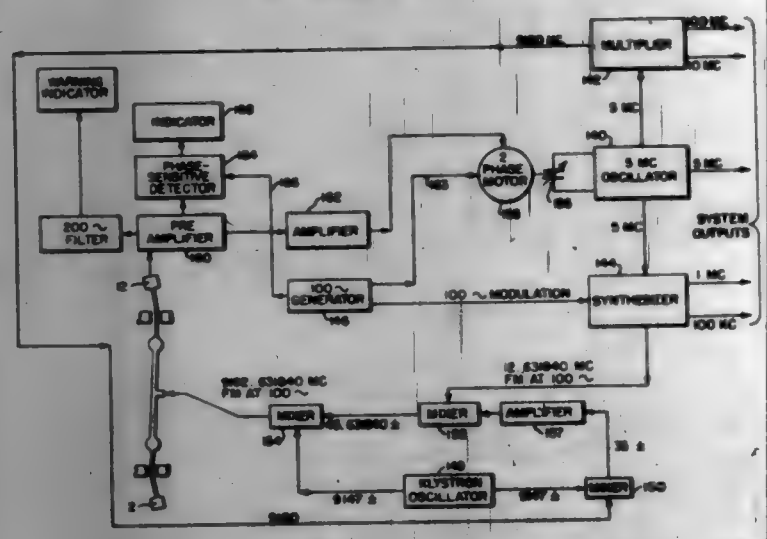


1. In a transistorized push-pull signal amplifier the combination of a pair of transistors having respective base, emitter and collector electrodes, voltage divider means including a bias control potentiometer having end terminals and a variable intermediate terminal and first and second resistor means individually connecting said end terminals of said potentiometer to a common terminal, potential supply means connected across said intermediate terminal and said common terminal, means connecting said emitter electrodes to said common terminal, input circuit means providing direct-current connections from said end terminals of said potentiometer to said base electrodes of said transistors respectively, output circuit means direct current coupled across said collector electrodes and connected to said intermediate terminal of said potentiometer, said potentiometer having a predetermined positive temperature coefficient, said first and second resistor means having predetermined negative temperature coefficients, said potentiometer and said first and second resistor means being supported in respective positions to be subjected to temperature changes corresponding to temperature changes of said transistors, whereby the resistive value of said potentiometer increases with temperature and the resistive value of said first and second resistor means decreases with an increase in temperature for decreasing the potential between said base and emitter electrodes with an increase in temperature.

2,972,115
MOLECULAR BEAM APPARATUS

Jerrold R. Zacharias, Newton, Joseph H. Holloway, Topsfield, and Eugene F. Grant, Marblehead, Mass., assignors to National Company, Inc., Malden, Mass., a corporation of Massachusetts

Filed Oct. 29, 1957, Ser. No. 693,104
10 Claims. (Cl. 331—3)

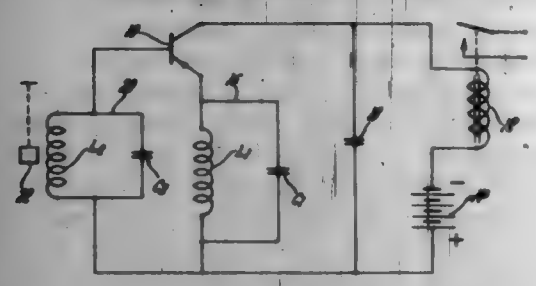


1. Molecular beam apparatus comprising a source, a detector, an elongated tubular member to enclose a molecular beam between the source and the detector, magnet means external to the tubular member, pole pieces connected to the magnets and disposed adjacent to the beam to form an intense inhomogeneous magnetic field through which the beam passes, means forming a transition region in the tubular member including two spaced cavities, means for feeding microwave energy to the cavities, an elongated magnetic shield U-shaped in section and partly surrounding the tubular member in the transition region, and a field coil wound lengthwise on the shield.

2,972,116
EMITTER FOLLOWER TRANSISTOR OSCILLATOR

Charles E. Lowe, Fenton, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Nov. 28, 1958, Ser. No. 777,047
7 Claims. (Cl. 331—117)

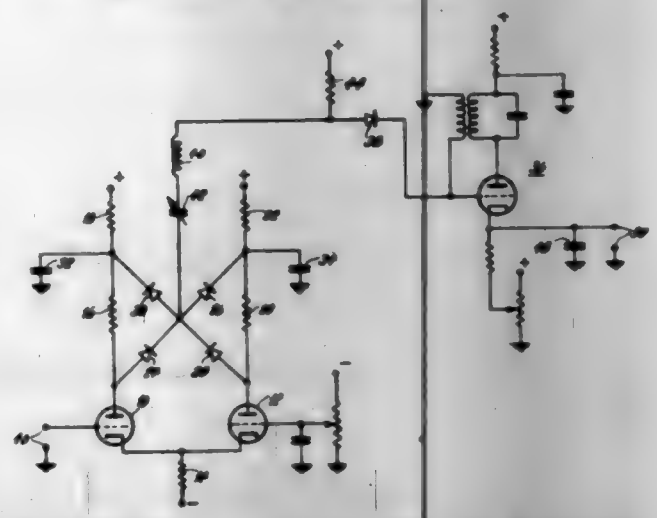


1. An oscillator comprising a transistor having emitter, collector and base electrodes, a voltage source, the collector electrode being connected with one terminal of the voltage source, a first parallel resonant circuit connected between the emitter electrode and the other terminal of the voltage source, a second parallel resonant circuit connected between the base and said other terminal of the voltage source, the resonant frequency of the first parallel resonant circuit being lower than that of the second parallel resonant circuit, the resonant frequencies of both of said circuits being in the region where transit time in the base-emitter junction of the transistor causes a phase shift between current and voltage whereby oscillations are generated in the emitter-collector circuit at a frequency between the resonant frequencies.

2,972,117
BALANCED DIFFERENTIAL AMPLIFIER WITH DIODE IMPEDANCE CHANGING NETWORK

Paul Jarmotz and Raymond Pepinsky, State College, Pa., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Oct. 14, 1958, Ser. No. 767,243
11 Claims. (Cl. 331—149)

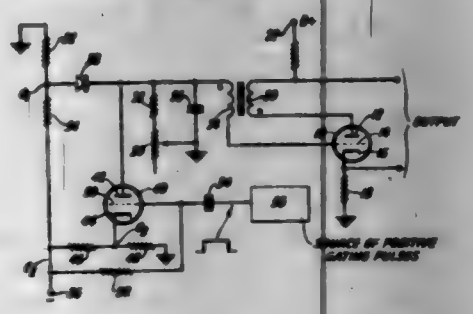


1. A device for providing a high or low impedance in accordance with the state of equality in value of a pair of input signals comprising, in combination: a balanced differential amplifier circuit including a pair of unidirectional current devices, each having an emitter, a collector and a control element; criss-crossed circuit arms, each including at least one unidirectional-current switching device and extending from a point on the collector circuit of one of said unidirectional current devices to a point of different potential on the collector circuit of the other of said unidirectional current devices; connections for a reference potential, the control element of one of said unidirectional current devices being connected thereto; and connections for a varying signal, the control element of the other of said unidirectional current devices being connected thereto, the potentials across both said criss-crossed circuit arms being such as to cut off conduction therein when the varying signal is equal in value to the reference signal and to cause conduction in one said arm when the varying signal is unequal in value to the reference signal, said switching devices providing a low impedance when in the conductive state and a high impedance when in the non-conductive state.

2,972,118
BLOCKING OSCILLATOR CIRCUIT

Jules R. Ville, Buffalo, N.Y., assignor, by mesne assignments, to Sylvania Electric Products Inc., Wilmington, Del., a corporation of Delaware

Filed Nov. 18, 1958, Ser. No. 774,763
5 Claims. (Cl. 331—149)



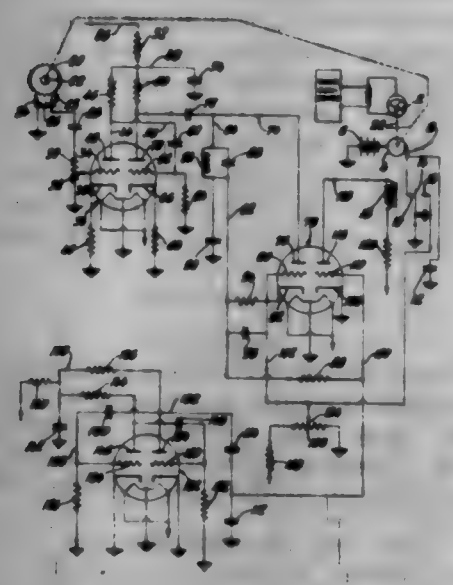
1. A free-running blocking oscillator comprising a first electron tube having anode, cathode and grid electrodes, a transformer coupling the anode of said first tube to the grid, a timing circuit including a capacitor connected to said control grid operative to cause said

control grid to undergo a periodic variation in voltage of which a portion in each cycle rises gradually from a potential below cut-off to a potential level at which said first tube is turned on, followed by an abrupt change to a level well below cut-off, a voltage clamping circuit including a first source of reference potential and a diode connected to said capacitor and operative to rapidly discharge said capacitor from said potential well below cut-off to a higher predetermined potential whereby said portion in each cycle rises gradually from the same potential, and means for synchronizing said blocking oscillator including a second electron tube having anode, cathode and control grid electrodes, means connecting the anode of said second tube to the junction of said diode and said capacitor, means connecting the cathode of said second tube to a second source of reference potential, means normally biasing said second tube to cut-off, and a source of rectangular gating pulses coupled to the control grid of said second tube for rendering said second tube conducting for the duration of said pulses rapidly to change the potential on the control grid of said first tube to and maintain it at said predetermined potential whereby upon cessation of conduction in said second tube the voltage on the control grid of said first tube rises gradually from said predetermined potential to a potential at which it is cut on.

2,972,119
RANDOM SWEEP GENERATOR

Bill J. Ford, James H. Guyton, Richard L. Jenkins, and Max J. Manahan, Kokomo, Ind., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Jan. 12, 1954, Ser. No. 403,600
10 Claims. (Cl. 331—177)

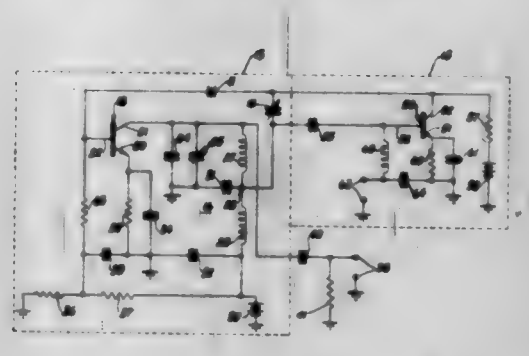


1. In an electronic control circuit, movable tuning means, driving means for the tuning means, control wave generating means connected to the driving means, rectifying means connected to the control wave generating means in which a D.C. voltage is developed proportional to the speed of the driving means, a grid controlled electronic tube, conductive means connecting said grid to said rectifying means, adjustable biasing means connected to said rectifying means in opposed voltage relation to the developed D.C. voltage, the resultant voltage of the two biasing said tube, and electromagnetic relay switching means connected in the output circuit of the tube and to the driving means whose position is controlled by current flow through the tube controlling the energization of the driving means.

2,972,120
VARIABLE-FREQUENCY CRYSTAL-CONTROLLED OSCILLATOR SYSTEMS

Reymond J. Kircher, Los Angeles, and Merlin C. Wager, Culver City, Calif., assignors to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

Filed Oct. 15, 1957, Ser. No. 690,239
5 Claims. (Cl. 332—26)

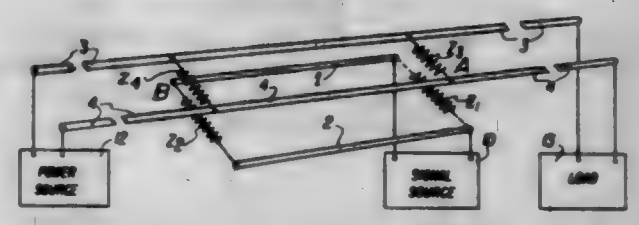


1. A variable-frequency crystal-controlled oscillator system comprising: an oscillator circuit of the regenerative feedback type including a piezoelectric crystal and a first capacitor connected in series relationship in said oscillator circuit to control the frequency of oscillaton, said first capacitor having two terminals; a control transistor having base, emitter and collector electrodes; a second capacitor connected between one of said terminals and said base electrode, said collector being directly connected to the other of said terminals; and means for applying a control voltage across said base and emitter electrodes to control the frequency of oscillation.

2,972,121
COUPLING SYSTEM

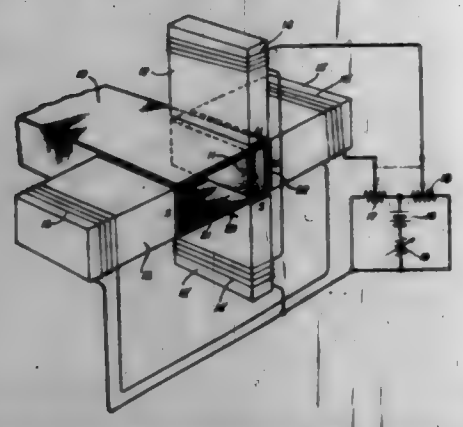
William L. Firestone, Chicago, Ill., assignor to Motorola, Inc., Chicago, Ill., a corporation of Illinois

Continuation of application Ser. No. 358,727, June 1, 1953. This application Oct. 14, 1957, Ser. No. 690,162
12 Claims. (Cl. 333—10)



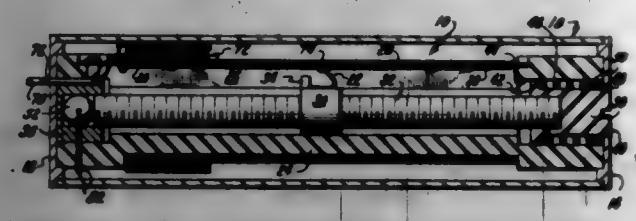
1. A transmission line directional coupling system including in combination, a first transmission line adapted to be coupled to a signal source, a second transmission line terminated in an impedance differing from the characteristic impedance thereof and serving to propagate the signal energy, said first and second transmission lines having portions positioned in spaced relation with respect to each other extending between first and second points, and means applying signal energy to said first transmission line in the direction from said first point to said second point, said first transmission line being constructed so that the effective normalized terminating impedance thereof at said second point is the reciprocal of the effective normalized terminating impedance of said second transmission line at said first point, whereby energy from said first transmission line is coupled to said second transmission line and substantially all said coupled energy flows from said coupled portion of said second line in the direction away from said second point.

2,972,122
NONRECIPROCAL WAVE TRANSMISSION
John P. Schafer, Elberon, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Apr. 25, 1958, Ser. No. 731,037
5 Claims. (Cl. 333—73)



1. A nonreciprocal microwave filter comprising a section of conductively bounded rectangular waveguide having pairs of opposed broad and narrow walls, a source of dominant mode wave energy having a frequency spectrum extending from a first frequency f_1 to a second frequency f_2 and having a third frequency f_3 therebetween applied to one end of said section, output means for utilizing said applied wave energy to the exclusion of a band of frequencies centered about said frequency f_3 connected to the other end of said section, means for attenuating said band of frequencies including an elongated element of gyromagnetic material asymmetrically located within said waveguide between one of said narrow walls and the center of said waveguide with the long dimension thereof extending longitudinally along said waveguide parallel to said walls and with the short dimensions thereof extending transversely within said waveguide parallel to said walls, and means for magnetically polarizing said element in a direction transverse to the longitudinal axis of said waveguide and at a substantially oblique angle to said waveguide walls.

2,972,123
ADJUSTABLE RESISTANCE UNIT
Leonardus M. Blom, Jr., Covina, Calif., assignor to Con-Elco, Monrovia, Calif., a corporation of California
Filed June 10, 1959, Ser. No. 819,324
4 Claims. (Cl. 338—181)



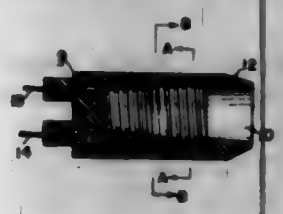
1. An electrical resistance unit comprising a closed housing, a resistor series which includes first and second variable resistors connected in series and disposed within the housing, the first variable resistor including a resistance element in the form of a wire winding having a longitudinal axis about which successive turns are arranged in exposed side by side relationship, a cooperating wiper for making adjustable electrical contact with the exposed turns of the winding, and means operable from the exterior of the housing for adjustably positioning the wiper along a path parallel to the axis of the winding so as to move the wiper across the turns of the winding, the second variable resistor including a resistance element in the form of a conductive strip supported within the housing alongside of and parallel to the axis of the winding, a wiper for making adjustable electrical contact with the strip, and means operable from the exterior of the housing for adjustably positioning the wiper along a path parallel to the strip so as to provide infinite resolution between the wiper and the strip, the strip having a length comparable to that of the winding and having a total electrical resistance approximately equal to the resistance of one turn of the winding, and, means providing electrical connection with the resistor series from the exterior of the housing, whereby there is provided an electrical resistance unit the resistance of which is adjustable with infinite resolution over a wide range.

2,972,124
POTENTIOMETER
Elias Bianco, Los Angeles, Calif., assignor to Daystrom, Incorporated, Murray Hill, N.J., a corporation of New Jersey
Filed July 14, 1958, Ser. No. 748,385
3 Claims. (Cl. 338—202)



1. A variable resistance, comprising: an elongate resistance element including a plurality of turns of resistance wire uniformly wound around a linear axis; a structure mounted for rotational movement about an axis spaced from and parallel to said linear axis, said structure including a cylindrical surface section having a helical surface groove therein; an elongate strip of electrical conducting material secured over said groove, said strip having a deformed continuous surface portion positioned over said groove, said surface portion being laterally connected by integral spaced bridging portions providing a resilient support for said surface portion, whereby it will make resilient wiping contact with the turns of said resistance element in response to said rotational movement.

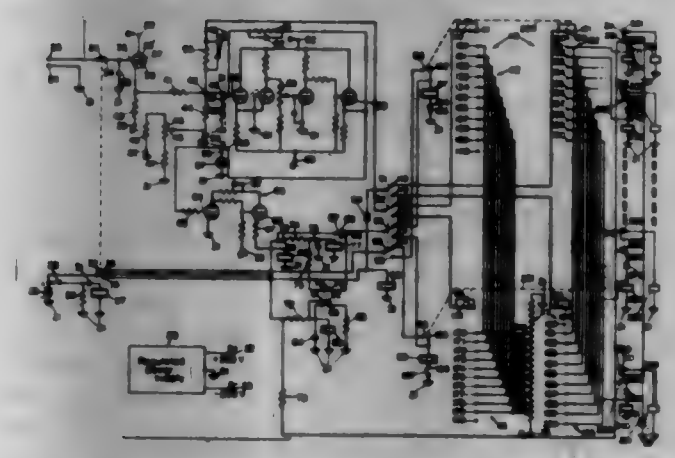
2,972,125
SEPARABLE ELECTRICAL CONNECTION
Peter Longdale Temple and Cornelius Johannes Maria Beerens, Ascot Vale, Victoria, Australia, assignors to Imperial Chemical Industries of Australia and New Zealand Limited, Melbourne, Victoria, Australia, a corporation of Australia
Filed Nov. 12, 1959, Ser. No. 852,246
Claims priority, application Australia Jan. 8, 1959
3 Claims. (Cl. 339—61)



1. A connection for two multiple electric cables, comprising a socket formed from insulating material and having a recess of circular cross-section with the conductors of one cable wound in separate mutually insulated spirals around the internal surface of the recess; and a plug shaped from insulating material to fit within the recess and having the conductors of the other cable wound around the external surface of the plug in separate mutually insulated spirals of such diameter, pitch and

location that the spiral of each conductor can be simultaneously engaged with the spiral of the corresponding conductor of the other cable as a male and female thread to form a continuous conductor insulated from the other conductors.

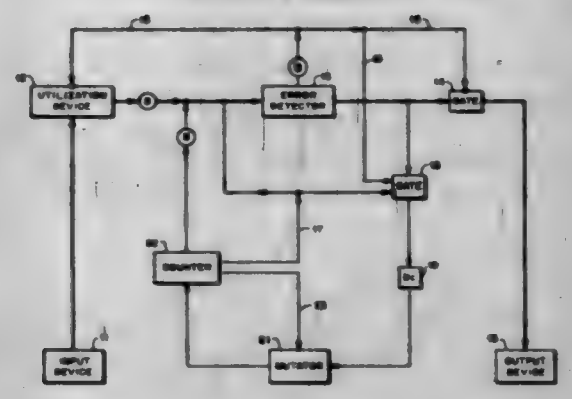
2,972,126
VOLTAGE CLASSIFIER
William Hecox, Groveport, and Carl C. Gebhardt, Columbus, Ohio, assignors, by mesne assignments, to The Sheffield Corporation, a corporation of Delaware
Filed Oct. 18, 1955, Ser. No. 539,484
14 Claims. (Cl. 340—172)



1. A voltage-classifying circuit for high speed gauging operations comprising: means for applying an input voltage pulse to said circuit momentarily determined by a gauged characteristic of a product; memory means for retaining said pulse; means for amplifying said input voltage retained by said memory means; a relay energized and actuated by the output of said amplifying means for actuating a stepping switch in said circuit when an input voltage is applied to said circuit; a first bank of contacts in said stepping switch connected to provide at each step thereon a predetermined voltage in opposition to a voltage that is a function of said input voltage and decreasing the output of said amplifier means, said predetermined voltage increasing from step to step; means including said relay for stopping said stepping switch at a step at which the amplifier output is zero and said relay is deenergized depending upon the first step at which said predetermined voltage is at least equal to a voltage that is a predetermined function of said input voltage and the gauged product characteristic, output means, and a second bank of contacts in said stepping switch connected to provide a predetermined electrical connection to said output means depending upon the step at which said stepping switch stops and the gauged product characteristic.

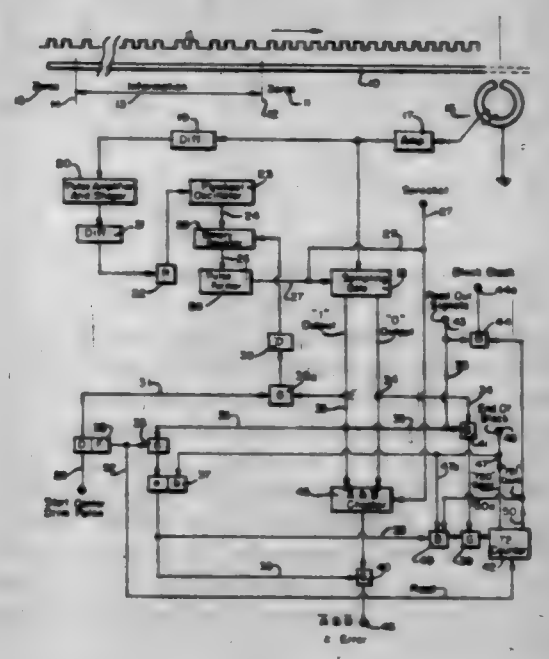
2,972,127
ERROR RESPONSIVE SYSTEM
Herman Lukoff, Philadelphia, and John R. Stovall, Jr., Mount Airy, Pa., assignors, by mesne assignments, to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Dec. 27, 1954, Ser. No. 477,906
20 Claims. (Cl. 340—172.5)

1. In an information handling system in which information is represented by information signals, means for receiving information signals, means for the manipulation and utilization of information signals received by said receiving means, coupling means including signal modifying means for connecting said receiving means with said manipulation and utilization means, an error detector connected to said coupling means for detecting errors in information signals applied to said coupling means, said error detector being responsive to an error in said information signals to generate an error signal, said signal modifying means being responsive to an error signal for modifying the characteristics of signals passing through said coupling means, means responsive to an error signal for causing the reapplication of information signals having



a detected error to said coupling means, and means responsive to an error signal for resubmitting said modified information signals to said error detector for the redetection of errors therein.

2,972,128
PHASE MODULATED PULSE RECORDING SYSTEMS
John Presper Eckert, Jr., Gladwyne, John Clark Sims, Jr., Springhouse, and Herbert Fraser Welsh, Philadelphia, Pa., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed July 30, 1956, Ser. No. 600,752
15 Claims. (Cl. 340—172.5)



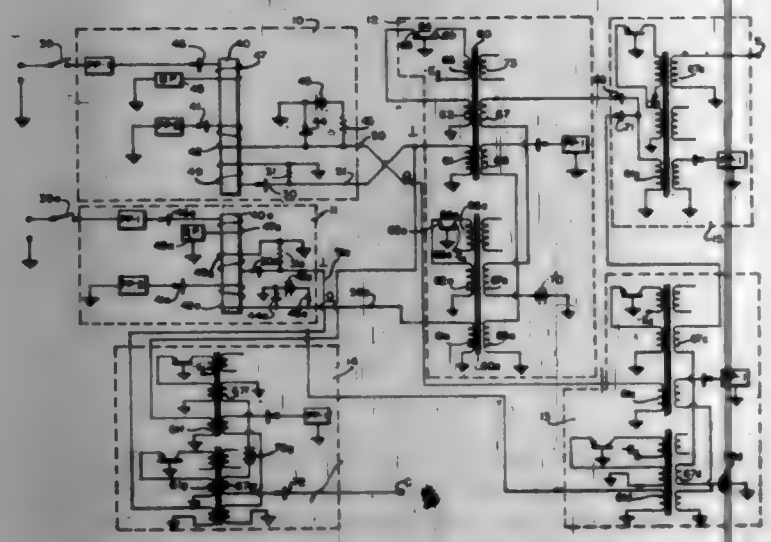
1. In combination, a record medium having a train of phase modulated signals thereon, transducer means for reading said phase modulated signals in sequence, control means coupled to the output of said transducer means for generating a train of spaced sprocket pulses in response to reading of said phase modulated signals, said control means including a binary counter for controlling the repetition rate of said sprocket pulses, gating means coupled to both said control means and to said transducer means for sampling signals appearing at the said output of said transducer means during occurrence of each of said sprocket pulses, and means responsive to the polarity of signals appearing at the output of said gating means for controlling the operation of said binary counter thereby to control the phase of said sprocket pulses.

2,972,129

GATE-BUFFER CHAINS

Theodore H. Bonn, Merion Station, Pa., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed June 25, 1956, Ser. No. 593,537
7 Claims. (Cl. 340—174)



7. A gate-buffer chain comprising a first gate having at least two magnetic cores with substantially rectangular hysteresis characteristics, separate input means for each core and which at predetermined periodic intervals may drive its core to one remanence point, a power coil on each core, and a series circuit including said power coils; a second gate having at least two magnetic cores, separate input means for each core and which at said predetermined pediodic intervals may drive its core to one remanence point, a power coil on each said second gate core, and a series circuit including the power coils of said second gate; power means including a first alternating current source which tends to pass pulses through said series circuits during the spaces between said periodic intervals; means in each of said series circuits for combining together any currents flowing in said series circuits during the spaces between said periodic intervals, a transistor of the NPN type having an emitter electrode energized by said combined currents, said transistor having an output circuit connected to the collector electrode of said transistor, said output circuit normally impressing a positive operating potential on said collector electrode, a rectifier in each of said series circuits having such polarity as to allow negative potential from said first source to be impressed on said emitter electrode when said gates have low impedance, another rectifier having its cathode connected to the emitter electrode of said transistor, and another source of pulses which is normally positive but which increases its positive potential when said first source goes positive and thus allows the transistor to recover to normal during positive excursions of said first source.

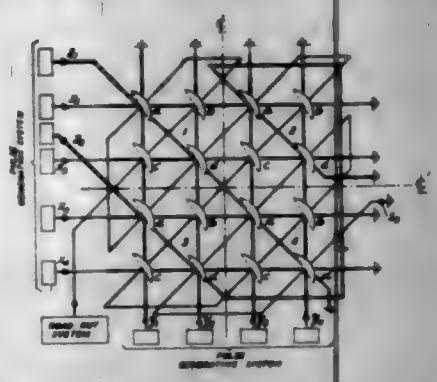
2,972,130

MAGNETIC CORE STORAGE CIRCUIT

Robert C. Minnick, Cambridge, Mass., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Apr. 19, 1957, Ser. No. 653,771
5 Claims. (Cl. 340—174)

1. In combination, in an information storage system, an even plurality of magnetic cores arranged in a matrix of core groups, each comprising an equal number of at least three of said cores, each of said cores being characterized by a substantially rectangular hysteresis loop and by the capability of attaining either of two stable states of magnetic remanence, means including a plurality of selecting wires, each inductively coupled in a single direction to preassigned ones of said cores, for storing a single information bit in all the cores of any designated one of said groups, means including a selecting wire, said selecting wire being coupled to one half the number of said cores in said single direction and to the other half of said cores in the opposite direction, for reading out said information bit from a single core of said designated group, and means for limiting the mag-



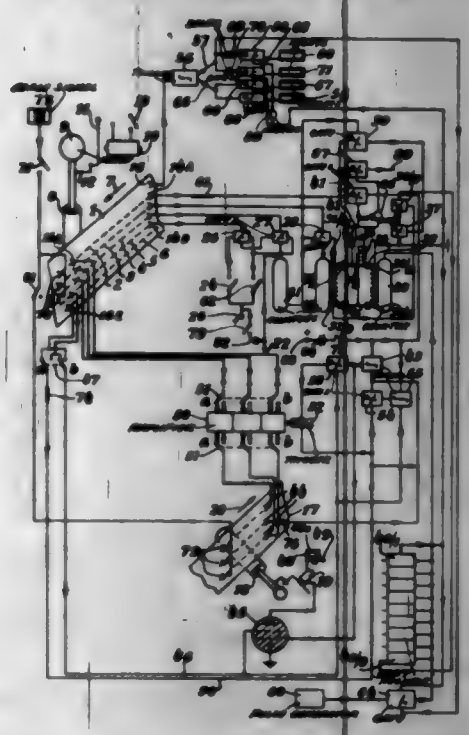
nitude of spurious signals, impressed on said sensing wires during the operation of said reading-out means by cores other than said single core, to a level which is independent of the total number of cores in said matrix, said limiting means comprising a preassigned order of relative coupling directions between said sensing wire and said cores, said order being characterized by threading property in the Q array of said matrix and by cancellation property in the P array of said matrix.

2,972,131

APPARATUS FOR SORTING SIGNALS RECORDED ON A MAGNETISABLE SIGNAL CARRIER

Gerhard Dirks, 44 Morfelder Landstrasse, Frankfurt am Main, Germany

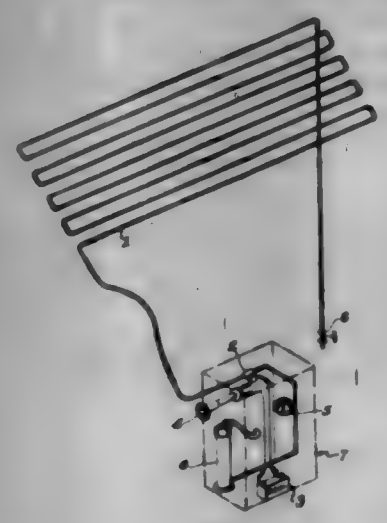
Filed Aug. 22, 1957, Ser. No. 679,686
Claims priority, application Great Britain Aug. 24, 1956
15 Claims. (Cl. 340—174.1)



1. Apparatus for selectively transferring, from a first to a second signal carrier in accordance with a succession of criteria, data items recorded on the first signal carrier, comprising means for sensing data items sequentially from the first signal carrier during a first sensing operation, first testing means for testing the sensed data items for conformity with one of the criteria, means for selectively recording the sensed data items on the second signal carrier under control of the testing means operative during said first sensing operation, second testing

means for testing the sensed data items for conformity with the next criteria in said succession control means operative on completion of the sensing of all the data items in said first sensing operation, first means responsive to operation of the control means to initiate a second sensing operation in which the data items recorded on the first carrier are again sensed by said sensing means and second means responsive to operation of the control means and to the result of the tests performed by said second testing means to set the first testing means in accordance with the criterion to be tested for in said second sensing operation, the first testing being set for said next criteria for one result from the second testing means and for a further criterion in said succession for another result from the second testing means.

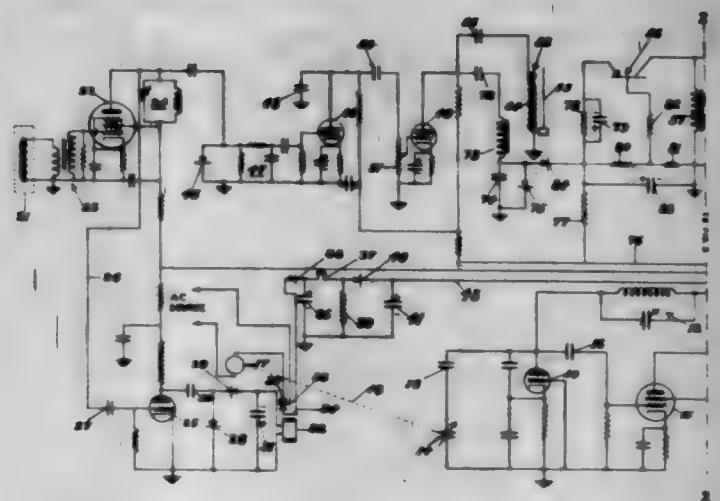
2,972,132
CONTROL SYSTEM
Charles R. Putney, Briarwood, Del. (264 S. 3rd Ave., Bloa, N.Y.)
Filed Sept. 10, 1957, Ser. No. 683,043
11 Claims. (Cl. 340—229)



11. An alarm system comprising a thermoplastic tubing composed of a polymeric material, sealed at both ends and containing a gas under pressure, said tubing being quickly ruptured at its softening point under said pressure conditions; a pressure responsive element sealed at one end of said tubing, said element being an electrical switch normally open when the said gas is under said pressure and closed when said pressure is released; and an alarm activated by said switch upon closing thereof.

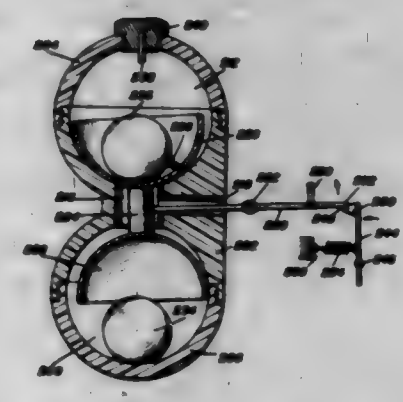
2,972,133
APPARATUS FOR DETECTING MOTION
Leslie A. MacDonald, New Hyde Park, N.Y., assignor to American District Telegraph Company, Jersey City, N.J., a corporation of New Jersey
Filed Sept. 28, 1956, Ser. No. 612,776
24 Claims. (Cl. 340—258)

1. In a motion detection system of the type in which a first alternating current is converted into radiant energy which is transmitted throughout a space to be protected and in which a portion of the radiant energy within the space is received and converted into a second alternating current, modulation components in the second alternating current representing motion within the protected space, relatively low frequency modulation components being characteristic of ordinary air turbulence and higher frequency modulation components lying within a given range being characteristic of motion of a type to be detected, the combination comprising an oscillator for generating said first alternating current, said oscillator having a frequency determining variable impedance element for varying the generated frequency over a selected range, means responsive to a drop in the amplitude of said second alternating current below a predetermined value to vary the value of said variable impedance element thereby to vary the frequency of said first alternating current through said selected range until a frequency is reached at which the amplitude of said second alternating current reaches said predetermined value, means operative a predetermined time interval after the amplitude of said second alternating current drops below said predetermined value to transmit an alarm indication, said last mentioned means being rendered inoperative if the amplitude of said second alternating current reaches said predetermined value within said predetermined time



interval, a high Q filter circuit tuned to a frequency within said given range, means to derive from said second alternating current a third alternating current having frequencies corresponding to the frequencies of modulation components in said second alternating current, means to apply said third alternating current to said filter circuit, means to amplify the output of said filter circuit, means responsive to an amplified output of said filter circuit in excess of a selected value to transmit an alarm indication, and means responsive to said relatively low frequencies characteristic of air turbulence when present in said third alternating current to reduce the amplification of said output of said filter circuit.

2,972,134
SAFETY DEVICE FOR MOTOR VEHICLES
Victor Edward McKay, Harrington Park, N.J. (46 Prospect Hill, Tiverton, R.I.); Virginia McKay, administratrix of the estate of said Victor Edward McKay, deceased
Filed Apr. 26, 1957, Ser. No. 655,365
5 Claims. (Cl. 340—261)



1. A vehicle safety device comprising a signal, an arm by which said signal is rendered operative, latch means positioned proximate said arm to retain said arm in a cocked position, a beam operatively connected to said latch means for releasing the same upon oscillation of said beam, means responsive to impact and connected

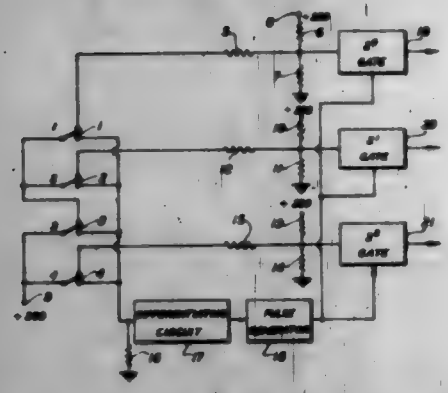
to said beam for oscillating said beam, said beam oscillating means including a body, a chamber in said body, a pan in said chamber, means connecting said pan to said beam, a weighted member located in said chamber, frangible means supporting said weighted member above said pan in said chamber and adapted to release said weighted member in response to impact so that the weighted member falls on said pan and oscillates said beam to release said latch and cause the signal to be actuated.

2,972,135

CODE CONVERTING ELECTRICAL NETWORK

Walter S. Chamberlin, Pasadena, Calif., assignor, by mesne assignments, to Burroughs Corporation, Detroit, Mich., a corporation of Michigan

Filed July 14, 1955, Ser. No. 522,076
7 Claims. (Cl. 340—347)



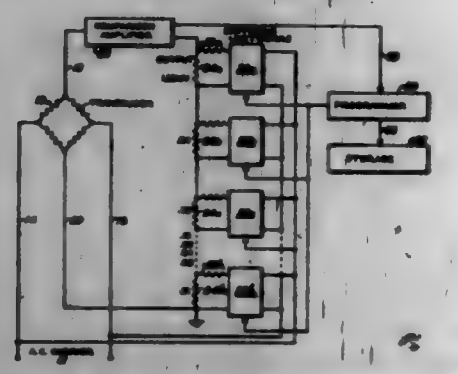
1. A code converter, including in combination a plurality of circuit connection devices which are adapted to be actuated in accordance with a digital representation in a first code, each of said circuit connection devices including a normally closed circuit and a normally open circuit; a plurality of output gating circuits which are adapted to provide output signals in accordance with a second code; circuit means interconnecting the normally closed circuits of said circuit connection devices and said output circuits for opening selected gating circuits to provide output signals from said output circuits of said second code corresponding to the actuation of said circuit connection devices in accordance with said first code; means connected to the normally open circuits of all of said circuit connection devices for generating a signal pulse whenever one of said circuit connection devices is actuated; and means for coupling said signal pulse to each of the output gating circuits for producing output signals from the output gating circuits.

2,972,136

DATA HANDLING SYSTEM AND MAGNETIC SWITCHING NETWORK THEREFOR

Luther Paul Gieseler, Rockville, Md.
(415 Brook Drive, Falls Church, Va.)

Filed Oct. 10, 1955, Ser. No. 539,404
6 Claims. (Cl. 340—347)



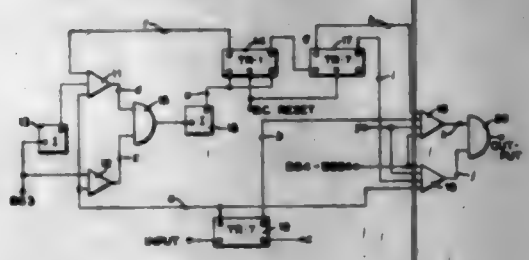
4. A data handling system comprising a source of alternating voltage; a transducer connected to said alternating voltage source having an output proportional to a specified condition; a voltage divider for providing a reference source of output voltage arranged in a binary series across a series of resistors; means connected between said alternating voltage and said reference source for applying said alternating voltage to said voltage divider to provide said reference voltage; said last named means including, for each section of the series of resistors, another voltage dividing resistor; and a switching network having an input and output, a first set of shunt reactors connected to said input, a second set of series reactors connected between said input and output, a third set of shunt reactors connected across said output, means for rapidly closing said switching network including: means for saturating the series reactors, and means for completely demagnetizing the shunt reactors whereby the network passes a signal with a minimum time delay from the time of closing of the network in which said last named means comprises means producing a current pulse synchronized to follow immediately the application of said saturating means; comparsion means connected between the transducer output and reference source for comparing the transducer output to the reference source; and programming means connected to the comparison means and to said switching networks for turning the networks off and on in a predetermined manner so that the output of the reference voltage divider will substantially equal the transducer output.

2,972,137

SIGNAL TRANSLATING APPARATUS

William H. Dunn, Endicott, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

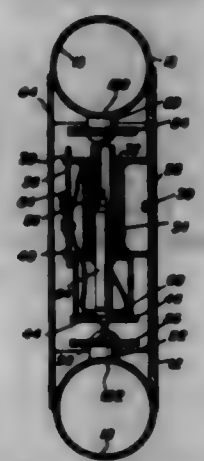
Filed Nov. 1, 1957, Ser. No. 693,879
3 Claims. (Cl. 340—347)



3. Signal translating apparatus for receiving serial binary information including a binary word of digits preceded by a control digit and for providing alternatively either the true form or the two's complement form of said word, said alternative form being determined by the preestablished binary of said control digit, comprising, in combination: input means adapted to recevie said information and to produce both direct and inverse representations thereof, said input means including a first bistable device and a first clock pulse means to reset said first bistable device before each input digit of said information; control means adapted to receive said direct representation and to produce first and second gating signals, said control means including a first circuit to examine said control digit and to determine said binary value thereof, said first circuit having first and second AND circuits adapted to receive said direct representation and a first OR circuit to receive the outputs thereof and to produce a first OR circuit output, gating means connected to said first circuit to make said first AND circuit responsive to said control digit and to make said second AND circuit responsive to said digits of said word, said gating means including a first bit pulse timing means to open said first AND circuit at said control digit time and to open said second AND circuit at times of said digit of said word and a first inverter connected between said bit pulse timing means and said second AND circuit, a circuit adapted to receive and re-

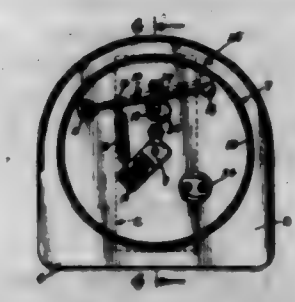
member said first OR circuit output to produce first and second storage signals, said first storage signal conditioning said second AND circuit, said circuit including a second inverter connected after said first OR circuit and a bistable trigger connected after said second inverter to produce said first and second storage signals, a second bistable device connected to said bistable trigger to receive said second storage signal and to produce said first and second gating singals, and reset means to reset said bistable trigger and said second bistable device to their initial states after said apparatus has provided said translated signal; and output means adapted to receive said representations and said gating signals and to provide said translated signal, said gating signals conditioning said output means to provide either said word or the portion thereof up to and including its first binary 1 and thereafter the inverse of its digits, as determined by said pre-established binary value of said control digit, said output means including a second circuit having third and fourth AND circuits to receive said direct and inverse representations, respectively, a second OR circuit connected thereto to provide said translated signal, said third AND circuit being conditioned by said first gating signal and said fourth AND circuit being conditioned by said second gating signal, and a timing means to gate said third and fourth AND circuits during said word time, said timing means including a second clock pulse means and a second bit pulse timing means.

2,972,136
REPEATER DOOR CHIMES
Carl G. Rinker, Swainsboro, Ga., assignor, by mesne assignments, to The Philip Carey Manufacturing Company, Cincinnati, Ohio, a corporation of Ohio
Filed Aug. 1, 1957, Ser. No. 675,616
3 Claims. (Cl. 340—392)



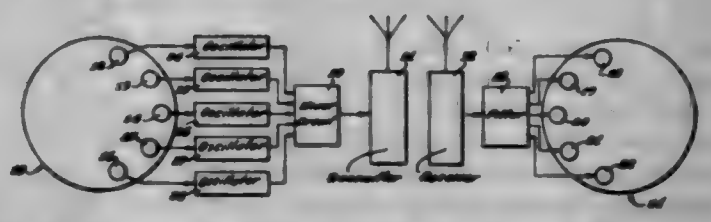
1. A repeater door chime comprising a base, a first resonating tube secured to said base and having a first tone bar mounted adjacent thereto, a second resonating tube secured to said base below said first tone bar and having a second tone bar mounted adjacent thereto below said first tone bar, a solenoid coil carried by said base and disposed between said first and second tone bars, a striker mounted in said solenoid coil and electromagnetically displaced to strike said first tone bar and gravity lowered to strike said second tone bar, a pair of contacts carried by said base, a striker supported contact electrically bridging said pair of contacts and mechanically retaining said striker in a rest position between said tone bars with the ends of said striker spaced from said tone bars, a repetitively opened and closed electric circuit for repetitively energizing said coil and including a conductor adapted to be connected with a source of electrical potential and having a switch therein, said conductor connected with one of the contacts of said pair of contacts, a second conductor connected with the other contact of said pair of contacts and connected with one end of said coil, a third conductor connected with the opposite end of said coil and adapted to connect with said source of electrical potential whereby said coil is energized in response to closing of said switch completing the repetitively open and closed circuit through said pair of contacts, said striker supported contact and said coil thereby energizing said coil and displacing said striker to engage said first tone bar and at the same time separating said striker supported contact from said pair of contacts thereby opening said repetitively energized circuit and enabling said striker to return to strike said second tone bar and simultaneously return said striker supported contact to a bridging position across the contacts of said pair of contacts.

2,972,139
BACK-UP WARNING SIGNAL FOR AUTOMOTIVE VEHICLES
Merritt Knutson, Williston, N. Dak.
Filed May 21, 1959, Ser. No. 814,731
1 Claim. (Cl. 340—392)



In a device of the class described, a mounting plate, a bell, anchoring means extending between said mounting plate and the central portion of said bell and rigidly maintaining said bell in spaced overlying relationship to said mounting plate, a striker for said bell, means pivotally securing one end of said striker to said mounting plate within the confines of said bell for movements of the opposite end thereof toward and away from striking engagement with the periphery of said bell, an electric motor, means securing said electric motor to the opposite side of said mounting plate with its drive shaft projecting therethrough, cam means on the projected end of said drive shaft and engageable with the intermediate portion of said striker to move the free end thereof into bell striking engagement, and spring means yieldingly biasing said striker in a direction away from striking engagement with said bell, said mounting plate projecting laterally outwardly in all directions from the perimeter of said bell, the upper end portion of said mounting plate defining a semi-cylindrical guard plate which overlies said bell in spaced concentric relationship to said bell and substantially covering said bell.

2,972,140
APPARATUS AND METHOD FOR COMMUNICATION THROUGH THE SENSE OF TOUCH
Joseph Hirsch, Pacific Palisades, Calif.
(Technion, Haifa, Israel)
Filed Sept. 23, 1958, Ser. No. 762,727
4 Claims. (Cl. 340—407)



1. In combination for providing a tactile communication of information from a first position by a first operator to a second position for reception and assimilation

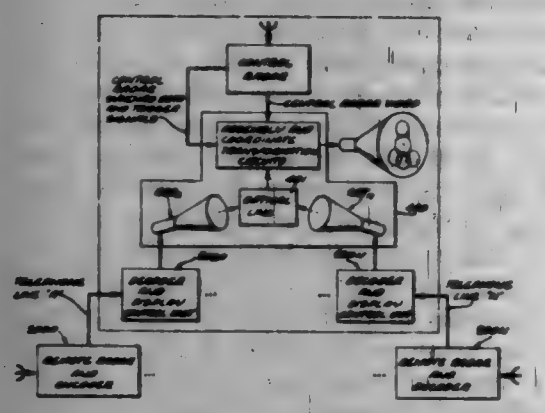
of the information by a second operator, a first plurality of keys disposed in a first row at the first position in a spaced arrangement corresponding to the relative spacing between the fingers of the first operator, a second plurality of keys disposed at the first position in a second row spaced from the first row and disposed in a spaced arrangement corresponding to the relative spacing between the fingers of the first operator, a plurality of oscillators each operative upon actuation of a different key of the first and the second pluralities of keys for producing signals at an individual frequency relative to the frequencies of the signals produced by the other oscillators or any group of oscillators, electrical circuitry including a mixer coupled to the oscillators for combining the signals from the operative oscillators, electrical circuitry at the second position and responsive to the signals from the mixer for separating the signal into the oscillatory signals of the different frequencies, and means including a third plurality of keys disposed in spaced relationship at the second position and in an arrangement corresponding to the separation between the different fingers of the second operator and responsive to signals at particular frequencies corresponding to the frequencies of the signals produced by the actuation of the keys in the first and second pluralities for obtaining an actuation of the keys to provide a tactile stimulation of the fingers of the second operator.

2,972,141

SYSTEM AND METHOD FOR REMOTE RADAR DATA TRANSMISSION AND COORDINATED ASSEMBLY AT A CENTRAL STATION

Edward J. Barlow and John D. Mallett, Pacific Palisades, Sidney Bertram, Los Angeles, and John I. Daspit, Santa Monica, Calif., assignors to Gilfillan Bros., Inc., Los Angeles, Calif., a corporation of California

Filed June 15, 1956, Ser. No. 593,011
19 Claims. (Cl. 343—5)



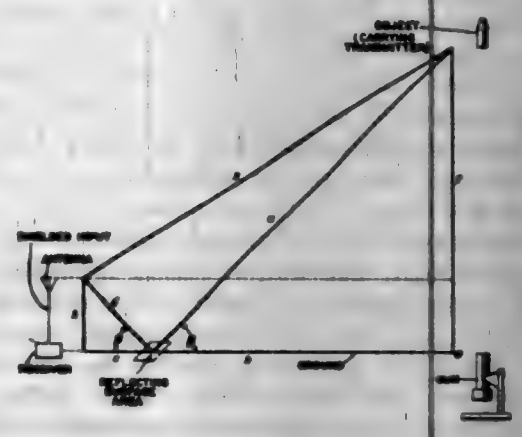
1. A system for remote radar data transmission and coordinated assembly at a central station where the data received is to be transformed to the coordinates of the central station, said system comprising: a plurality of first means for receiving respective remote radar data signals and for producing corresponding encoded signals based upon the respective remote coordinates; a corresponding plurality of second means at the central station responsive to said encoded signals, respectively, for decoding said signals and providing a corresponding plurality of visual displays; third means for providing a composite visual presentation of said visual displays based upon the respective geographical locations of the associated remote radars; and fourth means for scanning said composite visual presentation in the coordinates of the central station and in synchronism with central radar reference signals thereby to produce transformed video data signals representing the remote radar data in the coordinates of the central station, said transformed data being suitable for direct combination with the central radar video.

2,972,142

METHOD AND APPARATUS FOR MEASURING THE VELOCITY OF A PROJECTILE

William C. Parkinson, Washington, D.C., and Elmore R. Chatham, Mexia, Tex., assignors to the United States of America as represented by the Secretary of the Navy

Filed Mar. 7, 1944, Ser. No. 525,476
5 Claims. (Cl. 343—8)



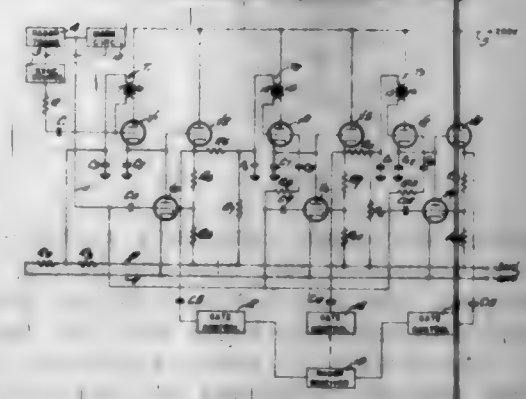
1. The process of determining the velocity of an object which rises subetantially vertically and emits radio waves of known frequency, said process comprising receiving said waves through a direct path at a point a known distance above the initial level of the object and at a known distance horizontally from its trajectory, also receiving the waves at the same point through another path after reflection from the horizontal plane at said initial level, combining the two sets of waves thus received to produce a modulated signal, and determining the desired velocity from the beat frequency of said signal.

2,972,143

PULSE SEPARATOR AND GATE GENERATOR

Everett R. Schwartz, Fort Wayne, Ind., and Charles F. Feltham, Jr., Huntington, N.Y., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

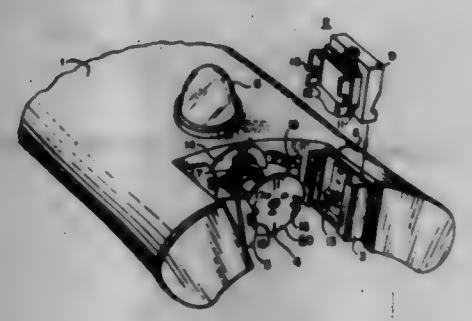
Filed Jan. 13, 1958, Ser. No. 708,737
4 Claims. (Cl. 343—13)



3. In a radar ranging system having a transmitter, a receiver, and a marking circuit apparatus for successively energizing a plurality of gate circuits which gate the radar receiver on during selected time intervals said apparatus comprising a plurality of tandem connected normally deenergized control circuits, each individual control circuit being coupled to an individual gate circuit; means for energizing one of the said control circuits; a normally deenergized blocking oscillator coupled to the output of said one control circuit, said oscillator being conditioned for energization when the said one control circuit is energized; means responsive to a first pulse of a series of marking circuit pulses for energizing said blocking oscillator; means responsive to energization of the blocking oscillator for energizing said next succeeding control circuit; means also responsive to energization of the block-

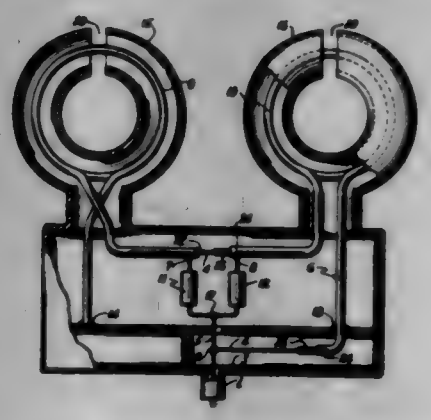
oscillator for deenergizing said one control circuit; and means also responsive to energization of the blocking oscillator for conditioning the next tandem connected control circuit for energization.

2,972,144
ANTENNA RELEASE MECHANISM
Richard A. Marsh, Rochester, N.Y., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Army
Filed Jan. 28, 1959, Ser. No. 789,759
5 Claims. (Cl. 343—709)



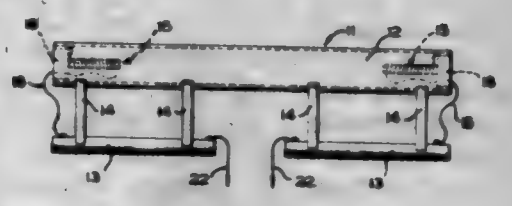
5. In a transmitter signalling device comprising a housing, an antenna mount fixedly secured to said housing, a flexible laminated antenna having two ends, a spool having a core and two flanges, a pair of diametrically opposed lugs on each flange, a water-actuated ejecting mechanism, means including a trigger release spring for detachably retaining said ejecting mechanism to said housing in the absence of water penetrating said mechanism; means for fixedly securing one end of said antenna to said antenna mount, the other end of said antenna being wound around said core; means for detachably retaining one pair of longitudinally opposed lugs to said antenna mount, means for detachably securing the other pair of said lugs to said ejecting mechanism, and means including a bellows motor and a current producing cell within said ejecting mechanism for releasing said trigger release spring upon the entry of water into said cell and for forcibly ejecting said spool and upwardly unwinding said flexible antenna.

2,972,145
SMALL DIRECTIONAL ANTENNA SYSTEM
Chester B. Watts, Jr., Alexandria, Va., assignor to Scanwell Laboratories, Inc., Springfield, Va., a corporation of Virginia
Filed Oct. 6, 1959, Ser. No. 844,797
8 Claims. (Cl. 343—742)



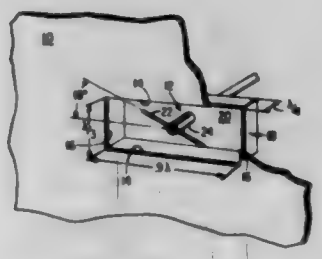
2. A directional antenna system comprising; two identical elements and a circuit for simultaneously feeding said elements bucking and aiding modes of symmetrical current excitation, said aiding mode currents having a phase angle of substantially 90 degrees relative to said bucking mode currents and an amplitude relative to said bucking mode currents substantially proportional to frequency.

2,972,146
FOLDED DIPOLE ANTENNA WITH INTERNALLY MOUNTED LOADING MEANS
Harold A. Saxe, Whippany, N.J., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed July 29, 1959, Ser. No. 830,281
2 Claims. (Cl. 343—749)



2. In a folded dipole antenna having hollow elongated primary and secondary active elements and a loading circuit mounted in the primary element, a loading circuit support for mounting within the primary active element which comprises a cylindrical core of insulating material, an insulating disk fixedly engaged to the core and having an aperture formed therethrough, and a conductive annular member coaxially surrounding the disk for connection to one end of the loading circuit to be supported, the other end of the circuit being disposed sealingly through the aperture formed through the disk and connected electrically to the secondary active element, the annular member being of a size for reception within the end of the primary active element such that the core is sealingly disposed completely within the element.

2,972,147
CIRCULARLY POLARIZED SLOT ANTENNA
Ernest J. Wilkinson, Newtonville, Mass., assignor, by mesne assignments, to Sylvania Electric Products Inc., Wilmington, Del., a corporation of Delaware
Filed July 9, 1958, Ser. No. 747,540
7 Claims. (Cl. 343—767)



5. A high frequency broad band circularly polarized antenna system having a broad radiation pattern in one principal plane and a relatively narrow radiation pattern in the other principal plane comprising, a conductive plate having a rectangular slot therein having length and width dimensions of substantially nine-tenths and one-third of the mid-wavelength of the desired pass band, respectively, oriented with its width dimension parallel to said one principal plane, a rectangular conductive structure arranged behind said slot and connected to said plate to define a cavity open at said slot, the depth of said cavity from the plane of said slot being substantially one-quarter of the mid-wavelength of the desired pass band, and a dipole arranged with its radiating elements in the plane of said slot and supported on a coaxial transmission line extending centrally through said cavity and lying on an axis normal to the plane of said plate,

the axis of said radiating elements being tilted approximately 18° with respect to the length axis of said slot.

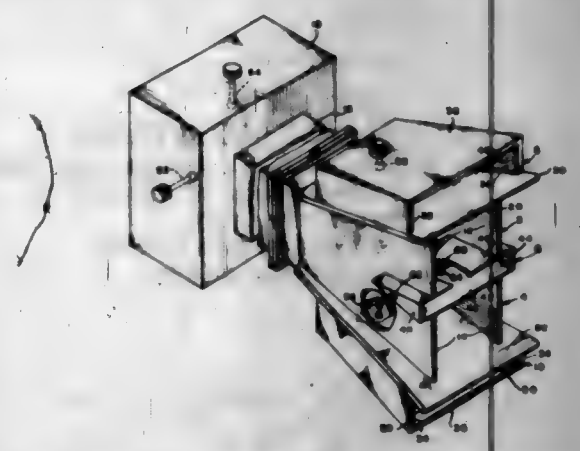
2,972,148

MULTI-CHANNEL HORN ANTENNA

William E. Rupp and Alvin W. Moeller, Baltimore, Md., assignors to The Bendix Corporation, a corporation of Delaware

Filed June 11, 1958, Ser. No. 741,259
6 Claims. (Cl. 343—776)

6. A horn antenna array comprising a first horn; a waveguide coupled to said horn; a hollow wedge extending transversely across said horn with a conductive exterior surface to separate said horn into two substantially equal apertures; said wedge consisting of two conductive plates intersecting along one edge within said horn and spaced at the opposite edges, and triangular side walls, said spaced opposite edges and side walls defining an open end wall forming an aperture substantially in the plane of said equal apertures; and coupling means for electromagnetic energy projecting through one of said



side walls for communicating with the interior surface of said wedge.

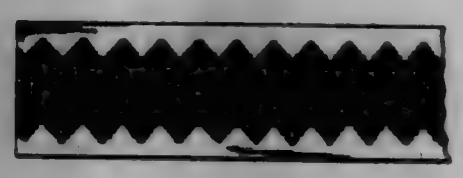
DESIGNS

FEBRUARY 14, 1961

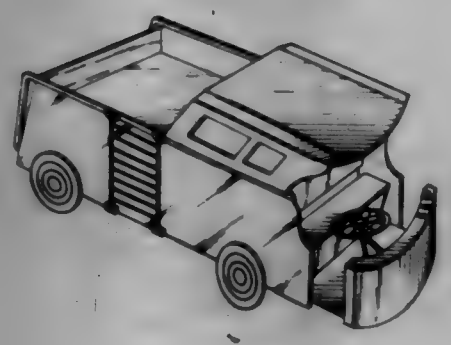
189,739
NARROW EMBROIDERED FABRIC
Nathan Berlin, 4 Sheffield Road, Great Neck, N.Y.
Filed Nov. 23, 1959, Ser. No. 58,438
Term of patent 3½ years
(Cl. D3—9)



189,740
EMBROIDERED WEBBING OR THE LIKE
Martin M. Nelson, 165 Schenk Circle, Hewlett, N.Y.
Filed Aug. 5, 1960, Ser. No. 61,633
Term of patent 7 years
(Cl. D3—9)



189,741
CHILD'S BED
Max L. Gatov, 5620 Naples Canal, Long Beach, Calif.
Filed July 24, 1959, Ser. No. 56,919
Term of patent 14 years
(Cl. D5—4)



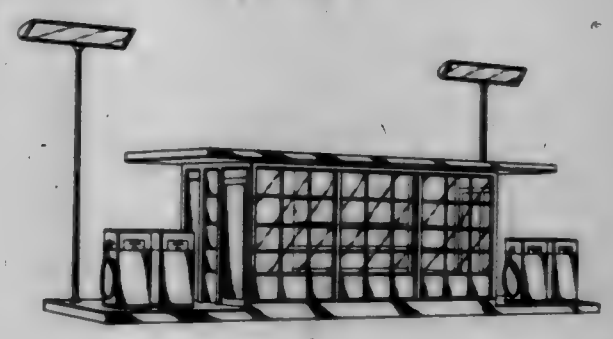
189,742
PLASTIC OVERSHOE
Duncan E. Slade, Naugatuck, Conn., assignor to United States Rubber Company, New York, N.Y., a corporation of New Jersey
Filed Dec. 18, 1959, Ser. No. 58,712
Term of patent 14 years
(Cl. D7—7)



189,743
WORKSHOP DUST COLLECTOR OR SIMILAR ARTICLE
Reynold Happe, Princeton, N.J., assignor to The Singer Manufacturing Company, Elizabeth, N.J., a corporation of New Jersey
Filed May 26, 1959, Ser. No. 56,077
Term of patent 14 years
(Cl. D9—2)



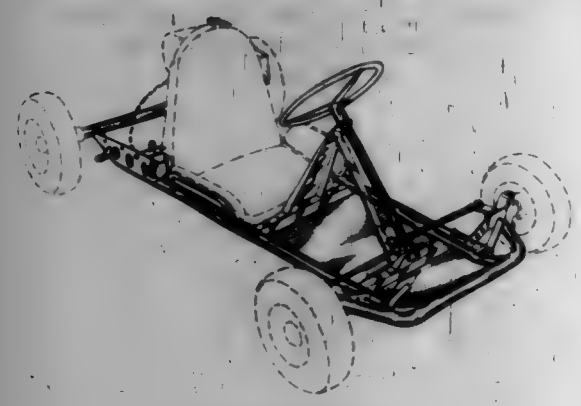
189,744
FILLING STATION
Joseph M. Tajan, 3647 Griggs Road, Houston, Tex.
Filed Feb. 27, 1959, Ser. No. 54,774
Term of patent 14 years
(Cl. D13—1)



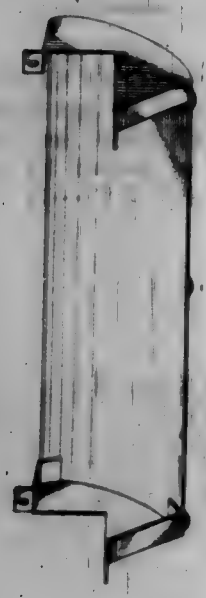
189,745
MOTOR VEHICLE
Hermann H. Fr. Ahrens, Stuttgart-Vaihingen, and Joachim Clasen, Stuttgart, Germany, assignors to Daimler-Benz Aktiengesellschaft, Stuttgart-Untertürkheim, Germany
Filed Mar. 10, 1960, Ser. No. 59,687
Claims priority, application Germany Sept. 11, 1959
Term of patent 7 years
(Cl. D14—3)



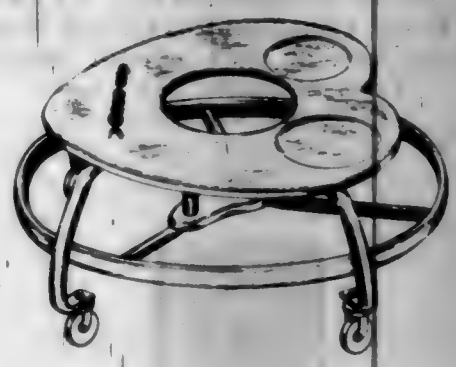
189,746
GO-CART
Frank Kurtis, Glendale, Calif., assignor to C. E. Erickson Co., Inc., Des Moines, Iowa, a corporation of Iowa
Filed Jan. 18, 1960, Ser. No. 59,097
Term of patent 14 years
(Cl. D14—3)



189,747
WIND DEFLECTOR
Hugh W. Shumaker, 517 S. Jackson St., Moscow, Idaho
Filed May 3, 1960, Ser. No. 60,440
Term of patent 14 years
(Cl. D14—6)



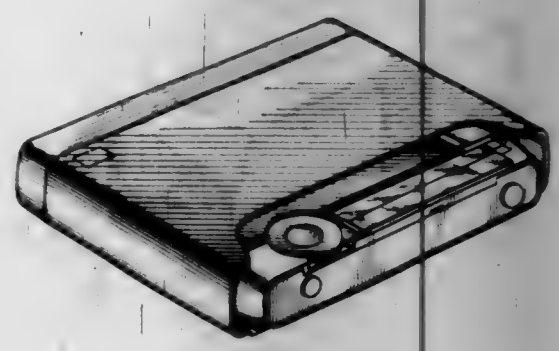
189,748
BABY'S WALKER
Harry R. Hall, Youngstown, Ohio
Filed July 21, 1960, Ser. No. 61,460
Term of patent 14 years
(Cl. D15—1)



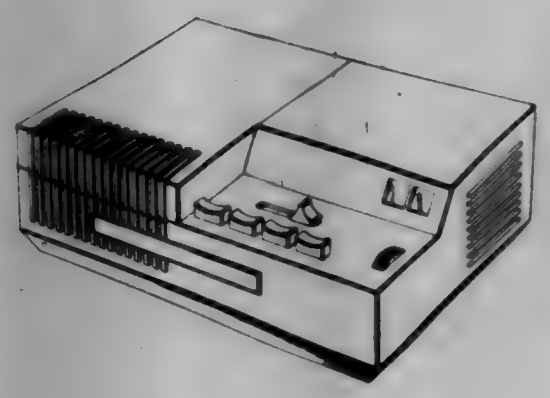
189,749
KNIFE
Joseph V. Miller, Auburn, Mass., assignor to Russell Harrington Cutlery Company, Southbridge, Mass., a corporation of Massachusetts
Filed Nov. 3, 1959, Ser. No. 58,199
Term of patent 14 years
(Cl. D22—3)



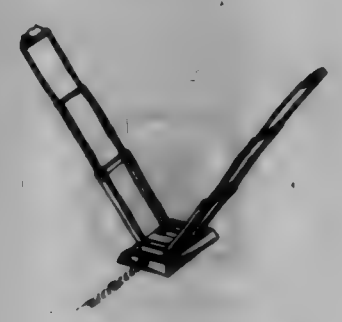
189,750
DICTATING MACHINE
James J. Clerkin, Jr., and Leslie T. Carr, Winnetka, Ill., assignors to Comptometer Corporation, Chicago, Ill., a corporation of Illinois
Filed July 17, 1959, Ser. No. 56,822
Term of patent 14 years
(Cl. D26—14)



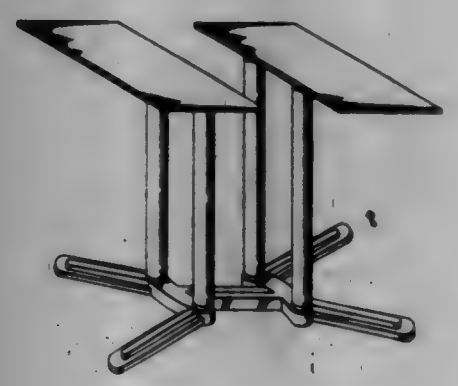
189,751
TAPE RECORDER
Edward G. Mueller, 411 N. 30th St., Omaha, Nebr.
Filed July 20, 1960, Ser. No. 61,442
Term of patent 3½ years
(Cl. D26—14)



189,752
TELEVISION ANTENNA
Harold F. Rieth, Los Angeles, Calif., assignor to Packard Bell Electronics Corporation, Los Angeles, Calif., a corporation of California
Filed May 2, 1960, Ser. No. 60,419
Term of patent 14 years
(Cl. D26—14)



189,753
BOOK HOLDER
Thelma W. Clark, 2338 SW. 17th Ave., and Faye W. Kautzman, 470 NE. 51st St., both of Fort Lauderdale, Fla.
Filed May 26, 1960, Ser. No. 60,745
Term of patent 3½ years
(Cl. D33—3)



189,754
PULL TOY
Ernest T. Frisk, Box 840, Hibbing, Minn.
Filed July 13, 1960, Ser. No. 61,346
Term of patent 7 years
(Cl. D34—15)



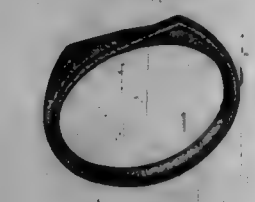
189,755
TOY BATTLESHIP
Saul Robbins, 35 Mountain Way, West Orange, N.J., and Isaac Heller, 2080 Arrowwood Drive, Scotch Plains, N.J.
Filed Sept. 7, 1960, Ser. No. 62,048
Term of patent 14 years
(Cl. D34—15)



189,756
MUDDLER
Koji Mori, 14 3-Cho Ebisumocho, Sakai, Osaka, Japan
Filed Apr. 7, 1960, Ser. No. 60,153
Term of patent 14 years
(Cl. D44—29)



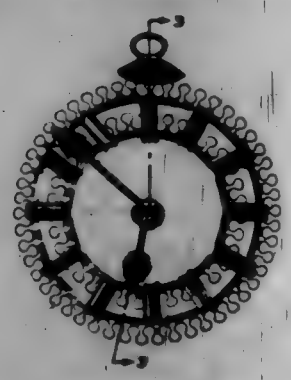
189,757
FINGER RING
John Locke Hazelquist, Garden City, Mich., assignor to Traub Manufacturing Company, Detroit, Mich., a corporation of Michigan
Filed Aug. 15, 1960, Ser. No. 61,765
Term of patent 14 years
(Cl. D45—10)



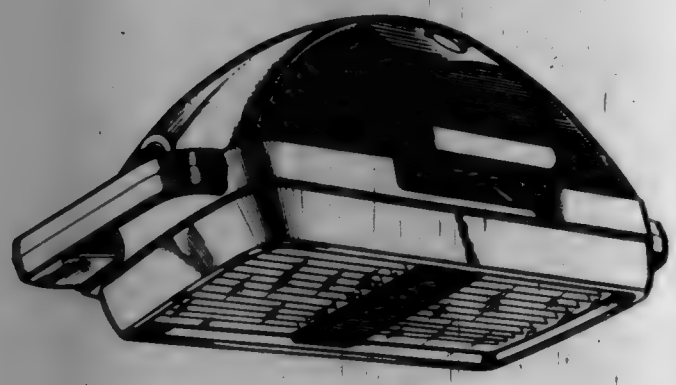
189,758
FINGER RING
Robert N. Gibeault, 40 Hunting St., North Attleboro, Mass.
Filed June 22, 1960, Ser. No. 61,075
Term of patent 14 years
(Cl. D45—10)



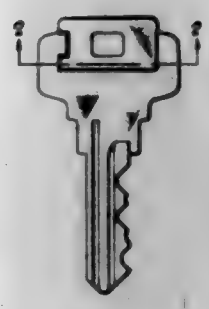
189,759
JEWELLED BROOCH
Helen M. Land, 15 Brentwood Ave., and Gilda S. Vitulli, 113 Sharon St., both of Providence, R.I.
Filed Dec. 16, 1959, Ser. No. 58,683
Term of patent 14 years
(Cl. D45—19)



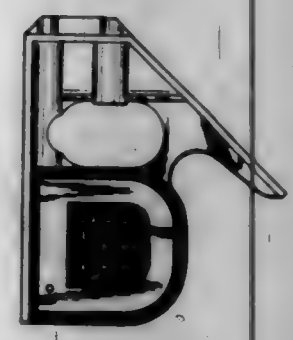
189,760
DENTAL LAMP
Walter D. Teague, Annandale, N.J., and Norman E. Lauterbach, Pittsford, N.Y., assignors to Ritter Company, Inc., Rochester, N.Y., a corporation of Delaware
Filed Feb. 24, 1958, Ser. No. 49,760
Term of patent 14 years
(Cl. D48—20)



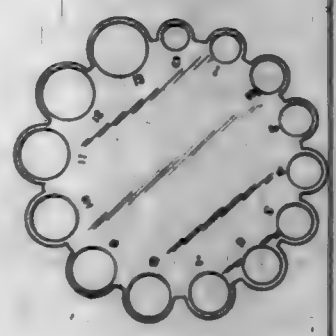
189,761
KEY FOR A DOOR LOCK
Paul H. Grevengoed, 1047 Alton SE., Grand Rapids, Mich.
Filed Mar. 25, 1960, Ser. No. 59,870
Term of patent 14 years
(Cl. D50—4)



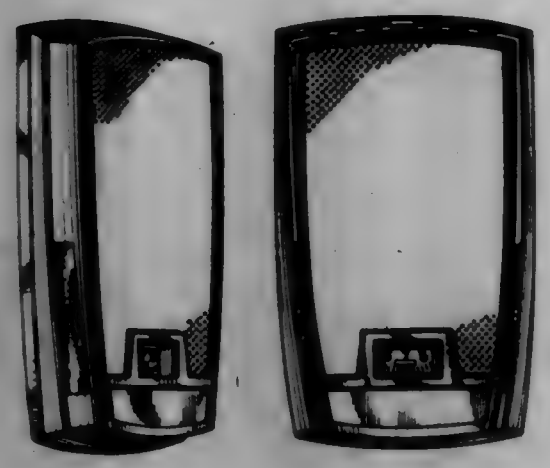
189,762
DUAL HEAD FOR A SQUARE
Peter Andrews, 190 Gebhardt Road, Penfield, N.Y.
Filed Jan. 19, 1959, Ser. No. 54,216
Term of patent 14 years
(Cl. D52—6)



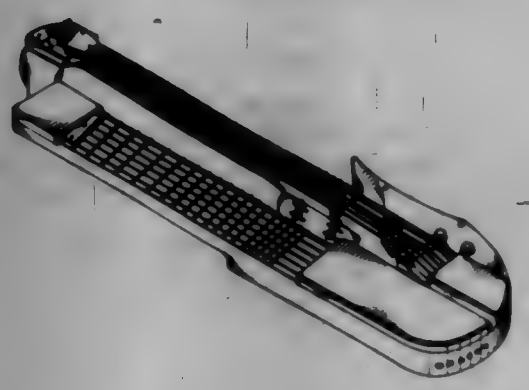
189,763
RING GAUGE
Howard D. Solomon, Chicago, Ill., assignor to Lou-Edna Solomon Trusts
Filed Dec. 30, 1959, Ser. No. 58,855
Term of patent 14 years
(Cl. D52—6)



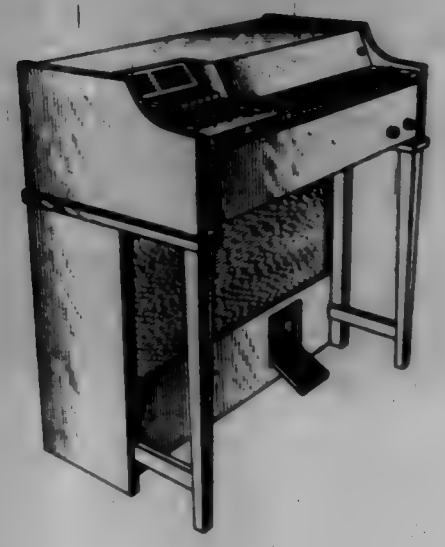
189,764
THERMOSTAT
Carlos B. Morgan, 301 S. 7th St., Goshen, Ind., and Louis J. Siri, 54370 Maple Lane, South Bend, Ind.
Filed Nov. 2, 1959, Ser. No. 58,190
Term of patent 14 years
(Cl. D52—7)



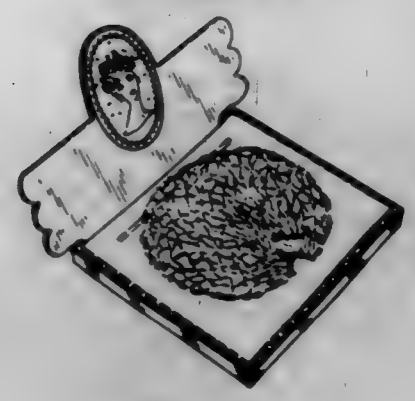
189,765
STRINGED MUSICAL INSTRUMENT
David D. Bunker, 430 Cherry Ave., Sumner, Wash.
Filed Sept. 2, 1960, Ser. No. 61,990
Term of patent 14 years
(Cl. D56—1)



189,766
ORGAN
Finn H. Magnus, Essex Fells, N.J., assignor to Magnus Organ Corporation, Livingston, N.J., a corporation of New Jersey
Filed Aug. 31, 1960, Ser. No. 61,965
Term of patent 14 years
(Cl. D56—2)



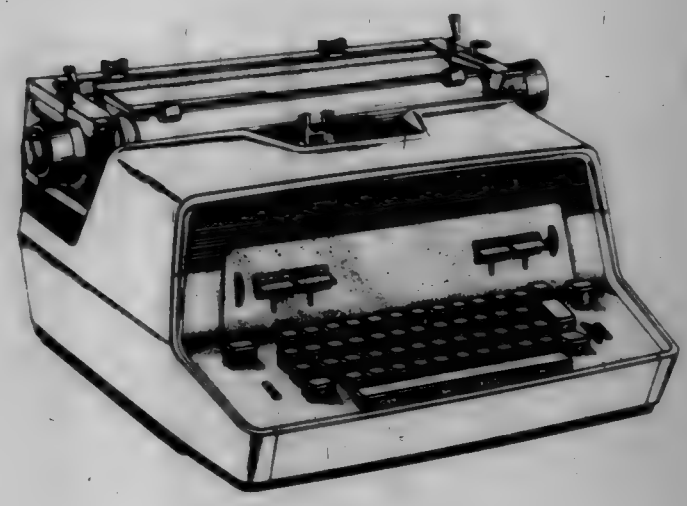
189,767
COMBINED SHIPPING AND DISPLAY CARTON FOR HAIR NETS
Lazare Mayer, 200 E. Chestnut St., Chicago, Ill.
Filed Oct. 6, 1959, Ser. No. 57,825
Term of patent 14 years
(Cl. D58—12)



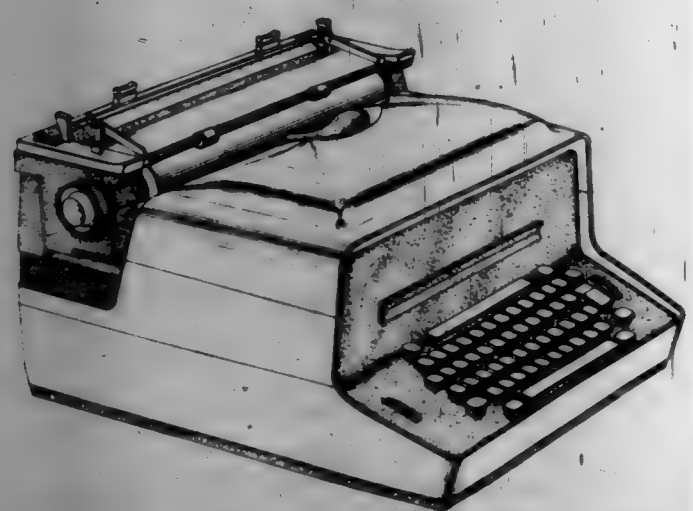
189,768
GASOLINE CAN OR THE LIKE
Roberto Menghi, Milan, Italy, assignor to Pirelli S.p.A., Milan, Italy
Filed July 10, 1959, Ser. No. 56,739
Term of patent 14 years
(Cl. D58—17)



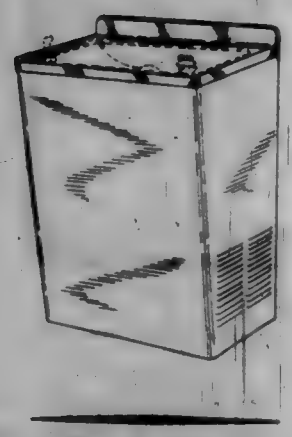
189,769
TYPEWRITER
Carl W. Sundberg, Bloomfield Hills, and Montgomery Ferar, Huntington Woods, Mich., and Charles B. Letterman, New Canaan, Conn., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed June 21, 1960, Ser. No. 61,057
Term of patent 14 years
(Cl. D64—11)



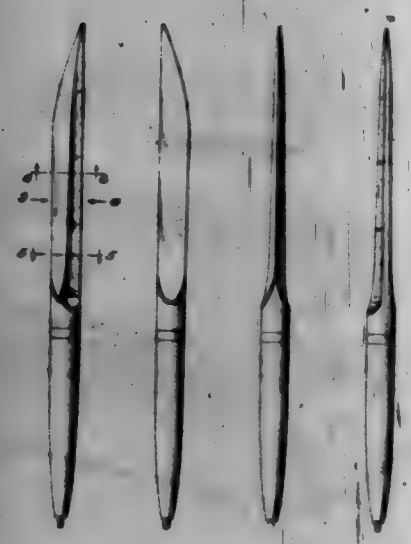
189,770
NOISELESS ELECTRIC TYPEWRITER
Carl W. Sundberg, Bloomfield Hills, and Montgomery Ferar, Huntington Woods, Mich., and David B. Converse, Wilton, Conn., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Sept. 2, 1959, Ser. No. 57,409
Term of patent 14 years
(Cl. D64—11)



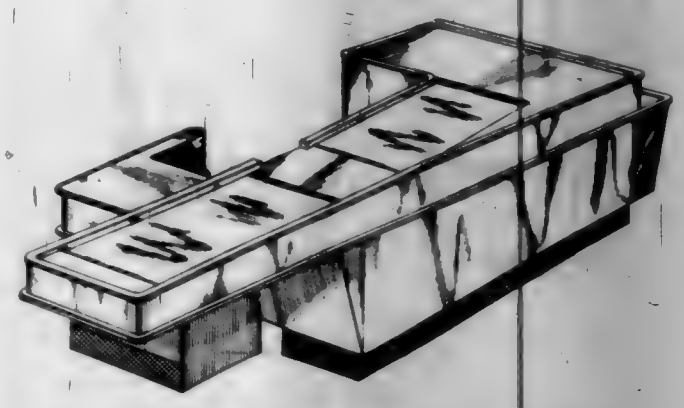
189,771
WALL-HUNG DRINKING FOUNTAIN
Halsey W. Taylor, 205 Golf Drive NE., Warren, Ohio
Filed Aug. 18, 1959, Ser. No. 57,211
Term of patent 14 years
(Cl. D67—4)



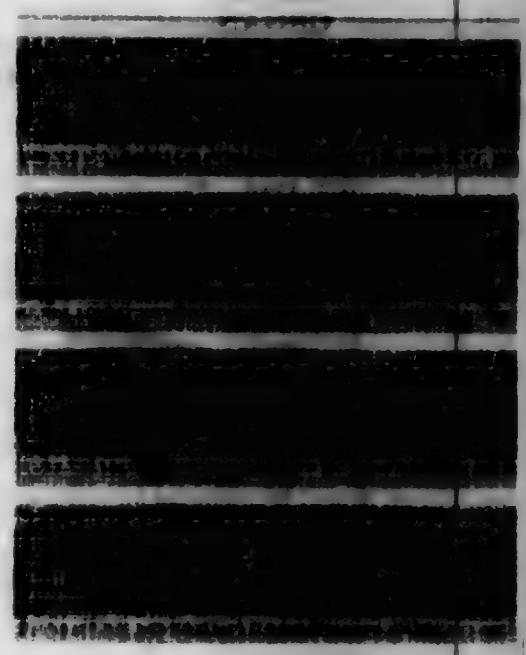
189,772
COMBINED BALLPOINT PEN AND LETTER OPENER
Andrew Serin, Wildcat Road, Franklin, N.J.
Filed Nov. 2, 1959, Ser. No. 58,162
Term of patent 14 years
(Cl. D74—17)



189,773
CHECKSTAND
Charles R. Larson, Bellevue, Mich., assignor to Hapman Conveyors, Inc., Kalamazoo, Mich., a corporation of Michigan
Filed July 13, 1959, Ser. No. 56,752
Term of patent 14 years
(Cl. D80—2)



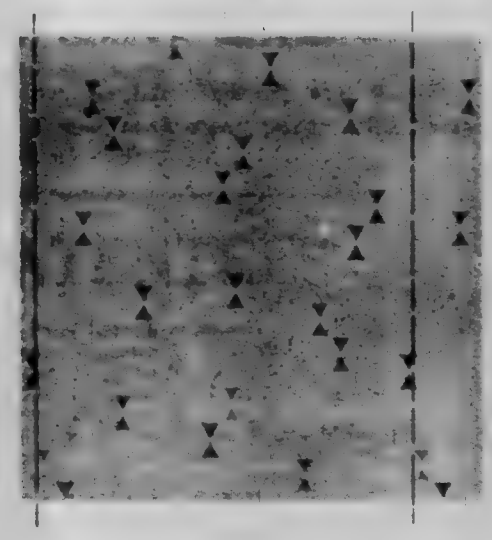
189,774
PLASTIC SHEET MATERIAL
Philip Schuss, Columbus, Ohio, assignor to Columbus Coated Fabrics Corporation, Columbus, Ohio, a corporation of Ohio
Filed Jan. 26, 1960, Ser. No. 59,165
Term of patent 3½ years
(Cl. D87—3)



189,775
EMBOSSED PLASTIC SHEET MATERIAL
Staley A. Carpenter, Marietta, Ohio, assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York
Filed July 5, 1960, Ser. No. 61,223
Term of patent 14 years
(Cl. D87—3)



189,776
HARD SURFACE FLOOR COVERING OR SIMILAR ARTICLE
Peter Zevas, Newark, N.J., assignor to Congoleum-Nairn Inc., Kearny, N.Y., a corporation of New York
Filed Sept. 2, 1960, Ser. No. 62,005
Term of patent 14 years
(Cl. D92—17)



LIST OF REISSUE PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 14TH DAY OF FEBRUARY, 1961

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

Coupette, Werner, A. Sickbert, and R. Westib, to Leybold-Hochvakuum-Anlogen, G.m.b.H. Metal container adapted to receive high-melting point liquid metals. Re. 24,936, 2–14–61, Cl. 266—42.

Glenny, Clarence S., to The Washburn Co. Hamburger press. Re. 24,935, 2–14–61, Cl. 17—32.

Grinnell Corp.: *See*—
Zollinger, Alfred. Re. 24,934.

Leybold-Hochvakuum-Anlogen, G.m.b.H.: *See*—
Coupette, Werner, Sickbert, and Westib. Re. 24,936.

Sickbert, Adolf: *See*—
Coupette, Werner, Sickbert, and Westib. Re. 24,936.

Washburn Co., The: *See*—
Glenny, Clarence S. Re. 24,935.

Westib, Rudolf: *See*—
Coupette, Werner, Sickbert, and Westib. Re. 24,936.

Zollinger, Alfred, to Grinnell Corp. Pipe hanger. Re. 24,934, 2–14–61, Cl. 248—58.

LIST OF PLANT PATENTEES

Boerner, Eugene S., to Jackson & Perkins Co. Chrysanthemum plant. 2,025, 2–14–61, Cl. 47—60.

Boerner, Eugene S., to Jackson & Perkins Co. Chrysanthemum plant. 2,026, 2–14–61, Cl. 47—60.

Boerner, Eugene S., to Jackson & Perkins Co. Chrysanthemum plant. 2,027, 2–14–61, Cl. 47—60.

Boerner, Eugene S., to Jackson & Perkins Co. Chrysanthemum plant. 2,028, 2–14–61, Cl. 47—60.

Jackson & Perkins Co.: *See*—
Boerner, Eugene S. 2,025.
Boerner, Eugene S. 2,026.
Boerner, Eugene S. 2,027.
Boerner, Eugene S. 2,028.

Jenkins, Philip J., to Stark Bro's Nurseries and Orchards Co. Apple tree. 2,024, 2–14–61, Cl. 47—62.

Stark Bro's Nurseries and Orchards Co.: *See*—
Jenkins, Philip J. 2,024.

LIST OF DESIGN PATENTEES

Ahrens, Hermann, and J. Clasen, to Daimler-Benz Aktiengesellschaft. Motor vehicle. 189,745, 2–14–61, Cl. D14—3.

Andrews, Peter. Dual head for a square. 189,762, 2–14–61, Cl. D52—6.

Berlin, Nathan. Narrow embroidered fabric. 189,739, 2–14–61, Cl. D3—9.

Bunker, David D. Stringed musical instrument. 189,765, 2–14–61, Cl. D56—1.

Carpenter, Staley A., to The B. F. Goodrich Co. Embossed plastic sheet material. 189,775, 2–14–61, Cl. D87—3.

Carr, Leslie T.: *See*—
Clerkin, James J., Jr., and Carr. 189,750.

Clark, Thelma W., and F. W. Kautzman. Book holder. 189,753, 2–14–61, Cl. D32—3.

Clasen, Joachim: *See*—
Ahrens, Hermann, and Clasen. 189,745.

Clerkin, James J., Jr., and L. T. Carr, to Comptometer Corp. Dictating machine. 189,750, 2–14–61, Cl. D26—14.

Columbus Coated Fabrics Corp.: *See*—
Schuss, Philip. 189,774.

Comptometer Corp.: *See*—
Clerkin, James J., Jr., and Carr. 189,750.

Congoleum-Nairn Inc.: *See*—
Zevas, Peter. 189,776.

Converse, David B.: *See*—
Sundberg, Carl W., Ferar, and Converse. 189,770.

Daimler-Benz Aktiengesellschaft: *See*—
Ahrens, Hermann, and Clasen. 189,745.

Erickson, C. E., Co., Inc.: *See*—
Kurtis, Frank. 189,746.

Ferar, Montgomery: *See*—
Sundberg, Carl W., Ferar, and Converse. 189,770.
Sundberg, Carl W., Ferar, and Letterman. 189,769.

Frisk, Ernest T. Pull toy. 189,754, 2–14–61, Cl. D34—15.

Gatov, Max L. Child's bed. 189,741, 2–14–61, Cl. D6—4.

Gibeault, Robert N. Finger ring. 189,758, 2–14–61, Cl. D45—10.

Goodrich, B. F., Co., The: *See*—
Carpenter, Staley A. 189,775.

Grevengoed, Paul H. Key for a door lock. 189,761, 2–14–61, Cl. D60—4.

Hall, Harry R. Baby's walker. 189,748, 2–14–61, Cl. D15—1.

Hapman Conveyors, Inc.: *See*—
Larson, Charles R. 189,773.

Hapoe, Reynold, to The Singer Mfg. Co. Workshop dust collector or similar article. 189,743, 2–14–61, Cl. D0—2.

Hazelquist, John L., to Traub Mfg. Co. Finger ring. 189,757, 2–14–61, Cl. D45—10.

Heller, Isaac: *See*—
Robbins, Saul, and Heller. 189,755.

Kautzman, Faye W.: *See*—
Clark, Thelma W., and Kautzman. 189,753.

Kurtis, Frank, to C. E. Erickson Co., Inc. Go-cart. 189,746, 2–14–61, Cl. D14—3.

Larson, Charles R., to Hapman Conveyors, Inc. Checkstand. 189,773, 2–14–61, Cl. D80—2.

Lauterbach, Norman E.: *See*—
Teague, Walter D., and Lauterbach. 189,760.

Letterman, Charles B.: *See*—
Sundberg, Carl W., Ferar, and Letterman. 189,769.

Lund, Helen M., and G. S. Vitulli. Jewelled brooch. 189,759, 2–14–61, Cl. D45—19.

Magnus, Finn H., to Magnus Organ Corp. Organ. 189,766, 2–14–61, Cl. D56—2.

Magnus Organ Corp.: *See*—
Magnus, Finn H. 189,766.

Mayer, Lazare. Combined shipping and display carton for hair nets. 189,767, 2–14–61, Cl. D58—12.

Menghi, Roberto, to Pirelli S.p.A. Gasoline can or the like. 189,768, 2–14–61, Cl. D58—17.

Miller, Joseph V., to Russell Harrington Cutlery Co. Knife. 189,749, 2–14–61, Cl. D22—3.

Morgan, Carlos B., and L. J. Siri. Thermostat. 189,764, 2–14–61, Cl. D52—7.

Mori, Koji. Muddler. 189,756, 2–14–61, Cl. D44—29.

Mueller, Edward G. Tape recorder. 189,751, 2–14–61, Cl. D26—14.

Nelson, Martin M. Embroidered webbing or the like. 189,740, 2–14–61, Cl. D3—9.

Packard Bell Electronics Corp.: *See*—
Rieth, Harold F. 189,752.

Pirelli S.p.A.: *See*—
Menghi, Roberto. 189,768.

Rieth, Harold F., to Packard Bell Electronics Corp. Television antenna. 189,752, 2–14–61, Cl. D26—14.

Ritter Co., Inc.: *See*—
Teague, Walter D., and Lauterbach. 189,760.

Robbins, Saul, and I. Heller. Toy battleship. 189,755, 2–14–61, Cl. D34—15.

Russell Harrington Cutlery Co.: *See*—
Miller, Joseph V. 189,749.

Schuss, Philip, to Columbus Coated Fabrics Corp. Plastic sheet material. 189,774, 2–14–61, Cl. D87—3.

Serin, Andrew. Combined ballpoint pen and letter opener. 189,772, 2–14–61, Cl. D74—17.

Shumaker, Hugh W. Wind deflector. 189,747, 2–14–61, Cl. D14—6.

Singer Mfg. Co., The: *See*—
Happe, Reynold. 189,743.

Siri, Louis J.: *See*—
Morgan, Carlos B., and Siri. 189,764.

Slade, Duncan E., to United States Rubber Co. Plastic overshoe. 189,742, 2–14–61, Cl. D7—7.

Solomon, Howard D., to Lou-Edna Solomon Trusts. Ring gauge. 189,763, 2–14–61, Cl. D52—6.

Solomon, Lou-Edna, Trusts: *See*—
Solomon, Howard D. 189,763.

Sperry Rand Corp.: *See*—
Sundberg, Carl W., Ferar, and Converse. 189,770.
Sundberg, Carl W., Ferar, and Letterman. 189,769.

Sundberg, Carl W., M. Ferar, and C. B. Letterman, to Sperry Rand Corp. Typewriter. 189,769, 2–14–61, Cl. D64—11.

Sundberg, Carl W., M. Ferar, and D. B. Converse, to Sperry Rand Corp. Noiseless electric typewriter. 189,770, 2–14–61, Cl. D64—11.

Tajan, Joseph M. Filling station. 189,744, 2–14–61, Cl. D13—1.

Taylor, Halsey W. Wall-hung drinking fountain. 189,771, 2–14–61, Cl. D67—4.

Teague, Walter D., and N. E. Lauterbach, to Ritter Co., Inc. Dental lamp. 189,760, 2–14–61, Cl. D48—20.

Traub Mfg. Co.: *See*—
Hazelquist, John L. 189,757.

United States Rubber Co.: *See*—
Slade, Duncan E. 189,742.

Vitulli, Gilda S.: *See*—
Lund, Helen M., and Vitulli. 189,759.

Zevas, Peter, to Congoleum-Nairn Inc. Hard surface floor covering or similar article. 189,776, 2–14–61, Cl. D92—17.

LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 14TH DAY OF FEBRUARY, 1961

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

A. A. Gage Co.: *See*—
Michie, Neil B. 2,971,261.
A & C Engineering Co.: *See*—
Atherholt, George L., Sr. 2,971,765.
AMP Inc.: *See*—
Hahn, Paul T. 2,971,194.
Abbott Laboratories: *See*—
Zaugg, Harold E., and De Net. 2,971,955.
Ackley, Edward M., and E. J. Pfeiffer. Extensible dolly. 2,971,768, 2–14–61, Cl. 280—35.
Adams, Dolor N.: *See*—
Bradford, John R., and Adams. 2,971,461.
Adams, Simpson J. Control system for textile machines. 2,971,320, 2–14–61, Cl. 57—81.
Aerojet-General Corp.: *See*—
Gongwer, Calvin A. 2,971,325.
Agfa Aktiengesellschaft: *See*—
Haydn, Hildegard, and von Konig. 2,971,840.
Agfa Aktiengesellschaft fur Photofabrikation: *See*—
Kolb, Günter. 2,971,977.
Ajinomoto Co., Inc.: *See*—
Ogawa, Tetsuo, Tsunoda, Aoki, Kinoshita, Okumura, and Kondo. 2,971,890.
Akers, Victor I. Disposable refuse container. 2,971,688, 2–14–61, Cl. 229—38.
Akimoto, Masao: *See*—
Nakane, Takashi, Kobayashi, Akimoto, and Senzuwa. 2,971,564.
Akin, Royal H. Transistorized photomultiplier photometer circuit. 2,971,433, 2–14–61, Cl. 88—23.
Aktiebolaget Bolinder-Munktell: *See*—
Wasastierna, Gösta, Larsson, and Lindblad. 2,971,476.
Aktiengecellschaft Brown, Boveri & Cie: *See*—
Zaba, Tadeusz. 2,972,055.
Aladdin Industries, Inc.: *See*—
Jacob, Robert H. 2,971,664.
Mason, Francis G. 2,972,049.
Alford, James W.: *See*—
Rorie, George C., and Alford. 2,971,568.
All American Engineering Co.: *See*—
Haber, Robert J. 2,971,727.
Allegri, Theodore H., ½ to Savell, Inc. Dispensing display cabinet. 2,971,675, 2–14–61, Cl. 221—124.
Allen Industries, Inc.: *See*—
Baxter, Stanley V. 2,971,857.
Allen, James H., to Phillips Petroleum Co. Underground storage. 2,972,050, 2–14–61, Cl. 250—43.5.
Aller, Willis F., and N. L. Jeglum, to The Sheffield Corp. Machine cycle recording system. 2,971,808, 2–14–61, Cl. 346—33.
Allied Chemical Corp.: *See*—
Kendall, William T. 2,971,894.
Allied Plastics Co.: *See*—
Crane, Walton B. 2,971,232.
Allis-Chalmers Mfg. Co.: *See*—
Ashbcker, Charles A. 2,972,042.
Charley, Walter G., and Reaves. 2,971,776.
Allison, Crawford G., M. D. Hartman, Jr., and G. C. Sparks, to The Sparks Corp. Dispensing containers. 2,971,634, 2–14–61, Cl. 206—42.
Altalános Géptervezö Iroda: *See*—
Széky, Pálma, Neményi, and Eölös. 2,971,898.
Altes, Stephen K., to General Electric Co. Color television receiver system. 2,972,013, 2–14–61, Cl. 178—5.4.
Altom, Roy E.: *See*—
McCoy, Lorraine, and Altom. 2,971,204.
American Air Filter Co., Inc.: *See*—
Milliman, William V. 2,971,450.
American Art Metals Co.: *See*—
May, Maurice. 2,971,229.
American Biltrite Rubber Co., Inc.: *See*—
Bierer, John M. 2,971,218.
American Colloid Co.: *See*—
Clem, Arthur G. 2,971,922.
American Cyanamid Co.: *See*—
Coleman, Ralph A., and Rodgers. 2,971,921.
Glade, Nathaniel J. 2,971,929.
Glade, Nathaniel J. 2,971,930.
Glade, Nathaniel J. 2,971,931.
Moran, Albert E., and Kaplan. 2,971,812.
American District Telegraph Co.: *See*—
MacDonald, Leslie A. 2,972,133.
American Home Products Corp.: *See*—
Winthrop, Stanley O. 2,971,973.
American Instrument Co., Inc.: *See*—
Howerton, Hugh K. 2,971,429.
American Machine & Foundry Co.: *See*—
Deba, Victor. 2,971,756.
American National Bank and Trust Co. of Chicago: *See*—
Breitenstein, Charles T. 2,971,861.
American Radiator & Standard Sanitary Corp.: *See*—
Huckleberry, Charles R. 2,971,449.
American-Saint Gobain Corp.: *See*—
Glynn, Theodore W. 2,971,543.

American Viscose Corp.: *See*—
Bouvet, René. 2,971,322.
Hollihan, John P., Jr., Howsmon, and Sisson. 2,971,816.
Sisson, Wayne A., and Thumm. 2,971,817.
Ampex Corp.: *See*—
Hayes, Albert E., Jr. 2,972,065.
Amsco Packaging Machinery, Inc.: *See*—
Messmer, Edwin E. 2,971,311.
Anderberg, A. W., Mfg. Co.: *See*—
Anderberg, Axel W., Reid, and Taylor. 2,971,791.
Anderberg, Axel W., T. W. S. Reid, and G. A. Taylor, to A. W. Anderberg Mfg. Co. Window control device. 2,971,791, 2–14–61, Cl. 292—262.
Andersen, Axel B., to F. L. Smidth & Co. Cooling apparatus. 2,971,751, 2–14–61, Cl. 263—32.
Anderson, Edward P., to Engelhard Industries, Inc. Aiming stake. 2,972,053, 2–14–61, Cl. 250—85.
Anderson, Elwood R., to Ethyl Corp. Recovery process. 2,971,967, 2–14–61, Cl. 260—437.
Anderson, John L., and R. E. Putnam, to E. I. du Pont de Nemours and Co. Fluorinated polymeric peroxides. 2,971,949, 2–14–61, Cl. 260—92.1.
Anderson, Leslie A. Rock mover. 2,971,587, 2–14–61, Cl. 171—63.
Anderson, Paul L.: *See*—
Greenman, Norman L., Zagusta, and Anderson. 2,972,008.
Anderson, Paul L., J. A. Zagusta, and N. L. Greenman, to Rogers Corp. Method for applying patterns to base material. 2,971,249, 2–14–61, Cl. 29—155.5.
Anderson, Walter J., to The Lowrey Organ Co. Electrical musical instrument. 2,971,420, 2–14–61, Cl. 84—1.22.
Andreasen, Norman H. In-and-out pager cabinet. 2,971,806, 2–14–61, Cl. 312—228.
Andrews, Jack M.: *See*—
Blome, Robert A., Andrews, and Reaves. 2,971,902.
Andrews, Norman F., to Deere & Co. Mounting and dismounting means for tractor-associated implements. 2,971,590, 2–14–61, Cl. 172—273.
Anker, Willard B. Multiple tank assembly. 2,971,576, 2–14–61, Cl. 158—46.5.
Antelman, Marvin S., to Monsanto Chemical Co. Process for improving the quality of sulfuric acid. 2,971,819, 2–14–61, Cl. 23—172.
Antunes, Armand E., Jr. Float-operated valve. 2,971,525, 2–14–61, Cl. 137—217.
Aoki, Ryohei: *See*—
Ogawa, Tetsuo, Tsunoda, Aoki, Kinoshita, Okumura, and Kondo. 2,971,890.
Apco, Inc.: *See*—
Hill, James J. 2,971,454.
Appel, Charles V.: *See*—
Woodruff, Maurice D., and Appel. 2,971,225.
Appel, Frederick L.: *See*—
Rummery, Frank O., Roseman, Appel, and Hamshey. 2,971,821.
Ardell, Edgar F. Feeding device. 2,971,677, 2–14–61, Cl. 221—236.
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Rihl, Lennart O. 2,971,517.
Arganbright, Robert P., to Monsanto Chemical Co. Production of olefins. 2,971,995, 2–14–61, Cl. 260—683.3.
Aries, Robert S. Preparation of alpha-hydroxyisobutyric acid. 2,971,981, 2–14–61, Cl. 260—533.
Arledter, Hanns F., to Hurlbut Paper Co. Synthetic fiber paper and process for producing the same. 2,971,877, 2–14–61, Cl. 162—101.
Armour and Co.: *See*—
Greer, Donald M. 2,971,846.
Keil, Havard L. 2,971,849.
Armour Research Foundation of Illinois Institute of Technology: *See*—
Baum, John W. 2,972,051.
Armstrong Cork Co.: *See*—
Piersol, Jay L. 2,971,879.
Armstrong, David E., T. J. J. Dunn, W. H. Stulen, and G. P. Rosser. Cold tube bending and sizing. 2,971,556, 2–14–61, Cl. 153—82.
Aronson, Theodore F.: *See*—
Lyon, Floyd A., and Aronson. 2,971,307.
Artru, Jean, and J. Marchal, to La Societe dite Le Magnesium Thermique ("Magnetherm"). Process of manufacing magnesium. 2,971,833, 2–14–61, Cl. 75—10.
Ashbaker, Charles A., to Allis-Chalmers Mfg. Co. Submerged arc welding apparatus. 2,972,042, 2–14–61, Cl. 219—126.
Ashby, Bruce A.: *See*—
Gruenhagen, Richard H., Ashby, Britton, and Horsley. 2,971,884.
Asplund, Arne J. A.: *See*—
Johansson, Sven H. 2,971,704.
Assalini, Giuseppe, to Rohm & Haas Co. Ion exchange process. 2,971,868, 2–14–61, Cl. 127—46.
Astrup Co., The: *See*—
Koslo, Robert C. 2,971,619.

Atherholt, George L., Sr., to A & C Engineering Co. Hydraulically expansible arbor. 2,971,765, 2–14–61, Cl. 279—4.
Atlantic Surgical Co., Inc.: *See*—
Berger, Leon. 2,971,510.
Austin, Leonard E., J. H. Ettinger, and A. K. Brown, Jr., to The Bendix Corp. Brake assembly mechanism. 2,971,252, 2–14–61, Cl. 29—211.
Automatic Power, Inc.: *See*—
Park, Wesley E., and Wenner. 2,972,056.
Automation Instruments, Inc.: *See*—
Howry, Douglass H., and Posakony. 2,972,068.
Avco Corp.: *See*—
Rygelis, Joseph, and Mueller. 2,971,390.
Avesta Jernverks Aktiebolag: *See*—
Backström, Arne, and Nordin. 2,971,834.
BEKA St. Aubin AG: *See*—
Knecht, Alfred. 2,971,799.
Babcock, John C., and R. L. Pederson, to The Upjohn Co. 1-dehydro-17-hydroxyprogesterone acylates and therapeutic composition thereof. 2,971,886, 2–14–61, Cl. 167—55.
Babcock & Wilcox Co., The: *See*—
Sage, Warnie L. 2,971,480.
Babel, Frederick J., and D. W. Mather, to Research Corp. Creamed cottage cheese. 2,971,847, 2–14–61, Cl. 99—116.
Backström, Arne, and K. O. Nordin, to Avesta Jernverks Aktiebolag. Process in selective reduction of chrome ore. 2,971,834, 2–14–61, Cl. 75—11.
Baer, Charles A., W. F. Bugbee, E. S. Candidus, and P. J. Clough, to National Research Corp. Vapor deposition method and apparatus. 2,971,862, 2–14–61, Cl. 117—61.
Baer, Massimo, to Monsanto Chemical Co. Process for preparing homogeneous copolymers of a vinylidene monomer and a maleic monomer and product thereof. 2,971,939, 2–14–61, Cl. 260—45.5.
Bailey, Charles H.: *See*—
Sorem, Stanley S., and Bailey. 2,971,609.
Bailey, Frederick E., Jr.: *See*—
Hill, Fred N., Bailey, and Fitzpatrick. 2,971,988.
Baker, Allister L.: *See*—
Keuffel, Carl W., Baker, and Hillman. 2,971,427.
Baker, Charles B. Diaper fastening device. 2,971,236, 2–14–61, Cl. 24—248.
Baker, Walter S., and H. M. Dodge, to The General Tire and Rubber Co. Perforating machine with positive acting return. 2,971,419, 2–14–61, Cl. 83—588.
Bale Guard Corp.: *See*—
Farley, Marvin O. 2,971,643.
Ball, Grover J. Apparatus and method for vaporizing butane. 2,971,345, 2–14–61, Cl. 62—58.
Ball, Lloyd D.: *See*—
Cowart, Brooks H., Ball, Crane, and Knowlton. 2,971,698.
Ball, Walter M.: *See*—
Webster, Kenneth L., Ball, and Coon. 2,971,305.
Baltimore Biological Laboratory, Inc.: *See*—
Caraki, Theodore J. 2,971,892.
Bancroft, Charles. Rotary engine. 2,971,500, 2–14–61, Cl. 123—11.
Banks, Waldo H., to Draper Corp. Time delay mercury switch. 2,972,025, 2–14–61, Cl. 200—33.
Banstrom Industries, Inc.: *See*—
Weaver, Paul J. 2,971,585.
Barber Mfg. Co., The: *See*—
Wallace, Donald C. 2,971,577.
Barden, John W.: *See*—
Hansen, Bendt H., and Barden. 2,971,583.
Barlow, Edward J., J. D. Mallett, S. Bertram, and J. I. Daspit, to Gilfillan Bros., Inc. System and method for remote radar data transmission and coordinated assembly at a central station. 2,972,141, 2–14–61, Cl. 343—5.
Barlow, Lou, to William Douglas McAdams, Inc. Anatomical model. 2,971,272, 2–14–61, Cl. 35—17.
Barnes, W. F. and John, Co.: *See*—
Svenson, Ernest J. 2,971,341.
Barrasso, Joseph R.: *See*—
Whittle, Richard H., and Barrasso. 2,971,585.
Barrial, Harold J.: *See*—
Mendelsohn, Julian P., Grant, and Barrial. 2,971,383.
Barry, Frank W., to United Aircraft Corp. Air-inlet controller. 2,971,329, 2–14–61, Cl. 60—35.6.
Bartel, Walter A. Double implement drawbar. 2,971,774, 2–14–61, Cl. 280—412.
Bartholomew, John R., to Eaton Mfg. Co. Disengagement preventing means for a two speed axle. 2,971,393, 2–14–61, Cl. 74—336.5.
Barton, James S.: *See*—
Kennemer, Robert E., Immel, Cambron, and Barton. 2,971,802.
Barton, Richard R., to Miles Laboratories, Inc. Scavenger packet. 2,971,850, 2–14–61, Cl. 99—171.
Basch, Walter M.: *See*—
Bieber, Herman, Basch, and Deuber. 2,971,905.
Bass, Miles M., R. M. Bell, L. C. Hammond, and P. J. Robichung, to Hammond Machinery Builders, Inc. Grinder with oscillating head. 2,971,296, 2–14–61, Cl. 51—55.
Bassick Co., The: *See*—
Kramcsak, Michael, Jr. 2,971,211.
Parrott, Henry W., and Ericson. 2,971,569.
Batty, John W., A. Lambert, G. Scott, F. Bebbington, and L. Seed, to Imperial Chemical Industries Ltd. Polymerization of ethylenically unsaturated compounds with organic hyponitrite catalysts. 2,971,952, 2–14–61, Cl. 260—94.9.
Bauer Brothers Co., The: *See*—
Woodruff, Maurice D., and Appel. 2,971,225.
Bauer, Matthew F. Porthole tube fitting having self-aligned coined fluid seat. 2,971,780, 2–14–61, Cl. 285—215.
Bauerlein, Carl C., to The Dole Valve Co. Pressure operated mixing valve. 2,971,583, 2–14–61, Cl. 137—607.
Baughman, Charles S.: *See*—
Schleicher, Lowell, and Baughman. 2,971,916.
Baum, John W., to Armour Research Foundation of Illinois Institute of Technology. Pocket radiation dosimeter. 2,972,051, 2–14–61, Cl. 250—83.
Baumbach, Harlan L., H. M. Little, and F. J. Scobey, to Unicorn Engineering Corp. Light modulating apparatus for film printer. 2,971,448, 2–14–61, Cl. 95—76.
Baxter, Stanley V., to Allen Industries, Inc. Embossed rug cushion and method of producing the same. 2,971,857, 2–14–61, Cl. 117—10.
Bayley, Elden D., Jr., to The William Bayley Co. Building panel. 2,971,616, 2–14–61, Cl. 189—34.
Bayley, William, Co., The: *See*—
Bayley, Elden D., Jr. 2,971,616.
Beachler, Edward D., and J. E. Goodwillie, to Beloit Iron Works. Slice tip mounting. 2,971,580, 2–14–61, Cl. 162—340.
Beal, Carl L. Heat-hardening plastic composition. 2,971,933, 2–14–61, Cl. 260—23.
Bebbington, Frank: *See*—
Batty, John W., Lambert, Scott, Bebbington, and Seed. 2,971,952.
Beck, Richard, Jr., to McCulloch Corp., Marine Products Division. Proportional mixing tank. 2,971,673, 2–14–61, Cl. 220—86.
Beckman Instruments, Inc.: *See*—
Braymer, Noel B. 2,972,067.
Beerens, Cornelius J. M.: *See*—
Temple, Peter L., and Beerens. 2,972,125.
Beggs, Donald, to Midland-Ross Corp. Annealing furnace seal. 2,971,871, 2–14–61, Cl. 148—16.
Behrbaum, Stanley D. Distributor. 2,972,024, 2–14–61, Cl. 200—24.
Belzer, Mechel. Expandable finger ring. 2,971,354, 2–14–61, Cl. 63—15.5.
Belden Mfg. Co.: *See*—
Winkelman, Russell. 2,971,873.
Bell, Alan, to Foster Wheeler Corp. Pressure safety assembly for heat exchangers. 2,971,746, 2–14–61, Cl. 257—1.
Bell, Ramsay M.: *See*—
Bass, Miles M., Bell, Hammond, and Robichung. 2,971,296.
Bell Telephone Laboratories, Inc.: *See*—
Bridges, Thomas J., and Kompfner. 2,972,081.
Bryant, Herbert W., Jordan, and Porter. 2,972,021.
Clark, Omer P. 2,972,062.
Davey, James R. 2,972,017.
Hurlbut, Harold D., Jr. 2,972,064.
Minnick, Robert C. 2,972,130.
Phair, Robert J. 2,971,876.
Schafer, John P. 2,972,122.
Bell, William R., Jr. Foil folder. 2,971,312, 2–14–61, Cl. 53—390.
Beloit Iron Works: *See*—
Beachler, Edward D., and Goodwillie. 2,971,580.
Bemis Bro. Bag Co.: *See*—
Kindseth, Harold V., and Ludlow. 2,971,863.
Bender, Ludwig, to Knapsack-Griesheim Aktiengesellschaft. Gastight shutoff device for the passage of dust-containing substances. 2,971,534, 2–14–61, Cl. 137—613.
Bendix Corp., The: *See*—
Austin, Leonard E., Ettinger, and Brown. 2,971,252.
Bodemuller, Rudolph. 2,971,338.
Criswell, Daryl L. 2,972,107.
Johanson, Carl E., and Lorenz. 2,972,028.
Kuzmitz, Frank V., Eastman, and Rose. 2,971,574.
Lewis, Richard L. 2,971,522.
Lowrance, John L. 2,971,332.
Lowrance, John L. 2,972,090.
Mock, Frank C. 2,971,336.
Peters, Norman K., and Reynick. 2,971,326.
Phelan, George A. 2,972,098.
Polye, William R., and Bevins. 2,971,335.
Rupp, William E., and Moeller. 2,972,148.
Williams, Howard J. 2,971,575.
Wintrode, Warner C. 2,971,337.
Bennett, John W.: *See*—
Dobberstein, Ervin C., Bennett, Preston, and Sandor. 2,971,693.
Benoit, Joseph A. Safety pins. 2,971,235, 2–14–61, Cl. 24—161.
Benson, Walter L., and N. C. Dahl, to Conch International Methane Ltd. Expansible-wall container for low-temperature fluids. 2,971,667, 2–14–61, Cl. 220—10.
Berger, Leon, to Atlantic Surgical Co., Inc. Surgical drainage device. 2,971,510, 2–14–61, Cl. 128—283.
Bergtund, Arthur, to Sperry Rand Corp. Core sleeving machine. 2,971,253, 2–14–61, Cl. 29—234.
Berlyn, Martin J., to Dominion Engineering Works Ltd. Fluid supported web-drying device. 2,971,267, 2–14–61, Cl. 34—156.
Berry, John C., and G. W. Newton; said Newton assor. to W. J. Berry. Stocking packaging machine and method. 2,971,302, 2–14–61, Cl. 53—26.
Berry, William J.: *See*—
Berry, John C., and Newton. 2,971,302.
Bertoya, Hastings C. M.: *See*—
Lewis, Ewart G., Eldridge, Bradfield, and Bertoya. 2,971,372.
Bertram, Sidney: *See*—
Barlow, Edward J., Mallett, Bertram, and Daspit. 2,972,141.
Beteiligungs- und Patentverwaltungsgesellschaft mit beschrankter Haftung: *See*—
Enneper, Paul E. 2,971,736.
Beyner, André, to Ebauches S.A. Lever escapement for timepieces. 2,971,324, 2–14–61, Cl. 58—28.
Bieber, Herman, W. M. Basch, and L. Deuber, to Esso Research and Engineering Co. Process for removing metallic contaminants from oils. 2,971,905, 2–14–61, Cl. 208—252.

Bien, Paul Robert, Foundation: *See*—
Bien, Saul M. 2,971,258.

Bien, Saul M., to Paul Robert Bien Foundation. Orthodontic appliance. 2,971,258, 2–14–61, Cl. 32—14.

Bierer, John M., to American Biltrite Rubber Co., Inc. Machine for continuously curing elastomeric material in sheet form. 2,971,218, 2–14–61, Cl. 18—6.

Black, Clarence D., to Injection Molding Co. Silk screen printing apparatus improvement. 2,971,629, 2–14–61, Cl. 198—24.

Blair, Etcyl H., to The Dow Chemical Co. O-aryl O-lower alkyl phosphorochloridates. 2,971,974, 2–14–61, Cl. 260—461.

Blakeley, Richard H. Blind fastener having an expandable nut drawn into endwise abutment with work surface. 2,971,425, 2–14–61, Cl. 85—40.

Blanchet, Hilaire. Rotary snow plough. 2,971,279, 2–14–61, Cl. 37—43.

Blanco, Elias, to Daystrom, Inc. Potentiometer. 2,972,124, 2–14–61, Cl. 338—202.

Blank, Fritz A., ½ to A. K. Livingston, and ½ to Longines-Wittnauer Watch Co., Inc. D.C. motor speed control and signalling system, particularly designed for motion picture cameras. 2,971,432, 2–14–61, Cl. 88—16.

Blatt, Leland F. Reversing stroke retractor mechanism. 2,971,389, 2–14–61, Cl. 74—110.

Blatt, Melvin. Gutter for bowling alley. 2,971,759, 2–14–61, Cl. 273—51.

Blaw-Knox Co.: *See*—
Owen, Albert G. 2,971,414.

Bloch, Herman S., to Universal Oil Products Co. Alkylation of aromatic hydrocarbons. 2,971,992, 2–14–61, Cl. 260—671.

Bloch, Peter, to Gesellschaft der Ludw. von Roll'schen Eisenwerke AG. Hydraulic control device for a hydrostatic drive. 2,971,498, 2–14–61, Cl. 121—41.

Blom, Leonardus M., Jr., to Con-Elco. Adjustable resistance unit. 2,972,123, 2–14–61, Cl. 338—181.

Blome, Robert A., J. M. Andrews, and W. S. Reaves, to Esso Research and Engineering Co. Aromatization of hydrocarbons. 2,971,902, 2–14–61, Cl. 208—65.

Bluck, Raymond M., to Thompson Ramo Wooldridge Inc. Extrusion die. 2,971,645, 2–14–61, Cl. 207—18.

Bluestein, Ben A., to General Electric Co. Organosilicon process. 2,971,970, 2–14–61, Cl. 260—448.2.

Bluestein, Ben A., to General Electric Co. Addition of methyldichlorosilane to acrylonitrile in presence of a diaminetrialkylamine-PdCl₂ catalyst composition. 2,971,971, 2–14–61, Cl. 260—448.2.

Bluestein, Ben A., to General Electric Co. Addition reaction. 2,971,972, 2–14–61, Cl. 260—448.2.

Bochumer Verein fuer Gusstahlfabrikation Aktiengesellschaft. *See*—
Stich, Wilhelm. 2,972,043.

Bodemuller, Rudolph, to The Bendix Corp. Gas turbine acceleration control. 2,971,338, 2–14–61, Cl. 60—39.28.

Boehmer, Andrew P., and W. E. Lauterbach, to Dole Refrigerating Co. Conversion unit. 2,972,057, 2–14–61, Cl. 307—10.

Boggs, Fitzhugh W., to United States Rubber Co. Method of making drag-reducing covering. 2,971,301, 2–14–61, Cl. 53—25.

Bohn Aluminum & Brass Corp.: *See*—
Kingsley, Gerald V., and Wyatt. 2,971,248.

Boling, Cecil, to Dunham-Bush, Inc. Evaporative cooling tower and the like. 2,971,750, 2–14–61, Cl. 261—111.

Bonn, Theodore H., and R. W. Spencer, to Sperry Rand Corp. Biased carrier for magnetic amplifiers. 2,972,059, 2–14–61, Cl. 307—88.

Bonn, Theodore H., to Sperry Rand Corp. Gate-buffer chains. 2,972,129, 2–14–61, Cl. 340—174.

Borell, James J. Musical instrument. 2,971,421, 2–14–61, Cl. 84—170.

Borg-Warner Corp.: *See*—
Flinn, George E. 2,971,405.
Miller, James A. 2,971,385.
Orr, Palmer. 2,971,395.
Tracy, Herbert E. 2,971,784.

Boriolo, Lino. Plate sheath for secondary or storage batteries and method for producing same. 2,972,000, 2–14–61, Cl. 136—43.

Borsoff, Victor N., and G. M. Calhoun, to Shell Oil Co. Lubricating oil compositions. 2,971,915, 2–14–61, Cl. 252—56.

Bosanac, Beatrice. Method for preparing linden blossom tea concentrate. 2,971,844, 2–14–61, Cl. 99—77.

Bouvet, René, to American Viscose Corp. Stretch yarn. 2,971,322, 2–14–61, Cl. 57—140.

Boyer, Ralph K., and R. H. Nece, to The Dill Mfg. Co. Sidewall valve for tubeless tires. 2,971,526, 2–14–61, Cl. 137—223.

Boykin, Mary M., and R. D. Stubbs. Apparatus for stringing tennis rackets and the like. 2,971,760, 2–14–61, Cl. 273—73.

Bradfield, Geoffrey: *See*—
Lewis, Ewart G., Eldridge, Bradfield, and Bertoya. 2,971,372.

Bradford, John R., and D. N. Adams, to Harris-Intertype Corp. Method and means for measuring ink film thickness. 2,971,461, 2–14–61, Cl. 101—426.

Bratt, Robert W., V. D. Kirkland, L. F. Kurrasch, and M. W. Fossier. Yaw damping split rudder. 2,971,726, 2–14–61, Cl. 244—76.

Braymer, Noel B., to Beckman Instruments, Inc. Module interconnections for a data handling system or the like. 2,972,067, 2–14–61, Cl. 307—149.

Brealey, Robert H., Jr., and L. L. Mankoff, to General Electric Co. Isolated phase bus duct apparatus. 2,972,005, 2–14–61, Cl. 174—99.

Breitenstein, Charles T., to R. T. Moloney, deceased (American National Bank and Trust Co. of Chicago, executor of said R. T. Moloney). Metering valve. 2,971,361, 2–14–61, Cl. 67—7.1.

Breitner, Stefan: *See*—
Meiser, Werner, Breitner, Wirth, and Kreiskott. 2,971,979.

Brennan, Elmer W., and R. G. Moyer, to The Pure Oil Co. Dynamic demulsibility method and apparatus. 2,971,371, 2–14–61, Cl. 73—53.

Brennan, Harry M., and E. Field, to Standard Oil Co. Platinum-alumina catalysts. 2,971,928, 2–14–61, Cl. 252—466.

Brewington, Philip J. Toilet flush valve assembly. 2,971,202, 2–14–61, Cl. 4—57.

Bridges, Thomas J., and R. Kompfner, to Bell Telephone Laboratories, Inc. Low noise amplifier. 2,972,081, 2–14–61, Cl. 315—5.43.

Bristol-Myers Co.: *See*—
Kaplan, Murray A., and Buckwalter. 2,971,818.

Bristol Siddeley Engines Ltd.: *See*—
Green, Percie F., and Bullock. 2,971,340.

British Rayon Research Assn., The: *See*—
Doleman, Jack, and Morgan. 2,971,242.

Britton, Edgar C.: *See*—
Gruenhagen, Richard H., Ashby, Britton, and Horsley. 2,971,884.

Brown, Arthur K., Jr.: *See*—
Austin, Leonard E., Ettinger, and Brown. 2,971,252.

Brown, George L., and R. W. Percival, to Rohm & Haas Co. Aqueous composition comprising a salt of a maleic anhydride-diisobutylene copolymer, a linear copolymer and a wax. 2,971,934, 2–14–61, Cl. 260—28.5.

Browning, James H.: *See*—
Thomas, Henry A., and Browning. 2,971,217.

Bruce, Willis N., to L. Ratner. Insecticidal repellent. 2,971,881, 2–14–61, Cl. 167—22.

Brumbach, Robert E., to Samuel Moore & Co. Extruded tubing. 2,971,538, 2–14–61, Cl. 138—49.

Brunswick Corp.: *See*—
La Vigne, Eugene E. 2,971,807.

Brust, Harry F., to The Dow Chemical Co. Phosphoroamidothioates. 2,971,976, 2–14–61, Cl. 260—461.

Bryant, Herbert W., H. G. Jordan, and G. C. Porter, to Bell Telephone Laboratories, Inc. Telephone substation apparatus. 2,972,021, 2–14–61, Cl. 179—100.

Buckwalter, Frank H.: *See*—
Kaplan, Murray A., and Buckwalter. 2,971,818.

Bucourt, Robert: *See*—
Joly, Robert, Bucourt, and Fabignon. 2,971,985.

Bugbee, Wallace F.: *See*—
Baer, Charles A., Bugbee, Candidus, and Clough. 2,971,862.

Bullock, Austin L., and J. D. Guthrie, to United States of America, Agriculture. Chemically modified textiles. 2,971,815, 2–14–61, Cl. 8—116.2.

Bullock, Leslie G.: *See*—
Green, Percie F., and Bullock. 2,971,340.

Bulova Watch Co., Inc.: *See*—
Hetsel, Max. 2,971,323.

Bunch, Tillman T., to Western Electric Co., Inc. Apparatus for continuously reeling strand material. 2,971,710, 2–14–61, Cl. 242—25.

Bundy Tubing Co.: *See*—
Knox, David R. 2,971,554.

Bunting, Ernest V., to Massey-Ferguson Inc. Manual control assembly for tractor hydraulic systems. 2,971,397, 2–14–61, Cl. 74—526.

Burke, Wilfrid L.: *See*—
Tobias, Roy H. 2,971,599.

Burmeister, Ellsworth E.: *See*—
Orth, Charles D., and Burmeister. 2,971,349.

Burns, John T., to E. I. du Pont de Nemours and Co. Method and apparatus for depositing tow. 2,971,243, 2–14–61, Cl. 28—21.

Burrell, Ellis, to United States of America, Navy. Spherical pellet delay device. 2,971,463, 2–14–61, Cl. 102—70.2.

Burroughs Corp.: *See*—
Chamberlin, Walter S. 2,972,135.

Bush, Rankin J., to Westinghouse Air Brake Co. Track instruments. 2,972,045, 2–14–61, Cl. 246—248.

Butterworth, Archibald J. Change speed gears for automobiles. 2,971,403, 2–14–61, Cl. 74—700.

Butterworth, Earl M.: *See*—
Corda, Helmuth, Megna, Grant, and Butterworth. 2,971,891.

Byrd, John F., and C. U. Falco, to Radio Corp. of America. Noise suppressor for theater sound reproduction. 2,972,022, 2–14–61, Cl. 179—100.1.

Cahill Mfg. Co., Inc.: *See*—
Cahill, William S. 2,971,247.

Cahill, William S., to Cahill Mfg. Co., Inc. Disc rasp. 2,971,247, 2–14–61, Cl. 29—79.

Cahill, William S. Method and apparatus for applying tread to rubber tires. 2,971,563, 2–14–61, Cl. 154—9.

Caillaud, Michael E., to Societe Anonyme Francoise pour la Separation, l'Emulsion et le Melange (Procedes S.E.M.). Diaphragm pumps. 2,971,465, 2–14–61, Cl. 103—44.

Calhoun, George M.: *See*—
Borsoff, Victor N., and Calhoun. 2,971,915.

Calhoun, George M., to Shell Oil Co. Lubricating compositions. 2,971,910, 2–14–61, Cl. 252—34.

California Research Corp.: *See*—
Lapporte, Seymour J., and Sweeney. 2,971,989.
Ospenson, Joseph N., and Kohn. 2,971,882.

Cambron, Robert B.: *See*—
Kennemer, Robert E., Immel, Cambron, and Barton. 2,971,802.

Canadian Patents and Development Ltd.: *See*—
Findlay, Albert J., and Widdup. 2,971,811.

Candidus, Edward S.: *See*—
Baer, Charles A., Bugbee, Candidus, and Clough. 2,971,862.
Canno, Leonard E., to Equitable Paper Bag Co. Inc. Method of making plastic bags. 2,971,874, 2–14–61, Cl. 154—83.
Cantral, John I., to Deere & Co. Flexible disk gang bedder. 2,971,592, 2–14–61, Cl. 172—572.
Carey, Philip, Mfg Co., The: *See*—
Heilman, Russell H., Ortmiller, and Mueller. 2,971,878.
Rinker, Carl G. 2,972,138.
Carlson, Arthur W., to United States of America, Air Force. Binary counting. 2,972,063, 2–14–61, Cl. 307—88.5.
Carlson, Paul G., to Solar Aircraft Co. Gas turbine engine adaptable for multi-purpose use. 2,971,334, 2–14–61, Cl. 60—39.16.
Carrico, Billy J., to General Motors Corp. Sampling thermocouple. 2,971,997, 2–14–61, Cl. 136—4.
Carski, Theodore J., to Baltimore Biological Laboratory, Inc. Petri dish. 2,971,892, 2–14–61, Cl. 195—139.
Caruso, Gerard P., to Shell Oil Co. Corrosion-resistant lubricating grease compositions. 2,971,911, 2–14–61, Cl. 252—42.1.
Case, Richard Y., to United States Rubber Co. Non-articulated geared metal belt. 2,971,392, 2–14–61, Cl. 74—231.
Castrol Ltd.: *See*—
Elliott, John S., and Edwards. 2,971,912.
Caswell, Earl G., to Union Carbide Corp. Method for purifying silane. 2,971,607, 2–14–61, Cl. 183—114.2.
Catalysts and Chemicals Inc.: *See*—
Price, William R. 2,971,927.
Caterpillar Tractor Co.: *See*—
Fabere, Raymond W., and Mogk. 2,971,595.
Junck, John A., and Scheidt. 2,971,536.
Kennemer, Robert E., Immel, Cambron, and Barton. 2,971,802.
Sieving, Alfred W. 2,971,398.
Caxeneuve, Armando. Multiple-container. 2,971,678, 2–14–61, Cl. 222—131.
Cedarquist, Jack W.: *See*—
Graswich, Edward, and Cedarquist. 2,971,452.
Celanese Corp. of America: *See*—
Weissman, Stanley N. 2,971,222.
Centre Technique Industriel dit Institut Textile de France: *See*—
Nau-Touron, Albert. 2,972,086.
Chaffin, Frank R., to W. S. Shamban & Co. Process for reinforcing polytetrafluoroethylene resin. 2,971,908, 2–14–61, Cl. 252—12.
Chamberlain Corp.: *See*—
Etten, Nicholas L. 2,971,363.
Chamberlin, Walter S., to Burroughs Corp. Code converting electrical network. 2,972,135, 2–14–61, Cl. 340—347.
Chapman, Bernard. Water distillation plant designed for automatic continuous operation. 2,971,897, 2–14–61, Cl. 202—174.
Chapman, Darrel M. Ignition system and spark plug. 2,972,077, 2–14–61, Cl. 313—123.
Charley, Walter G., and R. S. Reaves, to Allis-Chalmers Mfg. Co. Tractor hitch. 2,971,776, 2–14–61, Cl. 280—450.
Chase, Vernon L.: *See*—
Kumins, Charles A., Fine, and Chase. 2,971,458.
Chatham, Elmore R.: *See*—
Parkinson, William C., and Chatham. 2,972,142.
Chemetron Corp.: *See*—
Eichelman, Francis J. 2,971,529.
Chemo Puro Mfg. Corp.: *See*—
Hereld, Peter C. 2,971,888.
Chemstrand Corp., The: *See*—
Ham, George E., and Craig. 2,971,937.
Chilman, John A., A. G. Mapp, J. M. Masterman, and J. Cripps, to Rotol Ltd. Phasing apparatus. 2,972,087, 2–14–61, Cl. 317—6.
Chlebus Rolf H., to VEB Leipziger Buchbindereimaschinenwerk. Work sensing clamping pressure adjusting means. 2,971,417, 2–14–61, Cl. 83—364.
Chow, Sui-Wu, and J. M. Whelan, Jr., to Union Carbide Corp. Maleimide polymers. 2,971,944, 2–14–61, Cl. 260—78.
Christensen, Edwin S. Transmission. 2,971,394, 2–14–61, Cl. 74—377.
Churchill, Arthur V., and E. Mitchell, to Gulf Research & Development Co. Fuel oil additive. 2,971,827, 2–14–61, Cl. 44—64.
Churchill, Arthur V., and E. Mitchell, to Gulf Research & Development Co. Hydrazine-containing fuel oil composition. 2,971,828, 2–14–61, Cl. 44—64.
Ciba Ltd.: *See*—
Rhyner, Paul. 2,971,953.
Cines, Martin R., to Phillips Petroleum Co. Process for the production of solid polymer. 2,971,951, 2–14–61, Cl. 260—94.9.
City National Bank and Trust Co. of Chicago: *See*—
Laser, William F. 2,971,783.
Clark Equipment Co.: *See*—
Dunham, Elmer J. 2,971,662.
Clark, James W., to United Aircraft Corp. Air-inlet shock controller. 2,971,330, 2–14–61, Cl. 60—35.6.
Clark, Omer P., to Bell Telephone Laboratories, Inc. Transistor binary counter. 2,972,062, 2–14–61, Cl. 307—88.5.
Clark, Robert A.: *See*—
Tevander, Clarence A., and Clark. 2,971,863.
Classroom Film Strip and Projector Corp.: *See*—
Singleterry, Charles C. 2,971,435.
Clay, Burton R., to Radio Corporation of America. Electron beam controlling apparatus. 2,972,073, 2–14–61, Cl. 313—77.
Clem, Arthur G., to American Colloid Co. Organophilic mineral compositions. 2,971,922, 2–14–61, Cl. 252—316.
Clements, Warner W. Electromagnetic device. 2,972,091, 2–14–61, Cl. 317—190.
Clendening, Francis J., Jr., to E. I. du Pont de Nemours and Co. Process for handling fabric. 2,971,241, 2–14–61, Cl. 26—1.
Clingenpeel, William R., to The Electric Auto-Lite Co. Water-proof vent seal for batteries. 2,972,001, 2–14–61, Cl. 136—170.
Clough, Philip J.: *See*—
Baer, Charles A., Bugbee, Candidus, and Clough. 2,971,862.
Cochrane, Donald P., and A. L. Stoeckel, to United States Steel Corp. Welded wire fabric reeling mandrel. 2,971,719, 2–14–61, Cl. 242—81.
Coffey, Henry F., to Eli Lilly and Co. Article inspection and sorting apparatus. 2,971,646, 2–14–61, Cl. 209—111.
Cohen, Milton J. Disposable hypodermic syringe. 2,971,509, 2–14–61, Cl. 128—216.
Cohn, Charles C. and S. L., to S. L. and C. C. Cohn, co-partners trading as Colonial Alloys Co. Chemical polishing method. 2,971,826, 2–14–61, Cl. 41—42.
Cohn, Samuel L.: *See*—
Cohn, Charles C. and S. L. 2,971,826.
Coleman, Ralph A., and J. L. Rodgers, to American Cyanamid Co. Manganese complexes of nitrosophenols as infrared absorbers. 2,971,921, 2–14–61, Cl. 252—300.
Coleman, Thomas E., and R. J. Schultz, to Madison Kipp Corp. Die casting. 2,971,230, 2–14–61, Cl. 22—68.
Colonial Alloys Co.: *See*—
Cohn, Charles C. and S. L. 2,971,826.
Colorado Fuel and Iron Corp., The: *See*—
Nixon, John E. 2,971,255.
Compagnie de Saint-Gobain: *See*—
Martin, Yves. 2,971,881.
Compagnie du Filage des Metaux et des Joints Curty: *See*—
Selournet, Jacques. 2,971,644.
Conch International Methane Ltd.: *See*—
Benson, Walter L., and Dahl. 2,971,667.
Con-Elco: *See*—
Blom, Leonardus M., Jr. 2,972,123.
Conti, Girard N., and E. S. Stankowski, to Holley Carburetor Co. Cycling of bellows. 2,971,870, 2–14–61, Cl. 148—13.
Continental Oil Co.: *See*—
De Witte, Leendert. 2,972,101.
Lobo, Paul A. 2,971,969.
Wann, Laymond D. 2,972,052.
Controls Co. of America: *See*—
Orth, Charles D. 2,971,348.
Orth, Charles D., and Burmeister. 2,971,349.
Cooke, Harold G., Jr.: *See*—
Masters, John E., and Cooke. 2,971,942.
Cookman, Erlo B. Swimming pool safety apparatus and method. 2,971,203, 2–14–61, Cl. 4—172.
Coon, Harold R., Sr.: *See*—
Webster, Kenneth L., Ball, and Coon. 2,971,305.
Corbett, Thomas H. Measuring pump. 2,971,466, 2–14–61, Cl. 103—50.
Cordier, Andre. Work feed control for sewing and the like machines. 2,971,483, 2–14–61, Cl. 112—205.
Corda, Helmuth, J. C. Megna, D. W. Grant, and E. M. Butterworth, to Olin Mathieson Chemical Corp. Preparation of cyanocobalamins. 2,971,891, 2–14–61, Cl. 195—114.
Corning Glass Works: *See*—
Stookey, Stanley D. 2,971,853.
Coulter, Joseph S. Indicator for automobile windshield wipers. 2,971,209, 2–14–61, Cl. 15—250.40.
Cowan, James S. Levelling system. 2,971,264, 2–14–61, Cl. 33—209.
Cowart, Brooks E., L. D. Ball, G. B. Crane, and O. H. Knowlton, Jr., to Gilfillan Bros. Inc. Function generating circuits requiring only linear elements. 2,971,698, 2–14–61, Cl. 235—197.
Cox, John E., to Electric Transmission Ltd. Electric fuses. 2,972,031, 2–14–61, Cl. 200—120.
Coykendall, John C., to General Electric Co. Ultra-high frequency converter. 2,972,048, 2–14–61, Cl. 250—20.
Craig, Alfred B.: *See*—
Ham, George E., and Craig. 2,971,937.
Crane, George B.: *See*—
Cowart, Brooks E., Ball, Crane, and Knowlton. 2,971,698.
Crane, Walton B., to Allied Plastics Co. Clip for joining produce containers. 2,971,232, 2–14–61, Cl. 24—87.
Cripps, John: *See*—
Chilman, John A., Mapp, Masterman, and Cripps. 2,972,087.
Criswell, Daryl L., to The Bendix Corp. Voltage sensitive timing device. 2,972,107, 2–14–61, Cl. 324—70.
Cronquist, Donald H., to International Business Machines Corp. Positioning device. 2,971,396, 2–14–61, Cl. 74—502.
Crooks, James W., Jr.: *See*—
Werner, Robert V., Weaver, and Crooks. 2,972,047.
Cunniff, Leo C., to Industrial Instruments, Inc. Portable recording instrument. 2,972,103, 2–14–61, Cl. 324—80.
Curl, Rane L., to Shell Oil Co. Acoustic determination of operating conditions. 2,971,896, 2–14–61, Cl. 202—160.
Curlett, John, to Gurries Mfg. Co. Pendulum-actuated servo mechanism. 2,971,499, 2–14–61, Cl. 121—41.
Dahl, Norman C.: *See*—
Benson, Walter L., and Dahl. 2,971,667.
D'Altrui, Thomas N. Drive-in storage rack. 2,971,658, 2–14–61, Cl. 211—147.
Danaczko, John, Jr., and F. J. Vlasak, to Western Electric Co., Inc. Apparatus for analyzing a gas. 2,971,369, 2–14–61, Cl. 73—19.
Dane, Samuel: *See*—
Price, Frederick J., Jr. 2,971,672.
D'Angelo, Joseph: *See*—
Tobias, Roy H. 2,971,599.
Darling, Donald C.: *See*—
Loebner, Egon E., and Darling. 2,972,054.

Daspit, John I.: *See*—
Barlow, Edward J., Mallett, Bertram, and Daspit. 2,972,141.
Dauber, Louis: *See*—
Bieber, Herman, Basch, and Dauber. 2,971,905.
Davey, James R., to Bell Telephone Laboratories, Inc. Hub telegraph circuit. 2,972,017, 2–14–61, Cl. 178—73.
David, Vernon W., and F. H. Waight, to Shell Oil Co. Synthetic lubricant compositions. 2,971,913, 2–14–61, Cl. 252—48.4.
Davis, Carey L. Bulk weighing and transfer machine. 2,971,740, 2–14–61, Cl. 249—19.
Davis, Glen R., to Pan American Petroleum Corp. Burner apparatus. 2,971,578, 2–14–61, Cl. 158—109.
Davis, Harry M., and R. O. Karell, to General Motors Corp. Vehicle speed control system. 2,971,596, 2–14–61, Cl. 180—82.1.
Davis, Ralph C., to The Firestone Tire & Rubber Co. Method for manufacturing rubberized fabric article. 2,971,220, 2–14–61, Cl. 18—53.
Davisson, Charles W.: *See*—
Feild, Theophilus A., Jr., and Davisson. 2,971,245.
Dawson, Norman D., to Miles Laboratories, Inc. Method of preparing sodium salts of diethylstilbestrol diphosphate. 2,971,975, 2–14–61, Cl. 260—461.
Dayco Corp.: *See*—
Williams, Gordon E., Wyman, and Kaufman. 2,971,552.
Daystrom, Inc.: *See*—
Blanco, Elias. 2,972,124.
Dearborn Gage Co.: *See*—
Tomkow, Edward. 2,971,366.
Debrie, Andre V. L. C. Light beam controls for color printing. 2,971,447, 2–14–61, Cl. 95—73.
Debs, Victor, to American Machine & Foundry Co. Work-holding device. 2,971,756, 2–14–61, Cl. 269—142.
Deere & Co.: *See*—
Andrews, Norman F. 2,971,590.
Cantral, John I. 2,971,592.
Du Shane, Wallace H. 2,971,589.
Lippke, Donald E. 2,971,386.
Matthews, Charles W. 2,971,593.
Silver, Walter H., and Lohrman. 2,971,591.
Deist, Herbert H., and J. L. Hollis, to The Firestone Tire & Rubber Co. Apparatus and method of making pneumatic air springs. 2,971,875, 2–14–61, Cl. 154—83.
Del Mar Engineering Laboratories: *See*—
Thornton, William E. 2,971,274.
De Net, Robert W.: *See*—
Zaugg, Harold E., and De Net. 2,971,955.
Denk, Walter: *See*—
Messwarb, Günter, Denk, and Scherer. 2,971,948.
Dennis, Ezekiel D. Foot rest attachment for barber chairs. 2,971,571, 2–14–61, Cl. 155—172.
Detrick, Judson N., to Western Electric Co., Inc. Apparatus for cutting over between take-up reels for a strand. 2,971,708, 2–14–61, Cl. 242—25.
De Vilbiss Co., The: *See*—
Peeps, Donald J. 2,971,700.
Devoe & Raynolds Co., Inc.: *See*—
Masters, John E., and Cooke. 2,971,942.
De Vost, Valmore F., to United States of America, Navy. High capacity release mechanism. 2,971,497, 2–14–61, Cl. 121—40.
Dewey, Katherine: *See*—
Dewey, Maurice J. and K. 2,971,530.
Dewey, Maurice J, deceased, K. Dewey, executrix. High-low pressure control means for fluid supply systems. 2,971,530, 2–14–61, Cl. 137—458.
De Witte, Leendert, to Continental Oil Co. Electric well logging. 2,972,101, 2–14–61, Cl. 324—1.
Diehl, G. M., Machine Works, Inc., The: *See*—
Voges, Robert W., and Mowery. 2,971,547.
Diemer, Gesinus: *See*—
Van Santen, Johannes G., and Diemer. 2,972,076.
Di Giulio, Enzo, and P. Parrini, to Montecatini Societa Generale per l'Industria Mineraria e Chimica. Synthetic paper and process for producing same. 2,971,858, 2–14–61, Cl. 117—12.
Dill Mfg. Co., The: *See*—
Boyer, Ralph K., and Nece. 2,971,526.
Dilworth, Richard M., J. Markestein, and C. B. Nelson, to General Motors Corp. Railway vehicle. 2,971,478, 2–14–61, Cl. 105—368.
Dirks, Gerhard. Means controlling the extent of mechanical movements in printers, line-composing machines and other machinery. 2,971,623, 2–14–61, Cl. 192—142.
Dirks, Gerhard. Justifying apparatus for power operated typewriters. 2,971,626, 2–14–61, Cl. 197—84.
Dirks, Gerhard. Teletyping means for the printing or other indication of numbers and other information. 2,972,016, 2–14–61, Cl. 178—23.
Dirks, Gerhard. Apparatus for sorting signals recorded on a magnetisable signal carrier. 2,972,131, 2–14–61, Cl. 340—174.1.
Dobberstein, Erwin C., J. W. Bennett, W. C. Preston, and L. K. Sandor, to The National Cash Register Co. Reading apparatus. 2,971,693, 2–14–61, Cl. 235—61.11.
Dodge, Howard M.: *See*—
Baker, Walter S., and Dodge. 2,971,419.
Dohrmann Hotel Supply Co.: *See*—
Graswich, Edward, and Cedarquist. 2,971,452.
Dole Refrigerating Co.: *See*—
Boehmer, Andrew P., and Lauterbach. 2,972,057.
Dole Valve Co., The: *See*—
Bauerlein, Carl C. 2,971,533.
Doleman, Jack, and W. V. Morgan, to The British Rayon Research Association. Fluidised beds. 2,971,242, 1–14–61, Cl. 26—60.
Dominion Corset Co. Ltd.: *See*—
Gingras, Marcel. 2,971,513.
Dominion Engineering Works Ltd.: *See*—
Berlyn, Martin J. 2,971,267.
Dornhoefer, Edna M.: *See*—
Dornhoefer, Warren J. and E. M. 2,972,097.
Dornhoefer, Warren J., deceased, by E. M. Dornhoefer, executrix, to The Warren Mfg. Co., Inc. Regulated power rectifier. 2,972,097, 2–14–61, Cl. 321—18.
Dow Chemical Co., The: *See*—
Blair, Etcyl H. 2,971,974.
Brust, Harry F. 2,971,976.
Floria, Vernon D. 2,971,935.
Floria, Vernon D., and Towsley. 2,971,947.
Gruenhagen, Richard H., Ashby, Britton, and Horsley. 2,971,884.
Larson, Eric R. 2,971,990.
Norton, Frederick H., and Young. 2,971,986.
Rickert, Herbert B. 2,971,932.
Dow Corning Corp.: *See*—
Speier, John L. 2,971,864.
Draper Corp.: *See*—
Banks, Waldo H. 2,972,025.
Evans, Joseph R. 2,971,541.
Villani, Antonio, and Rankin. 2,971,542.
Dresser Industries, Inc.: *See*—
McDoniel, Harold W. 2,971,468.
Dubien, Marcel, and P. Vacelet, to Stoner Mudge, division of American Marietta Co. Polyether resins from alkaline condensation of polyhydric phenol with aliphatic polyhydric alcohol having terminal hydroxyl groups esterified with sulfuric acid. 2,971,936, 2–14–61, Cl. 260—43.
Du Boff, Philip, and H. Miller, to Shelfmaker Products Corp. Reciprocating tray unit. 2,971,655, 2–14–61, Cl. 211—126.
Dubois, Jacques E. Method and device for the titration of various solutions and similar purposes. 2,972,102, 2–14–61, Cl. 324—30.
Dubsky, Borivoj, O. Straka, and M. Pan, to Výzkumný a skusební letecký ústav. Transformer control system. 2,972,099, 2–14–61, Cl. 323—52.
Dudley, Edward C., to Thompson Ramo Wooldridge Inc. Pump and valve assembly. 2,971,523, 2–14–61, Cl. 137—108.
Dull, Joseph L. Pipe wrench stand. 2,971,411, 2–14–61, Cl. 81—41.
Dunham-Bush, Inc.: *See*—
Boling, Cecil. 2,971,750.
Dunham, Elmer J., to Clark Equipment Co. Box rotator attachment. 2,971,662, 2–14–61, Cl. 214—313.
Dunham, George W. Looms. 2,971,540, 2–14–61, Cl. 139—126.
Dunn, Thomas J. J.: *See*—
Armstrong, David E., Dunn, Stulen, and Roeser. 2,971,556.
Dunn, William H., to International Business Machines Corp. Signal translating apparatus. 2,972,137, 2–14–61, Cl. 340—347.
Dunton, Thornley A., and D. K. Worn, to The International Nickel Co., Inc. Iron powder and the manufacture of magnetic cores therefrom. 2,971,872, 2–14–61, Cl. 148—105.
Du Pont de Nemours, E. I., and Co.: *See*—
Anderson, John L., and Putnam. 2,971,949.
Burns, John T. 2,971,243.
Clendening, Francis J., Jr. 2,971,241.
Hill, Broadus E. 2,971,219.
Paulsen, William F. 2,971,683.
Schoenbeck, Melvin A. 2,971,221.
Dupuy, Harold P., L. A. Goldblatt, and F. C. Magne, to United States of America, Agriculture. Polymeric composition containing fatty acid derivative of morpholine. 2,971,855, 2–14–61, Cl. 106—176.
Du Shane, Wallace H., to Deere & Co. Hitch device. 2,971,589, 2–14–61, Cl. 172—239.
Easley, Morris E. Electrically heated toilet seat. 2,972,034, 2–14–61, Cl. 219—19.
Eastman, James M.: *See*—
Kuzmitz, Frank V., Eastman, and Rose. 2,971,574.
Eaton, Donald K. Snow coaster device. 2,971,767, 2–14–61, Cl. 280—12.
Eaton Mfg. Co.: *See*—
Bartholomew, John R. 2,971,393.
Jaeschke, Ralph L. 2,971,622.
Ebauches S.A.: *See*—
Beyner, André. 2,971,324.
Ebersole, Paul E., Jr., and R. W. Warren. Ammunition cradle for continuous hoist. 2,971,439, 2–14–61, Cl. 89—46.
Eckel, Oliver C., and G. E. Gilpatrick, to The Stanley Works. Door closer with holding means. 2,971,214, 2–14–61, Cl. 16—185.
Eckert, John P., Jr., J. C. Sims, Jr., and H. F. Welsh, to Sperry Rand Corp. Phase modulated pulse recording systems. 2,972,128, 2–14–61, Cl. 340—172.5.
Edgarton, Frank R., to General Dynamics Corp. Assembly for use in bare wire multiple. 2,972,088, 2–14–61, Cl. 317—112.
Edward Valves, Inc.: *See*—
Milleville, Bertram J. 2,971,400.
Edwards, Eric D.: *See*—
Elliott, John S., and Edwards. 2,971,912.
Eggenschwyler, Eduard, to Joh. Jacob Rieter & Co. Ltd. Loading device for drafting arrangements. 2,971,226, 2–14–61, Cl. 19—135.
Eichelman, Francis J., to Chemetron Corp. Tamperproof gas outlet. 2,971,529, 2–14–61, Cl. 137—381.
Eichenberg, Robert, and A. F. Rhodes, to McEvoy Co. Automatic plastic sealed valves. 2,971,527, 2–14–61, Cl. 137—246.12.
Eicholtz, Frank E., to G. J. Leach. Water ski. 2,971,207, 2–14–61, Cl. 9—310.
Ellers, Carl G., and E. M. Roschke, to Zenith Radio Corp. Signal translating method. 2,972,010, 2–14–61, Cl. 178—5.1.

Eilers, Rey: *See*—
Gygax, Ernest F. 2,971,847.
Eldridge, Dennis A. G.: *See*—
Lewis, Ewart G., Eldridge, Bradfield, and Bertoya. 2,971,372.
Electric Auto-Lite Co., The: *See*—
Clingenpeel, William R. 2,972,001.
Koppel, Ernst R. 2,971,388.
Electric & Musical Industries Ltd.: *See*—
Lubszynski, Hans G. 2,972,072.
Electric Transmission Ltd.: *See*—
Cox, John E. 2,972,031.
Eliot, Charles B. Door mounting devices. 2,971,227, 2–14–61, Cl. 20—16.
Ellegast, Konrad, to Farbenfabriken Bayer Aktiengesellschaft. Continuous mixer. 2,971,748, 2–14–61, Cl. 259—7.
Elliott, John S., and E. D. Edwards, to Castrol Ltd. Lubricating oil compositions. 2,971,912, 2–14–61, Cl. 252—46.7.
Elliott, Stanley B.: *See*—
Fuchsman, Charles H., Nicholson, and Elliott. 2,971,940.
Fuchsman, Charles H., Nicholson, and Elliott. 2,971,941.
Ellis, Benjamin C., Jr., to Western Electric Co., Inc. Apparatus for continuously reeling strand material. 2,971,709, 2–14–61, Cl. 242—25.
Ellis, Edward A., E. T. Stocker, R. A. Waddell, and R. R. Whipple, to Western Electric Co., Inc. Variable pitch coil winding machine. 2,971,706, 2–14–61, Cl. 242—9.
Elwick, Keith D. Implement driving mechanism. 2,971,391, 2–14–61, Cl. 74—207.
Endevco Corp.: *See*—
Shoor, Bernard A. 2,972,006.
Engelhard Industries, Inc.: *See*—
Anderson, Edward P. 2,972,053.
Engleson, Harry E., and E. D. Sramek, to F. B. Redington Co. Bag forming and inserting mechanism. 2,971,442, 2–14–61, Cl. 93—12.
Engleson, Harry E., and E. D. Sramek, to F. B. Redington Co. Rotary conveyor structure. 2,971,636, 2–14–61, Cl. 198—209.
English Electric Valve Co. Ltd.: *See*—
Esterson, Maurice, and Weaver. 2,972,084.
Enneper, Paul E., to Beteiligungs-und Patentverwaltungsgesellschaft mit beschrankter Haftung. Support system for large area bodies. 2,971,736, 2–14–61, Cl. 248—163.
Ensele, Bruno E. Control system based upon recording and memory functions. 2,971,492, 2–14–61, Cl. 118—2.
Eöllös, Terezia: *See*—
Széky, Pálma, Neményi, and Eöllös. 2,971,898.
Eppler, Kurt, and F. J. Kollbach, to Farbenfabriken Bayer Aktiengesellschaft. Retaining means for diaphragm valves operated by compressed air. 2,971,741, 2–14–61, Cl. 251—61.
Equitable Paper Bag Co. Inc.: *See*—
Canno, Leonard E. 2,971,874.
Ericson, Sidney A.: *See*—
Parrott, Henry W., and Ericson. 2,971,569.
Ernst, William B., to Protecto Mfg. Co. Foldable wire book study device. 2,971,286, 2–14–61, Cl. 45—85.
Espersen, George A., to North American Philips Co., Inc. Klystron. 2,972,080, 2–14–61, Cl. 315—5.38.
Esso Research and Engineering Co.: *See*—
Bieber, Herman, Basch, and Deuber. 2,971,905.
Blome, Robert A., Andrews, and Reaves. 2,971,902.
Frost, Edward E., Hottel, and Longwell. 2,971,605.
Gladrow, Elroy M., and Parker. 2,971,904.
Jahnig, Charles E., and Silveston. 2,971,823.
Kimberlin, Charles N., Jr., and Gladrow. 2,971,903.
Kimberlin, Charles N., Jr., and Mattox. 2,971,993.
Koenecke, Donald F. 2,971,991.
McNall, Lester R., McCulloch, and Farnsworth. 2,971,938.
Esterson, Maurice, and F. J. Weaver, to English Electric Valve Co. Ltd. Magnetrons. 2,972,084, 2–14–61, Cl. 315—39.53.
Etablissement Amora: *See*—
Weber, Max. 2,971,624.
Ethyl Corp.: *See*—
Anderson, Elwood R. 2,971,967.
Thomas, Henry A. 2,971,456.
Thomas, Henry A., and Browning. 2,971,217.
Etten, Nicholas L., to Chamberlain Corp. Wringer. 2,971,263, 2–14–61, Cl. 68—263.
Ettinger, John H.: *See*—
Austin, Leonard E., Ettinger, and Brown. 2,971,252.
Evans, Joseph R., to Draper Corp. Shuttle structure. 2,971,541, 2–14–61, Cl. 139—196.
Everett, Robert H. Can piercing mechanism. 2,971,257, 2–14–61, Cl. 30—6.1.
Fabere, Raymond W., and K. J. Mogk, to Caterpillar Tractor Co. Dual range two and four wheel drive for vehicles. 2,971,595, 2–14–61, Cl. 180—49.
Fabignon, Colette: *See*—
Joly, Robert, Bucourt, and Fabignon. 2,971,985.
Fairchild Camera and Instrument Corp.: *See*—
Farber, Monroe. 2,972,012.
Saykay, Joseph J. 2,972,015.
Fairfield, Burton C. Pilot bearing race puller. 2,971,254, 2–14–61, Cl. 29—261.
Falco, Cataldo U.: *See*—
Byrd, John F., and Falco. 2,972,022.
Farbenfabriken Bayer Aktiengesellschaft: *See*—
Ellegast, Konrad. 2,971,748.
Eppler, Kurt, and Kollbach. 2,971,741.
Farber, Monroe, to Fairchild Camera and Instrument Corp. Photoelectric unsharp masking apparatus. 2,972,012, 2–14–61, Cl. 178—5.2.
Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning: *See*—
Horn, Otto. 2,971,984.
Messwarb, Günter, Denk, and Scherer. 2,971,948.
Farley, Marvin O., to Bale Guard Corp. Bale wrapper. 2,971,643, 2–14–61, Cl. 206—83.5.
Farnsworth, Charles E.: *See*—
McNall, Lester R., McCulloch, and Farnsworth. 2,971,938.
Farnworth, Ivan A. Automatic travel adjuster for air brake pistons. 2,971,614, 2–14–61, Cl. 188—202.
Farrel-Birmingham Co., Inc.: *See*—
Hold, Peter. 2,971,457.
Faspray Corp.: *See*—
Wilde, Alexander E. and J. H. 2,971,634.
Fausek, Irwing F., and W. L. Reedy, to Modern Engineering Co. Gas burning torches. 2,971,742, 2–14–61, Cl. 251—340.
Feig, Jerome H., to Progress Mfg. Co. Ventilator unit. 2,971,451, 2–14–61, Cl. 98—115.
Feild, Theophilus A., Jr., and C. W. Davisson, to Union Carbide Corp. Pile fabrics. 2,971,245, 2–14–61, Cl. 28—78.
Feissel, Henri G., to Machines Automatiques Modernes (Societe a Responsabilite Limitee). Means for positioning an account or record sheet in an accounting machine. 2,971,627, 2–14–61, Cl. 197—127.
Feltham, Charles F., Jr.: *See*—
Schwartz, Everett R., and Feltham. 2,972,143.
Ferrari, Charles G., to J. R. Short Milling Co. Continuous bread making methods. 2,971,845, 2–14–61, Cl. 99—90.
Ferro Corp.: *See*—
Fuchsman, Charles H., Nicholson, and Elliott. 2,971,940.
Fuchsman, Charles H., Nicholson, and Elliott. 2,971,941.
Nicholson, Albright M., Jr., and Zaremsky. 2,971,968.
Fibreboard Paper Products Corp.: *See*—
Striplin, Charles D. 2,971,448.
Field, Edmund: *See*—
Brennan, Harry M., and Field. 2,971,928.
Fieldgate, Ivan O., to Specialties, Inc. Airstream direction detector probe. 2,971,375, 2–14–61, Cl. 73—180.
Fields, Ellis K., to Standard Oil Co. Non-corrosive lubricant compositions. 2,971,909, 2–14–61, Cl. 252—32.7.
Findlay, Albert J., deceased (by E. J. Findlay, executrix), and G. C. Widdup, to Canadian Patents and Development Ltd. Time data recording apparatus. 2,971,811, 2–14–61, Cl. 346—86.
Findlay, Edith J.: *See*—
Findlay, Albert J., and Widdup. 2,971,811.
Fine, Jerome: *See*—
Kumins, Charles A., Fine, and Chase. 2,971,458.
Firestone Tire & Rubber Co., The: *See*—
Davis, Ralph C. 2,971,220.
Deist, Herbert H., and Hollis. 2,971,875.
Hayes, Robert A., and Smith. 2,971,946.
Hollis, Jack L. 2,971,559.
Hollis, Jack L. 2,971,562.
Hollis, Jack L., and Jefferys. 2,971,560.
Hollis, Jack L., and Sekus. 2,971,561.
Spencer, George A. 2,971,319.
Woodall, William R. 2,971,553.
Firestone, William L., to Motorola, Inc. Coupling system. 2,972,121, 2–14–61, Cl. 333—10.
Firth Carpet Co., Inc., The: *See*—
Hubbard, John L. 2,971,359.
Fisher, John, to Warner & Swasey Co. Machine tool control element. 2,971,412, 2–14–61, Cl. 82—2.
Fitzgerald, Royden M., to Omondaga Pottery Co. Method of decorating articles of tableware. 2,971,860, 2–14–61, Cl. 117—45.
Fitzpatrick, John T.: *See*—
Hill, Fred N., Bailey, and Fitzpatrick. 2,971,988.
Flagan, Robert G.: *See*—
Tantlinger, Keith W., and Flagan. 2,971,772.
Flinn, George E., to Borg-Warner Corp. Hydraulic controls for transmission. 2,971,405, 2–14–61, Cl. 74—752.
Floria, Vernon D., to The Dow Chemical Co. Method of preparing dispersion of a copolymer of a monovinyl compound and a vinyl sulfonic acid. 2,971,935, 2–14–61, Cl. 260—29.6.
Floria, Vernon D., and F. E. Towsley, to The Dow Chemical Co. Anti-static molding resins. 2,971,947, 2–14–61, Cl. 260—79.3.
Flummerfelt, Gene C., and W. P. Yant, to Mine Safety Appliances Co. Determination of concentration of components of a gaseous mixture. 2,971,368, 2–14–61, Cl. 73—17.
Fogarty Mfg. Co., The: *See*—
Shoffner, Willie M. 2,971,651.
Shoffner, Willie M. 2,971,656.
Föller, Ernst, and H. Matlok, to Vereinigte Glanzstoff-Fabriken A.G. Packaging machinery for textile ribbons and the like. 2,971,244, 2–14–61, Cl. 28—21.
Ford, Bill J., J. H. Guyton, E. L. Jenkins, and M. J. Manahan, to General Motors Corp. Random sweep generator. 2,972,119, 2–14–61, Cl. 331—177.
Forssell, Karl I. Method of forming a prefabricated stair unit. 2,971,238, 2–14–61, Cl. 25—154.
Fortney, Grant S. Attachment for internal combustion engine. 2,971,505, 2–14–61, Cl. 123—119.
Fortune, William J. Boat ladder. 2,971,601, 2–14–61, Cl. 182—97.
Fossier, Mike W.: *See*—
Bratt, Robert W., Kirkland, Kurrasch, and Fossier. 2,971,726.
Foster Wheeler Corp.: *See*—
Bell, Alan. 2,971,746.
Fox, Paul L., to United States of America, Navy. Off-mount magazine ammunition transfer mechanism. 2,971,438, 2–14–61, Cl. 89—45.

Fraga, Frank M. Side draft control unit for tractor-drawn implements. 2,971,775, 2–14–61, Cl. 280—446.

Freche, John C., to United States of America, Administrator of National Aeronautics and Space Administration. High temperature nickel-base alloy. 2,971,837, 2–14–61, Cl. 75—171.

Freche, John C., to United States of America, National Aeronautics and Space Administration. High temperature nickel base alloy. 2,971,838, 2–14–61, Cl. 75—171.

Freeport Sulphur Co.: *See*—
Matson, Raphael F. 2,971,835.

Frei, Arthur J., to General Motors Corp. Refrigeration. 2,971,346, 2–14–61, Cl. 62—71.

Fritz, Charles H.: *See*—
Motis, Gilbert M., and Fritz. 2,971,520.

Frohlich, Hans P.: *See*—
Keil, Harry L., and Frohlich. 2,971,880.

Frost, Edward E., H. C. Hottel, and J. P. Longwell, to Esso Research and Engineering Co. Method and apparatus for flaring combustible gaseous materials. 2,971,605, 2–14–61, Cl. 183—6.

Fruehauf Trailer Co.: *See*—
Tantlinger, Keith W., and Flagan. 2,971,772.

Fuchsman, Charles H., A. M. Nicholson, and S. B. Elliott, to Ferro Corp. Nickel phenolate stabilized polypropylene. 2,971,940, 2–14–61, Cl. 260—45.75.

Fuchsman, Charles H., A. M. Nicholson, and S. B. Elliott, to Ferro Corp. Nickel bis-C(p-octylphenol) monosulphide stabilized polyethylene. 2,971,941, 2–14–61, Cl. 260—45.75.

Fulton Co., The: *See*—
Weber, Bernard R., and Lieber. 2,971,777.

Fusco, Victor C., and R. C. Harshman, to Olin Mathieson Chemical Corp. Stabilized soap composition. 2,971,917, 2–14–61, Cl. 252—107.

Gaddis, Roy. Towing dolly. 2,971,769, 2–14–61, Cl. 280—79.1.

Gage, Bruce. Disc-type brakes. 2,971,611, 2–14–61, Cl. 188—72.

Galbiers, Jerome J., to R. C. Can Co. Dispensing type closure. 2,971,681, 2–14–61, Cl. 222—548.

Garcia, Clarence D. Vehicle body assembly having passenger enclosure extension or addition means. 2,971,794, 2–14–61, Cl. 296—26.

Garthwaite, Albert N., and F. T. Kristiansen, to International Business Machines Corp. Workholder for a lapping machine. 2,971,298, 2–14–61, Cl. 51—131.

Gas Inc.: *See*—
Madaras, Julius D. 2,971,752.

Gatcombe, Ernest K. Apparatus and methods for calibrating motion transducers. 2,971,364, 2–14–61, Cl. 73—1.

Gaugler, Richard S., to General Motors Corp. Method of filling a hollow ballast ring with demagnetized material. 2,971,546, 2–14–61, Cl. 141—11.

Gebhardt, Carl C.: *See*—
Hecox, William, and Gebhardt. 2,972,126.

Geffcken, Walter, to Jenaer Glaswerk Schott & Gen. Optical glass. 2,971,854, 2–14–61, Cl. 106—54.

Geissmann, Gladys W. Foundation garment. 2,971,518, 2–14–61, Cl. 128—542.

General Aniline & Film Corp.: *See*—
Moore, Ralph G. D., and Woitach. 2,971,842.

General Dynamics Corp.: *See*—
Edgarton, Frank R. 2,972,088.
Pharis, William W. 2,972,019.
Werner, Robert V., Weaver, and Crooks. 2,972,047.

General Electric Co.: *See*—
Altes, Stephen K. 2,972,013.
Bluestein, Ben A. 2,971,970.
Bluestein, Ben A. 2,971,971.
Bluestein, Ben A. 2,971,972.
Brealey, Robert H., Jr., and Mankoff. 2,972,004.
Coykendall, John C. 2,972,048.
Mendelsohn, Julian P., Grant, and Barrial. 2,971,333.
Persson, Karl-Birger. 2,972,032.
Warren, Robert E., and Widlansky. 2,971,745.

General Foods Corp.: *See*—
Polya, Emery. 2,971,848.

General Motors Corp.: *See*—
Carrico, Billy J. 2,971,997.
Davis, Harry M., and Karell. 2,971,596.
Dilworth, Richard M., Markestein, and Nelson. 2,971,478.
Ford, Bill J., Guyton, Jenkins, and Manahan. 2,972,119.
Frei, Arthur J. 2,971,346.
Gaugler, Richard S. 2,971,546.
Geyer, Howard M. 2,971,496.
Hanink, Dean K., and Shoudy. 2,971,899.
Katz, Edwin F. 2,971,407.
Larkin, Robert G., Peterson, and Schnepel. 2,971,613.
Lincoln, Clovis W. 2,971,787.
Lowe, Charles E. 2,972,116.
Rohr, Henry C. 2,971,785.
Thomas, James W. 2,971,998.
Wagner, Elmer R. 2,971,770.
Welsh, Harvey W. 2,971,743.

General Tire and Rubber Co., The: *See*—
Baker, Walter S., and Dodge. 2,971,419.

Geoffroy, Henri F. Conveyor. 2,971,633, 2–14–61, Cl. 198—178.

Germana, Vincent J. Earring clip and anchor. 2,971,353, 2–14–61, Cl. 63—14.

Gesellschaft der Ludw. von Roll'schen Eisenwerke AG.: *See*—
Bloch, Peter. 2,971,498.

Getchell, Robert M., and H. E. Karig, to Waste King Corp. Dish rack. 2,971,652, 2–14–61, Cl. 211—41.

Geyer, Howard M., to General Motors Corp. Fluid pressure actuator and cooling means therefor. 2,971,496, 2–14–61, Cl. 121—38.

Ghose, Rabindra N., to Space Technology Laboratories, Inc. Magnetic field responsive apparatus. 2,972,105, 2–14–61, Cl. 324—43.

Giachetti, Ettore: *See*—
Natta, Giulio, Pasquon, Giachetti, and Scalari. 2,971,950.

Gibbon, James, to Kenrick & Jefferson Ltd. Open window envelopes. 2,971,689, 2–14–61, Cl. 229—71.

Gibson, George A., Jr. Apparatus for feeding, cutting and stacking flat stock. 2,971,415, 2–14–61, Cl. 83—94.

Gieseler, Luther P. Data handling system and magnetic switching network therefor. 2,972,136, 2–14–61, Cl. 340—347.

Gilfillan Bros., Inc.: *See*—
Barlow, Edward J., Mallett, Bertram, and Daspit. 2,972,141.
Cowart, Brooks E., Ball, Crane, and Knowlton. 2,971,698.
McDaniel, George A., and Salamonovich. 2,972,095.

Gill, Ferdinand A. Toy. 2,971,288, 2–14–61, Cl. 46—67.

Gilpatrick, George E.: *See*—
Eckel, Oliver C., and Gilpatrick. 2,971,214.

Gingras, Marcel, to Dominion Corset Co. Ltd. Brassieres. 2,971,518, 2–14–61, Cl. 128—404.

Glade, Nathaniel J., to American Cyanamid Co. Textile treatment with novel aqueous dispersions to achieve flame-resistant and water-repellant finishes. 2,971,929, 2–14–61, Cl. 260—21.

Glade, Nathaniel J., to American Cyanamid Co. Textile treatment with novel aqueous dispersion to achieve water-repellent finishes. 2,971,930, 2–14–61, Cl. 260—31.

Glade, Nathaniel J., to American Cyanamid Co. Textile treatment with novel aqueous dispersions to achieve flame-resistant and water-repellant finishes. 2,971,931, 2–14–61, Cl. 260—21.

Gladrow, Elroy M.: *See*—
Kimberlin, Charles N., Jr., and Gladrow. 2,971,902.

Gladrow, Elroy M., and P. T. Parker, to Esso Research and Engineering Co. Petroleum process catalyst supported on a molecular sieve zeolite. 2,971,904, 2–14–61, Cl. 208—135.

Glasgow, Clarence O., and K. B. Henderson, to National Tank Co. Metering emulsion treaters and treating methods. 2,971,376, 2–14–61, Cl. 73—200.

Glass Developments Ltd.: *See*—
Sproule, Donald O. 2,972,060.

Glass, Marvn I.: *See*—
Reed, Bayard C., and Licitis. 2,971,280.

Glenn, Robert G.: *See*—
Moy, Tsoy K., and Glenn. 2,971,827.

Glenn, William G. Turbidimeter. 2,971,431, 2–14–61, Cl. 88—14.

Glidden Co., The: *See*—
Rummery, Frank O., Roseman, Appel, and Hamshey. 2,971,821.

Glynn, Theodore W., to American-Saint Gobain Corp. Wire mesh machine. 2,971,543, 2–14–61, Cl. 140—3.

Goff, John C. Submarine mine and mooring means therefor. 2,971,462, 2–14–61, Cl. 102—13.

Gold, Harold, and D. M. Straight. Gas turbine control system. 2,971,339, 2–14–61, Cl. 60—39.28.

Goldblatt, Leo A.: *See*—
Dupuy, Harold P., Goldblatt, and Magne. 2,971,855.

Goldenthal, Allan B., to William Douglas McAdams, Inc. Display device. 2,971,271, 2–14–61, Cl. 35—17.

Goldsmith, Henry A., and B. Ray, to Solventol Chemical Products, Inc. Paint stripper composition. 2,971,918, 2–14–61, Cl. 252—135.

Goldsmith, Henry A., to Solventol Chemical Products, Inc. Paint stripper composition. 2,971,919, 2–14–61, Cl. 252—189.

Gomersall, John R., to McGraw-Edison Co. Control for coffee maker. 2,972,088, 2–14–61, Cl. 219—44.

Gongwer, Calvin A., to Aerojet-General Corp. Jet propulsion device for operation submerged in water. 2,971,325, 2–14–61, Cl. 60—35.5.

Goodman Mfg. Co.: *See*—
Hagenbook, Loy D. 2,971,234.
Lo Presti, Roy F., and Vernon. 2,971,233.

Goodwillie, John E.: *See*—
Beachler, Edward D., and Goodwillie. 2,971,580.

Gorike, Rudolf, to Henry Heinrich & Co. Electro-acoustic devices. 2,971,597, 2–14–61, Cl. 181—31.

Gossard, H. W., Co., The: *See*—
Steinmetz, Pearl J. 2,971,514.

Graber, Walter, to Lambert Brake Corp. Liquid cooled disc brake with automatic booster. 2,971,612, 2–14–61, Cl. 188—72.

Graham, Phillip. Flexible building panel form. 2,971,237, 2–14–61, Cl. 25—121.

Grant, Dale W.: *See*—
Cords, Helmuth, Megna, Grant, and Batterworth. 2,971,891.

Grant, Eugene F.: *See*—
Zacharias, Jerrold R., Holloway, and Grant. 2,972,115.

Grant, Robert B., Jr.: *See*—
Mendelsohn, Julian P., Grant, and Barrial. 2,971,333.

Graswich, Edward, and J. W. Cedarquist, to Dohrmann Hotel Supply Co. Grease extracting attachment for ventilators for kitchen ranges. 2,971,452, 2–14–61, Cl. 98—115.

Graw, Dr., Messgerate G.m.b.H.: *See*—
Graw, Josef. 2,971,731.

Graw, Josef, to Dr. Graw Messgerate G.m.b.H. Ejection container for radio probes. 2,971,731, 2–14–61, Cl. 244—137.

Gray, Franklin P. Swivel stacker. 2,971,631, 2–14–61, Cl. 198—119.

Gray Mfg. Co., The: *See*—
Thomas, Philip J., and Moore. 2,971,304.

Great Dane Trailers Inc.: *See*—
Jewell, Robert A. 2,971,771.
Watters, Johnny T. 2,971,797.

Green, Percie F., and L. G. Bullock, to Bristol Siddeley Engines Ltd. Ignition devices for propulsion engines of the continuous combustion type. 2,971,340, 2–14–61, Cl. 60—39.82.

Green, William H. M., to Systems Control, Inc. Door actuator and locking system. 2,971,755, 2–14–61, Cl. 268—65.

Green, Wilson P., to The Parker Pen Co. Writing instrument. 2,971,495, 2–14–61, Cl. 120—42.16.

Greenman, Norman L.: *See*—
Anderson, Paul L., Zagusta, and Greenman. 2,971,249.

Greenman, Norman L., J. A. Zagusta, and P. L. Anderson, to Rogers Corp. Printed circuits and methods of making the same. 2,972,003, 2–14–61, Cl. 174—68.5.

Greer, Donald M., to Armour and Co. Preparation of cheese slices for packaging. 2,971,846, 2–14–61, Cl. 99—115.

Gretener, Dr. Edgar, A.-G.: *See*—
Gretener, Edgar. 2,972,011.

Gretener, Edgar, to Dr. Edgar Gretener, A.-G. Method for processing a subtractive motion pictured film. 2,972,011, 2–14–61, Cl. 178—5.2.

Griem, Milton E., to Milprint, Inc. Commodity confining and display band. 2,971,641, 2–14–61, Cl. 206—46.

Griffin, Donald N., and R. W. Wanter. Flame thrower. 2,971,573, 2–14–61, Cl. 158—28.

Griffith, Rolf P. Copy mounting and label holding and dispensing attachment for a typewriter carriage. 2,971,628, 2–14–61, Cl. 197—133.

Grimes, William E. Fishing rod holder. 2,971,784, 2–14–61, Cl. 248—44.

Grotzschel, Rudolf, and H. Hofmann, to VEB Kamera-und Kinowerke Dresden. Film marking device. 2,971,444. 2–14–61, Cl. 95—1.1.

Gruber, Helmut, and H. Scheidig, to W. C. Heraeus, G.m.b.H. Vacuum arc furnace with consumable electrode. 2,971,996. 2–14–61. Cl. 13—31.

Gruenhagen, Richard H., B. A. Ashby, E. C. Britton, and L. H. Horsley, to The Dow Chemical Co. Method for the control of fungal organisms. 2,971,884, 2–14–61, Cl. 167—33.

Grundon, John L. Turntable structure. 2,971,801, 2–14–61, Cl. 308—227.

Grunin, Louis, and S. Richman. Process of preparing cast synthetic resin having integral sheen. 2,971,223, 2–14–61, Cl. 18—58.

Gulf Research & Development Co.: *See*—
Churchill, Arthur V., and Mitchell. 2,971,827.
Churchill, Arthur V., and Mitchell. 2,971,828.

Gunning, William F.: *See*—
Ridenour, Louis N., and Gunning. 2,972,008.

Gurries Mfg. Co.: *See*—
Curlett, John. 2,971,490.

Gustavson, Sterling T., to International Cigar Machinery Co. Skip feed device for cigar machine. 2,971,516, 2–14–61, Cl. 131—21.

Guthrie, Francis B., Jr. Great circle guide. 2,971,428, 2–14–61, Cl. 88—2.4.

Guthrie, John D.: *See*—
Bullock, Austin L., and Guthrie. 2,971,915.

Guyton, James H.: *See*—
Ford, Bill J., Guyton, Jenkins, and Manahan. 2,972,119.

Gwilliam, Glenn B., and H. C. Howell, Jr. Apparatus for manufacturing meat products. 2,971,216, 2–14–61, Cl. 17—23.

Gygax, Ernest F., ½ to E. T. Wright and ½ to R. Eilers. refrigeration equipment. 2,971,347, 2–14–61, Cl. 62—183.

Haber, Robert J., to All American Engineering Co. Energy absorbing means and retrieving capsule. 2,971,727, 2–14–61, Cl. 244—110.

Hagenbook, Loy D., to Goodman Mfg. Co. Rope side frame conveyor clamp. 2,971,234, 2–14–61, Cl. 24—126.

Hahn, Paul T., to AMP Inc. Terminal feeding mechanism. 2,971,194, 2–14–61, Cl. 1—177.

Hahnau, Robert F., and E. D. O'Toole, to Industrial Pipe Repair Corp. Method and apparatus for determining the position of sewer leaks. 2,971,259, 2–14–61, Cl. 33—1.

Hakanson, Edgar M., to The Sheffield Corp. Machine tool. 2,971,297, 2–14–61, Cl. 51—108.

Halik, Raymond R., and V. W. Weekman, Jr., to Socony Mobil Oil Co., Inc. Multicatalyst hydroconversion. 2,971,901, 2–14–61, Cl. 208—59.

Hall, James D. Separation of nickel and cobalt. 2,971,836, 2–14–61, Cl. 75—119.

Ham, George E., and A. B. Craig, to The Chemstrand Corp. Fiber forming composition containing acrylonitrile polymer and acrylonitrile N-vinylpyrrolidone copolymer. 2,971,937, 2–14–61, Cl. 260—45.5.

Hamlett, Sidney J., to White Sewing Machine Corp. Dial speed mechanism for a sewing machine. 2,971,484, 2–14–61, Cl. 112—220.

Hamlett, Sidney J., to White Sewing Machine Corp. Sewing machine. 2,971,485. 2–14–61, Cl. 112—258.

Hammond, Lee C.: *See*—
Bass, Miles M., Bell, Hammond, and Robischung. 2,971,296.

Hammond Machinery Builders, Inc.: *See*—
Bass, Miles M., Bell, Hammond, and Robischung. 2,971,296.

Hamshey, Paul S., Jr.: *See*—
Rummery, Frank O., Roseman, Appel, and Hamshey. 2,971,821.

Hanink, Dean K., and A. A. Shoudy, Jr., to General Motors Corp. Method of electroplating aluminum. 2,971,899, 2–14–61. Cl. 204—29.

Hansen, Bendt H., and J. W. Barden. Vertical axis propeller mechanism. 2,971,583, 2–14–61, Cl. 170—148.

Hanson, Casper F.: *See*—
Solem, Thor L. C., and Hanson. 2,971,318.

Harbison-Walker Refractories Co.: *See*—
Renkey, Albert L. 2,971,240.

Hardy, Austin E.: *See*—
Royce, Martin R., and Hardy. 2,972,075.

Harris, Dwight E., to The Lux Clock Mfg. Co., Inc. Spray timer. 2,971,382, 2–14–61, Cl. 74—3.52.

Harris-Intertype Corp.: *See*—
Bradford, John R., and Adams. 2,971,461.
Yingling, Victor N. 2,971,610.

Harshaw Chemical Co., The: *See*—
Stillwell, William D. 2,971,926.

Harshman, Richard C.: *See*—
Fusco, Victor C., and Harshman. 2,971,917.

Hart, Leon, Motors, Inc.: *See*—
Wright, Kenneth. 2,971,501.

Harter, Edgar J., to Minneapolis-Honeywell Regulator Co. Electrical measuring apparatus. 2,971,697, 2–14–61, Cl. 235—193.

Hartman, Maurice D., Jr.: *See*—
Allison, Crawford G., Hartman, and Sparks. 2,971,638.

Harwood, Kenneth J., to Kimberly-Clark Corp. Cellulosic product. 2,971,511, 2–14–61, Cl. 128—290.

Hasty, Jerome A. Driver training devices. 2,971,270, 2–14–61, Cl. 35—11.

Hat Corp. of America: *See*—
Hoffman, Stanley G., and Van Ess. 2,971,682.

Hauer, Charles E., to Western Electric Co., Inc. Apparatus for reeling strand. 2,971,711, 2–14–61, Cl. 242—25.

Hawley, Moses E., and E. D. Simshauser, to Radio Corp. of America. Noise reduction system. 2,972,018, 2–14–61, Cl. 179—1.

Hawthorne, John O., and M. H. Wilt, to United States Steel Corp. Method of making the lactone of 2-hydroxybiphenyl-2'-carboxylic acid. 2,971,962, 2–14–61, Cl. 260—343.2.

Hawthorne, John O., and E. L. Mihelic, Sr., to United States Steel Corp. Method of making 9-fluorenone. 2,971,982, 2–14–61, Cl. 260—590.

Haydn, Hildegard, and A. von Konig, to Agfa Aktiengesellschaft. Process for the production of non-laterally reversed positive copies by heat development. 2,971,840, 2–14–61, Cl. 96—29.

Hayes, Albert E., Jr., to Ampex Corp. Pulse rectifier and phase inverter. 2,972,065, 2–14–61, Cl. 307—88.5.

Hayes, Robert A., and F. M. Smith, to The Firestone Tire & Rubber Co. Rubbery copolymers containing minor amounts of a monomethacrylate ester of an alkylene glycol. 2,971,946, 2–14–61, Cl. 260—78.4.

Hayes, Thomas E. Money counting machine. 2,971,694, 2–14–61, Cl. 235—92.

Hecox, William, and C. C. Gebhardt, to The Sheffield Corp. Voltage classifier. 2,972,126, 2–14–61, Cl. 340—172.

Heilman, Russell H., R. W. Ortmiller, and A. P. Mueller, to The Philip Carey Mfg. Co. Insulation material and method of making same. 2,971,878, 2–14–61, Cl. 162—153.

Heinrich, Henry, & Co.: *See*—
Gorike, Rudolf. 2,971,597.

Heldenbrand, Arthur P. Method for minimizing drill pipe failures. 2,971,573, 2–14–61, Cl. 75—99.

Henderson, Knox B.: *See*—
Glasgow, Clarence O., and Henderson. 2,971,876.

Henle, Robert A., to International Business Machines Corp. Binary adder circuit. 2,971,696, 2–14–61, Cl. 235—176.

Henning, George E., to Western Electric Co., Inc. Snagging devices for strands. 2,971,713, 2–14–61, Cl. 242—25.

Henry, Joseph P., R. M. Manyik, and W. E. Walker, to Union Carbide Corp. Production of organo 2-halo-1-propenyl ketones. 2,971,983, 2–14–61, Cl. 260—592.

Henry-Biabaud, Edmond, to Societe Anonyme Andre Citroen. Inertia switch. 2,972,027, 2–14–61, Cl. 200—61.48.

Henzirohs, Leo, to Jura Elektroapparate-Fabriken L. Henzirohs A.G. Juice extractor. 2,971,550, 2–14–61, Cl. 146—76.

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Heraeus, W. C., G.m.b.H.: *See*—
Gruber, Helmut, and Scheidig. 2,971,996.
Lorenz, Albert. 2,971,691.

Hercules Powder Co.: *See*—
Hood, Horace E. 2,971,893.

Hereld, Peter C., to Chemo Puro Mfg. Corp. Concentrated, stable aqueous solutions of diethoxy-(diethoxybenzyl) isoquinoline hydrochloride. 2,971,888, 2–14–61, Cl. 167—65.

Hermans, Fernand V. F. Process and an oven for the baking of enamels on articles of ferrous metal. 2,971,753, 2–14–61, Cl. 263—52.

Herrick, Robert M.: *See*—
Karnow, Paul, and Herrick. 2,971,273.

Herrmann, Siegfried. Production of fast growing forest trees by vegetative propagation. 2,971,291, 2–14–61, Cl. 47—58.

Hetherington, James O. and J. S. System for producing Jacquard cards and the like. 2,971,692, 2–14–61, Cl. 234—40.

Hetherington, James S.: *See*—
Hetherington, James O. and J. S. 2,971,692.

Hetzel, Max, to Bulova Watch Co., Inc. Electronically-controlled timepiece. 2,971,323, 2–14–61, Cl. 58—23.

Higbie Mfg. Co.: *See*—
Wood, Morris E. 2,971,720.

Hill, Broadus E., to E. I. du Pont de Nemours and Co. Mixer distribution plate. 2,971,219, 2–14–61, Cl. 18—8.

Hill, Fred N., F. E. Bailey, Jr., and J. T. Fitzpatrick, to Union Carbide Corp. Metal-amide alcoholates and process of preparation. 2,971,988, 2–14–61, Cl. 260—632.

Hill, James J., to Apco, Inc. Continuous tea maker. 2,971,454. 2–14–61, Cl. 99—289.

Hill, John H., to Wildman Jacquard Co. Knitting machine and method for feeding fibers thereto. 2,971,357, 2–14–61, Cl. 66—9.

Hillman, Conway D.: *See*—
Keuffel, Carl W., Baker, and Hillman. 2,971,427.

Himler, Gary J., and O. C. Mitchell, to North American Aviation, Inc. High gain time discriminator. 2,972,113, 2–14–61, Cl. 328—109.
Himmelfarb, David, and W. J. Kaes. Plied cord rope construction. 2,971,321, 2–14–61, Cl. 57—139.
Hirsch, Joseph. Apparatus and method for communication through the sense of touch. 2,972,140, 2–14–61, Cl. 340—407.
Hitochi Ltd.: *See*—
Nogami, Kunishige, Hotta, and Torisu. 2,972,020.
Hobbins, James F. Article coiling method and apparatus. 2,971,300, 2–14–61, Cl. 53—24.
Hobbins, James F. Wrapping method and apparatus, and package produced thereby. 2,971,308, 2–14–61, Cl. 53—225.
Hoeflich, Edward L.: *See*—
Pollock, Earl S., and Hoeflich. 2,972,036.
Hoffman, Stanley G., and F. C. Van Ess, to Hat Corp. of America. Method of making two-tone hats. 2,971,682, 2–14–61, Cl. 223—7.
Hofmann, Heinz: *See*—
Grotzschel, Rudolf, and Hofmann. 2,971,444.
Hofstede, Marinus J.: *See*—
Van Rossum, Jacobus J., and Hofstede. 2,971,829.
Hogan Faximile Corp.: *See*—
Ressler, Hugh C. 2,971,810.
Hohmann, Frederick R., and H. E. Neely, Jr., to Pittsburgh Plate Glass Co. Method for flame seaming a glass sheet. 2,971,294, 2–14–61, Cl. 49—77.
Hold, Peter, to Farrel-Birmingham Co., Inc. Calenders. 2,971,457, 2–14–61, Cl. 100—163.
Holley Carburetor Co.: *See*—
Conti, Girard N., and Stankowski. 2,971,870.
Holley, Danforth. Fabricated ski. 2,971,766, 2–14–61, Cl. 280—11.13.
Hollihan, John P., Jr., J. A. Howsmon, and W. A. Sisson, to American Viscose Corp. Process of producing viscose rayon. 2,971,816, 2–14–61, Cl. 18—54.
Hollis, Jack L.: *See*—
Deist, Herbert H., and Hollis. 2,971,875.
Hollis, Jack L., to The Firestone Tire & Rubber Co. Apparatus for making pneumatic air springs. 2,971,559, 2–14–61, Cl. 154—1.
Hollis, Jack L., and A. G. Jefferys, to The Firestone Tire & Rubber Co. Apparatus for making pneumatic air springs. 2,971,560, 2–14–61, Cl. 154—1.
Hollis, Jack L., and A. W. Sekus, to The Firestone Tire & Rubber Co. Bead setting mechanism in an apparatus for making air springs. 2,971,561, 2–14–61, Cl. 154—1.
Hollis, Jack L., to The Firestone Tire & Rubber Co. Method and apparatus for manufacturing air spring. 2,971,562, 2–14–61, Cl. 154—1.
Holloway, Joseph H.: *See*—
Zacharias, Jerrold R., Holloway, and Grant. 2,972,116.
Honcharenko, Peter. Cigarette case. 2,971,676, 2–14–61, Cl. 221—232.
Hood, Horace E., to Hercules Powder Co. Phenol purification. 2,971,893, 2–14–61, Cl. 202—46.
Hoover, Charles W., Jr. Clock-operated delay circuit. 2,972,111, 2–14–61, Cl. 328—56.
Horn, Otto, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning. Process for preparing butyraldehyde. 2,971,984, 2–14–61, Cl. 260—601.
Horner, Amos A. Lumber sorting machine. 2,971,635, 2–14–61, Cl. 198—185.
Horner, Frank W., Ltd.: *See*—
Johnson, Willard J. 2,971,887.
Horsley, Lee H.: *See*—
Gruenhagen, Richard H., Ashby, Britton, and Horsley. 2,971,884.
Hotta, Tetsuo: *See*—
Nogami, Kunishige, Hotta, and Torisu. 2,972,020.
Hottel, Hoyt C.: *See*—
Frost, Edward E., Hottel, and Longwell. 2,971,605.
House, Hugh L. Collapsible door vise. 2,971,548, 2–14–61, Cl. 144—296.
Howell, Frederick A. Goggles with attached washing means. 2,971,196, 2–14–61, Cl. 2—14.
Howell, Harold C., Jr.: *See*—
Gwilliam, Glenn B., and Howell. 2,971,216.
Howerton, Hugh K., to American Instrument Co., Inc. Spectro-fluorescence measuring instrument. 2,971,429, 2–14–61, Cl. 88—14.
Howry, Douglass H., and G. J. Posakony, to Automation Instruments, Inc. Uni-directional ultrasonic transducer. 2,972,068, 2–14–61, Cl. 310—8.2.
Howsmon, John A.: *See*—
Hollihan, John P., Jr., Howsmon, and Sisson. 2,971,816.
Hubbard, John L., to The Firth Carpet Co., Inc. Method and apparatus for making knitted pile fabrics. 2,971,359, 2–14–61, Cl. 66—84.
Huber, J. M., Corp.: *See*—
Williams, Ira. 2,971,822.
Huck Co.: *See*—
Huck, William F. 2,971,684.
Huck, William F., to Huck Co. Scanning device for moving webs. 2,971,684, 2–14–61, Cl. 226—124.
Huckleberry, Charles R., to American Radiator & Standard Sanitary Corp. Damper arrangement for room air conditioner. 2,971,449, 2–14–61, Cl. 98—38.
Huebschman, Eugene C. Pump. 2,971,471, 2–14–61, Cl. 103—152.
Hughes Aircraft Co.: *See*—
Kircher, Reymond J., and Wager. 2,972,120.
Riley, Ray L. 2,972,066.
Hurlbut, Harold D., Jr., to Bell Telephone Laboratories, Inc. Zero phase marker indicator. 2,972,064, 2–14–61, Cl. 307—88.5.
Hurlbut Paper Co.: *See*—
Arledter, Hanns F. 2,971,877.
Hutch Mfg. Co.: *See*—
Weaver, Earl W. 2,971,789.
Hydroponics, Inc.: *See*—
Kyle, Leslie B. 2,971,290.
Hyrne, Edward E., to Western Electric Co., Inc. Automatic alternating current bridge. 2,972,106, 2–14–61, Cl. 324—57.
Immel, John A.: *See*—
Kennemer, Robert E., Immel, Cambron, and Barton. 2,971,802.
Imperial Chemical Industries Ltd.: *See*—
Batty, John W., Lambert, Scott, Bebbington, and Seed. 2,971,952.
Imperial Chemical Industries of Australia and New Zealand Ltd.: *See*—
Temple, Peter L., and Beerens. 2,972,125.
Industrial Instruments, Inc.: *See*—
Cunniff, Leo C. 2,972,103.
Industrial Pipe Repair Corp.: *See*—
Hahnau, Robert F., and O'Toole. 2,971,259.
Injection Molding Co.: *See*—
Black, Clarence D. 2,971,629.
Interchemical Corp.: *See*—
Kumins, Charles A., Fine, and Chase. 2,971,458.
International Business Machines Corp.: *See*—
Cronquist, Donald H. 2,971,396.
Dunn, William H. 2,972,137.
Garthwaite, Albert N., and Kristiansen. 2,971,298.
Henle, Robert A. 2,971,696.
International Cigar Machinery Co.: *See*—
Gustavson, Sterling T. 2,971,516.
International Minerals & Chemical Corp.: *See*—
Kodras, Rudolph. 2,971,954.
Stewart, Thomas H., Jr., and MacDonald. 2,971,832.
International Nickel Co., Inc., The: *See*—
Dunton, Thornley A., and Worn. 2,971,872.
Ireland, Glen V. Railroad car axle-generator system and suspension therefor. 2,971,477, 2–14–61, Cl. 105—183.
Isaacs, William B., Jr. Vehicular-mounted apparatus for loading and unloading packaged loads at a side of the vehicle. 2,971,661, 2–14–61, Cl. 214—80.
Jabsco Pump Co.: *See*—
McLean, Murray G. 2,971,469.
Jack & Heintz, Inc.: *See*—
Kahle, Hermann A. 2,972,058.
Jackel, Arthur P., to Westinghouse Air Brake Co. Programming circuits. 2,972,089, 2–14–61, Cl. 317—140.
Jacob, Robert H., to Aladdin Industries, Inc. Draw-through stopper for vacuum bottles or the like. 2,971,664, 2–14–61, Cl. 215—76.
Jacobs, Harry R., Jr., to Western Electric Co., Inc. Cutover mechanisms for strand-reeling installations. 2,971,707, 2–14–61, Cl. 242—25.
Jacobs, Harry R., Jr., R. F. Minehart, and J. F. Sheehan, Jr., to Western Electric Co., Inc. Transfer devices. 2,971,712, 2–14–61, Cl. 242—25.
Jacobs, Robert B.: *See*—
Rhodes, Joseph C., and Jacobs. 2,971,365.
Jacobs, Robert B., and D. D. Lo Giurato, to Standard Oil Co. Gasoline-rejecting mechanism for continuous flash point instrument. 2,971,370, 2–14–61, Cl. 73—36.
Jacquier, Pierre A. C., to Societe des Accumulateurs Fixes et de Traction (Societe Anonyme). Gas-tight counter voltage cell or alkaline storage battery and method of making same. 2,971,999, 2–14–61, Cl. 136—6.
Jaeschke, Ralph L., to Eaton Mfg. Co. Electromagnetic friction clutch. 2,971,622, 2–14–61, Cl. 192—84.
Jahnig, Charles E., and P. L. Silveston, to Esso Research and Engineering Co. Supplying heat to a hydrocarbon conversion vessel. 2,971,823, 2–14–61, Cl. 23—212.
Jakimiuk, Wsiewolod J., to Sud Est Aviation Societe Nationale de Constructions Aeronautiques. Aircraft take-off and landing apparatus. 2,971,725, 2–14–61, Cl. 244—63.
Jarmotz, Paul, and R. Pepinsky, to United States of America, Navy. Balanced differential amplifier with diode impedance changing network. 2,972,117, 2–14–61, Cl. 331—149.
Järund, Harry S. V. Counter-pressure jaw. 2,971,565, 2–14–61, Cl. 154—42.
Jaspert, William B.: *See*—
Sloan, Theodore H. 2,971,215.
Jefferys, Alexander G.: *See*—
Hollis, Jack L., and Jefferys. 2,971,560.
Jeglum, Norman L.: *See*—
Aller, Willis F., and Jeglum. 2,971,808.
Jenaer Glaswerk Schott & Gen.: *See*—
Geffcken, Walter. 2,971,854.
Jenkins, Richard L.: *See*—
Ford, Bill J., Guyton, Jenkins, and Manahan. 2,972,119.
Jewell, Robert A., to Great Dane Trailers Inc. Endless track ball spring suspension for vehicles. 2,971,771, 2–14–61, Cl. 280—104.5.
Johanson, Carl E., and A. A. Lorenz, to The Bendix Corp. Sensitive speed instrument for aircraft. 2,972,028, 2–14–61, Cl. 200—81.4.
Johansson, Sven H., to A. J. A. Asplund. Grinding apparatus for disintegrating fibrous material. 2,971,704, 2–14–61, Cl. 241—37.
Johnson, Allen B. Fishing rod holder. 2,971,735, 2–14–61, Cl. 248—46.
Johnson, Arthur E., to A. O. Smith Corp. Protection of a temperature sensitive device. 2,972,096, 2–14–61, Cl. 321—14.
Johnson, George C., and G. T. Kerr, to Socony Mobil Oil Co., Inc. Process for recovering sulfur from hydrogen sulfide-containing gases. 2,971,824, 2–14–61, Cl. 23—225.
Johnson Hydraulic Equipment Co.: *See*—
Solem, Thor L. C., and Hanson. 2,971,318.

Johnson, Kenneth F., and H. G. Kohr, to Western Electric Co., Inc. Apparatus having a shell with two spaced cutting edges and a hollow reciprocating clotted member cooperating therewith for shearing metal parts. 2,971,418, 2–14–61, Cl. 83—580.

Johnson, Maurice V., Jr., and D. C. Savage, to Sunkist Growers, Inc. Resilient printing die. 2,971,459, 2–14–61, Cl. 101—379.

Johnson, Sallie H. Drapery hanging mechanism. 2,971,213, 2–14–61, Cl. 16—87.2.

Johnson, Willard J., to Frank W. Horner Ltd. Inhibition of isoniazid acetylation. 2,971,887, 2–14–61, Cl. 167—65.

Johnston, James V. Toroidal gyroscope. 2,971,384, 2–14–61, Cl. 74—5.7.

Johnston, John W. Safety clip for mowing machine cutter assemblies. 2,971,317, 2–14–61, Cl. 56—296.

Joly, Robert, G. Muller, and J. Warnant, to Les Laboratoires Francais de Chimiotherapie. Process of producing 1β-carboxymethyl - 2β - methoxycarbonyl - 3α - methoxy - 4β-acetoxy-6β-formyl cyclohexane. 2,971,978, 2–14–61, Cl. 260—468.

Joly, Robert, R. Bucourt, and C. Fabignon, to UCLAF. Process for the preparation of 4,4'-dichlorodiphenylsulfone. 2,971,985, 2–14–61, Cl. 260—607.

Jones, Robert E., to Rome Cable Corp. Construction of coil blocks. 2,971,721, 2–14–61, Cl. 242—110.2.

Jordan, Homer G.: *See*—
Bryant, Herbert W., Jordan, and Porter. 2,972,021.

Jordan, Rudolph B.: *See*—
Reid, Robert S., and Jordan. 2,971,790.

Junck, John A., and J. E. Scheidt, to Caterpillar Tractor Co. Hydraulic control valve throttling mechanism. 2,971,536, 2–14–61, Cl. 137—622.

Jura Elektroapparate-Fabriken L. Henzirohs A.G.: *See*—
Henzirohs, Leo. 2,971,550.
Henzirohs, Leo. 2,971,649.

Jurs, Peter C., and J. P. Van Overveen, to Shand and Jurs Co. Relief valve. 2,971,531, 2–14–61, Cl. 137—493.9.

Kaes, William J.: *See*—
Himmelfarb, David, and Kaes. 2,971,321.

Kahle, Hermann A., to Jack & Heintz, Inc. Alternating current generator systems. 2,972,058, 2–14–61, Cl. 307—57.

Kallmann, Hartmut P., and B. Rosenberg, to Research Corp. Data storage method and apparatus. 2,972,082, 2–14–61, Cl. 315—10.

Kaplan, Earl: *See*—
Moran, Albert E., and Kaplan. 2,971,812.

Kaplan, Murray A., and F. H. Buckwalter, to Bristol-Myers Co. Production of ammonium hexametaphosphate by cation exchange resin. 2,971,818, 2–14–61, Cl. 23—107.

Karato, Yoshiichi: *See*—
Kawa, Toshio, Taniyama, Yoshida, Karato, Oorui, Yasuhara, and Usamoto. 2,971,830.

Karell, Reino O.: *See*—
Davis, Harry M., and Karell. 2,971,596.

Karig, Horace E.: *See*—
Getchell, Robert M., and Karig. 2,971,652.

Karnow, Paul, and R. M. Harrick, to United States of America, Navy. Performance bar. 2,971,273, 2–14–61, Cl. 35—22.

Katz, Edwin F., to General Motors Corp. Precision gear train for servo control mechanism. 2,971,407, 2–14–61, Cl. 74—801.

Kaufman, Paul N.: *See*—
Williams, Gordon E., Wyman, and Kaufman. 2,971,552.

Kawai, Toshio, T. Taniyama, H. Yoshida, Y. Karato, T. Oorui, K. Yasuhara, and T. Usamoto, to Sumitomo Chemical Co., Ltd. Method of gasifying pulverized coal in vortex flow. 2,971,830, 2–14–61, Cl. 48—206.

Keil, Harry L., and H. P. Frohlich, to Rohm & Haas Co. Rust eradication. 2,971,880, 2–14–61, Cl. 167—14.

Keil, Havard L., to Armour and Co. Coating foods and composition therefor. 2,971,849, 2–14–61, Cl. 99—166.

Kelsey-Haynes Co.: *See*—
Schultz, Ralph. 2,971,600.

Kendall, James M. Damped inertia switch. 2,972,026, 2–14–61, Cl. 200—61.5.

Kendall, William T., to Allied Chemical Corp. Process for purifying acetone. 2,971,894, 2–14–61, Cl. 202—57.

Kennemer, Robert E., J. A. Immel, R. B. Cambron, and J. S. Barton, to Caterpillar Tractor Co. Grooved cylinder liner for reduced ring groove wear. 2,971,802, 2–14–61, Cl. 309—2.

Kenrick & Jefferson Ltd.: *See*—
Gibbon, James. 2,971,689.

Kent, Larry, and T. W. Norum. Vibrating bar type musical instrument having strikers. 2,971,424, 2–14–61, Cl. 84—404.

Kerr, George T.: *See*—
Johnson, George C., and Kerr. 2,971,824.

Kersh, Ronald C. Mixing and dispensing device. 2,971,825, 2–14–61, Cl. 23—272.7.

Keuffel, Carl W., A. L. Baker, and C. D. Hillman, to Keuffel & Esser Co. Self-correcting alidade. 2,971,427, 2–14–61, Cl. 88—1.

Keuffel & Esser Co.: *See*—
Keuffel, Carl W., Baker, and Hillman. 2,971,427.

Kiekhaefer, Elmer C. Silencing chamber and air inlet for outboard motors. 2,971,507, 2–14–61, Cl. 123—198.

Kilsheimer, John R., to Union Carbide Corp. Polymers of allyl 3,4-epoxy-2-hydroxyalkanoates. 2,971,945, 2–14–61, Cl. 260—78.3.

Kimberlin, Charles N., Jr., and E. M. Gladrow, to Esso Research and Engineering Co. Hydrocarbon conversion catalyst. 2,971,903, 2–14–61, Cl. 208—119.

Kimberlin, Charles N., Jr., and W. J. Mattox, to Esso Research and Engineering Co. Separation of olefinic hydrocarbons with Co, Ba, K, or Ag substituted 10 to 13 angstrom molecular sieves. 2,971,993, 2–14–61, Cl. 260—677.

Kimberly-Clark Corp.: *See*—
Harwood, Kenneth J. 2,971,511.

Kimmel, Merle J. Children's high chair. 2,971,567, 2–14–61, Cl. 155—38.

Kindel, Georg S.: *See*—
Reuter, Franz G., and Kindel. 2,971,356.

Kindseth, Harold V., and T. B. Ludlow, to Bemis Bro. Bag Co. Pressure sensitive tape. 2,971,863, 2–14–61, Cl. 117—68.5.

Kingsley, Gerald V., and W. E. Wyatt, to Bohn Aluminum & Brass Corp. Composite bearings and method of forming the same. 2,971,248, 2–14–61, Cl. 29—149.5.

Kingston Products Corp.: *See*—
Treida, Grover G. 2,971,685.

Kinoshita, Kazumoto: *See*—
Ogawa, Tetsuo, Tsunoda, Aoki, Kinoshita, Okumura, and Kondo. 2,971,890.

Kintner, Edwin K., to Sanitary Mfg. Co. of Pittsburgh, Pa. Milk treating system with deaerator. 2,971,453, 2–14–61, Cl. 99—252.

Kircher, Reymond J., and M. C. Wager, to Hughes Aircraft Co. Variable-frequency crystal-controlled oscillator systems. 2,972,120, 2–14–61, Cl. 332—26.

Kirkland, Horace S. Trash can holder. 2,971,739, 2–14–61, Cl. 248—361.

Kirkland, Vera D.: *See*—
Bratt, Robert W., Kirkland, Kurrasch, and Fossier. 2,971,726.

Kirkpatrick, Willard H.: *See*—
Walker, Alice, Seale, and Kirkpatrick. 2,971,923.

Kirkpatrick, Willard H., V. L. Seale, and R. E. Law, to Visco Products Co. Oil adducts. 2,971,965, 2–14–61, Cl. 260—398.

Klamp, Paul, to Mechanical Handling Systems, Inc. Power and free conveyor system. 2,971,474, 2–14–61, Cl. 104—172.

Knapsack-Griesheim Aktiengesellschaft: *See*—
Bender, Ludwig. 2,971,534.

Knecht, Alfred, to BEKA St. Aubin AG. Brake valve. 2,971,799, 2–14–61, Cl. 303—54.

Knickerbocker Plastic Co., Inc.: *See*—
Musser, Clair O. 2,971,761.

Knowlton, Orin H., Jr.: *See*—
Cowart, Brooks E., Ball, Crane, and Knowlton. 2,971,698.

Knox, David R., to Bundy Tubing Co. Shaping of ends of hollow work pieces. 2,971,554, 2–14–61, Cl. 153—2.

Knutson, Merritt. Back-up warning signal for automotive vehicles. 2,972,139. 2–14–61, Cl. 340—392.

Kobayashi, Tatsuo: *See*—
Nakane, Takashi, Kobayashi, Akimoto, and Senzuwa. 2,971,564.

Kodras, Rudolph, to International Minerals & Chemical Corp. Purification of phosphate-modified starches. 2,971,954, 2–14–61, Cl. 260—233.5.

Koenecke, Donald F., to Esso Research and Engineering Co. Method for increasing the rate of air oxidation of polymers and copolymers of butadiene. 2,971,991, 2–14–61, Cl. 260—669.

Kohn, Gustave K.: *See*—
Ospenson, Joseph N., and Kohn. 2,971,882.

Kohr, Hilton G.: *See*—
Johnson, Kenneth F., and Kohr. 2,971,418.

Koike, Fuji, to Nippon Sewing Machine Mfg. Co. Ltd. Automatic zigzag-stitch sewing machine. 2,971,482, 2–14–61, Cl. 112—158.

Kolb, Günter, to Agfa Aktiengesellschaft fur Photofabrikation. Preparation of ethylidene malonodinitrile. 2,971,977, 2–14–61, Cl. 260—465.8.

Kollbach, Franz J.: *See*—
Eppler, Kurt, and Kollbach. 2,971,741.

Kompfner, Rudolf: *See*—
Bridges, Thomas J., and Kompfner. 2,972,081.

Kondo, Yasuhiro: *See*—
Ogawa, Tetsuo, Tsunoda, Aoki, Kinoshita, Okumura, and Kondo. 2,971,890.

Konopka, Bernard E., and W. E. Zimmermann, to March Mfg. Co. Condensate pump. 2,971,467, 2–14–61, Cl. 103—87.

Koppel, Ernst R., to The Electric Auto-Lite Co. Wiper linkage. 2,971,388, 2–14–61, Cl. 74—77.

Koppers Co., Inc.: *See*—
Van Ackeren, Paul. 2,971,895.

Koslo, Robert C., to The Astrup Co. Awning operating and control mechanism. 2,971,619, 2–14–61, Cl. 192—8.

Kowalski, Slawomir, D. A. Worden, and S. R. Smolen, to Marotta Valve Corp. Control valves for sensing pressure chamber. 2,971,537, 2–14–61, Cl. 137—636.1.

Kosobarich, Louis. Jackets. 2,971,199, 2–14–61, Cl. 2—93.

Kramesak, Michael, Jr., to The Bassick Co. Sealed caster. 2,971,211, 2–14–61, Cl. 16—21.

Kreiskott, Horst: *See*—
Meiser, Werner, Breitner, Wirth, and Kreiskott. 2,971,979.

Kristiansen, Frank T.: *See*—
Garthwaite, Albert N., and Kristiansen. 2,971,298.

Kumins, Charles A., J. Fine, and V. L. Chase, to Interchemical Corp. Process of coloring textile materials. 2,971,458, 2–14–61, Cl. 101—170.

Kurkoske, Robert E. Water closet flushing apparatus with non-sweating tank. 2,971,201, 2–14–61, Cl. 4—19.

Kurrasch, Leslie F.: *See*—
Bratt, Robert W., Kirkland, Kurrasch, and Fossier. 2,971,726.

Kurtz, George W., to Miles Laboratories, Inc. Scavenger packet. 2,971,851, 2–14–61, Cl. 99—171.

Kuzmitz, Frank V., J. M. Eastman, and R. G. Rose, to The Bendix Corp. Fuel feed and power control device for gas turbine engines. 2,971,574, 2–14–61, Cl. 158—36.4.

Kyle, Leslie B., to Hydroponics, Inc. Seed bed operation in hydroponic systems. 2,971,290, 2–14–61, Cl. 47—1.2.

Lambert, Arthur: *See*—
Batty, John W., Lambert, Scott, Bebbington, and Seed. 2,971,952.

Lambert Brake Corp.: *See*—
Graber, Walter. 2,971,612.

Landry, Armand, to Scott & Williams, Inc. Knitting machine. 2,971,360, 2–14–61, Cl. 66—150.

Lane, Marvin, and J. S. Samkoff, to Union Tank Car Co. Method and apparatus for controlling the feed of filter aid to a filter arrangement. 2,971,648, 2–14–61, Cl. 210—75.

Lang, Paul: *See*—
Ten Bosch, Maurits, and Lang. 2,971,401.

Langan, Jeremiah E., to Leesona Corp. Delay timer. 2,972,112, 2–14–61, Cl. 328—72.

Langville, Victor H. Coring and sectioning device. 2,971,549, 2–14–61, Cl. 146—40.

Lapporte, Seymour J., and W. A. Sweeney, to California Research Corp. Production of alpha-glycols. 2,971,989, 2–14–61, Cl. 260—636.

Larkin, Robert G., V. W. Peterson, and H. H. Schnepel, to General Motors Corp. Propeller brake. 2,971,613, 2–14–61, Cl. 188—110.

Larsen, Eric R., to The Dow Chemical Co. 2-bromo-1,1,1,2-tetrafluoroethane. 2,971,990, 2–14–61, Cl. 260—653.

Larsson, Gilbert: *See*—
Wasastierna, Gösta, Larsson, and Lindblad. 2,971,476.

Laser, William F., to City National Bank and Trust Co. of Chicago, as trustee. Rotary seal. 2,971,783, 2–14–61, Cl. 286—8.

Lash, Eugene C., and L. L. McClain, to F. W. Means & Co. Selector mechanism for a flatwork ironer or the like. 2,971,660, 2–14–61, Cl. 214—11.

La Societe dite Le Magnesium Thermique ("Magnetherm"): *See*—
Artru, Jean, and Marchal. 2,971,833.

Lauring, Edgar A., to Minnesota and Ontario Paper Co. Surface decorated fiberboard and method of making the same. 2,971,856, 2–14–61, Cl. 117—101.

Lauterbach, William E.: *See*—
Boehmer, Andrew P., and Lauterbach. 2,972,057.

La Vigne, Eugene E., to Brunswick Corp. Patient's room composite storage cabinet. 2,971,807, 2–14–61, Cl. 312—287.

Law, Robert E.: *See*—
Kirkpatrick, Willard H., Seale, and Law. 2,971,965.

Leach, George J.: *See*—
Eicholtz, Frank E. 2,971,207.

Leblanc, G., Corp.: *See*—
Leblanc, Leon. 2,971,423.

Leblanc, Leon, to G. Leblanc Corp. Brace for musical instrument. 2,971,423, 2–14–61, Cl. 84—380.

Le Bus, Franklin L., Sr., to Le Bus Royalty Co. Thread box tool protector. 2,971,669, 2–14–61, Cl. 220—23.

Le Bus Royalty Co.: *See*—
Le Bus, Franklin L., Sr. 2,971,669.

Lectromatic Devices, Inc.: *See*—
Von Stoesser, Walter. 2,971,416.

Leesona Corp.: *See*—
Langan, Jeremiah E. 2,972,112.

Lefon, Henri. Fasteners for conveyor belts and the like. 2,971,256, 2–14–61, Cl. 29—411.

Leibing, William E. Carburetion system and method. 2,971,749, 2–14–61, Cl. 261—47.

Leonard, Cullman K., to United States of America, Air Force. Electromagnetic control of current flow. 2,972,071, 2–14–61, Cl. 310—94.

Les Laboratoires Francais de Chimiotherapie: *See*—
Joly, Robert, Muller, and Warnant. 2,971,978.

Levi, Roberto, to North American Philips Co., Inc. Carburization of dispenser cathodes. 2,972,078, 2–14–61, Cl. 313—346.

Lewis, Evan T., to Worthington Mower Co. Power lawn mower. 2,971,314, 2–14–61, Cl. 56—26.

Lewis, Ewart G., D. A. G. Eldridge, G. Bradfield, and H. C. M. Bertoya, to Minister of Supply, in Her Majesty's Government of the United Kingdom of Great Britain and Northern Ireland. Ultransonic testing apparatus. 2,971,372, 2–14–61, Cl. 73—67.5.

Lewis, Richard L., to The Bendix Corp. Flow proportioning valve. 2,971,522, 2–14–61, Cl. 137—101.

Licitis, Gunars: *See*—
Reed, Bayard C., and Licitis. 2,971,289.

Lieber, William H.: *See*—
Weber, Bernard R., and Lieber. 2,971,777.

Lilly, Eli, and Co.: *See*—
Coffey, Henry F. 2,971,646.

Lincoln, Clovis W., to General Motors Corp. Ball joint assembly. 2,971,787, 2–14–61, Cl. 287—90.

Lincoln, Edward H.: *See*—
Wright, John B., and Lincoln. 2,971,956.

Lindblad, Borje: *See*—
Wasastierna, Gosta, Larsson, and Lindblad. 2,971,476.

Lindeman, Charles A. Fused plug-in receptacle. 2,972,036, 2–14–61, Cl. 200—115.5.

Lindsey, Boyd. Slide fastener construction. 2,971,200, 2–14–61, Cl. 2—265.

Linn, Robert. Submersion signal. 2,971,206, 2–14–61, Cl. 9—9.

Lippke, Donald E., to Deere & Co. Fluid pump drive and mounting. 2,971,386, 2–14–61, Cl. 74—55.

Little, Howard M.: *See*—
Baumbach, Harlan L., Little, and Scobey. 2,971,448.

Litton Systems, Inc.: *See*—
Thrasher, Howard G. 2,971,383.

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Lobo, Paul A., to Continental Oil Co. Preparation of trialkylaluminum compounds. 2,971,969, 2–14–61, Cl. 260—448.

Loebner, Egon E., and D. C. Darling, to Radio Corp. of America. Light amplifier and storage device. 2,972,054, 2–14–61, Cl. 250—213.

Lo Giurato, Dominic D.: *See*—
Jacobs, Robert B., and Lo Giurato. 2,971,370.

Lohrman, William V.: *See*—
Silver, Walter H., and Lohrman. 2,971,591.

Lombardi, Louis J. Process for preparing alcohol modified melamine resin. 2,971,943, 2–14–61, Cl. 260—67.6.

Lone Star Boat Co.: *See*—
Rorie, George C., and Alford. 2,971,568.

Longines-Wittnauer Watch Co., Inc.: *See*—
Blank, Fritz A. 2,971,432.

Longwell, John P.: *See*—
Frost, Edward E., Hottel, and Longwell. 2,971,605.

Lo Presti, Roy F., and A. Vernon, to Goodman Mfg. Co. Clamp. 2,971,233, 2–14–61, Cl. 24—125.

Lorens, Alan A.: *See*—
Johanson, Carl E., and Lorens. 2,972,028.

Lorens, Albert, to W. C. Heraeus, G.m.b.H. Pumping system. 2,971,691, 2–14–61, Cl. 230—45.

Loser, William L., Jr. Rudder control. 2,971,489, 2–14–61, Cl. 114—154.

Lovercheck, Charles L. Dual engine. 2,971,402, 2–14–61, Cl. 74—665.

Loverde, Lawrence V., to Oak Mfg. Co. Vibrator. 2,972,070, 2–14–61, Cl. 310—25.

Lowe, Charles E., to General Motors Corp. Emitter follower transistor oscillator. 2,972,116, 2–14–61, Cl. 331—117.

Lowery, Charley. System for separating the oil, gas and water in a crude oil stream. 2,971,604, 2–14–61, Cl. 183—2.7.

Lowrance, John L., to The Bendix Corp. Electrical timing control apparatus. 2,971,332, 2–14–61, Cl. 60—39.14.

Lowrance, John L., to The Bendix Corp. Bi-stable electric switching system. 2,972,090, 2–14–61, Cl. 317—148.5.

Lowrey Organ Co., The: *See*—
Anderson, Walter J. 2,971,420.

Lubszynski, Hans G., to Electric & Musical Industries Ltd. Electron discharge devices. 2,972,072, 2–14–61, Cl. 313—65.

Ludlow, Thomas B.: *See*—
Kindseth, Harold V., and Ludlow. 2,971,863.

Lukoff, Herman, and J. R. Stovall, Jr., to Sperry Rand Corp. Error responsive system. 2,972,127, 2–14–61, Cl. 340—172.5.

Luminous Ceilings, Inc.: *See*—
Smith, Gean. 2,972,044.

Luther, Herbert G., W. M. Reynolds, and W. C. Sherman, to Chas. Pfizer & Co., Inc. Animal feeds. 2,971,885, 2–14–61, Cl. 167—53.

Lux Clock Mfg. Co., Inc., The: *See*—
Harris, Dwight E. 2,971,382.

Lykken, Frances: *See*—
Lykken, Henry G. and W. H. 2,971,702.

Lykken, Henry G., deceased (F. Lykken, administratrix), and W. H. Lykken, to Microcyclomat Co. Fluid energy classifying mill. 2,971,702, 2–14–61, Cl. 241—5.

Lykken, William H.: *See*—
Lykken, Henry G. and W. H. 2,971,702.

Lynes, Arthur E.: *See*—
Senkowski, Alexander, and Lynes. 2,971,406.

Lynn, John W., to Union Carbide Corp. Cyanoethylated oxalactams. 2,971,958, 2–14–61, Cl. 260—307.

Lyon, George A., Jr. Wheel cover. 2,971,798, 2–14–61, Cl. 301—37.

Lyon, George A. Method of making wheel covers. 2,971,486, 2–14–61, Cl. 113—116.

Lyon, Floyd A., and T. F. Aronson. Article banding means. 2,971,307, 2–14–61, Cl. 53—198.

Lytle, William O., to Pittsburgh Plate Glass Co. Coating surfaces. 2,971,867, 2–14–61, Cl. 117—211.

Maccabee, David E., to Stewart-Warner Corp. Manifold pressure gauge. 2,971,380, 2–14–61, Cl. 73—411.

MacDonald, Leslie A., to American District Telegraph Co. Apparatus for detecting motion. 2,972,133, 2–14–61, Cl. 340—258.

MacDonald, Robert A.: *See*—
Stewart, Thomas H., Jr., and MacDonald. 2,971,832.

Machines Automatiques Modernes (Societe a Responsabilite Limitee): *See*—
Feissel, Henri G. 2,971,627.

Madaras, Julius D., to Gas Inc. Method of heating and reforming hydrocarbons and other gases. 2,971,752, 2–14–61, Cl. 263—52.

Madison Kipp Corp.: *See*—
Coleman, Thomas E., and Schultz. 2,971,230.

Magee Carpet Co., The: *See*—
Penman, Montgomery B. 2,971,722.

Magg, Gabriele: *See*—
Würmbock, Gabriele, Niemann, and E. and O. Würmbock. 2,971,920.

Magne, Frank C.: *See*—
Dupuy, Harold P., Goldblatt, and Magne. 2,971,855.

Malecki, George J. Preservation of flowers. 2,971,292, 2–14–61, Cl. 47—58.

Malick, Dell M.: *See*—
Wilson, Woodrow S., and Malick. 2,971,680.

Mall, Günther: *See*—
Reeber, Rudolf, and Mall. 2,971,481.

Mallett, John D.: *See*—
Barlow, Edward J., Mallet, Bertram, and Daspit. 2,972,141.

Manahan, Max J.: *See*—
Ford, Bill J., Guyton, Jenkins, and Manahan. 2,972,119.

Mankoff, Lawrence L.: *See*—
Brealey, Robert H., Jr., and Mankoff. 2,972,005.

Manyik, Robert M.: *See*—
Henry, Joseph P., Manyik, and Walker. 2,971,983.

Mapp, Alfred G.: *See*—
Chilman, John A., Mapp, Masterman, and Cripps. 2,972,087.
March Mfg. Co.: *See*—
Konopka, Bernard E., and Zimmermann. 2,971,467.
Marchal, Jacques: *See*—
Artru, Jean, and Marchal. 2,971,833.
Markestein, John: *See*—
Dilworth, Richard M., Markestein, and Nelson. 2,971,478.
Marotta Valve Corp.: *See*—
Kowalski, Slawomir, Worden, and Smolen. 2,971,537.
Marsh, Gareld E., to Schlumberger Well Surveying Corp. Well tools. 2,971,582, 2–14–61, Cl. 166—241.
Marsh, Richard A., to United States of America, Army. Antenna release mechanism. 2,972,144, 2–14–61, Cl. 343—709.
Martin, Helmut K. F. Drawing desk. 2,971,287, 2–14–61, Cl. 45—131.
Martin, James. Firing mechanism for aircraft seat ejection devices. 2,971,728, 2–14–61, Cl. 244—121.
Martin, James. Seat ejection gun firing pin control device. 2,971,729, 2–14–61, Cl. 244—122.
Martin, James. Aircraft ejection seats. 2,971,730, 2–14–61, Cl. 244—122.
Martin, Yves, to Compagnie de Saint-Gobain. Manufacture of superphosphate. 2,971,831, 2–14–61, Cl. 71—40.
Mason, Francis G., to Aladdin Industries, Inc. Changeover switch arrangement for VHF-UHF tuner. 2,972,049, 2–14–61, Cl. 250—40.
Massey-Ferguson Inc: *See*—
Bunting, Ernest V. 2,971,397.
Senkowski, Alexander, and Lynes. 2,971,406.
Masterman, John M.: *See*—
Chilman, John A., Mapp, Masterman, and Cripps. 2,972,087.
Masters, John E., and H. G. Cooke, Jr., to Devoe & Raynolds Co., Inc. Epoxide resins. 2,971,942, 2–14–61, Cl. 260—47.
Mather, Donald W.: *See*—
Babel, Frederick J., and Mather. 2,971,647.
Matlok, Hans: *See*—
Föller, Ernst, and Matlok. 2,971,244.
Matson, Raphael F., to Freeport Sulphur Co. Recovery of nickel and cobalt from mixtures of the same with iron sulfide, as impurity. 2,971,835, 2–14–61, Cl. 75—115.
Matthews, Charles W., to Deere & Co. Moldboard plow attachment. 2,971,593, 2–14–61, Cl. 172—765.
Mattox, William J.: *See*—
Kimberlin, Charles N., Jr., and Mattox. 2,971,993.
Mauser Kommandit-Gesellschaft: *See*—
Mühlhoff, Friedrich. 2,971,686.
May, Marvin M., to Tubular Structures Corp. of America. Brace bar securing means for prefabricated tubular structures. 2,971,786, 2–14–61, Cl. 287—53.5.
May, Maurice, to American Art Metals Co. Snap-in glass setting construction. 2,971,229, 2–14–61, Cl. 20—56.4.
Mayes, Fred M., to Sun Oil Co. Tank gauge. 2,971,378, 2–14–61, Cl. 73—313.
McAdams, William Douglas, Inc.: *See*—
Barlow, Lou. 2,971,272.
Goldenthal, Allan B. 2,971,271.
McClain, Lawrence L.: *See*—
Lash, Eugene C., and McClain. 2,971,660.
McCormick, Donald C., to J. A. Wilson Lighting & Display Ltd. Lighting fixture. 2,971,670, 2–14–61, Cl. 220—38.
McCoy, Lorraine, and R. E. Altom. Patient hoists. 2,971,204. 2–14–61, Cl. 5—83.
McCulloch Corp., Marine Products Division: *See*—
Beck, Richard, Jr. 2,971,673.
McCulloch, William J. G.: *See*—
McNall, Lester R., McCulloch, and Farnsworth. 2,971,988.
McDaniel, George A., and G. M. Salamonovich, to Gilfillan Bros., Inc. Velocity servosystem for memory-point tracking system. 2,972,095, 2–14–61, Cl. 318—329.
McDoniel, Harold W., to Dresser Industries, Inc. Centrifugal pump. 2,971,468, 2–14–61, Cl. 103—104.
McDonough, John J., to Scott & Williams, Inc. Knitting machine. 2,971,358, 2–14–61, Cl. 66—42.
McEvoy Co.: *See*—
Eichenberg, Robert, and Rhodes. 2,971,527.
McGraw-Edison Co.: *See*—
Gomersall, John R. 2,972,088.
Neckel, Edmund N. 2,971,281.
Roberts, Samuel S. 2,971,399.
Webster, Wendell H. 2,971,351.
McHan, Thaddus D. Tomato carton. 2,971,630, 2–14–61, Cl. 206—45.34.
McKay Machine Co., The: *See*—
Shenk, William E. 2,972,089.
McKay, Victor E., deceased; Virginia McKay, administratrix. Safety device for motor vehicles. 2,972,134, 2–14–61, Cl. 340—261.
McKay, Virginia: *See*—
McKay, Victor E. 2,972,134.
McKinney, Dickson S., and G. D. Mylchreest. Explosive streamer. 2,971,490, 2–14–61, Cl. 114—240.
McKissick, Charles C., deceased; M. E. McKissick, administratrix. Pogo monocycles. 2,971,778, 2–14–61, Cl. 280—205.
McKissick, Maude E.: *See*—
McKissick, Charles C. 2,971,778.
McLafferty, George H., to United Aircraft Corp. Control system for air inlet bypass. 2,971,328, 2–14–61, Cl. 60—35.6.
McLaren, David J., and R. J. Soucie, to A. O. Smith Corp. Water heater fitting for delivering two temperatures of heated water. 2,971,582, 2–14–61, Cl. 137—592.
McLaughlin, Vincent P. Spreader for granular material. 2,971,764, 2–14–61, Cl. 275—12.
McLean, Murray G., to Jabsco Pump Co. Pump with floating end plates. 2,971,469, 2–14–61, Cl. 103—117.
McNall, Lester R., W. J. G. McCulloch, and C. E. Farnsworth, to Esso Research and Engineering Co. Plasticizing high molecular weight polyisobutylene with terpene-phenol resins. 2,971,938, 2–14–61, Cl. 260—45.5.
Meade, Leonard P., to Phillips Petroleum Co. Method of sealing off flow from underground storage cavern and apparatus. 2,971,844, 2–14–61, Cl. 62—48.
Means, F. W., & Co.: *See*—
Lash, Eugene C., and McClain. 2,971,660.
Mechanical Handling Systems, Inc.: *See*—
Klamp, Paul. 2,971,474.
Megna, John C.: *See*—
Cords, Helmuth, Megna, Grant, and Butterworth. 2,971,891.
Meiser, Werner, S. Breitner, W. Wirth, and H. Kreiskott. Dicarbamates of 1-alkyl-2,3 alkylene-1,3-diols. 2,971,979, 2–14–61, Cl. 260—482.
Mendelsohn, Julian P., R. B. Grant, Jr., and H. J. Barrial, to General Electric Co. Adjustable gas impingement turbine nozzles. 2,971,333, 2–14–61, Cl. 60—39.14.
Merrell, Edwin J., and R. A. Russbach, to Phelps Dodge Copper Products Corp. Cable joint casing. 2,972,004, 2–14–61, Cl. 174—91.
Messmer, Edwin E., to Amsco Packaging Machinery, Inc. Apparatus for treatment of bag mouths and the like. 2,971,311, 2–14–61, Cl. 53—373.
Messwarb, Günter, W. Denk, and H. Scherer, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning. Process for preparing copolymers of vinyl chloride. 2,971,948, 2–14–61, Cl. 260—80.5.
Metcalfe, Arthur G., and H. B. Nudelman, to United States of America, Army. Fusible impregnation of porous metallic bodies. 2,971,865, 2–14–61, Cl. 117—130.
Meyers, Cal Y., to Union Carbide Corp. Process for producing crystalline trimethylolphenol. 2,971,987, 2–14–61, Cl. 260—621.
Michaels, Clyde D., to United States Steel Corp. Sheet lapping apparatus. 2,971,630, 2–14–61, Cl. 198—35.
Michie, Neil B., to A. A. Gage Co. Magnetic cylinder square. 2,971,261, 2–14–61, Cl. 33—112.
Microcyclomat Co.: *See*—
Lykken, Henry G. and W. H. 2,971,702.
Microwave Associates, Inc.: *See*—
Walker, Richard M., and Toorks. 2,972,083.
Midland-Ross Corp.: *See*—
Beggs, Donald. 2,971,871.
Mihelic, Edward L., Sr.: *See*—
Hawthorne, John O., and Mihelic. 2,971,982.
Miles Laboratories, Inc.: *See*—
Barton, Richard R. 2,971,850.
Dawson, Norman D. 2,971,975.
Kurtz, George W. 2,971,851.
Miller Engineering Corp.: *See*—
Miller, Frank H., Jr. 2,971,659.
Miller, Frank H., Jr., to Miller Engineering Corp. Apparatus for palletizing. 2,971,659, 2–14–61, Cl. 214—6.
Miller, Harvey: *See*—
Du Boff, Philip, and Miller. 2,971,655.
Miller, James A., to Borg-Warner Corp. Four speed automatic truck transmission. 2,971,385, 2–14–61, Cl. 74—15.86.
Miller, Theodore A. Electrically heated trimming knife. 2,972,035, 2–14–61, Cl. 219—21.
Milleville, Bertram J., to Edward Valves, Inc. Valve operating mechanism. 2,971,400, 2–14–61, Cl. 74—625.
Millman, William V., to American Air Filter Co., Inc. Damper control apparatus for unit ventilator. 2,971,450, 2–14–61, Cl. 98—38.
Mills, Clarence A., to Reflectotherm, Inc. Radiant cooling systems. 2,971,350, 2–14–61, Cl. 62—272.
Milprint, Inc.: *See*—
Griem, Milton E. 2,971,641.
Mine Safety Appliances Co.: *See*—
Flumerfelt, Gene C., and Yant. 2,971,368.
Voss, Donald J. 2,971,195.
Minehart, Robert F.: *See*—
Jacobs, Harry R., Jr., Minehart, and Sheehan. 2,971,712.
Minister of Supply, in Her Majesty's Government of the United Kingdom of Great Britain and Northern Ireland: *See*—
Lewis, Ewart G., Eldridge, Bradfield, and Bertoya. 2,971,372.
Minneapolis-Honeywell Regulator Co.: *See*—
Harter, Edgar J. 2,971,697.
Minnesota and Ontario Paper Co.: *See*—
Lauring, Edgar A. 2,971,856.
Minnick, Robert C., to Bell Telephone Laboratories, Inc. Magnetic core storage circuit. 2,972,130, 2–14–61, Cl. 340—174.
Miranda, William. Trap. 2,971,650, 2–14–61, Cl. 210—447.
Miskel, John J., and K. Wysocki, to Chas. Pfizer & Co., Inc. Apparatus for loading articles into partitioned cartons. 2,971,309, 2–14–61, Cl. 53—240.
Mitchell, Edward: *See*—
Churchill, Arthur V., and Mitchell. 2,971,827.
Churchill, Arthur V., and Mitchell. 2,971,828.
Mitchell, Ottie C.: *See*—
Himler, Gary J., and Mitchell. 2,972,113.
Mitchell, Ulyss S., and R. F. Newton; said R. F. Newton, assor. to U. S. Mitchell. Magnetic tape reel with differentially connected double hub. 2,971,714, 2–14–61, Cl. 242—55.12.
Mitchell, Ulyss S. Tape cartridge with belt drive. 2,971,715. 2–14–61, Cl. 242—55.13.
Mitchell, Ulyss S., and A. R. Myers; said Myers assor. to said Mitchell. Differential hub magnetic tape reel. 2,971,717, 2–14–61, Cl. 242—55.13.
Mitchell, Ulyss S. Double-hub tape reel. 2,971,718, 2–14–61, Cl. 242—55.13.

Mobay Chemical Co.: *See*—
Reuter, Franz G., and Kindel. 2,971,336.
Mock, Frank C., to The Bendix Corp. Fuel feed and power control system for gas turbine engines having means for avoiding compressor stall. 2,971,336, 2–14–61, Cl. 60—39.28.
Modern Engineering Co.: *See*—
Fausek, Irwing F., and Reedy. 2,971,742.
Moeller, Alvin W.: *See*—
Rupp, William E., and Moeller. 2,972,148.
Moffett, Robert B., to The Upjohn Co. Spiro(cycloalkyl-pyrrolidyl)-α,α-diphenyl alkanoamides. 2,971,961, 2–14–61, Cl. 260—313.
Mogk, Karl J.: *See*—
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Moloney, Raymond T.: *See*—
Breitenstein, Charles T. 2,971,361.
Monsanto Chemical Co.: *See*—
Antelman, Marvin S. 2,971,819.
Arganbright, Robert P. 2,971,993.
Baer, Massimo. 2,971,939.
Rolingson, William R. 2,971,820.
Sarabia, Oscar A. 2,971,608.
Montecatini Societa Generale per l'Industria Mineraria e Chimica: *See*—
Di Giulio, Enzo, and Parrini. 2,971,858.
Natta, Giulio, Pasquon, Giachetti, and Scalari. 2,971,950.
Moore, Frank L.: *See*—
Thomas, Philip J., and Moore. 2,971,804.
Moore, Harry E., and J. E. Schmitt. Apparatus for scrubbing automobile floor mats. 2,971,208, 2–14–61, Cl. 15—40.
Moore, Kenneth W. Process for the production of color separation negatives or positives for color reproduction. 2,971,841, 2–14–61, Cl. 96—30.
Moore, Ralph G. D., and P. T. Woitach, Jr., to General Aniline & Film Corp. Light sensitive layers for photomechanical reproduction. 2,971,842, 2–14–61, Cl. 96—33
Moore, Samuel, & Co.: *See*—
Brumbach, Robert E. 2,971,538.
Moran, Albert E., and E. Kaplan, to American Cyanamid Co. Vat dye dispersions containing polyvinylpyrrolidone. 2,971,812, 2–14–61, Cl. 8—83.
Morgan, William V.: *See*—
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Morse, John F. Throttle control mechanism for single lever control. 2,971,618, 2–14–61, Cl. 192—.096.
Morvai, Alexander, and S. Phillips. Baby carriage. 2,971,796, 2–14–61, Cl. 296—28.
Mosný, Martin, and V. Pavelka. Device for controlling the level of molten slag. 2,972,041, 2–14–61, Cl. 219—73.
Motis, Gilbert M., and C. H. Fritz, to Waste King Corp. Rinsing apparatus for dishes. 2,971,520, 2–14–61, Cl. 134—172.
Motorola, Inc.: *See*—
Firestone, William L. 2,972,121.
Silberbach, Richard. 2,972,114.
Taylor, William E. 2,971,869.
Mowery, Orville E.: *See*—
Voges, Robert W., and Mowery. 2,971,547.
Moy, Tsoy K., and R. G. Glenn, to Westinghouse Electric Corp. Discharge control of an overexpanding propulsion nozzle. 2,971,327, 2–14–61, Cl. 60—35.6.
Moyer, Robert G.: *See*—
Brennan, Elmer W., and Moyer. 2,971,371.
Mueller, Arthur P.: *See*—
Heilman, Russell H., Ortmiller, and Mueller. 2,971,878.
Mueller, Frank J., to United States of America, Navy. Stabilized blocking oscillator. 2,972,061, 2–14–61, Cl. 307—88.5.
Mueller, George C.: *See*—
Rygelis, Joseph M., and Mueller. 2,971,390.
Mühlhoff, Friedrich, to Mauser Kommandit-Gesellschaft. Container for storing and transporting pourable materials. 2,971,686, 2–14–61, Cl. 229—7.
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Müller, Hans U. Method and means for checking the circumference of round objects. 2,971,262, 2–14–61, Cl. 33—125.
Munson, Stanley W. Antenna jettison attachment. 2,971,723, 2–14–61, Cl. 244—1.
Murawski, Stephen A. Artificial casting bait. 2,971,285, 2–14–61, Cl. 43—35.
Murray Corp. of America, The: *See*—
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Musser, Clair O., to Knickerbocker Plastic Co., Inc. Toy dispensing target. 2,971,761, 2–14–61, Cl. 273—102.3.
Myers, Alva R.: *See*—
Mitchell, Ulyss S., and Myers. 2,971,717.
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McKinney, Dickson S., and Mylchreest. 2,971,490.
Nachman, Jack, to Swirl, Inc. Stretchable band of shirred fabric. 2,971,197, 2–14–61, Cl. 2—76.
Nakane, Takashi, T. Kobayashi, M. Akimoto, and H. Senzuwa, to The Yokohama Rubber Co., Ltd. Tire bands applying apparatus. 2,971,564, 2–14–61, Cl. 154—10.
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National Cash Register Co., The: *See*—
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Schleicher, Lowell, and Baughman. 2,971,916.
Shoemaker, Robert J. 2,971,845.
National Co., Inc.: *See*—
Walsh, John A. 2,971,355.
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Baer, Charles A., Bugbee, Candidus, and Clough. 2,971,862.
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National Twist Drill & Tool Co.: *See*—
Peters, Robert O., and Sullivan. 2,971,409.
Natta, Giulio, I. Pasquon, E. Giachetti, and F. Scalari, to Montecatini-Societa Generale per l'Industria Mineraria e Chimica. Production of isotactic poly(alpha-olefins) having regulated molecular weight. 2,971,950, 2–14–61, Cl. 260—937.
Nausbaum, Leon, to Titanium Products Corp. Ltd. Hard metal carbide products. 2,971,839, 2–14–61, Cl. 75—203.
Nau-Touron, Albert, to Centre Technique Industriel dit Institut Textile de France. Removal of static electricity in fibres, textile materials, and other materials capable of being charged with static electricity. 2,972,086, 2–14–61, Cl. 317—2.
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Newman, Norman R., to United States of America, Navy. Apparatus for cutting and forming leads of electronic components. 2,971,544, 2–14–61, Cl. 140—71.
Newton, George W.: *See*—
Berry, John C., and Newton. 2,971,302.
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Mitchell, Ulyss S., and Newton. 2,971,714.
New York Air Brake Co., The: *See*—
Ruhl, Charles A. L. 2,971,524.
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Fuchsman, Charles H., Nicholson, and Elliott. 2,971,940.
Fuchsman, Charles H., Nicholson, and Elliott. 2,971,941.
Nicholson, Albright M., Jr., and B. Zaremsky, to Ferro Corp. Ortho, ortho' - bis(para - 1,1,3,3 - tetramethylbutylphenol) monosulphide. 2,971,968, 2–14–61, Cl. 260—439.
Nicholson, Madison G., Jr., to Sylvania Electric Products Inc. Apparatus for generating signals having selectable frequency deviation from a reference frequency. 2,972,109, 2–14–61, Cl. 328—16.
Nielsen, Axel T.: *See*—
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Nippon Sewing Machine Mfg. Co. Ltd.: *See*—
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Nixon, John E., to The Colorado Fuel and Iron Corp. Method of spinning cables for suspension bridges. 2,971,255, 2–14–61, Cl. 29—407.
Noack, Rolf, and H. Schulze, to VEB Kamera-und Kinowerke Dresden. Lens shutters. 2,971,446, 2–14–61, Cl. 95—42.
Nogami, Kunishige, T. Hotta, and R. Torisa, to Hitochi Ltd. Cross bar system automatic telephone exchange. 2,972,020, 2–14–61, Cl. 179—27.54.
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Nordin, Karl O.: *See*—
Backström, Arne, and Nordin. 2,971,834.
North American Aviation, Inc.: *See*—
Himler, Gary J., and Mitchell. 2,972,113.
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North American Philips Co., Inc.: *See*—
Espersen, George A. 2,972,080.
Levi, Roberto. 2,972,078.
Van Santen, Johannes G., and Diemer. 2,972,076.
Venema, Albertus, and van den Broek. 2,971,246.
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Norton, Frederick H., and A. C. Young, to The Dow Chemical Co. Method of preparation of *p*-isopropyl-α-methylbenzyl alcohol. 2,971,986, 2–14–61, Cl. 260—618.
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Oak Mfg. Co.: *See*—
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Silbavy, Raymond J. 2,972,093.
O'Brien, John F., to United States of America, Army. Rotating multiple barrel aircraft gun. 2,971,440, 2–14–61, Cl. 89—126.
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Ogawa, Tetsuo, T. Tsunoda, R. Aoki, K. Kinoshita, S. Okumura, and Y. Kondo, to Ajinomoto Co. Inc. Fermentative process for producing L-glumatic acid from fumaric acid. 2,971,890, 2–14–61, Cl. 195—30.

Ohio Crankshaft Company, The: *See*—
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Okumura, Shinji: *See*—
Ogawa, Tetsuo, Tsunoda, Aoki, Kinoshita, Okumura, and Kondo. 2,971,890.
Olding, Thomas H., to The Murray Corp. of America. Washing machine filter. 2,971,362, 2–14–61, Cl. 68—18.
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Cords, Helmuth, Megna, Grant, and Butterworth. 2,971,891.
Fusco, Victor C., and Harshman. 2,971,917.
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O'Neal, James C. Toothbrush with toothpaste dispenser. 2,971,518, 2–14–61, Cl. 132—84.
O'Neil, John G. Interlocking container structure and method. 2,971,304, 2–14–61, Cl. 53—37.
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Fitzgerald, Royden M. 2,971,860.
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Kawa, Toshio, Taniyama, Yoshida, Karato, Oorui, Yasuhara, and Usamoto. 2,971,830.
Opel, Marietta C. Shrimp or crab net with entrapment chamber. 2,971,284, 2–14–61, Cl. 43—11.
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Van der Burg, William J. 2,971,963.
Orlando, Carl, to United States of America, Army. Photographic method and apparatus. 2,971,445, 2–14–61, Cl. 95—13.
Orr, Palmer, to Borg-Warner Corp. Transmission. 2,971,395, 2–14–61, Cl. 74—472.
Orth, Charles D., to Controls Co. of America. Thermostatic expansion valve. 2,971,348, 2–14–61, Cl. 62—212.
Orth, Charles D., and E. E. Burmeister, to Controls Co. of America. Temperature differential valve. 2,971,349, 2–14–61, Cl. 62—214.
Ortmiller, Robert W.: *See*—
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Oscar, Wurmböck: *See*—
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Ovshinsky, Stanford R., to Tann Corp. Proximity switch. 2,972,029, 2–14–61, Cl. 200—87.
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Schaich, Wilbur A. 2,971,239.
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Pan American Petroleum Corp.: *See*—
Davis, Glen R. 2,971,578.
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Paper Mate Mfg. Co.: *See*—
Seyer, Frank H. 2,971,494.
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Park, Wesley E., and M. J. Wenner, to Automatic Power, Inc. Engine generator set. 2,972,056, 2–14–61, Cl. 290—30.
Parker, Daniel, to The Parker Pen Co. Writing instrument. 2,971,283, 2–14–61, Cl. 40—334.
Parker, Harold C. Support for electrical outlet box. 2,971,737, 2–14–61, Cl. 248—205.
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Gladrow, Elroy M., and Parker. 2,971,904.
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Parker, Daniel. 2,971,283.
Parker, Thomas S. Non-condensible gas removal system for refrigerant units. 2,971,352, 2–14–61, Cl. 62—475.
Parkinson, William C., and E. R. Chatham, to United States of America, Navy. Method and apparatus for measuring the velocity of a projectile. 2,972,142, 2–14–61, Cl. 343—8.
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Passa, Frank. Tailpiece retainer for stringed instruments. 2,971,422, 2–14–61, Cl. 84—302.
Paulsen, William F., to E. I. du Pont de Nemours and Co. Strand delivery. 2,971,683, 2–14–61, Cl. 226—97.
Paulson, Christian, to Western Electric Co., Inc. Method of aligning pins on an article. 2,971,555, 2–14–61, Cl. 153—32.
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Peeps, Donald J., to The De Vilbiss Co. Apparatus for coating articles with chemically reactive liquids. 2,971,700, 2–14–61, Cl. 239—296.
Peglow, Walter, to Waste King Corp. Dish rack. 2,971,668, 2–14–61, Cl. 220—18.
Penman, Montgomery B., to The Magee Carpet Co. Yarn tensioning and control mechanism. 2,971,722, 2–14–61, Cl. 242—149.

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Pester, William B., to Sylvania Electric Products Inc. Projection slide holder. 2,971,434, 2–14–61, Cl. 88—28.
Peters, Norman K., and D. A. Reynick, to The Bendix Corp. Temperature limiting system for gas turbine exhaust area control. 2,971,326, 2–14–61, Cl. 60—35.6.
Peters, Robert O., and D. J. Sullivan, Jr., to National Twist Drill & Tool Co. Drill construction. 2,971,409, 2–14–61, Cl. 77—68.
Peterson, Dale: *See*—
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Peterson, Glen and D. Means of improving the traction of wheeled vehicles. 2,971,793, 2–14–61, Cl. 291—1.
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Reynolds, Orvel B. 2,971,295.
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Plasser, Franz, and J. Theurer. Mobile track tamping machine. 2,971,472, 2–14–61, Cl. 104—12.
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Pollock, Earl S., and E. L. Hoeflich, to The Tappan Co. Range. 2,972,036, 2–14–61, Cl. 219—37.
Pollock, Robert T. Apparatus for improving diesel fuel ignition quality. 2,971,506, 2–14–61, Cl. 123—187.5.
Polya, Emery, to General Foods Corp. Artificial sweetening product. 2,971,848, 2–14–61, Cl. 99—141.
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Rohner, Ernst, and Strutt. 2,971,430.
Price, Frederick J., Jr., to S. Dane. Gasket bowl seal. 2,971,672, 2–14–61, Cl. 220—81.
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Reed, Bayard C., and G. Licitis, to M. I. Glass. Toy. 2,971,289, 2–14–61, Cl. 46—104.
Reed, Frederick P., to United States of America, Army. Fire rate control means for a telescopic-type two-piece firearm bolt. 2,971,441, 2–14–61, Cl. 89—130.
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Zadek, Milton. 2,971,657.
Reflectotherm, Inc.: *See*—
Mills, Clarence A. 2,971,350.
Reglin, Charles R. Well production apparatus. 2,971,581, 2–14–61, Cl. 166—148.
Reid, Robert S., and R. B. Jordan. Overhead door safety device. 2,971,790, 2–14–61, Cl. 292—235.
Reid, Thomas W. S.: *See*—
Anderberg, Axel W., Reid, and Taylor. 2,971,791.
Reinhardt, Alberta C. Urine specimen receivers and holders. 2,971,512, 2–14–61, Cl. 128—295.
Reiss, August, to The Reiss Engineering Co. Ltd. Liquid spray arrangements. 2,971,699, 2–14–61, Cl. 239—184.
Reiss Engineering Co. Ltd., The: *See*—
Reiss, August. 2,971,699.
Rendel, George H., to United States Steel Corp. Apparatus for testing resin coated metal sheets. 2,971,374, 2–14–61, Cl. 73—150.
Renkey, Albert L., to Harbison-Walker Refractories Co. Firing of lime refractories. 2,971,240, 2–14–61, Cl. 25—157.
Research Corp.: *See*—
Babel, Frederick J., and Mather. 2,971,847.
Kallmann, Hartmut P., and Rosenberg. 2,972,082.
Seaton, Stuart L. 2,972,046.
Research Products Corp.: *See*—
Shoemaker, Milton J. 2,971,914.
Ressler, Hugh C., to Hogan Faximile Corp. Graphic recording apparatus. 2,971,810, 2–14–61, Cl. 346—74.
Reuter, Franz G., and G. S. Kindel, to Mobay Chemical Co. Flexible shaft connections. 2,971,356, 2–14–61, Cl. 64—27.
Reynick, Donald A.: *See*—
Peters, Norman K., and Reynick. 2,971,326.
Reynolds Aluminum Supply Co.: *See*—
Vicknair, Sidney H., Jr. 2,971,558.
Reynolds, Orvel B., to Phillips Petroleum Co. Prestressed concrete units and structures. 2,971,295, 2–14–61, Cl. 50—133.
Reynolds, Warren M.: *See*—
Luther, Herbert G., Reynolds, and Sherman. 2,971,885.
Rhodes, Allen F.: *See*—
Eichenberg, Robert, and Rhodes. 2,971,527.
Rhodes, Joseph C., and R. B. Jacobs, to Standard Oil Co. Flash detector approving device. 2,971,365, 2–14–61, Cl. 73—36.
Rhyner, Paul, to Ciba Ltd. Water-insoluble azo-dyestuffs. 2,971,953, 2–14–61, Cl. 260—207.1.
Rice, Roger P., Jr., to Time, Inc. Positioning clutch. 2,971,620, 2–14–61, Cl. 192—18.
Richman, Seymour: *See*—
Grunin, Louis, and Richman. 2,971,223.
Rickert, Herbert B., to The Dow Chemical Co. Oil-modified alkyd composition with halogenated coal acids. 2,971,932, 2–14–61, Cl. 260—22.
Ridenour, Louis N., and W. F. Gunning, to Paramount Pictures Corp. Coding methods and system. 2,972,009, 2–14–61, Cl. 178—5.1.
Rieter, Joh. Jacob, & Co. Ltd.: *See*—
Eggenschwyler, Eduard. 2,971,226.
Rietz, Carl A., to Rietz Mfg. Co. Prebreaker. 2,971,551, 2–14–61, Cl. 146—182.
Rietz Mfg. Co.: *See*—
Rietz, Carl A. 2,971,551.
Riley, Ray L., to Hughes Aircraft Co. Transistor blocking oscillator with means to prevent saturation of transistor. 2,972,066, 2–14–61, Cl. 307—88.5.
Riley Stoker Corp.: *See*—
Rivera, Russell C. 2,971,508.
Rinker, Carl G., to The Philip Carey Mfg. Co. Repeater door chimes. 2,972,138, 2–14–61, Cl. 340—392.
Rivera, Russell C., to Riley Stoker Corp. Grate. 2,971,508, 2–14–61, Cl. 126—174.
Rix, Albert, to Olympia Werke A.G. Repeat actuation arrangement for typewriters. 2,971,625, 2–14–61, Cl. 197—17.
Robb, Howard E. Sanitary sand boxes for cats. 2,971,493, 2–14–61, Cl. 119—1.
Roberts, John H., to V. E. Ramsey. Lined wirebound box blank. 2,971,665, 2–14–61, Cl. 217—3.
Roberts, Samuel S., to McGraw-Edison Co. Telescopic protector. 2,971,399, 2–14–61, Cl. 74—609.
Robertson, H. H., Co.: *See*—
Young, James H. 2,971,747.
Robinson, Holly K. Knife serrating apparatus. 2,971,408, 2–14–61, Cl. 76—89.1.
Robischung, Philip J.: *See*—
Bass, Miles M., Bell, Hammond, and Robischung. 2,971,296.
Robotron Corp.: *See*—
Rockafellow, Stuart C. 2,971,263.
Rocca, John A. Controlling apparatus for the brake hose line of trucks. 2,971,528, 2–14–61, Cl. 137—355.12.
Rock Fabricates and Mining Corp.: *See*—
Reese, John D., and Sluter. 2,971,861.
Rockafellow, Stuart C., to Robotron Corp. Electrical device. 2,971,263, 2–14–61, Cl. 33—172.
Rodgers, John L.: *See*—
Coleman, Ralph A., and Rodgers. 2,971,921.
Roeser, Gerald P.: *See*—
Armstrong, David E., Dunn, Stulen, and Roeser. 2,971,556.
Rogers Corp.: *See*—
Anderson, Paul L., Zagusta, and Greenman. 2,971,249.
Greenman, Norman L., Zagusta, and Anderson. 2,972,003.
Röhm, Günther H. Lathe point. 2,971,413, 2–14–61, Cl. 82—33.
Rohm & Haas Co.: *See*—
Assalini, Giuseppe. 2,971,868.
Brown, George L., and Percival. 2,971,934.
Keil, Harry L., and Frohlich. 2,971,880.
Rohner, Ernst, and M. J. O. Strutt, to Pretema A.G. Automatic filter spectrograph. 2,971,430, 2–14–61, Cl. 88—14.
Rohr, Henry C., to General Motors Corp. Wiper arm connection. 2,971,785, 2–14–61, Cl. 287—53.
Rollingson, William R., to Monsanto Chemical Co. Preparation of cyanamide. 2,971,820, 2–14–61, Cl. 23—190.
Rome Cable Corp.: *See*—
Jones, Robert E. 2,971,721.
Rorie, George C., and J. W. Alford, to Lone Star Boat Co. Convertible seat. 2,971,568, 2–14–61, Cl. 155—45.
Roschke, Erwin M.: *See*—
Eilers, Carl G., and Roschke. 2,972,010.
Roschke, Erwin M., to Zenith Radio Corp. Subscription television system. 2,972,009, 2–14–61, Cl. 178—5.1.
Rose, Robert G.: *See*—
Kuzmitz, Frank V., Eastman, and Rose. 2,971,574.
Roseman, Reuben: *See*—
Rummery, Frank O., Roseman, Appel, and Hamshey. 2,971,821.
Rosenberg, Barnett: *See*—
Kallmann, Hartmut P., and Rosenberg. 2,972,082.
Rothman, Edward S., and M. E. Wall, to United States of America, Agriculture. Preparation of 11α-hydroxy progesterone. 2,971,964, 2–14–61, Cl. 260—397.45.
Rotol Ltd.: *See*—
Chilman, John A., Mapp, Masterman, and Cripps. 2,972,087.
Royce, Martin R., and A. E. Hardy, to Radio Corp. of America. Color-phosphor screens. 2,972,075, 2–14–61, Cl. 313—92.
Ruhl, Charles A. L., to The New York Air Brake Co. Valve. 2,971,524, 2–14–61, Cl. 137—108.
Rummery, Frank O., R. Roseman, F. L. Appel, and P. S. Hamshey, Jr., to The Glidden Co. Seed for production of rutile titanium dioxide pigment and process. 2,971,821, 2–14–61, Cl. 23—202.
Rupp, William E., and A. W. Moeller, to The Bendix Corp. Multi-channel horn antenna. 2,972,148, 2–14–61, Cl. 343—776.
Russbach, Raymond A.: *See*—
Merrell, Edwin J., and Russbach. 2,972,004.
Rust, Mack D. Moistening assembly for cotton picking spindle. 2,971,315, 2–14–61, Cl. 56—42.
Ruthner, Othmar. Means for sealing and rotatably mounting a rotary shaft in a liquid-filled container. 2,971,800, 2–14–61, Cl. 308—36.1.
Rygelis, Joseph, and G. C. Mueller, to Avco Corp. Means for imposing pressure on toroid discs of variable transmissions. 2,971,390, 2–14–61, Cl. 74—200.
Rysnar, John W., to Nalco Chemical Co. Brake element. 2,971,615, 2–14–61, Cl. 188—256.
S.S.S. Gears Ltd.: *See*—
Sinclair, Harold, and Short. 2,971,621.
Sage, Warnie L., to The Babcock & Wilcox Co. Cyclone furnace. 2,971,480, 2–14–61, Cl. 110—28.
St. Lawrence Starch Co. Ltd.: *See*—
Phillips, Ronald W. 2,971,306.
Salamonovich, George M.: *See*—
McDaniel, George A., and Salamonovich. 2,972,095.
Samkoff, Jacob S.: *See*—
Lane, Marvin, and Samkoff. 2,971,648.
Sampson, Sidney O. Automatic tape cartridge for magnetic recorders. 2,971,716, 2–14–61, Cl. 242—55.13.
Sandor, Louis K.: *See*—
Dobberstein, Erwin C., Bennett, Preston, and Sandor. 2,971,693.

Sanitary Mfg. Co. of Pittsburgh, Pa.: *See*—
Kintner, Edwin K. 2,971,453.
Sarabia, Oscar A., to Monsanto Chemical Co. Polymerization inhibitor. 2,971,608, 2–14–61, Cl. 183—115.
Sauvee, Robert L., to Sovex Ltd. Conveyors. 2,971,632, 2–14–61, Cl. 198—165.
Savage, Donald C.: *See*—
Johnson, Maurice V., Jr., and Savage. 2,971,459.
Savell, Inc.: *See*—
Allegri, Theodore H. 2,971,675.
Saxe, Harold A., to Western Electric Co., Inc. Folded dipole antenna with internally mounted loading means. 2,972,146, 2–14–61, Cl. 343—749.
Saykay, Joseph J., to Fairchild Camera and Instrument Corp. Coding apparatus. 2,972,015, 2–14–61, Cl. 178—17.
Scalari, Francesco: *See*—
Natta, Guilio, Pasquon, Giachetti, and Scalari. 2,971,950.
Scanwell Laboratories, Inc.: *See*—
Watts, Chester B., Jr. 2,972,145.
Scarborough, William F., and G. Tieri, to Weber-Costello Co. Globe mounting. 2,971,276, 2–14–61, Cl. 35—46.
Schafer, John P., to Bell Telephone Laboratories, Inc. Nonreciprocal wave transmission. 2,972,122, 2–14–61, Cl. 333—73.
Schaich, Wilbur A., to Owens-Illinois Glass Co. Method of making cast shapes. 2,971,239, 2–14–61, Cl. 25—155.
Scheidig, Helmut: *See*—
Gruber, Helmut, and Scheidig. 2,971,996.
Scheidt, James E.: *See*—
Junck, John A., and Scheidt. 2,971,536.
Scherer, Hans: *See*—
Measwarb, Gunter, Denk, and Scherer. 2,971,948.
Schleicher, Lowell, and C. S. Baughman, to The National Cash Register Co. Microscopic capsules containing magnetizable material. 2,971,916, 2–14–61, Cl. 252—62.5.
Schlumberger Well Surveying Corp.: *See*—
Marsh, Gareld E. 2,971,582.
Schmerling, Louis, to Universal Oil Products Co. Preparation of longer chain polymers. 2,971,994, 2–14–61, Cl. 260—683.
Schmid, Wolfgang: *See*—
Vöster, Reinhold and W., and Schmid. 2,971,212.
Schmid, Wolfgang K. Variable speed asynchronous motor. 2,972,094, 2–14–61, Cl. 318—232.
Schmidt, Heinz, to Taylorix Organisation Stiegler, Hausser & Co. Magnetic marking means for recording media of business machines. 2,971,809, 2–14–61, Cl. 346—74.
Schmitt, Jack E.: *See*—
Moore, Harry E., and Schmitt. 2,971,208.
Schmitz, William R. Apparatus for treating material for making artificial fibers. 2,971,603, 2–14–61, Cl. 183—2.5.
Schnabel, Julius W., to Thompson Ramo Wooldridge Inc. Fulcrum adjuster. 2,971,503, 2–14–61, Cl. 123—90.
Schnepel, Herbert H.: *See*—
Larkin, Robert G., Peterson, and Schnepel. 2,971,613.
Schoen, Edward. Keeper and identification means for mounting on sound tape and film strip reels. 2,971,642, 2–14–61, Cl. 206—53.
Schoenbeck, Melvin A., to E. I. du Pont de Nemours and Co. Process for curing continuous extrusions of compounded elastomers. 2,971,221, 2–14–61, Cl. 18—53.
Schohan, George. Half-wave magnetic amplifier circuits. 2,972,100, 2–14–61, Cl. 323—89.
Scholl, William M. Household or bath slipper. 2,971,278, 2–14–61, Cl. 36—9.
Schön, Richard, to Výzkumný a zkušební letecký ústav. Devices for stabilising helicopter aircraft. 2,971,584, 2–14–61, Cl. 170—160.16.
Schön, Richard, to Výzkumný a zkušební letecký ústav. Rotor hub for helicopter aircraft. 2,971,586, 2–14–61, Cl. 170—160.56.
Schulein, Joseph. Temperature telltale. 2,971,852, 2–14–61, Cl. 99—192.
Schultz, Ralph, to Kelsey-Hayes Co. Extensible and retractable structure. 2,971,600, 2–14–61, Cl. 182—88.
Schultz, Raymond J.: *See*—
Coleman, Thomas E., and Schultz. 2,971,230.
Schulze, Heinz: *See*—
Noack, Rolf, and Schulze. 2,971,446.
Schwab, Edward J. Soil leveling mulcher. 2,971,588, 2–14–61, Cl. 172—146.
Schwartz, Everett E., and C. F. Feltham, Jr., to United States of America, Navy. Pulse separator and gate generator. 2,972,143, 2–14–61, Cl. 343—13.
Scobey, Fred J.: *See*—
Baumbach, Harlan L., Little, and Scobey. 2,971,448.
Scott, Gerald: *See*—
Batty, John W., Lambert, Scott, Bebbington, and Seed. 2,971,952.
Scott & Williams, Inc.: *See*—
Landry, Armand. 2,971,360.
McDonough, John J. 2,971,358.
Seale, Virgil L.: *See*—
Kirkpatrick, Willard H., Seale, and Law. 2,971,965.
Walker, Alice, Seale, and Kirkpatrick. 2,971,923.
Seaton, Stuart L., to Research Corp. Bandwidth modulation information transfer system. 2,972,046, 2–14–61, Cl. 250—6.
Seed, Leslie: *See*—
Batty, John W., Lambert, Scott, Bebbington, and Seed. 2,971,952.
Segil, L. J., Co. (Inc.): *See*—
Smith, Gean, and Tuten. 2,971,617.
Sejournet, Jacques, to Compagnie du Filage des Metaux et des Joints Curty. Extrusion dies. 2,971,644, 2–14–61, Cl. 207—17.
Sekus, Arthur W.: *See*—
Hollis, Jack L., and Sekus. 2,971,561.
Seligsberger, Ludwig, to United States of America, Army. Tanning with alkaline glyoxal. 2,971,814, 2–14–61, Cl. 8—94.33.
Senkowski, Alexander, and A. E. Lynes, to Massey-Ferguson Inc. Epicyclic transmission and control mechanism therefor. 2,971,406, 2–14–61, Cl. 74—785.
Sentek, Antoni. Treatment of montan wax with chromic acid and simultaneous formation of chromic tanning mash. 2,971,813, 2–14–61, Cl. 8—94.26.
Senzuwa, Haruo: *See*—
Nakane, Takashi, Kobayashi, Akimoto, and Senzuwa. 2,971,564.
Seyer, Frank H., to Paper Mate Mfg. Co. Tandem writing implement. 2,971,494, 2–14–61, Cl. 120—42.1.
Seyfried, Richard F. Control of high frequency induction heating. 2,971,754, 2–14–61, Cl. 266—5.
Shakman, James G., to Pabst Brewing Co. Container. 2,971,671, 2–14–61, Cl. 220—66.
Shamban, W. S., & Co.: *See*—
Chaffin, Frank R. 2,971,908.
Shames, Harold and S. J. Universal ball-joint connector. 2,971,701, 2–14–61, Cl. 239—587.
Shames, Sidney J.: *See*—
Shames, Harold and S. J. 2,971,701.
Shand and Jurs Co.: *See*—
Jurs, Peter C., and Van Overveen. 2,971,531.
Shaw, Richard A., to Stackbin Corp. Support for containers. 2,971,653, 2–14–61, Cl. 211—72.
Sheehan, John F., Jr.: *See*—
Jacobs, Harry R., Jr., Minehart, and Sheehan. 2,971,712.
Sheffield Corp., The: *See*—
Aller, Willis F., and Jeglum. 2,971,808.
Hakanson, Edgar M. 2,971,297.
Hecox, William, and Gebhardt. 2,972,126.
Shelfmaker Products Corp.: *See*—
Du Boff, Philip, and Miller. 2,971,655.
Shell Oil Co.: *See*—
Borsoff, Victor N., and Calhoun. 2,971,915.
Calhoun, George M. 2,971,910.
Caruso, Gerard P. 2,971,911.
Curl, Rane L. 2,971,896.
David, Vernon W., and Waight. 2,971,913.
Sorem, Stanley S., and Bailey. 2,971,609.
Van Rossum, Jacobus J., and Hofstede. 2,971,820.
Vogel, John V. 2,971,377.
Webster, Alfred B. 2,971,906.
Winkler, De Loss E., and Nozaki. 2,971,925.
Shenk, William E., to The McKay Machine Co. Tube mill and pressure control therefor. 2,972,039, 2–14–61, Cl. 219—63.
Sherman, William C.: *See*—
Luther, Herbert G., Reynolds, and Sherman. 2,971,885.
Shindle, George H. Method and apparatus for automatic temperature control of rotary printing press ink rollers. 2,971,460, 2–14–61, Cl. 101—416.
Shindledecker, Maurice E., to United States of America, Navy. Fuze test device. 2,971,367, 2–14–61, Cl. 73—5.
Shoemaker, Milton J., to Research Products Corp. Thickened oil compositions containing alkylene higher fatty acid diamides. 2,971,914, 2–14–61, Cl. 252—51.5.
Shoemaker, Robert J., to The National Cash Register Co. Spring hooking machines. 2,971,545, 2–14–61, Cl. 140—103.
Shoffner, Willie M., to The Fogarty Mfg. Co. Table. 2,971,651, 2–14–61, Cl. 211—1.6.
Shoffner, Willie M., to The Fogarty Mfg. Co. Table. 2,971,656, 2–14–61, Cl. 211—141.
Shoor, Bernard A., to Endevco Corp. Testing equipment and insulated mounting stud therefor. 2,972,006, 2–14–61, Cl. 174—138.
Short, J. R., Milling Co.: *See*—
Ferrari, Charles G. 2,971,845.
Short, Philip J.: *See*—
Sinclair, Harold, and Short. 2,971,621.
Shoudy, Albert A., Jr.: *See*—
Hanink, Dean K., and Shoudy. 2,971,899.
Shultz, Lowell D. Campers combined pack, hammock and sleeping bag. 2,971,205, 2–14–61, Cl. 5—343.
Sick, Erwin. Photoelectric apparatus. 2,971,695, 2–14–61, Cl. 235—92.
Sieler, George J. Loud speaker. 2,971,598, 2–14–61, Cl. 181—31.
Sieving, Alfred W., to Caterpillar Tractor Co. Tractor transmission and differential assembly. 2,971,398, 2–14–61, Cl. 74—606.
Silberbach, Richard, to Motorola, Inc. Amplifier circuit. 2,972,114, 2–14–61, Cl. 330—15.
Silhavy, Raymond J., to Oak Mfg. Co. Bidirectional stepping motor servosystem. 2,972,093, 2–14–61, Cl. 318—19.
Silva, Vernon G. Dry away towel rack. 2,971,266, 2–14–61, Cl. 34—151.
Silver, Walter H., and W. V. Lohrman, to Deere & Co. Floating hitch device. 2,971,591, 2–14–61, Cl. 172—444.
Silverman, Elsie B. Portable bookrest. 2,971,733, 2–14–61, Cl. 248—37.
Silverman, Stephen M., and L. W. Throndson, to North American Aviation, Inc. Aircraft air inlet system. 2,971,331, 2–14–61, Cl. 60—35.6.
Silveston, Peter L.: *See*—
Jahnig, Charles E., and Silveston. 2,971,823.
Simjian, Luther G. Method and apparatus for compartmentizing and storing an article. 2,971,303, 2–14–61, Cl. 53—28.
Simons, John H. Dental bur holder. 2,971,637, 2–14–61, Cl. 206—17.
Sims, John C., Jr.: *See*—
Eckert, John P., Jr., Sims, and Welsh. 2,972,128.
Simshauser, Elvin D.: *See*—
Hawley, Mones E., and Simshauser. 2,972,018.
Sinclair, Harold, and P. J. Short, to S.S.S. Gears Ltd. Synchronous self-shifting clutches. 2,971,621, 2–14–61, Cl. 192—67.
Singer, Rudolf. Apparatus for repeating the last position of a magnetic recording. 2,972,023, 2–14–61, Cl. 179—100.2.

Singleterry, Charles C., to Classroom Film Strip and Projector Corp. Film strip projector. 2,971,435, 2–14–61, Cl. 88—28.

Sisneros, Thomas E., and R. T. Watson, to Radio Corp. of America. Luminescent materials and methods of preparation thereof. 2,971,859, 2–14–61, Cl. 117—33.5.

Sisson, Wayne A.: *See*—
Hollihan, John P., Jr., Howsmon, and Sisson. 2,971,816.

Sisson, Wayne A., and B. A. Thumm, to American Viscose Corp. Producing all skin rayon. 2,971,817, 2–14–61, Cl. 18—54.

Sloan, Theodore H., ½ to W. B. Jaspert. Apparatus for deveining shrimp. 2,971,215, 2–14–61, Cl. 17—2.

Sluter, Simon J.: *See*—
Reese, John D., and Sluter. 2,971,861.

Smart, James E., Jr. Grass catching basket for use on rotary lawn mower. 2,971,313, 2–14–61, Cl. 56—25.4.

Smedley, Harry H. Excavator tooth. 2,971,280, 2–14–61, Cl. 37—142.

Smidth, F. L., & Co.: *See*—
Andersen, Axel B. 2,971,751.

Smith, A. O., Corp.: *See*—
Johnson, Arthur E. 2,972,096.
McLaren, David J., and Soucie. 2,971,532.
Tiedemann, Julius B. 2,971,410.

Smith, Ephraim K. Rear view mirror structure. 2,971,436, 2–14–61, Cl. 88—98.

Smith, Floyd M.: *See*—
Hayes, Robert A., and Smith. 2,971,946.

Smith, Gean, and G. Tuten, to L. J. Segil Co. (Inc.). Ceiling structure. 2,971,617, 2–14–61, Cl. 189—85.

Smith, Gean, to Luminous Ceilings, Inc. Luminous ceiling structure. 2,972,044, 2–14–61, Cl. 240—9.

Smith Kline & French Laboratories: *See*—
Swintosky, Joseph V. 2,971,889.

Smith, Walter J., to United States of America, Atomic Energy Commission. Filter media and method of making. 2,971,907, 2–14–61, Cl. 210—504.

Smolen, Sam R.: *See*—
Kowalski, Slawomir, Worden, and Smolen. 2,971,537.

Snelling, Charles D. Plastic foam packaging. 2,971,640, 2–14–61, Cl. 206—46.

Societe Anonyme Andre Citroen: *See*—
Henry-Biabaud, Edmond. 2,972,027.

Societe Anonyme Francaise pour la Separation, l'Emulsion et le Melange (Procedes S.E.M.): *See*—
Caillaud, Michael E. 2,971,465.

Societe des Accumulateurs Fixes et de Traction (Societe Anonyme): *See*—
Jacquier, Pierre A. C. 2,971,999.

Socony Mobil Oil Co., Inc.: *See*—
Halik, Raymond R., and Weekman. 2,971,901.
Johnson, George C., and Kerr. 2,971,824.
Weekman, Vern W., Jr. 2,971,900.

Solar Aircraft Co.: *See*—
Carlson, Paul G. 2,971,334.

Solem, Thor L. C., and C. F. Hanson, to Johnson Hydraulic Equipment Co. Bale stacker. 2,971,318, 2–14–61, Cl. 56—473.5.

Solventol Chemical Products, Inc.: *See*—
Goldsmith, Henry A. 2,971,919.
Goldsmith, Henry A., and Ray. 2,971,918.

Sorem, Stanley S., and C. H. Bailey, to Shell Oil Co. Method of lubricating surfaces with a vaporous lubricant. 2,971,609, 2–14–61, Cl. 184—1.

Soucie, Russell J.: *See*—
McLaren, David J., and Soucie. 2,971,532.

Sovex Ltd.: *See*—
Sauvee, Robert L. 2,971,632.

Space Technology Laboratories, Inc.: *See*—
Ghose, Rabindra N. 2,972,105.
Ward, Roy C. 2,972,104.

Spalding, Dudley B. Pressure exchanger apparatus. 2,971,343, 2–14–61, Cl. 62—6.

Spalding, Robert V. Outdoor type domestic incinerator. 2,971,479, 2–14–61, Cl. 110—18.

Sparkman, Orval, and C. T. Wasileski. Cryogenic pipe coupling. 2,971,782, 2–14–61, Cl. 285—332.3.

Sparks Corp., The: *See*—
Allison, Crawford G., Hartman, and Sparks. 2,971,638.

Sparks, George C.: *See*—
Allison, Crawford G., Hartman, and Sparks. 2,971,638.

Sparling, Robert O. Leno-type loom assembly and pile wire therefor. 2,971,539, 2–14–61, Cl. 139—46.

Specialties, Inc.: *See*—
Fieldgate, Ivan O. 2,971,375.

Speier, John L., to Dow Corning Corp. Aminated monoorganosilanes and method of dyeing glass therewith. 2,971,864, 2–14–61, Cl. 117—124.

Spencer, George A., to The Firestone Tire & Rubber Co. Splicing plastic filaments. 2,971,319, 2–14–61, Cl. 57—22.

Spencer, Richard W.: *See*—
Bonn, Theodore H., and Spencer. 2,972,059.

Spencer Rock Drill Co., Inc.: *See*—
Spencer, Sherron F. 2,971,594.

Spencer, Sherron F., to Spencer Rock Drill Co., Inc. Rock drill bit. 2,971,594, 2–14–61, Cl. 175—400.

Sperry Rand Corp.: *See*—
Berglund, Arthur. 2,971,253.
Bonn, Theodore H. 2,972,129.
Bonn, Thodore H., and Spencer. 2,972,059.
Eckert, John P., Jr., Sims, and Welsh. 2,972,128.
Lukoff, Herman, and Stovall. 2,972,127.
Torrey, Robert D. 2,972,060.

Spicacci, Attilio R. Oscillatory mechanism and bearing therefor. 2,971,387, 2–14–61, Cl. 74—60.

Spraying Systems Co.: *See*—
Wahlin, Fred W. 2,971,250.

Sproule, Donald O., ½ to Glass Developments Ltd. Ultrasonic flaw detecting apparatus. 2,972,069, 2–14–61, Cl. 310—8.3.

Sramek, Elmer D.: *See*—
Engleson, Harry E., and Sramek. 2,971,442.
Engleson, Harry E., and Sramek. 2,971,636.

Staar, Marcel J. H. Phonograph record adapter. 2,971,763, 2–14–61, Cl. 274—10.

Stackbin Corp.: *See*—
Shaw, Richard A. 2,971,653.

Standard Oil Co. (Indiana): *See*—
Brennan, Harry M., and Field. 2,971,928.
Fields, Ellis K. 2,971,909.
Jacobs, Robert B., and Lo Giurato. 2,971,870.
Rhodes, Joseph C., and Jacobs. 2,971,365.

Stankowski, Edward S.: *See*—
Conti, Girard N., and Stankowski. 2,971,870.

Stanley Works, The: *See*—
Eckel, Oliver C., and Gilpatrick. 2,971,214.

Steinmetz, John C., to North American Aviation, Inc. Store retaining device. 2,971,792, 2–14–61, Cl. 294—83.

Steinmetz, Pearl J., to The H. W. Gossard Co. Brassiere. 2,971,514, 2–14–61, Cl. 128—494.

Stevens, Curtis T. Delay opening valve. 2,971,464, 2–14–61, Cl. 103—6.

Stewart, Thomas H., Jr., and R. A. MacDonald, to International Minerals & Chemical Corp. Granulation of mixed fertilizers. 2,971,832, 2–14–61, Cl. 71—64.

Stewart-Warner Corp.: *See*—
Maccabee, David E. 2,971,380.
Wein, John F., and Wendell. 2,971,470.
Woodcock, Charles A. 2,972,033.

Stich, Wilhelm, to Bochumer Verein fuer Gusstahlfabrikation Aktiengesellschaft. Resistance heating process and apparatus. 2,972,043, 2–14–61, Cl. 219—156.

Stieg, William E., and A. T. Nielsen, to Chas. Pfizer & Co., Inc. Process of preparing vitamin A esters. 2,971,966, 2–14–61, Cl. 260—410.

Stillwell, William D., to The Harshaw Chemical Co. Dehydrogenation catalysts. 2,971,926, 2–14–61, Cl. 252—441.

Stocker, Edward T.: *See*—
Ellis, Edward A., Stocker, Waddell, and Whipple. 2,971,706.

Stoddart Aircraft Radio Co., Inc.: *See*—
Stoddart, Richard R. 2,971,231.

Stoddart, Richard R., to Stoddart Aircraft Radio Co., Inc. Cable fastener. 2,971,231, 2–14–61, Cl. 24—16.

Stoeckel, Albert L.: *See*—
Cochrane, Donald P., and Stoeckel. 2,971,719.

Stone, Morris D., and H. H. Talbot, to United Engineering and Foundry Co. Sheet and plate stretching apparatus. 2,971,557, 2–14–61, Cl. 153—35.

Stone, Robert R., Jr., to United States of America, Navy. Frequency measuring system employing frequency comparison. 2,972,108, 2–14–61, Cl. 324—79.

Stoner Mudge, division of American Marietta Co.: *See*—
Dubien, Marcel, and Vacelet. 2,971,936.

Stookey, Stanley D., to Corning Glass Works. Ceramic body and method of making it. 2,971,853, 2–14–61, Cl. 106—52.

Stovall, John R., Jr.: *See*—
Lukoff, Herman, and Stovall. 2,972,127.

Straight, David M.: *See*—
Gold, Harold, and Straight. 2,971,839.

Straka, Oldrich: *See*—
Dubsky, Borivoj, Straka, and Pan. 2,972,099.

Striolin, Charles D., to Fibreboard Paper Products Corp. Machine for closing carton lids. 2,971,448, 2–14–61, Cl. 93—36.

Strutt, Max J. O.: *See*—
Rohner, Ernst, and Strutt. 2,971,430.

Stubbs, Robert D.: *See*—
Boykin, Mary M., and Stubbs. 2,971,700.

Stulen, Walter H.: *See*—
Armstrong, David E., Dunn, Stulen, and Roeser. 2,971,556.

Sud-Aviation Societe Nationale de Constructions Aeronautiques: *See*—
Negroni, Pierre. 2,971,566.

Sud Est Aviation Societe Nationale de Constructions Aeronautiques: *See*—
Jakimiuk, Wsiewolod J. 2,971,725.

Sullivan, Daniel J., Jr.: *See*—
Peters, Robert O., and Sullivan. 2,971,409.

Sumitomo Chemical Co., Ltd.: *See*—
Kawai, Toshio, Taniyama, Yoshida, Kamto, Oorui, Yasuhara, and Usamoto. 2,971,830.

Sun Oil Co.: *See*—
Mayes, Fred M. 2,971,378.

Sunkist Growers, Inc.: *See*—
Johnson, Maurice V., Jr., and Savage. 2,971,459.

Surtees, Howard. Apparatus for guided missiles. 2,971,437, 2–14–61, Cl. 89—1.7.

Svenson, Ernest J., ½ to W. F. and John Barnes Co. and ½ to Odin Corp. Machine tool control means. 2,971,341, 2–14–61, Cl. 60—52.

Swan Metal Cap Co., Inc.: *See*—
Tevander, Clarence A., and Clark. 2,971,663.

Sweeney, William A.: *See*—
Lapporte, Seymour J., and Sweeney. 2,971,989.

Swintosky, Joseph V., to Smith, Kline & French Laboratories. Press coated enteric tablets and process for preparing them. 2,971,889, 2–14–61, Cl. 167—82.

Swinyar, Theodore C. Method and composition for preventing the growth of micro-organisms on surfaces. 2,971,883, 2–14–61, Cl. 167—31.

Swirl, Inc.: *See*—
Nachman, Jack. 2,971,197.

Sylvania Electric Products Inc.: *See*—
Nicholson, Madison G., Jr. 2,972,109.
Pester, William B. 2,971,434.
Ville, Jules R. 2,972,118.
Wilkinson, Ernest J. 2,972,147.

Systems Control, Inc.: *See*—
Green, William H. M. 2,971,755.
Szabo, Joseph. Window. 2,971,228, 2–14–61, Cl. 20—52.1.
Széky, Pálma, I. Neményi, and T. Erőllős, to Altalános Géptervező Iroda. Electroplating ferrous-base molded bodies. 2,971,898, 2–14–61, Cl. 204—23.
Szydlowski, Joseph. Blade lock. 2,971,744, 2–14–61, Cl. 253—77.
Talbot, Howard H.: *See*—
Stone, Morris D., and Talbot. 2,971,557.
Tamar Electronics, Inc.: *See*—
Overholser, John S. 2,971,224.
Taniyama, Toshio: *See*—
Kawai, Toshio, Taniyama, Yoshida, Karato, Oorui, Yasuhara, and Usamoto. 2,971,830.
Tann Corp.: *See*—
Ovshinsky, Stanford R. 2,972,029.
Tantlinger, Keith W., and R. G. Flagan, to Fruehauf Trailer Co. Wheel suspension and cantilever spring bracing therefor for trailer. 2,971,772, 2–14–61, Cl. 280—124.
Tappan Co., The: *See*—
Pollock, Earl S., and Hoenlich. 2,972,036.
Taves, Richard H. Apparatus for mulling beverages. 2,972,037, 2–14–61, Cl. 219—41.
Taylor, George A.: *See*—
Anderberg, Axel W., Reid, and Taylor. 2,971,791.
Taylor, William E., to Motorola, Inc. Semiconductor assembly and method of forming same. 2,971,869, 2–14–61, Cl. 148—1.5.
Taylorix Organisation Stiegler, Hausser & Co.: *See*—
Schmidt, Heinz. 2,971,809.
Temple, Peter L., and C. J. M. Beerens, to Imperial Chemical Industries of Australia and New Zealand Ltd. Separable electrical connection. 2,972,125, 2–14–61, Cl. 339—61.
Templeton, Robert A. S. Method of making an animal feed. 2,971,843, 2–14–61, Cl. 99—2.
Ten Bosch, M., Inc.: *See*—
Ten Bosch, Maurits, and Lang. 2,971,401.
Ten Bosch, Maurits, and P. Lang, to M. Ten Bosch, Inc. Constant speed and synchronous drive systems. 2,971,401, 2–14–61, Cl. 74—665.
Terman, Sydney. Rack for television picture tube. 2,971,757, 2–14–61, Cl. 269—163.
Tesi, Julius M. Electrician's tool. 2,971,381, 2–14–61, Cl. 73—432.
Tevander, Clarence A., and R. A. Clark, to Swan Metal Cap Co., Inc. Sealing cap for containers. 2,971,663, 2–14–61, Cl. 215—40.
Theurer, Josef: *See*—
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Thierfelder, Hans. Method of and apparatus for the manufacture of longitudinal seam welded pipes. 2,972,040, 2–14–61, Cl. 219—67.
Thomas, Frederick L. Citrazinic acid-ammonia-oxygen dyes. 2,971,957, 2–14–61, Cl. 260—295.
Thomas, Henry A., and J. H. Browning, to Ethyl Corp. Sludge deliquefying apparatus. 2,971,217, 2–14–61, Cl. 18—1.
Thomas, Henry A., to Ethyl Corp. Recovery apparatus and method. 2,971,456, 2–14–61, Cl. 100—37.
Thomas, James W., to General Motors Corp. Thermocouple lead attachment. 2,971,998, 2–14–61, Cl. 136—4.
Thomas, Philip J., and F. L. Moore, to The Gray Mfg. Co. Sound transducing apparatus. 2,971,804, 2–14–61, Cl. 312—8.
Thompson, Earl A. Fused product. 2,971,504, 2–14–61, Cl. 123—90.
Thompson, Miles C. Mobile industrial suction cleaner. 2,971,210, 2–14–61, Cl. 15—346.
Thompson Ramo Wooldridge Inc.: *See*—
Bluck, Raymond M. 2,971,645.
Dudley, Edward C. 2,971,523.
Schnabel, Julius W. 2,971,503.
Thornton, Ray F. Locking differential. 2,971,404, 2–14–61, Cl. 74—711.
Thornton, William E., to Del Mar Engineering Laboratories. Missile simulator. 2,971,374, 2–14–61, Cl. 35—25.
Thrasher, Howard G., to Litton Systems, Inc. Precision irrotational mount. 2,971,383, 2–14–61, Cl. 74—5.
Throndson, Lester W.: *See*—
Silverman, Stephen M., and Throndson. 2,971,331.
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Sisson, Wayne A., and Thumm. 2,971,617.
Tiedemann, Julius B., to A. O. Smith Corp. Roll mounting for a draw rolling mill. 2,971,410, 2–14–61, Cl. 80—55.
Tieri, Guido: *See*—
Scarborough, William F., and Tieri. 2,971,276.
Time, Inc.: *See*—
Rice, Roger P., Jr. 2,971,620.
Tinsley, Samuel W., to Union Carbide Corp. Preparation of para - nitrobenzaldehyde and para - nitrobenzoic acid. 2,971,980, 2–14–61, Cl. 260—515.
Titanium Products Corp. Ltd.: *See*—
Nausebaum, Leon. 2,971,839.
Tobias, Roy H., ½ to J. D'Angelo, and ½ to W. L. Burke. Muffler. 2,971,599, 2–14–61, Cl. 181—53.
Tomich, Magdalena M. Rain cape and hood combination with hood adapted to contain cape. 2,971,198, 2–14–61, Cl. 2—84.
Tomkow, Edward, to Dearborn Gage Co. Gage calibration device. 2,971,366, 2–14–61, Cl. 73—3.
Toorks, William P.: *See*—
Walker, Richard M., and Toerks. 2,972,063.
Torisu, Ryokichi: *See*—
Nogami, Kunishige, Hotta, and Torisu. 2,972,020.
Torres, Jorge U., to E. B. Wiggins Oil Tool Co., Inc. Flexible coupling for beaded end tubing. 2,971,781, 2–14–61, Cl. 285—233.
Torrey, Robert D., to Sperry Rand Corp. Logical elements. 2,972,060, 2–14–61, Cl. 307—88.
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Floria, Vernon D., and Towsley. 2,971,947.
Tracy, Herbert E., to Borg-Warner Corp. Seal assembly. 2,971,784, 2–14–61, Cl. 286—9.
Treida, Grover G., to Kingston Products Corp. Molded carton for fragile articles. 2,971,685, 2–14–61, Cl. 229—2.5.
Tsunoda, Toshinao: *See*—
Ogawa, Tetsuo, Tsunoda, Aoki, Kinoshita, Okumura, and Kondo. 2,971,890.
Tubular Structure Corp. of America: *See*—
May, Marvin M. 2,971,786.
Tuten, Gilbert: *See*—
Smith, Gean, and Tuten. 2,971,617.
UCLAF: *See*—
Joly, Robert, Bucourt, and Fabignon. 2,971,985.
Umbriaco, Frank. Garment bagger. 2,971,310, 2–14–61, Cl. 53—256.
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Baumbach, Harlan L., Little, and Scobey. 2,971,448.
Union Carbide Corp.: *See*—
Caswell, Earl G. 2,971,607.
Chow, Sui-Wu, and Whelan. 2,971,944.
Feild, Theophilus A., Jr., and Davisson. 2,971,245.
Henry, Joseph P., Manyik, and Walker. 2,971,983.
Hill, Fred N., Bailey, and Fitzpatrick. 2,971,988.
Kilsheimer, John R. 2,971,945.
Lynn, John W. 2,971,958.
Meyers, Cal Y. 2,971,987.
Tinsley, Samuel W. 2,971,980.
Union Tank Car Co.: *See*—
Lane, Marvin, and Samkoff. 2,971,648.
United Aircraft Corp.: *See*—
Barry, Frank W. 2,971,329.
Clark, James W. 2,971,330.
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Freche, John C. 2,971,837.
Freche, John C. 2,971,838.
Agriculture: *See*—
Bullock, Austin L., and Guthrie. 2,971,815.
Dupuy, Harold P., Goldblatt, and Magne. 2,971,855.
Rothman, Edward S., and Wall. 2,971,964.
Air Force: *See*—
Carlson, Arthur W. 2,972,063.
Leonard, Cullman K. 2,972,071.
Army: *See*—
Marsh, Richard A. 2,972,144.
Metcalfe, Arthur G., and Nudelman. 2,971,865.
O'Brien, John F. 2,971,440.
Orlando, Carl. 2,971,445.
Potts, George C. 2,971,426.
Reed, Frederick P. 2,971,441.
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Smith, Walter J. 2,971,907.
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De Vost, Valmore F. 2,971,497.
Fox, Paul L. 2,971,438.
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Mueller, Frank J. 2,972,061.
Newhouse, Russell C. 2,971,269.
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Watters, Robert L. 2,972,110.
Yeagley, Henry L. 2,971,491.
United States Rubber Co.: *See*—
Boggs, Fitzhugh W. 2,971,301.
Case, Richard Y. 2,971,392.
United States Steel Corp.: *See*—
Cochrane, Donald P., and Stoeckel. 2,971,719.
Hawthorne, John O., and Mihelic. 2,971,982.
Hawthorne, John O., and Wilt. 2,971,962.
Michaels, Clyde D. 2,971,630.
Rendel, George H. 2,971,374.
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Bloch, Herman S. 2,971,992.
Schmerling, Louis. 2,971,994.
Upjohn Co., The: *See*—
Babcock, John C., and Pederson. 2,971,886.
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Wright, John B., and Lincoln. 2,971,956.
Usamoto, Teruyoshi: *See*—
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VEB Kamera-und Kinowerke Dresden: *See*—
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VEB Leipziger Buchbindereimaschinenwerk: *See*—
Chlebus, Rolf H. 2,971,417
VEB Mähdrescherwerk Weimar: *See*—
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Vaccaro, Frank E., to Radio Corp. of America. Tunable magnetron. 2,972,085, 2–14–61, Cl. 315—39.61.
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Vaillancourt, Louis G. Concealable blackboard. 2,971,277, 2–14–61, Cl. 35—62.

Van Ackeren, Paul, to Koppers Co., Inc. Reversal means for regenerative coke oven batteries. 2,971,893, 2–14–61, Cl. 202—141.
Van den Broek, C. A. M.: *See*—
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Van der Burg, Willem J., to Organon Inc. Process for the preparation of halogenated 3-keto-steroids. 2,971,963, 2–14–61, Cl. 260—397.3.
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Vander Bush, Joseph, deceased, by G. A. Vander Bush, administratrix. Folding high chairs. 2,971,570, 2–14–61, Cl. 155—148.
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Hoffman, Stanley G., and Van Ess. 2,971,682.
Van Overveen, Joseph P.: *See*—
Jura, Peter C., and Van Overveen. 2,971,531.
Van Rossum, Jacobus J., and M. J. Hofstede, to Shell Oil Co. Hydrocarbon gasification. 2,971,829, 2–14–61, Cl. 48—196.
Van Santen, Johannes G., and G. Diemer, to North American Philips Co., Inc. Solid-state image intensifier. 2,972,070, 2–14–61, Cl. 313—108.
Vasilevakis, Henry S., to Philco Corp. Magnetic beam-controlling means for cathode ray tubes. 2,972,074, 2–14–61, Cl. 313—84.
Venema, Albertus, and C. A. M. van den Broek, to North American Philips Co., Inc. Method of producing cavity-type dispenser cathode. 2,971,246, 2–14–61, Cl. 29—25.14.
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Villani, Antonio, and J. W. Rankin, Jr., to Draper Corp. Threading block. 2,971,542, 2–14–61, Cl. 139—223.
Ville, Jules R., to Sylvania Electric Products Inc. Blocking oscillator circuit. 2,972,118, 2–14–61, Cl. 331—149.
Vischer, Alfred, Jr. Vapor separator. 2,971,606, 2–14–61, Cl. 183—41.
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Walker, Alice, Seale, and Kirkpatrick. 2,971,923.
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Vogel, John V., to Shell Oil Co. Metering apparatus. 2,971,377, 2–14–61, Cl. 73—224.
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Von Zborowski, Helmut Ph. G. A. R. Annular wing flying machines. 2,971,724, 2–14–61, Cl. 244—12.
Voss, Donald J., to Mine Safety Appliances Co. Safety helmet. 2,971,195, 2–14–61, Cl. 2—3.
Vöster, Reinhold and W., and W. Schmid, to Vereinigte Baubeschlagfabriken Gretsch & Co. G.m.b.H. Door closing apparatus. 2,971,212, 2–14–61, Cl. 16—55.
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Wagner, Elmer R., to General Motors Corp. Ball joint assembly for vehicle wheel suspension. 2,971,770, 2–14–61, Cl. 280—96.1.
Wahlin, Fred W., to Spraying Systems Co. Spray nozzle with contoured orifice and method of contouring the orifice. 2,971,250, 2–14–61, Cl. 29—157.
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Walker, Alice, V. L. Seale, and W. H. Kirkpatrick, to Visco Products Co. Processes for breaking petroleum emulsions, especially in desalting operations. 2,971,923, 2–14–61, Cl. 252—342.
Walker, Richard M., and W. P. Toorks, to Microwave Associates, Inc. Sealing waveguide windows. 2,972,083, 2–14–61, Cl. 315—39.
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Wallace, Donald C., to The Barber Mfg. Co. Gas burner. 2,971,577, 2–14–61, Cl. 158—106.
Wallin, Frederick. Multi-position leg bracket. 2,971,803, 2–14–61, Cl. 311—99.
Walsh, John A., to National Co., Inc. Coupling for rotatable shafts. 2,971,355, 2–14–61, Cl. 64—15.
Wann, Laymond D., to Continental Oil Co. Radioactive logging apparatus. 2,972,052, 2–14–61, Cl. 250—83.1.
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TRADEMARKS

NOTICES

Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 354,497 (RUMEIDINE), H. Fels, Liquid liniment and rubefacient for external use, filed Mar. 27, 1959, D.C., S.D.N.Y., Doc. 144/274, *Herman Fels* v. *American Home Products Corporation et al.* Order of dismissal for lack of prosecution Dec. 21, 1960.

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Reg. No. 632,578 (ONE (1) A DAY), Miles Laboratories, Inc., Vitamin tablets, filed Dec. 19, 1960, D.C., E.D. Pa. (Philadelphia), Doc. 28/990, *Miles Laboratories, Inc.* v. *Warner Stores Company, doing business as Pedrex Company et al.*

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Reg. No. 593,778 (CLEARASIL), Greaseless medication for external application to pimples and acne; **Reg. No. 630,548**, same, Medicated toilet and bath soap; **Reg. No. 686,763** (CLEAR-AWAY), Revlon, Inc., Medicated cream for the treatment of acne, pimples and blackheads, filed Dec. 7, 1960, D.C., S.D.N.Y., Doc. 60/4841, *Richardson-Merrell, Inc.* v. *Revlon, Inc.*

Reg. No. 612,082 (CERTANE), Rosemarie Lewis, doing business as Vogarell Products Company, Preparation used as a medication or antiseptic—namely, vaginal cone jelly douche, etc., filed Nov. 7, 1960, D.C., S.D. Fla. (Jacksonville), Doc. 4588-J, *Vogarell Products Company* v. *Leon Products, Inc.*

Reg. No. 630,548. (See Reg. No. 593,778.)

Reg. No. 664,527 (WHITE EAGLE), National Cordial Co., Inc., Vodka, filed June 10, 1960, D.C., N.D. Ill. (Chicago), Doc. 60c920, *National Cordial Company* v. *Royal Distilled Products, Inc.* Dismissed by stipulation without prejudice Dec. 7, 1960.

Reg. No. 686,763. (See Reg. No. 593,778.)

Reg. No. 687,643 (APPLE RIDGE), S. B. Davis Company, Inc., Fresh apples, filed Jan. 26, 1960, D.C., W.D. Mich. (Grand Rapids), Doc. 3813, *Jarvis K. Brown et al.* v. *Stanley B. Davis et al.* Consent decree providing defendants forthwith file in U.S. Patent Office abandonment of Reg. No. 687,643.

Reg. No. 692,755. (See Reg. No. 667,735.)

Reg. No. 697,515 (ROYAL CAPODIMONTE ETC. AND DESIGN), Scalamandre Silks, Inc., Textile fabrics in the piece of silk, cotton, linen, wool, rayon, synthetic fibers and combinations thereof; **Reg. No. 700,541** (UHER), Kimberly International, Ltd., Tape recorders; **Reg. No. 706,676** (CARTOPLEX), Di-Noc Chemical Arts, Inc., Paper having an aluminum core and a surface suitable for drawing thereon, filed Dec. 9, 1960, D.C., S.D.N.Y., Doc. 60/4866, *Uher Werke Munchen K.G.* v. *Kimberley International Limited et al.*

Reg. No. 700,541. (See Reg. No. 697,515.)

Reg. No. 706,676. (See Reg. No. 697,515.)

CONDITION OF TRADEMARK APPLICATIONS AS OF DECEMBER 31, 1960

Total number of applications awaiting action [excluding renewals and Sec. 12 (c)]	11,354
Date of oldest new application	June 13, 1960
Date of oldest amended application	July 1, 1960

J. H. MERCHANT, Director, Trademark Examining Operation

TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application: New	Oldest Application: Amended
(I) C. M. WENDT, Classes 2, 3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 39, 40, 41, 42, 43, 44, 50	7-1-60	7-20-60
(II) H. E. KASCHUB, Classes 1, 6, 18, 22, 37, 38, 45, 46, 47, 48, 49, 51, 52; Service Mark Classes 100, 101, 102, 103, 104, 105, 106, 107; Collective Membership Marks, Class 200; Certification Marks, Classes A and B	6-13-60	7-1-60
Renewals (All Classes)	11-10-60	11-20-60
Sec. 12 (c) Publications (All Classes)	11-1-60	11-20-60

Applications filed during the month of December 1960—1764

Registrations Issued	350—No. 711,037 to No. 711,386
Renewals Issued	55

The TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington 25, D. C., to whom all subscriptions should be made payable and all communications addressed; subscription price, $10.00 per annum, foreign mailing $3.75 additional; single copies, 20 cents each.

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 10 cents each. Address orders to the Commissioner of Patents, Washington 25, D.C.

MARKS PUBLISHED FOR OPPOSITION

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Notice of opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.
As provided by section 31 of said act, a fee of twenty-five dollars must accompany each notice of opposition.

Class 1—Raw or Partly Prepared Materials

SN 80,220. A.C.S.A.—Applicazioni Chimiche S.p.A., Milan, Italy. Filed Aug. 26, 1959.

LEACRIL

Owner of Italian Reg. No. 143,975, dated June 4, 1959.
For Synthetic Resins—Namely, Polyacrylonitrilic Resins and Copolymers of Acrylonitrile; Synthetic Fibers in General and in Particular Continuous Fibers and Fibers Under the Form of Flocks Totally or Partially Obtained From Polyacrylonitrilic Resins or Acrylonitrilic Copolymers.

SN 86,604. Snia Viscosa Societa Nazionale Industria Applicazioni Viscosa S.p.A., Milan, Italy. Filed Dec. 3, 1959.



Owner of Italian Reg. No. 139,036, dated Oct. 16, 1958; and U.S. Reg. No. 691,339.
For Synthetic Fibers for Textile Purposes.

SN 87,511. Raychem Corporation, Redwood City, Calif. Filed Dec. 17, 1959.

RAYCHEM

For Irradiated Polyethylene Tubing and Sleeving for General Use in the Industrial Arts.
First use Dec. 7, 1959.

SN 93,267. The Blane Corporation, Canton, Mass. Filed Mar. 21, 1960.

BLAPOL

For Polyethylene Molding and Extruding Compounds.
First use Dec. 28, 1959.

SN 95,793. Gerald J. Wyatt, d.b.a. Wyco Chemical Company, Birmingham, Mich. Filed Apr. 25, 1960.

TRI-REZ

For Resins for Use in Making Paints and Varnishes.
First use Oct. 1, 1958.

SN 97,046. The Dow Chemical Company, Midland, Mich. Filed May 13, 1960.

DERAVAL

For Synthetic Resins.
First use Apr. 27, 1960.

SN 97,416. Kimberly-Clark Corporation, Windom, Minn. Filed May 18, 1960.

CEDAR-OMA

For Animal Bedding.
First use Mar. 26, 1960.

SN 99,729. Economy Mud Products Co., Houston, Tex. Filed June 27, 1960.

POLY-GEL

For Drilling Mud.
First use Apr. 12, 1954.

SN 102,129. Midwest Rubber Reclaiming Company, East St. Louis, Ill. Filed Aug. 5, 1960.

MID POL

For Cross-Linkable Polyethylene.
First use June 28, 1960.

SN 102,402. Loft's Pedigreed Seed Company, Jersey City, N.J. Filed Aug. 10, 1960.

GREEN CARPET

For Mixed Grass Seed.
First use July 8, 1960.

SN 103,830. Archer-Daniels-Midland Company, Minneapolis, Minn. Filed Sept. 2, 1960.

AROTHANE

For Urethane Coating Resins and Urethane Foaming Resins.
First use on or about July 22, 1960.

SN 103,897. Barzen of Minneapolis, Inc., Minneapolis, Minn. Filed Sept. 6, 1960.

RANCHER

Owner of Reg. Nos. 687,732 and 684,244.
For Seed Corn.
First use July 1959.

SN 103,898. Barzen of Minneapolis, Inc., Minneapolis, Minn. Filed Sept. 6, 1960.



Owner of Reg. Nos. 687,732 and 684,244.
For Seed Corn.
First use July 1959.

SN 104,057. Tufnol Limited, Birmingham, England. Filed Sept. 7, 1960.

BEAR

Owner of British Reg. No. 755,882, dated July 20, 1956.
For Synthetic Resin Plastics in the Form of Sheets, Rods, Tubes, Blocks, Strips and Shaped Sections.

SN 104,080. Fiberfil, Inc., Warsaw, Ind. Filed Sept. 8, 1960.

GLASFIL

For Reinforced Synthetic Injection-Molding Compounds in Pellet or Granular Form.
First use Oct. 26, 1959.

SN 104,092. Lignosol Chemicals Limited, Quebec, Quebec, Canada. Filed Sept. 8, 1960.

PELTEX

Owner of Canadian Reg. No. 118,989, dated July 29, 1960.
For Well Drilling Muds.

SN 104,094. May Brothers, Inc., Garden City, La. Filed Sept. 8, 1960.

MAYWAL PLUG

Owner of Reg. No. 698,325.
For Lost Circulation Materials Used With Oil Field Drilling Mud.
First use June 18, 1960.

Class 2 — Receptacles

SN 100,453. Illinois Tool Works, Chicago, Ill. Filed July 7, 1960.



The representation of the goods is disclaimed apart from the mark. Owner of Reg. No. 700,011.
For Containers—Namely, Cups, Flower Pots, Relatively Small Plastic Packaging Receptacles, and Portable Carriers for Containers.
First use on or about June 8, 1960.

SN 100,501. Dansk Designs, Inc., Great Neck, N.Y. Filed July 8, 1960.

SHIBUI

"Shibui" is a Japanese term used to describe the underlying spirit of Japanese folk art involving a subdued, subtle, and austere quality which creates a plain, direct, and functional beauty avoiding ostentation.
For Trays and Ice Buckets Made of Wood.
First use May 6, 1960.

SN 102,125. Joseph A. Malachick, Bronx, N.Y. Filed Aug. 5, 1960.



For Storage and Dispensing Containers for Cereals and Similar Foods.
First use Jan. 5, 1960.

Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

SN 61,589. Roxanne Leather Goods, Inc., Passaic, N.J. Filed Oct. 29, 1958.

A HANDFUL OF FASHION

For Wallets.
First use Sept. 12, 1958.

SN 91,675. Droutman Manufacturing Co., Inc., Brooklyn, N.Y. Filed Feb. 26, 1960.

LARK-PAK

Owner of Reg. No. 611,262.
For Flexible, Suspendable, and Foldable Sacks Arranged To Enclose Clothing on Hangers and Provided on Its Outer Surfaces With Pockets for Toilet Accessories and Articles of Clothing.
First use Feb. 11, 1960.

SN 94,717. Aceline Products Corporation, Rochester, N.Y. Filed Apr. 11, 1960.

ACE FLEACOLLAR

Owner of Reg. Nos. 602,864 and 625,181.
For Collars for Pets.
First use about August 1951.

SN 98,149. Roebling Luggage Corporation, New York, N.Y. Filed May 31, 1960.

ROEBLING

Owner of Reg. No. 380,249.
For Luggage—Namely, Trunks, Traveling Bags, Suit Cases, Overnight Cases and the Like.
First use during March 1927.

Class 4 — Abrasives and Polishing Materials

SN 90,137. Autoclean Limited, Wembley, England. Filed Feb. 2, 1960.

NENETOL

Owner of British Reg. No. 709,987, dated Aug. 21, 1952.
For Polishing Preparations for Metal, Wood, Painted, Enameled, and Other Surfaces.

SN 90,781. Pierce & Stevens Chemical Corp., Buffalo, N.Y. Filed Feb. 11, 1960.



For Protective Floor Dressing and Polishing Material.
First use on or about Jan. 21, 1959.

SN 104,876. Agrashell, Inc., Los Angeles, Calif. Filed Sept. 21, 1960.

AGRASHOT

For Granulated Abrasives Consisting of Ground Particles and Graded Particles of Vegetable Shell, for Use in Cleaning, Peening, and Abrading a Wide Variety of Materials.
First use Dec. 2, 1959.

Class 6—Chemicals and Chemical Compositions

SN 76,747. State Chemical Co., Inc., Amarillo, Tex. Filed June 29, 1959.

STACo

For Algicide, Laundry Bluing, Disinfectant, and Insecticide.
First use May 1, 1944.

SN 87,285. Shulton, Inc., Clifton, N.J. Filed Dec. 14, 1959.

THIO-KIL

For Active Chemical Ingredient Incorporated in a Combination Inspecticide, Fungicide, and Miticide Product.
First use Oct. 15, 1959.

SN 89,235. Crowley Tar Products Company, Inc., New York, N.Y. Filed Dec. 14, 1959.

TERPINOXO

For Rubber Reclaiming Oil.
First use July 9, 1953.

SN 90,628. Etablissements Sergent Laboratoires Prolac, Surgeres, Charente Maritime, France. Filed Feb. 9, 1960.

ALBOTENE

Owner of French Reg. No. 804, dated Oct. 25, 1954 (Rochefort); Natl. Inst. No. 45,904.
For Antibacterial, Antifungal, and Antimold Preparations, as Humectants and for the Protection of Fruits, Vegetables, Tobacco, Cheese Rinds, Paints, Lacquers, Varnishes, and Coating Compositions.

SN 93,226. The Upjohn Company, Kalamazoo, Mich. Filed Mar. 18, 1960.

KCG

For Turf Fungicide.
First use Feb. 18, 1960.

SN 93,257. The Anaconda Company, New York, N.Y. Filed Mar. 21, 1960.

ANAMOL-D

For Flotation Reagent for Use in the Concentration of Minerals.
First use July 23, 1959.

SN 93,289. Eastman Kodak Company, Rochester, N.Y. Filed Mar. 21, 1960.

X-OMAT

For Photographic Processing Chemicals.
First use May 24, 1957.

SN 93,426. Gamlen Chemical Company, South San Francisco, Calif. Filed Mar. 22, 1960.

FLOLOSE

For Flocculation Agent.
First use Jan. 28, 1960.

SN 93,453. Poly-Pox Ltd., New York, N.Y. Filed Mar. 22, 1960.

POX-AMIDE

For Porcelain Refinishing Kit for the Protection and Preservation of the Appearance of Porcelain Fixtures and Appliances.
First use Feb. 29, 1960.

SN 93,639. The Upjohn Company, Kalamazoo, Mich. Filed Mar. 24, 1960.

SOK

For Crabgrass Herbicide.
First use Feb. 18, 1960.

SN 98,586. Mangels-Herold Company, Inc., Baltimore, Md. Filed June 7, 1960.

KING BLEACHIES

Owner of Reg. No. 630,678.
For Chlorine Bleach in Tablet Form.
First use May 23, 1960.

SN 100,421. Becton Dickinson and Company, Rutherford, N.J. Filed July 7, 1960.

CAPPEL

For Biological Chemicals—Namely, Preparations for Laboratory Testing and Diagnostic Reagents.
First use on or about Jan. 1, 1956.

SN 100,529. M.F.A. Oil Company, Columbia, Mo. Filed July 8, 1960.

COMMANDO

For Insect Repellent.
First use June 15, 1960.

SN 100,939. The O. M. Scott & Sons Company, Marysville, Ohio. Filed July 15, 1960.

ERASE

For Herbicide.
First use July 8, 1960.

SN 101,151. Armour and Company, Chicago, Ill. Filed July 20, 1960.

ARMOFLO

Owner of Reg. No. 687,436.
For Cationic Chemicals Useful as Anti-Caking and Anti-Dusting Agents.
First use Oct. 7, 1959.

SN 101,158. Carter Products, Inc., New York, N.Y. Filed July 20, 1960.

PRIZE

Owner of Reg. No. 672,294.
For Preparation for Prolonging the Life of Razor Blades.
First use June 1, 1960.

Class 7 — Cordage

SN 90,831. Dancord, Danish Cordage Manufacturers Associated, Copenhagen, Denmark. Filed Feb. 12, 1960. COLLECTIVE MARK.

DANCORD

For Binder and Baler Twine Made of Sisal, Hemp, Jute or Other Vegetable Fibre for Agricultural Purposes.
First use Dec. 10, 1956; in commerce in October 1959.

SN 94,132. Armco Steel Corporation, Middletown, Ohio. Filed Apr. 1, 1960.

UNIONFORMED

Owner of Reg. Nos. 259,738 and 701,181.
For Preformed Wire Rope.
First use Dec. 4, 1935.

Class 9 — Explosives, Firearms, Equipments, and Projectiles

SN 82,549. Stoeger Arms Corporation, Long Island City, N.Y. Filed Oct. 1, 1959.

CLAYBIRDER

For Shotguns.
First use Sept. 11, 1959.

SN 98,021. Outers Laboratories, Inc., Onalaska, Wis. Filed May 27, 1960.

GUNSLICK

Owner of Reg. Nos. 323,141 and 699,543.
For Gun Cleaning Rods.
First use in or about June 1938.

SN 101,446. Michael Yavello, d.b.a. Skeet 'N' Field Holster Co., Pleasant Ridge, Mich. Filed July 25, 1960.

SKEET 'N' FIELD

For Gun Holsters.
First use July 20, 1960.

SN 102,538. Atlas Powder Company, Wilmington, Del. Filed Aug. 12, 1960.

PRESDYN

For Explosives.
First use July 15, 1960.

Class 11 — Inks and Inking Materials

SN 96,495. Gotham Ink & Color Company, Long Island City, N.Y. Filed May 5, 1960.

PROPALIN

For Flexographic Inks for Use on Printing Equipment in the Graphic Arts; Coatings and Varnishes for Flexographic Application; and Varnishes, Vehicles, and Thinners for Flexographic Inks and Flexographic Coatings.
First use Oct. 6, 1954.

Class 12 — Construction Materials

SN 59,998. The Splendor Corporation, New Castle, Ind., assignee of Splendor, Inc., New Castle, Ind. Filed Oct. 2, 1958.

Splen-door

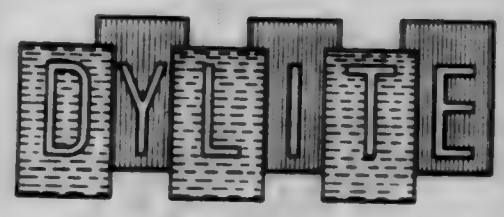
For Folding Door.
First use Feb. 9, 1954.

SN 85,847. Arthur G. Imbrecht, Downey, Calif. Filed Nov. 16, 1959.



The trademark drawing is lined for red.
For Movable Partition Comprising Wood Panels and Doors Held in Position by Pneumatic Air Pressure.
First use Dec. 15, 1958.

SN 90,343. Koppers Company, Inc., Pittsburgh, Pa. Filed Feb. 4, 1960.



The drawing is lined for red and grey but no claim is made to color. Owner of Reg. Nos. 631,124, 645,577, and others.
For Panels for Rough and Finished Construction and Building Purposes.
First use Jan. 15, 1960.

SN 99,265. Abitibi Power & Paper Company, Limited, Toronto, Ontario, Canada. Filed June 20, 1960.

Abitibi

Owner of U.S. Reg. Nos. 690,401, 690,915, and 691,082.
For Insulating Board and Particle Board.
First use May 1, 1956, as to particle board; in commerce May 1, 1956.

SN 101,168. Frank D. Gaus, d.b.a. Superior Products Company, Oakland, Calif. Filed July 20, 1960.

SUPERJET

For Two-Component, Elastomeric-Type, Joint Sealing Compound Particularly Adapted for Fill and Sealing of Joints in Concrete Highways and Airfield Pavements.
First use July 1959.

SN 102,707. Trevi-Tile Inc., Wenatchee, Wash. Filed Aug. 15, 1960.

TREVI-TILE

For Concrete Tile.
First use Dec. 22, 1959.

SN 103,179. Modern Partitions, Inc., Holland, Mich. Filed Aug. 22, 1960.

COLORCREST

For Movable Walls and Partitions.
First use July 19, 1960.

SN 103,518. Basic Incorporated, Cleveland, Ohio. Filed Aug. 29, 1960.

BASIDOL

Owner of Reg. Nos. 291,227, 441,015, and 523,133.
For Refractory Dolomite.
First use July 18, 1960.

SN 103,519. Basic Incorporated, Cleveland, Ohio. Filed Aug. 29, 1960.

BASIDOX

Owner of Reg. Nos. 291,227, 672,039, and others.
For Refractory Dolomite.
First use July 18, 1960.

SN 104,294. Monarch Tile Manufacturing, Inc., San Angelo, Tex. Filed Sept. 12, 1960.

MONARCH

For Ceramic Building Tile.
First use on or about Mar. 1, 1946.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

SN 78,085. Spraying Systems Co., Bellwood, Ill. Filed July 20, 1959.

CONEJET

For Spray Nozzles.
First use on or about Feb. 28, 1951.

SN 86,161. Lane-Penncarva Inc., Bealeton, Va. Filed Nov 27, 1959.

PARTIAL-PAVED

For Corrugated Metal Sewer Pipe.
First use June 22, 1959.

SN 91,995. Bauer & Schaurte, Neuss (Rhine), Germany. Filed Mar. 2, 1960.

BUS

Owner of German Reg. No. 392,600, dated Oct. 6, 1928.
For Screws, Bolts, and Nuts.

SN 91,997. Bauer & Schaurte, Neuss (Rhine), Germany. Filed Mar. 2, 1960.

"INBUS"

Owner of German Reg. No. 477,514, dated July 12, 1935.
For Hardware, Especially Screws, Bolts, and Nuts.

SN 101,776. Grinnell Corporation, Providence, R.I. Filed Aug. 1, 1960.

PRIMAC SYSTEM

Applicant disclaims the word "System."
For Fire Protection Systems Utilizing Explosively Actuated Valves.
First use June 21, 1960.

SN 101,858. Flodar Corporation, Cleveland, Ohio. Filed Aug. 2, 1960.

MANIPORT

For Tube and Port Fittings.
First use on or about June 21, 1960.

Class 14—Metals and Metal Castings and Forgings

SN 96,543. Westinghouse Electric Corporation, Pittsburgh, Pa. Filed May 5, 1960.

NICROTUNG

For High Temperature Casting Alloys.
First use on or about Apr. 10, 1958.

SN 96,544. Westinghouse Electric Corporation, Pittsburgh, Pa. Filed May 5, 1960.

W-545

For High Temperature Alloys.
First use on or about Nov. 21, 1957.

SN 96,545. Westinghouse Electric Corporation, Pittsburgh, Pa. Filed May 5, 1960.

HIPERNOM

For Magnetic Metal Alloys.
First use on or about May 26, 1958.

SN 97,145. United Metals Refining Company, Detroit, Mich. Filed May 13, 1960.



The term "Babbitt Metal" is disclaimed apart from the mark. Owner of Reg. No. 133,294.
For Anti-Friction Babbitt Metals.
First use Mar. 20, 1919.

SN 98,422. Bauer Alphabets Inc., New York, N.Y. Filed June 6, 1960.

FORTUNA

For Printing Type.
First use May 18, 1960.

Class 16—Protective and Decorative Coatings

SN 82,008. Mink Coat Company, Dallas, Tex. Filed Sept. 24, 1959.



The drawing is lined for orange, but applicant is not claiming this color as an essential feature of the mark.
For Plastic Coating for Fabrics, Leathers, and Plastics.
First use Sept. 4, 1959.

SN 95,927. Pittsburgh Plate Glass Company, Pittsburgh, Pa. Filed Apr. 27, 1960.

HI-GLOSS
Rez

Applicant disclaims the word "Hi-Gloss" apart from the composite mark. Owner of Reg. Nos. 642,809 and 663,023.
For Sealers and Finishes for Exterior and Interior Use.
First use May 28, 1957; Apr. 1, 1940, as to "Rez."

SN 95,928. Pittsburgh Plate Glass Company, Pittsburgh, Pa. Filed Apr. 27, 1960.

FLAMINGO
Rez

Applicant disclaims the word "Flamingo" apart from the composite mark. Owner of Reg. Nos. 642,809 and 663,023.
For Sealers and Finishes for Exterior and Interior Use.
First use Nov. 12, 1957; Apr. 1, 1940, as to "Rez."

SN 95,929. Pittsburgh Plate Glass Company, Pittsburgh, Pa. Filed Apr. 27, 1960.

CHARCOAL
Rez

Applicant disclaims the word "Charcoal" apart from the composite mark. Owner of Reg. Nos. 642,809 and 663,023.
For Sealers and Finishes for Exterior and Interior Use.
First use June 4, 1957; Apr. 1, 1940, as to "Rez."

SN 95,930. Pittsburgh Plate Glass Company, Pittsburgh, Pa. Filed Apr. 27, 1960.

CLAY
Rez

Applicant disclaims the word "Clay" apart from the composite mark. Owner of Reg. Nos. 642,809 and 663,023.
For Sealers and Finishes for Exterior and Interior Use.
First use June 21, 1957; Apr. 1, 1940, as to "Rez."

SN 101,032. Pfaudler Permutit Inc., Rochester, N.Y. Filed July 18, 1960.

PFAUDLON

Owner of Reg. Nos. 202,381 and 432,268.
For Plastic Coatings and Linings Applied to Metal Goods.
First use June 9, 1960.

SN 101,319. Gilman Paint and Varnish Co., Chattanooga, Tenn. Filed July 22, 1960.

GIL-CRAFT

For Ready Mixed Paint, Flat Wall Paint, and Enamel.
First use October 1958.

SN 101,362. Geo. E. Watson Co., Chicago, Ill. Filed July 22, 1960.

Kingcole

For Paints.
First use 1906.

SN 101,512. Permanent Pigments, Inc., Norwood, Ohio. Filed July 26, 1960.

DANA

For Artists' and Crafts Colors and Materials.
First use June 3, 1960.

Class 17—Tobacco Products

SN 94,700. Schimmelpenninck Sigarenfabrieken v/h Geurts en Van Schuppen N.V., Wageningen, Netherlands. Filed Apr. 8, 1960.



Owner of Dutch Reg. No. 76,478, dated July 1, 1941.
For Cigars.

Class 18—Medicines and Pharmaceutical Preparations

SN 98,860. Carter Products, Inc., New York, N.Y. Filed June 13, 1960.

EMULAX

For Laxatives.
First use Apr. 6, 1960.

SN 103,345. Alberto-Culver Company, Melrose Park, Ill., by change of name from Lobco, Inc., Melrose Park, Ill. Filed Aug. 24, 1960.

DERMA-FRESH

Owner of Reg. No. 510,454.
For Medicated Skin Lotion.
First use Sept. 15, 1942.

SN 103,528. Bristol-Myers Company, New York, N.Y. Filed Aug. 29, 1960.

BRISTEX

For Antibiotic Pharmaceutical Preparation.
First use Aug. 2, 1960.

SN 103,831. Blair Laboratories, Inc., New York, N.Y. Filed Sept. 2, 1960.

EXOTOL

For Preparation for the Removal of Ear Wax.
First use July 26, 1960.

SN 104,157. Berlin C. Garrison, d.b.a. Heal-O-Products Company, Phoenix, Ariz. Filed Sept. 9, 1960.

HEAL-O-RED

For Antiseptic Surgical Ointment.
First use Aug. 12, 1960.

SN 104,888. C. H. Boehringer Sohn, Ingelheim (Rhine), Germany. Filed Sept. 21, 1960.

PRELUDINAL

Owner of German Reg. No. 735,211, dated Mar. 31, 1960; and U.S. Reg. No. 617,739.
For Pharmaceutical Preparation Containing a Stimulant and/or an Appetite-Controlling Agent.

SN 104,890. C. H. Boehringer Sohn, Ingelheim (Rhine), Germany. Filed Sept. 21, 1960.

PRELUMEGAN

Owner of German Reg. No. 735,212, dated Mar. 31, 1960.
For Pharmaceutical Preparation Containing a Stimulant and/or an Appetite-Controlling Agent.

SN 104,891. C. H. Boehringer Sohn, Ingelheim (Rhine), Germany. Filed Sept. 21, 1960.

PRELUTAL

Owner of German Reg. No. 735,213, dated Mar. 31, 1960.
For Pharmaceutical Preparation Containing a Stimulant and/or an Appetite-Controlling Agent.

SN 106,265. Kemorone Corporation, Brooklyn, N.Y. Filed Oct. 12, 1960.

KEMOZONE

For Antiseptic Preparation Made Up in the Form of a Liquid, an Ointment, and a Tablet.
First use about Oct. 1, 1921.

SN 107,128. International Latex Corporation, Dover, Del. Filed Oct. 25, 1960.

SEDAYSON

For Sedative.
First use at least as early as Jan. 22, 1953.

SN 107,661. Drugmaster, Inc., St. Louis, Mo. Filed Nov. 2, 1960.



For Vitamins for Children.
First use Oct. 1, 1960.

SN 107,975. Sandoz, Inc., Hanover, N.J. Filed Nov. 7, 1960.

TONOPAN

Owner of Reg. No. 150,287.
For Medicinal Preparation With Vasoconstrictive and Antidiuretic Action.
First use Oct. 26, 1960.

SN 108,078. Chas. Pfizer & Co., Inc., Brooklyn, N.Y. Filed Nov. 8, 1960.

RENESE

For Hypotensive-Cardiovascular Preparation.
First use Oct. 27, 1960.

SN 108,080. Chas. Pfizer & Co., Inc., Brooklyn, N.Y. Filed Nov. 8, 1960.

URINOID

For Hypotensive-Cardiovascular Preparation.
First use Oct. 27, 1960.

Class 19—Vehicles

SN 91,728. James F. Abshire, d.b.a. Leg O Rest, Harvey, Ill. Filed Feb. 29, 1960.

LEG O REST

For Cushions for Use in a Vehicle To Relieve Driving Strain.
First use July 3, 1959.

SN 94,685. Oro Manufacturing Company, Adrian, Mich. Filed Apr. 8, 1960.



For Aircraft Seats and Aircraft Seat Fittings.
First use August 1955.

SN 96,249. Pacific Float Co., Dillard, Oreg. Filed May 2, 1960.



For Fiber-Glass Pontoons Used for Piers and Marine Installations.
First use Apr. 8, 1960.

SN 99,861. Hans Klepper, d.b.a. Klepper-Werke, Rosenheim, Upper Bavaria, Germany. Filed June 28, 1960.

KLEPPER-MASTER

Owner of U.S. Reg. Nos. 655,451 and 655,452.
For Boats and Folding Boats.
First use May 18, 1957; in commerce 1957.

SN 101,090. The Firestone Tire & Rubber Company, Akron, Ohio. Filed July 19, 1960.

FLIGHT "200"

For Bicycles.
First use June 24, 1960.

SN 101,173. Hercules Manufacturing Company, Henderson, Ky. Filed July 20, 1960.

HERCULES

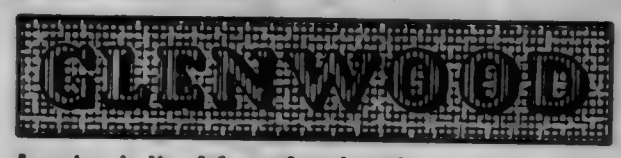
For Horse Drawn Buggies, Non-All Steel Van Bodies for Hauling Dry and Wet Freight, Platform Bodies With Wooden Flooring, and Insulated and Refrigerated Van Bodies for Transporting Perishables.
First use Feb. 1, 1927.

SN 101,531. Zavody 9. Kvetna, Narodni Podnik, Prague-Nusle, Czechoslovakia. Filed July 26, 1960.

JAWETTA

Owner of Czechoslovakian Reg. No. 154,017, dated Sept. 30, 1959; and U.S. Reg. Nos. 545,530 and 607,217.
For Land Motor Vehicles of All Kinds, Particularly Automobiles, Motorcycles, and Their Component Parts.

SN 103,791. Janney, Semple, Hill & Company, Hopkins, Minn. Filed Sept. 1, 1960.



The drawing is lined for red and gold.
For Lawn Carts and Wheelbarrows.
First use Sept. 16, 1957.

SN 104,009. Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning, Frankfurt am Main, Germany. Filed Sept. 6, 1960.

TREVIRA

Owner of German Reg. No. 688,837, dated Mar. 21, 1956; and U.S. Reg. Nos. 697,336, 692,879, and others.
For Sails.

SN 104,374. Arnolt Corporation, Warsaw, Ind. Filed Sept. 16, 1960.

SO-LITE

For Aluminum Boats.
First use Aug. 12, 1960.

SN 104,576. Atlas Supply Company, Newark, N.J. Filed Sept. 16, 1960.

Safety Lift

For Radiator Pressure Caps.
First use Sept. 7, 1960.

SN 104,971. Società Applicazioni Gomma Antivibranti "Saga" S.p.A., Milan, Italy. Filed May 5, 1960.

SAGA

Owner of Italian Reg. No. 140,548, dated Dec. 22, 1958.
For Spring Suspension Units and Anti-Vibratory Mountings for Land, Water, and Air Vehicles.

Class 20—Linoleum and Oiled Cloth

SN 90,748. Congoleum-Nairn Inc., Kearny, N.J. Filed Feb. 11, 1960.

SPARKLEWOOD

For Plastic Composition Tile.
First use Nov. 20, 1959.

Class 21—Electrical Apparatus, Machines, and Supplies

SN 86,041. Liberty Distributors, Philadelphia, Pa. Filed Nov. 25, 1959. COLLECTIVE MARK.

TRUSTWORTHY

For Television Sets, Radios, Electric Motors, Electric Heaters, Percolators, Electric Appliances—Namely, Electric

Toasters, Skillets, Dutch Ovens, Griddles, Percolators, Food Blenders, Corn Poppers, Irons, Food Mixers, Hot Plates, Electric Blankets, Heating Pads, Broilers and Roasters, Electric Fans, and Electric Fryers.
First use Aug. 27, 1959.

SN 90,211. Metal Stamping Co. of Greenville, Inc., Greenville, S.C. Filed Feb. 1, 1960.

PIE KING

Owner of Reg. No. 622,983.
For Electrical Pie Baking Machines for Commercial Use.
First use Mar. 8, 1959.

SN 92,683. A/S Movic, Copenhagen, Vanlose, Denmark. Filed Mar. 14, 1960.

MOVIC

Owner of Danish Reg. No. 429/1958, dated Mar. 1, 1958.
For Sound-Recording and Sound Reproducing Apparatus—Namely, Tape Recorders and Accessories, Microphones, Loudspeakers, and Electronic Amplifiers.

SN 92,684. A/S Movic, Copenhagen, Vanlose, Denmark. Filed Mar. 14, 1960.

MOVICORDER

Owner of Danish Reg. No. 1907/1959, dated Oct. 17, 1959.
For Sound-Recording and Sound Reproducing Apparatus—Namely, Tape Recorders and Accessories, Microphones, Loudspeakers, and Electronic Amplifiers.

SN 92,720. Cory Corporation, Chicago, Ill. Filed Mar. 14, 1960.

CORY

Owner of Reg. No. 682,806.
For Electric Beaters.
First use Aug. 19, 1950.

SN 96,596. I-T-E Circuit Breaker Company, Philadelphia, Pa. Filed May 6, 1960.

TELEMAND

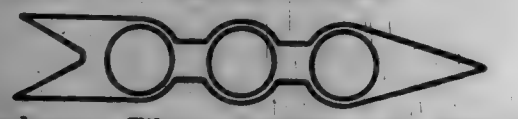
For Electrically Operated Mechanism for Molded Case Circuit Breaker.
First use in March 1959.

SN 97,679. Mark Mobile, Inc., Skokie, Ill. Filed May 23, 1960.

HELIWHIP

For Antennas.
First use Jan. 3, 1958.

SN 98,116. Micamold Electronics Manufacturing Corporation, Newark, N.J. Filed May 31, 1960.



For Condensers, Filters, Networks, and Delay Line Circuits.
First use at least as early as Feb. 19, 1939, on condensers.

SN 98,117. Micamold Electronics Manufacturing Corporation, Newark, N.J. Filed May 31, 1960.

MICAMOLD

Owner of Reg. Nos. 212,707 and 218,525.
For Condensers, Filters, Networks, and Delay Line Circuits.
First use Dec. 21, 1924.

SN 98,151. Sage Electronics Corporation, East Rochester, N.Y. Filed May 31, 1960.

CLIPPER

For Electrical Resistors.
First use Dec. 8, 1958.

SN 98,910. Lorang Products Company, Walled Lake, Mich. Filed June 13, 1960.

LORA-MATIC

For Electric Commercial and Domestic Coffee Makers.
First use May 15, 1954.

SN 99,398. Sarkes Tarzian, Incorporated, Bloomington, Ind. Filed May 31, 1960.

HOT ROD

For Electrical Apparatus for Receiving an Electrical Signal—Namely, Television Tuners and the Like.
First use Apr. 27, 1960.

SN 100,123. I-T-E Circuit Breaker Company, Philadelphia, Pa. Filed July 1, 1960.

X100

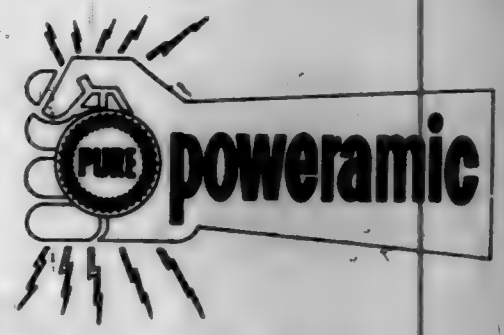
For Electrical Distribution Systems Comprising Electrical Busway, Including Tap-Offs, Feed-Ins, and Other Attachments and Fittings Therefor.
First use Mar. 8, 1960.

SN 102,036. Melpar, Inc., Falls Church, Va. Filed Aug. 4, 1960.

MELFOAM

For Dielectric Ceramic Foam.
First use June 17, 1960.

SN 102,137. The Pure Oil Company, Chicago, Ill. Filed Aug. 5, 1960.



Owner of Reg. Nos. 591,082 and 654,390.
For Batteries.
First use on or about June 21, 1960.

SN 102,188. Bright Star Industries, Clifton, N.J. Filed Aug. 8, 1960.

BRIGHT STAR

Owner of Reg. Nos. 246,665, 575,640, and others.
For Dry Cell Batteries, Radio Batteries, Ignition Batteries, Lantern Batteries, Flashlights, Flashlight Casings, and Lanterns.
First use Dec. 6, 1956.

SN 102,424. The Shetland Co., Inc., Salem, Mass. Filed Aug. 10, 1960.

SHETLAND

Owner of Reg. Nos. 554,787, 627,689, and 671,787.
For Electric Floor Polisher and Rug Cleaner, Electric Vacuum Cleaner, Electric Floor Washing Vacuum Cleaner, All-Purpose Electric Polisher, Scrubber, Sander, and Drill, and Attachments Therefor.
First use Feb. 19, 1951, on all-purpose electric polisher, scrubber, sander, and drill.

Class 22 — Games, Toys, and Sporting Goods

SN 81,284. International Models, Inc., New York, N.Y. Filed Sept. 14, 1959.

IMP TAKARA

For Toy Scale Model Railroad and Aeroplane Sets and Engines and Accessories Therefor.
First use Sept. 1, 1958.

SN 92,757. B. F. Gladding & Company, Inc., South Otselic, N.Y. Filed Mar. 14, 1960.

NYLO-SQUID

For Fishing Lines.
First use Nov. 30, 1959.

SN 101,876. Ka-Line Products, Inc., Hialeah, Fla. Filed Aug. 2, 1960.

TUMBA-LEEN

For Tumbling Devices, Consisting of a Canvas Sheet Stretched by Resilient Tie Devices Connected to a Rigid Framework.
First use Apr. 9, 1960.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

SN 65,882. The Baker Company, Inc., Biddeford, Maine. Filed Jan. 15, 1959.

Sterilshield by Baker

For Dust Free Work Benches and Cabinets and Accessory Equipment Therefor, Dust Controlled Rooms and Accessory Equipment Therefor, Air Cleaners, Dry Boxes, and Accessory Equipment Therefor, and Vacuum Ovens and Accessory Equipment and Controls Therefor.
First use Mar. 23, 1950.

SN 78,873. Huck Manufacturing Company, Detroit, Mich. Filed Aug. 3, 1959.

POWERIG

For Auxiliary Power Transmitting Units Used To Provide the Power for Operating Fastener Setting Tools.
First use July 14, 1959.

SN 79,094. Carolina Supply Company, Greenville, S.C. Filed Aug. 6, 1959.

Casco

For Textile Check Straps and Textile Picker Sticks.
First use July 23, 1958.

SN 82,818. Eversharp, Inc., New York, N.Y. Filed Oct. 7, 1959.

SCHICK CUSTOM

Owner of Reg. Nos. 224,639, 241,430, and 527,931.
For Safety Razor Blades and Dispensing Devices for Safety Razor Blades.
First use Sept. 16, 1959.

SN 86,113. Clemson Bros., Inc., Middletown, N.Y. Filed Nov. 27, 1959.

DURABAND

For Saws, and Saw Blades, in Coiled Strip Form.
First use Nov. 10, 1959.

SN 88,255. SAME—Soc. Acc. Motori Endotermici dei F. lli Cassani, Treviglio, Italy. Filed Dec. 30, 1959.

SAME
AUTOMAZIONE

Owner of Italian Reg. No. 144,861, dated July 29, 1959.
For Tractors, Agricultural Machines and Apparatus, Motors.

SN 89,544. Sam'l Bingham's Son Mfg. Co., Chicago, Ill. Filed Jan. 25, 1960.

ROP

For Printing Rollers.
First use Aug. 1, 1959.

SN 89,545. Sam'l Bingham's Son Mfg. Co., Chicago, Ill. Filed Jan. 25, 1960.

FIVE STAR ★★★★★

Owner of Reg. No. 575,956.
For Printing Rollers.
First use Aug. 1, 1959.

SN 91,932. Eversharp, Inc., New York, N.Y. Filed Mar. 1, 1960.

WAND

For Safety Razors, Safety Razor Blades, and Dispensing Devices for Safety Razor Blades.
First use Feb. 5, 1960.

SN 91,985. American Heat-Seal, Inc., Milwaukee, Wis. Filed Mar. 2, 1960.

IMPERIAL

For Pressing Machines for Heat Sealing.
First use Feb. 27, 1957.

SN 92,421. Walter C. Allmand, d.b.a. Allmand Brothers Manufacturing Company, Holdrege, Nebr. Filed Mar. 9, 1960.

VICO

For Variable Input Constant Output Power Transmissions.
First use Feb. 11, 1960.

SN 94,802. Parks-Cramer Company, Fitchburg, Mass. Filed Apr. 11, 1960.

TRAVEL VAC

For Cleaning Apparatus and Systems for Textile Mills.
First use Oct. 22, 1959.

SN 96,076. Barrentine Manufacturing Co., Greenwood, Miss. Filed Apr. 29, 1960.

BARRENTINE

For Machinery, Lawn Mowers, Tractors, Pulverizers, Harrows, Clippers, Rotary Mowers, Feed Mixers, Stalk Cutters, and Disc Carriers.
First use Jan. 1, 1945.

SN 97,328. Frank V. Pribyl, Victoria, Tex. Filed May 17, 1960.

BAILEEZ
draisamatics

For Semi-Automatic Boat Bailer.
First use Feb. 22, 1960.

SN 98,254. Wright Power Saw and Tool Corporation, Sheboygan, Wis. Filed June 1, 1960.

WRIGHT

Owner of Reg. Nos. 606,188 and 611,930.
For Pneumatic and Gasoline Power Saws, Parts, and Tools Therefor, and Saw Blades and Air Tool Lubricators for Introducing Oil in Measured Quantities Into an Air Line.
First use on or about July 3, 1958, with power saws.

SN 98,985. Fluid Energy Processing and Equipment Co., Philadelphia, Pa. Filed June 14, 1960.

JET CLONE

For Cyclone-Type Dust Collectors.
First use Oct. 10, 1958.

SN 100,735. Tarrant Manufacturing Company, Saratoga Springs, N.Y. Filed July 12, 1960.

CITY SLICKER

For Street Cleaning Machines.
First use Feb. 20, 1959.

SN 100,759. Champlain Company, Inc., Roseland, N.J. Filed July 13, 1960.



For Rotogravure Printing Presses and Related Equipment, Including Cutters and Creasers.
First use May 31, 1960.

SN 101,183. Lin-Den Company, Ottumwa, Iowa. Filed July 20, 1960.

KUT 'N' STAMP

For Combination Cutting Device and Price Marker.
First use Feb. 27, 1958.

SN 101,286. Textile Marking Machine Co. Inc., Syracuse, N.Y. Filed July 21, 1960.

PATCH-O-MATIC

For Machines for Heat-Sealing Patches to Textile Articles.
First use Mar. 9, 1960.

SN 101,326. Imperial Knife Associated Companies, Inc., Providence, R.I. Filed July 22, 1960.

Imperial

Owner of Reg. Nos. 678,838, 674,832, and 539,856.
For Scissors, Shears, Knives, Forks, and Spoons of All Kinds, Kitchen Tools—Namely, Ladles, Spatulas, Pancake Turnovers, Potato Mashers, Egg Beaters, Slicers, Serving Sets, and Wooden Salad Forks and Spoons.
First use October 1957; 1917 as to "Imperial."

SN 101,487. Standard Motor Products, Inc., Long Island City, N.Y. Filed July 25, 1960.

HYGRADE

Owner of Reg. Nos. 328,031 and 540,131.
For Replacement and Repair Parts, and Servicing Kits and Tools for the Automotive Industry—Namely, Fuel Pumps of the Non-Self-Measuring Variety and Parts, Reconditioning Parts Kits for Fuel Pumps, Including Gaskets, Springs, Diaphragms, Rocker Arms, Screens, Links, Valves, and Pins for Fuel Pumps, and Servicing Tools for Fuel Pumps, Including Jigs and Gauges for Adjusting the Same; Carburetor Parts, and Reconditioning Parts Kits for Carburetors, Including Carburetor Springs, Gaskets, Jets, Metering Rods, Needles and Seats, Links, Nozzles and Screws, and Servicing Tools for Carburetors Including Jigs and Gauges for Adjusting Carburetors; Said Parts Kits Being Sold as a Unit.
First use August 1959.

SN 103,143. The Gleason Works, Rochester, N.Y. Filed Aug. 22, 1960.

X-PANDISK

For Chucks and Arbors for Machine Tools.
First use Feb. 23, 1960.

SN 103,144. The Gleason Works, Rochester, N.Y. Filed Aug. 22, 1960.

TANLINE

For Chucks for Machine Tools.
First use Nov. 16, 1959.

SN 104,825. Leo Gibrich Company, Chicago, Ill. Filed Sept. 20, 1960.

UJS

Owner of Reg. No. 657,728.
For Automatic Transmission and Power Steering Parts for Automobiles and Vehicles.
First use June 20, 1960.

Class 26—Measuring and Scientific Appliances

SN 65,756. Deutsche Elektronik G.m.b.H., Berlin-Wilmersdorf, Germany. Filed Jan. 18, 1959.

METEOR

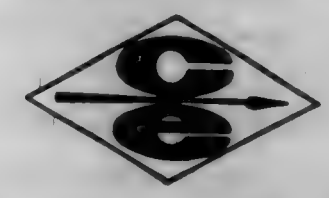
For Electrical and Electronic Flashlight Equipment for Photographic Purposes.
First use Oct. 17, 1958; in commerce Oct. 17, 1958.

SN 72,601. Field Emission Corporation, McMinnville, Oreg. Filed Apr. 30, 1959.

FEXITRON

For X-Ray Machines and Control, Timing, and Related Accessories Therefor, and Components and Parts of Said Machines and Accessories.
First use Jan. 14, 1959.

SN 83,602. Chandler Engineering Co., Tulsa, Okla. Filed Oct. 20, 1959.



For Instruments Used in the Oil and Gas Industries for Measuring and Testing Physical Properties, Such as Specific Gravity, Pressures, and the Dew Point of Gases and Liquids.
First use on or about Sept. 11, 1959.

SN 84,709. Radio Corporation of America, New York, N.Y. Filed Oct. 26, 1959.

RCA 501

Owner of Reg. No. 666,553.
For Electronic Data Processing Apparatus, Components Thereof, Accessories Therefor.
First use at least as early as June 22, 1959.

SN 86,827. Edward Y. Politi, d.b.a. Solid State Electronics Co., Van Nuys, Calif. Filed Dec. 7, 1959.

VIBRACHOPPER

For Combination Vibrator Plus Chopper in Which the Vibrator Drives the Chopper.
First use Oct. 7, 1959.

SN 87,330. Bell & Howell Company, Chicago, Ill. Filed Dec. 15, 1959.

ZOOMATIC

For Photographic Cameras and Parts Thereof.
First use Nov. 19, 1959.

SN 88,313. General Electric Company, Schenectady, N.Y. Filed Dec. 31, 1959.

DINNER DIAL

For Automatic Oven Control of the Thermostatic Type for Electric Range.
First use Nov. 13, 1959.

SN 92,770. Industrial Nucleonics Corporation, Columbus, Ohio. Filed Mar. 14, 1960.

ACCURAY

Owner of Reg. Nos. 585,217 and 646,469.

For Statistical Computation and Data Reduction Systems and Component Apparatus Therefor Including Computers, Counters, Classifiers, Evaluators, Timers, Alarms, and Information Indicators.

First use November 1955.

SN 93,465. Sorensen Center-Mikes, Inc., Bridgeport, Conn. Filed Mar. 22, 1960.

ROTO-MIKE

For Mechanical Measuring, Gaging and Dimension Testing Instruments and Apparatus—Namely, Sine Fixtures.

First use Aug. 31, 1954.

SN 93,716. Earl F. Seymour, d.b.a. Seymour's, New York, N.Y. Filed Mar. 25, 1960.

TERRAGON

For Optical Lenses.

First use July 31, 1957.

SN 93,718. Earl F. Seymour, d.b.a. Seymour's, New York, N.Y. Filed Mar. 25, 1960.

COLIGON

For Optical Lenses.

First use Aug. 20, 1956.

SN 94,035. American Bank Note Company, New York, N.Y. Filed Mar. 31, 1960.

MICRULER

For Ruler Type of Instrument for Checking Documents Involving Magnetic Ink Printing.

First use Feb. 10, 1960.

SN 94,099. Shane-Michael Optical Co., San Francisco, Calif. Filed Mar. 31, 1960.

SUNGUIDE

For Sunglasses.

First use Apr. 15, 1953.

SN 94,658. Fairchild Camera and Instrument Corporation, Syosset, N.Y. Filed Apr. 8, 1960.



CINEPHONIC EIGHT

Applicant disclaims exclusive right to the word "Eight" apart from the mark as shown.

For Photographic Sound Cameras, Projectors, and Film Therefor, Exposure Meters, Tripods, Lenses, Electronic Control Apparatus for Sound Film Devices, Prepaid Mailing Containers for Processed Film, Parts and Accessories for Sound Cameras and Projectors.

First use Dec. 20, 1959.

SN 95,177. The Irwin Auger Bit Company, Wilmington, Ohio. Filed Apr. 15, 1960.

STRAIT-LINE

For Self Chalking Chalk Line Box and Plumb Bob and Chalk Line and Powdered Chalk for Use Therewith.

First use in or about 1949.

SN 96,969. Moline Tool Company, Moline, Ill. Filed May 12, 1960.

MULTI-NUMETRIC

For Numerical Control Devices for Controlling the Operations of Machine Tools.

First use Apr. 29, 1960.

SN 97,369. Attwood Corporation, Grand Rapids, Mich. Filed May 18, 1960.

FINSON

For Marine Speed Indicators.

First use Feb. 1, 1949.

SN 99,923. The Eastern Malleable Iron Company, d.b.a. Danforth Anchors, Portland, Maine. Filed June 29, 1960.

DANFORTH

Owner of Reg. No. 504,310.

For Navigational Devices, Particularly a Course Protractor and a Speed Calculating Device.

First use June 2, 1960; Jan. 2, 1939, on related goods.

SN 100,028. Industrial Products Company, Philadelphia, Pa. Filed June 30, 1960.

IP

For Spectacles, Goggles, Shields and Lenses.

First use Apr. 3, 1960.

SN 101,438. Standard Motor Products, Inc., Long Island City, N.Y. Filed July 25, 1960.

HYGRADE

Owner of Reg. Nos. 328,031 and 589,875.

For Speedometer Parts—Namely, Speedometer Cables, Speedometer Cable and Casing Assemblies, and Speedometer Tips and Ferrules; and Reconditioning Parts Kits for Speedometers Sold as a Unit and Containing Some or All of Said Parts.

First use January 1960.

SN 101,890. Scharmann Machine Corporation, New York, N.Y. Filed Aug. 2, 1960.

OPTUM

For Optical Measuring Device Especially for Measuring Rotary Position of a Rotating Worktable.

First use on or about June 1, 1959.

SN 101,891. Scharmann Machine Corporation, New York, N.Y. Filed Aug. 2, 1960.

MICROPTIC

For Optical Measuring Device Especially for Measuring Vertical and Horizontal Movements of a Horizontal Boring Mill.

First use Apr. 1, 1959.

SN 104,030. Hydrotherm, Inc., Northvale, N.J. Filed Sept. 7, 1960.

HYDROTHERM

Owner of Reg. Nos. 352,344, 670,248, and others.
For Thermostats and Also Temperature and Pressure Responsive Valves.
First use January 1946.

SN 104,147. Ether Limited, Erdington, Birmingham, England. Filed Sept. 9, 1960.

ETHER FORGEMASTER

Owner of British Reg. No. B703,625, dated Dec. 27, 1951.
For Pyrometers.

SN 104,149. Ether Limited, Erdington, Birmingham, England. Filed Sept. 9, 1960.

THERMAL-TROL

Owner of British Reg. No. 747,928, dated Nov. 11, 1955.
For Instruments and Apparatus for Measuring, Indicating, Recording, and Controlling Temperatures.

SN 104,177. National Rejectors, Inc., St. Louis, Mo. Filed Sept. 9, 1960.

NRI

For Components for the Money-Handling and Product-Vending Fields, Including: Slug Rejectors, Coin Paying Out Devices, Credit Accumulating Devices, Currency Identifying Devices, Cup Dispensers, Coin-Operated Switches, Coin Return Receptacles, Coin Insert Receptacles, Actuators for Vending Machines, and Change-Making Devices.
First use Oct. 23, 1959.

SN 104,204. Universal Match Corporation, Ferguson, Mo. Filed Sept. 9, 1960.

UNIPARK

For Computer That Can Compute the Time Interval Between Two Recorded Times on a Card and That Can Indicate the Charge Corresponding to Said Time Interval.
First use Aug. 21, 1960.

SN 104,675. Automatic Control Company, St. Paul, Minn. Filed Sept. 19, 1960.

GAUGETROL

For Electro-Mechanical Measuring Device Using Pressure Gauge Movements and Principles To Operate Electrical Contacts for the Control of Pumps, Valves, and Alarms.
First use July 22, 1960.

SN 104,716. Grant Photo Products, Inc., Lakewood, Ohio. Filed Sept. 19, 1960.

DAYNEG

For Photo-Sensitive Materials—Namely, Photographic Papers, Photographic Tracing Cloth, Photographic Film, Etc.
First use May 1957.

SN 104,719. Grant Photo Products, Inc., Lakewood, Ohio. Filed Sept. 19, 1960.

LINEPRO

For Photo-Sensitive Materials—Namely, Photographic Papers, Photographic Tracing Cloth, Photographic Film, Etc.
First use November 1956.

SN 104,720. Grant Photo Products, Inc., Lakewood, Ohio. Filed Sept. 19, 1960.

LINECOPY

For Photo-Sensitive Materials—Namely, Photographic Papers of Kinds Used for Direct Duplication or as Intermediates for Printing, Photographic Tracing Cloth, Photographic Film, Etc.
First use April 1958.

SN 104,838. Ernst Leitz, G.m.b.H., Wetzlar, Lahn, Germany. Filed Sept. 20, 1960.

SIMPLEX

For Toolmaker Microscope.
First use in January 1958; in commerce in January 1958.

SN 104,873. Zavody Jana Svermy, Narodni Podnik, Brno, Czechoslovakia. Filed Sept. 20, 1960.

Nesa

Owner of Czechoslovakian Reg. No. 153,822, dated May 20, 1959.
For Calculating Machines.

Class 28 — Jewelry and Precious-Metal Ware

SN 102,666. Wm. R. Katz Co., Dallas, Tex. Filed Aug. 15, 1960.

OUR LOVE

For Finger Rings and Parts Thereof, and Necklaces.
First use July 28, 1960.

Class 29 — Brooms, Brushes, and Dusters

SN 79,779. Johnson & Johnson, New Brunswick, N.J. Filed Aug. 18, 1959.

INITIAL

For Toothbrushes.
First use July 7, 1959.

SN 83,221. Johnson & Johnson, New Brunswick, N.J. Filed Oct. 14, 1959.

INITIAL BY TEK

Owner of Reg. Nos. 258,849, 551,649, and 582,003.
For Toothbrushes.
First use Sept. 2, 1959.

SN 89,229. The Wooster Brush Company, Wooster, Ohio. Filed Jan. 18, 1960.

SHUR-DUZ

For Paint Brushes and Paint Roller Covers.
First use Dec. 17, 1959.

SN 90,188. Autoclean Limited, Wembley, England. Filed Feb. 2, 1960.

NENETTE

Owner of British Reg. No. 773,770, dated Jan. 30, 1958; and U.S. Reg. No. 604,462.
For Cloths, Mops, and Brushes for Cleaning and Polishing Metal, Wood, Plastics, Painted, Enameled, and Other Surfaces.

SN 98,022. Outers Laboratories, Inc., Onalaska, Wis. Filed May 27, 1960.

GUNSLICK

Owner of Reg. Nos. 323,141 and 699,543.
For Gun Cleaning Patches, Swabs, and Brushes.
First use in or about August 1937.

SN 99,893. Star Brush Manufacturing Co., Inc., Boston, Mass. Filed June 28, 1960.

BOSSOWOOD

For Brushes and Brush Handles—Namely, Basting Brushes and Handles for the Same.
First use Mar. 8, 1960.

Class 30—Crockery, Earthenware, and Porcelain

SN 80,934: Superware Corp., Great Neck, N.Y., assignee of Superware Corp., Great Neck, N.Y., and Jacobs Enterprises Inc., Stamford, Conn. (joint venture). Filed Sept. 4, 1959.

ROYAL DUCHESS

For Ceramic and China Dinnerware.
First use July 17, 1959.

Class 31—Filters and Refrigerators

SN 93,787. Food Filters Corporation, Eaton, Ohio. Filed Mar. 28, 1960.

SUPERIOR

For Textile Sheet Products Used in Dairy Product Handling—Namely, Cheese Bandages and Milk Filter Bags, Flats, Strips, Rolls, Tubes, Squares, and Discs.
First use Nov. 27, 1959.

Class 32—Furniture and Upholstery

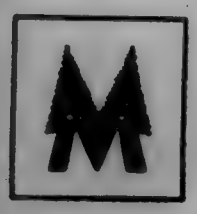
SN 86,007. Wolf Appliance Corporation, New York, N.Y. Filed Nov. 24, 1959.

BEAUTIQUE

For Ornamental Metal Shelving.
First use Apr. 14, 1959.

Class 35—Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 95,446. M & M Hose Co., North Hollywood, Calif. Filed Apr. 20, 1960.



BRONZLINE

For Hose for Water Supply Line for House Trailers.
First use March 1955.

SN 95,447. M & M Hose Co., North Hollywood, Calif. Filed Apr. 20, 1960.

Pool Buoy

For Hose for Vacuuming Swimming Pools.
First use March 1959.

SN 95,734. The Kelly-Springfield Tire Company, Cumberland, Md. Filed Apr. 25, 1960.

ARMOR BAND

Owner of Reg. Nos. 509,445 and 592,750.
For Tires.
First use Mar. 10, 1960.

SN 100,386. Manganese Steel Forge Company, Philadelphia, Pa. Filed July 5, 1960.

AUDUBON METALWOVE

For Conveyor Belts.
First use about May 1935.

SN 103,441. Chase Industries, Inc., Reading, Ohio. Filed Aug. 26, 1960.

CHASEAL

For Gasket Material for Refrigerators.
First use in October 1948.

SN 104,542. National Bellas Hess, Inc., North Kansas City, Mo. Filed Sept. 15, 1960.

BEL-FLITE

For Vehicle Tires.
First use June 8, 1960.

SN 104,674. Asbiton A.G., Zurich, Switzerland. Filed Sept. 19, 1960.

compriband

For Elastic Material Having a Foam Structure and Impregnated With Bitumen and the Like for Packing and Sealing of Seams, Joints, and the Like.
First use Jan. 14, 1956; in commerce May 6, 1959.

SN 104,709. Louis Fishman & Co., Inc., d.b.a. Bearcat Tire Company, Chicago, Ill. Filed Sept. 19, 1960.

GRIZZLEY

For Non-Pneumatic Vehicle Tires.
First use Sept. 7, 1960.

SN 104,882. The Kelly-Springfield Tire Company, Cumberland, Md. Filed Sept. 20, 1960.

EMBASSY

For Tires.
First use Aug. 30, 1960.

SN 104,833. The Kelly-Springfield Tire Company, Cumberland, Md. Filed Sept. 20, 1960.

CENTURION

For Tires.
First use Aug. 30, 1960.

SN 104,834. The Kelly-Springfield Tire Company, Cumberland, Md. Filed Sept. 20, 1960.

DIRECTOR

For Tires.
First use Aug. 30, 1960.

SN 104,835. The Kelly-Springfield Tire Company, Cumberland, Md. Filed Sept. 20, 1960.

SAFARI

For Tires.
First use Aug. 30, 1960.

Class 36 — Musical Instruments and Supplies

SN 57,581. Traficante, Inc., d.b.a. The Titans Company, Minneapolis, Minn. Filed Aug. 20, 1958.

TITAN

Owner of Reg. No. 510,598.
For Accordions.
First use May 2, 1958.

SN 88,851. Lawrence Ray Duane, Rubidoux, Calif. Filed Jan. 12, 1960.



The word "Records" is disclaimed.
For Phonograph Records.
First use Aug. 27, 1958.

SN 100,572. Banner Enterprises, Inc., Minden, La. Filed July 11, 1960.

BANNER

For Phonograph Records.
First use June 11, 1960.

SN 101,038. Rico Products, Hollywood, Calif. Filed July 18, 1960.

NOVA

For Reeds for Woodwind Instruments, Mouthpieces for Woodwind Instruments, and Woodwind Instrument Accessories.
First use Mar. 10, 1960.

Class 38 — Prints and Publications

SN 79,068. Cadel-Kaye, Inc., New York, N.Y., assignee of Kaye-Cadel Publishing Corp., New York, N.Y. Filed Aug. 5, 1959.

PACKAGING DESIGN

For Periodical Publication.
First use May 1, 1959.

SN 79,724. T.I. Electronics Corp., Buena Park, Calif. Filed Filed Aug. 17, 1959.

THE FAMILY CALENDAR

Applicant hereby disclaims the word "Calendar" apart from the mark.
For Combination Calendar and Memorandum Book.
First use June 2, 1959.

SN 93,417. The Sidney Printing & Publishing Co., Sidney, Ohio. Filed Mar. 22, 1960.

Coin World

For Weekly Newspaper.
First use Mar. 5, 1960.

SN 99,966. George N. Scheid, Tarentum, Pa. Filed June 29, 1960.



For Newspaper and Other Printed Media Column.
First use June 18, 1957.

SN 103,839. Country Music Association, Inc., Nashville, Tenn. Filed Sept. 2, 1960.



For Newsletters Issued From Time to Time.
First use Oct. 7, 1959.

Class 39 — Clothing

SN 64,378. Weinberg Corporation, Chicago, Ill. Filed Dec. 15, 1958.

RANCHERO

For Men's Jackets and Top Coats.
First use Nov. 24, 1958.

SN 73,749. Superba Cravats, Inc., Rochester, N.Y. Filed May 14, 1959.

RAJAH

For Neckwear.
First use Aug. 8, 1958.

SN 84,235. J. R. McMullen Company, Inc., New York, N.Y. Filed Oct. 29, 1959.

McMULLEN



Owner of Reg. No. 383,423.
For Women's Blouses, Women's Sweaters, Dresses, Skirts, Women's Slacks and Shorts.
First use 1937.

SN 88,986. Philip Gurian Sons Inc., New York, N.Y. Filed Jan. 14, 1960.

Salotta

For Fabric Made Up Into Women's and Misses' Skirts, Blouses, Slacks, Culottes, Bermuda Shorts, Jamaica Shorts, Jackets, and Vests.
First use Jan. 4, 1960.

SN 90,435. Olga Company, Van Nuys, Calif. Filed Feb. 5, 1960.

FRENCH TEASE

Owner of Reg. Nos. 620,444 and 687,998.
For Foundation Garments.
First use Aug. 20, 1959.

SN 90,910. Flexnit Company, Inc., Elizabeth, N.J. Filed Feb. 15, 1960.

FLEX-O-BAND

For Foundation Garments With a Unitary-Woven, Smooth, Seamless, Reinforced Marginal Edge.
First use on or about Feb. 5, 1960.

SN 92,026. Laughlin F.F. Hosiery Mills, Inc., Randleman, N.C. Filed Mar. 2, 1960.

CHOSEN CHOICE

For Ladies' Nylon Hosiery.
First use Jan. 12, 1960.

SN 96,362. Maxwell Sachs, d.b.a. Spring-O-Shell Mfg. Co., West Roxbury, Mass. Filed May 3, 1960.

SPRING-O-SHELLS

Owner of Reg. Nos. 689,929 and 689,930.
For Shoe Parts—Namely, Heels, Soles, Counters, and Uppers.
First use Apr. 29, 1960.

SN 96,705. F. Jacobson & Sons, Inc., New York, N.Y. Filed May 9, 1960.

TRICODENE

For Men's Shirts.
First use Apr. 12, 1960.

SN 97,461. Cye-Martin, Inc., New York, N.Y. Filed May 19, 1960.

LEONARDI

For Men's and Women's Outerwear and Sportswear—Namely, Suits, Sport Jackets, Top Coats, Formal Clothes.
First use Oct. 26, 1957.

SN 97,747. Clifford Burnell Anderson, Caldwell, Idaho. Filed May 24, 1960.



The drawing is lined for the colors red and blue. The word "Originals" is disclaimed apart from the mark as shown.
For Swimwear and Sportswear—Namely, Swim Suits, Bathing Robes, and Sport Jackets.
First use Nov. 11, 1959.

SN 98,928. Poplar Textiles, Inc., Philadelphia, Pa. Filed June 13, 1960.

PILLOW SOLE

Without waiving its common law rights, and for the purpose of this application only, applicant makes no claim to the word "Sole" apart from the mark as shown.
For Hosiery for Men and Boys.
First use May 10, 1960.

SN 99,068. Maidenform, Inc., New York, N.Y., by change of name from Maiden Form Brassiere Company, Inc., New York, N.Y. Filed June 15, 1960.

DREAM by maidenform

For Foundation Garments—Namely, Brassieres.
First use May 27, 1960.

SN 99,164. Walter W. Moyer Company, Inc., Ephrata, Pa. Filed June 16, 1960.

TRI-LON

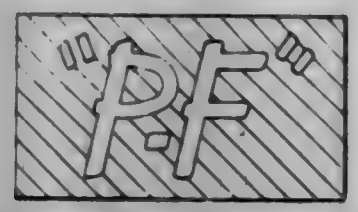
For Women's and Girls' Underwear.
First use June 1, 1960.

SN 99,493. Chips 'N Twigs, Inc., Philadelphia, Pa. Filed June 22, 1960.

LORD CHIPS

Owner of Reg. Nos. 412,572, 652,100, and others.
For Young Men's, Boys', and Children's Suits, Jackets, Coats, Sportcoats, Topcoats, Overcoats, Snowsuits, Pants, Shorts, Swimsuits, Robes, Beachwear, Raincoats, Slacks, Eton Suits, Eton Type Suits, Hats, and Shirts.
First use June 18, 1959.

SN 99,512. The B. F. Goodrich Company, Akron, Ohio. Filed June 22, 1960.



The mark as shown in the drawing is lined for the color green. Owner of Reg. Nos. 429,057 and 664,453.
For Footwear, Specifically, Men's, Women's, and Children's Rubber-Soled Canvas Footwear.
First use Dec. 1, 1956.

SN 99,944. Mine Safety Appliances Company, Pittsburgh, Pa. Filed June 29, 1960.

TOPGARD

Owner of Reg. Nos. 672,544 and 677,757.
For Protective Headgear.
First use at least as early as June 10, 1960.

SN 100,026. Holt Hosiery Corporation, New York, N.Y. Filed June 30, 1960.

Multifil

For Women's and Girls' Hosiery.
First use on or about June 16, 1960.

SN 101,030. J. C. Penney Company, New York, N.Y. Filed July 18, 1960.

Travel-Cool

For Men's and Boys' Clothing—Namely, Suits, Topcoats, and Trousers.
First use Dec. 17, 1936.

SN 101,074. Belle Fabric Division, Inc., New York, N.Y. Filed July 19, 1960.



For Men's Ties.
First use May 1, 1960.

SN 101,864. Genesco Inc., Nashville, Tenn. Filed Aug. 2, 1960.

AFTER HOURS

For Boots, Shoes, and Slippers of Leather, Rubber, Fabric, or a Combination of Those Materials, for Men, Women, and Children.
First use Apr. 24, 1960.

SN 101,865. Greene Associates, Inc., New York, N.Y. Filed Aug. 2, 1960.

PREFERS

For Underwear Such as Men's Shorts and Undershirts.
First use June 4, 1959.

SN 101,939. Freeman Shoe Corporation, Beloit, Wis. Filed Aug. 3, 1960.

RES-TRED

For Men's and Boys' Shoes.
First use May 13, 1960.

SN 102,067. Timely Clothes Incorporated, New York, N.Y. Filed Aug. 4, 1960.

TUNDRA

For Men's Suits, Sport Jackets, Topcoats, Overcoats, and Raincoats.
First use June 14, 1960.

SN 102,275. Star Bright Togs, Inc., New York, N.Y. Filed Aug. 8, 1960.

SAUCY FROCKS

The word "Frocks" is disclaimed apart from the mark as shown.
For Children's Dresses.
First use Mar. 1, 1960.

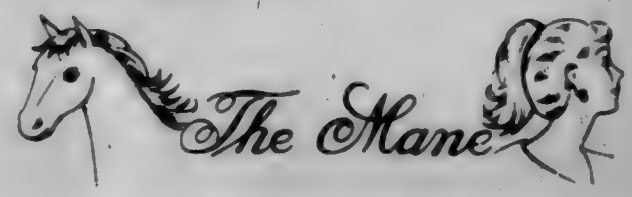
SN 105,776. Whitworth & Mitchell, Limited, Radcliffe, Manchester, England. Filed Oct. 4, 1960.

TRICOLINE

Owner of British Reg. No. 541,761, dated May 25, 1933; and U.S. Reg. No. 179,542.
For Men's and Boys' Shirts and Pyjamas, and Women's, Girls', and Children's Blouses, Dresses and Pyjamas.

Class 40—Fancy Goods, Furnishings, and Notions

SN 84,870. Irene M. Dorr, d.b.a. The Mane Company, Timonium, Md. Filed Nov. 9, 1959.



For Hair Barrettes and Combs for Holding the Hair in Place.
First use Apr. 30, 1959.

SN 92,183. Lorraine C. Richardson, Carnegie, Pa. Filed Mar. 4, 1960.

STICKETS "LET'S STICK TOGETHER"

For Fabric Fastening Tapes Provided With Interlocking Hooks and Loops of Synthetic Fiber for Use in Releasably Fastening Overlapping Edges of Dresses, Shirts, and Other Garments.
First use Jan. 28, 1960.

SN 94,887. Freitag & Sons, Inc., New York, N.Y. Filed Apr. 12, 1960.

JEWEL-TONE

For Buttons, Buckles, and Slide Fasteners for Wearing Apparel.
First use Jan. 1, 1948.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 57,583. M. Lowenstein & Sons, Inc., New York, N.Y., assignee of Wamsutta Mills, Inc., New York, N.Y. Filed Aug. 20, 1958.

SUTTAMATIC

Owner of Reg. No. 638,500.
For Wash and Wear Piece Goods, Made of Cotton and/or Synthetic Fibres.
First use Feb. 27, 1958.

SN 99,074. Modern Living, Inc., Hollywood, Calif. Filed June 15, 1960.

BRIDGEASY

For Bridge-Table Covers.
First use during September 1954.

SN 99,309. Dri-Glo Towels Pty. Limited, Fivedock, near Sydney, New South Wales, Australia. Filed June 20, 1960.

DRI-GLO

Owner of Australian Reg. No. 54,353, dated Oct. 4, 1929.
For Towels (Cotton).

SN 101,508. J. J. O'Donnell Woolens, Inc., New York, N.Y. Filed July 26, 1960.



Without waiving its common law rights and for purposes of this registration only, applicant makes no claim herein to the word "Fabric" apart from the mark as shown. Owner of Reg. No. 671,601.
For Woolen Piece Goods Which Are Manufactured Into Women's Skirts, Suits, Coats, and Toppers.
First use June 10, 1960.

SN 101,785. Jantzen Inc., Portland, Oreg. Filed Aug. 1, 1960.



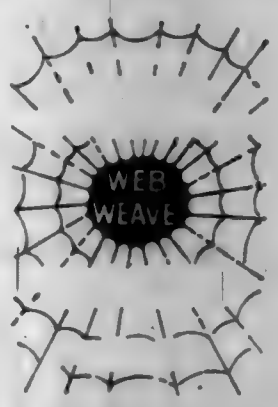
Owner of Reg. Nos. 418,710, 526,945, and others.
For Beach Towels.
First use September 1955.

SN 101,786. Jantzen Inc., Portland, Oreg. Filed Aug. 1, 1960.



Owner of Reg. Nos. 421,925, 526,945, and others.
For Beach Towels.
First use September 1955.

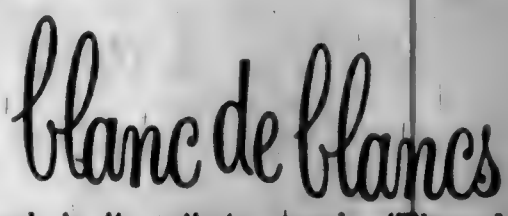
SN 104,276. Jamestown Mills, Inc., Jamestown, N.C. Filed Sept. 12, 1960.



For Woven Frieze for Outer Covering of Furniture and Bedding.
First use Aug. 15, 1955.

Class 43—Thread and Yarn

SN 91,902. American Enka Corporation, Enka, N.C. Filed Mar. 1, 1960.



The mark in its entirety, namely, "Blanc de Blancs," means "white of whites."
For Yarn.
First use Feb. 22, 1960.

SN 104,421. Beaunit Mills, Inc., New York, N.Y. Filed Sept. 14, 1960.



For Rayon Yarn.
First use on or about May 20, 1960.

Class 44—Dental, Medical, and Surgical Appliances

SN 92,808. Puritan Compressed Gas Corporation, Kansas City, Mo. Filed Mar. 14, 1960.

PURITAN

Owner of Reg. No. 428,111.
For Gas Handling and Administering Equipment and Components for Respiration and Resuscitation Systems—Namely, Valves, Masks, Regulators, Flow Meters, Humidifiers, and Parts Thereof.
First use Jan. 29, 1932.

SN 100,306. William E. Sherfey, Portland, Oreg. Filed July 5, 1960.

DENTMOBILE

For Mobile Dental Unit Comprising a Hand Truck With Cabinet and Tray Holding Tools, Such as a Dental Drill, and Gas and Water Under Pressure, and Also Comprising a Folding Dental Chair.
First use on or before June 15, 1959.

SN 103,232. Alfried Krupp von Bohlen und Halbach, d.b.a. Fried. Krupp, Essen, Germany. Filed Aug. 22, 1960.

WISIL

Owner of German Reg. No. 423,061, dated Sept. 4, 1930.
For Dental Apparatus, Artificial Limbs and Parts Thereof, Artificial Parts of the Human and Animal Body, Dental Prosthetic-Chewing Appliances Including Securing Parts, Dental Plates, Artificial Teeth, Artificial Teeth Crowns, Dental Chewing Plates, Dental Bridges, Dental Pins, Dental Tooth Clamps, Dental Plate Springs, and Dental Wire.

Class 45—Soft Drinks and Carbonated Waters

SN 88,355. Whitson Food Products Co., Denton, Tex. Filed Dec. 31, 1959.

PIC · A · POP

For Soft Drinks and Concentrates for Preparation of Soft Drinks.
First use on or about Feb. 1, 1959.
Subj. to Intf. with SN 76,561.

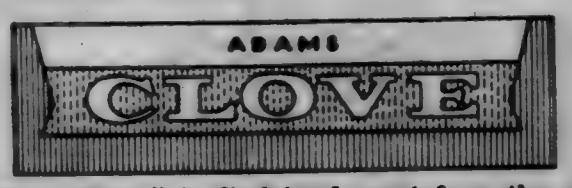
Class 46—Foods and Ingredients of Foods

SN 89,261. Fancy Foods of Virginia, Incorporated, Norfolk, Va. Filed Jan. 19, 1960.

FANCY'S FINEST

The word "Finest" is disclaimed apart from the trademark as shown.
For Pickles, Peppers, Olives, Smoked Oysters, Smoked Clams, Cocktail Bread, Cocktail Meatballs, and Cheeses.
First use Dec. 28, 1955.

SN 90,808. American Chicle Company, Long Island City, N.Y. Filed Feb. 12, 1960.



The word "Clove" is disclaimed apart from the mark as shown. The drawing is lined for red and purple, but no claim is made to the color red which is a portion of the overall color background of the mark. Owner of Reg. No. 411,029.
For Chewing Gum.
First use Aug. 15, 1958.

SN 97,758. Gilbert Distributing Co., d.b.a. Gilbert Distributing Company, Springfield, Pa. Filed May 24, 1960.

TOYBURGER

For Frozen Beef Patties.
First use on or about Aug. 20, 1958.

SN 98,394. Pin Money Foods, Inc., Old Saybrook, Conn. Filed June 3, 1960.



Owner of Reg. Nos. 70,879, 82,243, and 128,245.
For Pickles and Pickle Relishes.
First use 1947.

SN 98,894. The Griffith Laboratories, Inc., Chicago, Ill. Filed June 13, 1960.

PROCASE

For Sodium Soya Protein Concentrate for Use in Food Products.
First use May 31, 1960.

SN 99,851. The Frank Tea & Spice Company, Cincinnati, Ohio. Filed June 28, 1960.



Owner of Reg. Nos. 619,581 and 619,582.
For Spices; Extracts for Food Purposes; Food Colorings; Apple Butter; Sauces for Meats and Vegetables; Olive Oil, Olives, Peanut Butter, Apple Sauce, Red Hot Sauce for Use as Seasoning on Meats and Salads, and Other Foods; Mustards.
First use July 1, 1959; 1938 as to "Frank's."

SN 100,432. Dorann Foods, Inc., Rye, N.Y. Filed July 7, 1960.

CONEY ISLAND

For Frozen Sea Food.
First use June 15, 1960.

SN 100,554. United Fruit Company, Boston, Mass. Filed July 8, 1960.



Owner of Reg. Nos. 508,492 and 700,653.
For Bananas.
First use June 6, 1960; and on Sept. 11, 1947, in another display.

SN 103,701. Bowman Apple Products Co., Inc., Mount Jackson, Va. Filed Aug. 31, 1960.

VIRGINIA CHEF

For Apple Sauce.
First use Aug. 23, 1960.

SN 103,800. Penick & Ford, Ltd., Incorporated, New York, N.Y. Filed Sept. 1, 1960.

SUVEL

For Blend of Glucose (Corn Syrup) and Sucrose (Sugar Syrup) for Use as an Ingredient of Foodstuffs.
First use Aug. 10, 1959.

Class 47 — Wines

SN 98,851. Barton & Guestier, S.A., Bordeaux, France. Filed June 13, 1960.

PRINCE D'ARGENT

"Prince d'Argent" means "Silver Prince" when translated into English. Owner of U.S. Reg. Nos. 318,349 and 318,468.
For Wine.
First use latter part of April 1957; in commerce latter part of April 1957.

Class 48 — Malt Beverages and Liquors

SN 95,954. The Walter Brewing Company, Pueblo, Colo. Filed Apr. 27, 1960.



No registration rights are claimed for the word "Beer."
Owner of Reg. No. 614,956.
For Beer.
First use June 11, 1956.

Class 49 — Distilled Alcoholic Liquors

SN 99,994. The American Distilling Company, d.b.a. Clarke's Distilling Company, New York, N.Y. Filed June 30, 1960.

SEMKOV

For Vodka.
First use Apr. 23, 1954.

SN 100,273. Mackenzie Brothers Dalmore Limited, Alness, Ross-Shire, Scotland. Filed July 5, 1960.



Owner of British Reg. No. 1,801, dated Feb. 4, 1876.
For Whisky.

Class 50 — Merchandise Not Otherwise Classified

SN 90,959. Sure View Sign Company, Fort Wayne, Ind. Filed Feb. 15, 1960.

MARK-R-LITE
REFLECTIVE

The word "Reflective" is disclaimed when used separately and apart from the trademark. The drawing is lined for black and red, but color is not claimed as a feature of the trademark.
For Signs and Markers—Namely, Lawn, Mail Box, and Bracket Markers, and Letters, Numerals, Characters, and Ornaments for Use With Such Signs and Markers.
First use Jan. 4, 1960.

SN 99,438. Chas. E. Maier, Inc., Newark, N.J. Filed June 21, 1960.

EVER-LAST

For Signs, Placards, and Engraved Plates.
First use May 1959.

Class 51 — Cosmetics and Toilet Preparations

SN 74,630. Viviane Woodard Corporation, Panorama City, Calif., by change of name from Viviane Woodard Cosmetics, Panorama City, Calif. Filed May 27, 1959.

PRIMEVAL

For Bath Oil.
First use Jan. 24, 1959.

SN 103,326. Chesebrough-Pond's Inc., New York, N.Y. Filed Aug. 24, 1960.

BED TIME STORY

For Lipsticks.
First use July 26, 1960.

Class 52 — Detergents and Soaps

SN 73,912. Glitter, Inc., Chicago, Ill. Filed May 18, 1959.

Glitter

For Liquid Composition Containing Soap and a Detergent for Cleaning Jewelry and Eye Glasses.
First use May 6, 1959; 1988 as to "Glitter" in block letter format.

SN 92,575. The Procter & Gamble Company, Cincinnati, Ohio, assignee of Patek and Co., San Francisco, Calif. Filed Mar. 11, 1960.

SALVO

For Laundry Detergent.
First use June 5, 1957.

SN 100,234. E-Z-Est Products Co., Inc., Oakland, Calif. Filed July 5, 1960.

EASIEST

Owner of Reg. Nos. 418,842, 517,878, and 683,496.
For Copper Cleaner.
First use Aug. 6, 1958.

SN 100,236. E-Z-Est Products Co., Inc., Oakland, Calif. Filed July 5, 1960.

E · Z · EST

Owner of Reg. Nos. 517,878, 418,842, and 683,496.
For Preparation Which Cleans Precious and Semi-Precious Stones, Jewelry, Silver, Gold, Copper, and Brass Metals and Also Removes the Tarnish Therefrom; Tarnish Remover for Silver; and Steam Iron Cleaner.
First use Aug. 8, 1951.

SN 100,489. B. T. Babbitt, Inc., New York, N.Y. Filed July 8, 1960.

HEP

Owner of Reg. Nos. 359,552, 506,569, and 590,371.
For Oven Cleaner Spray.
First use March 1955.

SN 101,912. Western Chemical Company, St. Joseph, Mo. Filed Aug. 2, 1960.

SYNTHENE

For Liquid Detergent General Purpose Cleaner.
First use Aug. 15, 1957.

SERVICE MARKS

Class 100 — Miscellaneous

SN 95,949. Tri-R Vending Service Co., Chicago, Ill. Filed Apr. 27, 1960.



For Snack Bar Services on a Contract Basis—Namely, Dispensing of Food, Tobacco and Beverages in Industrial Establishments by Means of Vending Machines.
First use Jan. 1, 1960.

Class 101 — Advertising and Business

SN 75,535. Black Gold Stamp Co., Houston, Tex. Filed June 11, 1959.

BLACK GOLD

For Promoting the Sale of Goods of Others by Means of a Savings Stamp Plan in Which Stamps Are Issued and Then Redeemed in Premiums.
First use July 30, 1953.

SN 87,816. James J. Matthews, Incorporated, Arlington, Va. Filed Dec. 22, 1959.

TOPS

For Drive-In Restaurant Services.
First use Dec. 10, 1953.

SN 88,906. John W. Frangos, Danvers, Mass. Filed Jan. 13, 1960.

HOMETEL

For Lodging-House Services.
First use Nov. 14, 1959.

Class 102 — Insurance and Financial

SN 99,856. Pacific Indemnity Company, Los Angeles, Calif. Filed June 20, 1960.

BUDGETEER

For Automobile Liability Insurance Underwriting.
First use Apr. 14, 1960.

Class 103 — Construction and Repair

SN 69,309. Architects and Contractors Service, Inc., Mishawaka, Ind. Filed Mar. 11, 1959.

ARCOSE

For Building Construction Such as Renting and Servicing Scaffolds and Portable Heaters, Arches, Wall Covering, Trusses, and the Like.
First use the first part of January 1959.

SN 83,868. The Dow Chemical Company, Midland, Mich. Filed Oct. 28, 1959.

ABRASIJET

For Well Treating Service—Namely, Jetting Liquids Containing Abrasives Into Wells To Perforate Casing, Cement, and Underground Earth Formations, Usually Followed by Fracturing the Formation, With or Without a Propping Agent.
First use June 23, 1959.

SN 87,387. United Steel Fabricators, Inc., Wooster, Ohio. Filed Dec. 15, 1959.

IMAGINEERING

For Designing, Engineering, Constructing, and Repairing Buildings and Building Components Comprised Essentially or Wholly of Steel or Other Ferrous Materials as Distinguished From Aluminum or Other Nonferrous Materials.
First use March 1959.

Class 104—Communication

SN 86,964. Routh Holt, Tulsa, Okla. Filed Dec. 9, 1959.

TEL-O-SEC

For Telephone Answering, Secretarial, and Direct Mail Advertising Services.
First use on or about Jan. 15, 1957.

Class 105—Transportation and Storage

SN 53,010. British West Indian Airways Limited, New York, N.Y. Filed June 6, 1958.



For Services Comprising Transportation, Planning, and Conducting Tours and Furnishing Information to Tourists.
First use July 1, 1956.

SN 82,507. Garber's Travel Service, Inc., Brookline, Mass. Filed Oct. 1, 1959.

SABRA

For Travel Agency Services (Including Air, Water, and Ground Transportation, Food and Lodging).
First use on or about Apr. 15, 1958.

SN 82,573. Garber's Travel Service, Inc., Brookline, Mass. Filed Oct. 2, 1959.

GIFTRAVEL

Owner of Reg. No. 658,635.
For Travel Agency Services (Including Air, Water, and Ground Transportation, Food, and Lodging), Especially Such Tours Purchased as Gifts.
First use on or about Jan. 31, 1957.

SN 99,213. Harper, Robinson & Co., San Francisco, Calif. Filed June 17, 1960.

L.V.L.

For Freight Container Service.
First use May 16, 1960.

Class 106—Material Treatment

SN 52,278. Walter R. Cole & Co., Oakland, Calif. Filed May 26, 1958.

PERMASHIELD

For the Application of a Protective Coating to Tanks, Stacks, Hoods, and Other Mechanical and Industrial Equipment for Rendering Exposed Surfaces Resistant to Caustic, Alkalis, Acids, Solvents, and Other Chemicals, Hot and Cold Water, and to Abrasion and Impact.
First use Sept. 5, 1957.

SN 86,240. Wallace Silversmiths, Inc., Wallingford, Conn. Filed Nov. 27, 1959.

TPS

Owner of Reg. Nos. 665,373 and 660,756.
For Treatment of Metal Surfaced Articles of Others.
First use Nov. 24, 1959.

Class 107—Education and Entertainment

SN 63,969. Nancy Taylor Publishing Co., New York, N.Y. Filed Dec. 9, 1958.

nancy taylor

For Course in Personal Self-Improvement and Modeling, Provided Through Related Companies or Franchise Holders, Including Rendering Completely Integrated Training, Teaching, and Promotion Services and Materials.
First use in May 1958.

COLLECTIVE MEMBERSHIP MARKS

Class 200

SN 93,666. William T. Criswell, d.b.a. Bidu-Bide Club of America, Miami, Fla. Filed Mar. 25, 1960.



For Indicating Membership in Applicant's Organization.
First use Dec. 20, 1959.

SN 95,473. American Society of Medical Technologists, Houston, Tex. Filed Apr. 21, 1960.



The drawing is lined for blue and gold.
For Indicating Membership in Applicant Association of Medical Technologists.
First use in or about November 1953.

TRADEMARK REGISTRATIONS ISSUED

PRINCIPAL REGISTER

Class 1—Raw or Partly Prepared Materials

711,037. SILVEX. Silberline Manufacturing Co., Inc. SN 62,626. Pub. 11–29–60. Filed 11–17–58.

711,038. M AND DESIGN. Modiglass Fibers, Inc. SN 84,329. Pub. 4–19–60. Filed 10–30–59.

711,039. ALWAYS DEPENDABLE SINCE 1868 AND DESIGN. Mary B. Park, d.b.a. Geo. W. Park Seed Company. SN 87,901. Pub. 11–29–60. Filed 12–23–59.

711,040. CREEK-O-NITE. Star Enterprises, Inc. SN 90,865. Pub. 11–29–60. Filed 2–12–60.

711,041. FLEURAGENIC. Hugh D. Wilson. SN 92,845. Pub. 11–29–60. Filed 3–7–60.

711,042. NYLON 22. Industrial Rayon Corporation. SN 95,171. Pub. 11–29–60. Filed 4–15–60.

711,043. MILLEX. Cary Chemicals, Inc. SN 98,268. Pub. 11–29–60. Filed 6–2–60.

711,044. SUPER CAL. The Shellbuilder Company. SN 98,596. Pub. 11–29–60. Filed 6–7–60.

711,045. P AND BAR DESIGN. F. B. Pyle, Sr. SN 98,931. Pub. 11–29–60. Filed 6–13–60.

711,046. SHOE NAIL DESIGN. Shoe Nail Cattle Company. SN 98,939. Pub. 11–29–60. Filed 6–13–60.

Class 2—Receptacles

711,047. FOLD A WAY. United Electric Products Co. SN 81,839. Pub. 11–29–60. Filed 9–22–59.

711,048. HANG-IT-ALL! Peter's Bag & Novelty Corporation. SN 83,121. Pub. 11–29–60. Filed 10–12–59.

711,049. RIBBON GO-ROUND. Janice Lace Co. Inc. SN 86,882. Pub. 11–29–60. Filed 12–8–59.

711,050. STANDARD CORE GUARD AND DESIGN. Standard Bag Company. SN 86,999. Pub. 11–29–60. Filed 12–9–59.

711,051. QUIK-CHEK. Murray Bag & Paper Corp. SN 88,414. Pub. 11–29–60. Filed 1–4–60.

711,052. CAMPING GAZ ETC. AND DESIGN. A.D.G. Societe d'Application des Gaz, Produits Routiers et Materiaux. SN 99,100. Pub. 11–29–60. Filed 6–15–60.

711,053. IGA AND DESIGN. Independent Grocers' Alliance Distributing Co. SN 99,743. Pub. 11–29–60. Filed 6–27–60.

711,054. DRI-JAC. Hi-Jac Corporation. SN 100,023. Pub. 11–29–60. Filed 6–30–60.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

711,055. CALGLOW. Theodor of California. SN 79,359. Pub. 11–29–60. Filed 8–11–59.

711,056. MELLOETTE. J. Rudolph, Inc. SN 99,094. Pub. 11–29–60. Filed 6–15–60.

711,057. EK. Enger-Kress Company. SN 99,925. Pub. 11–29–60. Filed 6–29–60.

Class 4—Abrasives and Polishing Materials

711,058. "ALERT." John C. Stalfort & Sons, Inc. SN 76,742. Pub. 11–29–60. Filed 6–29–59.

Class 6—Chemicals and Chemical Compositions

711,059. TRAXION. Tolman-Shea Laboratories, Inc. SN 18,922. Pub. 11–29–60. Filed 11–7–56.

711,060. FIXAPRET. Badische Anilin & Soda-Fabrik Aktiengesellschaft. SN 80,628. Pub. 11–29–60. Filed 9–1–59.

711,061. NABAC 25 REPRESENTATION OF HORN OF PLENTY AND DESIGN. Nationwide Chemical Company, Inc. SN 86,055. Pub. 11–29–60. Filed 11–25–59.

711,062. HAMP-EX. Hampshire Chemical Corporation. SN 88,987. Pub. 11–29–60. Filed 1–14–60.

711,063. HAMP-ENE. Hampshire Chemical Corporation. SN 88,988. Pub. 11–29–60. Filed 1–14–60.

711,064. HAMP-OL. Hampshire Chemical Corporation. SN 88,989. Pub. 11–29–60. Filed 1–14–60.

711,065. OROTHERM. Technic, Inc. SN 89,032. Pub. 11–29–60. Filed 1–14–60.

711,066. QUICKSET. U.S. Peroxygen Corp. SN 89,218. Pub. 11–29–60. Filed 1–18–60.

711,067. PARAFIL. Sandoz, Inc. SN 89,873. Pub. 11–29–60. Filed 1–28–60.

711,068. DROPTEC. Mann Research Laboratories, Inc. SN 89,928. Pub. 11–29–60. Filed 1–29–60.

711,069. POLYMOIST. Knapp Products Inc. SN 90,169. Pub. 11–29–60. Filed 2–2–60.

711,070. CE–2000. Beacon Chemical Industries, Inc. SN 91,747. Pub. 11–29–60. Filed 2–29–60.

711,071. NEGASTAT. Playtime Products, Inc. SN 94,808. Pub. 11–29–60. Filed 4–11–60.

711,072. DETECTAIRE. Bulova Watch Company, Inc. SN 95,053. Pub. 11–29–60. Filed 4–14–60.

711,073. AQUAMOLLIN. Cassella Farbwerke Mainkur Aktiengesellschaft. SN 96,315. Pub. 11–29–60. Filed 5–3–60.

711,074. NUOCURE. Heyden Newport Chemical Corporation. SN 96,958. Pub. 11–29–60. Filed 5–12–60.

711,075. HAZE. The O. M. Scott & Sons Company. SN 97,332. Pub. 11–29–60. Filed 5–17–60.

Class 7—Cordage

711,076. EL TORO. United-Hagie Hybrids, Inc. SN 96,642. Pub. 11–29–60. Filed 5–6–60.

Class 11—Inks and Inking Materials

711,077. REPRESENTATION OF MAN AND DESIGN. Continental Ribbon and Carbon Company. SN 93,728. Pub. 11–29–60. Filed 3–14–60.

Class 12—Construction Materials

711,078. "PLY-TIE." Allenform Corporation, by change of name from Trueforms, Incorporated. SN 68,857. Pub. 11–29–60. Filed 3–3–59.

711,079. TOROPLY. Torjesen, Inc. SN 76,832. Pub. 11–29–60. Filed 6–30–59.

711,080. HOMESHIELD AND DESIGN. American Screen Products Company. SN 81,039. Pub. 11–29–60. Filed 9–9–59.

711,081. BONDZALL AND DESIGN. Schramm Fiberglass Products, Inc. SN 82,028. Pub. 11–29–60. Filed 9–24–59.

711,082. M AND DESIGN. Modiglass Fibers, Inc. SN 84,326. Pub. 5–10–60. Filed 10–30–59.

711,083. HARMONY HOUSE. Sears, Roebuck and Co. SN 86,333. Pub. 11–29–60. Filed 11–30–59.

711,084. GEE. Gee Co. SN 86,768. Pub. 11–29–60. Filed 12–7–59.

711,085. SWIMASTER. L. E. Kopecky, d.b.a. Southern National Manufacturing Co. SN 89,438. Pub. 11–29–60. Filed 1–21–60.

711,086. PICO SAFE STAIRS. Potomac Iron Works, Inc. SN 96,137. Pub. 11–29–60. Filed 4–29–60.

711,087. H.B.S. BRAND AND DESIGN. Home Builders Supply, Inc. SN 100,994. Pub. 11–29–60. Filed 7–18–60.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

711,088. KITCHEN MAC. Central Mine Equipment Company. SN 60,018. Pub. 11–29–60. Filed 10–3–58.

711,089. HOMESHIELD AND DESIGN. American Screen Products Company. SN 81,040. Pub. 11–29–60. Filed 9–9–59.

711,090. PEG-PAK. Pan American Screw Corporation. SN 88,485. Pub. 11–29–60. Filed 1–5–60.

711,091. KAR-LIFE. Warshawsky and Company, Inc. SN 95,791. Pub. 11–29–60. Filed 4–25–60.

711,092. P–. Parker-Hannifin Corporation. SN 98,130. Pub. 11–29–60. Filed 5–31–60.

711,093. ROYAL. Western Newell Mfg. Co. SN 98,560. Pub. 11–29–60. Filed 6–6–60.

711,094. ACIPCO CERAM-SPUN. American Cast Iron Pipe Company. SN 98,691. Pub. 11–29–60. Filed 6–9–60.

711,095. RAIN TRAIN. L. R. Nelson Mfg. Co., Inc., d.b.a. Rainy Sprinkler Sales. SN 98,727. Pub. 11–29–60. Filed 6–9–60.

711,096. HI-DRY. Lester H. Belliston, d.b.a. Belliston Products. SN 98,765. Pub. 11–29–60. Filed 6–10–60.

Class 15—Oils and Greases

711,097. METAL GUARD. Mitchell Chemical Co., Inc. SN 91,204. Pub. 6–28–60. Filed 2–18–60.

711,098. PHILLIPS 66 AND DESIGN. Phillips Petroleum Company. SN 99,359. Pub. 11–29–60. Filed 6–20–60.

Class 16—Protective and Decorative Coatings

711,099. TECTONA. Bangkok Industries, Inc. SN 78,241. Pub. 10–18–60. Filed 7–23–59.

711,100. TUFF-KOTE ETC. AND DESIGN. Tuff-Kote Asphalt Products, Inc. SN 90,459. Pub. 11–29–60. Filed 2–5–60.

711,101. DEWEY'S AND DESIGN. Rockville Centre Trading Post, Inc. SN 92,925. Pub. 11–29–60. Filed 3–15–60.

711,102. CEDOIL. Fletcher Hall, d.b.a. Cedacote Manufacturing Company. SN 99,326. Pub. 11–29–60. Filed 6–20–60.

Class 18—Medicines and Pharmaceutical Preparations

711,103. OCU-BRITE. CMS Corporation. SN 55,376. Pub. 4–14–59. Filed 7–16–58.

711,104. WORLD HEALTH INSTITUTE, LTD. AND DESIGN. Anchor Serum Company. SN 63,400. Pub. 11–29–60. Filed 12–1–58.

711,105. APOTHECARY. Howe and Company, d.b.a. Apothecary Products Co. SN 76,208. Pub. 11–29–60. Filed 6–22–59.

711,106. OLIVEEN. San Juan Grocery Corp. SN 80,824. Pub. 10–4–60. Filed 9–3–59.

711,107. KOZDRON'S AND DESIGN. The Sophia Kozdron Company. SN 82,902. Pub. 11–29–60. Filed 10–8–59.

711,108. PABEGAN. Aktiebolaget Bofors. SN 94,036. Pub. 11–29–60. Filed 4–13–60.

711,109. EDALCAL. Aktiebolaget Bofors. SN 94,938. Pub. 11–29–60. Filed 4–13–60.

711,110. CARBOZOO. American Cyanamid Company. SN 95,033. Pub. 11–29–60. Filed 4–14–60.

711,111. THRIX. Fromm Laboratories, Inc. SN 97,156. Pub. 11–29–60. Filed 5–13–60.

711,112. FENFORMINA. U.S. Vitamin & Pharmaceutical Corporation. SN 97,780. Pub. 11–29–60. Filed 5–23–60.

711,113. INDUSTRA-VITE. Horton & Converse, d.b.a. La Salle Pharmacal Co. SN 98,091. Pub. 11–29–60. Filed 5–31–60.

711,114. ORABIONE. White Laboratories, Inc. SN 98,310. Pub. 11–29–60. Filed 6–2–60.

711,115. PEDIMYCIN. The Pfeiffer Co. SN 98,520. Pub. 11–29–60. Filed 6–6–60.

711,116. OCUWET. General Optics, Inc. SN 98,787. Pub. 11–29–60. Filed 6–10–60.

711,117. LAMINA. Merrick Medicine Company. SN 98,915. Pub. 11–29–60. Filed 6–13–60.

711,118. SEMOPEN. The S. H. Massengill Company. SN 99,155. Pub. 11–29–60. Filed 6–16–60.

711,119. HOG-AID. Dr. Salsbury's Laboratories. SN 99,246. Pub. 11–29–60. Filed 6–17–60.

711,120. ELECTROFIN. Haver-Lockhart Laboratories, Inc. SN 99,328. Pub. 11–29–60. Filed 6–20–60.

711,121. DERMASSAGE. S. M. Edison Chemical Company, Inc. SN 99,501. Pub. 11–29–60. Filed 6–22–60.

711,122. DIUTENSEN. Irwin, Neisler & Co. SN 99,746. Pub. 11–29–60. Filed 6–27–60.

711,123. NEO-FLO. Professional Pharmacal Co., Inc. SN 99,962. Pub. 11–29–60. Filed 6–29–60.

711,124. SIXTY SIX–20. Schering Corporation. SN 100,297. Pub. 11–29–60. Filed 7–5–60.

711,125. SEEK. Carter Products, Inc. SN 101,155. Pub. 11–29–60. Filed 7–20–60.

711,126. WYETH AND DESIGN. American Home Products Corporation, d.b.a. Wyeth Laboratories. SN 101,299. Pub. 11–29–60. Filed 7–22–60.

711,127. 'VERWOLFIA'. M. R. Thompson, Inc. SN 101,352. Pub. 11–29–60. Filed 7–22–60.

711,128. ANCA. The Wander Company, d.b.a. Smith-Dorsey. SN 101,360. Pub. 11–29–60. Filed 7–22–60.

711,129. MONASE. The Upjohn Company. SN 101,582. Pub. 11–29–60. Filed 7–27–60.

711,130. BIOSOL-M. The Upjohn Company. SN 101,584. Pub. 11–29–60. Filed 7–27–60.

711,131. CALM-MENS. Blair Laboratories, Inc. SN 101,601. Pub. 11–29–60. Filed 7–28–60.

711,132. ALPHALAX. The Purdue Frederick Company. SN 101,642. Pub. 11–29–60. Filed 7–28–60.

711,133. XSPECT. Brayten Pharmaceutical Company. SN 101,724. Pub. 11–29–60. Filed 7–28–60.

711,134. ALMADON. Air-Shields, Inc. SN 101,996. Pub. 11–29–60. Filed 8–4–60.

711,135. TRISTACOMP. Physicians Products Co., Inc. SN 102,135. Pub. 11–29–60. Filed 8–5–60.

711,136. MILACT NO. 7. Miles Laboratories, Inc. SN 102,780. Pub. 11–29–60. Filed 8–16–60.

711,137. ULCERTONE. U.S. Pharmaceuticals, Inc. SN 103,230. Pub. 11–29–60. Filed 8–22–60.

711,138. DERMASTAT. Shulton, Inc. SN 103,364. Pub. 11–29–60. Filed 8–24–60.

711,139. FEAT. Shulton, Inc. SN 103,365. Pub. 11–29–60. Filed 8–24–60.

Class 19—Vehicles

711,140. RAMP RASCAL. Permanent Filter Corporation. SN 100,040. Pub. 11–29–60. Filed 6–30–60.

711,141. LOAD LUGGER. Borg-Warner Corporation. SN 100,090. Pub. 11–29–60. Filed 7–1–60.

Class 20—Linoleum and Oiled Cloth

711,142. AMERICANA. Congoleum-Nairn Inc. SN 94,259. Pub. 11–29–60. Filed 4–4–60.

Class 21—Electrical Apparatus, Machines, and Supplies

711,143. HOL-CAB ETC. AND DESIGN. National Pneumatic Co., Inc. SN 72,445. Pub. 11–29–60. Filed 4–28–59.

711,144. REPRESENTATION OF CONCENTRIC CIRCLES. Switchcraft, Inc. SN 75,803. Pub. 11–29–60. Filed 6–15–59.

711,145. MASCOT. Oceana Import Co., Inc. SN 82,699. Pub. 11–29–60. Filed 10–5–59.

711,146. SCANDIA. Packard-Bell Electronics Corporation. SN 84,836. Pub. 11–29–60. Filed 10–30–59.

711,147. ANOPAX. The Harshaw Chemical Company. SN 88,606. Pub. 11–29–60. Filed 1–7–60.

711,148. AMECO AND DESIGN. Antennavision, Incorporated. SN 93,130. Pub. 11–8–60. Filed 3–18–60.

711,149. DEMCO. Deutsch Molding Corporation. SN 94,655. Pub. 11–29–60. Filed 4–8–60.

711,150. CAPTAIN. Union Carbide Corporation. SN 97,344. Pub. 11–29–60. Filed 5–17–60.

711,151. INSUL 8 CABLE REEL AND DESIGN. Insul-8 Corp. SN 97,398. Pub. 11–29–60. Filed 5–18–60.

711,152. VERTI-LYTIC. Sprague Electric Company. SN 97,421. Pub. 11–29–60. Filed 5–18–60.

711,153. PRESSURMITE. The Bendix Corporation, by change of name from Bendix Aviation Corporation. SN 97,448. Pub. 11–29–60. Filed 5–19–60.

711,154. CHIC AND DESIGN. The Mostow Company. SN 97,854. Pub. 11–29–60. Filed 5–25–60.

711,155. LEVEL-WRAP. Continental-Diamond Fibre Corporation. SN 96,059. Pub. 11–29–60. Filed 5–31–60.

711,156. IMPERVOHM. Sage Electronics Corporation. SN 98,152. Pub. 11–29–60. Filed 5–31–60.

711,157. LA SCALA. I.H. Manufacturing Co., Inc. SN 98,583. Pub. 11–29–60. Filed 6–7–60.

711,158. CONTEMPO. O'Keefe & Merritt Co. SN 98,922. Pub. 11–29–60. Filed 6–13–60.

Class 22—Games, Toys, and Sporting Goods

711,159. TREVIRA. Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning. SN 63,020. Pub. 11–29–60. Filed 11–24–58.

711,160. KOSMOS. Franckh'sche Verlagshandlung W. Keller & Co. SN 65,465. Pub. 11–29–60. Filed 12–19–58.

711,161. AMERICAN CHAMPION. Hallowell Shoe Company. SN 68,575. Pub. 11–29–60. Filed 2–27–59.

711,162. SAF-DIVE AND DESIGN. Saf-Dive Mfg. Corp. SN 79,885. Pub. 11–29–60. Filed 8–19–59.

711,163. CAMPBOREE. Campboree Mfg. Co. SN 85,295. Pub. 11–29–60. Filed 11–16–59.

711,164. BLACK RASCAL. Luts Pork Bait Co. SN 86,797. Pub. 11–29–60. Filed 12–7–59.

711,165. BANTY. Abercrombie & Fitch Company. SN 86,914. Pub. 11–29–60. Filed 12–9–59.

711,166. FUN FOAM. Aeroplastics Corporation. SN 87,531. Pub. 11–29–60. Filed 12–18–59.

711,167. KING NEPTUNE. Vornado, Inc. SN 87,597. Pub. 11–29–60. Filed 12–18–59.

711,168. TRICKEE TRACK. Thompson Toy Company. SN 87,743. Pub. 11–29–60. Filed 12–21–59.

711,169. DURA-HIDE AND DESIGN. Mattel, Incorporated. SN 90,691. Pub. 11–29–60. Filed 2–10–60.

711,170. ADVISORY MODEL. Sportsman's Golf Corporation. SN 92,658. Pub. 11–29–60. Filed 3–11–60.

711,171. BLIZZARD AND DESIGN. Anton Arnsteiner, d.b.a. Salzburger Skifabrik. SN 93,407. Pub. 11–29–60. Filed 3–22–60.

711,172. PEEK-A-BOO EYES. American Doll & Toy Corporation. SN 93,973. Pub. 11–29–60. Filed 3–30–60.

711,173. BERBRO HOT ROD RACER. Berbro Manufacturing Co., Inc., d.b.a. Berbro Mfg. Co. SN 94,561. Pub. 11–29–60. Filed 4–7–60.

711,174. ELECTRA. Caprico International, Inc. SN 94,562. Pub. 11–29–60. Filed 4–7–60.

711,175. PERMABUOY. Burlington Mills Incorporated. SN 96,187. Pub. 11–29–60. Filed 5–2–60.

711,176. CHECK AND DOUBLE CHECK. Milton Bradley Company. SN 96,928. Pub. 11–29–60. Filed 5–12–60.

711,177. WHOOPEE. Milton Bradley Company. SN 96,931. Pub. 11–29–60. Filed 5–12–60.

711,178. SKIP JACK. Hinkle Contracting Corporation. SN 98,582. Pub. 11–29–60. Filed 6–7–60.

711,179. RAW-BONE. Stanton E. Fisher. SN 98,704. Pub. 11–29–60. Filed 6–9–60.

711,180. DART. Golf Developments, Inc. SN 98,789. Pub. 11–29–60. Filed 6–10–60.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

711,181. POLY-TITE. Ned L. Roberts, Inc. SN 72,077. Pub. 11–29–60. Filed 4–22–59.

711,182. BW AND DESIGN. Bendix-Westinghouse Automotive Air Brake Company. SN 75,466. Pub. 11–29–60. Filed 6–10–59.

711,183. ROYAL VALUES AND DESIGN. Hardware Wholesalers, Inc. SN 79,573. Pub. 11–29–60. Filed 8–14–59.

711,184. LIFT-MASTER. Holzinger Bros., Inc. SN 82,233. Pub. 11–29–60. Filed 9–28–59.

711,185. PAK-KIT. Pan American Screw Corporation. SN 88,486. Pub. 11–29–60. Filed 1–5–60.

711,186. PRO. Root-Lowell Manufacturing Co. SN 91,968. Pub. 7–5–60. Filed 3–1–60.

711,187. HKK. Hokoku Chain Manufacturing Company, Ltd. SN 93,181. Pub. 11–29–60. Filed 3–18–60.

711,188. COPILITH. Copease Corporation. SN 97,040. Pub. 11–29–60. Filed 5–13–60.

711,189. ROCKET. National Twist Drill & Tool Co. SN 98,512. Pub. 11–29–60. Filed 6–6–60.

711,190. MOUNTAIN VIEW. Oneida Ltd. SN 98,516. Pub. 11–29–60. Filed 6–6–60.

711,191. POWER-PAK. Markwell Manufacturing Co., Inc. SN 98,587. Pub. 11–29–60. Filed 6–7–60.

711,192. ROTO-TILT. Pucel Enterprises, Inc. SN 98,742. Pub. 11–29–60. Filed 6–9–60.

711,193. VIBROLL. Stothert & Pitt Limited. SN 98,823. Pub. 11–29–60. Filed 6–10–60.

711,194. BENDIX. The Bendix Corporation, by change of name from Bendix Aviation Corporation. SN 98,833. Pub. 11–29–60. Filed 6–7–60.

711,195. TRIUMPH TMC AND DESIGN. Triumph Machinery Co. SN 99,258. Pub. 11–29–60. Filed 6–17–60.

711,196. TOP DOLLAR. Williams Cutlery, Inc. SN 99,261. Pub. 11–29–60. Filed 6–17–60.

711,197. "GLAS-MATE." Richard C. Bradley, d.b.a. Plastic Engineering and Chemical Co. SN 99,285. Pub. 11–29–60. Filed 6–20–60.

711,198. LIVE LEEDER-ROLL. The Leeds Conveyor Manufacturing Co. SN 101,404. Pub. 11–29–60. Filed 7–25–60.

711,199. LEEDER-TABLE. The Leeds Conveyor Manufacturing Co. SN 101,405. Pub. 11–29–60. Filed 7–25–60.

711,200. POWER-LEEDER. The Leeds Conveyor Manufacturing Co. SN 101,406. Pub. 11–29–60. Filed 7–25–60.

711,201. LEEDER-BELT. The Leeds Conveyor Manufacturing Co. SN 101,407. Pub. 11–29–60. Filed 7–25–60.

711,202. LEEDER-ROLL. The Leeds Conveyor Manufacturing Co. SN 101,409. Pub. 11–29–60. Filed 7–25–60.

711,203. HIEBERT'S DUTCH-RUB AND DESIGN. John Hiebert, d.b.a. Hiebert Manufacturing Company. SN 101,492. Pub. 11–29–60. Filed 7–26–60.

711,204. FLEX-O-CUT. Scharmann Machine Corporation. SN 101,892. Pub. 11–29–60. Filed 8–2–60.

711,205. POW-R-DEX. Scharmann Machine Corporation. SN 101,893. Pub. 11–29–60. Filed 8–2–60.

711,206. OPTICUT. Scharmann Machine Corporation. SN 101,894. Pub. 11–29–60. Filed 8–2–60.

711,207. QUADLOX. Scharmann Machine Corporation. SN 101,895. Pub. 11–29–60. Filed 8–2–60.

Class 26 — Measuring and Scientific Appliances

711,208. DECAMIRED DM. Tiffen Marketing Company. SN 44,657. Pub. 10–11–60. Filed 1–24–58.

711,209. GIROLIT. Anschutz & Company, Gesellschaft mit Baschrankter Haftung. SN 85,071. Pub. 11–29–60. Filed 8–19–59.

Class 27 — Horological Instruments

711,210. WARWICK. Bulova Watch Company, Inc. SN 98,571. Pub. 11–29–60. Filed 6–7–60.

711,211. HI-FI. Bearus Watch Company, Inc. SN 96,767. Pub. 11–29–60. Filed 6–10–60.

711,212. SANTA-TIME. Coro, Inc. SN 98,871. Pub. 11–29–60. Filed 6–13–60.

Class 28 — Jewelry and Precious-Metal Ware

711,213. MULTI-FACET. Multi-Facet Co., Inc. SN 86,673. Pub. 11–29–60. Filed 12–4–59.

711,214. EVERMINE. Hy Frackman, d.b.a. Alsan Carved Wedding Ring Co. SN 98,352. Pub. 11–29–60. Filed 6–3–60.

711,215. LOVEMORE. Moore-De Grazier Company. SN 99,766. Pub. 11–29–60. Filed 6–27–60.

711,216. MILLIONAIRE. Speidel Corporation. SN 99,886. Pub. 11–29–60. Filed 6–28–60.

711,217. DOMINO. Speidel Corporation. SN 99,889. Pub. 11–29–60. Filed 6–28–60.

711,218. SKLIP. Joseph H. Meyer Bros. SN 100,034. Pub. 11–29–60. Filed 6–30–60.

Class 31 — Filters and Refrigerators

711,219. REVCO. Revco Inc. SN 29,488. Pub. 11–29–60. Filed 5–6–57.

711,220. M AND DESIGN. Modiglass Fibers, Inc. SN 84,328. Pub. 4–19–60. Filed 10–30–59.

Class 32 — Furniture and Upholstery

711,221. BACK SUPPORTER. Back Supporter, Inc. SN 83,692. Pub. 11–29–60. Filed 10–21–59.

711,222. DECORUM. Foundeers Furniture, Inc. SN 85,121. Pub. 11–29–60. Filed 11–12–59.

711,223. "FINER BILT." Mercantile Stores Company, Inc. SN 86,302. Pub. 11–29–60. Filed 11–30–59.

Class 34 — Heating, Lighting, and Ventilating Apparatus

711,224. AIRJET. Hartzell Industries, Inc., d.b.a. Hartzell Propeller Fan Company. SN 46,448. Pub. 11–29–60. Filed 2–24–58.

711,225. ROTA-FILM. Arthur F. Smith. SN 94,837. Pub. 11–29–60. Filed 4–11–60.

711,226. THERMA-THRIFT. C. Leslie McCrea, d.b.a. McCrea Equipment Co. SN 98,662. Pub. 11–29–60. Filed 6–8–60.

711,227. CAMPING GAZ AND DESIGN. "A.D.G. Societe d'Application des Gaz, Produits Routiers et Materiaux." SN 99,099. Pub. 11–29–60. Filed 6–15–60.

711,228. COOK-EROO. Eclipse Metal Mfg. Corporation. SN 99,620. Pub. 11–29–60. Filed 6–24–60.

711,229. "WEDGE-LOC." Duro-Dyne Corporation. SN 99,849. Pub. 11–29–60. Filed 6–28–60.

711,230. MIXED-FLO. Broan Mfg. Co., Inc. SN 100,007. Pub. 11–29–60. Filed 6–30–60.

711,231. OIL-A-THERM. Van Wert Stoker Manufacturing Co., Inc. SN 100,079. Pub. 11–29–60. Filed 6–30–60.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

711,232. LENTON. Raleigh Industries of America, Inc. SN 85,704. Pub. 11–29–60. Filed 10–28–59.

711,233. BRIDGESTONE. Bridgestone Tire Company Limited. SN 86,865. Pub. 11–29–60. Filed 12–8–59.

Class 36 — Musical Instruments and Supplies

711,234. BULOVA AND DESIGN WITHIN A CIRCLE. Bulova Watch Company, Inc. SN 87,181. Pub. 11–29–60. Filed 12–14–59.

711,235. LOVE LOCK AND DESIGN. Dee Nona Olsen, d.b.a. Lovelock Music Co. SN 96,134. Pub. 11–29–60. Filed 4–29–60.

Class 37 — Paper and Stationery

711,236. PARKER'S. Joseph Parker & Son Company. SN 68,075. Pub. 11–29–60. Filed 2–19–59.

711,237. VIBRITE. Vibrite Corporation. SN 79,086. Pub. 11–29–60. Filed 8–5–59.

711,238. SKID RID. Continental Can Company, Inc. SN 86,936. Pub. 11–29–60. Filed 12–9–59.

711,239. TABCO. Whiting Paper Company. SN 92,063. Pub. 11–29–60. Filed 3–2–60.

711,240. GATOR GRIP. International Paper Company. SN 92,614. Pub. 11–29–60. Filed 3–11–60.

711,241. WINCHESTER. Byron Weston Company. SN 92,958. Pub. 11–29–60. Filed 3–16–60.

711,242. SEALRITE. Howard Paper Mills, Inc. SN 93,925. Pub. 11–29–60. Filed 3–29–60.

711,243. VPD. Joshua Meier Company, Inc. SN 95,095. Pub. 11–29–60. Filed 4–14–60.

711,244. STUB-FLO. The Hamilton Autographic Register Co. SN 95,590. Pub. 11–29–60. Filed 4–22–60.

711,245. BROKOTE. Wausau Paper Mills Company. SN 97,150. Pub. 11–29–60. Filed 5–13–60.

711,246. PRINT-SHIELD. Nashua Corporation. SN 97,822. Pub. 11–29–60. Filed 5–17–60.

711,247. SPEED-SET. Brandtjen & Kluge, Inc. SN 97,616. Pub. 11–29–60. Filed 5–23–60.

711,248. TOWN-FAC. Old Town Corporation. SN 97,690. Pub. 11–29–60. Filed 5–23–60.

711,249. I.P.X. International Paper Company. SN 98,486. Pub. 11–29–60. Filed 6–6–60.

711,250. NORTH-BRITE. Packaging Corporation of America. SN 99,081. Pub. 11–29–60. Filed 6–15–60.

711,251. SL AND DESIGN. Simpson Lee Paper Company. SN 99,098. Pub. 11–29–60. Filed 6–15–60.

711,252. DECO-COLOR. Eberhard Faber Inc. SN 99,420. Pub. 11–29–60. Filed 6–21–60.

711,253. SCOTT AND DESIGN. Scott Paper Company. SN 99,542. Pub. 11–29–60. Filed 6–22–60.

711,254. WRITER-MISER. La Salle Binder Sales, Inc. SN 99,758. Pub. 11–29–60. Filed 6–27–60.

Class 38 — Prints and Publications

711,255. BLOOPERS. Bloopers, Inc. SN 32,049. Pub. 11–29–60. Filed 6–17–57.

711,256. TUNE TOPPER. American Greetings Corporation. SN 54,806. Pub. 11–29–60. Filed 7–7–58.

711,257. INVESTORVIEW. Investorview, Inc. SN 66,356. Pub. 11–29–60. Filed 1–23–59.

711,258. VETERINARY DISPATCH. Schering Corporation. SN 81,639. Pub. 11–29–60. Filed 9–18–59.

711,259. STRAPPLICATION. The Stanley Works. SN 84,571. Pub. 11–29–60. Filed 11–3–59.

711,260. TRANS-GRAPHIC. Gloatz, Hille & Co Kommanditgesellschaft für Mehrfarben- und Zellglasdruck. SN 84,756. Pub. 11–29–60. Filed 11–6–59.

711,261. GIG. Girard I. Goodenow. SN 86,658. Pub. 11–29–60. Filed 12–4–59.

711 262. MISSISSIPPI MONITOR. Mississippi Monitor Publications. SN 87,445. Pub. 11–29–60. Filed 12–16–59.

711,263. PLAYLAND. National Travel Association, Inc. SN 87,898. Pub. 11–29–60. Filed 12–23–59.

711,264. VDK. VEB Verlag der Kunst. SN 87,990. Pub. 11–29–60. Filed 12–24–59.

711,265. KEEP 'N TOUCH. Keep 'N Touch Greeting Cards. SN 92,379. Pub. 11–29–60. Filed 3–8–60.

711,266. ATOMFORUM AND DESIGN. Atomic Industrial Forum, Inc. SN 92,695. Pub. 11–29–60. Filed 3–14–60.

711,267. CB AND DESIGN. C-B Educational Films, Inc. SN 93,759. Pub. 11–29–60. Filed 3–28–60.

711,268. BIBLICAL MISSIONS AND DESIGN. The Independent Board for Presbyterian Foreign Missions. SN 93,932. Pub. 11–29–60. Filed 3–29–60.

711,269. SNEAKY PETE. Sidney A. Kline, d.b.a. Sidney's Varieties. SN 93,935. Pub. 11–29–60. Filed 3–29–60.

711,270. THE CANARY BIRD. Sidney A. Kline, d.b.a. Sidney's Varieties. SN 93,936. Pub. 11–29–60. Filed 3–29–60.

711,271. MEDICAL TRIBUNE. Medical Tribune, Inc. SN 94,409. Pub. 11–29–60. Filed 4–5–60.

711,272. BIG GEORGE. Publishers Syndicate. SN 94,519. Pub. 11–29–60. Filed 4–6–60.

711,273. WOODALL'S. Woodall Publishing Company. SN 94,863. Pub. 11–29–60. Filed 4–11–60.

711,274. WHO'S WHO IN HOLLYWOOD. Dell Publishing Co., Inc. SN 95,148. Pub. 11–29–60. Filed 4–15–60.

711,275. KIDDIE-PIX. American Photograph Corporation. SN 95,223. Pub. 11–29–60. Filed 4–18–60.

711,276. THE VET ON PETS. New York Herald Tribune Inc. SN 95,845. Pub. 11–29–60. Filed 4–26–60.

Class 39 — Clothing

711,277. BURBROOKE. Burbrooke Manufacturing Co., Inc. SN 82,476. Pub. 4–12–60. Filed 10–1–59.

711,278. IGLOO. Regal Knitting Co., Inc. SN 85,397. Pub. 7–26–60. Filed 11–16–59.

711,279. SYL-SPUN. Sylray Underwear Company (Pennsylvania corporation), assignee of Sylray Underwear Company (firm). SN 87,162. Pub. 11–29–60. Filed 12–11–59.

711,280. MOON MOCS AND DESIGN. A. J. Bergren Company, d.b.a. Moon Beam Co. SN 96,383. Pub. 11–22–60. Filed 5–3–60.

711,281. FEMATA. Genesco, Inc. SN 96,410. Pub. 11–29–60. Filed 5–4–60.

711,282. LONG PLAY. The H. W. Goessard Co. SN 96,594. Pub. 11–29–60. Filed 5–6–60.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

711,283. SATIN DE MILO. The Jaunty Fabric Corporation. SN 86,155. Pub. 11–29–60. Filed 11–27–59.

711,284. DOUBLAIRE. B. H. Moxon & Sons Limited. SN 88,331. Pub. 8–16–60. Filed 12–31–59.

711,285. GEORGIAN HOUSE. The Georgia Company, Inc. SN 100,902. Pub. 11–29–60. Filed 7–15–60.

711,286. PINFEATHER. Burlington Industries, Inc. SN 100,975. Pub. 11–29–60. Filed 7–18–60.

Class 43 — Thread and Yarn

711,287. DOW AND DESIGN. The Dow Chemical Company. SN 97,636. Pub. 11–29–60. Filed 5–23–60.

711,288. SEAM-LON. Madison Throwing Company, Inc. SN 100,796. Pub. 11–29–60. Filed 7–13–60.

Class 45 — Soft Drinks and Carbonated Waters

711,289. MR. The Grapette Company, Incorporated. SN 63,826. Pub. 11–29–60. Filed 12–8–58.

711,290. JAMBOREE. Daniel J. Leary, d.b.a. Jamboree Beverage Co. SN 88,863. Pub. 8–16–60. Filed 1–12–60.

Class 46 — Foods and Ingredients of Foods

711,291. MR. BELL AND DESIGN. Bell Ranch Partnership, d.b.a. Bell Farms. SN 82,230. Pub. 11–29–60. Filed 9–28–59.

711,292. FRUITFIL. Morningstar-Paisley, Inc. SN 83,637. Pub. 11–29–60. Filed 10–20–59.

711,293. SAN YSIDRO AND DESIGN. Sarah Dean Marquette, d.b.a. Art & Sally Marquette. SN 83,989. Pub. 11–29–60. Filed 10–26–59.

711,294. McKENZIE. Eugene Fruit Growers Association. SN 84,740. Pub. 11–29–60. Filed 11–6–59.

711,295. MAGIC WHIP. American Bakers Cooperative, Inc. SN 87,174. COLLECTIVE MARK. Pub. 11–29–60. Filed 12–14–59.

711,296. CHARING CROSS. Federated Department Stores, Inc. SN 87,662. Pub. 11–29–60. Filed 12–21–59.

711,297. THE HAMBURGER HAMLET AND DESIGN. Hamburger Hamlet. SN 87,801. Pub. 11–29–60. Filed 12–22–59.

711,298. FOUNT-TOP. Fount Wip Vegetable Products, Inc., assignee of Fount-Wip, Inc. SN 89,758. Pub. 11–29–60. Filed 1–27–60.

711,299. CHEF CUT. Jewel Tea Co., Inc. SN 92,264. Pub. 11–29–60. Filed 3–7–60.

711,300. STELLA CHEESE CO. STAR IN CIRCLE DESIGN. L. D. Schreiber & Co. Inc., d.b.a. Stella Cheese Company. SN 92,928. Pub. 11–29–60. Filed 3–15–60.

711,301. CHEF-MAGIC. B. F. Trappey's Sons, Inc. SN 94,112. Pub. 11–29–60. Filed 3–31–60.

711,302. CHEESARONI. American Home Products Corporation, d.b.a. American Home Foods. SN 94,224. Pub. 11–29–60. Filed 4–4–60.

711,303. BRILL'S HI-LITE. H. C. Brill Company, Inc. SN 94,458. Pub. 11–29–60. Filed 4–6–60.

711,304. VIT-A-LEAF. John F. McNair, Inc., d.b.a. McNair Farms. SN 94,789. Pub. 11–29–60. Filed 4–11–60.

711,305. ROYAL. Standard Brands Incorporated. SN 96,278. Pub. 11–29–60. Filed 5–2–60.

711,306. EAT-A-POP. Franwill, Inc. SN 96,954. Pub. 11–29–60. Filed 5–12–60.

711,307. JOLLY TIME AND DESIGN. American Pop Corn Company. SN 97,162. Pub. 11–29–60. Filed 5–16–60.

711,308. KOOL-POPS. General Foods Corporation. SN 97,301. Pub. 11–29–60. Filed 5–17–60.

711,309. P-J. General Foods Corporation. SN 97,302. Pub. 11–29–60. Filed 5–17–60.

711,310. YUMA PRIDE. Cal-Zona, Inc. SN 99,413. Pub. 11–29–60. Filed 6–21–60.

711,311. SERENE. Brownell & Field Co. SN 99,485. Pub. 11–29–60. Filed 6–22–60.

711,312. BOBBY. Sam Andrews' Sons. SN 99,701. Pub. 11–29–60. Filed 6–27–60.

711,313. DONNIE. Sam Andrews' Sons. SN 99,702. Pub. 11–29–60. Filed 6–27–60.

711,314. PAN MASTER. The Pillsbury Company. SN 100,044. Pub. 11–29–60. Filed 6–30–60.

711,315. SQUOZEN. Eversweet Corporation. SN 100,239. Pub. 11–29–60. Filed 7–5–60.

711,316. IDX. Food Industries Company. SN 100,444. Pub. 11–29–60. Filed 7–7–60.

Class 47 — Wines

711,317. CRIBARI JAMBOREE AND DESIGN. Alta Vineyards Company, d.b.a. B. Cribari & Sons. SN 88,714. Pub. 8–16–60. Filed 1–11–60.

Class 48 — Malt Beverages and Liquors

711,318. ESSLINGER AND DESIGN. Esslinger's Inc. SN 96,584. Pub. 11–29–60. Filed 5–6–60.

Class 50 — Merchandise Not Otherwise Classified

711,319. ABCO. Alexander Backer Co., Inc., assignee of Alexander Backer, d.b.a. Alexander Backer Company. SN 84,506. Pub. 11–29–60. Filed 11–3–59.

711,320. FAIRYLAND AND DESIGN. Craft House Trees Corporation. SN 92,365. Pub. 11–29–60. Filed 3–8–60.

711,321. READ-A-BOARD. Adaptaplex Mfg. Co. SN 97,015. Pub. 11–29–60. Filed 5–13–60.

711,322. T-FLEX. Millard B. Beaver, d.b.a. Lincoln Logotype Company. SN 97,027. Pub. 11–29–60. Filed 5–13–60.

711,323. COPILITH. Copease Corporation. SN 97,042. Pub. 11–29–60. Filed 5–13–60.

Class 51 — Cosmetics and Toilet Preparations

711,324. CV AND DESIGN. Bristol-Myers Company, assignee of Charles Vitello, d.b.a. Chavit Co. SN 29,117. Pub. 4–22–58. Filed 4–29–57.

711,325. BREATH DEO. Modern Research, Inc. SN 61,837. Pub. 11–29–60. Filed 11–3–58.

711,326. FOAM-ETTES. Foam-Ettes, Inc. SN 81,894. Pub. 11–29–60. Filed 9–23–59.

Class 52 — Detergents and Soaps

711,327. SUR-CLENE. Saul Moses, d.b.a. Dentocide Chemical Company. SN 44,736. Pub. 10–13–59. Filed 1–27–58.

711,328. DATE-LINE. The Mennen Company. SN 86,581. Pub. 11–29–60. Filed 12–3–59.

711,329. CERFA-KLEEN. E. F. Houghton & Co. SN 89,164. Pub. 11–29–60. Filed 1–18–60.

711,330. TANDEM. Bristol-Myers Company. SN 95,052. Pub. 11–29–60. Filed 4–14–60.

711,331. SPRAY VAC. George R. Wosepka, d.b.a. Spray-Vac. SN 97,535. Pub. 11–29–60. Filed 5–19–60.

711,332. QUICK-GLO. Quick Chemical Corporation. SN 97,701. Pub. 11–29–60. Filed 5–23–60.

711,333. MRS. CLEAN. The Procter & Gamble Company. SN 98,140. Pub. 11–29–60. Filed 5–31–60.

Service Marks

Class 100 — Miscellaneous

711,334. VIBRA-LOG. The Vibration Engineering Company, Inc. SN 17,533. Pub. 8–27–57. Filed 10–15–56.

711,335. 4 SQUARES, ONE SOLID AND LETTERS N AND W ETC. Ivan Bloch, d.b.a. Ivan Bloch & Associates. SN 58,899. Pub. 11–29–60. Filed 9–15–58.

711,336. FISHER'S DINE-A-TERIA AND DESIGN. H. C. Fisher. SN 71,660. Pub. 11–29–60. Filed 4–16–59.

711,337. KX. Kings-X, Inc. SN 84,668. Pub. 11–29–60. Filed 11–5–59.

711,338. MS HOPE CHEST AND DESIGN. National Multiple Sclerosis Society. SN 91,900. Pub. 11–29–60. Filed 3–1–60.

Class 101 — Advertising and Business

711,339. MONEY IN THE BANK. Cash Value Trading Stamp Co. SN 74,097. Pub. 11–29–60. Filed 5–18–59.

711,340. LAUNDERAMA. Zeolux Corporation. SN 79,445. Pub. 11–29–60. Filed 8–12–59.

711,341. ZEOLUX. Zeolux Corporation. SN 79,446. Pub. 11–29–60. Filed 8–12–59.

711,342. LITHOGRAVING. The Firm of John Dickinson Schneider, Inc. SN 81,020. Pub. 11–29–60. Filed 9–8–59.

711,343. BEAUTIQUE. John Robert Powers Products Co. Inc. SN 83,313. Pub. 11–29–60. Filed 10–15–59.

711,344. AAR. Automotive Affiliated Representatives. SN 86,255. Pub. 11–29–60. Filed 11–30–59.

Class 102 — Insurance and Financial

711,345. DIP AND DESIGN. Dental Insurance Plan Inc. SN 81,122. Pub. 11–29–60. Filed 9–10–59.

Class 103 — Construction and Repair

711,346. DESIGN OF TRIANGLES WITHIN SQUARES. Follansbee Engineering & Supply Co. SN 46,128. Pub. 11–29–60. Filed 2–19–58.

711,347. LIFETIME HOMES. Lifetime Homes, Incorporated. SN 56,486. Pub. 11–29–60. Filed 8–1–58.

711,348. TECHNICON ETC. AND DESIGN. Technicon, Inc. SN 84,816. Pub. 11–29–60. Filed 11–6–59.

711,349. GEE. Gee Co. SN 86,767. Pub. 11–29–60. Filed 12–7–59.

Class 105 — Transportation and Storage

711,350. CHICAGO AIRWAYS. Bernard Bellario, d.b.a. Chicago Airways. SN 57,745. Pub. 11–29–60. Filed 8–25–58.

711,351. CAMERACADES. Cameracades, Inc. SN 87,030. Pub. 11–29–60. Filed 12–10–59.

711,352. TRAVELMASTER AND DESIGN. Travelmaster Tours, Inc. SN 88,102. Pub. 11–29–60. Filed 12–28–59.

711,353. GOLDEN AZTEC. Compania Mexicana de Aviacion, S.A. SN 91,239. Pub. 11–29–60. Filed 2–19–60.

711,354. THE MARCO POLO SERIES. Four Winds Travel, Inc. SN 91,779. Pub. 11–29–60. Filed 2–29–60.

711,355. HOUSE FLAG DESIGN. Farrell Lines Incorporated. SN 94,476. Pub. 11–29–60. Filed 4–6–60.

711,356. ROYAL CARPET. Newspapers, Inc. SN 95,107. Pub. 11–29–60. Filed 4–14–60.

Class 106 — Material Treatment

711,357. ALPHATIZED. Alloy Surfaces Company, Inc. SN 82,622. Pub. 11–29–60. Filed 10–5–59.

Class 107 — Education and Entertainment

711,358. "SCHOOL-ON-THE-ROAD." Behner Travel, Inc., assignee of Frederick G. Behner, Jr., d.b.a. Behner Travel Agency. SN 70,987. Pub. 11–29–60. Filed 4–7–59.

711,359. FASHIONS IN FACES. Florence Ormand Miller, d.b.a. Florence Miller. SN 90,546. Pub. 11–29–60. Filed 2–8–60.

711,360. THE POET OF THE PIANO. Carmen Cavallaro. SN 95,249. Pub. 11–29–60. Filed 4–18–60.

Collective Membership Marks

Class 200

711,361. NRMA ETC. National Reloading Manufacturers Association, Inc. SN 85,150. Pub. 11–29–60. Filed 11–12–59.

711,362. MEMBER BETTER HOME HEAT COUNCIL, INC. AND DESIGN. Better Home Heat Council, Inc. SN 86,864. Pub. 11–29–60. Filed 12–8–59.

711,363. REPRESENTATION OF A PIN AND GREEK LETTERS. Alpha Gamma Sigma Agricultural Fraternity. SN 87,962. Pub. 11–29–60. Filed 12–24–59.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

Class 7 — Cordage

711,364. Wall Rope Works, Inc., New York, N.Y. SN 85,936. Filed 11–23–59.

COLOROPE

The drawing is lined for red, green, and blue.

For Rope Containing Strands of Synthetic Resinous Material.

First use in September 1958.

Class 16 — Protective and Decorative Coatings

711,365. Garry Laboratories, Inc., Buffalo, N.Y. SN 92,458. Filed 3–9–60.

GARRY'S

For Liquid Preparation for Application to Automobile Bodies Having a Lacquer Finish for the Purpose of Cleaning Them, Removing Road Film or Other Deposits of Foreign Material and Producing a Brilliant and Glossy Finished Surface.

First use Mar. 2, 1959.

Class 18 — Medicines and Pharmaceutical Preparations

711,366. American Dietaids Company, Inc., Yonkers, N.Y. SN 89,728. Filed P.R. 1–27–60; Am. S.R. 12–5–60.

ENRICH

For Dietary Supplement Containing Iron.

First use 1938.

Class 21 — Electrical Apparatus, Machines, and Supplies

711,367. Halo Lighting Products, Inc., Chicago, Ill. SN 74,043. Filed P.R. 5–19–59; Am. S.R. 12–5–60.

ALLGLAS

For Recessed Lighting Fixtures.

First use May 1, 1959.

Class 26 — Measuring and Scientific Appliances

711,368. Texas Instruments Incorporated, Dallas, Tex. SN 53,064. Filed P.R. 6–6–58; Am. S.R. 11–18–60.

DATAGAGE

For Transceiver Control Unit for Remote Process Data Measurement and Control Telemetering Systems.

First use on or about Aug. 24, 1957.

711,369. Barrett Equipment Company, St. Louis, Mo. SN 81,232. Filed P.R. 9–14–59; Am. S.R. 11–14–60.

SHOE SET-R

For Gauges for Measuring Automotive Brake Shoes.
First use Feb. 24, 1959.

Class 35—Belting, Hose, Machinery Packing, and Nonmetallic Tires

711,370. Bertha P. Nitzsche, d.b.a. Midwest Sales, Stoughton, Wis. SN 79,689. Filed P.R. 8–17–59; Am. S.R. 12–2–60.

KWIK-N-E-Z

For Tubeless Tire Repair Plugs.
First use on or about Sept. 1, 1942.

Class 37—Paper and Stationery

711,371. Mohawk Tablet Company, Chicago Heights, Ill. SN 70,605. Filed P.R. 8–31–59; Am. S.R. 12–5–60.

KING SIZE

For Writing Tablets, Writing Paper, Typewriting Paper and Loose-Leaf Filler Paper.
First use July 1, 1958.

711,372. Dennison Manufacturing Company, Framingham, Mass. SN 86,054. Filed P.R. 3–17–60; Am. S.R. 12–7–60.

FLUSH-AWAY

For Disposable Diaper Liners.
First use Dec. 1, 1959.

Class 39—Clothing

711,373. Lynchburg Hosiery Mills, Inc., Lynchburg, Va. SN 86,166. Filed P.R. 11–27–59; Am. S.R. 12–5–60.

ANKLE-TAN

For Cushion Soled Stocking Feet.
First use May 11, 1958.

Class 40—Fancy Goods, Furnishings, and Notions

711,374. Thomas C. Harris, d.b.a. Harris Products Co., Baltimore, Md. SN 67,605. Filed P.R. 2–12–59; Am. S.R. 12–19–60.

COLLAR E·Z·E

For Collar Buttons.
First use May 15, 1957.

711,375. Lida Brown Designs, Inc., New York, N.Y. SN 68,366. Filed P.R. 2–25–59; Am. S.R. 11–10–60.

designer CUT & SEW dresskit

The drawing is lined for red.
For Package Containing Fabric With Pattern Imprinted Thereon, Prefabricated Parts and Findings for Making a Complete Dress.
First use Feb. 12, 1958.

Class 46—Foods and Ingredients of Foods

711,376. Pevely Dairy Company, St. Louis, Mo. SN 61,733. Filed P.R. 10–31–58; Am. S.R. 2–23–60.

SCOOP OF THE MONTH

For Ice Cream.
First use Oct. 1, 1958.

711,377. Schuler Chocolates, Inc., Winona, Minn. SN 82,029. Filed P.R. 9–24–59; Am. S.R. 11–8–60.

MCKUSICK'S

For Candy.
First use in or about 1888.

711,378. Avoset Company, Oakland, Calif. SN 97,915. Filed 5–26–60.



The mark consists of the configuration of the can for the goods, with the word "Qwip" and design thereon.
For Sterilised Cream Packed Under Pressure.
First use Mar. 17, 1959.

Class 50—Merchandise Not Otherwise Classified

711,379. Societe Fleurs de Paris, Paris, France, assignee of Delarbre Jean Jacques (nee Veyre Viviane), Paris, France. SN 55,007. Filed P.R. 7–9–58; Am. S.R. 6–19–59.

FLEURS DE FRANCE

Owner of French Reg. No. 466,589, dated Aug. 2, 1957 (Seine); Natl. Inst. No. 94,179; and U.S. Reg. No. 636,098.
For Artificial Flowers.

711,380. Military Post Suppliers, Newark, N.J. SN 80,678. Filed P.R. 9-1-59; Am. S.R. 8-2-60.



For Military Army Insignias and Chevrons.
First use Jan. 2, 1958.

Class 51 — Cosmetics and Toilet Preparations

711,381. Charmour Products Inc., New York, N.Y. SN 81,461. Filed P.R. 9-16-59; Am. S.R. 9-12-60.

TOUCH AND SET

For Spray Preparation for Setting Hair.
First use Aug. 3, 1959.

Class 52 — Detergents and Soaps

711,382. Para-Lax Corporation, Tulsa, Okla., by change of name from The Photo-Line Corporation, Tulsa, Okla. SN 58,578. Filed P.R. 9-8-58; Am. S.R. 11-28-60.

THE OIL FIELD LAXATIVE

For Solvent Chemical Compound for the Removal of Paraffin From Oil Wells.
First use July 21, 1958.

711,383. Euclid B. Smith, d.b.a. Pelican State Laboratory, New Orleans, La. SN 91,560. Filed P.R. 2-24-60; Am. S.R. 12-1-60.

XLENT

For Window Cleaner.
First use October 1959.

Service Marks

Class 100 — Miscellaneous

711,384. Chemical Service of Baltimore, Inc., Baltimore, Md. SN 40,207. Filed P.R. 11-7-57; Am. S.R. 3-31-60.



For Public and Commercial Buildings Maintenance, Products Requirements Research and Analysis, and Maintenance Employees' Training Programs.
First use February 1955.

Class 103 — Construction and Repair

711,385. La Exterminadora, Inc., Pittsburgh, Pa. SN 52,888. Filed P.R. 6-4-58; Am. S.R. 3-25-59.

LA EXTERMINADORA

"La Exterminadora," when translated into English, means "the exterminator."
For Consulting, Rendering Advice and Giving Instruction in the Fields of Insect and Pest Control.
First use Sept. 1, 1957.

Class 106 — Material Treatment

711,386. Velveray Corporation, Clifton, N.J. SN 25,056. Filed P.R. 2-25-57; Am. S.R. 9-28-59.

VELVA-GLAZE

For Treating of Woven Textile Fabrics of Others by Applying Finishes, Decoration and Ornamentation Thereto.
First use Jan. 10, 1957.

TRADEMARK REGISTRATIONS RENEWED

131,911. KNOX SPARKLING GELATINE AND REPRESENTATION OF A COW'S HEAD. Cl. 46. 5-25-20.
134,470. VAC-DRY. Cl. 1. 8-31-20.
135,025. ISAVER. Cl. 21. 9-21-20.
135,760. NILCO. Cl. 21. 10-19-20.
136,310. "BUGS" BAER. Cl. 38. 11-2-20.
137,977. MacGREGOR. Cl. 22. 12-14-20.
137,999. ESTATE. Cl. 21. 12-14-20.
138,000. ESTATE. Cl. 34. 12-14-20.
138,026. HAMILTON. Cl. 28. 12-14-20.
138,496. R. Cl. 6. 12-28-20.
139,269. REPRESENTATION OF CROSSED SOLDERING IRONS. Cl. 6. 2-1-21.
139,586. VIMTO. Cl. 45. 2-8-21.
140,090. GOLDEN BLOSSOM. Cl. 46. 3-8-21.
140,345. VASELINE. Cl. 51. 3-15-21.
142,431. AMERICAN A. Cl. 2. 5-17-21.
143,352. AKRON. Cl. 35. 5-31-21.
143,499. FAN BACK DESIGN. Cl. 22. 5-31-21.
380,942. SUDSMASTER. Cl. 31. 9-10-40.
382,225. BK. Cl. 23. 10-22-40.
382,518. X-TRA. Cl. 45. 10-29-40.
382,645. VELVETOAK. Cl. 1. 11-5-40.
383,500. SUNNY ISLES. Cl. 45. 12-10-40.
383,882. SUN RADE. Cl. 45. 12-24-40.
384,005. VITROLITE. Cl. 33. 12-31-40.
384,079. JACK POT AND DESIGN. Cl. 39. 1-7-41.
384,116. PUROFEMIN AND DESIGN. Cl. 51. 1-7-41.
384,329. A SEMINOLE PRODUCT AND DESIGN. Cl. 45. 1-14-41.
384,385. SANFORSET. Cl. 42. 1-14-41.
384,409. PENNANT AND DESIGN. Cl. 46. 1-21-41.
384,447. CHASE. Cl. 39. 1-21-41.
384,502. CAVPRO. Cl. 46. 1-21-41.
384,504. HOPRO. Cl. 46. 1-21-41.
384,588. VICTITE. Cl. 13. 1-21-41.
384,786. W.E. & M.E. HERB TONIC. Cl. 18. 2-4-41.
384,840. AHCOBOND. Cl. 6. 2-4-41.
384,858. RAIN CROSS. Cl. 46. 2-4-41.
384,890. AHCOVEL. Cl. 6. 2-4-41.
385,033. PYSEAL. Cl. 5. 2-11-41.
385,161. FIRESTONE AIR CHIEF AND DESIGN. Cl. 34. 2-18-41.
385,363. AUTEMP. Cl. 21. 2-25-41.
385,366. FULTORK. Cl. 21. 2-25-41.
385,399. GLASSIC. Cl. 38. 2-25-41.
385,448. MOPAR. Cl. 52. 3-4-41.
385,459. FLOMASTER. Cl. 13. 3-4-41.
385,817. SERVMOBILE. Cl. 19. 3-18-41.
386,502. REPRESENTATION OF RED RECTANGLE ON TOOL. Cl. 23. 4-15-41.
386,586. S AND REPRESENTATION OF THE SUN. Cl. 48. 4-15-41.

386,809. STRUTTER. Cl. 42. 4–22–41.
386,867. REPRESENTATION OF LITTLE MAN WITH FIFE. Cl. 48. 4–22–41.
386,951. PERUIN AND DESIGN. Cl. 51. 4–29–41.
387,312. MAGCOBAR. Cl. 1. 5–13–41.
387,628. COE TRANS. Cl. 44. 5–27–41.
387,665. GLOBE SPINNING POWER. Cl. 21. 5–27–41.
387,771. DAXALAN. Cl. 18. 5–27–41.
387,851. DEWKIST. Cl. 46. 6–3–41.

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310,542. MECHANICS. Cl. 4. 2–27–34.
322,094. CLEAN HARDY TESTED SOUND H. Cl. 1. 2–26–35.
353,798. FUDG-FREEZ. Cl. 46. 1–18–38.
578,373. CHAFFEE. Cl. 4. 8–4–53.
578,644. PETER PAN AND DESIGN. Cl. 100. 8–11–53.
579,719. TIKI ORIGINALS. Cl. 39. 9–8–53.
581,479. RUB-A-DUB MIT. Cl. 39. 10–27–53.
581,878. MAYFIELD AND DESIGN. Cl. 46. 11–3–53.
582,777. CLAREMONT. Cl. 21. 11–24–53.
583,253. LABATT'S ETC. AND DESIGN. Cl. 48. 12–8–53.
583,976. CHIN-CHIN. Cl. 22. 12–22–53.
584,538. PENN AIRETTE. Cl. 24. 1–12–54.
584,650. SEALVAC. Cl. 14. 1–12–54.
584,661. Y–Z. Cl. 1–12–54.
584,966. BEL-TOE AND DESIGN. Cl. 103. 1–19–54.
585,045. TONY GEORGE'S. Cl. 46. 1–26–54.
586,210. CHEMSTRAND. Cl. 6. 3–2–54.
587,442. SHIPS & THE SEA AND DESIGN. Cl. 38. 3–23–54.
588,290. DOT AND DESIGN. Cl. 29. 4–13–54.
589,254. COL-R-CORN. Cl. 46. 4–27–54.
593,168. FREEZER QUEEN AND DESIGN. Cl. 2. 8–3–54.
594,035. HEVI-DUTY CARTRIDGE. Cl. 31. 8–17–54.
595,042. WAXENE. Cl. 4. 9–14–54.

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599,797. CCI ETC. AND DESIGN. Cl. 2.
599,804. FORAGEMASTER. Cl. 2.
599,805. BAR-X. Cl. 2.
599,806. PETTI-PAK. Cl. 2.
599,808. EYE-CATCHER BY BUCHNER. Cl. 3.
599,812. OMNI-BAG. Cl. 3.
599,820. LAM-EDGE. Cl. 5.
599,828. PLASTICAST AND DESIGN. Cl. 6.
599,841. MIREPEL. Cl. 6.
599,844. METEOR. Cl. 7.
599,845. ZIG-ZAG AND DESIGN. Cl. 8.
599,846. "A-JON CIG SET." Cl. 8.
599,847. TRAY-MAID. Cl. 8.
599,848. K9. Cl. 8.
599,851. FISH FLUFF. Cl. 10.
599,855. COMBWOOD. Cl. 12.
599,865. NEO-CRETE. Cl. 12.
599,868. PER-FIT AND DESIGN. Cl. 12.
599,871. MILEX. Cl. 13.
599,872. INTRICAST. Cl. 14.
599,884. OPPO AND DESIGN. Cl. 18.
599,886. PAVCO. Cl. 18.
599,896. MASTAT. Cl. 18.
599,898. FLO-DAILY. Cl. 18.
599,903. ACTOPENZIL. Cl. 18.
599,906. GOLD SEAL GS AND DESIGN. Cl. 21.
599,915. RIK-RAK. Cl. 22.
599,916. MUSKLINE. Cl. 22.
599,917. X–44. Cl. 22.
599,918. KENWOOD AND DESIGN. Cl. 22.
599,920. SCRAB-O-GRAM. Cl. 22.
599,923. DUNBEAM. Cl. 23.
599,924. CHOW-CHOW. Cl. 23.
599,925. TWIN H-POWER. Cl. 23.
599,926. UTILINE. Cl. 23.
599,932. INJECTA AND DESIGN. Cl. 23.
599,940. CELS AND DESIGN. Cl. 23.
599,946. PRESTO. Cl. 24.
599,954. REV CHEK AND DESIGN. Cl. 26.
599,957. COMPUTYPER AND DESIGN. Cl. 26.
599,959. SICON. Cl. 26.
599,961. MERCURY AND DESIGN. Cl. 26.
599,966. TWEET. Cl. 29.
599,968. KARESS-KLEAN. Cl. 29.
599,970. FLASH-O-MATIC. Cl. 31.
599,971. BLUE PENCIL. Cl. 32.
599,975. LUB-CONTROLLER. Cl. 32.
599,978. POMCO AND DESIGN. Cl. 32.
599,979. STARTER CHEST. Cl. 32.
599,980. PLATEEN. Cl. 32.
599,982. HEART-EASE. Cl. 32.
599,986. LIV-N-LOUNGER. Cl. 32.
599,990. UXBRIDGE. Cl. 34.
599,995. GAS-POSALL. Cl. 34.
600,008. CHAIN SAW AGE AND DESIGN. Cl. 38.
600,009. HOW 'BOUT THAT. Cl. 38.
600,013. RETMA. Cl. 38.
600,021. CONTACT. Cl. 39.
600,025. COTTON RIVETED TOPETTES. Cl. 39.
600,026. NYLON RIVETED TOPETTES. Cl. 39.
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600,031. CHAT MODE. Cl. 39.
600,032. STANDARD STUDENT. Cl. 39.
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600,037. SET-MASTER. Cl. 39.
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600,046. HELLER-KNIT AND DESIGN. Cl. 42.
600,047. DRAW-TAPE BY AVON AND DESIGN. Cl. 42.
600,049. HEPOLA. Cl. 42.
600,050. PANAMETTE. Cl. 42.
600,051. DYNA-PEL. Cl. 42.
600,053. BO-MO-TEX. Cl. 42.
600,057. WORSTRELLA. Cl. 42.
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600,090. TOTEM POLE. Cl. 46.
600,091. FAUST AND DESIGN. Cl. 46.
600,095. DE-CALORIZED. Cl. 46.
600,100. HYR. Cl. 46.
600,101. FIVE POINT. Cl. 46.
600,106. RAINBOW ISLAND. Cl. 46.
600,113. ANY-TIME. Cl. 46.
600,117. ROYAL. Cl. 46.
600,121. ORIG-N-OILS AND DESIGN. Cl. 50.
600,124. PERI. Cl. 51.
600,125. LANOLOC 3–D. Cl. 51.
600,140. SERVICE PROTECTION I AND DESIGN. Cl. 102.
600,141. HOLTZAPPLE WHITE ROCKS. Cl. 1.
600,142. HOLTZAPPLE WHITE NICKS. Cl. 1.
600,146. BORA EXTRA. Cl. 8.
600,157. OIL-A-POINT. Cl. 23.
600,158. POLY-PRINTER. Cl. 23.
600,166. FILT-R-FAT. Cl. 31.
600,168. ARMSAVERS. Cl. 32.
600,170. FINISHING ENGINEER. Cl. 38.
600,171. CHICAGO AMERICAN. Cl. 38.
600,182. PRE-FAB. Cl. 50.
600,184. STEREO-CINE AND DESIGN. Cl. 101.
600,186. SUEDE-CRAFT. Cl. 103.

TRADEMARK REGISTRATIONS AMENDED, DISCLAIMED, CORRECTED, ETC.

382,835. BOLLER. Cl. 45. 11–12–40. Boller's Beverages, Inc., Elizabeth, N.J. Amended to appear:

BOLLER

515,406. UNIVAC. Cl. 26. 9–20–49. Eckert-Mauchly Computer Corporation. Sperry Rand Corporation, New York, N.Y. Amended to appear:

UNIVAC

696,979. LEVELGLIDE. Cl. 13. 5–3–60. National Valve and Manufacturing Company, Pittsburgh, Pa. Corrected: In the statement, column 1, line 1, "&" should be deleted and *and* should be inserted and "Pennsylvania" should be deleted and *Delaware* should be inserted.

699,972. THE FONTAINE ORGANIZATION. Cl. 100. 6–21–60. Angeline F. Hunt, doing business as The Fontaine Organization, Marriage Proponents, Seattle, Wash. Corrected: In the statement, column 2, line 4, "Apr. 14, 1956" should be deleted and *Oct. 15, 1954* should be inserted.

706,501. MOBILE TAPE. Cl. 12. 11–1–60. American-Marietta Company, Chicago, Ill. Amended to appear:

MOBILE TAPE

TRADEMARK REGISTRATIONS—NEW CERTIFICATES

New Certificates issued under sections 7(c), 7(f), 7(g) of the Trademark Act of 1946 for the unexpired term of the original registrations.

406,488. TERRY TURNER. Cl. 39. Benjamin Schiffer. 4–4–44. New Cert. Sec. 7(c) to Schiffer Knitwear Company, Inc., New York, N.Y.

539,456. LEVELEZE AND DESIGN. Cl. 13. Josam Manufacturing Company. 8–13–51. New Cert. Sec. 7(c) to Josam Manufacturing Co., Michigan City, Ind.

588,777. VIBREX AND DESIGN. Cl. 13. Vibrex Fastener Co. 4–20–54. New Cert. Sec. 7(c) to The General Tire & Rubber Company, Akron, Ohio.

622,115. INTERCEPTOR AND DESIGN. Cl. 23. Dearborn Marine Engines, Inc. 2–28–56. New Cert. Sec. 7(c) to Easton Manufacturing Company, Cleveland, Ohio.

633,021. VIBREX. Cl. 13. Vibrex Fastener Corporation. 8–21–56. New Cert. Sec. 7(c) to The General Tire & Rubber Company, Akron, Ohio.

665,620. UNITRON. Cl. 13. Josam Manufacturing Co. 8–12–58. New Cert. Sec. 7(c) to Josam Manufacturing Co., Michigan City, Ind.

682,433. KINGS WAY. Cl. 17. Brown & Williamson Tobacco Corporation. 7–28–59. New Cert. Sec. 7(c) to The Imperial Tobacco Company (of Great Britain and Ireland), Limited, Bristol, England.

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(Registered; Renewed; Canceled; Amended, Disclaimed, Corrected, etc.; New Certificates; 12c Publications.)

A.D.G. Societe d'Application des Gaz, Produits Routiers et Materiaux, Paris, France. 711,052, pub. 11–29–60. Cl. 2.
A.D.G. Societe d'Application des Gaz, Produits Routiers et Materiaux, Paris, France. 711,227, pub. 11–29–60. Cl. 34.
Abbotts Dairies, Inc., Philadelphia, Pa. 581,878, canc. Cl. 46.
Abercrombie & Fitch Co., New York, N.Y. 711,165, pub. 11–29–60. Cl. 22.
Adaptaplex Mfg. Co., Beaverton, Oreg. 711,821, pub. 11–29–60. Cl. 50.
Aeroplastics Corp., Venice, Calif. 711,166, pub. 11–29–60. Cl. 22.
Air Reduction Sales Co., to Air Reduction Co., Inc., New York, N.Y. 385,459, ren. 2–14–61. Cl. 13.
Air-Shields, Inc., Hatboro, Pa. 711,134, pub. 11–29–60. Cl. 18.
Aktiebolaget Bofors, Bofors, Sweden. 711,108–9, pub. 11–29–60. Cl. 18.
Allenform Corp., by change of name from Trueforms, Inc., Seattle, Wash. 711,078, pub. 11–29–60. Cl. 12.
Alloy Surfaces Co., Inc., Wilmington, Del. 711,357, pub. 11–29–60. Cl. 106.
Alpha Gamma Sigma Agricultural Fraternity Association, Alexandria, Va. 711,363, pub. 11–29–60. Cl. 200.
Alsan Carved Wedding Ring Co.: *See*—
Frackman, Hy.
Alta Vineyards Co., d.b.a. Cribari & Sons, Fresno, Calif. 711,317, pub. 8–16–60. Cl. 47.
American Bakers Cooperative, Inc., Ithaca, N.Y. 711,295, pub. 11–29–60. Cl. 46.
American Beauty Macaroni Co., The, d.b.a. Faust Macaroni Co., St. Louis, Mo. 600,091, canc. Cl. 46.
American Cast Iron Pipe Co., Birmingham, Ala. 711,094, pub. 11–29–60. Cl. 13.
American Cyanamid Co., New York, N.Y. 599,795, canc. Cl. 1.
American Cyanamid Co., New York, N.Y. 599,896, canc. Cl. 18.
American Cyanamid Co., New York, N.Y. 711,110, pub. 11–29–60. Cl. 18.
American Dietaids Co., Inc., Yonkers, N.Y. 711,366. Cl. 18.
American Doll & Toy Corp., Brooklyn, N.Y. 711,172, pub. 11–29–60. Cl. 22.
American Greetings Corp., Cleveland, Ohio. 711,256, pub. 11–29–60. Cl. 38.
American Home Foods: *See*—
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American Home Products Corp., d.b.a. American Home Foods, New York, N.Y. 711,302, pub. 11–29–60. Cl. 46.
American Home Products Corp., d.b.a. Wyeth Laboratories, New York, N.Y. 711,126, pub. 11–29–60. Cl. 18.
American Mfg. Co., Brooklyn, N.Y. 599,844, canc. Cl. 7.
American Photograph Corp., New York, N.Y. 711,275, pub. 11–29–60. Cl. 38.
American Pop Corn Co., Sioux City, Iowa. 711,307, pub. 11–29–60. Cl. 46.
American Screen Products Co., Northlake, Ill. 711,080, pub. 11–29–60. Cl. 12.
American Screen Products Co., Northlake, Ill. 711,089, pub. 11–29–60. Cl. 13.
Anchor Serum Co., St. Joseph, Mo. 711,104, pub. 11–29–60. Cl. 18.
Andrews', Sam, Sons, Bakersfield, Calif. 711,312–13, pub. 11–29–60. Cl. 46.
Androscoggin Mills, Lewiston, Maine, to Bemis Bro. Bag Co., St. Louis, Mo. 142,481, ren. 2–14–61. Cl. 2.
Anschutz & Co., Gesellschaft mit Beschrankter Haftung, Kiel-Wik, Germany. 711,209, pub. 11–29–60. Cl. 26.
Antennavision, Inc., Phoenix, Ariz. 711,148, pub. 11–8–60. Cl. 21.
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Arnsteiner, Anton, d.b.a. Salzburger Skifabrik, Mittersill, Pinzgau, Austria. 711,171, pub. 11–29–60. Cl. 22.
Atlantic Lobster House Inc., Charlestown, Mass. 585,045, canc. Cl. 46.
Atomic Industrial Forum, Inc., New York, N.Y. 711,266, pub. 11–29–60. Cl. 38.
Austrian Traders Inc., New York, N.Y. 600,146, canc. Cl. 8.
Automotive Affiliated Representatives, New York, N.Y. 711,344, pub. 11–29–60. Cl. 101.
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Avon Curtain Corp., Fall River, Mass. 600,047, canc. Cl. 42.
Avoset Co., Oakland, Calif. 711,378. Cl. 46.
Bachmann Uxbridge Worsted Corp., Uxbridge, Mass. 599,990, canc. Cl. 34.
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Backer, Alexander, Co., Inc.
Backer, Alexander, Co., Inc., from A. Backer, d.b.a. Alexander Backer Co., Brooklyn, N.Y. 711,319, pub. 11–29–60. Cl. 50.
Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany. 711,060, pub. 11–29–60. Cl. 6.
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Beacon Chemical Industries, Inc., Cambridge, Mass. 711,070, pub. 11–29–60. Cl. 6.
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Behner Travel, Inc.
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Bendix-Westinghouse Automotive Air Brake Co., Elyria, Ohio. 711,182, pub. 11–29–60. Cl. 23.
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Better Home Heat Council, Inc., Boston, Mass. 711,362, pub. 11–29–60. Cl. 200.
Birdsall, Leo S., d.b.a. Birdsall Mfg. Co., Gloversville, N.Y. 599,968, canc. Cl. 29.
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Bloopers, Inc., Valley, N.Y. 711,255, pub. 11–29–60. Cl. 38.
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Bradley, Milton, Co., Springfield, Mass. 711,176–7, pub. 11–29–60. Cl. 22.
Bradley, Richard C., d.b.a. Plastic Engineering and Chemical Co., Ft. Lauderdale, Fla. 711,197, pub. 11–29–60. Cl. 23.
Brandtien & Kluge, Inc., St. Paul, Minn. 711,247, pub. 11–29–60. Cl. 37.
Braunstein Freres, Inc., New York, N.Y. 599,845, canc. Cl. 8.
Brayten Pharmaceutical Co., Chattanooga, Tenn. 711,133, pub. 11–29–60. Cl. 18.
Bridgestone Tire Co. Ltd., Chuo-ku, Tokyo, Japan. 711,233, pub. 11–29–60. Cl. 35.
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Bristol-Myers Co., New York, N.Y., from Charles Vitello, d.b.a. Chavit Co., Beverly Hills, Calif. 711,324, pub. 4–22–58. Cl. 51.
Bristol-Myers Co., New York, N.Y. 711,330, pub. 11–29–60. Cl. 52.
Broan Mfg. Co., Inc., Hartford, Wis. 711,230, pub. 11–29–60. Cl. 34.
Brown-Bridge Mills, Inc., Troy, Ohio. 599,820, canc. Cl. 5.
Brown, Lida, Designs, Inc., New York, N.Y. 711,375. Cl. 40.
Brown & Williamson Tobacco Corp., to The Imperial Tobacco Co. (of Great Britain and Ireland), Ltd., Bristol, England. 682,433, new cert. Cl. 17.
Brownell & Field Co., Providence, R.I. 711,311, pub. 11–29–60. Cl. 46.
Buchner Import Co. Inc., New York, N.Y. 599,808, canc. Cl. 3.
Bulova Watch Co., Inc., Flushing, N.Y. 711,072, pub. 11–29–60. Cl. 6.
Bulova Watch Co., Inc., Flushing, N.Y. 711,210, pub. 11–29–60. Cl. 27.
Bulova Watch Co., Inc., Flushing, N.Y. 711,234, pub. 11–29–60. Cl. 36.
Burbrooke Mfg. Co., Inc., New York, N.Y. 711,277, pub. 4–12–60. Cl. 39.
Burlington Industries, Inc., Greensboro, N.C. 711,286, pub. 11–29–60. Cl. 42.
Burlington Mills Inc., Burlington, Wis. 711,175, pub. 11–29–60. Cl. 22.
C-B Educational Films, Inc., San Francisco, Calif. 711,267, pub. 11–29–60. Cl. 38.
CMS Corp., Fort Lauderdale, Fla. 711,103, pub. 4–14–59. Cl. 18.
California Honey Producers Cooperative Exchange, Los Angeles, Calif., to John Paton Inc., New York, N.Y. 140,090, ren. 2–14–61. Cl. 46.
Cal-Zona, Inc., Phoenix, Ariz. 711,310, pub. 11–29–60. Cl. 46.
Cameracades, Inc., Brighton, Mass. 711,351, pub. 11–29–60. Cl. 105.
Campboree Mfg. Co., Detroit, Mich. 711,163, pub. 11–29–60. Cl. 22.
Capex Co., Inc., Evanston, Ill. 600,182, canc. Cl. 50.
Caprico International, Inc., New York, N.Y. 711,174, pub. 11–29–60. Cl. 22.
Carter Products, Inc., New York, N.Y. 711,125, pub. 11–29–60. Cl. 18.
Cary Chemicals, Inc., New Brunswick, N.J. 711,043, pub. 11–29–60. Cl. 1.
Casco Products Corp., Bridgeport, Conn. 599,848, canc. Cl. 8.
Casella Farbwerke Mainkur Aktiengesellschaft, Frankfurt am Main, Fechenheim, Germany. 711,073, pub. 11–29–60. Cl. 6.
Cash Value Trading Stamp Co., Cleveland, Ohio. 711,339, pub. 11–29–60. Cl. 101.
Cavalier Cravat Co., Louisville, Ky. 600,034, canc. Cl. 39.
Cavallaro, Carmen, San Pedro, Calif. 711,360, pub. 11–29–60. Cl. 107.
Cedacote Mfg. Co.: *See*—
Hall, Fletcher.
Central Mine Equipment Co., St. Louis, Mo. 711,068, pub. 11–29–60. Cl. 13.
Chaffee Mfg. Co., Millersport, Ohio. 578,378, canc. Cl. 4.
Chapman, Frank, to The M. W. Dunton Co., Providence, R.I. 139,269, ren. 2–14–61. Cl. 6.
Charmour Products Inc., New York, N.Y. 711,381. Cl. 51.
Chavit Co.: *See*—
Bristol-Myers Co.
Chemical Service of Baltimore, Inc., Baltimore, Md. 711,384. Cl. 100.
Chemstrand Corp., The, Decatur, Ala. 586,210, canc. Cl. 6.
Chesebrough Mfg. Co., Consolidated, to Chesebrough-Pond's Inc., New York, N.Y. 140,345, ren. 2–14–61. Cl. 51.
Chesebrough-Pond's Inc.: *See*—
Chesebrough Mfg. Co., Consolidated.
Chicago Airways: *See*—
Bellario, Bernard.
Chrysler Corp., Highland Park, Mich. 385,448, ren. 2–14–61. Cl. 52.
Citrus Container Institute, Bryn Mawr, Pa. 599,797, canc. Cl. 2.
Claremont Laboratories, Inc., Maspeth, N.Y. 582,777, canc. Cl. 21.
Claxton, Will M.: *See*—
Everette, William.
Cluett, Peabody & Co., Inc., New York, N.Y. 384,385, ren. 2–14–61. Cl. 42.
Cluett, Peabody & Co., Inc., New York, N.Y. 384,447, ren. 2–14–61. Cl. 39.
Coe Laboratories, Inc., Chicago, Ill. 387,628, ren. 2–14–61. Cl. 44.
Collins & Aikman Corp., Philadelphia, Pa. 600,051, canc. Cl. 42.
Compania Mexicana de Avicion, S.A., Mexico City, Mex. 711,353, pub. 11–29–60. Cl. 105.
Computyper Corp., San Leandro, Calif. 599,957, canc. Cl. 26.
Congoleum-Nairn Inc., Kearny, N.J. 711,142, pub. 11–29–60. Cl. 20.
Conroy, James J., Portland, Oreg. 600,006, canc. Cl. 38.
Continental Can Co., Inc., New York, N.Y. 711,238, pub. 11–29–60. Cl. 37.
Continental-Diamond Fibre Corp., Newark, Del. 711,155, pub. 11–29–60. Cl. 21.
Continental Ribbon and Carbon Co., Houston, Tex. 711,077, pub. 11–29–60. Cl. 11.
Copease Corp., New York, N.Y. 711,188, pub. 11–29–60. Cl. 28.
Copease Corp., New York, N.Y. 711,323, pub. 11–29–60. Cl. 50.
Coro, Inc., New York, N.Y. 711,212, pub. 11–29–60. Cl. 27.
Craft House Trees Corp., Chicago, Ill. 711,320, pub. 11–29–60. Cl. 50.
Crawford, Fred F., d.b.a. Crawford Hatcheries, St. Joseph, Mo. 599,794, canc. Cl. 1.
Crawford Hatcheries: *See*—
Crawford, Fred F.
Crawford McGregor & Canby Co., The, Dayton, to McGregor Sport Products Inc., Cincinnati, Ohio. 137,977, ren. 2–14–61. Cl. 22.
Cribari & Sons: *See*—
Alta Vineyards Co.
Culligan, Inc., Northbrook, Ill. 657,422, canc. Cl. 26.
Dearborn Marine Engines, Inc., to Easton Mfg. Co., Cleveland, Ohio. 622,115, new cert. Cl. 23.
Dell Publishing Co., Inc., New York, N.Y. 711,274, pub. 11–29–60. Cl. 38.
Dennison Mfg. Co., Framingham, Mass. 711,372. Cl. 37.
Dental Insurance Plan Inc., New York, N.Y. 711,345, pub. 11–29–60. Cl. 102.
Dentocide Chemical Co.: *See*—
Moses, Saul.
Design Tiles, New York, N.Y. 599,847, canc. Cl. 8.
Deutsch Molding Corp., Long Beach, Calif. 711,149, pub. 11–29–60. Cl. 21.
Dome Chemicals, Inc., to Dome Chemicals, Inc., New York, N.Y. 387,771, ren. 2–14–61. Cl. 18.
Douglas Furniture Corp., Chicago, Ill. 599,980, canc. Cl. 32.
Dow Chemical Co., The, Midland, Mich. 711,287, pub. 11–29–60. Cl. 48.
Drexel Furniture Co., Drexel, N.C. 599,979, canc. Cl. 32.
Dunn, W. E., Mfg. Co., Holland, Mich. 599,923, canc. Cl. 23.
Dunton, M. W., Co., The: *See*—
Chapman, Frank.
Duro-Dyne Corp., Farmingdale, N.Y. 711,229, pub. 11–29–60. Cl. 34.
Easton Mfg. Co.: *See*—
Dearborn Marine Engines, Inc.
Eckert-Mauchly Computer Corp. Sperry Rand Corp., New York, N.Y. 515,406. Am. 7(d). Cl. 26.
Eclipse Metal Mfg. Corp., Eden, N.Y. 711,228, pub. 11–29–60. Cl. 34.
Edison, S. M. Chemical Co., Inc., Chicago, Ill. 711,121, pub. 11–29–60. Cl. 18.
Empire Plow Co., The, Cleveland, Ohio. 386,502, ren. 2–14–61. Cl. 23.
Engel, Milton B., d.b.a. Plasticast Co., Redwood City, Calif. 599,828, canc. Cl. 6.
Enger-Kress Co., West Bend, Wis. 711,067, pub. 11–29–60. Cl. 3.
Esslinger's Inc., Philadelphia, Pa. 711,318, pub. 11–29–60. Cl. 48.
Estate Stove Co., The, Hamilton, Ohio, to Whirlpool Corp., St. Joseph, Mich. 137,999–138,000, ren. 2–14–61. Cl. 21.
Eugene Fruit Growers Association, Eugene, Oreg. 711,294, pub. 11–29–60. Cl. 46.
Ever-Art Pottery Co., Los Angeles, Calif. 599,846, canc. Cl. 8.
Everette, William, d.b.a. W. E. & M. E. Herb Tonic Co., to Will M. Claxton, Philadelphia, Pa. 384,786, ren. 2–14–61. Cl. 18.
Eversweet Corp., Frostproof, Fla. 711,315, pub. 11–29–60. Cl. 46.
Faber, Eberhard, Inc., Wilkes-Barre, Pa. 711,252, pub. 11–29–60. Cl. 37.
Famous Foods, Inc., Detroit, Mich. 600,095, canc. Cl. 46.
Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany. 711,159, pub. 11–29–60. Cl. 22.
Farrell Lines Inc., New York, N.Y. 711,355, pub. 11–29–60. Cl. 105.
Faust Macaroni Co.: *See*—
American Beauty Macaroni Co., The.
Federated Department Stores, Inc., New York, N.Y. 711,296, pub. 11–29–60. Cl. 46.
Firestone Tire & Rubber Co., The, Akron, Ohio. 385,161, ren. 2–14–61. Cl. 34.
Firm of John Dickinson Schneider, Inc., The, Chicago, Ill. 711,342, pub. 11–29–60. Cl. 101.
Fisher, H. C., Effingham, Ill. 711,336, pub. 11–29–60. Cl. 100.
Fisher Scientific Co., Pittsburgh, Pa. 385,038, ren. 2–14–61. Cl. 5.
Fisher Scientific Co., Pittsburgh, Pa. 385,363, ren. 2–14–61. Cl. 21.
Fisher Scientific Co., Pittsburgh, Pa. 385,366, ren. 2–14–61. Cl. 21.
Fisher, Stanton E., St. Louis, Mo. 711,179, pub. 11–29–60. Cl. 22.
Flavorex Co., Inc.: *See*—
Flavorex, Inc.
Flavorex, Inc., New York, N.Y., to Flavorex Co., Inc., Baltimore, Md. 383,882, ren. 2–14–61. Cl. 45.
Fletcher Hall, d.b.a. Cedacote Mfg. Co., Memphis, Tenn. 711,102, pub. 11–29–60. Cl. 16.
Foam-Ettes, Inc., San Jose, Calif. 711,326, pub. 11–29–60. Cl. 51.
Follansbee Engineering & Supply Co., Chicago, Ill. 711,346, pub. 11–29–60. Cl. 103.
Fontaine Organization, The, Marriage Proponents: *See*—
Hunt, Angeline F.
Food Industries Co., Dallas, Tex. 711,316, pub. 11–29–60. Cl. 46.
Formed Products Co., Elmhurst, N.Y. 599,975, canc. Cl. 32.
Foundeers Furniture, Inc., Pleasant Garden, N.C. 711,222, pub. 11–29–60. Cl. 32.
Fount-Wip, Inc.: *See*—
Fount Wip Vegetable Products, Inc.
Fount Wip Vegetable Products, Inc., from Fount-Wip, Inc., Los Angeles, Calif. 711,298, pub. 11–29–60. Cl. 46.
Four Winds Travel, Inc., New York, N.Y. 711,354, pub. 11–29–60. Cl. 105.

Frackman, Hy, d.b.a. Alsan Carved Wedding Ring Co., New York, N.Y. 711,214, pub. 11–29–60. Cl. 28.
Franckh'sche Verlagshandlung W. Keller & Co., Stuttgart, Germany. 711,160, pub. 11–29–60. Cl. 22.
Franwill, Inc., Indianapolis, Ind. 711,206, pub. 11–29–60. Cl. 46.
Freezer Queen Products Co., Chicago, Ill. 593,168, canc. Cl. 2.
Fromm Laboratories, Inc., Grafton, Wis. 711,111, pub. 11–29–60. Cl. 18.
Garry Laboratories, Inc., Buffalo, N.Y. 711,365. Cl. 16.
Gas-Posall Corp. of America, The, Cleveland, Ohio. 599,995, canc. Cl. 34.
Gee Co., Chicago, Ill. 711,084, pub. 11–29–60. Cl. 12.
Gee Co., Chicago, Ill. 711,349, pub. 11–29–60. Cl. 103.
General Beverage Corp., Springfield, Mass. 382,518, ren. 2–14–61. Cl. 45.
General Foods Corp., White Plains, N.Y. 711,308–9, pub. 11–29–60. Cl. 46.
General Motors Corp., Detroit, Mich. 599,970, canc. Cl. 31.
General Optics, Inc., Denver, Colo. 711,116, pub. 11–29–60. Cl. 18.
General Tire & Rubber Co.: *See*—
Vibrex Fastener Co.
Genesco, Inc., Nashville, Tenn. 711,281, pub. 11–29–60. Cl. 39.
Georgia Co., Inc., The, New York, N.Y. 711,285, pub. 11–29–60. Cl. 42.
Gloats, Hille & Co Kommanditgesellschaft fur Mehrfarben- und Zeliglasdruck, Berlin, Germany. 711,260, pub. 11–29–60. Cl. 38.
Globe-Union Inc., Milwaukee, Wis. 387,665, ren. 2–14–61. Cl. 21.
Golf Developments, Inc., Bay City, Mich. 711,180, pub. 11–29–60. Cl. 22.
Goodenow, Girard L., Katonah, N.Y. 711,261, pub. 11–29–60. Cl. 38.
Goodrich, B. F., Co., The, Akron, Ohio. 143,352, ren. 2–14–61. Cl. 35.
Gossard, H. W., Co., The, Chicago, Ill. 711,282, pub. 11–29–60. Cl. 39.
Grapette Co., Inc., The, Camden, Ark. 711,289, pub. 11–29–60. Cl. 45.
Gray & Co., Portland, Oreg. 384,409, ren. 2–14–61. Cl. 46.
Greystone Upholstery Corp., Allentown, Pa. 599,986, canc. Cl. 32.
Grogin, Rose, New York, N.Y. 600,168, canc. Cl. 32.
Haegele, Richard A., d.b.a. Mercury Supply Co., Elmhurst, Ill. 599,961, canc. Cl. 26.
Haines Designed Products Corp., Dayton, Ohio. 599,954, canc. Cl. 26.
Hallowell Shoe Co., Hallowell, Maine. 711,161, pub. 11–29–60. Cl. 22.
Halo Lighting Products, Inc., Chicago, Ill. 711,367. Cl. 21.
Hamburger Hamlet, Los Angeles, Calif. 711,297, pub. 11–29–60. Cl. 46.
Hamilton Autographic Register Co., The, Hamilton, Ohio. 711,244, pub. 11–29–60. Cl. 37.
Hampshire Chemical Corp., Nashua, N.H. 711,062–4, pub. 11–29–60. Cl. 6.
Hardware Wholesalers, Inc., Fort Wayne, Ind. 711,183, pub. 11–29–60. Cl. 23.
Harris Corp., The, Grafton, Wis. 600,157, canc. Cl. 23.
Harris Products Co.: *See*—
Harris, Thomas C.
Harris, Thomas C., d.b.a. Harris Products Co., Baltimore, Md. 711,374. Cl. 40.
Harshaw Chemical Co., The, Cleveland, Ohio. 711,147, pub. 11–29–60. Cl. 21.
Hartsell Industries, Inc., d.b.a. Hartsell Propeller Fan Co., Piqua, Ohio. 711,224, pub. 11–29–60. Cl. 34.
Hartsell Propeller Fan Co.: *See*—
Hartsell Industries, Inc.
Haver-Lockhart Laboratories, Inc., Kansas City, Mo. 711,120, pub. 11–29–60. Cl. 18.
Hearst Publishing Co., Inc., Chicago, Ill. 600,171, canc. Cl. 38.
Heberlein & Co., A.G., Wattwil, Canton of St. Gall, Switzerland. 600,049, canc. Cl. 42.
Heil Ranch Partnership, d.b.a. Bell Farms, Santa Ana, Calif. 711,291, pub. 11–29–60. Cl. 46.
Heller, William, Inc., New York, N.Y. 600,046, canc. Cl. 42.
Henry Co., The: *See*—
Meyers, Henry.
Heyden Newport Chemical Corp., New York, N.Y. 711,074, pub. 11–29–60. Cl. 6.
Hiebert, John, d.b.a. Hiebert Mfg. Co., Hillsboro, Kans. 711,203, pub. 11–29–60. Cl. 23.
Hiebert Mfg. Co.: *See*—
Hiebert, John.
Hi-jac Corp., Chattanooga, Tenn. 711,054, pub. 11–29–60. Cl. 2.
Hinkle Contracting Corp., Paris, Ky. 711,178, pub. 11–29–60. Cl. 22.
Hoffman, A. H., Inc., Landisville, Pa. 322,094, canc. Cl. 1.
Hokoku Chain Mfg. Co., Ltd., Omori Ota-ku, Tokyo, Japan. 711,187, pub. 11–29–60. Cl. 23.
Holtzapple White Rock Farm, Elida, Ohio. 600,141–2, canc. Cl. 1.
Holsinger Bros., Inc., Santa Fe Springs, Calif. 711,184, pub. 11–29–60. Cl. 23.
Home Builders Supply, Inc., Winter Haven, Fla. 711,087, pub. 11–29–60. Cl. 12.
Hooven, Owens, Rentschler Co., The, Hamilton, Ohio, to Baldwin-Lima-Hamilton Corp., Philadelphia, Pa. 188,026, ren. 2–14–61. Cl. 23.
Horton & Converse, d.b.a. La Salle Pharmacal Co., Los Angeles, Calif. 711,113, pub. 11–29–60. Cl. 18.
Houghton, E. F., & Co., Philadelphia, Pa. 711,329, pub. 11–29–60. Cl. 52.
House of Huston, Inc., Coral Gables, Fla. 599,966, canc. Cl. 29.
Howard Paper Mills, Inc., Dayton, Ohio. 711,242, pub. 11–29–60. Cl. 37.
Howe and Co., d.b.a. Apothecary Products Co., Seattle, Wash. 711,105, pub. 11–29–60. Cl. 18.
Hudson Motor Car Co., Detroit, Mich. 599,925, canc. Cl. 28.
Hunt, Angeline F., d.b.a. The Fontaine Organization, Marriage Proponents, Seattle, Wash. 699,972, cor. Cl. 100.
Hunter & Wild, Ltd., New York, N.Y. 600,066, canc. Cl. 44.
Huyck, F. C., & Sons, Rensselaer, N.Y. 599,918, canc. Cl. 22.
Hycrest Farms: *See*—
Sawyer, Lester T.
I.H. Mfg. Co., Inc., New York, N.Y. 711,157, pub. 11–29–60. Cl. 21.
Illinois Glove Co., Skokie, Ill. 384,079, ren. 2–14–61. Cl. 39.
Imperial Tobacco Co. (of Great Britain and Ireland), Ltd.: *See*—
Brown & Williamson Tobacco Corp.
Independent Board for Presbyterian Foreign Missions, The, Philadelphia, Pa. 711,268, pub. 11–29–60. Cl. 38.
Independent Grocers' Alliance Distributing Co., Chicago, Ill. 711,053, pub. 11–29–60. Cl. 2.
Industrial Rayon Corp., Cleveland, Ohio. 711,042, pub. 11–29–60. Cl. 1.
Injecta Tool & Die Corp., Yonkers, N.Y. 599,932, canc. Cl. 28.
Institutional Products Corp., New York, N.Y. 600,076, canc. Cl. 44.
Insul-8-Corp., San Carlos, Calif. 711,151, pub. 11–29–60. Cl. 21.
International Paper Co., New York, N.Y. 711,240, pub. 11–29–60. Cl. 37.
International Paper Co., New York, N.Y. 711,249, pub. 11–29–60. Cl. 37.
Interstate Life & Accident Insurance Co., Chattanooga, Tenn. 600,140, canc. Cl. 102.
Investorview, Inc., Westwood, N.J. 711,257, pub. 11–29–60. Cl. 38.
Irwin, Neisler & Co., Decatur, Ill. 711,122, pub. 11–29–60. Cl. 18.
Jackson, Byron, Co., Los Angeles, Calif. 599,926, canc. Cl. 23.
Jacques, Delarbre J. (nee Veyre Viviane): *See*—
Societe Fleurs De Paris.
Jamboree Beverage Co.: *See*—
Leary, Daniel J.
Janice Lace Co. Inc., New York, N.Y. 711,049, pub. 11–29–60. Cl. 2.
Jaunty Fabric Corp., The, Scranton, Pa. 711,283, pub. 11–29–60. Cl. 42.
Jewel Tea Co., Inc., Melrose Park, Ill. 711,299, pub. 11–29–60. Cl. 46.
Josam Mfg. Co., to Josam Mfg. Co., Michigan City, Ind. 539,456, new cert. Cl. 13.
Josam Mfg. Co., to Josam Mfg. Co., Michigan City, Ind. 665,620, new cert. Cl. 13.
Josephine Furniture Co., Fresno, Calif. 599,971, canc. Cl. 32.
Kalmbach Publishing Co., Milwaukee, Wis. 587,442, canc. Cl. 38.
Kamm, Abraham R., also d.b.a. Abraham R. Kamm Kaminsky, White Sulphur Springs, W. Va. 600,009, canc. Cl. 38.
Kamm, Abraham R., Kaminsky: *See*—
Kamm, Abraham R.
Karseal Corp., to Automotive Chemicals, Inc., Hollywood, Calif. 595,042, canc. Cl. 4.
Keep 'N Touch Greeting Cards, Framingham, Mass. 711,265, pub. 11–29–60. Cl. 38.
Kelley, Fargubar & Co.: *See*—
Washington Packers, Inc.
Khasana G.m.b.H. Dr. Albersheim, Frankfurt am Main, Germany. 600,124, canc. Cl. 51.
Kings-X, Inc., Wichita, Kans. 711,337, pub. 11–29–60. Cl. 100.
Kline, Sidney A., d.b.a. Sidney's Varieties, Washington, D.C. 711,269–70, pub. 11–29–60. Cl. 38.
Knapp Products Inc., Lodi, N.J. 711,069, pub. 11–29–60. Cl. 6.
Knox, Charles B., Gelatine Co., Inc., to Knox Gelatine, Inc., Johnstown, N.Y. 181,911, ren. 2–14–61. Cl. 46.
Knox Gelatine, Inc.: *See*—
Knox, Charles B., Gelatine Co., Inc.
Kopecky, L. E., d.b.a. Southern National Mfg. Co., Hollister, Mo. 711,085, pub. 11–29–60. Cl. 12.
Kozdron, Sophia, Co., The, Independence, Ohio. 711,107, pub. 11–29–60. Cl. 18.
L-A Water Conditioning, Inc.: *See*—
Sudsmaster Co.
Labatt, John, Ltd., London, Ontario, Canada. 583,253, canc. Cl. 48.
La Exterminadora, Inc., Pittsburgh, Pa. 711,385. Cl. 103.
LaSalle Binder Sales, Inc., Chicago, Ill. 711,254, pub. 11–29–60. Cl. 37.
LaSalle Pharmacal Co.: *See*—
Horton & Converse.
Leary, Daniel J., d.b.a. Jamboree Beverage Co., Waterbury, Conn. 711,290, pub. 8–16–60. Cl. 45.
Leathercraft Process of America, Inc., New York, N.Y. 600,186, canc. Cl. 103.
Leeds Conveyor Mfg. Co., The, East Haven, Conn. 711,198–202, pub. 11–29–60. Cl. 23.
Lescinskis, Leo, New York, N.Y. 384,116, ren. 2–14–61, Cl. 51.
Lescinskis, Leo, New York, N.Y. 386,951, ren. 2–14–61. Cl. 51.
Lewinson, Edward L., & Co., Inc., New York, N.Y. 600,031, canc. Cl. 39.
Lewis & Conger, New York, N.Y. 599,982, canc. Cl. 32.

Libbey-Owens-Ford Glass Co., Toledo, Ohio. 384,005, ren. 2–14–61. Cl. 33.
Libbey-Owens-Ford Glass Co., Toledo, Ohio. 385,399, ren. 2–14–61. Cl. 38.
Lifetime Homes, Inc., Hattiesburg, Miss. 711,347, pub. 11–29–60. Cl. 103.
Lincoln Engineering Co., St. Louis, Mo., to The McNeil Machine & Engineering Co., Akron, Ohio. 385,817, ren. 2–14–61. Cl. 19.
Lincoln Logotype Co.: *See*—
Beaver, Millard B.
Lovelock Music Co.: *See*—
Olsen, Dee N.
Lutz Pork Bait Co., Kansas City, Mo. 711,164, pub. 11–29–60. Cl. 22.
Lynchburg Hosiery Mills, Inc., Lynchburg, Va. 711,373. Cl. 39.
MacPhee, Angus, Vancouver, British Columbia, Canada. 583,976, canc. Cl. 22.
Madison Throwing Co., Inc., Madison, N.C. 711,288, pub. 11–29–60. Cl. 43.
Magnet Cove Barium Corp., Houston, Tex. 387,312, ren. 2–14–61. Cl. 1.
Magnet Sales: *See*—
Petronio, Thomas F.
Mann Research Laboratories, Inc., New York, N.Y. 711,068, pub. 11–29–60. Cl. 6.
Markwell Mfg. Co., Inc., New York, N.Y. 711,191, pub. 11–29–60. Cl. 23.
Marquette, Art & Sally: *See*—
Marquette, Sarah D.
Marquette, Sarah D., d.b.a. Art & Sally Marquette, Santa Barbara, Calif. 711,293, pub. 11–29–60. Cl. 46.
Massengill, S. H., Co., The, Bristol, Tenn. 711,118, pub. 11–29–60. Cl. 18.
Mattel, Inc., Hawthorne, Calif. 711,169, pub. 11–29–60. Cl. 22.
McCrea, C. Leslie, d.b.a. McCrea Equipment Co., Washington, D.C. 711,226, pub. 11–29–60. Cl. 34.
McCrea Equipment Co.: *See*—
McCrea, C. Leslie.
McDermont Fruit Co., Riverside, Calif. 384,858, ren. 2–14–61. Cl. 46.
McGregor Sport Products Inc.: *See*—
Crawford McGregor & Canby Co., The.
McNair Farms: *See*—
McNair, John F., Inc.
McNair, John F., Inc., d.b.a. McNair Farms, Laurinburg, N.C. 711,304, pub. 11–29–60. Cl. 46.
McNeil Machine & Engineering Co., The: *See*—
Lincoln Engineering Co.
Medical Tribune, Inc., New York, N.Y. 711,271, pub. 11–29–60. Cl. 38.
Meier, Joshua Co., Inc., New York, N.Y. 711,243, pub. 11–29–60. Cl. 37.
Mennen Co., The, Morris Township, N.J. 711,328, pub. 11–29–60. Cl. 52.
Mercantile Stores Co., Inc., Wilmington, Del. 711,223, pub. 11–29–60. Cl. 82.
Mercury Supply Co.: *See*—
Haegele, Richard A.
Merrick Medicine Co., Waco, Tex. 711,117, pub. 11–29–60. Cl. 18.
Metalwash Machinery Co., Elizabeth, N.J. 600,170, canc. Cl. 88.
Meyers, Henry, d.b.a. The Henry Co., New York, N.Y. 599,812, canc. Cl. 3.
Meyer, Joseph H., Bros., Brooklyn, N.Y. 711,218, pub. 11–29–60. Cl. 28.
Midwest Sales: *See*—
Nitzsche, Bertha P.
Miles Laboratories, Inc., Elkhart, Ind. 711,136, pub. 11–29–60. Cl. 18.
Military Post Suppliers, Newark, N.J. 711,380. Cl. 50.
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Miller, Florence O., d.b.a. Florence Miller, Dallas, Tex. 711,359, pub. 11–29–60. Cl. 107.
Mississippi Monitor Publications, Bay St. Louis, Miss. 711,262, pub. 11–29–60. Cl. 38.
Mitchell Chemical Co., Inc., Milford, Conn. 711,097, pub. 6–28–60. Cl. 15.
Modern Research, Inc., Clinton, Ind. 711,325, pub. 11–29–60. Cl. 51.
Modiglass Fibers, Inc., Bremen, Ohio. 711,038, pub. 4–19–60. Cl. 1.
Modiglass Fibers, Inc., Bremen, Ohio. 711,082, pub. 5–10–60. Cl. 12.
Modiglass Fibers, Inc., Bremen, Ohio. 711,220, pub. 4–19–60. Cl. 31.
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Moon Beam Co.: *See*—
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Moxon, B. H., & Sons Ltd., Kirkburton, Huddersfield, England. 711,284, pub. 8–16–60. Cl. 42.
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National Pneumatic Co., Inc., Boston, Mass. 711,143, pub. 11–29–60. Cl. 21.
National Pressure Cooker Co., now by change of name National Presto Industries, Inc., Eau Claire, Wis. 599,946, canc. Cl. 24.
National Presto Industries, Inc.: *See*—
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National Reloading Manufacturers Association, Inc., Ithaca, N.Y. 711,361, pub. 11–29–60. Cl. 200.
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Novelty Incandescent Lamp Co., Emporium, Pa., to Sylvania Electric Products Inc., New York, N.Y. 135,760, ren. 2–14–61. Cl. 21.
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PATENTS

NOTICES

Board of Appeals Decisions Rendered in the Month of January 1961

Examiner affirmed	154
Examiner affirmed in part	39
Examiner reversed	53
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Patents Available for Licensing or Sale

2,603,191. Percussion Cylinder. Vance C. Starrett, 501 W. Linden Ave., Logansport, Ind.

2,819,617. Power Take-Off for Vehicle Wheels. Robert L. Milks, 3522 Princess Ann, Montgomery, Ala.

2,961,773. Adjustable Gage Marker. Harry A. Hoss, 1000 N. Maple St., McPherson, Kans.

2,962,006. Engine (Highly Simplified Four Cycle Gasoline). William B. Hopkins, 600 Park Ave., Muscatine, Iowa.

General Electric Company is prepared to grant non-exclusive licenses under the following 20 patents upon reasonable terms to domestic manufacturers.

Applications for license may be addressed to: General Electric Company, Flight Propulsion Division, Cincinnati 15, Ohio. Attention: Patent Counsel.

2,345,564. Bearing Arrangement.

2,548,886. Gas Turbine Powerplant With Axial Flow Compressor.

2,551,229. Variable Area Nozzle and Fluid Injection Control for Turbojet Engines.

2,630,673. Cooling Means for Variable Area Nozzle.

2,694,289. Control Device for Gas Turbines Having Fluid Injection Augmentation Systems.

2,695,055. Fuel System for Thermal Power Plants.

2,699,524. Control for Variable Exhaust Area Gas Turbine Powerplant.

2,705,208. Thermal Insulation Blanket.

2,711,074. Aft Frame and Rotor Structure for Combustion Gas Turbine.

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2,803,760. Apparatus for Producing and Measuring Vibratory Force.

2,812,150. Securing Means for Turbomachine Blading.

2,815,714. Liquid Flow Delivery System.

2,827,910. Electrical Speed Control System for Engines.

2,827,925. Means for Securing a Member Within a Tube.

2,914,900. Nozzle Vane Support for Turbines.

2,914,912. Combustion System for Thermal Powerplant.

2,982,223. Control for Wheel Rolling Machine.

2,936,586. Afterburner Ignition System.

Classification Order No. 314

The following transfers are hereby ordered to take effect on Monday, December 5, 1960:

From Division 16 to Division 41

Class 179, TELEPHONY
Subclasses 100.1 through 100.41

Class 346, RECORDERS
Subclass 74

From Division 51 to Division 41

Class 310, ELECTRICAL GENERATOR OR MOTOR STRUCTURE
Subclasses 8 through 9.8

From Division 51 to Division 16

Class 329, DEMODULATORS AND DETECTORS
Class 332, MODULATORS

From Division 65 to Division 16

Class 179, TELEPHONY
Subclasses 170 through 170.8

Class 340, COMMUNICATIONS, ELECTRICAL
Subclasses 177 through 212

M. C. ROSA,
Director, Patent Examining Operation.

Classification Order No. 315

Classification Order No. 315, dated January 27, 1961 incorporates changes in the following classes:

1
15
144
206
218

The above changes will be incorporated in the Manual of Classification replacement pages dated April 1961.

M. C. ROSA,
Director, Patent Examining Operation.

New Applications Received During December 1960

Patents	7,051
Designs	306
Plant Patents	9
Reissues	18
Total	7,474

Issue

Patents	597	No. 2,972,149 to No. 2,972,745, incl.
Designs	31	No. 189,777 to No. 189,807, incl.
Plant Patents	1	No. 2,029
Reissues	3	No. 24,937 to No. 24,939, incl.
Total	632	

CONDITION OF PATENT APPLICATIONS AS OF DECEMBER 31, 1960

Total number of pending applications (excluding Designs)	189,295
Total number of pending Design applications	5,684
Total number of applications awaiting action (excluding Designs)	86,501
Total number of Design applications awaiting action	1,457
Date of oldest new application	August 4, 1959
Date of oldest amended application	August 4, 1959

M. C. ROSA, Director, Patent Examining Operation

PATENT EXAMINING GROUPS AND SUPERVISORY EXAMINERS	DIVISIONS
(I) STONE, I. G., CHEMICAL AND RELATED ARTS	6, 31, 36, 43, 46, 59, 58, 59, 60, 62, 64.
(II) EVANS, N. H., COMMUNICATIONS, RADIANT ENERGY AND ELECTRICAL ARTS	16, 26, 37, 41, 42, 44, 48, 51, 54, 65.
(III) YUNG KWAI, B., MECHANICAL MANUFACTURING, MACHINE ELEMENTS AND DESIGNS	2, 12, 13, 14, 21, 24, 57, 58, 61, 81, 82.
(IV) SPINTMAN, S., MATERIAL HANDLING AND TREATING, OPTICS, RAILWAYS AND AMUSEMENT DEVICES.	7, 11, 17, 27, 34, 35, 39, 52, 63.
(V) HULL, J. S., STATIC STRUCTURES AND INSTRUMENTS OF PRECISION	5, 8, 20, 29, 33, 36, 49, 53, 66.
(VI) MURPHY, T. F., AGRICULTURE, CALCULATORS, PUMPS AND MOTORS, TRANSPORTATION	1, 4, 9, 10, 19, 22, 28, 29, 45, 47.
(VII) KAUFFMAN, H. E., HEATING AND COOLING, PLASTIC SHAPING AND COATING, SEPARATION AND MIXING, BODY TREATMENT AND CARE.	3, 15, 18, 25, 30, 32, 40, 55, 67.
(CLASS.) GORECKI, G. A., ARTS UNDERGOING RECLASSIFICATION AS LISTED UNDER CLASSIFICATION DIVISIONS.	91, 92, 93, 94, 95.

DIVISIONS, EXAMINERS, AND SUBJECTS OF INVENTION (Roman numerals in parentheses indicate Examining Group)	Oldest Application: New	Oldest Application: Amended
1. (VI) GOLDBERG, A. J., Brakes; Planting; Plant Husbandry; Scattering Unloaders; Earth Working	6-2-60	5-16-60
2. (III) STONE, A., Fishing, Trapping and Vermin Destroying; Presses; Tobacco; Textile Wringers; Buckles, Buttons and Clasps	6-22-60	6-20-60
3. (VII) WINDHAM, R. (acting), Metal Founding and Treatment; Metallurgy (Process and Apparatus); Alloys; Electrical Resistors	5-3-60	4-25-60
4. (VI) FALLER, E. A., Hoists; Power Driven Conveyors; Handling Apparatus; Elevators; Pneumatic Dispatch; Store Service; Conveyors, Chutes, Skids, Guides and Ways	4-11-60	4-4-60
5. (V) ROBINSON, C. W., Harvesters; Unearthing Objects; Threshing; Knotters; Animal Husbandry; Bee Culture; Dairy; Butchering; Vegetable and Meat Cutters and Comminutors; Fences; Gates; Music; Signals and Indicators; Acoustics	11-6-59	12-7-60
6. (I) LIDOFF, H. J., Carbon Chemistry (part), e.g., Heterocyclic, General Organic Processes, Amides	3-29-60	3-8-60
7. (IV) ANDERSON, E. G., Optics	3-25-60	4-4-60
8. (V) BREHM, G. L., Beds; Chairs and Seats; Cabinets; Tables; Miscellaneous Furniture; Fire Escapes; Ladders; Deposit and Collection Receptacles; Scaffolds	7-5-60	7-5-60
9. (VI) BRANSON, J. H., Pumps; Fans; Turbines	5-2-60	4-5-60
10. (VI) HORTON, A. M. (acting), Firearms; Ordnance; Ammunition; Explosive Charge Making	5-2-60	4-25-60
11. (IV) BENHAM, E. V., Boots, Shoes and Leggings; Shoe and Leather Manufacture; Button, Eyelet and Rivet Setting; Nailing, Stapling and Clip Clenching; Card, Picture and Sign Exhibiting; Cutlery; Pipes and Tubular Conduits	4-5-60	4-6-60
12. (III) DURHAM, B. G. (acting), Machine Elements; Engine Starters; Interrelated Clutch and Motor Controls	4-15-60	4-29-60
13. (III) BEALL, T. E., Gear Cutting; Electric Lamp and Tube Manufacture; Needle and Pin Making; Metal Working (part), e.g. Special Work, Forging, Plastic Working, Drawing, Sawing, Milling, Planing, Turning	3-8-60	3-14-60
14. (III) WILTZ, W. A., Metal Working (part) e.g. Sheet Metal; Metal Bending, Miscellaneous Processes, Assembly and Disassembly Apparatus; Wire Fabrics	3-7-60	1-21-60
15. (VII) BRINDISI, M. V., Plastics; Plastic Block and Earthenware Apparatus	7-5-60	7-5-60
16. (II) ANDRUS, L. M., Telephony; Recorders (part)	12-11-59	12-8-60
17. (IV) LEIGHEY, R. A., Packaging; Typewriters; Printing; Type Casting and Setting; Sheet Material Associating or Folding; Sheet Feeding or Delivering	4-14-60	5-4-60
18. (VI) BLUM, A., Power Plants; Fluid Transmissions; Servomotor Systems; Jet Motors; Combustion Turbines; Speed or Acceleration	7-15-60	6-20-60
19. (VII) PATRICK, P. L., Stoves and Furnaces; Boilers; Fluid Fuel Burners; Heating Systems; Miscellaneous Heating; Automatic Temperature and Humidity Regulation; Illuminating Burners	5-19-60	3-21-60
20. (V) SEERS, J. D., Miscellaneous Hardware; Closure Fasteners; Locks; Safes; Bank Protection; Bread, Pastry and Confection Making; Tents and Canopies; Umbrellas; Canes; Undertaking; Electrical Connectors	7-1-60	7-1-60
21. (III) MADER, R. C., Textiles	5-10-60	5-16-60
22. (VI) BUCHLER, M. B., Aeronautics; Boats; Buoys; Ships; Marine Propulsion; Propellers; Windmills; Fluid Diaphragms and Bellows	4-5-60	3-25-60
23. (VI) SMILOW, L., Data Processors; Digital and Analog Computers; Calculators; Bookkeeping Machines; Cash and Fare Registers; Voting Machines; Counters	3-4-60	3-4-60
24. (III) HICKEY, T. J., Apparel (except Corsets and Brassieres); Apparel Apparatus; Sewing Machines; Textiles, Ironing or Smoothing; Clutches and Power-Stop Control; Work Holders	5-2-60	5-2-60
25. (VII) NEVIUS, R. D., Coating—Processes, Miscellaneous Products and Apparatus; Distillation; Wood Treating Apparatus; Paper Making	3-18-60	3-3-60
26. (II) RADER, O. L., Electricity—Generation, Motive Power, Transmission Systems, Voltage and Phase Control Systems, Furnaces, Battery Charging and Discharging, Arc Lamps, Prime Mover Dynamo Plants; Elevators (part), e.g. Miscellaneous Electric Control Mechanisms; Inductors; Transformers	3-7-60	2-1-60
27. (IV) JAMES, S., Brushing, Scrubbing and General Cleaning; Brush, Broom and Mop Making; Textiles, Fluid Treating Apparatus; Cleaning and Liquid Contact With Solids	6-13-60	5-25-60
28. (VI) BRAUNER, R. H., Internal Combustion Engines; Expansible Chamber Motors; Fluid Servomotors; Spring, Weight and Animal Powered Motors; Cylinders; Pistons; Drive Shafts; Flexible-Shaft Couplings; Clevis or Sockets; Fluid Current Conveyors; Pressure Modulating Relays; Wheel Substitutes	7-1-60	5-19-60
29. (V) FRITZ, M. M., Tools; Woodworking; Button, Barrel and Wheel Making; Baggage; Cloth, Leather and Rubber Receptacles; Package and Article Carriers; Valved Pipe Couplings; Rod Joints; Tool-Handling Fastenings	4-11-60	4-25-60
30. (VII) O'LEARY, R. A., Comminutors; Refrigeration; Fluid Sprinkling, Spraying and Diffusing, Separating and Assorting Solids (part)	6-27-60	6-27-60

DIVISIONS, EXAMINERS, AND SUBJECTS OF INVENTION (Roman numerals in parentheses indicate Examining Group)	Oldest Application	
	New	Amended
31. (I) SULLIVAN, A. D. (acting), Carbon Chemistry (part), e.g., Urea Adducts, Silicon Containing Carbon Compounds, Hydrogenation of Carbon Oxides, Partial Oxidation of Non-Aromatic Hydrocarbon Mixtures, Hydrocarbons, Halogenated Hydrocarbons; Synthetic Resins (part) (e.g., Oil-Modified; Stabilized); Mineral Oils	5-20-60	5-18-60
32. (VII) MARTIN, H. L. (acting), Gas and Liquid Contact Apparatus; Heat Exchange; Agitation; Fire Extinguishers; Centrifugal Bowl Separators; Liquid Separation or Purification (part)	5-2-60	5-2-60
33. (V) MUSHAKE, W. L., Bridges; Hydraulic and Earth Engineering; Roads and Pavements; Building Structures	2-24-60	2-4-60
34. (IV) QUACKENBUSH, L., Railways—Draft Appliances, Switches and Signals, Surface Track, Rolling Stock, Track Sanders; Electricity, Transmission to Vehicles; Dumping Vehicles; Vehicle Fenders; Hand and Hoist Line Implements	2-7-60	2-25-60
35. (IV) DEMBO, L. J., Dispensing; Filling Receptacles; Toilet; Severing by Tearing or Breaking; Coin Controlled Apparatus; Dispensing Cabinets; Article Dispensing; Coin Handling	5-9-60	5-2-60
36. (V) EVANS, R. L., Measuring and Testing (part)	3-22-60	3-11-60
37. (II) LEVY, M. L., Electricity—Switches, Welding, Heating, Photo-Cell Circuits	3-30-60	3-30-60
38. (I) PARKER, C. B., Carbon Chemistry (part), e.g., Azo, Carbocyclic or Acyclic Compounds (part), e.g., Anthrones, Triarylmethanes, Esters, Acids, Ketones, Aldehydes, Ethers, Phenols, Alcohols, Proteins, Amines, Natural Resins	3-8-60	3-18-60
39. (IV) WEIL, I., Fluid-Pressure Regulators; Valves; Fluid Handling (except Pressure Modulating Relays, Float Valves, Diaphragms and Bellows)	5-4-60	5-4-60
40. (V) DRUMMOND, E. J., Receptacles—Metallic, Paper, Wooden, Glass; Special Receptacles and Packages	5-9-60	5-13-60
41. (II) LOVEWELL, N. N., Recorders (part); Sound Recording; Television; Telegraphy (part)	1-26-60	12-30-59
42. (II) REYNOLDS, E. R., Electric Signaling; Telegraphy (part)	4-1-60	4-6-60
43. (I) KNIGHT, W. B. (WOLK, M. O., acting), Medicines, Poisons, Cosmetics; Sugar and Starch; Skins and Leathers; Preserving, Sterilizing and Disinfecting (except Wood Treatment Apparatus); Bleaching, Dyeing, Fluid Treatment of Textiles	12-1-59	11-23-59
44. (II) JUSTUS, C. L., Directive Radio Systems; Nuclear Batteries; Nuclear Resonant Devices; Radar; Sonar; Torpedoes	11-30-59	11-24-59
45. (VI) MANIAN, J. A., Wheels, Tires and Axles; Railway Wheels and Axles; Lubrication; Bearings and Guides; Belt and Sprocket Gearing; Spring Devices; Animal Draft Appliances; Excavating	5-16-60	5-20-60
46. (I) WILES, W. G. (CAMPBELL, R. L., acting), Actinide Series (e.g., Fissionable) Compounds; Sintered Metal Stock; Explosives; Power Plants (part); Metallurgy (part); Radioactive Medicines; Nuclear Reactions; Carbon Chemistry (part)	3-25-60	3-8-60
47. (VI) ARNOLD, P. (acting), Mining, Quarrying, and Ice Harvesting; Motor Vehicles; Land Vehicles; Education	6-6-60	6-14-60
48. (II) BERNSTEIN, S., Electricity—Conversion Systems, Protective Systems; Measuring and Testing (except Meters); Switchboards, Relays, Magnets, Condensers, Transistors, Barrier Layer Rectifiers	3-4-60	3-7-60
49. (VII) BENDETT, B., Drying and Gas or Vapor Contact With Solids; Ventilation; Wells; Concentrating Evaporators; Earth Boring	4-4-60	3-11-60
50. (I) ARNOLD, D., Carbon Chemistry (part), e.g., Synthetic Resin Compositions (part), Synthetic Rubber Compositions, Natural Rubber; Synthetic Resins (part) (e.g., Butadiene Polymers and Copolymers, Polyacrylonitriles, Acrylate Polymers and Copolymers)	2-4-60	2-5-60
51. (II) WESTBY, G. N., Modulators; Piezoelectric Devices; Antennas; Oscillators; Miscellaneous Electron Space Discharge Device Systems; Radio Detectors	3-11-60	3-2-60
52. (V) LE ROY, G. A., Supports and Racks; Separating and Assorting Solids (part)	5-23-60	5-23-60
53. (IV) NINAS, G. A., Label Pasting and Paper Hanging; Books and Book Making; Manifolding; Printed Matter; Stationery; Paper Files and Binders; Flexible or Portable Closures or Partitions; Doors, Windows, Awnings, and Shutters; Harness; Whip Apparatus; Feed Apparatus; Closure Operators; Illumination	6-27-60	6-24-60
54. (II) NILSON, R. G., Electric Lamps; Electronic Tubes; Miscellaneous Discharge Devices; Lamp, Cathode Ray and Gas Discharge Device Circuits; Ray Energy (e.g., X-Ray, Ultraviolet, Radioactive) Applications; Mass Spectrometers	4-7-60	5-6-60
55. (VII) WHITMORE, H. B. (acting), Surgery; Dentistry; Artificial Body Members	5-2-60	5-2-60
56. (I) SPECK, J. R., Abrading Compositions; Batteries; Coating or Plastic Compositions; Electrical and Wave Energy Chemistry	4-5-60	4-1-60
57. (III) TOMLIN, C. W. (acting) Bolt, Nut, Rivet, Nail, Screw, Chain, and Horseshoe Making; Driven and Screw Fastenings; Nut and Bolt Locks; Jewelry; Pipe Joints or Couplings; Cutting	3-8-60	1-11-60
58. (III) BRONAUGH, F. H. (acting), Rolls and Rollers; Making Metal Tools and Implements; Stone Working; Abrading Processes and Apparatus; Baths, Closets, Sinks, and Spittoons; Boring and Drilling; Paper Manufactures; Selective Cutting	5-3-60	4-20-60
59. (I) BRINDISI, M. A., Inorganic Chemistry; Fertilizers; Gas, Heating and Illuminating	12-30-59	12-7-59
60. (I) MANGAN, P. E., Carbon Chemistry (part), e.g., Synthetic Resins (part); Miscellaneous Polymers (e.g., Vinyl Polymers); Synthetic Resin Compositions (part), Synthetic Rubber; Photographic Processes and Products	5-6-60	5-13-60
61. (III) STRIZAK, J. P., Winding and Reeling; Pushing and Pulling; Horology; Railway Mail Delivery; Feeding of Indefinite Lengths	6-20-60	6-20-60
62. (IV) LOWE, D. B. (FULLER, E. E., acting), Games; Toys; Amusements and Exercising Devices; Mechanical Guns and Projectors; Photographic Apparatus	6-1-60	6-2-60
63. (I) WINKELSTEIN, A. H., Foods and Beverages; Fermentation; Carbon Chemistry (part), e.g., Lignins, Carbohydrate Derivatives, Fats, Sulfurized Compounds; Heavy Metal Compounds	3-6-60	2-17-60
64. (I) GREENWALD, J., Fuels; Miscellaneous Compositions	4-1-60	3-25-60
65. (II) SAX, E. J., Wave Guides; Electric Meters; Conductors; Insulators; Amplifiers	5-3-60	5-3-60
66. (V) LISANN, L., Geometric Instruments; Measuring and Testing (part)	12-29-59	12-15-60
67. (VII) KRAFFT, C. F., Liquid Separation or Purification (part); Laminated Fabrics	4-27-60	4-13-60
81. (III) MONCURE, J. A., Industrial Arts	10-7-60	10-14-60
82. (III) HUNTER, E. H., Household, Personal and Fine Arts	10-14-60	10-24-60
91. KENT, A. P. (acting), Ornamentation; Glass	6-1-60	6-1-60
92. GAUSS, H., Radio Transmitters, Receivers and Tuners	7-30-60	7-22-60
93. WAHL, R. A., Wire Working	8-4-60	9-19-60
94. BERLOWITZ, W., Gas Separation	6-14-60	6-6-60
95. ANGEL, C. D., Metallic Building Structures; Packed Rod Joints; Joint Packings	6-20-60	6-20-60
M. E. DIV. A (I) GASTON, L. H., Carbon Chemistry (part), e. g., Steroids; Synthetic Resins (part), i. e., Polyethylenes	6-15-60	3-28-60

EXPIRATION OF PATENTS

The patents within the range of numbers indicated below expire during February 1961, except those which may have been extended under the provisions of the Veterans Patent Extension Act (64 Stat. 316 as amended by 66 Stat. 321) and those which may have expired earlier due to shortened terms under the provisions of Public Law 600. A list of Veterans' patents which have been extended appears in the *Annual Index of Patents—1953*.

Patents..... Numbers 2,940,284 to 2,948,236, inclusive
Plant Patents..... Numbers 613 to 618, inclusive

DECISIONS IN PATENT AND TRADEMARK CASES

U.S. Court of Customs and Patent Appeals

IN RE CHESTER JOHN CAVALLITO AND ALLAN POE GRAY

No. 6508. Decided July 6, 1960. Petition for Rehearing Denied October 10, 1960

[48 CCPA —; 282 F.2d 363; 127 USPQ 206]

1. APPLICATION — DISCLOSURE — SUFFICIENCY OF DISCLOSURE—COMPOSITION OF MATTER.

Upon review of the rejection below of a claim numbered 1 in an application on "Bis- (N-Heterocarbocyclic) Alkanes," as covering inoperative embodiments, where the Board of Appeals, in support of the rejection, stated that "A chemist will readily recognize that claim 1 is broad enough to cover at least several hundred thousand compounds"; that "Measured against this are the nineteen compounds actually prepared"; and that "* * * this is insufficient to support such a claim." *Held* that the rejection was improper and could not be sustained, because (1) appellants' "disclosure is not properly limited to the nineteen specific examples referred to and (2) it is the nature of the disclosure rather than the number of examples given which determines the sufficiency of the disclosure to support the appealed claim."

2. SAME—SAME—SAME—SAME.

"Appellants have disclosed, in addition to the nineteen illustrative examples referred to by the Board, a large group of what are said to be representative dihaloalkanes and N-heterocarbocyclic substances which are suitable for use in the general process disclosed for producing compounds within the scope of claim 1. We think the proper evaluation of the disclosed support for claim 1 must be made with respect to the entire disclosure, and this is not limited to the nineteen specific examples."

3. CLAIMS—CONSTRUCTION OF CLAIMS—DEFINITENESS.

"The Examiner and the Board of Appeals * * * rejected the appealed claim as 'too broad in the definition of the heterocyclic radical since the definition leaves open to speculation the nature of the other two rings and the skeletal structure of the first three rings.' We do not agree with this rejection. The claimed invention resides in a compound which results from the hooking together of known kinds of N-heterocyclic radicals in a particular way. That way, as specified in claim 1, is by use of an alkylene bridge 'attached to the nitrogen of each of said radicals.' While the claim is broad in specifying the two N-heterocyclic radicals it is not indefinite in that it claims them in such a manner that an organic chemist having the ordinary skills of this phase of the chemical art, can tell whether any given compound is within or without the scope of the claim."

4. SAME—SAME—SAME.

"It is our opinion that claim 1 covers appellants' inventive concept, and that this inventive concept is not limited to the use of any particular kind of N-heterocyclic radicals so long as they have the general structure and chemical characteristics claimed. The invention is disclosed as a novel, useful and unobvious chemical structure responding to the general formula R—C_nH_{2n}—R' and in which the R and R' radicals must possess a given structure as recited in the claim and be joined to the alkylene bridge in the particular manner recited therein. While such a claim is broad it does set forth specifically the radicals from which the selection of particular radicals must be made. This claim is therefore a proper claim."

5. PATENTABILITY—STATUTORY BASIS FOR REJECTION—COMPOSITION OF MATTER.

"Viewed in its entirety, the decision of the Board of Appeals relied upon grounds of rejection for which there is no express statutory basis. The nearest to a possible statutory basis we can find would be predicated upon the provisions of 35 U.S.C. 112 which require an applicant to 'particularly point out and distinctly claim' his invention. It is our opinion that appellants' appealed claim 1 meets this requirement, and, since the Board did not spell out this ground of rejection, we are left with a rejection which appears to be based on the opinion of the Board as to what constitutes proper public policy in granting a claim which is as broad in its scope as is claim 1."

6. APPLICATION — DISCLOSURE — SUFFICIENCY OF DISCLOSURE—COMPOSITION OF MATTER.

Held that "the sole issue for determination in any case such as the present is whether there has been a legally sufficient disclosure of the invention to support a claim having the breadth here contended for" and that "This clear issue has been obscured by actions below in which both the Board and the Examiner have judged the adequacy of only one part of the disclosure while ignoring other parts and failing to consider all the asserted fields of utility."

7. PATENTABILITY—STATUTORY BASIS FOR REJECTION—COMPOSITION OF MATTER.

"The appealed claim covers a very large number of chemical compounds which may be developed in the future and which will possess the structure which applicants assert and the Patent Office admits is a novel structure. Due to the nature of chemical compounds and chemical processes it is conceivable that an almost infinite number of compounds may be developed by chemists if they have before them the teachings which appellants assert to be new in this field, namely, the particular structure and molecular arrangement of their new compounds. It seems to us that it is proper for the Patent Office to examine such assertions of patentability with great care but, when that has been done, the standards by which the ultimate determination of patentability or unpatentability should be made are those standards which Congress has provided in the patent statutes."

8. APPLICATION — DISCLOSURE — SUFFICIENCY OF DISCLOSURE—COMPOSITION OF MATTER.

"In the final analysis the Board's holding appears to be that as a matter of law nineteen examples are not enough to support a claim embracing many thousands of compounds. We are unable to agree to that proposition. The sufficiency of a disclosure depends not on the number but rather on the nature of the claimed compounds per se and the nature of the supporting disclosures. If a claim covers compounds which are closely related, a comparatively limited disclosure may be sufficient to support it. If, however, the claim covers compounds which are related only in some structural respects, a more extensive supporting disclosure may be necessary to support it. Moreover, the selection of the examples and other exemplary material used as the disclosure to support a claim must be adequately representative of the area covered by it. In some instances a limited disclosure which is typical of various areas covered by a claim may be of greater value in determining the patentable characteristics of the claimed compounds than a more extensive disclosure would be if related only to a limited portion of the area."

9. SAME — SAME — SAME — SAME — NEED FOR EXAMINER'S DETERMINATION AND FINDING ON SUFFICIENCY OF DISCLOSURE.

"We do not think that we should attempt to determine from the present record whether in fact the disclosure of this application is sufficient to support a claim of the breadth of claim 1. The Examiner should have made this determination and a definite finding on the matter. In the absence of such a finding, both the Board and this court are left without the benefit of his expert technical view on this important aspect of the case."

APPEAL from the Patent Office. Serial No. 344,677.

REVERSED and REMANDED.

Lawrence and Lawrence, Herbert I. Sherman (*Dean Lawrence* of counsel) for appellants.

Clarence W. Moore (*Joseph Schimmel* of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH, MARTIN, and SMITH, *Associate Judges*, and Judge C. WILLIAM KRAFT, JR., *United States District Judge for the Eastern District of Pennsylvania*, designated to participate in place of *Judge* O'CONNELL.

SMITH, *J.*, delivered the opinion of the court.

The issue in the present appeal arises from the affirmance by the Board of Appeals of the Examiner's rejection of claim 1 of appellants' application Serial No. 344,677 filed March 25, 1953, for Bis- (N-Heterocarbocyclic) Alkanes.

Appealed claim 1 reads as follows:

An organic compound selected from the group consisting of (A) those comprising two N-heterocarbocyclic radicals, each radical containing between three and five fused rings joined by an alkylene bridge attached to a nitrogen of each of said radicals, at least three of said rings being composed solely of carbon and nitrogen in the ring, said alkylene bridge containing three to ten carbon atoms, inclusive, and (B) acid addition and quaternary ammonium salts of the foregoing compounds.

Six claims have been allowed. No prior art has been cited and no question is raised as to novelty utility or unobviousness of the invention.

As described in the specification, the compounds embodying the invention claimed in rejected claim 1 have the general formula R—C_nH_{2n}—R' "wherein R and R' are N-heterocarbocyclic radicals each of which contains between three and five fused rings, at least three of said rings being composed solely of carbon and nitrogen as ring-forming atoms * * *." The alkylene bridge (—C_nH_{2n}—) of the molecule is attached to the N-heterocyclic radicals through a ring nitrogen. R and R' may be the same radical or may be different radicals. However, appellants specify that the "heterocyclic moiety of the present invention must contain in at least three of the rings, carbon and nitrogen as the only ring-forming components." There must also be three to five of the fused rings which "must be attached to the alkylene chain to form the compound of the present invention through a nitrogen of the ring radical."

The invention also contemplates the acid addition salts and the quaternary ammonium salts of compounds having the general formula but only "where such compounds are possible because of the structure of the rings."

The specification describes processes for producing the compounds having the chemical structure claimed in appealed claim 1 and discloses what are termed "representative" dihaloalkanes and "representative" N-heterocarbocyclic substances containing the required three to five fused rings which contain carbon and nitrogen as the ring-forming components in at least three of the rings.

The specification contains 19 examples of illustrative procedures for producing compounds which it is asserted have the claimed chemical structure. The Examiner has allowed claims to the specific compounds of certain of those examples and to the quaternary ammonium salts of compounds having the general formula R—C_nH_{2n}—R and in which the N-heterocarbocyclic radical (R) is selected from a group of specified "unsubstituted carbolines, yohimbines, berberine, and hydrogenated and lower-alkyl-substituted carbolines, yohimbines and berberines."

The position of the Examiner which was affirmed by the Board of Appeals was that the specification "adequately supports claims to compounds having the carboline, yohimbine or berberine ring structure." He rejected claim 1 as drawn to "a broad elastic formula" which he states was not supported by the specification.

[1] The Examiner and the Board of Appeals appear to have given great weight to the large number of possible compounds which would be embraced within the scope of claim 1. Testing this claim as to but one field of the asserted utility, the Examiner and the Board of Appeals have rejected the claim as covering inoperative embodiments. In support of this ground of rejection, the Board of Appeals said:

A chemist will readily recognize that claim 1 is broad enough to cover at least several hundred thousand compounds. Measured against this are the nineteen compounds actually prepared. In our opinion this is insufficient to support such a claim (In re Oppenauer, 81 CCPA 1248; 1944 C.D. 587; 568 O.G. 393; 142 F.2d 974; 62 USPQ 297), * * *.

There are at least two grounds upon which this rejection is improper and cannot be sustained. (1) Appellants' disclosure is not properly limited to the nineteen specific examples referred to and (2) it is the nature of the disclosure rather than the number of examples given which determines the sufficiency of the disclosure to support the appealed claim.

[2] Appellants have disclosed, in addition to the nineteen illustrative examples referred to by the Board, a large group of what are said to be representative dihaloalkanes and N-heterocarbocyclic substances which are suitable for use in the general process disclosed for producing compounds within the scope of claim 1. We think the proper evaluation of the disclosed support for claim 1 must be made with respect to the entire disclosure, and this is not limited to the nineteen specific examples.

The Examiner and the Board appear to have considered only the nineteen specific examples for the reason that these examples are "tangible" disclosures of compounds having therapeutic properties. It is the position of the Board that when the subject matter lies in the field of therapeutics, in which prediction is very limited, "* * * the scope of the claims should conform rather closely to the tangible disclosure."

These observations of the Board are not determinative of the issue here. Appellants disclosed as their invention chemical compounds having a novel structural configuration. These compounds as disclosed are asserted to be useful not only as "hypotensive agents" but also "as intermediates in the preparation of more complex organic compounds."

Neither the Examiner nor the Board has raised any issue as to the sufficiency of these disclosures, so for purposes of this appeal, we are assuming, without passing upon the issue, that appellants' disclosures when read by one of ordinary skill in this art would teach him how to use the claimed compounds either as the disclosed "hypotensive agents" or as the disclosed "intermediates."

Under these circumstances, the Examiner and the Board should have considered appellants' entire disclosure rather than just the nineteen specific examples to which reference is made in the Board's opinion.

[3] The Examiner and the Board of Appeals also rejected the appealed claim as "too broad in the definition of the heterocyclic radical since the definition leaves open to speculation the nature of the other two rings and the skeletal structure of the first three rings." We do not agree with this rejection. The claimed invention resides in a compound which results from the hooking together of known kinds of N-hetero-

cyclic radicals in a particular way. That way, as specified in claim 1, is by use of an alkylene bridge "attached to the nitrogen of each of said radicals." While the claim is broad in specifying the two N-heterocyclic radicals it is not indefinite in that it claims them in such a manner that an organic chemist having the ordinary skills of this phase of the chemical art, can tell whether any given compound is within or without the scope of the claim. Thus, the claimed limitations require that the N-heterocyclic radical must be:

1. N-heterocarbocyclic;
2. Contain 3, 4 or 5 fused rings;
3. At least 3 of the rings must have ring atoms solely of carbon and nitrogen; and
4. Be joined to the alkylene bridge through a ring nitrogen.

[4] It is our opinion that claim 1 covers appellants' inventive concept, and that this inventive concept is not limited to the use of any particular kind of N-heterocyclic radicals so long as they have the general structure and chemical characteristics claimed. The invention is disclosed as a novel, useful and unobvious chemical structure responding to the general formula R—C_nH_{2n}—R' and in which the R and R' radicals must possess a given structure as recited in the claim and be joined to the alkylene bridge in the particular manner recited therein. While such a claim is broad it does set forth specifically the radicals from which the selection of particular radicals must be made. This claim is therefore a proper claim.

[5] Viewed in its entirety, the decision of the Board of Appeals relied upon grounds of rejection for which there is no express statutory basis. The nearest to a possible statutory basis we can find would be predicated upon the provisions of 35 U.S.C. 112 which require an applicant to "particularly point out and distinctly claim" his invention. It is our opinion that appellants' appealed claim 1 meets this requirement, and, since the Board did not spell out this ground of rejection, we are left with a rejection which appears to be based on the opinion of the Board as to what constitutes proper public policy in granting a claim which is as broad in its scope as is claim 1.

We have pointed out primarily the features of appellants' invention which are claimed in claim 1 and for which we have found a basis in the specification. We believe it is as incumbent upon this court as it is upon the Patent Office to consider carefully the entire disclosure of an applicant and to evaluate the breadth of the claim against the disclosure.

[6] The sole issue for determination in any case such as the present is whether there has been a legally sufficient disclosure of the invention to support a claim having the breadth here contended for.

This clear issue has been obscured by the actions below in which both the Board and the Examiner have judged the adequacy of only one part of the disclosure while ignoring other parts and failing to consider all the asserted fields of utility.

[7] The appealed claim covers a very large number of chemical compounds which may be developed in the future and which will possess the structure which applicants assert and the Patent Office admits is a novel structure. Due to the nature of chemical compounds and chemical processes it is conceivable that an almost infinite number of compounds may be developed by chemists if they have before them the teachings which appellants assert to be new in this field, namely, the particular structure and molecular arrangement of their new compounds. It seems to us that it is proper for the Patent Office to examine such assertions of patentability with great care but, when that has been done, the standards by which the ultimate determination of patentability or unpatentability should be made are those standards which Congress has provided in the patent statutes.

[8] In the final analysis the Board's holding appears to be that as a matter of law nineteen examples are not enough to support a claim embracing many thousands of compounds. We are unable to agree to that proposition. The sufficiency of a disclosure depends not on the number but rather on the nature of the claimed compounds per se and the nature of the supporting disclosures. If a claim covers compounds which are closely related, a comparatively limited disclosure may be sufficient to support it. If, however, the claim covers compounds which are related only in some structural respects, a more extensive supporting disclosure may be necessary to support it. Moreover, the selection of the examples and other exemplary material used as the disclosure to support a claim must be adequately representative of the area covered by it. In some instances a limited disclosure which is typical of various areas covered by a claim may be of greater value in determining the patentable characteristics of the claimed compounds than a more extensive disclosure would be if related only to a limited portion of the area.

At the oral argument, appellants' counsel stated that the disclosure of appellants' invention should be likened unto the discovery of an island which could be located after its discovery by the reference or bearing points given by the discoverer. The impression he sought to convey by this analogy was that the disclosures in this application provided reference or bearing points which adequately mark out and establish the area of the invention and that claim 1, while admittedly broad, was no broader than the invention so disclosed.

In the instant case neither the Examiner nor the Board has undertaken to consider specifically the nature of the claimed compounds with respect to the adequacy of all the disclosures to support the appealed claim. For that reason, we are unable to determine from the present record whether the analogy to reference or bearing points is accurate. We are, therefore, of the opinion that the alleged insufficiency of appellants' disclosure is not clearly established by the facts stated in the Board's opinion. For this reason we hold that on the record as now presented, the rejection of claim 1 is not properly supported.

[9] We do not think that we should attempt to determine from the present record whether in fact the disclosure of this application is sufficient to support a claim of the breadth of claim 1. The Examiner should have made this determination and a definite finding on the matter. In the absence of such a finding, both the Board and this court are left without the benefit of his expert technical view on this important aspect of the case.

For the foregoing reasons, the decision of the Board of Appeals is reversed and remanded for further proceedings consistent with this opinion.

REVERSED and REMANDED.

WORLEY, *Chief Judge*, concurs in the result.

PATENT SUITS

Notices under 35 U.S.C. 290: Patent Act of 1952

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2,899,698, L. J. Bira, Writing instrument; 2,907,320, same; 2,416,896, same, filed Dec. 16, 1960, D.C., S.D.N.Y., Doc. 4948, *Parker Pen Company v. Dave Pen Co., Inc. et al.*

2,907,320. (See 2,899,698.)

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2,899,211, Davis and Burrows, Method of perforating well casings, filed Jan. 25, 1960, D.C., N.D. Tex. (Wichita Falls), Doc. 1399, *Welex, Inc. et al. v. Advanced Oil Tools, Inc.* Dismissed by stipulation under Rule 41(a) (1) Dec. 28, 1960.

2,416,896. (See 2,899,698.)

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2,897,852, R. Y. Case, Transmission belt and drive, filed Dec. 19, 1960, D.C. Conn. (New Haven), Doc. 9614, *United States Rubber Company v. Russell Manufacturing Company.*

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2,625,961, F. Bergandi, Wire netting machine, filed Aug. 14, 1959, D.C., S.D. Calif. (Los Angeles), Doc. 358/59–HW, *Bergandi Manufacturing Co., Inc. v. Ray Patterson et al.* Default judgment; injunction issued restraining defendant Dave Barber (notice Dec. 20, 1960).

2,872,206, B. W. Colman, Popcorn package, filed Dec. 28, 1960, D.C., N.D. Ind. (South Bend), Doc. 2321, *The Taylor-Reed Corporation v. Frederick C. Mennen.*

2,898,696, J. Tatko, Pallet, platform and the like, filed Jan. 3, 1961, D.C., E.D. Pa. (Philadelphia), Doc. 29062, *Tatko Brothers Slate Co., Inc. v. Capital Slate Company, Inc.* Same, filed same, Doc. 29063, *Tatko Brothers Slate Co., Inc. v. North Bangor Slate Company.* Same, filed same, Doc. 29064, *Tatko Brothers Slate Co., Inc. v. Star Slate Inc.* Same, filed same, Doc. 29065, *Tatko Brothers Slate Co., Inc. v. Anthony Dolly and Sons, Inc.* Same, filed same, Doc. 29066, *Tatko Brothers Slate Co., Inc. v. Parsons Brothers Slate Company.* Same, filed same, Doc. 29067, *Tatko Brothers Slate Co., Inc. v. Stephens-Jackson Company.*

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2,704,518, S. L. Richards, Jr., Apparatus for coating and reinforcing pipe, filed Dec. 28, 1960, D.C., N.D. Ill. (Chicago), Doc. 60c1991, *Reason Richards Processing Co., Inc. v. Pipe Line Service Corporation.*

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2,720,688, Pate and Wallace, Jar type reamer, filed Dec. 27, 1960, D.C., W.D. Okla. (Oklahoma City), Doc. 9119, *Fred B. Wallace et al. v. Great Oil Tool Company.*

2,907,596, H. T. Rockwell, Lubricators for journal bearings, filed Dec. 22, 1960, D.C., N.D. Ill. (Chicago), Doc. 60c1973, *Security Railway Products Company v. Journapal Corporation.*

2,888,702, M. De Vries, Apparatus for transmitting mechanical vibrations, filed Mar. 24, 1958, D.C., E.D.N.Y. (Brooklyn), Doc. 18572, *The Astatic Corporation v. Ronette Acoustical Corporation et al.* Order of dismissal Jan. 4, 1961.

2,844,120, F. L. Nelson, Boat construction with well mounted propulsion unit, filed Dec. 22, 1960, D.C. Oreg. (Portland), Doc. 60/423, *Fred N. Nelson v. Acme Welding Service et al.*

2,912,516, C. W. Lufcy, Magnetic transducer head for tape recording, playback and erasing, filed Dec. 22, 1960, D.C., N.D. Calif. (San Francisco), Doc. 39618, *Carroll W. Lufcy v. Ampex Corporation.*

Re. 24,971, E. N. Castle, Foldable cardboard bottle carrier, filed Dec. 28, 1960, D.C. Del. (Wilmington), Doc. 2279, *Diamond National Corporation v. Allen Box Board Company.*

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Des. 175,366, C. H. Clement, Lighting pole, filed Dec. 10, 1958, D.C. Ariz. (Phoenix), Doc. 2994 Phx., *Clyde H. Clement v. Goodnow Industries, Inc.* Patent held invalid Dec. 21, 1960.

Des. 184,809, L. H. Frey, Combined sofa bed and desk unit, filed Dec. 21, 1960, D.C., N.D. Ill. (Chicago), Doc. 60c1952, *R-Way Furniture Co., Inc. v. Duo-Bed Corporation.*

REISSUES

FEBRUARY 21, 1961

Matter enclosed in heavy brackets [ ] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates additions made by reissue.

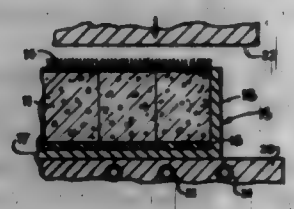
24,937

METHOD FOR FABRICATING A CARPET UNIT

Harlan L. Lee, Wapakoneta, Ohio, assignor to D. W. Meer Rubber Corporation, Wapakoneta, Ohio, a corporation of Ohio

Original No. 2,930,729, dated Mar. 29, 1960, Ser. No. 810,169, Apr. 30, 1959. Application for reissue July 28, 1960, Ser. No. 46,843

3 Claims. (Cl. 154—118)



1. A method for fabricating a carpet unit comprising, cutting circumferentially extending strips of material from the tread portion of a fabric reinforced pneumatic tire casing, said strips having identical rectilinear cross sections and lengths many times their transverse dimensions, abrading the sides of said strips for removing the rubber matrix from between the reinforcing cords therein for exposing the ends of said cords to a depth sufficient for exposing an appreciable textile pile, forming a layer of uncured rubber in the bottom of a pan having a length and width equal to the lateral dimensions of the unit to be fabricated, cutting said strips to a length equal to the interior length of said pan, assembling a plurality of said strips in tight parallel relationship in said pan and on said layer of uncured rubber with the exposed textile pile uppermost, the sides of said pan extending upwardly less than the height of the bodies of said strips, applying heat to said pan and compressing said strips and layer together in a direction normal to their faces for curing and vulcanizing said strips and said layer into a unitary structure.

24,938

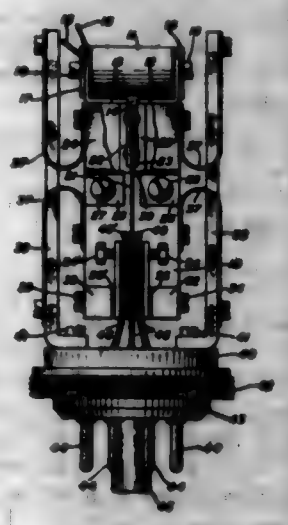
ELECTRO-MAGNETIC VIBRATOR

Ernst Umrath, Somerset County, N.J., assignor, by mesne assignments, to Daystrom, Incorporated, Murray Hill, N.J., a corporation of New Jersey

Original No. 2,902,561, dated Sept. 1, 1959, Ser. No. 543,915, Oct. 31, 1955. Application for reissue May 26, 1960, Ser. No. 32,863

9 Claims. (Cl. 200—90)

1. In an electro-magnetic vibrator of the type comprising a reed mounted for lateral vibration, a drive coil adapted for energization by an alternating current to produce an alternating magnetic flux for vibrating the reed, and cooperating contacts arranged for alternate engagement and disengagement upon reed vibration; the improvement comprising a reed of non-magnetic material, soft-iron plates secured to the free end of the reed, and means extending inwardly to a position adjacent the



plates for concentrating the alternating magnetic flux at a point spaced axially of the free end of the reed.

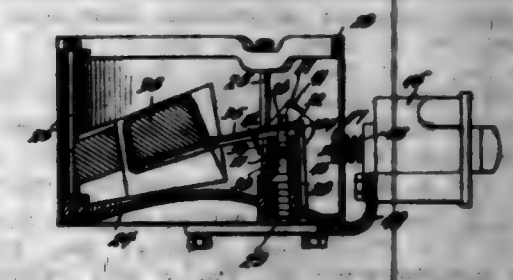
24,939

LOCKING AND RELEASING MECHANISM FOR FLOAT CONTROLLED PILOT VALVE

John G. Russell, Mayfield Heights, Ohio, assignor to Parker-Hannifin Corporation, a corporation of Ohio

Original No. 2,780,236, dated Feb. 5, 1957, Ser. No. 352,169, Apr. 30, 1953. Application for reissue Feb. 3, 1959, Ser. No. 790,997

9 Claims. (Cl. 137—390)



7. A valve mechanism for controlling the supply of fluid under pressure into a reservoir comprising a housing, a valve seat in said housing in the path of flow of pressure fluid thereinto, a discharge connection from said valve seat and housing for supplying the fluid into said reservoir, a valve member mounted in said housing for opening and closing movement toward and away from said seat, said valve member defining with said housing an expansible pressure chamber, said valve member comprising a movable wall of said chamber, a bleed port connected to said chamber, float means located in said reservoir, means controlled by said float means for opening and closing said bleed port to develop a pressure within said chamber to cause the closing of said valve member, means for maintaining communication between said fluid pressure supply and said pressure chamber, and means effective independently of both the operation of said float means by buoyant force of fluid within said reservoir and the level of fluid in the reservoir for maintaining said bleed port closed, and overriding means for rendering said independently effective means ineffective for maintaining said bleed port closed.

PLANT PATENTS

GRANTED FEBRUARY 21, 1961

Illustrations for plant patents are usually in color and therefore it is not practicable to reproduce the drawing.

2,029

CHRYSANTHEMUM PLANT

James C. Mikkelsen, Ashtabula, Ohio, assignor to Mikkelsen & Sons Greenhouses, Inc., Ashtabula, Ohio, a corporation of Ohio

Filed June 2, 1960, Ser. No. 33,608

1 Claim. (Cl. 47—60)

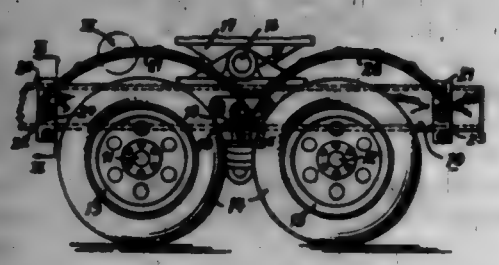
A new and distinct variety of chrysanthemum plant of the incurving decorative type, substantially as herein shown and described, characterized particularly as to novelty by the unique combination of lush foliage, heavy stems, a habit of initiating and developing buds well below temperatures of the average chrysanthemum varieties, unusual vigor with attendant ability to grow throughout the year, large and full flowers even when grown under adverse conditions of dark winter months in northern latitudes, a distinctive deep Golden Yellow general color tonality of the flowers, good versatility as both a pinched pot plant and a single stem pot plant, and suitability for cut flowers under both pinched and single stem culture.

PATENTS

GRANTED FEBRUARY 21, 1961

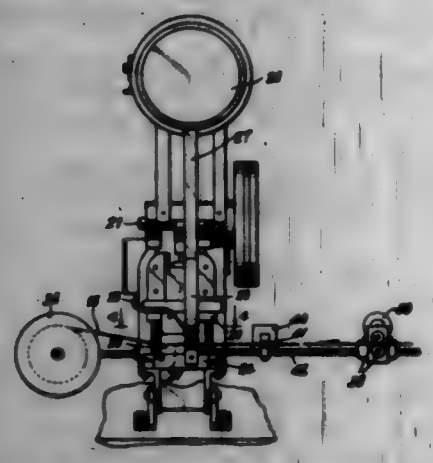
GENERAL AND MECHANICAL

2,972,149
MUD GUARD FOR TRAILER TRUCK TRACTOR
John F. Brucesco, Millbrae, Calif.
Filed Mar. 10, 1958, Ser. No. 720,433
4 Claims. (Cl. 280—152)



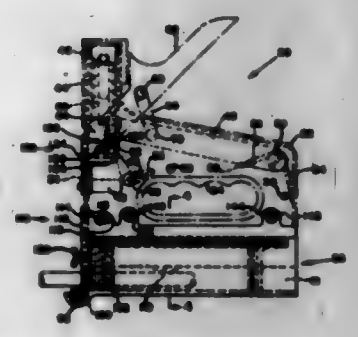
2. In a mud guard for the traction wheels of a transport tractor, the combination of an automotive tractor unit having a horizontal frame with two pairs of traction wheels disposed outwardly on each side and at the trailing end thereof, a stud-like member mounted upon and extending laterally from the side of said frame between the vertical centers of said pairs of traction wheels, two additional stud-like members secured to and extending from the sides of said frame in spaced parallel relation with said first stud-like member and to the front and rear of said pairs of traction wheels, bowed spring members secured in laterally spaced relation at their ends between said first stud-like member and each of said additional stud-like members, said spring members being bowed upwardly and over said traction wheels, a flexible sheet of non-metallic material secured intermediate its ends to said bowed spring members as a guard over said pairs of traction wheels, and means for adjustably securing said additional stud-like members upon said frame with respect to said first stud-like member, whereby the location of said guard may be varied with respect to the centers of said wheels.

2,972,150
MACHINE FOR AUTOMATICALLY APPLYING BOTTOM STOPS TO ZIPPER TAPES IN ONE OPERATION
Zenon Wegrzyn, Rochelle Park, N.J., assignor to Zipper Equipment Corp., New York, N.Y., a corporation of New York
Filed Mar. 8, 1960, Ser. No. 13,690
10 Claims. (Cl. 1—124)



1. Machine for automatically applying bottom stops to predetermined lengths of zipper connected tapes comprising the combination of a punch for striking out the fastening elements connecting the tapes at points between adjoining lengths of the connected tapes, a punch for securing bottom stops over longitudinally adjoining edges of the tapes, means for feeding bottom stops to said securing punch, said stop securing punch being located in adjoining relation to said first mentioned punch for striking out the fastening elements, an aligning punch adjoining said securing punch for holding adjoining edges of the tapes in alignment with said securing punch, common means for actuating said three punches in unison and means for intermittently feeding zipper connected tapes in alignment beneath said three punches.

2,972,151
STAPLING DEVICE
Douglas C. Barr, 2200 N. 2nd St., Arlington 1, Va.
Filed Aug. 15, 1958, Ser. No. 755,313
5 Claims. (Cl. 1—187)



1. In a stapling mechanism having a vertically movable staple driver, a detachable staple magazine and clinching assembly comprising: an elongate hollow staple housing; an intermediately disposed substantially deep trough extending inwardly from the underside and throughout the length of said assembly; means in said housing spring biased toward the forward end thereof to move staples in said housing to the forward end thereof; a slidable ram mounted at the forward end of said housing; means detachably connecting said driver and ram, whereby movements of said driver are transmitted to said ram; spaced integral curved clinching members on either side of said trough extending downwardly and forwardly of the front end of said housing; and an integral cam element disposed in the bottom of said trough substantially rearwardly of the forward end of said housing.

2,972,152
ROCKING DEVICE FOR BASSINET
Dudley J. Vincent, 709 N. 14th St., Enid, Okla.
Filed Apr. 8, 1958, Ser. No. 727,269
9 Claims. (Cl. 5—109)

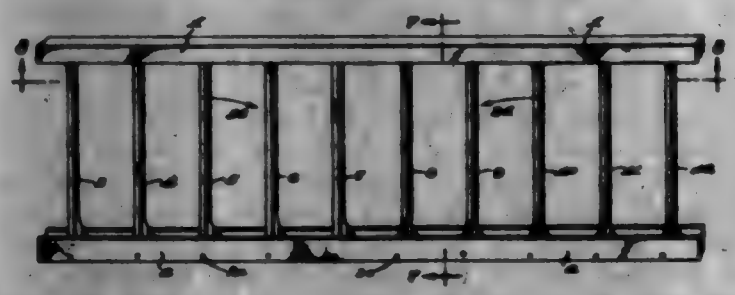
1. A bassinet rocker comprising in combination, a base, a pair of spaced apart upright members attached to and extending up from said base, a pendulum member extending downwardly between said upright members and pivotally supported proximal to its upper end by said uprights, bassinet supporting platform means attached to the upper end of said pendulum member for rocking with the swing of said pendulum, motor means carried by the pendulum at the lower end thereof, said motor means

having a crank arm thereon, and a link pivotally connected at one end to said base and at the other end pivotally connected to said crank arm and extending generally in the direction of the swing of said pendulum member, said crank arm having its pivot about which it



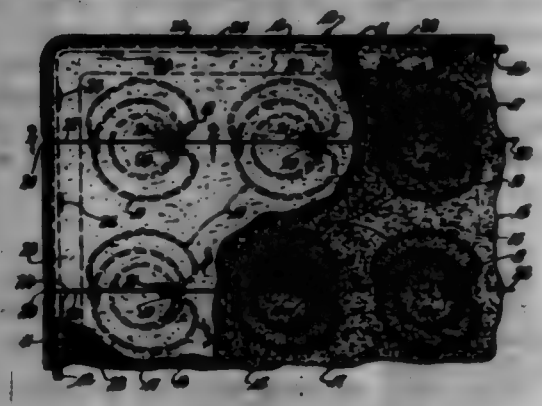
rotates lying in a plane containing said pendulum member whereby a uniform rate of swing is imparted to said pendulum, said bassinet supporting platform means being attached to support a bassinet for lengthwise rocking thereof.

2,972,153
SAFETY BARRIER
Albert Turk, 469 White Ave., Sudbury, Ontario, Canada
Filed Nov. 12, 1958, Ser. No. 773,373
Claims priority, application Canada Sept. 16, 1958
3 Claims. (Cl. 5—331)



1. A safety barrier comprising in combination a lower trough being open along the full length of its upper side, a plurality of bars pivotally attached at one end within and to the said lower trough, an upper rail having a central longitudinal partition forming two parallel channels along the full length of the said upper rail on its lower side, sliding insert rails in each of said channels in said upper rail, half of said bars being pivotally attached at their upper ends to one of said sliding insert rails and the other half of said bars being pivotally attached at their upper ends to the other of said insert rails.

2,972,154
INNERSPRING MATTRESS OR CUSHION ASSEMBLY
Harvey F. John Rasmussi, Chicago, Ill., assignor to Burton-Dixie Corporation, Chicago, Ill., a corporation of Delaware
Filed May 27, 1959, Ser. No. 816,094
3 Claims. (Cl. 5—351)



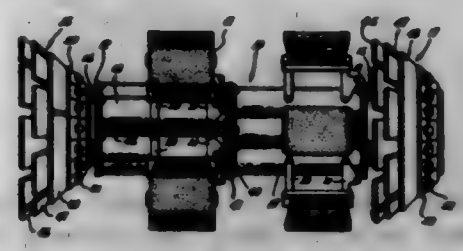
1. An innerspring mattress or cushion consisting of an encompassing wire frame, a plurality of rows of aligned but separate coil springs, a pad covering the top and bottom end convolutions of said springs with each end convolution having a radially inwardly projecting indentation with its end bent outwardly to provide an axial extension projecting through and to the exterior of the contiguous pad, and a length of wire projecting through the extensions of each aligned row of coils at the exterior of a pad, each pad consisting of sisal fibers having a rubber latex dispersion on the side of the pad in contact with said end convolutions with the peripheral edges of each pad projecting beyond and folded over the wire frame and each end of the wire being bent over and anchored onto one of said folded edges of the pad.

2,972,155
FLOOR TREATING APPARATUS
Aaron H. Smith, Lynn, Mass., assignor to Signal Manufacturing Co., Lynn, Mass., a corporation of Massachusetts
Filed Nov. 20, 1958, Ser. No. 775,256
4 Claims. (Cl. 15—50)



1. Apparatus for treating floors comprising a pair of brushes and means for effecting rotation thereof about shafts, a mount supporting the apparatus independently of the brushes, said mount including a part disposed between the brushes with surfaces skirting the peripheries of the brushes, ports in said surfaces adjacent the brushes through which liquid is supplied to the bristles of the brushes at their peripheries as the bristles rotate, means at the ports for cramping the bristles as they travel by the ports so that they wipe the ports, and means coupling the brushes to their shafts which permit vertical movement of the brushes and hence of the bristles heightwise of the ports.

2,972,156
PIPELINE CLEANING DEVICE
Burton Ver Neey, Tulsa, Okla., assignor to T. D. Williamson, Inc., Tulsa, Okla.
Filed Jan. 5, 1959, Ser. No. 784,920
16 Claims. (Cl. 15—104.06)



1. A pipeline cleaning device comprising in combination an elongate body portion adapted to be disposed in a pipeline and including sealing means adapted to form a sliding seal with the pipeline so that the body portion can be propelled through the pipeline by fluid flowing therethrough; and a plurality of cleaning assemblies carried by the body portion to clean a substantial portion of the inner periphery of the pipeline; each of the assemblies including a cleaning element, a linkage pivotally connected to the body portion and to the cleaning element so that the cleaning element can move inwardly and outwardly of the body portion while maintaining the cleaning element in substantially constant angular rela-

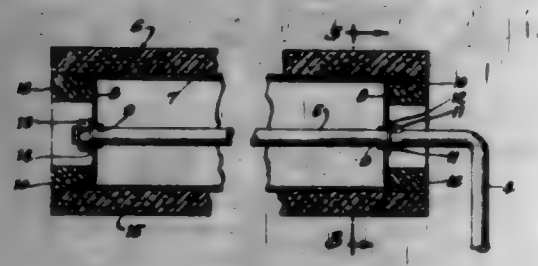
tion with the body portion, and independent spring actuated means for extending the linkage outward to bring the cleaning element into contact with the pipeline, the spring actuated means decreasing the outward force applied to the cleaning element as the cleaning element moves outward.

2,972,157
TWISTED STEM TUFTED BRUSH
Ruben O. Peterson, University Heights, Ohio, assignor to The Osborn Manufacturing Company, Cleveland, Ohio, a corporation of Ohio
Filed May 8, 1957, Ser. No. 657,927
5 Claims. (Cl. 15—206)



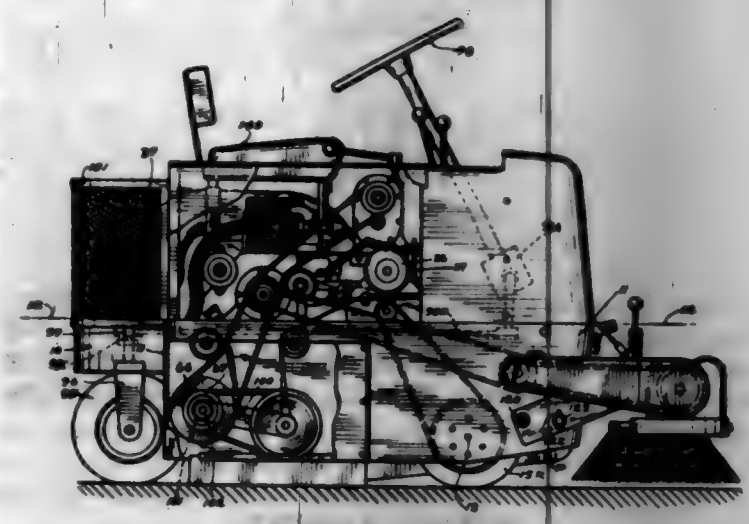
5. As a new article of manufacture, a brush element comprising two wires secured together at longitudinally spaced intervals to form a stem, and brush material interposed at spaced intervals transversely between said wires to form a series of pairs of flat oppositely extending tufts, said stem wires being thus secured together only in the regions intermediate said pairs of tufts to clamp and space the latter, and the faces of said stem wires engaging said brush material being of substantial width better to grip said material and maintain said tufts flat, wherein numerous successive layers of brush material are thus arranged and secured in longitudinally spaced regions along said stem, and said stem is twisted circumferentially to offset successive pairs of tufts.

2,972,158
PAINT APPLICATOR
Jacob D. Veskrescnski, 914 N. Homan Ave., Chicago 51, Ill.
Filed Mar. 26, 1957, Ser. No. 648,642
4 Claims. (Cl. 15—244)



1. A paint applicator of the roller type comprising a rod one end of which serves as a handle to the device and the other end of which serves as an axle for the roller of the device, a hollow cylinder centrally journaled on said axle by means of identical caps with central holes rotatably receiving said axle press-fitted into the ends of said cylinder, a covering of plastic foam around the cylindrical outer surface of said cylinder, said covering extending equal distances beyond each end of said cylinder and terminating abruptly with annular end faces of said plastic foam covering at right angles to the axis of said cylinder, and a ring of the same plastic foam material glued into each of the outside faces of said mounting caps of such thickness that the outside end faces of said rings are aligned flush with the ends of said plastic foam covering.

2,972,159
POWER SWEEPER
Albert S. Swanson and Harlo J. Klussendorf, Minneapolis, Minn., assignors to G. H. Tennant Company, Minneapolis, Minn., a corporation of Minnesota
Filed June 18, 1956, Ser. No. 591,908
3 Claims. (Cl. 15—340)

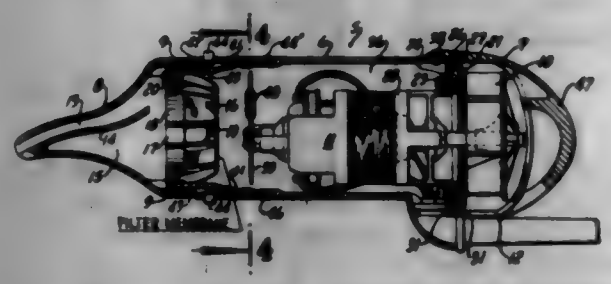


1. A riding type short wheelbase sweeping machine comprising a frame composed of an elevated deck, an operator seat attached centrally thereon and at an elevation such that the operator's feet rest on the deck when the operator is in said seat, the plan and dimensions of said deck being such as to provide a forward projection beyond the seat sufficient to accommodate the forward projection of the operator's feet and narrow side areas alongside said seat and a short rear projection behind the seat, said frame also including downwardly depending integrally attached side-skirts along the sides of the deck and a downwardly depending transverse skirt attached to the deck and to the side skirts, said transverse skirt and side skirts forming respectively the back-wall and sidewalls of a sweeping enclosure located below the operator seat position, steerable rear wheel means attached to the underside of the rear projection of the frame deck and at substantially the longitudinal centerline thereof, front wheels attached to the forward ends of the side-skirts, a cylindrical brush mounted on the frame in said sweeping space and for rotation on a horizontal axis under the operator seat position and ahead of said transverse skirt, a refuse container removably mounted between the side skirts and with its rear end ahead of the rotary brush, said container being of a width substantially equal to the sweeping width of the rotary brush, said container being closed except for its rear end, flexible seal means between the refuse container and the adjacent inner surfaces of the side skirts and the underside of the deck, motor means mounted upon the deck below the operator seat, vacuum blower means connected to the motor said vacuum blower having an inlet and an outlet, said inlet being connected to the sweeping space in which the rotary brush is located, power transmission means connecting the motor and the wheels for propelling them and connecting the motor and brush for driving the brush, operator controls for the transmission means and for the steerable rear wheel positioned adjacent the operator seat, and a dust collecting bag mounted above the deck and connected to the outlet of the vacuum blower means.

2,972,160
HAND-HELD VACUUM CLEANER
Paul T. Hahn, Milwaukee, Wis., assignor to John Oster Manufacturing Company, Milwaukee, Wis., a corporation of Wisconsin
Filed Nov. 21, 1955, Ser. No. 547,970
3 Claims. (Cl. 15—344)

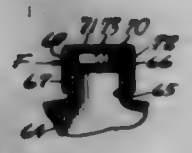
1. In a vacuum cleaner of the character described: a fan; a drive motor for the fan; a housing for the fan and

drive motor formed of complementary front and rear sections joined in end to end relationship; a shoulder on each housing section adjacent to the joint between the sections, said shoulders being spaced apart and facing one another; a centrally apertured motor supporting disc extending across the housing adjacent to the joint between the housing sections; a resilient mounting for said disc clamped between said shoulders and supportingly engaging the peripheral portion of the disc; means securing one end of the stator of the motor to one side of the disc with the motor disposed in the front housing section but with the motor shaft projecting rearwardly through the aperture in the disc and into the rear housing section, the fan being disposed in the rear housing section and



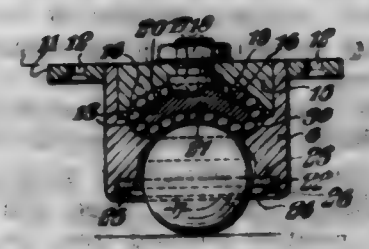
being fixed to the motor shaft at the other side of the disc; a suction nozzle on the forward end of the front housing section, ahead of the motor; a perforated guard plate extending across the front housing section between the motor and the suction nozzle, said plate being secured to the forward end of the motor stator; the portion of the front housing section surrounding said guard plate being non-circular in cross section to define a plurality of internal corner portions; and yieldable bumpers on the edge of the guard plate engaging in said corner portions of the front housing section to define the angular position of said apertured disc and the motor thereon relative to the housing, without transmitting motor vibration to the housing.

2,972,161
APPLICATOR DEVICES
Victor H. Roehrich, 2118 Hendon Ave., St. Paul, Minn., assignor of one-half to Emma Diel Roehrich, St. Paul, Minn.
Filed Sept. 24, 1956, Ser. No. 611,719
4 Claims. (Cl. 15—543)



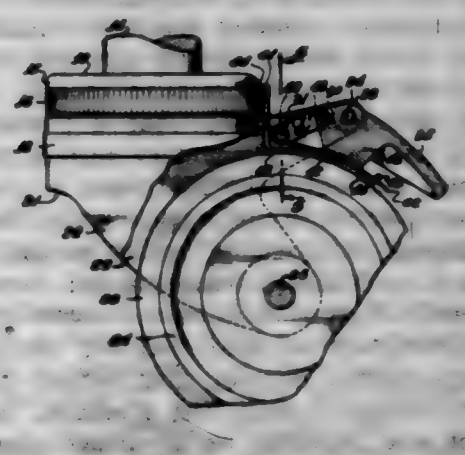
3. An applicator including a hollow resilient flexible container having a neck thereupon through which material may flow, said container having walls which may be flexed inwardly to expel the container contents through said neck, a cap attached to said neck and including an end closure having an aperture therethrough, a perforated washer inserted between said cap and said neck, a plunger slidable longitudinally of said neck, said plunger having a substantially flat outer end, said plunger bearing against said perforated washer in one extreme position thereof and sealing the perforations thereof, and said plunger engaging said end closure and providing a seal therefor in the other extreme position thereof, the flat end of said plunger being substantially flush with the outer end of said cap when in said other extreme position.

2,972,162
MOUNTING OF LOAD-BEARING BALLS OR LOAD-BEARING ROLLERS
Claude Mortimer Townsend, Birmingham, England, assignor to Autocar (Production) Limited, Birmingham, England, a British company
Filed Dec. 26, 1958, Ser. No. 783,863
2 Claims. (Cl. 16—26)



1. A load carrying ball comprising a load ball mounting having a central mouth and a central recess having a concave surface remote from said mouth, a load ball mounted for rotation in said mouth and having a portion projecting through said mouth to the exterior of said mounting, a central partition having concave and convex surfaces, the concave surface being symmetrical with the periphery of said ball and being spaced therefrom, said convex surface of the partition being symmetrical with the recess and thereby forming a two tier endless ball race therewith, several free circulating anti-friction balls in contact with said load ball and below the concave surface of said partition and several other free circulating anti-friction balls in contact with the convex surface of said partition and the recess of said mounting, a central socket in said mounting and a central peg at the head of said central partition and positioned in said socket, said peg and socket having a clearance fit whereby a rocking motion between said peg and said socket and movement of said anti-friction balls is permitted, whereby the supporting surfaces of said anti-friction balls are distributed between said surfaces of said partition, said concave surface of said recess of the mounting and the periphery of said load bearing ball.

2,972,163
SWIVEL LOCK AND WHEEL BRAKE
Milton E. Ross, Burbank, and Robert I. Moore, North Hollywood, Calif., assignors to Aerol Co., Inc., Los Angeles, Calif., a corporation of California
Filed July 26, 1957, Ser. No. 674,509
4 Claims. (Cl. 16—35)



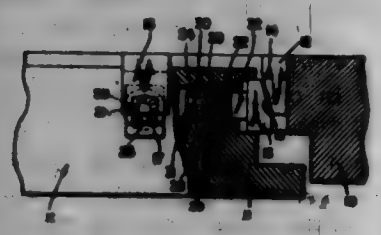
1. In a swivel caster wheel a base comprising a mounting element and a horizontal circular plate thereon having a roughened peripheral brake surface, a chassis having a swivel mounting on said base and comprising a horizontal disc in face to face rotational engagement with said plate, a wheel support on the chassis and a wheel rotatably mounted thereon, a treadle lever having a

pivotal connection to said chassis, a brake member comprising one brake arm having a brake shoe adjacent to and adapted to engage said brake surface of the plate, a second brake arm having a fixed connection to the first arm at an angle and having a shoe adjacent to and adapted to engage the tread of said wheel, a link pivotally connected at one end to the brake member at the inside of the fixed connection of said arms and at the other end having a pivotal connection to the treadle lever, a boss on the lever having a position of abutuent against said second arm when said pivotal connection of the link to the treadle lever is over-center relative to the other two pivotal connections, both said brake arms being in braking positions respectively against said plate and said wheel during said over-center position, said brake arms having released positions when said treadle lever is changed to a position released from over-center position.

2,972,164
ANTI-RATTLING ARRANGEMENT FOR BODY DOORS

Friedrich K. H. Nallinger, Stuttgart, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany

Filed Sept. 17, 1956, Ser. No. 610,351
Claims priority, application Germany Oct. 13, 1955
2 Claims. (Cl. 16—85)

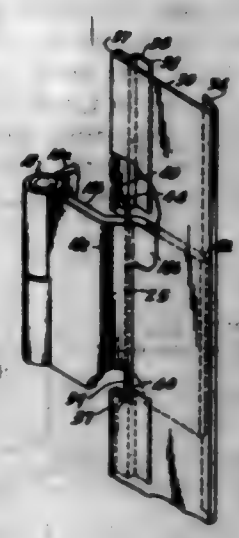


1. An anti-rattle arrangement for a door movable to a closed position in a door frame, said arrangement comprising a plurality of wedging means, one of said plurality of wedging means comprising a first wedge-shaped element secured to said door and a movable second wedge-shaped element supported by said frame for movement relative thereto, an inclined surface of said second wedge-shaped element being in engagement with a complementary surface of said first wedge-shaped element when said door is closed, spring means exterior of and engaging said second wedge-shaped element, said spring means applying a force to urge said second wedge-shaped element toward said first wedge-shaped element in a first direction extending transversely of said inclined surface, another of said plurality of wedging means comprising a third wedge-shaped element secured to said door and a movable fourth wedge-shaped element supported by said frame for movement relative thereto, an inclined surface of said fourth wedge-shaped element being in engagement with a complementary surface of said third wedge-shaped element when said door is closed, second spring means exterior of and engaging said fourth wedge-shaped element, said second spring means applying a force to urge said fourth wedge-shaped element toward said third wedge-shaped element in a second direction extending transversely of said inclined surface of said fourth wedge-shaped element, said second direction being at right angles to said first direction, guide means for each of said movable wedge-shaped elements comprising a guide element having a rectangular recess terminating in an end wall having an opening, each of said movable wedge-shaped elements having a boss slidably disposed in said rectangular recess and connected to said pin, said pin having an abutment to limit slidable movement of said pin in said opening, and a spring surrounding said pin and engaging said end wall and said boss.

2,972,165
TRIM STRIP

Ralph E. McClellan, Toledo, Ohio, assignor to The McMink Steel Safe Company, Toledo, Ohio, a corporation of Ohio

Filed Sept. 8, 1958, Ser. No. 759,751
5 Claims. (Cl. 16—148)

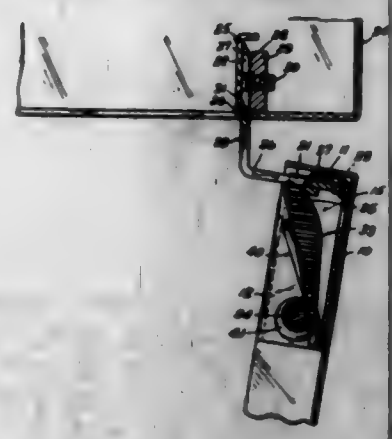


1. The combination of a trim element for a panel, a hinge plate for said panel, said element having parallel inturned side edge portions with a notch formed transversely through one of said edge portions to permit said element to fit said hinge plate, a bevelled edge along one side of said hinge plate adapted to permit one of the inturned side edge portions of said element to be hooked thereunder, and a resilient fastening element interposed between another side of the hinge plate and bridging said notch between the other inturned side edge portion of said trim element to hold said one inturned side edge portion hooked under said bevelled edge to hold said element on said plate.

2,972,166
HINGE

Kenneth M. Johnson, Kensington, Conn., assignor to The Stanley Works, New Britain, Conn., a corporation of Connecticut

Filed Aug. 27, 1958, Ser. No. 757,480
8 Claims. (Cl. 16—189)

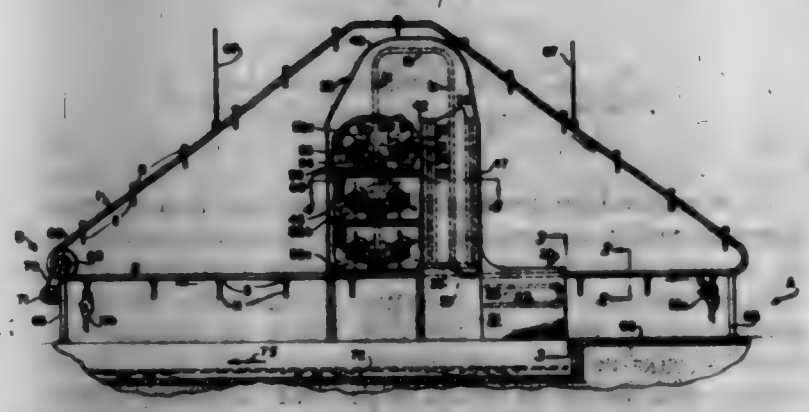


1. A hinge comprising a frame adapted to be mounted in a door, an L-shaped leaf having one leg for attachment on a supporting structure and having its other leg pivotally mounted on the frame, said leaf having an aperture bounded by a transverse edge, an elongated tongue having one end extending into said aperture and having its other end pivotally mounted on the frame, said one end being formed with an arcuate surface slidably engaging said transverse edge, and a spring biasing the tongue toward said edge.

2,972,167
FOWL DEFEATHERING APPARATUS

Karl M. Roth, P.O. Box 714, and Felix K. Fleden, 1518 "F" St., both of Modesto, Calif.

Filed Oct. 22, 1956, Ser. No. 617,452
7 Claims. (Cl. 17—11.1)

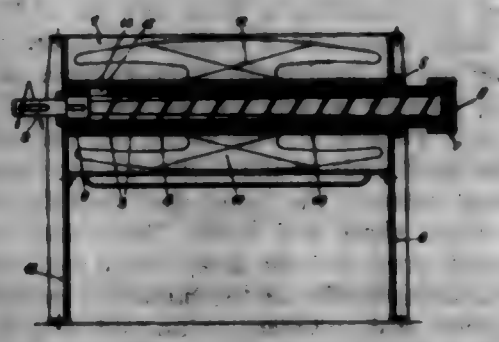


6. Fowl defeathering apparatus comprising: a housing including spraying and picking sections, a conveyor mounted for movement through said housing for carrying fowl therethrough, means associated with said spraying section for spraying steam on a fowl carried by said conveyor, mechanical picking means associated with said picking section and adjacent said conveyor for flailing the feathers from said fowl, said spraying and picking sections being in communication for conducting a substantial quantity of steam with said fowl to said picking section, said picking section having an opening in the lower portion thereof for continuously draining said steam and feathers therefrom by gravity.

2,972,168
MIXING AND THICKENING MACHINE FOR EXTRUSION

Ignazio Pasterello, Via Breda 118, Milan, Italy

Filed Nov. 6, 1957, Ser. No. 694,873
Claims priority, application Italy Nov. 21, 1956
6 Claims. (Cl. 18—2)

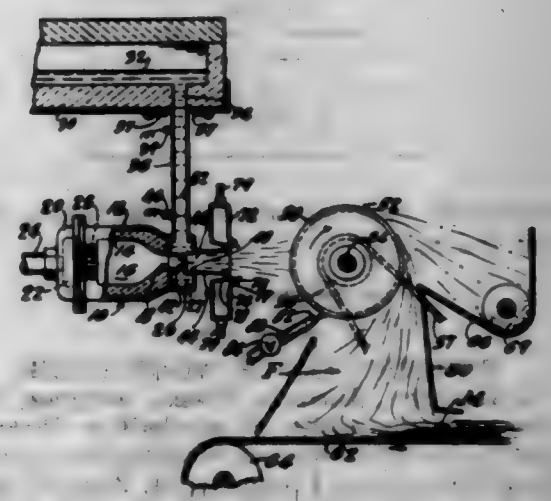


1. Mixing and thickening machine for granulating and extruding plastic material comprising a fixed casing having a hollow space, a first rotatable longitudinal shaft axially crossing said casing and protruding out of it, said shaft connected at one of its ends with a motor and provided at its other end with an extrusion head, a second tubular shaft coaxial, external and secured to said first shaft, a worm secured to said first shaft extending from inside said casing to said extrusion head, a tubular fixed shell coaxial with said worm and mounted internally of said second shaft, said shell extending from inside the casing to the protruding end of said worm where said extrusion head is mounted while the top part of the opposite end of said shell has an opening therein, said second shaft having mixing elements carried thereon and provided with an opening corresponding with the opening of said shell whereby upon rotation of said first and second shafts in one direction, the material is mixed, and upon rotation of said first and second shafts in the opposite direction, the material enters the openings of the second shaft and shell under the action of the mixing elements when the openings are in coincidence whereupon under the action of the worm the material is moved along and extruded by a perforated disc mounted in the extrusion head.

2,972,169
METHOD AND APPARATUS FOR PRODUCING FIBERS

Charles J. Stalego, Newark, Ohio, assignor to Owens-Corning Fiberglas Corporation, a corporation of Delaware

Filed Sept. 13, 1957, Ser. No. 683,733
11 Claims. (Cl. 18—2.5)



2. The method of forming fibers from heat-softened material including establishing a gaseous blast, delivering heat-softened material into the blast whereby the material is entrained through aspiration by the gases of the blast, conveying the material by the gases of the blast into engagement with a surface, and rotating the surface at a speed whereby the material on the surface is converted into fibers by centrifugal forces, and directing a heat transferring medium into the region of the rotating surface to regulate the temperature of the surface.

5. Apparatus of the character disclosed, in combination, means for establishing a high velocity gaseous blast, a reservoir adapted to contain heat-softened fiber-forming material, means providing a passage for the blast through the reservoir arranged whereby the gases of the blast aspirate material from the reservoir into the blast, a rotor having a surface disposed in the path of the blast to receive the material entrained in the blast, and means for rotating the rotor at a speed whereby centrifugal forces attenuate the material on the rotor surface to fibers.

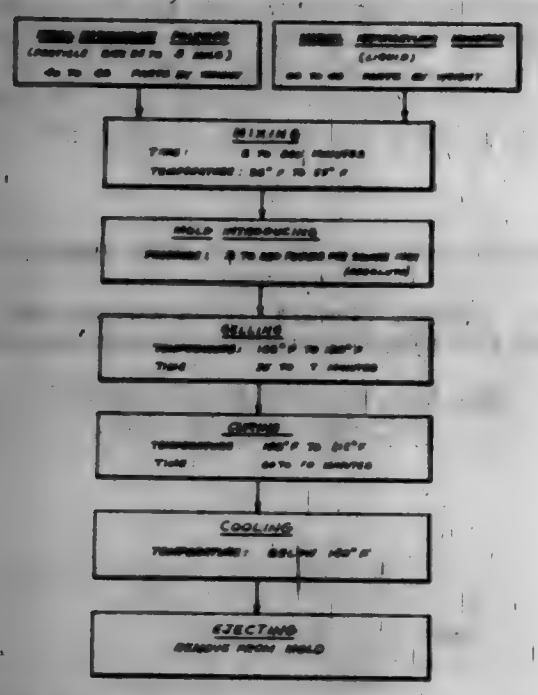
2,972,170
METHYL METHACRYLATE MONOMER MOLDING PROCESS

Lemuel Birchhead, Jr., and Taylor A. Birchhead, Baltimore, Md., assignors to Birchhead Corporation, Baltimore, Md., a corporation of Maryland

Filed June 17, 1957, Ser. No. 666,080
11 Claims. (Cl. 18—58)

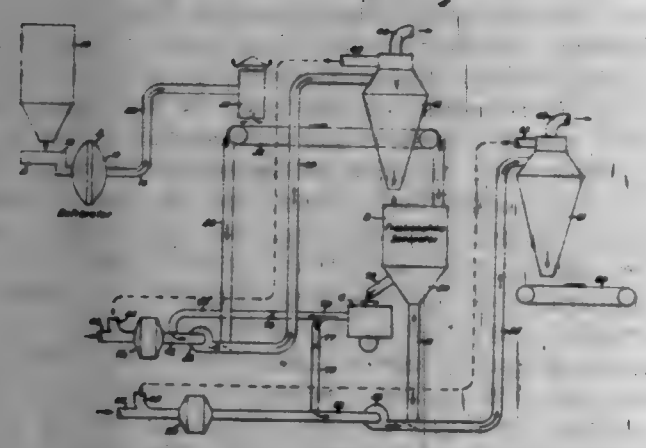
1. A method of forming polymerized methyl methacrylate moldings including the steps of mixing finely divided methyl methacrylate polymer having an average particle diameter between 24 mils and 3 mils with sufficient methyl methacrylate monomer to produce a flowable mixture in which the polymer particles are swelled but are not dissolved, introducing the mixture into a mold and there gelling the same at a temperature between 165°

F. and 183° F. for a time between 35 minutes and 7 minutes, then raising the temperature of the gelled mass



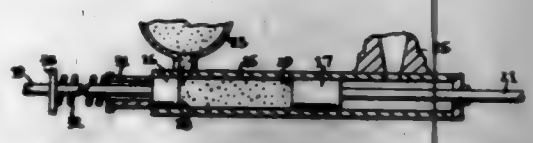
to complete the polymerization and removing the molding from the mold.

2,972,171
PRODUCTION OF WOOD FIBER
Clark C. Heritage, Tacoma, Wash., assignor, by direct and mesne assignments, of one-half to Weyerhaeuser Company, a corporation of Washington, and one-half to Wood Conversion Company, St. Paul, Minn., a corporation of Delaware
Filed Oct. 4, 1952, Ser. No. 313,098
9 Claims. (Cl. 19—72)



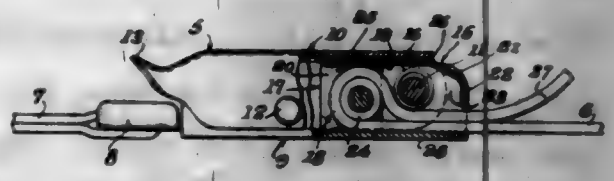
1. The method of continuously moving defibered wood chips from a source of supply of same as a stream of fibers in a gaseous vehicle comprising steam, said stream of fibers containing a quantity of coarse particles and bundles of fibers of wood in admixture with individualized ultimate fibers of wood, continuously separating the said stream of fibers from the vehicular steam, re-forming the stream of fibers, subjecting the fibers in a loosely fluffed condition to the influences of gravity and a moving current of air in an environment allowing freedom of movement of the fibers in flow paths in different directions responsive to said influences in accordance with the coarseness of the particles, collecting in one of said flow paths a relatively coarse fraction comprising sticks and relatively massive fiber bundles, and collecting in another of said flow paths a relatively fine fraction comprising individualized ultimate fibers and slender flexible bundles of ultimate fibers, and continuously conveying the particles of both fractions in moving gaseous vehicle streams for further processing to produce a product consisting essentially of individualized ultimate fibers.

2,972,172
METHOD FOR FEEDING LIQUID CASTING MATERIAL INTO AN ARTICLE MOLD
Alfred P. Federman, 3690 Strandhill Road, Shaker Heights, Ohio
Filed Jan. 22, 1958, Ser. No. 710,460
11 Claims. (Cl. 22—209)



1. A method for feeding molten material to an article-forming cavity, comprising the steps of loading a charge of molten material in a vessel having communication with a charging sleeve, inserting a separable block of solid material into said charging sleeve to displace air from a portion of said sleeve, separating said block within said sleeve to create a gas-free chamber within said sleeve while simultaneously exposing said chamber to communication with said vessel, transferring a portion of said molten material into said chamber while maintaining said transferred material out of contact with air, thereafter sealing said chamber from communication with said vessel, and transferring said molten material from said chamber to an article-forming cavity brought in communication therewith.

2,972,173
STRAP ADJUSTER
Christof Weber, Los Angeles, Calif., assignor, by mesne assignments, to William M. Noe, Pasadena, Calif.
Filed Oct. 28, 1958, Ser. No. 768,284
8 Claims. (Cl. 24—171)

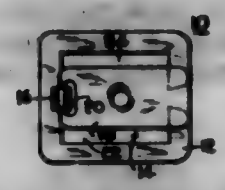


1. In a buckle having upper and lower shells having outer ends for receiving a strap end to be buckled and opposite inner ends and a connecting hinge pin located toward one end for said shells, a loose sleeve on the hinge pin, a slide located between the shells and provided with a fixed shaft parallel to the sleeve on the side thereof toward the inner ends of the shells, a strap being adapted to be passed between the lower shell and the fixed shaft, over the fixed shaft and under the sleeve, to form a bight in said strap and the strap being extended beyond the bight and outwardly of the buckle to provide a strap-tightening end, and an extension on said slide spaced from the fixed shaft thereof and located outwardly of the sleeve, said extension constituting a means adapted to be manually pushed inwardly to move the slide inwardly relative to the sleeve and to strap-releasing position, said extension and fixed shaft defining a space between them that is greater than the diameter of the sleeve to enable such movement of the slide.

2,972,174
SLIDE BUCKLE
Stuart T. Sherry, Belmont, Mass., assignor to United-Carr Fastener Corporation, Boston, Mass., a corporation of Delaware
Filed Dec. 3, 1956, Ser. No. 625,769
1 Claim. (Cl. 24—191)

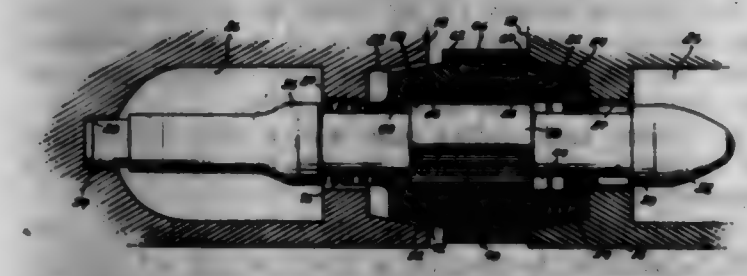
A slide buckle structure comprising a generally rectangular frame member having upper, lower and side frame portions, one of the side portions being provided with a

slot therein to permit the passage of a belt, the opposite side portion being provided with a hinge on which is pivotally mounted a cross bar, the said cross bar being of a width so that the lateral margin thereof overlies and



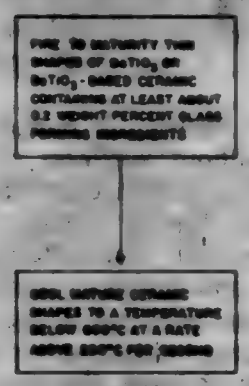
closes the slot and is substantially coextensive with the slotted side of the frame, the dimensioning of the hinge pin section on the bar and the hinge being such as to permit limited longitudinal sliding movement of the said bar to aid in the clamping action thereof.

2,972,175
HORIZONTAL CONTAINER COUPLER
Andrew Abolins, Penndel, Pa., assignor to Strick Trailers, a division of Fruehauf Trailer Co., Philadelphia, Pa., a corporation of Michigan
Filed June 8, 1959, Ser. No. 818,805
14 Claims. (Cl. 24—221)



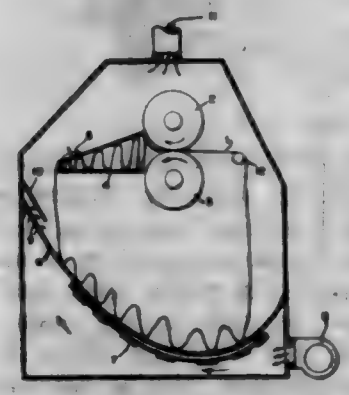
5. A coupler comprising a rod having an enlarged head, a member mounted on said rod for rotation therewith but slidable axially thereof, a collar rotatably mounted on said member having a portion rotatably receiving said rod on one side of said member, means restraining rotation of said collar, resilient means urging said collar and member away from said head when said head is in a ready-to-couple position adapted for insertion through the slot of a unit, and means effecting non-rotatable engagement of said collar with said rod in said ready-to-couple position which becomes inoperative when said collar and member are moved a predetermined distance against action of said resilient means towards said head whereby a force may then be applied to said member to rotate the latter and said head into a coupling position other than that of said first-named ready-to-couple position.

2,972,176
PRESTRESSED DIELECTRIC CERAMIC BODIES
Charles K. Gravley, Willoughby, Ohio, assignor to Clevite Corporation, Cleveland, Ohio, a corporation of Ohio
Filed Feb. 15, 1956, Ser. No. 565,745
8 Claims. (Cl. 25—157)



1. A method of fabricating thin bodies of electromechanically sensitive, polycrystalline, barium titanate and barium titanate-based ceramic material containing glass-forming constituents in lesser quantities than would effectively destroy the electromechanical sensitivity of the material, which includes the step of cooling such bodies, less than about 50 mils thick, at a rate of about 200° to 650° C. per second from a temperature at which said constituents are softened to a temperature below about 600° C.

2,972,177
PROCESS OF COMPRESSIONAL WORKING TEXTILE FABRICS
Lee Bidgood, Jr., New Castle, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed May 22, 1956, Ser. No. 586,494
4 Claims. (Cl. 26—1)

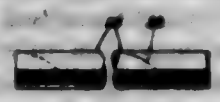


1. A process for finishing a fabric, the fibers of the yarn of which are members of the class consisting of man-made and vegetable fibers, the said fabric containing at least 60% of the said man-made fiber, which process comprises wetting out the said fabric with water and thereafter subjecting the said wetted fabric to compressional working in a gaseous medium at a temperature between about 100° F. and 210° F. for a period of at least one hour.

2,972,178
FIBERS, YARNS AND FILAMENTS OF WATER-INSOLUBLE DEXTRAN
Malvern J. Hiler, Dayton, Ohio, assignor to The Commonwealth Engineering Company of Ohio, Dayton, Ohio, a corporation of Ohio
No Drawing. Filed Aug. 30, 1955, Ser. No. 531,587
5 Claims. (Cl. 28—82)

1. As an article of manufacture an attenuated water-insoluble, dry filament of dextran of molecular weight of about 200,000 and composed essentially of dextran xanthate.

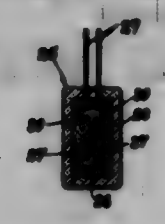
2,972,179
METHOD FOR PRODUCING MOLYBDENUM OR MOLYBDENUM ALLOY GUN LINER
Stuart V. Cuthbert, North Caldwell, N.J., and Donald Wroughton, Pittsburgh, Pa., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed July 29, 1952, Ser. No. 301,552
9 Claims. (Cl. 29—1.1)



1. The method of producing a molybdenum gun liner, starting with an assemblage of a pair of semicylindrical molybdenum troughs encirclingly mounted on a rod shaped tungsten core, which consists in heating said assemblage to a temperature of the order of 1100° to 1250° C., and while heated approximately to said temperature, axially twisting the assemblage in a direction and to a

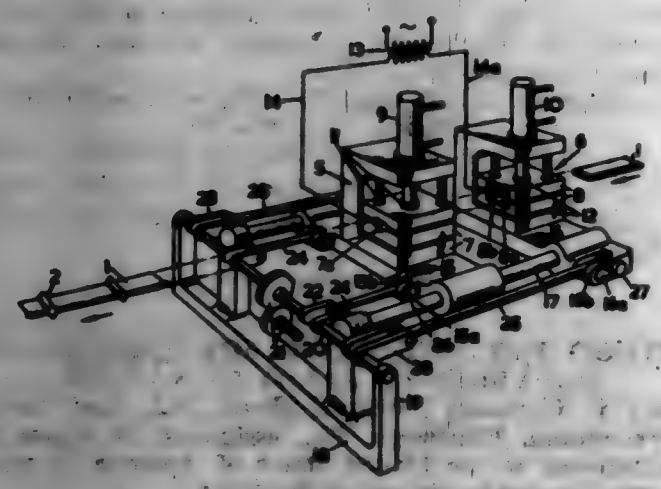
degree such as to transform said troughs into an integral tubular cylinder having a helical grain therein of a pitch substantially corresponding to that of rifling.

2,972,180
ELECTRICAL COMPONENTS AND METHOD OF MAKING SAME
Edith M. Gulton and Glenn N. Howatt, Metuchen, N.J., assignors to Gulton Industries, Inc., Metuchen, N.J., a corporation of New Jersey
Filed Jan. 11, 1956, Ser. No. 553,550
2 Claims. (Cl. 29—25.42)



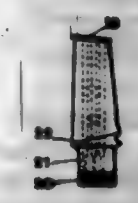
1. The method of producing ceramic electrical components comprising applying electrodes to a ceramic dielectric body, attaching leads to said electrodes, heating the combination to the temperature of molten glass, placing the combination in molten glass such that it is completely enclosed by said molten glass except for said leads, removing said capacitor from said molten glass, cooling the combination, placing ceramic sheets external to said combination, refiring the new combination and cooling the same.

2,972,181
PROCESS FOR MAKING TURBINE BLADES
William Stephen Hollis, Banstead, and John Owen Mayer, West Drayton, England, assignors to Power Jets (Research and Development) Limited, London, England, a British company
Filed July 9, 1953, Ser. No. 366,998
Claims priority, application Great Britain July 11, 1952
4 Claims. (Cl. 29—156.8)



1. A rolling process for making blades for use in steam or gas turbines or in axial flow and similarly bladed compressors which is characterised by the preliminary step of preparing a succession of blanks for rolling by taking a continuous strip of metal of a cross section to suit rolling to the desired blade section, locally heating the strip, subjecting two spaced parts of the strip to a longitudinal displacement in the same direction at different speeds so as to cause said spaced parts to approach one another thereby to upset the strip into enlargements, ultimately to form at least a part of the root of each blade and subsequently passing the upset strip through blade-forming rolls.

2,972,182
TURBINE AND COMPRESSOR BLADES
Nelson Hector Kent, Allestree, Derby, England, assignor to Rolls-Royce Limited, Derby, England, a British company
Filed Feb. 11, 1958, Ser. No. 714,654
Claims priority, application Great Britain Feb. 22, 1957
6 Claims. (Cl. 29—156.8)



1. The method of forming from a metal which is resistant to high temperatures and for an internal combustion turbine engine a blade of the type which has cooling passages running axially thereof, including the following steps:

(*a*) producing a billet of said metal of roughly rectangular cross section having a major axis of the order of the finished width of the blade and a minor axis substantially greater than the finished thickness of the blade at its thickest point;

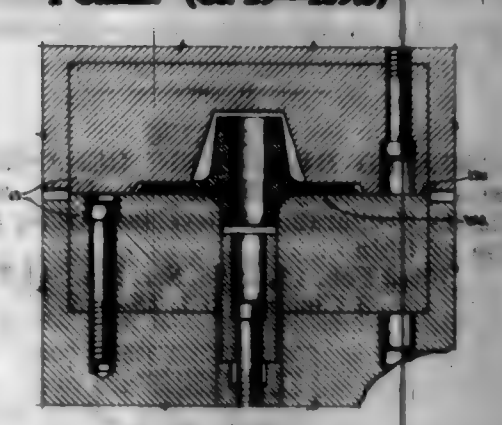
(*b*) drilling axially of the billet by an electric drilling process a plurality of holes of generally elliptical cross section, having their major axes oriented generally the same as the major axis of the billet;

(*c*) filling each drilled hole with a close fitting filler of malleable metal capable of selective dissolution for removal;

(*d*) extruding the billet axially of the holes in a die with lubrication to produce a blade section of approximately aerodynamic form by exerting extruding pressure in a direction to increase the major axes and decrease the minor axes of said drilled holes so that they become lenticular and a root section;

(*e*) machining the blade profile and then removing said filler.

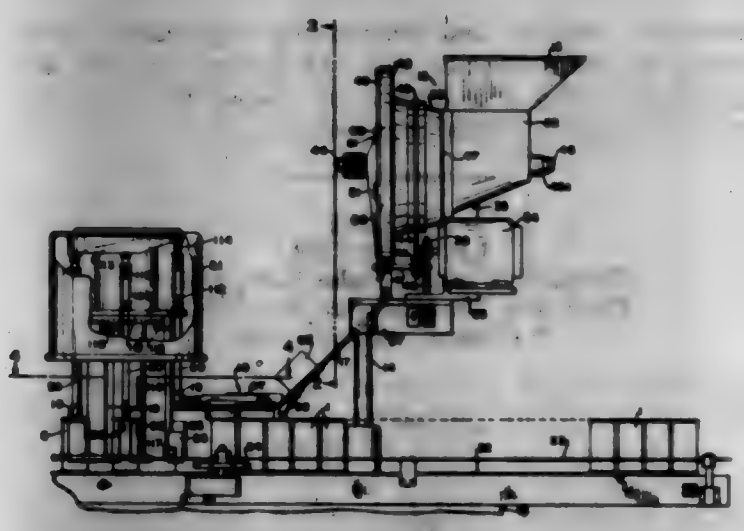
2,972,183
METHOD OF FORMING FLANGED HUBS BY FORGING AND COINING
Robert O. Greenshields, Grosse Pointe Farms, and Patrick J. Hogan, Detroit, Mich., assignors to The Budd Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Aug. 27, 1953, Ser. No. 376,865
1 Claim. (Cl. 29—159.3)



The method of forming a flanged hub to accurate flange thickness without waviness and with hard cold-worked face surfaces, which comprises, forging a blank to form a hub body having a flange with a plurality of radially spaced annular convex-topped raised portions and a plurality of intervening concave-bottomed shallow annular depressed portions extending in an annular zone from the outer edge inward completely around the flange on both of its sides or faces, the raised portions and depressed portions being disposed in opposition respectively on opposite sides of the flange, the flange being of uni-

form predetermined thickness measured at the tops of the raised portions, and cold-striking the flange in the annular zone of said raised and depressed portions with limit-stop flat-faced dies to flatten the tops of said raised portions while leaving their lower or base portions and the depressed portions therebetween, to form a flange of predetermined thickness without waviness in said annular zone.

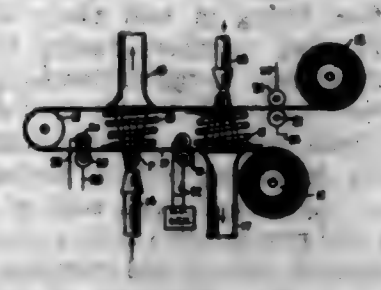
2,972,184
MACHINE FOR MOUNTING SPOUTS IN THE TOPS OF CONTAINERS
Charles Andrew, Brooklyn, N.Y., assignor to Andrew & Waitkens Machine Co. Inc., New York, N.Y., a corporation of New York
Filed Nov. 29, 1957, Ser. No. 699,702
9 Claims. (Cl. 29—208)



1. In apparatus for applying spout members to the tops of containers having apertures therein, said members each having a projection at one side thereof, a supporting structure, means associated with said structure for supporting a helter-skelter mass of such members, mechanism for rearranging said spout members so that the tops of said spouts face in a given direction and so that said projections face in either of two directions, mechanism for receiving these spout members from said rearranging mechanism and for feeding the rearranged spouts in a continuous line including means for maintaining the projections thereof facing in the direction in which they have been rearranged and including means for turning said spouts to upright position, a tool constructed to pick up individual spouts in upright position with the projection thereof facing in either of said directions, mechanism for moving said spouts one at a time from said feeding mechanism into vertical alignment with and beneath said tool, mechanism for reciprocating said tool to cause it to pick up said spouts one at a time, mechanism for advancing said tool from said pick-up position, mechanism for feeding the containers into vertical alignment beneath said tool during such advance and mechanism for lowering said tool to cause it to force the spout member carried thereby into the aperture in the top of said container.

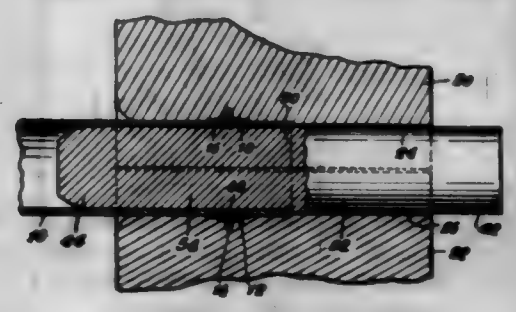
2,972,185
METHOD OF PRODUCING STRIP MATERIAL
Joseph B. Brennan, 13018 Lake Shore Blvd., Cleveland, Ohio; Helen E. Brennan, executrix of said Joseph B. Brennan, deceased
Filed Apr. 14, 1958, Ser. No. 728,346
12 Claims. (Cl. 29—420.5)

1. A method of producing a metal strip comprising spraying molten metal onto one side of a porous base to deposit a film of such metal onto the base, and simultaneously maintaining a pressure on the opposite side of such base at a value less than the pressure on such one side of the base to attract the sprayed molten metal to



the base and to retain the sprayed molten metal to the base during solidification thereof.

2,972,186
MANDREL SWAGE
Earl E. Howe, Chicago, Ill., assignor to Chicago Forging and Manufacturing Company, Chicago, Ill., a corporation of Delaware
Filed Nov. 14, 1955, Ser. No. 546,328
1 Claim. (Cl. 29—516)



A method of swaging a continuous annular ferrule onto a thin, smooth walled tube, the ferrule having a central outstanding rib with flanges on each side of the rib, including the steps of positioning the ferrule around the tube, applying continuous annular pressure only initially at the outer edge of the flanges, progressively increasing the areas of applied pressure uniformly inwardly toward the rib to shear the flanges into the tube, supporting the inner surface of the tube at all times during pressure application, whereby the original inner diameter of said tube is maintained and discontinuing the applied pressure when the pressure zones are still spaced from the rib.

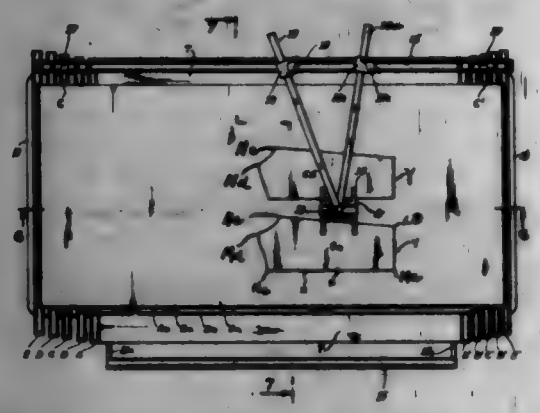
2,972,187
DEVICE FOR THINNING HAIR
Thomas J. Gore, 405 Lincoln Way W., South Bend, Ind.
Filed Dec. 23, 1957, Ser. No. 704,544
3 Claims. (Cl. 30—34)



1. A hair thinning device comprising an elongated member having a reduced width knuckle portion intermediate its ends, one end portion of said member being of reduced thickness from said knuckle to one end thereof and extending at a slight angle to the other end of said member at a portion thereof adjacent said knuckle, and an elongated head member having a bifurcated end pivoted to said knuckle, said head member having a portion thereof adjacent said knuckle extending at a small angle to a portion thereof confronting the reduced thickness end portion of said elongated member and cooperating therewith to clamp between marginal portions of said head member and the reduced thickness portion of said elongated member a razor blade having a longi-

tudinal slot, one of said clamping members having an inner face recessed between said marginal clamping portion thereof and a longitudinal rib projecting from its recessed inner face fitting in said blade slot, and the other of said clamping members having its inner surface recessed between said marginal clamping parts thereof, said head projecting longitudinally beyond the end of the reduced thickness part of said first member and including a laterally projecting portion having a beveled undercut shoulder engaging the end edge of the reduced thickness part of said first member with a snap locking fit, the angularly extending parts of said members being flexed toward each other during continuance of said snap locking fit.

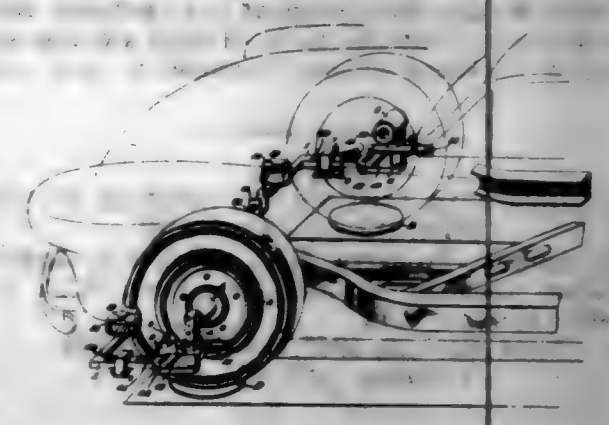
2,972,188
MAKING GRADED PATTERNS FOR GARMENTS
William Kaufmann, Great Neck, N.Y.
(% Precision Pattern, 526 7th Ave., New York, N.Y.)
Filed June 16, 1958, Ser. No. 742,187
5 Claims. (Cl. 33—12)



1. A machine for marking a graded pattern upon a marking sheet with the use of a master pattern, comprising a support, marking-sheet-holding-means for holding a marking sheet in selected relation to said support, said marking-sheet-holding-means being movably connected to said support and being adapted and operative to hold a marking sheet movably relative to said support, master-pattern-holding means movably connected to said support, and actuating means adapted and operative to shift said marking-sheet-holding means and said master-pattern-holding means in unison relative to said support and in respective different ratios which have a fixed relative value, said master-pattern-holding means being located and operative to hold a master pattern in marking position relative to the marking sheet which is held in said marking-sheet-holding-means in order to conveniently mark the important points of said master pattern upon said marking-sheet.

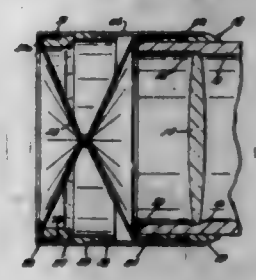
2,972,189
INSTRUMENT FOR TESTING WHEEL ALIGNMENT OF AUTOMOBILES
George M. Holub, 2396 Cambridge St.,
East Meadow, N.Y.
Filed Aug. 3, 1953, Ser. No. 371,980
16 Claims. (Cl. 33—46)

6. A portable instrument for testing wheel alignment of vehicles comprising a pair of side arms extending forwardly to the front of the vehicle, wheel engaging heads formed thereon, means defining a recess in each of said heads for receiving the spindle upon which the wheel of the vehicle is mounted, said heads abutting the wheel hubs, adjustable sights carried by each of the heads for checking tracking, means for checking camber, caster and king pin inclination carried by said side arms, additional means for supporting said side arms in a relatively horizontal position, an indicator carried by each side arm for measuring the angular position of the respective wheel, said indicator including a member pivotally mounted on the forward end of each of the side arms, a resiliently extensible connector suspended between the pivotal members to prevent angular displacement of said pivotal members with respect to the connector when the



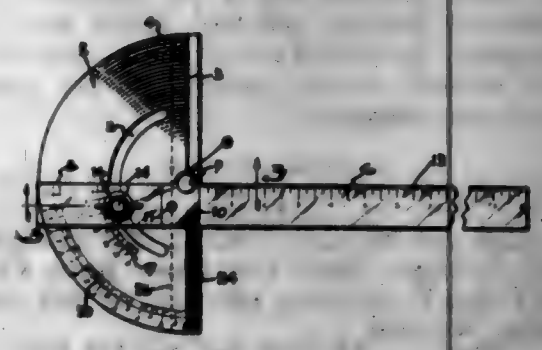
wheels are rotated, and cooperating engageable means carried by said connector and said pivotal members disconnectable when it is desired to remove the connector from between the pivotal members.

2,972,190
LENS COVER
Elliss D. Vissing, Idaho Falls, Idaho
Filed Aug. 25, 1958, Ser. No. 756,794
9 Claims. (Cl. 33—50)



1. A lens cover comprising a sleeve member adapted for mounting on a tubular lens support, a flexible resilient tube having one end fixed to the sleeve member, a shell fixed to the other end of the flexible resilient tube and rotatably mounted on said sleeve member to rotate substantially on the axis of said sleeve member, for twisting the tube to close the passage through the shell and sleeve to the lens.

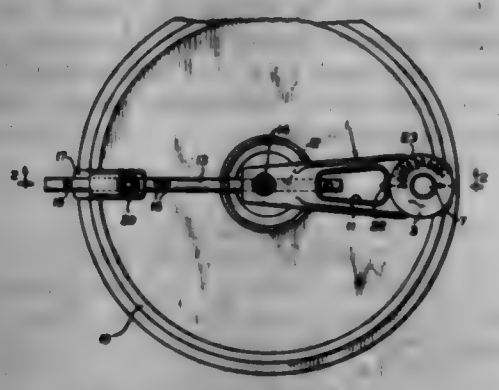
2,972,191
MEASURING OR COMPUTING TOOL
Philip M. Kichin, 1245 State Ave., Cincinnati 4, Ohio, assignor of twenty-five percent to Charles A. Bescher, twenty-five percent to Alice R. Mueller, and twenty-five percent to George James Estrides, all of Cincinnati, Ohio
Filed June 4, 1957, Ser. No. 663,397
2 Claims. (Cl. 33—100)



1. A measuring tool for computing measurements comprising a semicircular disc section having a bottom and straight edge which is the diameter of a circle coincident with the circumferential edge of said disc, a measuring stick pivoted to said section at the axis of the disc, clamp

means for holding the measuring stick in selected pivoted position, means lapping the straight edge of said disc and extending therefrom to provide a seat for seating one leg of a measuring square that is adapted to be abutting against said straight edge and said clamp means for the measuring stick being adapted to clamp the measuring square in position.

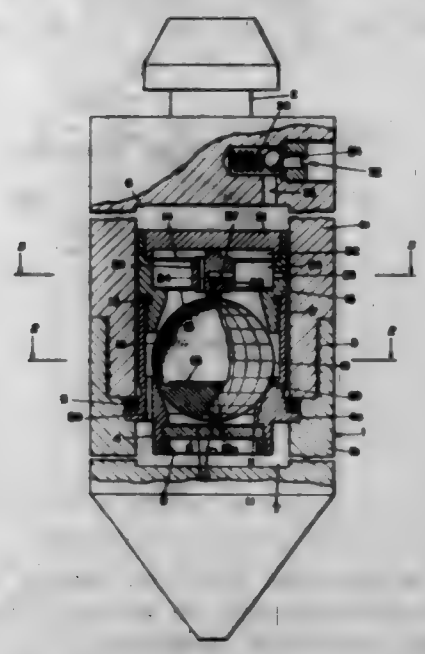
2,972,192
BRAKE GAUGE
Frank Atzberger, 160—14 Normal Road, Jamaica, N.Y.
Substituted for abandoned application Ser. No. 348,998, Apr. 15, 1953. This application Apr. 24, 1959, Ser. No. 808,734
2 Claims. (Cl. 33—180)



1. A brake gauge for a brake drum comprising a longitudinal arm, a dial disc rotatably mounted in said arm about an axis perpendicular to the longitudinal axis of said arm, a gauging element eccentrically mounted on said dial disc for rotary and axial movement relative thereto toward and from a predetermined zero position, said eccentric gauging element comprising a shaft having at one of its ends a measuring disc of a diameter greater than that of said shaft, said measuring disc having its peripheral surface farthest removed from the axis of said brake drum adapted to engage the braking surface of said brake drum, an abutment piece engaging the braking surface of said brake drum at a point diametrically opposed to the drum engaging surface of said gauging element, and a connecting rod adjustably secured to said longitudinal arm and to said abutment piece, said measuring disc being adapted to indicate on said dial disc the correct size of said brake drum, as well as any bellmouth portion on its braking surface, upon lowering said shaft and simultaneous turning of said dial disc.

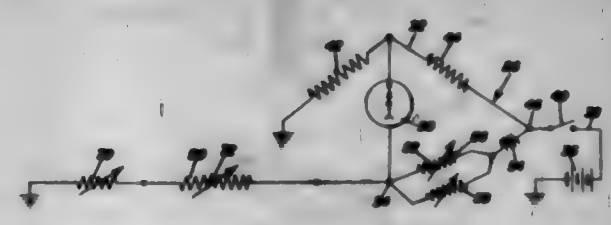
2,972,193
BORE-HOLE CLINOMETER
Elmer T. Young, Newtown Square, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey
Filed Nov. 7, 1958, Ser. No. 772,526
6 Claims. (Cl. 33—205)

1. A bore-hole clinometer comprising a housing adapted to be dropped down a bore hole, a seat in said housing, an indicating member positioned in said housing and adapted to rest on said seat, a high pressure air chamber in said housing, a low pressure air chamber in said housing, said high pressure chamber and said low pressure chamber being in communication only by way of restricted passages including passages extending through said seat and so arranged as to cause air flowing therethrough to impinge on said member, thereby lifting the latter off said seat so that such member is free to rotate in any direction relative to said housing; means operatively associated with said member for maintaining the same upright and oriented in a particular direction irrespective of the inclination and orientation of said housing, a movable clamping member in said housing adapted when in clamping position to clamp said first-named member against further movement in the housing, and means for



moving said clamping member to a clamping position only in response to a substantial equalization of the pressures in said chambers.

2,972,194
BLADE CUTTING ANGLE INDICATOR
Raymond E. Ewing, Box 32, Bruneau, Idaho
Filed Apr. 17, 1959, Ser. No. 807,055
5 Claims. (Cl. 33—215)

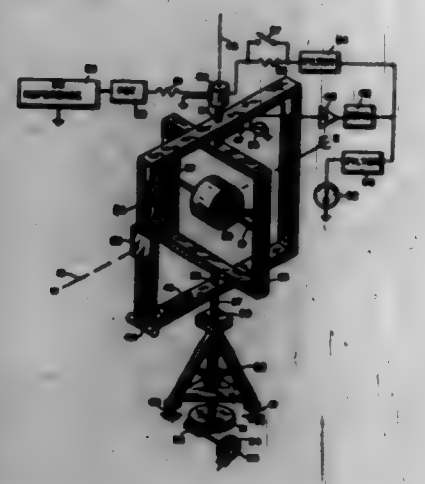


3. A blade cutting angle indicator for an earth moving machine which has a blade adjustable about a first axis extending generally lengthwise of the machine and a second axis extending upward of the machine, said indicator comprising a bridge circuit having two pairs of legs, a meter connected between elements of each leg to indicate bridge circuit balance and unbalance, one of said legs having at least one adjustable resistor to unbalance the bridge circuit, a primary control unit having a primary adjustable resistor, means mounting the primary adjustable resistor on a part of the machine which moves in response to tilting movement of the blade about said first axis thereby balancing the circuit so that further unbalance is indicated on the meter, an adjustable compensating resistor unit connected in series with the primary adjustable resistor and means mounting said adjustable compensating resistor unit on said machine for adjustment in response to movement of said blade about said second axis.

2,972,195
GYRO COMPASS
Mark E. Campbell, Whittier, George E. O'Brien, Covina, and Eugene E. Pentecost, Long Beach, Calif., assignors to North American Aviation, Inc.
Filed June 6, 1958, Ser. No. 740,329
26 Claims. (Cl. 33—226)

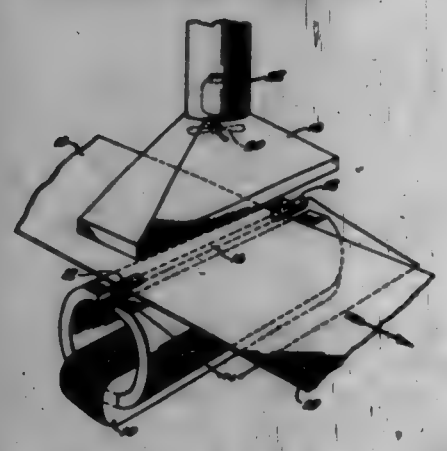
1. A gyro compass comprising a rotor, an earth-supported mounting; bearing means between said rotor and said mounting, means for causing said rotor to spin about

an axis of rotation; means for detecting precession of said rotor in response to the component of earth rate about an input axis perpendicular to said axis of rotation;



means for altering the rotational velocity of said rotor; and means for controlling the azimuth of said input axis under altered rotational velocities so as to evaluate the error torques acting on said rotor.

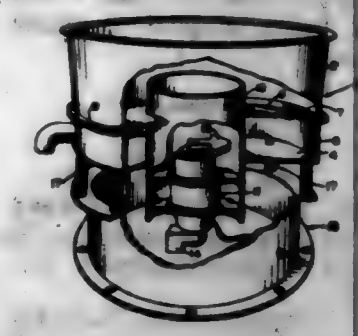
2,972,196
METHOD OF DRYING PRINTED WEBS
Harold C. Early and David B. Miller, Ann Arbor, Mich., assignors to Meredith Publishing Company, Des Moines, Iowa, a corporation of Iowa
Filed July 22, 1957, Ser. No. 673,436
7 Claims. (Cl. 34—1)



1. A method for drying ink on a printed web which comprises passing the web at a speed in excess of 1000 feet per minute immediately adjacent to a source of intense heat provided by an electric arc, while simultaneously subjecting the arc to a magnetic field to bring the arc column into contact with the surface of said moving web.

2,972,197
CONTINUOUS VIBRATORY HEATING APPARATUS
Robert R. Mickus and George W. Brewer, Sacramento, Calif., assignors to Rice Growers Association of California
Filed July 19, 1954, Ser. No. 444,182
1 Claim. (Cl. 34—164)

Apparatus for uniformly heating material composed of discrete particles comprising: a horizontally disposed annular screen adapted to support such material thereon, means for conveying material to a first point on said screen adjacent the periphery thereof and means for receiving material from said screen at a second point adjacent the periphery thereof and spaced circumferentially substantially 360° from said first point, means for agitating said screen at all times for continuously imposing equal forces on said particles having unidirectional vertical and tangential components whereby said material is progressively moved by agitation from said first point to said second point along a generally circular path of



travel, and means for directing heated air upwardly through said screen during said movement, and a circular baffle supported with said screen radially inwardly thereof for preventing movement of said particles diametrically of said screen.

2,972,198
PERFORMANCE BAR
Robert M. Herrick, Hatboro, and Paul Karnow, Philadelphia, Pa., assignors to the United States of America as represented by the Secretary of the Navy
Filed Apr. 29, 1959, Ser. No. 809,890
6 Claims. (Cl. 35—22)
(Granted under Title 35, U.S. Code (1952), sec. 266)



4. In a device especially adapted for use in experimental psychology, support means, power drum means and takeup drum means journalled in said support means, tape-like spring means connecting said takeup drum means with said power drum means and resiliently biasing said power drum means in one direction with a substantially constant torque independent of the relative angular position of said power drum means and independent of the amount of the earth's gravitational forces acting on the device, lever means fixed to said power drum means, electrical commutator brush means mounted in one end of said lever means, and electrical commutator contact means carried by said support means and adapted to be sequentially engaged by said electrical commutator brush means as said lever is angularly displaced for use in determining the instantaneous position of said lever means as the latter is displaced.

2,972,199
DRAGLINE EXCAVATOR
Tom Learmont, Wauwatosa, Wis., assignor to Bucyrus-Erie Company, South Milwaukee, Wis., a corporation of Delaware
Filed Oct. 30, 1958, Ser. No. 770,742
9 Claims. (Cl. 37—116)

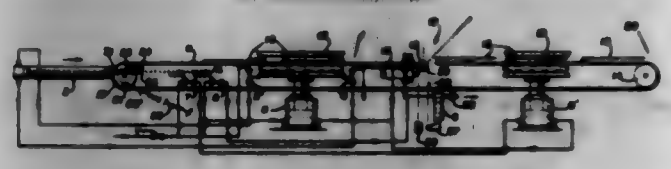
1. In a dragline excavator having a main frame and a digging bucket supported by a hoist line and moved for digging by a dragline the combination therewith of: a multiple-section boom having a boom foot and a boom point; a boom-pivot connection with the main frame; said boom comprising an inner section and an outer section having their longitudinal axes substantially in alignment; a pivotal connection between the inner and the outer boom sections; suspension means between the main frame and

the outer end of the boom; an upwardly-inclined mast interposed between the suspension means and the inner boom section; a mast-to-boom connection joining the mast to the inner boom section; a fixed-length flexible tension member between the mast at a point near the top of the mast and the boom at a point adjacent the pivotal connection between the inner and the outer boom sections; said suspension means comprising variable-length boom-hoist tackle between the main frame and the mast and comprising a fixed-length flexible tension member between



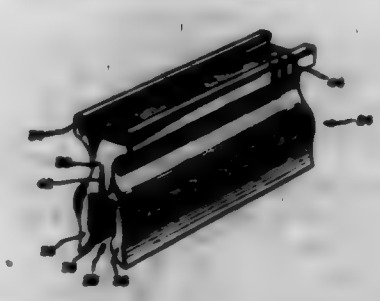
the mast and the boom adjacent the boom point; both of said fixed-length flexible tension members being dimensioned proportionately in such a manner that the boom sections are maintained in substantial alignment; and the said mast-to-boom connection being so located outwardly from the boom-foot pivot a substantial predetermined distance and the mast inclined in such a manner that the line of action through the mast imparts a downward moment to the inner boom section and thereby maintains the tension member in tension at all times throughout the range of boom positions.

2,972,200
PRESSING OR IRONING MACHINE FOR TEXTILE ARTICLES
Petrus H. Beks, 13 Van de Pollstraadt, Vught, Netherlands
Filed Mar. 6, 1959, Ser. No. 797,622
Claims priority, application Netherlands Mar. 12, 1958
6 Claims. (Cl. 38—5)



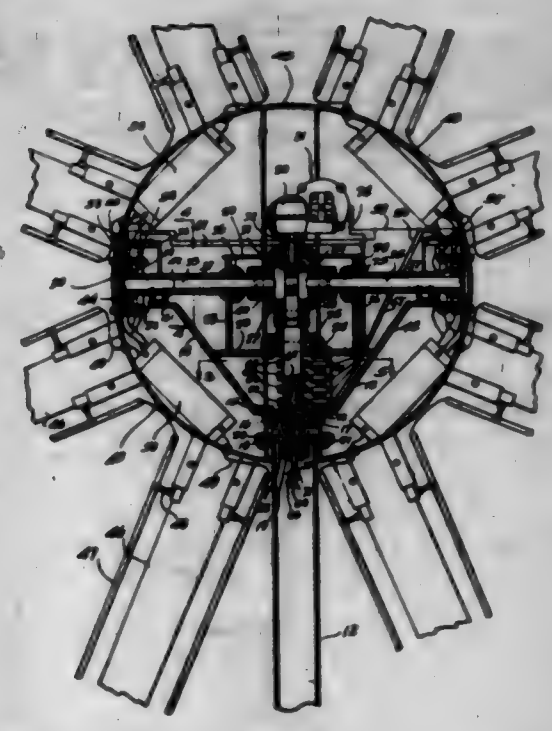
1. A pressing device for pressing both sides of a textile article at a plurality of stations, comprising spaced first and second pressing means, conveyor means for moving articles to a first pressing station in alignment with said first pressing means adapted to press one side of each article and then to a second pressing station in alignment with said second pressing means adapted to press the other side of each article, said conveyor means including a plurality of longitudinally extending portions transversely separated from each other, means disposed along said conveyor means and between said first and second pressing means for turning the articles over and including a turning member disposed trasversely of the conveyor means and having a number of bars connected thereto which extend longitudinally of the coveyor means and are in alignment with the spaces between conveyor portions, means for moving said turning member between a position where the bars extend toward the oncoming articles and are disposed at their outer ends slightly below the article supporting surface of the conveyor means to a position spaced substantially 180° therefrom whereby the articles are turned over to prepare them to have their other sides pressed by said second pressing means.

2,972,201
FILM HANGER CLIP
Alfred J. Niedermayer, 960 Washington Ave., Evansville 13, Ind.
Filed Mar. 4, 1959, Ser. No. 797,192
2 Claims. (Cl. 40—23)



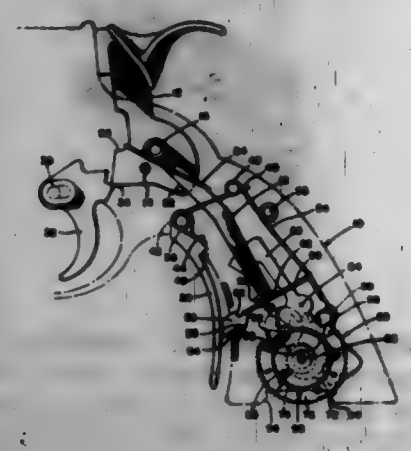
1. An identification handle for attachment to an X-ray film hanger, comprising an elongate body of substantially T-shaped cross section, a flat surface on the upper face of the head portion of the body, undercut raised beads formed longitudinally on opposed sides of said head portion defining with said flat surface an identification tab receiving channel, the lower stem portion of said body being bifurcated into spaced resilient leg members defining a film hanger receiving and retaining groove longitudinally of said body, a wedge slot opening inwardly from the inner extremity of said hanger receiving groove, said wedge slot being of lesser transverse dimension than said groove.

2,972,202
ELECTRIC DISPLAY DEVICE
Warren D. Milks, 806 W. 1st St., Bonner City, La.
Filed July 29, 1960, Ser. No. 46,141
8 Claims. (Cl. 40—33)



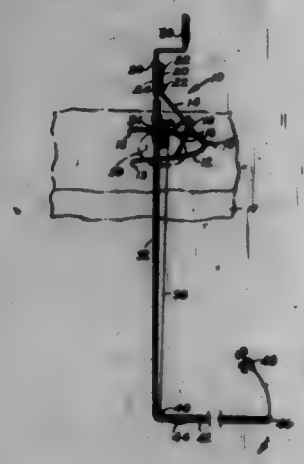
1. A display device comprising an upright standard, a supporting frame rotatably mounted on said standard, drive means connected between said standard and frame for rotating the frame around the standard, opposing shaft elements journaled in the frame, means rotating said shaft elements responsive to rotation of the frame around the standard, respective opposing housing segments mounted on said shaft elements and defining an enclosure therebetween, and a plurality of outwardly projecting tubular lamps secured to said housing segments.

2,972,203
TIMING MECHANISM FOR MEASURING THE DURATION OF THE DRAW OF A FIREARM
Willard Alden Thomas, Cincinnati, Ohio, assignor to Kilgore, Inc., Westerville, Ohio, a corporation of Ohio
Filed Mar. 27, 1959, Ser. No. 802,357
6 Claims. (Cl. 42—1)



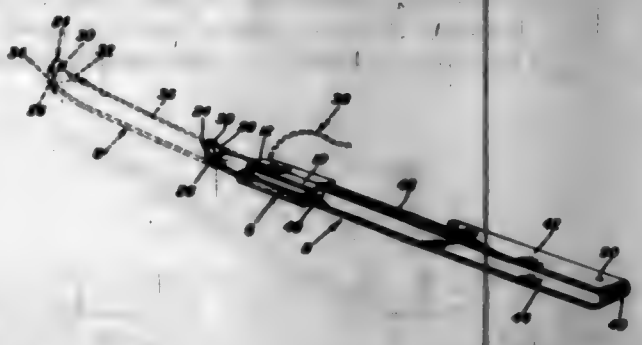
4. In a pistol including a trigger operated firing means and a handle, timing means mounted on said pistol and including an indicia portion for indicating increments of elapsed time, an actuating lever mounted on said handle and depressible when said pistol is grasped, said actuating lever being operatively connected to said timing means for actuating operation of said timing means when said lever is depressed, means operatively connecting said firing means and said timing means for stopping operation of said timing means in response to firing movement of said firing means, whereby said indicia portion indicates the elapsed time between grasping the handle and the firing of the pistol.

2,972,204
ICE FISHING ROD FOR ARTIFICIAL LURES
Hogen C. Wollum, Norway, Mich. (Vulcan, Mich.)
Filed Feb. 27, 1959, Ser. No. 795,980
5 Claims. (Cl. 43—19.2)



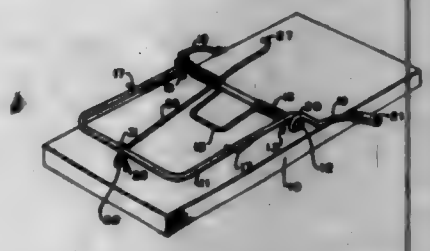
1. A rod for fishing through ice holes comprising, in combination, a stand for stationarily engaging the ice surface in substantially encircling relation to a hole, a bearing sleeve releasably carried by said stand, a handle rotatably carried by said sleeve, a main rod section secured at one end to said handle, said stand retaining the main rod in an ice hole, an auxiliary rod section detachably carried at one end by the opposite end of said main rod section, a reel with fishing line carried by said one end of said main rod section below the bearing sleeve, and guide means directing said line from said reel to the opposite end of said auxiliary rod section.

2,972,205
FISHHOOK DISGORGER
Charles W. Wear, Naches, Wash., and David F. Gazzola, Box 561, Selah, Wash.; said Wear assignor to said Gazzola
Filed Apr. 18, 1957, Ser. No. 653,557
5 Claims. (Cl. 43—53.5)



5. A fish hook dislodger comprising an elongated body portion provided at its forward end with an opening having its longitudinal axis extending longitudinally of said body portion, said opening passing through the forward end of said body portion, a trigger device mounted upon the exterior of said body portion, the body portion being shiftable longitudinally with relation to the trigger device when the trigger device is held by the fingers against movement, means to guide the body portion upon the trigger device, means to automatically move the body portion forwardly with relation to said trigger device when said body portion is released, said last named means including a spring, detachable means for securing the body portion to the trigger device when the body portion is shifted to its rear position with respect to the trigger device, the arrangement being such that a fishing line carrying the hook is movably mounted in the opening at the forward end of the body portion and is extended longitudinally of the body portion to reach the exterior of the trigger device against which it may be clamped by the finger, the body portion being guided along the line in its forward movement when it is released by the trigger device and moved forwardly by the spring.

2,972,206
ANIMAL TRAP
Russell H. Henwood, 15470 Quito Road, Saratoga, Calif.
Filed Aug. 26, 1957, Ser. No. 680,076
7 Claims. (Cl. 43—81)



1. An animal trap comprising a rectangular base, a striker pivotally mounted on said base, spring means urging said striker from a set position to a sprung position at the bait end of the trap, a latch arm for said striker, and surface engaging propelling means associated with said striker for actuation thereby and comprising a pair of arms disposed in angular relation to the surface on which the trap rests at either side of the trap in the set position thereof so as to propel the trap in a generally horizontal direction along the length of said base in the direction of the bait end of the trap, each of said arms terminating in an end presented to said surface at a location intermediate the ends of said base.

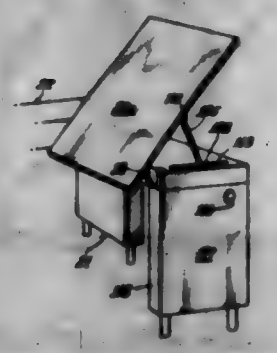
2,972,207

TILTABLE DRAFTING BOARD SUPPORT MEANS

Victor H. Hintz and Claude G. Kannelberger, Two Rivers, Wis., assignors to Hamilton Manufacturing Company, Two Rivers, Wis., a corporation of Wisconsin

Original application Feb. 6, 1958, Ser. No. 713,677, now Patent No. 2,899,772, dated Aug. 18, 1959. Divided and this application Feb. 2, 1959, Ser. No. 790,743

10 Claims. (Cl. 45—131)



1. In drafting board mechanism of the class described, a pair of walls, an outer tube having rotatable bearings in said walls respectively, an inner tube slidable in the outer tube, registering diametrically opposite pairs of holes in said inner and outer tubes, a rod passing through said holes, a screw axially threaded in said outer tube engaging said inner tube, whereby said screw may be turned in one direction to move the inner tube with respect to the outer tube to place the holes of the pairs of the holes respectively out of register to grip said rod or the screw may be loosened to permit said holes of the pairs of holes to register under the influence of said rod to permit sliding movement of the rod with respect to the tube.

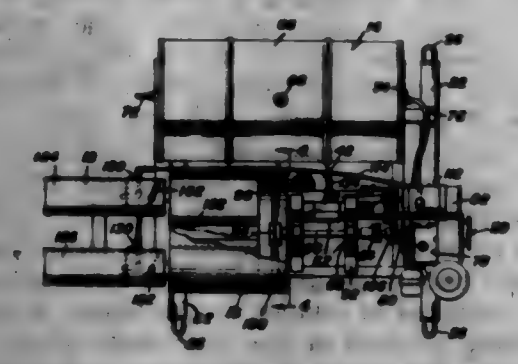
2,972,208

FROST PREVENTER

Howard H. Martin, Rte. 1, Box 251, Waterford, Calif.

Filed Dec. 8, 1958, Ser. No. 778,714

10 Claims. (Cl. 47—3)



1. A portable heated air frost preventer for use in orchards or the like comprising, in combination, a supporting frame, a fan rotatably mounted on said frame for rotation about a horizontal axis, a housing in which said fan is confined for impelling the axial air flow induced by the fan, power means on said frame for driving said fan, a burner assembly mounted on said frame in alignment with but spaced forwardly of the discharge end of the housing, fuel supply means for said burner assembly also mounted on said frame, and means driven by said power means for supplying fuel under pressure to said burner assembly, said burner assembly including at least one open-ended barrel in alignment with said fan housing, a burner nozzle supported in said barrel and directed toward the discharge end thereof, a deflector swirl plate for said burner nozzle for creating a turbulence in the air passing from the housing into the barrel, said swirl plate being fixed in said barrel rearwardly of the tip of said nozzle and a manually adjustable damper for controlling the flow of air, said damper being mounted in the barrel between the swirl plate and the intake end of the barrel, said housing being of a cross-section appreciably greater than the cross-section of said barrel.

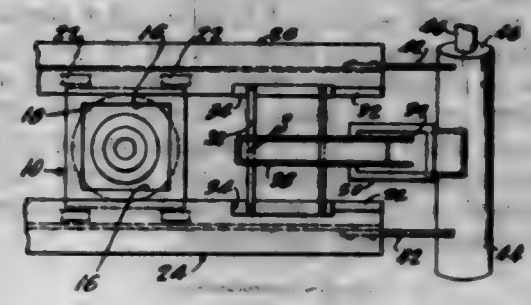
2,972,209

APPARATUS FOR CONTROLLING THE DISTRIBUTION OF MOLTEN MATERIAL

Dale Kleist, St. Lemisville, and Henry J. Snow, Newark, Ohio, assignors to Owens-Corning Fiberglas Corporation, a corporation of Delaware

Filed Dec. 6, 1956, Ser. No. 626,629

1 Claim. (Cl. 49—14)



Apparatus for handling a glass stream flowing from a molten body of glass including, in combination, a frame comprising a pair of spaced parallel members, a rail supported by each of said members, said rails being arranged in horizontal relation in parallelism with said members, a pad slidably supported upon each of said rails, a bar joining said pads, a downwardly inclined elongated chute mounted on said bar and extending generally lengthwise of the members, a downwardly inclined tube supported by the members and extending in a direction normal to the chute, a hollow member joined with and extending laterally from said tube and opening into the tube, means for conveying a stream of water into the upper portion of the tube, said chute being arranged to be telescoped into the hollow member upon movement of the chute toward the hollow member, said pads being slidable lengthwise of said rails to position the chute in the path of the glass stream for diverting the glass through the hollow member into the tube and into contact with water in the tube.

2,972,210

METHOD AND APPARATUS FOR DRAWING GLASS RIBBON MATERIAL

Arthur Bronne, Lodelinsart, Michel Lambert, Charleroi, Pierre Gilard, Mont-sur-Marchienne, and Rene Van Herck, Zeebrugge, all in Belgium, assignors to Union des Verreries Mecaniques Belges Societe Anonyme, Charleroi, Belgium, a company of Belgium

Filed Feb. 6, 1958, Ser. No. 713,625

Claims priority, application Belgium Feb. 14, 1957

12 Claims. (Cl. 49—17)



1. In the method of vertically drawing a ribbon of glass carrying a stone through an annealing tower, the

steps of retracting progressively prior to passage of said stone normally active mobile rollers from said ribbon in the upper part of said tower, and simultaneously activating normally idle mobile rollers in the lower part of said tower, whereby said normally active mobile rollers are prevented from applying pressure to the locality of the ribbon carrying said stone but sufficient tractive drive is maintained on the ribbon to continue its usual upward movement through said tower.

5. In an apparatus for vertically drawing a ribbon of glass carrying a stone through an annealing tower including normally idle mobile rollers operatively mounted in the lower portion of said tower, normally active mobile rollers operatively mounted in the upper portion of said tower, and a stationary roller cooperatively mounted to form a pair with each said mobile roller between which said ribbon passes, the improvement of retracting means operable to progressively retract said normally active mobile rollers prior to passage of said stone sufficient to permit said stone to pass thereunder free of pressure and activating means to simultaneously activate said normally idle mobile rollers to assure normal upward movement of said ribbon through said tower.

2,972,211

METHOD OF MANUFACTURING A GLASS INSULATOR

Philip E. Jellyman, Eccleston, St. Helens, England, Hamish Fraser Macintosh, Brora, Scotland, and John E. Wilcock, St. Helens, England, assignors to Pilkington Brothers Limited, Liverpool, England, a corporation of Great Britain

Filed June 21, 1955, Ser. No. 516,992
Claims priority, application Great Britain July 26, 1954
1 Claim. (Cl. 49—79)



A method of manufacturing a glass insulator for carrying an electrical power line, which comprises moulding the insulator with a head, a skirt and a radial portion between said head and said skirt having an annular zone near the head of less thickness than that of the ambient glass, equalising the temperature throughout the moulded insulator to a temperature close to the softening point of the glass insulator, and then cooling the insulator from the equalized temperature simultaneously and symmetrically over the whole external and internal surfaces of the insulator with a fluid medium at a gentle rate to toughen the insulator as a whole to a limited degree but to toughen said annular zone to a greater extent due to the greater rate of cooling in said annular zone resulting from its lesser thickness to cause said annular zone to constitute a barrier to the propagation of a fracture in the skirt to the head.

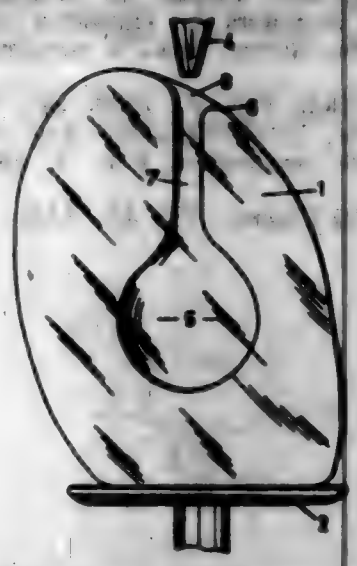
2,972,212

METHOD OF MAKING GLASS HOLLOW WARE

Viktor Emanuel Lindstrand, Kosta, Sweden, assignor to Aktiebolaget Kosta Glasbruk, Kosta, Sweden, a corporation of Sweden

Filed Mar. 11, 1957, Ser. No. 645,076
Claims priority, application Sweden Mar. 13, 1956
3 Claims. (Cl. 49—80)

1. The method of making glass hollow ware which comprises preparing a body of glass in a hot plastic state with an exposed surface which is harder and less plastic than the glass inwardly thereof, forming an opening through said surface, and directing a jet of gas from a nozzle spaced from said body through said opening into said hot plastic body of glass to form a cavity therein



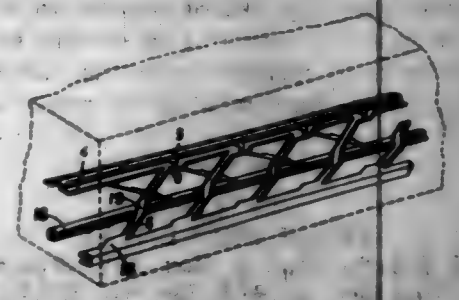
inwardly of said surface while leaving said surface free to expand.

2,972,213

STRIPS OF METAL FOR GIRDERLIKE CONSTRUCTIONAL ELEMENTS

Fritz Grebner, 70 Annabergstrasse, Mainz (Rhine), Germany

Filed Oct. 16, 1957, Ser. No. 690,581
Claims priority, application Germany Apr. 17, 1957
4 Claims. (Cl. 50—486)



1. A self-supporting girder of an integral expanded sheet metal strip comprising a center boom, a pair of coplanar booms in a plane parallel to and spaced from the center boom, the coplanar booms being substantially symmetrically arranged at each side of the center boom, two series of braces integral with the booms and the braces in each series connecting the center boom to a respective one of the coplanar booms, each brace having a cranked portion of greater width than the width of the remainder of the brace intermediate the center boom and the coplanar booms, the braces in one series being longitudinally staggered in relation to the braces in the other series, joining portions of the same width as said braces for connecting the braces to the booms, said joining portions projecting from the booms so that each brace merges into a respective one of said joining portions adjacent the booms, and a laterally extending reinforcing bead in each of the joining portions adjacent the central boom and perpendicular thereto, the beads increasing in width and depth toward the center boom.

2,972,214

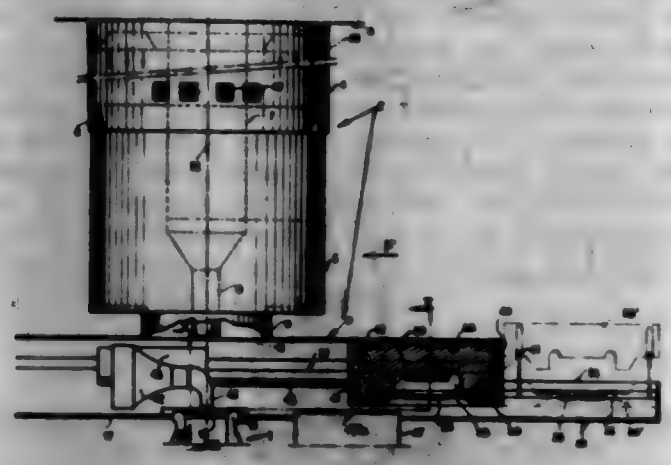
METHOD OF AND MEANS FOR FILLING AND CLOSING BOTTLES AND OTHER CONTAINERS UNDER ASEPTIC CONDITIONS

Guy Marcel Jolin, Amiens, France, assignor to E. P. Remy et Cie., Poissy, Seine-et-Oise, France, a corporation of France

Filed Mar. 13, 1959, Ser. No. 799,139
Claims priority, application France Apr. 23, 1958
27 Claims. (Cl. 53—37)

1. A method of aseptically filling with a sterilized liquid and closing a container comprising the step of associating

said container in a tight manner with a closed space containing slidable and fixed sterilizing means and fed with closing means, the step of injecting into said container a sterile fluid in the form of very fast pulsations by means of said movable sterilizing means while beginning the sterilization of said closing means with sterilizing fluid



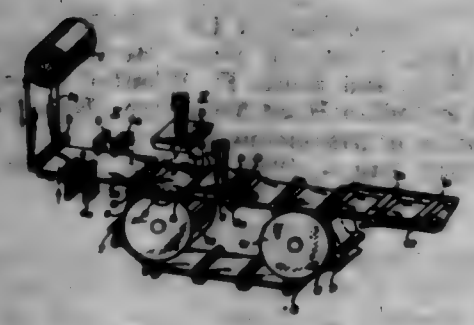
jets delivered by said fixed sterilizing means, the step of filling said container while continuing the sterilization of said closing means, the step of positioning said closing means over the aperture of said container, the step of urging the aperture of said container against said closing means and thereby closing the latter, and the step of removing said closed container.

2,972,215

PACKING APPARATUS

Karl Heinz Danielzig, Darmstadt, and Gunter Neuendorf, Darmstadt-Eberstadt, Germany; said Danielzig assignor to Firma Haben-Werk Wilhelm F. Ott, Darmstadt, Germany

Filed June 13, 1958, Ser. No. 741,884
Claims priority, application Germany June 14, 1957
10 Claims. (Cl. 53—195)



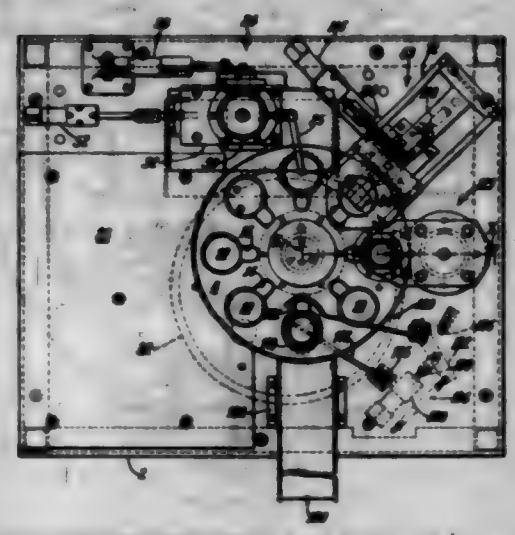
1. Packing apparatus comprising, in combination, supply means for supplying a continuous web; first transporting means for transporting the web along a first path; first folding means for folding transverse folds into the web for forming U-shaped sections having front and rear walls and connected to each other by connecting web sections; second folding means on opposite sides of said first path for folding longitudinal folds into the U-shaped web sections so as to form lateral walls, superimposed folded corner panels, and laterally-projecting longitudinal flanges in the web located in the same plane as the connecting web sections; means for supplying a continuous second web; second transporting means for moving the second web along a second path parallel to said first path so that the second web is placed on said flanges and connecting web sections; sealing means for forming a seal between the second web, and the flanges and connecting web sections; and cutting means for cutting the connecting web sections and the second web along transverse cutting lines whereby separate sealed containers are formed.

2,972,216

CONTAINER FILLING AND SEALING MACHINES

Rudolph Schmidt, Scotch Plains, N.J., assignor to United Shoe Machinery Corporation, Flemington, N.J., a corporation of New Jersey

Filed July 28, 1958, Ser. No. 751,519
8 Claims. (Cl. 53—281)



1. In a machine for filling and sealing containers, a turret having a plurality of cavities formed to receive containers, means for filling a container, means for positioning a cover on the container comprising a pneumatically operated picker having a cover engaging surface; a magazine for holding a stack of covers above said picker, means for rotating the picker about a first horizontal axis from a position where the engaging surface faces the bottommost cover in the magazine to a position where it faces toward a container in the turret, means for pivoting the magazine about a second horizontal axis normal to said first axis toward and away from the picker, means for correlating the movement of the picker and the magazine whereby the magazine moves toward the picker when the picker faces toward the bottommost cover, fluid pressure means associated with the picker for removing the bottommost cover from the magazine by vacuum and depositing it on the container, means for forming a hermetic seal between the cover and the container, and means for removing containers from the turret after they have been filled and sealed.

2,972,217

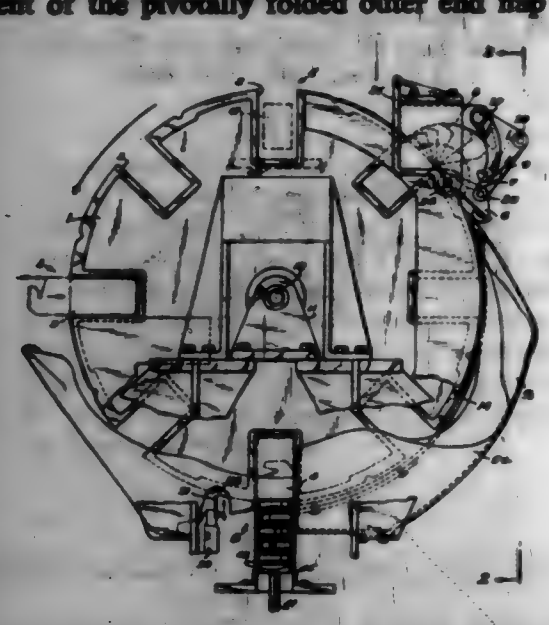
SHOT SHELL PACKING MACHINE

William C. Ashby, Fairfield, Conn., assignor to Remington Arms Company, Inc., Bridgeport, Conn., a corporation of Delaware

Filed Feb. 3, 1958, Ser. No. 712,982
5 Claims. (Cl. 53—374)

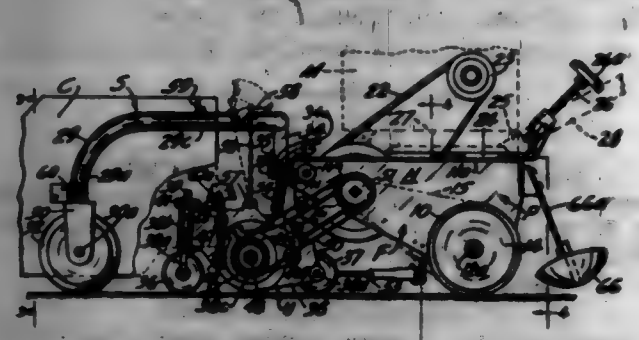
1. Apparatus for closing cartons having, at the open end thereof, two inner interengaging side flaps and an outer end flap with a tuck-in end portion at the end thereof, comprising in combination frame structural means, first movable means mounted on said frame structural means, for supporting and positioning cartons, first fixed guide means mounted adjacent said movable means for pivotally folding the inner side flaps in sequence into overlapping relationship across the end of the carton, said guide means comprising flap manipulating means for distorting one inner side flap in the plane of the flap at an acute angle to the flap hinge to bring the interengaging portion of the flap into alignment with similar interengaging portions of the other side flap and further comprising means releasing the lateral distortion

of the said one inner side flap so that the elastic return of the distorted flap to its normal configuration engages the interengaging portions of the inner side flaps in locking relation, second movable means mounted on said frame structural means for pivotally folding the outer end flap into position across the end of the carton, second guide means cooperating with said preceding second movable means for restraining the longitudinal radial movement of the pivotally folded outer end flap to pro-



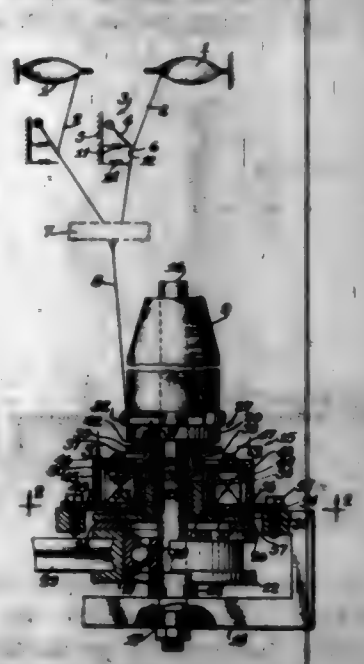
duce a bow in the flap in a direction opposite to the pivotal movement of the said flap, third movable means mounted on said frame structural means for progressively flattening the bowed portion of the outer flap from the hinged end thereof toward the restrained outer end of said flap to help force the said tuck-in tongue end thereof inside the carton edge and crease the hinge fold of said flap to complete the closure, and power drive means engaged with said first, second, and third movable means for timed intermittent actuation thereof.

2,972,218
POWER MOWER WITH FULL FLOATING CUTTING UNIT
Donald Otto Benson, Minneapolis, Minn., assignor to Toro Manufacturing Corporation, Minneapolis, Minn., a corporation of Minnesota
Filed May 23, 1958, Ser. No. 737,266
5 Claims. (Cl. 56—26)



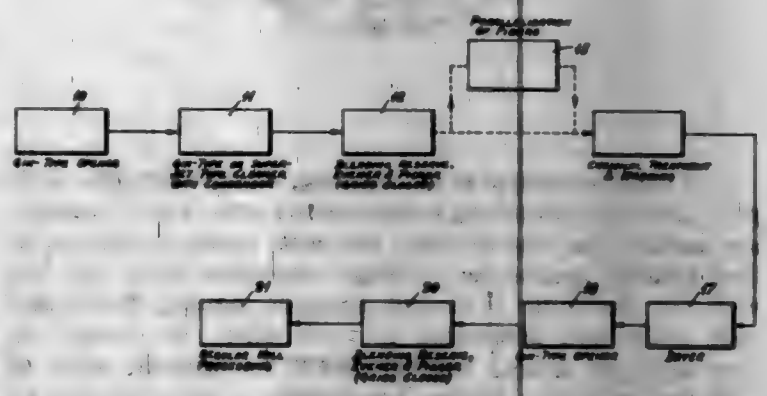
1. A power mower for use on golf-course greens and the like comprising a tractor frame having fore and aft pairs of supporting wheels, said wheels having independent vertical movement relative to each other and a source of power thereon, a mower unit frame mounted intermediate said fore and aft pairs of wheels, said unit frame having a transversely extending cutting element and ground supporting rollers on said unit frame both fore and aft of said cutting element, and a pair of pivoted push rods interconnecting the aft portion of said mower unit frame and the rear portion of the tractor frame, and a flexible drive shaft means interconnecting said cutting element with said source of power.

2,972,219
SPINDLE STOP
Henry Collins, 35 Lyon St., Pawtucket, R.I.
Filed Aug. 14, 1958, Ser. No. 754,957
2 Claims. (Cl. 57—58)



1. A spindle stop comprising a bearing member having an inner race and an outer race, a spindle journalled in a standard and fitted in the inner race, a power driven pulley rotatably mounted on the outer race, a slide member longitudinally slidable on the spindle, means engaging the spindle with the slide member for rotation as a unit, the slide member having a normal position on the spindle in engagement with the pulley for rotation of the spindle with the pulley, a brake member in opposed spaced relation to the pulley, and the slide member having an actuated position on the spindle free of the pulley and in restrained engagement with the brake member whereby rotation of the spindle following freeing of the slide member from the pulley is restrained.

2,972,220
TREATMENT OF FIBERS
James M. Flack, Westford, Mass., Benjamin F. Pulsifer, Nashua, N.H., and James D. Whatley, Cordova, Ala., assignors to Indian Head Mills, Inc., New York, N.Y., a corporation of Massachusetts
Filed Aug. 4, 1955, Ser. No. 526,508
7 Claims. (Cl. 57—156)



6. In the method of preparing a cotton web suitable for drawing and spinning into a thread comprising the steps of opening, cleaning, picking and carding the fibers, the improvement which comprises retaining in the fiber mass the short and the immature fibers normally removed before spinning, compressing said fibers at a stage in the operation subsequent to the cleaning stage in the form of a web between parallel screens to provide surface frictional restraint to prevent normal shrinkage and curling of said fibers during treatment with caustic cellu-

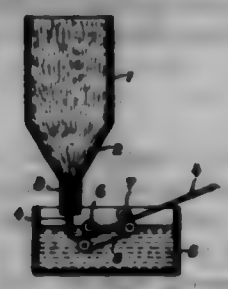
lose swelling agent, treating said compressed web with a strong caustic cellulose swelling agent of sufficient strength to produce chemical swelling thereof at such temperature and for such duration as to swell said fibers without substantial gelatinization thereof, the strength of said agent being sufficient under said conditions of temperature and duration of treatment to produce shrinkage and curling of said fibers in the absence of said frictional restraint, thereby to increase the measured maturity of the finished fiber web, removing said caustic cellulose swelling agent from said fibers while said fibers are still compressed between said screens, removing said fibers from said screens thereby to obtain a web which may be processed into a thread of satisfactory quality containing said short and said immature fibers, orienting the treated fibers in said web for spinning, and spinning said oriented fibers into a thread.

2,972,221

METHOD OF CONVERTING INDIVIDUAL FIBERS INTO COHERENT FIBROUS BODIES

Werner Wilke, Schwabisch Hall, and Hans Fetzer, Sussen, Germany, assignors to Rex Asbestwerke Graf von Rex K.G., Schwabisch Hall, Germany, a German corporation

Filed July 26, 1957, Ser. No. 674,430
Claims priority, application Germany July 31, 1956
16 Claims. (Cl. 57—164)



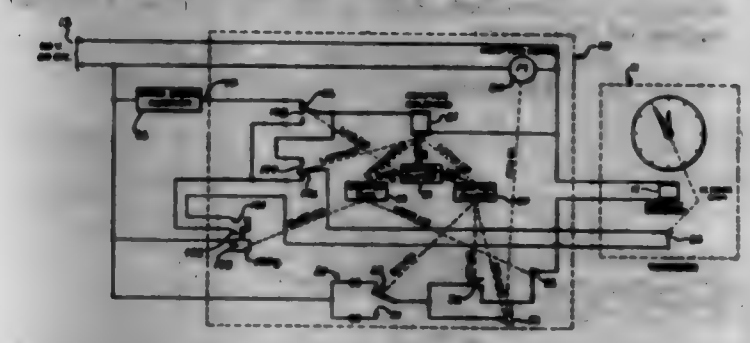
1. A method for producing continuous shapes from non-adhesive fibers all of the same material, comprising the steps of dispersing said fibers in a liquid medium containing a dispersing agent to form a colloidal dispersion, then rendering the dispersing agent inactive so as to precipitate the fibers out from the liquid medium, and simultaneously compacting and extruding the precipitated fibers into a predetermined shape.

2,972,222

ADAPTOR FOR OPERATING D.-C. TIMING DEVICE ON A.-C. SUPPLY LINE

Frederick Q. Rast, New York, N.Y., assignor to General Time Corporation, New York, N.Y., a corporation of Delaware

Filed Apr. 28, 1958, Ser. No. 731,343
19 Claims. (Cl. 58—24)



1. An adaptor for operating, on an A.-C. power system, a D.-C. timing device which includes a timer switch that is operated only when the device indicates a selected time interval, comprising, in combination, a synchronous motor energized from said A.-C. system, a rectifier connected to said A.-C. system for providing a D.-C. source, means operated by said motor for normally transmitting to said device from said D.-C. source a regularly intermittent series of current impulses of desired polarity, receiver means response to respective ones of three sets of coded signal impulses from an external source, means operated by said receiver means when one set of impulses is received for transmitting to said device from said D.-C. source a rapid predetermined series of current impulses of reverse polarity, means operated by said receiver means when a second set of impulses is received and including said timer switch for transmitting to said device from said D.-C. source a rapid unlimited series of current impulses of reversed polarity lasting until said timer switch is no longer operated, and means operated by said receiver means when a third set of impulses is received for preventing further D.-C. current impulses from being transmitted to said device.

ERRATUM

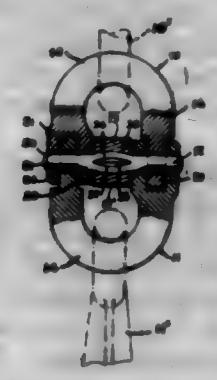
For Class 58—28 see:
Patent No. 2,972,745

2,972,223

JOINER LINK ASSEMBLY

William H. Devonshire, Williamsville, Franz Stone, East Aurora, and Charles J. Mamney, Kenmore, N.Y., assignors to Columbus McKinnon Chain Corporation, Tonawanda, N.Y.

Filed July 18, 1957, Ser. No. 672,626
2 Claims. (Cl. 59—88)



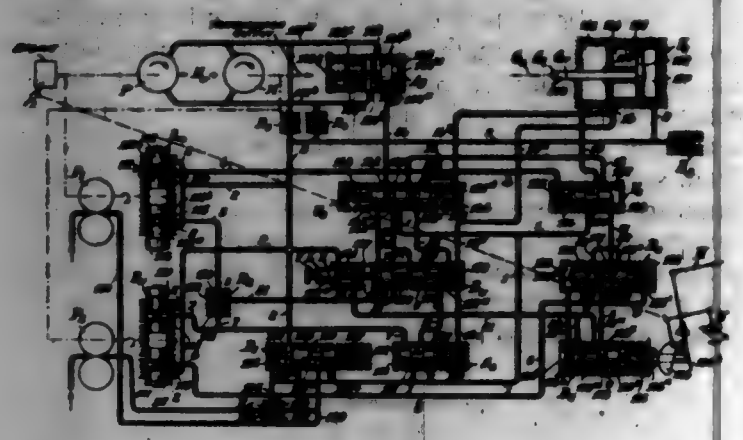
1. In a joiner link assembly, a pair of generally U-shaped half links having interdigitated ends formed with alined bores therethrough, a pin and sleeve assembly for pivotally interlocking said half links, said sleeve bridging said link ends and being formed of a relatively soft material compared to the material of which said pin is formed, said sleeve having a bore extending longitudinally therethrough in alinement with said link end bores, said pin having a longitudinally extending central portion of lesser diameter than said link end bores and of greater diameter than the bore of said sleeve and being of progressively greater diameter toward the center of said central portion, whereby to permit said pin to be driven through said sleeve with the central portion thereof projecting into and interfering with the bore of said sleeve while permitting such interference to be achieved progressively, and said sleeve having a knurled outer surface to absorb the energy of blows thereon in service which otherwise might stretch said sleeve to a point causing said pin to become loosened therefrom.

2,972,224

AUTOMATIC CONTROL SYSTEM, PARTICULARLY FOR HYDROSTATIC TRANSMISSIONS

Hans-Joachim M. Forster, Stuttgart-Bad Cannstatt, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Untertürkheim, Germany

Filed Dec. 17, 1956, Ser. No. 628,736
Claims priority, application Germany Dec. 16, 1955
12 Claims. (Cl. 60—19)



1. In a motor vehicle having an engine provided with engine adjusting means for varying the torque produced by the engine, an automatic control system for a continuously variable transmission, especially for a continuously variable hydrostatic transmission having input means operatively connected with said engine and output means, said control system being operative to vary, at any given setting of said engine adjusting means, the transmission ratio of said transmission and to thereby vary the effective load on the engine to indirectly limit effectively the maximum speed of the engine, comprising transmission actuating means operatively connected with said transmission for shifting the same to vary the transmission ratio thereof and thereby effectively limit the maximum permissible engine speed to a predetermined value, control valve means operatively connected with said engine-torque adjusting means and operative in dependence on the setting of said engine-torque adjusting means, first speed-responsive means operative in response to the speed of said output means, and hydraulic connecting means operatively connecting said control valve means with said transmission actuating means for controlling said transmission actuating means by said control valve means including speed limit means controlling the connection between said control valve means and said actuating means and operatively connected with said first speed-responsive means for influencing the shifting movement of said transmission actuating means in the sense of a decrease in the engine load and therewith in the sense of an increase of said maximum permissible engine speed in dependence on said first speed responsive means upon increase of the speed of said output means, and second speed responsive means operatively connected with said hydraulic control means for effectively influencing the shifting movement of said controlling means in response to the engine speed.

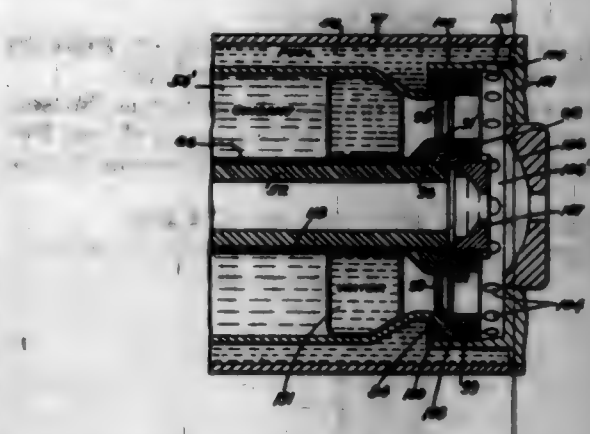
2,972,225

MOTOR MECHANISM FOR MISSILES

James M. Cumming, San Marino, Gail M. Dyer, China Lake, and Wolfgang C. Neupperath, El Monte, Calif.

Filed Dec. 4, 1958, Ser. No. 199,118
10 Claims. (Cl. 60—35.6)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. In a jet engine, the combination of an elongate hollow powder grain, a first annular fluid propellant tank circumjacent said grain, the forward end of said grain communicating with the forward end of said tank, a frangible wall interposed across the communication between said grain and said tank, thereby to contain the propellant within the tank, a housing defining an ignition chamber disposed aft of said grain and communicating therewith, restriction means interposed across the communication between said grain and chamber, said chamber being open at its aft end for the ejection of mixed propellants, the forward end of said housing having a conical portion centered about a central axis passing through said open end, a series of first inlet ports in said conical portion spaced about the chamber annularly with respect to said central axis, a series of second inlet ports spaced about the chamber annularly with respect to said axis and displaced longitudinally toward said open end from said series of first ports, deflecting vanes adjacent said inlet ports slanted circumferentially to impart whirling motion to fluids entering the chamber through said ports, the aft end of said tank communicating with said first inlet ports for injecting first propellant into said chamber, a frangible wall interposed across the communi-



cation between said chamber and said aft end thereby to contain the propellant within the tank, a second annular propellant tank circumjacent said first propellant tank, the forward end of said second tank also communicating with the forward end of said grain, the aft end of said second tank communicating with said second inlet ports for injecting second propellant into said chamber, means for igniting said grain whereby to initiate an ignition flame from said grain substantially axially into said chamber, combustion of said grain simultaneously shattering said frangible walls thereby to eject propellant from the aft ends of said tank into said chamber, the open end of said housing converging toward said axis thereby to direct mixed propellant inwardly toward the ignition flame, and a plurality of baffles secured to the interior of said housing and spaced circumferentially therearound near the open end thereof effective to transmute at least some of the whirling motion of the fluids into turbulence for better mixing of the two propellants.

2,972,226

VARIABLE AREA CONVERGING-DIVERGING NOZZLE

Frederick L. Geary, Springfield, Mass., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed Oct. 6, 1955, Ser. No. 538,873
15 Claims. (Cl. 60—35.6)



1. In combination, a jet exhaust, means for varying the area of said exhaust including sliding flaps forming a convergent section and flaps pivoted thereto forming

a divergent section, said means being movable between a retracted and extended position, means for moving said area varying means, said area varying means forming in its retracted position a divergent extension of said jet exhaust and forming in its extended position a convergent-divergent extension of said jet exhaust.

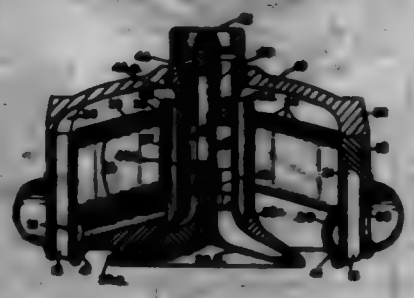
2,972,227
MEANS FOR SUPPLYING A ROCKET MOTOR WITH LIQUID FUEL AND CONCENTRATED HYDROGEN PEROXIDE AS PROPELLANT

Sidney Allen, Coventry, England, assignor, by mesne assignments, to Bristol Siddeley Engines Limited, Bristol, England, a British company

Filed July 3, 1957, Ser. No. 669,897

Claims priority, application Great Britain July 5, 1956

8 Claims. (Cl. 60—35.6)



1. A rocket motor, operating with liquid fuel and concentrated hydrogen peroxide, comprising a casing, a combustion chamber within said casing, an annular catalyst unit within said casing at the upstream end of said combustion chamber, said casing being formed with a cooling jacket, a communication between said cooling jacket and a supply of concentrated hydrogen peroxide, means providing a chamber within said casing upstream of said combustion chamber into an inlet of which chamber said cooling jacket discharges, said chamber having a perforated annular downstream wall, the perforations in said annular downstream wall providing an inlet to said catalyst unit for a small proportion of said concentrated hydrogen peroxide in said chamber, said catalyst unit having an annular outlet leading into said combustion chamber for the said small proportion of concentrated hydrogen peroxide decomposed in said unit, means for delivering the remaining proportion of said concentrated hydrogen peroxide in said chamber to nozzle means downstream of said catalyst unit for spraying said remaining proportion in liquid form into said combustion chamber, and a fuel spray device delivering into the upstream end of said combustion chamber, said nozzle means and said fuel spray device being disposed so as to be separated by the inner and outer peripheries of said annular outlet from said catalyst unit, and said nozzle means and said fuel spray device being adapted to direct their respective sprays towards each other through the decomposed concentrated hydrogen peroxide issuing from said annular outlet.

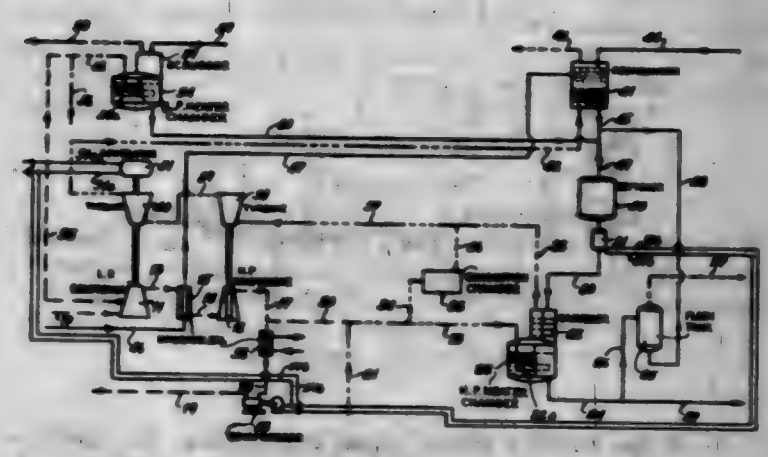
2,972,228
METHOD AND APPARATUS FOR DIRECT CONTACT HEATING OF WATER

William P. Jensen, Cambridge, and Hoyt C. Hottel, Winchester, Mass., assignors to Texas Gulf Sulphur Company, New York, N.Y., a corporation of Texas

Filed Apr. 6, 1953, Ser. No. 347,124

4 Claims. (Cl. 60—39.05)

1. A method of heating water which comprises directing water to be heated into a first heating zone under superatmospheric pressure, directing a combustible mixture of air and fuel under superatmospheric pressure into said first heating zone, burning said combustible mixture in direct submerged contact with water in said first heating zone, directing heated water from said first heating zone, directing water to be heated to a second heating zone, directing a combustible mixture of air and fuel under superatmospheric pressure into said second heating zone, burning said combustible mixture directed into said second heating zone in direct submerged contact with water in said second heating zone, directing water heated in said second heating zone from said second heating zone into said first heating zone under the influence of a pump which maintains said superatmospheric pressure



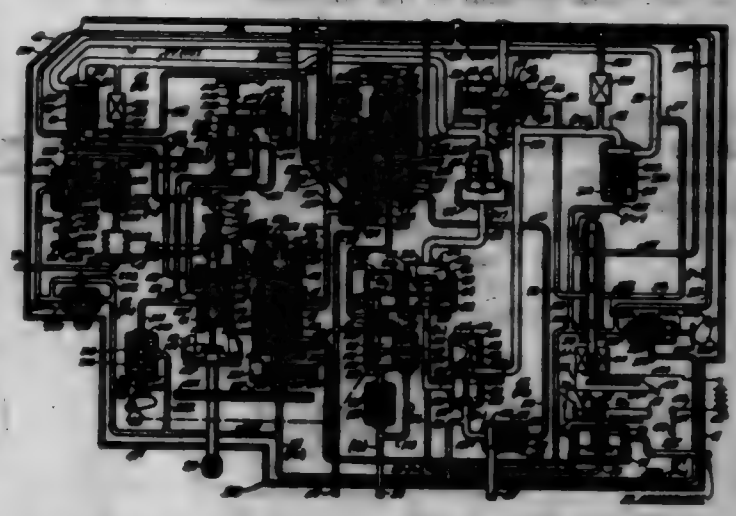
at which said water is directed into said first heating zone substantially higher than the pressure prevailing in said second heating zone, withdrawing products of combustion at superatmospheric temperature and pressure from said first heating zone, and utilizing said products of combustion withdrawn from said first heating zone to compress air comprised in said combustible mixture directed into said first heating zone and in said combustible mixture directed into said second heating zone.

2,972,229
JET ENGINE FUEL CONTROL

Milton E. Chandler, New Britain, and Alexander M. Wright, West Hartford, Conn., assignors, by mesne assignments, to Chandler-Evans Corporation, West Hartford, Conn., a corporation of Delaware

Filed Jan. 11, 1950, Ser. No. 138,056

13 Claims. (Cl. 60—39.28)



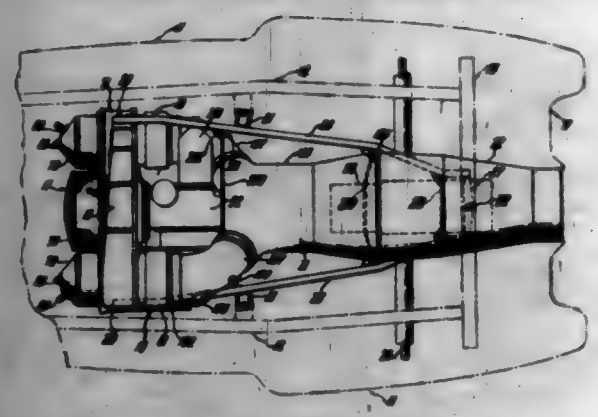
3. A fuel and speed control apparatus, for an aircraft turbojet engine having a combustion chamber with a plurality of fuel burners therein, and a pump for supplying fuel to said burners, comprising: first means, responsive to engine temperature and acceleration which operate to regulate said fuel supply from said pump to said burners so as to insure maximum rates of engine acceleration, without exceeding a selected maximum permissible temperature in said engine, and second means, responsive to engine deceleration and cooperating with said first means, to regulate said fuel supply so as to maintain the minimum fuel flow required to preclude burner blow-out, under maximum engine deceleration conditions.

2,972,230

AUTOMOBILE GAS TURBINE

Emmett D. Conklin, Milford, Eugene E. Flanigan, Detroit, James M. Richetta, Oxford, and William A. Turunen, Birmingham, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Jan. 13, 1954, Ser. No. 403,824
2 Claims. (Cl. 60—39.31)



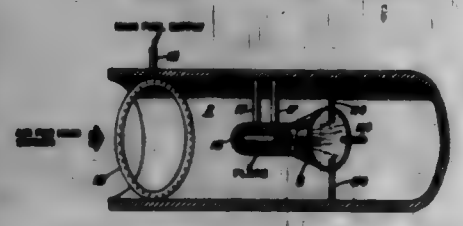
1. A gas turbine power plant comprising, in combination, a frame including side rails extending side by side in spaced relation longitudinally of the power plant; a radial-flow compressor comprising a diffuser case mounted between and fixed to the side rails adjacent one end thereof, the diffuser case having two outlet portions substantially diametrically spaced, one outlet portion overlying one side rail, and the other outlet portion underlying the other side rail; a gas generator turbine structurally connected rigidly to the compressor and drivingly coupled thereto; two combustion chambers extending substantially parallel to the side rails from the said outlet portions to the said turbine, the combustion chambers respectively overlying and underlying the respective side rails; a power turbine coaxial with the gas generator turbine; a power transmission fixed to and supporting the power turbine, the power transmission being mounted on the frame adjacent the end of the frame opposite to the compressor; and a flexible annular combustion products duct connecting the two turbines accommodating expansion and misalignment of the turbines.

2,972,231

ROD-IGNITERS FOR RAMJET BURNERS

James W. Mullen II, Richmond, Va., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Sept. 23, 1954, Ser. No. 458,034
2 Claims. (Cl. 60—39.82)



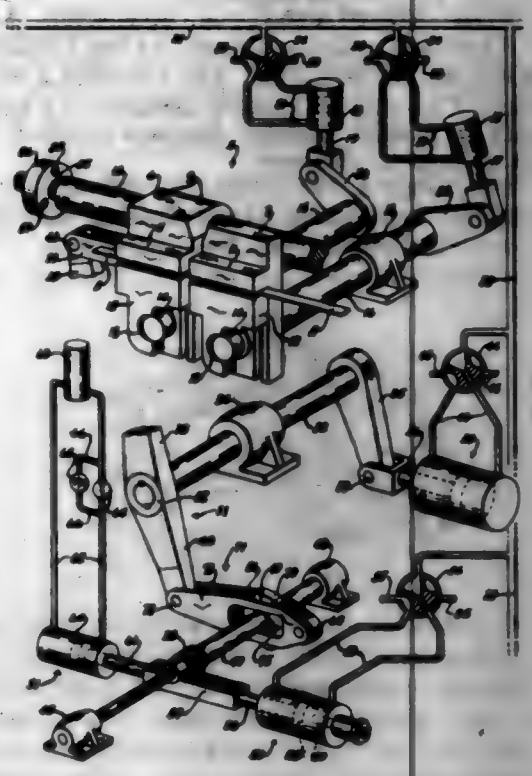
1. A burner assembly comprising a duct, means to supply fuel to said duct, a housing within said duct downstream from said means, said housing being outwardly flared to an opening at its downstream end and being substantially closed at its upstream end, means producing a pilot flame within said housing, and a plurality of substantially radially extending rods connecting the said downstream end of the housing to the inner wall of said duct, and located substantially in the plane of said downstream end out of the path of the pilot flame and in the path of a combustible stream moving downstream in the duct for producing expanded flame fronts and smooth, even burning of the combustible stream.

2,972,232

WELDING APPARATUS FOR BAND SAW BLADES

Zinon C. Pozzi, Minneapolis, Minn., James S. Kuwabara, Chicago, Ill., and Eugene N. Cooney, Minneapolis, Minn., assignors to Continental Machines, Inc., Savage, Minn., a corporation of Minnesota

Filed Feb. 4, 1959, Ser. No. 791,869
6 Claims. (Cl. 60—97)



1. Mechanism to effect controlled approach of the work holding devices of a butt welding machine comprising: a fluid motor having an actuator drivingly connected with one of the work holding devices to drive the same towards the other during work performing motion of the actuator; cooperating relatively movable members serving as an overcenter mechanism for governing the rate of work performing movement of the actuator, said members being relatively movable rapidly from one positional relationship to another as a consequence of slow relative movement of two of said members in a direction to bring a point on one of them to and through a dead center relationship of the mechanism, one of said two members being a cam having a gradually descending gradient and an abrupt declivity at the low end of the gradient, the low end of the gradient being said point, the other of said two members being a cam follower riding on the cam down said gradient and into the declivity during movement of the cam in one direction, and a third one of said members tractively connecting one of said two members with the actuator; means providing a support for the other of said two members, said support being fixed with respect to the fluid motor; power means connected with said overcenter mechanism to effect slow relative movement of said two members in said direction; the overcenter mechanism being so related to said support and the actuator that the work performing force applied to the actuator biases the cam and cam follower into engagement with one another to thereby resist and control work performing movement of the actuator in accordance with the shape of the cam and rate of relative movement between the cam and the follower, the work performing force applied to the actuator maintaining said relatively movable members in said one positional relationship as long as the locus of engagement between the cam follower and the cam is moving towards dead center, and at the instant said point moves into and through dead center, said force effecting substantially instantaneous relative movement between the cam and the cam follower an extent sufficient to allow sudden entry of the cam follower

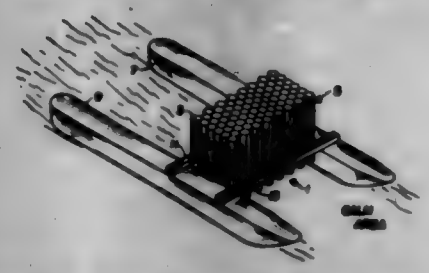
into the declivity of the cam, to thereby substantially instantaneously free the actuator for unrestricted work performing motion.

2,972,233

WAVE BREAKING DEVICE

Robert J. Ashevold, Crystal Lake, Ill., assignor to The Pure Oil Company, Chicago, Ill., a corporation of Ohio

Filed June 11, 1957, Ser. No. 665,088
8 Claims. (Cl. 61—5)



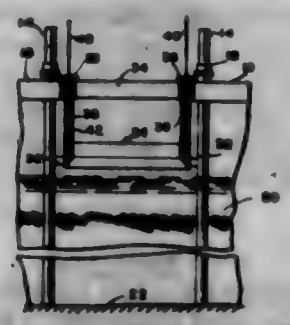
1. A wave-breaking device comprising a plurality of conduits secured together as a bundle, means for supporting said conduit bundle over the water with the conduits extending vertically and with the lower ends of the conduits at about the calm water level so that water from the crest of waves passing thereunder flows upward into said conduits, and upwardly-acting check valves at the upper ends of said conduits, providing quick venting of air therefrom and restricting backflow of air, to retard the discharge of water from said conduits and reduce substantially the height of waves passing through the device.

2,972,234

METHOD OF CONSTRUCTING AND SETTING A CAISSON FOR A BRIDGE PIER OR LIKE SUPPORT

George E. Suderow, New York, N.Y., assignor to Delong Corporation, New York, N.Y., a corporation of Delaware

Filed Oct. 17, 1958, Ser. No. 767,951
12 Claims. (Cl. 61—52)



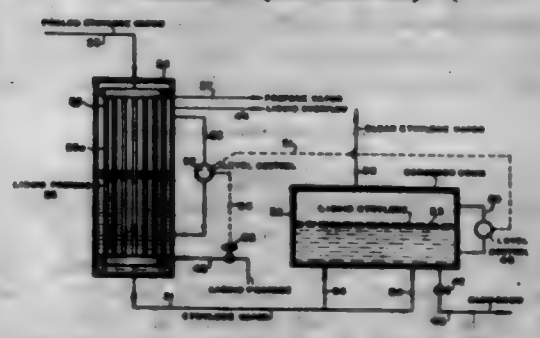
1. The method of constructing and setting a caisson for a bridge pier or the like, the steps comprising: floating to a setting site buoyant platform-like body means equipped with vertically movable supporting legs and power operated means for selectively effecting or restraining relative vertical movement in either direction between the legs and the body means in order to lift or lower the legs relative to the body means when the latter is afloat or lift or lower the body means on the legs when the latter are engaged with the marine bottom; moving the legs down into engagement with the marine bottom; positioning adjacent the body means a hollow closed-bottom open-top form for casting the bottom section of a caisson; securing the form to the adjacent supporting legs of the body means below the latter to support the form on such legs; fitting to the upper end of the bottom section form a slip form for casting the caisson upper sections and securing the slip form to the body means to support it thereon; pouring concrete into the forms to cast the lower portion of a caisson that is supported on the adjacent legs; raising the slip form by raising the body means on its legs a limited distance so that the open bottom of the slip form remains closed by the cast section; continuing to pour concrete into the slip form and raise it a limited distance to thus cast additional upper sections of the caisson and increase its height by slip-casting until such height is greater than the water depth at the site; securing the cast caisson to the body means to support it thereon and then detaching the bottom section form from the adjacent legs; lowering the body means, together with the cast caisson, on the legs until the cast caisson engages the marine bottom; and detaching the caisson from the body means so that the caisson is supported on the marine bottom.

2,972,235

PURIFICATION OF REFRIGERANT

Buford Don Smith, West Lafayette, Ind., assignor, by mesne assignments, to Esso Research and Engineering Company, Elizabeth, N.J., a corporation of Delaware

Filed Dec. 5, 1958, Ser. No. 778,524
6 Claims. (Cl. 62—84)



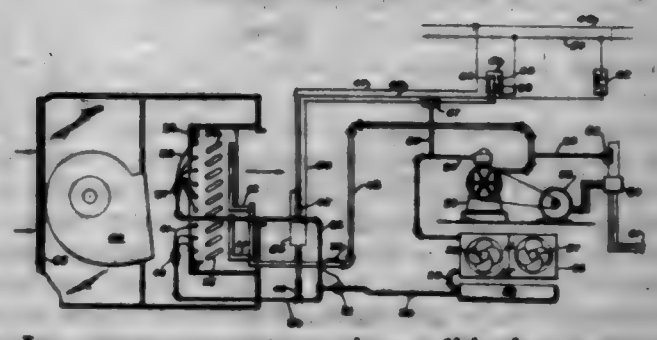
1. A method for purifying a fouled refrigerant containing lubricating oil and water which comprises chilling the fouled refrigerant to its dew point, flowing a vaporous stream of said chilled fouled refrigerant into a scrubbing and condensing zone under conditions to form a liquid body of said chilled fouled refrigerant and simultaneously, contacting said vaporous stream with said liquid body and thereby purifying said chilled fouled refrigerant by scrubbing lubricating oil and water therefrom, recovering purified vapors of said refrigerant from said liquid body, and discarding and reforming periodically said liquid body.

2,972,236

MEANS FOR AND METHOD OF HEAD PRESSURE CONTROL IN A COMPRESSOR TYPE HEAT EXCHANGE SYSTEM

Otto J. Nussbaum, Trenton, N.J., assignor to Kramer Trenton Company, Trenton, N.J., a corporation of New Jersey

Filed May 20, 1955, Ser. No. 509,908
2 Claims. (Cl. 62—176)



1. In a compressor type air conditioning system including compressor, evaporator, and condenser, means for controlling the head pressure of the system by regulating the rate of refrigerant loading of the condenser and for adjusting the temperature and humidity of the space being conditioned, said means comprising, a plurality of circuits in the evaporator, means for supplying condensed refrigerant separately to the said circuits, means governed by the high side pressure of the system for restraining the flow of refrigerant to at least one of the evaporator cir-

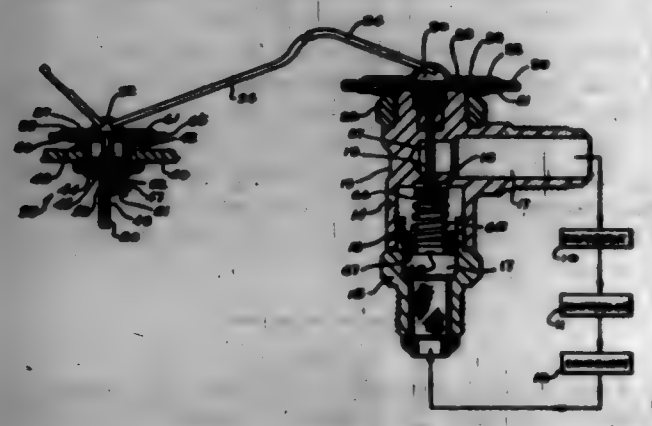
cuits, means governed by the temperature in the space being conditioned for restraining the flow of refrigerant to all the evaporator circuits, and means governed by the humidity in the space being conditioned for permitting the flow of refrigerant to at least one of the evaporator circuits regardless of the temperature in the space being conditioned, the said means for supplying condensed refrigerant separately to the evaporator circuits including valves for controlling the flow of refrigerant to all the said circuits, the means governed by the high side pressure of the system for restraining the flow of refrigerant to at least one of the evaporator circuits including a pressure device responsive to high side pressure of the system for controlling one of the said valves, the means governed by the temperature in the space being conditioned for restraining the flow of refrigerant to all the evaporator circuits including a temperature actuated device responsive to the said temperature for controlling all the said valves, and the means governed by the humidity in the space being conditioned for permitting the flow of refrigerant to at least one of the evaporator circuits regardless of the temperature in the said space including a humidity actuated device responsive to humidity in the said space for controlling one of the valves.

2,972,237

REFRIGERANT EXPANSION VALVE AND CONTROL UNIT THEREFOR

Franklyn Young Carter, Dearborn, Mich., assignor to American Radiator & Standard Sanitary Corporation, New York, N.Y., a corporation of Delaware

Filed July 2, 1958, Ser. No. 746,124
1 Claim. (Cl. 62—211)



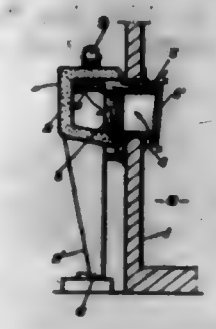
In a refrigerating system having a condenser and an evaporator, an expansion valve having a flow passage therethrough for receiving refrigerant from the condenser and discharging it to the evaporator; a flow-throttling element in the valve controlling flow of refrigerant through said passage; a closed fluid pressure transmitting system including a structure defining a first variable volume pressure chamber on the valve, a second variable volume pressure chamber remote from the first pressure chamber, and a conduit interconnecting the two pressure chambers; a non-volatile fluid filling the two pressure chambers and conduit; manually adjustable thrust means operable to vary the pressure within the second pressure chamber for inducing a flow of fluid through said conduit to thereby vary the pressure within the first pressure chamber; a thrust connection between a wall of the first pressure chamber and flow throttling element; a first annular support element for locating the second pressure chamber; and a second internally threaded annular support element rotatably adjustable within the first annular element; the aforementioned thrust connection comprising a screw meshed with the support element threads and a resilient plug extending transversely within the screw in frictional engagement with the support element threads to exert a force against screw rotation.

2,972,238

COMBINED REFRIGERATING AND DEFROSTING SYSTEM

Federico Richelli, Milan, and Alfredo Wiesner, Rome, Italy, assignors to A.I.F.E.L.-Apparecchiature Industriali Frigorifere e Lattiere Societa per Azioni, Rome, Italy

Filed Jan. 27, 1958, Ser. No. 711,404
Claims priority, application Italy Jan. 26, 1957
4 Claims. (Cl. 62—262)



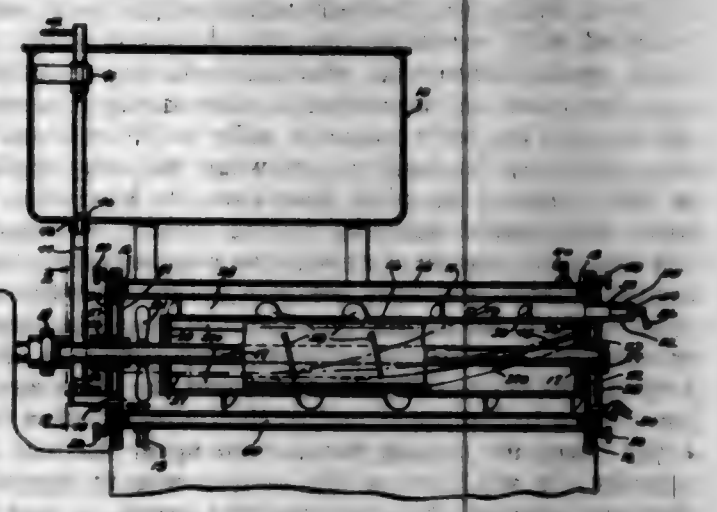
1. A combined refrigerating and defrosting system comprising a refrigerated room having a wall formed with a window; a hollow casing externally adjacent said wall and having an open side facing said window; an extension connected to said casing and projecting through the window and into said room, the length of said extension being such as to permit movements of the casing between a first position in which the casing abuts said wall and a second position in which the casing is spaced from said wall, the configuration of said casing being such as to seal the window from outside when moved into said first position whereby its interior communicates with the interior of the room through said open side and said window and, the casing forming with said wall at least one passage connecting its interior with the surrounding atmosphere through said open side when the casing is in said second position; an evaporator in said casing for cooling the interior of said room when the casing is in said first position and defrostable by atmospheric air when the casing is in said second position; and a stopper plate connected to said extension in said room and spaced from said window when the casing is in said first position to form with the wall at least one air passage between said room and said evaporator by way of said window and said open side whereby the evaporator cools the interior of said room, and the plate abutting said wall to seal the window from the interior of said room when the casing is moved into said second position.

2,972,239

FREEZERS AND DISPENSERS

Oscar A. Vasby, 315 Linden St., Fort Atkinson, Wis.

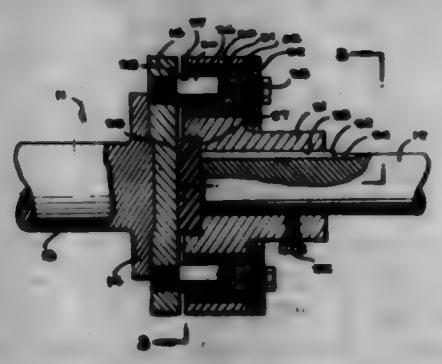
Filed Nov. 12, 1957, Ser. No. 695,950
8 Claims. (Cl. 62—342)



3. In a device of the character described a cylindrical refrigerated treatment chamber having an inlet end and

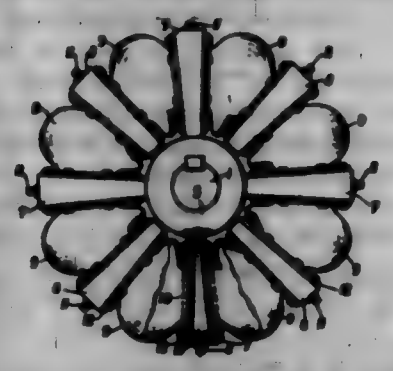
an outlet end to close said chamber, said chamber being provided at its inlet end with means for feeding liquid material to be treated and air into said chamber below the axis of the chamber, a dasher mounted for movement in the chamber and shaped to advance congealed refrigerated material toward the outlet end, and outlet means for delivery of congealed refrigerated material at the delivery end positioned above said axis.

2,972,240
MARINE COUPLING
George R. Wood, Sr., P.O. Box 141, Fairhope, Ala.
Filed Nov. 6, 1959, Ser. No. 851,314
3 Claims. (Cl. 64—10)



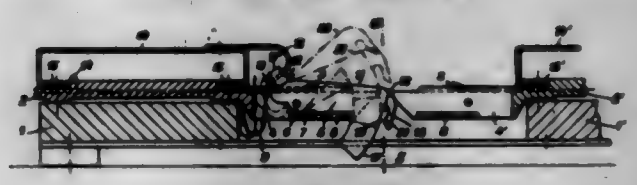
1. A shaft coupling assembly of the character described comprising a driving shaft member, a first coupling plate secured to said driving shaft member, a driven shaft member axially aligned with said driving shaft member, a second coupling plate secured to said driven shaft member adjacent and parallel to said first coupling plate, a pad element of resilient deformable material interposed between said coupling plates, a plurality of coupling pins rigidly secured to the outer marginal portions of said first coupling plate and extending through the outer marginal portions of said second coupling plate, an annular retaining plate surrounding said driven shaft member with the second coupling plate disposed between said retaining plate and the first coupling plate, the inner peripheral edge of said retaining plate being spaced outwardly from said driven shaft member sufficiently to allow substantial angling of said driven shaft member with respect to said driving shaft member, means securing said retaining plate to the ends of the coupling pins, and deformable resilient cushioning sleeves surrounding said coupling pins and cushioning said coupling pins with respect to said second coupling plate.

2,972,241
FLEXIBLE COUPLINGS FOR SHAFTS
Bernhard Hackforth, Heerstrasse 52–58, Wanne-Eickel, Germany
Filed Feb. 24, 1959, Ser. No. 795,082
Claims priority, application Germany Feb. 25, 1958
7 Claims. (Cl. 64—26)



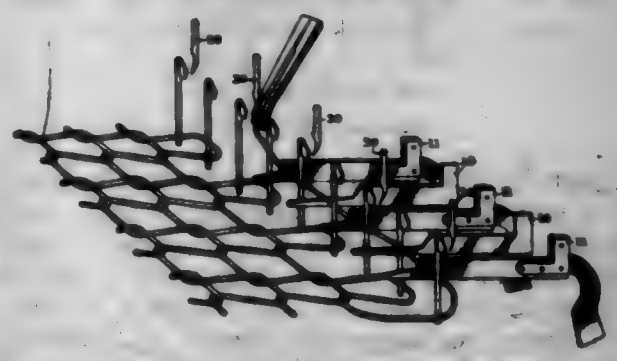
1. Elastic coupling for shafts and the like, comprising two coupling halves, each secured to the end of each of two shafts to be coupled, each coupling half provided with a plurality of hollow arms which form chambers and are distributed in star-shape around the axis of the shafts and alternating with the arms of its companion half, coupling elements of elastically yieldable and flexible fabric secured to the surfaces of each two arms of different coupling halves, said surfaces facing one another, said elements forming flat compressible hollow bodies inflatable in all directions having thin walls filled with gaseous medium, and means for adjusting the pressure of the gas medium.

2,972,242
KNITTING MACHINE
Franz Eberl, Kornmühlstrasse 4, Gmunden, Upper Austria, Austria
Filed Apr. 21, 1958, Ser. No. 729,796
Claims priority, application Austria May 8, 1957
2 Claims. (Cl. 66—64)



1. A knitting machine which comprises two opposed, elongated needle beds extending generally in a horizontal plane, two interleaved sets of latch needles, the needles of each set being guided along parallel paths in a respective one of said needle beds, said sets of needles being provided with thread-engaging means, a single row of sinkers disposed between said latch needles for movement in a vertical plane, each of said sinkers being formed with a hook and with two opposed edges defining a slot for receiving behind said hook a thread about to be engaged by said needles, and carriage means mounted on said needle beds for movement thereon transversely to the directions of movement of said needles and sinkers, said carriage means being adapted to engage and operate said needles and sinkers to form said thread into stitches, said sinkers being adapted to straddle said thread with said two opposed edges during the formation of said stitches.

2,972,243
AUTOMATIC KNITTING MACHINE
Raymond J. Good, Philadelphia, Pa., assignor to Fred C. Good & Sons, Inc., Philadelphia, Pa., a corporation of Pennsylvania
Filed Jan. 7, 1958, Ser. No. 707,539
4 Claims. (Cl. 66—82)



1. In combination with a flat bed, full fashion knitting machine, which machine includes a needle bar, a plurality of needles carried by the needle bar, a narrowing mechanism, a cam shaft, and cam means on the cam shaft for actuating the narrowing mechanism, a plurality of knockover bits and means for actuating said knockover bits, and a plurality of sinkers and dividers and means for actuating said sinkers and dividers; a point bar supported by said narrowing mechanism, coextensive in length with said needle bar, having a plurality of points thereon equal in number to one half the number

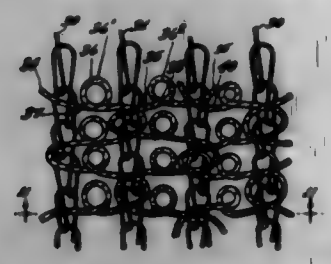
of needles, mutually spaced a distance corresponding to two needle spacings and positioned to cooperate respectively with alternate needles; additional cam means carried by said cam shaft and operative to move said point bar to cause said points to close the beards on said alternate needles during the knitting of each successive course; and means to inactivate said point bar; whereby the machine may knit selectively full or one half gauge fabric depending on the use or non-use of the point bar during the knitting cycle.

2,972,244

METHOD FOR MAKING NONDIRECTIONAL WARP KNITTED PILE FABRIC

Rex S. MacCaffray, Jr., Boiling Springs, Pa., assignor to C. H. Masland & Sons, Carlisle, Pa., a corporation of Pennsylvania

Filed Sept. 17, 1957, Ser. No. 684,587
7 Claims. (Cl. 66—85)



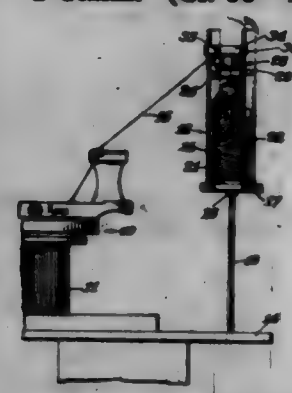
1. The method of warp knitting, which comprises forming pile loops around pile forming elements by shogging two pile yarn guide bars opposite to each other and wrapping the pile yarn oppositely around said pile forming elements in forming said pile loops, laying-in backing yarn, securing the laid-in yarn by knitting stitches to form a backing, and binding the pile loops by binding the pile yarn to the backing by said stitches.

2,972,245

YARN COMPENSATOR

Raymond P. York, 619 Martha St., and Orin R. York, 2193 English St., both of High Point, N.C.

Filed Aug. 2, 1957, Ser. No. 675,923
1 Claim. (Cl. 66—146)



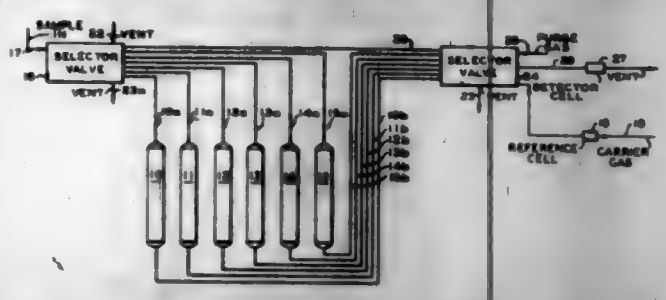
A yarn feed controlling device for use in combination with a knitting machine comprising a U-shaped frame, a stanchion for supporting said U-shaped frame on a knitting machine, means for supporting a yarn package on the U-shaped frame, a shaft reaching across the U-shaped frame and supported thereon, a cylindrical roller having a peripheral surface for resisting yarn slippage rotatably mounted on the shaft, a pair of vertically spaced apart bars reaching across the U-shaped frame and supported thereon, one of said bars being secured below the roller and having a yarn guide mounted thereon to position a yarn being removed from the yarn package onto the roller intermediae the roller length, the other of said bars being secured above said other bar and having a yarn guide mounted thereon laterally spaced from said other guide to receive yarn leaving the roller after forming a least one yarn convolution about the roller, and a resilient adjustable member mounted on the U-shaped frame engaging the roller for controlling the free rotation thereof as yarn is removed from the yarn package and passes around the roller.

2,972,246

CHROMATOGRAPHIC ANALYZER

Marvin E. Reinecke and Emmerich Guenther, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

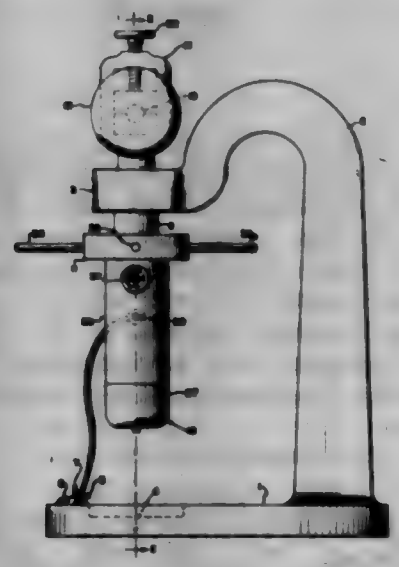
Filed May 19, 1958, Ser. No. 736,297
7 Claims. (Cl. 73—23)



1. Apparatus for analyzing fluid mixtures comprising a plurality of columns filled with material which selectively retards passage therethrough of the constituents of a fluid mixture to be analyzed, first conduit means to introduce a fluid stream to be analyzed, second conduit means to introduce a carrier gas, third conduit means to introduce a purge gas, a first stationary plate, a second plate, means retaining the face of said first plate in engagement with the face of said second plate, a third stationary plate, a fourth plate, means retaining the face of said third plate in engagement with the face of said fourth plate, said first plate having a first passage therein which communicates between said first conduit means and a first point at the face of said first plate, said first plate having a plurality of second passages therein which communicate between respective first ends of said columns and respective second points at the face of said first plate, fourth conduit means extending between said first and third plates, said first plate having a third passage therein which communicates between said fourth conduit means and a third point at the face of said first plate, said first plate having a fourth passage therein which communicates between a fourth point exterior of said first plate and a fifth point at the face of said first plate, said first plate having a fifth passage therein which communicates between a sixth point exterior of said first plate and a seventh point at the face of said first plate, said third plate having a sixth passage therein which communicates between said third conduit means and an eighth point at the face of said third plate, said third plate having a plurality of seventh passages therein which communicate between respective second ends of said columns and respective ninth points at the face of said third plate, said third plate having an eighth passage therein which communicates between said fourth conduit means and said second conduit means, said third plate having a ninth passage therein which communicates between said fourth conduit means and a tenth point at the face of said third plate, said third plate having a tenth passage therein which communicates between an eleventh point exterior of said third plate and a twelfth point at the face of said third plate, said first to twelfth points being spaced from one another, means to rotate said second and fourth plates in unison so that the faces of said first and second plates remain in engagement with one another and the faces of said third and fourth plates remain in engagement with one another, said second plate having a first recess thereing so that said first point is connected alternately to said seventh point and to said second points in sequence during said rotation, said second plate having a second recess therein so that said fifth point is connected to all of said

second points except the one which is connected to said first point through said first recess, said first plate having a third recess therein so that said third point is connected to said second points in sequence during said rotation, said fourth plate having a fourth recess therein so that said eighth point is connected in sequence to all but one of said ninth points, said fourth plate having a fifth recess therein so that said tenth point is connected to said twelfth point alternately and to said ninth points in sequence, and means to measure a property of the effluent removed through said tenth passage which is representative of the composition of said effluent.

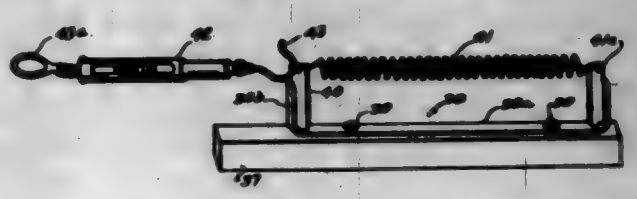
2,972,247
DEVICE FOR TESTING FLASH EXPLOSIVES
Charles J. Zablocki, Silver Spring, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed July 24, 1952, Ser. No. 300,796
5 Claims. (Cl. 73—35)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. In a device of the class described, a base, a member integral with said base and extending upwardly therefrom, a block mounted on said member, means for supporting gas bottles mounted on the upper surface of said block, means for supporting a firing chamber disposed on the lower surface of said block, a removable hollow cylinder supported by said last-named means and forming a firing chamber adapted to contain a detonator to be tested, said hollow cylinder being formed in upper and lower sections, a T shaped port within said block in communication with said gas bottle supporting means and said hollow cylinder and having valve means associated therewith for supplying an explosive gas mixture to said firing chamber, and means mounted within the upper section of said hollow cylinder for firing said gas mixture; whereby the temperature sensitivity of the detonator which is disposed within the lower section of said cylinder may be determined.

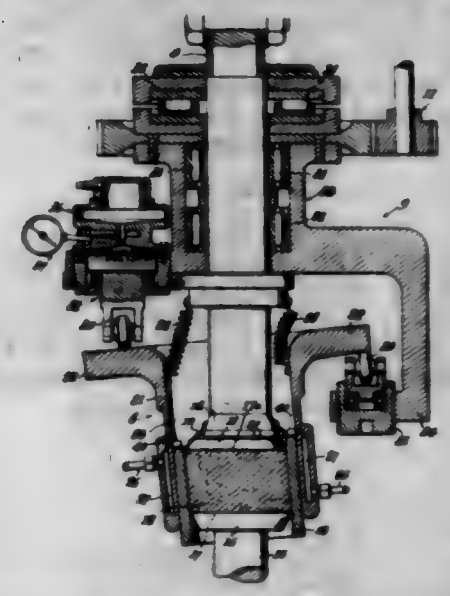
2,972,248
METHOD AND APPARATUS FOR MEASURING CORROSION RATES
Carl W. Gerhardt, 2945 Dryden Road, Dayton, Ohio
Filed June 9, 1955, Ser. No. 514,408
3 Claims. (Cl. 73—86)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A corrosion rate measuring apparatus comprising a base, a first support member extending from said base, a second support member spaced from and opposed to said first member and extending from said base, said support members being adapted to receive a corrodible helical spring stretched therebetween, said spring being made of such material that it will lose measureable tensile strength with time when placed in a corrosive environment, and calibrated means arranged to stretch



said spring to the same length as said spring is stretched between said supports, whereby periodic readings may be made to determine the extent of corrosion of the corrodible spring.

2,972,249
KNEADER COMPACTOR
John L. McRae, Box 631, and Joseph P. Wislocki, 110 Evelyn St., both of Vicksburg, Miss.
Filed Feb. 20, 1958, Ser. No. 716,515
5 Claims. (Cl. 73—88)
(Granted under Title 35, U.S. Code (1952), sec. 266)

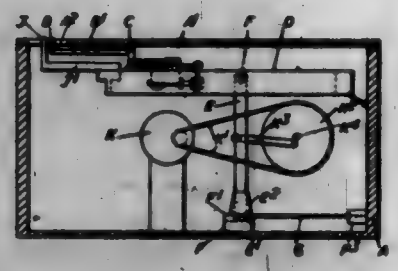


1. A compaction machine comprising open-ended material-confining means having a central axis, compression means for subjecting material within the material-confining means to static compressive stress along said central axis, said compression means terminating in material-contacting means for retaining material within the open-ended material-confining means while permitting universal movement of said material-confining means with respect to said compression means and said material-contacting means, and tiltable casing means including drive means therefor, said drive means including rotating camming means bearing on and rotating about said casing means imparting a gyratory motion to said casing means relaive to said central axis, said tiltable casing means surrounding and contacting said material-confining means for imparting the gyratory motion about said central axis of material in said material-confining means caused by the rotational camming of said casing means so as to apply distortional stresses to the material in addition to said static axial compressive stress.

2,972,250
SURFACE TESTING APPARATUS
Richard Edmund Reason, Leicester, England, assignor to Taylor, Taylor & Hobson Limited, Leicester, England, a company of Great Britain
Filed June 16, 1958, Ser. No. 742,415
Claims priority, application Great Britain June 17, 1957
20 Claims. (Cl. 73—105)

1. Apparatus for measuring or indicating the roughness or undulations of a surface, comprising a stylus, means

for urging the stylus into engagement with the surface to be tested, a pick-up head, means affording a datum for working movements of the stylus approximately normal to the test surface, means for driving the pick-up head, means for transmitting the movement of the pick-up head to the stylus to cause the stylus to be traversed across the test surface, a detector device, clamping means, two normally operative connections respectively between the stylus and the detector device and between the detector device and



the pick-up head, at least one of such connections including a coupling rendered effective and ineffective in accordance with operation of the clamping means respectively to cause the detector device to be rendered responsive and effectively unresponsive to the working movements of the stylus, and an instrument operated by the detector device in accordance with the working movements of the stylus during traversing to provide the desired indication or measurement.

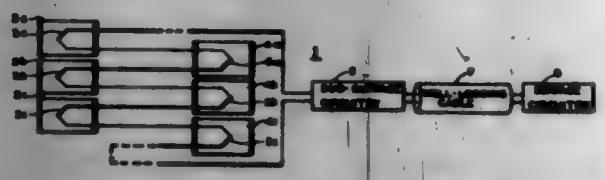
2,972,251

METHOD AND APPARATUS FOR INFRARED DETECTION OF SUBSURFACE HYDROCARBONS

Elton Floyd Neil Harper, Tulsa, Okla., assignor to Well Surveys, Incorporated, a corporation of Delaware

Filed Mar. 29, 1957, Ser. No. 649,330

8 Claims. (Cl. 73—154)



1. In a system for selectively identifying hydrocarbon deposits in subsurface formations traversed by a borehole by their characteristic infrared radiations, a first group of samples capable of resonating with said infrared radiations, a second group of samples less capable of resonating with said infrarad radiations than said first group of samples, means for detecting the temperature differential between said first and second groups of samples and providing an electrical signal in response thereto, means for supporting and enclosing said first and second group of samples and said temperature differential detecting means, means for displacing said supporting and enclosing means along the length of the borehole, means for modifying said electrical signal, and means for recording said modified electrical signal.

2,972,252

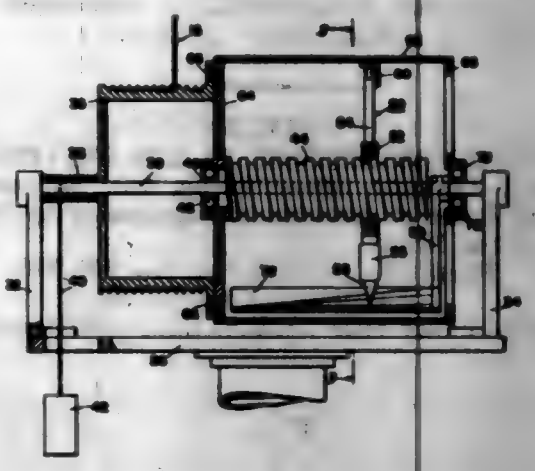
TEMPERATURE CORRECTED GAUGE

Harold A. Quist, Swarthmore, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

Filed Dec. 5, 1957, Ser. No. 700,787

3 Claims. (Cl. 73—321)

1. Apparatus for gauging the quantity of liquid in a storage tank comprising in combination a float, a support externally of the tank positioned at convenient reading height, a bracket on said support positioning a horizontally disposed fixed axis, a rotatable transparent cylinder concentrically disposed about said axis, a spirally grooved drum concentrically disposed within the transparent cylinder and rotatable therewith, a gauge pointer adapted to engage the spirally grooved drum for longitudinal movement thereon, said pointer being provided with means for preventing the same from rotating with said drum; a flexible cable extending from the float to the rotatable cylinder and drum, means connecting the cable with the cylinder and drum, means to counter-



rotate said cylinder and drum to keep the float connecting cable taut, and a fixed arcuate temperature correction scale positioned within said cylinder for cooperation with the movable gauge pointer and of a length in the longitudinal direction commensurate with the maximum amount of movement of said pointer, said pointer being manually movable in an arcuate direction with respect to said scale for indicating the correction to be made for variation in liquid volume effected by temperatures.

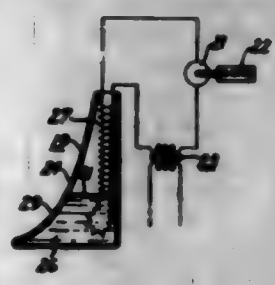
2,972,253

ELECTRICAL APPARATUS LIFE INDICATOR

Robert B. Benson, West Allis, Wis., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.

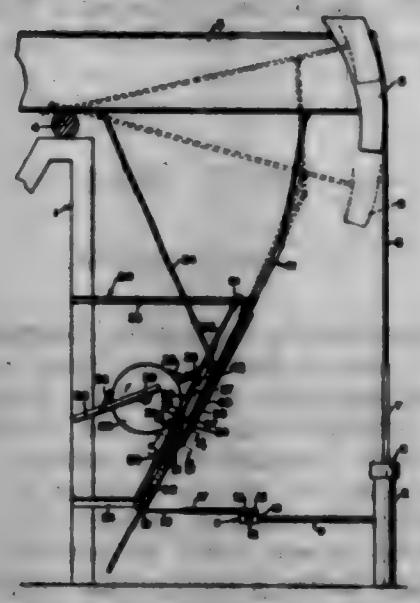
Filed Mar. 24, 1958, Ser. No. 723,216

5 Claims. (Cl. 73—359)



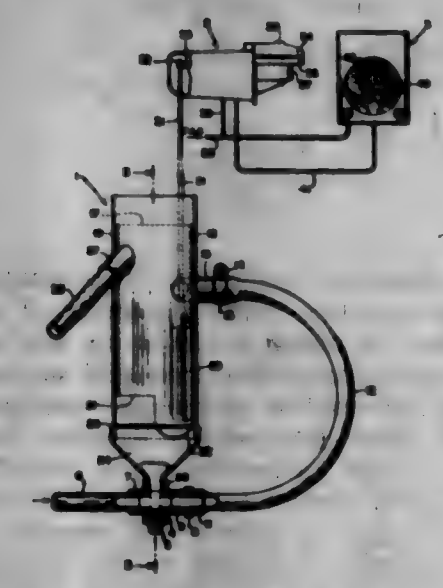
1. A life indicator for an electrical apparatus subject to aging at a rate which increases upon an increase in its insulation temperature, said indicator comprising: a unidirectional rotatable counter; a variable speed motor driving said counter; an electrical power supply connected to said motor; a predetermined configurated container having a varying cross sectional area correlated to the aging rate of said apparatus and made of a dielectric material; an electrically conductive and heat expansible liquid partially filling said container; an uninsulated elongated resistance element partially submerged in said liquid and in series relationship with said motor and said power supply; and heating means surrounding said container and correlated to the insulation temperature of said apparatus for causing said liquid to be expansibly responsive to the insulation temperature of said apparatus whereby the quantity of said resistance element in series relationship with said motor is proportional to the rate of aging of said apparatus.

2,972,254
WELL FLOW PERIODIC SAMPLING MECHANISM
John W. Lambert, Borger, Tex., assignor to Lambert Engineering Co., Inc., Borger, Tex.
Filed July 18, 1957, Ser. No. 672,659
7 Claims. (Cl. 73—422)



1. In combination, a reciprocating well pump; a valve formed with an inlet communicated with the pump outlet, and with a production outlet and a sample outlet with which the inlet is selectively communicated by a movable valve member in said valve; valve operating means reciprocated by said pump and operatively connected to said valve member to move the latter periodically during successive strokes of said pump, in one direction for taking of a fluid specimen from said sample outlet constituting the entire production flow during such successive strokes and in the other direction for restoration of normal production flow solely through said production outlet.

2,972,255
DENSITY MEASURING APPARATUS
Bernard Rachlin, Havertown, Pa., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed May 21, 1956, Ser. No. 586,011
2 Claims. (Cl. 73—452)

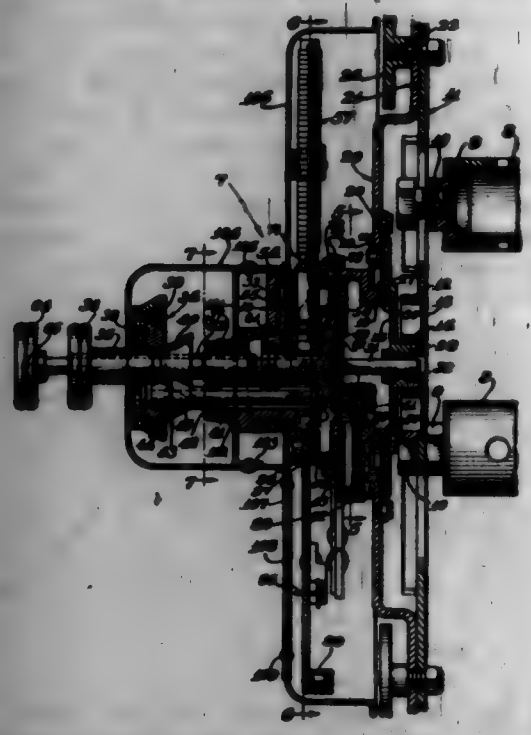


1. An apparatus for continuously measuring the specific gravity of a rapidly flowing slurry material containing solid particles therein, comprising a container, a spaced apart slurry inlet port and slurry outlet port formed in a wall portion of the container adjacent an upper open end of said container, a slurry inlet conduit having one of its ends connected to said container wall portion forming said inlet port, a partial baffle plate connected to the inner wall of said container and positioned to separate a first wall portion of said container having said inlet port formed therein from a second wall portion of said container having said outlet port formed therein, an open drain formed by the lower end wall portion of said container, an inverted T-shaped pipe fitting having its vertical branch communicating with and forming an extension of said lower end wall portion of said container, one horizontal end branch of said inverted T-fitting being in communication with a transmission conduit and the other horizontal end branch of said fitting being in communication with the other remaining end of said inlet conduit; said transmission conduit, horizontal end branches of said inverted T-fitting, said inlet conduit and inlet port formed in said wall of said chamber jointly providing a means by which said rapidly flowing slurry to be measured can be continuously transmitted into said container, said open drain, inverted T-fitting and said inlet conduit connections affording a means of withdrawing any settled-out portions of said solid particles located in the bottom of said container into said horizontal portion of said inverted T-fitting as said rapidly moving slurry to be measured passes through said last-mentioned portion of said inverted T-fitting, the size of the settled-out portions of said particles entering said rapidly moving slurry in said horizontal portion of said inverted T being reduced as they enter said horizontal portion and are hit and broken up by the force of the rapidly moving solid particles in said rapidly moving slurry being transmitted by way of said transmission conduit, said horizontal branch portion and said inlet conduit through said inlet port to said container, a slurry outlet conduit having one of its ends connected to said container wall forming said outlet port to continuously carry the measured slurry containing no settled-out particles out of a top portion of said container away from said container as said incoming slurry containing said solid particles are being transmitted to said container, a displacer element positioned in said container between said baffle plate and said last mentioned wall portion and a force balance transmitting unit connected to said displacer and a recording means operably connected to said transmitting unit for recording apparent changes in weight of said displacer as said slurry material is transmitted from said inlet port to said outlet port.

2,972,256
BALANCE TESTING DEVICE
Charles W. MacMillan, Rock Island, Ill., assignor to Bear Manufacturing Company, Rock Island, Ill., a corporation of Delaware
Filed July 12, 1954, Ser. No. 442,627
4 Claims. (Cl. 73—458)

1. In a device adapted to be secured to a rotatable test body for testing and measuring the unbalance of said body while said body is rotating, including counter-balancing weight means for counter balancing the unbalance in said body, means for moving said weight means circumferentially relative to said body, means for increasing and decreasing the counter-balancing effect of said weight means, control means for the two last-named means, and means which indicate the degree of effectiveness and the circumferential position of said weight means, the improvement comprising that said control means comprises an axially shiftable rotatable control shaft coaxial with the device and the axis of rotation of said body, an axially shiftable rotatable control sleeve concentric with and encircling said shaft, a first pair of spaced opposite conical surfaces fixed coaxially on said shaft, a first conical member of a size smaller than the spacing between said first

conical surfaces disposed between said surfaces, a second pair of spaced opposite conical surfaces fixed on said sleeve concentric therewith, a second conical member of a size smaller than the spacing between said second conical surfaces disposed between said surfaces, said sleeve having a manual control knob at one end thereof, said control shaft projecting beyond said knob and having a manual control knob adjacent its end, said control shaft and said sleeve being individually shiftable axially thereof



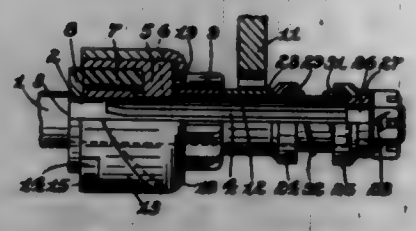
by said knobs for selectively engaging the respective conical surfaces thereon with the respective conical member selectively to cause relative rotation of the respective conical member in opposite directions, one of said conical members being connected with the said means for increasing and decreasing the counter-balancing effect of said weight means and the other of said conical members being connected with the said means for moving said weight means circumferentially relative to the body.

2,972,257

ENGINE STARTER GEARING

Edwin Elliott Hood, Elmira, N.Y., assignor to The Bendix Corporation, a corporation of Delaware

Filed Oct. 12, 1959, Ser. No. 845,816
5 Claims. (Cl. 74—9)



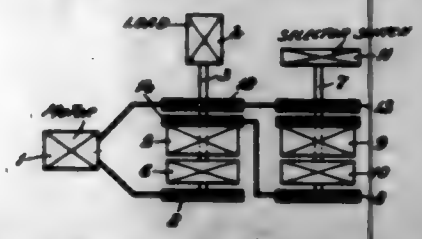
1. In a reversible engine starter drive a power shaft, a driving member splined to said shaft providing an axial bearing surface, a pinion slidably journalled on the power shaft for movement into and out of mesh with a gear of an engine to be started, a substantially tubular sleeve member keyed at one end thereof to the driving member having a plurality of symmetrical axial cam lobes extending from the other end and supported on said bearing surface, a substantially cup shaped cam member fixed on the pinion having axially extending cam lobes rotatably and slidably supported on said bearing surface mating with those of said sleeve member, yielding means urging the pinion away from the engine gear, a yielding abutment means limiting movement of the driving member away from the engine gear, and stop means for defining the meshing position of the pinion on the power shaft.

2,972,258

SHAFT POSITIONING MECHANISM

Wilhelmus Lambertus Vervest and Theodoor Maria Albert Lips, Hilversum, Netherlands, and Mungo Lawrie Dobbie, Toronto, Ontario, Canada, assignors, by mesne assignments, to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Oct. 27, 1954, Ser. No. 464,992
Claims priority, application Netherlands Mar. 19, 1954
6 Claims. (Cl. 74—18.2)



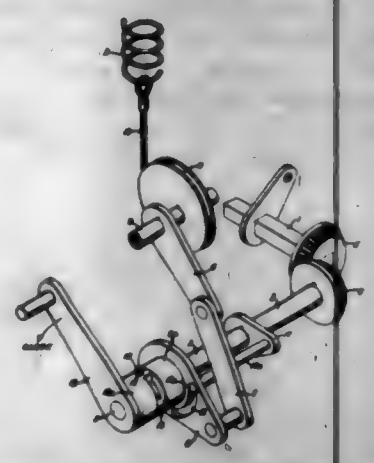
1. A shaft-positioning mechanism comprising a main rotary shaft, a second rotary shaft, means for adjusting said main and secondary rotary shafts dependent upon one another whereby said main and secondary shafts alternately occupy a predetermined number of positions, comprising; at least one selector wheel on said secondary shaft, a plurality of pawls, a plurality of locking discs and an overload release clutch on both said main and secondary rotary shafts; a transmission device, the number of positions of the secondary shaft being a factor of the number of positions on the main shaft and effected through said transmission device; driving means for said main shaft; a plurality of gear wheels, the selector wheel on said secondary shaft being operatively connected to said driving means through said gear wheels; and said secondary shaft being driven by said driving means independently of the movement of said main shaft.

2,972,259

STORED ENERGY OPERATING MECHANISM FOR SWITCHES

John A. Favre, Broomall, Pa., assignor to General Electric Company, a corporation of New York

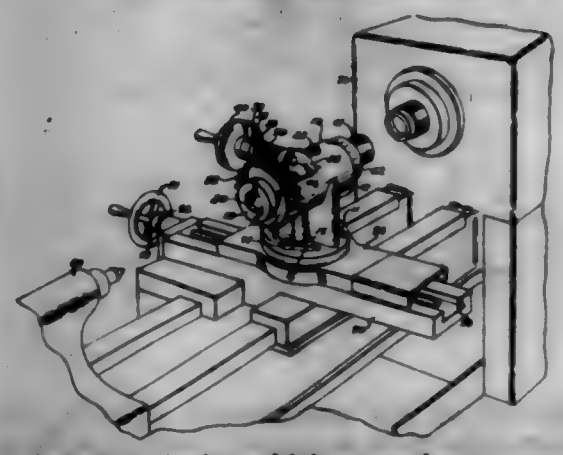
Filed Dec. 31, 1959, Ser. No. 863,242
5 Claims. (Cl. 74—97)



1. In combination, a support, an operating shaft for actuating the movable contact member of a switch, a crank member rotatably mounted on said support, an energy storing spring mounted on said support, a crank link pivotally mounted on said support and provided with an eccentric force transmitting member connected to said spring, a toggle having a first arm pivotally mounted for rotation with respect to said support and having a driving connection to said crank member, a second toggle arm pivotally connected to said first arm and to said crank link to provide extending said toggle and charging said spring in response to rotation of said crank member, a lost motion driving connection between said first toggle arm and said operating shaft to permit said shaft to remain motionless during charging of said spring and to effect rotation of said shaft in response to

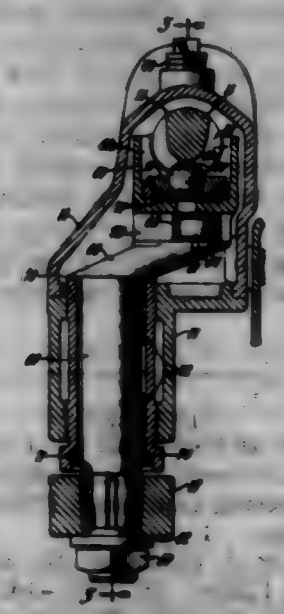
discharge of said spring, and a second lost motion driving connection between said first toggle arm and said crank member to prevent imparting a blow to said crank member by the discharge of said spring.

2,972,260
INDEXING HEAD
William C. Nilges, 30613 Walker Road, Bay Village, Ohio
Filed Nov. 28, 1955, Ser. No. 549,376
1 Claim. (Cl. 74—396)



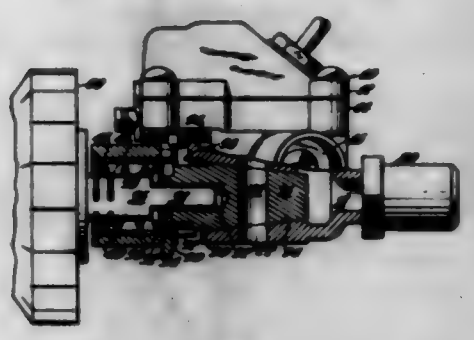
An indexing device which comprises a centrally bored body portion, a spindle, a worm gear secured to said spindle, a worm shaft adapted to engage said worm gear to rotate said spindle, indexing means carried by the worm shaft, adjustment means secured to said body portion, said means comprising a U-shaped bracket having a pair of bored shoulder portions, said worm shaft extending through said bored shoulder portions, said bracket being provided with a U-shaped indent portion and with a pair of aligned openings, said bracket being secured to the body by screw means disposed through the said U-shape indent, support pillars threaded into said aligned openings, countersinks in said body portion, said pillars being provided with conical ends bearing in said countersinks, said body portion having a locating shoulder, said countersinks being located nearer the locating shoulder on the body than at said pillar portions so that when said pillars are tightened the bracket moves against the said locating shoulder.

2,972,261
VARIABLE RATIO STEERING GEAR
Robert L. White, Saginaw, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Dec. 1, 1958, Ser. No. 777,444
9 Claims. (Cl. 74—500)



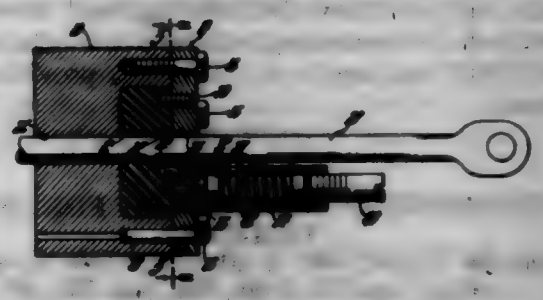
1. Reduction gearing comprising a variable lead worm, a ball accommodated in the worm groove, a carrier member affording support to said ball through a bearing assembly including an upper race rotating on rotation of said worm, said carrier member being moved axially of the worm by said ball on rotation of the worm and having a transverse slot therein, and a crank arm operably connected to said carrier member for rotation thereby through a pin accommodated in said slot.

2,972,262
CONTROL DEVICE OPERATOR
William S. Kunzler, Greensburg, Pa., assignor to Robertshaw-Fulton Controls Company, Richmond, Va., a corporation of Delaware
Filed Mar. 31, 1959, Ser. No. 803,288
6 Claims. (Cl. 74—504)



1. In a control device, the combination comprising a housing, control means in said housing movable between a plurality of controlling positions, a generally hollow cover member mounted on said housing, a control actuator slidably and rotatably disposed in said hollow member and being operatively associated with said control means, cam means carried by said control actuator, follower means for said cam means including control operating means operatively associated with said cam means to be selectively positioned thereby, a dial shaft having a portion extending into said hollow member and being operatively connected to said control actuator for unitary rotation therewith, resilient means engaging said control actuator and biasing the same into engagement with said hollow member, projection means carried by said hollow member, and abutment means on said control actuator for engaging said projection means and locking said control actuator against rotation, said abutment means and said projection means being disengageable by axial movement of said dial shaft and said control actuator.

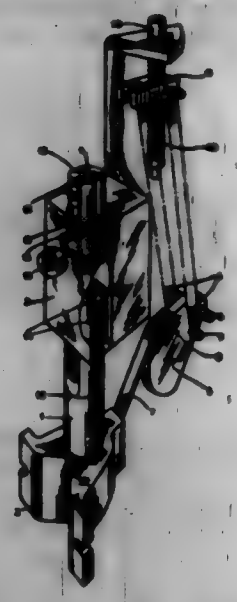
2,972,263
LOCK MECHANISM
Eugene W. Hines, 9217 Davison Road, Davison, Mich.
Filed May 18, 1959, Ser. No. 814,007
8 Claims. (Cl. 74—531)



1. A lock mechanism for locking an axially movable member in axial position, said mechanism comprising a housing having an enclosed cavity formed therein, a rubber-like resilient element received within and substantially filling said cavity, said housing and said resilient element having axially aligned passages extending therethrough and a member to be locked therein received through said passages and axially movable therein when unlocked, first means adjustably extendable into said cavity for first compressing said resilient element in said

cavity and second means adjustably extendable into said cavity for further compressing said resilient element in said cavity and exerting a locking pressure on said member through said resilient element.

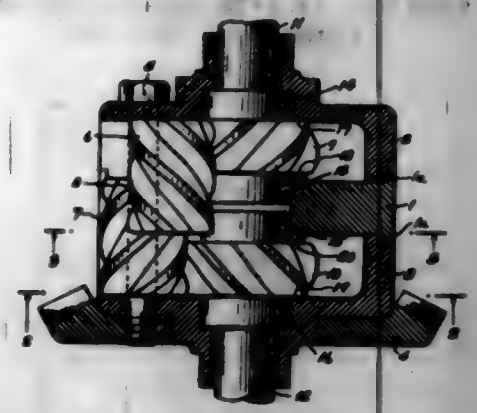
2,972,264
COUNTERBALANCING MEANS
Guy Birkbeck, Reigate, and Ivan Godfrey Oliver Brown, Horley, England, assignors to North American Philips Company, Inc., New York, N.Y.
Filed Nov. 20, 1957, Ser. No. 697,708
Claims priority, application Great Britain Nov. 30, 1956
2 Claims. (Cl. 74—692)



1. An ultrasonic work machine of the class described comprising an electro-mechanical transducer tool assembly mounted on the body of said work machine for linear movement relative thereto over a predetermined range of travel under the action of its mass, adjustable counterbalancing means also co-acting with said assembly, said counterbalancing means including at least one longitudinal spring, a tension adjusting means, a cam, a pivot for said cam, means mounting said tension adjusting means on the body of the work machine, one end of said spring being secured to said tension adjusting means, the other end of said spring being fixed to said cam at a point spaced from said pivot, said spring constantly applying a rotational force to said cam, a flexible strip secured at one end to the operational face of said cam and at the other end thereof engaging a portion of said assembly, the profile of the operational face of said cam imposing a substantially constant counter balancing force to the assembly over its range of travel, a guide housing, a vertically disposed shaft movable in said guide housing, said shaft and said housing being provided with at least two corresponding indexing channels, and a plurality of ball bearing in said channels providing bearing surfaces.

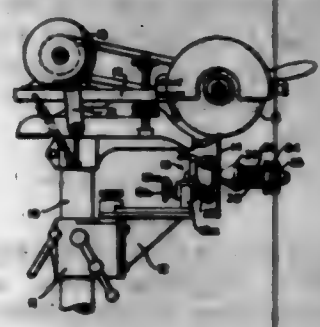
2,972,265
DIFFERENTIAL MECHANISM FOR MOTOR VEHICLES
Maurice Walter, 455 E. 51st St., New York, N.Y.
Filed Apr. 23, 1958, Ser. No. 730,385
4 Claims. (Cl. 74—711)

1. A torque-proportioning differential mechanism for use in motor vehicles, comprising a rotatable differential case, a gear carried by said case and adapted to be driven to rotate said case about a predetermined axis, a pair of shafts coaxial with said axis to which driving power is transmitted by said mechanism, a cam-like sun gear non-rotatably receiving each of said pair of shafts and located within said differential case, a plurality of pairs of satellite cam-like gears mounted in and for free rotation with respect to said differential case about axes parallel to the first-named axis, each of said cam-like sun gears meshing with a portion of a respective one only of each of said pairs of satellite cam-like gears respectively, and the satellite cam-like gears of each of said pairs thereof having other portions meshing with each other; and each of said cam-like sun gears and each of said satellite cam-like gears having cam-like teeth which are so shaped that force transmitted from any one of said cam-like gears to



another thereof by the intermeshing of such cam-like gears will be exerted to a major extent radially of the driven cam-like gear in each instance and to a minor extent tangentially thereof, so as to apply greater torque to the shaft having greater torque resistance, all said cam-like teeth of each of said gears being of such shape that any one of said gears can act as a driving gear to transmit force effective to rotate any other of said gears meshing therewith.

2,972,266
SAW SHARPENER
James McEwan, 138 Stockton Ave., San Jose 11, Calif.
Filed Mar. 21, 1958, Ser. No. 722,978
14 Claims. (Cl. 76—79)

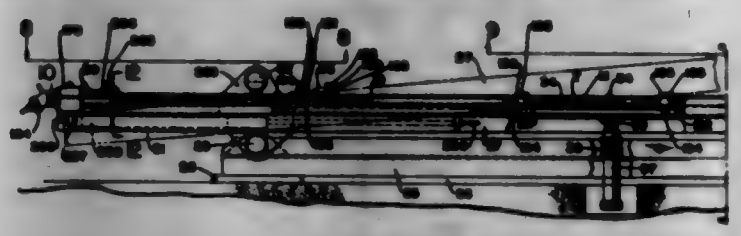


1. In a circular saw holder, a support member having a shaft projecting therefrom, said support member having a plurality of rotatable elements supported in spaced relation thereon for rolling engagement with the saw at spaced points, and a saw clamping cone slidably mounted on said shaft for engaging the circular saw in the central hole thereof and holding it against said rotatable elements in centered relation with respect to said shaft, said rotatable elements being spaced around said shaft and being substantially unyieldingly supported opposed to said clamping cone so that they press the saw symmetrically onto said cone whereby said saw may be rotated without wobble.

2,972,267
TUBE REDUCING MACHINE
Donald V. Streck, Poland, Ohio, assignor to The Aetna-Standard Engineering Company, Pittsburgh, Pa., a corporation of Ohio
Filed Mar. 3, 1954, Ser. No. 413,742
1 Claim. (Cl. 80—14)

An apparatus for reducing the diameter of tubes and the like comprising a main supporting frame; an elon-

gated sub-frame extending toward the entry end of the apparatus and secured at one of its ends to said main frame; a pivot mounted on said sub-frame remote from said main frame; an elongated tiltable frame member supported on said pivot and adapted to be moved in a vertical plane about said pivot from a lowered position to a raised position and having one end disposed adjacent said main frame; interengaging means on said main frame and said tiltable frame member for aligning said tiltable frame member with respect to said main frame when said tiltable frame member is in said lowered position; a mandrel mounted on said tiltable frame member; a slidably mounted support member for the end of said mandrel remote from said main frame; bearing means for supporting said mandrel on said support member; means for advancing said mandrel support member and said mandrel carried thereby toward said main frame and retracting it therefrom; and means for locking said mandrel support member in advanced position, said locking means comprising a seat on one of said members, said seat being arcuate about an axis extending transversely of said tiltable frame member, a rotatable locking means mounted on the other of said members, said rotatable locking means having an arcuate portion engageable with said arcuate seat to lock said mandrel support member in position and having a portion adapted to clear said seat and release said mandrel support member, and means for rotating said locking means between locking and releasing position with respect to said seat.



2,972,268
AUTOMATIC STRIP THICKNESS CONTROL APPARATUS

John W. Wallace, Orchard Park, and Robert E. Hull, Amherst, N.Y., and Raymond W. Moore, Whitehall, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

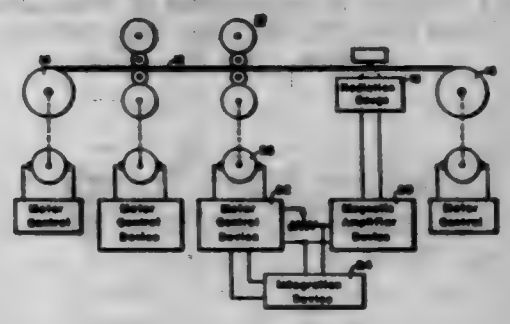
Filed Apr. 8, 1957, Ser. No. 651,387
14 Claims. (Cl. 80—32)

1. In control apparatus for a rolling mill including a first device having a pair of roller members between which a strip of material may be positioned for performing a predetermined operation relative to said strip of material, with said rolling mill including a second device for pulling on the strip relative to said first device, the combination of a roller pressure sensing device for providing a first control signal that varies as a predetermined function of the roll pressure between said pair of roller members, a motor member operative with one of said first and second devices for controlling the tension in said strip between said first and second devices, a first motor control device responsive to said first control signal and operatively connected to said motor member for controlling the tension of said strip between said first device and said second device in accordance with the variations of said first control signal, and a second motor control device responsive to said first control signal for providing a second control signal that varies as a predetermined function of the variations of said first control signal, with said first motor control device being responsive to said second control signal for controlling the tension of said strip between said first device and said second device in accordance with the variations of said second control signal.

2,972,269
AUTOMATIC STRIP THICKNESS CONTROL APPARATUS

John W. Wallace, Orchard Park, and Robert E. Hull, Amherst, N.Y., and Raymond W. Moore, Whitehall, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Apr. 8, 1957, Ser. No. 651,386
9 Claims. (Cl. 80—35)



1. In control apparatus for a rolling mill including a first device having a pair of roller members between which a strip of material may be positioned and a second device for pulling on the strip in a direction away from said first device, the combination of a motor operatively connected to one of said first device and said second device for controlling the tension of said strip between the first device and the second device, a strip thickness control device for providing a first control signal which varies as a predetermined function of the thickness of said strip, a motor control device responsive to said first control signal and operatively connected to said motor for controlling the tension of said strip between said first device and said second device in accordance with the variations of said first control signal, and an integrator device responsive to said first control signal for providing a second control signal which varies as a predetermined function of the variations in said first control signal, with said motor control device being responsive to said second control signal for controlling the tension of said strip between said first device and said second device in accordance with the variations of said second control signal.

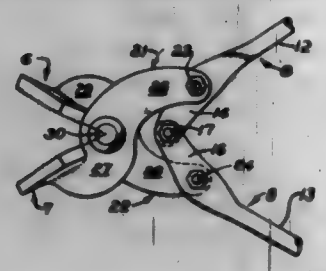
2,972,270
SHEET METAL BENDING TOOL

Stanley W. Krolick, 995 W. 5th St., Livermore, Calif.

Filed Jan. 26, 1959, Ser. No. 789,041
2 Claims. (Cl. 81—15)

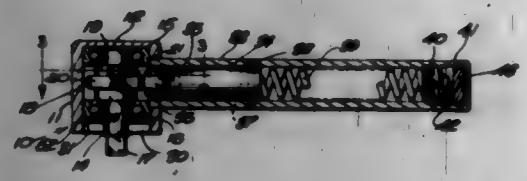
1. A sheet metal bending tool comprising a pair of handles, means pivotally securing said handles together adjacent the ends thereof, a pair of links with one of such links being pivotally attached to one of said handles and the other of said links being pivotally attached to the other of said handles, means pivotally securing said links together, each of said links having a jaw element operatively secured thereto, each of said jaw elements comprising a generally rectangular block having a longitudinal

axis offset from a transverse axis of said tool and likewise defining an angle with the longitudinal axis of the tool, said jaws having abutting corner portions normally positioned immediately adjacent each other during open-



ing and closing of said handles, and said jaws having corner portions at diagonally opposed positions relative to said adjacent portions having a maximum amount of movement from and towards each other upon actuation of the handles.

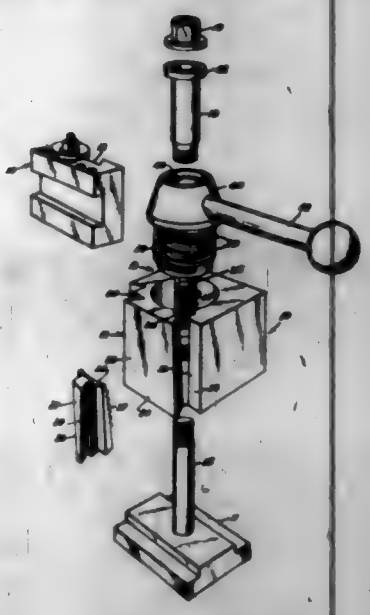
2,972,271
PREDETERMINED TORQUE RELEASE HAND TOOL
Martin J. Gill, Attleboro, Mass., assignor to Apco Mossberg Company, a corporation of Massachusetts
Filed Nov. 27, 1959, Ser. No. 855,608
7 Claims. (Cl. 81—52.4)



1. In a predetermined torque release hand tool, a pair of relatively rotary co-axial members, one of said members being provided with work engaging means, the other of said members being provided with means for manually rotating the member about the common axis of said members, a cam on said common axis, interlocking means between said cam and one member for transmitting rotation of the cam to said member, and a spring pressed plunger slidably mounted with reference to the other member and engageable with the cam surface to rotate the cam, said cam providing a surface gradually sloping in one direction and more abruptly sloping in the other direction for engagement by said plunger whereby for a predetermined torque the plunger will slide against its spring bias without rotating the cam, upon movement of the manual rotating means in either direction, and said action will take place with less torque applied to turning about said axis in one direction than turning about said axis in the other direction.

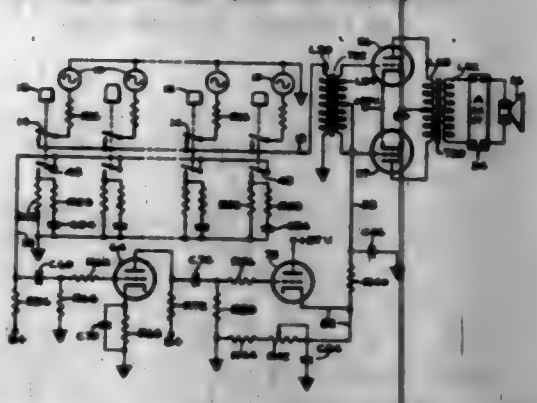
2,972,272
TOOL POST AND TOOL HOLDER
Frank Sirola, Corona, N.Y.
(47 Vreeland Ave., Clifton, N.J.)
Filed June 5, 1957, Ser. No. 663,696
3 Claims. (Cl. 82—36)

1. A machine tool mounting comprising a tool post having a bore opening through the top and bottom thereof, said post having a slot extending longitudinally in acute angular relation with the longitudinal axis of said bore, said slot opening through a side face of said post and having a widened inner portion opening into said bore, a slide member arranged in said slot for sliding movement longitudinally with reference to said bore and having an outer wedge shaped portion provided with a longitudinally extending exposed side face portion, and said slide member having a widened inner portion disposed in the widened inner portion of said slot for retaining said slide member in said slot, said post having a longitudinally extending dovetail tongue portion at one side of said slot and with said wedge shaped portion of said slide member forming a dovetail tongue adapted to receive a tool holder thereon, a tubular hub mounted in said bore for swivel turning movement, said hub and said widened inner portion of said slide member having interengageable threads for effecting movement of said slide member in said slot for varying the width of said



dovetail tongue by turning of said hub for tightening the tool holder on said dovetail tongue, a handle member affixed to said hub for turning the same, a sleeve secured in said bore about which said hub has swivel turning movement, a stem extending axially through said sleeve in concentric relation with said hub and adapted for mounting the post on a machine, and means at the end of said stem securing said parts in assembled relation.

2,972,273
POLYPHONIC PERCUSSION CONTROL APPARATUS
John M. Hanert, Des Plaines, Ill., assignor to Hammond Organ Company, Chicago, Ill., a corporation of Delaware
Filed Mar. 12, 1958, Ser. No. 720,887
18 Claims. (Cl. 84—1.26)



1. An electrical musical instrument of the polyphonic type capable of producing percussion tone effects, comprising a plurality of electrical musical tone signal generators, a manual comprising a plurality of playing keys, an output system including electrical pulse sensitive unitary means for producing tones having a percussion type intensity envelope, means operable by the playing keys respectively to couple the generators to the output system, a conductor coupled to the input of said unitary means, a source of electrical energy, an electrical impedance coupling said conductor to one terminal of the source, a plurality of individual impedance means associated respectively with the keys, each of said individual imped-

ance means having one terminal coupled to the other terminal of the source, and switches respectively operable by the keys to couple the other terminals of said impedance means to said conductor, whereby upon depression of keys percussion tones producing electrical pulses will be impressed on said conductor irrespective of whether other keys are in a depressed condition.

2,972,274
SELF BROACHING FASTENER
Emerson H. La Bombard, 302 17th St., Santa Monica, Calif., and Oscar A. Swanson, 550 Almar Ave., Pacific Palisades, Calif.
Filed Apr. 18, 1955, Ser. No. 502,012
4 Claims. (Cl. 85—1)



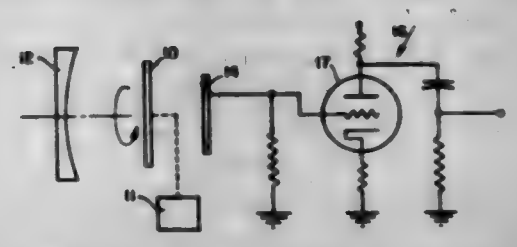
1. A self-broaching, center-seeking fastener component for establishing a high shear, controlled interference fit in aligned holes in structures to be united, comprising: a substantially rigid elongate article having a head and a stem-group, the latter including a shear-taking shank adjacent the head and to be centered in the holes; a fastener receiving portion adjacent the shank; a hole sizing section located onward from the fastener receiving portion and comprising a plurality of broach teeth formed on the same longitudinal center as said shank, the tooth most remote from the shank having a diameter approximating the original diameter of said holes and the diameters of said teeth progressively increasing toward said shank, the largest of said teeth being sized with relation to the diameter of the shank to produce a predetermined interference fit between the shank and the broached holes; and means formed on the stem-group adjacent the free end thereof and shaped for engagement with a pull-through instrumentality; said stem-group having its portion of minimum tensile strength located between said fastener receiving portion and said hole sizing section; whereby the full strength of the stem group is available for pulling said sizing section through said holes and said minimum tensile strength portion may be broken by application of substantial force when the shank has been seated in the sized holes.

2,972,275
RESILIENT SPLIT PIN WITH INWARDLY EXTENDING PORTION
Richard C. Bamber, West Orange, N.J., assignor to Elastic Stop Nut Corporation of America, Union, N.J., a corporation of New Jersey
Filed Feb. 27, 1958, Ser. No. 717,998
1 Claim. (Cl. 85—8.3)



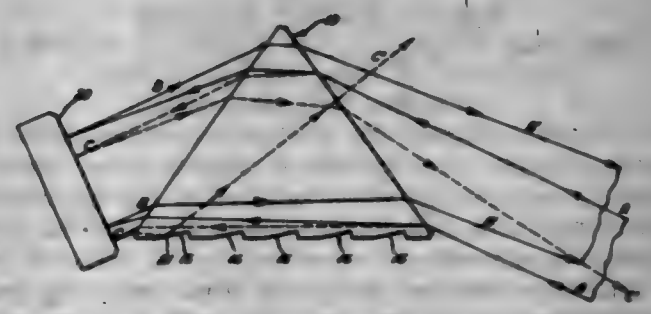
A one-piece spring pin comprising a tube of resilient material defining a pin axis and having a body portion of uniform wall thickness and outer and inner surfaces and including a cylindrical part of C-shape in sections perpendicular to said axis and more than 270 degrees but less than 360 degrees in circumferential extent, said body portion having a longitudinal edge joining said outer and inner surfaces and terminating said cylindrical part, said body portion having an additional part also terminating said cylindrical part circumferentially remote from said edge and extending from its location of merger with said cylindrical part to an arcuate end portion generally between said axis and said longitudinal edge, said additional part disposed wholly within the outline of said cylindrical part so that the terminus of said end portion is substantially closer to said pin axis than said longitudinal edge, said outer surface in said additional part blending smoothly with said outer surface in said cylindrical part and confronting and normally spaced from said edge to define therewith a longitudinal gap the width of which is less than said thickness.

2,972,276
SCANNING DISCS FOR RADIANT ENERGY RESPONSIVE TRACKING MECHANISMS
Theodore R. Whitney, Santa Barbara, Calif., assignor to the United States of America as represented by the Secretary of the Navy
Filed Sept. 23, 1953, Ser. No. 382,013
3 Claims. (Cl. 88—1)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. In a radiant energy responsive apparatus operable to track a target or the like, a scanning mechanism including a rotary disc operable to produce a repetitive voltage from modulation of the target light image and reinforcing substantially only three frequencies present in the light of the target image, said disc having a plurality of radially extending segments of equal size in the form of spokes, said spokes being alternately relatively transparent and opaque, the transparency and opaqueness of said spokes varying gradually from a maximum in contrast to a minimum in contrast and back to a maximum in contrast around the circumference of the disc such that the most transparent of said transparent spokes and the most opaque of said opaque spokes are next to each other on one side of one flat surface of said disc, and the least transparent of said transparent spokes and the least opaque of said opaque spokes are next to each other at the opposite side of said one flat surface of said disc, whereby discrimination between a target signal and background can be achieved.

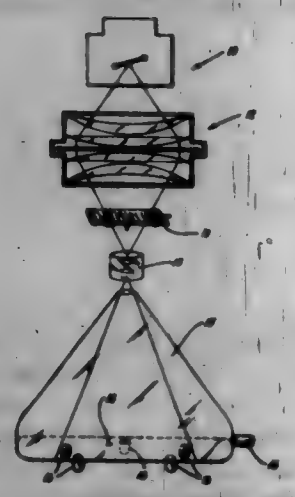
2,972,277
DISPERSION PRISMS
Edouard Horace Siegler, Jr., Darien, and Hamilton W. Marshall, Jr., East Norwalk, Conn., assignors to The Perkin-Elmer Corporation, Norwalk, Conn., a corporation of New York
Filed June 24, 1957, Ser. No. 667,452
3 Claims. (Cl. 88—1)



1. A prism for dispersing radiant energy, said prism having a first flat face through which said energy enters,

a second flat face through which said energy emerges in dispersed form, and a base surface contiguous to both said first and second faces and having serrations therein each of said serrations comprising a first and second facet, the first facet of said serrations being parallel to each other, the angular disposition of said serrations being such that stray radiation of relatively short wavelengths impinging thereon is deflected to the surface of a face of the prism at an angle less than the critical angle of incidence whereby said relatively shorter wavelengths are deflected out of the path of the incident beam.

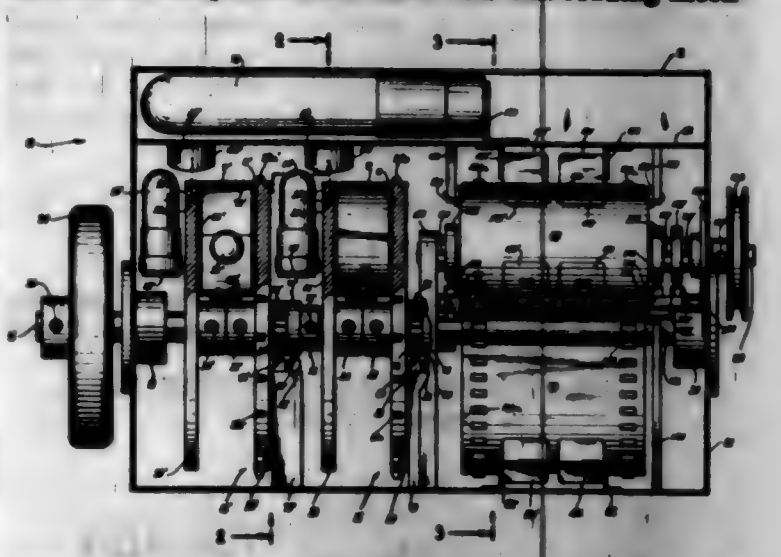
2,972,278
OPTICAL INTERFEROMETRIC POSITION INDICATION
Frank J. Bingley, Meadowbrook, Pa., assignor to Philco Corporation, Philadelphia, Pa., a corporation of Pennsylvania
Filed Aug. 26, 1957, Ser. No. 680,286
2 Claims. (Cl. 88—14)



1. Apparatus for positioning a cathode ray tube within a color processing projection system of the type described, comprising: a plurality of fixed, transparent, glass-like locators, three of said locators forming a triangle to provide a stable base upon which to support the face of said tube within said system and three other of said locators positioned to contact frontal perimeter portions of said tube along generally mutually perpendicular sides of the bulb thereof for insuring complete kinematic stability of said tube on placement thereof within said system, said locators cooperatively delineating the desired position of said tube within said projection system and having contact sensing surfaces of generally convex configuration such that when brought into close proximity with confronting portions of said tube there is produced a predictable interference pattern of light waves which is characteristic of the position of said tube relative to each of said contact sensing surfaces; means for illuminating the general area of contact between said tube and each of said surfaces; and means for observing the resulting optical phenomenon thereby to accurately position said tube within said projection system.

2,972,279
FILM-VIEWING DEVICE
Christopher S. Riley, R.F.D. 1, Lincoln Park, N.J.
Filed Oct. 2, 1958, Ser. No. 764,794
8 Claims. (Cl. 88—16.2)

1. A device adapted for reading a motion picture film bearing images and having a sound track recorded thereon at a recording speed selected to synchronize said sound track with said images comprising a film-reading mechanism operable at a reading speed different from the recording speed of the sound track including means for displaying images in accordance with the motion picture film, means for reproducing sounds in accordance with the sound track thereof, and means responsive to the sound-reproducing means for rendering the sounds reproduced comprehensible when said film-reading mech-



anism is operated at a reading speed different from the recording speed of the sound track.

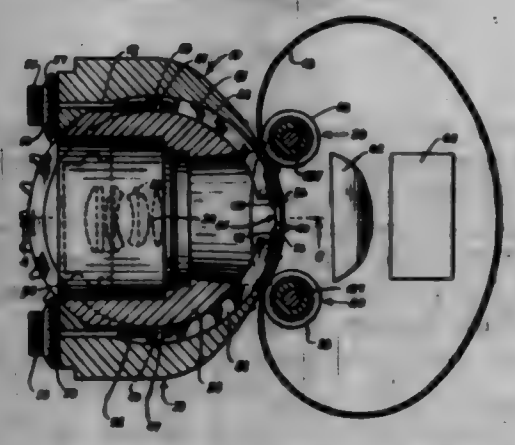
2,972,280
CONTINUOUS MOTION PICTURE TRANSMITTING APPARATUS
John C. Kadar, Hollywood, Calif.
(2584 E. Cartwright Road, Honolulu 15, Hawaii)
Filed Apr. 15, 1952, Ser. No. 282,293
4 Claims. (Cl. 88—16.8)



1. In continuous motion picture transmitting apparatus, in combination with a film drive sprocket, an annular prism rigid with and arranged for rotation with said sprocket and concentric therewith, said annular prism having a cylindrical inner face and a plurality of peripheral facets cooperatively defining a polygonal outer surface, each facet having an angular extent corresponding to the dimension of a picture frame of a film lengthwise of the film, and a plurality of optical components disposed within said annular prism, said components including a pair of cylindrical lenses each having a cylindrical face conforming to the curvature of and slightly spaced from the cylindrical inner surface of said annular prism, and at least two of said optical components being separated by an air space functioning to increase the lateral displacement of the light rays passing through said optical components, said optical components including in addition to said cylindrical lenses a pair of wedge shaped prisms, one of which is adjustable transversely of the optical axis of light rays passing through the prisms, for adjusting the width of said air space, thereby to adjust the effective length of the optical axis, said annular prism and optical components being functionally cooperable to transversely displace light beams passing through the prism between two places on opposite sides thereof, one of the places being the location of an object, optically speaking, and the other the location of an optical image of that object, and one of the two places also being the location of successive frames of a film which is travelling with the side of the prism nearest to the frames and is in substantially the same position longitudinally of the prism axis as is said prism, the said frames of film, in the case where they are at the location of the object rather than that of the image, containing the said optical object, the said transverse displacement of the beams being such that, where the object is contained in the transversely travelling film

frames, the image thereof will be transversely immobilized, and where the object is not at the location of the film frames, the image will travel transversely in synchronism with the successive frames of film.

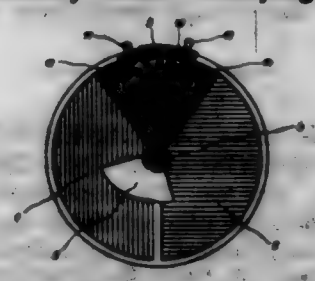
2,972,281
PANORAMIC PROJECTOR
Willis Robert Dresser, Long Hill, Conn., assignor, by mesne assignments, to The Prudential Insurance Company of America, a corporation of New Jersey
Filed Mar. 16, 1956, Ser. No. 572,824
6 Claims. (Cl. 88—16.8)



1. A panoramic projector assembly including a lens mount with bearings on which the lens mount is rotatable about an axis that passes through the second principal point of a lens carried by said mount, stationary cylindrical guiding means against which the opposite edge portions of a length of film are held during projection, a continuous loop of film behind the lens mount, means for supporting said loop of film with the top and bottom edge portions of one side of the loop of film in contact with said guiding means, the means for supporting said loop including two rollers substantially tangent to the stationary cylindrical guiding means and at angularly spaced locations around said stationary cylindrical, guiding means and holding the film against said guiding means, bearings from which the rollers are supported, said bearings being connected with the lens mount and rotatable as a unit therewith to move the rollers with orbital movement around the stationary cylindrical guiding means to wrap the loop of film progressively around said stationary cylindrical guiding means, a gate carried by the lens mount behind the lens and in line with the lens, and at an angular location between the rollers, the film loop passing through points of flexure and reversing its direction of curvature at said rollers whereby the loop beyond the rollers is behind the rollers, and a light supply element behind the gate and connected with the lens mount for orbital movement about the axis of rotation of the lens mount.

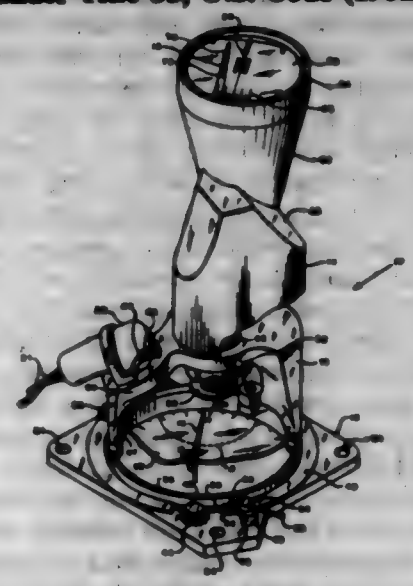
2,972,282
DIRECT READING COLOR TEMPERATURE METER
Hans Försterling and Helmut Peter, Erlangen, Bavaria, Germany, assignors to P. Gossen & Co. G.m.b.H., Erlangen, Bavaria, Germany, a firm
Filed June 7, 1957, Ser. No. 664,259
Claims priority, application Germany Mar. 27, 1957
5 Claims. (Cl. 88—22.5)

1. A direct-indicating color temperature measuring instrument for use in color photography, comprising a rotary coil galvanometer, two photo-sensitive elements, two differently colored main filters overlying the light-sensitive surfaces of said photo-sensitive elements, respectively, electric circuit means differentially interconnecting said photo-sensitive elements with said coil of said galvanometer, a pointer mechanically connected with said coil for movement therewith, a mask connected with said pointer and overlying a portion of said main filters, said mask being provided with an irregularly curved outer edge so shaped that movements of said pointer correspond to the linear divisions of a Mired scale, said main filters having high total transmissions as well as spectral transmittance curves which intersect one another to such an extent that the effective wave lengths of said main filters are disposed close to one another, two differently colored auxiliary filters overlying respective por-



tions of said main filters remote from said first-named portion of the latter and having lesser total transmissions than said main filters, said auxiliary filters having effective wave lengths extremely disposed with respect to the effective wave lengths of said main filters, and a pair of opaque screens mounted for angular movement over said auxiliary filters for initially adjusting the response characteristics of the instrument.

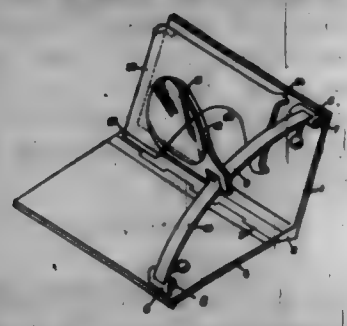
2,972,283
MAGNIFIER UNIT FOR INSTRUMENT DIALS
Paul Karnow, Philadelphia, Pa., assignor to the United States of America as represented by the Secretary of the Navy
Filed June 28, 1957, Ser. No. 668,831
2 Claims. (Cl. 88—24)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. For reading an indicating instrument of the type having a pointer movable over a graduated scale spaced behind it, the path of motion of said pointer being parallel to said scale an optical device comprising: carriage means formed to be mounted on the instrument in front of the pointer and the graduated scale, exposing a portion of said scale to direct view lens means secured to said carriage means for magnifying and projecting another portion of the graduated scale and the pointer when indicating therein, a diffusing screen mounted on said carriage means, said screen having a partially reflective planar surface fixed in the focal plane of said lens means for producing an image of said portion of the graduated scale and the pointer on said surface, a reticle inscribed on said surface extending substantially normal to the length of said image of said portion of the graduated scale, a venier scale inscribed on said surface extending substantially parallel to said image of said portion of the graduated scale, the graduation of said vernier scale being related to said image of said portion of the graduated scale so that the position of said image of the pointer on

said image of said portion of the graduated scale can be read with greater accuracy, said screen being positioned on said carriage means for viewing said surface from substantially any point located on the side of said screen which is opposite from said lens means; whereby said image of said portion of the graduated scale and the pointer, said reticle, and said vernier scale appear at said surface and are visible from substantially any position off of the optical axis of said lens means without presence of parallax error.

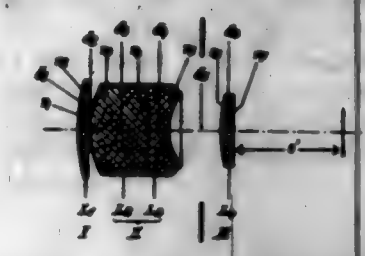
2,972,284
BOOK FOR SPACIAL OBSERVATION OF STEREOSCOPIC IMAGES
Werner Fermum, Prague, Czechoslovakia, assignor to Artia, podnik zahranicního obchodu pro dovoz a vyvoz kulturnich statků, Prague, Czechoslovakia
Filed Apr. 30, 1959, Ser. No. 809,975
Claims priority, application Czechoslovakia May 14, 1958
7 Claims. (Cl. 88—30)



1. A book for spacial observation of stereoscopic images comprising a first cover plate, a book back rigidly connected to said first cover plate and extending along the inner edge of the latter, a second cover plate hingedly connected, at its inner edge, to said book back for swinging movement relative to said first cover plate between open and closed positions, said first and second cover plates being adapted to receive the stereoscopic images to be observed, a hinge on each of said cover plates adjacent the outer edge of the latter, a resilient bridge including first and second branches and central hinge means pivotally connecting adjoining ends of said first and second branches, while the opposite ends of said first and second branches are pivotally mounted on said hinges adjacent the outer edges of said first and second cover plates, respectively, so that said branches are extended in end to end relationship between said cover plates in the open position of the latter and are folded upon each other with said adjoining end extending toward said book back between said cover plates in said closed position of the latter, supporting means interposed between the portions of said branches adjacent said opposite ends and the related cover plates and operative, in said open position of the cover plates, to urge said opposite end portions of the branches angularly away from said related cover plates and thereby impart a tensioned arcuate shape to said bridge which is concave in the direction toward said book back, a mirror, a mirror holder carrying said mirror and being pivotally mounted on said central hinge means of the bridge, and cooperating means on said mirror holder and bridge operative to secure said holder in a predetermined erected position relative to said bridge when the latter is in said tensioned arcuate shape.

2,972,285
PHOTOGRAPHIC OR CINEMATOGRAPHIC HIGH-SPEED TELE-OBJECTIVE
Rudolf Solisch, Gottingen, Germany, assignor to Ico Optische Werke G.m.b.H., Gottingen-Weende, Germany, a corporation of Germany
Filed Nov. 13, 1958, Ser. No. 773,607
Claims priority, application Germany Nov. 27, 1957
2 Claims. (Cl. 88—57)

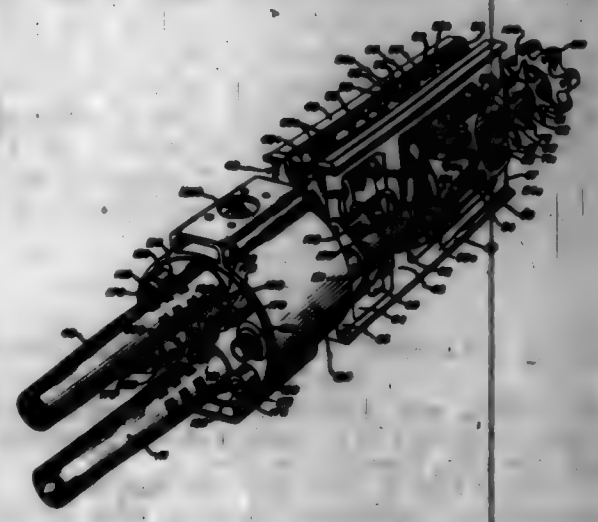
1. An optical tele-objective system consisting of three front lenses and a single rear lens, said front lenses consisting of a collective singlet followed by a dispersive lens pair composed of a biconvex forward element and a biconcave rear element, said singlet and said forward element having each an index of refraction less than 1.60, said forward element and said rear element being cemented together, the numerical values of the radii of



curvature r_1 to r_7 of said singlet L_1, said forward element L_2, said rear element L_3 and said rear component L_4, as well as the thicknesses and air spacings d_1 to d_6 thereof, based upon a numerical value of 100 for the overall focal length of the system, the refractive indices n_d of the elements L_1 to L_4 and the Abbé numbers ν thereof being substantially as given in the following table:

Lens	Radii	Thicknesses and Air Spacings	n_d	ν
L_1	r_1=+ 72.61	d_1= 3.95	1.55913	61.2
	r_2=+469.05	d_2= 0.60	air space	
L_2	r_3=+ 35.95	d_3=22.45	1.80000	40.6
	r_4=−118.95	d_4= 3.65	1.74077	27.7
	r_5=+ 23.20	d_5=19.25	diaphragm space	
L_4	r_6=+ 87.10	d_6= 4.30	1.57270	32.2
	r_7=∞			

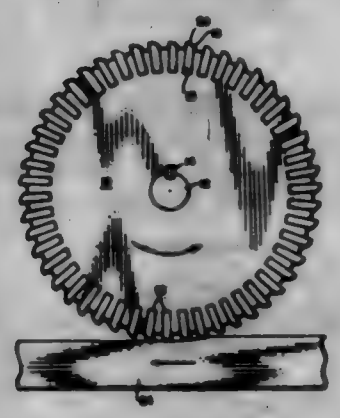
2,972,286
RAPID FIRE GUN WITH TWO BARRELS AND A PLURALITY OF FIRING CHAMBERS
Frank R. Marquardt, 712 15th St., Alexandria, Va.
Filed Apr. 18, 1950, Ser. No. 156,641
24 Claims. (Cl. 89—126)
(Granted under Title 35, U.S. Code (1952), sec. 266)



2. In a gun comprising a rotatable breech having a plurality of firing chambers formed therein, a recoiling structure, and a linkage between said breech and said structure for effecting a predetermined degree of rotation of said breech in consequence of recoil action of said structure; an ammunition feeding means comprising a star wheel linked to said breech for corresponding rotation therewith and having the intertooth spaces thereof registered with said firing chambers, belted ammunition projectors cooperating with said star wheel and designed

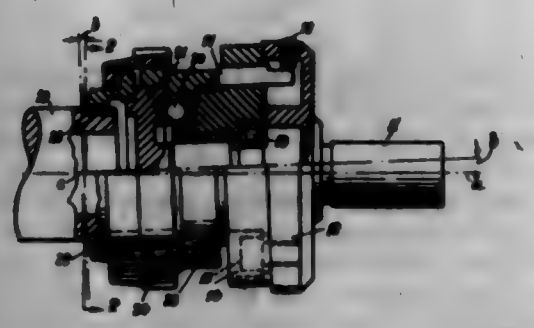
to fit into the intertooth spaces thereof, and explosive loading means for propelling rounds into said firing chambers upon said projectors coming into alignment therewith.

2,972,287
MILLING OF METALS SUBJECT TO GALLING
Samuel E. Rusinoff, Chicago, Ill., assignor to Walter G. Sea, Crown Point, Ind.
Filed Apr. 24, 1957, Ser. No. 654,772
1 Claim. (Cl. 90—11)



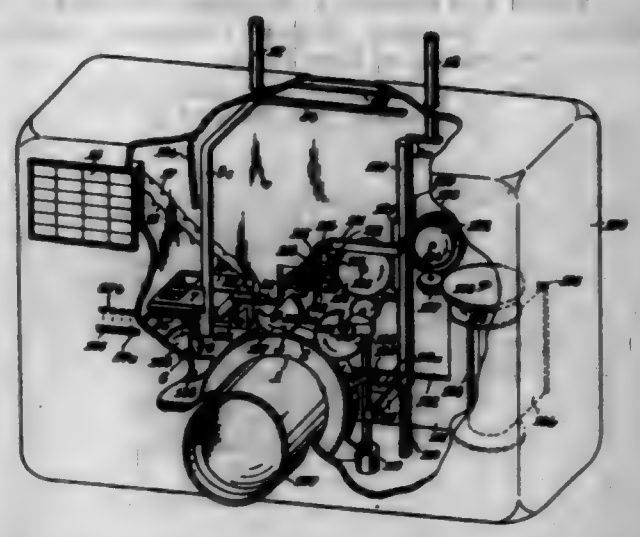
In a process for machining titanium and similar metals which are subject to galling, the steps of rotating a milling cutter having a pitch between ⅛" to ½" at a peripheral velocity in excess of 100 surface feet per minute, contacting the workpiece of titanium or a similar metal which is subject to galling with at least two teeth of said milling cutter at all times and causing the linear distance of travel of the workpiece per tooth of the milling cutter to be between 0.002" and 0.005".

2,972,288
LONGITUDINAL PROFILING ATTACHMENT
Edward Harter, Birmingham, Mich., assignor to The Wickman Products Corp., Oak Park, Mich., a corporation of Michigan
Filed Sept. 30, 1958, Ser. No. 764,399
1 Claim. (Cl. 90—24)



In a profiling tool having reciprocal movement along a longitudinal path of travel for cutting an external keyway on a rotatable workpiece, a stationary cutter supporting head having a fixed longitudinal axis coinciding with that of the workpiece, and a cutter having at least one inwardly directed cutting tooth having a transverse cutting edge spaced from the longitudinal axis of said cutter supporting head, said cutter having a longitudinal axis of rotation inclined relative to the longitudinal axis of said cutter supporting head, said transverse cutting edge having an effective cutting portion progressively reoriented in response to relative rotation between said cutter supporting head and said cutter, said cutter being adjustable laterally on said head in a plane common to the axes of said cutter and of said work to vary the point of intersection of said axes.

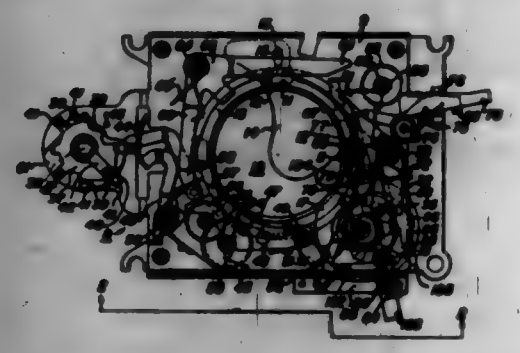
2,972,289
PHOTOGRAPHIC CAMERA
Heinz Melle, Braunschweig, Germany, assignor to Voigtländer A.G., Braunschweig, Germany, a corporation of Germany
Filed May 21, 1956, Ser. No. 586,857
Claims priority, application Germany May 28, 1955
5 Claims. (Cl. 95—10)



1. In a camera having a shutter release means and a shutter re-setting means, the combination comprising: an exposure condition setting means in the form of a rotatably mounted ring gear having a pair of diametrically opposite initial reference points for the start of exposure condition setting; a rotatable shaft; gearing, including a one-way coupling, interconnecting said shaft and ring gear for rotation of said ring gear by said shaft; first means biasing said shaft to rotate siad ring gear in a selected direction relative to the initial position of said one reference point; releasable latch means normally latching said shaft against rotation, with said reference points at their respective initial positions; light measuring means including an element displaceable in accordance with the value of the measured light available for exposure; scanning means rotatable with said shaft and operable to engage said element after a predetermined rotation of said shaft, corresponding to the measured light value as represented by displacement of said element, to arrest rotation of said shaft; a relatively elongated operator mounted for movement longitudinally of itself adjacent said shaft; second means biasing said operator to a set position; means on said operator effective, upon movement of the latter away from its set position, to engage said latch means to release the latter for rotation of said shaft by said first biasing means; means on said operator effective, upon continued movement thereof away from its set position, to engage and operate said shutter release means; second gearing, including one-way and slip coupling means, interconnecting said operator with said shaft and said ring gear and operable, upon movement of said rod toward its set position, to rotate said shaft back to its latched position and to rotate said ring gear back to a position wherein said reference points are at their initial positions; a first key operable directly, when manually actuated, to move said operator away from its set position; a second key; a third gearing effective to interconnect said second key and said ring gear; said second key, immediately upon manual actuation thereof, rotating said ring gear oppositely to said selected direction to displace said reference points from their initial positions; stop means on said second key effective, after a predetermined rotation of said ring gear in such opposite direction, to engage said operator and move it away from its set position in the same manner as said first key; and third biasing means operable to return said second key to its initial position; said second key, upon such return and after disengage-

ment of said operator by said stop means, rotating said ring gear, through said third gearing, in said selected direction to return said reference points to their initial positions.

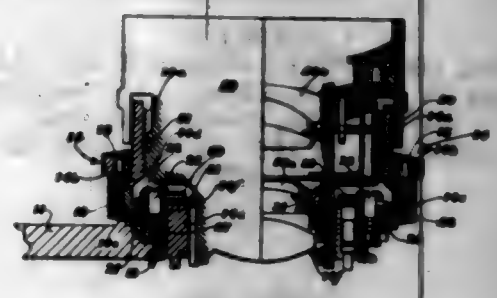
2,972,290
SYNCHRONIZING SHUTTER MECHANISM
Carl C. Fuerst and Francis A. Williams, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Aug. 16, 1957, Ser. No. 678,490
11 Claims. (Cl. 95—11.5)



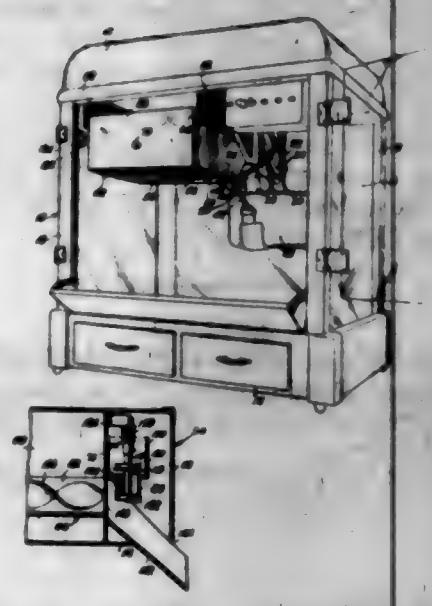
1. In a shutter for a camera having shutter blades, the combination of: a spring-biased shutter blade driving mechanism; a pin having a conical shank mounted on said blade driving mechanism; a synchronizer lever biased in a first direction by a first spring and in a second direction transverse to said first direction by a second spring, said lever having an arcuate slot receiving said pin and adapted when moved against the bias of said first spring into a tensioned position to rotate said blade driving mechanism against the bias of its spring into a shutter-cocked position; a first switch contact; a second switch contact carried by said synchronizer lever and movable therewith, said synchronizer lever being urged by said conical shank in a direction opposite to said second direction against the bias of said second spring to hold said movable contact out of engagement with said fixed contact throughout the travel of said synchronizer lever into its tensioned position; a first latch for releasably holding said synchronizer lever in its tensioned position; a second latch for releasably holding said blade driving mechanism in its shutter-cocked position; a shutter release cam connected to said synchronizer lever and movable therewith; and means for releasing said first latch whereby said synchronizer lever is moved by said first spring in said first direction with said lever moving off of said conical shank and being urged by said second spring in said second direction causing said second switch contact to slidably engage said first contact, said cam adapted as said lever reaches the end of its movement to actuate said second latch to release said blade driving mechanism which is urged in said first direction to open and close the shutter blades to make an exposure, said conical shank of said pin urging said synchronizer lever in a direction opposite to said second direction to disengage said second and first contacts when said blade driving mechanism reaches the end of its movement.

2,972,291
AXIAL LENS GUIDING SYSTEM
Gulford E. Kindig, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Feb. 13, 1959, Ser. No. 793,176
7 Claims. (Cl. 95—45)

1. In a lens mount, the combination with a base portion, a focusing ring mounted on said base for rotation only, a lens barrel positioned within said ring, a threaded connection between said barrel and said ring, of a guide ring surrounding said barrel, means for pivotally mounting said guide ring on said base eccentrically of said lens mount axis for rocking movement relative to said barrel and transversely thereof, and cooperating means on said guide ring and said barrel adapted to positively engage one another and limit said barrel to axial translation upon rotation of said focusing ring.



2,972,292
CONVERSION UNIT FOR POPCORN MACHINES
Samuel M. Wass and William G. Lippert, Kansas City, Mo., assignors to Manley, Inc., Kansas City, Mo., a corporation of Missouri
Filed Oct. 21, 1957, Ser. No. 691,239
6 Claims. (Cl. 99—238.4)



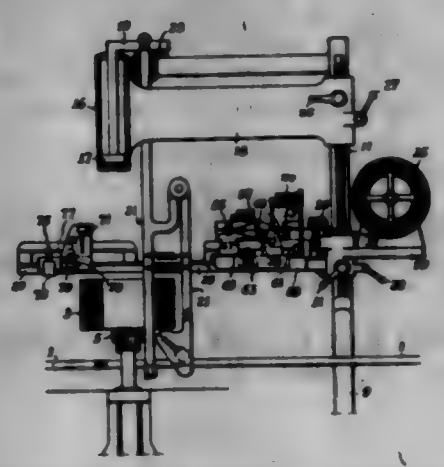
1. In a popcorn machine, a cabinet; a popping kettle swingably suspended in said cabinet; and apparatus entirely separate from said kettle for charging ingredients into the latter, said apparatus including drawer structure having hopper means therein separately receiving the various ingredients and provided with an outlet, said structure being shiftable into and out of the cabinet and being normally disposed in the latter above and to one side of the kettle; mechanism on the structure for automatically measuring designated quantities of the ingredients and delivering the same to said outlet, and conduction means connected with said outlet for directing said quantities of ingredients into the kettle through the top of the latter.

2,972,293
PROCESS CONTROLS FOR STERILIZERS
Robert W. Strehlow, New Berlin, and Howard P. Lanz, Milwaukee, Wis., assignors, by mesne assignments, to Food Machinery and Chemical Corporation, San Jose, Calif., a corporation of Delaware
Filed Aug. 22, 1955, Ser. No. 529,705
8 Claims. (Cl. 99—330)

4. In a processing retort for sterilizing material confined in containers, means to admit steam into said retort to process the material therein, means to admit water into said retort to cool the processed material in the contain-

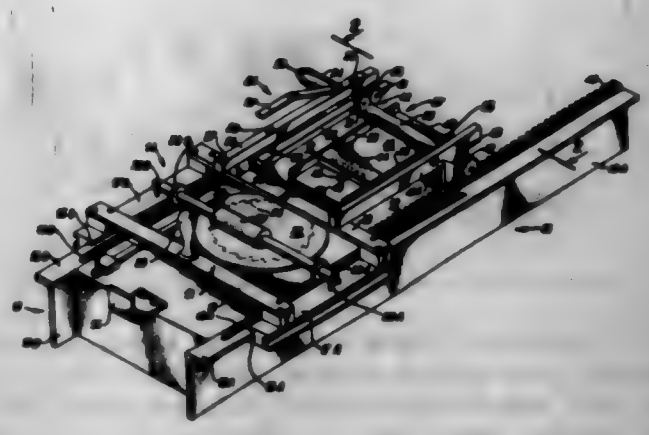
ert, a drain valve arranged to drain spent cooling water from said retort, power operated control apparatus arranged to control said drain valve in accordance with the pressure within said retort for draining the spent cooling water from said retort, and a pressure responsive element disposed to respond to the pressure within said retort and operative upon said power operated control apparatus to prevent opening of said drain valve until the pressure within said retort falls below a predetermined maximum pressure.

2,972,294
BINDING MACHINE
André Lecocq, Grandcourt par Signeulx, Belgium, assignor to Société Anonyme des Laminoirs, Hauts-Fourneaux, Forges Fonderies et Usines de la Providence, Machienne-au-Pont, Belgium, a company of Belgium
Filed Aug. 5, 1957, Ser. No. 684,383
10 Claims. (Cl. 100—10)



1. In a binding machine, an assembly comprising a pair of spaced interpivoted legs, there being aperture means near adjacent ends of the legs for receiving a flexible binding element, means for bodily displacing the assembly toward an article to be bound so that the legs encompass the article with the portion of said element between the legs partly encircling the article, a projecting part mounted on the free extremity of one of said legs, biassing means for normally urging said projecting part toward the other leg, and a cam member on said projecting part, engageable by said element and pivoting said one leg away from the other leg by coaction with a surface of said article, said biassing means causing said projecting part to return to its normal position on continued displacement of said cam member beyond said article whereby said element is brought into full encircling relation with the article.

2,972,295
MACHINE FOR PRINTING ON A LONGITUDINAL OBJECT REVOLVABLE ABOUT A LONGITUDINAL AXIS OF REVOLUTION
Irmo E. Tirtill, 10743 Cranks Road, Culver City, Calif.
Filed July 17, 1959, Ser. No. 827,827
8 Claims. (Cl. 101—40)



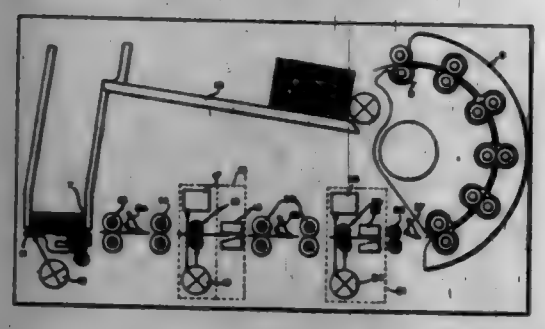
1. An improved machine for printing on a longitudinal object revolvable around a longitudinal axis of revolution and having a printable surface portion spaced from said longitudinal axis of revolution by a radius substantially perpendicular to said surface portion and said axis of revolution, comprising: a table having a substantially horizontal top surface; a longitudinal frame carrying said table; a carriage longitudinally slidably movably mounted upon said frame for movement between opposite ends thereof; an object feeder for a printable longitudinal object revolvable around a longitudinal axis of revolution and having a printable surface portion spaced from said longitudinal axis of revolution by a radius substantially perpendicular to said printable surface portion and said axis of revolution, said object feeder being secured to said carriage and movable longitudinally of said frame therewith, said object feeder including an upper arm and a lower arm resiliently vertically adjustably secured below said upper arm and being provided with two idler rollers spaced longitudinally along said lower arm for partial top encompassing resiliently downwardly biased engagement with the printable longitudinal object at a first location spaced from a first end thereof, a socket means spaced from said idler rollers in a direction transverse to the direction of longitudinal movement of said carriage and adapted to removably receive a second end of the printable longitudinal object therein and to non-rotatively engage and bold same, longitudinal rail means including a first longitudinal rail underlying the first location laterally spaced from the first end of the printable longitudinal object in opposition to the longitudinally spaced idler rollers and including a second longitudinal rail laterally spaced from said first longitudinal rail and lying under an intermediate portion of the printable longitudinal object adjacent the socket means and effectively providing the longitudinal rail means along which the printable longitudinal object may be rolled when the carriage means and the object feeder are moved along the frame, said socket means being provided with pinion means and said frame being provided with pinion means and said frame being provided with racks means engaged by said pinion means for rotating said socket means and the printable longitudinal object engaged thereby along said rail means; and indicia means between said rails in the path of rolling movement of an intermediate portion of said longitudinal printable object for printing upon a printable surface portion thereof markings corresponding to the indicia means as said longitudinal printable object is rolled thereof.

2,972,296

AUTOMATIC CARD FEED CONTROL IN DATA ANALYZING AND PRINTING MACHINES

Roy L. Haag, San Jose, Calif., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Nov. 13, 1957, Ser. No. 696,892
18 Claims. (Cl. 101—93)



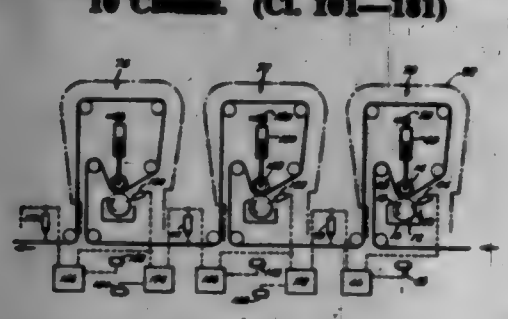
1. A business machine comprising, a pair of tandem arranged card reading stations associated with a common card feed mechanism and including individual station clutches energizable to initiate a cycle of station operation during which a tabulating card standing in the station is first read and all information recorded thereby is stored and the card is then transported out of the station, each card being transported from a first of said stations to the other thereof to be read successively by said stations, card-feed-cycle timing means, clutch energizing means for individually energizing said clutches, cyclically operating means for utilizing the information read and stored by said first station and for verifying the accuracy of utilization by use of information read and stored by said other station while at the same time initiating each timing operation of said timing means and timing the clutch energizations by said clutch energizing means, a control system having an operating interval initiated and terminated by said card-feed-cycle timing means, means responsive to initiation of operation of said control system and to the timing action of said information utilizing means for controlling said clutch energizing means to energize the clutch associated with said first station, and means responsive to the termination of operation of said control system and to the timing action of said information utilizing means for controlling said clutch energizing means to energize the clutch associated with said other station.

2,972,297

MULTICOLOR PRINTING ON A CONTINUOUS WEB

George N. Auerbacher, Springfield, N.J., assignor to Champlain Company, Inc., Bloomfield, N.J., a corporation of New York

Filed Oct. 3, 1957, Ser. No. 688,034
10 Claims. (Cl. 101—181)



4. A multicolor printing press for working on a continuous comparatively thick web, the units of said press each having a printing cylinder made of conventional non-yieldable material, an impression cylinder made of conventional yieldable material, an operating pressure exerting means to exert pressure on the web between the printing cylinder and the impression cylinder, said operating pressure being variable but sufficient to prevent slippage between the printing cylinder and the web, detector means to detect a departure from uniform layoff of the printed matter printed on the web by the printing cylinder, and means responsive to said detector means for varying the pressure exerted on the web by the aforesaid pressure exerting means in that direction which tends to restore uniform layoff in order to help maintain registration of the colors.

2,972,298

METHOD OF VECOSITY CONTROL IN PRINTING

Vincent S. De Marchi, Jamaica, Albert E. Gessler, Scarsdale, and William Van Kirk, New Hyde Park, N.Y., assignors to Interchemical Corporation, New York, N.Y., a corporation of Ohio

Filed June 4, 1954, Ser. No. 434,386
3 Claims. (Cl. 101—211)

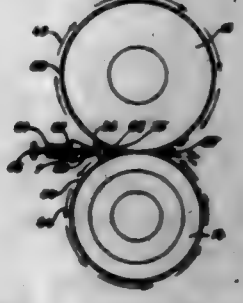
1. In the method of multicolor printing by a process in which a plurality of different colored inks are distributed to printing plates over a plurality of extended distribution systems comprising series of rollers having cooling means to control the temperature build-up in the rollers caused by the operation of the rollers, and in which each individual ink contains a volatile organic solvent which will evaporate from the ink sufficiently rapidly under ordinary ambient conditions so as to sharply increase the tack of the ink during its passage through the distribution system, and in which method this sharp increase in tack is prevented for all the inks by maintaining about each distribution system an atmosphere with a concentration of ink solvent vapor sufficient to sharply retard evaporation of the ink solvent as the ink passes through the distribution system by continuously feeding to the space about the surface of the distributing rollers a gas substantially saturated with ink solvent vapor, the improvement which comprises varying the rates of cooling of the individual distribution systems to vary the temperatures of the ink films thereon and to thereby change the relationships between the vapor-pressure of the solvents in the inks on the individual distribution systems and the pressures of the solvent vapor in the atmospheres about the respective distribution systems, whereby the tacks of the individual inks can be adjusted with relationship to one another.

2,972,299

VARIABLE VELOCITY DIFFUSER

Vincent S. de Marchi, Jamaica, N.Y., assignor to Interchemical Corporation, New York, N.Y., a corporation of Ohio

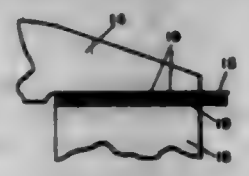
Filed Aug. 21, 1956, Ser. No. 605,357
1 Claim. (Cl. 101—349)



In a printing press with an extended distribution system comprising a set of rollers, means for producing a gas other than the ambient atmosphere, a series of diffusers with openings for directing the gas so produced into a plurality of the advancing nips of the roller couples to blanket the rollers, valves in the opening capable of changing the amount of gas coming from the openings, said valves comprising a continuous elastic coil adapted to close the opening, mounted on a series

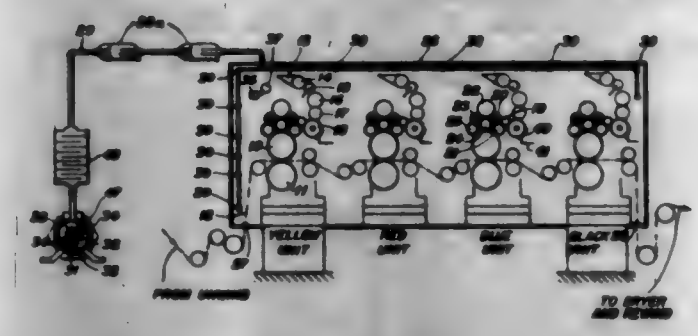
of individually operable valve stems, and means to operate the valves at differential settings across the diffusers whereby the amounts of gas coming from the diffuser may be varied across its width.

2,972,300
SHEET GRIPPER FOR PRINTING PRESSES
Arthur B. Mitchell, La Grange, Ill., assignor to Miehle-Goss-Dexter, Incorporated, Chicago, Ill., a corporation of Delaware
Filed Apr. 23, 1959, Ser. No. 808,469
3 Claims. (Cl. 101—412)



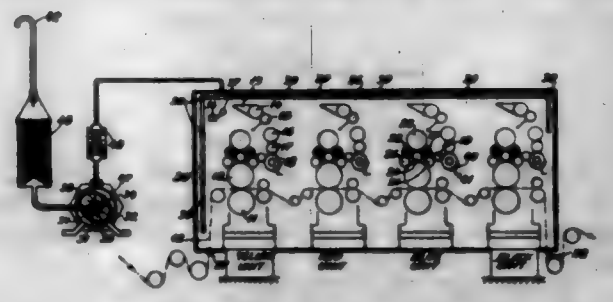
1. A gripper member for a printing press or the like machine comprising a base member, a sheet engaging surface on said member, a multiplicity of irregularly shaped grit particles distributed on said surface, said grit particles having a size of approximately .004 of an inch and being embedded to approximately one half grit particle size in a matrix of brazing material applied directly to said surface, whereby to provide the required interlocking relationship with the sheet adapted to be gripped by the gripper member, and said grit particles being selected from the group consisting of tantalum, zirconium, beryllium, titanium, tungsten, silicon and boron carbides, aluminum and zirconium boride, titanium nitride and diamond particles.

2,972,301
PRINTING PROCESS AND APPARATUS
Albert E. Gessler, Scarsdale, Vincent S. de Marchi, Jamaica, and William Van Kirk, New Hyde Park, N.Y., assignors to Interchemical Corporation, New York, N.Y., a corporation of Ohio
Filed Apr. 6, 1954, Ser. No. 421,242
8 Claims. (Cl. 101—426)



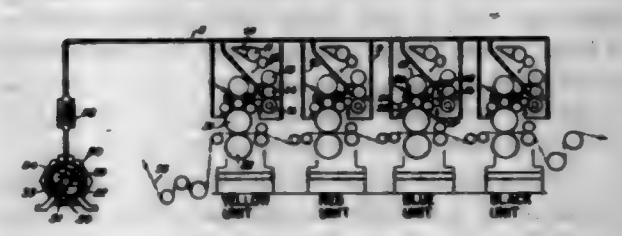
1. The method of printing on a moving web of paper by a process in which an ink is distributed over an extended distribution system to a printing plate and in which the ink contains a volatile solvent which will cause the ink to dry up on the distribution system under ordinary ambient conditions, which comprises maintaining a concentration of ink solvent vapor in the atmosphere over the ink distribution system in such relationship to the temperature of the ink film on the distribution system that the ink temperature does not exceed the solvent vapor dew point temperature by more than a few degrees centigrade, by preparing at a point out of contact with the distributing system a gas containing high concentrations of ink solvent vapor, and continuously feeding said gas to the vicinity of the distribution system at such a rate as to replace such gas as is removed from the vicinity of the distribution system by the action of the moving web and other causes.

2,972,302
METHOD OF TYPOGRAPHIC PRINTING
Dominic J. Bernardi, Scarsdale, N.Y., assignor to Interchemical Corporation, New York, N.Y., a corporation of Ohio
Filed Nov. 25, 1955, Ser. No. 549,283
4 Claims. (Cl. 101—426)



1. The method of web printing at speeds substantially in excess of 400 feet per minute on a typographic press with an extended distribution system, with inks which can be set by the addition of moisture thereto, which comprises printing on a web at such speeds with inks which are unprintable on the press at ordinary ambient relative humidities above about 55%, while maintaining about the distribution system of the press a body of air at a relative humidity less than that of the balance of the press room and not above 50%, and thereafter exposing the web to superheated steam outside the body of air.

2,972,303
METHOD AND APPARATUS FOR PRINTING INK
Vincent S. de Marchi, Jamaica, Albert E. Gessler, Scarsdale, and William Van Kirk, New Hyde Park, N.Y., assignors to Interchemical Corporation, New York, N.Y., a corporation of Ohio
Filed Nov. 28, 1955, Ser. No. 549,349
4 Claims. (Cl. 101—426)



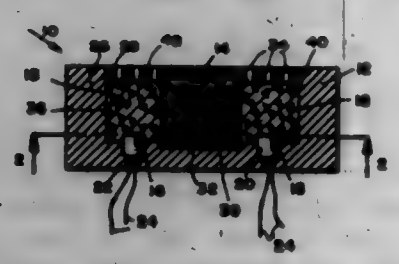
1. In a method for distributing ink in which an ink is passed from one roller to another to effect distribution and the ink is so unstable under ordinary ambient conditions that satisfactory distribution cannot be effected, the improvement which comprises feeding directly into the advancing nip between the rollers a gas in whose atmosphere the ink will not dry in the time required for distribution, at such a rate that a film of the gas a few thousandths of an inch in thickness is maintained on the rollers.

2,972,304
ELECTROSTATIC PRINTING
James G. Jarvis, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed June 2, 1959, Ser. No. 817,666
1 Claim. (Cl. 101—426)

In the art of electrostatic printing onto a receiving sheet from an insulating photoconductive zinc oxide layer carried on an electrically conducting support and having an image of electrically conducting material on the surface thereof opposite to the support, the steps comprising electrically charging the layer, in the absence of any substantial amount of radiation capable of rendering the layer more conductive, by positioning the layer near a charging source of one polarity, then still in the absence

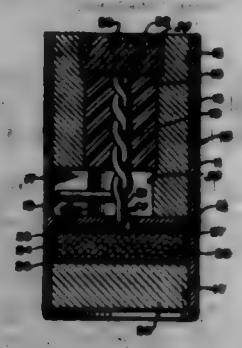
of any substantial amount of said radiation, applying to the layer a powder which is attracted and adheres only to the areas of the layer free of the conducting image material, bringing said receiving sheet and layer into contact with each other with the powder layer sandwiched therebetween, and positioning the sandwich of layer and receiving sheet near a charging source of said polarity to transfer the powder to the receiving sheet.

2,972,305
HI-LO IGNITER
Louis Le Fiegc and Robert K. Aspland, Newhall, and Rex L. Smith, China Lake, Calif., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Sept. 29, 1959, Ser. No. 843,327
2 Claims. (Cl. 102—70)



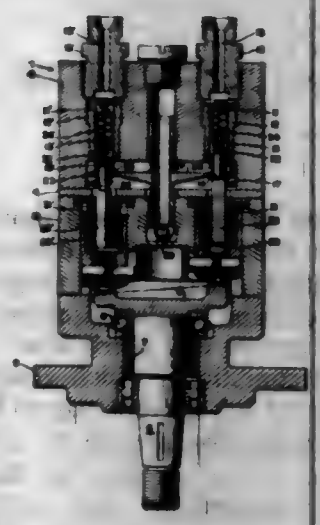
1. A propellant igniter for preventing initial high pressure peak and controlling the rate of pressure rise in a rocket motor chamber, comprising a container having an opening at one end and including a bottom interior surface and a side interior surface, a closure member including a flat portion and a solid portion connected to and extending in a right angle direction from the plane surface of said flat portion, said flat portion having a plurality of orifices formed therein and the outer periphery thereof disposed in sealing engagement with said opening, the extended portion of said solid cylinder extending into said chamber and spaced from said side interior surface and in fixed sealing engagement with said bottom interior surface thereby forming an annular space between said solid portion, said side interior surface, said bottom interior surface and said flat portion having a plurality of orifices, said annular space being substantially filled with a gas producing material, means positioned on said bottom interior surface operable for initiating said gas producing material.

2,972,306
IMPACT RESPONSIVE ELECTRIC PRIMER
Irving Kobik, Hyattsville, Md., and Eugene L. Cecil, Jr., Washington, D.C., assignors to the United States of America as represented by the Secretary of the Navy
Filed Aug. 27, 1952, Ser. No. 306,742
4 Claims. (Cl. 102—70.2)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. An impact responsive primer of the character disclosed comprising a tubular casing having a wall transversely disposed therein substantially midway between the ends of the casing, means forming an aperture within the central portion of said wall, a cup-shaped member composed of insulating material fitted within said casing in abutting relation with one side of said wall and having an aperture therein in registration with the first-named aperture, a barium titanate crystal carried by said cup-shaped member in closely fitted relation therewith and having a pair of electrodes disposed on the opposite faces thereof, one of said electrodes being in electrical contact with said casing and the other electrode being insulated therefrom by said cup-shaped member, a circular mass slideably disposed within said casing in closely spaced relation with respect to said one electrode in such manner that the crystal generates a voltage in response to pressure suddenly applied thereto by said mass as the opposite end of said casing is subjected to an impact, said casing being flanged at one end thereof to retain said mass slideably disposed therein, a metallic plug force fitted within the other end of said casing and having one end thereof in abutting engagement with the other side of said wall, three axial bores formed within said plug of different diameters, the smallest bore being adjacent to said wall when the plug is fitted within the casing and the largest bore being at the opposite end of said plug, a duct formed within said plug for establishing communication between the smallest of said bores and the interior wall of said casing, a second plug having a pair of conductors molded therein fitted within the bore of intermediate diameter, the end of one of said conductors being disposed within said duct and connected to said casing and an end portion of the other conductor being disposed within said apertures and connected to the other one of said electrodes, an electroresponsive detonator element connected to the other end of each of said conductors and carried by said second plug in an exposed position at an end portion thereof, and an explosive charge arranged within the largest of said bores in closely abutting relation with said detonator element whereby the charge is fired by the primer as the crystal is suddenly compressed by said mass in response to said impact.

2,972,307
MULTI-PLUNGER INJECTION PUMP
Robert J. Wirsching, Korntal, near Stuttgart, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany
Filed Mar. 25, 1957, Ser. No. 648,058
Claims priority, application Germany Apr. 20, 1956
12 Claims. (Cl. 103—38)



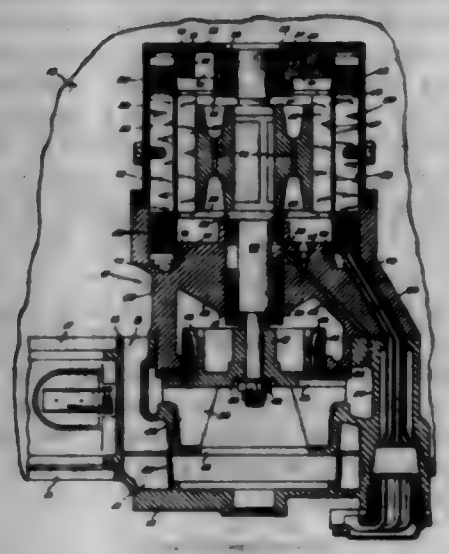
11. A multi-plunger injection pump for internal combustion engines comprising a pump housing portion, a control housing portion, a plurality of pumping units arranged within said pump housing portion for pumping liquid, actuating means operatively connected with said pumping units for actuation thereof including a drive

shaft and push rods, an operating control chamber formed in said control housing portion, a pump chamber in said pump housing portion, said chambers being arranged one above the other, sealing means arranged between said chambers, each of said pumping units including an outer plunger element and an inner plunger element slidably mounted in said outer element and operated separately from each other, cylinder means in said pump housing portion for slidably guiding said outer element therein including outlet means, adjusting means in said pump housing portion including a control plate operatively connected with each said outer plunger element for adjusting the lower dead center position thereof in relation to said cylinder for varying the volume of said compression space and therewith delivery of liquid, shoulders provided on said outer plunger element for engagement with said control plate, said adjusting means including a lever-operated cam.

2,972,308
SEALED STATOR SUBMERGED ELECTRIC FUEL PUMP

John L. Haggerty, Lyndhurst, Ohio, assignor to Thompson Ramo Wooldridge Inc., a corporation of Ohio

Filed Mar. 12, 1957, Ser. No. 645,449
10 Claims. (Cl. 103—87)

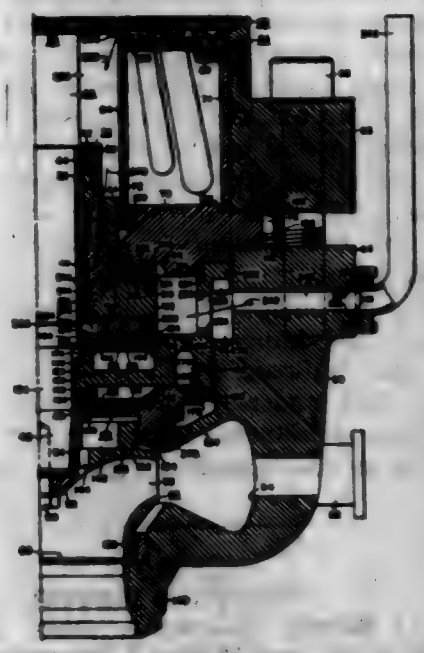


1. A pump comprising a casing having formed therein a pumping chamber and a motor chamber axially adjacent thereto, said pumping chamber having an inlet and an outlet, rotary fluid displacement means in said pumping chamber for moving fluid from the inlet to the outlet, a rotor in said motor chamber having a shaft extending axially thereof and connected to said rotary fluid displacement means, a stator surrounding said rotor and having electrical conductor wires connected thereto for energization of said motor, means forming a sealed barrier between said rotor and said stator whereby the fuel and electrical systems of the pump are isolated from one another, said means forming a sealed barrier comprising a sleeve member of greater length than said stator extending between said rotor and said stator to divide said motor chamber into an inner rotor compartment and an outer annular stator compartment, said casing having a wiring passage formed therein opening into said stator compartment, a passage formed in said casing interconnecting the pump and motor chambers, a valve seat in said passage, and a check valve on said valve seat closing said passage to retain fluid in said motor chamber but opening to admit fluid into said motor chamber from said pumping chamber in response to pump-generated pressures, thereby to cool and lubricate the rotor on both normal and dry runs.

2,972,309
MOTOR-PUMP UNIT

George E. Bolliben, Penn Hills Township, Allegheny County, and Michael Stark, Oakmont, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Sept. 3, 1958, Ser. No. 758,869
14 Claims. (Cl. 103—87)

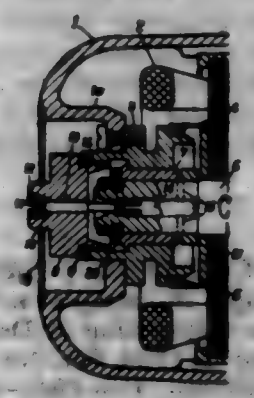


1. A dynamoelectric machine comprising a housing capable of retaining a lubricating fluid therein, a driving shaft, antifrictional means for mounting said shaft for rotation within said housing, a rotor secured to said shaft for rotation therewith, a hollow stator assembly mounted within said housing and juxtaposed of said rotor, a thrust runner coupled to said driving shaft for rotation therewith, a thrust bearing mounted within said housing in bearing contact with said thrust runner, said housing having flow passages therein for conveying lubricating fluid through said antifrictional means and said thrust bearing, an opening extending through said thrust runner, said thrust runner having a fluid impelling configuration formed adjacent its outer edge for impelling said fluid through said opening, an external lubricant cooling means, a fluid chamber surrounding said thrust runner, said housing having a pair of inlet and outlet openings extending therethrough and communicating with said chamber and said passages, and with said cooling means.

2,972,310
ELECTRIC MOTOR

Paul Akermann, Birsfelden, Switzerland, assignor to E.M.B. Elektromotorenbau A.G., Birsfelden, Switzerland, a company of Switzerland

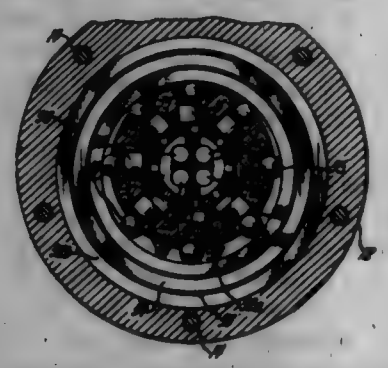
Filed Nov. 12, 1958, Ser. No. 773,207
4 Claims. (Cl. 103—87)



1. An electric motor-pump assembly for circulating a pressure medium comprising a casing, an electric motor having a stator and a rotor, said rotor including a shaft

rotatably supported by said casing, said shaft having a concentric bore therein, an impeller seated on said shaft for rotation therewith to circulate said pressure medium, a side wall in said casing having a bore concentrically arranged with respect to said shaft and extending from the interior of said casing to the exterior thereof, an indicating member rotatably supported in said bore of said side wall and displaceable therein between an inoperative and an operative position, said indicating member extending into said bore in said shaft, said indicating member being in driven engagement with said shaft and extending to the outside of said casing when in said operative position and out of engagement with the latter when in said inoperative position, respectively, and channel means connecting said bore in said shaft with said impeller and transmitting the pressure of said medium from said impeller into said bore in said shaft and to said indicating member during rotation of said shaft to displace said indicating member into said operative position and maintain the latter in driven engagement with said shaft under said pressure, to thereby indicate the direction of rotation thereof at the outside of said casing due to corresponding rotation of said indicating member.

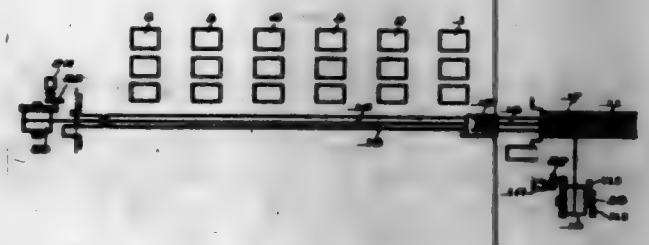
2,972,311
PUMP OR MOTOR
Everett L. Baugh, Lakewood, Ohio, John R. Prior, Pontiac, Mich., and Wilbur J. Schentzow, Berea, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Dec. 19, 1956, Ser. No. 629,332
6 Claims. (Cl. 103—161)



1. A fluid pressure transmission device comprising a rotatable carrier having a plurality of radially arranged piston chambers therein, means providing a pair of passages having alternate communication with each said chamber in operation of the device, a piston in each chamber having a flat outer end and a length less than the diameter thereof, and an anti-friction element carried in each said chamber outward of the corresponding piston and directly encircled by the wall of the chamber, said element freely contacting the flat end of the piston means outward of said carrier and engaging said elements to induce reciprocation of said pistons, said elements being retained within said chambers against the flat ends of the pistons by said last means and in operation of the device being caused to oscillate relative to said last means and said carrier, the oscillatory movement being accompanied by reciprocation of said elements with said pistons.

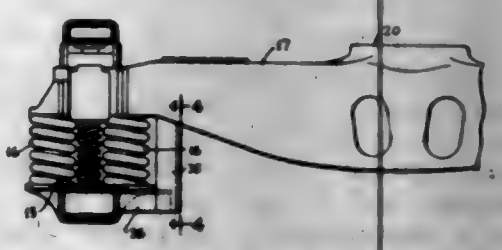
2,972,312
INGOT BUGGY DRIVE
Gordon Fox, Chicago, Ill., assignor to Koppers Company, Inc., a corporation of Delaware
Filed Jan. 5, 1954, Ser. No. 402,391
2 Claims. (Cl. 104—178)

1. In combination with a row of spaced soaking pits and a metal rolling mill, an ingot buggy movable along said row to said rolling mill for transferring ingots, an ingot buggy drive system comprising a pair of spaced winches, said winches being positioned at opposite ends of said row of spaced soaking pits; a first cable having one end attached to one of said winches and its opposite end attached to one end of said ingot buggy; a second cable having one end attached to the other of said winches and its opposite end attached to the opposite end of said ingot buggy; a winch drive mechanism for each of said winches; a pair of motors, each motor being adapted to drive one of said winches through said winch drive mechanism; a pair of electrically controlled brakes, each being connected to one of said winch drives; a common generator system connected to both of said motors to supply electric power to both of said motors simultaneously and control means operatively connected to said generator system for selectively moving and positioning said ingot buggy, said control means including means for said generator system for governing delivery



of greater voltages than a predetermined voltage by said generator system selectively to the armatures of said motors for causing differences in simultaneously opposed pulls on said cables connecting said winches with said ingot buggy so as to effect selected movement of said ingot buggy in its travel to and between said soaking pits and said metal working mill, said control means including further means to cause said brakes to effect a holding action when said motors are deenergized, and said control means also including cam actuated switch means for controlling movement of said buggy between pits and between the pits and said mill including a coarse cam actuated limit switch mechanism for controlling movement of the ingot buggy from pit to pit, and pit to mill; and a vernier cam actuated limit switch mechanism for accurate movement control of said ingot buggy between adjacent pits.

2,972,313
ANTI-TILT BOLSTER-MOUNTED BRAKES
Thomas M. Herbert, Huntingdon Valley, and Omer E. Frebolm, Jenkintown, Pa., assignors to The Budd Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Oct. 14, 1959, Ser. No. 846,287
3 Claims. (Cl. 105—200)



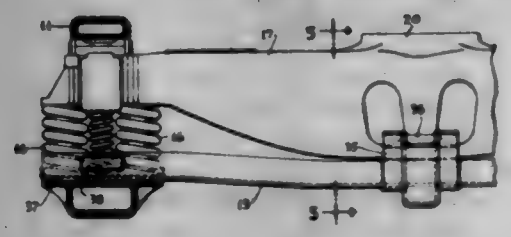
1. A railway truck comprising in combination, side frames, wheel-axle units turnably mounted in said side frames, a bolster mounted for vertical movement on springs on said side frames, said side frames having vertical guides in which the ends of the bolster slide, brake operating means mounted on said bolster, and stabilizing means, other than said vertical guides, between said bolster and a side frame, including a lever arm and a reactor guide member therefor, which limit the turning movement of the bolster by reaction against the side frame when the brakes are applied.

2,972,314

ANTI-TILT BOLSTER-MOUNTED BRAKES

Thomas M. Herbert, Huntingdon Valley, Pa., assignor to The Budd Company, Philadelphia, Pa., a corporation of Pennsylvania

Filed Oct. 14, 1959, Ser. No. 846,288
2 Claims. (Cl. 105—200)



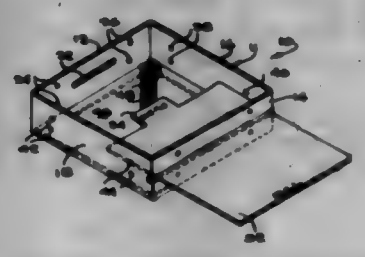
1. A railway truck comprising in combination, side frames, wheel-axle units turnably mounted in said side frames, a spring plank mounted at its ends on seats between spaced vertical guides at openings in said side frames, springs carried by said spring plank, a bolster mounted on said springs in said openings and having vertical movement along said spaced guides, brake operating means mounted on said bolster, means at the ends of said spring plank limiting longitudinal shifting on its end seats, and vertically extending guide and reaction means between said spring plank and said bolster which limit the turning movement of the bolster by reaction against the spring plank when the brakes are applied.

2,972,315

APPARATUS FOR FORMING FOOD PRODUCTS

Marie L. Foerster, 17 Ave. 53, Playa Del Rey, Calif.

Filed June 2, 1959, Ser. No. 817,580
4 Claims. (Cl. 107—1)



1. Food molding apparatus comprising an open frame having sidewalls and end walls having a common upper edge, an internal lateral flange on the walls at their lower edges, opposed walls having longitudinally spaced rod holes speced upwardly from said flange, the rod holes of opposed walls being in horizontally aligned relationship, removable rods engaged through aligned rod holes, a combined pressure and support plate optionally resting upon rods or upon said flange, opposed walls having aligned horizontal slots therein spaced from the rod holes and the internal flange, and a divider plate engaged through said slots and extending across the interior of the frame.

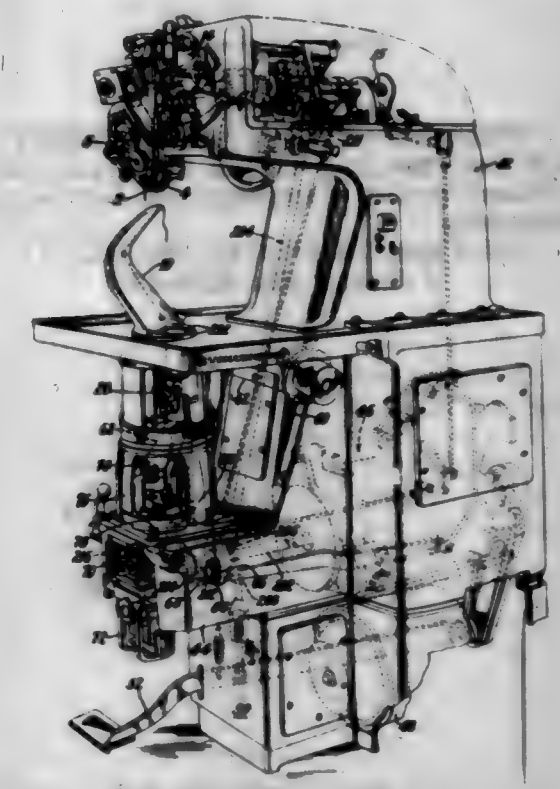
2,972,316

SHOE SEWING MACHINES

Fred Ashworth, Wenham, and Joseph R. Ioannilli, Beverly, Mass., assignors to United Shoe Machinery Corporation, Flemington, N.J., a corporation of New Jersey

Original application Oct. 28, 1955, Ser. No. 543,428, now Patent No. 2,928,361, dated Mar. 15, 1960. Divided and this application May 29, 1958, Ser. No. 738,810
15 Claims. (Cl. 112—36)

1. A McKay type shoe sewing machine having stitch-forming and work-feeding devices including a straight hook needle and an awl, a rotatable shoe supporting horn, and a loop taker arranged when engaging each loop of needle thread to draw the preceding needle loop toward a shoe on the horn and to set the stitch formed by said preceding loop and a carrier shiftable in the direction of work feed, in which the needle is mounted



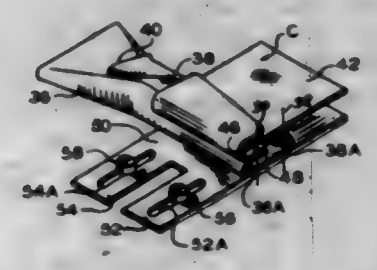
for reciprocation, in combination with means including a loop spreader mounted on the carrier for movement toward and from the path of the needle to engage and spread each needle loop for presentation to the loop-taker.

2,972,317

APPARATUS FOR MAKING WAISTBAND

John M. Ashe, 362 Clarement Road, Philadelphia, Pa.

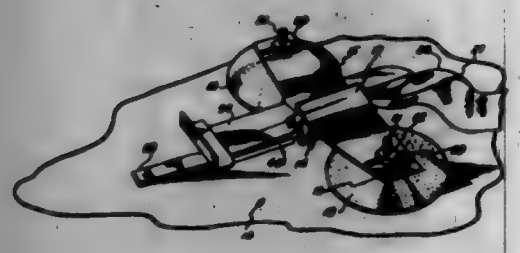
Filed Feb. 21, 1958, Ser. No. 716,805
1 Claim. (Cl. 112—147)



A sewing guide attachment for fabricating an elastic band for a garment comprising a flat substantially rectangular base plate, means adjacent one end of said base plate by which the base plate can be attached to a sewing table, an upright leg mounted on said base plate, said leg extending across said base plate adjacent the other end thereof, a platform secured to the top of said leg and extending parallel to said base plate, said platform being shorter than the length of said base plate, a substantially U-shaped guide extending along one end of said platform, said U-shaped guide extending around and spaced from said end of the platform with one leg of said guide extending over the top surface of the platform and the other leg of said guide extending beneath the bottom surface of said platform, the bottom leg of said guide extending to and secured to the bottom surface of said plat-

form, a hollow flattened tube extending across and secured to said base plate beneath said platform, the sides of said tube being curled over said tube to provide a pair of ears, the length of said ears increasing along the length of said tube so that the width of said tube decreases in width, and a guide ring spaced above said tube and affixed to the edge of one of said ears.

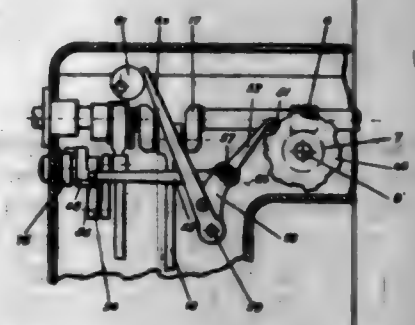
2,972,318
FOLDING SEWING ATTACHMENT
Walter R. Schindler, Los Angeles, Calif., assignor to Hotkup Manufacturing Company, Los Angeles, Calif., a copartnership
Filed Mar. 24, 1958, Ser. No. 723,371
1 Claim. (Cl. 112—147)



For use with a sewing machine including a sewing table having an upper surface, a sewing foot, and a reciprocating needle device operable at a feeding side of said sewing foot, the combination of a sewing attachment for double folding a strip of material before delivery to said sewing foot comprising a frame element, friction elements on laterally opposite sides of the frame element having a surface to surface engagement with the upper surface of the table mounting the frame thereon in arbitrarily selected positions on said surface and adjustable connections between said frame element and said friction elements whereby said frame element can be moved on the friction elements toward and away from said sewing foot, an arcuate external strip guide mounted on the frame element in position tilted downwardly toward said sewing foot and having reversely curved edges, an arcuate internal strip guide nested within said external strip guide and spaced therefrom forming a double reversely curved strip passage of progressively diminishing breadth, a delivery guide mounted on the frame forming a finish folding channel in axial alignment with the strip passage, said channel having an exit end resting on said surface adjacent the sewing foot, and a baffle forming part of the delivery guide adjacent the exit and extending vertically above the uppermost position of said sewing foot whereby to prevent insertion of said delivery guide beneath said sewing foot during adjustment on the sewing table.

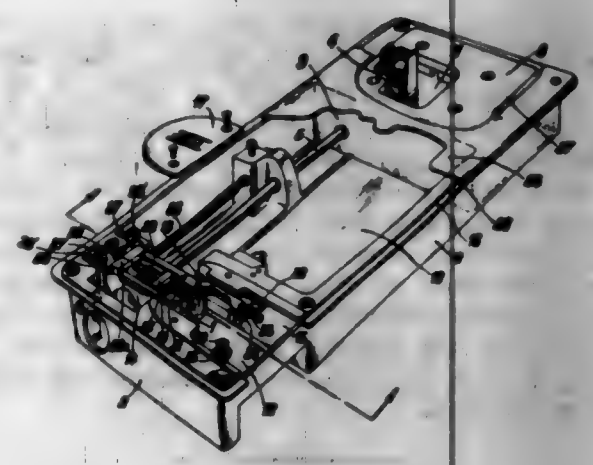
2,972,319
APPARATUS FOR OBTAINING IN A ZIG-ZAG SEWING MACHINE AN AUTOMATIC DISPLACEMENT OF THE FABRIC APT TO BE AMPLITUDE ADJUSTED
Antonio Mora, Milan, Italy, assignor to F.lli Berletti S.p.A., Milan, Italy
Filed Aug. 2, 1955, Ser. No. 525,935
Claims priority, application Italy Aug. 6, 1954
6 Claims. (Cl. 112—158)

1. In a zig-zag sewing machine having a frame with a needle mechanism and work feeder therein, with two replaceable cams for the execution of pattern sewing, one of which cams is for driving the transverse displacements of the needle and the other of which cams is for driving the displacements of the work feeder, means for operatively connecting said second cam to the feeder comprising a two-armed lever, one arm of said lever carrying a cam follower for receiving movement from said second cam, means operatively connected with the other arm of said lever and to said feeder for controlling the move-



ment of the feeder, a second two-armed lever, means swingably mounting said second lever on the machine frame, means pivotally mounting the first lever on an arm of the second two-armed lever, and a manually operated eccentric cam engaging the other arm of said second lever whereby operation of the eccentric cam results in a movement of the last-mentioned means of the first two-armed lever along a circular line and in a corresponding variation of the movements of the feeder.

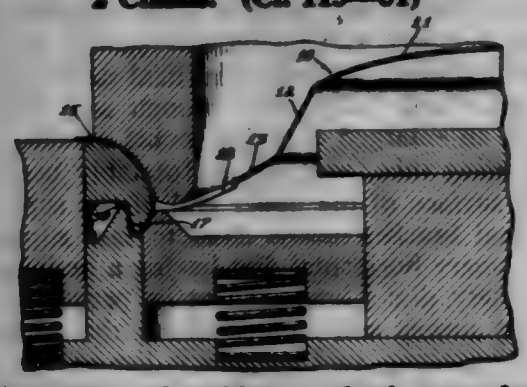
2,972,320
DOUBLE STITCH SEWING MACHINES
Wolfgang Engel, Bielefeld, Germany, assignor to Phoenix Nachmaschinen A.-G. Baer & Rempel, Bielefeld, Germany
Filed Oct. 24, 1956, Ser. No. 618,036
Claims priority, application Germany Nov. 2, 1955
2 Claims. (Cl. 112—215)



1. Double stitch sewing machine of the type comprising a base pan having walls at one end thereof defining a driving gear housing in the bottom of said base pan, a main shaft extending longitudinally of and journalled in said base pan, a looper having a looper shaft operatively connected to and extending with its axis transversely of said main shaft and disposed in said driving gear housing, a dog for feeding material disposed above said looper and a presser foot disposed above said dog, said looper being disposed with its plane of rotation ex-

tending transversely of the direction of operation of said dog, an inner and an outer carrier arm each journalled at one end on a vertical link mounted on a feeding shaft, said feeding shaft being disposed along the rear wall of said pan and extending substantially parallel to said main shaft and being operatively connected thereto, said arms extending on both sides of said looper shaft transversely of said main shaft and projecting above said driving gear housing and supporting said dog symmetrically therebetween above said driving gear housing, transverse bars connecting said inner and said outer carrier arms with one another, said presser foot being mounted for rocking movement about a pivot axis and a portion of one of said carrier arms projecting forwardly of said looper and said dog, a lifting lever pivotally mounted in said driving gear housing having one arm operatively connected to said drive shaft and presenting a cross head extending transversely of said forwardly projecting portion and said forwardly projecting portion having a bifurcated end in operative engagement with said cross head; a point of engagement of said bifurcated end with said cross head, a pressure point on said dog and a point on the journalled end of said other arm being generally disposed in a diagonal plane crossing said pivot axis of said presser foot at a point vertically above said dog.

2,972,321
METHOD OF MAKING WHEEL COVERS
George Albert Lyon, 13881 W. Chicago Blvd., Detroit, Mich.
Filed Aug. 13, 1953, Ser. No. 374,076
2 Claims. (Cl. 113—51)



2. In a method of making a wheel cover from sheet metal, shaping a sheet metal blank into a circular member and in the shaping working a dished annular portion spaced radially inwardly from the periphery of the cover, working a plurality of circumferentially spaced depressed areas into said dished portion and with a short generally axially extending flange connecting the respective depressed areas to the remainder of said dished portion and resulting in further working and hardening of such areas, striking out said depressed areas within said flange and attached to the cover member integrally in one piece at the radial side of each of the struck-out depressed areas, while leaving the respective flange as a reinforcement about the remainder of the opening left by the striking out of the depressed area, and bendably working and further hardening the struck-out areas to provide angular retaining finger extensions for retaining engagement with a portion of a wheel to which the cover is thereby adapted to be attached.

2,972,322
BOAT
Kenneth Parker, Janesville, Wis., and John Norek, Newport Beach, Calif., assignors, by mesne assignments, to Gibson Engineering & Manufacturing Company, Janesville, Wis., a corporation of Wisconsin
Filed Feb. 9, 1959, Ser. No. 792,200
3 Claims. (Cl. 114—126)

1. In a propeller driven boat, a horizontal stabilizer disposed on the hull parallel to and just above the normal load water line, said stabilizer extending along each side of the boat from a point forwardly of the propeller to and across the transom of the boat, said transom being V-shaped and comprising a pair of surfaces sloping



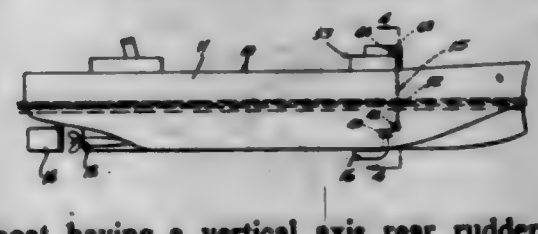
rearwardly from the rear ends of the boat sides and meeting midway the width of the stern, said surfaces also sloping upwardly and rearwardly from the rear of the bottom of the boat.

2,972,323
RUDDER FOR SHIPS AND BOATS
Olafur Einarsson, 164 Sogaveg, and Sigurdur Hilmar Olafsson, 12 Baldursgata OE, both of Sudurlandsbraut, Reykjavik, Iceland
Filed Apr. 28, 1959, Ser. No. 822,761
5 Claims. (Cl. 114—162)



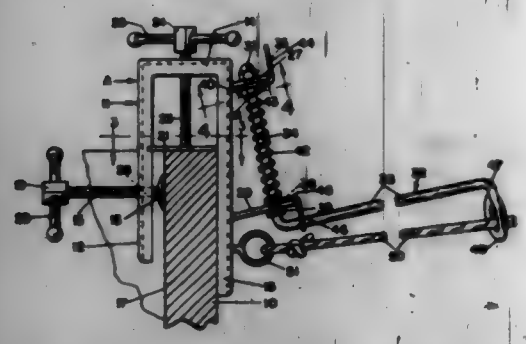
1. A rudder for a propeller driven vessel, provided with a pair of laminar members mounted one on each side of the rudder so as to be movable therewith, the leading edges of the rudder and laminar members being substantially in a common plane, and the laminar members being spaced from the adjacent side surfaces of the rudder and being curved so as to converge at their trailing edges.

2,972,324
STEERING DEVICE FOR SHIPS
Carroll Williams, Lakeland, N.J.
(National Agriculture College, Doylestown, Pa.)
Filed Feb. 21, 1958, Ser. No. 716,732
1 Claim. (Cl. 114—163)



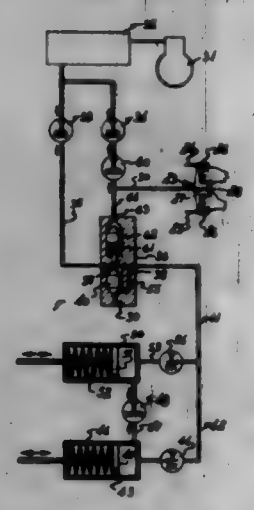
In a boat having a vertical axis rear rudder and a vertical axis forward rudder, said forward rudder having a vertical shaft, a rotary horizontal shaft supported on the boat above said vertical shaft, a cable drum fixed on said horizontal shaft, cable means wound on said drum and leading to the rear rudder, rotating means for said vertical shaft comprising a sleeve journaled on said horizontal shaft and means operatively connecting said sleeve to said vertical shaft, a forward rudder steering wheel circumposed on said horizontal shaft and fixed to said sleeve, a rear rudder steering wheel fixed on said horizontal shaft, said steering wheels being independently rotatable relative to each other for independently rotating the forward and rear rudders, said rotating means comprising a sprocket wheel fixed to said sleeve, an endless sprocket chain trained around said sprocket wheel, a horizontal axis bevel pinion mounted on the boat below the horizontal shaft and having a sprocket wheel thereon over which said chain is trained, said vertical forward rudder shaft having a vertical axis bevel gear fixed thereon and meshed with said pinion.

2,972,325
WATER SKI TOW ROPE GUIDE
Phillip K. Beltmann, 1496 Laurel Ave., and Edward J. Robb, 327 E. Morton St., both of St. Paul, Minn.
Filed July 11, 1958, Ser. No. 748,017
9 Claims. (Cl. 114—235)



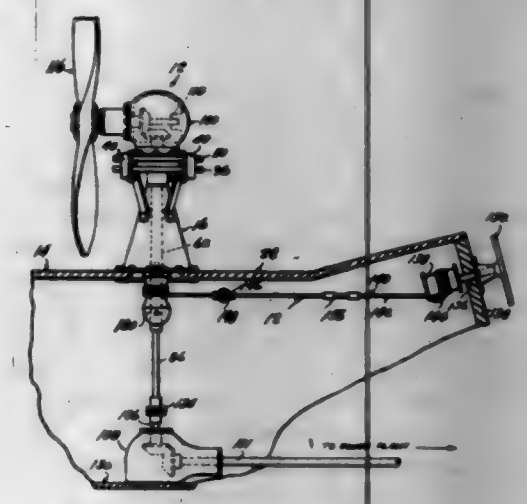
1. In combination with the transom of a boat, a tow rope guide for said boat including a bracket designed for attachment to said boat transom, an arm pivotally supported by said bracket for pivotal movement about a substantially vertical axis, resilient means normally urging said arm to extend transversely of the longitudinal axis of the boat, and a rope guide on the end of said arm.

2,972,326
TOW VEHICLE FOR WATER-SKIERS
Lee S. Simpson, Alameda, Calif.
(440 N. Cornelia, Fresno 6, Calif.)
Filed June 18, 1956, Ser. No. 592,186
13 Claims. (Cl. 115—6.1)



11. In a self-propelled ski-tow having a platform, speed adjustable motive power means mounted on the platform and traction means operated by said motive power means for propelling the ski-tow; a fluid pressure operated control device on the platform normally biased to adjust the motive power means to a low speed, a second source of power including a fluid pressure source mounted on said platform, a flexible tow-line connected to and extending rearwardly of the platform and having a hand portion, a flexible hollow conduit coextensive with the tow-line and coupled at the end adjacent the platform to said fluid pressure source and to said control device, the opposite end of said conduit being connected to said hand portion and said hollow conduit having an opening therein adjacent said hand portion for relieving the fluid pressure build-up by the pressure source when unobstructed and for providing pressure build-up in the hollow conduit upon manual obstruction by the skier, to operate said control device to increase the speed of the motive means.

2,972,327
COMBINED PROPELLING AND STEERING ASSEMBLY
Julius C. Paul, P.O. Box 287, Fulton, Tex.
Filed May 22, 1959, Ser. No. 815,146
4 Claims. (Cl. 115—35)

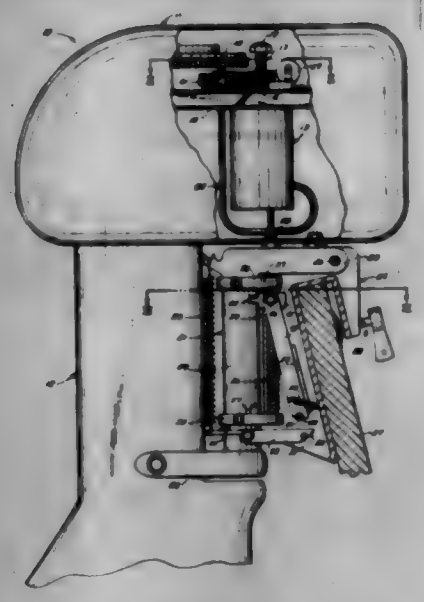


1. A combined propelling and steering assembly comprising a propeller unit and a steering mechanism, said propeller unit comprising an upstanding vertical hollow support housing having upper and lower ends, means for securing said lower end upon a horizontal support, said upper end having a vertical bore extending therethrough and having an upper surface, a vertical steering tube having an upper end journalled through said bore and a lower end, an enlarged diameter socket on the upper end of the steering tube, said socket rotatably bearing upon the upper surface of the upper end of the support housing, external bracket means fixed to said support housing, a stationary horizontal disc having a peripheral edge, said stationary disc being fixed at its peripheral edge to the bracket means and located above the upper end of the support housing, said stationary disc having a central opening in which said socket is journalled, a rotary disc bearing upon the stationary disc, said rotary disc having a peripheral edge registered with the peripheral edge of the stationary disc, combined bearing and retaining means fixed to the bracket means and embracing the peripheral edges of the discs, a central tubular stud on and depending from said rotary disc and secured in said socket, a propeller driving shaft extending upwardly through said steering tube, said socket, and said stud, said driving shaft having a lower end below the lower end of the steering shaft for connection to driving means, said shaft having an upper end extending above said rotary disc, and a propeller assembly mounted upon said rotary disc and having a horizontal propeller shaft operatively connected to the upper end of the driving shaft.

2,972,328
TILTING MECHANISM FOR OUTBOARD MOTORS
James E. Hodgson, 2337 Benton, Kalamazoo, Mich.
Filed July 25, 1957, Ser. No. 674,195
9 Claims. (Cl. 115—41)

1. A tilting device for boat transom mounted outboard engines comprising an engine mounting support adapted for engagement to said boat transom, an outboard engine, pivotal means securing said engine to said support whereby the engine may be moved to alternate tilted positions with respect to said boat transom and support, an engine tilting mechanism operatively intermediate said engine and support, an electrical motor normally useful for starting

said engine, means selectively interconnecting said starter motor and said engine tilting mechanism to cause tilting

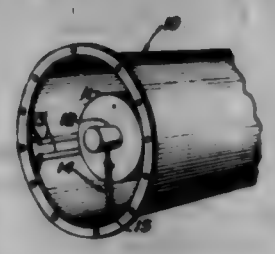


of said engine, and means for energizing said starter motor.

2,972,329
APPARATUS FOR INDICATING DYNAMIC DISPLACEMENT

Walter F. Smith, Alta Loma, Calif., assignor to the United States of America as represented by the Secretary of the Navy

Filed Apr. 1, 1958, Ser. No. 725,764
8 Claims. (Cl. 116—114)
(Granted under Title 35, U.S. Code (1952), sec. 266)



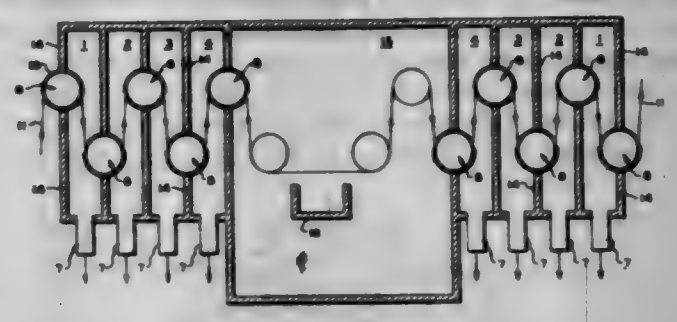
1. A displacement measuring device for packaged articles including in combination a container, an article secured inside said container, a first means in contact with said article and responsive to impacts received by said article to effect displacement of said first means, an enclosure mounted on said container and housing one end of said first means, an adjustable friction means between said one end of said first means and said enclosure for retaining said first means in said enclosure in its original and displaced positions, means for measuring the relative position of said one end inside said enclosure for recording the initial measurement for comparison with later measurements whereby the displacement of the article in the container due to external impacts is easily determined.

2,972,330
VACUUM SEAL FOR COATING APPARATUS

Wallace F. Bugbee, Brookline, Mass., assignor, by mesne assignments, to National Steel Corporation, a corporation of Delaware

Filed Feb. 15, 1956, Ser. No. 565,599
6 Claims. (Cl. 118—49)

1. In apparatus for vacuum coating a continuously traveling material, said apparatus consisting of a plurality of vacuum chambers, separate means to reduce the pressure in said chambers, means to provide coating vapors within one of said chambers, and means for guiding said substrate over said coating vapors, the improvement which comprises means for providing vacuum seals in the walls of one of said vacuum chambers to allow passage of said subetrate into and out of said vacuum chamber, said vacuum seals comprising a roller and a close-fitting housing for said roller, the opening between said roller and housing being not wider than 0.050 inch,

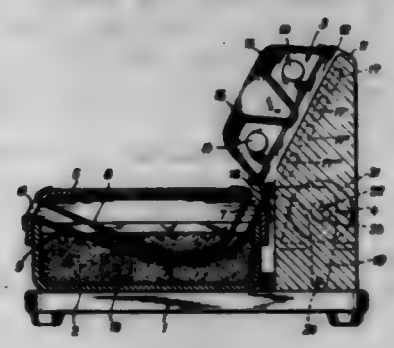


said substrate following an arcuate path around said roller, said path describing an arc of between 120 and 180 degrees, and means for holding the substrate taut against said roller in order that contact between the subetrate and the housing be prevented.

2,972,331
DEVICE FOR DEVELOPING A LATENT ELECTROSTATIC IMAGE

Walter Limberger, Hamburg, Germany, assignor to Lumoprint Zindler K.G., Hamburg, Germany, a company of Germany

Filed June 27, 1957, Ser. No. 668,528
Claims priority, application Germany June 29, 1956
10 Claims. (Cl. 118—637)



1. A device for developing, by contact with a granular toner, a latent electrostatic image on a flexible carrier having a xerographic layer, comprising a receptacle adapted to be filled to a predetermined level with said toner, elongated, narrow upper and lower guide elements supported on said receptacle above the bottom thereof, said guide elements fixedly extending with close vertical separation across the top of said receptacle and curving down therewithin to a location below said level, thereby forming a descending branch and an ascending branch adapted to guide said carrier through an accumulation of said toner within said receptacle, and heating means adjacent said ascending branch for fusing adhering toner particles to said carrier.

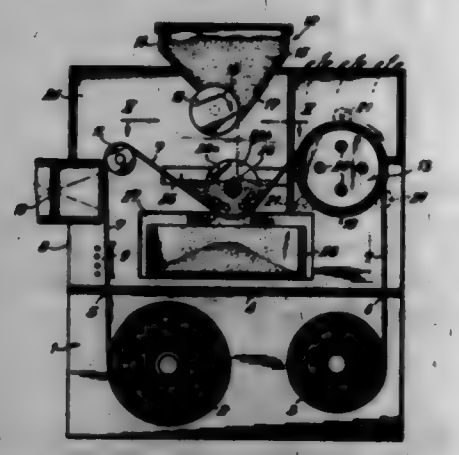
2,972,332
APPARATUS FOR DEVELOPING LATENT ELECTROSTATIC IMAGE ON AN ELONGATED FLEXIBLE SUPPORT

Walter Limberger, Hamburg, Germany, assignor to Lumoprint Zindler K.G., Hamburg, Germany, a company of Germany

Filed Aug. 16, 1957, Ser. No. 678,685
Claims priority, application Germany Aug. 29, 1956
3 Claims. (Cl. 118—637)

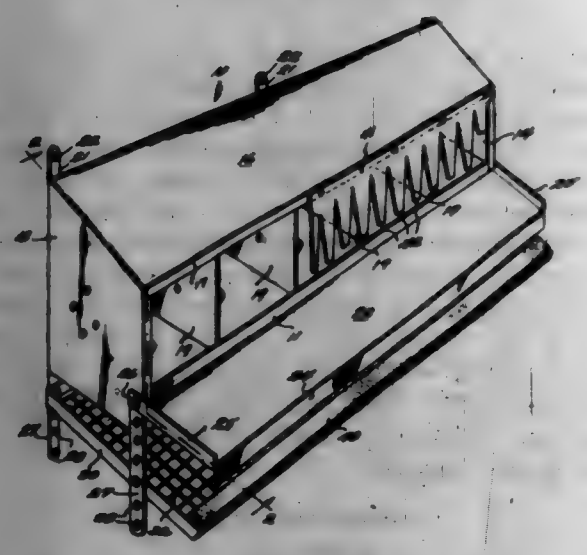
1. An apparatus for developing latent electrostatic images, comprising a housing, an elongated, flexible support for a xerographic layer inside said housing, guide means within said housing adapted to form a portion of said support into a freely depending loop, feed means

for advancing said support past said guide means while maintaining said loop substantially at a predetermined location, said housing having a pair of stationary side walls positioned closely adjacent the sides of said loop and forming therewith a chute for a comminuted toner above said loop, said feed means including a roller and drive means for rotating said roller, feed-control means operatively coupled with said drive means and actuatable by the lowest loop portion for regulating the advance of said support in a manner maintaining the sag of said



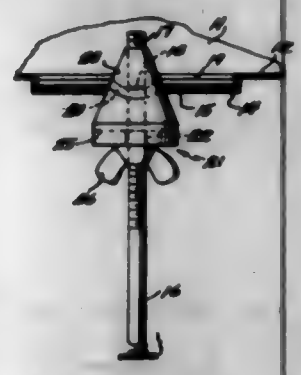
loop substantially constant, and supply means for said toner at the top of said chute, said supply means being adapted to deliver toner to the concave side of said loop at a rate exceeding the rate of removal of toner by said support, said side walls being formed with substantially horizontal slots above the bottom of said loop whereby toner deposited on said support by said supply means will form in the hollow of said loop a pile whose level is determined by the escape of excess toner through said slots.

2,972,333
LAYING NEST
Plez J. Hooper, Hastings, Okla.
Filed Apr. 7, 1959, Ser. No. 804,705
1 Claim. (Cl. 119—45)



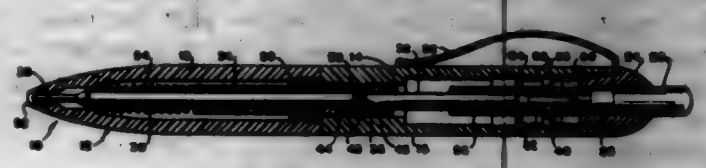
A laying nest comprising an elongated container having a plurality of compartments formed therein, a centrally apertured flexible nest bottom supported in each compartment, said flexible nest bottom comprising a dished rubber member having a rigid frame secured to the peripheral edge thereof and having the central aperture therein defined by a reinforced thickened portion of said flexible member, a plastic screen positioned below said nest bottom and sloping downwardly and forwardly, said screen being secured to said nest for vertical adjustment in relation thereto a cushion supported on the forward lower end of said screen to be engaged by eggs rolling on said screen, a perch mounted on said nest in generally horizontal relation to said nest, each of said compartments having an entrance adjacent said perch, said perch pivotally mounted to swing from its horizontal position to a vertical position to close said entrances, said nest having a plurality of flexible strips secured thereto forming a curtain over the entrances to said nests.

2,972,334
WILDLIFE FEEDER
Alvin H. Braden, 130 Haverhill Drive, San Antonio, Tex.
Filed Oct. 12, 1959, Ser. No. 845,864
3 Claims. (Cl. 119—51)



1 An animal feeder comprising a container having a bottom wall, means for suspending said container, said bottom wall being formed with a circular central opening, a shaft having a threaded upper end portion and a depending portion extending axially through said opening, a pivot pin having an arcuate offset portion extending transversely through a bore in the threaded end of said shaft and resting on said bottom wall supporting said shaft in depending relation to said container for swinging movement with respect to said bottom wall, a conical valve plug having a reduced end portion, and having an axial bore formed therein slidingly received upon said threaded end portion of said shaft for vertical adjustment and nut means on said shaft below and supporting said plug for adjusting said valve plug vertically on said shaft to vary the space between the edges of said plug and the edge of the opening in said bottom wall.

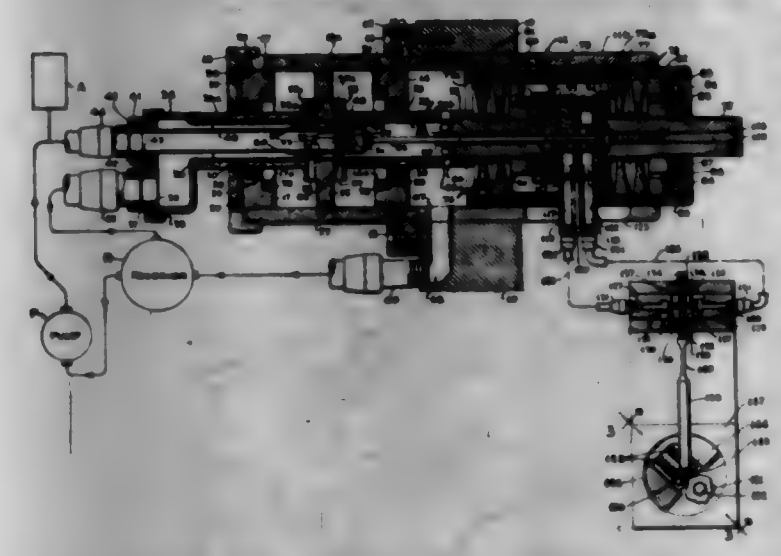
2,972,335
REVERSIBLE INK CARTRIDGE UNIT FOR BALL POINT PENS
Wilhelm Grube and Friedrich Otto Grube, Heidelberg-Rohrbach, Germany, assignors to Kaweco Badische Füllfederfabrik Friedrich Grube, Wiesloch, Germany, a firm of Germany
Filed May 29, 1956, Ser. No. 588,696
3 Claims. (Cl. 120—42.1)



1. In a ball point pen, an oblong casing having an open end, a holding member within said casing and being slidable in the direction of the longitudinal axis of said casing, a first writing unit having a writing end extendible through said open end of said casing and having an ink reservoir removably attached to said holding member, and a second writing unit having a writing end and an ink reservoir removably attached to said holding member and extending from said holding member in a direction which is opposite to the direction in which said first writing unit extends from said holding member, said casing including two axially immovably disconnectably interconnected parts, said holding member and said writing units forming an aggregate reversibly inserted in said casing and extending into both of said parts, said parts

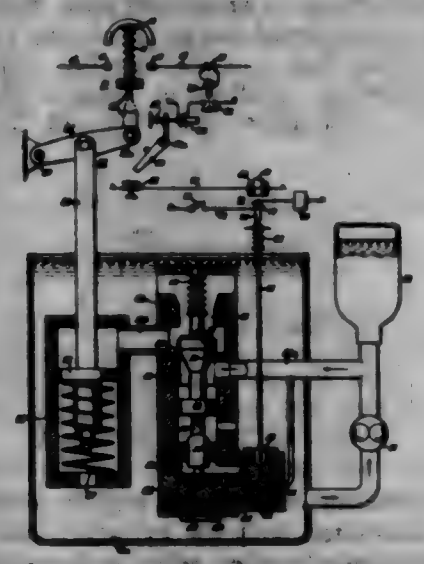
having internal shoulder means of smaller cross section than said ink reservoirs for limiting axial movement of said aggregate when said parts are connected.

2,972,336
REACTION COMPENSATED VIBRATORY PROGRAMMED FORCE PRODUCING APPARATUS
Glen N. Krouse, Pottstown, Pa., assignor, by mesne assignments, to The Budd Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed June 11, 1958, Ser. No. 741,333
8 Claims. (Cl. 121—38)



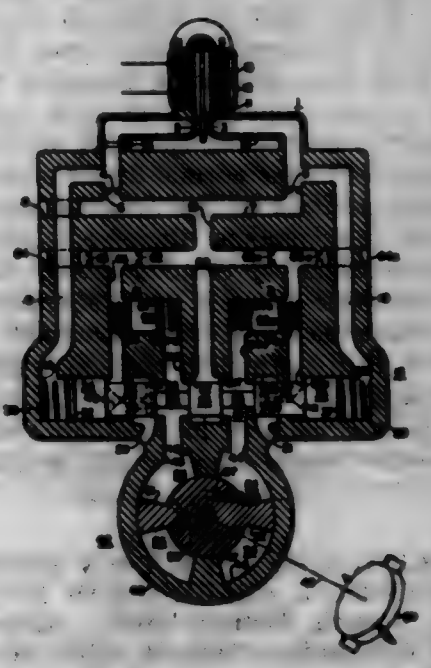
1. A programmed vibratory force producing apparatus, comprising in combination, a fluid actuated reciprocatory force producing device, a control valve for pressure fluid supplied to said device, cyclic signal programmed means acting independently of said force producing device for operating and timing the movement of said control valve, a power connection for said force producing device to operate upon a specimen, resilient means between said force producing device and said power connection, and means conjointly responsive to said force producing device and said power connection for altering the action of said signal programmed means on said valve.

2,972,337
HYDRAULICALLY ACTUATED OPERATING MECHANISM FOR AN ELECTRIC CIRCUIT BREAKER
Thelwell R. Coggeshall, Cynwyd, and Ugo R. Tognella, Philadelphia, Pa., assignors to General Electric Company, a corporation of New York
Filed Nov. 30, 1959, Ser. No. 856,122
7 Claims. (Cl. 121—38)



1. In a hydraulically-controlled operating mechanism for an electric circuit breaker, a fluid motor comprising a movable piston adapted to close said circuit breaker when moved from a first to a second position, an accumulator for supplying pressurized operating liquid to said motor, valve means for controlling the flow of pressurized operating liquid from said accumulator to said motor, said valve means comprising an inlet port interconnecting said accumulator and said motor, a dump port interconnecting said motor and a low pressure region, and a valve member movable between a closed position in which it seals off said inlet port and an open position in which it seals off said dump port, said dump port being open when said valve member is in its closed position and said inlet port being open when said valve member is in its open position, a chamber on the accumulator side of said valve member which is normally filled with pressurized liquid acting on the valve member in a valve-opening direction, a first piston fixed to said valve member and having a working area upon which pressurized liquid in said chamber acts in a direction to hold said valve member closed, said working area being greater than the effective area of said valve member that is exposed to valve-opening pressure from the liquid in said chamber whereby the pressure of the liquid in said chamber provides a net force acting in a direction to hold said valve member closed, an actuating piston coupled to said valve member and having a valve-actuating surface against which pressurized liquid can act to overcome said net force and drive said valve member out of its closed position, pilot valve means for admitting pressurized liquid to said valve-actuating surface to cause said valve member to open said inlet port and close said dump port thereby causing pressurized liquid to flow into said motor and drive said piston from said first to said second position, means responsive to movement of said motor piston into said second position for suddenly relieving the pressure on said valve-actuating surface to permit pressure on said first piston to return said valve member to closed position, said valve member in returning to closed position opening said dump port prior to reaching closed position.

2,972,338
PRESSURE DERIVATIVE FEEDBACK VALVE
Wayne B. Lloyd, Catonsville, Md., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Dec. 14, 1956, Ser. No. 628,432
10 Claims. (Cl. 121—41)



1. A control valve device having a fluid pressure control port for conveying fluid under pressure to a movable work actuator abutment to effect and control its movement, valve means responsive to a valve-actuating force

to regulate supply of fluid under pressure to said control port according to degree of such valve-actuating force, input control means for regulating said valve-actuating force, and pressure derivative feedback means responsive to rate of change of pressure in said control port to effect reduction in said valve-actuating force proportionately to such rate of change.

2,972,339

CONTROL VALVE ADAPTED FOR PRESSURE DIFFERENTIAL SERVOMOTOR USE

Glenn T. Randol, Mountain Lake Park, Md., assignor of fifty percent to Hamill-Markus Industries, Inc., Warren, Mich.

Original application July 8, 1953, Ser. No. 366,736, now Patent No. 2,903,855, dated Sept. 15, 1959. Divided and this application Oct. 17, 1957, Ser. No. 690,779

4 Claims. (Cl. 121—46.5)



4. In control valve mechanism for use in cooperation with a fluid pressure actuated servomotor having a fluid chamber enclosure and a movable wall dividing said chamber into opposing fluid pressure chambers, and a source of pressure different from atmosphere communicable with one of said pressure chambers, the improvement which comprises: a fixed member; a pair of interfitting valve elements cooperable in normal disposition to balance pressures in said chambers, and relatively displaceable to operating position to establish differential pressures in said chambers; an actuatable member cooperating with one of said pair of valve elements; an operator-operated member having a normally released position, and adapted to actuate said actuatable member; means releasably interconnecting said actuatable member and said one valve element for movement together to effect said relative displacement of said valve elements, said means being operative upon full relative displacement of said valve elements to release said actuatable member from said one valve element without disturbing its then existent relatively displaced disposition thereof in response to increased operator force on said operator member in a valve displacing direction thereby accommodating relative movement of said operator member with respect to said valve elements, and to restore said valve elements to their normal disposition at substantially the operated position of the operator member upon release of the latter member therefrom; and spring means including a normally preloaded spring reacting between said fixed member and said actuatable member to establish said valve elements, said actuatable and operator members in their normal disposition, said spring means being characterized by progressively augmented reaction on said operator member in accordance with the operating movement thereof from normal position.

2,972,340

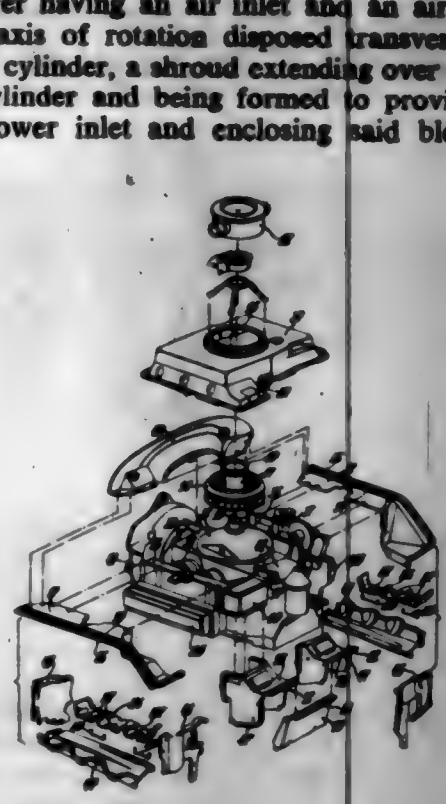
COOLING AND AIR SUPPLY SYSTEM FOR INTERNAL COMBUSTION ENGINES

Joseph F. Bertsch, Detroit, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Oct. 1, 1959, Ser. No. 843,736

4 Claims. (Cl. 123—41.7)

1. A cooling system for an internal combustion engine having a lubricating system and having a crankcase and a cylinder projecting from said crankcase and with said cylinder having a head having an outer wall supporting the valve actuating mechanism for said cylinder and intersecting the axis of said cylinder and having a valve actuating mechanism chamber disposed outwardly of said wall and enclosing said valve actuating mechanism for said cylinder and having push rod enclosing and oil return conduit means extending between said valve actuating mechanism chamber and said crankcase and comprising, a blower having an air inlet and an air outlet and having an axis of rotation disposed transversely to the axis of said cylinder, a shroud extending over said blower and said cylinder and being formed to provide an inlet for said blower inlet and enclosing said blower outlet



and said cylinder and being secured to one edge of said outer wall and one side of said crankcase and providing a plenum chamber between said blower and said cylinder and distributing air over said head and said cylinder, a baffle enclosing the side of said cylinder opposite said plenum chamber and having an outlet disposed to discharge air on said oil return conduit means, said outer wall and said crankcase and said shroud being disposed to direct air from said plenum chamber over said head and said cylinder and into said baffle and around said cylinder and through said outlet and on said oil return means, and means for driving said blower for supplying air to said plenum chamber for cooling said head and said cylinder and said oil return conduit means.

2,972,341

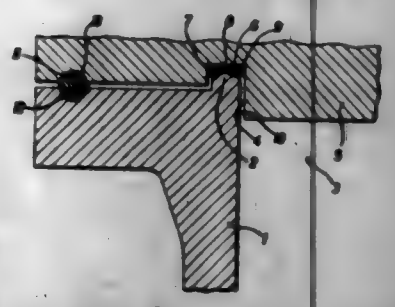
MEANS FOR SEALING THE CYLINDER HEADS OF INTERNAL COMBUSTION ENGINES

Josef Forst, 6 Brunfeldweg, Jenbach, Tyrol, Austria

Filed Feb. 5, 1959, Ser. No. 791,331

Claims priority, application Austria Feb. 19, 1958

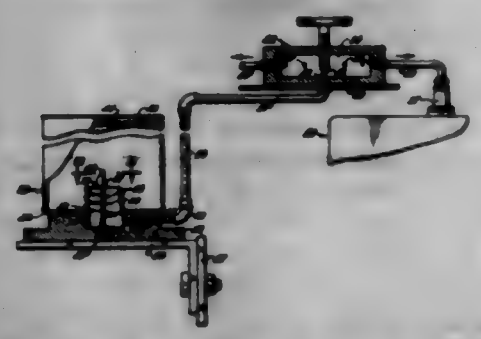
2 Claims. (Cl. 123—41.72)



1. In an internal combustion engine, a cylinder, a cylinder head associated with the cylinder, said cylinder having a combustion chamber and a water cooling space surrounding said cylinder, said cylinder and cylinder head each having an end face arranged in opposed relation,

sealing means between said end faces for sealing the cooling water space and combustion chamber, the sealing means for the cooling water space comprising a ring of resilient material interposed between said opposed end faces, an annular groove in one of said end faces and an annular projection on the other of said end faces adapted to be received in said annular groove and forming a sharp circular edge, and a metal ring having flat surfaces and a cross section smaller than said annular groove seated in said annular groove and adapted to be engaged and in sealing contact with said annular projection to form the sealing means for the combustion chamber, said annular projection having sloping top walls forming a circular angular portion concentric with said annular projection whereby said annular projection will engage and indent said ring and said ring will be expanded into sealing engagement with the walls of said annular groove when the cylinder head is tightened in place on said cylinder.

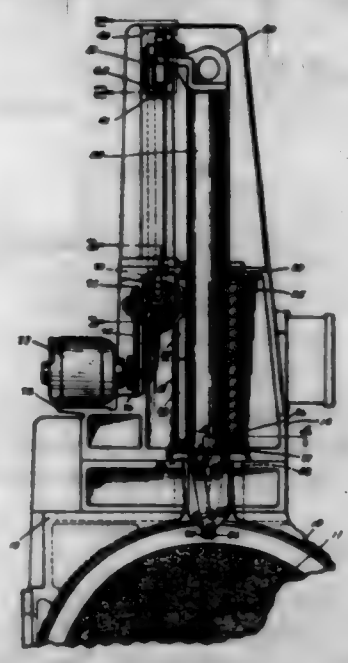
2,972,342
LUBRICANT-SOLVENT FEED SYSTEM FOR ENGINE CYLINDERS
Frederick E. Owen, 833 W. Beverly Blvd., Whittier, Calif.
Filed July 29, 1957, Ser. No. 674,635
1 Claim. (Cl. 123—196)



The combination, comprising a closed relatively thin walled fluid container shell having an internally threaded base portion forming a threaded recess re-entrant upwardly into the container and opening outwardly therefrom, an assembly including a nipple received in threaded interengagement with the recess thread and a puncturing element extending within the nipple and penetrating upwardly through the container base, said element and base forming a puncture in the base communicating between the fluid zone in the container and the nipple, for draining fluid into said nipple, an enlarged fluid supply receptacle having an inlet at a higher elevation than said container and having a plurality of outlets at higher elevations than said inlet, conduit means communicating between said nipple and said inlet, and a normally open metering valve controlling said receptacle inlet for regulating the suction flow of fluid from said nipple to said outlets, whereby container fluid may be drained into said nipple and then delivered to said receptacle for supply through said outlets in response to suction communicated to said outlets, said inlet, said conduit means and said nipple, the fluid in said receptacle being free to drain back through said inlet into said conduit means in the absence of suction communication thereto.

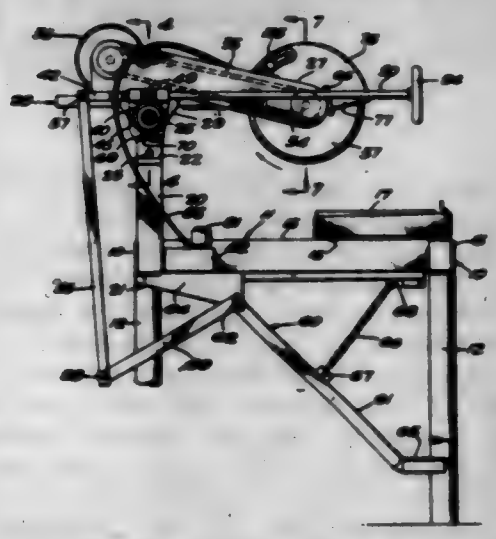
2,972,343
DRESSING APPARATUS FOR GRINDING WHEELS
Elmore R. Dunn, Beloit, Wis., assignor to Gardner Machine Company, Beloit, Wis.
Filed Mar. 19, 1959, Ser. No. 800,478
5 Claims. (Cl. 125—11)

2. A dressing device for dressing the opposed discs of a double disc grinder comprising a cylindrical dresser bar, an adjustable holder removably attached to said dresser bar, opposed dressing tools in said tool holder for engaging said opposed discs, a housing for supporting said dresser bar for axial movement therein, means for rigidly supporting said dresser bar in said housing comprising longitudinally spaced adjustable ball bushings, a slot in



said housing and means for clamping said housing about said bushings.

2,972,344
ADJUSTABLE MOUNTING FOR ROTARY SAW
Vea M. Bergen, Los Angeles, Calif., assignor to Felker Manufacturing Co., Torrance, Calif., a corporation of California
Filed Oct. 19, 1959, Ser. No. 847,236
14 Claims. (Cl. 125—13)

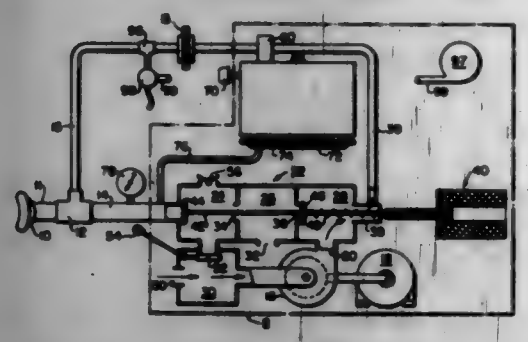


1. In a mounting for a rotary saw, the combination of: a frame having a stationary support member thereon, a horizontal shaft mounted for turning movement on the support member, a tiltable carrier fixed to the shaft, power operated rotary saw means on the tiltable carrier, a ring member mounted for pivotal movement about the shaft axis, a worm wheel element fixed upon the shaft, a worm pinion rotatably mounted on the ring member and meshing with the worm wheel, means connected to the ring member for turning it about the shaft axis, and means for turning the worm pinion to adjust the angular position of the tiltable carrier with respect to the ring member.

2,972,345
RESPIRATOR
Robert Spigel, Waltham, Mass. (% Eliot Medical Plastics Inc., 429 Washington St., Lynn, Mass.)
Filed Oct. 26, 1955, Ser. No. 542,954
9 Claims. (Cl. 128—29)

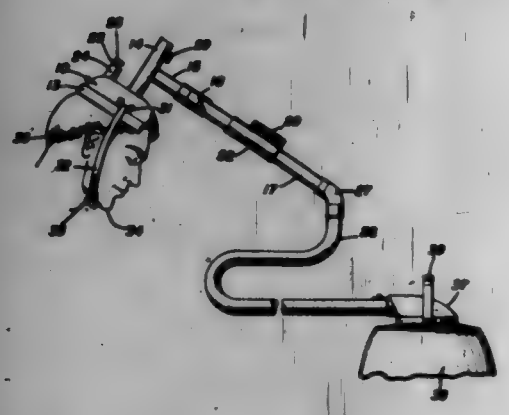
1. Respirator apparatus comprising gas supply means, an inspirator line, inspiration cut-off means, manual

means for setting said cut-off means to stop supply of gas to the inspirator upon attainment of a predetermined pressure, and additional manual means connected



with said setting means to vary the rate of flow of gas through said inspirator line at a lower rate for low-pressure cut-off than for high-pressure cut-off.

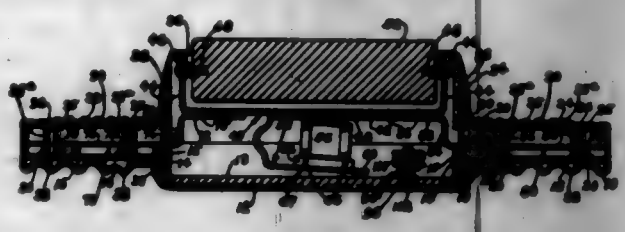
2,972,346
VACUUM MASSAGER
James Rubel Eddings, 104 S. 3rd St., Amory, Miss.
Filed Oct. 25, 1956, Ser. No. 619,101
1 Claim. (Cl. 128—38)



In a vacuum massager, the combination which comprises a hood having a substantially semicircular wall, a sponge rubber sealing ring extended around the edge of the wall of the hood, a suction tube mounted in the wall of the hood and extended therefrom, a butterfly valve positioned in the upper end of the suction tube, the suction tube having a branch connection extended from one side, a tube of rigid material extended from the branch connection, a tube of resilient material connecting the tube of rigid material to the branch connection, a hose for connecting the tube of rigid material to a suction nozzle of a vacuum cleaner, the tube of resilient material having perforations therein, an arcuate cover hinged to the tube of rigid material and positioned to cover the perforations therein, a spring in the hinge connecting the cover to the tube of rigid material for urging the cover to an extended position whereby the perforations are open, a release valve positioned in the hood to control the suction of vacuum therein, and a strap extended from the hood for retaining the hood in position on the head of a patient.

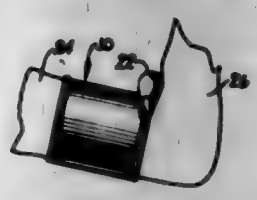
2,972,347
VIBRATING DEVICE WITH A ROLLER MEMBER
Samuel L. McNair, 733 Bedford St., Whitman, Mass.
Filed Oct. 6, 1958, Ser. No. 765,402
11 Claims. (Cl. 128—41)

3. A vibrating device comprising a housing having two hollow handle portions extending from opposite sides and having an opening between said sides, a mounting member, a roller member rotatably connected to said mounting member and extending into said housing opening, an electric motor embodying a vibrant armature attached to said motor and attached to said mounting member, said mounting member embodying two extensions at opposite sides extending between said housing



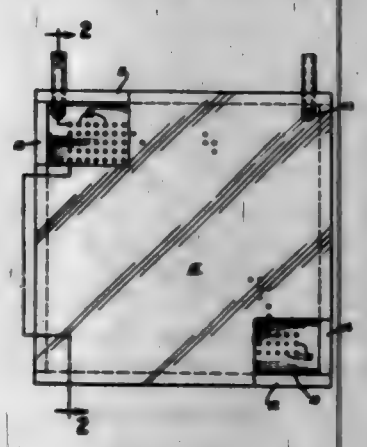
handle portions, and means to retain said housing handle portions and said mounting member extensions together.

2,972,348
ANTI-THUMB SUCKING DEVICE
Frederick W. MacDonald, 1382 David Whitney Bldg., Detroit, Mich.
Filed July 8, 1959, Ser. No. 825,796
2 Claims. (Cl. 128—133)



1. A thumb sucking preventer comprising a bracelet including an arcuate flexible band shaped to encircle the upper arm; said band being slit to form a pair of free ends to permit radial expansion thereof to fit the arm of the wearer; a tubular guard of soft, non-abrasive material extending around the entire edge portions of the band to prevent irritation to the wearer's arm; and a soft yielding elongated member provided on the outer surface of the band diametrically opposite from said slit to form an outwardly extended projection to impinge against the wearer's forearm and limit movement of the forearm towards the face.

2,972,349
CAPILLARY OXYGENATOR
Richard A. De Wall, Minneapolis, Minn., assignor to The Regents of the University of Minnesota, Minneapolis, Minn., a corporation of Minnesota
Filed Dec. 24, 1958, Ser. No. 782,757
9 Claims. (Cl. 128—214)



1. A fluid exchange device comprising a closed structure including a pair of generally parallel spaced apart face wall members each provided with a plurality of capillary openings, the capillary openings of one of said wall members being connected to the corresponding capillary openings of said other wall member by a plurality of thin-walled gas permeable capillary passages, the space between said wall members occupied by said capillary passages defining a fluid exchange chamber, a fluid inlet to said chamber, and a fluid outlet from said chamber,

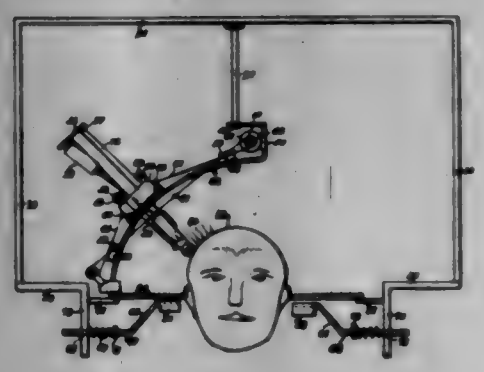
a pair of liquid reservoirs each adjacent to the outer face of one of said wall members in communication with said capillary openings, a liquid inlet to one of said reservoirs, and a liquid discharge from the other of said reservoirs.

2,972,350
SURGICAL SPONGE
Marta Deker, New Brunswick, N.J., assignor to Johnson & Johnson, a corporation of New Jersey
Filed Dec. 30, 1957, Ser. No. 705,948
16 Claims. (Cl. 128—296)



1. A surgical sponge comprising an absorbent roll formed of a fabric wrapped around an absorbent body, the ends of said roll being joined together and all edges of said fabric running lengthwise of said roll being contained within said sponge.

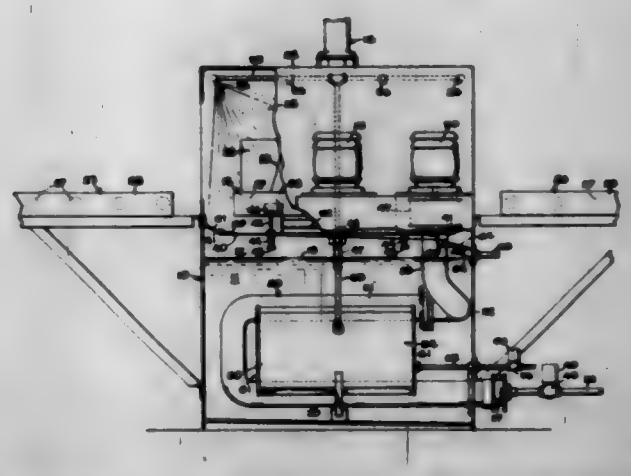
2,972,351
HAIR CUTTING MACHINE
Harry B. Morgan, 255 Arlington St., Youngstown, Ohio
Filed Jan. 23, 1959, Ser. No. 788,530
4 Claims. (Cl. 132—45)



1. A hair cutting machine comprising a frame, head centering means extended inwardly from sides of the frame, a centrally disposed post depending from the upper end of the frame, a horizontally disposed substantially semi-circular bar mounted in the frame, a track positioned in the frame and adapted to travel around to the curvature of the head, means for pivotally mounting the upper end of the track on the lower end of the post, means for mounting the lower end of the track on the semi-circular bar with the track positioned to travel on the bar, means for actuating the track to travel on the bar, a hair cutting element, a carriage having rollers positioned to travel on the track, and means for mounting the hair cutting element on the carriage.

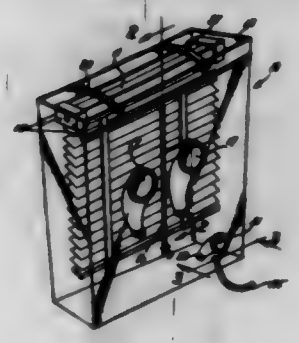
2,972,352
WASHER
Harold N. Ipsen, % Ipsen Industries Inc., Rockford, Ill.
Filed May 22, 1957, Ser. No. 660,886
6 Claims. (Cl. 134—57)

1. A washer comprising a walled receptacle adapted to hold a body of washing liquid and having an opening in a horizontal upper wall thereof, a casing enclosing said opening and defining a drying chamber which communicates with said washing chamber through the opening, an elevator having a work supporting platform movable vertically between an upper position in said drying chamber and a lower position in said washing chamber, a conduit extending into said receptacle in heat exchanging relation with said washing liquid and adapted to conduit heated gases therethrough, said conduit having an outlet portion terminating alongside said drying chamber adjacent the bottom thereof, a centrifugal blower disposed at the end of said outlet portion to draw the heated gases out of said conduit and to discharge them laterally along the drying chamber, first deflector means disposed



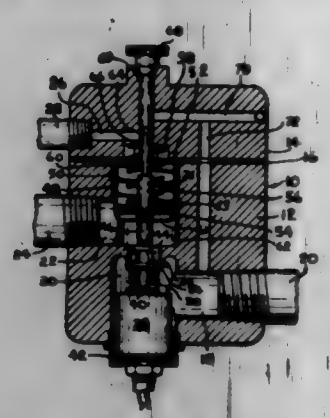
in the path of said discharged gases and operable to direct the gases into said drying chamber beneath said platform when the latter is in said upper position, said platform being formed as an open framework, and second deflector means rigid with said platform and depending from the latter to turn the gases up and to direct the same through the platform and about the work supported thereon.

2,972,353
PRESSURE SPRAY WASHING SHIELD
Otis H. Quest, 209 Hollister Ave., Santa Monica, Calif.
Filed Mar. 5, 1957, Ser. No. 644,827
2 Claims. (Cl. 134—200)



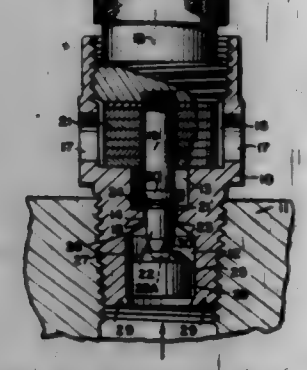
1. A pressure spray booth comprising, an open ended flexible transparent enclosure collapsible upon all sides thereof, flexible means for removably securing said enclosure by its open end about an article to be cleaned and to an independent support carried by said article, access means carried by said enclosure communicating with the interior thereof comprising a pair of adjacent spaced apart sleeves extending into the interior of said enclosure through which the arms of the operator can be extended to the interior of the enclosure, said sleeves being open at their outer ends and closed at their inner ends by yieldable elastic means when extended over the arms of the operator, further flexible water tight access means in the enclosure wall for releasably receiving a spray nozzle in a location thereon so as to be reached by the operator when the arms are extended into the interior of the enclosure through the sleeves and a fluid drain carried by said enclosure for carrying fluid outwardly from the interior of said enclosure, said fluid drain comprising an outlet adjacent to a lower portion of said enclosure.

2,972,354
SAFE LIGHTING MECHANISM
Lourdes V. McCarty, Milwaukee, Wis., assignor to Controls Company of America, Schiller Park, Ill., a corporation of Delaware
Filed Nov. 23, 1956, Ser. No. 623,942
25 Claims. (Cl. 137—66)



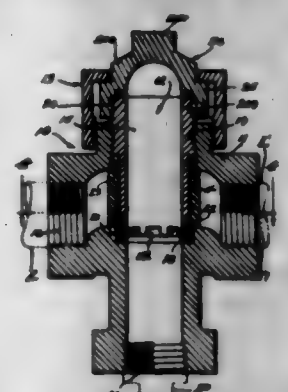
1. A safety valve arrangement for fuel burners comprising, a main burner conduit, a pilot burner conduit and a supply conduit supplying fuel to the main burner conduit and to the pilot burner conduit, valve means in said supply conduit for shutting off flow to both burner conduits, means biasing the valve means closed, energizable means operable to hold the valve means open in response to a control condition, the energizable means being inoperative to open the valve and requiring the valve to be reset after valve closure, a bypass conduit for delivering fuel to the pilot burner conduit from the supply conduit upstream of the valve means, a valve in the bypass conduit, means for opening the bypass valve to supply fuel to the pilot burner conduit, and resetting means operative to open the valve means for a short period of time only and the valve means thereafter closing if the energizable means is not energized.

2,972,355
VENT VALVE WITH HYDROSCOPIC DISCS THEREIN
Rudolph T. Schoerner, Cranston, and John Hazen White, Barrington, R.I., assignors to Taco Heaters, Incorporated, Cranston, R.I., a corporation of New York
Filed June 3, 1957, Ser. No. 663,228
2 Claims. (Cl. 137—197)



1. An automatic air vent valve including a valve body, said body having a chamber therein extending inwardly from an end of said body, the walls of said chamber having apertures opening to the exterior of the body; an inlet passageway in said body; a cylindrical bore connecting said inlet passageway and said chamber; a water absorbent fibrous body in said chamber, said fibrous body having a central aperture therethrough, said central aperture being larger than said bore; a cap threadedly engageable in said chamber; a pin means projecting inwardly from said cap through said central aperture of the fibrous body, said pin means being removably attached to said cap, said pin means having a smaller diameter portion connected thereto by a tapered portion; the smaller diameter portion extending through and beyond said bore and cooperating therewith to control flow therethrough; said tapered portion being cooperable with the upper circumferential edge of said bore to adjustably control flow therethrough; said inlet passageway including a second chamber below said bore having a diameter larger than said bore and connected thereto by an angularly disposed portion; a free float in said second chamber abutting the upstream end of said smaller diameter portion and having an angularly disposed upper surface adapted to contact the angularly disposed connecting portion between said bore and said chamber so as to close off said bore when said cap is removed from said valve body, said float being urged upwardly by the pressure in said second chamber; and means on said pin means for engaging said fibrous body when said cap is removed from said valve body so as to assure the positive removal of said fibrous body when said cap is removed.

2,972,356
MULTI-PURPOSE COMBINATION VALVE
Charles B. Reynolds, P.O. Box 619, Orange, Calif.
Filed Mar. 12, 1959, Ser. No. 798,953
5 Claims. (Cl. 137—625.4)

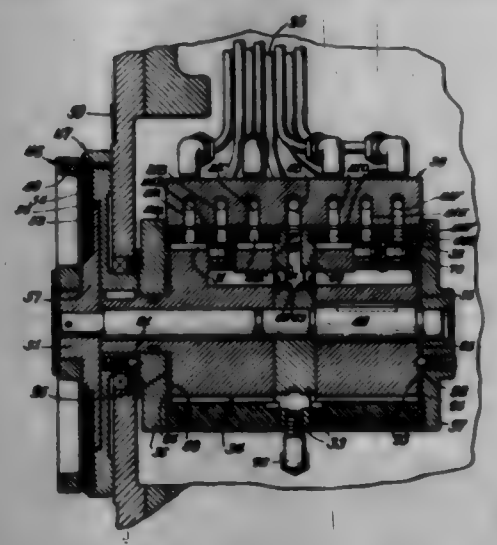


1. A valve of the character described including, a body with a chamber therein and with a top opening a bottom opening and a lateral opening, a seat in the chamber of the body and surrounding the bottom opening, a tubular valve plug insert shiftable in the body to enter the chamber and to engage with the seat and enclosed at its top by a separate cover and having a downwardly opening flow passage aligned with the bottom opening for continuous flow therethrough, means releasably locking said cover on the tubular valve plug insert, and means for adjustably positioning the insert relative to the body and with respect to said seat and comprising a part projecting from the cover and to be engaged by an operating tool.

2,972,357
HYDRAULIC ROTARY SELECTOR VALVE
Ralph L. Ford and Calvin S. Gladeske, Fond du Lac, Wis., assignors to Giddings & Lewis Machine Tool Company, Fond du Lac, Wis., a corporation of Wisconsin
Filed June 3, 1957, Ser. No. 663,096
11 Claims. (Cl. 137—625.11)

1. In a rotary selector valve, a valve housing defining a spool chamber, a rotatable valve spool mounted in said chamber with clearance between said spool and the wall of said chamber, said spool having passages and said spool chamber wall having ports adapted to register with selected of said passages at different positions of said spool, a seal plunger slidably received in each passage in the spool and arranged to move forward towards the spool chamber wall and a port therein, said plunger having a passage communicating with said port and the passage in the spool, means for sealing between the

plunger and the wall of the passage in which it is received, resilient means for sealing between the forward end of the plunger and the spool chamber wall surrounding the port, means for delivering fluid under pressure to the passage in the spool, and means defining unequal oppositely facing effective areas on the plunger acted on by said pressure fluid so that said plunger is forced forward towards the spool chamber wall by a differential force compressing said means for sealing to provide a fluid seal preventing leakage of fluid into the clearance space, and means operative as an incident to rotating said spool for camming said plunger away from the spool chamber wall to separate said resilient means from contact therewith.



9. In a rotary selector valve, the combination comprising, a valve housing defining a spool chamber, a valve spool mounted in said spool chamber so as to be spaced from the wall thereof, means in said valve housing defining outlet ports in the wall of said spool chamber alined parallel to the axis of said spool, means in said valve housing adjacent one end of said valve spool defining an inlet passage for pressure fluid, said valve spool having longitudinal passages selectively registerable with said inlet passage at different rotary positions of said valve spool, said valve spool also having a radial passage communicating with each longitudinal passage and adapted to register with one of said outlet ports in said spool chamber wall to conduct pressure fluid through the valve, a sealing plunger slidably received in each of said radial passages in the spool and in said inlet passage, said plungers being arranged to move radially outwardly into contact with the adjacent spool chamber wall and longitudinally into contact with the adjacent end wall of the spool, respectively, means carried by each plunger forming a fluid seal with the surface of the adjacent wall upon such contact, said surfaces being formed substantially flat to provide a seat for said fluid sealing means, said plungers having a passage for conducting pressure fluid therethrough, and means responsive to pressure fluid flow through the valve for forcing each plunger into sealing contact with the adjacent wall to provide a fluid seal preventing leakage from said passages.

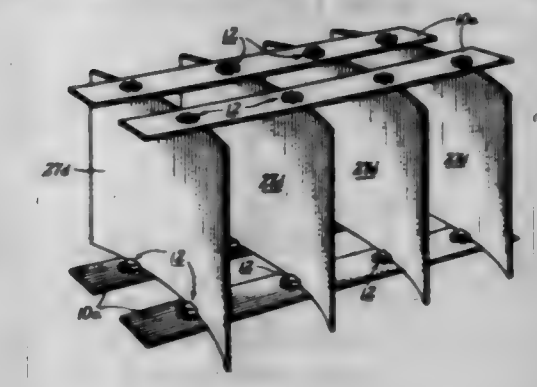
2,972,358

VANE RUNNER FITTING FOR DUCTS AND THE LIKE

Milton Hinden, 701 Blacksteno Ave., East Meadows, N.Y.

Filed May 15, 1956, Ser. No. 585,002
8 Claims. (Cl. 138—39)

1. A vane supporting fitting for rotatably securing a vane to a vane runner having a bearing aperture in said runner comprising a stamping of sheet material formed to outline a tubular member of a diameter to be inserted and rotated within said aperture, said member having an open end and an end with a closed wall portion and including a pair of bent segments forming spaced-apart stop extension means positioned between said ends of said tubular member and extending radially outwardly in a plane substantially normal to the longitudinal axis of said member, a slot extending across the closed wall portion and part way up the adjacent sides of the tubular member, said closed wall portion also being provided



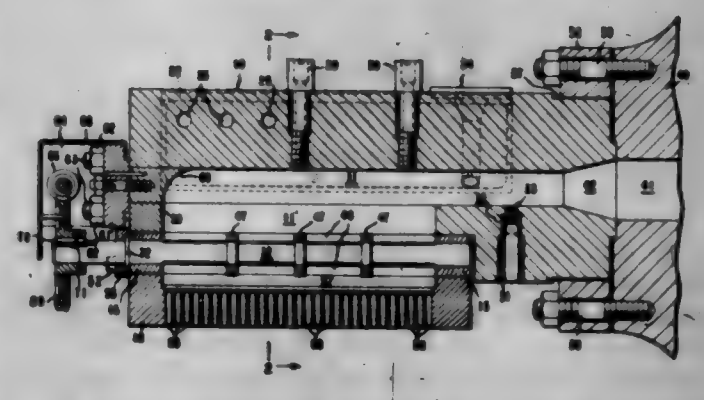
with an enlarged clearance aperture communicating with said slot, thereby permitting the points of a shears to be inserted through said open end of said tubular member and said clearance aperture to a position beyond said closed wall portion when a vane is inserted in said slot to permit slitting and bending of said vane at a depth beneath said closed wall portion while said vane fitting and runner are maintained in engaged position.

2,972,359

VARIABLE BACK PRESSURE REGULATOR

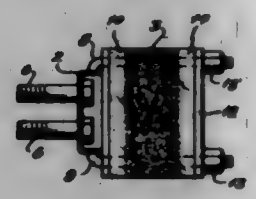
Arnold S. Jenkinson, Wilmington, Del., and John E. Povelones, Cochranville, Pa., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Aug. 7, 1958, Ser. No. 753,710
2 Claims. (Cl. 138—46)



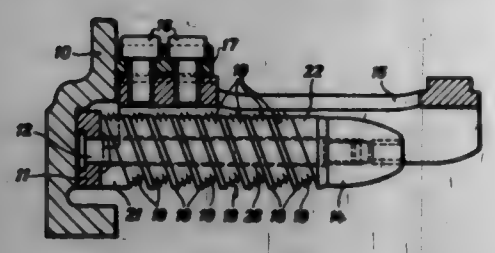
1. A variable pressure regulator for molten polymeric materials and substances of similar rheological properties comprising in combination a body piece provided with a closed passage for the reception of molten plastic under substantial super-atmospheric pressure from a source of supply, an outlet in communication with said passage discharging to an extrusion die, a circular bore in open communication with said outlet with longitudinal axis disposed across the line of flow between said outlet and said extrusion die, said longitudinal axis being contiguous and substantially parallel to the longitudinal central plane of said outlet, a rotatable choke having a profile which is a composite of a multiplicity of intersecting circular arcs of different diameters, said arcs being symmetrically disposed with respect to one another referred to both the transverse horizontal and vertical axes of said choke, said rotatable choke having a smaller maximum diameter than said circular bore and being journaled substantially centrally of said circular bore, and means for varying the angular position of said rotatable choke within said circular bore.

2,972,360
BUFFER STOP FOR POWER LOOMS
Franz Gottfried Reuter and Heinrich Nagenborg, Jr., Lemforde, Hannover, Germany, assignors, by mesne assignments, to Moby Chemical Company, Pittsburgh, Pa., a corporation of Delaware
Filed Aug. 21, 1957, Ser. No. 679,472
Claims priority, application Germany Aug. 22, 1956
3 Claims. (Cl. 139—166)



1. A buffer stop for a loom adapted to check the movement of a picker stick which comprises an elastic cushion supported on a rigid holder, said cushion comprising a layer of elastic cellular polyurethane and a layer of homogeneous polyurethane adjacent each of two opposite sides of the cellular polyurethane layer, one of said homogeneous polyurethane layers being adjacent the surface of the cushion facing the picker stick when the cushion is mounted on a loom.

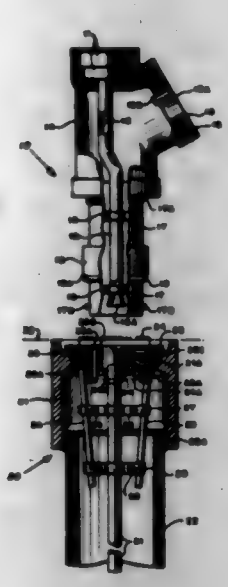
2,972,361
ROLLER TEMPLE FOR WEAVING MACHINES
Erwin Pfarrwaller and Hans Demuth, Winterthur, Switzerland, assignors to Sulzer Freres S.A., Winterthur, Switzerland, a corporation of Switzerland
Filed July 2, 1958, Ser. No. 746,133
Claims priority, application Switzerland July 18, 1957
8 Claims. (Cl. 139—297)



1. In a roller temple for weaving machines having a shaft, a plurality of axially juxtaposed roller supports surrounding said shaft and being slanted with respect to the longitudinal axis of the shaft, a plurality of needle rollers individually rotatably supported by said roller supports to rotate on axes which are inclined with respect to the longitudinal axis of said shaft, and end elements surrounding said shaft for confining said supports between said elements: a sleeve adjacent to and surrounding said shaft, said roller supports and said elements being mounted on said sleeve, said sleeve, said roller supports, said elements and said rollers forming a self-contained unit easily mountable on and demountable from said shaft.

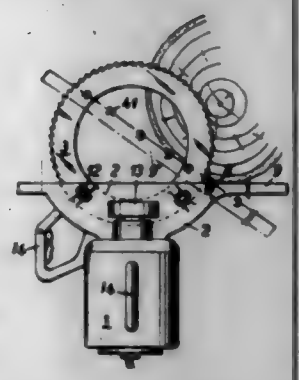
2,972,362
FILL SIGNAL
Robert E. Gardner, Sheffield, Mass., assignor to Theodore C. Smith, Drexel Hill, Pa.
Filed Jan. 5, 1959, Ser. No. 785,002
11 Claims. (Cl. 141—96)

1. A closed tank filling system comprising a closed tank, filling means on said tank whereby said tank may be filled, a fill signal comprising a fixed unit and a portable unit, said portable unit having two ends, said fixed unit being provided within said fill means, said portable unit containing an audible signal means and including a casing around said signal means, means to removably connect said portable unit at one end thereof to said fixed unit, and means on said casing of said portable



unit at the other end thereof to removably connect said portable unit to a fill line nozzle.

2,972,363
CENTERLESS DISC SAW WITH DEPTH OF CUT GREATER THAN THE RADIUS
Ruggero Santilli, Via Monforte 26, Campobasso, Italy
Filed Mar. 26, 1958, Ser. No. 724,116
Claims priority, application Italy May 9, 1957
4 Claims. (Cl. 143—44)



1. A manually portable sawing machine having a housing, an annular saw blade partially located in said housing projecting outwardly therefrom and having its greater portion clear of the supporting means therefor to permit unobstructed cutting movement of the blade in the direction of said housing and along the latter, a motor fast with said housing, a driving shaft in said motor projecting towards the virtual axis of rotation of said annular blade and parallel with the plane of the latter and spaced from said plane, a drive wheel mounted on said shaft and engaging by its outer periphery one face of said annular blade for the purpose of frictionally driving the latter, a pair of smooth contrasting rollers carried by said housing contacting with said one face of said annular blade and arranged symmetrically with respect to said driving shaft and having their axes directed towards the virtual axis of rotation of said blade, the latter having in its other face a pair of concentric circular grooves, a number of tapered rollers provided with annular ribs fitting in said circular grooves, said rollers being rotatably supported by said housing and having their axes directed towards said virtual axis of rotation of said annular blade, one edge of said housing being a chord of said annular blade and being arranged substantially perpendicularly to said driving shaft.

2,972,364
SAW TEETH

Stanley Standal, E. 1302 15th, Spokane, Wash.; Elizabeth V. Standal, executrix of said Stanley Standal, deceased

Filed Jan. 28, 1958, Ser. No. 711,720
5 Claims. (Cl. 143—141)

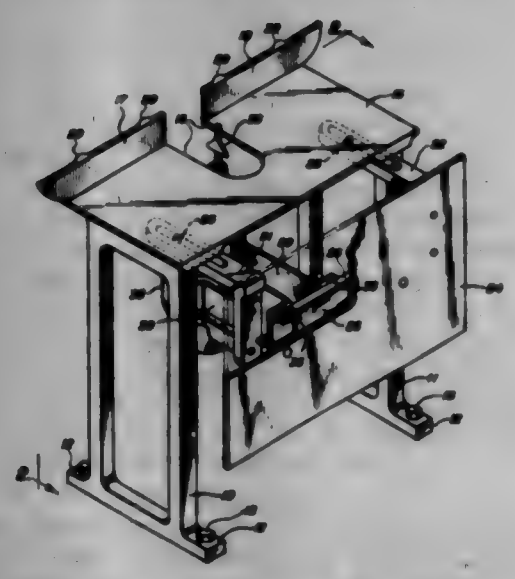


1. A saw tooth having cheek surfaces at its sides, a top land surface which is straight from front to back and is convexly curved in a rearwardly converging conical section formed transversely of the tooth, and a front face surface which is concavely curved transversely of the tooth on a radius substantially greater than the front radius of the curvature of the land surface at the base of the conical section and meets the land surface in a plane at substantially right angles to the direction of travel of the tooth, said front face surface diverging from the land surface from the line of meeting with the land surface rearwardly and meeting the cheek surfaces at acute angles thereby providing a front cutting edge extending across the tooth and side cutting edges meeting the front cutting edge at an angle and diverging from the land surface rearwardly, the said cheek surfaces comprising substantially planar surfaces converging in a direction perpendicular to said side cutting edges and said side cutting edges being substantially parallel to one another.

2,972,365
HORIZONTAL AND VERTICALLY ADJUSTING MEANS FOR MOTOR OPERATED CUTTING TOOLS

Harold Ray Hurt, Albuquerque, N. Mex.

Filed Nov. 2, 1959, Ser. No. 850,169
2 Claims. (Cl. 144—134)

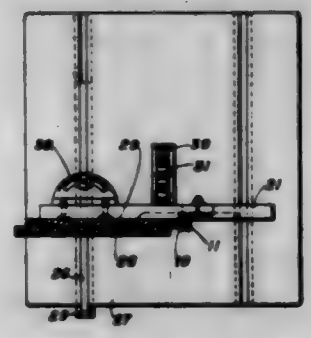


1. In an adjustable device for mounting an electric motor relative to a work table; a recessed work table; upright supports for said work table; an upwardly extending base plate; angular brackets secured to said base plate and slidably and adjustably mounted on said table; a slotted drill mounting base adjustably mounted for upward and downward movement on said base plate; a pair of spaced apart angular clamping arms secured at one end thereof to said drill mounting base, said arms having their outer ends bent angularly and apertured; a bolt in the outer ends of said clamping arms, said arms being adapted to clamp a motor therebetween and said motor being adapted to hold a tool in the recess of said table; the vertical adjustment of said drill mounting base being adapted to adjust vertically the position of said motor; the horizontal adjustment of said base plate and said brackets being adapted to adjust the position of said motor relative to the recess of said table.

2,972,366
MITER GAGE ATTACHMENT FOR BOX JOINTS

Anthony Caruso, 445 Catherine St., Fort Lee, N.J.

Filed May 28, 1959, Ser. No. 816,424
2 Claims. (Cl. 144—198)

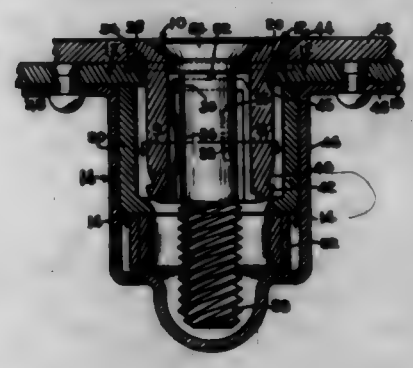


1. A dado cutting gauge comprising a vertically disposed base plate having an internally threaded opening extended therethrough and a horizontally disposed finger extended at a right angle from one end of the base plate, a vertically disposed web having an elongated slot therein positioned against the face of the base plate with the slot in registering relation with the internally threaded opening through the base plate, a horizontally disposed finger extended at a right angle from one end of the web and positioned in the same plane parallel to the finger extended from the base plate, and a bolt extended through the slot of the web and the internally threaded opening of the base plate for attaching the fingers to a miter gage fence of a dado cutter.

2,972,367
FASTENING DEVICE

William C. Wootten, San Leandro, Calif., assignor to United-Carr Fastener Corporation, Cambridge, Mass., a corporation of Delaware

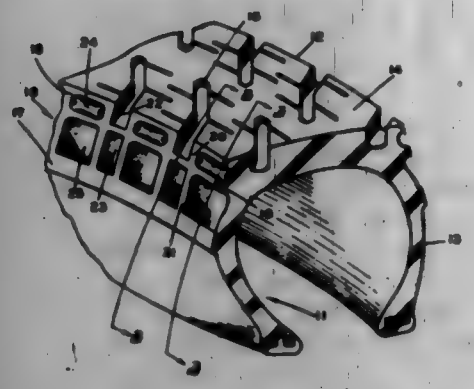
Filed July 18, 1957, Ser. No. 672,623
3 Claims. (Cl. 151—69)



1. A retractable stud assembly for retention in an opening in a first panel and the like for extending through an aligned opening in an associated panel into engagement with a socket carried by said associated panel over said aligned opening, said retractable stud assembly comprising a cylindrical bushing having an axially extending bore extending therethrough and adapted to be positioned

in the opening of said first panel in slidable relationship therewith, said cylindrical bushing having an outwardly flared rim portion at one end thereof of a diameter greater than that of the panel opening, the opposite end of said cylindrical bushing having a radially projecting stop portion, and a retaining ring carried by said bushing between the under surface of said first panel member and said stop portion whereby said cylindrical bushing will be retained with the panel opening in slidable yet non-detachable relationship therewith, a bolt extending through said axially extending bore of said cylindrical bushing, the diameter of the shank and threaded portion of said bolt being less than that of the internal diameter of said bore of said cylindrical bushing whereby said bolt is capable of axial movement within said bushing, and an elongated cylindrical spring retainer bushing disposed within the bore of said cylindrical bushing between said bushing and said bolt, said retainer bushing having an inwardly and axially extending, longitudinally arcuate, resilient, spring arm means for engagement with the threads of said bolt to releasably retain same in a retracted position in said cylindrical bushing.

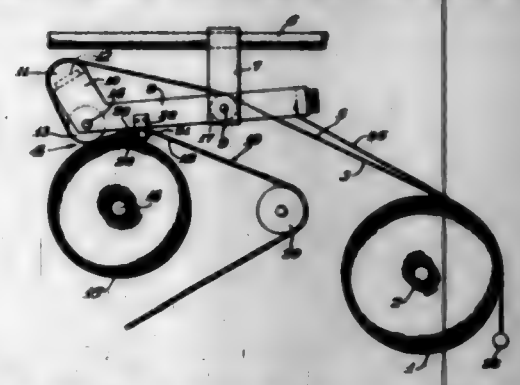
2,972,368
VEHICLE TIRE
Gordon E. Williams, Dayton, Ohio, assignor to Dayco Corporation, a corporation of Ohio
Filed May 26, 1958, Ser. No. 737,881
4 Claims. (Cl. 152—209)



1. In a vehicle tire having a sidewall including a shoulder and a buffing bar defining a buttress portion therebetween, a tread including tread ribs and tread voids defined by said ribs, said voids extending to the plane of the buttress portion to provide recesses in said shoulder, the improvement comprising spaced radial ribs extending between said shoulder and buffing bar, and a circumferential rib approximately one-third the distance from the shoulder to the buffing bar intersecting said radial ribs, said shoulder, radial ribs and circumferential rib defining radial recesses alternating in a circumferential direction with said first-named recesses, said circumferential rib, radial ribs and buffing bar defining additional recesses in radial alignment with said first and second-named recesses.

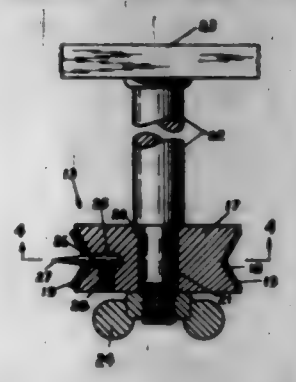
2,972,369
COOLING METHOD AND MEANS FOR LAMINATING WEB MATERIALS
Thornod Jensen, New York, N.Y., assignor to St. Regis Paper Company, a corporation of New York
Filed Oct. 1, 1956, Ser. No. 613,282
5 Claims. (Cl. 154—1.6)

1. A laminating mechanism which comprises in combination a mandrel for carrying a roll of film material wound in a plurality of layers, said film material having thermoplastic properties such to cause blocking of the wound layers when subjected to heat and pressure, a laminating roll having its axis substantially parallel to the axis of said mandrel and radially spaced therefrom, means for urging said laminating roll under pressure toward the roll of film material, a heating shoe disposed adjacent said laminating roll, means for passing a readily printable web of sheet material carrying a thermoplastic adhesive over said heating shoe and between said laminating roll and said roll of wound film material to render said adhesive plastic and while in heated plastic condi-



tion uniting the sheet material and web of film material stripped from said wound roll of film material, means for passing the united materials as a composite web away from the line of lamination at a tangent to said roll of film material, and means for cooling the surface of the roll of film material during its rotation beyond the zone of lamination.

2,972,370
CONTINUOUS FIBER GATHERING DEVICE
Gerald A. Walbolt, Waterville, Ohio, assignor to L-O-F Glass Fibers Company, Toledo, Ohio, a corporation of Ohio
Filed Nov. 30, 1956, Ser. No. 625,524
3 Claims. (Cl. 154—1.7)

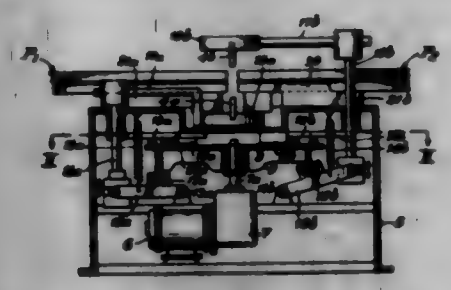


1. Apparatus for gathering a plurality of continuous glass fibers into a strand which fibers are arranged in circularly spaced parallel array, comprising an annular body portion, means for supporting said annular body portion in space, said annular body portion having a V groove in its periphery wherein the angle of the V is within the range of 80° to 120°, a wiping member of absorbent material removably secured in the groove of said annular body portion and in contact with the entire peripheral surface thereof, means for mounting said annular body portion to position the wiping member in the path of the fibers, and means for rotatably adjusting said annular body portion to any one of a plurality of positions to present different areas of the wiping member to the fibers.

2,972,371
METHOD AND DEVICE FOR BUTT WELDING OF BAR SHAPED STRUCTURAL MEMBERS
Ludwig Hermanns, Oktaviostrasse 2, and Heinz Pasche, Laetkemuelle 3A, both of Hamburg-Wandsbek, Germany
Filed Feb. 19, 1958, Ser. No. 716,126
Claims priority, application Germany Feb. 20, 1957
5 Claims. (Cl. 154—42)

1. In a device for butt-welding tubular ends of bar-shaped structural members consisting each of an inner

metallic part covered by a sleeve of thermoplastic synthetic material in which the thermoplastic synthetic sleeve projects a predetermined distance beyond the ends of the inner metallic parts of the structural members to be joined together, a housing having a top wall, a plurality of carriages slidably mounted on said top wall, means for moving said carriages radially simultaneously toward and away from the center of said top wall, clamping means for attaching the structural members to be joined together on said carriages with the inner ends of said members arranged in spaced apart relation, heating means arranged to move vertically at right angles to said structural members toward and away from the inner adjacent ends of the



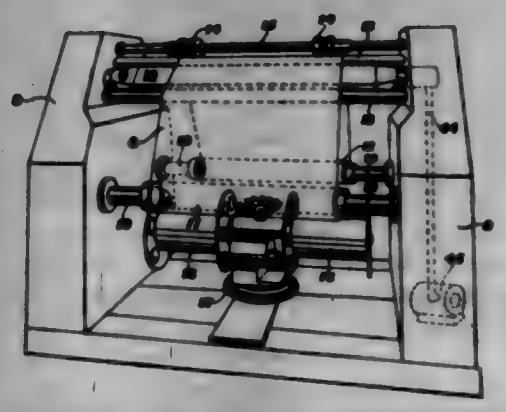
same, means for moving said heating means in cooperation with said carriage moving means so as to cause the adjacent ends of said synthetic sleeves to engage said heating means to be heated and then to remove the inner ends of said structural members from said heating means, said carriage moving means then causing said heating means to move vertically above and below the plane of said structural members and out of the path of said structural members and again causing said carriages to move toward each other an increased distance to bring the ends of the inner metallic parts of said structural members in to abutment and effecting a welding of the heated adjacent ends of the thermoplastic synthetic sleeves.

2,972,372

REWINDING MACHINE HAVING IMPROVED CLEANING-SPLICING MECHANISM

Noel H. Matthews, Jr., Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Sept. 3, 1957, Ser. No. 681,509
10 Claims. (Cl. 154—42.1)



1. In a machine for cleaning and rewinding strip material and facilitating splicing the trailing end of one strip to the leading end of another strip, the combination comprising: a supply roll for strip material; a take-up roll for receiving the strip material from said supply roll; means interposed between said supply and take-up rolls and selectively movable between a first position for cleaning said strip material as it is moving from said supply roll to said take-up roll and a second position for holding the ends of two pieces of strip material so that they may be aligned and spliced; and locking means for selectively releasably locking said first recited means in either of said first and second positions.

2,972,373

CONCEALED ADJUSTMENT MECHANISM FOR FOLDING CHAIRS

Morton I. Thomas, R.D. 2, Box 182H, Monroe, N.Y.

Filed July 27, 1959, Ser. No. 829,617
2 Claims. (Cl. 155—139)



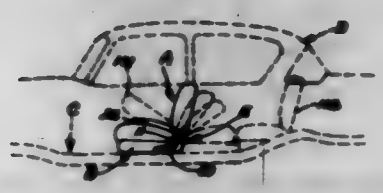
1. A folding chair with concealed adjustment means comprising in combination, front and back leg frames pivotally connected together at their upper ends, a seat frame pivoted at its forward end to the front leg frame, a back rest frame pivotally connected at its lower end to said back leg frame and to said seat frame, tubular arm rests pivotally connected at their rearward ends to said back rest frame and having longitudinal slots in the lower sides of the same, upstanding lug plates on the upper ends of said leg frames projecting upward through said slots and tubular inserts fixedly secured within said tubular arm rests, said tubular inserts being of sheet metal rolled into substantially cylindrical shape to fit within the tubular arm rests with opposing ends of the same in spaced relation forming slots in line with the slots in the arm rests and with lugs projecting across the ends of said slots in position to be engaged by said upstanding lug plates on the leg frames, the upper portions of said tubular inserts being depressed into transversely extending spaced cross bars for engagement by said lug plates and the sides of said tubular inserts being flattened inwardly in line with said transversely extending cross bars.

2,972,374

CONTROL MECHANISM FOR RECLINING SEAT BACK

Thomas J. McKay, Grosse Pointe, Mich., assignor to American Motors Corporation, Kenosha, Wis., a corporation of Maryland

Filed July 25, 1958, Ser. No. 751,096
6 Claims. (Cl. 155—160)



1. A seat assembly comprising: a supporting frame forming the base of the seat assembly; first and second spaced supports carried by the frame; a seat back hingedly carried between the supports for swinging movement from an upright to a reclined position relative to the frame; latching mechanism having interconnection between that end of the seat back which is adjacent the first support, and the seat frame for effecting a controlled raising and lowering of the seat back relative to the frame; said latching mechanism including a first bracket secure with the seat back and an indexing bracket hingedly carried by the frame for limited swinging movement relative to the first bracket; the first support being situated in face to face fashion relative to the first bracket and having an opening therein; said first bracket being situated so as to lie between the first support and the indexing bracket; a latch swingably mounted on the first support and including a latch arm situated between the first support and the first bracket; an abutment on either

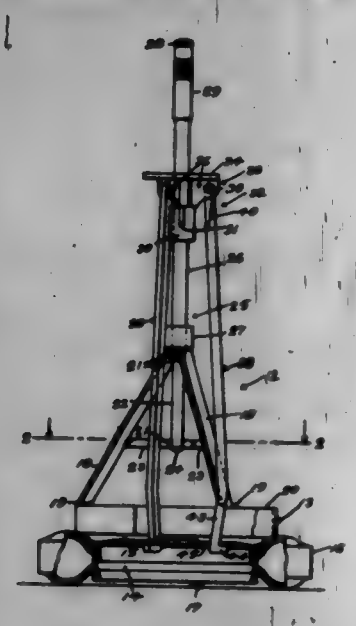
side of the latch arm, one of such abutments serving as a latch element for movement between the first bracket and the indexing bracket and the other abutment being adapted for contacting opposing walls of the first support opening to limit the extent of the swinging movement of the latch arm; said first bracket having successive latch element receiving surfaces for positively holding the seat back in a selected position of reclination whenever the latch element is received in one of such surfaces; said indexing bracket having latch element receiving surfaces in proximity to and exposed toward the latch element receiving surfaces in the first bracket and serving for positively holding the seat back within a limited range of movement whenever the latch element is received in one of such surfaces, said latch element being positioned between the latch element receiving surfaces on the first bracket and the latch element receiving surfaces on the indexing bracket; control means for moving the latch element from one of the latch element receiving surfaces of the first bracket into engagement with one of the latch element receiving surfaces on the indexing bracket whereby gravity effects a lowering of the seat back during movement of the latch element from the first bracket to the indexing bracket.

2,972,375

APPARATUS FOR REMOVING A WHEEL FROM A PNEUMATIC TIRE CASING

Donovan Dewey Hunt, 130 N. 44th St., Louisville, Ky., assignor of forty-nine percent to Michael S. Murphy, Louisville, Ky.

Filed May 11, 1959, Ser. No. 812,505
3 Claims. (Cl. 157—1.2)



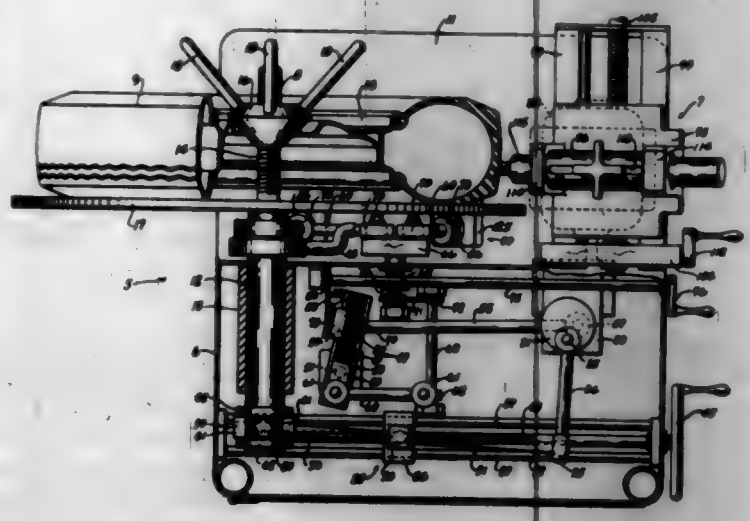
1. An apparatus for separating a pneumatic tire from a vehicle wheel comprising a rigid ring having a bottom edge adapted to rest upon a side wall of a tire around and spaced outwardly from the rim of a wheel, brace members fixed to and extending upwardly from said ring, a self-contained manually operated extensible unit including a part secured to said brace members and extending upwardly therefrom and a second part movable relative to said first mentioned part away from the ring when said extensible unit is manually actuated, a thrust collar slidably mounted and longitudinally adjustable on said second part, means adjustably clamping the thrust collar to said second part, a wheel anchoring assembly including a head slidably supported on said extensible unit above said brace members, said head being disposed above and bearing against said thrust collar, a plurality of bars swingably connected to and extending downwardly from said head through said ring, and said bars having hook shaped lower free ends adapted to extend through and engage portions of the wheel for securing the wheel to said assembly and for pulling the wheel through the ring to separate the tire from the wheel when said extensible unit is actuated for displacing said second part away from the ring.

2,972,376

TIRE REGROOVING MACHINE

Lester L. Garmon, Milwaukee, Wis.
(2430 E. McDowell Road, Phoenix 8, Ariz.)

Filed Apr. 9, 1958, Ser. No. 727,336
9 Claims. (Cl. 157—13)



1. In a tire grooving machine: a frame; a tire carrier mounted on the frame for rotation and for axial reciprocation, said tire carrier having securement means thereon for mounting a tire to be grooved and for constraining the tire to reciprocation and coaxial rotation with the tire carrier; drive means on the frame; transmission means connected with the drive means and with the tire carrier, and through which the drive means can impart intermittent rotational movement in one direction to the tire carrier; means manually operable during rotation of the tire carrier for varying the angle through which the tire carrier is rotated at each rotational movement thereof; other transmission means connected with the drive means and with the tire carrier, and through which the drive means can impart axial reciprocation to the tire carrier in timed relation to intermittent rotational movement thereof; means manually operable during reciprocation of the tire carrier for varying the magnitude of reciprocating movement imparted to the tire carrier; and a cutter mounted on the frame in a position to engage a tire on the tire carrier, said cutter being stationary during rotation and reciprocation of the tire carrier so that the configuration of a groove which the cutter cuts in a tire on the tire carrier is determined by the magnitudes of reciprocating and rotational movements of the tire carrier.

2,972,377

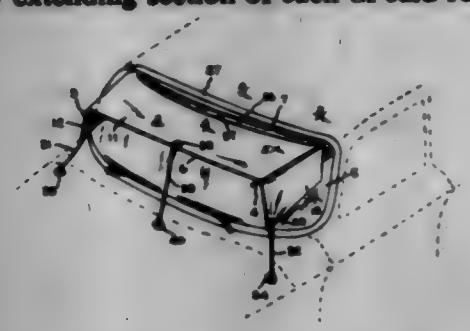
RAIN VISOR FOR AUTOMOBILE WINDSHIELD

Edwin N. Jacobs, 2223 Paris Drive, Louisville, Ky.

Filed Feb. 29, 1960, Ser. No. 11,884
7 Claims. (Cl. 160—352)

1. A rain visor for a curved automobile windshield comprising a rectangular sheet of flexible waterproof material, said material having longitudinal sleeves extending substantially the width of said material a short distance inward from each end thereof, means for retaining one edge of said flexible sheet of material tightly against the curved windshield with the remaining portions of said sheet stretched outwardly from said windshield, said means including a pair of spaced apart rod members each having a support section thereof extending outwardly

from said windshield through said sleeves of said flexible sheet material and supporting said sheet material outwardly from said windshield, each of said rod members having the end thereof adjacent said windshield formed into a U-shaped section with one leg of said U-shaped section of each of said rod members connecting with said outwardly extending section of each of said rod members,



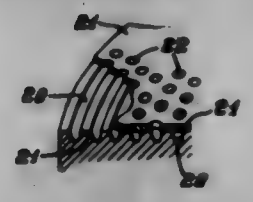
a suction cup attached to the second leg of said U-shaped section of each of said rod members, said suction cups being attached to said windshield for retaining at least a portion of said U-shaped section of each of said support rods against said windshield so that said outwardly extending sections are braced against said windshield for supporting said sheet of flexible waterproof material.

2,972,378

TREATMENT BY COMPRESSION OF FIBRO-CEMENT WET SHEET MATERIAL AND THE LIKE

Augustinus Franciscus Henricus Josephus Maria Nuyens, 162 Ave. de Merode, Turnhout, Belgium

Filed June 20, 1956, Ser. No. 596,378
Claims priority, application Belgium June 23, 1955
3 Claims. (Cl. 162—361)



1. Apparatus comprising a source of fibro-cement sheet, superposed cylinders adjacent said source the lowermost of which is provided with peripheral grooves concentric with the axis of the lowermost cylinder, means adjustably supporting the cylinders to accommodate the sheet therebetween, means operatively coupled to and driving the lower of the cylinders and, through the intermediary of said sheet, the upper of the cylinders, and a perforated cover on the lower roller having perforations in communication with said grooves.

2,972,379

PRESSURE OPERATED DUAL COMPLETION APPARATUS AND METHOD OF POSITIONING SAME IN A WELL BORE

Cicero C. Brown, 2216 Campbell St., Houston, Tex.

Filed May 6, 1955, Ser. No. 506,442
15 Claims. (Cl. 166—46)

1. A well apparatus adapted to be lowered into a well bore including, a lower well packer within the well bore above a lower well formation, an upper packer assembly within the well bore above an upper well formation, said assembly including a body having two longitudinal passages therethrough, sealing means carried by said body for sealing with the wall of the well bore, said sealing means being movable into sealing engagement with the wall of the well bore responsive to a differential in pressure across the sealing means, a first tubing string connected to said body for lowering said upper packer assembly into the well bore, said first tubing string communicating with one of the passages in the body, an equalizing port extending through the wall of the body and having its inner end in communication with the other of said passages within the body, whereby said port and passage allows an equalization of pressures on opposite sides of the sealing means during lowering of the upper packer into the well bore, a second tubing string adapted to be lowered into the well bore after the first string and upper packer have been positioned in the well bore above



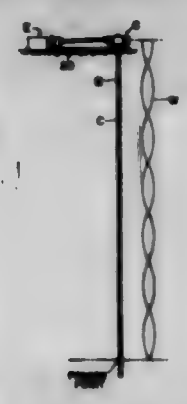
said upper formation, said second tubing string being movable into that passage having the equalizing port therein and closing off said port when in position in said passage, whereby a fluid pressure differential may be built up across the sealing means to move said sealing means into sealing engagement with the wall of the well bore, means for establishing communication between one of the well formations and the first tubing string, and additional means establishing communication between the other well formation and the second tubing string.

2,972,380

ACOUSTIC METHOD AND APPARATUS FOR MOVING OBJECTS HELD TIGHT WITHIN A SURROUNDING MEDIUM

Albert G. Bodine, Jr., 13120 Moorpark St., Van Nuys, Calif.

Filed Feb. 28, 1956, Ser. No. 566,628
18 Claims. (Cl. 166—46)



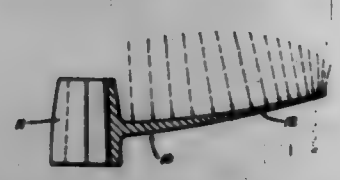
1. The method of loosening a member stuck within a well, which member is firmly connected to or a part of a solid elongated elastic column in the well such as a pipe or rod string, that includes: rigidly coupling the vibratory output member of an acoustic wave generator to an acoustically free portion of said column spaced longitudinally of the column away from the stuck point, and operating said generator at a resonant frequency of the column so as to establish a velocity node adjacent said stuck point and a velocity antinode at the coupling point adjacent said generator, and at a power output level developing a cyclic force in the member at the stuck point which exceeds and works against the holding strength on said member at the stuck point.

2,972,381
WELL PACKER
George Max Rankin, Dallas, Tex., assignor to Otis Engineering Corporation, Dallas, Tex., a corporation of Texas
Filed Feb. 26, 1957, Ser. No. 642,487
21 Claims. (Cl. 166—125)



1. A well device comprising: a packer positionable at a desired location in a casing; said packer comprising a tubular packer body; a tubular member removably insertable in said packer and having a seal nipple and a tubular hold-down body, said seal nipple being insertable in said packer body in sealing relation therewith, said seal nipple and hold-down body being telescopically connected and capable of limited longitudinal movement relative to one another; first locking means on said packer engageable with said casing for holding said packer at said desired location; second locking means comprising means on said packer body and said hold-down body coengageable for removably securing said hold-down body to said packer; and means on said seal nipple engageable with said second locking means for holding said second locking means in operative locking position limiting relative movement between said hold-down body and said packer.

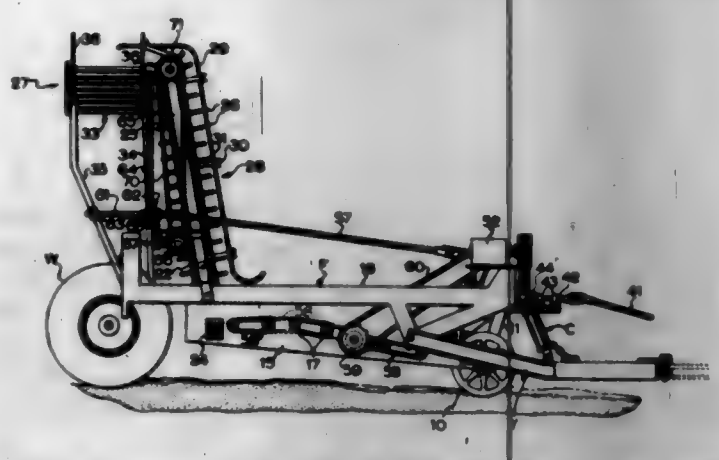
2,972,382
MARINE PROPELLER
James L. Mannolllo, Peoria, Ill.
(Rio Balsas 10A, Mexico City 5, Mexico)
Filed June 4, 1958, Ser. No. 739,750
10 Claims. (Cl. 170—159)



1. A marine propeller comprising a hub, a plurality of pitched blades secured at one end to said hub and extending radially therefrom, said blades being spaced evenly about the hub, the working face of each blade being disposed at a positive rake angle and being curved lengthwise along radii extending from the hub to the tip of the blades in the form of a circular arc, the radius of which is a function of the diameter and rake angle of the propeller.

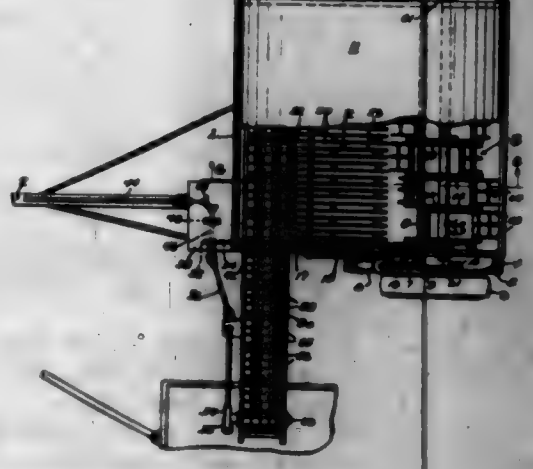
2,972,383
BEET HARVESTER AND CLEANING MACHINE
Harold E. Erdman, Rte. 1, Crookston, Minn.
Filed Mar. 19, 1959, Ser. No. 800,514
4 Claims. (Cl. 171—58)

1. Apparatus for harvesting and cleaning sugar beets and the like including an elongate mobile frame, said frame having mounted thereon in sequence from front to rear a harvesting unit including a plurality of spaced apart pairs of cambered beet pickup wheels, a rotary paddle mounted rearwardly of each of said pickup wheels for removing the beets from the wheels and throwing them rearwardly, a longitudinal conveyor and cleaning unit for simultaneously cleaning and conveying said beets mounted immediately behind and below said paddle and adapted to receive the beets from the paddles, said conveyor and cleaning unit including a plurality of rotary shafts disposed normal to the direction of movement and



carrying thereon a plurality of circumferentially spaced apart radially extending arcuate beet engaging and cleaning elements adapted to progressively deliver the beets to the next adjacent elements in agitated fashion, and elevator means adjacent the rear end of said longitudinal conveyor for removing the beets from the conveyor and elevating them to transverse cross conveyor mounted adjacent the rear end of said frame for delivering the cleaned beets to a receptacle aside said frame, said conveyor and cleaning unit constituting the only means between said harvesting unit and elevator means for engaging and cleaning the beets.

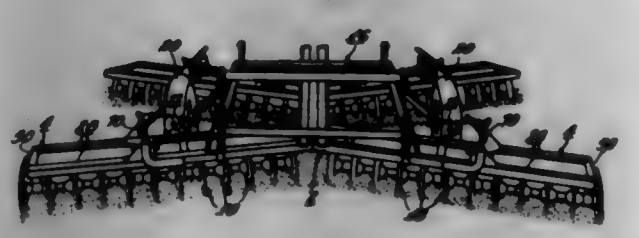
2,972,384
STONE GATHERER
Valentine P. Thome, R.R. 4, Fond du Lac, Wis.
Filed Feb. 27, 1959, Ser. No. 796,073
6 Claims. (Cl. 171—63)



1. A mobile stone gatherer having a support frame including a front and rear portion and adapted to travel over the ground, an endless conveyor having an upper flight extending transversely across the front portion of said frame, a rearwardly and downwardly inclined ramp comprising a series of bars pivotally connected at their front end to said frame immediately behind said conveyor, said ramp having a lower end adapted to be dragged along the ground, ground wheels adjacent the rear portion of said frame, a rotary beater extending

transversely across the frame and connected thereto and in substantial fore and aft alignment with said wheels and rotatably driven in a direction opposite to the direction of forward rotation of said wheels, said beater having rows of rigid blades for contacting stones on the ground and throwing them onto said ramp and said flight, means for resiliently holding said rigid blades in operative position and permitting them to swing to a release position, and a hood on said frame and extending over and enclosing said flight, ramp and beater.

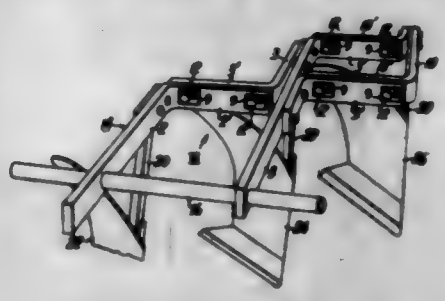
2,972,385
FOLDING IMPLEMENT FRAME
Maynard E. Walberg, West Salem, Wis., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Oct. 22, 1958, Ser. No. 768,980
8 Claims. (Cl. 172—568)



1. In a folding implement frame having two sections pivotally connected; an arrangement to releasably lock said two sections in selected angular working positions; comprising: a first support carried by one of said sections; said first support including movable stop means; a second support carried by the other of said sections; said second support positioned to engage said movable stop means of said first support when said sections are in working position; said second support and stop means cooperating to prevent relative movement between said two sections in a first direction; said stop means being movable relative to said first support to adjust the position of said second support relative to said first support to change the relative angular working position of said two sections; a movable arm carried by said second support; means connected to said arm to provide positive movement of said arm either to or from a position adjacent said first support when said second support engages said stop means; an abutment carried by said arm to engage said first support; means adjustably connecting said abutment to said arm, said abutment being adjustable relative to said arm to engage said first support to compensate for any relative movement that occurs between said first and second supports when said stop means adjusts the position of said second support relative to said first support; said abutment being positioned to prevent relative movement between said two sections in a direction opposite to said first direction; and, said arm when moved from said position adjacent said first support, unlocking said two sections so they can be folded.

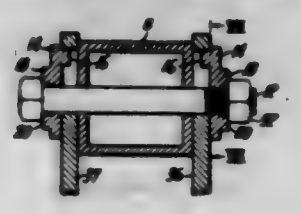
2,972,386
PLOW WITH ADJUSTABLE PLOW BOTTOMS
Willard H. Tuuke, La Crosse, Wis., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Dec. 30, 1958, Ser. No. 783,967
3 Claims. (Cl. 172—456)

1. In a plow, the combination comprising: a first frame member supporting a first plow bottom; a second frame member overlapping said first member and supporting a second plow bottom; said first and second frame members containing registering slots respectively; a pair of clip blocks, one for each slot, each clip block having a projection that is complementary to and engages one wall of its slot; an abutment member, said abutment member extending through said slots and rotatably supporting each of said clip blocks, each of said projections being spaced from said abutment member a distance equal to the length of its respective slot; and, means carried by said abutment member to clamp said clip blocks selectively in a first position with said clip blocks facing in opposite directions,



in a second position with said clip blocks facing in the same direction, or in a third position with said clip blocks reversed to said first position, to afford first, second and third transverse spacings between said plow bottoms, and to rigidly clamp said frame members.

2,972,387
PLANTER AND TOOL LEVELING ARRANGEMENT
Wilmer M. Severson, La Crescent, Minn., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Dec. 30, 1958, Ser. No. 783,966
5 Claims. (Cl. 172—739)

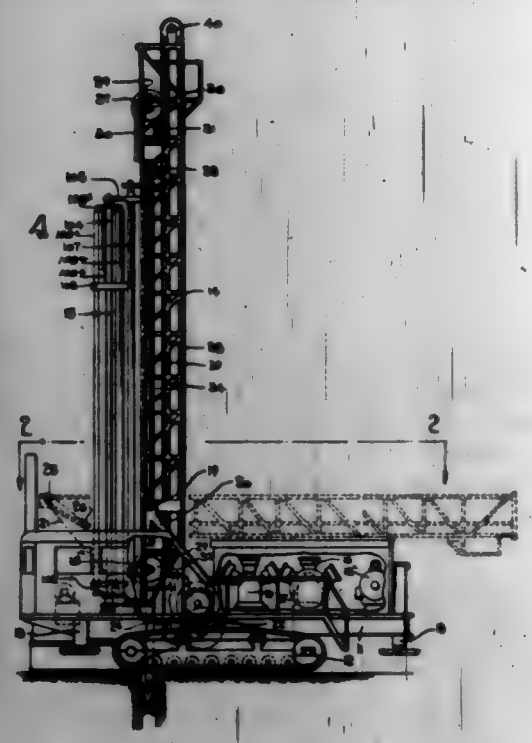


1. In a mounting for a ground engaging tool carried by a frame member, said frame member containing a slot having similar end walls, and wherein said slot receives an abutment, the combination comprising: a block, a projection carried by said block, said projection shaped complementary to and engaging the end wall of said slot, and said block containing an opening for reception of said abutment, the far side of said opening being spaced from said projection the length of said slot.

2,972,388
WELL DRILL PIPE-HANDLING APPARATUS
Herbert W. Thornburg, South Milwaukee, Wis., assignor to Bucyrus-Erie Company, Milwaukee, Wis., a corporation of Delaware
Original application Aug. 14, 1953, Ser. No. 374,364, now Patent No. 2,869,826, dated Jan. 20, 1959. Divided and this application Oct. 25, 1954, Ser. No. 464,471
17 Claims. (Cl. 175—52)

1. In a rotary well-drilling apparatus having a ground-supported base; a derrick supported by said base; a rotary drill bit; first power means to rotate said drill bit about its vertical axis; connecting means for drivably connecting said first power means to said drill bit, said connecting means including a plurality of drill pipes detachably connected end to end and coupling means connecting the uppermost drill pipe to said first power means; first support means for supporting said drill bit, said first power means, and said connecting means on said derrick for simultaneous vertical movement relative thereto, and second power means for power raising and power lowering said first support means on the derrick; the combination of a horizontal rack for storing and sorting said drill pipes before they are connected to said coupling means; a horizontal swing frame supporting said rack for ro-

tation of said rack about a first vertical axis; means supporting said swing frame on said base for swinging said frame about a second vertical axis to move said rack into and out of position over the drilling axis; and

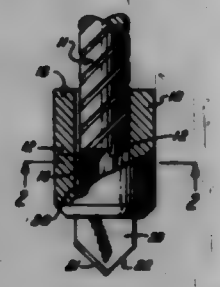


third power means operatively connected to said swing frame to swing said swing frame about said second vertical axis and simultaneously to rotate said rack about said first vertical axis.

ERRATUM

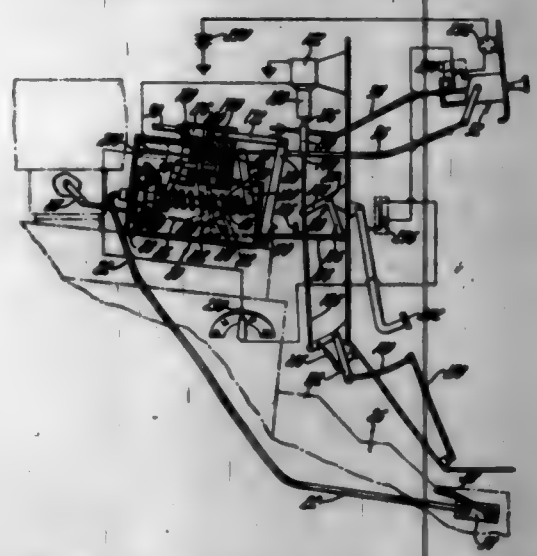
For Class 175—293 see:
Patent No. 2,972,471

2,972,389
STARTER BITS FOR MASONRY DRILLS
Max L. Green and William C. Kinard, Pasadena, Calif., assignors to Termite Drills, Inc., Pasadena, Calif., a corporation of California
Filed Jan. 13, 1958, Ser. No. 708,443
5 Claims. (Cl. 175—328)



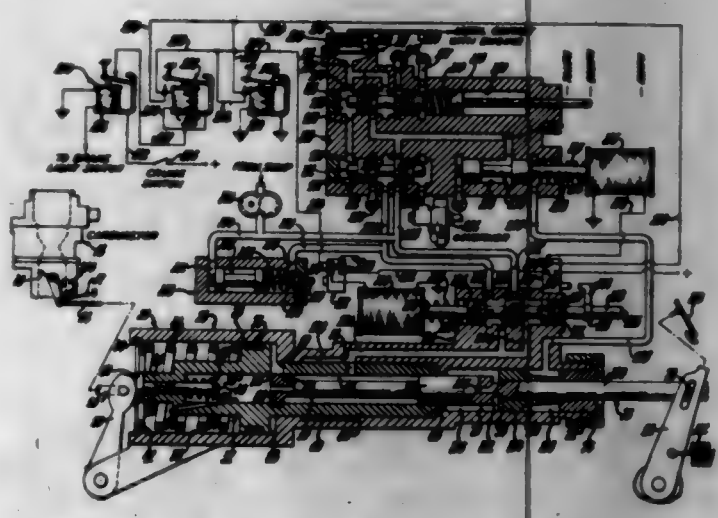
1. A starter bit, for masonry drill bits having a shank and at least one transversely oriented cutting tooth projecting from a wall surface of the shank, the starter bit comprising a cylindrical coupling having a head at one end thereof, a cutting portion extending outwardly from the head, means for securing the starter bit to the masonry drill bit, and a plurality of longitudinal recesses in the coupling adapted for engagement with the portion of the cutting tooth projecting from the shank surface so that rotation of the masonry drill bit imparts rotation to the starter bit.

2,972,390
VEHICLE ROAD SPEED CONTROL
Ward Bunker, Dayton, Stephen A. Denman, Piqua, and James R. May, Dayton, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 23, 1957, Ser. No. 685,540
2 Claims. (Cl. 180—82.1)



1. A hydraulically actuated servo for controlling a vehicle throttle and manual linkage for controlling said throttle, said servo having a rack slidable relative thereto and engageable therewith at each end of its slidable stroke and a pinion engaging said rack and operatively connected with said throttle, said servo being hydraulically actuated to move said rack in one direction to close said throttle, said throttle being connected with said manual linkage to permit said throttle to be manually closed by said manual linkage with said servo remaining in an open throttle position.

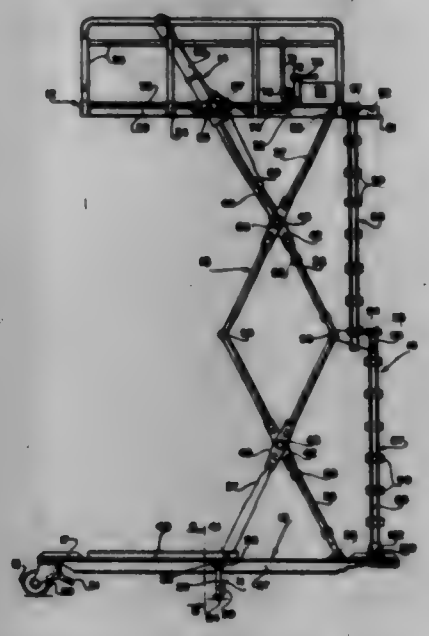
2,972,391
POWER THROTTLE AND VEHICLE SPEED CONTROL MECHANISM
Kenneth E. Faiver and Andrew K. Watt, Lansing, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed July 28, 1958, Ser. No. 751,382
7 Claims. (Cl. 180—82.1)



1. In a throttle control for an engine driven vehicle, the combination of fluid actuated mechanism for operating the throttle, a control valve operative to control said fluid actuated mechanism below a selected vehicle speed so as to vary the position of the throttle, reference valve means for producing a reference pressure corresponding to the selected vehicle speed, governor means for producing a governor pressure representative of vehicle speed, and regulator valve means for developing a control pressure reflective of the reference pressure and the

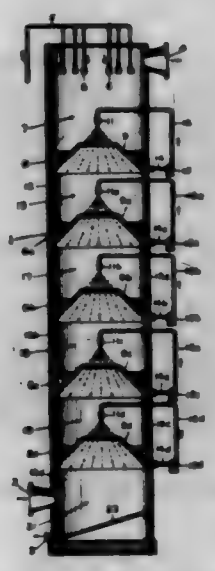
governor pressure, the control pressure actuating said fluid actuated mechanism and controlling said fluid actuated mechanism when the vehicle speed increases to the selected vehicle speed.

2,972,392
AIRCRAFT MAINTENANCE PLATFORM
Robert J. Karvers, North Hollywood, Calif., assignor to Lockheed Aircraft Corporation, Burbank, Calif.
Filed Feb. 8, 1957, Ser. No. 639,018
1 Claim. (Cl. 182—148)



A maintenance stand comprising a base, a work platform above said base, a plurality of scissor trusses sets supporting the platform on the base for vertical movement, each set including at least two crossed trusses and a fulcrum pivotally connecting the two trusses where they cross, each of said sets having the lower end of the lowermost truss pivotally connected to said base and the lower end of the other truss guided for horizontal movement on said base, each of said sets having an upper end of the uppermost truss pivotally connected to said platform and the other upper end of the other truss guides for horizontal movement on the platform, and means for moving the platform vertically comprising extensible and contractible cylinder and ram units each having two relatively movable parts, a first pivot means connecting one part of each unit to a fulcrum of a set of trusses, a second pivot means connecting the other part of said units with the platform whereby extension of the units raises the platform, a pump on the platform for each unit operable to supply actuating fluid under pressure to each of said units, and a common manually actuated means on the platform for operating the two pumps, the two pumps having equal volume capacity and the actuating means serving to impart equal strokes to the pumps whereby equal volumes of fluid are supplied to the two units, valve means associated with the pump means for controlling the units, said two pumps being interconnected by said common actuating means so that said platform will remain parallel to the surface of said base regardless of the force distribution upon said platform, and a ratchet means integrally formed in at least one of said ram units for preventing contraction of said cylinder and ram units, said ratchet means operable and releasable by means of ratchet dogs, said ratchet dogs operable by means of platform-mounted handles, said stand having horizontal hinge rods pivotally connecting the upper ends of the lowermost set of trusses with the lower ends of the adjacent set of trusses, and ladder means including brackets on one of said hinge rods, a lower ladder section having its lower end secured to said base, cooperating guide means on said brackets and the lower ladder section to hold the section vertically slidable, an upper ladder section hanging from said platform to rise and lower therewith, and guide means on said brackets slidably guiding the upper section in adjacent parallel relation to said lower ladder section, whereby said platform is collapsible upon said base to within the distance occupied by the collapsed scissor trusses so that said platform may be readily loaded and unloaded from ground position.

2,972,393
PROCESS FOR TREATING COKE OVEN GAS
Stanley B. Bush, Ramsey, N.J., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York
Filed Mar. 25, 1959, Ser. No. 801,745
6 Claims. (Cl. 183—120)

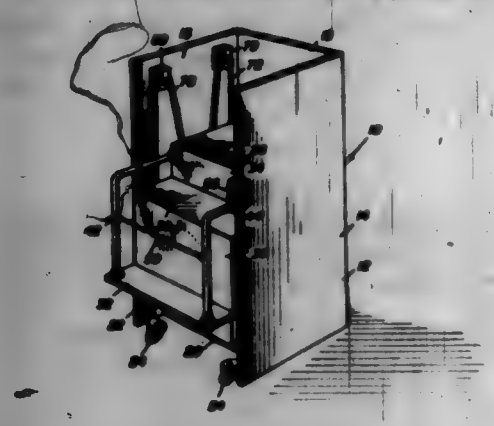


1. A process for cooling coke oven gas containing naphthalene to temperature at which naphthalene crystallizes out which comprises passing a stream of the coke oven gas upwardly through a series of superposed vertically elongated contact zones, spraying cooling water downwardly, countercurrent to the stream of coke oven gas, through said series of contact zones, accumulating cooling water passing downwardly in the form of a pool at the bottom of each contact zone and out of direct contact with said coke oven gas, decanting water containing surface naphthalene crystals from the pool in each contact zone except the lowermost and flowing the decanted material, out of direct contact with the coke oven gas, to the pool in the subjacent contact zone, withdrawing liquor remaining after the decantation from the upper pools and spraying said liquor into lower contact zones, removing water containing naphthalene crystals as a slurry from the lowermost zone and recovering cooled coke oven gas from the uppermost zone.

2,972,394
PORTABLE ELEVATOR
Paul D. Grant, deceased, late of Bakersfield, Calif., by Gertrude B. Grant, executrix, 3013 Haley St., Bakersfield, Calif.
Filed Mar. 28, 1958, Ser. No. 724,536
2 Claims. (Cl. 187—11)

1. An elevator comprising a supporting structure which has a bottom, sides, and means attached to said sides holding said sides spaced from each other, said structure having an open top and an open front and constituting a guideway, a platform vertically movably disposed in said guideway between said sides, said platform having a part which is accessible through the open front of said structure, an electric motor, drums connected to said electric motor and located at opposite sides of said motor, cables oppositely wound on said drums and operatively con-

nected with said platform to elevate said platform in response to actuation of said motor, guides at the upper and lower parts of said supporting structure over which said cables are entrained, means responsive to the move-



ment of said platform to a particular height for de-energizing said motor, and an automatic brake operatively connected with said motor and which becomes engaged to mechanically stop the motor from turning in response to de-energization of said motor.

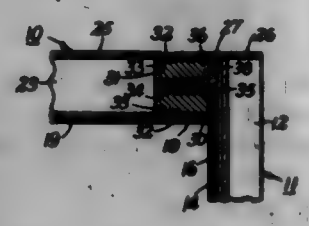
2,972,395

WINDOW FRAME CONSTRUCTION

Edmund Peroni, Bayside, N.Y., assignor to General Bronze Corporation, Garden City, N.Y.

Continuation of abandoned application Ser. No. 749,241, May 20, 1947. This application Mar. 23, 1953, Ser. No. 343,825

2 Claims. (Cl. 189—36)



1. In a metallic window frame, a corner construction comprising two rails having their end portions arranged in abutting and substantially right angular relationship, one of said rails having substantially parallel spaced side walls with end faces substantially parallel to each other, the other of said rails having substantially parallel spaced side walls with edge faces substantially parallel to each other and in surface-to-surface contact with said end faces on said one rail, said other rail having a base extending between said walls thereof substantially parallel to said end faces on said one rail, a block mounted between said walls of said one rail against longitudinal movement in respect thereto and for swinging movements in the direction of the planes of the faces of said walls of said one rail, said block having a threaded hole therein extending substantially longitudinally of said one rail and normal to said base of said other rail, said base having an opening therein for the reception of a screw, and a screw extending into said hole in said block having adjustable screw threaded engagement therewith and having a head bearing against a face of said base, whereby when said screw is tightened said block will rock on its mounting and said end faces of said one rail and of said edge faces of said other rail tightly will be drawn together in complete surface-to-surface contact, the end of said block adjacent said base of said other rail being provided with a counter-sink and said base being provided with a complemental seat member, whereby upon the tightening of said screw, the counter-sink will tightly be drawn into contact with said seat member, to fix the adjacent end of said block against swinging movement.

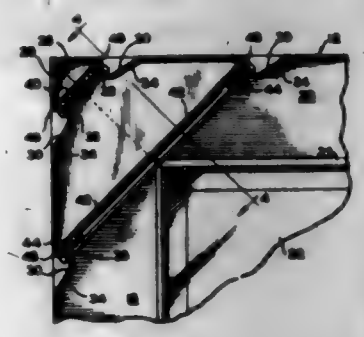
2,972,396

WINDOW OR DOOR SASH CORNER CONSTRUCTION

Dean K. Minick, Camp Hill, Pa., assignor to Capitol Products Corporation, Mechanicsburg, Pa., a corporation of Pennsylvania

Filed Mar. 4, 1958, Ser. No. 719,103

8 Claims. (Cl. 189—36)



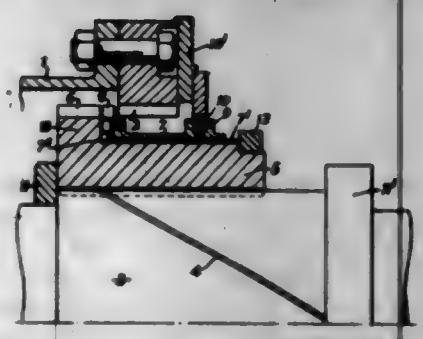
6. In a door or window construction, the combination with a pair of tubular framing components having adjacent ends abutting in mitered perpendicular relation to each other and extending along respective adjacent sides of a frame from a corner thereof, the outermost faces in each frame component having corresponding paired screw openings at spaced points therein opening therethrough in axial opposition, of a trapezoidal gusset having screw channels longitudinally of the parallel sides thereof adapted to align respectively between the corresponding opposed screw openings in each frame component.

2,972,397

SYNCHRONOUS SELF-SHIFTING CLUTCHES

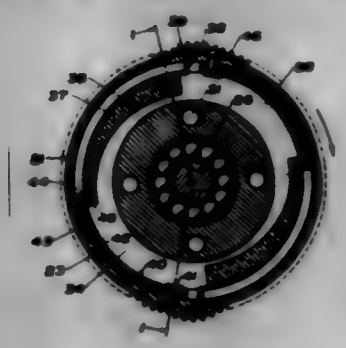
Harold Sinclair, Windsor, England
(5 Phillimore Gardens Close, London W.8, England)

Filed Aug. 1, 1957, Ser. No. 675,743
Claims priority, application Great Britain Oct. 4, 1956
10 Claims. (Cl. 192—67)



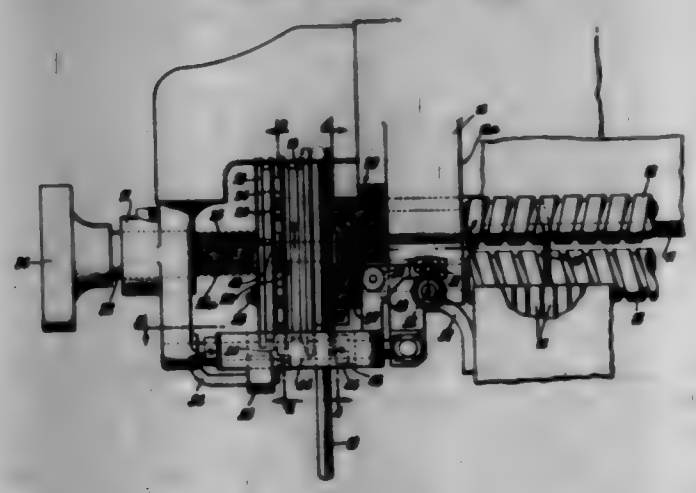
1. A clutch comprising coaxially mounted first and second clutch members the first of which is provided with jaw clutch teeth, an intermediate member provided with jaw clutch teeth, means constraining said intermediate member for helical movement relative to said second clutch member whereby to bring the clutch teeth of said intermediate member into and out of toothed engagement with the clutch teeth of said first clutch member, an auxiliary member for initiating the toothed engagement of said intermediate member with said first clutch member, means constraining said auxiliary member for limited helical movement relative to one member of the aforesaid members, namely: the intermediate member, the first clutch member and the second clutch member, and a ratchet mechanism associated with said auxiliary member for initiating the helical movement of the auxiliary member to initiate said toothed engagement of said intermediate member and said first clutch member, said ratchet mechanism comprising at least one pawl mounted for movement of the pawl nose in a plane radial to the clutch axis.

2,972,398
AUTOMOBILE FAN DRIVE
Frederick L. Davis, Fort Worth, Tex., assignor to Welex, Inc., Fort Worth, Tex., a corporation of Delaware
Filed May 2, 1957, Ser. No. 656,562
7 Claims. (Cl. 192—103)



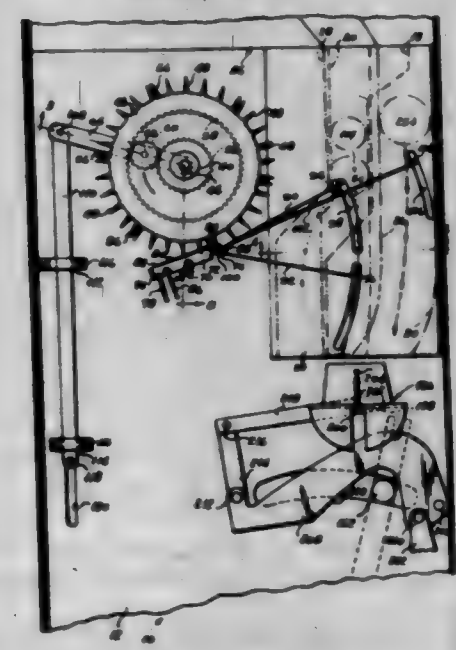
1. A clutch of the kind indicated comprising: a rotary driven member having a peripheral clutch surface; a coaxial rotary driving member having a flange surrounding the clutch surface of said driven member; an arcuate clutch shoe; means mounting said clutch shoe on the flange of said driving member for movement between a normally disengaged position and an engaged position in which said clutch shoe drivingly engages said clutch surface; a bi-metallic, temperature responsive strip; and means mounting said strip on said flange, said strip being mounted on said flange at one end only of said strip and extending arcuately in contact with a substantial portion of the inner periphery of said flange in good heat conducting contact therewith and curling inwardly when heated, for urging said shoe into said engaged position; said shoe being urged to said disengaged position by centrifugal force.

2,972,399
DISTRIBUTOR CLUTCH FOR TYPOGRAPHICAL COMPOSING MACHINE
Paul Hilpmann, Garden City, Leroy F. Albert, Brooklyn, and Harold Schad, Westnglu, N.Y., assignors to Mergenthaler Linotype Company, a corporation of New York
Filed July 29, 1958, Ser. No. 751,805
2 Claims. (Cl. 192—150)



1. Distributing mechanism for a typographical composing machine comprising rotatable screws for conveying matrices along a distributor bar, one of said screws being displaceable axially, a driven shaft for powering said screws, a driving member rotatably mounted on said shaft, a driven member keyed to said shaft and slidable thereon, a spring normally urging said driven member into engagement with said driving member in order to transmit power to said screws, a serrated release plate disposed adjacent said slidable member and resiliently coupled thereto, a pivotal member, a pawl integral with said pivoted member, said pivotal member being responsive to axial displacement of said distributor screw for permitting said pawl to engage said release plate thereby positively locking said plate against rotation, camming means mounted on said release plate, and a pin integral with said driven shaft positioned so as to engage said camming means upon the locking of said release plate, whereby upon such engagement said driven member is separated from said driving member against the force of said spring.

2,972,400
ESCAPEMENT WHEEL COIN TOTALIZER
Christian Gabrielsen, Mountain Lakes, N.J., assignor to Rowe Manufacturing Co., Inc., Whippany, N.J., a corporation of New York
Filed June 27, 1956, Ser. No. 594,251
1 Claim. (Cl. 194—19)

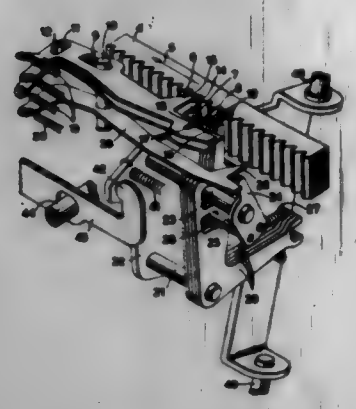


A coin totalizer for producing an aggregate movement which is an analog of the sum of quarters, dimes, and nickels deposited therein including in combination a support, a first escapement wheel having a certain intertooth spacing, a second escapement wheel having an intertooth spacing which is five times the intertooth spacing of said first escapement wheel, means mounting said escapement wheels for rotary movement about an axis on said support, a sun gear carried by one of said escapement wheels for movement therewith, a ring gear carried by the other of said escapement wheels for movement therewith, a planet gear disposed between said ring and sun gears in driving engagement therewith, means biasing said planet gear for movement about said support axis, first means comprising a first escapement latch for normally restraining said first escapement wheel against movement, second means comprising a second escapement latch for normally restraining said second escapement wheel against movement, means responsive to the deposit in said totalizer of a nickel for actuating said first escapement latch once to permit a first predetermined movement of said planet gear around said support axis under the action of said biasing means, means responsive to the deposit in said totalizer of a dime for actuating said first escapement latch twice to permit twice said first predetermined movement of said planet gear around the support axis under the action of said biasing means and means responsive to the deposit in said totalizer of a quarter for actuating said second escapement latch to permit a second predetermined movement of said planet gear around the support axis under the action of the biasing means, which second predetermined movement is five times said first predetermined movement whereby the aggregate movement of said planet gear is an analog of the sum of quarters, dimes, and nickels deposited in the totalizer.

2,972,401
VARIABLE SPACING MECHANISM FOR TYPEWRITERS

Rinaldo Salto, Ivrea, Italy, assignor to Ing. C. Olivetti & C., S.p.A., Ivrea, Italy, a corporation of Italy

Filed July 21, 1959, Ser. No. 828,563
Claims priority, application Italy July 26, 1958
13 Claims. (Cl. 197—84)

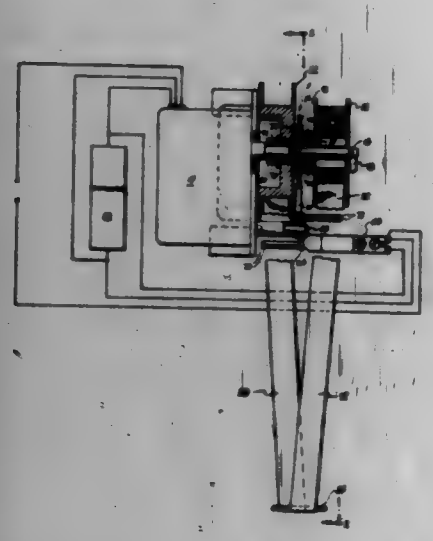


1. In a variable spacing mechanism, a toothed escapement member urged in a letter-feed direction, movable dog means normally engaged with said escapement member against said urge, means mounting said movable dog means for engagement with and disengagement from said escapement member and for a variable retrograde movement counter to said direction, a set of elements selectively operable for in a single stroke disengaging said movable dog means and entering the path thereof to arrest said retrograde movement, and a set of universal bars associated with said elements, each one of said universal bars being movable for operating its associated element.

2,972,402
RIBBON FEED MECHANISM

Bernard Howard, Ramsey, N.J., assignor to Teleprinter Corporation, Paramus, N.J., a corporation of New Jersey

Filed July 2, 1959, Ser. No. 824,641
19 Claims. (Cl. 197—165)

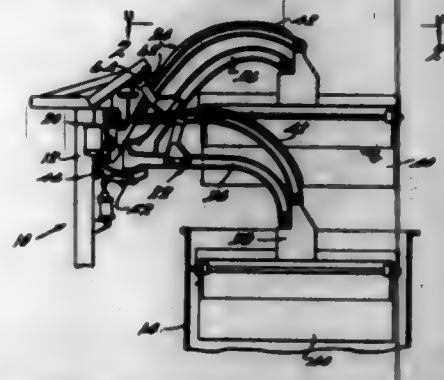


19. A ribbon or tape feed mechanism comprising a first spool, a second spool coaxial with the first spool, and means whereby the first spool attempts to drive the second spool at a linear speed higher than the first spool, with the first spool acting as a supply spool and the second spool acting as a take-up spool, said means including a frictional slip drive means between the first spool and the second spool.

2,972,403
WORK HANDLING MACHINE WITH SKIP MECHANISM

James Barton, Grosse Pointe, Mich., assignor to Frederic B. Stevens, Inc., Detroit, Mich., a corporation of Michigan

Filed May 15, 1959, Ser. No. 813,426
10 Claims. (Cl. 198—19)

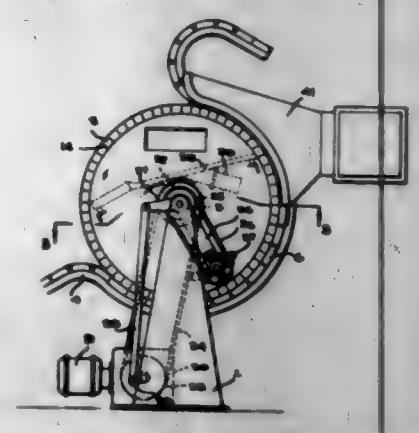


1. In a work handling machine which includes a work carrier mounted for movement along a predetermined longitudinally extending path, rail means corresponding to selected portions of said path, actuatable means movable to a position in said path for engagement with said carrier to move the carrier transversely of said path to a preselected position, guide means on said carrier movable into engagement with said rail means in said preselected position of said carrier so as to maintain the carrier in said position during travel of said guide means on said rail means, and pre-set means on said carrier movable between positions for actuating and not actuating said actuatable means.

2,972,404
MATCH SPLINT INSERTING DEVICE

Edwin Zilver, The Hague, Netherlands, assignor to N.V. Inland, Rotterdam, Netherlands, a corporation of the Netherlands

Filed June 9, 1958, Ser. No. 740,713
Claims priority, application Netherlands June 17, 1957
8 Claims. (Cl. 198—33)



1. In combination with a match splint holding means provided with a plurality of holes, each of which is adapted to hold one match splint, a device for inserting match splints in the match splint holding means, said device comprising a cylindrical splint container having a rotatable circumferential wall formed with a plurality of holes through which the splints may pass, said holes of the wall being formed by a plurality of partitions extending axially and circumferentially of said container, said partitions defining separate spaces in which the match splints assume a position substantially parallel to each other and to the partitions, a guide path for the match splint holding means being arranged at least along a lower part of the outer surface of said circumferential wall of said container and in close proximity to said container, driving means for driving the match splint holding means and the container at the same speed and a

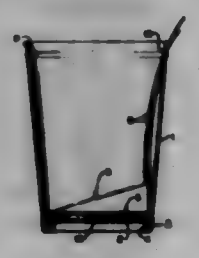
distributing means for the match splints disposed internally of the container and including means sweepingly disposed in contact with the inner surface of the cylindrical wall beyond the bottom of said container in the direction of movement of the container for evenly distributing the match splints within the container outside of the container holes over the circumferential wall for passage through the holes into the match splint holding means.

2,972,405
TIRE BEAD SPACING AND SUPPORTING ELEMENT
Charles E. Branick, % Branick Mfg. Co., P.O. Box 1937, Fargo, N. Dak.
Filed June 3, 1960, Ser. No. 33,819
3 Claims. (Cl. 206—46)



1. A tire bead spacing and supporting element comprising a relatively rigid annular sleeve formed from sheet material and having axially spaced generally parallel edges, said sleeve being adapted to engage the inner circumferential surface portion of the tire beads and the axial width of said sleeve being greater than the normal distance between said tire beads, and a plurality of circumferentially spaced radially outwardly projecting lugs on said sleeve axially inwardly spaced from both marginal edges thereof and adapted to engage the axially inner surfaces of said beads so as to maintain said beads axially spaced from one another a distance approximating the distance therebetween when the tire is mounted for use on a wheel, said spacing and supporting element further defining a substantially smooth axially extending inner surface which is generally contiguous with the inner circumferential bead surfaces of the tire whereby to provide a base upon which pressure may be applied during the application of a wrapper about the tire.

2,972,406
CONTAINER WITH MIXING ATTACHMENT
Ben Mayer, 2524 Presser Ave., Los Angeles, Calif.
Filed Oct. 14, 1957, Ser. No. 690,827
6 Claims. (Cl. 206—47)



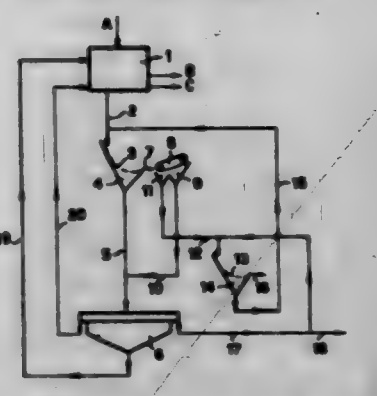
1. In a paper cup having an open top, a circular bottom and frusto-conical sidewalls extending upwardly from said bottom with the marginal portion of said bottom formed with a downwardly extending flange and with the lower margin of said sidewalls crimped upwardly around said flange to form a liquid tight seal, a stirring device for stirring liquid in said cup comprising: a paddle positioned over said bottom and formed with a downwardly extending tab interposed between said flange and the adjacent portion of said sidewalls for hingedly securing said paddle to said cup, a handle secured to said paddle at the side of the latter opposite said tab and extending upwardly toward said open end whereby vertical swinging of said paddle is effected by movement of said handle.

2,972,407
BUTTER DISPENSER WITH SECTIONAL HOUSING
George D. Taylor, 207 N. Virginia, Amarillo, Tex.
Filed Nov. 15, 1956, Ser. No. 622,418
1 Claim. (Cl. 206—56)



A dispenser comprising an elongated housing for containing a semi-solid product and having open ends, a pusher plug slidably fitted in one end of the housing for dispensing said semi-solid product out of the other end of the housing, said pusher plug being solid and having a product engaging face and a peripheral groove therein rearwardly of said product engaging face, said groove having a forwardly extending outwardly sloping flat bottom face, and said product engaging face having a flat bottomed recess therein provided with a forwardly extending outwardly sloping face, said face of said groove and said face of the recess converging to a knife edge on said pusher plug engaging said housing and to reduce frictional contact between said pusher plug and said housing and to scrape said semi-solid product off said housing.

2,972,408
PROCESS AND APPARATUS FOR PURIFYING SUSPENSIONS OF FINE MAGNETIZABLE PARTICLES IN A LIQUID
Cantinus Krijgsman, Hoensbroek, Netherlands, assignor to Stamicarbon N.V., Heerlen, Netherlands
Filed Aug. 1, 1955, Ser. No. 525,701
Claims priority, application Netherlands Aug. 11, 1954
8 Claims. (Cl. 209—38)



1. A process for purifying suspensions of fine magnetizable particles in liquid, which suspensions are contaminated by coarser particles of non-magnetizable materials, which comprises the steps of pretreating the suspension to obtain an undersize fraction containing a major portion of the liquid and magnetizable particles and an oversize fraction containing the remaining liquid and magnetizable particles and the coarser particles of non-magnetizable materials, subjecting the oversize fraction to magnetic separation to obtain a first fraction containing a major portion of the remaining magnetizable particles and a second fraction containing the coarser particles of non-magnetizable materials and the remaining magnetizable particles in said oversize fraction and then feeding said second fraction to a sieve bend to separate a major portion of the magnetizable particles therefrom.

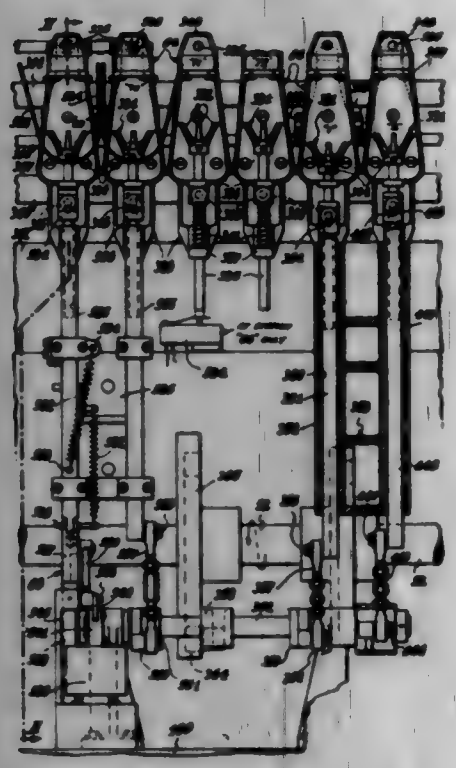
2,972,409

DETECTING AND SORTING DEVICE FOR HIGH SPEED INCANDESCENT LAMP FINISHING MACHINE

Daniel Mullen, Hillside, and Edward Zilaky, Nutley, N.J., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Original application Aug. 12, 1954, Ser. No. 449,482. Divided and this application June 14, 1955, Ser. No. 517,587

5 Claims. (Cl. 209—81)



1. In combination for a lamp basing machine: a lamp having a filament and internal electrical connections; means for clamping said lamp; means having a standard resistance and electrically connected with said lamp for comparing the resistance of the filament and internal electrical connections of said lamp with said standard resistance; means operatively connected to said clamping means for unclamping said clamping means to free said lamp; and means connected to said unclamping means and controlled by said comparing means for maintaining said unclamping means in an operative position to prevent freeing of said lamp from said clamping means, said comparing means being operable to cause energization of said maintaining means when the resistance of the filament and internal electrical connections of said lamp do not balance the standard resistance.

2,972,410

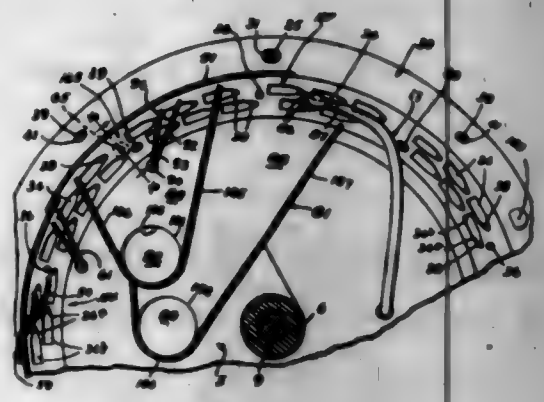
PROJECTILE FABRICATING APPARATUS

Marshall J. Schulte and George A. Douglas, St. Louis, and Russell H. Ludemann, Florissant, Mo., assignors to United States Defense Corporation, St. Louis, Mo., a corporation of Missouri

Filed Sept. 7, 1956, Ser. No. 608,594

20 Claims. (Cl. 209—82)

1. An apparatus for sorting articles, said apparatus comprising article positioning means to permit said articles to pass a plurality of stations in sequence, means to bring said articles into cooperating relationship with each of said plurality of stations the first station comprising means to eject from said positioning means any articles not properly oriented on said positioning means for sorting at the subsequent stations, the second station comprising means to eject from said positioning means all remaining articles which are within prescribed tolerances and means to collect the articles so ejected from said positioning means, and the third station comprising a second means



to eject from said positioning means the remaining articles not within allowable tolerances.

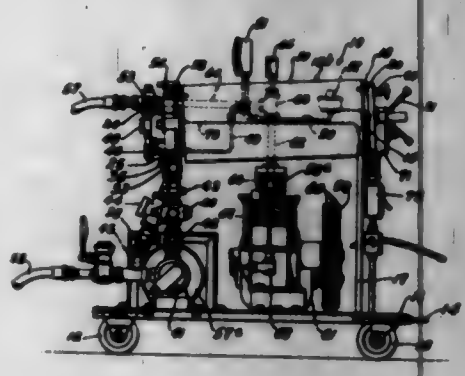
2,972,411

DEHYDRATING AND FILTERING APPARATUS FOR LIQUID DIELECTRICS

Stanley R. O'Dette, 1422 Martine Ave., Plainfield, N.J.

Filed Nov. 19, 1957, Ser. No. 697,476

3 Claims. (Cl. 210—91)



1. In an apparatus for reconditioning the liquid dielectric of an electrical apparatus, a pair of alternately operated filtering and dehydrating cylindrical units, each containing a row of fibrous absorbent convex filter disks arranged in face to face contact therein, means to pass the liquid dielectric from said electrical apparatus through one of said units to remove the moisture from said dielectric, while simultaneously removing the moisture from the saturated disks of the other of said units which has absorbed it from the liquid dielectric in a previous cycle of operation.

2,972,412

FLOAT VALVE AND STRAINER

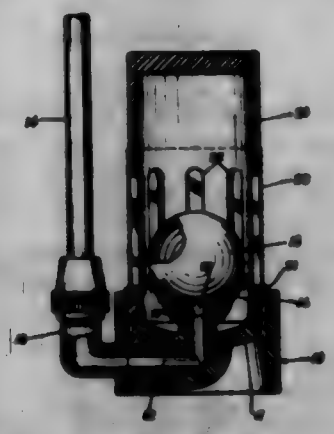
Stanley A. Lundeen, 2946 Stinson Blvd., Minneapolis, Minn.

Original application Mar. 25, 1955, Ser. No. 496,802, now Patent No. 2,902,155, dated Sept. 1, 1959. Divided and this application June 19, 1958, Ser. No. 743,066

6 Claims. (Cl. 210—123)

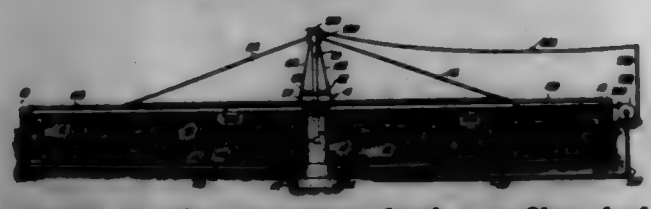
1. A float valve and strainer means which comprises a base member having a bottom wall, a passage extending from centrally in said bottom wall through said base member and adapted to be connected to a suction source, a resilient annular cup-shaped valve seat adapted to be disposed above said bottom wall around the opening to said passage, a ball float member adapted to sit in said resilient cup-shaped seat, and a perforated retaining member over said ball float and connected to said base, said retaining member being generally cylindrical, closed at one end and threaded at its opposite open end to engage

threads in said base member and being of a size to permit relative vertical movement of said float ball, the



perforations of said retaining member being covered with screen.

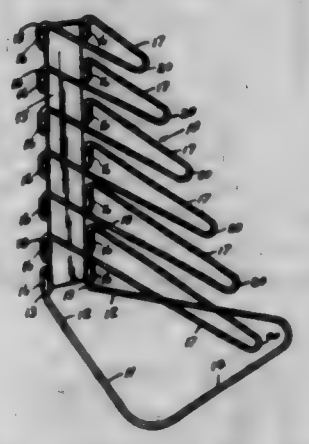
2,972,413
RECIRCULATION CONTROL SYSTEM FOR SEWAGE TREATING APPARATUS
Compere Loveless, Prairie Village, Kans., assignor, by mesne assignments, to Union Tank Car Company, Chicago, Ill., a corporation of New Jersey
Filed Nov. 19, 1956, Ser. No. 623,121
1 Claim. (Cl. 210—137)



In sewage treating apparatus having a filter bed, a sump tank provided with outlet means for distributing sewage therefrom into said bed, means for supplying fresh sewage to said tank, and means including an electrically responsive flow controlling device for recirculating sewage previously introduced into said bed back into said tank, the improvement of which comprises means for controlling the amount of said recirculated sewage delivered to said tank responsive to the amount of said fresh sewage delivered to said tank comprising: a first electrically conductive electrode extending into the tank to a level substantially above the bottom of the tank; a second electrically conductive electrode extending into the tank to a lower level adjacent the bottom of the tank; a third electrically conductive electrode extending into the tank to a level intermediate said before-mentioned levels; a relay having an operating coil, a first, normally closed switch, and a second, normally open switch; a source of electrical power having a pair of terminals; circuit means coupling said first switch and said device in series with each other and with said terminals; circuit means coupling one side of said coil with said first electrode; means coupling said second electrode and the other side of said coil with said terminals; and circuit means coupling said second switch between said first electrode and said third electrode, sewage within the tank being adapted to successively contact only said second electrode, then electrolytically couple said second electrode with said third electrode and then electrolytically couple said second electrode with said first electrode as the level thereof within the tank progressively rises.

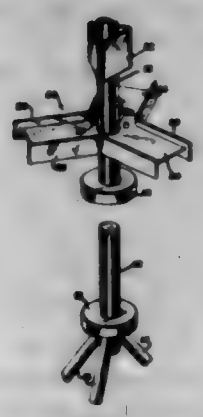
2,972,414
PAN COVER HOLDER
Charles B. Sipe, 903 Electric Bldg., Indianapolis, Ind.
Filed Jan. 28, 1960, Ser. No. 5,164
2 Claims. (Cl. 211—13)

1. A pan cover holder comprising a rigid loop having converging ends, a supporting element fixed to said loop at its converging ends and extending perpendicularly of said loop, a plurality of rigid loops fixed to said supporting element at their opposite ends so as to extend from said supporting element, said plurality of loops



being arranged in spaced parallel planes which are parallel to said first mentioned loop, each of said plurality of loops defining at its extending end a bight which is of sufficiently sharp curvature to retain the handle of a pan cover.

2,972,415
BOOKSTAND
Eberhard G. Rensch, Sachsenhausser Landwehrweg 115, Frankfurt am Main, Germany
Filed May 26, 1959, Ser. No. 815,871
11 Claims. (Cl. 211—42)

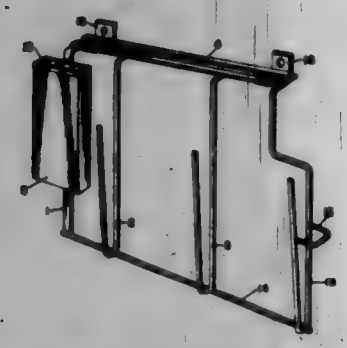


1. A bookstand assembly comprising a plurality of like shelf units each symmetrical about a vertical axis and having a central opening extending vertically therethrough, each of said shelf units comprising a horizontal plate having a plurality of radially projecting arms each defining a shelf extending radially outwardly from said vertical axis of symmetry, a vertical rod projecting through the opening in each of said shelf units, a plurality of hollow tubular spacers surrounding said rod and engaged between adjacent shelf units on said rod to space said shelf units vertically from each other, means on each shelf unit engageable with said spacers to vertically align the radially projecting shelves of said shelf units with each other, means on said rod engageable with the uppermost shelf unit and the lowermost shelf unit on said rod for clamping said shelf units and said spacers vertically against each other, and means supporting said central rod for rotation about an axis coincident with the vertical axis of symmetry of said shelf units.

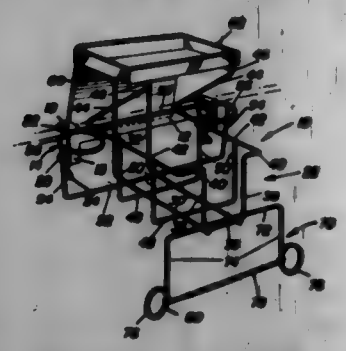
2,972,416
UTILITY MAGAZINE RACK AND ASH TRAY
Arthur James De Vivo, 21 Crystal St., East Stroudsburg, Pa.
Filed July 23, 1959, Ser. No. 829,151
1 Claim. (Cl. 211—59)

A utility magazine rack and ash tray comprising two spaced parallel bar members, a first end piece, a second

end piece, said first end piece having a vertical leg and a top portion extending forwardly and horizontally from said leg and connected to said bar members at one end thereof, said first end piece leg having holes therein, a U-shaped clip holder having a bight portion and spaced legs extending therefrom, a threaded stud extending from the bight portion between said holder legs and through one of said holes, means spacing said bight portion from said vertical leg, means mounted on the stud securing the clip holder to said vertical leg, an ash tray having a depending clip extending downwardly into the space between said bight and said vertical leg, said second end piece comprising a leg projecting downwardly, then horizontally and laterally and then downwardly and a top portion extending forwardly and horizontally and connected to said bar members at the other end thereof, said second end piece having a rearwardly extending horizontal portion at the lower end of the leg and a portion extending upwardly from the horizontal portion and terminating opposite the lateral portion, a stop connected to the downwardly and upwardly extending portions of the second end piece beneath the horizontally and laterally extending portion thereof, at least one intermediate piece located between the two end pieces, each intermediate piece comprising a vertical leg connected at its uppermost end to one of said bar members, a rearwardly extending horizontal portion at the lower end of the leg and a portion extending upwardly from the horizontal portion similar to corresponding parts of said second end piece, and a base piece connected to the bottom of each end and intermediate piece.

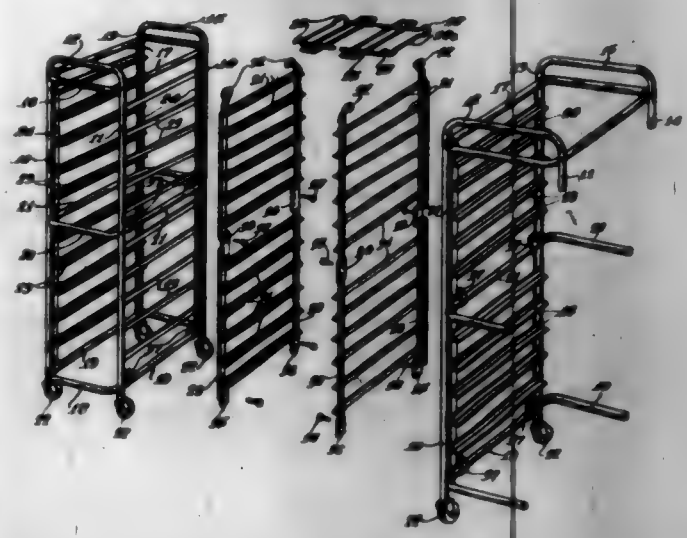


2,972,417
BAR ACCESSORY
Claude F. Smith, 126 S. Adams St., Green Bay, Wis.
Filed Apr. 23, 1958, Ser. No. 730,435
3 Claims. (Cl. 211—71)



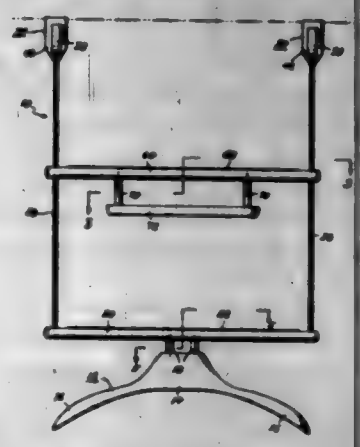
1. In a utility attachment for a bar, the combination of a strap-shaped horizontal support member, a pair of clamps provided at the ends of said support member for attaching the same to a bar, a tray having a back portion secured centrally to the support member and projecting forwardly and downwardly therefrom, a pair of transversely spaced vertical rods secured to and extending upwardly from said support member at the opposite sides of said tray, forwardly projecting arm portions provided at the upper ends of said rods, a pan mounted on said arm portions in upwardly spaced relation from said tray, forwardly projecting arm portions provided at the lower ends of said rods and supportably underlying the tray, a horizontal bar secured in downwardly spaced relation to the front of said tray, and a pair of eyes provided at the ends of said bar.

2,972,418
STORAGE RACK UNIT ACCESSORY
Donald S. Burns, Corona Del Mar., and John L. Williams, Anaheim, Calif., assignors, by mesne assignments, to Ekco Products Company, Chicago, Ill., a corporation of Delaware
Filed Apr. 25, 1958, Ser. No. 730,975
4 Claims. (Cl. 211—71)



4. A rack installation comprising a pair of rack units, each being supportable in self standing relation to the other unit, means for detachably joining said units in fixed spaced apart relation, said means including bridging members detachably connected to said rack units, each said bridging member providing a horizontally disposed load supporting surface disposed across the space between said rack units when the latter are so joined, and each of said rack units provided with a detachable frame member supported in upright relation along the side of the rack unit facing the space between said rack units, and each of said frame members having runners, with the runners of each frame in horizontal alignment with the runners of the other frame, said runners extending inwardly of the space between said rack units to provide surfaces with which separate load supporting members disposed between said frame members have supporting engagement.

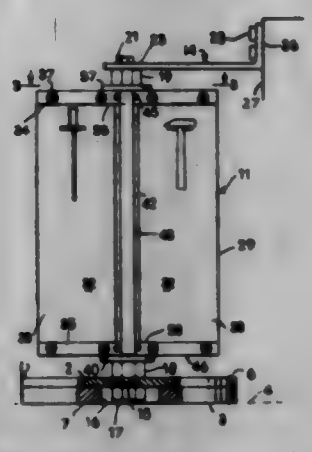
2,972,419
CLOTHES VALET
Eli Zolen, 205 Buffalo Ave., Brooklyn 13, N.Y., and Jack Markowitz, Hempstead, N.Y. (% Eli Zolen Specialty Mfg. Corp., 205 Buffalo Ave., Brooklyn 13, N.Y.)
Filed Feb. 25, 1960, Ser. No. 10,930
2 Claims. (Cl. 211—86)



1. A clothes valet comprising a trouser bar, a coat hanger secured to said trouser bar, a tie bar, a pair of

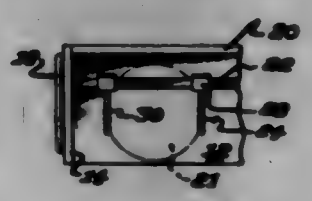
spaced parallel ropes, said trouser bar being secured between the bottom ends of the ropes, said tie bar being secured between said ropes in spaced relation with said trouser bar above said trouser bar, a tray extending beneath the tie bar, means supporting said tray in spaced relation from said tie bar, and means on one end of each of said ropes for supporting said ropes from the top of a door.

2,972,420
TOOL STAND
Frank J. Tucci, 32—20 47th St., Long Island City 3, N.Y.
Filed Nov. 10, 1959, Ser. No. 852,018
2 Claims. (Cl. 211—95)



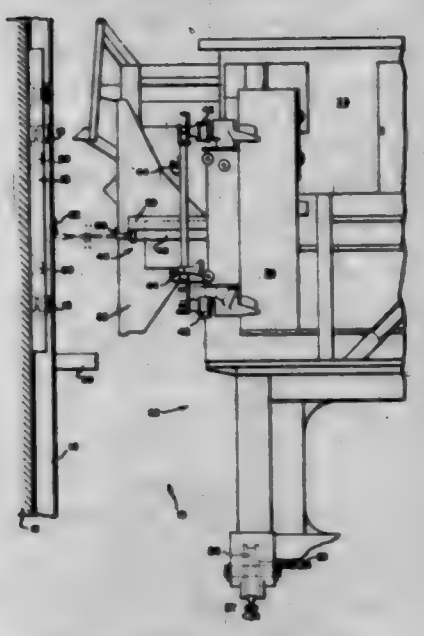
1. A tool stand comprising a support, a rotatable member mounted upon the support having a plurality of vertically elongated radial panels, and tool supporting means mounted upon the faces of the panels; wherein the support comprises a circular base, a vertical shaft mounted centrally to the base, and means supporting the rotatable member to the shaft for rotation; wherein the outer diameter of the rotatable member is less than that of the base; and the rotatable member comprises a pair of elongated panels extending radially in opposite directions relative to diametrically opposite areas of the shaft, each panel having a thickness equal to the diameter of the shaft, a pair of straps extending transversely of opposite marginal faces of the upper ends of the panels, a second pair of straps extending transversely of opposite marginal faces of the lower ends of the panels, means removably securing the several straps to the panels, and the several straps having inner face portions centrally thereof bearing upon the shaft.

2,972,421
DISH STACK DIVIDER
William H. Frick, 19430 Seminole Drive, Cleveland 17, Ohio
Filed Nov. 13, 1959, Ser. No. 852,683
9 Claims. (Cl. 211—184)



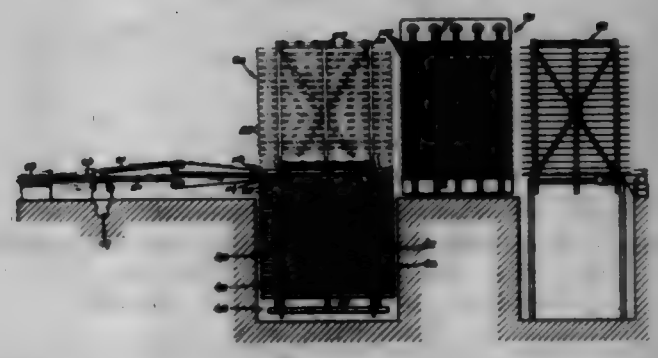
1. In combination with a dish supporting platform, dish stack division means including a horizontal bar suspended above said platform, said bar being of rectangular cross-sectional configuration, a plurality of rectangular collars telescopically mounted on said bar, said collars being partially rotatable relative to said bar, a pair of stack divider posts depending from each collar in off-center relationship thereto, whereby the weight of said dividers causes partial rotation of said collars on said bar locking the same frictionally against longitudinal movement relative thereto.

2,972,422
APPARATUS FOR HANDLING COKE OVEN DOORS
Selden S. Stone, Weirton, W. Va., assignor to National Steel Corporation, a corporation of Delaware
Filed Jan. 2, 1958, Ser. No. 706,685
11 Claims. (Cl. 212—4)



1. Apparatus for handling coke oven doors, comprising a selectively movable carriage, coke oven door supporting means mounted on the carriage for movement relative to the carriage away from the carriage on one side of the carriage to emplace a coke oven door, indicator means mounted on the carriage for movement relative to the carriage away from the carriage on said one side of the carriage, means for effecting said movement of the indicator means to an extended position to enable alignment of the indicator means with fixed target means contiguous to a coke oven by movement of the carriage, and means operable only when the indicator means is in an extended position for effecting said movement of the coke oven door supporting means.

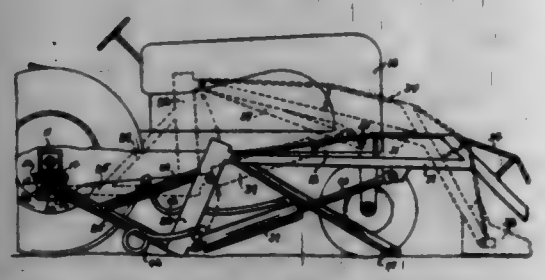
2,972,423
ART OF FEEDING MATS TO A HOT-PRESS
Ferdinand Thurnher, Seattle, Wash., assignor to Washington Iron Works, Seattle, Wash., a corporation of Washington
Filed Apr. 15, 1957, Ser. No. 652,834
23 Claims. (Cl. 214—16.4)



17. In combination with the vertically spaced mat-receiving pockets of a hot press, a loading cage located alongside the press and mounted for uninterrupted vertical reciprocatory motion between two extremes of travel, said cage presenting multiple flights spaced in correspondence with the spacing of the press sockets and arranged

to register with said pockets at one extreme of said reciprocatory motion, a respective carriage supported by each of said flights for horizontal reciprocatory motion from a normal retracted position into and from an advanced position whereat the same enters a related pocket of the press, feed means mounted for limited vertical movement within a zone located alongside the cage and traversed by successive flights of the cage in the reciprocatory vertical motion thereof, means for periodically bringing said feed means into registration with successive flights traversing said feed zone, means operating to momentarily localize the feed means in relation to the cage following said registration, a respective conveyor belt on the feed means and on each of the flights of the cage, means for supplying successive mats onto the belt of the feed means, means for driving said feed belt, and a normally inactive means caused to be activated when the feed means is localized with respect to successive said flights for passing drive energy from the belt of the feed means to the belt of the concerned flight so as, by the concerted action of the two belts, transferring a respective mat from the feed means to each of the flights of the cage during the interval when the feed means is localized with respect to said flight.

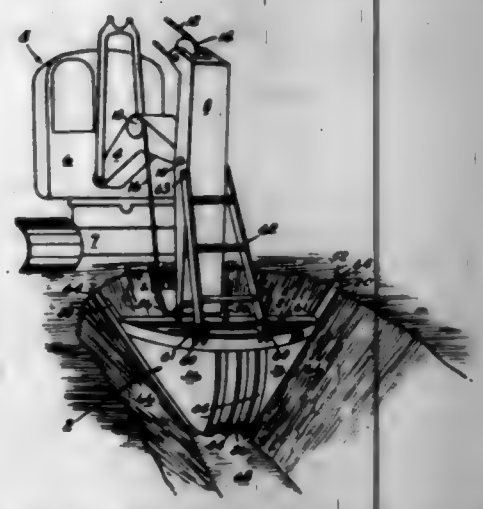
2,972,424
QUICK ATTACHABLE AND DETACHABLE LOADER
Vyrl E. Cadwell, Botna, Iowa
Filed Feb. 5, 1957, Ser. No. 638,397
2 Claims. (Cl. 214—131)



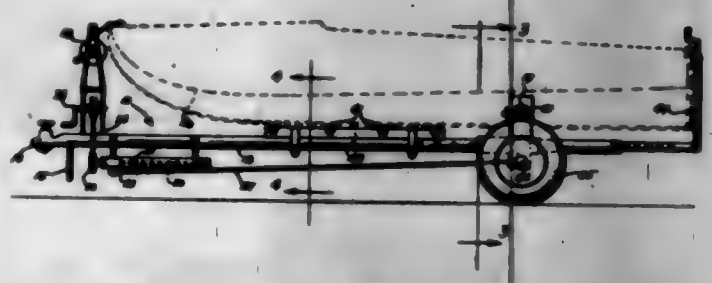
2. In combination, a loader having at least one beam having a hook flange on its rear end extending laterally beyond the longitudinal plane of the beam; said beam adapted to assume either a horizontal position or a downwardly and forwardly extending position; a tractor, at least one receiving bracket housing secured to the rear axle housing of said tractor, comprising a box member having an enclosed top, back end, two side walls extending forwardly, open at its forward end and bottom and having a horizontal bar extending between the two side walls, whereby when said loader beam has its rear end in said bracket and is moved from a forwardly and downwardly extending position to a horizontal position, its hook flange will extend downwardly and back of said bar, and when said beam is extending downwardly and forwardly said hook flange will be in substantially a vertical plane above said bar.

2,972,425
TRENCH HOE DIPPER
James O. Anderson, Robert M. Stringer, and Van D. Lott, Sr., all of 430 Meeting St., Columbia, S.C.
Filed Jan. 14, 1959, Ser. No. 786,768
2 Claims. (Cl. 214—138)

1. A trench hoe dipper having a body shell with an open front and top, said top being curved along substantially 180° of an arc of a circle as measured in top-plan, said front being generally V-shaped in front elevation and being formed of a pair of elongate upwardly divergent strips of metal, a rigid cross bar extending across the front of said dipper and secured between the upper portions of said strips, a pair of cutting blades integrally secured along the outer sides of said strips, said cutting blades being of hardened metal and having forwardly disposed cutting edges therealong, the lower ends of said strips being spaced from one another, a substantially flat plate of hardened metal extending between and integrally secured to the lower ends of said strips and having a forwardly disposed edge, cutting means on the forwardly disposed edge of said flat plate, a substantially rocker-shaped strip of metal curved along substantially 90° of an arc of a circle measured in side elevation, said strip having a lower forward end integrally secured to said plate and curving upwardly and rearwardly therefrom to an upper rear end disposed adjacent the top of the body shell, a brace affixed to and extending between said cross bar and the upper rear end of said rocker-shaped plate, and concavo-convex sheet metal side plates integrally secured on each side of said rocker-shaped strip and to the respective upwardly divergent strips.

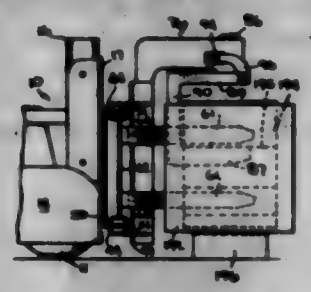


2,972,426
BOAT TRAILER
Burpee O. Sanford, 320 West St., Braintree 84, Mass.
Filed June 11, 1957, Ser. No. 664,961
1 Claim. (Cl. 214—505)



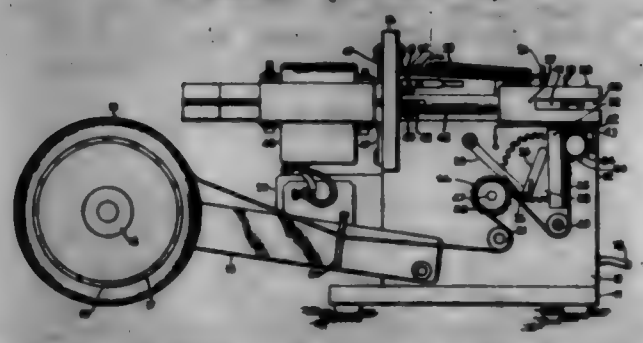
A self-loading transport trailer for boats comprising a longitudinal tubular boom having a trailer hitch secured to one end thereof, a transversely extending V-shaped cross support having a sleeve at the apex thereof adapted to adjustably slide and engage along the boom, said cross support having its ends elevated upwardly from the sleeve, a pair of diverging truss rods extending from the sleeve to the elevated end of the cross support, a spring biased support column pivotally mounted upon and depending from each of the elevated ends of said V-shaped cross support, each of said columns having an axle at the lower end thereof, wheels journalled upon said axles, winch means carried on the forward end of said boom, a pair of radius rods connected to the axle ends of said columns and connected to said winch, means operative to adjust the effective length of said radius rods such that said columns may be selectively positioned in a vertical plane formed by said V-shaped cross support thereby raising said tubular boom for support by said columns and journalled wheels.

2,972,427
COIL HANDLING TRUCK
George F. Quayle, Philadelphia, Pa., assignor to The Yale and Towne Manufacturing Company, Stamford, Conn., a corporation of Connecticut
Filed June 3, 1958, Ser. No. 739,582
5 Claims. (Cl. 214—652)



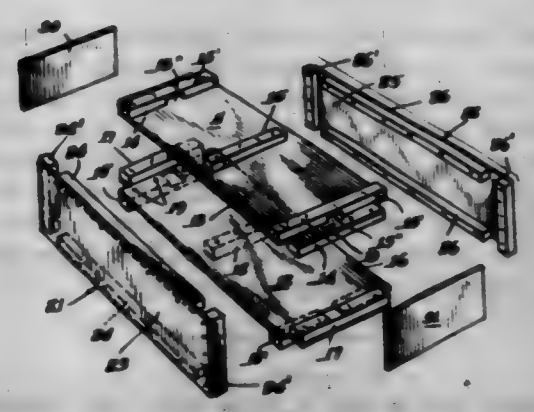
1. In a truck of the class described, an upender mounted on said truck for rotation in a generally vertical plane, pallet supporting means carried by and rotatable with said upender, an article supporting ram carried by said upender spaced from said pallet supporting means and rotatable with said upender, and means mounting said article supporting ram for movement relative to said upender between a position in which said ram extends generally perpendicular to the plane of rotation of said upender and a position in which said ram extends generally parallel to said plane of rotation of said upender and towards said pallet supporting means whereby an article supported on said ram may be oriented relatively to a pallet carried by said pallet supporting means.

2,972,428
TAPE APPLICATOR
Wendell P. Dubbs, Palo Alto, Calif., assignor to Cellotape & Tag Printers, Palo Alto, Calif., a corporation of California
Filed Jan. 19, 1959, Ser. No. 787,550
11 Claims. (Cl. 216—25)



1. A device for severing and applying to a surface segments of pressure-sensitive tape of the type having a tacky side and a printed opposite side, comprising: a frame, a supply of tape, a knurled rotatable driving means engaging the tacky side of the tape and adapted to advance said tape from said tape supply, feeding means adjacent said driving means and mechanically connected thereto to propel said tape upward into a slot, reciprocating ram means adapted to pass over knife means on said frame to sever a segment of said tape and to press said tape against a surface, spring means attached to said ram and said frame normally holding said ram in its retracted position; a drive shaft mounted on said frame connected to and driving said rotatable driving means, over-running clutch means on said drive shaft, a reciprocating shaft connected to said over-running clutch, said reciprocating shaft having a spring normally urging it into the retracted position, means to drive said clutch and said drive shaft, comprising a first solenoid mounted on said frame and adapted to move said reciprocating shaft; a first switch on said frame, lever means controlling said switch, pin means associated with said reciprocating shaft to engage said lever means whereby said switch is actuated; said first switch being connected to and controlling a second switch, said second switch also connected to a first solenoid and second solenoid, said second solenoid connected to and providing power to move said reciprocating ram means, said second switch means adjacent said reciprocating ram, actuating means attached to said second switch, said actuating means engageable by pin means on said reciprocating ram near the end of its stroke to reverse said second switch; and a source of electrical power connected to said first solenoid and said second switch, whereby power through said first solenoid drives the tape into position into said slot before the second solenoid is energized to drive the reciprocating ram to cut off the tape.

2,972,429
CLEATED PLYWOOD BOX
John W. Ladd, 800 Fair Oaks Ave., Oak Park, Ill.
Filed Apr. 23, 1956, Ser. No. 579,824
8 Claims. (Cl. 217—12)

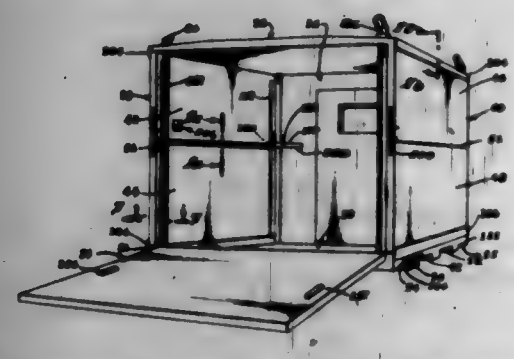


1. A cleated box comprising, a first pair of opposed side members each including a panel, an end cleat secured along each end edge of the panel on the inside thereof and terminating short of the outeremost side extremities of the associated panel and an end cleat secured to the outside of said panel adjacent to but spaced from each end edge of the panel, said panel being cut away at the four corners thereof up to the ends of said first named cleat thereof, a second pair of opposed side members each including a panel and cleats secured along all of the edges thereof on the inside thereof, and a pair of opposed end members each including a panel, the cleats along the side edges of the second pair of opposed side members being located outside of the first pair of opposed side members, the ends of the outside end cleats of said first pair of opposed side members extending between the side cleats of said second pair of opposed side members, the side edges of the panels of said first pair of side members contacting the panels of said second pair of side members, the panels of said first and second pair of opposed side members extending substantially the length of the box, the end cleats of the second pair of opposed side members passing through said cutaway portions of said panel corners of the first pair of opposed side members, the end faces of said inside end cleats of said first pair of opposed side members contacting the end cleats of said second pair of opposed side members, and said opposed end members being on the inside of said cleats on the ends of the box and all of the edges thereof abutting the panels of said two pairs of opposed side members.

2,972,430
COLLAPSIBLE SHIPPING VAN
Carroll P. Johnson, San Pedro, Calif., assignor to Collapsible Van Co., San Pedro, Calif., a corporation of California
Filed Apr. 14, 1958, Ser. No. 728,150
17 Claims. (Cl. 220—1.5)

1. A collapsible shipping van, comprising: a platform; a top wall; a front wall foldable downwardly to define

a loading ramp; means interconnecting said front wall and said platform whereby said front wall may be moved rearwardly when said van is to be collapsed and overlie said platform; a rear wall foldable inwardly when said van is to be collapsed so as to overlie said platform; a pair of side walls interposed between said platform and said top wall, each side wall having an upper panel and a lower panel that are hingedly interconnected so



as to fold inwardly when said top wall is lowered until they overlie said platform with said top wall directly overlying said folded-together side walls; lifting assemblies carried by said top wall; and tension rods having their lower ends pivotally connected to said platform and their upper ends removably connected to said lifting assemblies, with said tension rods being foldable downwardly towards said platform when their upper ends are disconnected from said lifting assemblies.

2,972,431

CONTAINER CLOSURES AND METHODS

Richard L. Parish, Jr., North Salem, N.Y., and Clarence W. Dearing, Chicago, Ill., assignors to American Flange & Manufacturing Co., Inc., New York, N.Y., a corporation of Delaware

Filed Dec. 13, 1954, Ser. No. 474,776
5 Claims. (Cl. 220—39)



1. A closure assembly for securement in assembled form to an opening in a wall of an already formed container from the outside thereof which includes a seating ring formed out of light weight sheet metal and consisting of an upwardly extending outer portion, a returned upper portion and a downwardly extending inner portion forming a channel therebetween for engagement with a receiving seat on a container wall, said downwardly extending portion terminating in an inwardly extending thread element for engagement with the threads of a closure plug, a closure plug screwed in place in said seating ring, an annular gasket carried on the exterior of said closure plug and engaged with said downwardly extending inner portion of said seating ring, to provide a leakproof joint between said plug and said ring.

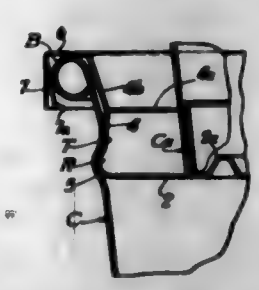
2,972,432

FLEXIBLE THERMOPLASTIC NESTABLE CLOSURE LIDS

Alfred Flack, New Hyde Park, and Rodney Ludder, Glen Head, N.Y., assignors to Lily-Tulip Cup Corporation, New York, N.Y., a corporation of Delaware

Filed Feb. 27, 1958, Ser. No. 717,955
6 Claims. (Cl. 220—60)

4. A readily flexible one-piece plastic nestable closure lid for containers, said did having a thickness throughout its entire extent not exceeding .020" and comprising a bottom end and an upwardly disposed peripheral portion including an internal wall and a rim portion providing a downwardly extending skirt spaced outwardly from said internal wall, said internal wall having an external convex bead at its juncture with said bottom and at a zone intermediate its height having an internal diameter substantially smaller than the external diameter of said bead providing a seat for supporting engagement with the bead of a like nested lid, said internal wall flaring gradually outwardly from said seat to an interval diameter at its upper end substantially greater than the external diameter of said bead to provide an inclined guideway for the separation of adjacent lids during ejection of the



lowermost supporting lid from the next uppermost supported lid in a nested stack, said downwardly extending skirt having at its lowermost edge peripherally spaced inwardly extending offset portions the inner edges of which define a circle whose diameter is substantially less than the external diameter at the top of said rim portion, thereby effectively widening the lower edge structure of said skirt to engage the top of a said adjacent lowermost supporting lid and prevent interlocking of adjacent lid rims when an uppermost supported lid is moved up the guideway of a lowermost supporting lid.

2,972,433

APPARATUS FOR FEEDING LOOSE-LEAF METAL ARCHES

Raymond E. Knoche, Overland, Mo.

Original application Sept. 5, 1951, Ser. No. 245,137, now Patent No. 2,879,919, dated Mar. 31, 1959. Divided and this application Nov. 5, 1958, Ser. No. 772,139
5 Claims. (Cl. 221—160)



1. In a device of the kind described, having an interiorly baffled tumbling barrel, a rotating shaft extending through the barrel and to a remote point outside thereof, and aligned rails extending alongside said shaft, one of said rails having a gap within the barrel, the improvement which comprises, the gaped rail being higher than the opposite rail adjacent said gap.

2,972,434

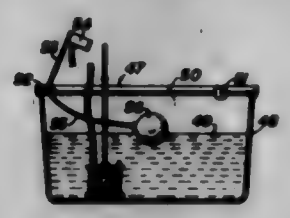
BLEACH AND DETERGENT VENDING MACHINE

Lewis A. James, Independence, Kans., assignor to Nu-Way Foundation, Fort Worth, Tex., a corporation of Texas

Filed Jan. 12, 1959, Ser. No. 786,176
3 Claims. (Cl. 222—66)

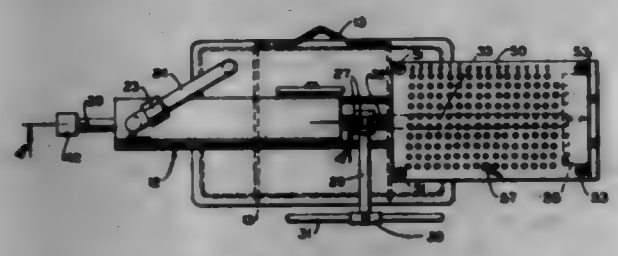
1. In a machine for selectively dispensing both pulverulent and liquid materials, and wherein said machine includes an upright cabinet having pulverulent dispensing

mechanism in the upper portion thereof, a liquid dispensing mechanism comprising: a tank in the lower portion of said cabinet, a bearing on the top of said tank, a vertically extending arm having its lower end journalled in said bearing, a generally horizontal rod having one of its ends rigidly connected with the lower end of said arm, a float on the extending end of said rod, a mercury switch mounted on said arm above said bearing, a frame supported above said tank, a lever arm, a fulcrum on said



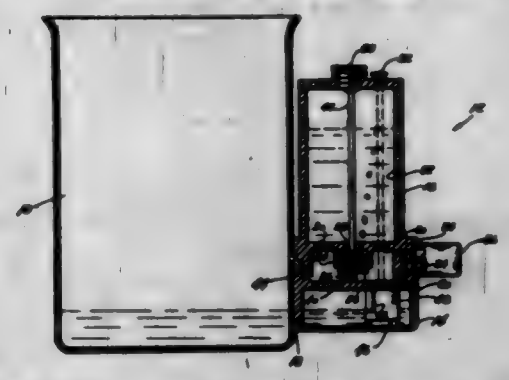
frame pivotally supporting said lever arm intermediate its ends, a solenoid on said frame and operatively connected with one end of said lever arm, a pump in the bottom of said tank, means operatively connecting said pump with said lever arm at the end thereof opposite said solenoid, an electrical source connected with said solenoid through said mercury switch, and tube means connected with said pump dispensing liquids beneath said pulverulent dispensing mechanism.

2,972,435
APPARATUS FOR COLORING PAINT
Daniel R. McCarty, Santa Cruz, Calif., assignor to Universal Color Corporation, Oakland, Calif., a corporation of California
Filed May 8, 1958, Ser. No. 733,888
4 Claims. (Cl. 222—309)



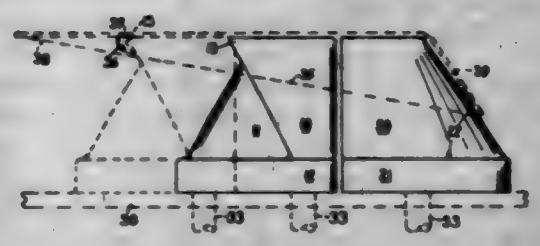
1. In paint compounding where a base paint is to be tinted with one or more different paint colorants, the combination comprising a container for liquid paint colorant, a volumetric measuring device, said device comprising a longitudinally extending cylinder having a pipe connected to one end portion thereof and extending into said container for supplying the liquid colorant to said cylinder, a piston in said cylinder, means for moving said piston to the other end portion of said cylinder for sucking the colorant into said cylinder, said last mentioned means also moving said piston from said other end portion to expel colorant from said cylinder, and means for controlling the movement of said piston from said other end whereby the colorant expelled from said cylinder is always taken from said cylinder full of colorant, said last mentioned means including adjustable means whereby the colorant is expelled in various quantities differing from each other only by a few drops and ranging from a few drops thereof to substantially the whole contents of said cylinder, said last mentioned means comprising a plate with a plurality of rows of pin receiving holes formed therein, said rows of holes extending across said plate at angles such that each of the holes in a row is longitudinally displaced from an adjacent hole by an equal distance and also such that the last hole of one row is longitudinally displaced from the first hole of the next row by the aforesaid same distance, and a pin adapted to be positioned in any one of said holes for limiting the movement of said piston so that the quantity of colorant designated by the hole may be expelled from said cylinder.

2,972,436
DISPENSER FOR INJECTING LIQUID INTO A CONTAINER
Maynard E. Anderson, Redwood City, Calif., assignor to American Radiator & Standard Sanitary Corporation, New York, N.Y.
Filed Oct. 31, 1957, Ser. No. 693,726
7 Claims. (Cl. 222—396)



3. A liquid dispenser comprising a housing having an air chamber in its lower portion and a reservoir with two vertically disposed cavities thereabove, a passageway opening into the bottom of said air chamber through which a liquid having a varying head may enter, an air passageway extending from the top of said air chamber to upper regions of the lowermost cavity through which air can be pumped from the air chamber when liquid enters through the first-named passageway, the uppermost cavity forming a storage chamber for a liquid agent and communicating with the lowermost cavity by a port in the wall dividing said cavities, a collar depending from said port to form with the upper walls of said lowermost cavity a pocket for air pumped from said air chamber, said collar communicating with the port for controlling the level of the liquid agent in the lower cavity, valve means surrounded by the collar for closing said port, means biasing the valve closed, means normally latching the valve in open position, means to open said uppermost cavity to atmosphere for refilling, means connected to said latching means operable to render said latching means inoperative thereby closing said valve when said uppermost cavity is open to atmosphere for refilling, a discharge passageway from the lower part of said lowermost cavity to the atmosphere through which liquid agent can pass by the pumping action of the air entering said lowermost cavity, said discharge passageway rising so that a portion of it is above the lower end of said collar and a rotary valve member in said metering chamber and operative to bleed air from said chamber until a predetermined level of liquid therein has been reached, and a selector knob operatively connected to said rotary valve member for varying the effective position of the latter so that different predetermined levels can selectively be set.

2,972,437
COLLAR FORMER DEVICE
Ernest Davis, Syracuse, Wallace F. Gayring, Minoa, and Henry Uhlig, Bouckville, N.Y., assignors to Ward Industries Corporation, Syracuse, N.Y., a corporation of Delaware
Filed May 31, 1957, Ser. No. 662,693
4 Claims. (Cl. 223—52.1)



1. In a collar molding machine, in combination a front block and a pair of side blocks for forming a collar

placed thereon, said blocks being adapted to be expanded and retracted for tensioning said collar, a portion of said front block being adapted to engage the collar band of a collar placed thereon for holding said collar on said blocks, portions of said side blocks being inclined at an angle within the range of 55 to 60 degrees for forming portions of said collar at an angle of 55 to 60 degrees, said collar being placed on said blocks, said blocks being expanded for forming said collar whereby said collar lies subtantially within the plane of a finished folded shirt.

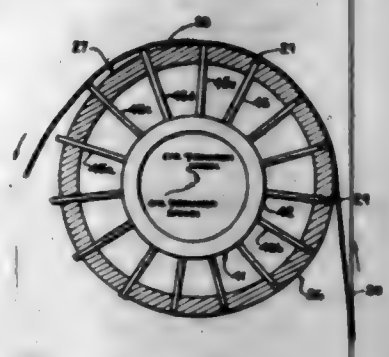
2,972,438
FISH STRINGER
Frank R. Kimbrough, 2001 E. Franklin St., Richmond, Va.
Filed Jan. 8, 1957, Ser. No. 632,989
4 Claims. (Cl. 224—7)



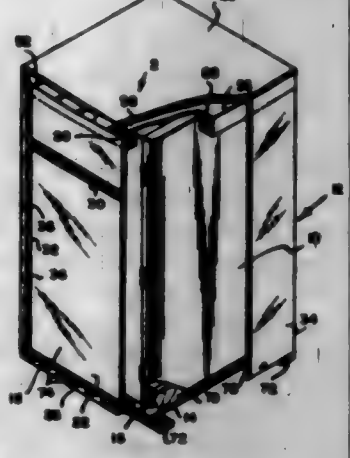
1. In a fish stringer of the type using a stringer line made of a sheathed fibrous core, the improvement of a needle comprising an elongated sheet form member having a trough-shaped body including a bight portion with oppositely disposed surfaces and further including spaced generally parallel legs, said body having a reduced area portion at one end thereof forming a point for said needle, and a stringer line disposed against one of said surfaces on said bight portion and extending longitudinally between said spaced generally parallel legs, said trough-shaped body having means formed therein providing a pair of openings spaced longitudinally inwardly from said one end of said body through which a portion of said stringer line inwardly of one end is passed for disposition on the other of said surfaces of said bight portion of said body and including a longitudinally extending portion of said body underlying said stringer line at said other of said surfaces, and said body being crimped against said one end of said line longitudinally outwardly of said openings to lock said needle to said line.

2,972,439
APPARATUS FOR LONGITUDINALLY FEEDING A MULTIFILAMENT STRAND IN WAVE FORM CONFIGURATION
Cecil R. Cunningham, Anderson, S.C., and Thomas F. Costello, Glenbrook, Conn., assignors to Owens-Corning Fiberglas Corporation, Toledo, Ohio, a corporation of Delaware
Filed Feb. 27, 1959, Ser. No. 795,965
4 Claims. (Cl. 226—190)

1. Apparatus for longitudinally pulling a continuous multifilament strand at a high lineal speed and projecting said strand in wave form configuration, said apparatus comprising a first rotary, generally circular means having a plurality of evenly spaced, circumferentially extending, periphery-forming elements, the outer surfaces of said elements having equal circumferential length and forming an interrupted cylindrical operative surface for said first means; a second rotary means having a hub and a plurality of radially extending spokes, there being a spoke on said hub of said second means for each of the spaces between said periphery-forming elements of said first means, the ends of said spokes being parallel to the axis of said cylinder and forming operative surfaces for said second means; mechanism for mounting said first means and said second means independently for rotation upon separate, parallel axes spaced from each other a distance such that the ends of said spokes extend through the spaces between said periphery-forming elements and protrude therebeyond at one side of said apparatus and are withdrawn therebelow at the other side of said apparatus, said mounting mechanism mounting one of said means for rotation on an axis equidistant from all parts of its operative surfaces and mounting the other of said means for rotation on an axis parallel to and spaced from an axial line that is equidistant from all parts of its operative surfaces, means for guiding a strand into tangential contact with said periphery-forming elements at that side of said apparatus where said spokes are withdrawn, and means for rotating both of said elements in phase at high speed.



2,972,440
REFRIGERATOR CRATE
Thomas Munroe, Dayton, Ohio, assignor to Moraine Box Company, Dayton, Ohio, a corporation of Ohio
Filed Oct. 30, 1957, Ser. No. 693,375
4 Claims. (Cl. 229—23)



1. In a carton; a pair of rectangular corrugated paper panels, wooden rails secured to said panels along the edges thereof on the outside face, a second pair of corrugated paper panels, said second pair of panels having edge portions overlapping the side rails of the first mentioned pair of panels and secured thereto whereby to form a rectangular enclosure, said second pair of panels having their lower edges folded inwardly to form a double thickness, said second pair of panels having portions extending from the upper edges thereof and each of an area to form a complete top closure for the carton, said portions being adapted for being folded over in overlapping relation, and each said portion having

flap means formed along both side edges thereof along about the half thereof remote from the connection of the portions with their respective panels, whereby said flap means are being adapted for being secured directly and independently to the rails along the top edges of said first mentioned panels.

2,972,441
VARIABLE BLADE SYSTEM

Russell S. Hall, Indianapolis, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed May 14, 1957, Ser. No. 659,742
1 Claim. (Cl. 230—114)



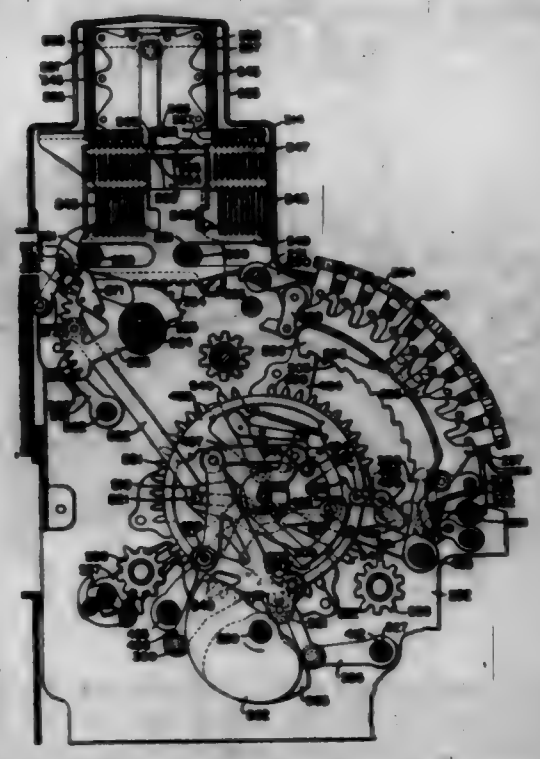
An axial-flow compressor comprising, in combination, an annular case, a stage of stator blades therein disposed in a ring circumferentially of the case, each blade having a platform at the outer end thereof and a shaft extending from the platform through an opening in the case, an arcuate actuator mounted in the case for movement circumferentially thereof adjacent the blade platforms, a motion-transmitting coupling between each blade platform and the actuator disposed radially outward of the platform for rotation of the blades about axes extending radially of the case, a rotor including a row of rotor blades adjacent the stator blades, the actuator being a blade shroud for the stage of rotor blades, closely adjacent the tips of the blades and having a substantially unbroken inner surface defining a boundary of the flow path through the stage, a pin extending radially outwardly from the actuator through a circumferentially extending slot in the case, a member coupled to the pin covering the slot, and means coupled to the pin for reciprocating the pin and thereby moving the actuator.

2,972,442
AUTOMATIC CHANGE DISPENSING CASH REGISTER

Mayo A. Goodbar, Donald E. Coffey, George A. Cocup, and Roger S. Hull, Dayton, Ohio, assignors to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland

Filed July 12, 1954, Ser. No. 442,786
8 Claims. (Cl. 235—7)

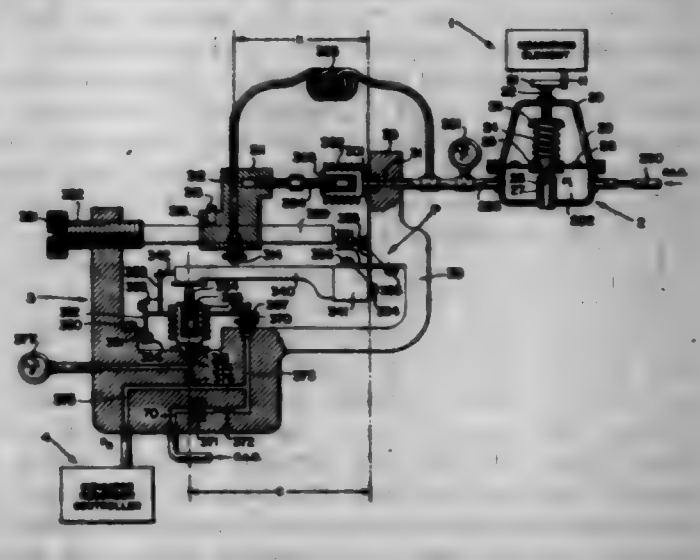
1. In a machine of the class described having an add-subtract totalizer capable of receiving a plurality of positive and a plurality of negative entries to create negative balances in the totalizer, the combination of means differentially set under control of the totalizer to represent a negative balance in the totalizer, mechanism to control the machine for reading the balance on the totalizer, a coin-dispensing mechanism, devices selectively operated under control of said means during a balance reading operation to dispense coins of a value commensurate with the negative balance in the totalizer, control means settable to a plurality of positions by the totalizer, each position being characterized as to whether there is a positive or negative balance on the totalizer and movable means positioned by the control means to render the dispensing mechanism active when the balance in the totalizer is negative.



2,972,443
SQUARE COMPUTING DEVICE

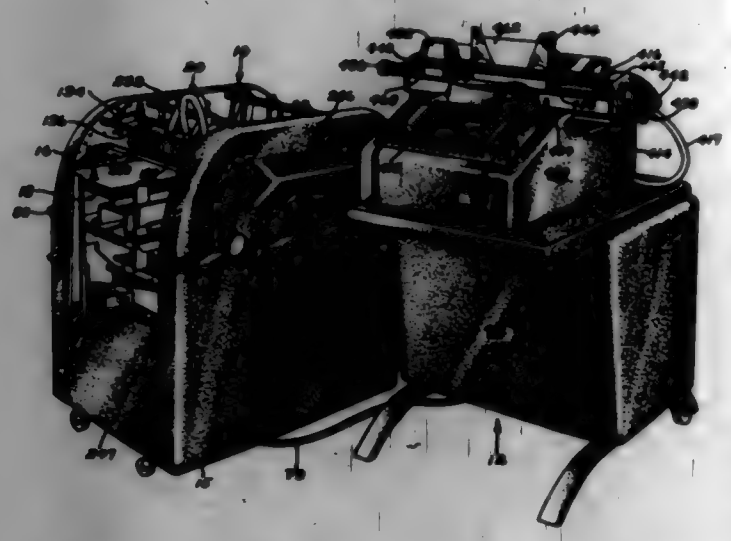
Robert B. Watrous, Philadelphia, Pa., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware

Filed Nov. 13, 1957, Ser. No. 696,176
4 Claims. (Cl. 235—61)



1. An air-pressure-operated computer, including, a lever mounted on a pivot and having a free end, a nozzle mounted adjacent said lever so as to apply a jet of air thereto with sufficient force to turn about its pivot, a first motor connected to said nozzle so as to move it toward or away from the pivot of said lever in response to the pressure of the air controlled by said nozzle, a valve connected to said lever so as to be opened or closed thereby and to thereby vary the flow of air through said valve and, consequently, the pressure of said air controlled by said valve, a second motor actuated by the pressure of the air controlled by said valve to move said lever in a direction opposite to that in which said lever is moved by said jet of air, and an output element connected to and actuated by the pressure of the air controlled by said valve.

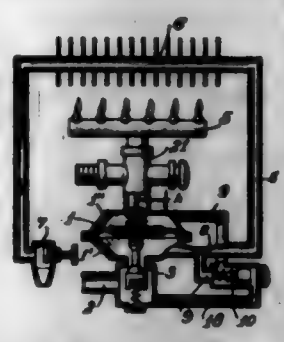
2,972,444
FORM FEEDER AND MAGNETIC CODE READER FOR AUTOMATIC ACCOUNTING MACHINE
Roy L. Phelan, Phoenixville, Pa., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Sept. 20, 1957, Ser. No. 685,197
17 Claims. (Cl. 235—61.9)



2. The combination with a variable storage, listing and totaling device for storing, listing and totaling numerical information contained on magnetizable record members in the form of a predetermined number of magnetically polarized pulses constituting a magnetically coded pulse message thereon, of a cyclically operable form feeding and magnetic code reading device including a magnetic sensing head contained in a reading station therein deriving electrical pulses from a magnetized record member conveyed past the sensing head, an operative interconnection between said devices for supplying electrical pulses sensed from a record member conveyed past the magnetic sensing head to the variable storage, listing and totaling device, means contained in said form feeding device controlling the transmission of pulses over the operative interconnection between the said devices including first control means actuated by a fed record member enabling said operative interconnection for transmission of pulses thereover to said variable storage, listing and totaling device before the message on the magnetizable record member has reached the magnetic sensing head and second control means actuated by said fed record member in said form feeding device after the message on the magnetizable member has passed the magnetic sensing head for disabling the operative interconnection between said devices, pulse checking means contained in said variable storage, listing and totaling device operated from said second record actuated control means in said form feeding and magnetic code reading device and control means contained in said variable storage, listing and totaling device operated from said pulse checking means and supplying a control signal to initiate operation of the variable storage, listing and totaling device and another control signal to said form feeding and magnetic code reading device to feed another record member past the magnetic sensing head contained therein if a predetermined number of pulses have been supplied to the variable storage, listing and totaling device as determined by said pulse checking means.

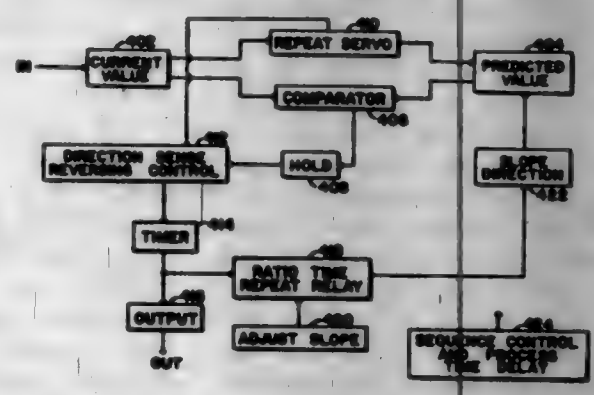
2,972,445
WATER-FLOW GAS CONTROL DEVICE
Ernst Keppel, Remscheid, Germany, assignor to Joh. Vaillant K.G., Remscheid, Germany
Filed Aug. 21, 1958, Ser. No. 756,507
Claims priority, application Germany Aug. 23, 1957
10 Claims. (Cl. 236—25)

1. A water-flow gas control device including means forming a main water flow passage having a pressure reducing constriction for reducing pressure upon flow therethrough, a differential pressure device for controlling a gas valve and having a low pressure chamber connected through a channel to said constriction to be subject to its pressure reduction, and a slow-ignition valve for throttling the channel characterized by having means



controlling the slow-ignition valve and exposed to the full water pressure to be urged by it in a direction to cause it to increasingly throttle the channel, but biased in the opposite direction, and effective at least during flow from the low pressure chamber, to throttle the channel with a throttling effect which increases in correlation, in part at least, to the full water pressure.

2,972,446
OPTIMAL CONTROLLER
Roby Byron White, 381 N. Main St., Sharon, Mass.
Filed Apr. 30, 1956, Ser. No. 581,566
16 Claims. (Cl. 236—46)

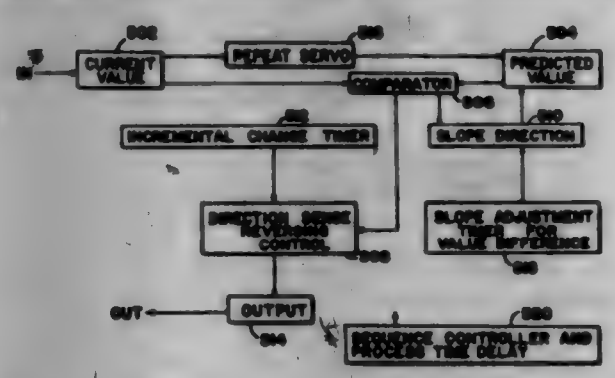


16. Apparatus for controlling a process having an optimum operating region and in which the process output quantity is dependent on an input quantity to the process comprising drive means for changing the input quantity in discrete amounts, predicting means for predicting the value of the output of the process as a result of a change in input as if the functional relationship between input and output of the process was that at the optimum operating region, means for measuring the actual value of the output as a result of a change in input, means operatively associated with the predicting means and the measuring means for comparing the predicted and actual values of the output, and means responsive to the comparing means and controlling the drive means causing the drive means to change the input quantity of the process a discrete amount proportional to the difference between the predicted and actual values of the output.

2,972,447
OPTIMAL CONTROLLER
Roby Byron White, 381 N. Main St., Sharon, Mass.
Filed June 14, 1956, Ser. No. 591,360
4 Claims. (Cl. 236—46)

1. Apparatus for automatically controlling a steam supplied heating process having a point of optimum operation comprising means for storing a value equivalent to the absolute value of the slope and the sign of the slope

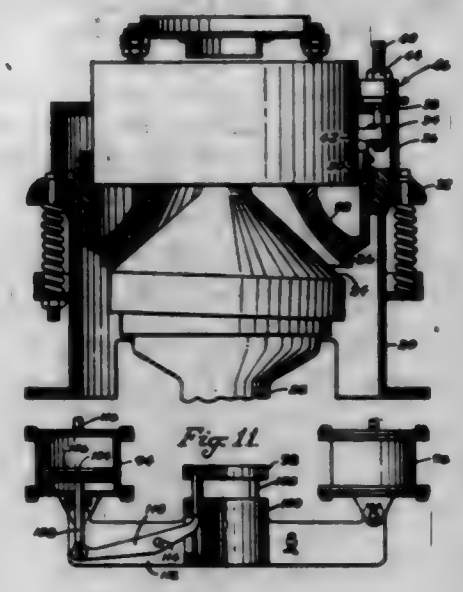
of the point of optimum operation on a process curve which gives the instantaneous relation between steam flow and output temperature; means for converting the temperature output quantity of the process to an analog equivalent; drive means including an incremental change timer and a direction sense reversing control for increasing and decreasing in uniform preselected discrete amounts the input steam flow to the process; means for storing a predicted temperature output for the change in input steam flow, such predicted temperature being stored as an analog quantity equivalent in scale to the analog of the temperature output; a comparator for comparing the temperature output analog and the stored predicted temperature analog and reversing the direction sense reversing control of the drive means when the point of optimum operation is in the region of an apparent maximum on the process curve and the output temperature analog is less than the stored predicted temperature analog, and also



reversing the direction sense reversing control when the point of optimum operation is in the region of an apparent minimum on the process curve and the temperature output analog is more than the stored predicted temperature analog; means for changing the stored predicted temperature analog to equal the temperature output analog after the operation of the comparator; means for actuating the drive means causing the drive means to change the input steam flow the preselected discrete amount; means for adding to the changed predicted temperature analog a differential analog proportional to the product of the stored slope value and the preselected discrete change in input; means for delaying the next operation of the comparator until the output temperature has stabilized following the last operation of the drive means; and a programmer including the means for actuating the drive means for controlling the time sequence of the parts comprising the apparatus in constantly repeating order.

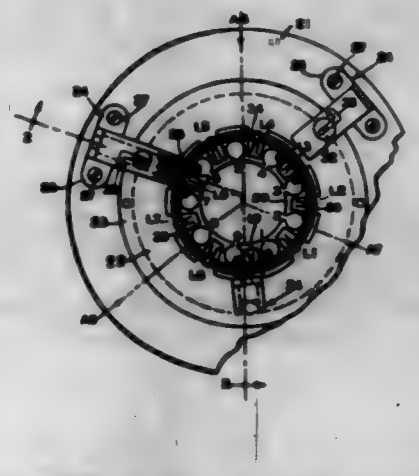
2,972,448
CRUSHER BOWL LOCKING MEANS
Mercer M. Dorsey, 461 La Mina Ave., Ajo, Ariz.
Filed July 29, 1958, Ser. No. 751,784
2 Claims. (Cl. 241—286)

1. In a cone ore crushing apparatus including an upstanding frame member having an outwardly projecting flange on the upper end thereof, a supporting ring carried by said flange, a concave supporting element positioned within said ring and threadedly attached to said ring, a plurality of threaded lugs projecting in spaced relation from the outer periphery of said concave element, an annular shelf superimposed in spaced relation with respect to said lugs and carried by said ring, an upstanding stud extending through each lug and the adjacent portion of said shelf and in threaded engagement with said lug and having the portion adjacent the upper end projecting beyond said shelf, and a nut in threaded engagement with the projecting portion of each of said studs, the nut being spaced above said shelf, the improvement comprising a releasable pressure applying mechanism interposed between the nut of each stud and the adjacent portion of said shelf, said mechanism being actuable to direct securing pressure against said nut and said shelf for locking said concave element to said supporting ring and being



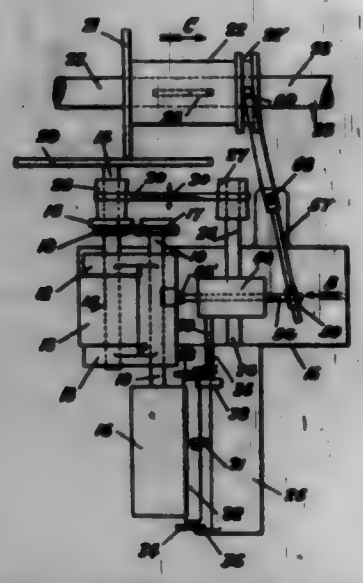
actuable upon release to relieve the securing pressure against said nut and said shelf and permit movement of said concave element relative to said ring.

2,972,449
MULTIPHASE DEVICE HAVING SYMMETRICAL RESISTANCE
George I. Roberts, Maywood, N.J., assignor to The Bendix Corporation, a corporation of Delaware
Filed June 16, 1955, Ser. No. 515,929
4 Claims. (Cl. 242—1.1)



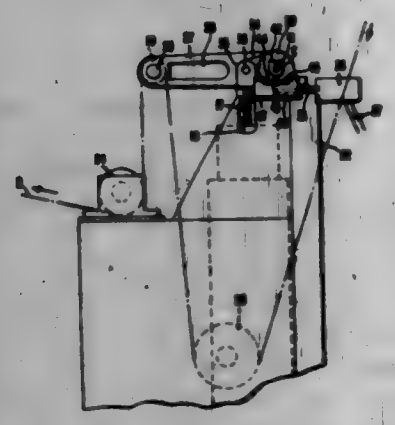
3. A coil forming means to provide symmetrical resistance in a multi-coil electrical device of a type including a stator nest for receiving a stator member, said stator member having slots arranged in consecutive relation for receiving wire to be wound in the slots, and a forming ring member adapted to be mounted at one end of the stator nest and having lugs to confine the wire of each of the coils as the coils are wound in the stator slots; the improvement comprising a plurality of wire end turn members, means for mounting the wire end turn members on an end face of the stator nest, said wire end turn members projecting from said mounting means in a position immediately between the consecutive stator slots so that wire of at least one of the coils wound in said slots may be turned at the face of the stator over one of the wire end turn members, and each of the wire end turn members being so dimensioned and arranged as to cooperate with the aforesaid lugs to effect a total length of the wire of the wound coils such as to provide symmetrical resistance in the coils of the electrical device.

2,972,450
TEXTILE WINDING MACHINE
Edgar Brierley, Rochdale, England, assignor to Leesona Holt Limited, a corporation of Great Britain
Filed Dec. 5, 1957, Ser. No. 700,794
3 Claims. (Cl. 242—18)



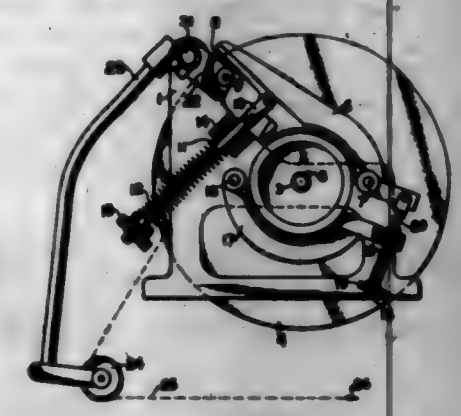
1. In a textile winding machine for winding yarn of synthetic filaments into packages including a movably mounted package holder, a spindle for said holder, a traverse cam and reciprocating thread guide, means for rotating said package holder and traverse cam and means including a lightly loaded feeler wheel for regulating the motion of the package with increasing diameter by using the rotation of the package to drive the lightly loaded feeler wheel, a roller which in turn transmits motion to mechanism including a toothed rack to move the package as it builds up by positively feeding out the package at a predetermined rate from predetermined pressure contact on the package and at the same time progressively decreasing the spindle and traverse speeds in correspondence.

2,972,451
DANCER ROLL ASSEMBLY
James F. Pfeffer, Jr., Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Oct. 21, 1957, Ser. No. 691,352
3 Claims. (Cl. 242—75.3)



1. A dancer roll assembly comprising in combination an air cylinder, a piston provided with a piston rod reciprocally mounted in said air cylinder, a link support pivoted at one end for rotation about a fixed point pinned to the end of said piston rod opposite said air cylinder, and a cylindrical dancer roll journaled in the free end of said link support so as to be freely oscillatable arcuately upon movement of said link support, said dancer roll having the form of a thin-wall hollow cylinder with outside radius differing not more than about 30% from the radius of gyration of the subassembly constituting said dancer roll and said link support as an entity.

2,972,452
BRAKE SYSTEM FOR UNWINDERS
Peter Aussenac, Lubbeckerstrasse 7, Lehne, Westphalia, Germany
Filed June 12, 1957, Ser. No. 665,244
1 Claim. (Cl. 242—75.43)

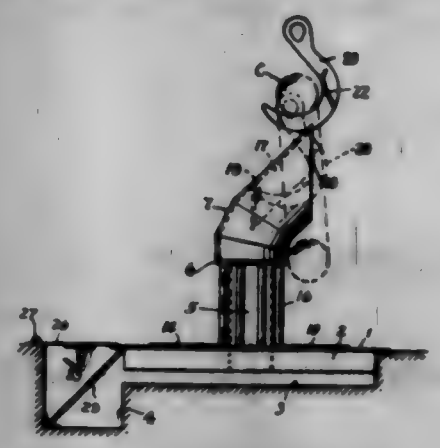


In an apparatus for decoiling coilable material, the combination of a frame, a shaft rotatably mounted on said frame and adapted to carry a supply roll, and a brake system comprising a brake drum carried by said shaft for rotation therewith, a first brake block associated with said drum and being in the form of a lever hingedly fastened upon said frame, a second brake block associated with said drum and being in the form of a two-armed lever having branches of uneven lengths, said second brake block being hingedly fastened upon said frame opposite said first brake block, means associated with both said first and second brake blocks for causing the former to hold the decoiling force applied to a supply coil carried by said shaft at a substantially constant level and for keeping the latter out of contact with said brake drum during the decoiling process and bringing said second brake block into firm braking contact with said brake drum whenever the decoiling process is interrupted, and first spring means and second spring means, said first spring means being positioned between the end of the shorter branch of said second brake block and the free end of said first brake block, said second spring means being mounted on the opposite side of the free end of said first brake block, said first spring means tending to push said first brake block away from said brake drum, said second spring means tending to push said first brake block against said brake drum, and said brake system further comprising a second shaft, a swivelling arm, a roller, a runway upon the free end of the longer branch of said second brake block, and a lever, said swivelling arm being hingedly mounted upon said second shaft, said roller being mounted upon said swivelling arm and being adapted to roll along said runway, said lever being hingedly mounted upon said second shaft at one end and carrying a decoiling roll at the other end.

2,972,453
VERTICAL COIL MOUNTING REEL
Edwin J. Mellvried, P.O. Box 49, Cuyahoga Falls, Ohio
Filed June 1, 1956, Ser. No. 588,692
5 Claims. (Cl. 242—78)

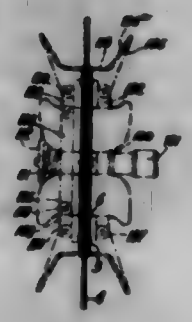
2. A reel structure comprising a horizontal base, a central vertical column about which a coil of rod is adapted to be placed resting on said base, and an elbow extending upwardly and laterally outwardly from said column and at an angle thereto to guide a coil over said column, the upper side of said elbow having a slot

therein extending from the outer end thereof toward the axis of said column adapted to receive the lower



portion of a hook suspending such coil for loading on said reel.

2,972,454
WIRE REEL DIVIDER
Edward J. Lord, R.F.D. 6, Farmville, Va.
Filed May 5, 1958, Ser. No. 732,955
3 Claims. (Cl. 242—110.2)



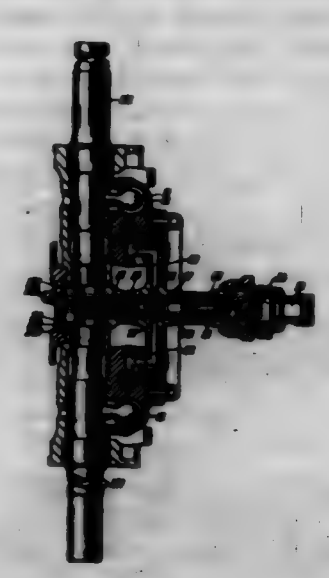
1. A wire coil separator for mounting on a collapsible power winding reel having at least a pair of wire coil holding yokes with outwardly flaring yoke arms, the yokes being mounted between a movable spider and a fixed spider to laterally decline the yoke upon movement of the movable spider in an axial direction to release a coil of wire mounted on the yokes, comprising, an endless substantially narrow base strap, an upstanding radially outwardly directed guide substantially narrower in transverse cross-section than said base strap and fixedly mounted medially of said base strap, and inclined surface means secured to either side of said guide and extending between the edge of said base strap and said upstanding guide.

2,972,455
INDUCED-LIFT AIRCRAFT
Ariel George Berchem, 10 4th Ave., Lambton, Germiston, Transvaal, Union of South Africa
Filed Mar. 13, 1956, Ser. No. 571,233
Claims priority, application Union of South Africa Dec. 21, 1955
1 Claim. (Cl. 244—12)



An aircraft structure comprising a disc-shaped body having a domed circular top surface and a circular periphery, means defining an annular duct of curved cross-sectional configuration having an annular, bell-shaped radial opening at said periphery below the edge of said circular top surface and a downwardly directed annular opening of a cross-sectional area which is no greater than that of any upstream portion of the duct, a fan mounted for rotation about a vertical axis below said top surface and having blades including end portions extending radially across said annular duct immediately above said downwardly directed annular opening of the latter, and motor means connected to said fan for driving the latter so that said blades cause the flow of air horizontally into said duct at said bell-shaped radial opening to flow smoothly through a turn of approximately 90 degrees for vertically downward discharge from said duct at said downwardly directed annular opening, whereby a lift force is exerted on the aircraft by the centrifugal force due to the change of direction of the flow of air through said curved duct and as a result of the downward displacement of the air discharged from the duct, said propeller having a position relative to said duct which is downwstream of the bell-shaped opening, the cross-sectional area at any position in said duct being at least as large as those downstream thereof.

2,972,456
GUIDED MISSILES
Richard Sutton Ransom, Holywood, and Henry Wilfred Flanigan, Belfast, Northern Ireland, assignors to Short Brothers and Harland Limited, Belfast, Northern Ireland
Filed Feb. 17, 1959, Ser. No. 793,838
Claims priority, application Great Britain Feb. 25, 1958
4 Claims. (Cl. 244—14)



1. A missile including flight control organs, fluid-pressure motors connected to said organs to impart control movements thereto, means for supplying hydraulic fluid to said motors, a duct between said supplying means and said motors, and means in said duct which, except when subjected to the operating pressure of said fluid, are effective to lock the flight control organs in a neutral position, said locking means comprising a member mounted in said duct, a detent on said member adapted to engage and lock an abutment associated with each flight control organ when the latter is in neutral position, said member having an end-face which supports the fluid pressure in the duct, and a spring tending to hold said member in a locked position, the member being slidable against said spring when said pressure reaches full operating value, to unlock said abutment and free said flight control organs.

2,972,457

RETRACTABLE PARACHUTE SYSTEM FOR AIRCRAFT AND PILOT CHUTE EJECTING MECHANESM

Augustus John Steinthal, New York, N.Y., assignor to M. Steinthal & Co., Inc., New York, N.Y., a corporation of New York

Filed Apr. 26, 1957, Ser. No. 655,283
7 Claims. (Cl. 244—113)



1. A retractable parachute system for aircraft, said system including a parachute canopy, a plurality of disks secured to the edge of said canopy at spaced points, each disk having an aperture therein for facilitating attachment to said canopy, a second aperture in each disk for facilitating attachment of the outer end of a shroud line thereto, an elongated tubular riser, the inner ends of the shroud lines being connected to the outer end of said tubular riser, a third aperture in each disk, reefing lines threaded through said third apertures and extending radially inwardly of said canopy with the inner ends of said reefing lines secured to a common ring centrally of said canopy, the opposite ends of said reefing lines being brought together and connected to the outer end of a control line, said control line extending through said riser, an abutment on the outer end of said riser, a stop on said control line outwardly of said abutment, a parachute receiving tubular housing fixed in the aircraft, said housing having a flared outer end, a flange on the inner end of said housing, said riser extending through said housing, an abutment ring on the inner end of said riser for engaging said flange and transmitting the decelerating load of said parachute to the aircraft and a winding drum mounted in the aircraft and connected to the inner end of said control line, whereby upon operation of said winding drum said control line will pull said reefing lines to reduce the diameter of said canopy and collapse the same, said stop moving into engagement with said abutment, and upon further operation of said winding drum said riser will move inwardly with said control lines and be wound on said drum to retract said parachute within said housing.

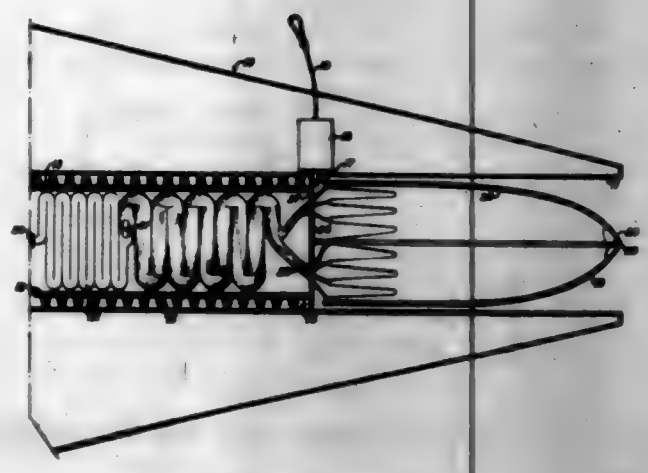
2,972,458

PARACHUTE CANOPY EJECTION AND OPENING APPARATUS

Oscar W. Sepp, Jr., Dayton, Ohio, assignor to M. Steinthal & Co., Inc., New York, N.Y., a corporation of New York

Filed Apr. 11, 1958, Ser. No. 727,863
5 Claims. (Cl. 244—147)

4. A parachute canopy ejection and inflation apparatus comprising in combination a parachute including a canopy, shroud lines secured to the canopy and a bridle connected to the shroud lines, a tubular housing to be secured at the inner end to an airborne vehicle and for receiving said bridle and shroud lines, a guide sleeve slidably mounted on said housing for sliding movement with respect thereto, an ejection ring fixed to said sleeve at the outer end, a compression spring surrounding said sleeve, one end of said spring being immovable and the opposite end engaging said ring to urge said ring and sleeve outwardly of said housing, releasable means engaging said ring to hold said sleeve in telescoping relationship with said housing and said spring in compressed condition, an ejection rod fixed at the outer end to said canopy, a disk having slots receiving said shroud lines, said disk fixed to the inner end of said rod and engaging said ring and spring actuated opening means attached to said canopy whereby upon actuation of said releasable mean said canopy will be ejected from said vehicle by the engagement of said ring with said disk and said opening means will operate to open said canopy and facilitate inflation thereof.

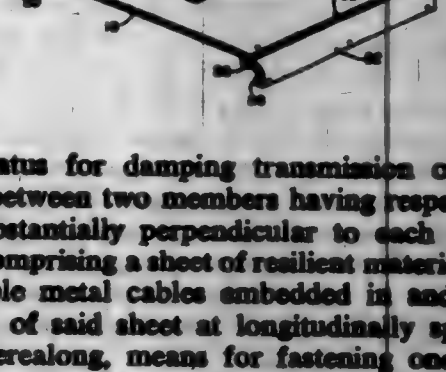


2,972,459

VIBRATION AND SHOCK ISOLATOR

James J. Kerley, Jr., Cheverly, Raymond G. Hartenstein, Ferndale, Robert M. Sando, Baltimore, and Milton F. Valenta, Millersville, Md., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Dec. 22, 1955, Ser. No. 554,889
6 Claims. (Cl. 248—20)



2. Apparatus for damping transmission of vibration and shock between two members having respective plane surfaces substantially perpendicular to each other, said apparatus comprising a sheet of resilient material, a plurality of flexible metal cables embedded in and extending transversely of said sheet at longitudinally spaced-apart intervals therealong, means for fastening one extremity of each of said cables in substantially planar alignment to the plane surface on one of said members, and means for fastening the other extremity of each of said cables in substantially planar alignment to the plane surface on the other of said members.

2,972,460

HANGER ASSEMBLY

Paul A. Kenyon, Rte. 3, Box 360, Parkville, Mo.

Filed Feb. 17, 1958, Ser. No. 715,747
3 Claims. (Cl. 248—62)

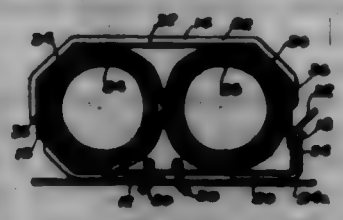
1. In a hanger assembly, an elongated strip provided with a series of longitudinally spaced openings therein; a plurality of elongated brackets each provided with laterally extending substantially J-shaped tab means at one end thereof and having a perforation in the opposite end thereof, said openings being of a diameter only slightly greater than the width of each of said tab means and said brackets being arranged on the strip in a row in

proximal longitudinally extending relationship with the tab means thereon extending in the same direction, the perforation in each of the brackets being aligned with a corresponding opening in the strip and said tab means overlapping the proximal end of an adjacent bracket and extending through the perforation therein, through the strip and hooked in the corresponding aligned opening in



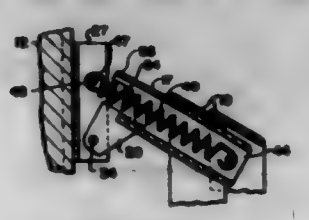
the strip, the tab means on the bracket at one end of said row remote from the remaining brackets being hooked in another of said openings in the strip; and fastening means passing through the perforation in the bracket at the opposite end of the row and through the aligned opening in the strip for securing the respective bracket and thereby all of the remaining brackets to the strip.

2,972,461
HOSE CLIP
Raymond E. Belbeck, Huntington Woods, Anthony Mancina, Fraser, and Edwin F. Elms, Roseville, Mich., assignors to Robert L. Brown, Ferndale, Mich.
Filed Apr. 27, 1959, Ser. No. 809,201
3 Claims. (Cl. 248—68)



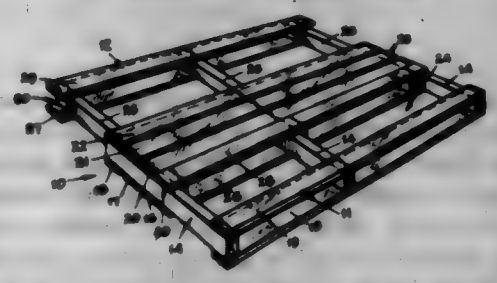
1. A clip for securing one or more resilient, circumferentially distortable hoses to a support comprising a sheet metal strap having two longitudinally spaced portions connected by a relatively short portion which is readily bendable along a transverse line, each of said spaced portions being longitudinally ribbed so as to be relatively rigid, one of said ribbed portions having a straight section provided with means thereon for mounting the clip on a support, the other ribbed portion having a straight section, the length of which is less than the sum of the diameters of the hoses to be secured by the clip, said last mentioned straight section having at opposite ends thereof oppositely angularly inclined sections which terminate in parallel depending legs which are generally perpendicular to said last mentioned straight section and which are spaced apart a distance generally corresponding to the sum of the diameters of the hoses to be secured by the clip, the ends of said last mentioned legs remote from said last mentioned straight section being perpendicularly spaced from said last mentioned straight section a distance at least equal to the radius of the hoses to be secured by the clip, one of said parallel depending legs adjoining said readily bendable portion of the strap and the other having a latch member at the free end thereof, said first mentioned ribbed portion having at one end of the straight section thereof a portion adjoining said readily bendable portion of the strap and its opposite end extending upwardly from said last mentioned straight section and having a keeper thereon engageable by said latch member to retain said strap in the form of a closed loop, said two straight sections being spaced apart generally parallel a distance less than the diameter of the hoses to be secured by the clip when said latch and keeper members are interengaged, whereby when said two ribbed portions are closed around one or more hoses and said latch is engaged with said keeper, the hoses are compressed between said straight portions but are prevented from freely flattening by reason of engagement of the hoses with the parallel depending legs of the clip.

2,972,462
FIRE HOSE HANGER
John A. Burton, 6649 Fremlin St., and Alexander P. Tarnoff, 185 W. 42nd Ave., both of Vancouver, British Columbia, Canada
Filed Mar. 22, 1960, Ser. No. 16,715
9 Claims. (Cl. 248—80)



1. A fire hose hanger comprising a normally horizontal arm having inner and outer ends and an upper surface over which loops of a hose may extend, a leg depending from the inner end of the arm, pivot means connecting the leg to a support, said pivot means permitting the leg and arm to swing vertically, spring means extending along the arm beneath the upper surface thereof, means connecting the spring means to the arm near the outer end thereof and to the support near the inner end of the arm, and a stop against which the inner end of the arm is normally held by the spring means, said spring means being strong enough to retain the arm in its normal horizontal position with a hose thereon and yet permitting the arm to swing down through the leg pivot means when the hose is subjected to a downward pull to discharge the hose therefrom.

2,972,463
ADJUSTABLE PALLET
Otmer C. Matthews and Hugh U. G. Hein, Charleston, W. Va., assignors to Libbey-Owens-Ford Glass Company, Toledo, Ohio, a corporation of Ohio
Filed Feb. 21, 1958, Ser. No. 716,793
2 Claims. (Cl. 248—120)



1. An adjustable support platform having a first frame section and a second frame section, said first frame section comprising a plurality of longitudinally disposed brace members of substantially equal length and disposed in spaced parallel relation to one another, a plurality of pairs of transversely disposed cross-bars interconnecting the brace members in fixed relation and secured to the upper and lower surfaces thereof, one pair of the transversely disposed cross-bars being located at the respective ends of the said brace members and the other pairs of said cross-bars being arranged to provide an open space between one of the endmost pair of cross-bars and an adjacent pair of cross-bars spaced from said endmost

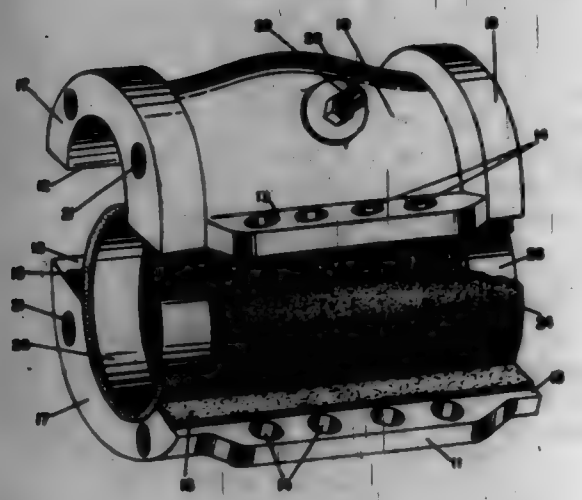
pair of cross-bars, said second frame section comprising a plurality of longitudinally disposed brace members arranged substantially parallel with and inwardly of the brace members of said first frame section and slidably received between the plurality of pairs of cross-bars of said first frame section, a pair of transversely disposed cross-bars secured to the respective ends of the second-mentioned brace members on the upper and lower surfaces thereof, the pair of cross-bars at one end of the second frame section being located outwardly of the pair of cross-bars at the respective end of the first frame section, while the pair of cross-bars at the opposite end of the second frame section are located inwardly of the pair of cross-bars at the respective opposite end of the first frame section and positioned in the said open space formed by the pairs of cross-bars of the first frame section and adapted to contact one or the other of the said pairs of cross-bars to define the limits of sliding movement between the said first and second frame sections when the second frame section is moved relative to the first frame section in a direction parallel to the brace members of said sections.

2,972,464

FLEXIBLE CONDUIT VALVE

Sam A. Jones, Pittsburgh, Pa. (11 Lake Hollingsworth Drive, Lakeland, Fla.), and Joseph Paul Echtler, Jr., 30 Ruthfred Drive, Bridgeville, Pa.

Filed Sept. 30, 1957, Ser. No. 687,125
7 Claims. (Cl. 251—5)



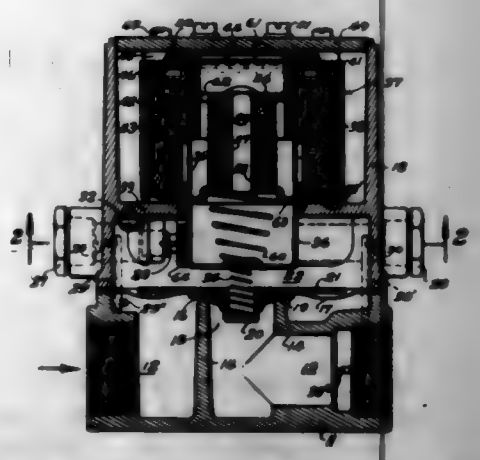
1. A fluid operated flexible conduit valve assembly comprising in combinaiton, a substantially cylindrical, deformable sleeve, a rigid cylindrical band inserted within said sleeve at each end thereof, two substantially semi-cylindrical casing shells which form when joined a substantially cylindrical valve casing about said sleeve, each of said casing shells having a radially extending expansion cavity for receiving said sleeve in its deformed position, a gasket between said casing shells forming an impermeable seal between said casing shells, fastening means which secure said casing shells in alignment, which compress said gasket and also compress the ends of said sleeve against said rigid bands, said expansion cavities being in communication externally of said sleeve and internally of said casing to define an enclosed operating chamber, means for introducing operating fluid through said casing into one of the said expansion cavities to collapse said sleeve, and a radially extending flange section at each end of said casing shells, engageable in an assembled casing with a standard circular pipe flange.

2,972,465

MAGNET-ASSISTED DIAPHRAGM-VALVE

William A. Ray, North Hollywood, Calif., assignor to General Controls Co., Glendale, Calif., a corporation of California

Continuation of application Ser. No. 626,746, Dec. 6, 1956. This application May 19, 1959, Ser. No. 814,347
12 Claims. (Cl. 251—30)



1. In a diaphragm valve: a valve casing having a passage therethrough; a flexible diaphragm closing an opening in said casing and subjected on one side to the pressure of fluid at the inlet of said passage; closure means operated by movement of said diaphragm for controlling flow through said passage; a pressure chamber in said casing defined in part by the other side of said diaphragm and by one side of a partition of thin nonmagnetic material; a housing defined in part by the other side of said partition; means for varying the pressure in said chamber, so as to effect operative movements of said diaphragm and said closure means, comprising a magnetically operable auxiliary valve in said chamber having an operating armature disposed adjacent said partition; means of magnetic material carried by said diaphragm and also disposed adjacent said partition; a magnet in said housing; and means for moving said magnet into and out of effective flux-linking position relative to said armature and to said diaphragm-carried magnetic means; the arrangement being such that when said magnet is moved to said effective flux-linking position said auxiliary valve is operated to reduce the pressure in said chamber, and magnetic force is applied to the diaphragm in a sense to aid the inlet pressure on said one side thereof.

2,972,466

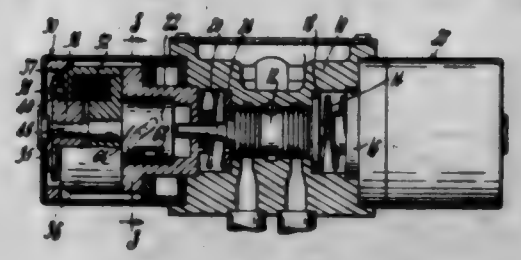
DISCHARGE HEAD

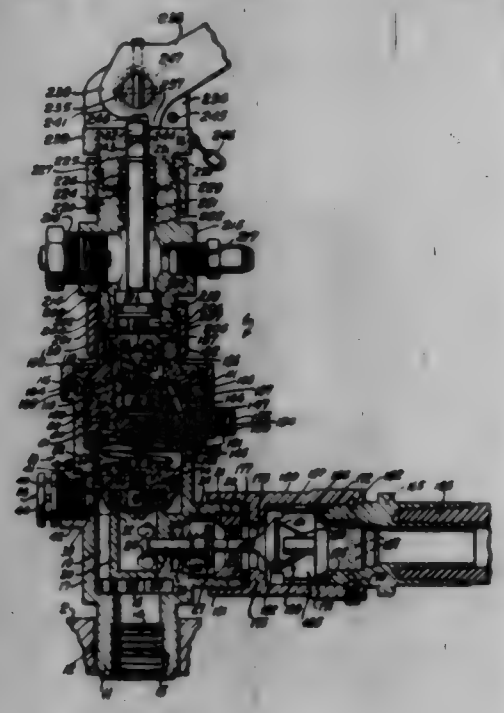
Frank B. Allen, Towaco, and Walter M. Haessler, Chatham, N.J., assignors to The Fyr-Fyter Company, Dayton, Ohio

Filed Aug. 9, 1957, Ser. No. 677,276
3 Claims. (Cl. 251—35)

1. A discharge head for use with a high pressure fluid container, the discharge head comprising a generally vertically extending housing, the lower end of the housing adapted to close the outlet of a high pressure container with which it is used, the lower end of the housing having a vertically extending inlet fluid passage, a partition member extending across the passage, the upper portion of the housing enlarged in diameter thereby providing fluid passage means by-passing said partition member, said by-pass passage offset from the inlet passage, an upwardly directed tubular extension for the partition member in alignment with the inlet passage, the exterior of the tubular extension with the inner wall of the enlarged portion of the housing defining said fluid passage by-pass, a main valve seat formed at the upper edge of the tubular extension, the main valve seat in alignment with the inlet passage, the sidewall of the tubular extension aperture forming outlet fluid passage means, a horizontal

extension for the housing defining an outlet boss in fluid communication with the outlet passage, a piston valve member carrying a main valve seat contacting member at the lower end thereof and adapted to engage the main valve seat, the diameter of the piston valve member greater than the axial length thereof, the inner wall of the housing above the main valve seat forming a main cylinder receiving the piston valve member, bleed fluid passage means extending from the lower end of the piston valve member outwardly of the main valve seat contacting member to the upper end of the piston valve member, a bleed valve seat about the upper end of said bleed fluid passage on said piston valve member, an end wall member closing the upper end of the main cylinder, a downwardly directed bleed valve member positioned on said end wall member and adapted to be contacted by said bleed passage





valve seat to close the bleed passage, the end wall having a recess therein in its upper portion, an apertured partition member closing the recess, vent fluid passage means extending through said end wall member from the lower end thereof outwardly of said bleed valve member to the recess, a vent valve seat about the aperture on the lower side of the recess partition member, and a vent valve member positioned in said recess and adapted to engage the vent valve seat, the main valve member, the bleed passage valve member and the vent valve member being in coaxial alignment with the center line of the inlet passage, whereby the vent valve member may be unseated so that pressure may be vented behind the piston and the main valve opened by pressure on the face of the piston and the bleed valve passage is closed to prevent loss of fluid therethrough.

2,972,467

MAGNETICALLY OPERATED ACTUATOR

Wilbert M. Gilman, Wellesley, Mass., assignor to Rivett Lathe & Grinder, Inc., Brighton, Mass., a corporation of Massachusetts

Filed Dec. 11, 1959, Ser. No. 858,889
7 Claims. (Cl. 251—138)

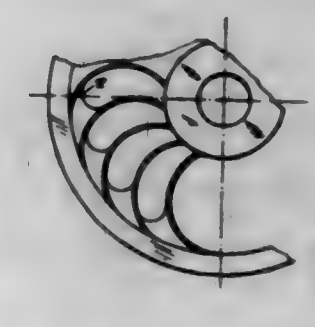
1. A magnetic actuator which comprises in combination a supporting structure, a rotary armature and magnet assembly comprising a magnet supported by said structure, an armature supported by said structure for longitudinal movement along a predetermined axis under the influence of said magnet and for rotary movement on said axis, and cam and follower means for effecting a rotary movement of the armature simultaneously with said longitudinal movement, said rotary armature and magnet assembly having a substantially uniform force versus rotational travel characteristic, and a motion conversion device comprising at least two superimposed cylindrical bodies in axial alignment with said armature, means connecting one of said cylindrical bodies to be moved by said armature, and means mounted in said structure confining the other of said cylindrical bodies for movement only along said axis, registering grooves in the adjacent faces of said cylindrical bodies, and ball means engaging simultaneously in each of said grooves, said grooves being angled with relation to one another along the length of said grooves in accordance with a force versus axial movement characteristic to provide a predetermined over-all force versus point in axial stroke characteristic of said magnetic actuator.

2,972,468

FULL ADMISSION IMPULSE TURBINE

Paul Ulrich Weber, Arn-Horgen, Switzerland, assignor to Societe financiere d'Expansion Commerciale et Industrielle S.A. "Sindex," Sarnen, Switzerland

Filed Jan. 31, 1955, Ser. No. 485,253
Claims priority, application Switzerland Mar. 18, 1954
1 Claim. (Cl. 253—31)



A full admission impulse turbine having two different types of flow of the turbine-operating medium, namely, a regular flow at normal speeds of the turbine and a different flow at maximum speeds of the turbine, having a turbine wheel comprising vanes having front surfaces receiving and guiding said regular flow and back surfaces receiving and guiding said different flow, and grooves formed upon said back surfaces, said grooves being located outside of said regular flow and being engaged solely by said different flow to disturb it and thereby reduce the speed of the turbine wheel.

2,972,469

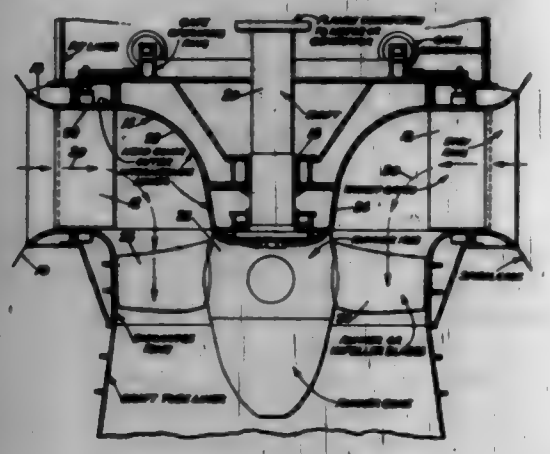
THRUST REDUCING MEANS FOR TURBINES, PUMPS AND PUMP-TURBINES

Howard A. Mayo, Jr., York, Pa., assignor, by mesne assignments, to Allis-Chalmers Manufacturing Company, Milwaukee, Wis., a corporation of Delaware

Filed Oct. 2, 1957, Ser. No. 687,757
5 Claims. (Cl. 253—31)

1. A hydraulic machine of the class comprising turbines, pumps and pump-turbines, said machine having circumferential water passage means operable to direct water substantially radially therethrough, and a propeller type water-engageable member rotatable about an axis

perpendicular to the plane of the radial flow of water to or from said passage means and having a hub supporting a plurality of unshrouded propeller type blades connected to and extending substantially radially from said hub, said blades being free and unsupported at the outer ends thereof, in combination with water deflecting means fixed to and rotatable with said hub, said deflecting means having a substantially smoothly curved surface extending axially away and radially outwardly from said hub and substantially unobstructed by the ends of said blades



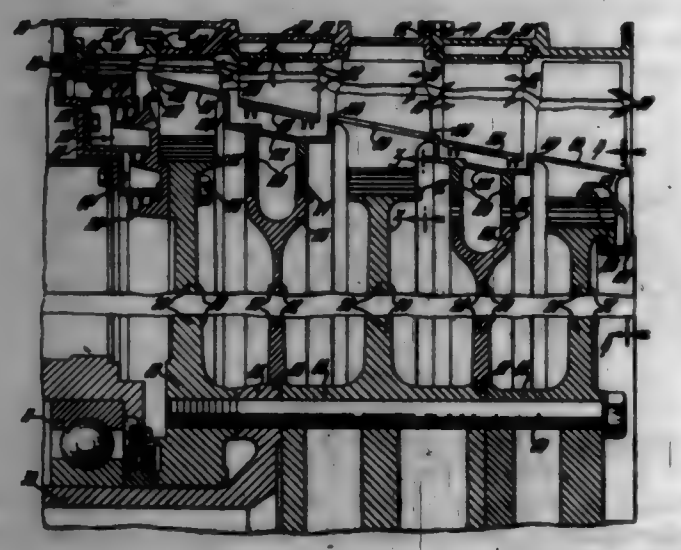
attached to said hub, and said means extending toward said circumferential water passage means substantially independently of said blades and operable to deflect water between a radial direction through said passage means and an axial direction incident to engaging said blades, whereby the water pressure and velocity thrust acting radially against said deflecting means produces a thrust component directed axially away from the outer end of said hub and substantially counteracts the hydraulic axial thrust against said blades.

2,972,470

TURBINE CONSTRUCTION

Hamilton L. McCormick, Carmel, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Nov. 3, 1958, Ser. No. 771,337
5 Claims. (Cl. 253—39)



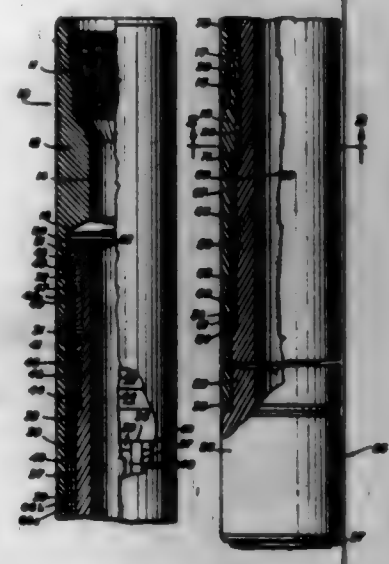
1. A turbine assembly for a turbomachine having a stationary casing comprising a multi-disk turbine rotor, said rotor including a plurality of axially spaced and aligned turbine blade support disks thereon, a plurality of circumferentially spaced turbine blades axially slidably secured to each of said disks, annular spacer disks mounted on said rotor between said support disks, said spacer disks having axially extending spacing means axially slideably mounted thereon having their axial edges abutting adjacent turbine blades for axially locating said turbine blades with respect to each other, removeable means engaging one of said support disks and the said turbine blades associated therewith securing them together against axial movement therebetween in either direction, means between said blades and disks preventing axial relative movement in one direction, removal of said removeable means permitting axial removal of said turbine blades in the other direction without disassembly of said rotor.

2,972,471

OIL SEALED DRILLING BUMPER SUB

Ross A. McClintock, Orange, and Raymond E. Thompson, Fullerton, Calif., assignors to Shaffer Tool Works, Brea, Calif., a corporation of California

Filed Nov. 8, 1956, Ser. No. 621,169
2 Claims. (Cl. 175—293)



1. An oil sealed bumper sub for connection in string of pipe, comprising: a tubular mandrel having a body portion with means at one end for connection to an adjacent part of the pipe string, first, second, third and fourth successively reduced diameter portions extending from the opposite end of said body, a shoulder at the outer end of the first reduced diameter portion, a rounded shoulder at the opposite end thereof connecting same with the second reduced diameter portion, the first and second reduced diameter portions being exteriorly cylindrical, the third reduced diameter portion being splined and having longitudinally extending grooves with longitudinally extending ribs therebetween, and the fourth reduced diameter portion being exteriorly threaded; a lock ring at the inner ends of the spline ribs, said lock ring having its inner end abutting the adjacent end of said ribs and having relatively short, longitudinally extending fingers disposed in the adjacent ends of said grooves between said ribs; a lock nut threaded onto the threaded fourth reduced diameter portion of the mandrel securing said lock ring against upward longitudinal movement, said lock nut having an annular external groove open at the upper end and closed at the lower end; a stabilizer sleeve disposed in said annular groove and extending upwardly of the upper end of said lock nut; an annular packing element disposed at the upper end of said stabilizer; a packing nut threadably received on said threaded fourth reduced diameter portion of the mandrel and abutting the adjacent end of the lock nut, the packing nut having an annular external recess open at the bottom and closed at the top, the upper portion of the stabilizer and

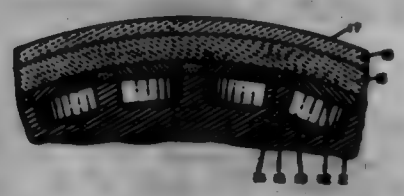
said packing being received in said recess; releasable means for securing the packing nut against rotation on the mandrel; a barrel unit comprising a barrel having a cylindrical portion in which the mandrel is slidably receivable and having means at its outer end for connection with an adjacent part of a pipe string, the lower free end of said barrel having an internal portion flaring slightly outwardly and threaded; a spline sleeve having an externally threaded portion threadably connected with the threaded portion of said barrel, the upper end of said spline sleeve having an annular striking part engageable with the lock ring for effecting upward jarring action, said spline sleeve having a short splined portion cooperatively connected with the splined portion of the mandrel, a cyclindrical downward extension on said spline sleeve having an enlarged internal diameter so that the first reduced diameter portion of the mandrel slides therein and the lower free end of said extension is adapted to engage said striking shoulder to effect downward jarring action; a ring on the rounded shoulder between the first and second reduced diameter portions, said ring being quarter round in cross section; an annular packing element on the second reduced diameter portion, said packing element resting on said ring; a stabilizer sleeve on said second reduced diameter portion above said packing; a stabilizer ring on said second reduced diameter portion above said stabilizer; set screw means securing said stabilizer ring to said second reduced diameter portion; and oil in the space between the mandrel and said barrel unit in the region between the upper end of the second reduced diameter portion and the lock ring.

2,972,472

HEAT TRANSFER ROLL

J. Reynolds Kenold, Nellsville, Pa., assignor to Armstrong Cork Company, Lancaster, Pa., a corporation of Pennsylvania

Filed June 11, 1956, Ser. No. 590,658
4 Claims. (Cl. 257—95)



1. In a heat transfer roll including a steel mandrel having a substantially cylindrical face with heat transfer fluid channels provided therein and sheet steel covers disposed over said channels to form a roll body with fluid sealed heat transfer fluid passages therein, the combination of a backing layer consisting essentially of a fused-on homogeneous deposit of soft steel weld metal filling the areas between said covers and extending completely over said roll body and a facing layer bonded to said backing layer, the outer surface of said facing layer constituting essentially the whole working surface of said roll and consisting essentially of a fused-on homogeneous deposit of alloy steel weld metal.

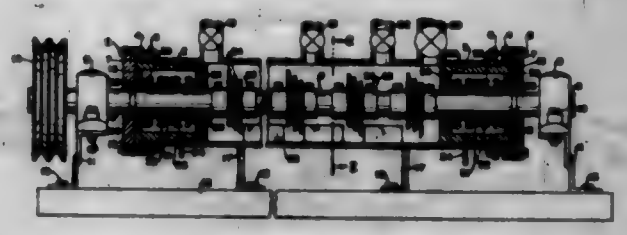
2,972,473

APPARATUS FOR DISPERSING CARBON BLACK IN A LIQUID MEDIUM

George L. Heller, Monroe, La., assignor to Columbian Carbon Company, New York, N.Y., a corporation of Delaware

Original application Nov. 18, 1953, Ser. No. 392,955. Divided and this application May 21, 1957, Ser. No. 660,539
4 Claims. (Cl. 259—9)

1. Apparatus for effecting the dispersion of carbon black in a liquid medium, whereby a uniform stream of the dispersion may be continuously produced, comprising an elongated, tubular conduit of relatively small and substantially uniform cross-sectional area and a closure member at each end of said conduit, forming an enclosed mixing chamber adapted to be maintained under superatmospheric pressure, a rotatably mounted shaft extending coaxially through said conduit, supported by said end-closure members and sealed therein against leakage, conduit means adapted to the introducing of the carbon black and the liquid medium under pressure into one end of the mixing chamber, an outlet conduit at the opposite end of the chamber, a plurality of stators spaced apart over the length of the chamber, extending inwardly from the wall thereof, of greater length than thickness



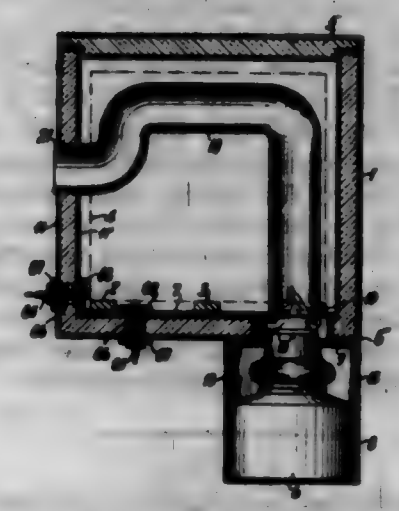
and positioned with their broad sides extending longitudinally of the chamber, a multiplicity of rotors of equal diameters mounted on the shaft, each rotor comprising a plurality of radially-extending blades, each about one-eighth inch in thickness over the major portion of their areas, but having sharp forward edges, the blades of each rotor lying in a plane perpendicular to the longitudinal axis of the shaft, and the rotors being adapted to rotate with the shaft out of contact with the chamber wall and stators, said rotors being spaced along the shaft intermediate the respective stators and said shaft and rotors being adapted to be rotated at a blade-tip velocity of at least 3500 feet per minute.

2,972,474

ACCUMULATOR HEATING DEVICE

Robert von Linde, Planegg, near Munich, and Walter Baier, Stockdorf, near Munich, Germany, assignors to Wilhelm Baier K.G., Stockdorf, near Munich, Germany

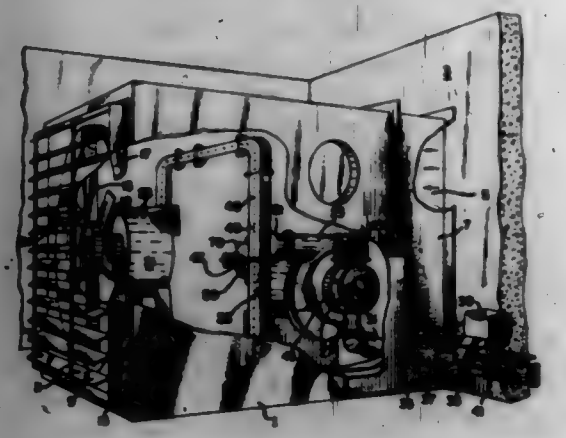
Filed Aug. 3, 1954, Ser. No. 447,511
Claims priority, application Germany Aug. 6, 1953
1 Claim. (Cl. 263—2)



A device for heating accumulators, comprising, in combination, a heat-insulating casing dimensioned to surround and wholly enclose the accumulator and having a bottom and being closed at least at its top and sides, said accumulator being adapted to be supported at a predetermined level in said casing, a burner, and an exhaust gas duct communicating directly with said burner and extending continuously through said casing and having an outlet communicating with the exterior of said casing, substantially all of said exhaust gas duct extend-

ing above said level whereby it will extend along the sides of the accumulator, and said duct being adapted to heat the air surrounding the accumulator in said casing and to remove the exhaust gases from the burner to transfer the heat contained in said gases to the accumulator by convection and radiation but preventing said exhaust gases from coming in contact with the accumulator, a heat conductor having a large horizontal extension disposed adjacent said bottom and positioned to be heated by the burner flame, said heat conductor being in the form of a plate and having an opening which is gas-tightly connected with the exhaust gas duct and through which said duct extends, and heat insulating space means supporting the accumulator upon said plate.

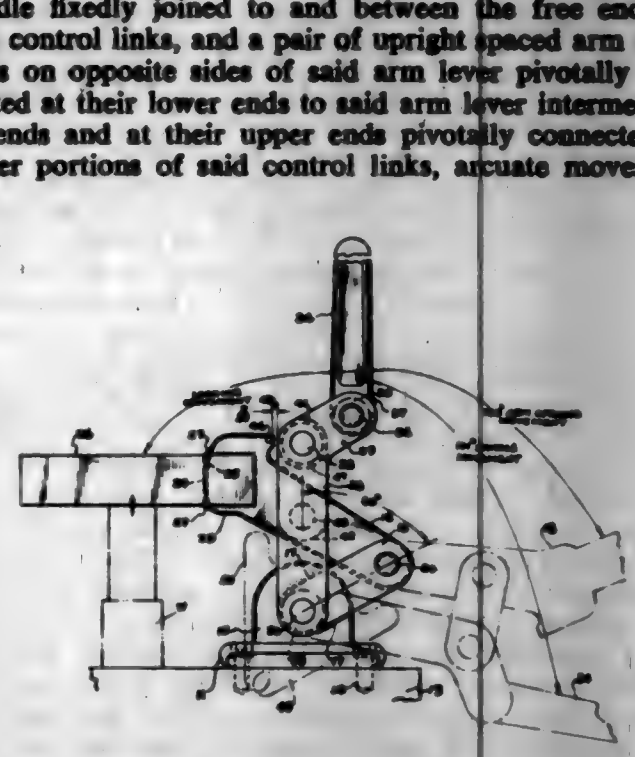
2,972,475
AIR INTAKE APPARATUS
Homer K. Monroe, Piqua, Ohio, assignor to Aerovent Fan Co., Inc., Piqua, Ohio, a corporation of Ohio
Filed Aug. 11, 1958, Ser. No. 754,340
4 Claims. (Cl. 263—19)



2. In an air supply unit, the combination of a longitudinally extending casing having an air inlet rearwardly in the casing and an air outlet forwardly in the casing, a propeller fan within the casing adjacent the air outlet arranged to propel air through the casing from the inlet to the said air outlet, a gas burner disposed between the fan and air inlet and over which air flows and is heated by said gas burner in the passage of air from the inlet to the fan and outlet, said gas burner comprising an annular shaped extension conduit arranged in the interior of said casing and spaced rearwardly of said fan toward said air inlet, whereby air drawn in through said air inlet flows over said burner and is heated and then propelled by said fan through said outlet, said burner having gas burner ports fronting toward the said propeller fan, means for driving said propeller fan, an air-gas pre-mixer in the casing directly connected to the gas burner for feeding a combustible mixture to the gas burner, said pre-mixer being positioned rearwardly of the burner toward the air inlet so that air flowing to the fan and outlet from the inlet flows over said pre-mixer, and means for driving said pre-mixer.

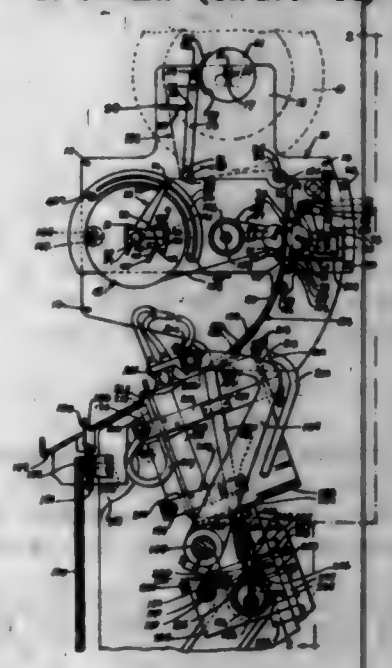
2,972,476
UNIVERSAL TOGGLE CLAMP
Leland F. Blatt, Grosse Pointe Woods, Mich.
(22930 Sherwood, Warren, Mich.)
Filed Sept. 4, 1959, Ser. No. 838,319
4 Claims. (Cl. 269—145)

1. A toggle clamp comprising a base adapted for securing on a support, a mounting boss projecting from said base, a pair of spaced base links fixedly joined at their one ends to said boss and extending angularly upward therefrom, an arm lever interposed at one end between said base links at their free ends and pivotally mounted thereon, said arm lever extending angularly upward past said boss, a holddown arm disposed above and parallel to said support and fixedly secured at one end to the free end of said arm lever, for securing a workpiece upon said support, a pair of upright control links pivotally mounted at their lower ends upon said boss, a handle fixedly joined to and between the free ends of said control links, and a pair of upright spaced arm lever links on opposite sides of said arm lever pivotally connected at their lower ends to said arm lever intermediate its ends and at their upper ends pivotally connected to upper portions of said control links, arcuate movement



of said handle and connected control links upon said boss transmitting through said arm lever links corresponding arcuate movements of said holddown arm and connected arm lever about its pivotal mounting upon said base links, the pivotal mounting of said upright control links including a bushing snugly extending through said boss and base links, spacers between said base links and control links respectively, a headed torque pin projected through the lower ends of said control links, spacers and bushing, and means engaging the other control link retainingly securing said pin in assembled relation.

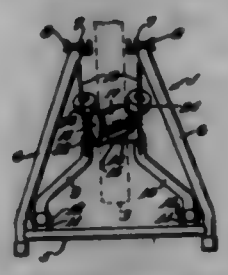
2,972,477
CARBON PAPER INSERTING MACHINE
William B. Austin, Ridgewood, N.J. (Recording & Statistical Corporation, 100 Ave. of the Americas, New York 13, N.Y.)
Filed Mar. 21, 1955, Ser. No. 495,571
17 Claims. (Cl. 270—58)



16. A machine for assembling carbon paper sheets with relatively stiff paper sheets, comprising a support for a pile of stiff paper sheets, means for supporting a

web of carbon paper, a feed chute through which said web of carbon paper is fed to said stiff paper sheets, means to cut a sheet of carbon paper from said web whereby the carbon paper sheet is superposed on the stiff paper sheet, a tray, having a longitudinal slot, in juxtaposition to said support, a plurality of spaced pins extending through said slot, a rotatably endless chain on which said pins are mounted, a plurality of spaced hoppers on said endless chain spaced apart the same distance as said pins, means for intermittently advancing said endless chain a distance equal to the spacing between said pins, suction means comprising two suction cups to remove sheets from said hoppers, one suction cup engaging a stiff paper sheet and the other suction cup engaging a carbon paper sheet, and means for moving the suction cup means whereby an assembly of a stiff paper sheet and a carbon sheet is moved as a unit, the carbon sheet being backed up by the stiff paper sheet to prevent curling and damage to the carbon sheet.

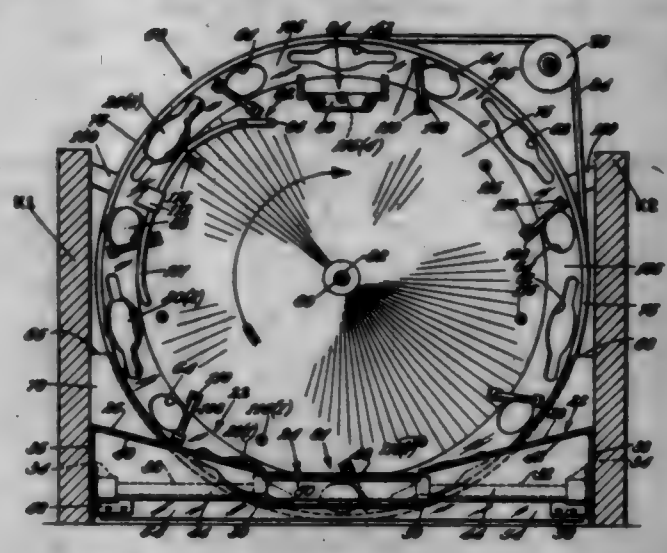
2,972,478
BICYCLE EXERCISE DEVICE
Carrol Vincent Raines, 204 N. Forge St., Akron 4, Ohio
Filed Dec. 3, 1958, Ser. No. 778,614
7 Claims. (Cl. 272—73)



6. In an exercise device, a frame, means on said frame for supporting a bicycle frame thereon, bracket means operatively and pivotally carried by said frame, a roller journalled on said bracket means and adapted to engage the periphery of a wheel of a bicycle supported on said frame, and adjustable means connecting said bracket means to said frame to turn said roller to a variable retained angle to the plane of the wheel engaging said roller to set up a variable drag on such wheel, said bracket means being movable in a plane tangent to a radius of the wheel.

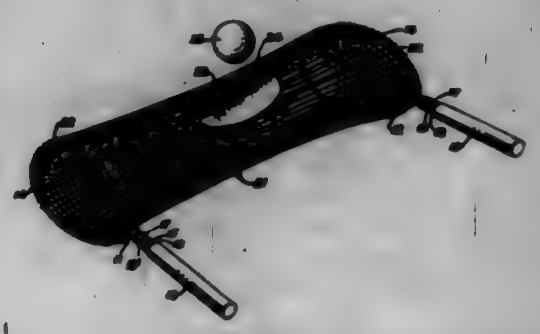
2,972,479
BOWLING PIN AND BALL ELEVATING MECHANISM
Henry C. Cengeli, Kenmore, Robert L. Holloway, Snyder, and Alfred E. Levendecki, Depew, N.Y., assignors to American Machine and Foundry Company, a corporation of New Jersey
Filed Mar. 7, 1957, Ser. No. 644,493
10 Claims. (Cl. 273—43)

1. In a bowling pin spotting machine for use with a bowling alley having a pit at one end, mechanism for elevating bowling pins and balls from said pit comprising a rotary member including a continuous peripheral generally U-shaped channel having radially inwardly directed walls and a plurality of substantially equidistantly spaced receiving and conveying pockets for bowling articles having different contours contained within said walls of said channel, a first bowling article discharge station, and a second bowling article discharge station located at a distance above said pit, means for delivering bowling articles from said pit into said pockets, means for rotating said member, means for holding said bowling articles in said pockets during at least a portion of the travel of said articles in said pockets to said first and second discharge stations, and means for effecting the selective delivery of articles of one contour from said pockets toward the center of rotation of said member at said first bowling article discharge station and articles of a different contour at said second bowling article discharge station, said



last-named means comprising a stationary cam for each of said stations, said cams having release points spaced circumferentially from each other, and bowling article holding and releasing members coacting with said cams.

2,972,480
RACQUET GAME EQUIPMENT
Mitsuo Tanaka, Nagoya, Japan, assignor to Thaloon Company, San Francisco, Calif., a partnership
Filed May 18, 1959, Ser. No. 813,840
4 Claims. (Cl. 273—96)

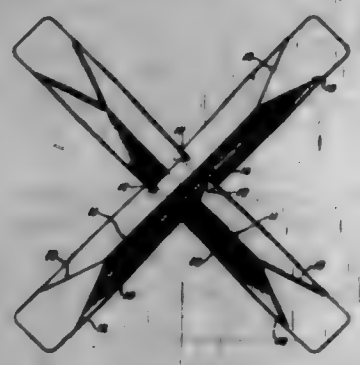


1. In racquet game equipment, a pair of manually manipulatable handles arranged in opposed relationship, a cylindrical shaped flexible netting supported between said handles; said netting defining an upper run and a lower run in spaced relationship to one another and said upper run having an opening therein of sufficient size to pass a given object, manipulation of said handles by movement toward one another effecting the slackening of said netting to retain an object disposed on the lower run thereof and manipulation of said handles away from one another effecting the drawing taut of said netting and the propulsion of said object through the opening in the upper run of said netting.

2,972,481
ROTATING AIRFOIL DEVICE
William J. Shapiro, 658 Montgomery St., Brooklyn 25, N.Y.
Filed May 22, 1956, Ser. No. 586,604
8 Claims. (Cl. 273—106)

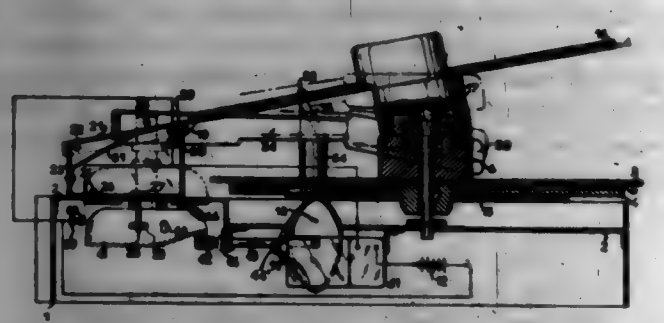
4. A pair of blade blanks for a rotating airfoil device comprising a first member of resilient material having at least two arms and each arm having a length greater than its width, the member having an operational center with at least two opposite edges, each arm having a terminal end, each arm having the same width and the

same length from the operational center, at least one bending axis extending longitudinally of at least the operational center of the member for forming angularly directed portions, a cooperating member having at least an operational center and having oposite edges at the operational center, and interengaging means carried by each member at its operational center including recess means carried by said first member in the region of each edge thereof and spaced from each other, and a cooperating means on the cooperating member on opposite edges thereof receiving the recess means of the first member when extending at an angle with respect thereto to retain the two members in assembled relation, each recess means having a dimension in a longitudinal direction to give solely a rotating aerodynamic lift characteristic with respect to an edge along at least a major length of a longitudinal axis extending from the center of the operational



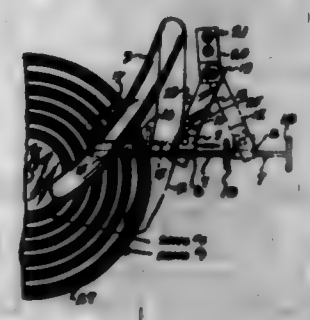
center of the first member and an equal lift characteristic to the cooperating member along its longitudinal central axis when the two members are assembled together, said longitudinal dimension of each said recess means having a maximum value no greater than that of the lateral spacing between the cooperating means on the other member, said longitudinal dimension of each said recess means and the cooperating means having a minimum value no less than that which is sufficient only to impart said aerodynamic lift characteristic to said first member and the cooperating member, the lateral spacing between the ends of the recess means being the same, and the lateral spacing between the ends of the cooperating means being the same and the same as that of the recess means, and the recess means and the cooperating means retaining the two members in assembled relation.

2,972,482
AUTOMATIC RECORD PLAYER
Gérard Hugel, Mulhouse, France, assignor to Sofranic, Paris, France, a company of France
Filed Jan. 27, 1958, Ser. No. 711,364
Claims priority, application France Jan. 31, 1957
8 Claims. (Cl. 274—10)



8. In a phonograph having a supporting frame comprising a top wall, a turntable rotatably mounted thereon, a motor driving said turntable, a sleeve extending through an aperture formed in said top wall and pivotally connected to said top wall for tilting motion in a vertical plane extending substantially through the axis of said turntable, a shaft rotatably supported by said sleeve and having opposite end portions extending beyond said sleeve, a tone arm pivotally connected to the upper end of said shaft for horizontal and vertical swinging motion, a support for said tone arm connected to said shaft and preventing downward movement of said tone arm beyond a substantially horizontal position, stop means mounted on said top wall and preventing outward movement of said tone arm beyond an outermost inoperative position thereof, a drum member having a cylindrical hub portion and an annular toothed rim, said rim having an arched portion, said hub portion being mounted to rotate on said sleeve and to slide thereon along a limited path, spacer means interposed between the lower end of said shaft and the lower end surface of said hub portion to retain said hub portion against gravity in an inoperative position intermediate the upper and lower limits of said path, means rendering said space means inoperative in a predetermined relative position of said shaft and said hub portion to permit said hub portion to descend by gravity towards the lower limit of said path, in which predetermined position said tone arm is in a play-terminating position, a pinion driven by said motor and positioned in said supporting frame to engage the uppermost teeth of said arched portion of the toothed rim of the drum member as said hub portion moves towards said lower limit and drive the other teeth of said arched portion successively in meshing relation with said pinion, said drive helically raising said hub portion towards said upper limit of its path and subsequently tilting said hub portion, and consequently said shaft, into an inclined position to swing said tone arm vertically from said horizontal position thereof, and cooperating clutch elements for establishing a driving connection between said drum member and said shaft when said hub portion is in said inclined position, one of said clutch elements including yieldable means permitting yielding of the pressure of engagement between said clutch elements when said tone arm contacts said stop means upon further rotation of said drum member by said pinion.

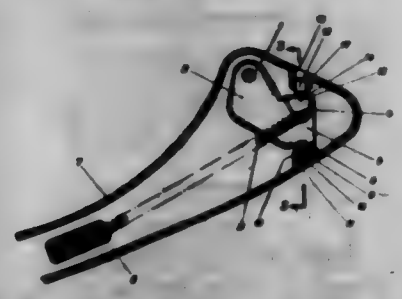
2,972,483
TONE ARM LIFTER FOR PHONOGRAPHS
William L. Rodgers, 39 Houston Drive, Fairborn, Ohio
Filed June 16, 1958, Ser. No. 742,143
12 Claims. (Cl. 274—23)



1. A device for reproducing a disc phonograph record having one or more songs thereon, a tone arm pivoted at one end to swing across the record, said arm carrying a stylus remote from the pivoted end, and hand-operated means for lifting said arm and stylus clear of the record and for swinging said arm to a predetermined and reproducible position with respect to the beginning of any song on the record, said means being adapted to drop the stylus precisely in the desired groove of the desired song and remove the same precisely upon the conclusion of the song, said means including a dial and pointer mechanism which moves with respect to one another only when the tone arm is lifted by said hand-operated means and is being swung by said means across the record to register the instantaneous positions of the tone arm during the song selecting operation, said tone arm resting on the hand-operated means but mechanically discon-

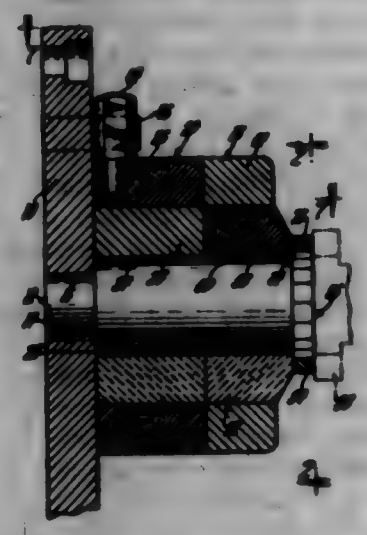
nected therefrom whereby said arm may be raised and swung into proper position by hand independently of any movement of the dial and pointer mechanism.

2,972,484
PICK-UP ARM
Nello Meoni, Milan, Italy, assignor to Lesa Costruzioni Elettromeccaniche S.p.A., Milan, Italy
Filed Feb. 5, 1959, Ser. No. 791,411
Claims priority, application Italy Feb. 12, 1958
1 Claim. (Cl. 274—23)



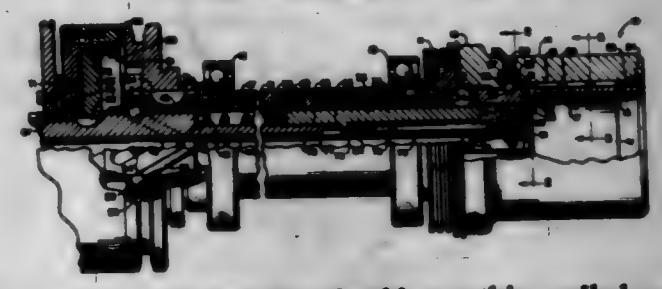
A pivoting device for the movements in a vertical plane of the pick-up arm of a phonograph of the type having an anchoring plate carried by the pivot pin of said arm and having a substantially U-shaped portion and a weight relieving spring anchored at one end to said pick-up arm and at the other end to said anchoring plate, said device comprising a first pin supported in a first seat provided in one vertical wall of said arm and mounted in a vertical leg of said U-shaped portion, a second pin, concentric with said first pin, extending into a second seat provided in the opposite leg of said U-shaped portion and supported in the wall of said arm opposite said one wall and a thrust bearing for said first pin comprising a ball or the like disposed adjacent said first seat, and one said leg of said U-shaped portion having an extension presenting an eye adapted to receive said other end of said spring.

2,972,485
MAGNETIC CHUCK
Harold W. Forchland, Birmingham, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Dec. 3, 1958, Ser. No. 777,933
20 Claims. (Cl. 279—1)



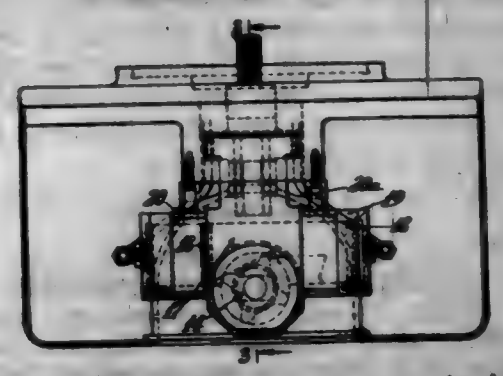
1. In a magnetic chuck, a work holding ring comprising a magnetic annulus having a work-receiving face and including alternately and circumferentially spaced permanent magnetic segments and segments subject to magnetic induction, said magnetic segments having their magnetic poles established along a circumferentially extending arc of said annulus, alternate of said magnetic segments being magnetically aligned in one circumferential direction and the remainder of said magnetic segments being magnetically aligned in the other circumferential direction, and control means for said holding ring for establishing and disestablishing magnetic circuits in said work-receiving face.

2,972,486
INDIRECT CHUCKING
Bernard R. Better, Chicago, Ill., assignor to Scully-Jones and Company, Chicago, Ill., a corporation of Illinois
Filed Feb. 5, 1959, Ser. No. 791,431
9 Claims. (Cl. 279—2)



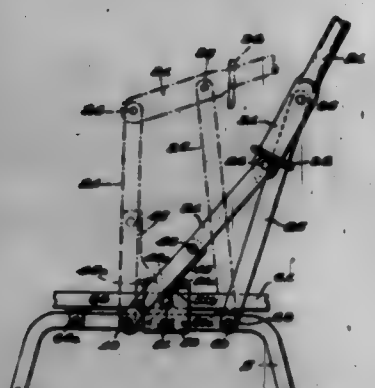
3. A chuck adapted for chucking a thin walled workpiece comprising a body member, a relatively thin liner received in said body member, said liner having means for receiving the workpiece therein, means for contracting said liner to chuck the workpiece, means to actuate said contracting means, said actuating means comprising an axially and rotatably movable plunger, rotating means for rotating said plunger, a spring biased to move said plunger axially in one direction, thereby also rotating said plunger in one direction by operation of said rotating means.

2,972,487
INDEXING MECHANISM
Donald Macpherson Blackburn, Johnstone, Scotland, assignor to John Lang & Sons, Limited, Johnstone, Scotland
Filed Apr. 24, 1959, Ser. No. 808,763
Claims priority, application Great Britain May 7, 1958
6 Claims. (Cl. 279—5)



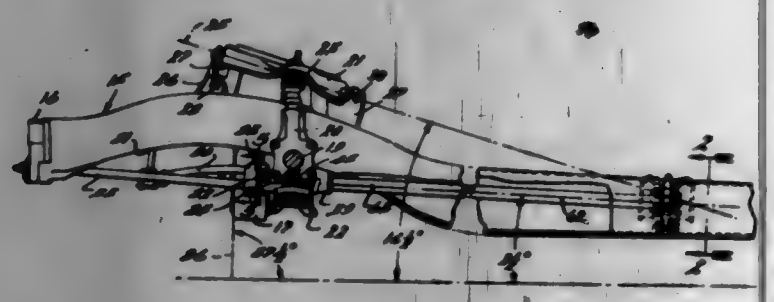
1. Mechanism by which a member can be indexed or moved step by step relative to another member and the first member stopped and positively locked at the end of each step comprising a rotary member carried by a shaft or spindle, said rotary member having a series of contact faces positioned around its periphery, an operating member mounted to reciprocate in a plane transverse to the axis of the rotary member and its shaft or spindle, said operating member having an inclined face terminating in a shoulder and a second shoulder spaced from the first shoulder, said inclined face extending lengthwise of the operating member and being of a length greater than the distance between adjacent contact faces, and means for reciprocating said operating member, the construction and arrangement being such that when the operating member is moved in one direction the first shoulder engages with a contact face and thereby imparts a partial rotary movement to the rotary member and thereafter the second shoulder engages with the next contact face to continue said rotary movement, and when the operating member is moved in the reverse direction the inclined face bears on the rotary member to correctly index it in its new indexed position and also to exert a wedging action thereon to lock it in such position and prevent lateral play.

2,972,488
LOCKING PEG CATCH
Alfred Negus Alsop, Verdun, Quebec, Canada, assignor to Lines Bros. (Canada) Limited, Montreal, Quebec, Canada
Filed July 1, 1959, Ser. No. 824,391
Claims priority, application Canada Dec. 3, 1958
4 Claims. (Cl. 280—47.37)



1. A baby carriage comprising in combination, a removable bed having a bed reinforcing strip, a chassis having a bed support stay, a front link and a longer back link pivoted to the bed support stay, a handle having its foot pivoted to the top of the front link, an intermediate part of the handle being pivoted to the back link, the said bed reinforcing strip being provided with a locking peg, the said bed support stay carrying a locking peg retaining plate having a recess adapted to receive said locking peg, the front link carrying a locking peg catch plate having at least one recess adapted to engage the locking peg, whereby said handle and links may be moved from a locked and unfolded position with the top ends of said links adjacent one another retaining said bed reinforcing strip to said bed support stay with said peg engaged in said peg retaining plate recess and retained by said peg catch plate, to unlocked and folded positions wherein the said link ends are removed from one another and said peg catch plate is released from engagement with said peg.

2,972,489
VEHICLE WHEEL SUSPENSION
John E. Collier, Detroit, and Maurice D. Karlstad, Jr., Centerline, Mich., assignors to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware
Filed June 18, 1957, Ser No. 666,293
15 Claims. (Cl. 280—124)



1. In a vehicle, a support structure, a cantilever carried by said support structure, an upright wheel carrying member adjacent one end of the vehicle, means connecting said member to said structure for rising and falling movement relative thereto including vertically spaced linkages extending outwardly from said structure, means respectively connecting said linkages to said support structure for swinging movement relative thereto about vertically spaced axes each inclined downwardly relative to the horizontal in a direction toward the other end of the vehicle, the angle of inclination of the upper of said axes being greater than the angle of inclination of the lower of said axes whereby said axes converge in said direction when viewed in side elevation, the said means connecting the lower of said linkage to said support structure including a sleeve movable with said lower linkage and journalled on said cantilever, means forming an articulated connection between each said linkage and said wheel carrying member, and a torsion rod spring arranged generally longitudinally of the vehicle having an end portion extending into said sleeve and fixed against rotation relative thereto, and means adjustably anchoring the other end portion of said spring rod to said support structure.

ERRATUM

For Class 280—152 see
Patent No. 2,972,149

2,972,490
SAFETY BULKHEAD
Joseph J. Styx, Belleville, Ill.
(2322 S. 17th Ave., North Riverside, Ill.)
Filed Sept. 14, 1959, Ser. No. 839,769
1 Claim. (Cl. 280—179)



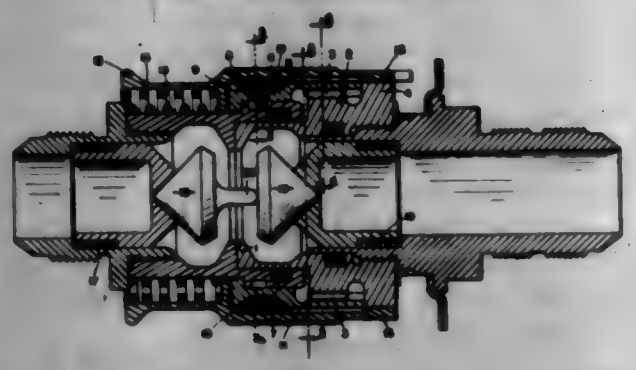
In combination with the load-bed of a platform trailer or like vehicle, said load-bed including a pair of transversely spaced longitudinally extending main frame members having top flanges that lie flush with the upper surface of the load-bed and are provided with pairs of spaced transversely aligned circular holes, and a rub rail rigidly secured to the load-bed in horizontally spaced relation thereto extending along each side thereof, said rub rails being adapted to have the opposite ends of binder chains anchored thereto: a bulkhead assembly for preventing forward shiftings of cargo carried on said load-bed in consequence of sudden and abrupt stoppings of the vehicle, said assembly comprising: a sturdy rectangular panel member substantially coextensive with the width of the load-bed and provided with a flat bottom face; a pair of transversely spaced bracket members each including a main body portion rigidly secured to the panel and extending contiguous to the front face of the panel from the top marginal edge to a point adjacent the bottom marginal edge thereof; a reduced extension depending from the main body portion of each bracket and terminating in an angularly forwardly projecting extremity, the width of said extension and extremity corresponding approximately with the diameters of the holes in the main frame flanges aforesaid; a pair of eyebolts each rigidly secured to the panel and one of said brackets near the upper end portions thereof, the eyes of said bolts projecting from the rear face of said panel; and a pair of anchor chains each secured at one end to one of said eyes and provided with a hook on its opposite free end; said panel member being adapted to be vertically disposed against the forward portion of the cargo with the bottom face of said member resting on the upper surface of said load-bed, and with the extensions and angularly forwardly projecting extremities of said pair of brackets extending through a pair of the transversely aligned holes of the main frame members; and said hooks on the free ends of the anchor chains each being adapted to engage an appropriate link of a binder chain tautly disposed over said cargo a determined distance rearwardly of the panel.

2,972,491

HYDRAULIC QUICK DISCONNECT

Victor C. Dutton, Los Angeles, Calif., assignor to The Gabriel Company, Cleveland, Ohio, a corporation of Ohio

Filed Aug. 3, 1956, Ser. No. 601,949
3 Claims. (Cl. 284—19)



1. A coupling comprising a pair of cooperating members movable longitudinally apart and together with respect to each other, each of said members having a flow passage extending longitudinally therethrough, said members having helical means fixed longitudinally with respect thereto defining a plurality of circumferentially spaced elements and element receiving grooves interengageable to effect relative longitudinal movement of said members in response to relative rotational movement thereof, a sleeve mounted in surrounding relation to one of said members for relatively longitudinal movement with respect thereto, means positively preventing relative rotational movement between said sleeve and the helical means of said one member, spring means resiliently biasing said one member into a limiting position within said sleeve and permitting relative longitudinal yielding movement of said one member with its helical means away from said limiting position in a direction toward the other of said members, opposed interengageable surface means on the exterior of said sleeve and exterior of said other member for effecting a relative longitudinal movement between said one member and said sleeve in a direction against the action of said spring means in response to and during the relative movement of said members together from a first position of movement to a second position and for permitting a rapid relative longitudinal movement between said one member and said sleeve in the oposite direction under the action of said spring means in response to the relative movement of said members together beyond said second position of movement, said opposed surface means including opposed generally longitudinally facing surface means for effecting the relative movement of said sleeve and said one member against the action of said spring means during said movement of said members from said first position to said second position and opposed generally transversely facing surface means engageable after the relative movement of said sleeve and said one member under the action of said spring means for preventing relative rotation between said sleeve and said one member, annular sealing means on said members for providing a fluid-tight communication between the passages of said members during the relative movement of said members together when said members have reached a predetermined relative position and for maintaining such fluid-tight communication when said members are together beyond said predetermined position, valve means in at least one of said flow passages spring biased into a position to close the associated passage, and means for moving said valve means into an open position during the relative movement of said members together when said members have reached a position intermediate said first and second positions and beyond said predetermined position and for maintaining said valve means in an open position when said members are together beyond said intermediate position, said helical means and said opposed longitudinally facing surface means being so related to the force of said spring means as to prevent the self maintenance of said members in a position between said intermediate position and said second position.

2,972,492

CABLE EXTENSION SLEEVE

Wilfred L. Mintz, Granada Hills, and Robert J. Montgomery, San Fernando, Calif., assignors, by mesne assignments, to Glenair, Inc., Glendale, Calif., a corporation of California

Filed Oct. 13, 1958, Ser. No. 766,950
4 Claims. (Cl. 285—117)



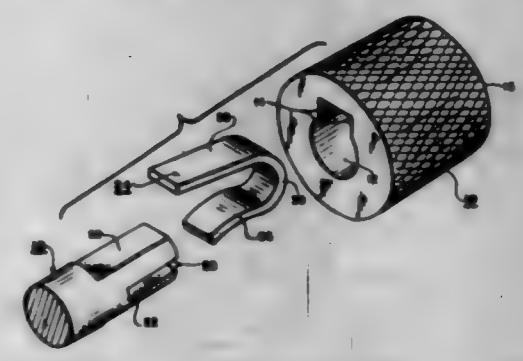
1. In combination with a tubular extension sleeve having one open end provided with means for removably connecting the sleeve to a connector, the provision of: a pair of parallel, diametrically opposed, spaced integral supporting and guiding members extending outwardly from the opposite end of said tubular sleeve, each of said members being T-shaped in section, the arms of said members opposing each other and lying in spaced, parallel planes; and a pair of identical clamping bodies, each having a front face bounded by transverse, bottomed slots, and an ear at each end beyond each slot, each of said ears having a face parallel to the front face and in a plane between said front face and slot bottom; the said transverse slots being adapted to cooperatively and slidably contact the arms of said T-shaped members; aligned bores in said ears and T-shaped member to receive connecting means; and a bore having an axis parallel to and between said opposing front faces formed in both said clamping bodies to grasp and hold a cable.

2,972,493

MEANS FOR ATTACHING A KNOB OR THE LIKE TO A SHAFT

Robert S. Waters, Agawam, Mass., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

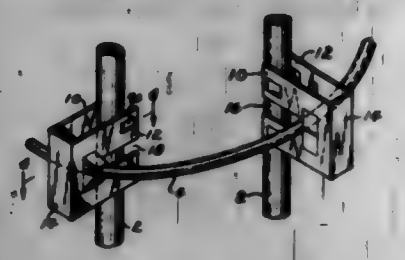
Filed Feb. 13, 1959, Ser. No. 793,050
2 Claims. (Cl. 287—53)



2. In combination, a shaft provided at one end with bifurcations defining an axially extending, diametric slot between said bifurcations, a knob provided with a cavity in which said one end of said shaft is received, said knob cavity being defined by a generally cylindrical wall in which is formed an axially extending groove, and a device comprising: a generally U-shaped strip of spring sheet metal including an undulated end portion disposed in said slot in frictional engagement with said bifurcations to retain said undulated end portion in said slot and to resist inward deflection of said bifurcations, and another

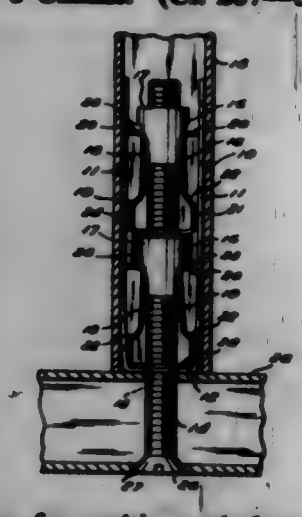
end portion extending exteriorly of the surface of said shaft and disposed in said groove in frictional engagement with at least one wall thereof to establish a driving and retaining connection with said knob.

2,972,494
CLIP FOR CONNECTING INTERSECTING AND ABUTTING WIRES, RODS AND THE LIKE
Ivan V. Dominic, Hamilton, Ontario, Canada, assignor to Associated Spring Corporation, Bristol, Conn., a corporation of Delaware
Filed May 13, 1960, Ser. No. 29,030
3 Claims. (Cl. 287—54)



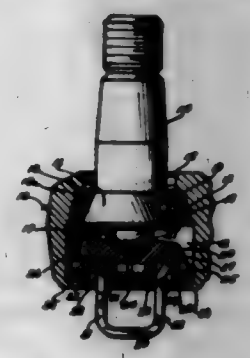
1. A device for connecting two intersecting substantially abutting rods, wires or the like comprising a sheet metal clip which is U-shaped in cross section having substantially parallel side walls and a bottom, each side wall having a slot therein extending from its free edge toward the bottom but stopping short of the bottom, each side wall at the inner end of the slot therein having two parallel slits which extend at right angles to the slot and which define two spring fingers which are separated at their inner ends and open outwardly of the clip when a rod, wire or the like is forced into the two slots and between said spring fingers, each of said side walls having an inwardly extending spring finger adjacent the outer edge thereof and being defined by slits in the side wall, the free end edge of each of said latter spring fingers facing the bottom of the clip whereby a rod, wire or the like forced between said side walls will be held within the clip by said spring fingers.

2,972,495
SPRING METAL U-SHAPED ANCHOR
Abraham Yalen, 2292 S. Taylor Road, Cleveland Heights, Ohio
Filed June 8, 1959, Ser. No. 818,926
5 Claims. (Cl. 287—54)



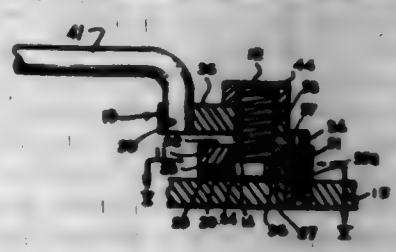
2. A coupling for uniting tubular bodies comprising a spring steel U mmeber having an opening in the base thereof, the arms of said U member disposed in longitudinal sliding engagement within a tube, an upper and lower U-shaped spring clip each having an opening in the base thereof, the arms thereof extending in the same direction and relative position as the arms of said U member and arranged in coaxial alignment with the base opening thereof, a fiber washer between the base of the lower spring clip and the base of said U-shaped member, lateral wings on the upper free ends of said spring clips, a draw bolt in said openings in said spring clips and said U member and extending through similarly aligned openings in opposite surfaces of a second tube, an upper and a lower wedge block screw threaded on said draw bolt with the larger ends thereof superjacent said wings, and a sleeve means positioned between said spring clips, whereby rotation of the said draw bolt will distend the wings into impinged relation with said U member and effect the frictional engagement thereof throughout its length with the inner wall of said tube and draw said tube into abutting engagement with said second tube.

2,972,496
JOINT ASSEMBLY
Edward J. Herbener and Sylvester S. Mazur, Detroit, Mich., assignors to Thompson Ramo Wooldridge, Inc., a corporation of Ohio
Filed Dec. 30, 1957, Ser. No. 706,201
5 Claims. (Cl. 287—90)



1. A ball and socket type joint which comprises an open ended housing having an internal bearing wall converging to one open end and a shoulder at the other open end facing the bearing wall, a stud having a shank extending freely through said one open end and a head carried by said stud in tiltable and rotatable relation relative to said wall, a rounded boss depending from said head, a seat in said housing receiving said boss, a closure member for said other open end of the housing bottomed on said shoulder, a plurality of wedges between the seat and closure member, and contracting spring means surrounding the wedges and effective to bias the wedges toward each other to simultaneously urge the closure member against the shoulder and the seat against the boss thereby to hold the stud head in proper bearing relation relative to the bearing wall.

2,972,497
MECHANICAL DEVICE
Roy T. Romine, Brady Township, Kalamazoo County, Mich., assignor, by mesne assignments, to Bell Intercontinental Corporation, Wheelabrator Division, Mishawaka, Ind., a corporation of Delaware
Filed Apr. 24, 1958, Ser. No. 730,711
3 Claims. (Cl. 292—241)



1. A device for clamping a member against a wall, comprising: a base block having an opening of circular cross section extending therethrough, the axis of said opening being substantially perpendicular to a pair of spaced surfaces on said block and said opening having a portion of enlarged diameter adjacent to one of said surfaces; a screw snugly and slidably receivable through said opening, said screw having a head rotatably receivable into said enlarged portion, the axial thickness of said

head being greater than the axial length of said enlarged portion, whereby said head protrudes through said one surface; means for securing said base block upon said wall whereby said head is held under axial compression between said wall and said base block; a clamping bar having a threaded opening therethrough near one end thereof into which said screw is threadedly received, the other end of said bar extending substantially beyond at least one side of said base block; handle means on the other end of said clamping bar for manually rotating said clamping bar about said screw; and means positively limiting rotation of said clamping bar about said screw, said clamping bar extending beyond said one side of base block when said bar is closest to said wall.

2,972,498
AUTOMOTIVE VEHICLE
Oliver K. Kelley, Bloomfield Hills, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Aug. 25, 1959, Ser. No. 835,992
6 Claims. (Cl. 296—28)



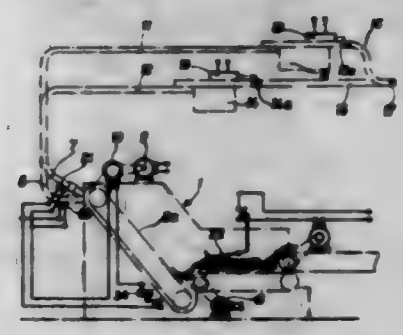
1. In a vehicle, a chassis including a frame and a front wheel suspension and engine mounting assembly and a rear wheel suspension and transmission and axle assemblies, said frame being attached to said assembly and holding said assemblies in the desired spaced relation, a vehicle body comprised of a floor pan, a fire wall, a roof panel, a back-light, a deck, body side and rear panels, a pair of front mounting arms secured to and extending forwardly from said body fire wall, a mounting pad on each of said mounting arms and mounting said body to said chassis at two transversely spaced points substantially over said front assembly, and rear mounting means on said floor pan and mounting said body to said chassis substantially over said rear assembly, said body providing a truss-type load support unit for the weight of said body and its contents.

2,972,499
PNEUMATIC CONVEYOR SYSTEM FOR TRANSPORTATION OF BULK MATERIAL
William B. Gray, 312 Webster Ave., Brooklyn 30, N.Y.
Filed Aug. 8, 1958, Ser. No. 754,947
7 Claims. (Cl. 302—17)



1. In a pneumatic conveyor system for transportation of bulk material, a conduit arcuate in transverse section having a material loading portion, a material discharge portion and a material transporting portion intermediate the material receiving and discharge portions, said conduit, at said material loading portion, having a material receiving mouth having upwardly facing longitudinal edges, a closure, arcuate in transverse section, for said mouth and having downwardly facing longitudinal edges for disposition upon said upwardly facing edges, and elevator means for selectively raising said closure from said mouth and for selectively lowering said closure to close said mouth and for releasably retaining said closure, in a substantially horizontal position, raised above the vertical plane of said mouth, whereby material may be introduced into said mouth through the space between the raised closure and said mouth, pneumatic means to cause said material to move through said conduit toward and to said material discharge portion including a pressure fluid under pressure, and air-impervious pusher means within said conduit interposed between said material and said pressure fluid under pressure.

2,972,500
AUTOMATIC CONTROL MEANS FOR TOBACCO FEEDING MEANS IN CIGARETTE MACHINES
Albert Eenwein, Hamburg-Lohbrugge, Germany, assignor to Hauni-Werke Korber & Co. K.G., Hamburg-Bergedorf, Germany
Filed June 8, 1959, Ser. No. 818,817
Claims priority, application Germany June 14, 1958
3 Claims. (Cl. 302—28)

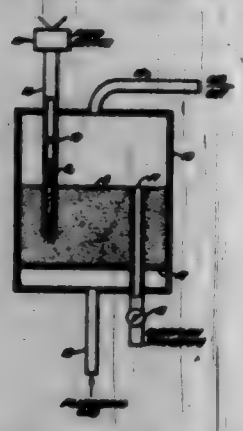


1. Automatic control means for a system for feeding cut tobacco from a source of supply alternatingly to each of a plurality of cigarette machines through individual pneumatic suction conduits, comprising feed means for said tobacco, electromagnetic control means for said feed means, a valve in each of said conduits to control the application of pneumatic suction thereto, electromagnetic operating means for each of said valves, electric circuit means interconnecting said electromagnetic control and operating means, timing means connected in said electric circuit means, electric distributor means controlled by said timing means for alternatingly actuating said electromagnetic operating means, delay switch relays in said circuit means for delaying the disabling of said electromagnetic means and pressure operated switches in said conduits responsive to a reduced pressure in said conduits to control said delay switch mean.

2,972,501
DEVICE FOR FEEDING PARTICLES TO FLUIDIZED BEDS
Jerome Feinman, Pitcairn, Pa., assignor to United States Steel Corporation, a corporation of New Jersey
Filed May 22, 1959, Ser. No. 815,157
6 Claims. (Cl. 302—29)

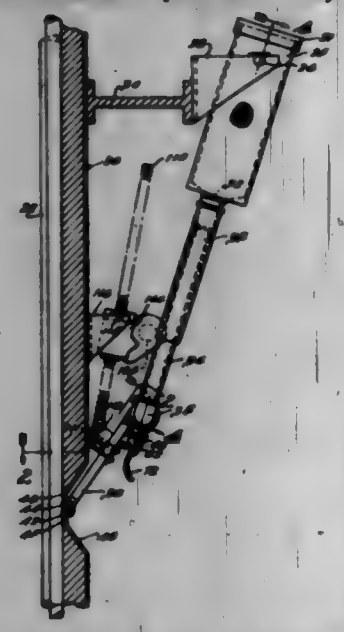
1. In a vessel which includes a perforate horizontal partition adapted to support a fluidized bed of particles, inlet and discharge means for a fluidizing gas, and means for discharging particles from the bed, the combination with said vessel of a device for feeding particles from an external non-fluidized source to said vessel comprising a dip pipe extending into the space normally occupied by the bed and means for metering particles into said dip pipe, said dip pipe having gas escape means enabling

fluidizing gas to flow upwardly through the dip pipe and maintain a column of articles therein in a fluidized state,



said escape means being located above the height which the column assumes.

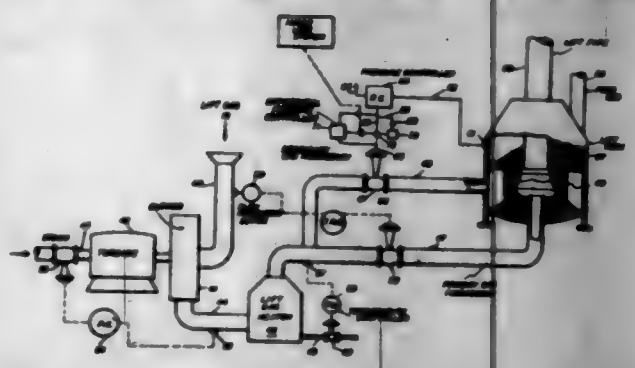
2,972,502
PROJECTION-TYPE CLEANING APPARATUS
Ned L. Jennings, William F. Cantieri, and John E. Clark, Lancaster, Ohio, assignors to Diamond Power Specialty Corporation, Lancaster, Ohio, a corporation of Ohio
Filed Aug. 25, 1953, Ser. No. 376,336
15 Claims. (Cl. 302—51)



1. In a cleaning apparatus for projecting pellets or the like, in combination with a source of fluid under pressure, a magazine for pellets to be projected, said magazine having an outlet, a feeding device connected to said outlet and having a feed chamber therein, a curved wall peripherally encompassing the entire interior of said feed chamber and having an inlet opening into said chamber through said wall, substantially tangentially whereby fluid may circulate in said chamber throughout more than 360°, a portion defining a feeder outlet extending through said peripheral wall substantially tangentially from the interior to the exterior of said chamber, and means for feeding fluid into said chamber through said inlet and for feeding pellets into said chamber, said chamber being otherwise substantially closed, whereby fluid and pellets may be discharged through said feeder outlet.

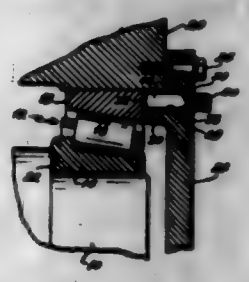
2,972,503
METHOD FOR CONTROL OF OPERATION OF PNEUMATIC LIFT AND APPARATUS THEREFOR
William R. Brennan, Stamford, Conn., assignor to Socony Mobil Oil Company, Inc., a corporation of New York
Filed Feb. 16, 1960, Ser. No. 8,957
2 Claims. (Cl. 302—53)

1. In a pneumatic lift in which a granular contact material is elevated as a dilute phase suspension through an upwardly extending lift passage, the flow rate of the contact material through the lift being controlled by pneumatically controlling the flow rate of a secondary gas stream, adapted to pass through a substantial thickness of a bed of contact material maintained about the bottom of the lift passage, to maintain the pressure in the bed of contact material substantially constant, the improved method of automatically commencing the flow of contact material through the lift which comprises: passing at least the major portion of the lift gas into the lift passage as a primary gas stream, which flows directly into the lift passage without flowing through any substantial thickness of the bed of contact material surrounding the lower end of said lift passage, measuring the gas pressure of the bed of contact material surrounding the lift passage and transmitting a pressure proportional to the measured pressure to a control zone, adjusting the control zone to a desired control pressure, equivalent



to the desired rate of flow of contact material through the lift passage, feeding gas from the control zone to a valve-operating zone, in the amount required to adjust the secondary gas flow at the required flow rate to maintain the flow of granular material at the desired flow rate, restricting the flow rate of gas from the control zone to the valve-operating zone below a critical flow rate, passing the flow-restricted gas into a pressure-accumulating zone of substantial volume before supplying said gas to the valve-operating zone, whereby the pressure is built up in the valve-operating zone at a gradually-increasing rate to build up the flow rate of contact material through the lift passage at a retarded rate without causing surging in the lift passage and interruption in flow through the lift passage, measuring the pressure differential between the control zone and the valve-operating zone and by-passing the flow of gas directly from the control zone to the valve-operating zone when said pressure differential has been reduced to substantially zero.

2,972,504
BEARING THRUST LOADER AND SEAL
John B. Baker, Canton, Ohio, assignor to The Timken Roller Bearing Company, Canton, Ohio, a corporation of Ohio
Filed July 22, 1957, Ser. No. 673,321
13 Claims. (Cl. 308—207)



1. Means for loading relatively movable bearing members comprising a housing with a journal member rotatably mounted therein; a bearing assembly mounted on the journal member in the housing including an inner race, an outer race and antifriction members therebetween, one of said races being axially movable relative to the

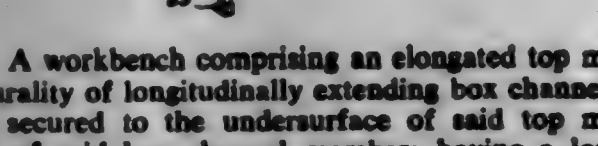
other for changing the loading therebetween; and an inflatable expandable member mounted adjacent to the axially movable race including a passage therein through which hydraulic fluid under pressure can be introduced into the inflatable member for expanding said member into engagement with and against the movable race to move the movable race in a direction to load the bearing assembly.

2,972,595

ARM REST FOR SURGICAL TABLES

Egon R. Weickgenannt, Rochester, N.Y., assignor to Ritter Company, Inc., Rochester, N.Y., a corporation of Delaware

Filed Sept. 16, 1959, Ser. No. 840,351
8 Claims. (Cl. 311—16)



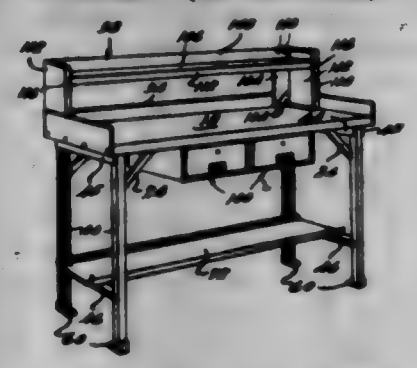
1. An arm rest adapted to be attached to the side of a surgical table for supporting the arm of a patient reclining on the table comprising, in combination, an arm rest, a bracket attached to the table by which said arm rest is carried, pivot means between said arm rest and said bracket enabling the arm rest to be swung in an arc about said pivot and locking means connected to said pivot and mounted to be pivoted with said arm rest for releasably locking the arm rest in any desired position of said arc.

2,972,596

BENCH FURNITURE

Theodore T. Haag, Kalamazoo, Mich., assignor to Burroughs Manufacturing Co., Kalamazoo, Mich., a corporation of Michigan

Filed Apr. 4, 1958, Ser. No. 726,564
6 Claims. (Cl. 311—105)



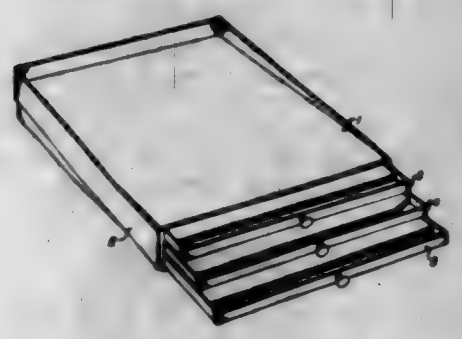
1. A workbench comprising an elongated top member, a plurality of longitudinally extending box channel members secured to the undersurface of said top member, each of said box channel members having a longitudinally extending slot in the lower face thereof, two leg assemblies, and bolt means for bolting said leg assemblies to the slotted faces of said box channel members at opposite ends of said top member, said bolt means comprising a plurality of bolts projecting from each of said leg assemblies and having the end thereof projecting through one of said slots with a straddle nut threaded on the end of said bolt disposed within said box channel members to enable the leg assemblies to slide relative to said box channel members when the bolts are loosened and to be tightly clamped against movement relative to the box members when the bolts are tightened and to be completely removed from the box members when the bolts are completely disconnected from the straddle nuts.

2,972,597

CARBON PAPER CABINET

George B. McCay, Rochester, N.Y., assignor to Kee Lox Manufacturing Company, Rochester, N.Y., a corporation of New York

Filed Feb. 6, 1959, Ser. No. 791,715
2 Claims. (Cl. 312—309)



2. A paper cabinet comprising a housing including side and rear walls, a series of trays movably arranged one above the other within the housing, and a U-shaped guide member consisting of side and rear walls embracing the side and rear walls of the housing, said side walls of the guide member being of the same length and width as the side walls of the housing and the rear wall of said guide member being of the same length and width as the rear wall of the housing, said side walls of the guide member being pivotally mounted at the front ends of the side walls of the housing, the guide member frictionally embracing the side and rear walls of the housing when in its lowermost position and swingable about the front ends of said side walls of the housing to an upwardly inclined position partially above the top surface of the housing which is free to receive sheets of paper, the guide member when in such upper position functioning to guide and limit movement of sheets on said top surface until the sheets are in contact with the walls of the guide member, said guide member when not in collating position being located between the top and bottom of the side and rear walls of the housing and adjacent thereto.

CHEMICAL

2,972,906

DYEING OF POLYMERS OF ACRYLONITRILE

Winfried Kruckenberg, Ludwig Nunier, and Josef Singer, Leverkusen-Bayerwerk, and Helmut Kleiner, Köln-Stammheim, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Dec. 13, 1956, Ser. No. 627,990
Claims priority, application Germany Dec. 29, 1955
6 Claims. (Cl. 8—41)

1. A polyacrylonitrile article containing at least 85% by weight of acrylonitrile, said article being dyed with a monoazo dyestuff of the formula

$$R-N=N-R_1-\underset{\displaystyle R_2}{\overset{|}{N}}-CH_2CH_2NR_3$$

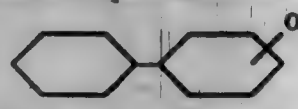
wherein R stands for a member selected from the groups consisting of benzene radicals and heterocyclic radicals; R_1 stands for a member selected from the groups consisting of benzene radicals, naphthalene radicals, acylacetic acid amide radicals and heterocyclic radicals, R_2 stands for a member selected from the group consisting of hydrogen, lower alkyl and hydroxyl lower alkyl, and NR_3 stands for a member selected from the groups consisting of primary amino, secondary amino, tertiary amino and quaternary ammonium radicals.

2,972,509
COMPOSITIONS AND METHODS FOR DYEING POLYESTER MATERIALS

Edward S. Olson, Clemson, S.C., assignor to Deering Milliken Research Corporation, Pendleton, S.C., a corporation of Delaware

No Drawing. Filed July 28, 1958, Ser. No. 751,139
17 Claims. (Cl. 8—55)

1. A new composition of matter useful as an assistant in the dyeing of fibers and stable under acidic conditions at dye bath temperatures, said composition comprising an aqueous emulsion of a phenylphenol of the formula:

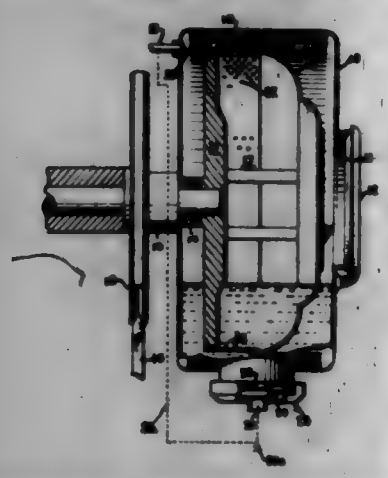


a solvent for said phenol, said solvent comprising a member selected from the group consisting of hydrocarbon solvents, glycol solvents, and glycol ether solvents, and from 3.5% to 40% based on the weight of said phenol of an alkylarylsulfonic acid emulsifying agent.

2,972,510
LAUNDRY MACHINES

Benjamin Alvin Buss and John E. Krynski, East Moline, Ill., assignors to American Machine and Metals, Inc., New York, N.Y., a corporation of Delaware

Filed Aug. 26, 1957, Ser. No. 680,867
2 Claims. (Cl. 8—159)



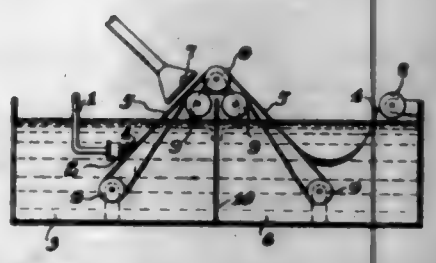
1. A method for preventing destructive vibration in a washer extractor having a receiver for the materials to be washed, said receiver being rotatable in a housing on a substantially horizontal axis, comprising the steps of rotating said receiver through water in said housing at a low tumbling speed to wash the materials, then rotating said receiver through water held in said housing at a predetermined speed higher than said tumbling speed so that said materials are evenly distributed in said receiver, said predetermined speed being the speed at which the materials do not fall from the circumferential surface of the receiver and yet are free to move slightly therefrom, then draining the water from said housing only after said receiver is rotating at a speed higher than said predetermined speed, and then rotating said receiver at an extracting speed which is substantially higher than said predetermined speed so as to remove substantially all of the water from said materials.

2,972,511
PROCESS FOR COAGULATING AND COALESCING ACRYLONITRILE DISPERSIONS IN AQUEOUS INORGANIC SALT SOLUTIONS

Max Fredrick Bechtold, Kennett Square, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Nov. 22, 1952, Ser. No. 322,011
11 Claims. (Cl. 18—54)

1. A process for the production of a continuous shaped article from a water-insoluble acrylonitrile polymer containing at least about 50% by weight of acrylonitrile in the polymer molecule and having a molecular weight of at least 10,000, which comprises extruding an aqueous discrete particle dispersion of the said polymer into an aqueous bath containing at least 1% of a strong electrolyte, the polymer being present in the said dispersion in a concentration of from about 10% to about 50%



by weight with a particle size of less than about 15 microns, and contacting the extruded acrylonitrile polymer with an aqueous coalescing solution containing at least 10% by weight of an inorganic salt concentrated solutions of which are solvents for said polymer, said contacting being continued for sufficient time to provide a shaped article coalesced sufficiently for subsequent drawing.

2,972,512
METHOD OF REMOVING HYDROGEN SULPHIDE FROM GASES AND RECOVERING SULPHUR THEREFROM

Henri M. Guinot, Versailles, France, assignor of one-half to Ateliers Pingris & Mollet-Fontaine Roussi (Société Anonyme), Lille, Nord, France, a French company

No Drawing. Filed June 3, 1955, Ser. No. 513,151
Claims priority, application France June 16, 1954
6 Claims. (Cl. 23—3)

1. In a continuous process for the removal of hydrogen sulphide from a gaseous mixture containing the same, the steps of contacting said gaseous mixture continuously with an aqueous solution of a ferric salt of a lower aliphatic carboxylic acid, thereby causing hydrogen sulphide to react with said ferric salt with consequent release of said lower aliphatic carboxylic acid in free state and production of sulphur together with corresponding ferrous salt of said lower aliphatic carboxylic acid in said aqueous solution; continuously subjecting the acid aqueous solution thus formed to an oxygen containing gas whereby to regenerate the same by converting said ferrous salt and said lower aliphatic carboxylic acid as set free therein, back to ferric salt of said lower aliphatic carboxylic acid; oxygen containing gas with respect to said gaseous mixture so that the total amount of ferric salt in solution is always in stoichiometric excess with respect to the hydrogen sulfide in said gaseous mixture.

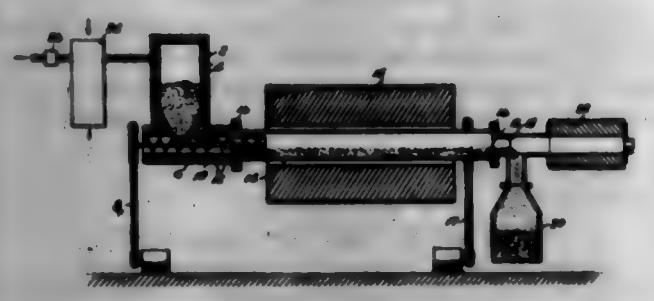
2,972,513
PROCESS FOR THE PRODUCTION OF ANHYDROUS FLUORIDES

Johan Hilding Mogard, Lidingo, and Sven John Svensson, Bromma, Sweden, assignors to Aktiebolaget Atomenergi, Stockholm, Sweden

Filed Jan. 8, 1957, Ser. No. 633,062
Claims priority, application Great Britain Jan. 13, 1956
9 Claims. (Cl. 23—14.5)

1. Process for the continuous production of an anhydrous fluoride of a metal selected from the lanthanide and actinide groups from an oxide of such metal in an elongated reaction zone having an inlet end and an outlet end, in which process said oxide is introduced into said zone at the inlet end thereof and hydrogen fluoride is introduced into said zone at the outlet end thereof, passing said oxide and said hydrogen fluoride countercurrently through said zone at a temperature causing said

hydrogen fluoride to react with said oxide to form a fluoride of said metal and water, maintaining in said zone a progressively increasing temperature from a temperature in the region adjacent said inlet end above the dew point of the gaseous mixture containing hydrogen fluoride



and water in said region and below the decomposition temperature of the fluoride hydrate of said metal to a temperature at said outlet end of from 300° C. to 550° C., and extracting at said outlet end an anhydrous fluoride of said metal.

2,972,514
AMMONIUM PERCHLORATE MANUFACTURING PROCESS

Harold W. Ritchey, Huntsville, Ala., assignor to Thiokol Chemical Corporation, Trenton, N.J., a corporation of Delaware

No Drawing. Filed June 9, 1958, Ser. No. 740,532
5 Claims. (Cl. 23—85)

1. The method of making ammonium perchlorate substantially free of occluded water and of at least 90 percent purity which comprises reacting potassium perchlorate and ammonium chloride in solution in liquid anhydrous ammonia to form ammonium perchlorate and to precipitate potassium chloride, separating the precipitated chloride from the ammonia solution, and recovering ammonium perchlorate from said solution.

2,972,515
PRODUCTION OF METAL FLUORIDES

Isadore Mockrin, Philadelphia, Pa., assignor to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed May 23, 1957, Ser. No. 661,017
5 Claims. (Cl. 23—88)

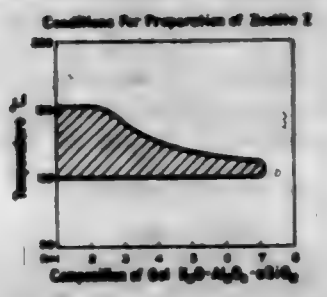
1. In a method of making metal fluorides, the steps comprising forming a finely divided intimate admixture of potassium fluoride with a metal salt selected from the group consisting of barium sulfate, strontium sulfate, calcium sulfate and lead sulfate, and initiating a reaction between said potassium fluoride and said metal salt by heating said mixture to a temperature between 25° C. and 100° C. at which a spontaneous rise in temperature of the reaction mass occurs.

2,972,516
CRYSTALLINE ZEOLITE Z AND METHOD FOR PREPARING SAME

Richard Maling Barrer, Bromley, England, and John William Baynham, Cowper, Fife, Scotland, assignors to Union Carbide Corporation, a corporation of New York

Filed Feb. 29, 1956, Ser. No. 568,652
4 Claims. (Cl. 23—113)

3. A process for making zeolite Z, which process comprises preparing a gel by mixing in aqueous solution reactants in proportions represented as particular ratios of oxides of potassium, aluminum and silicon; holding said gel at a particular temperature in the presence of up to about 130% molar excess of potassium hydroxide, the particular ratio of said materials in said gel and said particular temperature at which said gel is held being regulated so that both said ratio and said temperature fall within the shaded area of Figure 1 of the drawing; and



continuing to hold said gel at said temperature until crystals of zeolite Z form, said crystals having the composition

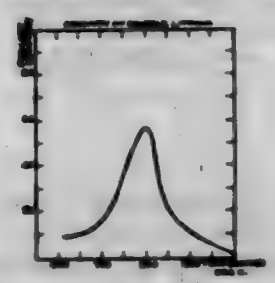
$$K_2O:Al_2O_3:2SiO_2:XH_2O$$

wherein X is a value up to 3 and having an X-ray diffraction pattern as shown in Table A.

2,972,517
METHOD OF PRODUCING LITHIUM SULPHATE FROM ALPHA AND BETA SPODUMENE

James U. MacEwan, Montreal, Quebec, Canada, assignor to Department of Mines, Quebec, Quebec, Canada

Filed Mar. 24, 1958, Ser. No. 723,459
9 Claims. (Cl. 23—121)



1. A process for recovering lithium sulphate comprising passing over a finely divided solid material selected from the group consisting of alpha spodumene having a particle size of less than 30 microns and beta spodumene in a reaction zone heated to a temperature within the range from about 700° C. to about 900° C., a gaseous mixture of sulphur dioxide, oxygen and sulphur trioxide for a time within the range from about 1 to about 4 hours thereby to bring about a gas-solid contact reaction to form lithium sulphate and a water-insoluble residue, and recovering the lithium sulphate from the residue.

2,972,518
METHOD OF SIMULTANEOUSLY PREPARING SULFUR TETRAFLUORIDE AND HALOMETHANES

William Arthur Sheppard, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Feb. 4, 1958, Ser. No. 713,088
8 Claims. (Cl. 23—205)

1. A process for producing sulfur tetrafluoride and halomethane of the formula CF_xCl_{4-x} where x has a value of 1–4, comprising reacting carbon disulfide, chlorine and a fluoride of an alkali metal whose atomic number lies between 11 and 55 inclusive at a temperature of at least 125° C.

2,972,519
METHOD OF PREPARING DINITROGEN DIFLUORIDE

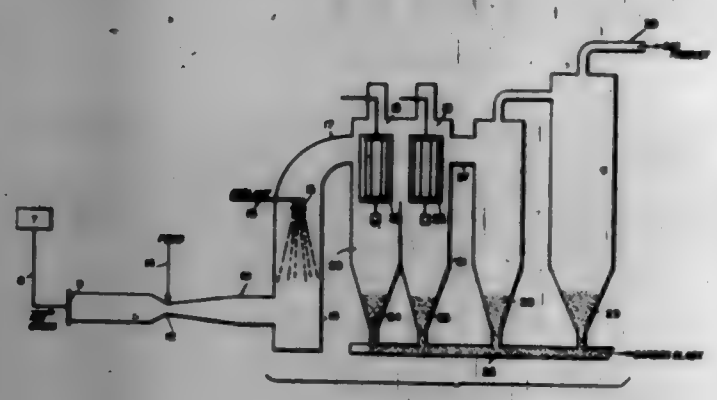
Robert D. Lipscomb, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Dec. 19, 1958, Ser. No. 781,471
2 Claims. (Cl. 23—205)

1. Process for preparing dinitrogen difluoride which comprises passing a gaseous composition in which the

reactive component consists essentially of a binary nitrogen fluoride wherein the atomic ratio of fluorine to nitrogen is at least 2:1, through a reaction zone at a temperature of at least 1000° C. and with a contact time within said zone not exceeding 10 seconds, and cooling the effluent gaseous reaction product to a temperature below 100° C. within a maximum period of one second.

2,972,520
PYROLYSIS OF WASTE SULFITE LIQUOR
Gerald L. Eaton, Philadelphia, Pa., assignor to United Engineers & Constructors Inc., Philadelphia, Pa., a corporation of Delaware
Filed Sept. 6, 1957, Ser. No. 682,499
8 Claims. (Cl. 23—209.4)



1. A method for the treatment of ammonia base waste sulfite material to recover carbon black therefrom which comprises mixing said material, containing between about 2 and about 75% by weight solids, with a high velocity stream of gases having a temperature between about 2500° F. and about 4000° F. to vaporize the vaporizable components of said material within a time on the order of 0.01 second, to pyrolyze said material with the production of carbon black and to form a combined stream of hot gases and pyrolyzed material having a temperature between about 2000° F. and about 3000° F., and subsequently recovering carbon black from said combined stream.

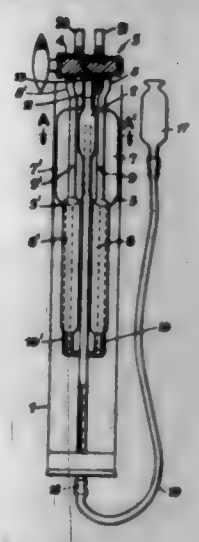
2,972,521
PRODUCTION OF PURE SILICON
Walter Voss, Gampel, Switzerland, assignor to Lonza Electric and Chemical Works Limited, Basel, Switzerland, a company of Switzerland
No Drawing. Filed Jan. 15, 1957, Ser. No. 634,352
Claims priority, application Switzerland Jan. 19, 1956
10 Claims. (Cl. 23—223.5)

1. Process for the production on a commercial scale of pure silicon with a content of at least 99.5% Si from crude silicon having a silicon content in the order of magnitude of 96 to 98%, comprising pulverizing the crude silicon so that it will pass through a screen of 0.075 mm. opening, applying acid to the pulverized silicon over a prolonged period of time and in no larger quantity than is needed for the resultant mixture of the pulverized silicon and acid to be of a doughlike consistency, the acid being selected from a group consisting of dilute hydrochloric acid, dilute sulfuric acid, and a mixture of said acids, vigorously working the pulverized silicon while the acid is added, thereby covering portions of the silicon, which have been freshly treated with acid, with such other portions as have not recently been contacted by acid, further turning over the treated silicon, and forming a doughy mass, subjecting the dough to heap-leaching by allowing the dough to stand in heaps without being moved for at least one day, and isolating the pure silicon by washing and drying.

2,972,522
SULFUR PRODUCTION
Peter Urban, Chicago, Ill., assignor, by mesne assignments, to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
No Drawing. Filed Aug. 30, 1956, Ser. No. 606,955
7 Claims. (Cl. 23—225)

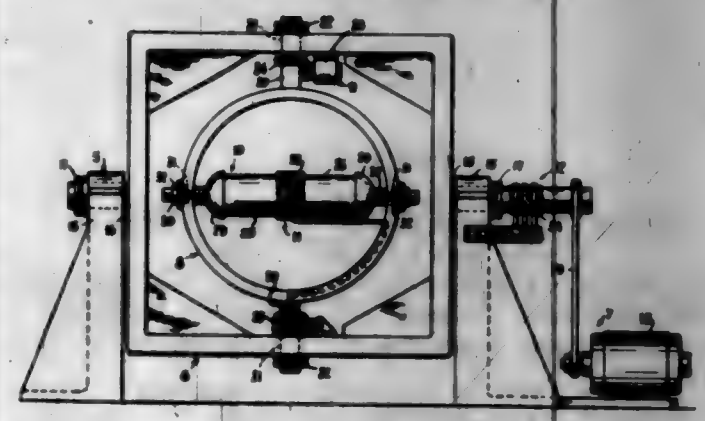
1. The process for converting hydrogen sulfide to sulfur which comprises reacting said hydrogen sulfide with oxygen in a basic nitrogen-compound solution in the presence of a catalyst comprising cobalt histidine.

2,972,523
GAS ANALYSIS APPARATUS
Brian Beynon Lloyd, 13 Charlbury Road, Oxford, England
Filed Apr. 20, 1959, Ser. No. 807,651
Claims priority, application Great Britain Apr. 25, 1958
10 Claims. (Cl. 23—256)



1. Apparatus for gas analysis comprising a gas burette, means for varying the pressure and available gas space within the burette, at least one absorption pipette comprising an absorption chamber in open connection with an enclosed reservoir chamber completely defined by rigid walls, and rigid valve means constituting burette and absorption chamber connecting means.

2,972,524
CRYSTALLIZING CENTRIFUGE
John Ross, Mount Vernon, N.Y.
(3701 Henry Hudson Parkway, New York 63, N.Y.)
Filed Nov. 8, 1957, Ser. No. 695,267
3 Claims. (Cl. 23—273)



1. Apparatus of the character described comprising an outer gimbal ring having an axis of rotation, an inner gimbal ring on an axis of rotation transverse to the axis of rotation of the outer ring and carried by the latter, a sealed crucible carried by the inner ring and subject to the compound movement of rotation of said inner ring, and electrical heating means to heat the crucible, and means to drive each ring independently of the other,

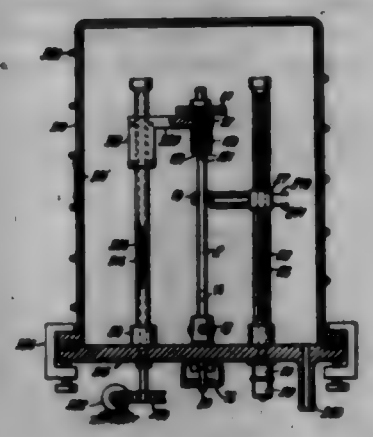
said driving means including a driving member carried by the outer ring and having driving engagement with the inner ring.

2,972,525

CRUCIBLE-FREE ZONE MELTING METHOD AND APPARATUS FOR PRODUCING AND PROCESSING A ROD-SHAPED BODY OF CRYSTALLINE SUBSTANCE, PARTICULARLY SEMICONDUCTOR SUBSTANCE

Reimer Emeis, Pretzfeld, Germany, assignor to Siemens-Schuckertwerke Aktiengesellschaft, Berlin-Siemensstadt, Germany, a corporation of Germany

Filed Apr. 10, 1958, Ser. No. 727,618
Claims priority, application Germany Feb. 26, 1953
4 Claims. (Cl. 23—301)



4. A crucible-free zone melting process for treating a semiconductor material, comprising supporting a rod of said material vertically, melting a lengthwise limited zone of said rod by high frequency electromagnetic induction, the molten zone forming an electric conductor in the high frequency field, which field is of limited lengthwise extent, carrying out a melting-zone pass operation by relatively displacing the high frequency field with respect to the rod in its longitudinal direction, to cause the molten zone to travel along the rod, the material of the travelling molten zone being heated in at least major part by electric current inductively generated within the rod, the melting operation being initiated by preheating by heat transfer from an auxiliary heating means, the preheating being at a location relatively small with respect to the longitudinal extent of the melting zone pass, a monocrystalline seed being fused into an end region of the rod spaced lengthwise of the location of preheating, the high frequency electric field being juxtaposed with respect to said small location and the supplied electric power being limited to effect inductive heating of the rod sufficient to provide a zone of good electric conductivity of the rod but not sufficient to melt the rod, and displacing said high frequency field and said zone, which is solid, with respect to and through the rod in a direction away from said location of preheating whilst the auxiliary heating means stops operating, thereafter increasing the electric power to melt a zone of the rod and displacing the high frequency field, and consequently the molten zone, along the rod in the opposite direction, the seeded end region of the rod being rotated about the longitudinal axis of the rod during the melting-zone pass operation, the opposite end not being rotated during said pass operation.

2,972,526

RUST-INHIBITED PETROLEUM DISTILLATE FUEL

Fred K. Kawahara, Park Forest, Ill., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana

No Drawing. Filed Nov. 4, 1957, Ser. No. 694,113
2 Claims. (Cl. 44—64)

1. A distillate fuel of the heater oil boiling range which contains about 5 to 50 parts per million on a weight basis of an approximately equimolar mixture of a condensed fatty acid material selected from the class consisting of linoleic acid dimer, linoleic acid trimer and mixtures of linoleic acid dimer and trimer, and a composition represented by the formula



where R and R′ are each selected from the group consisting of hydrogen and methyl, ethyl, propyl, isopropyl, butyl, isobutyl, amyl, isoamyl and phenyl hydrocarbon radicals and at least one of said R and R′ is one of said hydrocarbon radicals.

2,972,527

ABRASIVE PRODUCTS AND METHOD OF MAKING

George Upton, Jr., Hingham, Mass., assignor to Chemical Research Corporation, Rockland, Mass., a corporation of Massachusetts

Filed Mar. 3, 1959, Ser. No. 796,854
8 Claims. (Cl. 51—298)

1. A coated abrasive having a backing with a foamed structure coating thereon, said coating being densified by pressure to a density of at least .439 gram per cubic centimeter, said coating being characterized by a foam structure of thin elastic films and discrete abrasive grains dispersed therethrough, severally embedded in and retained by said films of the elastic solid as a continuous elastic bond, the weight of said grains being at least equal to the weight of said elastic bond, the said foam structure comprising the foamed reaction product of reagents of the class consisting of aliphatic polyesters and polyethers, with isocyanates, reacted to polymerize and form elastomers as the said bond.

2,972,528

DIPYRIDYL DERIVATIVES AND HERBICIDAL METHODS AND COMPOSITIONS CONTAINING THE SAME

Robert Coles Brian, George William Driver, Ronald Frederick Homer, and Richard Lewis Jones, all of Manchester, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed Mar. 25, 1957, Ser. No. 647,958
Claims priority, application Great Britain Apr. 4, 1956
18 Claims. (Cl. 71—2.5)

16. A process for the treatment of growing vegetation which comprises applying to the said growing vegetation, a herbicidal composition comprising as active ingredient at least one compound of the formula:



wherein R and R′ are substituted alkyl radicals of not more than 4 carbon atoms, said radicals being substituted with at least one member of the group consisting of: halogen, hydroxyl, carboxyl, lower alkoxy, carbo-lower alkoxy, carbamyl, di-lower alkyl-N:N-substituted carbamyl tertiary and quaternary lower alkyl ammonium and cyclotetramethylene ammonium groups; and X is an anionic radical, in such amount that the said vegetation is at least substantially severely damaged.

2,972,529

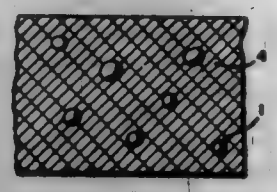
METAL OXIDE-METAL COMPOSITION

Guy B. Alexander and Ralph K. Iler, Brandywine Hundred, and Sherwood F. West, Christiana Hundred, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed May 12, 1958, Ser. No. 734,624
12 Claims. (Cl. 75—.5)

1. A solid, ductile metalliferous composition comprising a dispersion of a particulate refractory oxide filler

in a metal component, said metal component consisting essentially of a mixture of a metal (*a*) having an oxide with a free energy of formation at 27° C. of up to 75 kilocalories per gram atom of oxygen in the oxide, and chromium metal, said particulate refractory oxide being in the form of substantially discrete particles having an average dimension of 5 to 500 millimicrons and a surface area, in square meters per gram, of from 12/D to 1200/D where D is the density of the particles in grams per milliliter, said particles comprising a refractory metal oxide which is insoluble in the metal mixture, is thermally stable to at least 500° C., and has a metling point above 1000° C. and a free energy of formation at 1000° C. above 90 kilocalories per gram atom of oxygen in the oxide, the proportion of chromium being at least 4 mol percent based upon the dispersed



metal oxide particles, the mixture of metals having a melting point above 700° C., and the dispersion being substantially free of fibering of the refractory oxide particles, the oxygen content of the composition, in excess of oxygen in said filler particles, being from 0 to 2% by weight, the size of the metallic grains being smaller than 10 microns, and said metal composition being characterized by having a yield strength, at 0.2% offset and a temperature of 75% of the melting point of the metal in degrees absolute, at least 1.5 times that of the metal unmodified by refractory oxide particles, and by having improved oxidation resistance as compared with said unmodified metal.

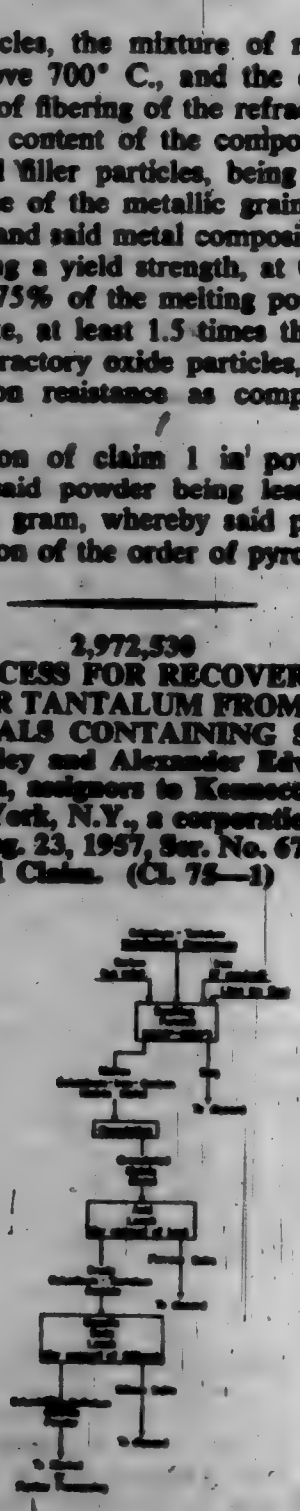
6. A composition of claim 1 in powder form, the surface area of said powder being less than about 2 square meters per gram, whereby said powder is stable against air oxidation of the order of pyrophoricity.

2,972,530

SMELTING PROCESS FOR RECOVERING COLUMBIUM AND/OR TANTALUM FROM LOW GRADE ORE MATERIALS CONTAINING SAME

Stuart R. Zimmerley and Alexander Edward Back, Salt Lake City, Utah, assignors to Kennecott Copper Corporation, New York, N.Y., a corporation of New York

Filed Aug. 23, 1957, Ser. No. 679,889
1 Claim. (Cl. 75—1)



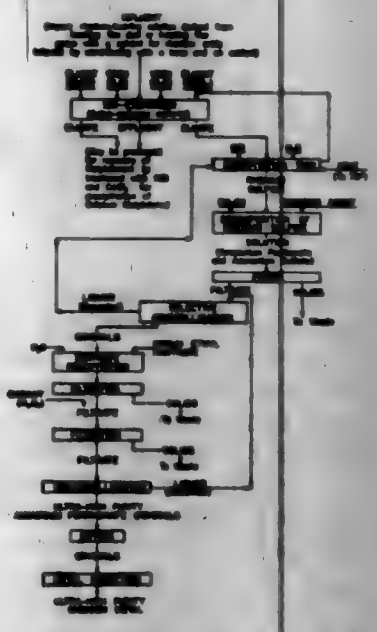
A metallurgical upgrading process, comprising smelting a low grade concentrate of a carbonatite type ore which contains from approximately 1 to 15 percent combined columbium and tantalum oxides as one or more of the minerals perovskite, pyrochlore, and niocalite intimately intermixed with associated gangue materials, at a temperature of about 1200° C. to 1600° C. in the presence of sufficient carbon to form columbium and tantalum carbides and at least four parts of iron, by weight, to each part of columbium oxide, to form a molten metallic matrix which collects the columbium and tantalum carbides and leaves gangue constituents as a molten slag; and drawing off said molten slag and said molten matrix separately.

2,972,531

PROCESS FOR PRODUCTION OF ULTRA-HIGH PURITY RHENIUM

Stuart R. Zimmerley, Emil E. Malouf, and John D. Prater, Salt Lake City, Utah, assignors to Kennecott Copper Corporation, New York, N.Y., a corporation of New York

Filed Apr. 18, 1958, Ser. No. 729,390
12 Claims. (Cl. 75—121)



1. A process for removing various metallic contaminants from an aqueous, non-acid, rhenium-bearing solution while leaving the rhenium in solution, comprising introducing a water soluble xanthate salt conforming to the formula

$$RO-\underset{\displaystyle S}{\overset{\displaystyle S}{\overset{|}{C}}}-S-M$$

(where R is an alkyl group and M is any metal which forms a water-soluble xanthate) into said solution in an amount stoichiometrically in excess of the amount of said various metallic contaminants present therein, to bring down said contaminants as xanthate precipitate; and separating the purified rhenium-bearing solution from said xanthate precipitate.

2,972,532

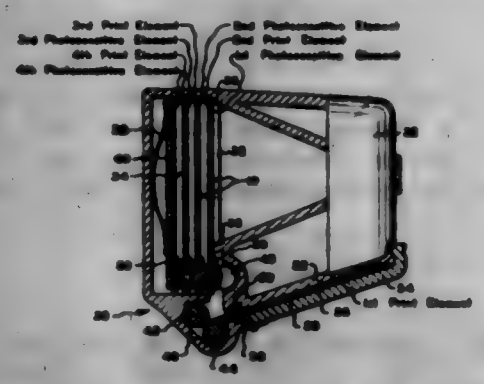
PHOTOGRAPHIC PROCESS

Edwin H. Land, Cambridge, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware

Filed July 5, 1956, Ser. No. 595,988
7 Claims. (Cl. 96—29)

1. A method of producing a sequence of photographic transfer prints requiring the expenditure of only one photographic element for each print produced, and utilizing a pair of said photographic elements during the production of each of said prints, said method including the steps of photoexposing a first photosensitive layer

comprising a first photographic element to form an image in said first photosensitive layer, said first element comprising a support layer opaque to light actinic to said photosensitive layer and carrying, on one side, a stripping layer, said photosensitive layer supported on said stripping layer, and a rupturable container of a first fluid processing composition, and, on the other side, a first image-receiving layer; superposing said first photosensitive layer with a second image-receiving layer comprising a second element and moving said first and second elements in superposition relative to and between a pair of juxtaposed pressure-applying members and thereby applying compressive pressure to said container and superposed elements for ejecting said fluid from said container and spreading said fluid in a layer between said elements for permeation into said first photosensitive layer; reacting said fluid with said first photosensitive layer to produce therefrom a visible transfer image carried on said second image-receiving layer; separating said ruptured container and said second element including said second image-receiving layer, said visible transfer image and said layer of fluid from said first element; photoexposing a second photosensitive layer comprising a third element to form an image in said second photosensitive layer,



superposing said first image-receiving layer with said second photosensitive layer and moving said first and third elements in superposition, together with a rupturable container of a second processing fluid located between said superposed first and third elements, relative to and between a pair of juxtaposed pressure-applying members and thereby applying compressive pressure to said second container and said first and third elements for ejecting said second fluid from said second container and spreading said second fluid in a layer between said first and third elements for permeation into said second photosensitive layer; reacting said second fluid with said second photosensitive layer to produce therefrom a second visible transfer image carried on said first image-receiving layer; separating said first element including said first photosensitive and image-receiving layers and said second transfer image from said third element including said second photosensitive layer; permeating a third processing fluid including a solvent for said stripping layer into said stripping layer and thereby dissolving the latter sufficiently to permit said first photosensitive layer to be stripped from the support layer comprising said first element; and thereafter stripping said first photosensitive layer from the last-mentioned support layer.

2,972,533

PHOTO-MECHANICAL METHOD OF PRODUCING TECHNICAL DRAWINGS AND THE LIKE

Louis G. Frankus, Upper Darby, and Arthur F. Pinecano, Landsdowne, Pa., assignors to General Electric Company, a corporation of New York

Filed Dec. 7, 1955, Ser. No. 551,644
4 Claims. (Cl. 96—43)

1. A method of making technical drawings comprising the following steps: providing a plurality of transparent format sheets having identifying marks thereon and having basic illustrative matter printed thereon, providing location index sheets having identifying marks thereon and having certain areas thereof delineated and positionally coordinated with the printed matter on said format sheets, providing a plurality of transparent overlays which contain additional printed matter depicting components which it is desired to have appear in the final form of said technical drawings and which are adapted to fit over said delineated areas and which are identified with distinctive markings, then preparing a coded instruction form in which distinctive markings of preselected overlays are assigned to preselected areas on said location index sheet, and in which the identifying mark on a preselected format sheet is assigned to the identifying mark on a preselected location index sheet, superimposing said preselected transparent format sheet upon said preselected location index sheet in a preselected position thereon wherein preselected indicia on said two sheets register thus rendering the delineated areas of said location index sheet visible through said format sheet, removably attaching those overlays designated by said instruction form to the format sheet in locations registering with those delineated areas of the location index sheet



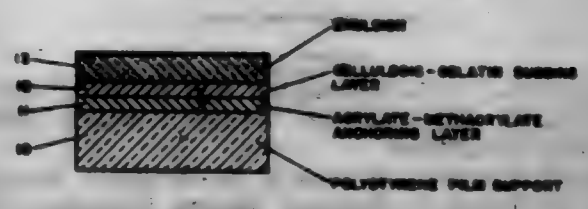
specified by said instruction form using the location index sheet as a guide for precise location of the overlays, said attaching step being so performed that said overlays remain attached to said format sheet if said format sheet is subsequently removed from said location index sheet, then removing from the location index sheet the composite comprising the format sheet and the attached overlays, and then producing a positive print from said composite by a photo-mechanical printing process which comprises exposing a sheet of autopositive material while said sheet of material is disposed in contact with said composite, said format sheet being a flexible sheet of positive film having on its side that receives said overlays a photographically-developed coating containing said basic illustrative matter in a form that is positively readable from said coating side, said overlays each comprising a flexible sheet of positive film of generally the same thickness as the format sheet and having on one of its sides a photographically-developed coating containing said additional printed matter in a form that is reversely readable from the coating side of said overlay, said overlays being attached to said format sheet with their respective coatings in contact with the coating side of said format sheet and with their opposite sides bare.

2,972,534

SUBBING OF POLYSTYRENE FILMBASE

Aaron Ben-Ezra, Johnson City, and Wallace Lloyd Bostwick, Vestal, N.Y., assignors to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware

Filed Apr. 23, 1957, Ser. No. 654,554
5 Claims. (Cl. 96—84)



4. A photographic film comprising a transparent polystyrene base, provided on both sides in the following order with an anchoring layer comprising a binary copolymer of ethyl methacrylate and methyl acrylate and with a subbing layer comprising a cellulose ester and

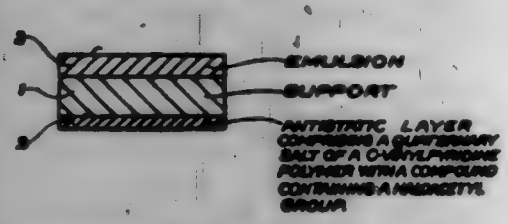
gelatin, one of said subbing layers carrying a gelatinous antihalation layer and the other subbing layer carrying a gelatinous light-sensitive silver-halide emulsion layer.

2,972,536

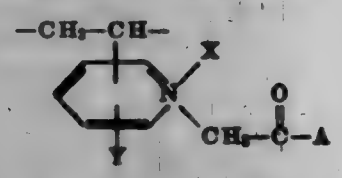
QUATERNARY SALTS OF C-VINYLPYRIDINE POLYMERS WITH COMPOUNDS CONTAINING A HALOACETYL GROUP

Thomas M. Laakso, Jack L. R. Williams, and Calvin S. Garber, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

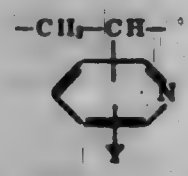
Filed Sept. 3, 1957, Ser. No. 681,601
12 Claims. (Cl. 96—87)



1. An antistatic photographic film comprising a transparent, flexible organic film support having thereon at least one light-sensitive silver halide emulsion layer, the said film having in one outer stratum thereof, a quaternary salt of a resinous C-vinylpyridine polymer consisting of not less than 70% by weight of quaternized, polymerized units of the general structure:



and not more than 30% by weight of non-quaternized, polymerized units of the general structure:



wherein Y represents a member selected from the group consisting of a hydrogen atom and an alkyl radical of 1 to 4 carbon atoms, X represents a halogen atom and —A represents a member selected from the group consisting of (1) a monovalent radical —R which represents a member selected from the group consisting of an alkyl radical of 1 to 4 carbons atoms, a phenyl radical, a hydroxyphenyl radical wherein the hydroxyl radicals do not exceed 2, and an acetamidophenyl radical, (2) a monovalent radical —OR_1 wherein R_1 represents an alkyl radical of 1 to 24 carbon atoms, and (3) a monovalent radical —NR_2R_3 wherein R_2 is selected from the group consisting of a hydrogen atom and an alkyl radical of 1 to 4 carbon atoms and R_3 is selected from the group consisting of a hydrogen atom, an alkyl radical of 1 to 4 carbon atoms and a phenyl radical.

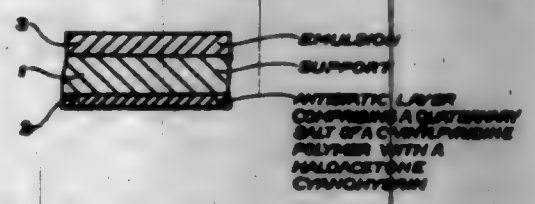
2,972,536

ANTI-STATIC QUATERNARY SALTS OF C-VINYLPYRIDINE POLYMERS WITH HALOACETONE CYANOHYDRINS

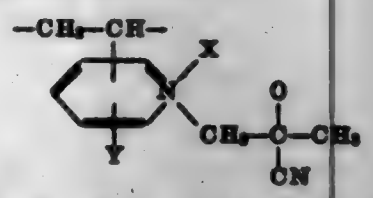
Thomas M. Laakso and Jack L. R. Williams, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Sept. 3, 1957, Ser. No. 681,602
6 Claims. (Cl. 96—87)

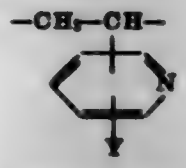
1. An antistatic photographic film comprising a transparent, flexible organic film support having thereon at least one light-sensitive silver halide emulsion layer, the said film having in one outer stratum thereof, a quaternary salt of a resinous C-vinylpyridine polymer



consisting of not less than 70% by weight of polymerized units of the general structure:



and not more than 30% by weight of polymerized units of the general structure:



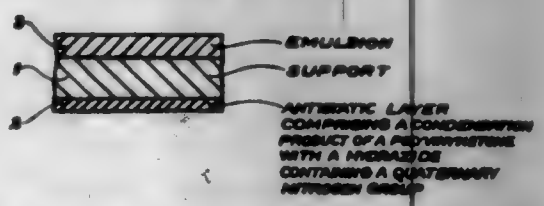
wherein Y represents a member selected from the group consisting of a hydrogen atom and an alkyl group of from 1 to 4 carbon atoms and X represents a member selected from the group consisting of a chlorine atom and a bromine atom.

2,972,537

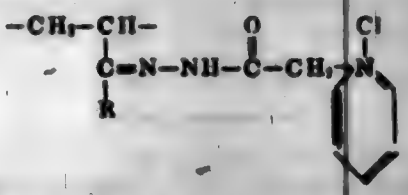
CONDENSATION PRODUCTS OF POLYVINYLKETONES WITH HYDRAZIDES CONTAINING QUATERNARY NITROGEN GROUPS

Thomas M. Laakso and Jack L. R. Williams, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

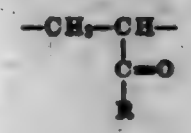
Filed Sept. 3, 1957, Ser. No. 681,603
8 Claims. (Cl. 96—87)



1. An antistatic photographic film comprising a transparent, flexible organic film support having thereon at least one light-sensitive silver halide emulsion layer, the said film having in one outer stratum thereof, a quaternary salt of a resinous polymer selected from the group consisting of (1) a polymer consisting of not less than 70% by weight of quaternated, polymerized units of the general structure

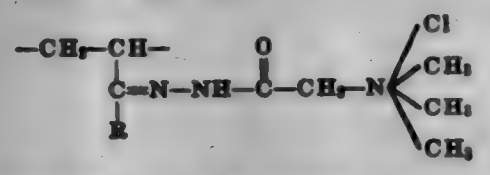


and not more than 30% by weight of non-quaternated, polymerized units of the general structure

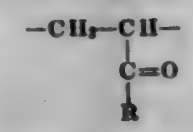


and (2) a polymer consisting of not less than 70% by

weight of quaternated, polymerized units of the general structure



and not more than 30% by weight of non-quaternated, polypolymerized units of the general structure



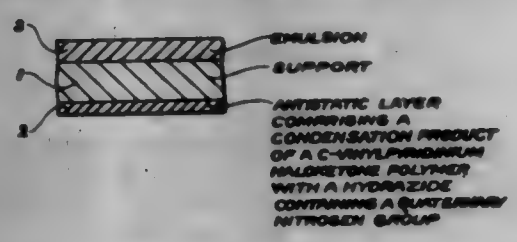
wherein in each instance R represents a member selected from the group consisting of an alkyl group of from 1–4 carbon atoms, a phenyl group and a tolyl group.

2,972,538

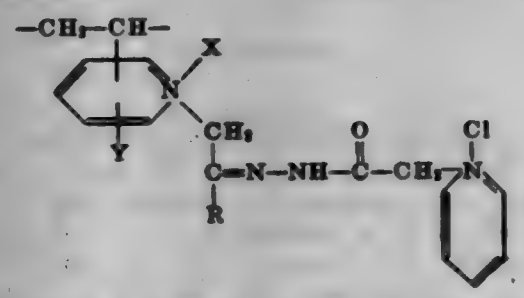
CONDENSATION PRODUCTS OF C-VINYLPYRIDINIUM HALOKETONE POLYMERS WITH HYDRAZIDES CONTAINING QUATERNARY NITROGEN GROUPS

Thomas M. Laakso and Jack L. R. Williams, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

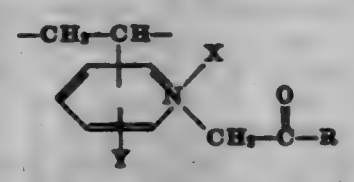
Filed Sept. 3, 1957, Ser. No. 681,694
10 Claims. (Cl. 96—87)



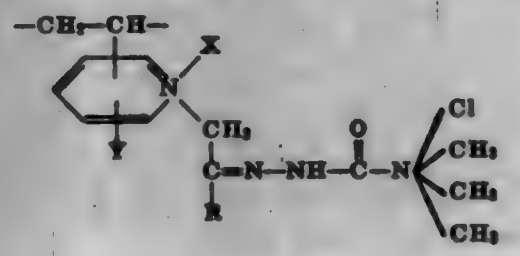
1. An antistatic photographic film comprising a transparent, flexible organic film support having thereon at least one light-sensitive silver halide emulsion layer, the said film having in one outer stratum thereof, a quaternary salt of a resinous C-vinylpyridine polymer selected from the group consisting of (1) a polymer consisting of not less than 70% by weight of polymerized units of the general structure:



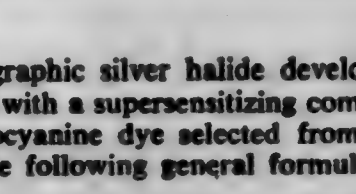
and not more than 30% by weight of polymerized units of the general structure:



and (2) a polymer consisting of not less than 70% by weight of polymerized units of the general structure:



and not more than 30% by weight of polymerized units of the general structure:



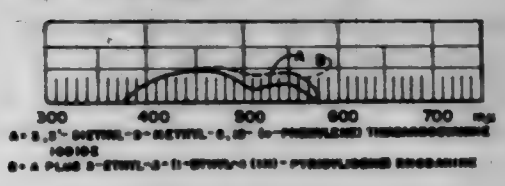
wherein in each instance Y represents a member selected from the group consisting of a hydrogen atom and an alkyl group of from 1–4 carbon atoms, X represents a member selected from the group consisting of a chlorine atom and a bromine atom and R represents a member selected from the group consisting of an alkyl group of from 1–4 carbons and phenyl group.

2,972,539

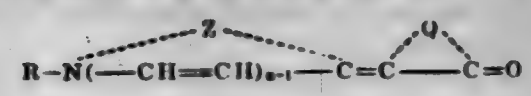
SUPERSENSITIZATION OF CARBOCYANINE DYES BY SIMPLE MEROCYANINE DYES

Jean E. Jones, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

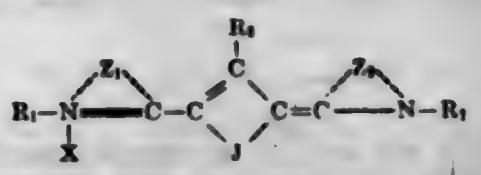
Filed Dec. 24, 1959, Ser. No. 861,821
14 Claims. (Cl. 96—104)



1. A photographic silver halide developing-out emulsion sensitized with a supersensitizing combination of (1) a simple merocyanine dye selected from the class represented by the following general formula:



wherein R represents a member selected from the class consisting of a hydrogen atom and an alkyl group, *n* represents a positive integer of from 1 to 2, Z represents the non-metallic atoms necessary to complete a pyridine nucleus, and Q represents the non-metallic atoms necessary to complete a heterocyclic nucleus selected from the class consisting of a pyrazolinone nucleus, an isoxazolinone nucleus, an oxindole nucleus, a rhodanine nucleus, a 2-selena-2,4-thiazolidine dione nucleus, a 2-thio-2,4-oxazolidinedione nucleus, a 2-thio-2,5-thiazolidinedione nucleus, a 2,4-thiazolidinedione nucleus, a thiazolidinone nucleus, a 4-thiazolinone nucleus, a 2(3H)-thiophenone nucleus, a 2-imino-2,4-oxazolinone nucleus, a 2,4-imidazolinedione nucleus, a 2-thio-2,4-imidazolinedione nucleus, and a 5-imidazolinone nucleus, and (2) a carbocyanine dye selected from the class represented by the following general formula:



wherein R_1 and R_2 each represents an alkyl group, R_3 represents a member selected from the class consisting of a hydrogen atom, a lower alkyl group and a monocyclic aryl group, J represents a member selected from the class consisting of an alkylene group containing from 2 to 3 carbon atoms and an o-phenylene group, provided R_3 represents a hydrogen atom when J represents an alkylene group containing from 2 to 3 carbon atoms, X represents an acid radical, and Z and Z_1 each represents the non-metallic atoms necessary to complete a

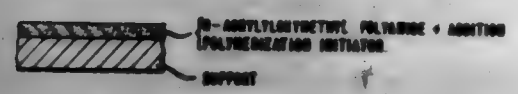
heterocyclic nucleus selected from the class consisting of a benzothiazole nucleus, a naphthothiazole nucleus, a benzoxazole nucleus, a naphthoxazole nucleus, a benzoselenazole nucleus, a naphthoselenazole nucleus, and a 2-quinoline nucleus.

2,972,540

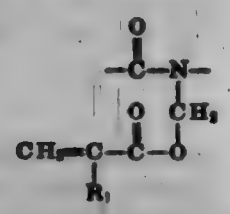
PHOTOPOLYMERIZABLE COMPOSITIONS AND ELEMENTS

William Russell Sauer, Scotch Plains, and Marion Burg, Metuchen, N.J., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

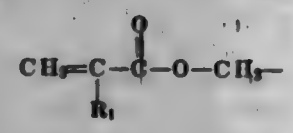
Filed Aug. 5, 1958, Ser. No. 753,344
12 Claims. (Cl. 96—115)



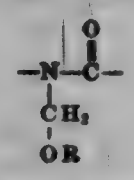
1. A photopolymerizable element comprising a support and a layer of a photopolymerizable composition comprising a synthetic linear laterally unsaturated polycarbonamide of a dicarboxylic acid and a diamine having a molecular weight of at least 5000 and containing as an integral part of the main carbon chain recurring intralinear groups of the formula:



wherein R_1 is a member taken from the group consisting of hydrogen, chlorine and alkyl radicals of 1 to 5 carbon atoms, the



groups being present on at least 2% up to about 42% of the intralinear amido nitrogen atoms, any remaining substituted amido nitrogen atoms being of the formula:



wherein R is an alkyl radical of 1 through 5 carbon atoms, the alkoxymethyl groups being present on from 0 to 43% of the intralinear amido nitrogen atoms, and from 0.01% to 5.0% by weight of the composition of an addition polymerization initiator activatable by actinic light and inactive thermally below 85° C.

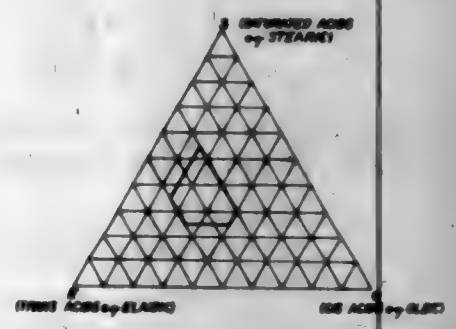
2,972,541

DOMESTIC OIL HARD BUTTERS, COATINGS THEREOF, AND PROCESS FOR PREPARING SAID BUTTERS

Walter M. Cochran, Highland Park, Melvin Leroy Ott, Park Ridge, Bronislaw R. Wesslewicz, Naperville, and Theodore J. Zwolanek, Chicago, Ill., assignors to The Glidden Company, Cleveland, Ohio, a corporation of Ohio

Filed Sept. 16, 1957, Ser. No. 684,350
15 Claims. (Cl. 99—118)

1. A non-random triglyceride hard butter whose hard butter qualities are due primarily to the presence therein in major amount of at least one edible triglyceride fraction of non-lauric oil, the combined hydrocarbyl fatty acids of said fraction consisting essentially of acids



of 16 and 18 carbons distributed in the following proportions:

	Percent
saturated fatty acids	25–55
trans monoethenoic acids	30–50
cis monoethenoic acids	15–40

in triglycerides of the following kinds:

tri-(trans mono-ene) glycerides;

mono-saturated, mono-(trans mono-ene), mono-(cis mono-ene) glycerides;

di-saturated, mono-(cis mono-ene) glycerides; and

di-(trans mono-ene), mono-(cis mono-ene) glycerides.

2,972,542

PREPARING DEODORIZED FISH PRODUCTS

Ezra Levin, 1109 W. University, Champaign, Ill.

No Drawing. Filed Feb. 9, 1959, Ser. No. 791,837
7 Claims. (Cl. 99—209)

1. A method for removing undesirable odors and fishy smells from proteinaceous material obtained from sea animals, the steps which comprise: removing water from and defatting said proteinaceous material to a fat content less than 1% by weight by contacting with a water-immiscible, polar solvent that forms an azeotrope with water and removes the fat, and subsequently treating said defatted proteinaceous material with an alcohol having less than five carbon atoms.

2,972,543

CERAMIC GLAZE COMPOSITION

Malcolm D. Beals, Fanwood, and Karsten H. Styhr, Jr., Metuchen, N.J., assignors to National Lead Company, New York, N.Y., a corporation of New Jersey

No Drawing. Filed Aug. 8, 1957, Ser. No. 676,942
4 Claims. (Cl. 106—48)

1. An opacified glaze composition containing as the opacifying agent recrystallized titanium dioxide, said glaze composition prepared by maturing a ceramic frit composition on a ceramic substrate, said glaze composition consisting essentially of SiO_2 in amount from 50 to 65 mole percent, B_2O_3 in amount from 6 to 12 mole percent, TiO_2 in amount from 5 to 25 mole percent, Al_2O_3 in amount from 5 to 14 mole percent, Na_2O in amount from 4 to 9 mole percent and at least one additional fluxing oxide selected from the group consisting of K_2O in amount up to 8 mole percent, CaO in amount up to 4 mole percent, MgO in amount up to 8 mole percent, BaO in amount up to 6 mole percent, SrO in amount up to 4 mole percent, PbO in amount up to 6 mole percent, ZnO in amount up to 10 mole percent, ZrO_2 in amount up to 5 mole percent, Li_2O in amount up to 8 mole percent, and CdO in amount up to 4 mole percent, the sum of said Na_2O and said additional fluxing oxide being from 10 to 18 mole percent.

2,972,544

GLASS COMPOSITION

Chikara Hirayama, Murryville, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed Oct. 22, 1959, Ser. No. 847,911
2 Claims. (Cl. 106—53)

1. A glass composition consisting of, by weight, from 20% to 35% PbO, from 10% to 20% B_2O_3, from 20% to 30% BaO, from 5% to 20% SiO_2, from 4% to 10% CaO, and 1% to 10% Al_2O_3.

2,972,545

DRESSING COMPOSITION

Joseph Brinkin, Easton, Pa., assignor to Johnson & Johnson, a corporation of New Jersey

No Drawing. Filed Sept. 11, 1957, Ser. No. 683,228
19 Claims. (Cl. 106—177)

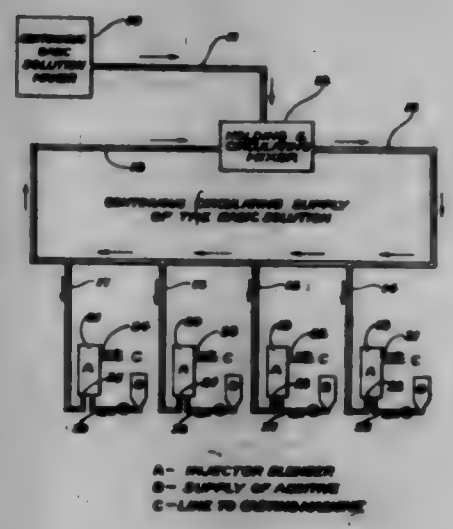
1. A composition for forming film dressings, said composition consisting essentially of a cellulose acetate-butyrate polymer plasticized with 40 to 80% by weight plasticizer based on the total weight of the plasticizer and polymer, the polymer having an average viscosity prior to plasticizing of at least 3 seconds and an acetyl and butyryl content of 4 to 16% by weight acetyl radicals and 30 to 50% by weight butyryl radicals.

2,972,546

METHOD AND APPARATUS FOR MANUFACTURING COLORED SHEETING

Charles R. Adler and Lawrence C. Bartlett, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Mar. 8, 1957, Ser. No. 644,822
6 Claims. (Cl. 106—196)



A— INJECTOR NUMBER
B— SUPPLY OF ADDITIVE
C—LINE TO DISTRIBUTORHEAD

1. In a process of manufacturing colored film by a procedure which includes substantially continuously circulating in a closed circuit film-forming materials and a solvent therefor, withdrawing from the circuit at a plurality of said points the film-forming material with its solvent and introducing coloring materials in the withdrawn portions, the improvement features which comprise passing the withdrawn materials upwardly through a zone of agitation, substantially simultaneously also injecting upwardly and into intimate contact with said film-forming materials a solution of said coloring materials, said coloring materials being introduced into said zone of agitation in the vicinity of the periphery thereof whereby intimate mixing of the coloring materials with the film-forming materials is obtained and withdrawing the film-forming materials which have been thus colored from the process at a point above the point of introduction.

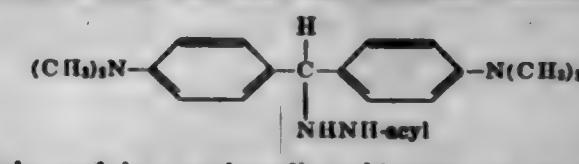
2,972,547

ACYL HYDRAZINE COMPOSITIONS AND METHODS OF PRODUCING COLOR THEREWITH

Jack M. Tien, 3018 Barnes Ave., Bronx, N.Y., assignor to Antioch College, Yellow Springs, Ohio, a corporation of Ohio, Tzu Sheng Ma, New York, N.Y., I. Meyer Hunsberger, Amherst, Mass., and Jack M. Tien, Mount Vernon, N.Y.

No Drawing. Filed Aug. 5, 1957, Ser. No. 676,416
26 Claims. (Cl. 106—266)

1. A substantially colorless composition adapted for use as a coloring agent consisting essentially of an acyl hydrazine derivative of 1-bis(4-dimethylaminophenyl)-methane, having the following structural formula



wherein acyl is a carboxylic acid acyl and at least one acidic substance capable of rapidly producing a distinct color, said acid substance and said hydrazine derivative being physically separated from each other by at least one film-forming agent.

2,972,548

TEXTILE TREATING DISPERSIONS

David M. Musser, Fairlawn, N.J., assignor, by mesne assignments, to Chicopee Manufacturing Corporation, New Brunswick, N.J., a corporation of Massachusetts

No Drawing. Filed Oct. 17, 1957, Ser. No. 690,624
5 Claims. (Cl. 106—287)

1. The method for the production of an aqueous colloidal dispersion which comprises heating a compound having the formula $RCONH_2$ in which R represents an aliphatic hydrocarbon chain containing 16 to 30 carbon atoms with formaldehyde, in a reaction medium comprising an aqueous solution containing about 1 part to about 5 parts per 100 parts by weight of said reaction medium of an acid-stable non-ionic surface active agent to produce a compound having the generic formula

$$RCONHCH_2OH$$

in which R represents an aliphatic hydrocarbon chain containing 16 to 30 carbon atoms and then causing this compound to react with an additional amount of the said $RCONH_2$ compound by lowering the pH of said reaction medium to between about 1 and about 4 and heating to produce a compound having the generic formula

$$(RCONH)_2CH_2$$

in which R represents an aliphatic hydrocarbon chain containing 16 to 30 carbon atoms in suspension in the said reaction medium and thereafter adding an acid-stable non-ionic surface active agent, neutralizing the acid in the reaction mixture by the addition of a base and mechanically treating the reaction mixture to reduce the suspended compound to particles of colloidal size.

2,972,549

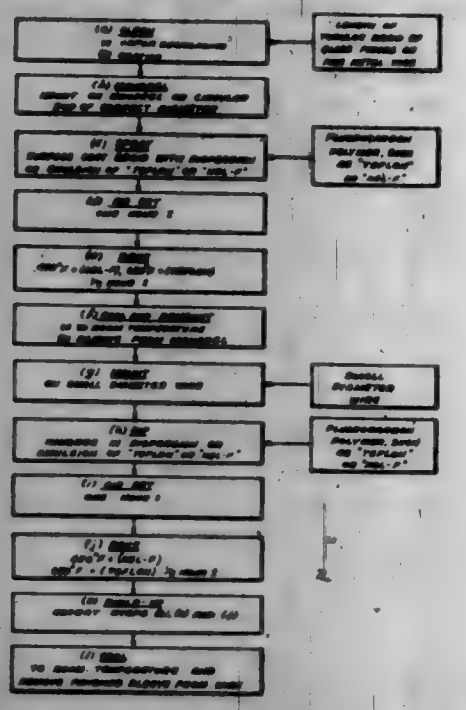
PROCESS OF MAKING PLASTIC IMPREGNATED SLEEVING

Robert Goldsmith, Great Notch, N.J., assignor to General Plastics Corporation, Paterson, N.J., a corporation of New Jersey

Filed Sept. 3, 1957, Ser. No. 681,539
9 Claims. (Cl. 117—4)

1. A method of making plastic impregnated sleeving including the steps of mounting a length of tubular braiding formed of fibers of noncombustible material upon a mandrel in contact therewith substantially throughout the interior surface of said braiding, spraying the tubular braiding thus mounted on the mandrel with a dispersion of a fluorocarbon polymer, heating the assembly to fuse the fluorocarbon polymer upon the sur-

face of the tubular braid to form a coating of plastic, removing the plastic-coated braid from the mandrel, immersing the plastic-coated braid in a dispersion of a fluorocarbon polymer in a manner to permit dispersion



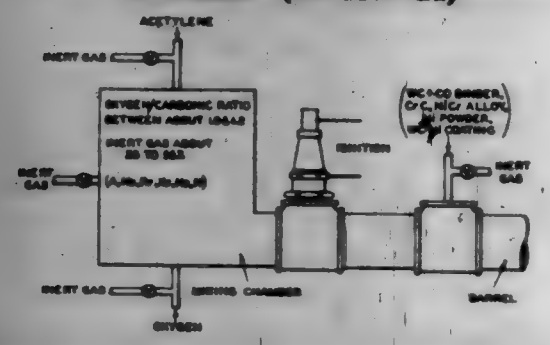
to flow into the inside of the plastic-coated tube, removing the immersed tube from the dispersion and then heating the tube to a temperature above the fusion point of the fluorocarbon polymer.

2,972,550

FLAME PLATING USING DETONATION REACTANTS

John F. Pelton, Indianapolis, Ind., assignor to Union Carbide Corporation, a corporation of New York

Filed May 28, 1958, Ser. No. 738,283
12 Claims. (Cl. 117—21)



1. In the process of flame plating with a detonation gun which comprises the steps of introducing desired fuel and oxidant gases into the gun to form a detonatable mixture, introducing a powdered coating material into said detonatable mixture within the gun, and detonating the fuel-oxidant mixture to impinge the coating material onto an article to be coated, the improvement which comprises using a detonatable fuel-oxidant mixture having an oxygen/carbon atomic ratio between about 1.0 and 1.2 and containing inert diluting gas in an amount between about 25 and 55 percent by volume of the total gas present.

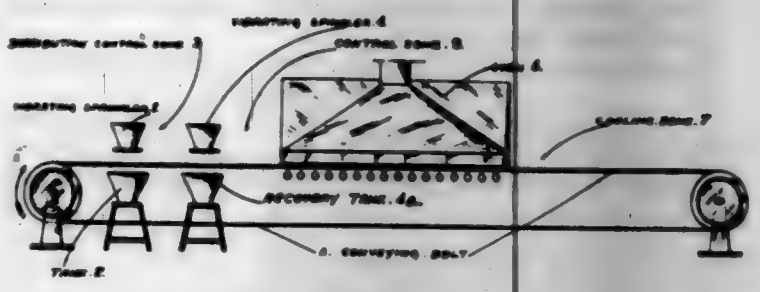
2,972,551

WELDING PROCESS FOR THE FIXATION OF METAL GRAINS TO A METALLIC SUPPORT FOR OBTAINING ABRASIVE OR ANTI-SLIP SURFACES

Bahram Fringhian, 36 Blvd. Suchet, Paris, France

Filed Sept. 16, 1958, Ser. No. 761,389
Claims priority, application France Sept. 23, 1957
1 Claim. (Cl. 117—31)

A method for preparing an anti-slip surface comprising a plurality of discrete weldable particles of hard metal having sharp and cutting edges, and welded to a metal support, which method comprises the successive steps of:



spreading on said support a tin-weld containing at least 33% of tin, in the form of a suspension in triethanolamine,

distributing said metal particles in a single layer over the thus spread tin-weld,

covering the whole with granulated ammonium chloride,

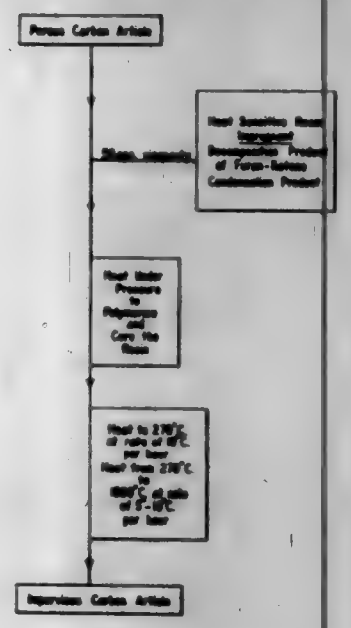
then, heating said thus prepared surface to a temperature within the range of 180 to 250° C., triethanolamine and granulated ammonium chloride decomposing and reacting within said temperature range, to form a protective crust which holds said metal particles and said tin-weld in place during the welding.

2,972,552

ALL CARBON IMPERVIOUS GRAPHITE AND CARBON ARTICLES

Lester L. Winter, Fostoria, Ohio, assignor to Union Carbide Corporation, a corporation of New York

Filed Mar. 8, 1957, Ser. No. 644,711
2 Claims. (Cl. 117—46)



1. A carbon article; the interstitial openings of which are substantially blocked by carbonaceous deposits in the form of isolated microbubbles, said carbonaceous deposits comprising the decomposition product of furan-ketone condensation product, said article being substantially impervious throughout its cross section.

2,972,553

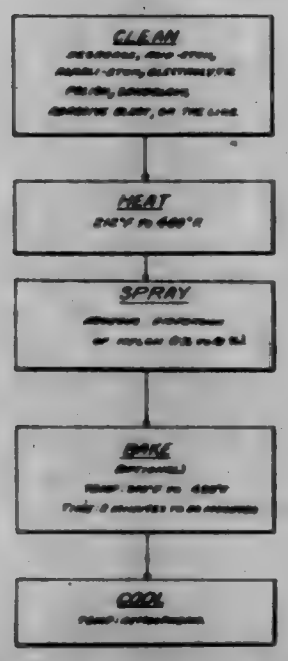
NYLON COATING METHOD

Paul S. Hess, West Orange, N.J., assignor to General Plastics Corporation, Passaic, N.J., a corporation of New Jersey

Filed Apr. 1, 1957, Ser. No. 649,711
7 Claims. (Cl. 117—47)

1. A method of coating surfaces of solids which remain solids above the boiling temperature of water with nylon including the steps of heating the surface to a temperature above the boiling point of water and below 400° F., spraying a finely divided aqueous dispersion of nylon on said

surface and maintaining the temperature of the surface above the boiling point of water during the spraying step, the temperature at which said surfaces are maintained



being sufficiently high to flash off substantially all of the water from the aqueous dispersion and deposit a tough, adhering, homogeneous film of nylon thereon.

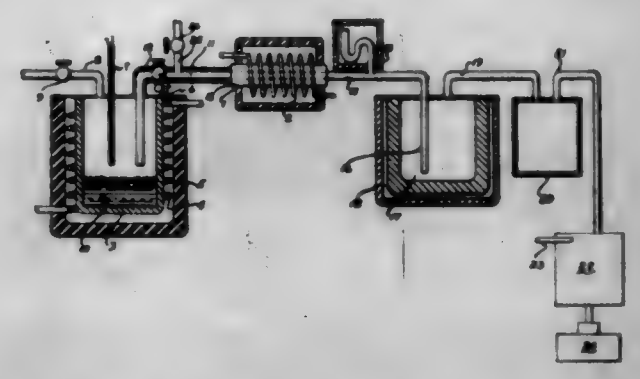
2,972,554
PAD AND METHOD OF MAKING SAME
Irving E. Muskat, Miami, Fla., and Joseph J. Klein, Glencoe, Ill., assignors to Fiber Bond Corporation, a corporation of Illinois
Filed May 23, 1955, Ser. No. 510,408
9 Claims. (Cl. 117—76)



3. A continuous method of making a foamed resin, fiber-reinforced, unitary porous pad in which the foamed resin surrounds and is reinforced by fibers of a loose fibrous batt and in which the porous pad retains substantially the void formation of said batt which comprises the steps of impregnating a non-woven porous adhesive bonded batt of random arranged fibers with a heat foamable resin composition, compressing the batt to squeeze out excess foamable resin filling the voids of the batt but not that coating the fibers, heating the resin-containing batt to a temperature sufficient to foam the resin interiorly of said batt and around the fibers thereof, and cooling the pad so formed.

2,972,555
GAS PLATING OF ALUMINA
Fritz O. Deutscher, Dayton, Ohio, assignor, by mesne assignments, to Union Carbide Corporation, New York, N.Y., a corporation of New York
Filed Nov. 7, 1958, Ser. No. 772,520
2 Claims. (Cl. 117—106)

1. A method of gas plating alumina on a ceramic substrate surface which comprises the steps of heating said ceramic substrate to a temperature of about 1000° F., heating aluminum tri-isopropylate to a temperature of approximately 450° F. in contact with nitrogen to provide a gaseous mixture of nitrogen and aluminum tri-isopropylate, introducing additional gas composed of ammonia and water vapor into a gaseous stream of said mixture of nitrogen and aluminum tri-isopropylate, and contacting said heated ceramic substrate with the combined gaseous mixture for a length of time sufficient to



effect thermal decomposition of said aluminum tri-isopropylate and deposition of a film deposit of alumina upon the substrate, and thereafter removing the substrate from the gaseous flow.

2,972,556
COMPOSITE COATED CARBONACEOUS ARTICLE AND PROCESS OF MAKING THE SAME
Peter Vrabiotes, Fostoria, and Matthew B. Manofsky, Oakharbor, Ohio, assignors to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Dec. 9, 1958, Ser. No. 779,060
12 Claims. (Cl. 117—106)

1. A process of forming a composite metal carbide-metal nitride coating on a carbonaceous article which comprises blanketing said article with a non-nitriding, inert atmosphere, placing metal to be coated in proximity to said article, heating said metal to a carbide-forming temperature, said temperature being sufficient to maintain a partial vapor pressure of said metal, maintaining such temperature for a sufficient time to react at least a portion of said metal with said article and to deposit some of said metal unreacted into the pores of said article, bringing said article to a temperature sufficient to cause formation of a nitride, providing a nitrogenous atmosphere adjacent said article, and cooling said article to room temperature.

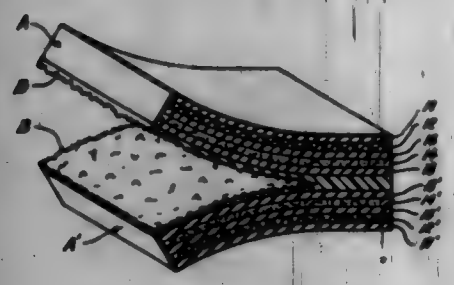
2,972,557
TOBACCO SMOKING PRODUCT
Harry A. Toulmin, Jr., Dayton, Ohio, assignor to Basic Research Corporation, Dayton, Ohio, a corporation of Delaware
No Drawing. Filed Oct. 14, 1957, Ser. No. 689,753
7 Claims. (Cl. 131—17)

1. Smoking tobacco containing approximately 6% by weight of alkali metal bicarbonate.

2,972,558
ASPHALTIC SEAL ASSEMBLIES
Lloyd F. Bramble, Melrose Bldg., Houston, Tex.
Filed Oct. 8, 1956, Ser. No. 614,468
12 Claims. (Cl. 154—53.5)

1. A laminated asphaltic seal assembly, including an asphaltic adhesive layer having a softening agent therewith to maintain said adhesive layer in a softened tacky condition prior to the evaporation of said agent, a composite asphaltic layer on each side of said adhesive layer for temporarily bonding such composite asphaltic layers together with said adhesive layer therebetween, each composite asphaltic layer having an inner asphaltic coating of sufficient thickness to prevent penetration of the components of the adhesive into each composite layer beyond the inner asphaltic coating thereon to thereby avoid any material loss of said softening agent by ad-

sorption into said composite layers, said adhesive layer being separable into two soft adhesive layers so as to leave an adhesive layer on each composite asphaltic layer



when such composite asphaltic layers are separated so that each composite asphaltic layer may be permanently bonded to another surface when the adhesive layer therewith hardens by the evaporation of the softening agent.

2,972,559

METHOD OF MAKING LAMINATED PANELS WITH EXPANDED POLYSTYRENE CORE

John K. Allen and Walter E. Butterfield, Hollister, Calif., assignors to Architectural Porcelain Constructors, Oakland, Calif., a corporation of California

Filed June 10, 1957, Ser. No. 664,736
3 Claims. (Cl. 154—139)



1. The herein described method of making a laminated panel with an expanded polystyrene core, which consists essentially of the following steps:

(*a*) providing a face member defining a rigid slab of self-sustaining material;

(*b*) spreading a layer of heat activatable adhesive onto a surface of the face member;

(*c*) said adhesive being of the pressure and heat sensitive type containing solvents that will attack polystyrene and turn the latter into a liquid;

(*d*) heating the adhesive layer to a temperature which will evaporate the solvents that would otherwise liquify the polystyrene should they come in contact therewith;

(*e*) the temperature of the heat being sufficiently high to activate the adhesive to render it tacky and raising the temperature thereof above the melting point of the polystyrene core;

(*f*) providing an expanded polystyrene core having surfaces; and

(*g*) thereafter pressing the face member against one of the surfaces of the polystyrene core, while the temperature of the adhesive layer is still above the melting point of the polystyrene core;

(*h*) the polystyrene core thus provided being sufficiently thick so that it will absorb the heat dissipated from the layer of adhesive so rapidly as to lower the temperature of the layer of adhesive to a point below the melting point of the polystyrene core;

(*i*) whereby the face member will be permanently bonded to the polystyrene core by the tacky adhesive.

2,972,560

METHOD OF MANUFACTURING PAPER

Elmer K. Stilbert, Marion W. Zembal, and Lloyd H. Silvernell, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Apr. 13, 1955, Ser. No. 501,198
4 Claims. (Cl. 162—168)

1. A process for the manufacture of paper which comprises the steps of forming an aqueous mixture of beaten cellulosic pulp, mineral filler and an acrylamide polymer, said polymer being characterized by a viscosity of at least 3.0 centipoises and being employed in the amount of from about 0.01 to about 3.0 percent by weight based on the weight of cellulosic fiber in the pulp, and said polymer being selected from the group consisting of polyacrylamide and hydrolyzed polyacrylamide having not more than 15 percent of the amide groups of the homopolymer replaced by carboxyl groups, adding alum to said mixture and from the resulting mixture forming a paper web, whereby the retention of the filler in the paper web is increased.

2,972,561

SOIL TREATMENT

Albert J. Subovecky and Philip H. Santmyer, Florissant, Mo., assignors to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed July 6, 1959, Ser. No. 824,910
14 Claims. (Cl. 167—22)

1. The method of improving the productivity of soils, which comprises treating soils infested with organisms of the group consisting of fungi and nematodes, which comprises dispersing in the soil an amount toxic to said organisms of a compound of the structure:

NC—R—NCS

wherein R is an alkylene radical having two (2) to fourteen (14) carbon atoms.

2,972,562

2,2,3,4,5,5-HEXACHLORO-3-CYCLOPENTEN-1-OL

Sidney B. Richter, Chicago, Ill., assignor to Velsicol Chemical Corporation, Chicago, Ill., a corporation of Illinois

No Drawing. Filed Feb. 9, 1959, Ser. No. 791,828
2 Claims. (Cl. 167—30)

1. 2,2,3,4,5,5-hexachloro-3-cyclopenten-1-ol.

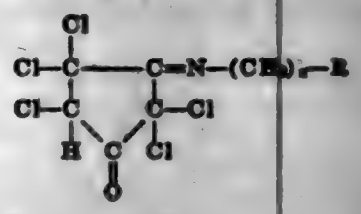
2,972,563

FUNGICIDAL CYCLOPENTANONES

Sidney B. Richter, Chicago, Ill., assignor to Velsicol Chemical Corporation, Chicago, Ill., a corporation of Illinois

No Drawing. Filed Jan. 13, 1959, Ser. No. 786,456
10 Claims. (Cl. 167—30)

1. A method of destroying undesirable fungi on growing plants which comprises contacting said fungi with a fungicidal composition comprising an inert carrier and as the essential active ingredient, in a quantity which is toxic to said pests, a compound of the formula



wherein *x* is a whole number from 0 to 3 and R is selected from the group consisting of unsubstituted phenyl, monohydroxyphenyl, monochlorophenyl, and dichlorophenyl radicals.

2,972,564
3-METHYL-3-PENTANOL CARBAMATE COMPOSITIONS HAVING MUSCLE RELAXING AND TRANQUILIZING ACTION

Bengt Olof Melander, Stockholm, and Gunnar Hasselhoff, Sodertalje, Sweden, assignors to A/B Kabi, Stockholm, Sweden, a corporation of Sweden

No Drawing. Filed Nov. 17, 1958, Ser. No. 774,091
Claims priority, application Sweden Nov. 23, 1957
4 Claims. (Cl. 167—65)

1. A therapeutic composition comprising as an active muscle relaxing and tranquilizing agent 3-methyl-3-pentanol carbamate in a pharmaceutical carrier, said carbamate being present in the amount of about 50 to 800 mg. per unit dose of said composition.

2,972,565
FAT COMPOSITION

Donald B. Zilversmit, Memphis, Tenn., assignor to The University of Tennessee Research Corporation, Knoxville, Tenn., a non-profit corporation of Tennessee

No Drawing. Filed Apr. 4, 1958, Ser. No. 726,344
1 Claim. (Cl. 167—66)

A concentrate composition suitable for admixture with physiologically acceptable aqueous media for intravenous administration comprising one part by weight of safflower oil, about 0.8 part by weight of glycerin, and about 1/120 as much lecithin w./v. as oil.

2,972,566
PROCESS FOR THE PRODUCTION OF L-MALIC ACID

Kakuo Kitahara, Tokyo, Japan, assignor to Kyowa Hakko Kogyo Co., Ltd., Tokyo, Japan, a corporation of Japan

No Drawing. Filed Dec. 7, 1959, Ser. No. 857,482
7 Claims. (Cl. 195—30)

1. A process for the biochemical production of L-malic acid which comprises contacting an aqueous dispersion of a fumaric acid salt with fumarase, whereby the corresponding L-malic acid salt is formed, the cation of the fumaric acid salt being such that the solubility of L-malic acid salt is less than its quantity which equilibrates with the saturated solution of fumaric acid salt and therefore crystallizes out of solution before reaching an equilibrium state with liquid phase fumaric acid salt.

2,972,567
METHOD OF PRODUCING CLINICAL DEXTRAN

Lee J. Nevak and Everette E. Witt, Dayton, Ohio, assignors to The Commonwealth Engineering Company of Ohio, Dayton, Ohio

No Drawing. Filed July 11, 1957, Ser. No. 671,138
2 Claims. (Cl. 195—31)

1. A method of producing clinical dextran for use as a blood plasma extender by synthesizing crude dextran by inoculating a sucrose-bearing nutrient medium with *Leuconostoc mesenteroides* in situ with the concurrent cultivation of *Aspergillus wentii* enzyme and resulting in the hydrolytic degradation action of said enzyme on said crude dextran as formed to produced a degraded dextran having a molecular weight within the range of 50,000 to 100,000.

2,972,568
PROCESS FOR THE MICROBIOLOGICAL REDUCTION OF STEROIDS WITH STREPTOMYCES

Albert Wettstein and Ernst Vischer, Basel, Switzerland, assignors to Ciba Pharmaceutical Products, Inc., Summit, N.J.

No Drawing. Filed July 13, 1959, Ser. No. 826,429
Claims priority, application Switzerland Aug. 1, 1958
12 Claims. (Cl. 195—51)

1. Process for the selective reduction of 3-keto grouping and of the 4:5-double bond of steroid compounds, wherein a member selected from the group consisting of Δ^4-3-oxo-androstenes and Δ^4-3-oxo-pregnenes and corresponding derivatives, saturated in the 5-position with 5α-configuration is subjected to the action of enzymes from aerobic cultures of the strain 7994 of the genus Streptomyces.

2,972,569
HORTESIN, AN ANTIFUNGAL AGENT DERIVED FROM STREPTOMYCES VERSIPELLIS

Thomas J. Oliver, Zion, Joseph F. Prokop, Mundelein, Arthur C. Sinclair, Lake Bluff, Hallock B. Warren, Jr., Greenville, and Arnold F. Winfield, Evanston, Ill., assignors to Abbott Laboratories, North Chicago, Ill., a corporation of Illinois

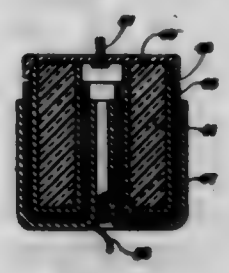
No Drawing. Filed Mar. 21, 1960, Ser. No. 16,192
8 Claims. (Cl. 195—80)

1. A process of producing a composition of matter having antifungal activity which comprises cultivating the microorganism *Streptomyces versipellis* NRRL 2528 in an aqueous nutrient medium containing an assimilable source of carbon, nitrogen, and essential trace minerals under submerged aerobic conditions until antifungal activity is imparted to the said solution.

2,972,570
THIN FILM CERAMIC CAPACITOR AND METHOD OF MAKING

John W. Haas and Waldo B. England, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Apr. 7, 1955, Ser. No. 499,854
12 Claims. (Cl. 204—38)



2. The method of making an electric capacitor which comprises providing a fine particle slurry consisting of unvitrified ceramic material having a dielectric constant when vitrified of greater than 30, in a vehicle which can be evaporated without leaving residue, providing a metallic capacitor electrode capable of supporting said slurry and which is nonoxidizable in air at temperatures up to and including the temperature at which said ceramic material vitrifies, applying a thin coating of said slurry to said electrode, heating said coating in situ to evaporate said vehicle therefrom and to vitrify the ceramic material of said coating on said electrode, and electrodepositing a metal layer over the vitrified ceramic material on said electrode to form a second electrode for the capacitor.

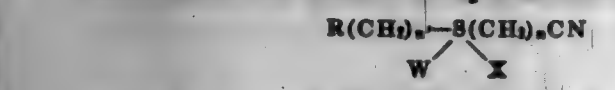
2,972,571
NICKEL PLATING SOLUTIONS

Jack L. Towle, Cleveland, Ohio, assignor to The Harshaw Chemical Company, Cleveland, Ohio, a corporation of Ohio

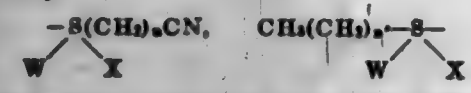
No Drawing. Filed Feb. 10, 1960, Ser. No. 7,784
7 Claims. (Cl. 204—49)

1. An aqueous acid nickel plating solution comprising a source of nickel ions selected from the class consisting of nickel sulfate, nickel chloride and mixtures thereof, said solution also containing cooperating additives for enhancing the brightness of nickel deposits produced therein, one of said additives being present in a concentration of from 0.05 to 20 grams per liter and being chosen from the class consisting of aromatic sulfonates, aromatic sulfonamides, aromatic sulfimides, aliphatic sulfonamides and

sulfonic acids, and the second being present in a concentration of from 0.0025 to 0.075 gram per liter and being chosen from the class of compounds having the formula



wherein R is a member selected from the group consisting of —H, —CN,



W is a hydrocarbon radical; X is an acid radical selected from the group consisting of sulfate, sulfonate, halide and perchlorate radicals; n is an integer from 1 to 6 and n' is an integer from 1 to 6.

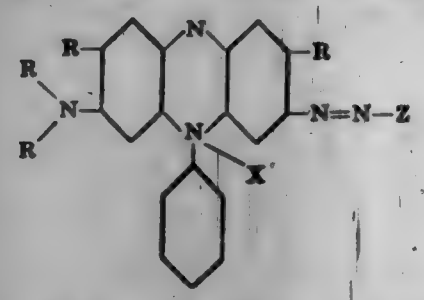
2,972,572

ACID COPPER ADDITION AGENT

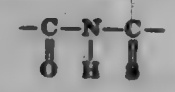
Richard P. Cope, Jr., Wilkinsburg, Robert E. Harrover, Jr., North Huntingdon Township, Westmoreland County, and Myron Ceresa, Penn Hills, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Dec. 9, 1958, Ser. No. 779,115
10 Claims. (Cl. 204—52)

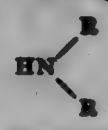
6. An aqueous electrolyte comprising from 20 to 40 ounces per gallon of copper sulfate, from 1.3 to 13 ounces per gallon of sulfuric acid, and an addition agent comprising an intimate admixture of (1) from 0.0001 to 0.005 ounce per gallon of a compound having the structure



wherein R is a radical selected from the group consisting of hydrogen, methyl, and ethyl radicals, X is an anion selected from the group consisting of chloride, bromide, iodide, fluoride, sulfate, bisulfate, and nitrate, and Z is an aromatic radical selected from the group consisting of phenyl and naphthyl radicals substituted with amino, alkyl substituted amino, hydroxy, and alkoxy substituent groups and (2) from 0.0001 to 0.05 ounce per gallon of the product obtained by admixing and heating substantially equimolar quantities of at least one compound having the nucleus



with at least one compound selected from the group consisting of (A) monocyclic unsubstituted aromatic compounds containing in the ring structure from 4 to 6 carbon atoms and from 1 to 2 nitrogen atoms per molecule and (B) compounds having the formula



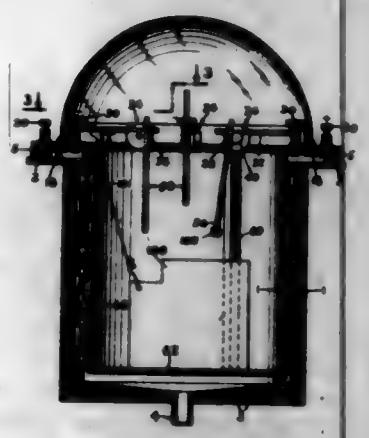
wherein R is a radical selected from the group consisting of hydrogen; monovalent and divalent saturated aliphatic hydrocarbon radicals having from 1 to 4 carbon atoms and in which the substituents are selected from the group consisting of —NH_2 and —OH radicals; monovalent and divalent alicyclic radicals containing from 5 to 6 carbon atoms in the ring in which the substituents are selected from the group consisting of —CH_3, —NH_2 and —OH radicals; monovalent and divalent heterocyclic radicals having from 5 to 6 carbon atoms in the ring and in which heteroatoms occur only in the ring structure and the substituents occur only on the carbon atoms and are selected from the group consisting of —NH_2 and —OH radicals; phenyl radicals; and aminophenyl radicals.

2,972,573

ELECTROLYTIC CELL

Dante Capaccini, Milan, Italy, assignor, by mesne assignments, to Jetmould, Inc., Brooklyn, N.Y., a corporation of New York

Filed Oct. 28, 1958, Ser. No. 770,162
2 Claims. (Cl. 204—275)



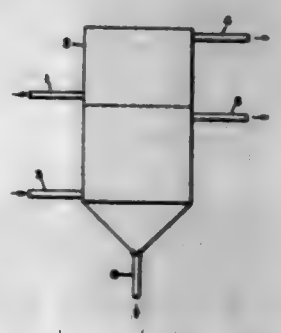
1. An electrolytic cell for holding an article to be electroplated comprising a cylindrical cell having an open end and a closed end, and an outwardly extending shoulder at said open end, an annular holder of non-conductive material supported on said outwardly extending shoulder, said annular holder having an outer diameter substantially equal to the outer diameter of said shoulder and an inner diameter slightly less than the inner diameter of said shoulder, an annular groove in the upper face of said holder intermediate its inner and outer diameters, a cover supported in said groove, a tray spaced from the closed end of said cell and attached to said holder at the inner diameter thereof, a plurality of electrode supports connected at one of their ends for locked articulate adjustment to said holder intermediate said annular groove and said inner diameter, a clamp connected to the other end of each of said electrode supports and adjustable thereon, an electrode adjustably connected to said clamp, an electrical terminal attached to said annular holder intermediate said outer diameter and said groove, and an electrical connection between said electrode and said terminal.

2,972,574

WAX DEOILING BY DISPLACEMENT

Warren K. Lewis, Newton, Mass., assignor to Esso Research and Engineering Company, a corporation of Delaware

Filed June 23, 1958, Ser. No. 743,596
7 Claims. (Cl. 208—33)



3. A method for the continuous separation of paraffinic wax crystals from a petroleum lubricating oil which comprises admixing with said lubricating oil a hydrocarbon dilution solvent having a lower density than said lubricating oil, chilling the resulting mixture to a temperature

in the range of 0° F. to —50° F., to form a slurry of said crystals in the diluted oil, introducing the resulting slurry into a vertical countercurrent displacement-extraction column continuously introducing into said column below said slurry a displacement solvent having a density greater than said diluted oil but less than said crystals, operating said column at a temperature in the range of 0° F. to —50° F. and at a pressure of 0 to 25 p.s.i.g., maintaining said displacement solvent at a predetermined level in said column by continuously removing from said column below said level a displacement solvent comprising stream, removing from said column near the top thereof an overhead stream comprising lubricating oil and dilution solvent, contacting said crystals as they settle downwardly from said diluted oil into said displacement solvent with incoming displacement solvent to displace upward occluded amounts of said lubricating oil, removing said crystals from said column as bottoms with said displacement solvent and recovering said crystals from said displacement solvent.

2,972,575

WITHDRAWN

2,972,576

METHOD OF CONTROLLING OIL REFINING PROCESSES

Robert E. Farrell, Maple Heights, and Janet E. Pack, Cleveland, Ohio, assignors to The Standard Oil Company, Cleveland, Ohio, a corporation of Ohio

No Drawing. Filed Nov. 21, 1957, Ser. No. 697,801
2 Claims. (Cl. 208—139)

2. A method of controlling a catalytic naphtha reforming process which comprises the steps of obtaining a sample of the product of said process, measuring the refractive index at a predetermined temperature and also measuring the color of said sample, correlating said refractive index measurement with said color measurement whereby an indication of the quality of the product is obtained, and altering the operating conditions of said reforming process when said indication of product quality deviates from the desired product quality whereby the product quality will be altered to correspond to said desired product quality.

2,972,577

REMOVAL OF VANADIUM FROM PETROLEUM OILS BY PYRIDINE TREATMENT

Joel Selbin, Baton Rouge, La., assignor to American Cyanamid Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Oct. 22, 1957, Ser. No. 691,530
1 Claim. (Cl. 208—251)

A method of removing vanadium from a petroleum hydrocarbon oil containing vanadium combined therein as a vanadium porphyrin complex which comprises distilling said oil after adding a small quantity of pyridine thereto to form a non-volatile pyridine vanadium complex.

2,972,578

FOAM INHIBITED SOLUBLE OIL COMPOSITION

Lawrence A. Rockler, Harvey, Ill., assignor to Sinclair Refining Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Jan. 26, 1956, Ser. No. 561,666
17 Claims. (Cl. 252—33.3)

9. A soluble oil composition which consists essentially of a soluble oil, comprising a mineral lubricating oil and emulsifier in emulsifying amounts and selected from the group consisting of sulfonate, naphthenate and oleate, and a gel, said gel consisting essentially of a mineral oil of lubricating viscosity, about 2 to 10 weight percent of a petroleum microcrystalline wax, and about 1 to 10 weight percent of a polymer of ethylene having a molecular weight of about 1500 to 2500, said gel being present in the soluble oil in an amount effective to inhibit foam formation in use.

2,972,579

OIL COMPOSITIONS HAVING REDUCED FOAMING TENDENCIES

Norman E. Delfel, Scotch Plains, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Aug. 6, 1957, Ser. No. 676,588
2 Claims. (Cl. 252—33.4)

1. An improved mineral oil composition having a decreased foaming tendency consisting essentially of a major proportion of mineral oil and a minor amount of an oil-soluble detergent additive selected from the group consisting of metal sulfonates, metal alkyl phenol sulfides and mixtures thereof, about 0.001 to 1.000 gram of a dimethyl silicone polymer per 100 grams of dry additive and about 0.03 to 15 grams per 100 grams of dry additive of 1-octadecanol, said dimethyl silicone polymer having a viscosity at 25° C. in the range of 100 to 12,500 cs.

2,972,580

INHIBITION OF FOAMING OF OIL COMPOSITIONS

Leo V. Mullen, Jr., Springfield, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Sept. 3, 1957, Ser. No. 681,475
2 Claims. (Cl. 252—33.4)

1. A mineral lubricating oil containing an oil-soluble detergent additive mixture of a metal sulfonate and a metal alkyl phenol sulfide, from 0.01 to 0.2 weight percent of dimethyl silicone having a viscosity in the range of 100 to 12,500 cs. at 25° C., and from 0.5 to 5 weight percent of diethylene glycol monoethyl ether, said weight percentages being based on the weight of dry detergent additive.

2,972,581

CORROSION INHIBITOR COMPOSITION AND COOLING SOLUTION

Carl E. Johnson, Westchester, Ill., and Louis E. Hummel, Santa Monica, Calif., assignors to Nalco Chemical Company, a corporation of Delaware

No Drawing. Filed Sept. 21, 1955, Ser. No. 535,746
9 Claims. (Cl. 252—75)

5. A cooling solution for internal combustion engines consisting essentially of water and a corrosion inhibitor composition of, in percentages by weight of the cooling solution, about 0.006–0.3% of an alkali metal salt of mercaptobenzothiazole, about 0.015–0.3% of an alkali metal silicate calculated as sodium metasilicate pentahydrate, about 0.045–1.1% of an alkali metal nitrite calculated as sodium nitrite, and about 0.04–1.9% of an alkali metal metaborate calculated as sodium metaborate tetrahydrate, said solution being at a pH of 8.5–10.5.

2,972,582

COSMETIC DETERGENT COMPOSITION

Donald H. Powers, Darien, Conn., and Gabriel Barnett, New York, N.Y.

No Drawing. Filed Apr. 4, 1955, Ser. No. 499,222
4 Claims. (Cl. 252—152)

1. An aqueous cosmetic detergent composition comprising about 10–30% by weight of an acyl isethionate wherein the acyl group represents higher fatty acid radicals containing 12 to 18 carbon atoms, about 5–30% by weight of an acylated polypeptide wherein the acyl group

is a higher fatty acid radical containing 12 to 18 carbon atoms and the polypeptide is obtainable from the alkaline hydrolysis of proteins, and about 1–10% by weight of a higher fatty acid ester of a polyhydric alcohol, said composition having a pH in the range of about pH 5.5 to about pH 7.

2,972,583

DETERGENT CAKE AND METHOD OF MAKING SAME

Gordon Treat Hewitt, Great Notch, N.J., assignor to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed May 17, 1956, Ser. No. 585,388
8 Claims. (Cl. 252—161)

1. A substantially wax-free homogeneous detergent cake consisting essentially of 50–95% of normally solid water soluble non-soap non-cationic organic detergent material including 10–95% of the cake weight of at least one material having the formula



wherein R is a normal saturated alkyl radical, R' is a member of the group consisting of hydrogen and methyl, the sum of the carbon atoms of R and R' being 7–17, and A is a salt-forming cation, and 5–25% of an organic plasticizer selected from the group consisting of the normally solid polyethylene glycols and compounds possessing aliphatic groups of about 12–18 carbon atoms, said latter compounds having hydrophilic and lipophilic groups so as to be emulsifiable in washing solutions, the sum of the organic detergent material and plasticizer being at least 75% of the cake weight.

2,972,584

PRODUCTION OF GRANULAR WATER-SOLUBLE PERBORATE-CONTAINING SALT MIXTURES

Joachim Schmidt and Wilhelm Volkamer, Duesseldorf-Benrath, Germany, assignors to Henkel & Cie G.m.b.H., Duesseldorf-Holthausen, Germany, a corporation of Germany

Filed May 4, 1956, Ser. No. 582,886
Claims priority, application Germany Sept. 8, 1955
14 Claims. (Cl. 252—186)



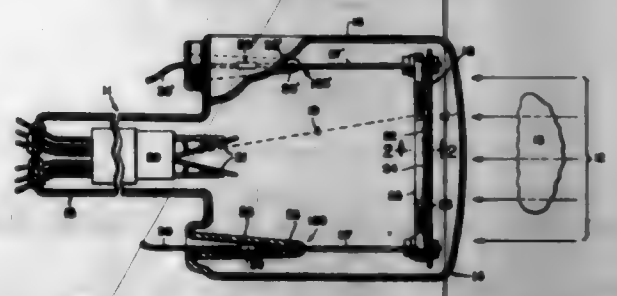
1. A process for the production of granular salt mixtures containing perborates which comprises moving a finely divided water-soluble perborate on a support surface for contact between the individual divided particles while spraying the perborate with a thinly liquid dispersion of an undissolved salt capable of crystallizing with the inclusion of water of crystallization in an aqueous solution of a salt capable of crystallizing with the inclusion of water of crystallization at a temperature above the melting temperature of the lowest melting component of said undissolved salt, the contact of the perborate and dispersion being effected at a temperature allowing crystallization of the dispersion and salt solution and agglomeration between individual divided perborate particles, said salt solution spray containing an amount of water not substantially in excess of the amount of water capable of being bound as water of crystallization by the salt mixture formed, the quantity of dispersion which is sprayed onto the perborate to be granulated being in the range of 5–45% by weight based on the granulate to be produced, and recovering the granular agglomerated perborate particle salt mixture formed containing substantially all of the water sprayed as water of crystallization.

2,972,585

PHOTOSENSITIVE SEMI-CONDUCTING MATERIAL AND METHOD OF MAKING THE SAME

Carolee C. Beutler, Waukesha, Wis., assignor to General Electric Company, a corporation of New York

Filed Oct. 6, 1955, Ser. No. 538,861
7 Claims. (Cl. 252—501)



1. A photoconductive composition consisting essentially of lead monoxide having incorporated therein a small amount of an activator ion selected from the group consisting of copper, silver and manganese said photoconductive lead monoxide being formed by adding a sufficient quantity of ammonium hydroxide to an aqueous solution consisting essentially of a salt of divalent lead ion and a salt of an ion selected from the group consisting of divalent copper, silver, and divalent manganese, said ions being present in said solution in the ratio of 95 parts by weight of lead, one part by weight of copper, one part by weight of silver and five parts by weight of manganese, to precipitate lead hydroxide having incorporated therein said activator and heating said hydroxide at a pressure of about 1 mm. Hg at a temperature of about 300° C. to thermally decompose said lead hydroxide to lead monoxide.

2,972,586

PROCESS FOR THE PREPARATION OF PERM-SELECTIVE MEMBRANES FROM VINYL CHLORIDE POLYMERS

Jan Hendrik van der Neut and Hermanus Gerhardus Roebersen, The Hague, Alfred Schers, Voorburg, and Oebele Pieter van der Werff, The Hague, Netherlands, assignors to Nederlandse Organisatie voor Toegepast-Natuurwetenschappelijk Onderzoek ten Behoeve van Nijverheid, Handel en Verkeer, The Hague, Netherlands, a corporation of the Netherlands

No Drawing. Filed Apr. 19, 1955, Ser. No. 502,532
Claims priority, application Netherlands Apr. 21, 1954
9 Claims. (Cl. 260—2.1)

1. The process of converting a mechanically-stable, self-supporting film of an organic linear, fusible, hydrophobic polymeric substance selected from the group consisting of polyvinylchloride and copolymers of vinyl chloride and vinylidene chloride, said film having a high resistance and a thickness of from about 0.02 to 0.3 millimeters into a homogeneous mechanically-stable, self-supporting perm-selective membrane having an electrical resistance of less than 500 ~ per cm.² as measured in equilibrium with a 0.1 N aqueous sodium chloride solution which comprises reacting said film with a com-

pound having a dissociation constant of at least 10^{-6} selected from the group consisting of guanidines, pyridines, diorganic sulfides, and tertiary amines by contacting said hydrophobic film with said compound dissolved in a normally liquid polar to semi-polar organic solvent capable of penetrating said hydrophobic film, said solvent having a high dielectric constant and being selected from the group consisting of alcohols and ketones, for at least 24 hours whereby sufficient of the chlorine atoms in said hydrophobic film are replaced with anion exchange radicals selected from the group consisting of quaternary ammonium, guanidinium, pyridinium and tertiary sulfonium groups to the extent that at least 0.2 milliequivalents of said anion exchange radicals are present per gram of said perm-selective membrane, said membrane having substantially the same form and mechanical properties as said starting film.

2,972,587

AQUEOUS FILLER-SEALER WOOD FINISHING COMPOSITION OF UREA-FORMALDEHYDE, SUGAR, BORIC ACID, ALUM AND SOLVENT

John M. Berry, Martinsville, Va., assignor to Midland Chemical Corporation, Dayton, Ohio, a corporation of Delaware

No Drawing. Filed May 14, 1958, Ser. No. 735,117
4 Claims. (Cl. 260—17.3)

1. A wood finishing composition which is an aqueous penetrating filler and sealer dispersion for the single application finishing of wood, which has the characteristic of not substantially raising the grain of wood to which it is applied and which dries to a hard, substantially insoluble, transparent, sandable film, such composition comprising: water, sucrose, boric acid and alum dissolved in the water, and urea-formaldehyde resin dispersed in the water, said aqueous composition being acidic and the urea-formaldehyde resin and sucrose constituting major constituents.

2,972,588

STABLE TAR-IN-WATER DISPERSIONS AND METHOD FOR PREPARING SAME

Louis Cohen, Cleveland, Ohio, assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York

No Drawing. Filed Mar. 9, 1959, Ser. No. 797,880
12 Claims. (Cl. 260—17.4)

1. A stable tar-in-water dispersion comprising at least 35 parts by weight of water, up to about 65 parts by weight of homogeneously and finely dispersed coal tar and as the sole emulsifying and dispersing agent from 0.05 to about 2 parts by weight based on 100 parts of said coal tar of a mixed alkali metal base-organic amine salt of a synthetic lightly cross-linked water-swellable carboxyl containing polymer the weight ratio of the alkali metal base to organic amine being from about 0.0125:1 to about 0.2:1 said alkali metal base being selected from the group consisting of alkali metal hydroxides, oxides and carbonates, said organic amine having at least 6 carbon atoms and being selected from the class consisting of aliphatic primary, secondary, tertiary amines, quaternary amine hydroxides and alkylene oxide-treated amines and said lightly cross-linked carboxyl containing polymer being an inter-polymer of (1) at least 20% by weight of an alpha, beta-olefinically unsaturated carboxylic acid, (2) up to about 80% by weight of another monoolefinic monomer copolymerizable with (1) and (3) from about 0.01 to about 10% by weight based on the total weight of monomer of an olefinic monomer having at least two polymerizable olefinic groups in each molecule said dispersion having a pH of from about 5 to about 8.

2,972,589

PLASTICIZED RESIN COMPOSITIONS

Robert Steckler, Russell, Ohio, assignor to Food Machinery and Chemical Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Oct. 29, 1956, Ser. No. 618,678
8 Claims. (Cl. 260—18)

1. A process for the production of plasticized resin compositions comprising curing at elevated temperatures, by reacting with a polyfunctional amine curing agent, a mixture comprising (A) about 50 to 95% of a glycidyl polyether of a dihydric phenol having an average of between one and two epoxy groups per molecule and an epoxide equivalent below about 500 and (B) about 5 to 50% of an epoxy ester whose acidic component is an epoxidized fatty acid of about 8–24 carbon atoms and whose alcoholic component is an ethylene glycol monoalkyl ether having 1 to 6 carbon atoms in the alkyl group.

2,972,590

COMPOSITION OF MATTER AND PROCESS FOR OBTAINING SAME

Joseph Cander, East Orange, and Francis J. Licata, West Caldwell, N.J., assignors to Nopco Chemical Company, Harrison, N.J., a corporation of New Jersey

No Drawing. Filed Feb. 21, 1958, Ser. No. 716,547
6 Claims. (Cl. 260—18)

1. A composition of matter comprising in admixture (1) zinc stearate and (2) a resin selected from the group consisting of an epoxy resin and esters thereof, said resin being present in an amount of from about ½% to 20% by weight based upon the weight of stearic acid from which said zinc stearate is derived.

2,972,591

COMPOSITIONS OF MATTER AND METHODS AND STEPS FOR MAKING AND USING THE SAME

Mortimer T. Harvey, South Orange, and Peter L. Rommilis, Newark, N.J., assignors to Harvel Research Corporation, a corporation of New Jersey

No Drawing. Filed Aug. 29, 1957, Ser. No. 680,906
7 Claims. (Cl. 260—23)

1. A novel organic reaction product produced by heat reacting (I) maleic acid and (II) butadiene-furfural organic reaction product having a softening point (ball and ring) no greater than 200° F.

2,972,592

AQUEOUS POLYMER BLEND COMPOSITION

George L. Brown, Moorestown, N.J., and Walter W. Toy and Richard E. Zdanowski, Philadelphia, Pa., assignors to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed Dec. 10, 1958, Ser. No. 779,287
13 Claims. (Cl. 260—27)

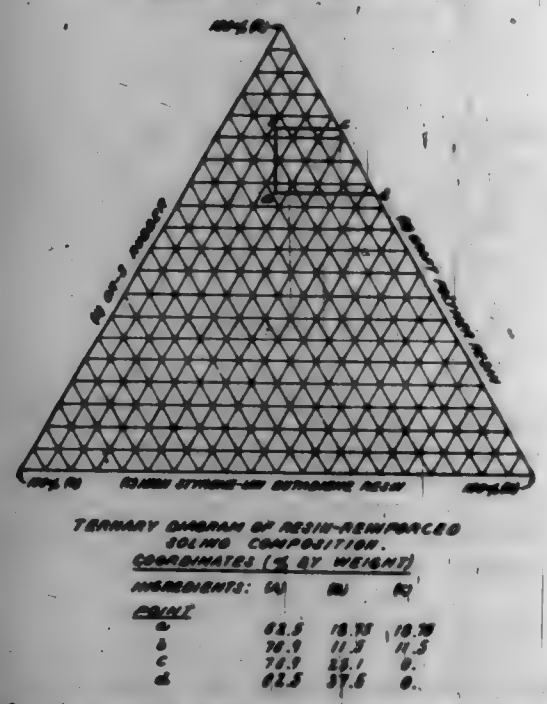
1. A composition comprising water, 8% to 25% by weight of a mixture of (A) 60% to 90% by weight of a copolymer of about 42% to 77% by weight of a compound selected from a group consisting of styrene and vinyltoluene, about 20% to 46% by weight of an ester of acrylic acid with a saturated aliphatic alcohol having 1 to 8 carbon atoms, and about 3% to 12% of a copolymerizable monoethylenically unsaturated carboxylic acid, and (B) 40% to 10% by weight respectively of a copolymer of about 60% to 90% by weight of an ester of acrylic acid with a saturated aliphatic alcohol having 1 to 8 carbon atoms and 10% to 40% by weight respectively of a compound selected from a group consisting of styrene and vinyltoluene.

2,972,593

VULCANIZED SHOE SOLE CONTAINING BUTADIENE STYRENE COPOLYMERS AND GRAFT COPOLYMER

Lawrence E. Daly, South Bend, Ind., assignor to United States Rubber Company, New York, N.Y., a corporation of New Jersey

Filed Nov. 10, 1955, Ser. No. 546,125
2 Claims. (Cl. 260—41.5)



TERNARY DIAGRAM OF RESIN-REINFORCED SOLING COMPOSITION.

COORDINATES (% BY WEIGHT)

INGREDIENTS:	(A)	(B)	(C)
POINT			
a	62.5	18.75	18.75
b	76.9	11.5	11.5
c	76.9	23.1	0.
d	62.5	37.5	0.

1. A hard, smooth shoe sole consisting of a sheet having the size and shape of a shoe sole, said sheet being comprised of a vulcanized uniform intimate mixture of

(A) butadiene-styrene copolymer rubber containing from about 60 to about 95% by weight of butadiene and from about 40 to about 5% by weight of styrene both based on the total weight of said copolymer,

(B) a graft copolymer-containing portion comprising by weight

(1) 20 to 75 parts of a rubber portion selected from the group consisting of polybutadiene and copolymers of butadiene with up to 40% styrene, and

(2) correspondingly 80 to 25 parts of a styrene-acrylonitrile resin containing from 25 to less than 90% of styrene and correspondingly from 75 to more than 10% of acrylonitrile,

at least a quarter of said styrene-acrylonitrile resin (2) in said graft copolymer-containing portion (B) having been introduced as the monomers into a pre-formed latex of said rubbery portion (1), and polymerized therein, whereby there is formed a graft copolymer of the styrene and acrylonitrile on the said rubber portion (1) and

(C) a resinous copolymer consisting of 86% by weight of styrene and 14% by weight of butadiene, the relative proportions of (A), (B) and (C) being 100 parts by weight of (A), 20–25 parts by weight of (B), and 20–25 parts by weight of (C), said mixture containing from 10 to 200 parts by weight of a mineral filler per 100 parts by weight of (A), and rubber vulcanizing ingredients in amount sufficient to vulcanize the mixture to the soft rubber state.

2,972,594

PROCESS FOR THE MANUFACTURE OF FINELY DIVIDED METAL SILICATES

Chester L. Baker, Narberth, and John Frankie Austin, Philadelphia, Pa., assignors to Philadelphia Quartz Company, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Mar. 11, 1958, Ser. No. 720,541
13 Claims. (Cl. 260—41.5)

1. In the manufacture of finely divided metal silicate products, the process which consists essentially in

(a) preparing an aqueous solution of sodium silicate having a weight percent ratio of Na_2O to SiO_2 within the range of from about 2:1 to 1:4 and a concentration of SiO_2 ranging from about 1 to 30 percent by weight;

(b) mixing said aqueous solution with a mono-monovalent salt in a quantity and under conditions tending to produce a state of incipient coacervation but without the formation of an insoluble precipitate, the incipient coacervation being indicated by the first appearance of a faint opalescence in the mixture;

(c) more than incipient coacervation being prevented by mixing in an aqueous solution of an insolubilizing agent comprising a metal compound which forms an insoluble silicate before the appearance of more than a faint opalescence in the mixture, and completing the mixing in of said insolubilizing agent before precipitation occurs;

(d) the quantity of said insolubilizing agent employed being sufficient to convert at least a substantial proportion of the sodium silicate into an insoluble precipitate and said insolubilizing agent being mixed with the sodium silicate solution no earlier than the mono-monovalent salt is mixed therewith;

(e) maintaining the environmental conditions of concentration, temperature and pH substantially constant during the entric period of formation of the insoluble precipitate by completing the mixing in of the insolubilizing agent within a period not substantially exceeding 10 seconds, and

(f) recovering the resulting finely divided substantially gel-free precipitate.

6. The process of claim 1 wherein rubber latex is present in the mixture during the formation of the precipitate and the insolubilizing agent is one capable of coagulating the latex, whereby a rubber crumb is recovered impregnated with the finely divided metal silicate formed in the process.

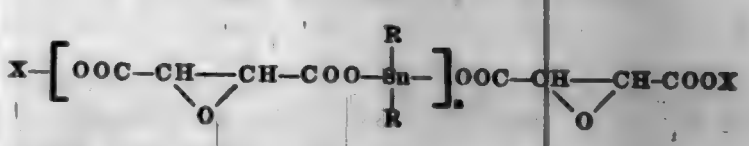
2,972,595

DIALKYL TIN EPOXY-SUCCINATE STABILIZERS FOR POLYMERS OF POLYVINYL CHLORIDE

Abraham Bavley, Brooklyn, and Charles J. Knuth, Flushing, N.Y., assignors to Chas. Pfizer & Co., Inc., Brooklyn, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 17, 1957, Ser. No. 703,278
9 Claims. (Cl. 260—45.75)

1. A compound represented by the formula:



wherein X is selected from the group consisting of hydrogen and alkali metal, R is alkyl containing from 1 to 12 carbon atoms and n is an integer of from 1 to about 20.

2,972,596

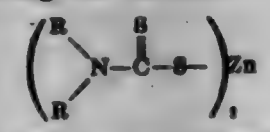
POLY-α-OLEFIN COMPOSITIONS CONTAINING ZINC DIALKYLTHIOCARBAMATES AND 4-ALKOXY-2-HYDROXY BENZOPHENONES

Gordon C. Newland and John W. Tamblyn, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

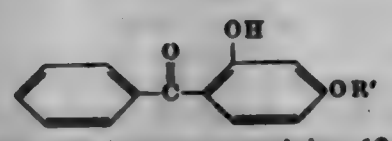
No Drawing. Filed Nov. 28, 1958, Ser. No. 776,696
8 Claims. (Cl. 260—45.75)

1. A solid poly-α-olefin composition comprising a solid poly-α-olefin prepared from an α-monoolefinic aliphatic hydrocarbon having 2 to 10 carbon atoms containing .001% to 10% by weight based on said poly-α-olefin of

a stabilizer combination comprising a zinc N,N-dialkyldithiocarbamate having the formula



wherein R is an alkyl group containing 1 to 8 carbon atoms and a 4-alkoxy-2-hydroxybenzophenone having the formula



wherein R' is an alkyl group containing 12 to 14 carbon atoms, the weight ratio of zinc N,N-dialkyldithiocarbamate to said 4-alkoxy-2-hydroxybenzophenone being in the range of 1/30 to 30/1.

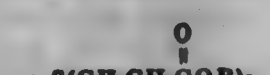
2,972,597

STABILIZED POLY-α-OLEFIN COMPOSITIONS

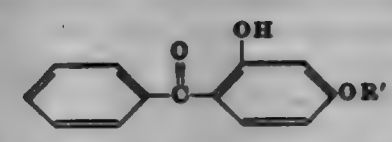
Gordon C. Newland and John W. Tamblyn, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Nov. 13, 1958, Ser. No. 773,568
6 Claims. (Cl. 260—45.85)

1. A solid poly-α-olefin composition comprising a solid poly-α-olefin prepared from an α-monoolefinic aliphatic hydrocarbon having 2 to 6 carbon atoms containing .001% to 10% by weight based on said poly-α-olefin of a stabilizer combination comprising a diester of β,β'-thiodipropionic acid having the formula



wherein R is an alkyl group containing 8 to 18 carbon atoms and a 4-alkoxy-2-hydroxybenzophenone having the formula



wherein R' is an alkyl group containing 12 to 14 carbon atoms, the weight ratio of said diester of β,β'-thiodipropionic acid to said 4-alkoxy-2-hydroxybenzophenone being in the range of 1/30 to 30/1.

2,972,598

ORGANOSILICON SALTS AND PROCESS FOR PRODUCING THE SAME

Edward L. Morehouse, Snyder, N.Y., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Oct. 12, 1956, Ser. No. 615,495
6 Claims. (Cl. 260—46.5)

1. A solid elastomeric organopolysiloxane copolymer having good tensile strength and having (A) recurring units represented by the formula:



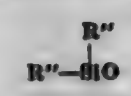
wherein E is a polyfunctional anion of an acid selected from the group consisting of:

(1) boric acid;

(2) saturated dicarboxylic aliphatic acids that contain from 3 to 10 carbon atoms per molecule; and

(3) olefinically unsaturated dicarboxylic acids that contain from 4 to 10 carbon atoms per molecule:

(*n*) is an integer that represents the valence of the anion; (*a*) is an integer that has a value of at least 3; and R'' is a member selected from the group consisting of the alkyl groups, aryl groups and the aralkyl groups; and (B) any remaining recurring units are represented by the formula:



wherein R'' is a member selected from the group consisting of the alkyl groups, aryl groups, and aralkyl groups.

2,972,599

PRODUCTION OF RESINS FROM UNSATURATED ACETALS WITH TRISPHENOLS AND TETRAKISPHENOLS

Howard R. Guest, Charleston, and Joe T. Adams, St. Albans, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Mar. 20, 1958, Ser. No. 722,626
14 Claims. (Cl. 260—47)

1. A resinous heat reaction product of (*a*) a polynuclear phenol selected from the group consisting of the trisphenols and tetrakisphenols, wherein the hydroxy-substituted phenyl radicals of said polynuclear phenol are each unsubstituted in at least one of the positions ortho and para to the hydroxyl radical and are directly connected to each other through an aliphatic radical selected from the group consisting of the saturated and olefinically unsaturated aliphatic radicals containing from 1 to 12 carbon atoms, and (*b*) a 3,9-dialkenylspirobi(m-dioxane) having from 2 to 3 carbon atoms in the alkenyl radical and having the double bond of the alkenyl radical and having the double bond of the alkenyl radical in the alpha position, in a ratio of from 0.25 mole to 1 mole of said 3,9-dialkenylspirobi(m-dioxane) per each unsubstituted position ortho and para to the phenolic hydroxyl radicals of said polynuclear phenol.

2,972,600

SUBSTITUTED PHENOLS

Clinton A. Braidwood, Schenectady, N.Y., assignor to Schenectady Varnish Company, Inc., Schenectady, N.Y., a corporation of New York

No Drawing. Filed Sept. 27, 1957, Ser. No. 686,573
24 Claims. (Cl. 260—59)

1. A composition of matter obtained by brominating a phenolic material selected from the group consisting of 2-hydroxymethyl 4-alkyl phenols, 2,6-dihydroxymethyl 4-alkyl phenols, resitols of such hydroxymethyl 4-alkyl phenols wherein the resitol has an average of up to 4 phenol units, and a mixture of a 4-alkyl phenol with 0.5 to 2.1 mols of formaldehyde per mol of said phenol said alkyl group containing 4 to 20 carbon atoms and the average bromine content of the brominated material being from about 1 to about 9%, said bromine being the only additive to said phenolic material.

2,972,601

LOW-VISCOSITY A-STAGE ACROLEIN-PENTAERYTHRITOL RESINS

Howard R. Guest, Charleston, Ben W. Kiff, Ona, and Calvert B. Halstead, St. Albans, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Aug. 9, 1957, Ser. No. 677,216
14 Claims. (Cl. 260—67)

1. A process for forming synthetic liquid resins of low viscosity which comprises the steps of heating to reaction temperature, in contact with a catalytic amount of an acid-treated sub-bentonite clay catalyst, a mixture of pentaerythritol and from about 1.3 to about 2 moles of an alpha,beta-unsaturated aldehyde per mole of said pentaerythritol, and continuing the heating step at reaction temperature until the viscosity of the resulting liquid resinous reaction product when freed of solid and volatile material is in the range of from about 500 to about 5,000 centipoises when measured at a temperature of 25° C.

2,972,602

NORCAMPHANE-2,5(AND 2,6)-DICARBOXYLIC ACIDS AND POLYAMIDES THEREOF

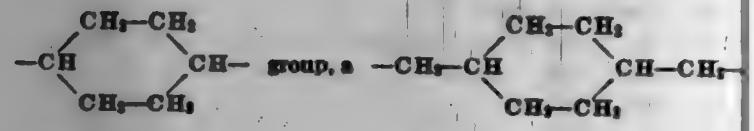
John R. Caldwell, Russell Gilkey, and James E. Poe, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed June 6, 1958, Ser. No. 740,203
11 Claims. (Cl. 260—78)

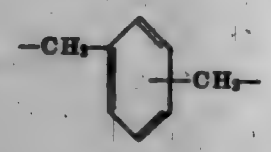
1. A resinous polyamide of equimolar proportions of a norcamphanedicarboxylic acid selected from the group consisting of norcamphane-2,5-dicarboxylic acid and norcamphane-2,6-dicarboxylic acid and a diamine represented by the following general formula:

$$H_2N—R—NH_2$$

wherein R represents a member selected from the group consisting of a divalent alkylene group of 2–11 carbon atoms, a phenylene group, a tolylene group, a



group and a



group.

10. A resinous copolyamide of norcamphane-2,5-dicarboxylic acid and cyclohexane-1,4-dimethylamine wherein from 10–50 mole percent of the said dicarboxylic acid is replaced with transcyclohexane-1,4-dicarboxylic acid, the total moles of said dicarboxylic acids being equal to the moles of said cyclohexane-1,4-dimethylamine.

11. A resinous copolyamide of norcamphane-2,5-dicarboxylic acid and m-xylene-α,α′-diamine wherein from 10–50 mole percent of the said dicarboxylic acid is replaced with terephthalic acid, the total moles of said dicarboxylic acids being equal to the moles of said m-xylene-α,α′-diamine.

2,972,603

PYRIDINE-RING CONTAINING RESINS AND PROCESS OF PREPARING THEM

Francis E. Cislak, Indianapolis, Ind., assignor to Reilly Tar & Chemical Corporation, Indianapolis, Ind., a corporation of Indiana

No Drawing. Filed Feb. 17, 1958, Ser. No. 715,532
10 Claims. (Cl. 260—79)

1. The process of preparing a resinous composition which comprises heating a mixture of about 8 mole parts of sulfur, about one mole part of a polyalkylpyridine selected from the group consisting of 2,6-lutidine, 2,4,6-collidine, 2,3,6-collidine, 2,4-lutidine, 2-methyl-4-ethylpyridine, and 2,6-diethylpyridine, and about one mole part of a polyamine in which the amino groups are attached to an aromatic hydrocarbon nucleus.

2,972,604

CHLOROSULFONATION OF ETHYLENE POLYMERS

William B. Reynolds and Peter J. Canterino, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Sept. 10, 1956, Ser. No. 608,687
6 Claims. (Cl. 260—79.3)

1. A process for producing a novel chlorosulfonated polymer which comprises dissolving an ethylene polymer having a crystallinity of at least 80 percent at room temperature and a density of at least 0.96 in a halogenated solvent selected from the group consisting of carbon tetrachloride, chloroform, trichloroethane, methylene chloride, tetrachloroethane and hexachloroethane at a temperature within the range of 110 to 130° C. and at a pressure sufficient to maintain said solvent in the liquid phase, said ethylene polymer having been prepared by polymerizing monomers comprising at least 50 weight percent ethylene and the remaining monomeric material being selected from the group consisting of 1-olefins and conjugated dienes and having not more than 8 carbon atoms per molecule; introducing sufficient chlorine to the solution under catalytic conditions to form a chlorinated polymer soluble in halogenated solvents at ambient temperatures; separating said chlorinated polymer from said halogenated solvent; dissolving said separated chlorinated polymer in a halogenated solvent selected from said aforementioned group at a temperature in the range of 25 to 60° C., said halogenated solvent being different from the first selected halogenated solvent; introducing additional chlorine and sulfur dioxide to the resulting solution under catalytic conditions until the polymer has a chlorine content within the range of 10 to 40 weight percent and a sulfur content within the range of 0.3 to 4 weight percent; and thereafter recovering the chlorosulfonated polymer from solution.

2,972,605

HYDROPEROXIDES OF HIGH POLYMERS AND PROCESSES FOR PRODUCING THE SAME

Giulio Natta, Enrico Beati, and Febo Severini, Milan, Italy, assignors to Montecatini, Societa generale per l'Industria Mineraria e Chimica, Milan, Italy

No Drawing. Filed July 30, 1956, Ser. No. 600,718
Claims priority, application Italy Aug. 6, 1955
15 Claims. (Cl. 260—88.2)

1. A process for preparing hydroperoxides of polymers containing tertiary carbon atoms in the main chain, having a molecular weight above 1000, and selected from the group consisting of substantially linear, regularly head-to-tail homopolymers of alpha-olefins of the formula

$$CH_2=CHR$$

wherein R is selected from the group consisting of alkyl radicals and the phenyl group, and substantially linear, regularly head-to-tail copolymers of said alpha-olefins with ethylene, which process comprises passing a hydroperoxidizing agent selected from the group consisting of molecular oxygen and oxygen-containing gases through a solution of from about 10% to about 40% of the polymer in an auto-oxidizable aromatic solvent containing from 2.5% to 5% of methanol, by weight on the auto-oxidizable solvent, under a pressure between 2 and 50 atmospheres, at a temperature between 60° C. and 80° C., and in the absence of a pre-formed peroxide, to obtain a hydroperoxide of said polymer containing from 0.05 to 20 hydroperoxide groups per 100 of the monomer units making up the polymer chain.

2,972,606

CATALYTIC AMINOETHYLATION OF CELLULOSE, CELLULOSE DERIVATIVES OR POLYVINYL ALCOHOL

Robert J. Hartman, Wyandotte, and Edward J. Fujiwara, Gibralter, Mich., assignors to Wyandotte Chemicals Corporation, Wyandotte, Mich., a corporation of Michigan

No Drawing. Filed May 31, 1956, Ser. No. 588,236
8 Claims. (Cl. 260—91.3)

1. A catalytic process for aminoethylating cellulose and polyvinyl alcohol, which comprises, heating in a

substantially water-free, liquid phase system to a temperature of about 80–140° C. a member selected from the group consisting of cellulose and polyvinyl alcohol with an aminoethylating reactant selected from the group consisting of ethylenimine, 2 - methylethylenimine, 2,2-dimethylethylenimine, trimethylethylenimine, 2 - phenylethylenimine, 2 - (p-tolyl)ethylenimine, 2-biphenylethylenimine, 2 - (p-aminophenyl)ethylenimine, 2-(2,4-dinitrophenyl)ethylenimine and the methyl ester of p-(carboxyphenyl)-ethylenimine, in the presence of a catalyst selected from the group consisting of alkyl and alkenyl halides having up to and including 8 carbon atoms per molecule, cyclohexyl halides, benzyl halides, tetramethyl- and tetraethylamine halides, ethylene chlorohydrin, trimethylamine, hydrohalide, dimethylaniline hydrohalide, aniline hydrochloride, hydrochloric acid, sulfuric acid, ammonium halides, aluminum chloride, p-toluene sulfonic acid and naphthalene sulfonic acid, said heating step being carried out in the presence of a nonpolar and nonreactive solvent for said aminoethylating reactant selected from the group consisting of heptane, octane, nonane, decane, benzene, toluene, dioctylphthalate, monochlorobenzene and o-dichlorobenzene.

2,972,607

FOUR-COMPONENT MIXED METAL-HALOGEN CATALYSTS FOR OLEFIN POLYMERIZATION

Harry W. Coover, Jr., and Newton H. Shearer, Jr., Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Mar. 31, 1958, Ser. No. 724,920
12 Claims. (Cl. 260—93.7)

9. In the polymerization of α-monoolefinic hydrocarbon containing 3 to 10 carbon atoms to form solid, crystalline polymer, the improvement which comprises catalyzing the polymerization with a catalytic mixture consisting essentially of titanium metal, aluminum metal, iodine monochloride and a compound of a group VA element having the formula R_3Z wherein Z it a group VA element selected from the group consisting of nitrogen, phosphorus and antimony and each R is a hydrocarbon radical selected from the group consisting of alkyl radicals containing 1 to 4 carbon atoms and phenyl, said catalytic mixture containing 0.1 to 10 atoms of aluminum per atom of titanium and per mole of iodine monochloride and 0.1 to 0.5 mole of group VA compound per mole of iodine monochloride.

2,972,608

PROCESS AND TWO-COMPONENT TRANSITION METAL DIHALIDE CATALYST FOR POLYMERIZING OLEFINS

Harry W. Coover, Jr., and George O. Cash, Jr., Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed June 19, 1958, Ser. No. 743,024
5 Claims. (Cl. 260—93.7)

3. In the polymerization of an α-monoolefinic hydrocarbon containing 2 to 10 carbon atoms, the improvement in forming highly crystalline polymer which comprises effecting the polymerization in the presence of a catalytic mixture consisting essentially of a titanium dihalide, the halogen being selected from the group consisting of chlorine, bromine and iodine and an ether compound having the formula RX wherein R is selected from the group consisting of lower alkyl radicals containing 1 to 4 carbon atoms and phenyl and X is a lower alkoxy radical containing 1 to 4 carbon atoms, the molar ratio of titanium dihalide to RX compound being from 1:2 to 10:1.

2,972,609

PURIFICATION OF CYANOETHYLCELLULOSE RESIN

Donald H. Hogle, Monroeville, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Dec. 20, 1957, Ser. No. 704,154
3 Claims. (Cl. 260—232)

1. A process for removal of anionic and cationic impurities from cyanoethylcellulose whereby the electrical properties of said cyanoethylcellulose are improved which comprises contacting a solution of one part by weight of water-free cyanoethylcellulose in a solvent therefor selected from the group consisting of pyridine, acetone, nitromethane, and mixtures thereof with at least two parts by weight of a substantially water-free ion exchange material consisting of a mixture of quaternary ammonium resin and a sulfonated polystyrene which is in hydroxyl and hydrogen forms respectively which substitute hydrogen for anions and hydroxyl for cations, while maintaining the solution at a temperature in the range of 40° C. to 80° C., whereby hydrogen ions are substituted for anions and hydroxyl ions are substituted for cations during the contacting and water is formed, separating said cyanoethylcellulose solution and said ion exchange material, and removing substantially all water and solvent from said solution of cyanoethylcellulose, thereby producing a purified cyanoethylcellulose.

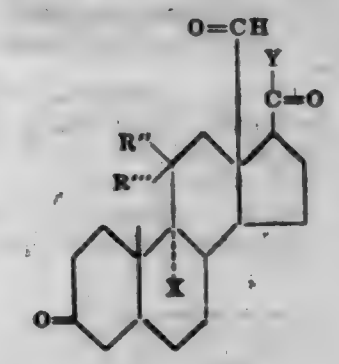
2,972,610

9α-HALO-21-ALDO-STEROIDS OF THE PREGNANE SERIES

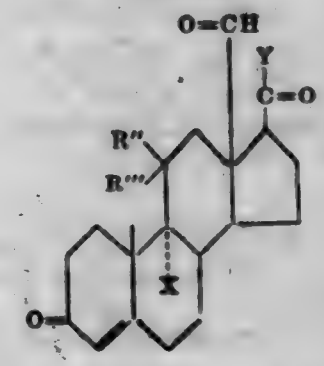
Josef Fried and Josef E. Herz, New Brunswick, N.J., assignors to Olin Mathieson Chemical Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed Jan. 20, 1955, Ser. No. 483,166
12 Claims. (Cl. 260—239.55)

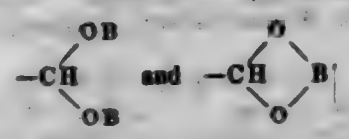
8. A steroid selected from the group consisting of those of the formula



and



individually R'' is hydrogen, R''' is β-hydroxy and together R'' and R''' is keto; X is an α-halogen group; and Y is selected from the class consisting of



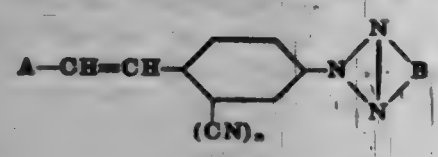
wherein B is a radical of the class consisting of saturated aliphatic and aralkyl radicals, and B' is a saturated divalent aliphatic radical.

2,972,611
FLUORESCENT TRIAZOLYL STILBENE COMPOUNDS

Reinhard Zweidler, Basel, and Ernst Keller, Binningen, Basel Land, Switzerland, assignors to J. R. Geigy A.-G., Basel, Switzerland, a Swiss firm

No Drawing. Filed Aug. 19, 1957, Ser. No. 679,083
Claims priority, application Switzerland Sept. 6, 1956
7 Claims. (Cl. 260—240)

1. A cyanostilbyl triazole compound of the formula:



wherein

A represents a member selected from the group consisting of phenyl, lower alkylphenyl, lower alkoxyphenyl, methylenedioxyphenyl, cyanophenyl, chlorophenyl, lower alkylcarbonylaminophenyl and naphthyl,

B represents an aromatic carbocyclic radical containing at most three condensed rings and being selected from the group consisting of phenylene, lower alkylphenylene, lower alkoxyphenylene, chlorophenylene, lower alkylcarbonylaminophenylene, naphthylene, lower alkoxynaphthylene and acenaphthylene, and in which two vicinal carbon atoms of a six-membered aromatic ring are bound to the nitrogen atoms of the 1.2.3-triazole ring,

n is a numeral from 0 to 1,

and when *n* is 0, A contains a cyano group, the aromatic nuclei being free from chromophores and ionogenic substituents.

2,972,612
PHENTHIAZINE COMPOUNDS

Robert Michel Jacob, Ablon-sur-Seine, and Jacques Georges Robert, Paris, France, assignors to Societe des Usines Chimiques Rhone-Poulenc, Paris, France, a corporation of France

No Drawing. Filed Apr. 1, 1958, Ser. No. 725,499
Claims priority, application Great Britain May 13, 1955
3 Claims. (Cl. 260—243)

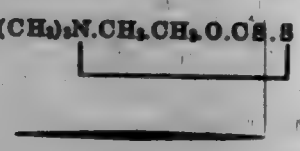
1. A member of the class consisting of 3-(9:9-dioxy-10-phenthiazinyl)-2-methyl-1-dimethylaminopropane and its therapeutically acceptable acid addition salts.

2,972,613
CYCLIC CHOLINE XANTHATE

Myer Freed, Chicago, Ill., assignor to Dawe's Laboratories, Inc., Chicago, Ill., a corporation of Illinois

No Drawing. Filed Mar. 9, 1959, Ser. No. 797,831
4 Claims. (Cl. 260—243)

1. A compound having the following structural formula:



2,972,614
PROCESS OF PRODUCING MELAMINE

Josef Disteldorf, Wanne-Eickel, Germany, assignor to Bergwerksgesellschaft Hibernia Aktiengesellschaft, Stickstoffwerk Wanne-Eickel, Germany, a corporation of Germany

No Drawing. Filed Aug. 26, 1958, Ser. No. 757,195
10 Claims. (Cl. 260—249.7)

1. A process for producing melamine from urea which comprises heating urea with a catalyst under pressure of about 60 to 150 atmospheres to a temperature of about 290° to 600° C. for a relatively short time, said catalyst being uniformly distributed throughout the urea, the amount of catalyst being sufficient to substantially accelerate the conversion of the urea, said catalyst being taken from the class consisting of non-precious heavy metals of the eighth group of the periodic system, copper, tin, zinc and chromium and manganese, said catalyst being taken from the class consisting of elementary metal, metal oxide, and metal salt capable of being converted to metal oxide at the temperature of the reaction.

2,972,615
PRODUCTION OF PYRIDINE

William I. Denton, Cheshire, Conn., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia

No Drawing. Filed June 1, 1959, Ser. No. 817,056
5 Claims. (Cl. 260—290)

1. A process for the preparation of pyridine which comprises reacting ammonia and tetrahydrofurfuryl alcohol in the mole ratio of from 2:1 to 10:1 at a temperature of from about 450° C. to about 600° C., a pressure of from about 0.1 to about 20 atmospheres, and a space velocity of from about 0.1 to about 10, in the presence of a catalyst consisting essentially of from about 2% to 30% of a vanadium oxide on an inert solid support having a surface area in excess of five square meters per gram and selected from the group consisting of neutral and basic oxides.

2,972,616
PRODUCTION OF PYRIDINE

William I. Denton, Cheshire, Conn., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia

No Drawing. Filed June 1, 1959, Ser. No. 817,057
5 Claims. (Cl. 260—290)

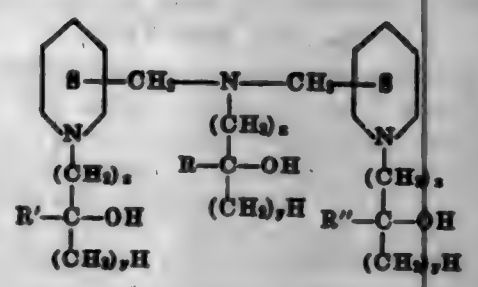
1. A process for the preparation of pyridine which comprises reacting ammonia with tetrahydrofurfuryl alcohol in the mole ratio of from about 2 to 1 to about 10 to 1 at a temperature of from about 450° C. to about 550° C., a pressure of from about 0.1 to 20 atmospheres and a space velocity of from about 0.1 to about 10 in the presence of a catalyst consisting essentially of from about 2 to 20% of a molybdenum oxide and from about 0.1 to about 15% of potassium oxide, on a support selected from the group consisting of neutral and basic supports.

2,972,617
N-DI-(ALKANOL-PIPECOLYL)-ALKANOL AMINES

Francis E. Cislak, Indianapolis, Ind., assignor to Reilly Tar & Chemical Corporation, Indianapolis, Ind., a corporation of Indiana

No Drawing. Filed June 10, 1959, Ser. No. 819,220
6 Claims. (Cl. 260—294.7)

1. N-di-(alkanol-pipecolyl)-alkanol amines having the following general formula:



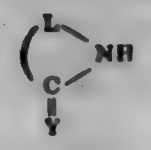
wherein *x* is an integer selected from the group consisting of 1, 2, 3, and 4; *y* is an integer selected from the group consisting of 0, 1, and 2; and R, R′, and R″ are selected from the group consisting of hydrogen and lower alkyl.

2,972,618
ADDUCTS OF HETEROCYCLIC AMIDES

Newman M. Bortnick, Oreland, Pa., assignor to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

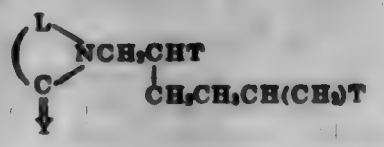
No Drawing. Filed Dec. 5, 1956, Ser. No. 626,310
5 Claims. (Cl. 260—309.5)

1. An adduct of the compounds

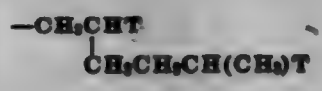


$CH_2{=}CT$
$CH_2CH.CH(CH_3)T$

having the formula



in which L is a three- to four-membered divalent chain containing one nitrogen atom and two to three carbon atoms, wherein one of the carbon atoms of L must have attached thereto a member from the class consisting of oxygen and sulfur and wherein there must be at least one carbon atom between the nitrogen atoms of the heterocyclic amide when that amide is considered in the counterclockwise direction, the remaining available carbon valences in said L chain being satisfied by members from the group consisting of a hydrogen atom and alkyl groups whose total carbon content is no greater than eighteen, the available valence of said nitrogen atom in said L chain being satisfied by a member from the group consisting of the



$-CH_2CHT$
$CH_2CH_2CH(CH_3)T$

group, alkyl, cycloalkyl and alkylcycloalkyl groups of one to eighteen carbon atoms, aryl, alkylaryl, arylalkyl and alkylarylalkyl groups of six to eighteen carbon atoms, hydroxyalkyl groups of two to eight carbon atoms in which the hydroxy group is no closer than the beta position with respect to said nitrogen atom in said L chain, alkenyl groups of two to eighteen carbon atoms, aminoalkyl groups of two to eight carbon atoms in which the amino group is no closer than the beta position with respect to said nitrogen atom in said L chain, alkoxyalkyl groups containing up to nineteen carbon atoms in which the alkoxy portion contains up to eight carbon atoms and the alkyl portion contains at least two carbon atoms, alkenoxyalkyl groups containing up to nineteen carbon atoms in which the alkenoxy portion contains up to eight carbon atoms and the alkyl portion contains at least two carbon atoms, cyano groups, and cyanoalkyl groups in which the alkyl group contains up to eight carbon atoms, Y is a chalcogen having an atomic weight of 16 to 32, and T is a member from the group consisting of a cyano group, the group $-CONZ_2$ in which Z is a member from the group consisting of a hydrogen atom and alkyl groups of one to eight carbon atoms, and the group —COOR in which R is a member from the group consisting of alkyl groups of one to fourteen carbon atoms, alkoxyalkyl groups of two to fourteen carbon atoms, aralkyl and alkaralkyl groups of seven to fourteen carbon atoms, and cycloalkyl and alkylcycloalkyl groups of three to fourteen carbon atoms.

2,972,619
N-EPOXYALKYLIMIDES

Donald Mackey Young, New York, N.Y., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Jan. 10, 1957, Ser. No. 633,389
2 Claims. (Cl. 260—326.5)

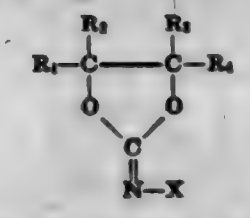
2. N-(2,3-epoxy-2-methylpropyl)maleimide.

2,972,620
2-HALOIMINO-1,3-DIOXOLANES AND METHOD OF PRODUCTION

Howard Ensign Simmons, Jr., Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed June 29, 1959, Ser. No. 823,365
7 Claims. (Cl. 260—340.9)

3. A compound of the formula



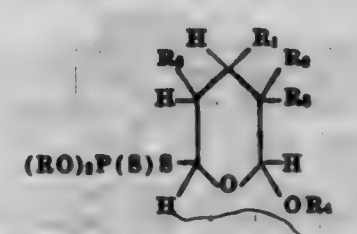
wherein R_1, R_2, R_3, and R_4 are each selected from the group consisting of hydrogen, chlorine and bromine and X is selected from the group consisting of chlorine and bromine.

2,972,621
O,O-DIALKYL S-(TETRAHYDRO-2-PYRANYL) PHOSPHOROTHIOLOTHIONATES

Richard L. McConnell and Marvin A. McCall, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Dec. 6, 1957, Ser. No. 702,978
6 Claims. (Cl. 260—345.9)

1. Organophosphorus compounds having the structural formula:



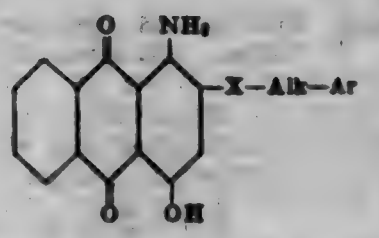
wherein R and R_4 are lower alkyl radicals and R_1, R_2, R_3 and R_5 are selected from the group consisting of hydrogen and lower alkyl radicals.

2,972,622
NEW DYESTUFFS OF THE ANTHRAQUINONE SERIES

Paul Grossmann, Binningen, Switzerland, assignor to Ciba Limited, Basel, Switzerland, a Swiss firm

No Drawing. Filed Oct. 16, 1958, Ser. No. 766,422
Claims priority, application Switzerland Oct. 17, 1957
8 Claims. (Cl. 260—380)

1. Anthraquinone dyestuffs of the formula



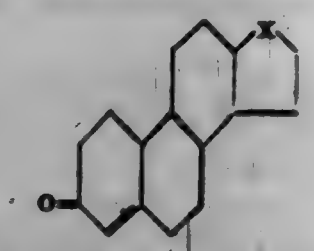
in which "alk" represents a lower alkylene group, X a member selected from the group consisting of an oxygen and a sulfur atom, and Ar a member selected from the group consisting of benzene and naphthalene radicals.

2,972,623
17-OXYGENATED-18,19-DINORANDROST-4-EN-3-ONES

William F. Johns, Morton Grove, Ill., assignor to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware

No Drawing. Filed Apr. 16, 1959, Ser. No. 806,764
4 Claims. (Cl. 260—397.3)

1. A compound of the structural formula



wherein X is selected from the group consisting of carbonyl, hydroxymethylene, and (lower alkanoyl)oxymethylene radicals.

2,972,624
SEPARATION OF FATTY ACIDS FROM OXIDIZED FISH OILS

Jack J. Balloff, Dayton, Ohio, assignor to The Commonwealth Engineering Company of Ohio, Dayton, Ohio, a corporation of Ohio

No Drawing. Filed Oct. 4, 1955, Ser. No. 538,536
4 Claims. (Cl. 260—414)

1. The method of obtaining from oceanic fish body oils, an aluminum soap having the capacity to thicken benzene rapidly characteristic of aluminum monohydroxy alkanoates, which comprises adding an aqueous acid solution to the oil, heating the resulting mass, adding potassium permanganate solution to the mass, alkalizing the mass, adding a 5% to 30% stoichiometric excess of an aqueous solution of a water-soluble aluminum salt to the alkalized mass, filtering the mass, collecting the precipitate retained on the filter, and washing and drying the same.

2,972,625
PROCESS FOR THE PREPARATION OF FERRIC NITROSO DIMETHYL DITHIOCARBAMATE

Irving Gibbs, Norwalk, Conn., assignor to R. T. Vanderbilt Company, Inc., New York, N.Y., a corporation of New York

No Drawing. Filed Apr. 20, 1959, Ser. No. 807,321
13 Claims. (Cl. 260—439)

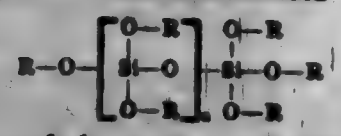
1. The process of preparing ferric nitroso dimethyl dithiocarbamate which comprises reacting a dimethyl dithiocarbamate with ferrous salt and nitric oxide in acid liquid medium to form a slurry of ferric nitroso dimethyl dithiocarbamate in the liquid medium, increasing the pH of the slurry to at least about 9, filtering the solids from the liquid and washing the solids to remove soluble impurities.

2,972,626
PURIFICATION OF ORGANO-SILICATE CONDENSATION PRODUCTS

Ralph Marotta, Olivette, Mo., assignor to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Jan. 15, 1958, Ser. No. 708,976
10 Claims. (Cl. 260—448.8)

1. The method of purifying an organo-silicate compound said compound being a halogen-contaminated, condensation product of an organic ester of ortho-silicic acid and having the general structural formula



wherein "n" is a whole number, and wherein "R" is an organic radical selected from the group consisting of alkyl, cycloalkyl, aralkyl, aryl, alkaryl, and heterocyclic radicals, said radicals being like and dissimilar, said condensation product being further characterized in that it is contaminated with halogen contaminants in the form of free hydrogen halide and hydrolyzable halogen substituents which hydrolyze to form hydrogen halide, which comprises reacting the halogen contaminants of said condensation product with an aqueous alkali metal hydroxide at a temperature in excess of 50° C., said alkali metal hydroxide being in excess of that theoretically required to form an alkali metal halide upon reacting with the halogen-containing contaminants and being sufficient to provide a condensation product alkaline to Methyl Orange.

2,972,627
SUBSTITUTED BENZYLESTERS OF SUBSTITUTED BENZYLDITHIOCARBAMIC ACIDS

David L. Garmaise and George Eric Just, Montreal, Quebec, and Arthur F. McKay, Beaconsfield West, Quebec, Canada, assignors to Monsanto Canada Limited, La Salle, Quebec, Canada

No Drawing. Filed Dec. 22, 1958, Ser. No. 781,943
Claims priority, application Great Britain Mar. 3, 1958
1 Claim. (Cl. 260—455)

4-chlorobenzyl 3,4-dichlorobenzyldithiocarbamate.

2,972,628
METHOD FOR PREPARING O,O,S-TRIALKYL PHOSPHOROTHIOLOTHIONATES

Richard L. McConnell and Harry W. Coover, Jr., Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Aug. 13, 1958, Ser. No. 754,725
6 Claims. (Cl. 260—461)

1. The process for producing O,O,S-trialkylphosphorothiolothionates which comprises reacting a dialkyl phosphorothiolothionate with an orthoester having the formula:

$$RC(OR')_3$$

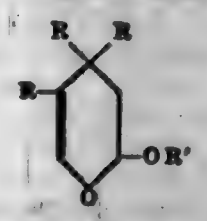
wherein R is selected from the group consisting of hydrogen, lower alkyl and phenyl and R' is an alkyl radical containing from 1–8 carbon atoms at a temperature within the range of —25° C. to 250° C.

2,972,629
OXIDATION OF 2-ALKOXYDIHYDROPYRANS

James C. Martin and James P. Hawk, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Aug. 6, 1957, Ser. No. 676,515
3 Claims. (Cl. 260—637)

1. A process for converting a 2-alkoxy-3,4-dihydro-2H-pyran having the following formula:



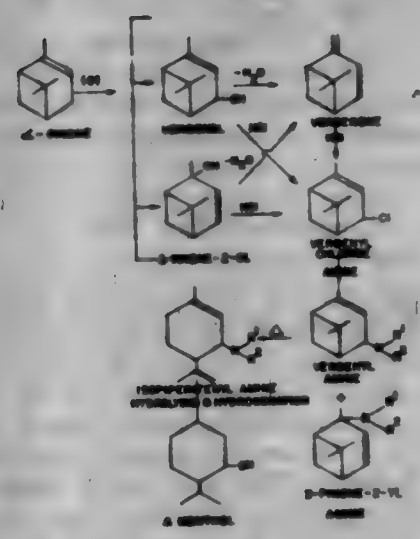
in which R is selected from the class consisting of alkyl radicals having from 1 to 4 carbon atoms and H and R' is alkyl having from 1 to 4 carbon atoms, into a dibasic acid selected from the class consisting of glutaric and alkyl substituted glutaric acids which comprises dissolving the 2-alkoxy-3,4-dihydro-2H-pyran in a fatty acid solvent selected from the class consisting of glacial acetic, propionic, butyric and isobutyric acids, adding a strong acid catalyst, heating to a temperature of 40–100° C., passing a gas selected from the class consisting of air and oxygen into the resultant solution and adding 1.4–2.2 moles of water per mole of pyran slowly.

2,972,630
TETRACYCLINE DERIVATIVE AND PROCESS FOR PREPARATION
Lloyd H. Conover, Quaker Hill, and Charles R. Stephens, Jr., Niantic, Conn., assignors to Chas. Pfizer & Co., Inc., Brooklyn, N.Y., a corporation of Delaware
No Drawing. Filed Sept. 25, 1958, Ser. No. 763,204
7 Claims. (Cl. 260—559)

1. A compound selected from the group consisting of 4 - dimethylamino - 1,4,4a,5,7,8,9,10,12,12a-decahydro-3,11,12a - trihydroxy-6-methyl-1,10-dioxo-2-naphthacenecarboxamide, the mineral acid salts thereof, the alkali metal salts thereof and the alkaline earth metal salts thereof.

2,972,631
PREPARATION OF VERBENYL COMPOUNDS
Joseph P. Bain and Albert B. Booth, Jacksonville, Fla., assignors to The Glidden Company, Cleveland, Ohio, a corporation of Ohio
Filed Sept. 14, 1953, Ser. No. 388,414
24 Claims. (Cl. 260—563)

FLOW SHEET



16. Amines selected from the class consisting of verbenyl amine, verbenyl lower alkyl amines and their allylomeric 3-pinene-2-yl amines.

2,972,632
CONVERSION OF VERBENOL TO MONOCYCLIC AND ACYCLIC COMPOUNDS
Joseph P. Bain, Harry G. Hunt, Eugene Albert Klein, and Albert B. Booth, Jacksonville, Fla., assignors to The Glidden Company, Cleveland, Ohio, a corporation of Ohio
No Drawing. Filed Apr. 14, 1953, Ser. No. 348,825
26 Claims. (Cl. 260—587)

1. The process of producing monocyclic and aliphatic oxygenated terpenes of the empirical formula $C_{10}H_{16}O$ which comprises thermally isomerizing verbenol by heating the same at a temperature in the range of 170° C. to 750° C.

2,972,633
CONVERSION OF A PINANE ALCOHOL
Eugene A. Klein, West Los Angeles, Calif., assignor to The Glidden Company, Cleveland, Ohio, a corporation of Ohio
No Drawing. Filed July 3, 1957, Ser. No. 669,711
4 Claims. (Cl. 260—601)

1. A process for preparing a mixture comprising 3,7-dimethyl-1,6-octadiene-5-ol and a $C_{10}H_{18}O$ non-conjugated aldehyde having a boiling point between 73° to 81° C. at 10 mm. pressure which comprises heating verbanol at a temperature of from 350° to about 700° C. for a period of time sufficient to produce said mixture.

2,972,634
PREPARATION OF VITAMIN A ALCOHOL
Howard C. Klein, Brooklyn, N.Y., and Roland Kapp, East Orange, N.J., assignors to Nopco Chemical Company, Harrison, N.J., a corporation of New Jersey
No Drawing. Filed Nov. 20, 1957, Ser. No. 697,535
16 Claims. (Cl. 260—617)

1. A process for converting a $\Delta^{2,4}$-unsaturated aldehyde selected from the group consisting of vitamin A aldehyde, β-ionylidene acetaldehyde, α-vitamin A aldehyde and α-ionylidene acetaldehyde to its corresponding alcohol which comprises preparing an aqueous alkaline homogeneous single phase system containing said $\Delta^{2,4}$-unsaturated aldehyde and formaldehyde, maintaining a temperature of from about 5° C. to 75° C. for a period of time of from about several minutes to 24 hours and thereafter recovering the resulting $\Delta^{2,4}$-unsaturated alcohol.

2,972,635
HYDROGENOLYSIS OF VERBANOL TO PRODUCE ORTHO MENTHOL
Albert B. Booth, Houston, Tex., assignor to The Glidden Company, Cleveland, Ohio, a corporation of Ohio
No Drawing. Filed Oct. 17, 1957, Ser. No. 690,618
1 Claim. (Cl. 260—631)

A process for converting verbanol which comprises heating said verbanol at elevated temperatures of from 250 to 325° C. and pressures in the range of from 300 to 3000 p.s.i. in the presence of hydrogen and a copper chromite catalyst and recovering therefrom ortho menthol as a reaction product.

2,972,636
SEPARATION OF MIXTURES OF HIGH MOLECULAR ALCOHOLS INTO COMPONENTS OF DIFFERENT MELTING POINTS
Helmut Hartmann and Werner Stein, Duesseldorf-Holthausen, Germany, assignors to Henkel & Cie., G.m.b.H., Duesseldorf-Holthausen, Germany, a German corporation
No Drawing. Filed Mar. 3, 1954, Ser. No. 413,947
Claims priority, application Germany Mar. 17, 1953
11 Claims. (Cl. 260—643)

1. Method for the separation of mixtures of high-molecular alcohols into components of different melting points, which comprises finely dispersing such a mixture in an aqueous medium at a temperature at which the mixture contains both solid and liquid constituents, and thereafter subjecting the aqueous dispersion to centrifugal action in an outwardly liquid-impermeable confined zone passing a separated specifically lighter phase of substantially liquid alcohols out of said zone and separately passing a specifically heavier phase of aqueous medium with substantially solid alcohols suspended therein out of said zone.

2,972,637
PREPARATION OF BROMOFLUOROMETHANES
Charles William Tullock, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed June 19, 1958, Ser. No. 743,010
13 Claims. (Cl. 260—653)

1. A process for producing bromofluoromethanes comprising reacting at a temperature of at least about 125° C. carbon disulfide, bromine and a binary fluoride of an

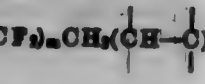
element selected from the group consisting of sodium, potassium, calcium, copper, zinc, and sulfur, said fluoride having at most four fluorine atoms.

2,972,638
PROCESS FOR MAKING FLUORINATED COMPOUNDS
George Van Dyke Tiers, St. Paul, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
No Drawing. Filed Sept. 2, 1958, Ser. No. 758,596
10 Claims. (Cl. 260—653.1)

1. A process for the production of stable, polyfluoroiodo compounds containing a highly fluorinated end group and an iodine carrying carbon atom separated from said end group by at least two intervening carbon atoms, said process comprising reacting in the presence of an active source of free radicals a polyfluoroalkyl methyl iodide corresponding to the formula $Y(CF_2)_mCH_2I$ wherein Y is a member of the group consisting of hydrogen and fluorine and m is an integer from about 1 to 12, and an ethylenically unsaturated aliphatic compound copolymerizable with other olefinic compounds under free-radical initiation and corresponding to the formula



the free valences of the ethylenic carbon atoms being satisfied by a combination of monovalent radicals, the algebraic sum of the Hammett sigma (para) parameter values of which is not greater than +0.2, and usefully recovering as addition products of the reaction, compounds represented by the formula



wherein n is an integer from 1 to about 60.

6. Polyfluoro-iodo compounds containing a highly fluorinated "tail" and an iodine carrying carbon atom separated from said "tail" by at least two intervening carbon atoms and corresponding to the formula



wherein Y is selected from the group consisting of hydrogen and fluorine, m is an integer from 3 to 12, n is an integer from 1 to 3, and R is a member selected from the group consisting of hydrogen, and alkyl, and substituted alkyl radicals containing from 1 to 10 carbon atoms.

2,972,639
PROCESS FOR THE PREPARATION OF FLUOROHYDROCARBONS
Travis E. Stevens, Huntsville, Ala., assignor to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware
No Drawing. Filed Aug. 24, 1959, Ser. No. 835,394
6 Claims. (Cl. 260—653.8)

1. A process for the preparation of fluorohydrocarbons which comprises reacting bromine trifluoride in an inert anhydrous atmosphere in the presence of a solvent selected from the group consisting of hydrogen fluoride and iodine pentafluoride and mixtures thereof with a compound of the formula R–CN in which R is selected from the group consisting of lower alkyl, lower haloalkyl in which the halo group has an atomic number from 9 to 35, and lower alkenyl, and separating the fluorohydrocarbons so formed.

2,972,640
CYCLOOLEFIN PRODUCTION UTILIZING ISOBUTYLENE OR ITS DIMERIZATION PRODUCT AS CATALYST ACTIVATOR
Robert E. Burks, Jr., Birmingham, Ala., and Antonio A. Sekul, Jackson, Miss., assignors, by mesne assignments, to Cities Service Research and Development Company, New York, N.Y., a corporation of New Jersey
No Drawing. Filed Apr. 27, 1959, Ser. No. 808,930
9 Claims. (Cl. 260—666)

1. In a process for the production of a cycloolefinic compound containing at least eight carbon atoms in the ring by contacting an open chain conjugated diolefin with a nickel carbonyl catalyst in the presence of a solvent and at a temperature between about 90° and about 150° C., the improvement comprising the step of conducting the reaction in the presence of a compound selected from the group consisting of isobutylene and its dimerization product.

2,972,641
MANUFACTURE OF POUR DEPRESSOR
Rudy Herzel, Dyer, and Robert L. Campion, Whiting, Ind., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana
Filed Oct. 12, 1956, Ser. No. 615,575
2 Claims. (Cl. 260—671)

1. An improved process for preparing a pour depressor suitable for use in wax-containing hydrocarbon oil which process comprises (1) chlorinating a paraffin wax having a melting point between about 128° and 136° F., at a temperature between about 200° and 275° F. until the product has a chlorine content between about 12 and 16 weight percent, (2) reacting said chlorinated wax and naphthalene, between about 6 and 10 lbs. of said paraffin wax per lb. of naphthalene, at a temperature between about 175° and 225° F., in the presence of a catalyst, (3) removing catalyst from the product mixture of step 2 by contacting said mixture with aqueous caustic solution and separating neutralized pour depressor from aqueous solution, and (4) removing water from neutralized pour depressor to obtain essentially anhydrous pour depressor, wherein said catalyst consists of an $AlCl_3$-hydrocarbon complex containing between about 30–35 weight percent of $AlCl_3$ (theoretical), about 35–45 weight percent of benzene and the remainder higher boiling alkylated benzenes, which complex had been derived from the alkylation of benzene with an olefin polymer containing 12–15 carbon atoms, under conditions to produce predominately the monoalkylate, using between 1 and 10 weight percent of solid $AlCl_3$ catalyst and 0.1 to 1 weight percent of HCl, based on olefin polymer charged and the subsequent separation of liquid $AlCl_3$-hydrocarbon complex from the alkylation hydrocarbon reaction mixture.

2,972,642
PROCESS FOR ALKYLATING HYDROCARBONS
William C. Pfefferle, Florham Park, and Paul N. Rylander, Newark, N.J., assignors, by mesne assignments, to Engelhard Industries, Inc., Newark, N.J., a corporation of Delaware
No Drawing. Filed May 15, 1958, Ser. No. 735,388
14 Claims. (Cl. 260—671)

1. A method for the alkylation of an alkylatable hydrocarbon with a monoolefin hydrocarbon which comprises passing a mixture of said alkylatable hydrocarbon and said monoolefin hydrocarbon under alkylating conditions into contact with a solid catalyst which consists essentially of at least one refractory metal oxide other than aluminum oxide supported on a base which essentially comprises calcined alumina which is characterized

by large pore, high area structure essentially composed of gamma alumina modifications resulting from the drying and calcination of a mixture of precursor hydrous alumina phases containing at least about 65 percent of trihydrate, said base after calcining and before using having an area (BET method) of from about 350 to about 550 square meters per gram, said alkylatable hydrocarbon being selected from the group consisting of aromatic hydrocarbons and isoparaffins.

2,972,643

PREPARATION OF AROMATICS FROM ALIPHATIC OLEFINIC HYDROCARBONS CONTAINING FROM 2 TO 7 CARBON ATOMS PER MOLECULE

Charles Newton Kimberlin, Jr., and William Judson Mattox, both of Baton Rouge, La., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed May 1, 1957, Ser. No. 656,183
9 Claims. (Cl. 260—673)

1. A process for the production of aromatics which comprises contacting a feed consisting essentially of aliphatic olefinic hydrocarbons containing from 2 to 7 carbon atoms per molecule with an adsorbent consisting of a crystalline alumino-silicate zeolite having pore openings above about 6 A. as the only catalytic agent at temperatures of from about 350° to 850° F. for a period sufficient to convert the olefinic hydrocarbons into aromatics.

2,972,644

DEHYDROGENATION OR DEHYDROCYCLIZATION OF NON-AROMATIC HYDROCARBONS

Peter Desmond Holmes, John Charles Stalley, and John Arthur Edgar Moy, Sunbury-on-Thames, England, assignors to British Petroleum Company Limited, London, England, a British corporation

No Drawing. Filed Nov. 4, 1957, Ser. No. 694,106
Claims priority, application Great Britain Nov. 14, 1956
2 Claims. (Cl. 260—673.5)

1. A process for the treatment of a feedstock in which at least a major proportion thereof consists of non-aromatic hydrocarbons having at least 5 carbon atoms in a molecule to form aromatics with substantially no deleterious side reactions occurring, comprising contacting the feedstock in a reaction zone in the presence of a catalyst consisting essentially of 0.01 to 5% by weight of platinum, 0.01 to 5% by weight of an alkaline earth metal in combined form, and the balance alumina, and at a temperature of from 400–600° C., tt a pressure not in excess of about 50 p.s.i. ga., and at a space velocity of 0.1 to 1.0 v./v./hr., and in the absence of added hydrogen to the eraction zone, and recovering aromatics therefrom.

2,972,645

CONJUGATED DIENES FROM TERTIARY ETHERS

Joseph A. Verdol, Dolton, and Russell W. Walker, Lansing, Ill., assignors to Sinclair Refining Company, New York, N.Y., a corporation of Maine

No Drawing. Filed May 20, 1959, Ser. No. 814,380
7 Claims. (Cl. 260—681)

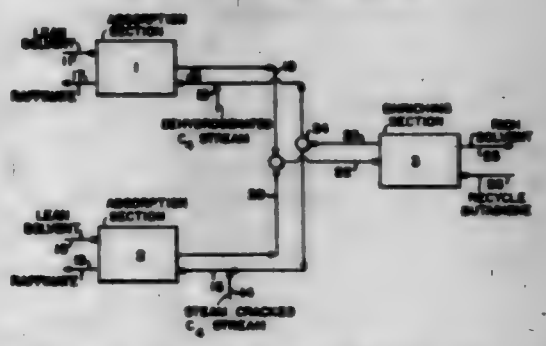
1. A method for making a conjugated diene which comprises contacting an alkoxy alkane in which the alkoxy group is attached to a tertiary carbon of an alkyl group of 5 to about 12 carbon atoms, in the vapor phase with a dehydrogenating catalyst at a temperature of about 1000° F. to 1250° F. while the ether is in admixture with about 3 to 50 moles of an inert gas per mole of ether.

2,972,646

SEPARATION OF BUTADIENE

Robert P. Cahn, Elizabeth, N.J., and Earle R. Gertler, Baytown, Tex., assignors to Esso Research and Engineering Company, a corporation of Delaware

Filed July 29, 1958, Ser. No. 751,720
5 Claims. (Cl. 260—681.5)



1. A process for extracting butadiene from at least two butadiene-containing streams of different composition, which comprises countercurrently contacting each butadiene-containing stream in separate absorption zones with a cuprous ammonium acetate solvent in countercurrent flow to the streams to obtain separate rich extracts containing butadiene and in addition impurities absorbed by said solvent, combining the rich extracts and passing the mixed rich extract through an enriching section, concomitantly passing in countercurrent flow to said mixed rich extract substantially pure butadiene to strip said impurities from the combined rich extracts, recovering a rich extract containing butadiene substantially free of said impurities, withdrawing a butadiene stream containing said stripped impurities from said enriching section and recycling said impurities-containing butadiene stream to at least one of the absorption zones and recovering at least two raffinate streams of different composition from said absorption zones.

2,972,647

PROCESS FOR THE PRODUCTION OF ETHYLENE

Kurt Fischer, Altötting, Upper Bavaria, and Günter Rummert, Burghausen an der Salzach, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning, Frankfurt am Main Hoechst, Germany, a company of Germany

No Drawing. Filed May 24, 1954, Ser. No. 432,016
Claims priority, application Germany June 8, 1953
4 Claims. (Cl. 260—683)

1. A process for the production of ethylene in high yield comprising the steps of thermally cracking hydrocarbons, having more than two carbon atoms, in a single reaction chamber to which fresh liquid hydrocarbons are continuously added, to form ethylene, carbon and by-products, including methane, conducting the ethylene, carbon and by-products through separation stages for the removal of carbon and recovery of the ethylene, and then returning all hydrocarbon by-products to the single reaction chamber.

2,972,648

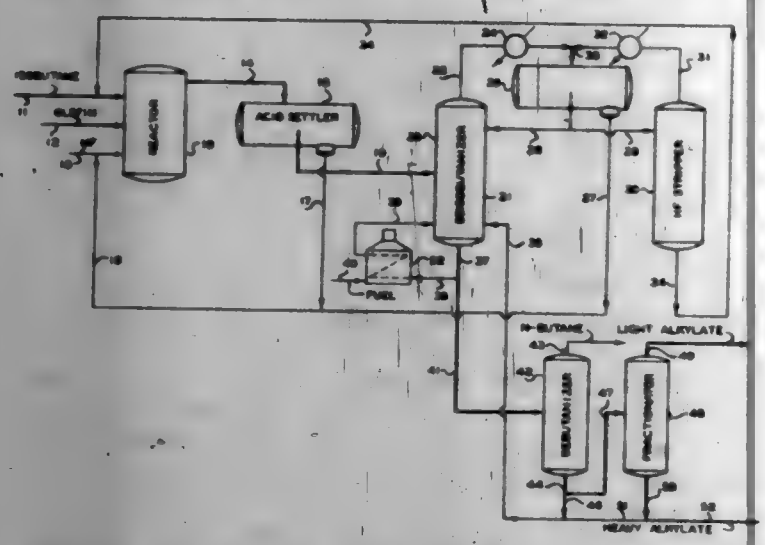
HYDROGEN FLUORIDE ALKYLATION PROCESS AND APPARATUS

Merritt V. De Lane, Jr., Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Sept. 8, 1958, Ser. No. 759,535
10 Claims. (Cl. 260—683.42)

1. In a process wherein isobutane is alkylated with olefin in the presence of hydrogen fluoride and the reaction effluent is separated into an acid phase and a hydrocarbon phase, the improved method of defluorinating said hydrocarbon phase which comprises fractionating said hydrocarbon phase in a fractionation zone to form an overhead stream comprising hydrogen fluoride and

isobutane and a bottoms product comprising alkylate, normal butane and organic fluorides; combining said bottoms product with a debutanized alkylate subsequently described; heating said bottoms product and debutanized alkylate to defluorination temperature thereby decomposing said organic fluorides; recirculating the thus heated



bottoms and alkylate to said fractionation zone; withdrawing bottoms from said fractionation zone; fractionating said bottoms to form a normal butane overhead stream and an alkylate kettle product; and recirculating a portion of said alkylate product as said above-mentioned debutanized alkylate.

2,972,649

PROCESS FOR ALKYLATING PARAFFINIC HYDROCARBONS

Owen H. Thomas, Chicago, and Glenn O. Michaels, Park Forest, Ill., assignors to Sinclair Refining Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Jan. 31, 1958, Ser. No. 712,385
3 Claims. (Cl. 260—683.53)

1. A process for alkylating C_4 to C_{10} paraffinic hydrocarbon materials with low molecular weight olefinic hydrocarbon materials, the step comprising contacting the hydrocarbon materials with a catalyst in a reaction zone under alkylating conditions including the presence of hydrogen halide in the reaction zone, a temperature from about 150 to 450° F., and providing hydrogen in the reaction zone in a hydrogen to olefinic hydrocarbon material molar ratio from about 0.01 to 0.25:1, said catalyst consisting essentially of about 0.01 to 2% of a platinum group noble metal, about 2 to 50% of an aluminum halide-Friedel-Crafts component and about 40 to 95% of an activated alumina.

2,972,650

TWO-STAGE ISOMERIZATION OF NORMAL PARAFFINS

Emmett H. Burk, Jr., Hazelcrest, John Mool, Homewood, and Owen H. Thomas, Chicago, Ill., assignors to Sinclair Refining Company, New York, N.Y., a corporation of Maine

No Drawing. Filed May 7, 1959, Ser. No. 811,537
10 Claims. (Cl. 260—683.66)

1. In a method for isomerizing C_5 to C_6 n-paraffins in a feed containing aromatics, the steps comprising contacting said n-paraffins under first stage conditions with a first stage catalyst at a temperature of about 200 to 750° F. and in the presence of free hydrogen to produce a first stage reaction product, contacting the first stage reaction product under second stage conditions with a second stage catalyst at a temperature from about 150 to 450° F. and in the presence of free hydrogen and while providing about 1 to 25 percent of a hydrogen halide with an atomic weight between 35 and 85 based on the first stage reaction product; said first stage catalyst consisting essentially of about 0.01 to 2% of a platinum group noble metal and about 3 to 20% of boria on activated alumina and said second stage catalyst consisting essentially of about 0.01 to 2% of a platinum group noble metal and about 2 to 50% of an aluminum halide Friedel-Crafts component on activated alumina.

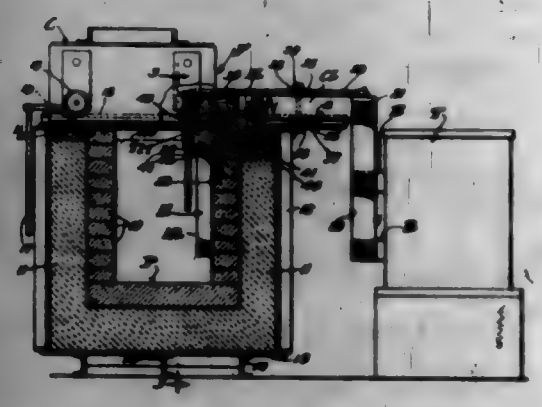
ELECTRICAL

2,972,651

ELECTRODE ARRANGEMENT IN A SALT BATH FURNACE

Leon B. Reesen, Narberth, Pa., assignor to Ajax Electric Company, Philadelphia, Pa., a corporation of Pennsylvania

Filed Apr. 13, 1956, Ser. No. 577,980
14 Claims. (Cl. 13—23)



1. In an electric salt bath furnace, an upwardly open pot, a removable electrode comprising, a generally vertical hot leg positioned in the pot adjacent a wall and below the normal level of the salt bath, a generally horizontal cold leg positioned above and extending outwardly beyond the furnace wall and, interconnecting said hot leg and cold leg, an intermediate portion sloping outwardly and upwardly from the upper end of the hot leg to the inner end of the cold leg, the inside upper edge of the pot wall being chamfered to conform to the bottom surface of the intermediate portion of the electrode, and removable block means adapted to cooperate with the chamfer surface to closely surround the intermediate portion.

2,972,652

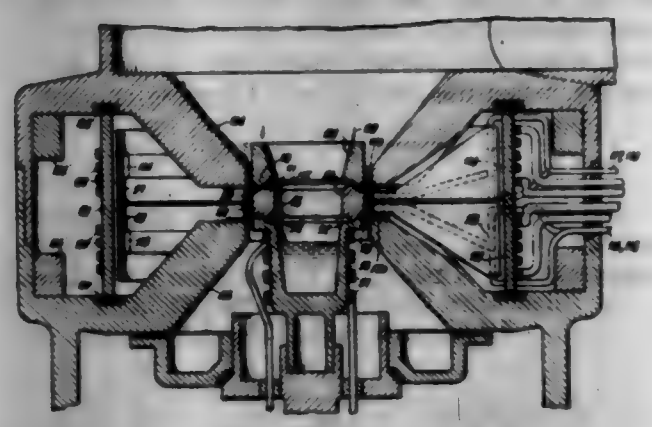
VACUUM INDUCTION FURNACE

Hugo Joseph Seemann, Saarbrucken, and Herbert Walter Sinata, Neuweiler, Saar, Germany, assignors to W. C. Heraeus G.m.b.H., Hanau (Main), Germany, a corporation of Germany

Filed July 30, 1958, Ser. No. 757,436
7 Claims. (Cl. 13—27)

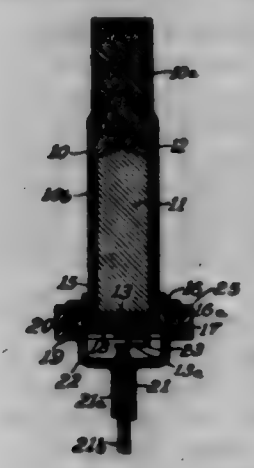
1. A vacuum induction furnace comprising a crucible mounted inside a vacuum chamber and constructed and arranged to contain a material to be melted, means for transmitting high-frequency electric currents to said crucible and material, said transmitting means comprising a concentrator assembly mounted inside the vacuum chamber and a primary coil mounted outside the vacuum chamber, said concentrator assembly including an outer

concentrator sleeve means and an inner concentrator sleeve means surrounding and adjacent the crucible, and



means for producing a stationary magnetic field within the area of the crucible and the material therein.

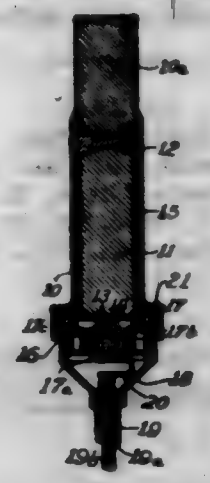
2,972,653
THERMOELECTRIC GENERATOR
Robert W. Fritts, Elm Grove, Wis., and Sebastian Karrer, Port Republic, Md., assignors, by mesne assignments, to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed Nov. 24, 1953, Ser. No. 394,068
8 Claims. (Cl. 136—4)



1. An incapsulated thermoelectric generator comprising, a pair of spaced apart elongated thermocouple element means, at least one of which is a semi-metallic alloy, connected at portions thereof to provide a hot junction, means for hermetically sealing said semi-metallic alloy thermocouple element means from ambient atmosphere, and means including said hermetic sealing means adjacent one end of said semi-metallic alloy thermocouple element means accommodating differential linear thermal expansion and contraction of said pair of thermocouple element means relative to each other.

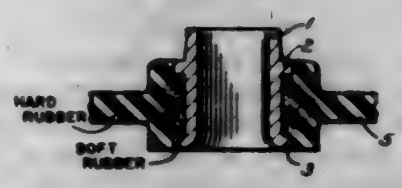
2,972,654
THERMOELECTRIC GENERATOR
Robert W. Fritts, Elm Grove, Wis., and Sebastian Karrer, Port Republic, Md., assignors, by mesne assignments, to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed Nov. 24, 1953, Ser. No. 394,073
10 Claims. (Cl. 136—4)

1. A thermoelectric generator comprising, a pair of elongated spaced apart thermocouple element means, at least one of which is a semi-metallic alloy, connected at portions thereof to provide a hot junction, said thermocouple element means having substantially matching linear thermal expansion upon heating of said hot junction whereby said thermocouple element means maintain substantially the same lengths relative to each other, and means associated with said thermocouple element means substantially matching the linear thermal expansion of



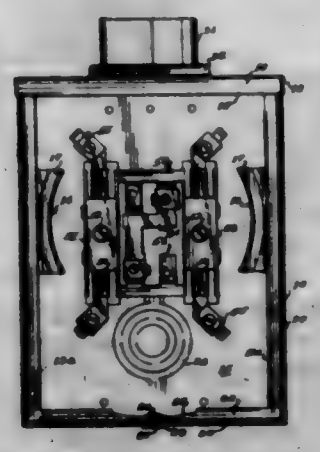
the latter for hermetically sealing said semi-metallic thermocouple element means from ambient atmosphere.

2,972,655
JOINTING OF METAL INSERTS TO PLASTIC MATERIALS
Howard J. Strauss, Abington Township, Montgomery County, Pa., assignor to The Electric Storage Battery Company, a corporation of New Jersey
Filed Jan. 31, 1958, Ser. No. 712,578
2 Claims. (Cl. 136—168)



2. A battery cover comprising, in combination, a lead battery post bushing, a pair of flanges on the outside wall of said bushing, a soft rubber ring surrounding said bushing between said flanges, and a hard rubber composition molded around said bushing and soft rubber ring to form the cover and to compress said soft rubber against the bushing.

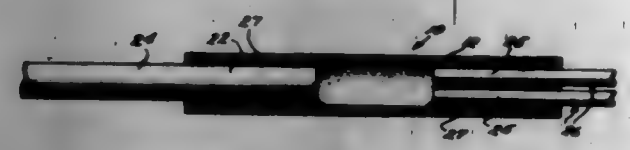
2,972,656
METER BOX AND REVERSIBLE SHORTING BAR THEREFOR
James T. Fisher, Decatur, Ga., assignor to B & C Metal Stamping Company, Atlanta, Ga., a partnership
Filed Jan. 4, 1957, Ser. No. 632,576
4 Claims. (Cl. 174—59)



1. In a plug-in meter fixture including a skeletal frame having side bridges, insulation blocks on said bridges, plug-in meter socket contacts on each of said blocks, and parallel top and bottom bars joining said bridges, the combination of a pair of connector receiving legs on each

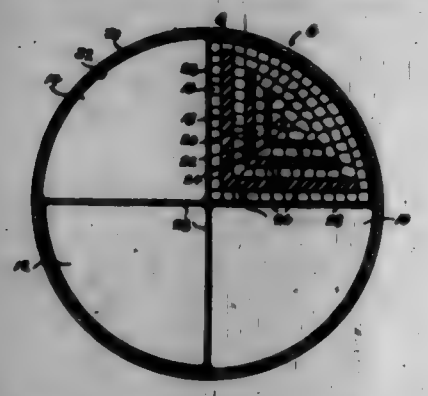
of said bars and a highly conductive removable shorting bar interconnecting the leg at one side of one bar with the leg at the opposite side of the opposite bar.

2,972,657
CONNECTOR
Henry F. Stemke, 6822 Beckwith Road, Morton Grove, Ill.
Filed May 11, 1956, Ser. No. 584,230
1 Claim. (Cl. 174—84)



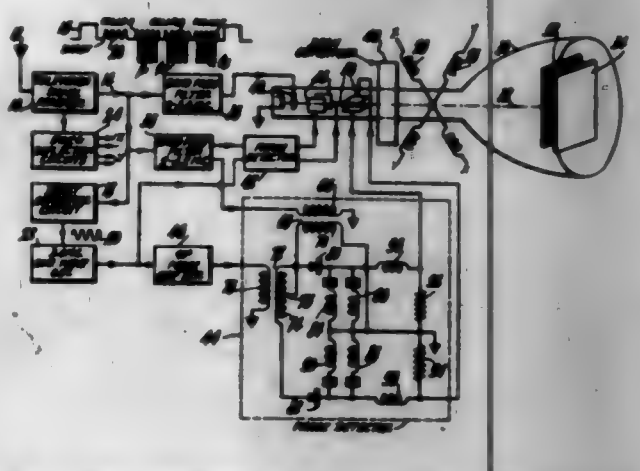
As an article of manufacture, a connector for joining electric wires by means of solder carried by the connector comprising a tubular braided metal sleeve of short length to conveniently receive the ends of electric wires to be connected at the respective ends of the sleeve, said sleeve having an elongated bore extending longitudinally of the sleeve throughout the length of the sleeve and having recesses opening respectively at the exterior thereof and at the interior thereof and having interstitial passages connecting the exterior recesses with adjacent interior recesses, said sleeve being impregnated with solder throughout its length to provide solder in the interior and exterior recesses and in the interstitial passages to rigidly retain the solder with the sleeve and to provide highly efficient heat transfer paths from the exterior of the sleeve to a wire inserted into the bore of the sleeve, said sleeve bore being open and unobstructed over the entire cross section and length thereof at each end of the sleeve with the solder at the interior of said sleeve being in direct unobstructed communication with the bore over the length of the bore for conductive connection with the ends of electric wires to be inserted into the respective ends of said bore in use of said connector.

2,972,658
DYNAMICALLY BALANCED ALTERNATING-CURRENT ELECTRIC CONDUCTORS
Rhea P. Lapsley, Ridgewood, N.J., assignor to The Okonite Company, Passaic, N.J., a corporation of New Jersey
Filed Oct. 28, 1957, Ser. No. 692,616
11 Claims. (Cl. 174—114)



1. An alternating-current, stranded electric conductor comprising a plurality of sector-shaped conducting segments cabled together; each of said segments comprising a plurality of individually insulated conducting strands so laid up as to provide a plurality of nested, sector-shaped, annular layers, each of which layers is composed of a plurality of strands lying side by side, the strands composing the arcuate portion of each layer between the flat faces of each layer lying close to the corresponding strands of the adjacent layer; and spacers disposed within the segment between the flat faces of adjacent layers and extending from the apex of each layer along the two flat faces of the layer, said spacers being so proportioned as to space the layers along their flat faces at such a distance apart that the IR drops of the strand currents within the several conductor strands approach uniformity, when the conductor is carrying current.

2,972,659
COLOR TELEVISION DISPLAY SYSTEMS
George C. Sziklai, Princeton, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed May 29, 1950, Ser. No. 165,031
19 Claims. (Cl. 178—5.4)

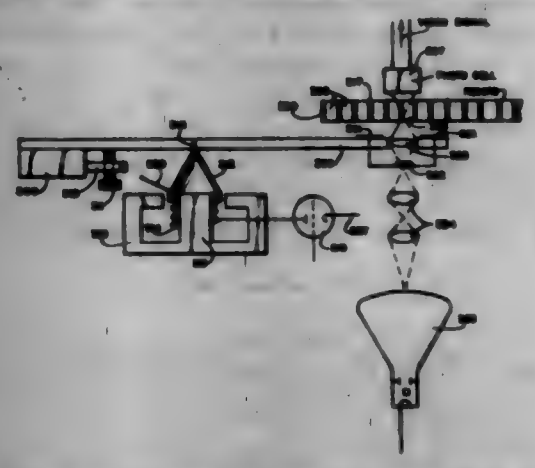


1. In a color television apparatus including a cathode ray tube having a luminescent screen comprising a plurality ot groups of phosphor areas respectively excitable to produce light of a plurality of component colors of an object when impinged by an electron beam approaching said screen at different angles, means including an electron gun for producing an electron beam and for directing it toward said screen, deflection means to cause said beam to scan a raster at said screen and auxiliary deflection means energizable to produce quadrature beam deflecting fields by which to control the angle of approach of said beam to said screen, the combination including: a source of a composite color television signal of the type having a datum component and a color information component, the phase of said color component relative to said datum component representing the color of said object; means for developing a reference signal synchronously related to said datum component; means including phase shifting apparatus coupled to said reference signal developing means to produce two quadrature phases of said reference signal; two phase comparators each having two inputs and one output; means for applying said color component to corresponding inputs of said respective phase comparators; means for applying said quadrature phases of said reference signal to the other corresponding inputs of said phase comparators so as to derive two color indicating signals from the respective outputs of said phase comparators; and means coupling the outputs of said phase comparators to said auxiliary deflection means for impressing said color indicating signals upon said auxiliary beam deflection means to control said quadrature deflecting fields respectively in accordance with said two color indicating signals.

2,972,660
FREQUENCY ADJUSTMENT SYSTEM
Pierre Marie Gabriel Toulon, New York, N.Y., assignor, by mesne assignments, to Moore and Hall, Washington, D.C., a partnership
Filed Sept. 3, 1952, Ser. No. 307,507
21 Claims. (Cl. 178—7.2)

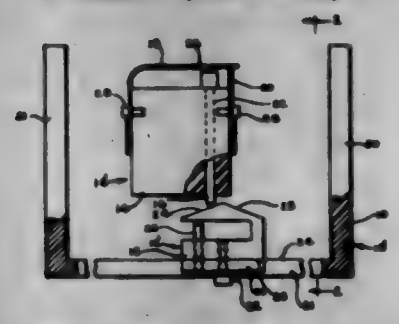
7. In a picture reproduction system, a light transmitting storage means for signals representing an image to be reproduced, optical means to pick up said signals and

convert them into video signals, and circuit characteristic controlling means for maintaining said video signals representative of said stored signals within a selected degree of accuracy, said circuit characteristic controlling means comprising a resonant circuit portion, elements of which are associated with the storage means and with the pick up means, the relation between said elements being



variable with variations in the distance between said storage means and said pick up means to change the resonant frequency of said circuit portion, and means for changing the effective optical distance between said pick up means and storage means in response to changes in said resonant frequency and in such manner as to minimize said changes in resonant frequency, whereby to minimize the effects of fortuitous changes in said distance.

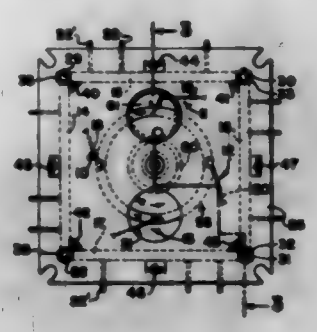
2,972,661
ELECTRICAL SWITCH
Howard E. Rommel, Easton, Conn. (R.F.D. 1, Box 583, Bridgeport, Conn.)
Filed Nov. 13, 1958, Ser. No. 773,715
1 Claim. (Cl. 200—5)



In a distance determining device, a frame; a plurality of parallel, spaced bars defining slots therebetween; a plurality of switches, each having a switch actuating plunger transversely in line with one of said slots; a dog including a body portion slidably mounted in each of said slots; means adapted to adjustably fix each of said dogs at any point along its corresponding slot; a cantilever portion having upwardly converging switch actuating surfaces mounted on said body portion; and means for moving said switch actuating surface relatively to its corresponding dog, whereby the point at which said switch actuating surface actuates the transversely movable plunger of its corresponding switch during relative rectilinear movement between said switches and frame may be adjusted independently of the means for adjustably fixing said dog along its corresponding slot.

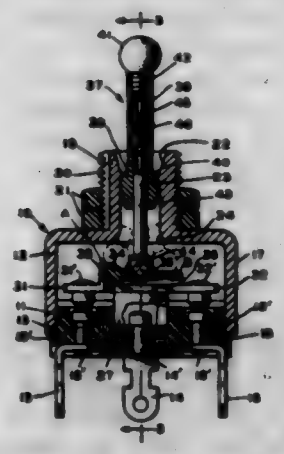
2,972,662
CYCLIC SWITCHING MECHANISM
Arthur W. Hayden, Milford, Conn., assignor to Consolidated Electronics Industries Corp., New York, N.Y., a corporation of Delaware
Filed May 6, 1958, Ser. No. 733,375
5 Claims. (Cl. 200—38)

1. A low-cost repeat cycle timer mechanism or the like comprising a pair of spaced frame plates, bearing means in each frame plate, a shaft journalled in said bearing means and mounting at least one cam between said frame plates, a plurality of mounting plates disposed circumferentially about said shaft and having axial end edges in abutting engagement with opposed surfaces of said frame plates, tie means engaging said frame plates and clamping said mounting plates firmly between said



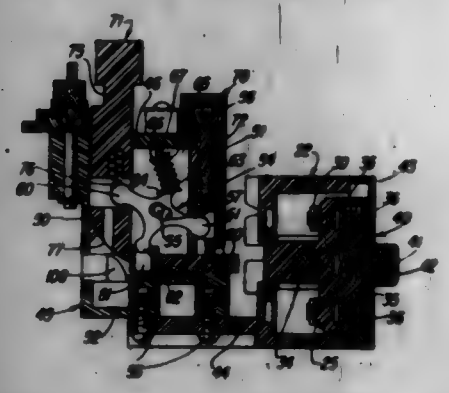
frame plates, locating projections on said frame plates positioning said mounting plates relative to the axis of said shaft, said tie means and said locating projections comprising the only substantial means of securing and positioning said mounting plates in said mechanism, and a switch mounted on at least one of said mounting plates and having an element positioned for engagement and actuation by said cam.

2,972,663
TOGGLE SWITCH
Martin Zanichkowsky, Richmond Hill, and Anthony J. Sciarrino, Massapequa, N.Y., assignors to Allied Control Company, Inc., New York, N.Y., a corporation of New York
Filed Feb. 3, 1958, Ser. No. 712,971
2 Claims. (Cl. 200—67)



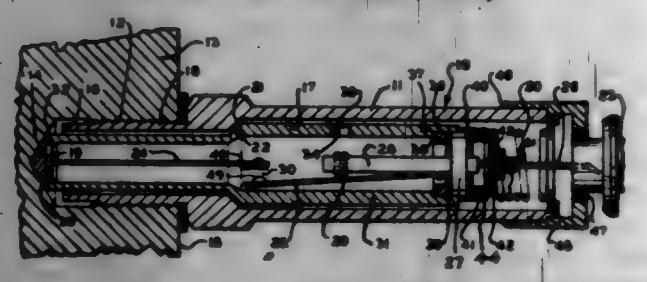
1. In a toggle switch, a housing comprising a base and a cover secured to the base, a pair of spaced electrical contacts carried by the base, a rocker unit mounted for rocking movement within the housing and adapted to contact said electrical contacts separately, and actuating means for effecting rocking movement of the rocker unit in opposite directions to thereby cause the same to make contact with a selected one of the electrical contacts, said actuating means comprising a tubular handle pivotal with respect to the cover, a rod unit slidable in the handle and bearing at one end against the rocker unit, spring within the handle and normally and yieldingly urging the rod unit toward the rocker unit, adjustable means carried by the handle and spaced from the rod unit for varying the loading on the spring and a floating pin within the confines of the spring and adapted to bear at its ends against the other end of the rod unit and the adjustable means to limit the loading on the spring in use.

2,972,664
MANUAL MOTOR STARTER WITH OVERLOAD PROTECTION
William C. Furnas, Batavia, and Irving W. Krieger, St. Charles, Ill., assignors to Furnas Electric Company, Batavia, Ill., a corporation of Delaware
Filed June 8, 1959, Ser. No. 818,677
10 Claims. (Cl. 200—124)



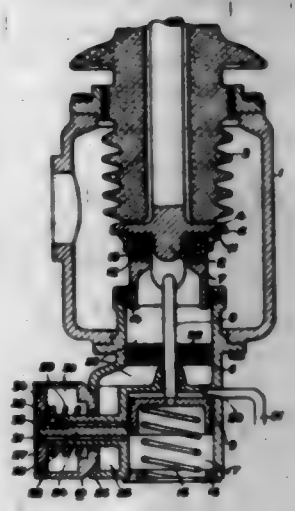
1. In a manual actuator for controlling the actuation of normally closed switch contacts, in combination, a toggle member journalled for oscillating movement, a resilient coil spring in contact with the toggle member for tensioning the member into off-center positions on respective sides of a central plane passing through the journalling axis, a stop push button slide located on one side of the member and operatively connected to the toggle member, a start push button slide located on the other side of the member and also operatively connected thereto, a reciprocable bar having a retracted and a protruded position, said bar being operatively connected to the toggle member and being reciprocated into a protruded position by actuation of the stop push button slide to locate the toggle member in one of its off-center positions, said bar being reciprocated into a retracted position by actuation of the start push button slide to locate the toggle member in the other of its off-center positions, a rotatable jogging button for locking the stop push button slide against actuation when the jogging button is rendered operative, and said operative connections between the push button slides and the toggle member being so constructed and arranged that with the jogging button operative only limited actuation of the start push button slide is possible to partially retract the reciprocable bar from its protruded position.

2,972,665
THERMAL SWITCH
William C. Moodie, Jr., Montclair, and Edward B. Hildum, Plainfield, N.J., assignors to Control Products Inc., Harrison, N.J., a corporation of New Jersey
Filed Dec. 14, 1959, Ser. No. 859,491
7 Claims. (Cl. 200—138)



1. In a switch actuated responsive to thermal changes in an article to which said switch is attached, said article having a threaded recess terminating in an inner end, said recess extending inwardly of a surface of said article, said switch comprising an elongated outer casing, open at one end, and having an axial internal opening extending to said open end of the casing, an externally threaded portion on said casing adjacent and spaced from said open end thereof, an elongated inner shell freely slidably positioned within the outer casing, means engaging the inner shell and outer casing and normally urging one end of said inner shell out of the casing, means limiting the extent of movement of the shell, a heat absorbing head secured to said one end of the casing, and proportioned to conform to the inner end portion of the recess for contact seating thereagainst under pressure of said urging means, and thermally actuated switch elements in said shell connected to said heat-absorbing head of the shell, whereby the threaded end of said casing may be engaged with the threaded recess of said article to position the heat-absorbing head of the inner shell against the inner end portion of the article recess and on further threading of the switch into the recess the head of the shell will retract slightly in the casing, against said urging means.

2,972,666
AIR BLAST CIRCUIT BREAKERS WITH BREAKING GAPS IN COMPRESSED AIR CONTAINERS CARRIED BY INSULATOR PILLARS
Haakon Forwald, Ludvika, Sweden, assignor to Allmanna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a corporation of Sweden
Filed June 19, 1958, Ser. No. 743,166
Claims priority, application Sweden June 29, 1957
4 Claims. (Cl. 200—148)

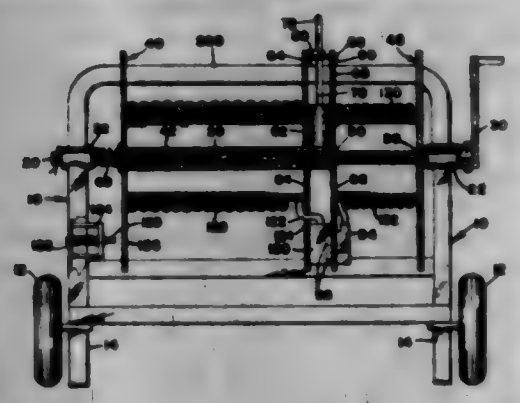


1. Air blast circuit breaker with containers permanently filled with compressed air carried by insulating pillars and enclosing a breaking gap the stationary contact of which is carried by a leading-through insulator inserted in one wall of the container and its movable contact being a nozzle contact, which together with operating members is arranged in a mechanism housing inserted in the wall of the air container opposite the leading-through insulator, comprising an air blast valve consisting of a valve member joined with the said nozzle formed contact, which valve member, when the breaking gap is closed, rests tightly against the stationary contact, and an outlet valve which is arranged to block, after an interruption, an outlet opening in a gas escape channel leading from said blast valve and to hold this outlet opening blocked until the breaking gap has been closed after closing the circuit breaker.

2,972,667
PORTABLE CABLE REEL
Charles F. Ryder, Gordon, Nebr.
Filed May 4, 1959, Ser. No. 810,713
6 Claims. (Cl. 200—153)

1. An electrical cable reel comprising a frame, and a shaft rotatably mounted on said frame, means for rotating said shaft, a first reel mounted on said shaft in a manner rotatably with respect thereto, said first reel being slidable endwise of said shaft in either direction, a second reel also mounted on said shaft alongside said first reel, said second reel being fixed to said shaft for rotation

therewith, means constantly urging said first reel toward said second reel, a cam disposed between said first reel and said second reel and adapted to engage the opposed walls of both of said reels, means movably mounting said cam member on one of said reels in a way permitting said cam member to be moved between a first position for holding said reels apart a greater distance and a second position for holding said reels apart a lesser distance, means for rotating said cam member between said first and second positions, one of said reels having a projection extending outwardly therefrom and extending toward the other reel, the other reel having a recess therein for receiving said projection at times when said recess is disposed in registry with said projection, male and female electrical fittings mounted respectively on said reels ad-



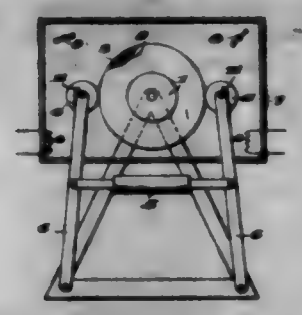
jacent the opposing ends thereof, said male and female fittings being positioned so as to be in fitting registry only at times when said projection is in registry with said means for receiving said projection whereby coils of wires can be attached to said electrical fittings for reception on said reels respectively, the construction being such that when said cam member is in said second position of lesser reel spacing, said projection will register with said projection receiving means and said male and female fittings will be interconnected and also such that when said cam member is in the first position for greater reel spacing said projection will be out of said projection receiving means and said male and female fittings will be separated whereby said reels are freely rotatable independently of each other.

2,972,668

METHOD AND ARRANGEMENT FOR UNIFORMLY HEATING A BAND-SHAPED MATERIAL

Johan Eric Haiden Westberg, Leif Erik Roland Söderberg, and Axel Emil Bergström, all of Lidingo, Sweden, assignors to Svenska Aktiebolaget Gasaccumulator, Lidingo, Sweden, a corperation of Sweden

Filed Sept. 25, 1957, Ser. No. 686,059
Claims priority, application Sweden Oct. 9, 1956
10 Claims. (Cl. 219—19)



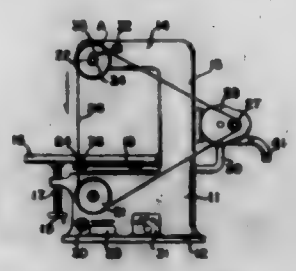
1. Apparatus for uniformly heating band-shaped material comprising a first roller mounted for rotation, a band adapted to emit heat and wound in inter-engagement with said material in a plurality of turns on said first roller, at least one second roller mounted adjacent said first roller and in pressure engagement with said material, and means for producing heat in said band.

2,972,669

MATERIALS CUTTING APPARATUS AND METHOD

Clyde A. Brown, 1080 Estes St., Lakewood, Colo.

Filed Oct. 25, 1957, Ser. No. 692,321
4 Claims. (Cl. 219—19)



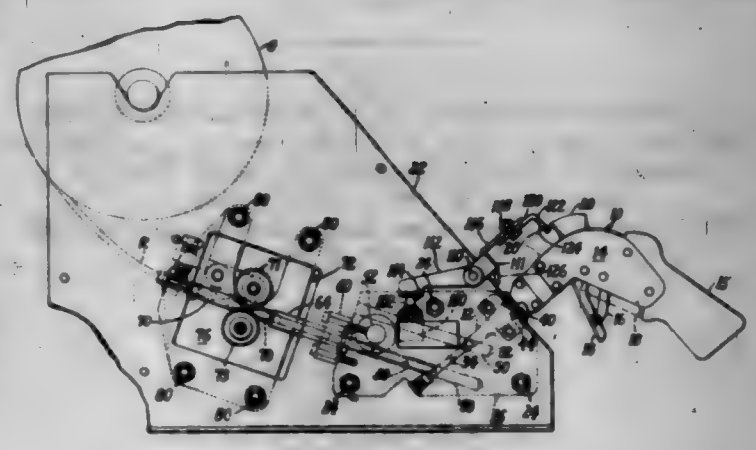
1. Materials cutting apparatus comprising a frame, a work surface disposed on said frame and movable with respect thereto, guide means on said frame, an endless cutting element adapted to move along a closed path defined by said guide means and past said work surface, a source of electrical power inclusive of an electrical circuit, contacts connected in said electrical circuit and positioned along said cutting element for energizing and heating said element with one of said contacts being movable with said work surface, and drive means for moving said cutting element along its closed path and past said contacts unidirectionally from one to the other.

2,972,670

CEMENT HANDLING APPARATUS

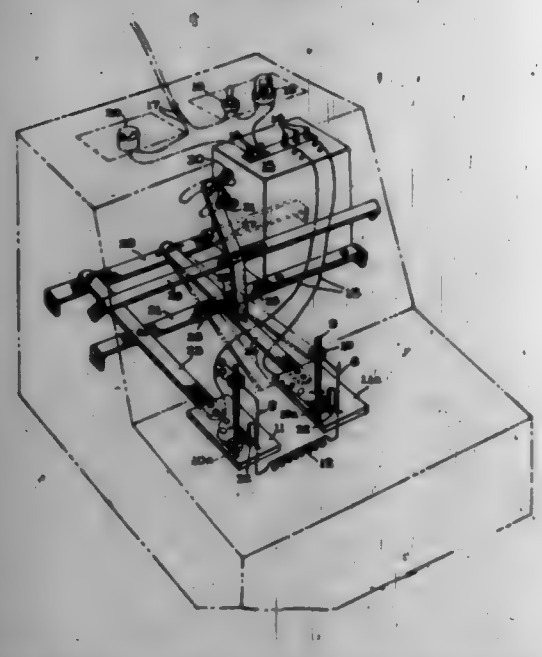
Adolph S. Dorosz and William R. Wade, Beverly, Mass., assignors to United Shoe Machinery Corporation, Boston, Mass., a corporation of New Jersey

Filed Sept. 4, 1959, Ser. No. 838,152
8 Claims. (Cl. 219—19)



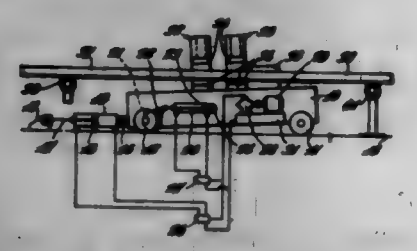
1. In a device for melting and feeding cement in the form of a rod of indefinite length and generally circular in cross section, a casing formed to provide a passageway therein, means for heating the casing to melt the leading end of a rod of cement within the passageway, an elongated member formed with a bore extending lengthwise therein secured to and projecting outwardly from the casing with the bore in alinement with said passageway, and means for feeding the leading end of a solid rod of cement through the bore in said member and into the passageway in said casing, said bore being of generally cylindrical cross section and having a first portion of substantially the same diameter as that of the rod of cement adjacent to its outer end remote from the casing and a second portion of gradually increasing diameter from the first portion to the point where it joins the outer end of the passageway in said casing.

2,972,671
CLOTH MARKER
William R. Truitt, P.O. Box 366, Bremen, Ga.
Filed Mar. 24, 1958, Ser. No. 723,270
5 Claims. (Cl. 219—29)



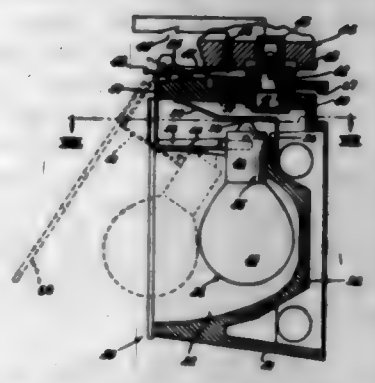
1. A device for marking scorched guide lines on superimposed plies of fabric or the like, including, a housing having a work top provided with openings adjacent the rear edge thereof, vertically arranged electrically heated marking elements disposed in said openings, means on the housing for supporting one of said elements in a stationary position, means for pivotally supporting the other of said elements on the housing for limited movement toward and from the other heated element, and handle means exterior of the housing connected with said means pivotally supporting one of said marking elements to adjust the same relative to the other, and means for locking said handle in a set position.

2,972,672
ELECTRIC RESISTANCE WELDING MACHINES
Samuel Hunter Gordon, Inverness, Scotland, assignor to Resistance Welders Limited, Inverness, Scotland
Filed June 16, 1958, Ser. No. 742,118
Claims priority, application Great Britain June 21, 1957
6 Claims. (Cl. 219—101)



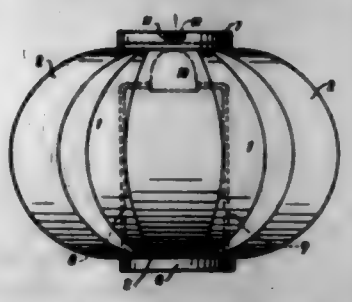
1. In an electric resistance welding machine for welding together adjoining ends of lengths of rail, a machine frame, clamping units carried by said machine frame and disposed above the frame in spaced relation so as to support the rail lengths on opposite points at their adjoining ends and clamp the lengths of rail to be welded together, each clamping unit including a lower clamping member fixedly upstanding from the frame, and an upper clamping member movable vertically relative to said lower clamping member, means for supporting said frame for longitudinal tilting movement of said frame in an upward and downward direction, and means for moving said supporting means to effect such movement and thereby move said lower clamping members upwardly and downwardly without movement relative to said frame.

2,972,673
PHOTOFLASH ATTACHMENT
John N. Graef, 737 S. Mitchell St., Arlington Heights, Ill.
Filed Jan. 25, 1956, Ser. No. 561,233
1 Claim. (Cl. 240—1.3)



A photoflash device for supporting a glass globed bulb having a cylindrical base with laterally extending bayonet pins and with a centrally located base electrical contact comprising a body having a wall forming a reflector cavity therein with an open front and being slightly larger than the glass globe of the bulb, an intermediate wall on said body forming part of the reflector cavity wall and having a slot facing the open front of the cavity and being of a size to pass the base of the bulb so that the bulb may be dropped into the reflector cavity and the base will be guided by said slot, a terminal positioned outside of said cavity opposite said slot to be engaged by the base electrical contact of the bulb, a bracket member having a bifurcated open inner end facing said reflector cavity engaging and holding the base of the bulb in said slot and engaging the pins of the bulb and forcing the central base contact of the bulb against said terminal, a hook-like end portion on said bracket member, an upstanding land portion on said body with an adjacent inclined face substantially matching the hook-like end portion of the bracket member, said bracket pivotally supported on said hook-like end portion for movement between a bulb-release position wherein the bulb can be placed in said slot and a bulb-locking position wherein the bulb is held in said slot by said bifurcated inner end, and a retaining and connecting spring mounted on the body and pressing said hook-like end portion onto said land so that the bracket member will pivot on said hook-like portion and the bracket member will rest against said land portion in bulb-release position and the hook-like end portion will rest against the inclined face in bulb locking position to hold the bracket in said positions.

2,972,674
DIFFUSER DEVICE FOR LAMPS IN GENERAL
Jose Antonio Cederch de Sentmenat, 4 Plaza Calvo, Barcelona, Spain
Filed June 19, 1958, Ser. No. 743,153
3 Claims. (Cl. 240—36)



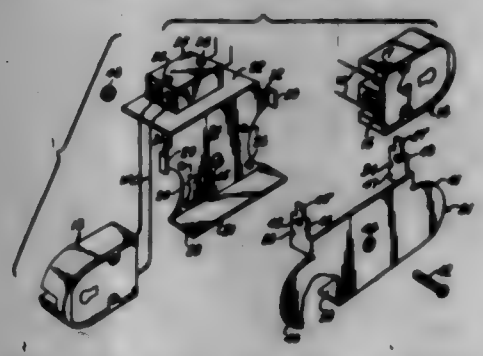
1. A lamp comprising an upper frame member and a lower frame member spaced from each other and having a plurality of pegs thereon, and two pluralities of curved translucent lanceolate-shaped elements, the elements of one plurality of elements being shorter than and

having a larger radius of curvature than the elements of the other plurality, said elements being connected between said upper and lower frame members with the ends thereof hooked to said pegs, the elements of one plurality alternating with the elements of the other plurality around the peripheries of the frame members with the edges of the elements with the smaller radius of curvature overlapping the edges of the elements with the larger radius of curvature in the peripheral direction and being spaced therefrom in the radial direction.

2,972,675
FLUORESCENT LIGHTING FIXTURE AND SOCKET ASSEMBLY THEREFOR

Henry C. Schiffer, Cheshire, Conn., assignor to The Miller Company, Meriden, Conn., a corporation of Connecticut

Filed Sept. 10, 1956, Ser. No. 608,795
5 Claims. (Cl. 240—51.11)

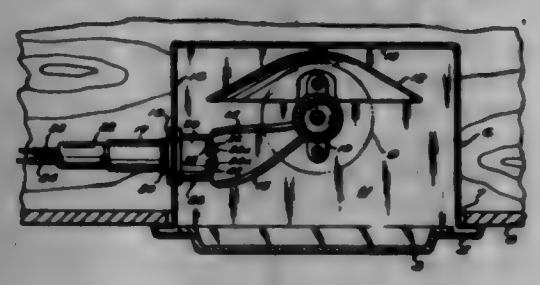


1. A fitting for fluorescent lighting fixtures comprising two bi-pin type fluorescent lamp sockets with lamp pin-engageable contacts at their outer ends and a base including wire-securing terminals extending to one side thereof, said base having flat front and rear faces, normally vertical, front and rear plates bearing on the front and rear faces of said bases and having interlocking elements for holding the plates at a fixed spacing to accommodate the socket bases with sockets extending from the edge thereof to prevent transverse and horizontal shifting of one plate relative to the other, the socket bases having recesses in one face and the associated plate having projections which enter the recesses to hold the sockets against shifting, means to secure the two plates together with said socket bases interposed therebetween and hold said sockets in engagement with said projections, said interlocking elements include a bottom flange on one plate and engaging the other plate, and cooperating vertical flanges at the top of each plate for engagement one with the other.

2,972,676
RECESSED LIGHTING FIXTURE

Carl M. Moser, Parma Heights, Ohio, assignor to John C. Virden Company, Cleveland, Ohio, a corporation of Ohio

Filed Apr. 29, 1959, Ser. No. 809,723
12 Claims. (Cl. 240—78)

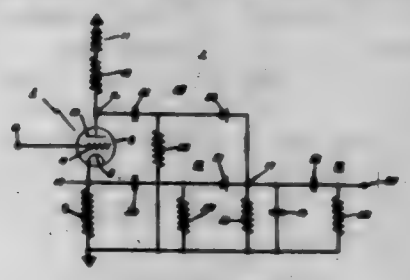


10. In a recessed lighting fixture, a box having a wall, said wall having an opening therein, a lamp socket mounted in said box having a pair of wires connected thereto, a metal sleeve mounted in said opening, an insulating body having a shank proportioned to fit within said sleeve and having a head within said box of greater diameter than the sleeve, a pair of axial bores through said insulating member to receive house wires, means on the head of said insulating body to connect said house wires to said lamp socket wires, and means to secure the insulating body to said sleeve.

2,972,677
INTERFERENCE DETECTING CIRCUIT

Harley R. Meadows, Fort Wayne, Ind., assignor to International Telephone and Telegraph Corporation

Filed Dec. 4, 1957, Ser. No. 700,586
3 Claims. (Cl. 250—20)

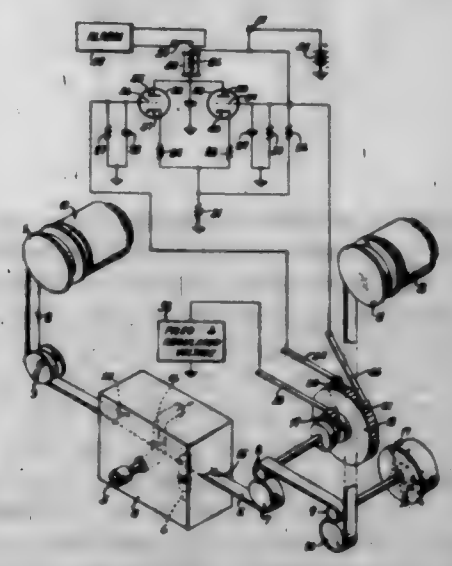


2. A circuit for detecting random noise pulses of either polarity superimposed on an amplitude modulated signal comprising: phase splitting means having an input circuit adapted to be connected to receive an amplitude modulated input signal and having two output circuits, said phase splitting means providing two signals respectively in said output circuits with one of said two signals being the inverse of the other; full-wave detector means coupled to said two output circuits for providing a detected modulation envelope with said noise pulses superimposed thereon; and band-pass means coupled to said detector means for passing only said noise pulses and suppressing the modulation envelope of said detected signal.

2,972,678
AIR PARTICLE MONITOR

Nicholas Anton, 1226–1238 Flushing Ave., Brooklyn 6, N.Y.

Filed July 5, 1955, Ser. No. 519,830
15 Claims. (Cl. 250—43.5)



1. An air particle monitor comprising a supply reel, an air-permeable tape wound on said supply reel, a take-up reel having the other end of said tape wound thereon, an enclosure surrounding a portion of said tape between said reels, air piping means having an air inlet pipe with an opening adjacent one face of said tape within said enclosure and having an outlet pipe having an opening on the other side of said tape in registration with said first opening, whereby air to be monitored passing

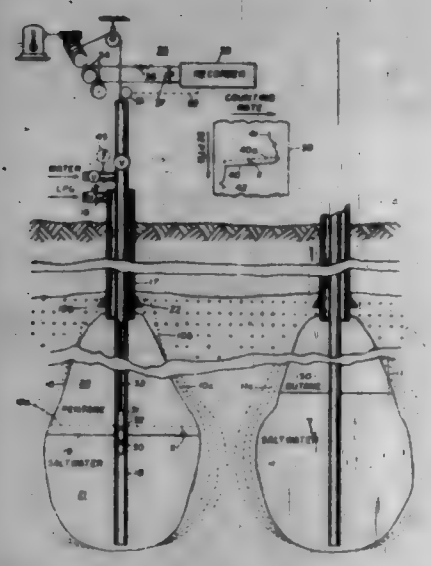
through said piping means must flow through said tape, means in said enclosure adjacent said tape receptive to radioactive material on said tape for providing an indication of the presence of such material, a conductive shaft in contact with and driven by said tape, a commutator secured to and rotatable with said shaft and having electrically connected conductive segments on the circumference thereof separated by intervening insulated segments and electrically connected to said conductive shaft, a roller contact in electrical rolling contact with said driven shaft and thereby in contact with said conductive segments, a source of positive potential coupled to said contact, a pair of additional roller contacts in rolling contact with the circumference of said roller commutator, said additional rolling contact being spaced so that at no time can both such latter contacts touch conductive segments of said commutator, a driving shaft in contact with and adapted to drive said tape, motor means coupled to said driving shaft for continuously rotating said driving shaft to drive said tape at a uniform linear speed and means coupled to said contacts for indicating reduction of the linear speed of said tape below a predetermined value.

2,972,679

METHODS OF DETERMINING THE DIMENSIONS OF UNDERGROUND CAVITIES

Richard L. Caldwell and Robert F. Sippel, Dallas, Tex., assignors, by mesne assignments, to Socony Mobil Oil Company, Inc., New York, N.Y., a corporation of New York

Filed June 19, 1958, Ser. No. 743,215
6 Claims. (Cl. 250—43.5)



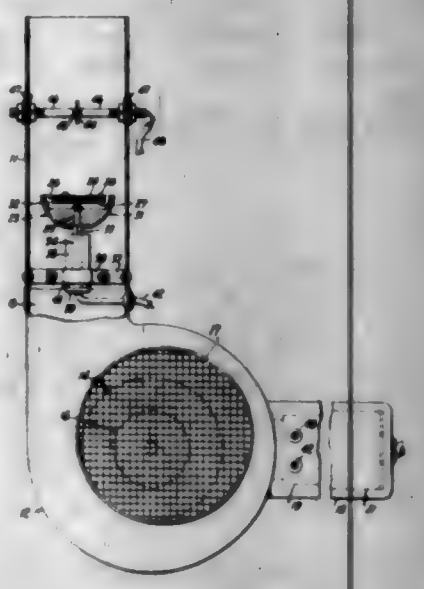
1. The method of determining as a function of depth the horizontal cross section of a petroleum product storage well in a salt formation subject to water erosion in which the liquid petroleum product forms with salt water liquid in the storage well an interface and in which a casing for the addition and removal of salt water liquid extends from the surface toward the bottom of the well, comprising the steps of moving a source of gamma rays through a column of salt water in the casing and thus along a path substantially traversing the depth of the storage well, directing gamma rays out of said salt water column and through the casing into the liquid stored in the storage well and surrounding the casing, at a point a predetermined distance from the source and within said salt water column and inside said casting detecting the gamma rays scattered by the liquid outside the casing, generating a signal representative of the number of scattered gamma rays detected at said point, recording the signal with respect to depth for indication of the location of the interface between the salt water outside the casing and the petroleum product, adding from the surface a known amount of one of the liquids to the storage well and removing at the surface a like amount of the other of the liquids to displace the position of the interface, and repeating the above steps to record the new position of the interface.

2,972,680

ION GENERATOR AND METHOD

William Wesley Hicks, San Francisco, and John Collier Beckett, Kentfield, Calif., assignors to Ionaire, Inc., San Francisco, Calif., a corporation of California

Filed Apr. 26, 1956, Ser. No. 580,902
4 Claims. (Cl. 250—44)



1. In an ion generator adapted to be placed in an airstream, a radioactive source, means for mounting said radioactive source in said airstream, said last named means including means for shielding said radioactive source from said airstream to provide a zone of quiet air downstream from the radioactive source, means including said radioactive source serving as an electrode, an additional electrode mounted in said airstream, means for applying a charge of one sign to said radioactive source and for applying a charge of the opposite sign to said additional electrode whereby ions of the sign opposite the charge on the first named electrode, are collected by the first named electrode and ions of the same sign as the charge of the first named electrode are repulsed therefrom and follow the electrostatic flux lines towards the additional electrode and pass into the airstream which sweeps them past the additional electrode and into the surrounding air.

2,972,681

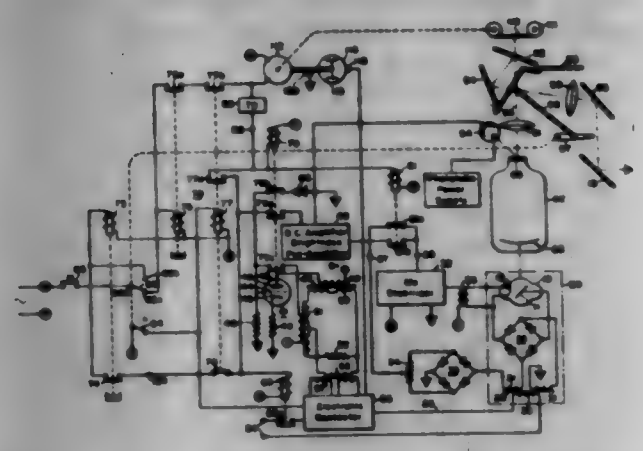
CINEFLUOROGRAPHIC APPARATUS

Walter S. Lusby, Round Bay, Fred J. Esler, Baltimore, and Philip A. Duffy, Jr., Catonsville, Md., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Aug. 10, 1956, Ser. No. 603,413
4 Claims. (Cl. 250—65)

1. In an X-ray apparatus including an X-ray tube having a filament and an alternating current power source for said tube, the combination of, an X-ray sensitive image intensifier for providing a visible image mounted in movable alignment with said X-ray tube, an object support surface disposed between said X-ray tube and said image intensifier with said intensifier being spaced from said surface, an electronic contactor including a pair of inversely connected discharge devices electrically connected between said power source and said X-ray tube and operative to accurately control energization of said tube from said source for predetermined time intervals, a moving picture camera having a film

transport mechanism, an electric motor operatively connected to said mechanism, said camera being disposed adjacent said image intensifier and in optical relation to said image intensifier for periodically recording said visible image, a commutator type electrical switch operatively connected to said film drive mechanism, circuit means connecting said switch to said electronic contactor to operate said contactor in synchronism with said film drive mechanism, an optical focusing system including a plurality of mirrors disposed between said image intensifier and said camera for projecting a light image from said intensifier to said camera, a first one of said mirrors having a partially reflecting surface



whereby a first portion of the light from said image is reflected and a second portion is transmitted to said camera, a second one of said mirrors having at least a first position and a second position, said second position being outside the light path between said intensifier and said camera, a manually operable positioning member connected to said second mirror for moving the latter between said first and second positions, circuit means connected for operation by said positioning member, said circuit means including a switch associated with said positioning means and electrically connected to said electronic contactor and adapted to energize said X-ray tube at a different power level when said second mirror is in said first position.

2,972,682

RADIOACTIVITY WELL LOGGING

Alexander S. McKay, Bellaire, and Ralph C. Reynolds, Houston, Tex., assignors to Texaco Inc., a corporation of Delaware

Filed Aug. 10, 1956, Ser. No. 603,316
9 Claims. (Cl. 250—108)

3. A well borehole logging assembly comprising an elongated housing adapted to be lowered and raised in a borehole while suspended from a conductor cable, a source of penetrative radiation within said housing, a radiation absorption shield substantially surrounding said source and provided with a collimating slot extending from said source radially outward toward one side of said housing, a detector of secondary radiation within said housing and in alignment with said source, said detector being disposed closer to said one side of the housing than to the opposite side, the arrangement being such that primary radiation from said source will pass through said slot and said one side of said housing into the earth formation nearest to said one side to produce secondary radiation therein some of which will enter said housing through said one side to strike said detector, means for forcing said housing laterally toward the borehole wall so that said one side will be closer to the wall than the opposite side and means projecting radially outwardly from said one side of the housing and adapted to engage said wall and maintain the outer surface of said one side of the housing a predetermined fixed distance from said wall, the sensitive area of said detector facing toward said one side being substantially larger than the area of any portion of said spacing means interposed between said detector and said wall, whereby radiation reaching the detector on said one side passes



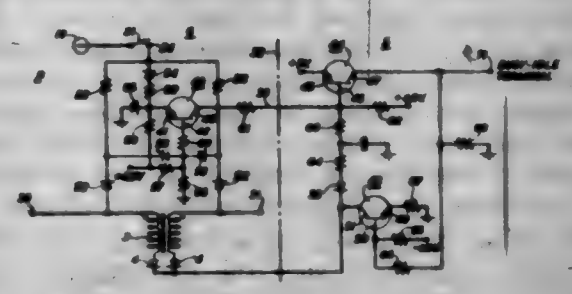
through the region defined by the fixed distance between said one side of the housing and the wall of the bore hole including any mud cake on said wall without a significant portion of said radiation passing through said spacing means en route to said detector.

2,972,683

ELECTRICAL CIRCUITS FOR COMMUNICATION NETWORKS

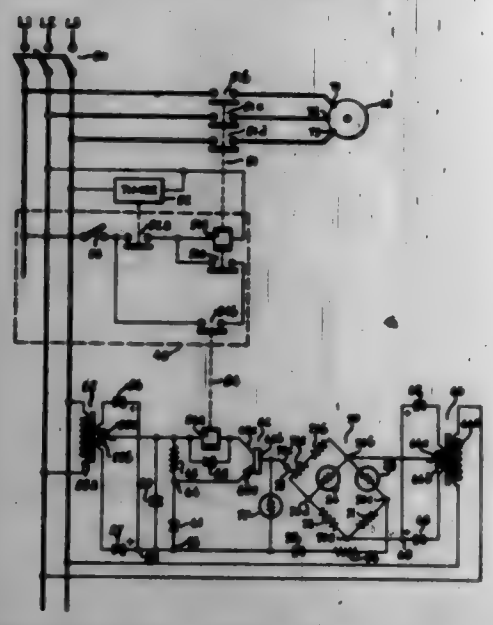
Raymond E. Lunney, East Orange, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed July 24, 1957, Ser. No. 673,861
12 Claims. (Cl. 307—88.5)



1. An electrical circuit comprising a conductor and switching means for electrically connecting said conductor to a high or low impedance, said switching means comprising first and second transistors each having a base, an emitter and a collector electrode, means connecting said conductor to said first transistor collector, means biasing said first transistor to present a high impedance to said conductor, means for turning on said first transistor to present a low impedance to said conductor comprising means connecting said second transistor collector to said first transistor base, a gate circuit connected to said second transistor base, means connecting said conductor to said gate, means for enabling said gate to turn on said second transistor upon concurrent appearance of a control signal and a distinct signal on said conductor at respective input terminals of said gate, and means comprising impedance means connected to said first transistor emitter and between said first transistor collector and second transistor base for turning off said first and second transistors in response to said distinct signal on said conductor in the absence of said control signal.

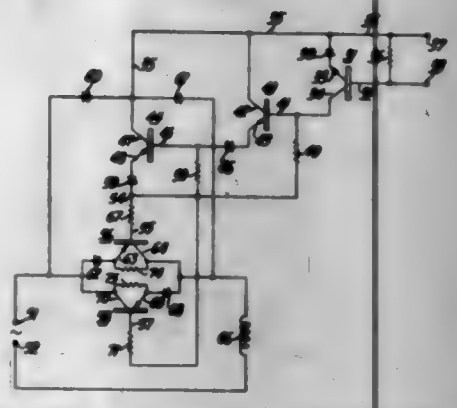
2,972,684
ELECTRICAL CONTROLLER
William H. Elliot and Gerald L. Yager, Milwaukee, Wis., assignors to Cutler-Hammer, Inc., Milwaukee, Wis., a corporation of Delaware
Filed June 6, 1958, Ser. No. 740,233
6 Claims. (Cl. 307—88.5)



3. In a thermal responsive system for controlling a load, a first power supply source, a transistor having emitter and collector and base terminals, means connecting the load in series with the emitter-collector circuit of said transistor across said first source, bias means supplied from said first source, means for applying a bias voltage from said bias means across said emitter and base terminals normally to bias said transistor to cutoff and to deenergize the load, a thermal responsive element connected between the side of said first source to which said emitter terminal is most directly connected and said base terminal of said transistor and arranged to be subject to the same ambient temperature as said transistor, said bias voltage being greater than the opposing voltage drop across said thermal responsive element in the emitter-base circuit of said transistor to maintain the latter biased to cutoff, said transistor being subject to a leakage current flow tending to cause undesired energization of the load, such leakage current flow being subject to increase in response to increase in the temperature of said transistor, said thermal responsive element having a temperature responsive characteristic of a direction and magnitude such as to vary the bias voltage across the emitter-base junction of said transistor sufficient to offset such increased leakage current flow to maintain said transistor normally biased to cutoff, a second power supply source, a bridge circuit having input terminals connected across said second source and having output terminals, at least one thermistor in a leg of said bridge circuit for causing changes in the balance of said bridge circuit in response to temperature changes thereof to provide a control voltage at said output terminals as a function of such change in balance, and means for applying said control voltage in opposition to said bias voltage derived from said bias means across said emitter and base terminals to render said transistor conducting and to energize the load.

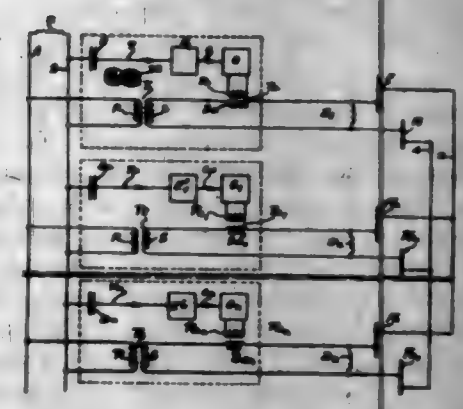
2,972,685
POWER TRANSISTOR CONTROL CIRCUIT
John Bonde, Milwaukee, Wis., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed June 18, 1958, Ser. No. 742,925
6 Claims. (Cl. 307—88.5)

5. In an electric switch for controlling the flow of alternating current from a source to a load, a pair of transistors each having a base electrode, an emitter electrode and a collector electrode, first circuit means interconnecting said base electrodes, means connecting said emitter and collector electrodes in complementary parallel relationship with each other to control the flow of current from said source through said load, a unidirectional current element in circuit with each of said emitter electrodes and polarized to create a voltage drop tending to bias the base electrode in a manner to reduce the flow of current through said emitter-collector circuit, a pair of unidirectional current elements connecting said base electrodes to opposite sides of said switch, said elements so polarized and connected as to form a low impedance path from said base electrode to the more negative side of said switch, a third transistor having a base electrode, an emitter electrode and a collector electrode,



two of said third transistor electrodes forming a switch between said first circuit means and a point common to both of said pair of unidirectional current elements, control means connected to said third transistor for varying the state of conduction through the switch formed by said third transistor electrodes, a resistor interconnecting the base and emitter electrodes of said third transistor, a unidirectional current element in circuit with the emitter electrode of said third transistor and coacting with said resistor to create a bias voltage across the emitter base electrodes of said third transistor of the polarity tending to reduce the flow of current between said collector and emitter electrodes, means connected to the base and collector electrodes of said third transistor for varying the state of conduction between said collector and emitter electrodes.

2,972,686
REMOTE CONTROL SYSTEM FOR LATTICE DISTRIBUTION NETWORK
Jacques Charles Gustave Pelpel, Montrouge, France, assignor to Compagnie des Compteurs, Montrouge, France, a French company
Filed May 11, 1959, Ser. No. 812,527
12 Claims. (Cl. 307—140)



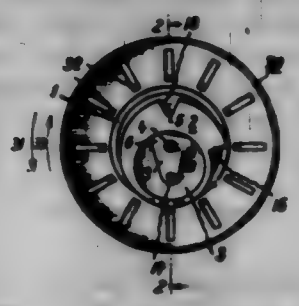
1. In an electric lattice network including at least one high tension line, step-down transformers with their primary coils connected to the high tension line, groups of

supply bars having at least two bars in each group connected to respective secondary coils of an associated step-down transformer and including a consumer network of at least two conductors respectively connected to the supply bars of each group and thereby defining interconnected closed meshes, a control system including transmitter and receiver means for transmitting mutually synchronized remote-control signals to actuate remote units connected to said consumer network at a plurality of locations coupled to different supply bars, said system comprising remote-control signal generating means, signal driver and propagating means connected in series in each of the meshes of the distribution network on the secondary side of each step-down transformer, a controlling circuit associated with each driver means and connected with a receiver means for controlling the propagation of remote-control signals in the associated mesh in response to received signals for synchronizing in frequency and phase all the remote-control signals propagated by the respective driver means, said generating means being associated with one of the controlling circuits and the transmitter means being coupled to the generating means to transmit a control signal reference frequency to all receiver means coupled respectively to the other controlling circuits for receiving and locally propagating the remote-control signals synchronized with the reference frequency coming from the transmitter means.

2,972,687
DIRECTIONAL CONTROL FOR SYNCHRONOUS MOTORS

Hans Köhler, Berlin-Schmargendorf, Germany, assignor to Licentia Patent-Verwaltungs-G.m.b.H., Hamburg, Germany

Filed Jan. 10, 1958, Ser. No. 708,320
Claims priority, application Germany Jan. 14, 1957
17 Claims. (Cl. 310—41)



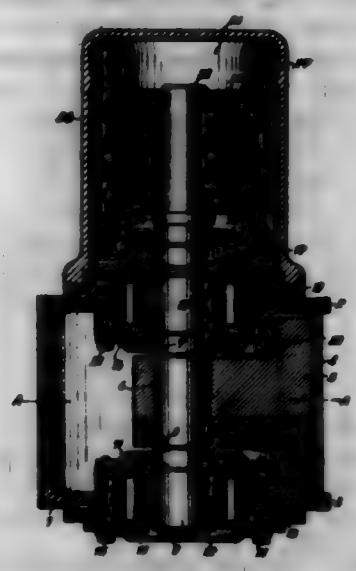
1. A synchronous motor comprising a stator, a rotor rotatably mounted in said stator, a blocking means, a pivot excentrically secured to one side of said rotor, said blocking means being pivotally mounted on said pivot to swing freely about the same, control means on said rotor adapted to permit said blocking means to press against the inner periphery of said stator to stop the rotation of said rotor if the latter should start to run in the undesired direction.

2,972,688
UNBALANCED ROTOR DYNAMOELECTRIC MACHINE

Walter Mahlfeldt, 95 Bergstrasse, Hagen, Westphalia, Germany

Filed Dec. 21, 1956, Ser. No. 629,899
Claims priority, application Germany Dec. 23, 1955
4 Claims. (Cl. 310—81)

1. An electric oscillator comprising a casing having openings at the opposite ends thereof, a pair of bearings, housings enclosing said bearings, said housings having flanges, said bearings inserted in said openings with said flanges on the outer faces of said casing, a solid integral shaft held in said bearings, said shaft extending out of one end of said casing, said shaft extension being free, a flyweight secured to said shaft between said bearings, a rotor secured to said shaft extension, a motor housing having a stator fixed therein surrounding said stator and mounted on said casing, said motor housing being re-

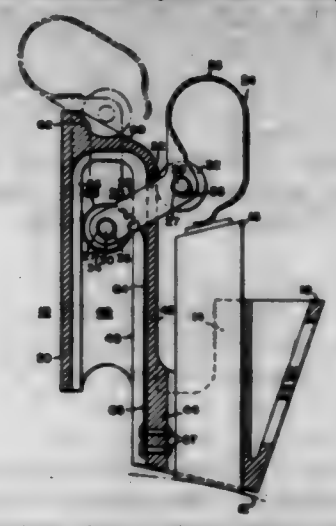


movable without removal of said shaft or the bearing adjacent said housing, the bearing at the other end of said shaft being removable without removal of any other element of said oscillator.

2,972,689
BRUSH HOLDER

Earl C. Kuhn, Penn Hills Township, Allegheny County, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed May 5, 1959, Ser. No. 811,163
8 Claims. (Cl. 310—246)



1. A brush holder for a dynamoelectric machine comprising an open ended housing for receiving a brush, a pressure finger assembly for urging said brush into contact with a rotatable member, said pressure finger assembly including a flexible pressure finger overlying said brush and bearing thereon when in operative position to urge said brush toward said rotatable member, a movable carrier for said pressure finger, a stationary guideway for said carrier, and a substantially constant force spring terminating in a self-rewinding volute, said volute being mounted on said carrier and the free end of said spring being secured to the end of said guideway adjacent said rotatable member.

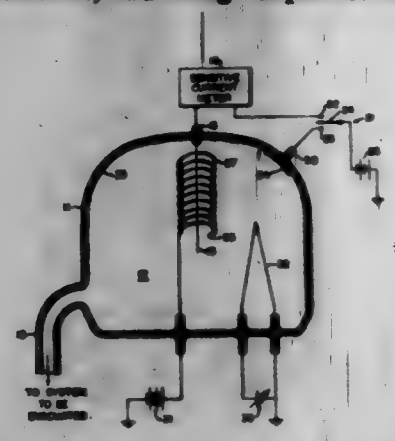
2,972,690
ION PUMP AND GAUGE

Arthur O. McCoubrey, Topsfield, Mass., assignor to National Company, Inc., Malden, Mass., a corporation of Massachusetts

Filed July 28, 1959, Ser. No. 830,133
5 Claims. (Cl. 313—7)

1. Apparatus for evacuating a system including an enclosed chamber and measuring the pressure therein,

comprising in combination a cathode disposed in said chamber and being adapted to emit electrons upon being heated, an ion collector disposed in said chamber spaced from said cathode, said ion collector communicating with the exterior of said chamber through a wall thereof, a spiral grid disposed in encircling relationship to said ion collector, said grid being coated with electrically conducting getter material, and being adapted to release mole-



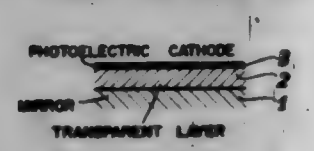
cules of said getter material upon bombardment with electrons from said cathode, means for applying a positive potential to said grid with respect to said cathode, an electrical contact disposed interiorly of said chamber wall without encirclement by said grid and communicating with the exterior through said wall, and means for applying a negative potential with respect to said cathode selectively to said ion collector and to said contact.

2,972,691

PHOTOCATHODE FOR PHOTOCELLS, PHOTOELECTRIC QUADRUPLER AND THE LIKE

Dierick Kossel, Wetzlar (Lahn), Germany, assignor to Ernst Leitz, G.m.b.H., Wetzlar (Lahn), Germany, a corporation of Germany

Filed July 22, 1953, Ser. No. 369,606
Claims priority, application Germany Aug. 6, 1952
6 Claims. (Cl. 313—94)



1. A photocathode system which comprises a partly transparent photoelectric layer and a reflecting backing spaced from said photoelectric layer a distance equal to

$$(2n+1)\frac{\lambda}{4}\pm\alpha$$

in which n is a small integer including 0, λ is the wave length of a selected light and α is a correction factor depending on the material in the space between the cathode layer and the backing and in which the thickness of the photoelectric layer is sufficient that the system has substantially no reflecting power for a definite selected wave length of light.

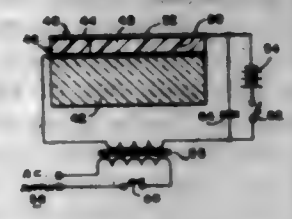
2,972,692

METHOD FOR OPERATING ELECTROLUMINESCENT CELL AND ELECTROLUMINESCENT APPARATUS

William A. Thornton, Cranford, N.J., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed May 2, 1958, Ser. No. 732,510
19 Claims. (Cl. 313—108)

8. An imaging device comprising a plurality of elemental sections having an area defined by the degree of resolution desired for said device and comprising: spaced elemental electrode portions; a material layer comprising electroluminescent phosphor and a material layer comprising photoconductor substance proximate one another and connecting in series between said elemental electrode portions; said photoconductor substance adapted to receive thereon an elemental portion of the image to be amplified and to decrease in resistance and total impedance in accordance with the intensity of the image elemental portion received thereon; an A.C. potential supply means connecting to said elemental electrode portions; a D.C. potential supply means connecting to said elemental electrode portions; individual application of A.C. potential across said elemental electrode portions with said photoconductor substance displaying decreased total impedance causing said electroluminescent phosphor to emit continuing light; individual application of D.C. potential across said elemental electrode portions



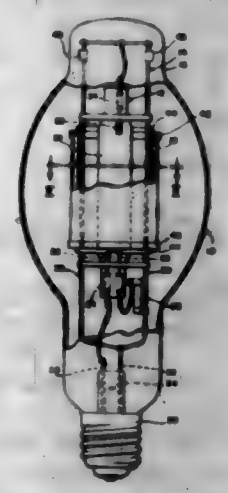
with said photoconductive substance displaying decreased resistance causing said electroluminescent phosphor to emit continuing light; preselected A.C. and D.C. potentials adapted to be applied to said elemental electrode portions; said preselected A.C. and D.C. potentials each having such magnitudes that when simultaneously applied across said elemental electrode portions with said photoconductor substance displaying decreased resistance and total impedance, the resultant light emission is measurably greater than the sum of the resultant light emissions if said preselected A.C. potential and then said preselected D.C. potential are individually applied across said elemental-electrode portions; and means for timing the application of said preselected D.C. and A.C. potentials across said elemental-electrode portions so that application of said preselected D.C. potential occurs before application of said preselected A.C. potential is discontinued.

2,972,693

DISCHARGE DEVICE

Barnett Rosenberg, New York, N.Y., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Feb. 25, 1959, Ser. No. 795,545
16 Claims. (Cl. 313—108)



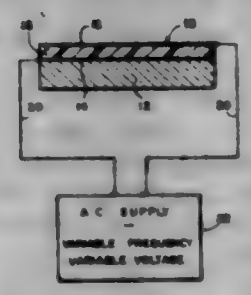
1. The combination which comprises: an envelope-enclosed high-pressure metal-vapor discharge source adapted to operate with a predetermined power input; said source when operated emitting ultraviolet radiations,

infrared radiations and visible radiations; an additional envelope positioned proximate said source; material comprising a quantity of selected organic substance contained within said additional envelope; said selected organic substance at a selected range of elevated temperature and under ultraviolet irradiation existing as stable fluorescent gas; and the size and location of said additional envelope with respect to said source being so selected that when said source is operated, the temperature extremes to which said selected organic substance is exposed fall within the selected temperature range at which said selected organic substance exists as stable fluorescent gas.

2,972,694
METHOD OF OPERATING ELECTROLUMINESCENT CELL

William A. Thornton, Jr., Cranford, N.J., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Aug. 12, 1959, Ser. No. 833,265
6 Claims. (Cl. 313—108)

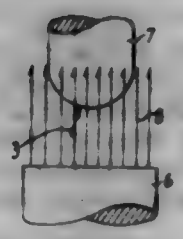


1. The method of increasing the effective life of an electroluminescent cell comprising spaced electrodes having electroluminescent phosphor included therebetween, which method comprises, energizing said cell to electroluminescent light output for a predetermined period by applying across said spaced electrodes a predetermined first alternating electrical potential having smaller magnitude than that potential required to cause cell electrical breakdown and also having a high frequency of alternation, and thereafter energizing said cell to electroluminescent light output for an additional predetermined period by applying across said spaced electrodes a predetermined second alternating electrical potential having a greater magnitude than that of the previously-applied potential but less than that potential required to cause cell electrical breakdown and also having a frequency of alternation less than the frequency of alternation of the previously-applied potential.

2,972,695
STABILISATION OF LOW PRESSURE D.C. ARC DISCHARGES

Harold Wroe, Burnage, Manchester, England, assignor to Metropolitan-Vickers Electrical Company Limited, London, England, a British company

Filed May 20, 1958, Ser. No. 736,568
Claims priority, application Great Britain May 24, 1957
4 Claims. (Cl. 313—157)

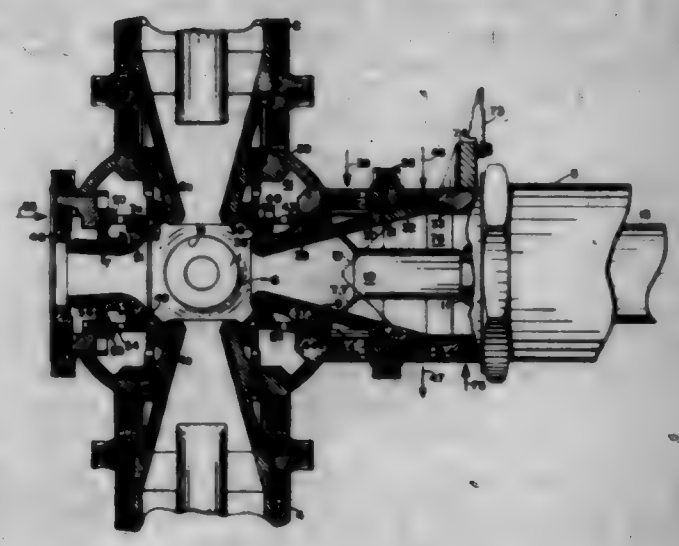


1. An electric arc discharge system comprising electrodes for producing an arc discharge when a source of direct voltage is applied between said electrodes, one of said electrodes being constituted of a metal meltable by said arc, an evacuable chamber for confining the space between said electrodes, means for continuously evacuating said chamber, and means for producing in the arc path between said electrodes a magnetic field parallel with the direct path of arc current flow between said electrodes, the end of one of said electrodes being of such shape that the normals to the surface thereof are inclined with respect to said field except in the shortest path of arc current flow between said electrodes whereby an arc rooted on said electrode except in said shortest path of arc current experiences a component of said field tending to restore said arc to the shortest path.

2,972,696
PLASMA GENERATOR

Arthur R. Kantrowitz, Arlington, and Thomas R. Brogan and Daniel Hritzay, Winchester, Mass., assignors to Avco Corporation, Cincinnati, Ohio, a corporation of Delaware

Filed Aug. 24, 1959, Ser. No. 835,554
10 Claims. (Cl. 313—231)



1. In combination in a plasma generator, a generally spherical plenum chamber, a plurality of co-planar generating units radiating outwardly from and communicating with said plenum chamber, another generating unit radiating outwardly from said plenum chamber normal to the plane of said first-named generating units, said last-mentioned generating units also communicating with said plenum chamber, each of said generating units including means for producing high temperature plasma and supplying it to said plenum chamber where it is mixed, and an exit nozzle through which said plasma may flow from said plenum chamber, said exit nozzle being located opposite said last-mentioned generating unit.

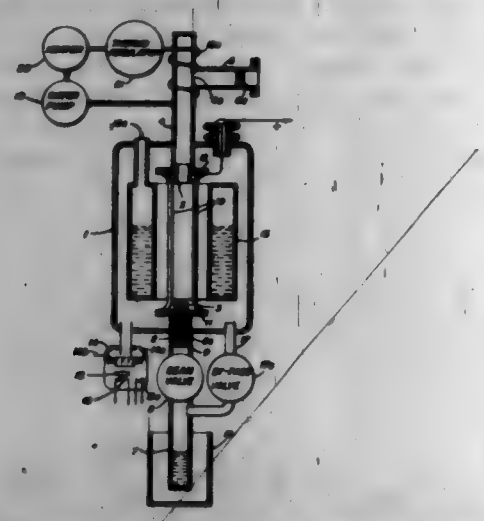
2,972,697
MOLECULAR BEAM APPARATUS OF THE MASER TYPE

Stanley A. Johnson, Brooklyn, N.Y., and Ferris Eugene Alger, New Hope, Pa., assignors to PRD Electronics, Inc., a corporation of New York

Filed June 26, 1958, Ser. No. 744,730
11 Claims. (Cl. 313—231)

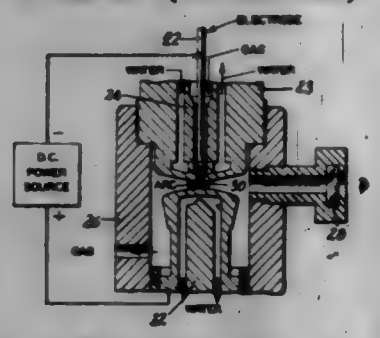
1. Molecular-beam apparatus comprising a beam-chamber containing a beam-forming nozzle, a reservoir containing liquefied gas, said reservoir being exposed to a temperature causing evaporation of said liquefied gas within said reservoir thereby establishing a pressure of several atmospheres within said reservoir, a conduit connecting said nozzle with said reservoir and including a flow-regulating restriction comprising a single capillary passage of relatively small transverse section and long

length, and means for maintaining a low vapor pressure within said beam chamber comprising a cooler for con-



densing upon the surface thereof the gas molecules leaving said beam.

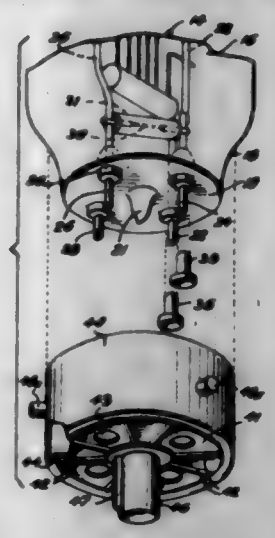
2,972,698
HIGH-INTENSITY LIGHT SOURCE
Leo I. Dana, Larchmont, N.Y., and Harold S. Morton, Jr., Gaithersburg, Md., assignors to Union Carbide Corporation, a corporation of New York
Filed Sept. 8, 1958, Ser. No. 759,765
9 Claims. (Cl. 313—231)



1. A source of light comprising a pair of axially aligned electrodes spaced from each other to provide an arc gap, one of said electrodes consisting of a stick composed of tungsten, the other one of said electrodes consisting of a hollow member composed of copper, means for circulating cooling liquid through said hollow electrode to prevent it from overheating, means for energizing a high pressure electric arc between said electrodes including a source of direct current power connected to said electrodes so that said stick electrode is the cathode and said hollow electrode is the anode, means for feeding an annular stream of inert gas selected from the class consisting of argon, krypton and xenon along the end portion of said cathode adjacent such arc, and a cooled nozzle for such arc provided with an arc constricting outlet through which the arc and inert gas are discharged to produce an exposed column of a partially wall-stabilized inert gas electric arc, which is stable and characterized by relatively uniform brightness along the exposed arc length.

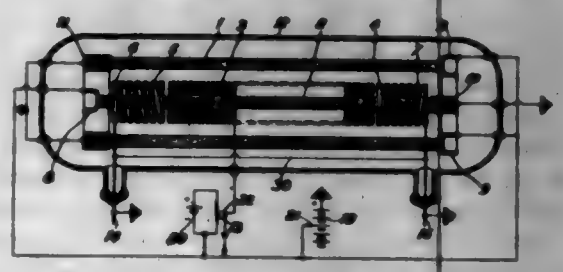
2,972,699
ELECTRIC LAMP AND SOCKET
Jacob F. Michael, Cresskill, George W. Caplis, Freakness, and Harry A. Holden, Caldwell, N.J., and George C. Lennox, Southbury, Conn., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Feb. 12, 1958, Ser. No. 714,730
14 Claims. (Cl. 313—318)

1. A socket for a projection type lamp or the like comprising, a body member open and interiorly contoured at one end to freely receive the basal end portion of said lamp, and locking means movably secured to said body member and rotatable about the axis thereof disposed when actuated and said lamp is inserted into said body member, to engage and apply an axial thrust to said lamp of sufficient magnitude to forcibly depress the



basal end portion thereof into and against said body member and lock said lamp in operative relation with said socket.

2,972,700
ULTRA-HIGH FREQUENCY OSCILLATOR TUBES
Daniel Charles and Oscar Dohler, Paris, France, assignors to Compagnie Generale de Telegraphie Sans Fil, a corporation of France
Filed Apr. 19, 1955, Ser. No. 502,267
Claims priority, application France Apr. 27, 1954
15 Claims. (Cl. 315—3.6)



1. A microwave oscillator tube for a given frequency band, comprising within an evacuated envelope: a geometrically periodical electrically conductive structure, having periodically spaced apertures, two ends and two sides, and offering an infinite impedance to the propagation therealong of electromagnetic waves in at least said given frequency band; two electron sources each positioned at one end and respectively on opposite sides of said structure, to emit respectively in opposite directions two electron beams parallel to said structure and effectively entering into mutual interaction only through said periodically spaced apertures of said structure; two collectors each positioned at one end and respectively on opposite sides of said structure to collect respectively the electrons of said beams; means for controlling the velocity of said beams; output means at least at one end of said structure; and coupling means for coupling in said predetermined frequency band the electromagnetic field of at least one of said beams to said output means.

2,972,701
VELOCITY MODULATION TUBES
Alfred Lerbs, Paris, France, assignor to Compagnie Generale de Telegraphie Sans Fil, a corporation of France
Original application May 5, 1955, Ser. No. 506,317, now Patent No. 2,938,139, dated May 24, 1960. Divided and this application July 6, 1959, Ser. No. 829,174
Claims priority, application France May 10, 1954
31 Claims. (Cl. 315—5.27)

1. A microwave electron tube comprising within an evacuated envelope a plurality of operatively intercou-

pled pairs of microwave circuits, each said pair of circuits comprising a first circuit and a second circuit extending in a predetermined direction, electron emissive means positioned along each said first circuit for emitting a sheet-like electron beam in coupled relationship with said first circuit, means for feeding microwave energy to each said first circuit to provide amplitude differences of an ultra high frequency field at different points along each said first circuit for simultaneously velocity modulating electrons in the respective beams at said different points in accordance with the amplitude of the ultra high frequency field at the respective points, means for establishing within said envelope a magnetic field having lines of force perpendicular to said direction and to each of said beams for directing the electrons of



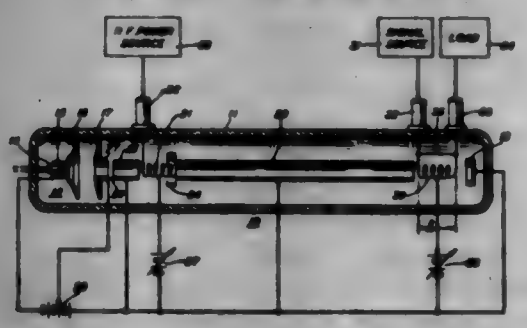
said beams along curved trajectories whereby, due to combined action of longitudinal modulation of said first circuit and of said magnetic field, the longitudinal modulation of each beam is transformed into transverse modulation thereof, the second microwave circuit of each pair extending across the trajectories of beam electrons from the respective first circuit in coupled relationship with said beam, each said second circuit being of sufficient length and so disposed as to be acted upon by different densities of the electron beam transversely of the latter and along said second circuit, said different densities being representative of the high frequency field in a respective first circuit, thereby to induce a microwave field within each said second circuit and coupling means to said induced fields for utilizing the energy thereof.

2,972,702

HIGH FREQUENCY AMPLIFIER

Rudolf Kompfner, Holmdel, and Calvin F. Quate, Berkeley Heights, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Nov. 13, 1958, Ser. No. 773,721
13 Claims. (Cl. 315—5.43)



1. In an electron discharge device, means including an electron gun for forming and projecting an electron beam along an extended path, means positioned adjacent at least a portion of said path for modulating said beam at a first frequency, a wave transmission circuit downstream of said modulating means forming an interaction region with said beam, and means for applying a signal wave of a frequency different from said first frequency to said wave transmission circuit, the length of said interaction region being given by the expression

$$l=\frac{\lambda}{C\sqrt{b^3-\frac{4}{b}}}$$

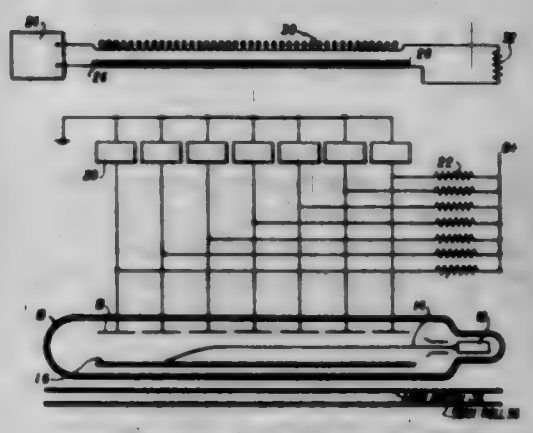
where C is the gain parameter, λ is the wavelength of the propagating signal wave on the wave transmission circuit and *b* effectively represents the ratio of the difference in velocity of the electron beam and the signal wave to the velocity of the signal wave.

2,972,703

ELECTRONIC CONTROL SYSTEM

William Ross Aiken, Los Altos, Calif., assignor, by mesne assignments, to Kaiser Industries Corporation, a corporation of Nevada

Filed July 30, 1957, Ser. No. 675,084
4 Claims. (Cl. 315—10)



1. A control circuit for selectively varying the value of voltage signals applied to a deflection plate for an electron beam of an associated electron tube to thereby vary the extent of beam deflection effected by said deflection plate, means comprising at least one radiation responsive element operative to offer a variable resistance to the flow of electrical current thereover responsive to the application of different light intensities thereto, means for applying a variable light intensity to said radiation responsive element including field responsive means having an electroluminescent phosphor element disposed adjacent said radiation responsive element, field producing means for successively energizing different incremental portions of said field responsive means to effect a corresponding increase in intensity of the light applied to said radiation responsive element by said phosphor element and a corresponding decrease in the resistance of said radiation responsive element, and means for coupling an energizing circuit including said radiation responsive element to said deflection plate, whereby progressive changes in the resistance of said radiation responsive element provides progressive changes in the voltage applied to said deflection plate and a corresponding variation in deflection force applied to said beam to thereby correspondingly vary the point of registration of said beam with its target.

2,972,704

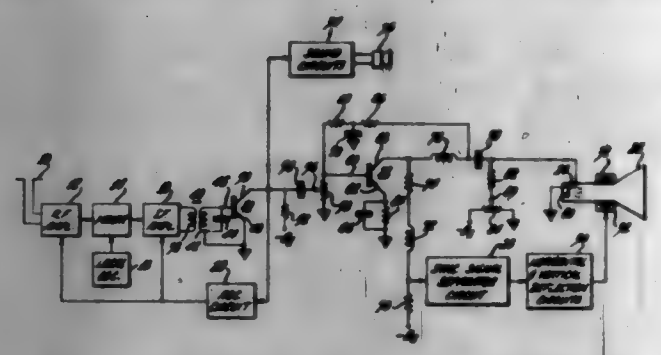
VIDEO AMPLIFIER

Thomas O. Stanley, Princeton, N.J., and Roland N. Rhodes, Levittown, Pa., assignors to Radio Corporation of America, a corporation of Delaware

Filed Mar. 27, 1958, Ser. No. 724,450
2 Claims. (Cl. 315—22)

1. A video frequency amplifier circuit for a television receiver comprising in combination, a transistor device having base, emitter, and collector electrodes and a collector-to-base capacitance within said device between said collector and base electrodes, means for applying video frequency signals between said base and emitter electrodes, a kinescope having a signal input grid constituting a load circuit for said amplifier, means including a high frequency peaking coil serially connected between said output electrode and said kinescope grid for applying output signals from said collector electrode to the signal input grid of said kinescope, and feedback means for ap-

plying a first feedback signal to said base electrode having phase and amplitude characteristics to substantially cancel the effect of a second signal on said base electrode fed back thereto from said collector electrode through the internal capacitance within said transistor, said feedback



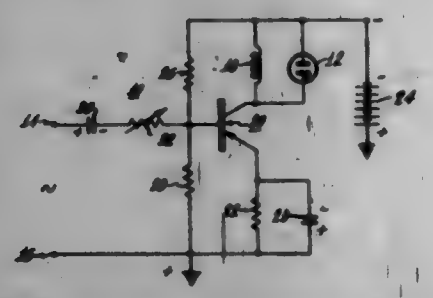
circuit including a pair of serially connected resistors connected between said base electrode and the end of said peaking coil remote from said collector electrode and capacitance means connected between the junction of said pair of resistors and said emitter electrode.

2,972,705

SIGNAL LEVEL INDICATOR

Joseph A. Howells, Riverton, N.J., assignor to Radio Corporation of America, a corporation of Delaware

Filed Aug. 27, 1959, Ser. No. 836,352
7 Claims. (Cl. 315—135)



1. Apparatus comprising a transistor having input, output, and common electrodes, an inductor, means to apply a source of voltage between said common and said output electrodes through said inductor, means to bias said input electrode to cause said transistor to normally conduct and thereby establish a magnetic field about said inductor, an indicator connected across said inductor and responsive to a predetermined change in said field, and means to apply external signals between said input electrode and said common electrode whereby signals having an amplitude greater than a selected amplitude will cut off conduction through said transistor to thereby effect said predetermined change in said magnetic field.

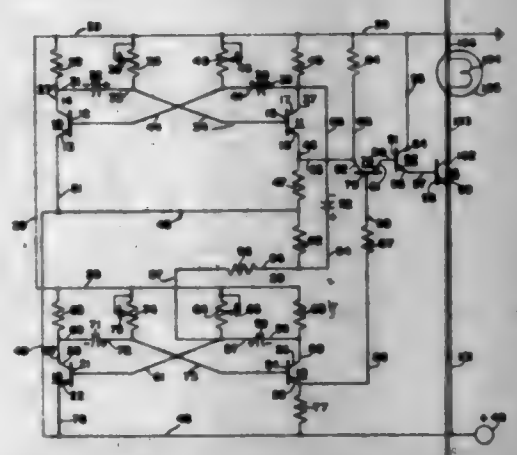
2,972,706

CODED NAVIGATIONAL FLASHERS

Richard F. Maim, Wildwood Crest, and Walter C. Colberg, Villas, N.J., assignors to the United States of America as represented by the Secretary of the Treasury

Filed Nov. 2, 1959, Ser. No. 850,503
5 Claims. (Cl. 315—225)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A coded navigational light flasher comprising a first and second astable multivibrator, means for synchronizing said multivibrators, a mixer gate, a gating input to said mixer gate from said first multivibrator, said gating input opening said mixer gate for a predetermined period of time, an input to said mixer gate from said second astable multivibrator, said mixer gate providing an output from said second multivibrator when opened by said first multivibrator, a driver-power amplifier for amplifying the output of said mixer gate having an input and an output connection, the output of said mixer gate being applied to the input of said driver-power amplifier, an electric lamp, the output of said driver-power am-



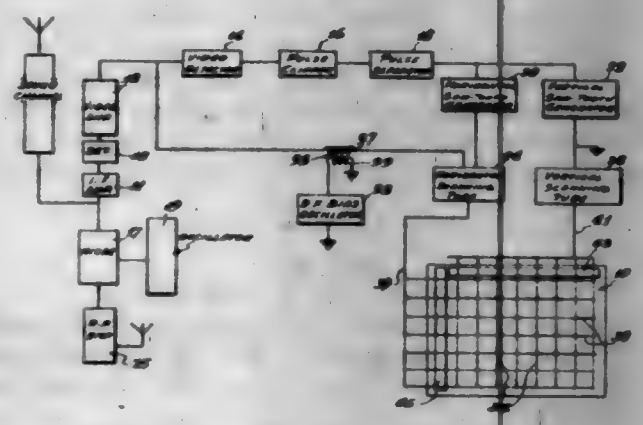
plifier being applied to said electric lamp, said electric lamp giving a visible coded light indication in accordance with the output of said first and second multivibrator.

2,972,707

IMAGE REPRODUCING DEVICE

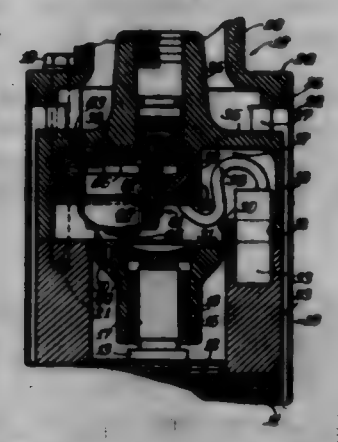
John F. Wood, Buchanan, Mich., assignor to Electro-Voice, Incorporated, Buchanan, Mich.

Filed Oct. 18, 1954, Ser. No. 462,793
8 Claims. (Cl. 315—362)



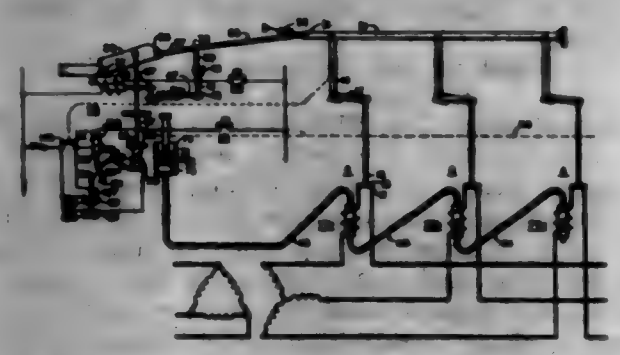
1. A screen adapted for use in an image reproducing device comprising an airtight housing including a first plate transparent to visible light and a spaced parallel second plate, a plurality of spaced electrically insulated electrical conductors forming a first grid supported upon one surface of the first plate, a plurality of spaced electrically insulated electrical conductors parallel to the conductors in the first grid supported on the opposite surface of said plate forming a first counter-grid, a plurality of spaced electrically insulated electrical conductors forming a second grid supported upon the surface of the second plate confronting the first plate, the second grid being electrically insulated from the first grid and each conductor in said second grid being approximately normal to the confronting conductor in the first grid at each point of adjacency between the two grids, a plurality of spaced electrically insulated electrical conductors supported on the opposite surface of the second plate parallel to the conductors in the second grid forming a second counter-grid, an atmosphere consisting of a noble gas at a pressure of less than 15 centimeters of Hg disposed between the plates, a radio frequency generator and means electrically connected to the generator and to each of the electrical conductors in the first counter-grid and the second counter-grid to impress the output of the generator on the first and second counter-grids.

2,972,708
PROTECTIVE MEANS FOR SUBMERSIBLE PUMP-MOTORS
Edward J. Schaefer, Fort Wayne, Ind. (% Franklin Electric Co., Inc., 400 E. Spring St., Bluffton, Ind.)
Filed Oct. 5, 1956, Ser. No. 614,205
21 Claims. (Cl. 317—13)



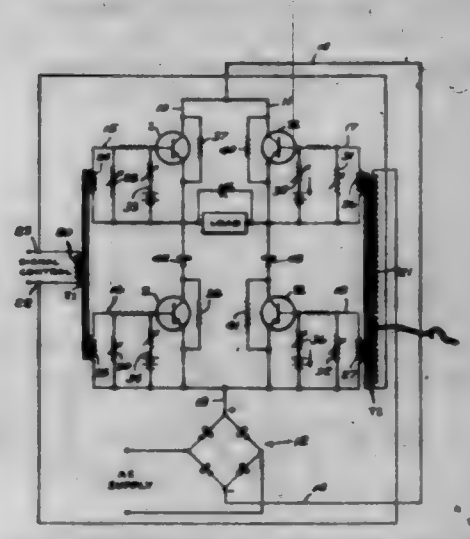
1. In a submersible pump-motor unit, an electric motor having a frame portion with at least one winding; end structure at one end of said frame portion providing a housing for an electrical connection between the winding and a line, said end structure being formed with an internal recess adapted to receive fluid being pumped; a protective device interposed in the motor circuit at said electrical connection and comprising contact means in series with said winding and operative for disconnecting the winding at a predetermined temperature, a bimetallic element arranged to effect opening and closing of said contact means, and electrical heating means in physical proximity to said bimetallic element and connected in circuit with the motor, said heating means including a heating element connected in series with said winding whereby to provide overload protection for the motor; enclosure means containing said contact means, said bimetallic element, and said heating means and disposed within said recess; and a body of electrical insulating material retaining said enclosure means in said recess in fluid-tight embedded relation therein, said enclosure means including a metallic heat conducting portion projecting from said body and adapted to be contacted by the fluid in said recess for conducting heat from said heating means to the fluid whereby said heating means is normally cooled by the fluid in said recess but is adapted to actuate said bimetallic element to disconnect said winding when the supply of fluid being pumped is exhausted thereby protecting the unit against operation without an adequate supply of fluid.

2,972,709
AUTOMATIC LINE SECTIONALIZER
Leonard V. Chebala, Maywood, Ill., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Mar. 27, 1958, Ser. No. 724,406
4 Claims. (Cl. 317—29)



1. A multi-pole circuit interrupter comprising relatively movable contacts for each pole and contact operating mechanism releasable to effect automatic opening of the contacts for all of said poles, trip means operable to release said operating mechanism, a fluid transmission system having an output and comprising a plurality of fluid pumps connected in series, each pump corresponding to a different pole and including means for providing a displacement of a predetermined amount of fluid through the pump in response to each circuit interruption condition at the corresponding pole, each pump including means for passing fluid in response to a fluid displacement operation of any other pump, and a fluid operated counter connected to said output and including a member advanceable in response to each displacement operation in the transmission system to operate said trip means in response to a predetermined number of fluid displacement operations.

2,972,710
INDUCTIVE LOAD TRANSISTOR BRIDGE SWITCHING CIRCUIT
Salvatore P. D'Amico, Merrick, N.Y., assignor to Sperry Rand Corporation, Ford Instrument Company Division, Wilmington, Del., a corporation of Delaware
Filed Apr. 3, 1959, Ser. No. 803,964
2 Claims. (Cl. 317—148.5)

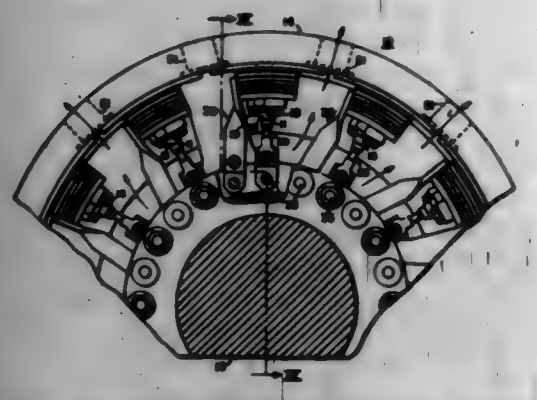


1. A bridge amplifier comprising a full wave rectified voltage supply, a pair of parallel branch circuits disposed across said supply, a signal supply, each branch circuit having a pair of switching circuits with each switching circuit having a transistor, the base and emitter electrodes of which are coupled to said signal supply, its collector electrode being disposed in one of said branch circuits, an inductive load disposed across said parallel branches, each of said switching circuits further including a series connected voltage source and resistor network, said network being disposed across said base and emitter electrodes, there being provided a shunt resistor across the emitter and collector electrodes of each transistor in the branch circuits, a half wave rectifier disposed in each branch circuit and a capacitor connected across the load whereby said bridge amplifier is arranged to drive an inductive load.

2,972,711
ROTATING RECTIFIER
Victor G. Sorokin, Murrysville, and Alexander S. Wolosin, Oakland, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Dec. 11, 1957, Ser. No. 702,166
4 Claims. (Cl. 317—234)

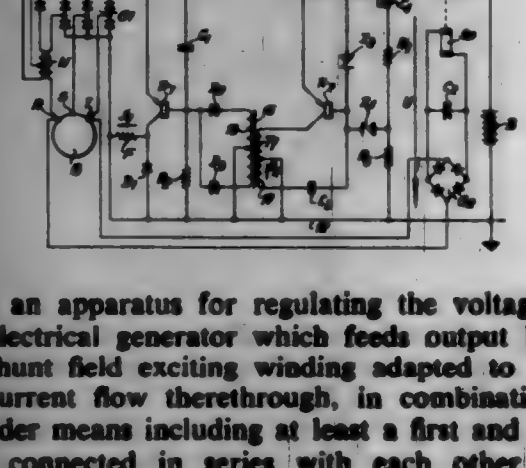
1. In combination, an annular flange having a spider frame and hub portion adapted to be mounted on a rotating shaft, a plurality of spaced heat conductive blocks fastened to but electrically insulated from the interior surface of said flange extending radially between said

annular flange and said hub portion, a semiconductor rectifying device radially mounted on each said block intermediate said flange and said hub portion and having



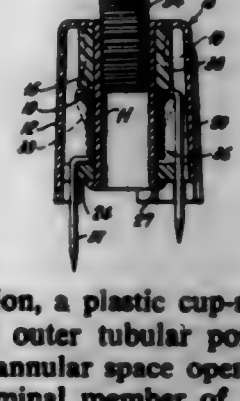
one end in electrical and heat transfer relation therewith, said devices and said blocks being disposed to effect a fan action drawing the ventilating air across the devices and blocks in heat transfer relation therewith.

2,972,712
VOLTAGE REGULATING APPARATUS
Rudolf Landstorfer, Stuttgart, Germany, assignor to Robert Bosch G.m.b.H., Stuttgart, Germany
Filed July 14, 1959, Ser. No. 826,959
Claims priority, application Germany July 19, 1958
5 Claims. (Cl. 322—25)



5. In an apparatus for regulating the voltage output of an electrical generator which feeds output lines and has a shunt field exciting winding adapted to have exciting current flow therethrough, in combination, voltage divider means including at least a first and a second resistor connected in series with each other between said output lines; a first and a second transistor circuit and transformer means operatively connecting said transistor circuits, said first transistor circuit including a first transistor connected in circuit with said shunt winding for adjusting the exciting current flowing therethrough in accordance with the impedance present in said first transistor at a given moment, and said second transistor circuit including a second transistor having an input circuit connected in circuit with the output of said generator and having an output circuit connected through said transformer means with said first transistor for producing an output current for varying the impedance of said first transistor, at least a portion of said output circuit of said second transistor being connected to said input circuit thereof for producing self-oscillation in said second transistor appearing in said output circuit thereof; a current transformer and at least one rectifier connected in series with each other in at least one of said output lines fed by said generator; second voltage divider means including at least two resistors connected in series with each other between the secondary of said current transformer and one of said output lines, the junction point between said two resistors of said second voltage divider means being connected with the junction point between said first and second resistor of said first voltage divider means; and a first and a second Zener diode, the first of said Zener diodes being connected between the base electrode of said second transistor and the secondary of said current transformers and in circuit with said rectifier in such a manner that an increasing voltage is applied to said first diode with increasing current output of said generator so that the current output of the latter is controlled thereby, and said second Zener diode being connected between the base of said second transistor and a junction point between said resistors and said voltage divider means in such a manner that an increased voltage is applied to said second diode with increasing voltage output of said generator so that the voltage output of the latter is controlled thereby.

2,972,713
CIRCUIT ELEMENT CONSTRUCTION
Walter T. Sutton, Jr., Lexington, Ky., assignor to Essex Electronics, Berkeley Heights, N.J., a corporation of New Jersey
Filed June 25, 1958, Ser. No. 744,463
21 Claims. (Cl. 323—74)

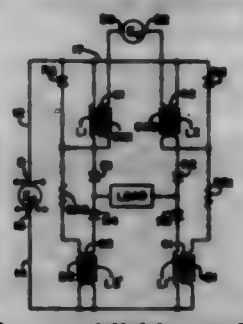


1. In combination, a plastic cup-shaped housing comprising inner and outer tubular portions joined at one end to define an annular space open to the other end, a first electrical terminal member of relatively heavy and stiff wire and comprising at least a major fraction of a full turn thereof received within said space and deriving concentric support from one of said tubular members, a second electrical terminal member of relatively heavy and stiff wire and comprising at least a major fraction of a full turn thereof received within said space and deriving concentric support from one of said tubular members, an annular member of a material having electrical properties deriving concentric support from one of said tubular members and in radially overlapping contacting relation with both said terminal members, one end of each of said wires including a straight integral lead portion extending out beyond the open end of said housing, and means fixedly holding said terminal members and said annular member in said housing, the weight and stiffness of said wires being such that said projecting wire ends provide the substantial mounting support for said combination.

2,972,714
BIASED-RECTIFIER CONTROL OF MAGNETIC AMPLIFIERS
Joseph J. Suozzi, Pittsburgh, Pa., assignor to the United States of America as represented by the Secretary of the Navy
Filed July 12, 1957, Ser. No. 671,673
12 Claims. (Cl. 323—89)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. In a half-wave bridge-type magnetic amplifier having reactor means with load windings and control windings thereon, said load windings being energized from an A.C. source and operable to produce an output correlative with the sense and magnitude of a control signal applied to the control windings thereon from a control source: a phase reversible circuit arrangement for presenting a high impedance to the control source during the firing half-cycles of the amplifier and negligible im-

pedance to the control source during the reset half-cycles of the amplifier comprising the combination of reset circuit means including flux establishing windings on said reactor means in conductive circuit connection with a pair of rectifiers which are connected to be conductive on the same half-cycle of said A.C. source so as to pass half-wave current from the A.C. source through the re-



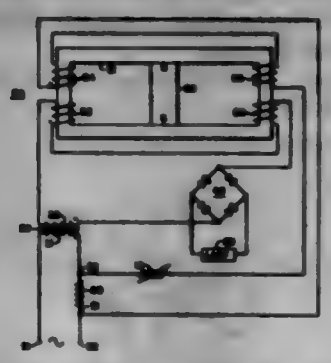
set circuit means for establishing reference flux level in the amplifier during conduction of said rectifiers; and a control signal receiving circuit connected to receive the control signal from said control source and including in series circuit relation the control windings of the amplifier and said pair of rectifiers, said rectifiers being connected in polarity opposition in said series circuit relation.

2,972,715

CURRENT REFERENCE CIRCUIT

John F. Ringelman, Catonsville, Md., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Aug. 5, 1957, Ser. No. 677,184
4 Claims. (Cl. 323—89)



1. In a current reference circuit, in combination, a magnetic amplifier comprising saturable means having inductively disposed thereon load winding means and compensating winding means, permanent magnet means disposed in inductive relationship with said saturable means of said magnetic amplifier, a saturating transformer having primary and secondary windings, said secondary winding of said saturating transformer being connected to said load winding means of said magnetic amplifier, means for applying an alternating current voltage to said primary winding of said saturating transformer, and impedance means associated with said primary winding of said saturating transformer coupling said compensating winding means of said magnetic amplifier to said means for applying an alternating current voltage to said primary winding and providing a voltage across said compensating winding means upon saturation of said saturable means on each half cycle of said alternating current voltage.

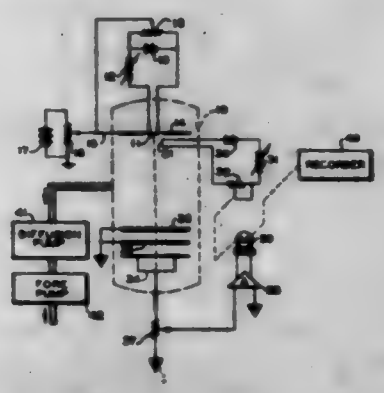
2,972,716

ANALYTICAL INSTRUMENT UTILIZING IONIZATION AND SELECTIVE EVAPORATION

Thomas D. Morgan, Idaho Falls, Idaho, assignor to Phillips Petroleum Company, a corporation of Delaware

Filed July 7, 1955, Ser. No. 520,585
10 Claims. (Cl. 324—33)

9. In an analytical instrument, an envelope, means for evacuating said envelope, a pair of filaments within said envelope, a collector electrode in said envelope, a pair of grounded guide electrodes disposed within said envelope between said filaments and said collecting electrode, said guide electrodes having aligned parallel slits therein to direct an ion current from the filaments to said collector electrode, means for supplying a first predetermined heating current to one filament, means for supplying a heating second current to said second filament, means for making a coarse adjustment of said second heating cur-



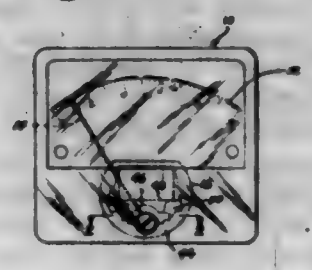
rent, and means including a variable impedance for making a fine adjustment of said second heating current, an amplifier having its input terminals connected to said collector electrode so as to be responsive to an ion current passing through said tube, a servomotor connected to the output of said amplifier, a recorder driven by said motor, and means mechanically connecting said motor to said variable impedance to maintain a constant ion current through said tube.

2,972,717

RING TYPE POLE PIECES AND METHOD OF MAKING

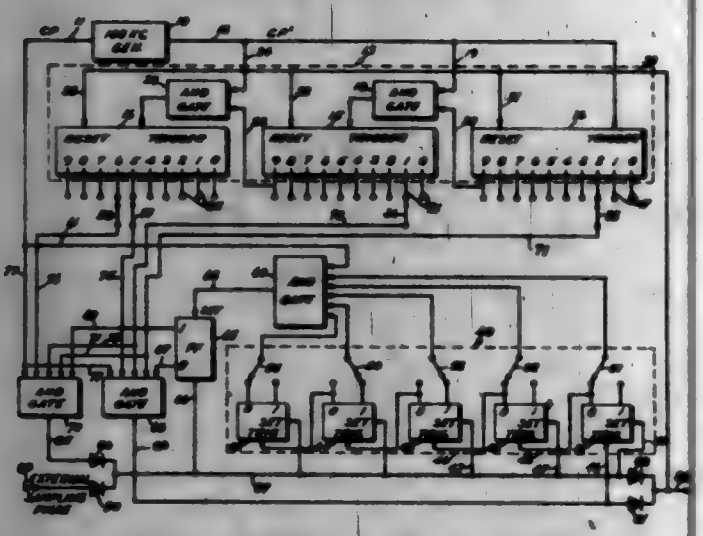
Ray L. Triplett, Bluffton, Ohio, assignor to The Triplett Electrical Instrument Co., Bluffton, Ohio, a corporation of Ohio

Filed Sept. 26, 1958, Ser. No. 763,683
5 Claims. (Cl. 324—151)



1. In an electrical instrument; a ring of magnetic material, means defining a first arcuate pole face on the inside of said ring at one side thereof, a generally bar-like member of magnetic material substantially smaller than the space inside the ring located inside the ring and having means defining a second arcuate pole face thereon arranged in opposed relation to the first pole face to define a generally cylindrical region therebetween, non-magnetic metallic elements extending from the ends of said bar-like member to the ring, means rigidly connecting said elements with both the member and the ring, the connection comprising notch means formed in one thereof, and projection means formed on the other thereof extending into said notch means, a non-magnetic frame in the ring between said pole faces, a core in the frame concentric with the pole faces, and a coil rotatable in the frame having side portions in the spaces between said core and pole faces, there being a permanent magnet fitted between the inside of the ring and the side of the bar-like member opposite the side with the pole face thereon.

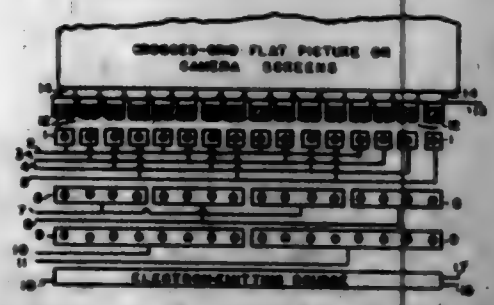
2,972,718
SYNCHRONIZED SAMPLED DATA DIGITAL SERVO
Norman N. Alperin, Cinnaminson Township, Burlington County, and Warren A. Mulle, Moorestown, N.J., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Dec. 1, 1959, Ser. No. 856,628
8 Claims. (Cl. 328—48)



1. A means synchronizing a sampled-data digital counting means comprising: a pulse generator for producing pulses of a predetermined pulse repetition frequency; first, second, and third, gating means coupled to gate pulses from said pulse generator; a first counting means coupled to said pulse generator for counting pulses therefrom, said counting means having resetting means therein and having a selectable output for pre-establishing an output count, the first counting means output being coupled to control said second and third gating means; a second counting means having resetting means therein and coupled to said first, second, and third gating means, the output of said third gating means being to said resetting means of both said first and second counting means and the output of said second gating means being applied for counting by said second counting means; a bistable network coupled to said first gating means with the two-outputs thereof coupled to each of said second and third gating means for controlling said second and third gating means in co-ordination with the selectable output of said first counting means to alternatively pass the pulses from said pulse generator, the output of the second gating means being coupled to the resetting means of said first counting means; and an external sampling pulse applied to the output of said third gating means whereby said external sampling pulse and the output of said third gating means are each capable of resetting said first and second counting means and the output of said second gating means is capable of resetting said first counting means.

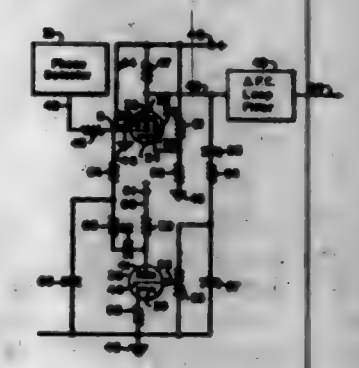
2,972,719
ELONGATED TRANSLATING SYSTEMS AND SELECTIVE SWITCHING THEREBY
Hyman A. Michlin, 1575 Odell St., New York, N.Y.
Filed Dec. 30, 1952, Ser. No. 328,724
9 Claims. (Cl. 328—219)

1. Means for translating changing pluralities of selected channels of signals to a succession of exclusive electron paths to selected final outlets in succession comprising a plurality of stages of gating means, said stages in a connected series of electron paths, a different plurality of gating means in each stage; an electron source adapted to emit electrons to the first stage of the stages of gating elements; a plurality of signal channels in each stage, each signal channel arranged to activate at least one gating means in their respective stage, said gating means in each stage being a multiple number of the signal channels to each stage; each gating means of each stage of each next lesser plurality of gating means exclusively controlling electron paths to selected final outlets from a plurality of gating means of a stage of the next plurality of gating means, each said plurality of gating means having not more than the number of signal channels to each stage thereby on one of said gating means of each said plurality of gating means in each stage



in series being activated by a signal through a selected signal channel of said signal channels in each stage there is effected an electron flow through an exclusive electron path to a selected final outlet, and on systematically and synchronously changing the combination of the signal channel transmitting the signal in each stage there is effected a translation of each such change of combination to a succession of changes of exclusive electron paths to a succession of selected final outlets.

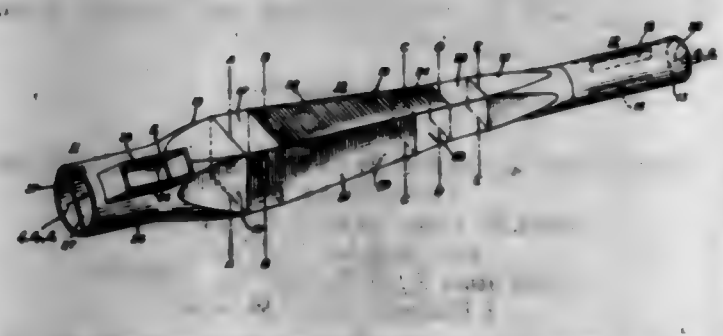
2,972,720
AUTOMATIC FREQUENCY CONTROL APPARATUS
Peter D. Hume, Round Bay, Md., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Sept. 24, 1957, Ser. No. 685,924
8 Claims. (Cl. 331—4)



1. In automatic frequency control apparatus, in combination, phase detector means having first and second signals applied thereto, direct current amplifier means, filter means oscillator means including a signal-sensitive variable reactance for producing said first signal and varying the frequency of said first signal, circuit means connecting said phase detector means, said direct current amplifier means, said filter means, and said oscillator means in a closed phase control loop whereby the first signal output of the oscillator means is applied to the phase detector means, the output of the phase detector means is applied to the input of the direct current amplifier means, the output of the amplifier means is applied to the filter means, and the output of the filter means is applied to the signal-sensitive reactance, said phase control loop acting to maintain the first and second signals in phase synchronism while the first and second signals are of the same frequency, and regenerative feedback means connecting the output of the direct current amplifier means to the input thereof, said feedback means and amplifier means being constructed and arranged to generate a sweep signal when the frequency of at least one of said first and second signals varies so that said first and

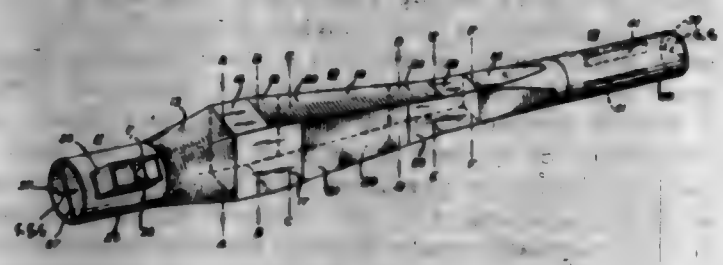
second signals are no longer of the same frequency, said sweep signal being applied by way of said filter means to said signal-sensitive variable reactance to thereby change the frequency of said first signal to the frequency of said second signal.

2,972,721
ELECTROMAGNETIC WAVE FILTER
Edward A. Ohm, Red Bank, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Mar. 28, 1958, Ser. No. 724,684
12 Claims. (Cl. 333—9)



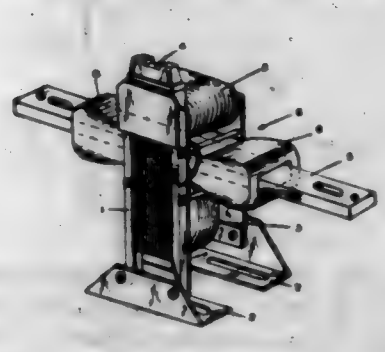
2. An elongated electromagnetic wave guiding enclosure having a conductive boundary that tapers along its length in two orthogonal dimensions of its transverse cross section, said tapers of said two dimensions being offset longitudinally from each other, means for applying electromagnetic wave energy to said enclosure polarized at an acute angle to said dimensions, and means for coupling to energy within said enclosure polarized at right angles to said last named polarization.

2,972,722
ELECTROMAGNETIC WAVE FILTER
Edward A. Ohm, Shrewsbury, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed May 28, 1959, Ser. No. 816,467
4 Claims. (Cl. 333—9)



1. Filter means for separating a broadband of frequencies of electromagnetic wave energy from other frequencies comprising input means for supporting said energy in a given polarization, an elongated conductively bounded structure connected to said input for reflecting at each frequency in said band first and second equal orthogonal components of said polarization from first and second points respectively spaced from each other along the length of said structure, said structure having an average cutoff frequency that is lower for the component reflected from said first point than for the component reflected from said second point, a first output means connected to said structure and adatped to support energy polarized at right angles to said given polarization for receiving said reflected energy within said band, and a second output means connected to said structure for receiving nonreflected energy at said other frequencies.

2,972,723
THROUGH TYPE TRANSFORMER
Malcolm R. Sabiston, Leaside, Ontario, Canada, assignor to Sangamo Electric Company, Springfield, Ill.
Filed Oct. 7, 1957, Ser. No. 688,584
Claims priority, application Canada May 2, 1957
13 Claims. (Cl. 336—175)



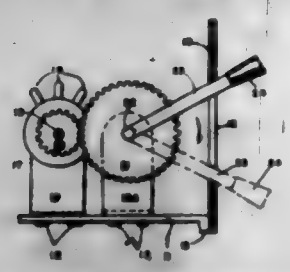
1. A through type transformer comprising a secondary winding formation mounted on a frame, a tubular insulating bushing extending through said secondary winding formation and projecting on opposite sides thereof, a primary conductor extending through said bushing, said bushing having embedded therein an inner tubular conductor foil disposed immediately adjacent to the inner periphery of the bushing for a major portion of the bushing length and being turned outwardly at the ends of the bushing and curved rearwardly away from said bushing ends, said foil being connected to said primary conductor, and means to create an area substantially free of electrical stress in the vicinity of the intersection of said secondary winding and bushing, said means comprising an outer conductor foil embedded in said bushing and grounded to said frame, said outer foil surrounding said inner foil and being flared outwardly at the ends of the bushing, the out-turned ends of the inner tubular foil and the outwardly flared ends of said outer tubular foil defining therebetween at each end of the bushing an outwardly facing electrical stress distributing control throat embedded in the bushing.

2,972,724
LOCKED WOUND CORE
John W. Flanserfelt, St. Catharines, Ontario, Canada, assignor to Ferranti-Packard Electric Limited, St. Catharines, Ontario, Canada
Filed Oct. 19, 1959, Ser. No. 848,889
8 Claims. (Cl. 336—213)



1. A laminated magnetic core comprising a plurality of strips of magnetic material wound successively upon one another, there being a plurality of joints between adjoining strips with succeeding joints being spaced apart circumferentially of said core, at each of said joints the inner end of the successive strip directly overlapping the outer end of its preceding strip a distance sufficient to provide a good flux path therebetween, the overlapping ends of adjoining strips being provided at each of said joints with separate interlocking means, each of said interlocking means comprising a pair of separably interlocked elements attached to adjoining ones of said overlapping ends to positively retain said overlapping ends in tight face-to-face contact subetantially over the entire overlapped area and to positively prevent separation of said overlapping ends radially of the core.

2,972,725
LINEAR DRIVE FOR ROTARY POTENTIOMETERS
Oliver Berliner, 1007 Roxbury Drive, Beverly Hills, Calif.
Filed Dec. 9, 1959, Ser. No. 858,481
6 Claims. (Cl. 338—67)



1. A relatively linearly movable drive mechanism for a potentiometer having a rotatable control shaft comprising in combination: a potentiometer having a first and a second terminal and a slidable terminal movable between said first and said second terminals across a resistance element connected between said first and second terminals to provide selective adjustment of the resistance between a selected one of said first and second terminals and said slidable terminal moving therebetween; a rotatable shaft coupled with said slidable terminal to move said slidable terminal across said resistance element when said shaft is rotated; a pinion gear attached to said rotatable shaft; a driving gear assembled in meshing relation with said pinion gear to a fixed gear support; and a lever arm fixedly attached to said driving gear, said fixed gear support and said potentiometer being assembled in operatable relation on a base member attached to a control panel, whereby said lever arm acting against said driving gear rotates said pinion and thereby rotates said slidable terminal of said potentiometer to adjust the resistance between said slidable terminal and said selected one of said first and second terminals.

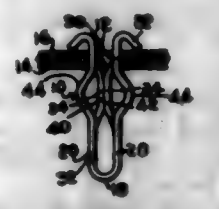
2,972,726
ELECTRICAL RESISTOR
Otis F. Boykin, Chicago, Ill., assignor, by mesne assignments, to CTS Corporation, Elkhart, Ind., a corporation of Indiana
Filed Feb. 27, 1956, Ser. No. 567,765
21 Claims. (Cl. 338—297)



1. An electrical resistor comprising tape means, electrical resistance means extending along said tape means, and said tape means having longitudinal segments thereof in a generally V configuration, with points of the resistance means representing the highest potential difference between the respective segments having the greatest spacial separation, and an insulating material disposed between said segments.

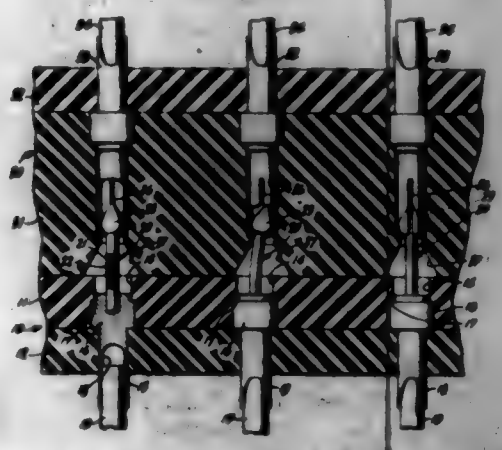
2,972,727
PRINTED CIRCUIT ASSEMBLY
William H. Flanagan, Jr., Wellesley, and Robert W. Fraser, Waltham, Mass., assignors to United-Carr Fastener Corporation, Cambridge, Mass., a corporation of Delaware
Filed July 1, 1958, Ser. No. 745,879
5 Claims. (Cl. 339—17)

1. A printed circuit contact comprising a U-shaped shank with the free ends bent outwardly and away from each other defining flange portions, said shank being furcated defining laterally spaced leg portions, said flange portions inclined downwardly having notched terminal end portions, the inner of said laterally spaced leg portions having the walls bowed inwardly toward each other



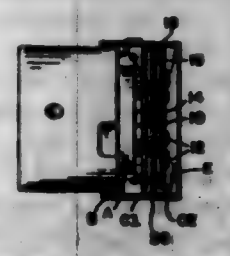
presenting a restricted area for frictional engagement with a blade to be inserted therein, the outer of said leg portions provided with axially deformable shoulders to cooperate with the flange portions and securing a panel imbedded therebetween.

2,972,728
ELECTRICAL PLUG HAVING SELF-ALIGNING TERMINAL PINS
Fred H. Cole, 1028 S. Sierra Bonita, Los Angeles 19, Calif.
Filed June 9, 1958, Ser. No. 740,749
2 Claims. (Cl. 339—64)



1. A self-aligning plug comprising an electrically non-conductive plug body; an electrically conductive terminal pin rigidly fixed to said body and having an elongated, laterally resilient shank projecting outwardly from said body, said shank having a bimetallic construction with a highly resilient core and a highly electrically conductive outer shell bonded thereto; and a conico-spherical shaped head formed on the outer end of said shank and having a conical portion tapering away from said shank and terminating at an apex to serve as a guide, the apex of said head being in alignment with the longitudinal axis of said shank and with the spherical diameter of said head substantially greater than the diameter of said shank.

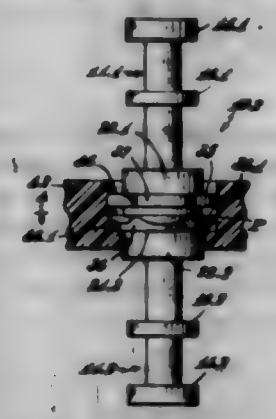
2,972,729
SOCKET FOR A PRINTED CIRCUIT AND MOUNTING THEREFOR
Herbert E. Ruehlemann, Huntingdon Valley, Pa., assignor to Elco Corporation, Philadelphia, Pa., a corporation of Pennsylvania
Filed Sept. 6, 1957, Ser. No. 682,549
6 Claims. (Cl. 339—193)



5. A right angle socket structure for electronic tubes having terminal pins, said structure comprising a bracket

member having a body portion, a pair of electrical insulating means carried by said bracket in spaced relation to opposite sides of said body portion, a socket body connected to said bracket member, a plurality of tube pin receiving contacts carried by said socket body and an electrically insulated terminal board carried by said bracket member at one end of said insulating means, said contacts having terminal strips which extend laterally from said socket body to said terminal board.

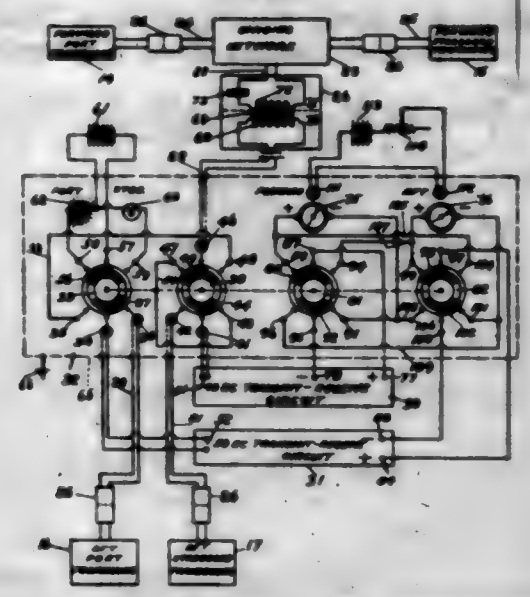
2,972,730
PRESSURE MOUNTED LUG
Ralph Abrams, Sharon, Mass., assignor to Cambridge Thermionic Corporation, Cambridge, Mass., a corporation of Massachusetts
Filed May 16, 1955, Ser. No. 508,513
8 Claims. (Cl. 339—221)



1. A fastening device composed of a mount plate having a circular opening with a transverse surface therein; and a lug comprising a head with at least one prismatic portion having cut thereinto a transverse shoulder and a conical neck, with the prismatic portion being located between the shoulder and the neck, and with the neck diametrically increasing towards the shoulder and intersecting the shoulder approximately at the greatest diameter of the intersection of shoulder and prismatic portion where the edges of the prismatic portion are essentially preserved to form protruding barbs, the diameter of said opening of said mount plate being slightly smaller than the diameter of said barbs, whereby the bars upon assembly easily enter said opening but firmly engage the inside of the opening when the head is pressed thereinto against said transverse surface and resist removal in opposite direction.

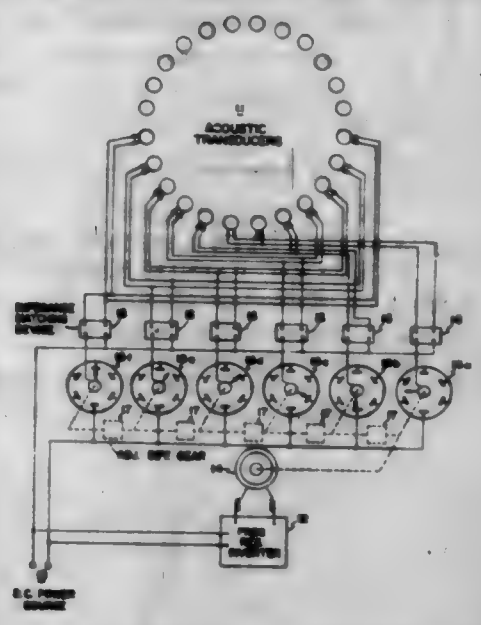
2,972,731
ECHO DISTANCE MEASURING SYSTEMS
John N. Beebe, Newton, Mass., assignor to Raytheon Company, a corporation of Delaware
Continuation of application Ser. No. 54,851, Oct. 16, 1948. This application Sept. 13, 1949, Ser. No. 115,342
17 Claims. (Cl. 340—3)

1. An echo sounding system comprising first transmitting and receiving means adapted for operation at a first frequency, second transmitting and receiving means adapted for operation at a second frequency, first and second electroacoustic transducers disposed in first and second locations where soundings are to be taken, remote from said transmitting and receiving means, switch means having a main and first and second selection contacts on either one of which said main contact can be selectively closed, a dividing network having three terminal means of which the first is substantially impassable to said first frequency, the second is substantially impassable to said second frequency, and the third passes both of said frequencies, means connecting said first transmitting and receiving means to said first selection contact, means connecting said second transmitting and receiving means to said second selection contact, means connecting said main contact to said third terminal means,



means connecting said first transducer to said first terminal means, and means connecting said second transducer to said second terminal means.

2,972,732
ACOUSTIC TRANSMITTING ARRAY
Wardlaw M. Hammond, Jr., Baltimore, Md., assignor to The Martin Company, a corporation of Maryland
Filed Sept. 7, 1956, Ser. No. 608,573
10 Claims. (Cl. 340—5)



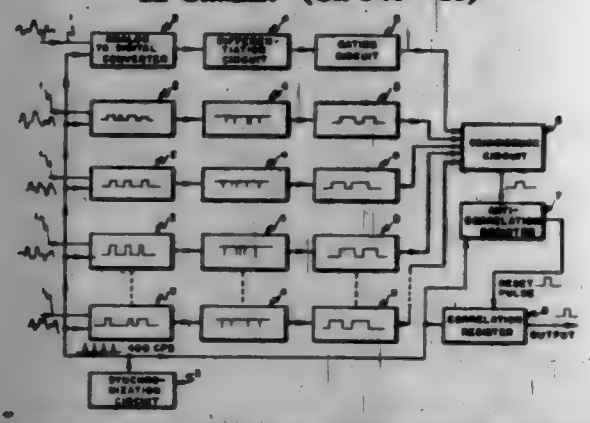
7. A power supply system utilizing a direct current source for energizing an array of acoustical transducers capable of producing a highly directive sonar beam comprising a frequency regulated inverter connected to receive power from said direct current source, a synchronous motor connected to receive power from said inverter, a plurality of multicontact rotary switches connected to said direct current source, each of said switches being arranged to produce direct current from said direct current source during at least half of one rotation of said switch so as to produce a periodic current output, said switches being arranged so that the said periodic current outputs are in a definite phase relation, said synchronous motor being mechanically connected to rotate said switches, a plurality of impedance matching networks, each of said impedance matching networks being connected between one of said switches and at least one of said transducers of said array, whereby said acoustical transducers of said array will be energized by alternating current to produce said highly directive sonar beam.

2,972,733

METHOD AND APPARATUS FOR ANALYZING DATA

J. Fred Bucy, Jr., Dallas, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed July 19, 1955, Ser. No. 523,017
12 Claims. (Cl. 340—15)



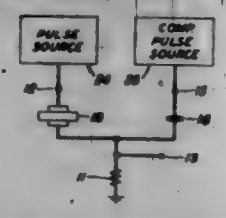
1. Apparatus for analyzing data signals comprising a plurality of signal channels, each of said channels including means to convert an analogue input signal to a series of signals the spacing of which is related to the amplitude of the analogue input signal, means to receive the converted signals from said plurality of channels and produce an output signal when signals from a predetermined number of said channels are received simultaneously, a first means producing output signals separated by substantially equal time intervals, a second means producing output signals separated by substantially equal time intervals, said first means arranged to delay producing an output signal upon receiving an output signal from said means to receive signals from said plurality of channels, and said second means arranged to delay producing an output signal upon receiving an output signal from said first means.

2,972,734

ELECTRICAL CIRCUITS EMPLOYING FERROELECTRIC CONDENSERS

John R. Anderson, Berkeley Heights, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed June 23, 1955, Ser. No. 517,530
12 Claims. (Cl. 340—173.2)



2. An electrical circuit comprising a first condenser having a dielectric of a ferroelectric material, means for applying storage and sensing pulses to said first condenser, and means for increasing the signal-to-noise ratio of said first condenser, said last-mentioned means including a second condenser connected to one side of said first condenser and means applying a compensating pulse to said second condenser of a polarity to oppose the output of said first condenser on application of a sensing pulse to said first condenser.

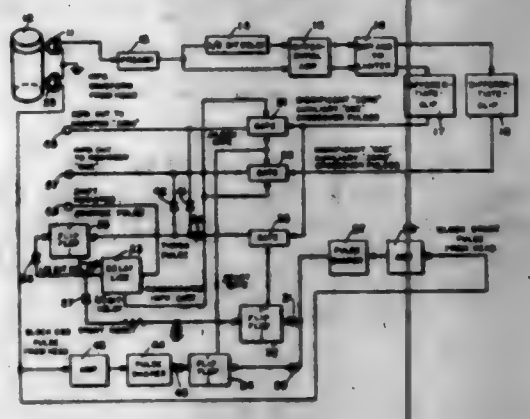
2,972,735

DATA PROCESSING

Harrison W. Fuller, Boston, and Robert C. Kelner, Concord, Mass., assignors to Laboratory for Electronics, Inc., Boston, Mass., a corporation of Delaware

Filed May 4, 1955, Ser. No. 505,894
11 Claims. (Cl. 340—174.1)

1. In a data processing system where data is recorded in a magnetic medium by changing the magnetic state thereof in accordance with said data, apparatus for interpreting the recorded data comprising, means for deriving a data signal related to the magnetic state of said medium, said data signal having significant crossovers whose slope is characteristic of the recorded data and which occur in substantially periodically spaced time intervals



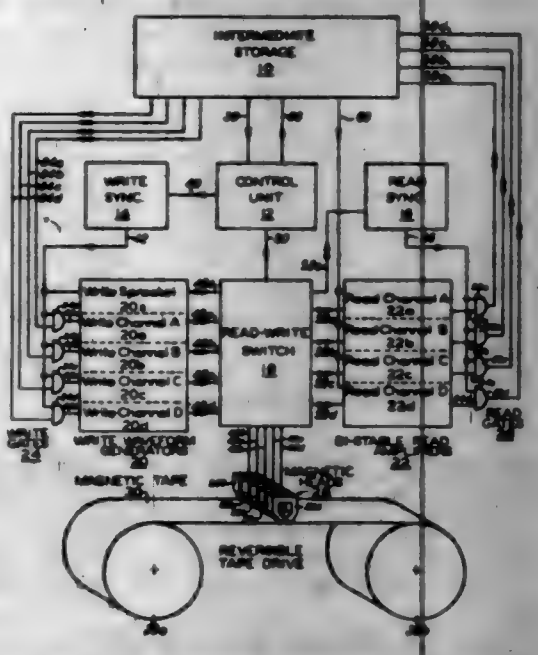
and auxiliary crossovers which, when present, occur outside said time intervals, means for deriving a crossover signal characteristic of the slope of said significant and auxiliary crossovers, and gating means responsive to said significant crossovers for providing said crossover signal as an output only when characteristic of the slope of said significant crossovers.

2,972,736

BI-DIRECTIONAL MAGNETIC TAPE RECORDING

Phyllis Hersh, Teaneck, N.J., assignor, by mesne assignments, to Curtiss-Wright Corporation, Carlstadt, N.J., a corporation of Delaware

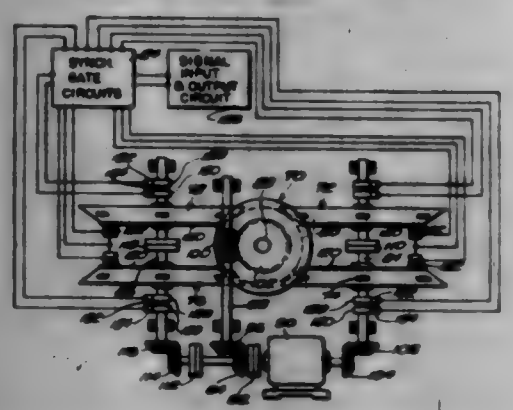
Filed Mar. 11, 1957, Ser. No. 645,339
1 Claim. (Cl. 340—174.1)



A reproducing apparatus for a multi-channel magnetic tape which stores tape sprocket signals and tape information signals, said signals being arranged in transverse rows and in a longitudinal sprocket signal channel and a plurality of longitudinal information signal channels, said information signals being in the form of spaced magnetized areas each signifying one binary digit and unmagnetized areas each signifying the other binary digit, each row including one of said tape sprocket signals in the form of a magnetized area to identify such row and to distinguish it from unmagnetized inter-row spaces, especially in the case of a row composed of only unmagnetized tape information signal areas to signify presence of said other binary digit in each information signal channel for such row, said apparatus comprising a reproducing head for each channel adapted to sense only

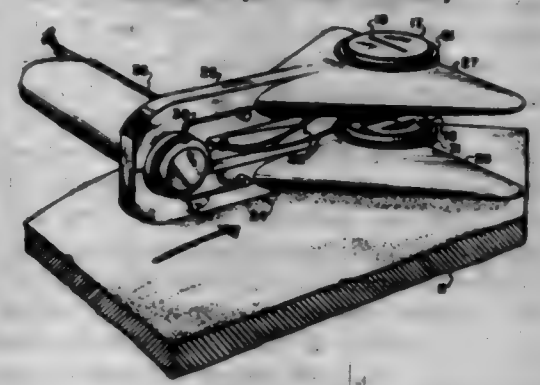
magnetized areas in its associated channel, and producing an electrical signal pulse in response to such sensing, whereby when said tape is caused to pass said recording heads in either direction an electrical sprocket pulse is generated for each row as derived from the tape sprocket signal of such row and binary digit electrical pulses are generated only for corresponding magnetized areas in said information channels to represent said one binary digit, each said pulse being defined by a leading and a trailing edge which correspond respectively to the first and last sensed edges of a given magnetized area on said tape as said tape passes the corresponding reproducing head in either direction, the leading edges of the pulses derived from any given row being substantially concurrent and the trailing edges of the pulses derived from any given row being substantially concurrent, a bistable device connected to each information channel reproducing head and settable to one state responsive to the leading edges of the associated binary digit pulses to produce corresponding reshaped binary digit pulses, a gate connected to each bistable device and responsive to coincidence of a reshaped binary digit pulse and the trailing edge of the associated electrical sprocket pulse to emit a pulse that is substantially concurrent with the trailing edge of the associated sprocket pulse giving rise to such emitted pulse, an information storage unit to receive the emitted pulses, said information storage unit including delay means accepting said emitted pulses, and providing a delayed output pulse for each group of emitted pulses derived from a common row, and means for applying the delayed output pulses to said bistable devices to reset the set bistable devices to their other states, whereby the possibility of incorrect tape information signal reproduction due to tape skewing is substantially eliminated.

2,972,737
INFORMATION TRANSFER AND STORAGE DEVICES
Thomas P. Rona, Belmont, Mass., assignor to Baird-Atomic, Inc., Cambridge, Mass., a corporation of Massachusetts
Filed Oct. 1, 1957, Ser. No. 687,433
19 Claims. (Cl. 340—174.1)



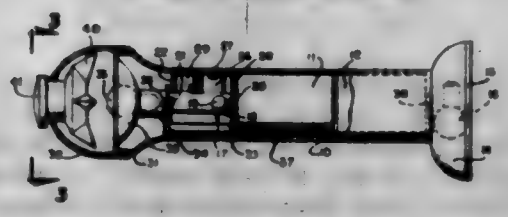
17. An information transfer device comprising toroidal storage means radially disposed for axial rotation on first shaft means, transducer means radially disposed for circular scanning rotation on second shaft means and electronic means for transmitting signals to and receiving signals from said transducer means, said storage means including a magnetic medium, said magnetic medium being capable of undergoing a magnetic change in response to an electrical signal applied to said transducer means by said electronic system, said magnetic medium being capable of generating a signal in said transducer means for transmission to said electronic means, said storage means and said circular scanning rotation defining contiguous circular arcs having directional components transverse relative to the rotary direction of said storage means, said signals being transmitted between said transducer means and said electronic means through slip rings on said second shaft means, and means for continuously rotating said storage means and said transducer means.

2,972,738
TRANSDUCER POSITIONING BY AIR LOADING
Donald D. Slitter, San Jose, Calif., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed July 14, 1958, Ser. No. 748,457
7 Claims. (Cl. 340—174.1)



1. Apparatus for supporting a transducer relative to a movable record surface, comprising a supporting arm, means for mounting said transducer on said supporting arm adjacent said record surface, and pivot means for said supporting arm, said supporting arm having a vane portion disposed in the air current created by the air drag of said moving record surface for moving said supporting arm about said pivot toward said record surface in response to said air current to position said transducer closely adjacent said record surface.

2,972,739
PORTABLE SAFETY LIGHT
Ray C. Opper, 3735 Laguna Ave., Oakland 2, Calif.
Filed July 7, 1959, Ser. No. 825,453
1 Claim. (Cl. 340—321)

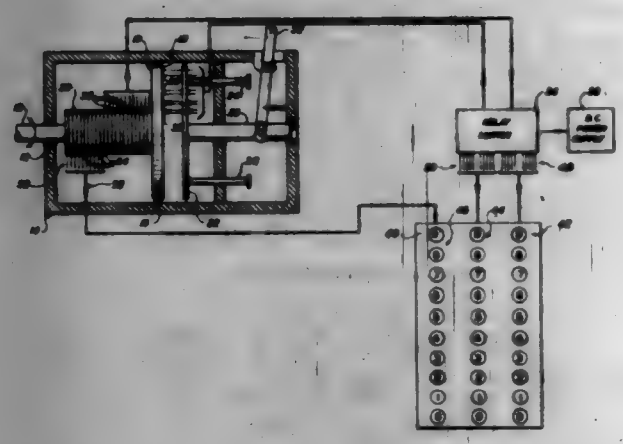


A safety light reflector for attaching to a battery operated flashlight comprising a transparent cap divided into stripes of red and white disposed alternately around the cap, a light reflecting element disposed in said cap and having radially extending projections extending to the sides of the cap, a threaded hole formed centrally through said element adapted to be engaged by a locking sleeve which rotatably projects through an opening in the end of the cap, a lens mounted on the outer end of the locking sleeve and a retaining ring adapted to secure said lens against said sleeve, whereby some of the light emitted from the flashlight bulb will pass through said locking sleeve and be focussed into a concentrated beam by said lens, and whereby further light from the bulb is reflected by the radially extending projections of the reflector and is transmitted through the red and white stripes of said transparent cap.

2,972,746
SHAFT POSITION DIGITIZER
Arvo A. Lahti, Scottsdale, Ariz., assignor, by mesne assignments, to Consolidated Electrodynamics Corporation, Pasadena, Calif., a corporation of California
Filed Apr. 25, 1955, Ser. No. 503,472
11 Claims. (Cl. 340—347)

9. Apparatus for providing a representation of the angular position of a shaft comprising first commutating means

coupled to the shaft and including a segmented conductive pattern and cooperating brush means arranged to provide a first distinguishable electrical condition when the shaft is oriented within the first half of any of a plurality of predetermined angular intervals and a second distinguishable electrical condition when the shaft is oriented within the second half of any of said angular intervals, second commutating means coupled to the shaft and including a segmented conductive pattern and cooperating brush means arranged to provide five distinguishable electrical conditions respectively corresponding to orientation of the shaft within respective one-fifth portions of the first half of any of the angular intervals and for providing the same five distinguishable electrical conditions in reverse order and respectively corresponding to orientation of the shaft within respective one-fifth portions of the second half of any of the angular intervals, and means responsive to the electrical conditions provided by the first and second commutating means for providing ten distinguishable electrical conditions respectively corresponding to orientation of the shaft within respective one-tenth portions of any of the angular intervals, a third commutating means coupled to the shaft and including a segmented conductive



pattern and cooperating brush means arranged to provide a distinguishable electrical condition when the shaft is oriented within the first half of any of the respective one-tenth portions of any of said angular intervals and a different and distinct electrical condition where the shaft is oriented within the second half of any of said one-tenth portions of any of said angular intervals, fourth commutating means coupled to the shaft and including a segmented conductive pattern and cooperating brush means arranged to provide five distinct electrical conditions respectively corresponding to orientation of the shaft within respective one-fifth portions of the first half of any of said one-tenth portions of any said angular intervals and to provide the same five distinct electrical conditions in reverse order and respectively corresponding to orientation of the shaft within respective one-fifth portions of the second half of any of said one-tenth portions of any of said angular intervals, and means responsive to the electrical conditions provided by the third and fourth commutating means for providing ten distinct electrical conditions respectively corresponding to orientation of the shaft within respective one-tenth portions of any of said one-tenth portions of any of said angular intervals.

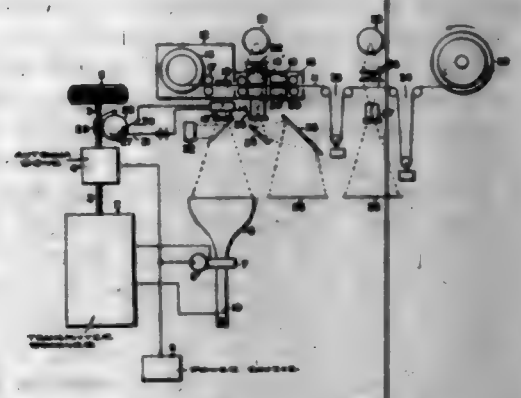
2,972,741

SHIP'S COURSE RECORDER

John Hays Hammond, Jr., Hammond Research Corp., Gloucester, Mass.

Filed Apr. 17, 1957, Ser. No. 653,360
2 Claims. (Cl. 343—5)

1. A navigation course indicator system comprising a radar radiator having a cyclic sweep and a receiver including a cathode-ray tube having a screen and having means responsive to echo pulses to produce electronically spots on said screen which represent the bearing and range of an object at successive sweeps of said radiator, a camera disposed to photograph said screen on a frame of a photographic film, means synchronized with the sweep of said radiator to actuate said camera at inter-



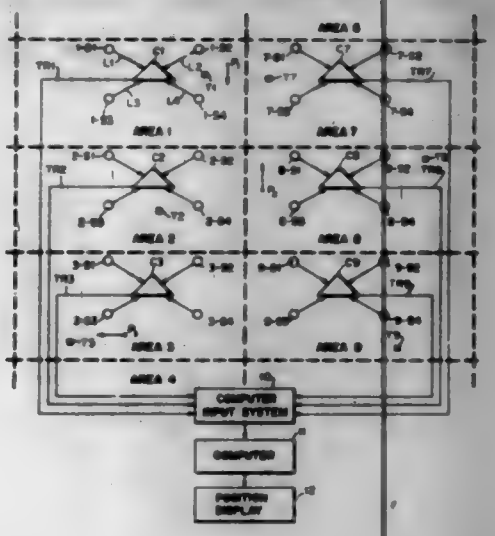
vals spaced by a predetermined number of radiator sweeps to record on a single frame of said film a selected series of screen images representing successive positions of said object, means advancing said film after a predetermined series of camera actuations, means processing the exposed frame, and means projecting an image of said processed frame for observation.

2,972,742

AUTOMATIC POSITION-REPORTING SYSTEM

Dan C. Ross, Wappingers Falls, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

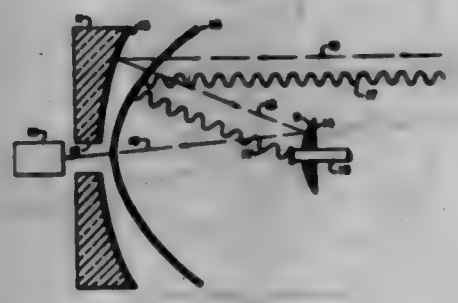
Filed Sept. 12, 1956, Ser. No. 609,414
29 Claims. (Cl. 343—112)



1. An automatic position-reporting system for mobile craft comprising, means carried by each reporting craft and including timing means establishing a system operating cycle which is uniform for all craft and synchronized on a systemwide basis and transmission means controlled thereby for automatically initiating and transmitting during each of successive system operating cycles and at a preselected time therewithin individual to each reporting craft a position-reporting pulse adapted to identify the reporting craft by time of transmission and the transient position thereof by the relative propagation intervals to remote points, means including a plurality of fixedly positioned stations spaced relative to each other for receiving each said transmitted pulse and for identifying the time of arrival thereof individually at each said

station, and computing means for receiving and utilizing the independent times-of-arrival information from at least two pairs of said stations to compute each said transient position of said each craft relative to the positions of said stations.

2,972,743
COMBINED INFRARED-RADAR ANTENNA
Emil L. Svensson, Glen Burnie, Jefferson O. Hamby, Baltimore, and Richard F. Higby, Severna Park, Md., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed June 19, 1957, Ser. No. 666,735
4 Claims. (Cl. 343—838)



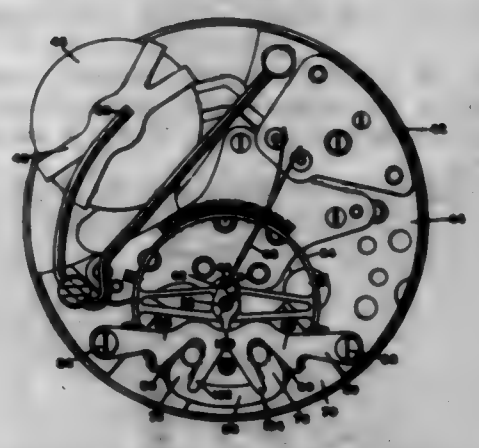
2. A combined radar and infrared antenna apparatus comprising, in combination, a radar feed member, an infrared-energy-transparent radar reflector for said radar feed member, a primary infrared reflector behind said radar reflector, said primary infrared reflector having an aperture therein, an infrared detector in registry with said aperture, and a secondary infrared reflector in front of said radar reflector for directing infrared energy reflected from said primary reflector through said aperture to said infrared detector.

2,972,744
GLASS ROD ANTENNA
William H. Richards, Cleveland, and Fremont W. Pensley, Ashtabula, Ohio, assignors, by mesne assignments, to Ward Products Corporation, New York, N.Y., a corporation of New York
Filed Feb. 9, 1955, Ser. No. 487,100
1 Claim. (Cl. 343—888)

An antenna comprising a unitary exposed rod of hard fiberglass insulating material and the like having an electrical-wire conductor embedded therein, said conductor having a terminal portion which is free from said insulating material and is reversely carried back a predetermined distance along the outside of the rod at an end thereof, a conductive socket of length greater than the said predetermined distance, receiving and fitting the said end of the rod, an intermediate region of the socket within the said predetermined distance having an inward circumferential wall deformation pressing directly upon and tightly gripping said rod and said conductor terminal portion for mechanically and electrically securing together the socket and said terminal portion of the conductor and for mechanically securing the socket to the said end of the rod.



2,972,745
ELECTRIC WRIST WATCH
Philip E. Biemiller, Landisville, and James H. Reese, Manheim, Pa., assignors to Hamilton Watch Company, Lancaster, Pa., a corporation of Pennsylvania
Filed Apr. 17, 1956, Ser. No. 578,843
4 Claims. (Cl. 58—28)

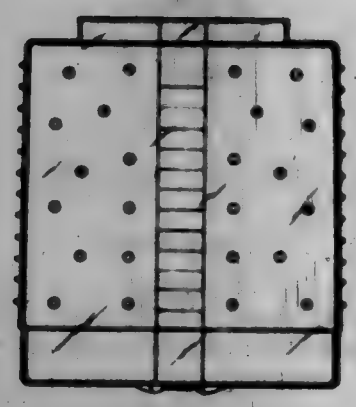


1. In an electric watch having a train and a source of motive power for said train including a balance and hairspring assembly comprising, coil means carried by said balance and having two spaced portions extending substantially radially to the axis of said balance, and means establishing spaced concentrated magnetic fields through said radial coil portions, said fields being oriented substantially parallel to the axis of said balance and created by small cylindrical magnets having a length to diameter ratio of approximately 0.5–1.0, a coercive force of no less than 750 oersteds, a flux density at the center of the magnets of no less than 1000 gausses, and a maximum energy product at that length to diameter ratio.

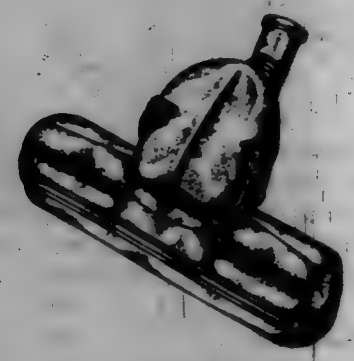
DESIGNS

FEBRUARY 21, 1961

189,777
SPOOL BOX OR THE LIKE
David Traum, 11 E. 26th St., Harrison, N.Y.
Filed Mar. 6, 1959, Ser. No. 54,865
Term of patent 14 years
(Cl. D3—19)



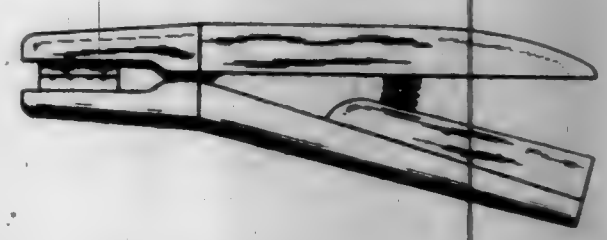
189,778
VACUUM CLEANER NOZZLE OR SIMILAR ARTICLE
Lurelle V. A. Guild, Noreton Heights, and John J. Kowalewski, Riverside, Conn., assignors to Electrolux Corporation, Old Greenwich, Conn., a corporation of Delaware
Filed Sept. 17, 1959, Ser. No. 57,586
Term of patent 14 years
(Cl. D9—3)



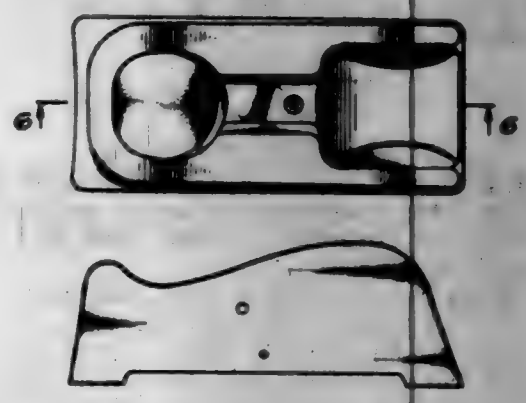
189,779
PASSENGER SEAT
Leonard Ralph Serge, Westport, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Mar. 14, 1960, Ser. No. 59,719
Term of patent 14 years
(Cl. D15—8)



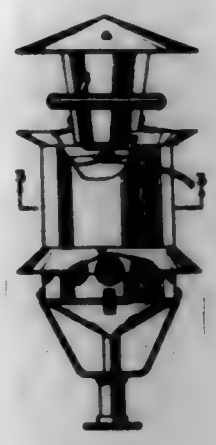
189,780
ELECTRODE HOLDER
Manick C. Magarian, P.O. Box 494, Fresno, Calif.
Filed Mar. 16, 1960, Ser. No. 59,763
Term of patent 14 years
(Cl. D26—1)



189,781
COMBINED TELEPHONE AMPLIFIER AND REST
William L. Barkin, 1521 Marlay Drive, Los Angeles 46, Calif.
Filed Aug. 22, 1960, Ser. No. 61,850
Term of patent 14 years
(Cl. D26—14)



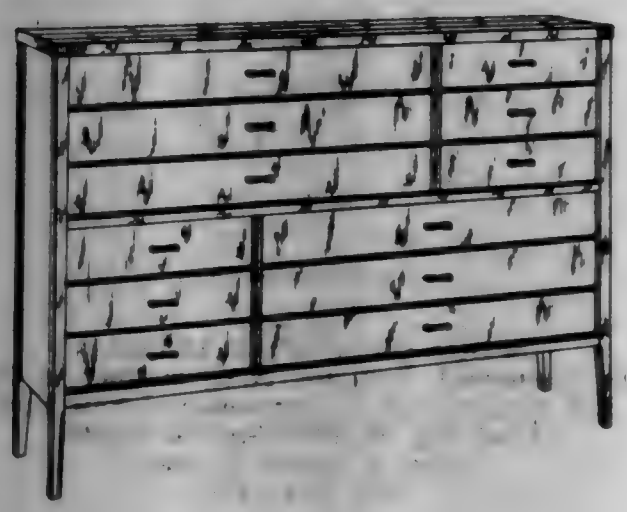
189,782
INSECT EXTERMINATOR
Frank S. Richardson, 1007 Dillard St., Greensboro, N.C.
Filed Mar. 19, 1959, Ser. No. 55,062
Term of patent 14 years
(Cl. D31—3)



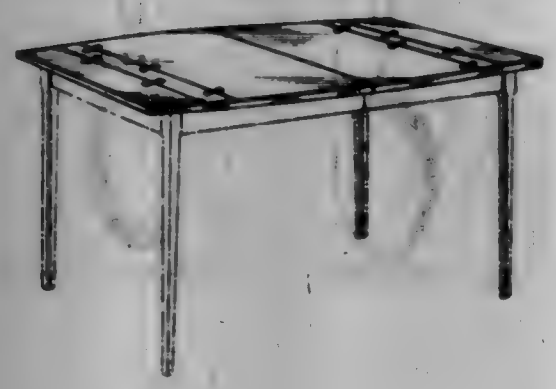
189,783
BOOKEND
James T. McGinn, 827 S. Seminary Ave., Park Ridge, Ill.
Filed Nov. 12, 1958, Ser. No. 53,358
Term of patent 14 years
(Cl. D33—4)



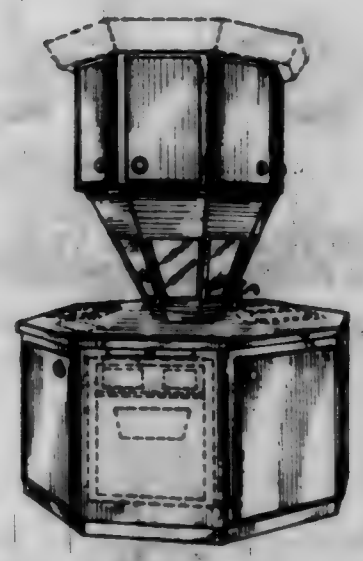
189,784
DRESSER
Ernest L. Swartz and Orville B. Solle, Rockford, Ill., assignors to The Lane Company, Inc., Altavista, Va., a corporation of Virginia
Filed Nov. 2, 1959, Ser. No. 58,169
Term of patent 14 years
(Cl. D33—6)



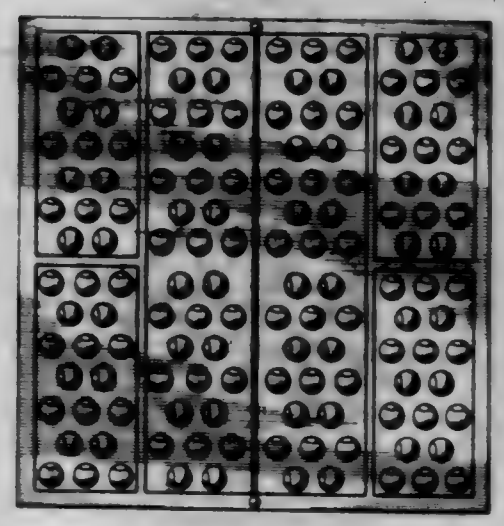
189,785
TABLE
Ernest L. Swartz and Orville B. Solle, Rockford, Ill., assignors to The Lane Company, Inc., Altavista, Va., a corporation of Virginia
Filed Nov. 2, 1959, Ser. No. 58,149
Term of patent 14 years
(Cl. D33—14)



189,786
KITCHEN UNIT
Robert L. Irwin, 315 Holland-Sylvania Road, and Earl J. Duvall, 1628 Glenton Drive, both of Toledo, Ohio
Filed Aug. 3, 1959, Ser. No. 57,039
Term of patent 7 years
(Cl. D33—19)



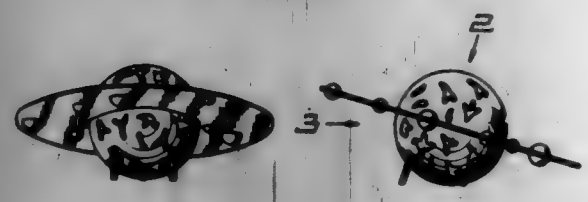
189,787
TENNIS DART GAME BOARD
Wilfred R. Pobursky, 28514 Bock St., Garden City, Mich.
Filed Sept. 8, 1959, Ser. No. 57,453
Term of patent 14 years
(Cl. D34—5)



189,788
GOLF PRACTICE DEVICE OR THE LIKE
Clarence Karstadt, 15920 Miami Way, Pacific Palisades, Calif.
Filed Aug. 22, 1960, Ser. No. 61,833
Term of patent 7 years
(Cl. D34—5)



189,789
TOY SAVINGS BANK OR SIMILAR ARTICLE
John Bernac, 20536 Cedar, St. Clair Shores, Mich.
Filed Sept. 3, 1959, Ser. No. 57,425
Term of patent 14 years
(Cl. D34—5)



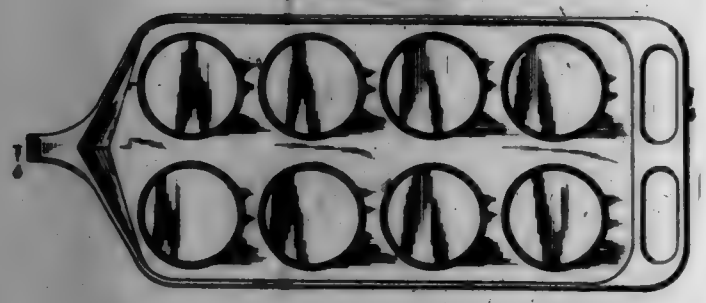
189,790
TOY HOBBYHORSE VEHICLE
John R. Parks, Palatine, Ill., assignor to Marvin I. Glass, Chicago, Ill.
Filed Sept. 9, 1960, Ser. No. 62,078
Term of patent 14 years
(Cl. D34—15)



189,791
COASTER
Edmund J. Fitzgerald, 228 West St., Leominster, Mass.
Filed Sept. 26, 1960, Ser. No. 62,269
Term of patent 14 years
(Cl. D44—10)



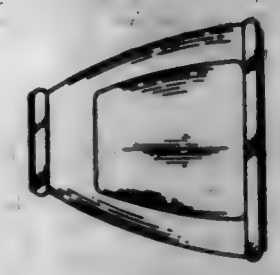
189,792
SERVING TRAY OR SIMILAR ARTICLE
Ignatius Anthony Seputo, 61 Ave. W, Brooklyn, N.N.Y.
Filed May 19, 1959, Ser. No. 55,973
Term of patent 14 years
(Cl. D44—10)



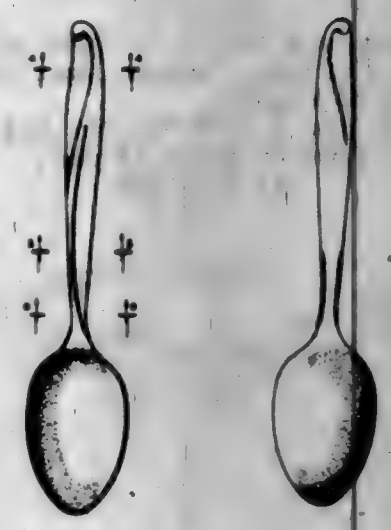
189,793
EARRING
Gretyl Howard, 612 7th St., Sioux City, Iowa
Filed Dec. 22, 1959, Ser. No. 58,762
Term of patent 14 years
(Cl. D45—9)



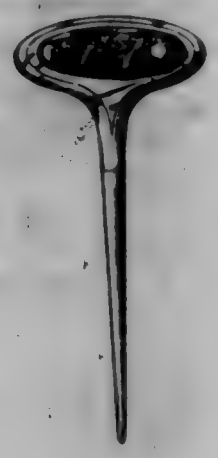
189,794
PEDESTAL BASE FOR A LIGHT STANDARD
John A. Weaver, R.D. 8, York, Pa.
Filed May 20, 1959, Ser. No. 56,001
Term of patent 3½ years
(Cl. D48—31)



189,795
SPOON OR SIMILAR ARTICLE
Ellen Manderfield, Syracuse, N.Y., assignor to Oneida Ltd., Oneida, N.Y., a corporation of New York
Filed Aug. 30, 1960, Ser. No. 61,956
Term of patent 14 years
(Cl. D54—12)



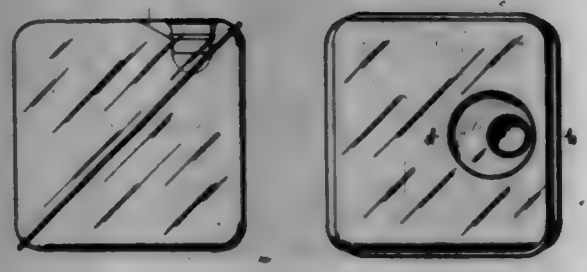
189,796
AWL
Jerome L. Murray, New York, and Donald P. Pollard, Bayside, N.Y., assignors to William Thomas & Sons, Inc., Ridgefield, N.J., a corporation of New York
Filed May 13, 1960, Ser. No. 60,560
Term of patent 14 years
(Cl. D54—13)



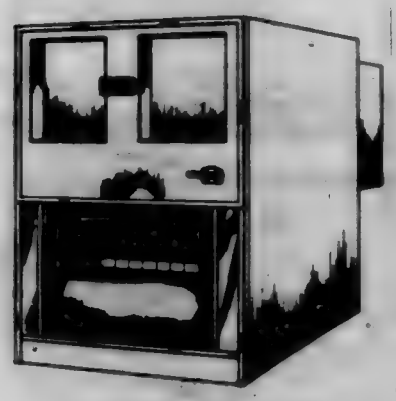
189,797
CONTAINER FOR A CONSTRUCTION KIT OF RIDABLE TOYS
Herbert Ritts, Los Angeles, Calif.
Filed May 16, 1960, Ser. No. 60,587
Term of patent 14 years
(Cl. D58—11)



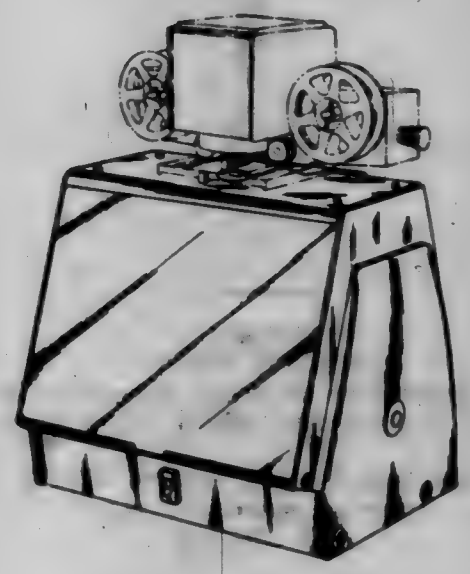
189,798
DISPENSING CARTON FOR LIQUIDS, POWDERS OR THE LIKE
Thomas W. Winstead, Baltimore, Md., assignor to Hedwin Corporation, Baltimore, Md., a corporation of Maryland
Filed Aug. 11, 1959, Ser. No. 57,137
Term of patent 14 years
(Cl. D58—17)



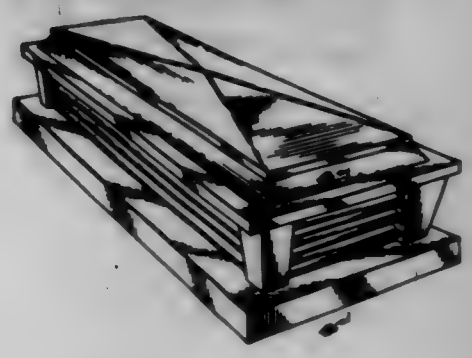
189,799
MOVIE PROJECTOR CABINET
Louis Glaser, 1216 Main St., Columbia, S.C.
Filed Aug. 12, 1960, Ser. No. 61,720
Term of patent 3½ years
(Cl. D61—1)



189,800
PROJECTION CABINET FOR A FILM READER OR SIMILAR ARTICLE
Frank A. Zagara, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Jan. 29, 1960, Ser. No. 59,200
Term of patent 14 years
(Cl. D61—1)



189,801
ROOF VENTILATOR
George M. Breidert, Granada Hills, Calif., assignor to The G. C. Breidert Co., San Fernando, Calif., a corporation of California
Filed Feb. 23, 1960, Ser. No. 59,465
Term of patent 14 years
(Cl. D62—4)



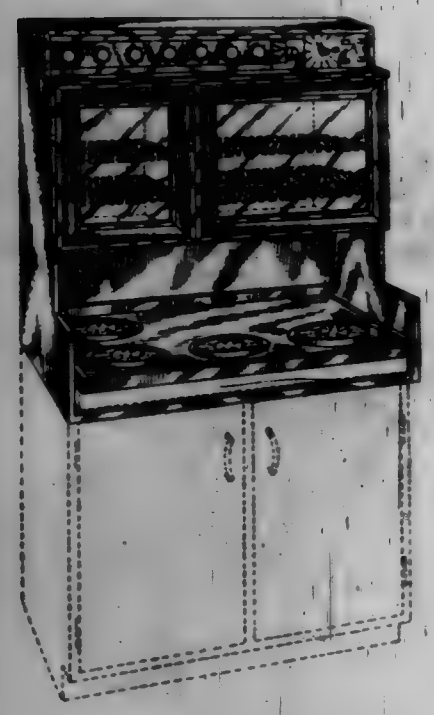
189,802
AIRPLANE
Edward M. Lanier, 900 Newportville Road, Croydon, Pa.
Filed May 15, 1959, Ser. No. 55,925
Term of patent 14 years
(Cl. D71—1)



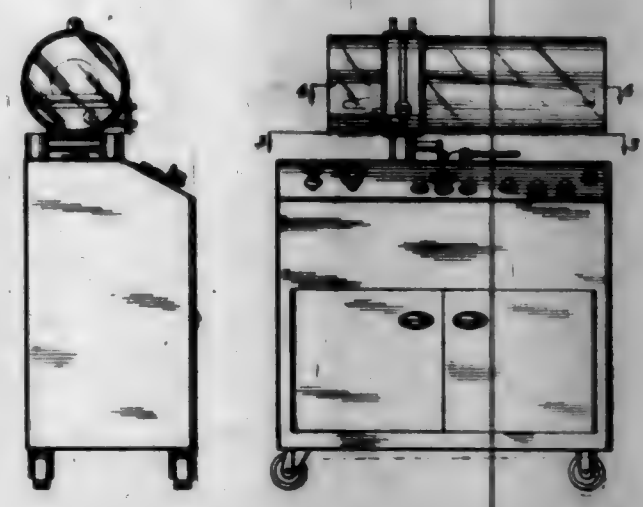
189,803
WRITING INSTRUMENT
Helmuth Riepe and Hermann Fritz Kaiser, Hamburg, Germany, assignors to L. & C. Hardtmuth, Inc., Bloomsbury, N.J., a corporation of New Jersey
Filed Sept. 22, 1960, Ser. No. 62,234
Term of patent 14 years
(Cl. D74—17)



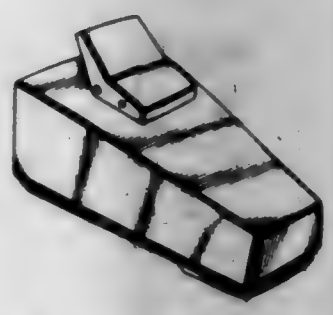
189,804
COOKING RANGE
George C. Clarke, Newark, Ohio, assignor to Sears, Roebuck and Co., Chicago, Ill., a corporation of New York
Filed Sept. 8, 1959, Ser. No. 57,477
Term of patent 3½ years
(Cl. D81—4)



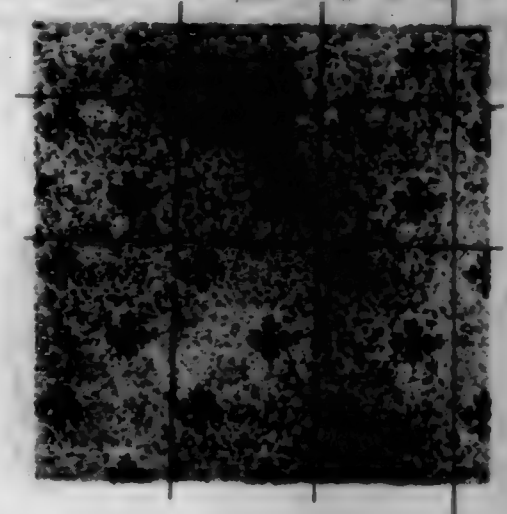
189,805
INFANT RESPIRATOR
Birchard M. Brush, Westminster, Colo., assignor to J. J. Monaghan Company, Inc., Denver, Colo., a corporation of Colorado
Filed Apr. 8, 1959, Ser. No. 805,487
Term of patent 14 years
(Cl. D83—1)



189,806
FAUCET FITTING
Frederick David Chapman, Chicago, Ill., assignor to The Murray Corporation of America, Pittsburgh, Pa., a corporation of Delaware
Filed Jan. 15, 1960, Ser. No. 2,064
Term of patent 14 years
(Cl. D91—3)



189,807
HARD SURFACE FLOOR COVERING OR SIMILAR ARTICLE
William Currie, Kearny, and Harry A. Shortway, Glen Rock, N.J., assignors to Congoleum-Nairn Inc., Kearny, N.J., a corporation of New York
Filed Sept. 16, 1960, Ser. No. 62,178
Term of patent 14 years
(Cl. D92—17)



LIST OF REISSUE PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 21ST DAY OF FEBRUARY, 1961

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

Daystrom, Inc.: *See*—
Umrath, Ernst. Re. 24,938.

Lea, Harlan L., to D. W. Moor Rubber Corp. Method for fabricating a carpet unit. Re. 24,937, 2–21–61, Cl. 154—118.

Moor, D. W., Rubber Corp.: *See*—
Lea, Harlan L. Re. 24,937.

Parker-Hannifin Corp.: *See*—
Russell, John G. Re. 24,939.

Russell, John G., to Parker-Hannifin Corp. Locking and releasing mechanism for float controlled pilot valve. Re. 24,939, 2–21–61, Cl. 137—390.

Umrath, Ernst, to Daystrom, Inc. Electro-magnetic vibrator. Re. 24,938, 2–21–61, Cl. 200—90.

LIST OF PLANT PATENTEES

Mikkelsen, James C., to Mikkelsen & Sons Greenhouses, Inc. Chrysanthemum plant. 2,029, 2–21–61, Cl. 47—60.

Mikkelsen & Sons Greenhouses, Inc.: *See*—
Mikkelsen, James C. 2,029.

LIST OF DESIGN PATENTEES

Barkin, William L. Combined telephone amplifier and rest. 189,781, 2–21–61, Cl. D26—14.

Bersac, John. Toy savings bank or similar article. 189,789, 2–21–61, Cl. D34—5.

Breidert, George M., to The S. C. Breidert Co. Roof ventilator. 189,801, 2–21–61, Cl. D62—4.

Breidert, S. C., Co., The: *See*—
Breidert, George M. 189,801.

Brush, Birchard M., to J. J. Monaghan Co., Inc. Infant respirator. 189,805, 2–21–61, Cl. D33—1.

Chapman, Frederick D., to The Murray Corp. of America. Faucet fitting. 189,806, 2–21–61, Cl. D91—3.

Clarke, George C., to Sears, Roebuck and Co. Cooking range. 189,804, 2–21–61, Cl. D61—4.

Congoleum-Nairn Inc.: *See*—
Currie, William, and Shortway. 189,807.

Currie, William, and H. A. Shortway, to Congoleum-Nairn Inc. Hard surface floor covering or similar article. 189,807, 2–21–61, Cl. D92—17.

Duvall, Earl J.: *See*—
Irwin, Robert L., and Duvall. 189,876.

Eastman Kodak Co.: *See*—
Zagara, Frank A. 189,800.

Electrolux Corp.: *See*—
Guild, Lurelle V. A., and Kowalewski. 189,778.

Fitzgerald, Edmund J. Coaster. 189,791, 2–21–61, Cl. D44—10.

Glaser, Louis. Movie projector cabinet. 189,799, 2–21–61, Cl. D61—1.

Glass, Marvin I.: *See*—
Parks, John R. 189,790.

Guild, Lurelle V. A., and J. J. Kowalewski, to Electrolux Corp. Vacuum cleaner nozzle or similar article. 189,778, 2–21–61, Cl. D9—2.

Hardtmuth, L. & C., Inc.: *See*—
Riepe, Helmuth, and Kaiser. 189,803.

Hedwin Corp.: *See*—
Winstead, Thomas W. 189,798.

Howard, Gretyl. Earring. 189,793, 2–21–61, Cl. D45—9.

Irwin, Robert L., and E. J. Duvall. Kitchen unit. 189,786, 2–21–61, Cl. D33—19.

Kaiser, Hermann F.: *See*—
Riepe, Helmuth, and Kaiser. 189,803.

Karstadt, Clarence. Golf practice device or the like. 189,788, 2–21–61, Cl. D34—5.

Kowalewski, John G.: *See*—
Guild, Lurelle V. A., and Kowalewski. 189,778.

Lane Co., Inc., The: *See*—
Swarts, Ernest L., and Solie. 189,784.
Swarts, Ernest L., and Solie. 189,785.

Lanier, Edward M. Airplane. 189,802, 2–21–61, Cl. D71—1.

Magurian, Masick C. Electrode holder. 189,780, 2–21–61, Cl. D26—1.

Manderfield, Ellen, to Oneida Ltd. Spoon or similar article. 189,795, 2–21–61, Cl. D54—12.

McGinn, James T. Bookend. 189,783, 2–21–61, Cl. D32—4.

Monaghan, J. J., Co., Inc.: *See*—
Brush, Birchard M. 189,805.

Murray Corp. of America, The: *See*—
Chapman, Frederick D. 189,806.

Murray, Jerome L., and D. P. Pollard, to William Thomas & Sons, Inc. Awl. 189,796, 2–21–61, Cl. D54—13.

Oneida Ltd.: *See*—
Manderfield, Ellen. 189,795.

Parks, John R., to M. I. Glass. Toy hobbyhorse vehicle. 189,790, 2–21–61, Cl. D34—15.

Pobursky, Wilfred R. Tennis dart game board. 189,787, 2–21–61, Cl. D34—5.

Pollard, Donald P.: *See*—
Murray, Jerome L., and Pollard. 189,796.

Richardson, Frank S. Insect exterminator. 189,782, 2–21–61, Cl. D31—3.

Riepe, Helmuth, and H. F. Kaiser, to L. & C. Hardtmuth, Inc. Writing instrument. 189,803, 2–21–61, Cl. D74—17.

Ritts, Herbert. Container for a construction kit of ridable toys. 189,797, 2–21–61, Cl. D58—11.

Saputo, Ignatius A. Serving tray or similar article. 189,792, 2–21–61, Cl. D44—10.

Sears, Roebuck and Co.: *See*—
Clarke, George C. 189,804.

Shortway, Harry A.: *See*—
Currie, William, and Shortway. 189,807.

Solie, Orville B.: *See*—
Swarts, Ernest L., and Solie. 189,784.
Swarts, Ernest L., and Solie. 189,785.

Sorge, Leonard R., to United Aircraft Corp. Passenger seat. 189,779, 2–21–61, Cl. D51—8.

Swarts, Ernest L., and O. B. Solie, to The Lane Co., Inc. Dresser. 189,784, 2–21–61, Cl. D33—6.

Swarts, Ernest L., and O. B. Solie, to The Lane Co., Inc. Table. 189,785, 2–21–61, Cl. D32—14.

Thomas, William, & Sons, Inc.: *See*—
Murray, Jerome L., and Pollard. 189,796.

Traum, David. Spool box or the like. 189,777, 2–21–61, Cl. D3—19.

United Aircraft Corp.: *See*—
Sorge, Leonard R. 189,779.

Weaver, John A. Pedestal base for a light standard. 189,794, 2–21–61, Cl. D48—31.

Winstead, Thomas W., to Hedwin Corp. Dispensing carton for liquids, powders or the like. 189,798, 2–21–61, Cl. D58—17.

Zagara, Frank A., to Eastman Kodak Co. Projection cabinet for a film reader or similar article. 189,800, 2–21–61, Cl. D61—1.

LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 21ST DAY OF FEBRUARY, 1961

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

A/B Kabi: *See*—
Melander, Bengt O., and Hanshoff. 2,972,564.

A.I.F.E.L.- Apparecchiature Industriali Frigorifere e Lattiere Societa per Azioni: *See*—
Richelli, Federico, and Wiesner. 2,972,238.

Abbott Laboratories: *See*—
Oliver, Thomas J., Prokop, Sinclair, Warren, and Winfield. 2,972,569.

Abolins, Andrew, to Strick Trailers of Philadelphia, Pa., a division of Fruehauf Trailer Co. Horizontal container coupler. 2,972,175, 2–21–61, Cl. 24—221.

Abrams, Ralph, to Cambridge Thermionic Corp. Pressure mounted lug. 2,972,730, 2–21–61, Cl. 339—221.

Adams, Joe T.: *See*—
Guest, Howard R., and Adams. 2,972,589.

Adler, Charles R., and L. C. Bartlett, to Eastman Kodak Co. Method and apparatus for manufacturing colored sheeting. 2,972,546, 2–21–61, Cl. 106—196.

Aerol Co., Inc.: *See*—
Ross, Milton E., and Moore. 2,972,163.

Aerovent Fan Co., Inc.: *See*—
Monroe, Homer K. 2,972,475.

Aetna-Standard Engineering Co., The: *See*—
Strock, Donald V. 2,972,267.

Aiken, William R., to Kaiser Industries Corp. Electronic control system. 2,972,703, 2–21–61, Cl. 315—10.

Ajax Electric Co.: *See*—
Rosseau, Leon B. 2,972,651.

Akermann, Paul, to E.M.B. Elektromotorenbau A.G. Electric motor. 2,972,310, 2–21–61, Cl. 103—87.

Aktiebolaget Atomenergi: *See*—
Mogard, Johan H., and Svensson. 2,972,513.

Aktiebolaget Kosta Glasbruk: *See*—
Lindstrand, Viktor E. 2,972,212.

Albert, Leroy F.: *See*—
Hilpman, Paul, Albert, and Schad. 2,972,399.

Alexander, Guy B., R. K. Iler, and S. F. West, to E. I. du Pont de Nemours and Co. Metal oxide-metal composition. 2,972,529, 2–21–61, Cl. 75—.5.

Alger, Ferris E.: *See*—
Johnson, Stanley A., and Alger. 2,972,697.

Allen, Frank B., and W. M. Haessler, to The Fyr-Fyter Co. Discharge head. 2,972,466, 2–21–61, Cl. 251—35.

Allen, John K., and W. E. Butterfield, to Architectural Porcelain Constructors. Method of making laminated panels with expanded polystyrene core. 2,972,559, 2–21–61, Cl. 154—139.

Allen, Sidney, to Bristol Siddeley Engines Ltd. Means for supplying a rocket motor with liquid fuel and concentrated hydrogen peroxide as propellant. 2,972,227, 2–21–61, Cl. 60—35.6.

Allied Chemical Corp.: *See*—
Bush, Stanley B. 2,972,393.

Allied Control Co., Inc.: *See*—
Zanichkowsky, Martin, and Sciarinno. 2,972,663.

Allis-Chalmers Mfg. Co.: *See*—
Baude, John. 2,972,685.
Benson, Robert B. 2,972,253.
Mayo, Howard A., Jr. 2,972,469.
Severson, Wilmer M. 2,972,387.
Tanke, Willard H. 2,972,386.
Walberg, Maynard E. 2,972,385.

Allmanna Svenska Elektriska Aktiebolaget: *See*—
Forwald, Haakon. 2,972,666.

Alperin, Norman N., and W. A. Mulle, to United States of America, Navy. Synchronized sampled data digital servo. 2,972,718, 2–21–61, Cl. 328—48.

Alsop, Alfred N., to Lines Bros. (Canada) Ltd. Locking pen catch. 2,972,488, 2–21–61, Cl. 280—47.37.

American Cyanamid Co.: *See*—
Selbin, Joel. 2,972,577.

American Flange & Mfg. Co., Inc.: *See*—
Parish, Richard L., Jr., and Dearing. 2,972,431.

American Machine and Foundry Co.: *See*—
Congelli, Henry C., Holloway, and Levendoski. 2,972,479.

American Machine and Metals, Inc.: *See*—
Buss, Benjamin A., and Krynski. 2,972,510.

American Motors Corp.: *See*—
McKey, Thomas J. 2,972,374.

American Radiator & Standard Sanitary Corp.: *See*—
Anderson, Maynard E. 2,972,436.
Carter, Franklyn Y. 2,972,237.

Anderson, James O., R. M. Stringer, and V. D. Lott, Sr. Trench hoe dipper. 2,972,425, 2–21–61, Cl. 214—138.

Anderson, John R., to Bell Telephone Laboratories, Inc. Electrical circuits employing ferroelectric condensers. 2,972,734, 2–21–61, Cl. 340—173.2.

Anderson, Maynard E., to American Radiator & Standard Sanitary Corp. Dispenser for injecting liquid into a container. 2,972,436, 2–21–61, Cl. 222—396.

Andrew, Charles, to Andrew & Waitkens Machine Co. Inc. Machine for mounting spouts in the tops of containers. 2,972,184, 2–21–61, Cl. 29—208.

Andrew & Waitkens Machine Co. Inc.: *See*—
Andrew, Charles. 2,972,184.

Antioch College: *See*—
Tien, Jack M. 2,972,547.

Anton, Nicholas. Air particle monitor. 2,972,678, 2–21–61, Cl. 250—43.5.

Apco Mosberg Co.: *See*—
Gill, Martin J. 2,972,271.

Architectural Porcelain Constructors: *See*—
Allen, John K., and Butterfield. 2,972,559.

Armstrong Cork Co.: *See*—
Konold, J. Reynolds. 2,972,472.

Artia, podnik zahranicniho obchodu pro dovoz a vyvoz Kulturnich statku: *See*—
Forman, Werner. 2,972,284.

Ashby, William C., to Remington Arms Co., Inc. Shot shell packing machine. 2,972,217, 2–21–61, Cl. 53—374.

Ashe, John M. Apparatus for making waistband. 2,972,317, 2–21–61, Cl. 112—147.

Ashworth, Fred, and J. R. Ioannilli, to United Shoe Machinery Corp. Shoe sewing machines. 2,972,316, 2–21–61, Cl. 112—36.

Askevold, Robert J., to The Pure Oil Co. Wave breaking device. 2,972,233, 2–21–61, Cl. 61—5.

Asplund, Robert K.: *See*—
Lo Fiego, Louis, Asplund, and Smith. 2,972,305.

Associated Spring Corp.: *See*—
Dominic, Ivan V. 2,972,494.

Ateliers Pingris & Mollet-Fontaine Reunis (Societé Anonyme): *See*—
Guinot, Henri M. 2,972,512.

Atzberger, Frank. Brake gauge. 2,972,192, 2–21–61, Cl. 33—180.

Auerbacher, George N., to Champlain Co., Inc. Multicolor printing on a continuous web. 2,972,297, 2–21–61, Cl. 101—181.

Aumann, Peter. Brake system for unwinders. 2,972,452, 2–21–61, Cl. 242—75.43.

Austin, John F.: *See*—
Baker, Chester L., and Austin. 2,972,594.

Austin, William B. Carbon paper inserting machine. 2,972,477, 2–21–61, Cl. 270—58.

Autoset (Production) Ltd.: *See*—
Townsend, Claude M. 2,972,162.

Aveo Corp.: *See*—
Kantrowitz, Arthur R., Brogan, and Hritzay. 2,972,696.

B & C Metal Stamping Co.: *See*—
Fisher, James T. 2,972,656.

Back, Alexander E.: *See*—
Zimmerley, Stuart R., and Back. 2,972,530.

Baier, Walter: *See*—
Von Linde, Robert, and Baier. 2,972,474.

Baier, Wilhelm, K.G.: *See*—
Von Linde, Robert, and Baier. 2,972,474.

Bain, Joseph P., and A. B. Booth, to The Glidden Co. Preparation of verbenyl compounds. 2,972,631, 2–21–61, Cl. 260—563.

Bain, Joseph P., H. G. Hunt, E. A. Klein, and A. B. Booth, to The Glidden Co. Conversion of verbenol to monocyclic and acyclic compounds. 2,972,632, 2–21–61, Cl. 260—587.

Baird-Atomic, Inc.: *See*—
Rona, Thomas P. 2,972,737.

Baker, Chester L., and J. F. Austin, to Philadelphia Quartz Co. Process for the manufacture of finely divided metal silicates. 2,972,594, 2–21–61, Cl. 260—41.5.

Baker, John B., to The Timken Roller Bearing Co. Bearing thrust loader and seal. 2,972,504, 2–21–61, Cl. 308—207.

Balbach, Raymond E., A. Mancina, and E. F. Elma, to R. L. Brown. Hose clip. 2,972,461, 2–21–61, Cl. 248—68.

Barnett, Gabriel: *See*—
Powers, Donald H., and Barnett. 2,972,582.

Barr, Douglas C. Stapling device. 2,972,151, 2–21–61, Cl. 1—189.

Barrer, Richard M., and J. W. Baynham, to Union Carbide Corp. Crystalline zeolite Z and method for preparing same. 2,972,516, 2–21–61, Cl. 23—113.

Bartlett, Lawrence C.: *See*—
Adler, Charles R., and Bartlett. 2,972,546.

Barton, James, to Frederic B. Stevens, Inc. Work handling machine with skip mechanism. 2,972,403, 2–21–61, Cl. 198—19.

Basic Research Corp.: *See*—
Toulmin, Harry A., Jr. 2,972,557.

Baubles, Richard C., to Elastic Stop Nut Corp. of America. Resilient split pin with inwardly extending portion. 2,972,275, 2–21–61, Cl. 85—8.3.

Baude, John, to Allis-Chalmers Mfg. Co. Power transistor control circuit. 2,972,685, 2–21–61, Cl. 307—88.5.

Baugh, Everett L., J. B. Prior, and W. J. Scheutzow, to General Motors Corp. Pump or motor. 2,972,311, 2–21–61, Cl. 103—161.

Bauscher, Charles A.: *See*—
Kichta, Philip M. 2,972,191.

Baynham, John W.: *See*—
Barrer, Richard M., and Baynham. 2,972,516.
Beals, Malcolm D., and K. H. Styhr, Jr., to National Lead Co. Ceramic glaze composition. 2,972,543, 2-21-61, Cl. 106—48.
Bear Mfg. Co.: *See*—
MacMillan, Charles W. 2,972,256.
Beati, Enrico: *See*—
Natta, Giulio, Beati, and Severini. 2,972,605.
Bechtold, Max F., to E. I. du Pont De Nemours and Co. Process for coagulating and coalescing acrylonitrile dispersions in aqueous inorganic salt solutions. 2,972,511, 2-21-61, Cl. 18—54.
Beckett, John C.: *See*—
Hicks, William W., and Beckett. 2,972,680.
Beebe, John N., to Raytheon Co. Echo distance measuring systems. 2,972,731, 2-21-61, Cl. 340—3.
Beks, Petrus H. Pressing or ironing machine for textile articles. 2,972,200, 2-21-61, Cl. 38—5.
Bell Intercontinental Corp., Wheelabrator Division: *See*—
Romine, Roy T. 2,972,497.
Bell Telephone Laboratories, Inc.: *See*—
Anderson, John E. 2,972,734.
Kompfner, Rudolf, and Quate. 2,972,702.
Lunney, Raymond E. 2,972,683.
Ohm, Edward A. 2,972,721.
Ohm, Edward A. 2,972,722.
Beltmann, Philip K., and E. J. Robb. Water ski tow rope guide. 2,972,325, 2-21-61, Cl. 114—235.
Bendix Corp., The: *See*—
Hood, Edwin E. 2,972,257.
Roberts, George I. 2,972,449.
Ben-Ezra, Aaron, and W. L. Bostwick, to General Aniline & Film Corp. Subbing of polystyrene filmbase. 2,972,534, 2-21-61, Cl. 96—84.
Benson, Donald O., to Toro Mfg. Corp. Power mower with full floating cutting unit. 2,972,218, 2-21-61, Cl. 56—26.
Benson, Robert B., to Allis-Chalmers Mfg. Co. Electrical apparatus life indicator. 2,972,253, 2-21-61, Cl. 73—350.
Bergen, Von M., to Felker Mfg. Co. Adjustable mounting for rotary saw. 2,972,344, 2-21-61, Cl. 125—13.
Bergström, Axel E.: *See*—
Westberg, Johan E. H., Söderberg, and Bergström. 2,972,668.
Bergwerksgesellschaft Hibernia Aktiengesellschaft: *See*—
Disteldorf, Josef. 2,972,614.
Berliner, Oliver. Linear drive for rotary potentiometers. 2,972,725, 2-21-61, Cl. 338—67.
Bernardi, Dominic J., to Interchemical Corp. Method of typographic printing. 2,972,302, 2-21-61, Cl. 101—426.
Berry, John M., to Midland Chemical Corp. Aqueous filler-sealer wood finishing composition of urea-formaldehyde, sugar, boric acid alum and solvent. 2,972,587, 2-21-61, Cl. 260—17.3.
Bertsch, Joseph F., to General Motors Corp. Cooling and air supply system for internal combustion engines. 2,972,340, 2-21-61, Cl. 123—41.7.
Better, Bernard R., to Scully-Jones and Co. Indirect chucking. 2,972,486, 2-21-61, Cl. 279—2.
Beutler, Carolee C., to General Electric Co. Photosensitive semi-conducting material and method of making the same. 2,972,585, 2-21-61, Cl. 252—501.
Bidgood, Lee, Jr., to E. I. du Pont de Nemours and Co. Process of compressional working textile fabrics. 2,972,177, 2-21-61, Cl. 26—1.
Biemiller, Philip E., and J. H. Reese, to Hamilton Watch Co. Electric wrist watch. 2,972,745, 2-21-61, Cl. 58—28.
Bingley, Frank J., to Philco Corp. Optical interferometric position indication. 2,972,278, 2-21-61, Cl. 88—14.
Birckhead Corp.: *See*—
Birckhead, Lennox, Jr., and T. A. 2,972,170.
Birckhead, Lennox, Jr., and T. A., to Birckhead Corp. Methyl methacrylate monomer molding process. 2,972,170, 2-21-61, Cl. 18—58.
Birckhead, Taylor A.: *See*—
Birckhead, Lennox, Jr., and T. A. 2,972,170.
Birkbeck, Guy, and I. G. O. Brown, to North American Philips Co., Inc. Counterbalancing means. 2,972,264, 2-21-61, Cl. 74—592.
Blackburn, Donald M., to John Lang & Sons, Ltd. Indexing mechanism. 2,972,487, 2-21-61, Cl. 279—5.
Blatt, Leland F. Universal toggle clamp. 2,972,476, 2-21-61, Cl. 269—145.
Bodine, Albert G., Jr. Acoustic method and apparatus for moving objects held tight within a surrounding medium. 2,972,380, 2-21-61, Cl. 166—46.
Bollibon, George E., and M. Stark, to Westinghouse Electric Corp. Motor-pump unit. 2,972,309, 2-21-61, Cl. 103—87.
Booth, Albert E.: *See*—
Bain, Joseph P., and Booth. 2,972,631.
Bain, Joseph P., Hunt, Klein, and Booth. 2,972,632.
Booth, Albert E., to The Glidden Company. Hydrogenolysis of verbanol to produce ortho menthol. 2,972,635, 2-21-61, Cl. 260—631.
Borchers, Ariel G. Induced-lift aircraft. 2,972,455, 2-21-61. 244—12.
Borletti, F.lli, S.p.A.: *See*—
More, Antonio. 2,972,319.
Borroughs Mfg. Co.: *See*—
Haag, Theodore T. 2,972,506.
Bortnick, Newman M., to Rohm & Haas Co. Adducts of heterocyclic amides. 2,972,618, 2-21-61, Cl. 260—309.5.
Bosch, Robert, G.m.b.H.: *See*—
Landstorfer, Rudolf. 2,972,712.
Bostwick, Wallace L.: *See*—
Ben-Ezra, Aaron, and Bostwick. 2,972,534.
Boykin, Otis F., to CTS Corp. Electrical resistor. 2,972,726, 2-21-61, Cl. 338—297.
Bracesco, John F. Mud guard for trailer truck tractor. 2,972,149, 2-21-61, Cl. 280—152.
Braden, Alvin H. Wildlife feeder. 2,972,334, 2-21-61, Cl. 119—51.
Braidwood, Clinton A., to Schenectady Varnish Co., Inc. Substituted phenols. 2,972,600, 2-21-61, Cl. 260—59.
Bramble, Lloyd F. Asphaltic seal assemblies. 2,972,568, 2-21-61, Cl. 154—53.5.
Branick, Charles E. Tire bead spacing and supporting element. 2,972,405, 2-21-61, Cl. 206—46.
Brennan, Helen E.: *See*—
Brennan, Joseph B. 2,972,185.
Brennan, Joseph B., deceased; H. E. Brennan, executrix. Method of producing strip material. 2,972,185, 2-21-61, 29—420.5.
Brennan, William R., to Socony Mobil Oil Company, Inc. Method for control of operation of pneumatic lift and apparatus therefor. 2,972,503, 2-21-61, Cl. 302—53.
Brewer, George W.: *See*—
Mickus, Robert R., and Brewer. 2,972,197.
Brian, Robert C., G. W. Driver, R. F. Homer, and R. L. Jones, to Imperial Chemical Industries Ltd. Dipyridyl derivatives and herbicidal methods and compositions containing the same. 2,972,528, 2-21-61, Cl. 71—2.5.
Brierley, Edgar, to Leesona Holt Ltd. Textile winding machine. 2,972,450, 2-21-61, Cl. 242—18.
Briskin, Joseph, to Johnson & Johnson. Dressing composition. 2,972,545, 2-21-61, Cl. 106—177.
Bristol Siddeley Engines Ltd.: *See*—
Allen, Sidney. 2,972,227.
British Petroleum Co. Ltd.: *See*—
Holmes, Peter D., Stalley, and Moy. 2,972,644.
Brogan, Thomas R.: *See*—
Kantrowitz, Arthur R., Brogan, and Hritzay. 2,972,606.
Broman, Arthur, M. Lambert, P. Gilard, and R. Van Herck, to Union des Verreries Mecaniques Belges Societe Anonyme. Method and apparatus for drawing glass ribbon material. 2,972,210, 2-21-61, Cl. 49—17.
Brown, Cicero C. Pressure operated dual completion apparatus and method of positioning same in a well bore. 2,972,379, 2-21-61, Cl. 166—46.
Brown, Clyde A. Materials cutting apparatus and method. 2,972,669, 2-21-61, Cl. 219—19.
Brown, George L., W. W. Toy, and R. E. Zdanowski, to Rohm & Haas Co. Aqueous polymer blend composition. 2,972,592, 2-21-61, Cl. 260—27.
Brown, Ivan G. O.: *See*—
Birkbeck, Guy, and Brown. 2,972,264.
Brown, Robert L.: *See*—
Balbach, Raymond E., Mancina, and Elms. 2,972,461.
Bucy, J. Fred, Jr., to Texas Instruments Inc. Method and apparatus for analyzing data. 2,972,738, 2-21-61, Cl. 340—15.
Bucyrus-Erie Co.: *See*—
Learmont, Tom. 2,972,199.
Thornburg, Herbert W. 2,972,388.
Budd Co., The: *See*—
Greenshields, Robert O., and Hogan. 2,972,183.
Herbert, Thomas M. 2,972 314.
Herbert, Thomas M., and Freholm. 2,972,313.
Krouse, Glen N. 2,972,336.
Bugbee, Wallace F., to National Steel Corporation. Vacuum seal for coating apparatus. 2,972,330, 2-21-61, Cl. 118—49.
Bulloff, Jack J., to The Commonwealth Engineering Co. of Ohio. Separation of fatty acids from oxidized fish oils. 2,972,624, 2-21-61, Cl. 260—414.
Bunker, Ward, S. A. Denman, and J. R. May, to General Motors Corp. Vehicle road speed control. 2,972,390, 3-21-61, Cl. 180—82.1.
Burg, Marion: *See*—
Saner, William R., and Burg. 2,972,540.
Burk, Emmett H., Jr., J. Mooi, and O. H. Thomas, to Sinclair Refining Co. Two-stage isomerization of normal paraffins. 2,972,650, 2-21-61, Cl. 260—683.66.
Burks, Robert E., Jr., and A. A. Sekul, to Cities Service Research and Development Co. Cycloolefin production utilizing isobutylene or its dimerization product as catalyst activator. 2,972,640, 2-21-61, Cl. 260—666.
Burns, Donald S., and J. L. Williams, to Ekco Products Co. Storage rack unit accessory. 2,972,418, 2-21-61, Cl. 211—71.
Burroughs Corp.: *See*—
Phelan, Roy L. 2,972,444.
Burton-Dixie Corp.: *See*—
Raszinski, Harvey F. J. 2,972,154.
Burton, John A., and A. P. Tarasoff. Fire hose hanger. 2,972,462, 2-21-61, Cl. 248—80.
Bush, Stanley B., to Allied Chemical Corp. Process for treating coke oven gas. 2,972,393, 2-21-61, Cl. 183—120.
Bush, Benjamin A., and J. E. Krynski, to American Machine and Metals, Inc. Laundry machines. 2,972,510, 2-21-61, Cl. 8—159.
Butterfield, Walter E.: *See*—
Allen, John K., and Butterfield. 2,972,559.
CTS Corp.: *See*—
Boykin, Otis F. 2,972,726.
Cadwell, Vyrl E. Quick attachable and detachable loader. 2,972,424, 2-21-61, Cl. 214—131.
Cahn, Robert P., and E. R. Gurtler, to Esso Research and Engineering Co. Separation of butadiene. 2,972,646, 2-21-61, Cl. 260—681.5.
Caldwell, John R., R. Gilkey, and J. E. Poe, to Eastman Kodak Co. Norcamphane-2,5 (and 2,6)-dicarboxylic acids and polyamides thereof. 2,972,602, 2-21-61, Cl. 260—78.
Caldwell, Richard L., and R. F. Sippel, to Socony Mobil Oil Co., Inc. Methods of determining the dimensions of underground cavities. 2,972,679, 2-21-61, Cl. 250—43.5.
Cambridge Thermionic Corp.: *See*—
Abrams, Ralph. 2,972,730.

Campbell, Mark E., G. E. OBrien, and E. R. Pentecost, to North American Aviation, Inc. Gyro compass. 2,972,195, 2–21–61, Cl. 33—226.

Campion, Robert L.: *See*—
Hersel, Rudy, and Campion. 2,972,641.

Canterino, Peter J.: *See*—
Reynolds, William B., and Canterino. 2,972,604.

Cantieri, William F.: *See*—
Jennings, Ned L., Cantieri, and Clark. 2,972,502.

Capaccini, Dante, to Jetmould, Inc. Electrolytic cell. 2,972,573, 2–21–61, Cl. 204—275.

Capitol Products Corp.: *See*—
Minick, Dean K. 2,972,396.

Caplis, George W.: *See*—
Michael, Jacob F., Caplis, Holden, and Lennox. 2,972,690.

Carter, Franklyn Y., to American Radiator & Standard Sanitary Corp. Refrigerant expansion valve and control unit therefor. 2,972,237, 2–21–61, Cl. 62—211.

Caruso, Anthony. Miter gage attachment for box joints. 2,972,866, 2–21–61, Cl. 144—198.

Cash, George O., Jr.: *See*—
Coover, Harry W., Jr., and Cash. 2,972,608.

Cecil, Eugene L., Jr.: *See*—
Kabik, Irving, and Cecil. 2,972,306.

Cellotape & Tag Printers: *See*—
Dubbs, Wendell P. 2,972,428.

Ceresa, Myron: *See*—
Cope, Richard P., Jr., Harrover, and Ceresa. 2,972,572.

Chabala, Leonard V., to Westinghouse Electric Corp. Automatic line sectionalizer. 2,972,709, 2–21–61, Cl. 317—29.

Champlain Co., Inc.: *See*—
Auerbacher, George N. 2,972,297.

Chandler-Evans Corp.: *See*—
Chandler, Milton E., and Wright. 2,972,229.

Chandler, Milton E., and A. M. Wright, to Chandler-Evans Corp. Jet engine fuel control. 2,972,229, 2–21–61, Cl. 60—39.28.

Charles, Daniel, and O. Dohler, to Compagnie Generale de Telegraphie Sans Fil. Ultra-high frequency oscillator tubes. 2,972,700, 2–21–61, Cl. 315—3.6.

Chemical Research Corp.: *See*—
Upton, George, Jr. 2,972,527.

Chicago Forging and Mfg. Co.: *See*—
Howe, Earl E. 2,972,186.

Chicopee Mfg. Corp.: *See*—
Musser, David M. 2,972,548.

Chrysler Corp.: *See*—
Collier, John E., and Karlstad, Jr. 2,972,489.

Ciba Ltd.: *See*—
Grossmann, Paul. 2,972,622.

Ciba Pharmaceutical Products, Inc.: *See*—
Wettstein, Albert, and Vischer. 2,972,568.

Cislak, Francis E., to Reilly Tar & Chemical Corp. Pyridine ring containing resins and process of preparing them. 2,972,603, 2–21–61, Cl. 260—79.

Cislak, Francis E., to Reilly Tar & Chemical Corp. N-di(alkanol-pipecolyl)-alkanol amines. 2,972,617, 2–21–61, Cl. 260—294.7.

Cities Service Research and Development Co.: *See*—
Burks, Robert E., Jr., and Sekul. 2,972,640.

Clark, John E.: *See*—
Jennings, Ned L., Cantieri, and Clark. 2,972,502.

Clevite Corp.: *See*—
Gravley, Charles K. 2,972,176.

Cochran, Walter M., M. L. Otto, B. R. Wonsiewicz, and T. J. Zwolanek, to The Glidden Co. Domestic oil hard butters, coatings thereof, and process for preparing said butters. 2,972,541, 2–21–61, Cl. 99—118.

Cocup, George A.: *See*—
Goodbar, Mayo A., Coffey, Cocup, and Hull. 2,972,442.

Coderch de Sentmenat, Jose A. Diffuser device for lamps in general. 2,972,672, 2–21–61, Cl. 240—36.

Coffey, Donald E.: *See*—
Goodbar, Mayo A., Coffey, Cocup, and Hull. 2,972,442.

Cogneshall, Theilwell R., and U. R. Tognella, to General Electric Co. Hydraulically acutated operating mechanism for an electric circuit breaker. 2,972,337, 2–21–61, Cl. 121—38.

Cohen, Louis, to The B. F. Goodrich Co. Stable tar-in-water dispersion and method for preparing same. 2,972,588, 2–21–61, Cl. 260—17.4.

Cole, Fred H. Electrical plug having self-aligning terminal pins. 2,972,728, 2–21–61, Cl. 339—64.

Colgate-Palmolive Co.: *See*—
Hewitt, Gordon T. 2,972,583.

Collapsible Van Co.: *See*—
Johnson, Carroll P. 2,972,430.

Collier, John E., and M. D. Karlstad, Jr., to Chrysler Corp. Vehicle wheel suspension. 2,972,489, 2–21–61, Cl. 280—124.

Collins, Henry. Spindle stop. 2,972,219, 2–21–61, Cl. 57—88.

Columbian Carbon Co.: *See*—
Heller, George L. 2,972,473.

Columbus McKinnon Chain Corp.: *See*—
Devonshire, William H., Stone, and Manney. 2,972,223.

Commonwealth Engineering Co. of Ohio, The: *See*—
Bulloff, Jack J. 2,972,624.
Hiler, Malvern J. 2,972,178.
Nevak, Leo J., and Witt. 2,972,567.

Compagnie des Compteurs: *See*—
Peipel, Jacques C. G. 2,972,686.

Compagnie Generale de Telegraphie Sans Fil: *See*—
Charles, Daniel, and Dohler. 2,972,700.
Lerbs, Alfred. 2,972,701.

Congelli, Henry C., R. L. Holloway, and A. E. Levendoski, to American Machine and Foundry Co. Bowling pin and ball elevating mechanism. 2,972,479, 2–21–61, Cl. 273—43.

Conklin, Emmett D., E. C. Flanigan, J. M. Ricketts, and W. A. Turunen, to General Motors Corp. Automobile gas turbine. 2,972,230, 2–21–61, Cl. 60—39.31.

Connoy, Eugene N.: *See*—
Possis, Zinon C., Kawabata, and Connoy. 2,972,232.

Conover, Lloyd H., and C. R. Stephens, Jr., to Chas. Pfizer & Co., Inc. Tetracycline derivative and process for preparation. 2,972,630, 2–21–61, Cl. 260—559.

Consolidated Electrodynamics Corp.: *See*—
Lahti, Arvo A. 2,972,740.

Consolidated Electronics Industries Corp.: *See*—
Haydon, Arthur W. 2,972,662.

Continental Machines, Inc.: *See*—
Possis, Zinon C., Kawabata, and Connoy. 2,972,232.

Control Products Inc.: *See*—
Moodie, William C., Jr., and Hildum. 2,972,665.

Controls Co. of America: *See*—
McCarty, Lourdes V. 2,972,354.

Coover, Harry W., Jr.: *See*—
McConnell, Richard L., and Coover. 2,972,628.

Coover, Harry W., Jr., and N. H. Shearer, Jr., to Eastman Kodak Co. Four-component mixed metal-halogen catalysts for olefin polymerization. 2,972,607, 2–21–61, Cl. 260—93.7.

Coover, Harry W., Jr., and G. O. Cash, Jr., to Eastman Kodak Co. Process and two-component transition metal dihalide catalyst for polymerizing olefins. 2,972,608, 2–21–61, Cl. 260—93.7.

Cope, Richard P., Jr., R. W. Harrover, Jr., and M. Ceresa, to Westinghouse Electric Corp. Acid copper addition agent. 2,972,572, 2–21–61, Cl. 204—52.

Costello, Thomas F.: *See*—
Cunningham, Cecil R., and Costello. 2,972,439.

Cumming, James M., G. M. Dyer, and W. C. Neeggerath. Motor mechanism for missiles. 2,972,225, 2–21–61, Cl. 60—35.6.

Cunder, Joseph, and F. J. Licata, to Nopco Chemical Co. Composition of matter and process for obtaining same. 2,972,590, 2–21–61, Cl. 260—18.

Cunningham, Cecil R., and T. F. Costello, to Owens-Corning Fiberglas Corp. Apparatus for longitudinally feeding a multifilament strand in wave form configuration. 2,972,439, 2–21–61, Cl. 226—190.

Curtiss-Wright Corp.: *See*—
Hersh, Phyllis. 2,972,736.

Cuthbert, Stuart V., and D. Wroughton, to United States of America, Navy. Method for producing molybdenum or molybdenum alloy gun liner. 2,972,179, 2–21–61, Cl. 29—1.1.

Cutler-Hammer, Inc.: *See*—
Elliot, William H., and Yager. 2,972,684.

Daimler-Benz Aktiengesellschaft: *See*—
Forster, Hans-Joachim M. 2,972,224.
Nallinger, Friedrich K. H. 2,972,164.
Wirsching, Robert J. 2,972,307.

Daly, Lawrence E., to United States Rubber Co. Vulcanized shoe sole containing butadiene styrene copolymers and graft copolymer. 2,972,593, 2–21–61, Cl. 260—41.5.

D'Amico, Salvatore P., to Sperry Rand Corp., Ford Instrument Co. Division. Inductive load transistor bridge switching circuit. 2,972,710, 2–21–61, Cl. 317—148.5.

Dana, Leo I., and H. S. Morton, Jr., to Union Carbide Corp. High-intensity light source. 2,972,698, 2–21–61, Cl. 313—231.

Danielzig, Karl H., and G. Neuendorf, to Firma Habra-Werk Wilhelm F. Ott. Packing apparatus. 2,972,215, 2–21–61, Cl. 53—195.

Davis, Ernest, W. F. Gayring, and H. Uhlig, to Ward Industries Corp. Collar former device. 2,972,437, 2–21–61, Cl. 223—52.1.

Davis, Frederick L., to Welex, Inc. Automobile fan drive. 2,972,398, 2–21–61, Cl. 192—103.

Dawe's Laboratories, Inc.: *See*—
Freed, Myer. 2,972,613.

Dayco Corp.: *See*—
Williams, Gordon E. 2,972,368.

Dearing, Clarence W.: *See*—
Parish, Richard L., Jr., and Dearing. 2,972,431.

Deering Milliken Research Corp.: *See*—
Olson, Edward S. 2,972,509.

Deker, Marta, to Johnson & Johnson. Surgical sponge. 2,972,350, 2–21–61, Cl. 128—296.

De Lano, Merritt V., Jr., to Phillips Petroleum Co. Hydrogen fluoride alkylation process and apparatus. 2,972,648, 2–21–61, Cl. 260—683.42.

Delfel, Norman E., to Esso Research and Engineering Co. Oil compositions having reduced foaming tendencies. 2,972,579, 2–21–61, Cl. 252—33.4.

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Suderow, George E. 2,972,234.

De Marchi, Vincent S.: *See*—
Gessler, Albert E., de Marchi, and Van Kirk. 2,972,301.

De Marchi, Vincent S., A. E. Gessler, and W. Van Kirk, to Interchemical Corp. Method of viscosity control in printing. 2,972,298, 2–21–61, Cl. 101—211.

De Marchi, Vincent S., to Interchemical Corp. Variable velocity diffuser. 2,972,299, 2–21–61, Cl. 101—349.

De Marchi, Vincent S., A. E. Gessler, and W. Van Kirk, to Interchemical Corp. Method and apparatus for printing ink. 2,972,303, 2–21–61, Cl. 101—426.

Demuth, Hans: *See*—
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Denman, Stephen A.: *See*—
Bunker, Ward, Denman, and May. 2,972,390.

Denton, William I., to Olin Mathieson Chemical Corp. Production of pyridine. 2,972,615, 2–21–61, Cl. 260—290.

Denton, William I., to Olin Mathieson Chemical Corp. Production of pyridine. 2,972,616, 2–21–61, Cl. 260—290.

Department of Mines: *See*—
MacEwan, James U. 2,972,517.

Deutscher, Fritz O., to Union Carbide Corp. Gas plating of alumina. 2,972,555, 2–21–61, Cl. 117—106.

De Vivo, Arthur J. Utility magazine rack and ash tray. 2,972,416, 2–21–61, Cl. 211—60.

Devonshire, William H., F. Stone, and C. J. Manney, to Columbus McKinnon Chain Corp. Joiner link assembly. 2,972,223, 2–21–61, Cl. 59—88.

De Wall, Richard A., to The Regents of the University of Minnesota. Capillary oxygenator. 2,972,349, 2–21–61, Cl. 128—214.

Diamond Power Specialty Corp.: *See*—
Jennings, Ned L., Cantieri, and Clark. 2,972,502.

Disteldorf, Josef, to Bergwerksgesellschaft Hibernia Aktiengesellschaft. Process of producing melamine. 2,972,614, 2–21–61, Cl. 260—249.7.

Dobbie, Mungo L.: *See*—
Vervest, Wilhelmus L., Lips, and Dobbie. 2,972,258.

Dohler, Oscar: *See*—
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Dominic, Ivan V., to Associated Spring Corp. Clip for connecting intersecting and abutting wires, rods and the like. 2,972,194, 2–21–61, Cl. 287—54.

Dorosz, Adolph S., and W. R. Wade, to United Shoe Machinery Corp. Cement handling apparatus. 2,972,670, 2–21–61, Cl. 219—19.

Dorsey, Mercer M. Crusher bowl locking means. 2,972,448, 2–21–61, Cl. 241—286.

Douglas, George A.: *See*—
Schulte, Marshall J., Douglas, and Ludemann. 2,972,410.

Dow Chemical Co., The: *See*—
Stilbert, Elmer K., Zembal, and Silvernail. 2,972,560.

Dresser, Willis R., to The Prudential Insurance Co. of America. Panoramic projector. 2,972,281, 2–21–61, Cl. 88—16.8.

Driver, George W.: *See*—
Brian, Robert C., Driver, Homer, and Jones. 2,972,328.

Dubbs, Wendell P., to Cellioptape & Tag Printers. Tape applicator. 2,972,428, 2–21–61, Cl. 216—25.

Duffy, Philip A., Jr.: *See*—
Lusby, Walter S., Euler, and Duffy. 2,972,681.

Dunn, Elman R., to Gardner Machine Co. Dressing apparatus for grinding wheels. 2,972,243, 2–21–61, Cl. 125—11.

Du Pont de Nemours, E. I., and Co.: *See*—
Alexander, Guy B., Iler, and West. 2,972,529.
Bechtold, Max F. 2,972,511.
Bidgood, Lee, Jr. 2,972,177.
Joukainen, Arnold S., and Povelones. 2,972,359.
Lipscomb, Robert D. 2,972,519.
Pfeffer, James F., Jr. 2,972,451.
Sauer, William E., and Burg. 2,972,540.
Sheppard, William A. 2,972,518.
Simmons, Howard E., Jr. 2,972,620.
Tullock, Charles W. 2,972,637.

Dutton, Victor C., to The Gabriel Co. Hydraulic quick disconnect. 2,972,491, 2–21–61, Cl. 284—19.

Dyer, Gail M.: *See*—
Cumming, James M., Dyer, and Noeggerath. 2,972,225.

E.M.B. Elektromotorenbau A.G.: *See*—
Akermann, Paul. 2,972,310.

Early, Harold C., and D. B. Miller, to Meredith Publishing Co. Method of drying printed webs. 2,972,196, 2–21–61, Cl. 34—1.

Eastman Kodak Co.: *See*—
Adler, Charles R., and Bartlett. 2,972,546.
Caldwell, John R., Gilkey, and Poe. 2,972,602.
Coover, Harry W., Jr., and Cash. 2,972,608.
Coover, Harry W., Jr., and Shearer. 2,972,607.
Fuerst, Carl C., and Williams. 2,972,290.
Haas, John W., and England. 2,972,370.
Jarvis, James G. 2,972,304.
Jones, Jean E. 2,972,539.
Kindig, Guilford K. 2,972,291.
Laakso, Thomas M., and Williams. 2,972,536.
Laakso, Thomas M., and Williams. 2,972,537.
Laakso, Thomas M., and Williams. 2,972 538.
Laakso, Thomas M., Williams, and Garber. 2,972,585.
Martin, James C., and Hawk. 2,972,629.
Matthews, Noel H., Jr. 2,972,372.
McConnell, Richard L., and Coover. 2,972,628.
McConnell, Richard L., and McCall. 2,972,621.
Newland, Gordon C., and Tamblyn. 2,972,506.
Newland, Gordon C., and Tamblyn. 2,972,597.

Eaton, Gerald L., to United Engineers & Constructors Inc. Pyrolysis of waste sulfite liquor. 2,972,520, 2–21–61, Cl. 23—209.4.

Eatrides, George J.: *See*—
Kichta, Philip M. 2,972,191.

Echtler, Joseph P., Jr.: *See*—
Jones, Sam A., and Echtler. 2,972,464.

Eberl, Franz. Knitting machine. 2,972,242, 2–21–61, Cl. 66—64.

Eddings, James R. Vacuum massager. 2,972,346, 2–21–61, Cl. 128—38.

Einarsson, Olafur, and S. H. Olafsson. Rudder for ships and boats. 2,972,323. 2–21–61, Cl. 114—162.

Elco Products Co.: *See*—
Burns, Donald S., and Williams. 2,972,418.

Elastic Stop Nut Corp. of America: *See*—
Baubles, Richard C. 2,972,275.

Elco Corp.: *See*—
Ruehlemann, Herbert E. 2,972,720.

Electric Storage Battery Co.: *See*—
Strauss, Howard J. 2,972,853.

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Wood, John F. 2,972,707.

Elliot, William H., and G. L. Yager, to Cutler-Hammer, Inc. Electrical controller. 2,972,684, 2–21–61, Cl. 307—88.5.

Elms, Edwin F.: *See*—
Balbach, Raymond E., Mancina, and Elms. 2,972,461.

Emels, Reimer, to Siemens-Schuckertwerke Aktiengesellschaft. Crucible-free zone melting method and apparatus for producing and processing a rod-shaped body of crystalline substance, particularly semiconductor substance. 2,972,-525, 2–21–61, Cl. 23—301.

Engel, Wolfgang, to Phoenix Nahmaschinen A.-G. Baer & Rempel. Double stitch sewing machines. 2,972,320, 2–21–61, Cl. 112—215.

Engelhard Industries, Inc.: *See*—
Pfefferle, William C., and Rylander. 2,972,642.

England, Waldo R.: *See*—
Haas, John W., and England. 2,972,570.

Erdman, Harold E. Beet harvester and cleaning machine. 2,972,383, 2–21–61, Cl. 171—58.

Esenwein, Albert, to Hauni-Werke Korber & Co. K.G. Automatic control means for tobacco feeding means in cigarette machines. 2,972,500. 2–21–61, Cl. 302—28.

Essex Electronics: *See*—
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Esso Research and Engineering Co.: *See*—
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Delfel, Norman E. 2,972,579.
Kimberlin, Charles N., Jr., and Mattox. 2,972,643.
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Ewing, Raymond E. Blade cutting angle indicator 2,972,194, 2–21–61, Cl. 33—215.

Faiver, Kenneth E., and A. K. Watt, to General Motors Corp. Power throttle and vehicle speed control mechanism. 2,972,391, 2–21–61, Cl. 180—82.1.

Farbenfabriken Bayer Aktiengesellschaft: *See*—
Kruckenberg, Winfried, Nussler, Singer, and Kleiner. 2,972,508.

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Farrell, Robert E., and J. E. Pack, to The Standard Oil Co. Method of controlling oil refining processes. 2,972,576, 2–21–61, Cl. 208—139.

Favre, John A., to General Electric Co. Stored energy operating mechanism for switches. 2,972,259, 2–21–61, Cl. 74—97.

Federman, Alfred P. Method for feeding liquid casting material into an article mold. 2,972,172, 2–21–61, Cl. 22—209.

Feinman, Jerome, to United States Steel Corp. Device for feeding particles to fluidized beds. 2,972,501, 2–21–61, Cl. 308—29.

Felker Mfg. Co.: *See*—
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Ferchland, Harold W., to General Motors Corp. Magnetic chuck. 2,972,485, 2–21–61, Cl. 279—1.

Ferranti-Packard Electric Ltd.: *See*—
Flumerfelt, John W. 2,972,724.

Fetzer, Hans: *See*—
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Fiber Bond Corp.: *See*—
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Flanigan, Henry W.: *See*—
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Fischer, Kurt, and G. Rummert, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning. Process for the production of ethylene. 2,972,647. 2–21–61, Cl. 260—683.

Fisher, James T., to B & C Metal Stamping Co. Meter box and reversible shorting bar therefor. 2,972,656, 2–21–61, Cl. 174—59.

Flack, Alfred, and R. Ludder, to Lily-Tulip Cup Corp. Flexible thermoplastic nestable closure lids. 2,972,432. 2–21–61, Cl. 220—60.

Flack, James M., B. F. Pulsifer, and J. D. Whatley, to Indian Head Mills, Inc. Treatment of fibers. 2,972,220, 2–21–61, Cl. 57—156.

Flanagan, William H., Jr., and R. W. Fraser, to United-Carr Fastener Corp. Printed circuit assembly. 2,972,727. 2–21–61, Cl. 339—17.

Flanigan, Eugene E.: *See*—
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Floden, Folke K.: *See*—
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Flumerfelt, John W., to Ferranti-Packard Electric Ltd. Locked wound core. 2,972,724, 2–21–61, Cl. 336—213.

Foerster, Marie L. Apparatus for forming food products. 2,972,315, 2–21–61, Cl. 107—1.

Food Machinery and Chemical Corp.: *See*—
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Ford, Ralph L., and C. S. Gladoske, to Giddings & Lewis Machine Tool Co. Hydraulic rotary selector valve. 2,972,357, 2–21–61, Cl. 137—625.11.

Forman, Werner, to Artia, podnik zahranicniho obchodu pro dovoz a vyvoz Kulturnich statku. Book for special observation of stereoscopic images. 2,972,284, 2–21–61, Cl. 88—30.

Forst, Josef. Means for sealing the cylinder heads of internal combustion engines. 2,972,341, 2–21–61, Cl. 123—41.72.

Forster, Hans-Joachim M., to Daimler-Benz Aktiengesellschaft. Automatic control system, particularly for hydrostatic transmissions. 2,972,224, 2–21–61, Cl. 60—19.

Försterling, Hans, and H. Peter, to P. Goossen & Co. G.m.b.H. Direct reading color temperature meter. 2,972,282, 2–21–61, Cl. 88—22.5.

Forwald, Haakon, to Allmanna Svenska Elektriska Aktiebolaget. Air blast circuit breakers with breaking gaps in compressed air containers carried by insulator pillars. 2,972,666, 2–31–61, Cl. 200—148.

Fox, Gordon, to Koppers Co., Inc. Ingot buggy drive. 2,972,312, 2-21-61, Cl. 104—178.
Frankau, Louis G., and A. F. Pisacane, to General Electric Co. Photo-mechanical method of producing technical drawings and the like. 2,972,532, 2-21-61, Cl. 96—43.
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Frick, William H. Dish stack divider. 2,972,421, 2-21-61, Cl. 211—184.
Fried, Josef, and J. E. Herz, to Olin Mathieson Chemical Corp. 9α-halo-21-aldo-steroids of the pregnane series. 2,972,610, 2-21-61, Cl. 260—239.55.
Fringhian, Bahram. Welding process for the fixation of metal grains to a metallic support for obtaining abrasive or anti-slip surfaces. 2,972,551, 2-21-61, Cl. 117—31.
Fritts, Robert W., and S. Karrer, to Minnesota Mining and Mfg. Co. Thermoelectric generator. 2,972,653, 2-21-61, Cl. 136—4.
Fritts, Robert W., and S. Karrer, to Minnesota Mining and Mfg. Co. Thermoelectric generator. 2,972,654, 2-21-61, Cl. 136—4.
Fuerst, Carl C., and F. A. Williams, to Eastman Kodak Co. Synchronizing shutter mechanism. 2,972,290, 2-21-61, Cl. 95—11.5.
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Furnas, William C., and I. W. Krieger, to Furnas Electric Co. Manual motor starter with overload protection. 2,972,664, 2-21-61, Cl. 200—124.
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Gabriel Co., The: *See*—
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Gardiner, Robert E., to Theodore C. Smith. Fill signal. 2,972,362, 2-21-61, Cl. 141—96.
Garmaise, David L., G. E. Just, and A. F. McKay, to Monsanto Canada Ltd. Substituted benzylesters of substituted benzyldithiocarbamic acids. 2,972,627, 2-21-61, Cl. 260—455.
Garmon, Lester L. Tire regrooving machine. 2,972,376, 2-21-61, Cl. 157—13.
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General Bronze Corp.: *See*—
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General Controls Co.: *See*—
Ray, William A. 2,972,465.
General Electric Co.: *See*—
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Frankau, Louis G., and Pisacane. 2,972,533.
General Motors Corp.: *See*—
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Bertsch, Joseph F. 2,972,840.
Bunker, Ward, Denman, and May. 2,972,390.
Conklin, Emmett D., Flanigan, Ricketts, and Turunen. 2,972,230.
Faiver, Kenneth E., and Watt. 2,972,391.
Ferchland, Harold W. 2,972,485.
Hall, Russell S. 2,972,441.
Kelley, Oliver K. 2,972,498.
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White, Robert L. 2,972,261.
General Plastics Corp.: *See*—
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General Time Corp.: *See*—
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Gerhardt, Carl W. Method and apparatus for measuring corrosion rates. 2,972,248, 2-21-61, Cl. 73—86.
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De Marchi, Vincent S., Gessler, and Van Kirk. 2,972,298.
De Marchi, Vincent S., Gessler, and Van Kirk. 2,972,303.
Gessler, Albert E., V. S. de Marchi, and W. Van Kirk, to Interchemical Corp. Printing process and apparatus. 2,972,301, 2-21-61, Cl. 101—426.
Gibbs, Irving, to R. T. Vanderbilt Co., Inc. Process for the preparation of ferric nitroso dimethyl dithiocarbamate. 2,972,625, 2-21-61, Cl. 260—439.
Giddings & Lewis Machine Tool Co.: *See*—
Ford, Ralph L., and Gladoske. 2,972,357.
Gilard, Pierre: *See*—
Broman, Arthur, Lambert, Gilard, and Van Herck. 2,972,210.
Gilkey, Russell: *See*—
Caldwell, John R., Gilkey, and Poe. 2,972,602.
Gill, Martin J., to Apco Mosberg Co. Predetermine torque release hand tool. 2,972,271, 2-21-61, Cl. 81—52.4.
Gilman Engineering & Mfg. Co.: *See*—
Parker, Kenneth, and Norek. 2,972,322.
Gilman, Wilbert M., to Rivett Lathe & Grinder, Inc. Magnetically operated actuator. 2,972,467, 2-21-61, Cl. 251—138.
Gladoske, Calvin S.: *See*—
Ford, Ralph L., and Gladoske. 2,972,357.
Glenair, Inc.: *See*—
Mintz, Wilfred L., and Montgomery. 2,972,492.
Glidden Co., The: *See*—
Bain, Joseph P., and Booth. 2,972,631.
Bain, Joseph P., Hunt, Klein, and Booth. 2,972,632.
Booth, Albert B. 2,972,635.
Cochran, Walter M., Otto, Wonsiewicz, and Zwolanek. 2,972,541.
Klein, Eugene A. 2,972,633.
Goldsmith, Robert, to General Plastics Corp. Process of making plastic impregnated sleeving. 2,972,549, 2-21-61, Cl. 117—4.
Good, Fred C., & Sons, Inc.: *See*—
Good, Raymond J. 2,972,243.
Good, Raymond J., to Fred C. Good & Sons, Inc. Automatic knitting machine. 2,972,243, 2-21-61, Cl. 66—82.
Goodbar, Mayo A., D. E. Coffey, G. A. Cocup, and R. S. Hull, to The National Cash Register Co. Automatic change dispensing cash register. 2,972,442, 2-21-61, Cl. 235—7.
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Cohen, Louis. 2,972,588.
Gordon, Samuel H., to Resistance Welders Ltd. Electric resistance welding machines. 2,972,672, 2-21-61, Cl. 219—101.
Gore, Thomas J. Device for thinning hair. 2,972,187, 2-21-61, Cl. 30—30.
Gossen, P., & Co. G.m.b.H.: *See*—
Forsterling, Hans, and Peter. 2,972,282.
Graef, John N. Photoflash attachment. 2,972,673, 2-21-61, Cl. 240—1.3.
Grant, Gertrude B.: *See*—
Grant, Paul D. 2,972,394.
Grant, Paul D., deceased, by G. B. Grant, executrix. Portable elevator. 2,972,394, 2-21-61, Cl. 187—11.
Gravley, Charles K., to Clevite Corp. Prestressed dielectric ceramic bodies. 2,972,176, 2-21-61, Cl. 25—157.
Gray, William B. Pneumatic conveyor system for transportation of bulk material. 2,972,499, 2-21-61, Cl. 302—17.
Grebner, Fritz. Strips of metal for girderlike constructional elements. 2,972,213, 2-21-61, Cl. 50—486.
Green, Max L., and W. C. Kinard, to Termite Drills, Inc. Starter bits for masonry drills. 2,972,389, 2-21-61, Cl. 175—328.
Greenshields, Robert O., and P. J. Hogan, to The Budd Co. Method of forming flanged hubs by forging and coining. 2,972,183, 2-21-61, Cl. 29—159.3.
Grossmann, Paul, to Ciba Ltd. New dyestuffs of the anthraquinone series. 2,972,622, 2-21-61, Cl. 260—380.
Grube, Friedrich O.: *See*—
Grube, Wilhelm and F. O. 2,972,335.
Grube, Wilhelm and F. O., to Kaweco Badische Fuellfederfabrik Friedrich Grube. Reversible ink cartridge unit for ball point pens. 2,972,335, 2-21-61, Cl. 120—42.1.
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Guest, Howard R., and J. T. Adams, to Union Carbide Corp. Production of resins from unsaturated acetals with triphenols and tetrakisphenols. 2,972,599, 2-21-61, Cl. 260—47.
Guest, Howard R., B. W. Kiff, and C. B. Halstead, to Union Carbide Corp. Low-viscosity A-stage acrolein-pentaerythritol resins. 2,972,601, 2-21-61, Cl. 260—67.
Guinot, Henri M., ½ to Ateliers Pingris & Mollet-Fontaine Reunis (Societé Anonyme). Method of removing hydrogen sulphide from gases and recovering sulphur therefrom. 2,972,512, 2-21-61, Cl. 23—2.
Gulton, Edith M., and G. N. Howatt, to Gulton Industries, Inc. Electrical components and method of making same. 2,972,180, 2-21-61, Cl. 29—25.42.
Gulton Industries, Inc.: *See*—
Gulton, Edith M., and Howatt. 2,972,180.
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Cahn, Robert P., and Gurtler. 2,972,646.
Haag, Theodore T., to Borroughs Mfg. Co. Bench furniture. 2,972,506, 2-21-61, Cl. 311—105.
Haas, John W., and W. B. England, to Eastman Kodak Co. Thin film ceramic capacitor and method of making. 2,972,570, 2-21-61, Cl. 204—38.
Hackforth, Bernhard. Flexible couplings for shafts. 2,972,241, 2-21-61, Cl. 64—26.
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Haggerty, John L., to Thompson Ramo Wooldridge Inc. Sealed stator submerged electric fuel pump. 2,972,306, 2-21-61, Cl. 103—87.
Hahn, Paul T., to John Oster Mfg. Co. Hand-held vacuum cleaner. 2,972,160, 2-21-61, Cl. 15—344.
Hall, Russell S., to General Motors Corp. Variable blade system. 2,972,441, 2-21-61, Cl. 230—114.
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Svensson, Emil L., Hamby, and Higby. 2,972,743.
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Hiers, Victor H., and Kanselberger. 2,972,207.
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Biemiller, Philip E., and Reese. 2,972,745.
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Hammond, Wardlaw M., Jr., to The Martin Co. Acoustic transmitting array. 2,972,732, 2–21–61, Cl. 340—5.

Hanert, John M., to Hammond Organ Co. Polyphonic percussion control apparatus. 2,972,272, 2–21–61, Cl. 84—1.26.

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Harter, Edward, to The Wickman Products Corp. Longitudinal profiling attachment. 2,972,288, 2–21–61, Cl. 90—24.

Hartmann, Robert J., and E. J. Fujiwara, to Wyandotte Chemicals Corp. Catalytic aminoethylation of cellulose, cellulose derivatives or polyvinyl alcohol. 2,972,606, 2–21–61, Cl. 260—91.3.

Hartmann, Helmut, and W. Stein, to Henkel & Cie., G.m.b.H. Separation of mixtures of high molecular alcohols into components of different melting points. 2,972,636, 2–21–61, Cl. 260—643.

Harvel Research Corp.: *See*—
Harvey, Mortimer T., and Rosamilia. 2,972,591.

Harvey, Mortimer T., and P. L. Rosamilia, to Harvel Research Corp. Compositions of matter and methods and steps for making and using the same. 2,972,591, 2–21–61, Cl. 260—23.

Haug, Roy L., to International Business Machines Corp. Automatic card feed control in data analyzing and printing machines. 2,972,296, 2–21–61, Cl. 101—93.

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Haydon, Arthur W., to Consolidated Electronics Industries Corp. Cyclic switching mechanism. 2,972,662, 2–21–61, Cl. 200—38.

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Henkel & Cie., G.m.b.H.: *See*—
Hartmann, Helmut and Stein. 2,972,636.
Schmidt, Joachim, and Volkamer. 2,972,584.

Henwood, Russell H. Animal trap. 2,972,206, 2–21–61, Cl. 43—81.

Heraeus, W. C., G.m.b.H.: *See*—
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Herbenar, Edward J., and S. S. Masur, to Thompson Ramo Wooldridge Inc. Joint assembly. 2,972,496, 2–21–61, Cl. 287—90.

Herbert, Thomas M., and O. E. Freholm, to The Budd Co. Anti-tilt bolster-mounted brakes. 2,972,313, 2–21–61, Cl. 105—200.

Herbert, Thomas M., to The Budd Co. Anti-tilt bolster-mounted brakes. 2,972,314, 2–21–61, Cl. 105—200.

Heritage, Clark C., ½ to Weyerhaeuser Co., and ½ to Wood Conversion Co. Production of wood fiber. 2,972,171, 2–21–61, Cl. 19—72.

Hermann, Ludwig, and H. Pasche. Method and device for butt welding of bar shaped structural members. 2,972,371, 2–21–61, Cl. 154—42.

Herrick, Robert M., and P. Karnow, to United States of America, Navy. Performance bar. 2,972,198, 2–21–61, Cl. 35—22.

Hersh, Phyllis, to Curtiss-Wright Corp. Bi-directional magnetic tape recording. 2,972,736, 2–21–61, Cl. 340—174.1.

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Hersel, Rudy, and R. L. Campion, to Standard Oil Co. Manufacture of pour depressor. 2,972,641, 2–21–61, Cl. 260—671.

Hess, Paul S., to General Plastics Corp. Nylon coating method 2,972,553, 2–21–61, Cl. 117—47.

Hewitt, Gordon T., to Colgate-Palmolive Co. Detergent cake and method of making same. 2,972,583, 2–21–61, Cl. 252—161.

Hicks, William W., and J. C. Beckett, to Ionaire, Inc. Ion generator and method. 2,972,680, 2–21–61, Cl. 250—44.

Hiers, Victor H., and C. G. Kanzelberger, to Hamilton Mfg. Co. Tiltable drafting board support means. 2,972,207, 2–21–61, Cl. 45—131.

Higby, Richard F.: *See*—
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Moodie, William C., Jr., and Hildum. 2,972,665.

Hiler, Malvern J., to The Commonwealth Engineering Co. of Ohio. Fibers, yarns and filaments of water-insoluble dextran. 2,972,178, 2–21–61, Cl. 28—82.

Hilpman, Paul L. F. Albert, and H. Schad, to Mergenthaler Linotype Co. Distributor clutch for typographical composing machine. 2,972,399, 2–21–61, Cl. 192—150.

Hinden, Milton. Vane runner fitting for ducts and the like. 2,972,358, 2–21–61, Cl. 138—39.

Hines, Eugene W. Lock mechanism. 2,972,263, 2–21–61, Cl. 74—531.

Hirayama, Chikara, to Westinghouse Electric Corp. Glass composition. 2,972,544, 2–21–61, Cl. 106—53.

Hodgson, James E. Tilting mechanism for outboard motors. 2,972,328, 2–21–61, Cl. 115—41.

Hogan, Patrick J.: *See*—
Greenshields, Robert O., and Hogan. 2,972,183.

Hogle, Donald H., to Westinghouse Electric Corp. Purification of cyanoethylcellulose resin. 2,972,609, 2–21–61, Cl. 260—232.

Holden, Harry A.: *See*—
Michael, Jacob F., Caplis, Holden, and Lennox. 2,972,699.

Hollis, William S., and J. O. Mayer, to Power Jets (Research and Development) Ltd. Process for making turbine blades. 2,972,181, 2–21–61, Cl. 29—156.8.

Holloway, Robert L.: *See*—
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Holmes, Peter D., J. C. Stalley, and J. A. E. Moy, to British Petroleum Co. Ltd. Dehydrogenation or dehydrocyclization of non-aromatic hydrocarbons. 2,972,644, 2–21–61, Cl. 260—673.5.

Holub, George M. Instrument for testing wheel alignment of automobiles. 2,972,189, 2–21–61, Cl. 33—46.

Homer, Ronald F.: *See*—
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Hood, Edwin E., to The Bendix Corp. Engine starter gearing. 2,972,257, 2–21–61, Cl. 74—9

Hooper, Plez J. Laying nest. 2,972,333, 2–21–61, Cl. 119—45.

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Howe, Earl E., to Chicago Forging and Mfg. Co. Mandrel swage. 2,972,186, 2–21–61, Cl. 29—516.

Howells, Joseph A., to Radio Corp. of America. Signal level indicator. 2,972,705, 2–21–61, Cl. 315—133.

Hritzay, Daniel: *See*—
Kantrowitz, Arthur R., Brogan, and Hritzay. 2,972,696.

Hugel, Gerard, to Sofranic. Automatic record player. 2,972,482, 2–21–61, Cl. 274—10.

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Wallace, John W., Hull, and Moore. 2,972,269.

Hull, Roger S.: *See*—
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Hume, Peter D., to Westinghouse Electric Corp. Automatic frequency control apparatus. 2,972,720, 2–21–61, Cl. 331—4.

Hummel, Louis E.: *See*—
Johnson, Carl E. and Hummel. 2,972,581.

Hunsberger, I. Moyer: *See*—
Tien, Jack M. 2,972,547

Hunt, Donovan D., 49% to M. S. Murphy. Apparatus for removing a wheel from a pneumatic tire casing. 2,972,375, 2–21–61, Cl. 157—1.2.

Hunt, Harry G.: *See*—
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Hurt, Harold R. Horizontal and vertically adjusting means for motor operated cutting tools. 2,972,365, 2–21–61, Cl. 144—134.

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Imperial Chemical Industries Ltd.: *See*—
Brian, Robert C., Driver, Homer, and Jones. 2,972,328.

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Interchemical Corp.: *See*—
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De Marchi, Vincent S., Gessler, and Van Kirk. 2,972,303.
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Ross, Dan C. 2,972,742.
Sliter, Donald D. 2,972,738.

International Telephone and Telegraph Corp.: *See*—
Meadows, Harley R. 2,972,677.

Ioannilli, Joseph R: *See*—
Ashworth, Fred, and Ioannilli. 2,972,316.

Ionaire, Inc: *See*—
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Jacob, Robert M., and J. G. Robert, to Societe des Usines Chimiques Rhone-Poulenc. Phenthiazine compounds. 2,972,612, 2–21–61, Cl. 260—243.

Jacobs, Edwin N. Rain visor for automobile windshield. 2,972,377, 2–21–61, Cl. 160—352.

James, Lewis A., to Nu-Way Foundation. Bleach and detergent vending machine. 2,972,434, 2–21–61, Cl. 222—66.

Jarvis, James G., to Eastman Kodak Co. Electrostatic printing. 2,972,304, 2–21–61, Cl. 101—426.

Jellyman, Philip E., H. F. Macintosh, and J. E. Wilcock, to Pilkington Bros. Ltd. Method of manufacturing a glass insulator. 2,972,211, 2–21–61, Cl. 49—79.

Jennings, Ned L., W. F. Cantieri, and J. E. Clark, to Diamond Power Specialty Corp. Projection-type cleaning apparatus. 2,972,502, 2–21–61, Cl. 302—51.

Jensen, Thormod, to St. Regis Paper Co. Cooling method and means for laminating web materials. 2,972,389, 2–21–61, Cl. 154—1.6.

Jensen, William P., and H. C. Hottel, to Texas Gulf Sulphur Co. Method and aparatus for direct contact heating of water. 2,972,228, 2–21–61, Cl. 60—39.05.

Jetmould, Inc.: *See*—
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Johns, William F., to G. D. Searle & Co. 17-oxygenated-18, 19-dinorandrost-4-en-3-ones. 2,972,623, 2–21–61, Cl. 260—397.3.

Johnson, Carl E., and L. E. Hummel, to Nalco Chemical Co. Corrosion inhibitor composition and cooling solution. 2,972,581, 2–21–61, Cl. 252—75.

Johnson, Carroll P., to Collapsible Van Co. Collapsible shipping van. 2,972,430, 2–21–61, Cl. 220—1.5.

Johnson & Johnson: *See*—
Briskin, Joseph. 2,972,545.
Deker, Marta. 2,972,360.

Johnson, Kenneth M., to The Stanley Works. Hinge. 2,972,166, 2–21–61, Cl. 16—189.

Johnson, Stanley A., and F. B. Alger, to PRD Electronics, Inc. Molecular beam apparatus of the master type. 2,972,697, 2–21–61, Cl. 313—231.

Jones, Jean E., to Eastman Kodak Co. Supersensitization of carbocyanine dyes by simple merocyanine dyes. 2,972,539, 2–21–61, Cl. 96—104.

Jones, Richard L.: *See*—
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Jones, Sam A., and J. P. Echtler, Jr. Flexible conduit valve. 2,972,464, 2–21–61, Cl. 251—5.

Joukainen, Arnold S., and J. E. Povelones, to E. I. du Pont de Nemours and Co. Variable back pressure regulator. 2,972,359, 2–21–61, Cl. 138—46.

Juin, Guy M., to E. P. Remy et Cie. Method of and means for filling and closing bottles and other containers under aseptic conditions. 2,972,214, 2–21–61, Cl. 53—37.

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Kantrowitz, Arthur R., T. R. Brogan, and D. Hritzay, to Avco Corp. Plasma generator. 2,972,696, 2–21–61, Cl. 313—231.

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Collier, John E., and Karlstad. 2,972,489.

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Fritts, Robert W., and Karrer. 2,972,654.

Kaufman, William. Making graded patterns for garments. 2,972,188, 2–21–61, Cl. 33—12.

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Kawahara, Fred K., to Standard Oil Co. Rust-inhibited petroleum distillate fuel. 2,972,526, 2–21–61, Cl. 44—64.

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Keller, Ernst: *See*—
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Zimmerley, Stuart R., Malouf, and Prater. 2,972,531.

Kent, Nelson H., to Rolls-Royce Ltd. Turbine and compressor blades. 2,972,182, 2–21–61, Cl. 29—156.8.

Kenyon, Paul A. Hanger assembly. 2,972,460, 2–21–61, Cl. 248—62.

Keopel, Ernst, to Joh. Vaillant, K.G. Water-flow gas control device. 2,972,445, 2–21–61, Cl. 236—25.

Kerley, James J., Jr., R. G. Hartenstein, R. M. Sando, and M. F. Valentia, to Westinghouse Electric Corp. Vibration and shock isolator. 2,972,459, 2–21–61, Cl. 248—20.

Kichta, Philip M., 25% to C. A. Bauscher, 25% to A. R. Mueller, and 25% to G. J. Batrides. Measuring or computing tool. 2,972,191, 2–21–61, Cl. 33—100.

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Guest, Howard R., Kiff, and Halstead. 2,972,601.

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Kimberlin, Charles N., Jr., and W. J. Mattox, to Esso Research and Engineering Co. Preparation of aromatics from aliphatic olefinic hydrocarbons containing from 2 to 7 carbon atoms per molecule. 2,972,643, 2–21–61, Cl. 260—673.

Kimbrough, Frank R. Fish stringer. 2,972,428, 2–21–61, Cl. 224—7.

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Kinard, William C.: *See*—
Green, Max L., and Kinard. 2,972,389.

Kindig, Guilford E., to Eastman Kodak Co. Axial lens guiding system. 2,972,291, 2–21–61, Cl. 95—45.

Kitahara, Kakuo, to Kyowa Hakko Kogyo Co., Ltd. Process for the production of L-malic acid. 2,972,566, 2–21–61, Cl. 195—30.

Klein, Eugene A., to The Glidden Co. Conversion of a pinane alcohol. 2,972,632, 2–21–61, Cl. 260—601.

Klein, Eugene A.: *See*—
Bain, Joseph P., Hunt, Klein, and Boots. 2,972,632.

Klein, Howard C., and R. Kapp, to Nopco Chemical Co. Preparation of vitamin A alcohol. 2,972,634, 2–21–61, Cl. 260—617.

Klein, Joseph J.: *See*—
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Knoche, Raymond E. Apparatus for feeding loose-leaf metal arches. 2,972,433, 2–21–61, Cl. 221—160.

Köhler, Hans, to Licentia Patent-Verwaltungs-G.m.b.H. Directional control for synchronous motors. 2,972,687, 2–21–61, Cl. 310—41.

Kompfner, Rudolf, and C. F. Quate, to Bell Telephone Laboratories, Inc. High frequency amplifier. 2,972,702, 2–21–61, Cl. 315—5.43.

Konold, J. Reynolds, to Armstrong Cork Co. Heat transfer roll. 2,972,472, 2–21–61, Cl. 257—95.

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Kossel, Dierick, to Ernst Leitz, G.m.b.H. Photocathode for photocells, photoelectric quadrupler and the like. 2,972,691, 2–21–61, Cl. 313—94.

Kramer Treaton Co.: *See*—
Nussbaum, Otto J. 2,972,230.

Krieger, Irving W.: *See*—
Furnas, William C., and Krieger. 2,972,664.

Krijgsman, Centinus, to Stamicarbon N.V. Process and apparatus for purifying suspensions of fine magnetizable particles in a liquid. 2,972,408, 2–21–61, Cl. 209—38.

Krolick, Stanley W. Sheet metal bending tool. 2,972,270, 2–21–61, Cl. 81—15.

Krouse, Glen N., to The Budd Co. Reaction compensated vibratory programmed force producing apparatus. 2,972,338, 2–21–61, Cl. 121—38.

Kruckenberg, Winfried, L. Nussler, J. Singer, and H. Kleiner, to Farbenfabriken Bayer Aktiengesellschaft. Dyeing of polymers of acrylonitrile. 2,972,508, 2–21–61, Cl. 8—41.

Krynski, John E.: *See*—
Buss, Benjamin A., and Krynski. 2,972,510.

Kudar, John C. Continuous motion picture transmitting apparatus. 2,972,280, 2–21–61, Cl. 88—16.8.

Kuhn, Earl C., to Westinghouse Electric Corp. Brush holder. 2,972,689, 2–21–61, Cl. 310—246.

Kunsler, William S., to Robertshaw-Fulton Controls Co. Control device operator. 2,972,262, 2–21–61, Cl. 74—504.

Kurvers, Robert J., to Lockheed Aircraft Corp. Aircraft maintenance platform. 2,972,392, 2–21–61, Cl. 182—148.

Kyowa Hakko Kogyo Co., Ltd.: *See*—
Kitahara, Kakuo. 2,972,566.

LESA Costruzioni Elettromeccaniche S.p.A.: *See*—
Meoni, Nello. 2,972,484.

L-O-F Glass Fibers Co.: *See*—
Walbolt, Gerald A. 2,972,370.

Laakso, Thomas M., J. L. R. Williams, and C. S. Garber, to Eastman Kodak Co. Quaternary salts of C-vinylpyridine polymers with compounds containing a haloacetyl group. 2,972,535, 2–21–61, Cl. 96—87.

Laakso, Thomas M., and J. L. R. Williams, to Eastman Kodak Co. Anti-static quaternary salts of C-vinylpyridine polymers with haloacetone cyanohydrins. 2,972,536, 2–21–61, Cl. 96—87.

Laakso, Thomas M., and J. L. R. Williams, to Eastman Kodak Co. Condensation products of polyvinylketones with hydrazides containing quaternary nitrogen groups. 2,972,537, 2–21–61, Cl. 96—87.

Laakso, Thomas M., and J. L. R. Williams, to Eastman Kodak Co. Condensation products of C-vinylpyridinium haloketone polymers with hydrazides containing quaternary nitrogen groups. 2,972,538, 2–21–61, Cl. 96—87.

La Bombard, Emerson H., and O. A. Swanson. Self broaching fastener. 2,972,274, 2–21–61, Cl. 85—1.

Laboratory For Electronics, Inc.: *See*—
Fuller, Harrison W., and Kelner. 2,972,735.

Ladd, John W. Cleated plywood box. 2,972,429, 2–21–61, Cl. 217—12.

Lahti, Arvo A., to Consolidated Electrodynamics Corp. Shaft position digitizer. 2,972,740, 2–21–61, Cl. 340—347.

Lambert Engineering Co., Inc.: *See*—
Lambert, John W. 2,972,254.

Lambert, John W., to Lambert Engineering Co., Inc. Well flow periodic sampling mechanism. 2,972,254, 2–21–61, Cl. 73—422.

Lambert, Michel: *See*—
Broman, Arthur, Lambert, Gilard, and Van Herck. 2,972,210.

Land, Edwin H., to Polaroid Corp. Photographic process. 2,972,532, 2–21–61, Cl. 96—29.

Landstorfer, Rudolf, to Robert Bosch, G.m.b.H. Voltage regulating apparatus. 2,972,712, 2–21–61, Cl. 322—25.

Lang, John, & Sons, Ltd.: *See*—
Blackburn, Donald M. 2,972,487.

Lanz, Howard P.: *See*—
Strehlow, Robert W., and Lanz. 2,972,298.

Lapsley, Rhea P., to The Okonite Co. Dynamically balanced alternating-current electric conductors. 2,972,658, 2–21–61, Cl. 174—114.

Learmont, Tom, to Bucyrus-Erie Co. Dragline excavator. 2,972,190, 2–21–61, Cl. 37—116.

Lecocq, André, to Société Anonyme des Laminoirs, Hauts-Fourneaux, Forges Fonderies et Usines de La Providence. Binding machine. 2,972,294, 2–21–61, Cl. 100—10.

Leesona Holt Ltd.: *See*—
Brierley, Edgar. 2,972,450.

Leitz, Ernst, G.m.b.H.: *See*—
Koessel, Dierick. 2,972,691.

Lennox, George C.: *See*—
Michael, Jacob F., Caplis, Holden, and Lennox. 2,972,699.

Lerbs, Alfred, to Compagnie Generale de Telegraphie Sans Fil. Velocity modulation tubes. 2,972,701, 2-21-61, Cl. 315—5.27.

Levendoski, Alfred E.: *See*—
Congelli, Henry C., Holloway, and Levendoski. 2,972,479.

Levin, Ezra. Preparing deodorized fish products. 2,972,542, 2-21-61, Cl. 99—209.

Lewis, Warren K., to Esso Research and Engineering Co. Wax dealing by displacement. 2,972,574, 2-21-61, Cl. 208—33.

Libbey-Owens-Ford Glass Co.: *See*—
Matthews, Otmer C., and Hein. 2,972,463.

Licata, Francis J.: *See*—
Cunder, Joseph, and Licata. 2,972,590.

Licentia Patent-Verwaltungs-G.m.b.H.: *See*—
Köhler, Hans. 2,972,687.

Lily-Tulip Cup Corp.: *See*—
Flack, Alfred, and Ludder. 2,972,432.

Limberger, Walter, to Lumoprint Zindler K.G. Device for developing a latent electrostatic image. 2,972,331, 2-21-61, Cl. 118—637.

Limberger, Walter, to Lumoprint Zindler K.G. Apparatus for developing latent electrostatic image on an elongated flexible support. 2,972,332, 2-21-61, Cl. 118—637.

Lindstrand, Viktor E., to Aktiebolaget Kosta Glasbruk. Method of making glass hollow ware. 2,972,212, 2-21-61, Cl. 49—80.

Linea Bros. (Canada) Ltd.: *See*—
Alsop, Alfred N. 2,972,488.

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Waas, Samuel M., and Lippert. 2,972,292.

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Lloyd, Brian B. Gas analysis apparatus. 2,972,523, 2-21-61, Cl. 23—256.

Lloyd, Wayne B., to Westinghouse Electric Corp. Pressure derivative feedback valve. 2,972,338, 2-21-61, Cl. 121—41.

Lockheed Aircraft Corp.: *See*—
Kurvers, Robert J. 2,972,392.

Lo Fiego, Louis, R. K. Asplund, and R. L. Smith, to United States of America, Navy. Hi-lo igniter. 2,972,305, 2-21-61, Cl. 102—70.

Lonza Electric and Chemical Works Ltd.: *See*—
Voos, Walter. 2,972,521.

Lord, Edward J. Wire reel divider. 2,972,454, 2-21-61, Cl. 242—110.2.

Lott, Van D., Sr.: *See*—
Anderson, James O., Stringer, and Lott. 2,972,425.

Loveless, Compere, to Union Tank Car Co. Recirculation control system for sewage treating apparatus. 2,972,413, 2-21-61, Cl. 210—137.

Ludder, Rodney: *See*—
Flack, Alfred, and Ludder. 2,972,432.

Ludemann, Russell H.: *See*—
Schulte, Marshall J., Douglas, and Ludemann. 2,972,410.

Lumoprint Zindler K.G.: *See*—
Limberger, Walter. 2,972,331.
Limberger, Walter. 2,972,332.

Lundeen, Stanley A. Float valve and strainer. 2,972,412, 2-21-61, Cl. 210—123.

Lunney, Raymond E., to Bell Telephone Laboratories, Inc. Electrical circuits for communication networks. 2,972,683, 2-21-61, Cl. 307—88.5.

Lusby, Walter S., F. J. Euler, and P. A. Duffy, Jr., to Westinghouse Electric Corp. Cinefluorographic apparatus. 2,972,681, 2-21-61, Cl. 250—65.

Lyon, George A. Method of making wheel covers. 2,972,321, 2-21-61, Cl. 113—51.

Ma, Tsu S.: *See*—
Tien, Jack M. 2,972,547.

MacCaffray, Rex S., Jr., to C. H. Masland & Sons. Method for making nondirectional warp knitted pile fabric. 2,972,244, 2-21-61, Cl. 66—85.

MacDonald, Frederick W. Anti-thumb sucking device. 2,972,848, 2-21-61, Cl. 128—133.

MacEwan, James U., to Department of Mines. Method of producing lithium sulphate from alpha and beta spodumene. 2,972,517, 2-21-61, Cl. 23—121.

Macintosh, Hamish F.: *See*—
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MacMillan, Charles W., to Bear Mfg. Co. Balance testing device. 2,972,256, 2-21-61, Cl. 73—458.

Mahlfeldt, Walter. Unbalanced rotor dynamoelectric machine. 2,972,688, 2-21-61, Cl. 310—81.

Malouf, Emil E.: *See*—
Zimmerley, Stuart R., Malouf, and Prater. 2,972,531.

Mancina, Anthony: *See*—
Balbach, Raymond E., Mancina, and Elms. 2,972,461.

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Manney, Charles J.: *See*—
Devonshire, William H., Stone, and Manney. 2,972,223.

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Vrahiotes, Peter, and Manofsky. 2,972,556.

Mansolillo, James L. Marine propeller. 2,972,382, 2-21-61, Cl. 170—159.

Markowitz, Jack: *See*—
Zelen, Eli, and Markowitz. 2,972,419.

Marotta, Ralph, to Monsanto Chemical Co. Purification of organo-silicate condensation products. 2,972,628, 2-21-61, Cl. 260—448.8.

Marquardt, Frank R. Rapid fire gun with two barrels and a plurality of firing chambers. 2,972,286, 2-21-61, Cl. 89—126.

Marshall, Hamilton W., Jr.: *See*—
Siegler, Edouard H., Jr., and Marshall. 2,972,277.

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Hammond, Wardlaw M., Jr. 2,972,782.

Martin, Howard H. Frost preventer. 2,972,208, 2-21-61, Cl. 47—2.

Martin, James C., and J. P. Hawk, to Eastman Kodak Co. Oxidation of 2-alkoxydihydropyrans. 2,972,620, 2-21-61, Cl. 260—537.

Masland, C. H., & Sons: *See*—
MacCaffray, Rex S., Jr. 2,972,244.

Matthews, Noel H., Jr., to Eastman Kodak Co. Rewinding machine having improved cleaning-splicing mechanism. 2,972,372, 2-21-61, Cl. 154—42.1.

Matthews, Otmer C., and H. U. G. Hein, to Libbey-Owens-Ford Glass Co. Adjustable pallet. 2,972,463, 2-21-61, Cl. 248—120.

Mattox, William J.: *See*—
Kimberlin, Charles N., Jr., and Mattox. 2,972,648.

May, James E.: *See*—
Bunker, Ward, Denman, and May. 2,972,390.

Mayer, Ben. Container with mixing attachment. 2,972,406, 2-21-61, Cl. 206—47.

Mayer, John O.: *See*—
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Mayo, Howard A., Jr., to Allis-Chalmers Mfg. Co. Thrust reducing means for turbines, pumps and pump-turbines. 2,972,469, 2-21-61, Cl. 253—31.

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Herbenar, Edward J., and Mazur. 2,972,496.

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McConnell, Richard L., and McCall. 2,972,621.

McCarty, Daniel R., to Universal Color Corp. Apparatus for coloring paint. 2,972,435, 2-21-61, Cl. 222—309.

McCarty, Lourdes V., to Controls Co. of America. Safe lighting mechanism. 2,972,354, 2-21-61, Cl. 137—66.

McCay, George B., to Kee Lox Mfg. Co. Carbon paper cabinet. 2,972,507, 2-21-61, Cl. 312—309.

McClellan, Ralph E., to The Meilink Steel Safe Co. Trim strip. 2,972,165, 2-21-61, Cl. 16—148.

McClintock, Ross A., and R. E. Thompson, to Shaffer Tool Works. Oil sealed drilling bumper sub. 2,972,471, 2-21-61, Cl. 255—28.

McConnell, Richard L., and M. A. McCall, to Eastman Kodak Co. O,O-dialkyl S-(tetrahydro-2-pyranyl) phosphorothiolothionates. 2,972,621, 2-21-61, Cl. 260—345.9.

McConnell, Richard L., and H. W. Coover, Jr., to Eastman Kodak Co. Method for preparing O,O,S-trialkyl phosphorothiolothionates. 2,972,628, 2-21-61, Cl. 260—461.

McCormick, Hamilton L., to General Motors Corp. Turbine construction. 2,972,470, 2-21-61, Cl. 253—39.

McCoubrey, Arthur O., to National Co., Inc. Ion pump and gauge. 2,972,690, 2-21-61, Cl. 313—7.

McEwan, James. Saw sharpener. 2,972,266, 2-21-61, Cl. 76—79.

McIlvried, Edwin J. Vertical coil counting reel. 2,972,453, 2-21-61, Cl. 242—79.

McKay, Alexander S., and R. C. Reynolds, to Texaco Inc. Radioactivity well logging. 2,972,682, 2-21-61, Cl. 250—106.

McKay, Arthur F.: *See*—
Garmaise, David L., Just, and McKay. 2,972,627.

McKey, Thomas J., to American Motors Corp. Control mechanism for reclining seat back. 2,972,374, 2-21-61, Cl. 155—100.

McNair, Samuel L. Vibrating device with a roller member. 2,972,347, 2-21-61, Cl. 128—41.

McRae, John L., and J. P. Wislocki. Kneader compactor. 2,972,249, 2-21-61, Cl. 73—88.

Meadows, Harley R., to International Telephone and Telegraph Corp. Interference detecting circuit. 2,972,677, 2-21-61, Cl. 250—20.

Meilink Steel Safe Co., The: *See*—
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Melander, Bengt O., and G. Hanshoff, to A/B Kabi. 3-methyl-3-pentanol carbamate compositions having muscle relaxing and tranquillising action. 2,972,564, 2-21-61, Cl. 167—65.

Melle, Heinz, to Voigtlander A.G. Photographic camera. 2,972,289, 2-21-61, Cl. 95—10.

Meoni, Nello, to LESA Costruzioni Elettromeccaniche S.p.A. Pick-up arm. 2,972,484, 2-21-61, Cl. 274—23.

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Metropolitan-Vickers Electrical Co. Ltd.: *See*—
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Michael, Jacob F., G. W. Caplis, H. A. Holden, and G. C. Lennox, to Westinghouse Electric Corp. Electric lamp and stochet. 2,972,699, 2-21-61, Cl. 313—318.

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Michlin, Hyman A. Elongated translating systems and selective switching thereby. 2,972,719, 2-21-61, Cl. 328—219.

Mickus, Robert R., and G. W. Brewer, to Rice Growers Assn. of California. Continuous vibratory heating apparatus. 2,972,197, 2-21-61, Cl. 34—164.

Midland Chemical Corp.: *See*—
Berry, John M. 2,972,587.

Miehle-Goss-Dexter, Inc.: *See*—
Mitchell, Arthur B. 2,972,300.

Milks, Warren D. Electric display device. 2,972,202, 2-21-61, Cl. 40—32.

Miller Co., The: *See*—
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Miller, David B.: *See*—
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Minick, Dean K., to Capitol Products Corp. Window or door sash corner construction. 2,972,396, 2–21–61, Cl. 189—36.
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Watrous, Robert B. 2,972,443.
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Fritts, Robert W., and Karrer. 2,972,654.
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Mintz, Wilfred L., and R. J. Montgomery, to Glenair, Inc. Cable extension sleeve. 2,972,492, 2–21–61, Cl. 285—177.
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Reuter, Franz G., and Nagenborg. 2,972,360.
Mockrin, Isadore, to Pennsalt Chemicals Corp. Production of metal fluorides. 2,972,515, 2–21–61, Cl. 23—88.
Mogard, Johan H., and S. J. Svensson, to Aktiebolaget Atomenergi. Process for the production of anhydrous fluorides. 2,972,513, 2–21–61, Cl. 23—14.5.
Monroe, Homer K., to Aerovent Fan Co., Inc. Air intake apparatus. 2,972,475, 2–21–61, Cl. 263—19.
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Wallace, John W., Hull, and Moore. 2,972,269.
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Morgan, Harry B. Hair cutting machine. 2,972,351, 2–21–61, Cl. 132—45.
Morgan, Thomas D., to Phillips Petroleum Co. Analytical instrument utilizing ionization and selective evaporation. 2,972,716, 2–21–61, Cl. 324—33.
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Mueller, Alice R.: *See*—
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Mullen, James W., II, to United States of America, Navy. Rod-igniters for ramjet burners. 2,972,231, 2–21–61, Cl. 60—39.82.
Mullen, Leo V., Jr., to Esso Research and Engineering Co. Inhibition of foaming of oil compositions. 2,972,580, 2–21–61, Cl. 252—33.4.
Munroe, Thomas, to Moraine Box Co. Refrigerator crate. 2,972,440, 2–21–61, Cl. 229—23.
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Muskat, Irving E., and J. J. Klein, to Fiber Bond Corp. Pad and method of making same. 2,972,554, 2–21–61, Cl. 117—76.
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National Steel Corp.: *See*—
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Stone, Selden S. 2,972,422.
Natta, Giulio, E. Beati, and F. Severini, to Montecatini, Societa Generale per l'Industria Mineraria e Chimica. Hydroperoxides of high polymers and processes for producing the same. 2,972,605, 2–21–61, Cl. 260—93.2.
Nederlandse Organisatie voor Toegepast-Natuurwetenschappelijk Onderzoe Ten Behoeve van Nijverheid: *See*—
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Newland, Gordon C., and J. W. Tamblyn, to Eastman Kodak Co. Stabilized poly-a-olefin compositions. 2,972,597, 2–21–61, Cl. 260—45.85.
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Nilges, William C. Indexing head. 2,972,260, 2–21–61, Cl. 74—396.
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Nussbaum, Otto J., to Kramer Trenton Co. Means for and method of head pressure control in a compressor type heat exchange system. 2,972,236, 2–21–61, Cl. 62—176.
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Ohm, Edward A., to Bell Telephone Laboratories, Inc. Electromagnetic wave filter. 2,972,722, 2–21–61, Cl. 333—9.
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Denton, William I. 2,972,616.
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Olivetti, Ing. C., & C., S.p.A.: *See*—
Salto, Rinaldo. 2,972,401.
Olson, Edward S., to Deering Milliken Research Corp. Compositions and methods for dyeing polyester materials. 2,972,509, 2–21–61, Cl. 8—55.
Opper, Ray C. Portable safety light. 2,972,739, 2–21–61, Cl. 340—321.
Osborn Mfg. Co., The: *See*—
Peterson, Ruben O. 2,972,157.
Oster, John, Mfg. Co.: *See*—
Hahn, Paul T. 2,972,160.
Otis Engineering Corp.: *See*—
Raulins, George M. 2,972,381.
Otto, Melvin L.: *See*—
Cochran, Walter M., Otto, Wonsiewicz, and Zwolanek. 2,972,541.
Owen, Frederick E. Lubricant-solvent feed system for engine cylinders. 2,972,342, 2–21–61, Cl. 123—196.
Owens-Corning Fiberglas Corp.: *See*—
Cunningham, Cecil R., and Costello. 2,972,439.
Kleist, Dale, and Snow. 2,972,209.
Stalego, Charles J. 2,972,169.
PRD Electronics, Inc.: *See*—
Johnson, Stanley A., and Alger. 2,972,607.
Pack, Janet E.: *See*—
Farrell, Robert E., and Pack. 2,972,576.
Parish, Richard L., Jr., and C. W. Dearing, to American Flange & Mfg. Co., Inc. Container closures and methods. 2,972,431, 2–21–61, Cl. 220—39.
Parker, Kenneth, and J. Norek, to Gilman Engineering & Mfg. Co. Boat. 2,972,322, 2–21–61, Cl. 114—126.
Pasche, Heinz: *See*—
Hermann, Ludwig, and Pasche. 2,972,371.
Pastorello, Ignazio. Mixing and thickening machine for extrusion. 2,972,168, 2–21–61, Cl. 18—2.
Paul, Julius C. Combined propelling and steering assembly. 2,972,327, 2–21–61, Cl. 115—33.
Peasley, Fremont W.: *See*—
Rickards, William H., and Peasley. 2,972,744.
Pelpel, Jacques C. G., to Compagnie des Compteurs. Remote control system for lattice distribution network. 2,972,556, 2–21–61, Cl. 307—140.
Pelton, John F., to Union Carbide Corp. Flame plating using detonation reactants. 2,972,550, 2–21–61, Cl. 117—21.
Pennsalt Chemicals Corp.: *See*—
Mockrin, Isadore. 2,972,515.

Pentecost, Eugene E.: *See*—
Campbell, Mark E., O'Brien, and Pentecost. 2,972,195.
Peremi, Edmund, to General Bronze Corp. Window frame construction. 2,972,395, 2–21–61, Cl. 189—36.
Perkin-Elmer Corp., The: *See*—
Siegler, Edouard H., Jr., and Marshall. 2,972,277.
Peter, Helmut: *See*—
Försterling, Hans, and Peter. 2,972,282.
Peterson, Ruben O., to The Osborn Mfg. Co. Twisted stem tufted brush. 2,972,157, 2–21–61, Cl. 15—206.
Pfarrwaller, Erwin, and H. Demuth, to Sulzer Freres S.A. Roller temple for weaving machines. 2,972,361, 2–21–61, Cl. 139—297.
Pfeffer, James F., Jr., to E. I. du Pont de Nemours and Co. Dancer roll assembly. 2,972,451, 2–21–61, Cl. 242—75.3.
Pfefferle, William C., and P. N. Rylander, to Engelhard Industries, Inc. Process for alkylating hydrocarbons. 2,972,642, 2–21–61, Cl. 260—671.
Pfizer, Chas., & Co., Inc.: *See*—
Conover, Lloyd H., and Stephens. 2,972,630.
Phelan, Roy L., to Burroughs Corp. Form feeder and magnetic code reader for automatic accounting machine. 2,972,444, 2–21–61, Cl. 235—61.9.
Philadelphia Quartz Co.: *See*—
Baker, Chester L., and Austin. 2,972,594.
Philco Corp.: *See*—
Bingley, Frank J. 2,972,278.
Phillips Petroleum Co.: *See*—
De Lano, Merritt V., Jr. 2,972,648.
Morgan, Thomas D. 2,972,716.
Reinecke, Marvin E., and Guenther. 2,972,246.
Reynolds, William B., and Canterino. 2,972,604.
Phoenix Naehmaschinen A.-G. Baer & Rempel: *See*—
Engel, Wolfgang. 2,972,320.
Pilkington Brothers Ltd.: *See*—
Jellyman, Philip E., Macintosh, and Wilcock. 2,972,211.
Pisacane, Arthur F.: *See*—
Frankau, Louis G., and Pisacane. 2,972,533.
Poe, James E.: *See*—
Caldwell, John R., Gilkey, and Poe. 2,972,602.
Polaroid Corp.: *See*—
Land, Edwin H. 2,972,532.
Possis, Zinon C., J. S. Kawabata, and E. N. Connoy, to Continental Machines, Inc. Welding apparatus for band saw blades. 2,972,232, 2–21–61, Cl. 60—97.
Povelones, John E.: *See*—
Joulmimen, Arnold S., and Povelones. 2,972,359.
Power Jets (Research and Development) Ltd.: *See*—
Hollis, William S., and Mayer. 2,972,181.
Powers, Donald H., and G. Barnett. Cosmetic detergent composition. 2,972,582, 2–21–61, Cl. 252—152.
Prater, John D.: *See*—
Zimmerley, Stuart R., Malouf, and Prater. 2,972,531.
Prior, John R.: *See*—
Baugh, Everett L., Prior, and Scheutzow. 2,972,311.
Prokop, Joseph F.: *See*—
Oliver, Thomas J., Prokop, Sinclair, Warren, and Winfield. 2,972,569.
Prudential Insurance Co. of America, The: *See*—
Dresser, Willis R. 2,972,281.
Pulsifer, Benjamin F.: *See*—
Finck, James M., Pulsifer, and Whatley. 2,972,220.
Pure Oil Co., The: *See*—
Askevold, Robert J. 2,972,233.
Quate, Calvin F.: *See*—
Kompfner, Rudolf, and Quate. 2,972,702.
Quayle, George F., to The Yale and Towne Mfg. Co. Coil handling truck. 2,972,427, 2–21–61, Cl. 214—652.
Quest, Otis H. Pressure spray washing shield. 2,972,353, 2–21–61, Cl. 134—200.
Quist, Harold A., to Sun Oil Co. Temperature corrected gauge. 2,972,252, 2–21–61, Cl. 73—321.
Rachlin, Bernard, to Minneapolis-Honeywell Regulator Co. Density measuring apparatus. 2,972,255, 2–21–61, Cl. 73—462.
Radio Corp. of America: *See*—
Howells, Joseph A. 2,972,705.
Stanley, Thomas O., and Rhodes. 2,972,704.
Saikai, George C. 2,972,659.
Raines, Carrol V. Bicycle exercise device. 2,972,478, 2–21–61, Cl. 272—73.
Randol, Glenn T., 50% to Hamill Markus Industries, Inc. Control valve adapted for pressure differential servomotor use. 2,972,339, 2–21–61, Cl. 121—46.5.
Ransom, Richard S., and H. W. Finnigan, to Short Brothers and Harland Ltd. Guided missiles. 2,972,456, 2–21–61, Cl. 244—14.
Rast, Frederick Q., to General Time Corp. Adaptor for operating D.-C. timing device on A.-C. supply line. 2,972,222, 2–21–61, Cl. 58—24.
Rasinski, Harvey F. J., to Burton-Dixie Corp. Innerspring mattress or cushion assembly. 2,972,154, 2–21–61, Cl. 5—351.
Raulins, George M., to Otis Engineering Corp. Well packer. 2,972,381, 2–21–61, Cl. 166—125.
Ray, William A., to General Controls Co. Magnet-assisted diaphragm-valve. 2,972,465, 2–21–61, Cl. 251—30.
Raytheon Co.: *See*—
Beebe, John N. 2,972,731.
Reason, Richard E., to Taylor, Taylor & Hobson Ltd. Surface testing apparatus. 2,972,250, 2–21–61, Cl. 73—105.
Reese, James H.: *See*—
Biemiller, Philip E., and Reese.
Reilly Tar & Chemical Corp.: *See*—
Cislak, Francis E. 2,972,603.
Cislak, Francis E. 2,972,617.
Reinecke, Marvin E., and E. Guenther, to Phillips Petroleum Co. Chromatographic analyser. 2,972,246, 2–21–61, Cl. 73—23.
Remington Arms Co., Inc.: *See*—
Ashby, William C. 2,972,217.
Remy, E. P., et Cie: *See*—
Juin, Guy M. 2,972,214.
Rensch, Eberhard G. Bookstand. 2,972,415, 2–21–61, Cl. 211—42.
Resistance Welders Ltd.: *See*—
Gordon, Samuel H. 2,972,672.
Reuter, Franz G., and H. J. Nagenborg, to Mobay Chemical Co. Buffer stop for power looms. 2,972,360, 2–21–61, Cl. 139—166.
Rex Asbestwerke Graf von Rex K.G.: *See*—
Wilke, Werner, and Fetzer. 2,972,221.
Reynolds, Charles B. Multi-purpose combination valve. 2,972,356, 2–21–61, Cl. 137—625.4.
Reynolds, Ralph C.: *See*—
McKay, Alexander S., and Reynolds. 2,972,682.
Reynolds, William B., and P. J. Canterino, to Phillips Petroleum Co. Chlorosulfonation of ethylene polymers. 2,972,604, 2–21–61, Cl. 260—79.3.
Rhodes, Roland N.: *See*—
Stanley, Thomas O., and Rhodes. 2,972,704.
Rice Growers Assn. of California: *See*—
Mickus, Robert R., and Brewer. 2,972,197.
Richelli, Federico, and A. Wiesner, to A.I.F.E.L.-Apparecchiature Industriali Frigorifere e Lattiere Societa per Azioni. Combined refrigerating and defrosting system. 2,972,238, 2–21–61, Cl. 62—262.
Richter, Sidney B., to Velsicol Chemical Corp. 2,2,3,4,5,5-hexachloro-3-cyclopenten-1-ol. 2,972,562, 2–21–61, Cl. 167—30.
Richter, Sidney B., to Velsicol Chemical Corp. Fungicidal cyclopentanones. 2,972,563, 2–21–61, Cl. 167—30.
Rickards, William H., and F. W. Peasley, to Ward Products Corp. Glass rod antenna. 2,972,744, 2–21–61, Cl. 343—888.
Ricketts, James M.: *See*—
Conklin, Emmett D., Flanigan, Ricketts, and Turunen. 2,972,230.
Riley, Christopher S. Film-viewing device. 2,972,279, 2–21–61, Cl. 88—16.2.
Ringelman, John F., to Westinghouse Electric Corp. Current reference circuit. 2,972,715, 2–21–61, Cl. 323—89.
Ritchey, Harold W., to Thiokol Chemical Corp. Ammonium perchlorate manufacturing process. 2,972,514, 2–21–61, Cl. 23—85.
Ritter Co., Inc.: *See*—
Weickgenannt, Egon R. 2,972,505.
Rivett Lathe & Grinder, Inc.: *See*—
Gilman, Wilbert M. 2,972,467.
Robb, Edward J.: *See*—
Beltmann, Philip K., and Robb. 2,972,325.
Robert, Jacques G.: *See*—
Jacob, Robert M., and Robert. 2,972,612.
Roberts, George L., to The Bendix Corp. Multiphase device having symmetrical resistance. 2,972,449, 2–21–61, Cl. 242—1.1.
Robertshaw-Fulton Controls Co.: *See*—
Kunzler, William S. 2,972,262.
Rodgers, William L. Tone arm lifter for phonographs. 2,972,483, 2–21–61, Cl. 274—23.
Roebersen, Hermannus G.: *See*—
Van der Neut, Jan H., Roebersen, Schors, and van der Werff. 2,972,586.
Roehler, Lawrence A., to Sinclair Refining Co. Foam inhibited soluble oil composition. 2,972,578, 2–21–61, Cl. 252—33.3.
Roehrich, Emma D.: *See*—
Roehrich, Victor H. 2,972,161.
Roehrich, Victor H., ½ to E. D. Roehrich. Applicator devices. 2,972,161, 2–21–61, Cl. 15—543.
Rohm & Haas Co.: *See*—
Bortnick, Newman M. 2,972,618.
Brown, George L., Toy, and Zdanowski. 2,972,592.
Stevens, Travis E. 2,972,639.
Rolls-Royce Ltd.: *See*—
Kent, Nelson H. 2,972,182.
Romine, Roy T., to Bell Intercontinental Corp., Wheelabrator Division. Mechanical device. 2,972,497, 2–21–61, Cl. 292—241.
Rommel, Howard E. Electrical switch. 2,972,661, 2–21–61, Cl. 200—5.
Rona, Thomas P., to Baird-Atomic, Inc. Information transfer and storage devices. 2,972,737, 2–21–61, Cl. 340—174.1.
Rosamilia, Peter L.: *See*—
Harvey, Mortimer T., and Rosamilia. 2,972,591.
Rosenberg, Barnett, to Westinghouse Electric Corp. Discharge device. 2,972,693, 2–21–61, Cl. 313—107.
Ross, Dan C., to International Business Machines Corp. Automatic position-reporting system. 2,972,742, 2–21–61, Cl. 313—112.
Ross, John. Crystallising centrifuge. 2,972,524, 2–21–61, Cl. 23—273.
Ross, Milton E., and R. I. Moore, to Aerol Co., Inc. Swivel lock and wheel brake. 2,972,163, 2–21–61, Cl. 16—35.
Rousseau, Leon B., to Ajax Electric Co. Electrode arrangement in a salt bath furnace. 2,972,651, 2–21–61, Cl. 13—23.
Roth, Karl M., and F. K. Floden. Fowl defeathering apparatus. 2,972,167, 2–21–61, Cl. 17—11.1.
Rowe Mfg. Co., Inc.: *See*—
Gabrielsen, Christian. 2,972,400.
Ruehlemann, Herbert E., to Elco Corp. Socket for a printed circuit and mounting therefor. 2,972,729, 2–21–61, Cl. 339—193.
Rummert, Gunter: *See*—
Fischer, Kurt, and Rummert. 2,972,647.
Rusinoff, Samuel E., to W. G. See. Milling of metals subject to galling. 2,972,287, 2–21–61, Cl. 90—11.

Ryder, Charles F. Portable cable reel. 2,972,667, 2-21-61, Cl. 200—168.

Rylander, Paul N.: *See*—
Pfefferle, William C., and Rylander. 2,972,642.

Sabiston, Malcolm R., to Sanganio Electric Co. Through type transformer. 2,972,723, 2-21-61, Cl. 336—175.

St. Regis Paper Co.: *See*—
Jensen, Thormod. 2,972,309.

Salto, Rinaldo, to Ing. C. Olivetti & C., S.p.A. Variable spacing mechanism for typewriters. 2,972,401, 2-21-61, Cl. 197—84.

Sando, Robert M.: *See*—
Kerley, James J., Jr., Hartenstein, Sando, and Valentia. 2,972,459.

Saner, William R., and M. Burg, to E. I. du Pont de Nemours and Co. Photopolymerizable compositions and elements. 2,972,540, 2-21-61, Cl. 96—115.

Sanford, Burpee O. Boat trailer. 2,972,426, 2-21-61, Cl. 214—505.

Sanganio Electric Co.: *See*—
Sabiston, Malcolm R. 2,972,723.

Santilli, Ruggero. Centerless disc saw with depth of cut greater than the radius. 2,972,363, 2-21-61, Cl. 143—44.

Santmyer, Philip H.: *See*—
Suhovecky, Albert J., and Santmyer. 2,972,561.

Schad, Harold: *See*—
Hilpman, Paul, Albert, and Schad. 2,972,399.

Schaefer, Edward J. Protective means for submersible pump-motors. 2,972,708, 2-21-61, Cl. 317—13.

Schenectady Varnish Co., Inc.: *See*—
Braidwood, Clinton A. 2,972,600.

Scheutzow, Wilbur J.: *See*—
Baugh, Everett L., Prior, and Scheutzow. 2,972,311.

Schiffer, Henry C., to The Miller Co. Fluorescent lighting fixture and socket assembly therefor. 2,972,675, 2-21-61, Cl. 240—51.11.

Schindler, Walter R., to Hotkap Mfg. Co. Folding sewing attachment. 2,972,318, 2-21-61, Cl. 112—147.

Schmidt, Joachim, and W. Volkamer, to Henkel & Cie GmbH. Production of granular water-soluble perborate-containing salt mixtures. 2,972,584, 2-21-61, Cl. 252—186.

Schmidt, Rudolph, to United Shoe Machinery Corp. Container filling and sealing machines. 2,972,216, 2-21-61, Cl. 53—281.

Schoerner, Rudolph T., and J. H. White, to Taco Heaters, Inc. Vent valve with hydroscopic discs therein. 2,972,355, 2-21-61, Cl. 137—197.

Schors, Alfred: *See*—
Van der Neut, Jan Hendrik, Roebersen, Schors, and van der Werff. 2,972,586.

Schulte, Marshall J., G. A. Douglas, and R. H. Ludemann, to United States Defense Corp. Projectile fabricating apparatus. 2,972,410, 2-21-61, Cl. 209—82.

Sciarinno, Anthony J.: *See*—
Zanichkowsky, Martin, and Sciarinno. 2,972,663.

Scully-Jones and Co.: *See*—
Retter, Bernard R. 2,972,488.

Searle, G. D., & Co.: *See*—
Johns, William F. 2,972,623.

See, Walter G.: *See*—
Rusinoff, Samuel E. 2,972,287.

Seemann, Hugo J., and H. W. Staats, to W. C. Heraeus, G.m.b.H. Vacuum induction furnace. 2,972,652, 2-21-61, Cl. 13—27.

Sekul, Antonio A.: *See*—
Burks, Robert E., Jr., and Sekul. 2,972,640.

Selbin, Joel, to American Cyanamid Co. Removal of vanadium from petroleum oils by pyridine treatment. 2,972,577, 2-21-61, Cl. 208—251.

Sepp, Oscar W., Jr., to M. Steinthal & Co., Inc. Parachute canopy ejection and opening apparatus. 2,972,458, 2-21-61, Cl. 244—147.

Severini, Febo: *See*—
Natta, Giulio, Beati, and Severini. 2,972,605.

Severson, Wilmer M., to Allis-Chalmers Mfg. Co. Planter and tool leveling arrangement. 2,972,287, 2-21-61, Cl. 172—739.

Shaffer Tool Works: *See*—
McClintock, Ross A., and Thompson. 2,972,471.

Shapiro, William J. Rotating airfoil device. 2,972,481, 2-21-61, Cl. 273—106.

Shearer, Newton H., Jr.: *See*—
Cooper, Harry W., Jr., and Shearer. 2,972,607.

Shears, Stuart T., to United-Carr Fastener Corp. Slide buckle. 2,972,174, 2-21-61, Cl. 24—191.

Sheppard, William A., to E. I. du Pont de Nemours and Co. Method of simultaneously preparing sulfur tetrafluoride and halomethanes. 2,972,518, 2-21-61, Cl. 23—205.

Short Bros. and Harland Ltd.: *See*—
Ransom, Richard S., and Finnigan. 2,972,456.

Siegler Edouard H., Jr., and H. W. Marshall, Jr., to The Perkin-Elmer Corp. Dispersion prisms. 2,972,277, 2-21-61, Cl. 88—1.

Siemens-Schuckertwerke Aktiengesellschaft: *See*—
Emeis, Reimer. 2,972,525.

Signal Mfg. Co.: *See*—
Smith, Aaron H., 2,972,155.

Silvernail, Lloyd H.: *See*—
Stilbert, Elmer K., Zembal, and Silvernail. 2,972,560

Simmons, Howard E., Jr., to E. I. du Pont de Nemours and Co. 2-haloimino-1,3-dioxolanes and method of production. 2,972,620, 2-21-61, Cl. 260—340.9.

Simpson, Lee S. Tow vehicle for water-skiers. 2,972,326, 2-21-61, Cl. 115—41.

Sinclair, Arthur C.: *See*—
Oliver, Thomas J., Prokop, Sinclair, Warren, and Winfield. 2,972,569.

Sinclair, Harold. Synchronous self-shifting clutches. 2,972,397, 2-21-61, Cl. 192—67.

Sinclair Refining Co.: *See*—
Burk, Emmett H., Jr., Mool, and Thomas. 2,972,650.
Roehler, Lawrence A. 2,972,578.
Thomas, Owen H., and Michaels. 2,972,649.
Verdol, Joseph A., and Walker. 2,972,645.

Singer, Joseph: *See*—
Kruckenberg, Winfried, Nussler, Singer, and Kleiner. 2,972,508.

Sipe, Charles B. Pan cover holder. 2,972,414, 2-21-61, Cl. 211—13.

Sippel, Robert F.: *See*—
Caldwell, Richard L., and Sippel. 2,972,679.

Sirola, Frank. Tool post and tool holder. 2,972,272, 2-21-61, Cl. 82—36.

Sliter, Donald D., to International Business Machines Corp. Transducer positioning by air loading. 2,972,738, 2-21-61, Cl. 340—174.1.

Smith, Aaron H., to Signal Mfg. Co. Floor treating apparatus. 2,972,155, 2-21-61, Cl. 15—50.

Smith, Buford D., to Esso Research and Engineering Co. Purification of refrigerant. 2,972,235, 2-21-61, Cl. 62—84.

Smith, Claude F. Bar accessory. 2,972,417, 2-21-61, Cl. 211—71.

Smith, Rex L.: *See*—
Lo Fiego, Louis, Asplund, and Smith. 2,972,305.

Smith, Theodore C.: *See*—
Gardner, Robert E. 2,972,362.

Smith, Walter F., to United States of America, Navy. Apparatus for indicating dynamic displacement. 2,972,329, 2-21-61, Cl. 116—114.

Snow, Henry J.: *See*—
Kleist, Dale, and Snow. 2,972,209.

Société Anonyme des Laminoirs, Hauts-Fourneaux, Forges Fonderies et Usines de La Providence: *See*—
Lecocq, André. 2,972,294.

Societe des Usines Chimiques Rhone-Poulenc: *See*—
Jacob, Robert M., and Robert. 2,972,612.

Societe financiere d'Expansion Commerciale et Industrielle S.A. "Sfindex": *See*—
Weber, Paul U. 2,972,468.

Socony Mobil Oil Co., Inc.: *See*—
Brennan, William R. 2,972,502.
Caldwell, Richard L., and Sippel. 2,972,679.

Söderberg, Leif E. R.: *See*—
Westberg, Johan E. H., Söderberg, and Bergström. 2,972,668.

Sofranic: *See*—
Hugel, Gerard. 2,972,482.

Soltsch, Rudolf, to Isco Optische Werke G.m.b.H. Photographic or cinematographic high-speed tele-objective. 2,972,285, 2-21-61, Cl. 88—57.

Sorokin, Victor G., and A. S. Wolanin, to Westinghouse Electric Corp. Rotating rectifier. 2,972,711, 2-21-61, Cl. 317—234.

Sperry Rand Corp., Ford Instrument Co. Division: *See*—
D'Amico, Salvatore P. 2,972,710.

Spigel, Robert. Respirator. 2,972,345, 2-21-61, Cl. 128—29.

Staats, Herbert W.: *See*—
Seemann, Hugo J., and Staats. 2,972,652.

Stalego, Charles J., to Owens-Corning Fiberglas Corp. Method and apparatus for producing fibers. 2,972,169, 2-21-61, Cl. 18—2.5.

Stalley, John C.: *See*—
Holmes, Peter D., Stalley, and Moy. 2,972,644.

Stamicarbon N.V.: *See*—
Krijgsman, Centinus. 2,972,408.

Standal, Elizabeth V.: *See*—
Standal, Stanley. 2,972,364.

Standal, Stanley, deceased; E. V. Standal, executrix. Saw teeth. 2,972,364, 2-21-61, Cl. 143—141.

Standard Oil Co. (Indiana): *See*—
Hersel, Rudy, and Campion. 2,972,641.
Kawaharn, Fred K. 2,972,526.

Standard Oil Co. (Ohio), The: *See*—
Farrell Robert E., and Pack. 2,972,576.

Stanley, Thomas O., and R. N. Rhodes, to Radio Corp. of America. Video amplifier. 2,972,704, 2-21-61, Cl. 315—22.

Stanley Works, The: *See*—
Johnson, Kenneth M. 2,972,166.

Stark, Michael: *See*—
Bollibon, George E., and Stark. 2,972,309.

Steckler, Robert, to Food Machinery and Chemical Corp. Plasticized resin compositions. 2,972,589, 2-21-61, Cl. 260—18.

Stein, Werner: *See*—
Hartmann, Helmut, and Stein. 2,972,636.

Steinthal, Augustus J., to M. Steinthal & Co., Inc. Retractable parachute system for aircraft and pilot chute ejecting mechanism. 2,972,457, 2-21-61, Cl. 244—118.

Steinthal, M., & Co., Inc.: *See*—
Steinthal, Augustus J. 2,972,457.
Sepp, Oscar W., Jr. 2,972,458.

Stemke, Henry F. Connector. 2,972,687, 2-21-61, Cl. 174—84.

Stephens, Charles R., Jr.: *See*—
Conover, Lloyd H., and Stephens. 2,972,630.

Stevens, Frederic B., Inc.: *See*—
Barton, James. 2,972,403.

Stevens, Travis E., to Rohm & Haas Co. Process for the preparation of fluorohydrocarbons. 2,972,639, 2-21-61, Cl. 260—653.8.

Stilbert, Elmer K., M. W. Zembal, and L. H. Silvernail, to The Dow Chemical Co. Method of manufacturing paper. 2,972,560, 2-21-61, Cl. 162—168.

Stone, Frans: *See*—
Devonshire, William H., Stone, and Mansey. 2,972,223.

Stone, Selden S., to National Steel Corp. Apparatus for handling coke oven doors. 2,972,422, 2-21-61, Cl. 212—4.

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Classification of Designs

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TRADEMARKS

NOTICES

Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 266,687 (DUM-DUMS), Gilt Edge Candy Co., Lollipops, filed Jan. 3, 1961, D.C., N.D. Ill. (Chicago), Doc. 61c12, *Spangler Candy Company* v. *Crystal Pure Candy Company.*

Reg. No. 326,478 (FOODLAND AND DESIGN), Foodland, Inc., Canned salmon, canned fruits and vegetables, mustard, chili powder and spices; Reg. No. 326,822 (FOODLAND), same, Wheat flour, coffee, evaporated milk, tomato catsup, spices, canned fruits and vegetables and canned salmon; Reg. No. 513,143, same, Clover Farm Stores Corporation, Lye, laundry bleaching solution, and concentrated laundry bluing; Reg. No. 513,814, same, Toilet paper, paper napkins, wrapping paper, waxed paper, facial tissues and paper towels; Reg. No. 614,558, same, Canned foods, filed Dec. 20, 1960, D.C., W.D. Pa. (Pittsburgh), Doc. 60/827, *Foodland, Inc.* v. *Carmine and Anthony Matarazzo, doing business as Foodlanders.*

Reg. No. 326,822. (See Reg. No. 326,478.)

Reg. No. 310,708 (METRO BRAND THE KING OF WINES), A. W. Sopiar, Wines, filed June 3, 1959, D.C., S.D.N.Y., Doc. 146/365, *Metro Fulton Wine Co., Inc.* v. *Vincent Buonocore & Sons, Inc. et al.* Consent judgment and order of discontinuance Dec. 27, 1960.

Reg. No. 371,067 (BUN), Wayne Candies, Inc., Candy; Reg. No. 535,447 (BUN AND DESIGN), same, filed Dec. 23, 1960, D.C., E.D. Pa. (Philadelphia), Doc. 29018, *Wayne Candies, Inc.* v. *Minter Brothers, Inc.*

Reg. No. 513,143. (See Reg. No. 326,478.)

Reg. No. 513,814. (See Reg. No. 326,478.)

Reg. No. 535,333 (NORELCO), North American Philips Company, Inc., Electric razors, filed Jan. 3, 1961, D.C., S.D.N.Y., Doc. 61/9, *North American Philips Company, Inc.* v. *William S. Bruno, Inc. et al.*

Reg. No. 535,447. (See Reg. No. 371,067.)

Reg. No. 666,469 (RARE OLD SIPPIN' WHISKEY), Jack Daniel Distillery, Lem Motlow, Prop., Inc., Whiskey, filed Jan. 23, 1958, D.C., W.D. Ky. (Louisville), Doc. 3532, *Jack Daniel Distillery* v. *Hoffman Distilling Co.* Trademark held invalid because of abandonment for more than two consecutive years without intent to resume; counterclaims dismissed; complaint dismissed for want of equity Jan. 9, 1961.

Reg. No. 614,558. (See Reg. No. 326,478.)

Reg. No. 641,455 (STRETCH MATES), Arnold Shoe Products Company, Inc., Men's, women's and children's slipper socks, filed July 15, 1957, D.C., S.D.N.Y., Doc. 122/245, *Sondra Undergarments Company, Inc.* v. *Rubin & Coyer, Inc. et al.* Stipulation and order of discontinuance Dec. 29, 1960. Same, filed Sept. 11, 1957, same, Doc. 124/222, *Arnold Shoe Products Co., Inc.* v. *Sondra Undergarments Company, Inc. et al.* Decree as above. (These cases consolidated with Civil 123/375 for all purposes.)

Reg. No. 676,586 (NATION WIDE INC. ETC. AND DESIGN), Nation Wide, Inc., Rental of automobiles and trucks, filed Jan. 21, 1960, D.C.N.J. (Newark), Doc. 56/60, *Nation Wide, Inc. Car & Truck Leasing & Rental Co.* v. *Nationwide Automotive Replacement Service, Inc.* Dismissed by stipulation Dec. 29, 1960.

Reg. No. 684,669 (GUN SMOKE AND DESIGN), Irving Berlin & Company, doing business as Gun Smoke Distilling Co., Whiskey, filed Jan. 4, 1961, D.C., N.D. Ill. (Chicago), Doc. 61c19, *Columbia Broadcasting System, Inc.* v. *Irving Berlin & Co. (Inc.) et al.*

CONDITION OF TRADEMARK APPLICATIONS AS OF DECEMBER 31, 1960

Total number of applications awaiting action [excluding renewals and Sec. 12 (c)]	11,354
Date of oldest new application	June 13, 1960
Date of oldest amended application	July 1, 1960

J. H. MERCHANT, Director, Trademark Examining Operation

TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application: New	Oldest Application: Amended
(I) C. M. WENDT, Classes 2, 3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 39, 40, 41, 42, 43, 44, 50	7-1-60	7-20-60
(II) H. E. KASCHUB, Classes 1, 6, 18, 22, 37, 38, 45, 46, 47, 48, 49, 51, 52; Service Mark Classes 100, 101, 102, 103, 104, 105, 106, 107; Collective Membership Marks, Class 200; Certification Marks, Classes A and B	6-13-60	7-1-60
Renewals (All Classes)	11-10-60	11-20-60
Sec. 12 (c) Publications (All Classes)	11-1-60	11-20-60

Applications filed during the month of December 1960—1764

Registrations Issued ..... 280—No. 711,387 to No. 711,666
Renewals Issued 40

The TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington 25, D. C., to whom all subscriptions should be made payable and all communications addressed; subscription price, $10.00 per annum, foreign mailing $3.75 additional; single copies, 20 cents each.

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MARKS PUBLISHED FOR OPPOSITION

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Notice of opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.

As provided by section 31 of said act, a fee of twenty-five dollars must accompany each notice of opposition.

Class 2—Receptacles

SN 73,305. California Prune Advisory Board, San Francisco, Calif. Filed Apr. 15, 1959.

SUNSHINE JAR

The word "Jar" is disclaimed apart from the mark as shown.

For Molded Plastic Jars, Particularly Jars for Soaking Prunes.

First use Nov. 17, 1958.

SN 97,101. Sears, Roebuck and Co., Chicago, Ill. Filed May 13, 1960.

SEARS

For Receptacles—Namely, Bags for Food, Garments and Water; Sewing and Wastepaper Baskets; Lunch Boxes; File and Recipe Cabinets; Garbage Cans; Storage Chests (Fiber and Steel); Silverware Chests; Condiment Sets; Shipping Containers; Plastic, Paper and Wooden Dishes; Plastic and Wooden Flower Pots and Boxes; Hampers; Picnic Jugs; Hand Operated Oilers; Water Tanks; Fishing Tackle Boxes.

First use on or about Jan. 15, 1959.

SN 104,555. Scott Paper Company, Chester, Pa. Filed Sept. 15, 1960.

SCOTT

Owner of Reg. No. 669,919.

For Beverage and Food Receptacles of Paper and Plastic.

First use Mar. 8, 1957.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

SN 91,864. Skyway Luggage Company, Seattle, Wash. Filed Feb. 29, 1960.

CLOUD-WEIGHT

For Traveling Bags—Namely, Hat Bags and Cosmetic Bags, Suit Cases, Shoe Bags and Garment Bags.

First use Dec. 10, 1958.

Subj. to Intf. with SN 93,368.

SN 93,368. Since 1868 Crescent Corporation, d.b.a. Crescent Corporation, New York, N.Y. Filed Mar. 21, 1960.

CLOUD LITE

For Hand Luggage, Suitcases and Traveling Bags.

First use Feb. 8, 1960.

Subj. to Intf. with SN 91,864.

SN 100,729. A. J. Siris Products Corp., New York, N.Y. Filed July 12, 1960.

FRENCH HYDE

For Vinyl Coated Composition Fabric Made Up Into Wallets, Purses, and Billfolds.

First use June 23, 1960.

Class 4—Abrasives and Polishing Materials

SN 79,917. Bruce Products Corporation, Howell, Mich. Filed Aug. 20, 1959.

BRUCE BARS

Applicant disclaims exclusive rights to the word "Bars" apart from the mark shown.

For Buffing, Polishing, Lapping and Faceting Compositions.

First use June 18, 1959.

SN 98,667. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed June 8, 1960.

C-R

For Tumbling Shapes.

First use Feb. 11, 1958.

SN 100,971. Beauty Seal Chemical Corporation, St. Louis, Mo. Filed July 18, 1960.

"BEAUTY-GLAZE"

For Cleaning and Polishing Composition for Enamel and Lacquer Surfaces.

First use September 1957.

SN 104,977. American Home Products Corporation, d.b.a. Boyle-Midway, New York, N.Y. Filed Sept. 22, 1960.

KITCHEN SHIELD

For Floor Wax.

First use Aug. 30, 1960.

Class 5—Adhesives

SN 90,570. J. Perrone Associates, Inc., Wooster, Ohio. Filed Feb. 8, 1960.

PER-LOCK

For Clear Organic Non-Bituminous Substratum for Adherence of Organic Protective Coating to Metal, Glass, and Ceramics.

First use Mar. 21, 1958.

SN 105,209. The Roberts Co., City of Industry, Calif. Filed Sept. 26, 1960.

TAP-HESIVE

For Adhesive for Anchoring Carpet Gripper to Hard-Surface Floors of Concrete, Marble, Terrazzo, Wood, Linoleum and Tile.

First use Aug. 18, 1960.

SN 105,406. Nashua Corporation, Nashua, N.H. Filed Sept. 27, 1960.

WIDAC

For Paper Tape With Heat Activatable Adhesive Coating.

First use Aug. 1, 1960.

Class 6—Chemicals and Chemical Compositions

SN 35,583. General Aniline & Film Corporation, New York, N.Y. Filed Aug. 15, 1957.

BENZO VISCOSE

Owner of Reg. No. 403,288.
For Dyestuffs.
First use on or about Nov. 10, 1926.

SN 40,143. Permachem Corporation, West Palm Beach, Fla. Filed Nov. 5, 1957.



The words "Permanent" and "Antiseptic" are disclaimed apart from the mark as shown.
For Chemical Preparations for Manufacturing Use in Germ Proofing, Mildew Proofing, Mold Proofing, Odor Proofing, and Fungus Proofing of Textiles, Paper, Articles of Clothing, Shoe Linings, Blankets and Mattresses, Household and Personal Articles Made of Vinyl Plastics and the Like.
First use in 1955.

SN 50,248. Reeves Soundcraft Corp., New York, N.Y. Filed Apr. 28, 1958.

MAGNA-SEE

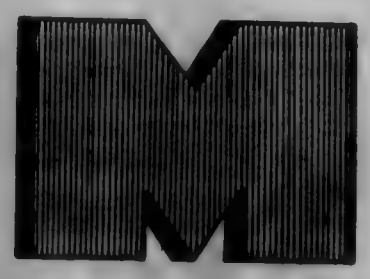
For Dispersion of Magnetic Particles in a Liquid Carrier, Used To Detect and Make Visible Magnetic Patterns in Magnetized Bodies.
First use Feb. 1, 1958.

SN 63,638. Comcolloid Inc., New York, N.Y., by change of name from Commonwealth Color & Chemical Co., New York, N.Y. Filed Dec. 4, 1958.

COMCO

For Plasticizers, Emulsifiers for Oils and Waxes, Animal and Vegetable Waxes, Oxidized Waxes, Additives To Improve Transparency of Waxes, and Fungicides To Improve Resistance to Rot and Bacteria.
First use at least as early as Jan. 1, 1930.

SN 69,078. Monsanto Chemical Company, St. Louis, Mo. Filed Mar. 6, 1959.



The drawing is lined for red, but this particular color is not claimed as a feature of the mark. Owner of Reg. Nos. 562,928, 672,664, and others.
For Liquid Functional Fluid Sold for Use as a Force or Power Transmission Fluid, Heat Exchange Medium, Dielectric Medium, or Lubricant.
First use Feb. 27, 1959; at least as early as September 1948 in similar form as part of composite mark.

SN 72,039. Heyden Newport Chemical Corporation, New York, N.Y. Filed Apr. 22, 1959.

BETA-S

For Dimethyl Butenyl Tetrahydro Phthalic Anhydride for Use as a Curing Agent for Epoxy Resins, and Used in the Manufacture of Other Chemical Products.
First use on or about Mar. 16, 1959.

SN 77,682. Metro-Atlantic, Inc., Centredale, R.I. Filed July 14, 1959.

METROSOL

Owner of Reg. No. 647,659.
For Surface Active Agents—Namely, Textile Finishing and Processing Chemicals.
First use March 1953.

SN 80,869. Farbenfabriken Bayer Aktiengesellschaft, Leverkusen-Bayerwerk, Germany. Filed Sept. 4, 1959.

ASTRAZON

Owner of German Reg. No. 610,632, dated Aug. 17, 1951.
For Colors and Dyestuffs.

SN 82,754. American Chemical & Solvent Company, Providence, R.I. Filed Oct. 6, 1959.

QUESTROL

For Organic and Inorganic Chelating, Sequestering and Dispersing Compounds.
First use Aug. 25, 1953.

SN 84,847. A. W. Chesterton Company, d.b.a. Chesterton Mechanical Packings, Everett, Mass. Filed Nov. 9, 1959.

SPRAGRIP

For Liquid Belt Dressing.
First use Aug. 15, 1952.

SN 88,213. Centromint Company (Establishment), Vaduz, Liechtenstein. Filed Dec. 30, 1959.

LO-NICOT

Owner of Liechtenstein Reg. No. 852, dated June 19, 1959.
For Chemical Products for Sweetmeats.

SN 90,243. J. P. Frank Chemical & Plastic Corp., New York, N.Y., assignee of J. P. Frank Chemical Corp., Brooklyn, N.Y. Filed Feb. 3, 1960.

PRESTOSTAB

For Vinyl Stabilizers.
First use Oct. 15, 1958.

SN 93,064. Fisons Pest Control Limited, Harston, England. Filed Mar. 17, 1960.

LOVO

Owner of British Reg. No. 801,964, dated Feb. 20, 1960.
For Disinfectants and Preparations for Killing Weeds and Destroying Vermin.

Class 8 — Smokers' Articles, Not Including Tobacco Products

SN 77,942. The National Exchange Club, Toledo, Ohio. Filed July 17, 1959.



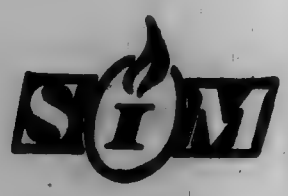
Owner of Reg. Nos. 159,045, 572,697, and others.
For Pocket Lighters, Glass and Ceramic Ash Trays.
First use Dec. 14, 1953.

SN 89,780. Marcel Quercia Orfevre, Paris, France. Filed Jan. 27, 1960.

BUTABLOC

Owner of French Reg. No. 417,583, dated Jan. 31, 1952 (Seine); Natl. Inst. No. 506,618.
For Cigar and/or Cigarette Lighters, Especially Pyrophoric Lighters and Their Parts.

SN 102,798. Société Franco-Hispano-Américaine "Francispam," Paris, France. Filed Aug. 16, 1960.



Owner of French Reg. No. 486,381, dated Feb. 27, 1960 (Paris); Natl. Inst. No. 139,918.
For Lighters for Smokers, Their Detachable Parts and Accessories.

Class 9 — Explosives, Firearms, Equipments, and Projectiles

SN 102,253. Minnesota Rubber Company, Minneapolis, Minn. Filed Aug. 8, 1960.

MINNESOTA MAGICLICK

For Shotgun Cleaning Devices of the Rod Type.
First use July 28, 1960.

Class 10 — Fertilizers

SN 89,004. Rex De Ore McDill, d.b.a. Nutri-Sol Chemical Company, Tampa, Fla. Filed Jan. 14, 1960.

NUTRI-SOL

For Fertilizer Consisting of a Liquid Diet for Plants.
First use Dec. 6, 1951.

Class 12 — Construction Materials

SN 83,118. Onoda Cement Company Limited, Onoda City, Yamaguchi, Japan. Filed Oct. 12, 1959.

ONODA

Priority claimed under Sec. 44(d) on Japanese application filed Apr. 11, 1959; Reg. No. 556,190, dated Oct. 28, 1960.
For Portland Cement.

SN 88,004. BPG Corporation, Gardena, Calif. Filed Dec. 28, 1959.

REDI-FAB

For Patio, Carport, and Roof Kit.
First use Nov. 24, 1959.

SN 88,442. Wabash Drilling Company, St. Louis, Mo. Filed Jan. 4, 1960.



Applicant disclaims the wording "Drilled Cast-in-Place Piling" as a part of the mark.
For Piling.
First use Nov. 18, 1959.

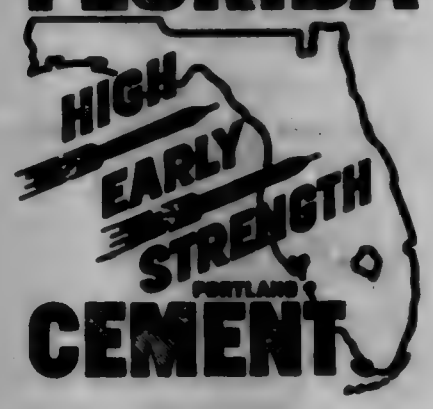
SN 88,443. Wabash Drilling Company, St. Louis, Mo. Filed Jan. 4, 1960.



Applicant disclaims the wording "Drilled Cast-in-Place Piling" as a part of the mark.
For Piling.
First use Nov. 18, 1959.

SN 88,661. General Portland Cement Company, Chicago, Ill. Filed Jan. 8, 1960.

FLORIDA



Applicant disclaims the words "High Early Strength Portland Cement" apart from the mark as shown. The shade lines on the drawing indicate the colors red and green. Owner of Reg. Nos. 345,226 and 359,256.
For Portland Cement.
First use April 1959.

SN 89,230. Daniel L. Crowley, d.b.a. Crowley Tar Products Company, New York, N.Y. Filed Dec. 14, 1959.

SATURSEAL

For Sealant for Joints of Gas-Mains.
First use Sept. 21, 1921.

SN 89,759. Globe Roofing Products Co., Inc., Whiting, Ind. Filed Jan. 27, 1960.

HI-LITE

For Polystyrene Building Panels.
First use Dec. 21, 1959.

SN 90,344. Koppers Company, Inc., Pittsburgh, Pa. Filed Feb. 4, 1960.

DYLITE

Owner of Reg. Nos. 631,124, 645,577, and others.
For Panels for Rough and Finished Construction and Building Purposes.
First use Mar. 5, 1959.

SN 90,676. Blumcraft of Pittsburgh, Pittsburgh, Pa. Filed Feb. 10, 1960.

BAR-O-METRIC

For Architectural Grille Panels.
First use Dec. 26, 1959.

SN 90,914. General Portland Cement Company, Chicago, Ill. Filed Feb. 15, 1960.

TRINITY
HIGH
EARLY
STRENGTH
PORTLAND CEMENT

No claim is made to the words "High Early Strength Portland Cement" apart from the mark as shown. The drawing is lined for blue and red. Owner of Reg. Nos. 345,228, 359,394, and 522,526.
For Portland Cement.
First use July 1959.

SN 91,495. Arbor Homes, Waterbury, Conn. Filed Feb. 19, 1960.



Applicant disclaims any right to the unique use of the word "Homes."
For Pre-Fabricated Dwellings and Related Buildings, Such as Garages.
First use June 1, 1958.

SN 98,063. The Deka Corporation, Atlanta, Ga. Filed May 31, 1960.

EXA-BORD

For Decorative Panels for Use as Wall Covering and for Covering Other Surfaces.
First use May 24, 1960.

SN 100,136. Lyf-Alum, Inc., Oconomowoc, Wis. Filed July 1, 1960.



Owner of Reg. No. 600,619.
For Aluminum Siding.
First use June 5, 1960.

SN 100,720. G. H. Osborn Building Products Limited, Finchley, London, England. Filed July 12, 1960.

OSMA

Owner of British Reg. No. B.791,158, dated May 22, 1959.
For Gutters and Fittings Therefor, Window Frames, Removable Shuttering for Use in Building Operations, Curtain Walls, Suspended Ceilings and Prefabricated Panels for Use in Buildings, All Made of Glass Fibres Bonded With Polyester Resins; Rainwater Pipes and Fittings Therefor, All Made of Polyvinylchloride Plastics; and End-Grain Wood Mosaic Floors Made of Wood Blocks Bonded in Polyester Resins.

SN 101,540. Burnham Corporation, Irvington-on-Hudson, N.Y. Filed July 27, 1960.

THE BURNHAM CONTINENTAL

For Prefabricated Greenhouses.
First use Oct. 7, 1959.

SN 101,580. Taylor Bituminous Equipment Company, Everett, Mass. Filed July 27, 1960.

Taylored Slurry Seal

The words "Slurry Seal" are disclaimed apart from the mark as shown.
For Coal Tar Pitch Emulsion for Application to Pavements and the Like To Seal Same and Produce a Non-Skid Surface.
First use Mar. 21, 1960.

SN 101,761. Dundee Cement Company, Dundee, Mich. Filed Aug. 1 ,1960.



The mark consists of the letter "D" in the form shown.
For Cements, Including Portland Cement, High Early Cement, and Air Entraining Cement.
First use Mar. 4, 1960.

SN 101,844. American Vermiculite Corporation, New York, N.Y. Filed Aug. 2, 1960.

PYRACOUSTIC

For Pre-Mixed Acoustic Plaster Composed of Vermiculite, Aggregate, Bentonite, Asbestos, and Orvus Granules.
First use on or about Feb. 17, 1956.

SN 102,070. Tucker Aluminum Products, Inc., Hialeah, Fla. Filed Aug. 4, 1960.

LOK-MASTER

For Awning Type Windows.
First use Oct. 29, 1959.

SN 102,144. Southeastern Tool and Die Company, Inc., Birmingham, Ala. Filed Aug. 5, 1960.

ANTIGUA

For Interchangeable Panel Storm Doors.
First use Apr. 28, 1960.

SN 102,145. Southeastern Tool and Die Company, Inc., Birmingham, Ala. Filed Aug. 5, 1960.

BAHAMA

For Self-Storing All Season Storm Doors and Storm Windows.
First use Apr. 28, 1960.

SN 102,147. Southeastern Tool and Die Company, Inc., Birmingham, Ala. Filed Aug. 5, 1960.

DORAIRE

For Insert Windows for Flush Outside Doors.
First use Apr. 28, 1960.

SN 103,654. Centre Lumber & Plywood Co., Inc., Long Island City, N.Y. Filed Aug. 30, 1960.

CENTRE-WOOD

For Wood Paneling.
First use June 1, 1960.

SN 103,661. Durazzo, Inc., Garfield, N.J. Filed Aug. 30, 1960.

DURAZZO

For Aggregates and Binders for Surfacing Floors, Walls, Ceilings, Stairs, Table, Chair and Counter Tops and Similar Purposes.
First use Apr. 18, 1960.

SN 103,753. Allied Chemical Corporation, New York, N.Y. Filed Sept. 1, 1960.

BAR-O-LITE

For Gypsum Plasters.
First use Jan. 29, 1960.

SN 103,762. Bridgeport Brass Company, Bridgeport, Conn. Filed Sept. 1, 1960.

Flexalum

Owner of Reg. Nos. 522,365, 696,134, and others.
For Folding Doors Made of Woven Aluminum, Usable as Door Closures, Partitions, and Room Dividers.
First use July 26, 1960.

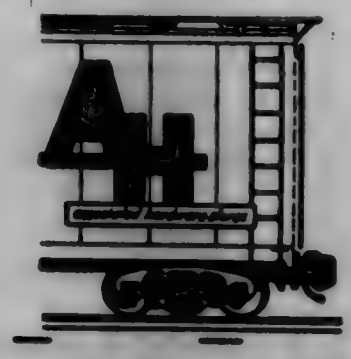
SN 104,244. Educators Manufacturing Company, Tacoma, Wash. Filed Sept. 12, 1960.

EDCOLITE

For Laminated Plastic Counter Tops for Cabinets.
First use Aug. 1, 1960.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

SN 67,738. Associated Hardware Stores, Inc., Providence, R.I. Filed Feb. 16, 1959.



The words "Associated Hardware Stores" are disclaimed apart from the mark as shown.

For Door and Window Hardware and Cabinet Hardware.

First use Jan. 28, 1959.

SN 82,046. The Upson-Walton Company, Cleveland, Ohio. Filed Sept. 24, 1959.

GOLD CLIPS

The word "Clips" is disclaimed apart from the mark.

For Weldless Drop Forged Steel Wire Rope Clips.

First use Nov. 1, 1955.

SN 92,619. Samuel Kersten, Jr., d.b.a. Water Saver Faucet Co., Chicago, Ill. Filed Mar. 11, 1960.

WATER SAVER

For Faucets, Cocks, Plumbing and Steamfitting Valves, Floor Drains, Traps, Metal Sewer Cleanout Fittings, Pool Feed Pipes and Overflow Screens, Strainers, Tank Floats, Drinking Fountains, Showers, Swing Spouts, Water Softening Tanks, Faucet, Valve and Cock Parts, and Metal Pipe Fittings.

First use Aug. 1, 1925.

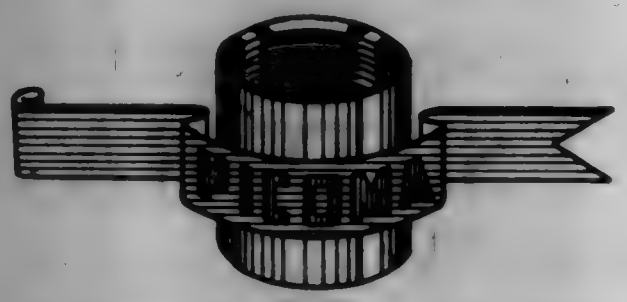
SN 94,182. Peter's and Russell Inc., Springfield, Ohio. Filed Apr. 1, 1960.

SKIPPER

For Fastening Devices—Namely, Clips and Hitches.

First use Sept. 22, 1959.

SN 99,087. Pipe Coupling Manufacturers, Inc., Martins Ferry, Ohio. Filed June 15, 1960.



The red and blue colors, as shown on the drawing, are not claimed as an integral part of the mark, nor is the coupling as shown.

For Threaded Steel Pipe Couplings, Rigid Steel Conduit Couplings, Nipples and Bends, Rigid Aluminum Conduit Couplings, Nipples and Bends.

First use September 1958.

SN 101,067. Wrought Washer Mfg. Co., Milwaukee, Wis. Filed 7-18-60.



The representation of the goods is disclaimed apart from the mark.

For Metal Washers.

First use prior to 1925.

Class 14—Metals and Metal Castings and Forgings

SN 95,156. Eutectic Welding Alloys Corporation, Flushing, N.Y. Filed Apr. 15, 1960.

QUENCHWELD

For Metallic Welding Rods.

First use Apr. 6, 1960.

SN 98,436. Chromium Mining & Smelting Corporation, Limited, Chicago, Ill. Filed June 6, 1960.

CHROM-SIL-X

Owner of Reg. No. 378,725.

For Exothermic Ferrochrome Silicon.

First use Oct. 18, 1947.

SN 100,606. Industrial Design Service, Inc., New Castle, Del. Filed July 11, 1960.

IDS

For Metal Castings.

First use June 16, 1960.

Class 15—Oils and Greases

SN 92,767. Howe Sound Company, New York, N.Y. Filed Mar. 14, 1960.

AUSTA-LUBE

Owner of Reg. Nos. 389,429, 389,621, and 648,654.

For Lubricant Especially for Hospital, Medical and Dental Apparatus and Equipment.

First use Dec. 16, 1959.

Class 16—Protective and Decorative Coatings

SN 95,931. Pittsburgh Plate Glass Company, Pittsburgh, Pa. Filed Apr. 27, 1960.

PRAIRIE GREEN

Rez

Applicant disclaims the words "Prairie Green" apart from the mark. Owner of Reg. Nos. 663,023 and 642,809.

For Sealers and Finishes for Exterior and Interior Use.

First use Nov. 12, 1957; Apr. 1, 1940, as to "Rez."

SN 95,932. Pittsburgh Plate Glass Company, Pittsburgh, Pa. Filed Apr. 27, 1960.

SANDALWOOD

Rez

Applicant disclaims the word "Sandalwood" apart from the mark. Owner of Reg. Nos. 663,023 and 642,809.
For Sealers and Finishes for Exterior and Interior Use.
First use June 21, 1957; Apr. 1, 1940, as to "Rez."

SN 95,933. Pittsburgh Plate Glass Company, Pittsburgh, Pa. Filed Apr. 27, 1960.

DESERT SAGE

Rez

Applicant disclaims the words "Desert Sage" apart from the mark. Owner of Reg. Nos. 663,023 and 642,814.
For Sealers and Finishes for Exterior and Interior Use.
First use Aug. 9, 1957; Apr. 1, 1940, as to "Rez."

SN 95,934. Pittsburgh Plate Glass Company, Pittsburgh, Pa. Filed Apr. 27, 1960.

BLUE SPRUCE

Rez

Applicant disclaims the words "Blue Spruce" apart from the mark. Owner of Reg. Nos. 663,023 and 642,809.
For Sealers and Finishes for Exterior and Interior Use.
First use Nov. 8, 1957; Apr. 1, 1940, as to "Rez."

SN 95,935. Pittsburgh Plate Glass Company, Pittsburgh, Pa. Filed Apr. 27, 1960.

FIR GREEN

Rez

Applicant disclaims the words "Fir Green" apart from the mark. Owner of Reg. Nos. 663,023 and 642,809.
For Sealers and Finishes for Exterior and Interior Use.
First use Nov. 8, 1957; Apr. 1, 1940, as to "Rez."

SN 95,936. Pittsburgh Plate Glass Company, Pittsburgh, Pa. Filed Apr. 27, 1960.

SATINWOOD

Rez

Applicant disclaims the word "Satinwood" apart from the mark. Owner of Reg. Nos. 663,023 and 642,809.
For Sealers and Finishes for Exterior and Interior Use.
First use May 28, 1957; Apr. 1, 1940, as to "Rez."

SN 95,937. Pittsburgh Plate Glass Company, Pittsburgh, Pa. Filed Apr. 27, 1960.

WHEAT-TONE

Rez

Applicant disclaims the word "Wheat-Tone" apart from the mark. Owner of Reg. Nos. 663,023 and 642,809.
For Sealers and Finishes for Exterior and Interior Use.
First use July 1, 1957; Apr. 1, 1940, as to "Rez."

SN 96,251. Palmer-Paasa Corporation, Toledo, Ohio. Filed May 2, 1960.

CRAFT MASTER

Owner of Reg. No. 593,680.
For Decorative Enamels in the Form of a Kit for Hobby or Household Use.
First use Oct. 21, 1959.

SN 100,379. The Mearl Corporation, New York, N.Y. Filed July 6, 1960.

MURANO

For Nacreous Pigments.
First use May 18, 1960.

SN 100,556. Veon Chemical Corporation, Long Island City, N.Y. Filed July 8, 1960.

PERMA-LION



For Thermoplastic Road Marking Compound.
First use Sept. 14, 1959.

SN 100,626. Mosatex, Inc., Moses Lake, Wash. Filed July 11, 1960.

MOSATEX

For Texture Finish.
First use June 28, 1960.

SN 101,575. Pratt & Lambert-Inc., Buffalo, N.Y. Filed July 27, 1960.

SILDURA

For Trim and Shutter Finish.
First use June 7, 1960.

SN 101,680. Industrial Raw Materials Corp., New York, N.Y. Filed July 29, 1960.

LACTOWAX

For Waxes for Coating Food Containers.
First use July 22, 1960.

SN 101,681. Industrial Raw Materials Corp., New York, N.Y. Filed July 29, 1960.

LACTOWAX POLY

For Waxes for Coating Food Containers.
First use July 22, 1960.

SN 101,752. De Mert & Dougherty, Inc., Chicago, Ill. Filed Aug. 1, 1960.

TIRPONTEX

For Thinner for Paints, Enamels and Varnishes.
First use on or about June 3, 1960.

Class 17—Tobacco Products

SN 76,133. J. C. Winter & Co., Inc., Red Lion, Pa. Filed June 19, 1959.



For Cigars.
First use Apr. 26, 1956.

SN 105,492. The Bloch Brothers Tobacco Company, Wheeling, W. Va. Filed Sept. 30, 1960.

GREENBRIER

For Smoking Tobacco.
First use Sept. 15, 1960.

Class 18—Medicines and Pharmaceutical Preparations

SN 81,404. Jason Products, Inc., d.b.a. Jason Pharmacal Company, Washington, D.C. Filed Sept. 15, 1959.

HEALTHMASTER

For Vitamin and Mineral Dietary Supplement Sold in Tablet Form.
First use Sept. 14, 1959.

SN 81,876. Chicago Pharmacal Company, Chicago, Ill. Filed Sept. 23, 1959.

GER-AMINO

For Medicinal Preparation Used as a Vitamin-Hormone-Amino Acid Supplement.
First use Sept. 11, 1959.

SN 90,388. The Borden Company, New York, N.Y. Filed Feb. 5, 1960.

METHAKOTE

For Pediatric Cream for the Relief and Treatment of Diaper Rash and Other Skin Conditions.
First use Aug. 25, 1960.

SN 92,147. H. Bryan Duffy, d.b.a. Duffy Medicine Co., New Bern, N.C. Filed Mar. 4, 1960.



For Antibilious Pills, Diarrhea Cordial, Itch Ointment, Liniment; Tonic Recommended for Use in the Treatment of Chills, Fever, and Malaria; Tablets Recommended for the Treatment of Malaria, Chills, and Fever; Cough Sirup for the Treatment of Coughs, Bronchial and Lung Affections; and an Ointment for Internal and External Use Recommended as an Alterative, Antirheumatic, Astringent, Cathartic, Stimulant, Counterirritant, Digestive, Gastric Tonic, Laxative, Vermicide, Liniment.
First use Nov. 1, 1905.

SN 92,807. Puritan Compressed Gas Corporation, Kansas City, Mo. Filed Mar. 14, 1960.

PURITAN

Owner of Reg. No. 384,872.
For Compressed Gases for Medicinal Use.
First use Oct. 1, 1931.

SN 93,430. T. E. Holding, III, Wake Forest, N.C. Filed Mar. 22, 1960.

Ac-neat

For Preparation for the Treatment of Acne.
First use Oct. 26, 1959.

Class 19—Vehicles

SN 76,804. General American Transportation Corporation, Chicago, Ill. Filed June 30, 1959.

CLEJAN

For Railway Cars.
First use Apr. 30, 1959.

SN 83,650. Simca, Paris, France. Filed Oct. 20, 1959.

Elysée

The translation of the French term "Elysée" is "Elysium." Owner of French Reg. No. 453,240, dated Oct. 14, 1955 (Seine); Natl. Inst. No. 62,946.
For Automobiles.

SN 83,652. Simca, Paris, France. Filed Oct. 20, 1959.

Intendante

The translation of the French term "Intendante" is intendant. Owner of French Reg. No. 453,242, dated Oct. 14, 1955 (Seine); Natl. Inst. No. 62,948.
For Automobiles.

SN 83,654. Simca, Paris, France. Filed Oct. 20, 1959.

Oceane

The translation of the French term "Oceane" is oceana. Owner of French Reg. No. 459,994, dated Sept. 27, 1956 (Seine); Natl. Inst. No. 81,647.
For Automobiles.

SN 84,841. Carl F. W. Borgward G.m.b.H., Bremen, Germany. Filed Nov. 9, 1959.

Isabella

Owner of U.S. Reg. No. 633,518.
For Automotive Vehicles—Namely, Passenger Vehicles, Trucks, Tricycles for Use by Adults, Truck Tractors and Structural Parts Thereof.
First use Aug. 6, 1954; in commerce Aug. 6, 1954.

SN 91,634. Svenska Aeroplan Aktiebolaget, Linkoping, Sweden. Filed Feb. 25, 1960.

SAAB

For Aircraft, Automobiles, and Repair and Replacement Parts and Accessories for Automobiles, Including Mirrors, Lights, Exhaust Pipe Extensions, Windshield Washer Kits, Safety Belts, Cigarette Lighters, Luggage Racks, Spare Parts Kits, and the Like.
First use October 1939 on aircraft; in commerce September 1949.

SN 94,223. Aerocar, Inc., Longview, Wash. Filed Apr. 4, 1960.

AEROCAR

For Combination Airplane and Automobile.
First use about Jan. 15, 1948.

SN 98,697. Cal Corporation, Berkeley, Mich. Filed June 9, 1960.

PROTECT-O-CORE

For Metal Screens for Use on Automotive Vehicles, Particularly for Use in Front of the Radiator and Motor of the Vehicle.
First use Sept. 1, 1956.

SN 99,662. Safeway Brake Shops, Inc., Philadelphia, Pa. Filed June 24, 1960.

THERMOLYTE

For Automobile Brake Shoes.
First use Nov. 9, 1959.

SN 101,963. Mariette Coach Company, Mariette, Mich. Filed Aug. 3, 1960.

MCC EXCELLENCE

The drawing is lined for red, yellow and blue.
For Mobile Homes and Travel Trailers.
First use June 22, 1960.

SN 102,052. Power Cat Boat Corporation, Paramount, Calif. Filed Aug. 4, 1960.

POWER CAT

Owner of Reg. No. 677,609.
For Boats.
First use on or before Nov. 30, 1956.

Class 20 — Linoleum and Oiled Cloth

SN 78,690. The Danbury Rubber Company, Inc., Danbury, Conn. Filed July 30, 1959.

Marbelite

For Tile of Natural or Synthetic Rubber and/or Resinous Material for Floor, Wall and Like Surfaces.
First use on or about June 26, 1959.

Class 21 — Electrical Apparatus, Machines, and Supplies

SN 80,523. Ford Motor Company, Dearborn, Mich. Filed Aug. 31, 1959.

COMET

For Electrical Parts and Accessories, Except Brakes and Parts Thereof, for Automobiles and Motor Trucks.
First use Aug. 17, 1959.

SN 84,487. U.S. Electrical Motors, Inc., Los Angeles, Calif. Filed Nov. 2, 1959.

LINKSYNC

For Electronic Control Systems Used for Synchronizing the Movement of Industrial Conveyors; the System Being Comprised of Electric Motors, Variable Ratio Transmissions, and Control Circuits.
First use June 23, 1959.

SN 86,795. Lockheed Aircraft Corporation, Burbank, Calif. Filed Dec. 7, 1959.

LOCKHEED

For Industrial Television Systems, Switching Devices, Electrical Junction Boxes, Battery Chargers, and Components Thereof.
First use Nov. 14, 1952.

SN 87,194. Central Transformer Corporation, Pine Bluff, Ark. Filed Dec. 14, 1959.

CTC

For Distribution and Power Transformers Having a Rating of Not Less Than 1 kva.
First use Mar. 27, 1952.

SN 88,406. McGraw-Edison Company, St. Louis, Mo. Filed Jan. 4, 1960.

STAK-PAK

For Electric Fuses Packed in a Dispenser Type Container.
First use Sept. 3, 1959.

SN 90,120. Swivelier Company Inc., Nanuet, N.Y. Filed Feb. 1, 1960.

PLUG-A-LITE

For Adjustable Electrical Lighting Fixtures.
First use Dec. 22, 1959.

SN 90,314. Kelknap Hardware and Manufacturing Company, Louisville, Ky. Filed Feb. 12, 1960.

OLD KENTUCKY HOME

Owner of Reg. Nos. 240,579 and 666,300.
For Radio Receiving Sets, Radio Loud Speakers and Electric Irons.
First use November 1925.

SN 90,880. Allen's Neon Displays, Inc., Greensboro, N.C. Filed Feb. 15, 1960.

PLEX-O-LITE

For Electrical Signs.
First use Sept. 3, 1959.

SN 92,533. Dictograph Products Inc., Jamaica, N.Y. Filed Mar. 10, 1960.

PRESTOPHONE

For Interoffice Communication Equipment and Parts Therefor.
First use Nov. 4, 1959.

SN 93,462. Signal-Stat Corporation, Brooklyn, N.Y. Filed Mar. 22, 1960.

TWENTY-TWENTY

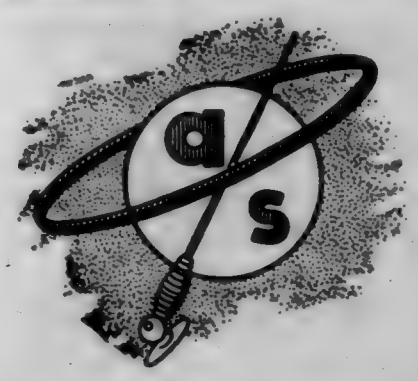
For Lenses for Automotive Vehicle Lamps.
First use Aug. 4, 1959.

SN 96,659. Guy F. Atkinson Company, d.b.a. Atkinson Dynamics Company, South San Francisco, Calif. Filed May 9, 1960.

DYNALERT

Owner of Reg. No. 697,737.
For Electronic Horn.
First use Apr. 7, 1960.

SN 98,328. The Antenna Specialists Company, Cleveland, Ohio. Filed June 3, 1960.



The drawing is lined for red to correspond with specimens currently employed, but red color is disclaimed as an integral portion of the mark. Applicant disclaims the representation of the goods apart from the mark as shown, without disclaimer of any common law rights. Owner of Reg. No. 622,985.
For Antennas.
First use on or about Mar. 1, 1960.

SN 98,589. Phelps Dodge Copper Products Corporation, New York, N.Y. Filed June 7, 1960.

WIRELOK

For Connectors for High Frequency Electrical Coaxial Cable.
First use January 1959.

SN 98,905. Knapp-Monarch Company, St. Louis, Mo. Filed June 13, 1960.

ULTRA-MATIC

For Electric Toasters.
First use Mar. 29, 1960.

SN 99,724. Crouse-Hinds Company, Syracuse, N.Y. Filed June 27, 1960.

TRI-DISC

For Insert Assemblies—Namely, Contacts and Insulating Parts for Electrical Connectors of the Plug and Receptacle Type.
First use May 17, 1960.

SN 99,905. AMP Incorporated, Harrisburg, Pa. Filed June 29, 1960.

STRATO-THERM

For Electrical Terminals and Connectors.
First use in the third quarter of 1958.

SN 100,061. The Siegler Corporation, Long Island City, N.Y. Filed June 30, 1960.

STEREOCENTER

For Television Receiver, Radio Receiver and Phonograph Combination.
First use June 8, 1960.

SN 100,146. Monarch Electric Corporation, Jamestown, N.Y. Filed July 1, 1960.

SUPER-KING

Owner of Reg. No. 695,244.
For High Capacity Protector Fuses for Electric Circuits.
First use Mar. 2, 1960.

SN 100,153. Plug-M-All Co., Inc., El Paso, Tex. Filed July 1, 1960.

PLUG M ALL

For Convenience Electrical Outlet.
First use Apr. 11, 1960.

SN 101,467. Borg-Warner Corporation, Chicago, Ill. Filed July 26, 1960.

B-W

The words "Product of" are disclaimed apart from the mark as shown. Owner of Reg. Nos. 513,546, 652,700, and others.
For Engine Generators, Electric Motors, Static Inverters, Frequency Changers, Alternators, and Parts Thereof for Replacement and Repair.
First use as early as Aug. 28, 1959, on engine generators.

SN 101,564. Monarch Electric Corporation, Jamestown, N.Y. Filed July 27, 1960.

SUPER KING

Owner of Reg. No. 695,244.
For High Capacity Protector Fuses for Electric Circuits.
First use June 16, 1960.

SN 102,148. Sperti Faraday, Inc., Adrian, Mich. Filed Aug. 5, 1960.

SF

Owner of Reg. Nos. 375,818, 605,461, and 638,361.
For Chimes; Bells; Buzzers; Gongs; Sirens; Howlers; Horns, With and Without Projectors; Alarm and Sight Signals; Fuses; Battery Eliminators; Transformers; Electric Control Panels; Relays; Bell and Chime Tappers; Outlet Boxes; Push Buttons; Elevator Signal Systems; Electric Door Locks and Releases and Systems Embodying the Same; Electric Clocks; Switches and Signals for Operating Fire Detectors; Electric Motors With Sequence and Indicator Controls; Switches and Mountings; Inter-Communication Systems; Ultra-Violet Lamps and Fixtures; Electric Cord Sets; and Parts of the Foregoing Equipment, Installations, and Devices, Together With Repair and Supply Parts Therefor, as Well as Parts Thereof.
First use July 1, 1960.

SN 102,149. Sperti Faraday, Inc., Adrian, Mich. Filed Aug. 5, 1960.

SF

For Chimes; Bells; Buzzers; Gongs; Sirens; Howlers; Horns, With and Without Projectors; Alarm and Sight Signals; Fuses; Battery Eliminators; Transformers; Electric Control Panels; Relays; Bell and Chime Tappers; Outlet Boxes; Push Buttons; Elevator Signal Systems; Electric Door Locks and Releases and Systems Embodying the Same; Electric Clocks; Switches and Signals for Operating Fire Detectors; Electric Motors With Sequence and Indicator Controls; Switches and Mountings; Inter-Communication Systems; Ultra-Violet Lamps and Fixtures; Electric Cord Sets; and Parts of the Foregoing Equipment, Installations, and Devices, Together With Repair and Supply Parts Therefor, as Well as Parts Thereof.
First use July 1, 1960.

SN 102,543. Cherry Electrical Products Corp., Highland Park, Ill. Filed Aug. 12, 1960.

CHERRY

For Snap-Action Switches and Parts Therefor.
First use June 15, 1956.

SN 103,051. Sans & Streiffe, Inc., Chicago, Ill. Filed Aug. 19, 1960.

SEMINOLE

For Radio Receivers.
First use May 2, 1960.

SN 103,398. Electro-Sonic Laboratories, Inc., Long Island City, N.Y. Filed Aug. 25, 1960.

MICRO FLEX

For Phonograph Pickups.
First use Oct. 15, 1959.

SN 103,818. Telex, Inc., St. Paul, Minn. Filed Sept. 1, 1960.
For Headsets.

MAGNA-TWIN

First use Aug. 2, 1960.

SN 104,141. Bright Star Industries, Clifton, N.J. Filed Sept. 9, 1960.

LIGHT TOUCH

For Flashlights.
First use Feb. 1, 1960.

SN 104,295. Morse Sewing Machine and Supply Corp., New York, N.Y. Filed Sept. 12, 1960.

TYPHONIC

For Electric Vacuum Cleaners.
First use Sept. 6, 1960.

SN 104,556. Signalite Incorporated, Neptune, N.J. Filed Sept. 15, 1960.

OWL eye

For Electric Night Lights.
First use Aug. 30, 1960.

SN 104,630. Metal Textile Corporation, Roselle, N.J. Filed Sept. 16, 1960.

METACT

For Electrical Contacts.
First use July 27, 1960.

SN 104,699. Dormeyer Corporation, Chicago, Ill. Filed Sept. 19, 1960.

PINK WHISPER

For Electric Hair Dryer and Parts Thereof.
First use May 15, 1960.

SN 105,017. O-E, Inc., Houston, Tex. Filed Sept. 22, 1960.

O-E

For Generators, Starters, and Regulators.
First use July 27, 1960.

Class 22 — Games, Toys, and Sporting Goods

SN 76,799. Florida Fishing Tackle Mfg. Co., Inc., St. Petersburg, Fla. Filed June 30, 1959.

SUPER DUDE

Owner of Reg. No. 696,366.
For Jig Type Artificial Fishing Lures.
First use September 1951.

SN 80,297. Advance Crayon & Color Corporation, New York, N.Y. Filed Aug. 27, 1959.

COLOR CRAFT

For Children's Toys and Toy Sets—Namely, Water Colors; Paint, Tracing, Drawing and Coloring Books; Cutout Paper Figures, Bead Stringing Outfits; Modeling, Modeling Clay, Sewing, Printing, Embroidery, Carpenter Construction Sets, and Equipment (or Apparatus) for Playing Board and Drawing Games.
First use Dec. 13, 1937.

SN 89,752. Eliasen and Thereson, Richmond Hill, N.Y. Filed Jan. 27, 1960.

POTLUCK

For Playing Board and Clip-On Cup-Type Marker Containers for Playing Card Games.
First use Oct. 5, 1959.

SN 90,962. Universal Manufacturing Company, Inc., Bossier City, La. Filed Feb. 15, 1960.

GYM-DANDY

Owner of Reg. No. 544,321.
For Occupant Propelled Wheeled Children's Play Vehicles.
First use Feb. 24, 1959.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

SN 80,923. Herbert J. Schmauser, d.b.a. H. J. Wenglein's Norica- & Heroldwerk Schwabacher Nadelfabrik, Schwabach, Bavaria, Germany. Filed Sept. 4, 1959.

NORICA

Owner of German Reg. No. 742,199, dated Nov. 8, 1960.
For Ejector Pins, Return Pins, Guide Pins, Guide Bushings, Dowel Pins, Sprue Puller Pins, Leader Pins, Core Pins, and Stop Pins for Molds Used in the Production of Plastic and Metallic Articles.

SN 82,274. Neisner Brothers, Inc., Rochester, N.Y. Filed Sept. 28, 1959.

ANDREW LEWIS

Applicant disclaims the word "Quality."
For Stainless Steel and Silver Plated Flatwear.
First use May 20, 1958.

SN 83,832. Syracuse Supply Company, Syracuse, N.Y. Filed Oct. 22, 1959.

PAPERVEYOR

For Selective Conveyor Systems and Parts Thereof for Handling a Continuous Flow of Papers, Forms, Correspondence, Blueprints, and Other Lightweight Materials.
First use Oct. 1, 1959.

SN 85,572. Floc-Flo Corporation, Chicago, Ill. Filed Nov. 18, 1959.

PRODUCER

For Flocking Equipment.
First use Oct. 11, 1956.

SN 86,366. Sunset Equipment Co., St. Paul, Minn. Filed Nov. 30, 1959.

SUNSET

Owner of Reg. No. 681,465.
For Spray-Type Washing Unit Comprising a Circulating Pump, Hoses and Fittings for Cleaning the Interior of Tanks.
First use on or about Nov. 2, 1959.

SN 87,124. Korody Marine Corporation, Hawthorne, Calif., assignee of Kermath Engine Works, Inc., Hawthorne, Calif. Filed Dec. 11, 1959.

FLORATED

For Diesel Engine Fuel Injector Nozzle Tips.
First use July 1, 1959.

SN 87,864. "Energit" Fabrik fuer Press-Stoffe und Automobilzubehoer G.m.b.H., Renningen, Germany. Filed Dec. 23, 1959.

ENERGIT

Owner of German Reg. No. 713,280, dated Apr. 25, 1958.
For Friction Carrier Supports—i.e., Friction-Linings, -Segments, -Rings, -Disks, -Belts, -Blocks, Mainly Linings for Brakes and Clutches for Means of Transportation and Machine Industry; Pressed Accessory Parts for the Transportation Industry Consisting of Synthetic Materials and/or Rubber and Caoutchouc—e.g., Bearing Cups and Bearing Boxes, Linkages, Clutch Sections, Members of Vibration Dampening and Sound Dampening Devices, Gear Wheels, Seals, Pedal Plates, Caps and Buttons for Technical Usage, Knobs and Facings.

SN 91,920. The Council Tool Company, Wananish, N.C. Filed Mar. 1, 1960.

WEEDAX

For Smooth-Heated Treated Blades of High Carbon Steel Riveted to Wooden Frames.
First use May 18, 1959.

SN 92,403. Spiro Establishment S.A., Vaduz, Liechtenstein. Filed Mar. 8, 1960.

HELITUBE

Owner of Liechtenstein Reg. No. 915, dated Jan. 9, 1960.
For Machines and Parts Thereof for Making Metal Tubes.

SN 92,671. White Sewing Machine Corporation, Lakewood, Ohio. Filed Mar. 11, 1960.

GOLDEN BOBBIN

For Sewing Machines.
First use on or about Oct. 30, 1959.

SN 93,113. Daido Corporation, New York, N.Y. Filed Mar. 14, 1960.

DAIDO

For Roller Chains, Bicycle Chains, and Drill Sets.
First use June 1, 1935.

SN 93,388. Varian Associates, Palo Alto, Calif. Filed Mar. 21, 1960.

VAC SORB

For Vacuum Forepump.
First use Feb. 4, 1960.

SN 95,703. Draper Corporation, Hopedale, Mass. Filed Apr. 25, 1960.

DSL

For Looms and Parts Thereof.
First use Apr. 17, 1958, on looms.

SN 99,618. Detrex Chemical Industries, Inc., Detroit, Mich. Filed June 24, 1960.

TRI-O-GEN

For Solvent Vapor Generators.
First use June 3, 1960.

SN 99,714. Boomsnub Company, Portland, Oreg. Filed June 27, 1960.

BOOMSNUB

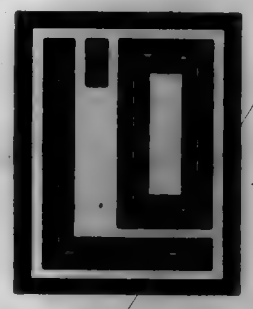
For Shock Absorbers.
First use Nov. 4, 1951.

SN 100,944. The Stanley Works, New Britain, Conn. Filed July 15, 1960.

UNISHEAR

Owner of Reg. No. 206,135.
For Power-Driven Shears for Cutting Metal, Leather, Plastic, Cardboard, and the Like.
First use on or about May 12, 1925.

SN 101,560. L'Orange G.m.b.H., Glatten, Wurttemberg, Germany. Filed July 27, 1960.



Owner of German Reg. No. 735,105, dated Mar. 28, 1960.
For Fuel Injection Devices, Testing Devices for Internal Combustion Engines and Accessories for Internal Combustion Engines, High Pressure Fluid Pumps and Fittings.

SN 101,882. Morse Sewing Machine and Supply Corp., New York, N.Y. Filed Aug. 2, 1960.

FOTOMAGIC

Owner of Reg. Nos. 586,539 and 596,479.
For Sewing Machines and Parts Thereof.
First use Feb. 10, 1960.

SN 103,209. Société à Responsabilité Limitée Rical, Dijon, Cote-d'Or, France. Filed Aug. 22, 1960.

RICAL

Owner of French Reg. No. 5,998, dated Feb. 3, 1958 (Dijon); Natl. Inst. No. 103,142.

For Plastic Molding and Shaping Machines.

SN 103,866. L. W. Nash Company, East Palestine, Ohio. Filed Sept. 2, 1960.

NASH

For Two-High Rolling Mills, Four-High Rolling Mills, Combination Two-High and Four-High Rolling Mills, Belt Wrappers, Brushing Machines, Bridles, Down Enders, Edgers, Embossing Mills, Gear Drives, Guides, Magnetic Feeders and Stackers, Manipulators, Payoff Reels, Payoff Reel Blocks, Pipe Mill Kickouts, Paper Winders, Pinch Roll Units, Scrap Bundlers, Slab Pilers, Mill Tables, Mill Entering and Runout Tables, Shear Depressing Tables, Pipe Tables, Tension Reels, Upcoilers.

First use at least as early as 1947, on four-high rolling mills.

SN 105,016. O-E, Inc., Houston, Tex. Filed Sept. 22, 1960.

O-E

For Carburetors, Pumps, and Clutch Plates.

First use July 27, 1960.

SN 105,154. Euromac, Inc., Palisades Park, N.J. Filed Sept. 26, 1960.

EUROMAC

For Packaging Machinery, and Processing Machinery for Use in the Confectionery, Food, Chemical, and Pharmaceutical Industries.

First use Oct. 14, 1959.

SN 105,276. Faustel, Inc., Butler, Wis. Filed Sept. 27, 1960.

FAUSTEL

For Paper Converting Equipment, Carton and Flexible Wrapping Machines, Laminators and Printing Presses.

First use on or about Dec. 15, 1956.

Class 24 — Laundry Appliances and Machines

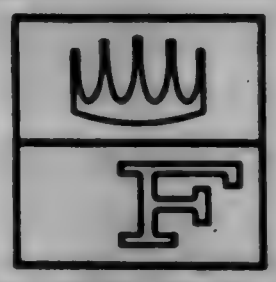
SN 86,717. McGraw-Edison Company, Elgin, Ill., assignee of The American Laundry Machinery Company, Cincinnati, Ohio. Filed Dec. 7, 1959.

SAFEX

For Dry Cleaning Machine.

First use Nov. 6, 1958.

SN 86,880. General Motors Corporation, Detroit, Mich. Filed June 13, 1960.



Owner of Reg. Nos. 633,585, 635,188, and others.

For Clothes Washing and Drying Machines and Parts Thereof.

First use Jan. 26, 1960, on washing machines; in or before February 1946 in a different display.

SN 99,273. Arrow Manufacturing Company, Inc., Kansas City, Mo. Filed June 20, 1960.

DURA GREEN

For Combination Cover and Pad for a Pressing Machine.

First use Oct. 22, 1959.

Class 26 — Measuring and Scientific Appliances

SN 75,930. Maxitrol Company, Detroit, Mich. Filed June 17, 1959.

SELECTRA

For Apparatus for Controlling the Temperature of a Space Heated by a Gas Furnace, Such Apparatus Including a Temperature Sensing Device, an Electronic Amplifier and a Gas Control Valve.

First use Jan. 19, 1959.

SN 83,064. Cooper-Trent Blueprint and Microfilm Corporation, Arlington, Va. Filed Oct. 12, 1959.

CAPITOLINE

For Editors and Film Inspection Units and Other Photographic Accessory Equipment and Photographic Films and Papers.

First use Oct. 30, 1958.

SN 83,962. Food Machinery and Chemical Corporation, d.b.a. Pouell Manufacturing Company, San Jose, Calif. Filed Oct. 26, 1959.

ACRA-SPEED

For Wheel Balancer.

First use Mar. 12, 1959.

SN 86,796. Lockheed Aircraft Corporation, Burbank, Calif. Filed Dec. 7, 1959.

LOCKHEED

For Telemetry Systems, Digital Plotters, Computers, Timers, Aircraft Systems Operation and Maintenance Training Aid Devices, Aircraft Command Control Equipment, Electrical and Electronic Test Equipment for Production and Flight Line Testing of Aircraft Electrical and Electronic Systems, Industrial Tape Recording Equipment, and Components Thereof.

First use Nov. 14, 1952.

SN 87,559. Hagan Chemicals & Controls, Inc., Pittsburgh, Pa. Filed Dec. 18, 1959.

PowrMag

Owner of Reg. Nos. 644,184, 695,630, and 697,399.

For Pressure, Temperature, and Flow Transducers, Analog Multipliers, Digital Computers, Data Processors, and Systems Containing One or More of the Foregoing Devices.

First use Apr. 1, 1959.

SN 88,814. General Electric Company, Schenectady, N.Y. Filed Dec. 31, 1959.

SENSI-TEMP

For Automatic Surface Unit Control of the Thermostatic Type for Electric Range.
First use Nov. 13, 1959.

SN 88,871. Arnold Perrot, Nidau-Bienne, Berne, Switzerland. Filed Jan. 12, 1960.



The drawing is lined for shading. Owner of Swiss Reg. No. 174,023, dated Jan. 10, 1959; and U.S. Reg. No. 685,896.
For Apparatus for Cutting Films.

SN 89,149. Ford Motor Company, Dearborn, Mich. Filed Jan. 18, 1960.

AERONUTRONIC

For Computing and Data Processing Equipment.
First use Nov. 12, 1959.

SN 90,535. Lynch Corporation, Anderson, Ind. Filed Feb. 8, 1960.

WEY-MOR

For Weighing and Bagging Machines, Net and Gross Weight Scale Equipment, and Associated Feeders, Conveyors and Controls.
First use April 1955.

SN 93,288. Eastman Kodak Company, Rochester, N.Y. Filed Mar. 21, 1960.

X-OMAT

For Photographic Processing Apparatus and Sensitized Photographic Film.
First use May 24, 1957.

SN 97,032. Charles A. Burnworth, d.b.a. Burnworth Tester Company, El Cerrito, Calif. Filed May 13, 1960.



The representation of the goods is disclaimed apart from the mark.
For Electrical Circuit Tester.
First use March 1952.

SN 97,719. Sun Bathers & Co., Sacramento, Calif. Filed May 23, 1960.

SUN BATHERS

For Eye Shield of Eyeglass Form, Constructed of a Sheet of Plastic Material.
First use March 1960.

SN 97,842. Handley, Incorporated, Los Angeles, Calif. Filed May 25, 1960.

WEETRIM

For Potentiometers in the Form of Testing Instruments.
First use Feb. 13, 1960.

SN 99,156. McGraw-Edison Company, West Orange, N.J. Filed June 16, 1960.

RAPIDIAL

For Electronic Equipment for Recording Telephone Numbers and for Selectively Automatically Dialing Said Numbers.
First use Jan. 22, 1959.

SN 102,460. Lyle W. Dixon, d.b.a. Tydix, Palo Alto, Calif. Filed Aug. 11, 1960.

PARAPUTER

For Combination Parallel Rule and Slide Rule for Computation and Plotting of a Course.
First use July 8, 1960.

SN 102,909. Lyle W. Dixon, d.b.a. Tydix, Palo Alto, Calif. Filed Aug. 18, 1960.

TYDIX

For Combination Parallel Rule and Slide Rule for Computation and Plotting of a Course.
First use July 8, 1960.

SN 103,150. Hagan Chemicals & Controls, Inc., Pittsburgh, Pa. Filed Aug. 22, 1960.

HAGAN

Owner of Reg. No. 397,296.
For Unitary Combustion Control Equipment for Regulating the Delivery of Air and Fuel Such as Liquid, Gaseous, and Solid Fuels to and for Combustion in Steam Boiler Furnaces, and Metallurgical Furnaces, and Accessories Therefor, Such Equipment and Accessories Comprising Recording and Integrating Flow, Pressure, and Temperature Meters, Pneumatic Industrial Control Components, Master Regulators, Balanced Float Regulators, Master Senders, Receiving Regulators, Control Panels, Ratio Relays, Single and Multiple Diaphragm Regulators, Oil Operated Pressure Regulators, Oil Operated Gas and Air Regulators, Butterfly Valves, Variable Ratio Regulators, Oil Control Valves, Compensating Relays, Hand Operated Relays for Remote Hand Control, Steam Pressure Reducing and Desuperheating Equipment, Roto-Reciprocating Valves, Electronic Industrial Control Components, and Accessories and Parts for the Foregoing Equipment.
First use Feb. 1, 1918.

SN 103,637. Société Genevoise d'Instruments de Physique, Geneva, Switzerland. Filed Aug. 29, 1960.

GONIOPTIC

Owner of Reg. No. 173,199, dated Nov. 14, 1958; and U.S. Reg. No. 705,939.
For Precision Apparatus for Measuring, Scaling, Gauging, or Dividing for Purposes of Industrial Operations.

SN 103,899. The Bendix Corporation, Detroit, Mich. Filed Sept. 6, 1960.

GO-NO-GO

For Fuel Quality Testing Devices and Parts Therefor.
First use July 26, 1960.

SN 104,303. Packard-Bell Electronics Corporation, Los Angeles, Calif. Filed Sept. 12, 1960.

PACKARD BELL

For Digital Computers and Data Processing Apparatus Including Apparatus for Converting Between Digital and Analogue Information.
First use June 25, 1960.

SN 104,345. Titmus Optical Company, Inc., Petersburg, Va. Filed Sept. 12, 1960.

CRISTYL

For Optical Lenses.
First use July 22, 1960.

SN 104,423. Bonanza Sports, Inc., Faribault, Minn. Filed Sept. 14, 1960.

BONANZA

For Powder Scale.
First use June 7, 1960.

SN 104,437. Cutler-Hammer, Inc., Milwaukee, Wis. Filed Sept. 14, 1960.

METROsurf

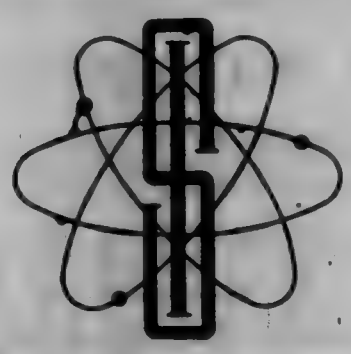
For Electro-Mechanical Instruments for Measuring Surface Roughness, and Components Thereof and Accessories Therefor.
First use July 8, 1960.

SN 104,444. Fine Art Designers, Inc., New York, N.Y. Filed Sept. 14, 1960.

"RAGLANSET"

For Patterns for Garments and Prototypes of Complete and Parts of Garments Made From Said Patterns, for Use as Standards in Manufacturing Plants.
First use Mar. 31, 1938.

SN 104,488. Scientific Industries, Inc., Rivera, Calif. Filed Sept. 14, 1960.



For Planetaria and Percussion Instruments Used in Teaching Sound and Theory of Music.
First use Nov. 10, 1959.

SN 104,704. Ensco, Incorporated, Salt Lake City, Utah. Filed Sept. 19, 1960.

ENSCO

Owner of Reg. No. 661,365.
For Sine Wave Oscillators, Low Frequency and Square Wave Generators, Pulse Generators, Analog Computers, Transistor Testers.
First use on or about March 1955.

SN 104,713. General Radio Company, West Concord, Mass. Filed Sept. 19, 1960.

VARIAC

Owner of Reg. No. 311,091.
For Voltage, Current, and Power Measuring Apparatus, Including Voltmeters, Ammeters, Wattmeters, Voltage and Current Transformers, Switches, Fuses, Power Cords, Electric Plugs and Receptacles, and Cases for the Same.
First use on or about Aug. 17, 1933.

Class 28 — Jewelry and Precious-Metal Ware

SN 101,483. Jerome I. Silverman, Inc., New York, N.Y. Filed July 25, 1960.



Discriminating hands for discriminating tastes

The representation of the ring is disclaimed apart from the mark shown.
For Diamond Rings.
First use May 1957.

Class 29 — Brooms, Brushes, and Dusters

SN 91,318. American-Marietta Company, Chicago, Ill. Filed Feb. 23, 1960.

CEDARFLEX

For Plastic Material Made Into Mops.
First use on or about Jan. 28, 1960.

SN 99,913. Bond Chemical Products Co., Chicago, Ill. Filed June 29, 1960.

GAY CLOTHS

Applicant disclaims the word "Cloths" apart from the mark as shown.
For Chemically Treated Tack Cloths.
First use June 14, 1960.

SN 100,284. Perma-Cham, Incorporated, Louisville, Ky. Filed July 5, 1960.

PERMA-CHAM

For Cleaning and Dusting Cloths.
First use Nov. 3, 1959.

SN 100,586. Edward Don & Company, Chicago, Ill. Filed July 11, 1960.

GREEN DRAGON

For Floor Mops.
First use August 1954.

Class 30—Crockery, Earthenware, and Porcelain

SN 88,645. Carbone, Incorporated, Boston, Mass. Filed Jan. 8, 1960.

VINTAGE

For Stoneware, Earthenware and Ceramics—Namely, Cups, Pitchers, Mugs, Bowls, Plates, Saucers, Decanters, Trays, Platters, Vases, Tea Pots, Coffee Pots, Salt and Pepper Shakers, Tureens, Casseroles, Trivets, Water Coolers, Cruets, Bean Pots, Other Dinnerware Items.
First use on or about Dec. 1, 1958.

SN 88,646. Carbone, Incorporated, Boston, Mass. Filed Jan. 8, 1960.

HARVEST

For Stoneware, Earthenware and Ceramics—Namely, Cups, Pitchers, Mugs, Bowls, Plates, Saucers, Decanters, Trays, Platters, Vases, Tea Pots, Coffee Pots, Salt and Pepper Shakers, Tureens, Casseroles, Trivets, Water Coolers, Cruets, Bean Pots, Other Dinnerware Items.
First use on or about Oct. 31, 1946.

SN 91,144. Celestial China Corporation, San Diego, Calif. Filed Feb. 18, 1960.

CELESTIAL

For China Dinnerware.
First use June 1, 1959.

SN 93,013. Shenango China, Inc., New Castle, Pa. Filed Mar. 16, 1960.

PARAKEET

For China Dinnerware.
First use Aug. 1, 1958.

SN 93,014. Shenango China, Inc., New Castle, Pa. Filed Mar. 16, 1960.

DEL RAY

For China Dinnerware.
First use July 18, 1958.

SN 93,016. Shenango China, Inc., New Castle, Pa. Filed Mar. 16, 1960.

MEADOWLARK

For China Dinnerware.
First use Aug. 1, 1958.

SN 93,017. Shenango China, Inc., New Castle, Pa. Filed Mar. 16, 1960.

BUCKINGHAM

For China Dinnerware.
First use Sept. 26, 1958.

Class 31—Filters and Refrigerators

SN 92,546. Pall Corporation, Glen Cove, N.Y. Filed Mar. 10, 1960.

PALL

For Filters and Filter Assemblies.
First use July 1955.

SN 100,581. Crane Co., Chicago, Ill. Filed July 11, 1960.

CRANE-LINE

The word "Line" is disclaimed apart from the mark as shown. Owner of Reg. Nos. 293,974, 442,468, and others.
For Water Softeners and Water Conditioners.
First use September 1949.

Class 32—Furniture and Upholstery

SN 74,831. William Smalley Cadmus, d.b.a. Plandex Industries, New York, N.Y. Filed June 1, 1959.

PLAN-DEX

For Metal Cabinets for Vertical Suspension of Maps, Charts, Blueprints or the Like.
First use Sept. 2, 1958.

SN 83,982. Laverne Inc., New York, N.Y. Filed Oct. 26, 1959.

THE PORTRAIT CHAIRS

The word "Chairs" is disclaimed apart from the mark as shown.
For Chairs.
First use June 12, 1959.

SN 90,950. Rol-Fol Table, Inc., Los Angeles, Calif. Filed Feb. 15, 1960.

WALL-FOL

Owner of Reg. No. 586,886.
For Combined Multi-Purpose Foldable Table and Bench Sets and Wall Frame Units for Storage of Such Sets When Not in Use.
First use Aug. 16, 1956.

SN 91,109. Port-A-Crib, Inc., Ballwin, Mo. Filed Feb. 17, 1960.

PORT-A-RAIL

Owner of Reg. No. 666,598.
For Removable Safety Gates.
First use Oct. 9, 1959.

SN 98,158. Frederick Silver, d.b.a. Fred Silver & Company, Newark, N.J. Filed May 31, 1960.

MAGNI-FIQUE

For Mirror Mounted on an Adjustable Floor Stand.
First use Mar. 31, 1960.

SN 100,366. De Witt C. Howell, d.b.a. Creative Marketing Services, Framingham, Mass. Filed July 6, 1960.

GAMECOCK

For Tables.
First use May 26, 1960.

SN 101,181. The Kent Corporation, Birmingham, Ala. Filed July 20, 1960.

SUPERMATIC

For Knock-Down Merchandise Shelving.
First use July 12, 1960.

SN 101,206. Royal Metal Manufacturing Company, Inc., New York, N.Y. Filed July 20, 1960.

ROYAL-MATIC

Owner of Reg. Nos. 185,711, 592,199, and others.
For Beds.
First use June 14, 1960.

SN 104,091. The Lane Company, Inc., Altavista, Va. Filed Sept. 8, 1960.

PERCEPTION

For Tables of All Types, Commodes, Buffets, Chests, China Cabinets, Servers, Chairs, Mirrors, Beds, Dressers, Vanity Desks, and Chest on Chests.
First use January 1959.

SN 105,510. Carl Forslund, Inc., Grand Rapids, Mich. Filed Sept. 30, 1960.

PLANTATION COLONIAL

No claim is made to the word "Colonial" apart from the mark shown. Owner of Reg. Nos. 378,341, 689,476, and others.
For Dining Room, Living Room, and Bedroom Furniture—Namely, Dining Tables, Chairs, Hutches, Side Boards, Wall Racks, Magazine Stands, End Tables, Cocktail Tables, Beds, and Cradles.
First use Jan. 19, 1940.

SN 106,244. A. D. Radinsky & Sons, Denver, Colo. Filed Nov. 10, 1960.

BREVET

For Wall-Hung Modular Furniture, Free Standing Furniture, and Furniture Groups and Bedroom Furniture.
First use May 8, 1960.

SN 106,599. John H. Best & Sons Incorporated, Galva, Ill. Filed Nov. 17, 1960.

RAMROL

For Storage Racks for Linoleum, Carpeting, and the Like.
First use on or about May 23, 1960.

Class 34 — Heating, Lighting, and Ventilating Apparatus

SN 92,030. McGraw-Edison Company, Milwaukee, Wis. Filed Mar. 2, 1960.

McGRAW EDISON

Owner of Reg. Nos. 33,236, 567,703, and others.
For Gas Fired Heaters and Air Conditioning Apparatus.
First use June 9, 1958.

SN 102,995. Amana Refrigeration, Inc., Amana, Iowa. Filed Aug. 19, 1960.

Amana

Owner of Reg. Nos. 587,025 and 605,819.
For Dehumidifiers and Central Air Conditioning Apparatus and Parts Thereof.
First use prior to April 1956 on central air conditioners.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 64,767. Southern Tire & Patch Company, Inc., Mobile, Ala. Filed Dec. 22, 1958.

NYLO-FLEX

For Patches for Pneumatic Tires.
First use Dec. 20, 1951.

SN 77,812. Dayco Corporation, Dayton, Ohio, by change of name from The Dayton Rubber Company, Dayton, Ohio. Filed July 16, 1959.

SPEED-E-CURE

For Rubber Stock for Retreading Tires.
First use Apr. 21, 1959.

SN 103,923. The General Tire & Rubber Company, Akron, Ohio. Filed Sept. 6, 1960.

JETAIR

For Pneumatic Tires.
First use Apr. 20, 1960.

SN 104,965. W. J. Voit Rubber Corp., Los Angeles, Calif. Filed Sept. 21, 1960.

Velvetred

For Tread Rubber Used in Retreading Tires.
First use in May 1960.

SN 105,106. Titeflex, Inc., Springfield, Mass. Filed Sept. 23, 1960.

WHITE-LINE

For Flexible Tubing and Hose for Industrial Use.
First use Feb. 25, 1960.

SN 105,721. Buffalo Weaving and Belting Co., Buffalo, N.Y. Filed Oct. 4, 1960.

GOLDEN BISON

For Industrial Belting.
First use on or about Aug. 9, 1960.

Class 36 — Musical Instruments and Supplies

SN 87,283. Schulmerich Carillons, Inc., Sellersville, Pa. Filed Dec. 14, 1959.

MAGNEBELL

For Automatically Operated and Controlled Tape Player and System Including Tape Player Mechanisms.
First use Aug. 5, 1959.

SN 87,595. Transcriber Company, Inc., Attleboro, Mass. Filed Dec. 18, 1959.

TRANSCRIBER

For Phonograph Needles.
First use July 1, 1946.

SN 88,786. Moore Recording Industries, San Jose, Calif. Filed Jan. 11, 1960.

GOLDEN GATE

For Musical Tape Recordings and Discs.
First use July 1, 1959.

SN 102,768. Emenee Industries, Inc., Flushing, N.Y. Filed July 13, 1960.

TWIN-PHONIC

For Electric Phonograph.
First use Mar. 15, 1960.

SN 100,933. Ray Rodrigues, Los Angeles, Calif. Filed July 15, 1960.

LATIN LOVER

For Musical Records.
First use Nov. 1, 1959.

SN 103,809. Schober Organ Corporation, New York, N.Y. Filed Sept. 1, 1960.

SCHOBER

For Musical Instruments and Parts Therefor.
First use on or about Apr. 13, 1955.

Class 37 — Paper and Stationery

SN 68,467. Cal-Ad-Pad Corporation, Los Angeles, Calif. Filed Feb. 26, 1959.

Cal-Ad-Pad

For Note Pads and Pads of Papers.
First use Apr. 30, 1948.

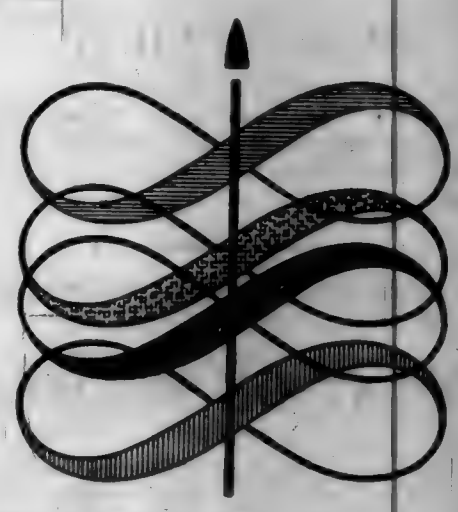
Class 38 — Prints and Publications

SN 68,203. Air Force Association, Washington, D.C. Filed Feb. 24, 1959.



For Magazine Section.
First use November 1958.

SN 80,222. Air Force Association, Washington, D.C. Filed Aug. 26, 1959.



The drawing is lined for blue, yellow, and red.
For Magazine Section.
First use November 1958.

SN 81,881. Congregational Publishing Society, d.b.a. The Pilgrim Press, Boston, Mass. Filed Sept. 23, 1959.

THE FELLOWSHIP OF PRAYER

For Lenten Publication Distributed Annually.
First use in 1918.

SN 86,685. Select Publications, Inc., Minneapolis, Minn., assignee of Select Publications, Minneapolis, Minn. Filed Dec. 4, 1959.

WATER CONDITIONING SALES



For Trade Magazine.
First use June 1, 1959.

SN 86,686. Select Publications, Inc., Minneapolis, Minn., assignee of Select Publications, Minneapolis, Minn. Filed Dec. 4, 1959.

Select

For Magazines.
First use Aug. 1, 1958.

SN 88,594. Cathedral Films, Inc., Burbank, Calif. Filed Jan. 7, 1960.

CATHEDRAL

For Motion Picture Films and Filmstrips, and Recordings To Be Used Therewith.
First use Apr. 18, 1939.

SN 91,670. The Board of Publication of the Methodist Church, Inc., d.b.a. Methodist Publishing House, Nashville, Tenn. Filed Feb. 26, 1960.

TOGETHER

For Primarily Religious Monthly Magazine.
First use Jan. 16, 1956.

SN 91,787. Hall Publishing Company, New York, N.Y. Filed Feb. 29, 1960.

UPHOLSTERING INDUSTRY

Owner of Reg. No. 532,405.
For Periodical Trade Publication.
First use Feb. 15, 1960.

SN 91,793. Hepco Manufacturing Co. Inc., New York, N.Y. Filed Feb. 29, 1960.

HEPCO

For Sales Catalog Publications.
First use Jan. 4, 1960.

SN 92,419. Aeronautical Center Amateur Radio Club, Inc., Oklahoma City, Okla. Filed Mar. 9, 1960.

COLLECTOR AND EMITTER

For Magazine.
First use June 1, 1958.

SN 92,875. Dell Publishing Co., Inc., New York, N.Y. Filed Mar. 15, 1960.

COMIC ALBUM

No registration rights are claimed for the word "Comic" apart from the mark as shown.
For Magazine.
First use Jan. 30, 1958.

SN 92,887. Johnston Export Publishing Co., New York, N.Y. Filed Mar. 15, 1960.

INDUSTRIAL WORLD

Owner of Reg. Nos. 602,735 and 602,736.
For Trade Periodical for Foreign Distribution.
First use January 1959.

Class 39 — Clothing

SN 52,623. Rose Marie Reid, Los Angeles, Calif. Filed May 20, 1958.

MID-SHIFT

For Women's Beach Jackets.
First use on or about Mar. 29, 1958.

SN 69,528. Hicks-Hayward Company, El Paso, Tex. Filed Mar. 13, 1959.

CATTLE KING

For Blue Jeans, Dungarees, Pants.
First use Mar. 9, 1959.

SN 80,511. Eagle Clothes, Inc., Brooklyn, N.Y. Filed Aug. 31, 1959.

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PRESCRIPTION FOR COMFORT

No exclusive rights are claimed in the prescription symbol "Rx."
For Men's Overcoats, Topcoats, and Suits.
First use in December 1958.

SN 89,194. North Shore Manufacturing Company, Duluth, Minn. Filed Jan. 18, 1960.

WALK-A-BUNDLE

Owner of Reg. Nos. 507,137, 623,097, and others.
For Infants' and Children's Sleeping Garments—Namely, Sleeping Bags.
First use Jan. 8, 1960.

SN 91,589. Bonnie-Frances Lingerie Company, Inc., New Orleans, La. Filed Feb. 25, 1960.

KANDY KOTTON

Owner of Reg. No. 678,143.
For Lingerie—Namely, Panties, Slips, Half Slips, Gowns, Robes, Dusters and Pajamas.
First use Mar. 2, 1953.

SN 93,179. Harry & Dan Grossman Furs, Inc., New York, N.Y. Filed Mar. 18, 1960.

MAGNA

For Furs—Namely, Capes, Stoles, Jackets, Coats, Finished Fur Collars and Scarfs.
First use Mar. 10, 1960.

SN 93,413. The Calico Printers' Association Limited, Manchester, England. Filed Mar. 22, 1960.

CALPRETA WRINGABLE

Applicant disclaims the word "Wringable" except as shown. Owner of British Reg. No. 793,879, dated July 29, 1959; and U.S. Reg. Nos. 438,810 and 620,410.

For Aprons, Overalls, Pinafores, Smocks, Skirts, Dressing Gowns, Housecoats, Nightdresses, Pyjamas, Underwear, Trousers, Shorts, Dresses, Shirts, Blouses, Scarves and Playsuits.

SN 94,712. Herbert Wall, d.b.a. Kendall Sportswear Co., Miami, Fla. Filed Apr. 8, 1960.

JR. BOWLING LEAGUER

For Children's Wearing Apparel—Namely, Jackets, Sweaters, Dress and Play Shirts, Dress and Play Pants, Sweat Shirts, Swim Trunks and Suits, Knit Undershirts and Pants, Pajamas, and Hats and Caps.
First use Dec. 29, 1959.

SN 96,244. National Shoes, Inc., New York, N.Y. Filed May 2, 1960.

Poise-trod

For Shoes for Women.
First use about Feb. 1, 1939.

SN 96,375. United States Rubber Company, New York, N.Y. Filed May 3, 1960.

PAK-A-WAY

For Overshoes.
First use Dec. 31, 1959.

SN 97,137. Stedman Manufacturing Company, Inc., Asheboro, N.C. Filed May 13, 1960.

TRIM SIR

For Girdle-Type Garments for Men—Namely, Abdominal Support Briefs.
First use Mar. 21, 1960.

SN 98,358. Hamilton Carhartt Overall Co., Inc., Detroit, Mich. Filed June 3, 1960.

SUPER DUX

For Hunting Jackets and Pants.
First use Nov. 30, 1929.

SN 98,872. Countess Mara, Incorporated, New York, N.Y. Filed June 13, 1960.

IMPRESSIONI

For Neckties and Handkerchiefs.
First use on or about June 29, 1959.

SN 98,994. Jomac, Inc., Philadelphia, Pa. Filed June 14, 1960.

CROMAC

For Work Gloves for Men and Women.
First use May 20, 1960.

SN 99,235. Pandora Knitwear, Inc., New York, N.Y. Filed June 17, 1960.

Pandora
PARTNERS

Owner of Reg. Nos. 501,607 and 660,149.
For Sweaters and Skirts.
First use Jan. 30, 1960.

SN 99,236. Pandora Knitwear, Inc., New York, N.Y. Filed June 17, 1960.

Pandorable

Owner of Reg. Nos. 501,607 and 660,149.
For Sweaters.
First use Mar. 28, 1960.

SN 99,454. Rhea Manufacturing Company, Milwaukee, Wis. Filed June 21, 1960.

PETTI

Owner of Reg. No. 426,234.
For Women's, Junior, and Children's Sportswear—Namely, Shorts, Jackets and Coats, Beachwear, Slacks, Blouses and Shirts, Suits, Skirts and Ski Pants.
First use Nov. 14, 1941.

SN 100,347. L. E. Beaudin Shoe Company, Hanover, Pa. Filed July 6, 1960.

PROTEGE

For Ladies' Shoes.
First use June 14, 1960.

SN 100,833. Burlington Industries, Inc., Greensboro, N.C. Filed July 14, 1960.

GOLD CUP

For Men's Hosiery.
First use July 20, 1957.

SN 101,707. Kent Scott, Inc., Easton, Pa. Filed July 29, 1960.

DUAL ACTION V-LASTIC

Applicant disclaims the words "Dual Action" apart from the mark as shown.
For Men's Trousers and Slacks.
First use July 19, 1960.

SN 102,218. Dorman's Manufacturing Company, Culver City, Calif. Filed Aug. 8, 1960.

DORMAN'S

For Men's Clothing—Namely, Suits, Sport Jackets, Leisure Jackets, Tuxedoes, Slacks, Raincoats, and Topcoats.
First use December 1954.

SN 102,244. Jaymar-Ruby, Inc., d.b.a. Jaymar, Michigan City, Ind. Filed Aug. 8, 1960.

SUMMER MAGIC

For Men's Slacks.
First use Jan. 27, 1958.

SN 102,245. Jaymar-Ruby, Inc., d.b.a. Jaymar, Michigan City, Ind. Filed Aug. 8, 1960.

SUMMER ZEST

For Men's Slacks.
First use May 1, 1959.

SN 102,321. The Joseph & Feiss Company, Cleveland, Ohio. Filed Aug. 9, 1960.

ISLE OF CLANS

For Men's Clothing—Namely, Suits, Topcoats, Overcoats, Sport Coats, and Slacks.
First use Aug. 1, 1960.

SN 102,523. Weldon Pajamas, Inc., New York, N.Y. Filed Aug. 11, 1960.

SMOOTHAIRE

For Men's, Women's, and Children's Pajamas and Underwear.
First use Oct. 13, 1959.

SN 104,520. Florell Underwear Co., Inc., New York, N.Y. Filed Sept. 15, 1960.

Florell

For All Types of Sleepwear for Ladies, Misses, and Children.
First use July 1, 1959.

SN 104,681. Bernardo Sandals, Inc., New York, N.Y. Filed Sept. 19, 1960.

BERNARDO

Owner of Reg. Nos. 427,711, 618,686, and 640,739.
For Men's, Women's, and Children's Sandals and Women's Boots and Shoes.
First use Feb. 28, 1946.

SN 104,721. W. T. Grant Company, New York, N.Y. Filed Sept. 19, 1960.

BABY BEAVER

Owner of Reg. Nos. 603,351 and 513,729.
For Children's Shoes.
First use in August 1959.

SN 104,904. De Luxe Reading Corporation, Newark, N.J. Filed Sept. 21, 1960.

Lynwood

For Men's and Boys' Shirts, Trunks, Pajamas and Socks; Girls' Slacks, Blouses, Leotards and Pajamas; Ladies' Hosiery, Panties, Brassieres and Girdles.
First use May 16, 1960.

SN 105,260. Berkshire Knitting Mills, Wyomissing, Pa. Filed Sept. 27, 1960.

Eye-catchers

For Hosiery.
First use Aug. 15, 1960.

SN 106,205. Jaymar-Ruby, Inc., d.b.a. Jaymar, Michigan City, Ind. Filed Oct. 11, 1960.

SUMMER LIFE

For Men's Slacks.
First use Sept. 20, 1960.

Class 40—Fancy Goods, Furnishings, and Notions

SN 103,761. Bridgeport Brass Company, Bridgeport, Conn. Filed Sept. 1, 1960.

Flexalum T-N

Owner of Reg. Nos. 522,365, 696,134, and others.
For Venetian Blind Tape.
First use July 25, 1960.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 93,414. The Calico Printers' Association Limited, Manchester, England. Filed Mar. 22, 1960.

CALPRETA WRINGABLE

Applicant disclaims the word "Wringable" except as shown. Owner of British Reg. No. 793,878, dated July 29, 1959; and U.S. Reg. Nos. 438,810 and 620,410.
For Piece Goods of Cotton, Silk, Rayon, Nylon, Linen, Hemp, Wool, Worsted or Hair, or Mixtures of These Materials.

SN 103,217. J. P. Stevens & Co., Inc., New York, N.Y. Filed Aug. 22, 1960.

BRAND



Applicant disclaims the term "Brand."
For Piece Goods of a Combination of Worsted and Synthetic Fibers.
First use June 2, 1960.

SN 104,727. Iselin-Jefferson Co., Inc., New York, N.Y. Filed Sept. 19, 1960.

ISLON

For Nylon Piece Goods.
First use Nov. 21, 1957.

SN 104,802. R. G. Barry Corporation, Columbus, Ohio. Filed Sept. 20, 1960.

CASE-ONS

For Pillow Covers.
First use Aug. 1, 1960.

SN 105,110. United States Rubber Company, New York, N.Y. Filed Sept. 23, 1960.

SUP'R-LANE

For Rug Underlay.
First use June 30, 1960.

SN 105,111. United States Rubber Company, New York, N.Y. Filed Sept. 23, 1960.

AIRMAGIC

For Rug Underlay.
First use June 30, 1960.

SN 105,112. United States Rubber Company, New York, N.Y. Filed Sept. 23, 1960.

SHOWLINER

For Carpet Cushion.
First use July 18, 1960.

SN 105,114. United States Rubber Company, New York, N.Y. Filed Sept. 23, 1960.

RHYTHMAIRE

For Carpet Cushion.
First use July 18, 1960.

SN 105,169. Kemp & Beatley, Inc., New York, N.Y. Filed Sept. 26, 1960.

HOME ART

For Table Covers, Place Mats, Table Napkins, Kitchen Towels, Guest Towels, Fingertip Towels, Bath Towels, and Towelling in the Piece.
First use July 5, 1960.

SN 105,358. Indian Head Mills, Inc., Boston, Mass. Filed Sept. 28, 1960.

Ming-Lin

For Cotton Piece Goods.
First use Feb. 26, 1960.

Class 43 — Thread and Yarn

SN 52,571. Gudebrod Bros. Silk Co., Inc., Philadelphia, Pa. Filed May 29, 1958.

Smooth Finish

The drawing of the mark is lined for the color red. Owner of Reg. No. 679,679.
For Mercerized Cotton and Silk Sewing Threads, and All Synthetic Threads.
First use Oct. 16, 1957.

Class 44 — Dental, Medical, and Surgical Appliances

SN 82,743. Whitman Laboratories, Inc., Hackensack, N.J. Filed Oct. 5, 1959.

WHITLAB

For Preformed, Prepolished, Hollow Bases for Orthodontic or Dental Casts or Models, Plastic Anchors or Locks, Positioners for Mounting Mandibular Dental Casts on Their Preformed Hollow Bases, and Model Relators for Mounting and Aligning the Maxillary Dental Casts in Articulating Position on the Mandibular Dental Casts.
First use during the month of November 1958.

SN 83,887. Insemikit Company, Inc., Baraboo, Wis. Filed Oct. 23, 1959.

INSEMIKIT

For Appliances for the Health and Artificial Insemination of Livestock Consisting of Tubes, Vials and Racks, Semen Refrigerators and Carriers, Artificial Vaginal Syringes, Tags.
First use Apr. 4, 1947.

SN 89,581. Richard Hudnut, Morris Plains, N.J. Filed Jan. 25, 1960.

PROFILE

For Nail Files.
First use Dec. 28, 1959.

SN 89,582. Richard Hudnut, Morris Plains, N.J. Filed Jan. 25, 1960.

PRO-FILE

For Nail Files.
First use Dec. 28, 1959.

SN 89,975. Westward Dental Products Co., San Francisco, Calif. Filed Dec. 21, 1959.

WARD'S

WondrPak

For Surgical Cement Type Dressing for Wounds in the Mouth.
First use in 1923.

SN 90,130. Vereinigte Papierwerke Schickedanz & Co., Nurnberg, Germany. Filed Jan. 18, 1960.

CAMELIA

Owner of German Reg. No. 505,498, dated Oct. 20, 1938; and U.S. Reg. No. 686,088.
For Sanitary Napkins.

SN 91,803. Jobst Institute Inc., Toledo, Ohio. Filed Feb. 29, 1960.

JOBST

Owner of Reg. No. 682,251.
For Venous Pressure Gradient Surgical Support.
First use 1950.

SN 96,845. The Foregger Company, Inc., Roslyn Heights, N.Y. Filed May 11, 1960.

PULSPIRATOR

For Extracorporeal Blood Circulation Systems Used on the Body During Surgery.
First use July 27, 1959.

SN 96,677. Safe-T-Sun Corporation, Williamsburg, Va. Filed June 8, 1960.

SAFE-T-SUN

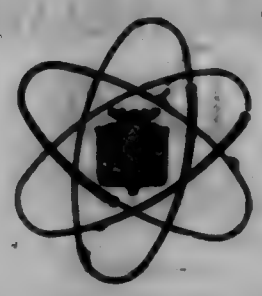
For Sun Lamp and Filter Therefor for Therapeutic Purposes.
First use Apr. 1, 1960.

SN 96,971. Consolidated Laboratories, Inc., Chicago Heights, Ill. Filed June 14, 1960.

CALGISWAB

For Non-Medicated Calcium Alginate Swabs.
First use Feb. 19, 1960.

SN 100,854. Herman L. Mann, d.b.a. Niranium Products, Long Island City, N.Y. Filed July 14, 1960.



For Dental Goods—Namely, Dentures, Refractory Investments, Crucibles, Waxes, Cleaning, Polishing and Impression Materials, Chromium Alloys, Wire, Plastics and Gypsum Products.
First use Jan. 1, 1934.

SN 103,069. John R. Loudon, Jr., Prairie Village, Kans. Filed Aug. 30, 1960.

Judicdent

For Sound Producing and Controlling Equipment in the Nature of a Radio or Phonograph for Use by Patients To Provide Mild Analgesia During Dental or Surgical Procedures.
First use Aug. 8, 1960.

SN 104,815. Crescent Dental Manufacturing Company, Chicago, Ill. Filed Sept. 20, 1960.

HARPER'S

For Dental Alloys, Matrix Holders and Separators for Teeth, Mercury Expressors Having Joints for Use in Expressing Mercury From Amalgam Fillings, Instruments for Pressing Dental Fillings, Trimmers With Blades for Cutting Off and Removing Parts of Fillings, and Mortars and Pestles.
First use December 1920.

Class 46—Foods and Ingredients of Foods

SN 41,644. J.F.G. Coffee Company, Knoxville, Tenn. Filed Dec. 2, 1957.

SANTO

For Coffee.
First use in 1928.

SN 44,789. Carnation Company, Los Angeles, Calif., assignee of Albers Milling Company, Los Angeles, Calif. Filed Jan. 16, 1958.



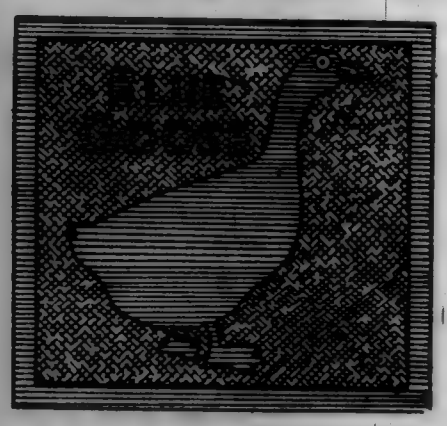
Owner of Reg. Nos. 322,538 and 668,470.
For Cat Food.
First use Dec. 23, 1955.

SN 91,909. Blue Goose, Inc., Fullerton, Calif. Filed Mar. 1, 1960. COLLECTIVE MARK.



The drawing is lined for blue. Owner of Reg. Nos. 212,033, 643,357, and others.
For Fresh Fruits, Vegetables, Dates, Grapes, Melons, Tomatoes, Avocados; Canned Fruits and Vegetables; Frozen Fruits, Citrus Juice, Vegetables, Berries, and French Fry Potatoes.
First use at least as early as May 20, 1918, on fresh fruits and melons.

SN 91,910. Blue Goose, Inc., Fullerton, Calif. Filed Mar. 1, 1960. COLLECTIVE MARK.



The drawing is lined for blue and orange. Owner of Reg. Nos. 212,083, 643,357, and others.

For Fresh Fruits, Vegetables, Dates, Grapes, Melons, Tomatoes, Avocados; Canned Fruits and Vegetables; Frozen Fruits, Citrus Juice, Vegetables, Berries, and French Fry Potatoes.

First use at least as early as May 29, 1918, on fresh fruits and melons.

Class 50—Merchandise Not Otherwise Classified

SN 74,148. North Shore Nameplate Inc., Bayside, N.Y. Filed May 20, 1959.

POX4 P-CAL

For Nameplate of Aluminum Foil Adhesively Applied to the Goods.

First use about Oct. 1, 1958.

SN 86,248. Durie & Miller of Canada Ltd., Montreal, Quebec, Canada. Filed Nov. 23, 1959.

DURACUSHION

Priority claimed under Sec. 44(d) on Canadian application filed May 21, 1959; Reg. No. 119,362, dated Sept. 2, 1960.

For Matting for Covering Floors, and Underlays for Floor Coverings.

SN 87,212. Direct Image Corporation, Los Angeles, Calif. Filed Dec. 14, 1959.



For Lithographic Supplies—Namely, Lithographic Masking Sheets, Clean-Up Sheets for Ink Rollers, and Dampening Roller Molleton Covers.

First use on or about Aug. 17, 1959.

SN 89,046. Atlas Industrial Corp., Brooklyn, N.Y. Filed Jan. 15, 1960.

OMNI-REACH

For Movable Work Platform and Supporting Structures—Namely, Combination Ladder-Scaffold and Hand Truck Device.

First use during May 1959.

SN 90,037. Efesco Products, Chatsworth, N.J. Filed Feb. 1, 1960.

Ringler

For Graining Plates for Industrial Purposes.

First use on or about Sept. 16, 1959; in or about 1872 as to "Ringler."

SN 92,372. Flex-Straw Co. International, Santa Monica, Calif. Filed Mar. 8, 1960.

FLEX-STRAW

Owner of Reg. No. 605,583.

For Paper Drinking Tubes.

First use Oct. 15, 1947.

SN 103,210. Société à Responsabilité Limitée Rical, Dijon, Cote-d'Or, France. Filed Aug. 22, 1960.

RICAL

Owner of French Reg. No. 5,996, dated Feb. 3, 1958 (Dijon); Natl. Inst. No. 103,142.

For Plastic Closures for Containers.

SN 103,278. International Vulcanizing Corporation, Boston, Mass. Filed Aug. 23, 1960.

VULCA-WELT

For Shoe Molds and Lasts.

First use Aug. 12, 1960.

SN 103,703. The Chartmakers, Inc., New York, N.Y. Filed Aug. 31, 1960.

WONDA

For Visual Sales Training Presentation Boards to Which Symbols Can Be Adhered.

First use June 1, 1960.

Class 52—Detergents and Soaps

SN 61,947. Franklin Research Company, Philadelphia, Pa. Filed Nov. 5, 1958.

FRANKLIN'S Brite

Owner of Reg. Nos. 370,019, 558,254, and others.

For General Purpose Cleaner.

First use June 1, 1933.

SN 74,505. Clearing Chemical Laboratories, Inc., Chicago, Ill. Filed May 26, 1959.

BEATS ALL

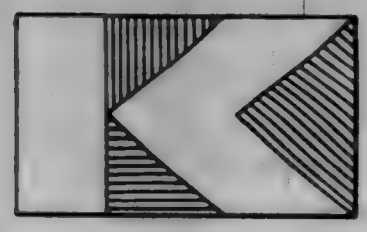
For Metal Cleaner.

First use May 4, 1959.

SERVICE MARKS

Class 100 — Miscellaneous

SN 84,228. Howard Ketcham, Inc., New York, N.Y. Filed Oct. 29, 1959.

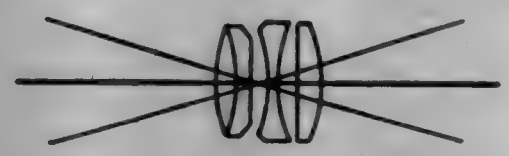


The drawing is lined for red, blue, and green. Owner of Reg. No. 572,439.

For Advice, Consultation and Designing in Connection With the Use of Color and Light in the Industrial Arts.

First use June 1, 1959.

SN 89,344. James R. Dunlop, Inc., Washington, D.C. Filed Jan. 20, 1960.



For Commercial Art and Photography Service.
First use Oct. 28, 1958.

Class 101 — Advertising and Business

SN 89,128. City Products Corporation, Chicago, Ill., assignee of Butler Brothers, Chicago, Ill. Filed Jan. 18, 1960.

BEN FRANKLIN

Owner of Reg. No. 594,057.
For Retail Variety Store Services.
First use 1927.

Class 102 — Insurance and Financial

SN 85,348. Investors Syndicate Life Insurance and Annuity Company, Minneapolis, Minn. Filed Nov. 16, 1959.

Investors

For Underwriting Life Insurance.
First use Oct. 31, 1957.

SN 85,349. Investors Syndicate Life Insurance and Annuity Company, Minneapolis, Minn. Filed Nov. 16, 1959.

INVESTORS

For Underwriting Life Insurance.
First use Oct. 31, 1957.

COLLECTIVE MEMBERSHIP MARKS

Class 200

SN 58,168. Chittenden and Eastman Company, Burlington, Iowa. Filed Sept. 2, 1958.



The words "Furniture Store" are disclaimed apart from the mark as shown.

For Indicating Membership in Applicant.
First use Mar. 15, 1958.

TRADEMARK REGISTRATIONS ISSUED

PRINCIPAL REGISTER

Class 1—Raw or Partly Prepared Materials

711,387. VYCRON WITH FANCIFUL V. North American Rayon Corporation. SN 72,521. Pub. 12–6–60. Filed 4–29–59.

711,388. FOTOCERAM. Corning Glass Works. CONSOLIDATED CERTIFICATE. SN 94,566, pub. 11–29–60, filed 4–7–60, Cl. 1; SN 95,881, pub. 8–9–60, filed 4–27–60, Cl. 21.

711,389. POLY-PLUG. The Cherokee Laboratories, Inc. SN 96,192. Pub. 12–6–60. Filed 5–2–60.

711,390. PLASTI-PLUG. The Cherokee Laboratories, Inc. SN 96,568. Pub. 12–6–60. Filed 5–6–60.

711,391. MARSHMALLOW. Herman J. Schecter, d.b.a. Sommers Plastic Products Co. SN 96,937. Pub. 11–29–60. Filed 6–13–60.

Class 2—Receptacles

711,392. BOT-L-VUE. Lengsfield Brothers, Inc. SN 100,270. Pub. 12–6–60. Filed 7–5–60.

711,393. DUSTY MAID. Vacuum Cleaner Bags Inc. SN 100,480. Pub. 12–6–60. Filed 7–7–60.

711,394. DUSTO. Vacuum Cleaner Bags Inc. SN 100,481. Pub. 12–6–60. Filed 7–7–60.

711,395. DUSTY MAID AND REPRESENTATION OF WOMAN. Vacuum Cleaner Bags Inc. SN 100,482. Pub. 12–6–60. Filed 7–7–60.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

711,396. AM-PAK. Amberg File and Index Company. SN 91,221. Pub. 12–6–60. Filed 2–19–60.

711,397. NO-WEIGHT. Skyway Luggage Company. SN 91,863. Pub. 12–6–60. Filed 2–29–60.

Class 4—Abrasives and Polishing Materials

711,398. AEROPOL. Valay Industries Limited. SN 94,374. Pub. 12–6–60. Filed 4–4–60.

711,399. LESMAR. Lestoil Products, Inc., assignee of Adell Chemical Co. SN 95,668. Pub. 10–25–60. Filed 4–25–60.

711,400. WREN'S. Meltonian Wren Limited. SN 97,226. Pub. 12–6–60. Filed 5–16–60.

Class 5—Adhesives

711,401. CLAIR-TACT. St. Clair Rubber Company. SN 97,575. Pub. 12–6–60. Filed 5–20–60.

Class 6—Chemicals and Chemical Compositions

711,402. SAF-TRED. Testworth Products Corporation. SN 63,497. Pub. 12–6–60. Filed 12–1–58.

711,403. DB. The Baker Castor Oil Company. SN 64,807. Pub. 12–6–60. Filed 12–23–58.

711,404. LUTEX. Lutex Chemical Corporation. SN 68,920. Pub. 7–26–60. Filed 3–4–59.

711,405. DELVOCID. Koninklijke Nederlandsche Gist- en Spiritusfabriek N.V., d.b.a. Royal Netherlands Distilleries. SN 91,045. Pub. 12–6–60. Filed 1–8–60.

711,406. VISTROL. Columbia-Southern Chemical Corporation. SN 95,812. Pub. 12–6–60. Filed 4–26–60.

711,407. REAX. West Virginia Pulp and Paper Company. SN 96,905. Pub. 12–6–60. Filed 5–11–60.

711,408. AMBISEARCH. Mobac Laboratories, Inc. SN 100,625. Pub. 12–6–60. Filed 7–11–60.

711,409. CYANAMID AND DESIGN. American Cyanamid Company. SN 104,572. Pub. 12–6–60. Filed 9–16–60.

Class 7—Cordage

711,410. OHIO RIVER LAY MARK VI. Plymouth Cordage Company. SN 81,091. Pub. 12–6–60. Filed 9–9–59.

Class 9—Explosives, Firearms, Equipments, and Projectiles

711,411. ELEY GRAND PRIX. Imperial Chemical Industries Limited. SN 63,449. Pub. 12–6–60. Filed 12–1–58.

711,412. INTERELECTRONICS. Interelectronics Corporation. SN 84,666. Pub. 12–6–60. Filed 11–5–59.

Class 12—Construction Materials

711,413. SUPERAMICS. Selectile Company, Inc. SN 36,479. Pub. 10–7–58. Filed 8–29–57.

711,414. GALITE. MacDougald Construction Company, d.b.a. Georgia Lightweight Construction Company. SN 45,318. Pub. 12–6–60. Filed 2–5–58.

711,415. SPACEMETAL. North American Aviation, Inc. SN 68,506. Pub. 12–6–60. Filed 2–26–59.

711,416. WILBERT SUPERSEAL. Wilbert W. Hasse Co. SN 79,170. Pub. 12–6–60. Filed 8–7–59.

711,417. ROYAL VALUES AND DESIGN. Hardware Wholesalers, Inc. SN 79,571. Pub. 12–6–60. Filed 8–14–59.

711,418. ROYAL VALUES. Hardware Wholesalers, Inc. SN 79,572. Pub. 12–6–60. Filed 8–14–59.

711,419. SIGMA-K AND DESIGN. Johns-Manville Corporation. SN 81,064. Pub. 12–6–60. Filed 9–9–59.

711,420. '1012'. Dicks-Armstrong-Pontius, Inc. SN 81,255. Pub. 12–6–60. Filed 9–14–59.

711,421. UNICOLOR. Universal Metal Roll Forming Co. SN 87,461. Pub. 12–6–60. Filed 12–16–59.

711,422. CORALTEX. Cement Enamel Development, Inc. SN 96,478. Pub. 12–6–60. Filed 5–5–60.

711,423. PHENIX AND TRIANGLE DESIGN. Phenix Manufacturing Company, Inc. SN 96,521. Pub. 12–6–60. Filed 5–6–60.

711,424. HUSH-A-DUCT. The Korfund Company, Inc. SN 100,790. Pub. 12–6–60. Filed 7–13–60.

711,425. NOISEGUARD. The Korfund Company, Inc. SN 100,791. Pub. 12–6–60. Filed 7–13–60.

711,426. HOUDAILLE-SPAN. Houdaille-Span, Inc., assignee of Buffalo Crushed Stone Corporation. SN 100,974. Pub. 12-6-60. Filed 7-18-60.

711,427. CZ AND DESIGN. Crown Zellerbach Corporation. SN 100,978. Pub. 12-6-60. Filed 7-18-60.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

711,428. DRAPEMAKER. The Stanley Works. SN 71,624. Pub. 12-6-60. Filed 4-15-59.

711,429. CL COUPLING AND DESIGN. Marine Moisture Control Company, Inc. SN 76,300. Pub. 12-6-60. Filed 6-18-59.

711,430. MESURFLO. Hays Manufacturing Company. SN 90,335. Pub. 8-16-60. Filed 2-4-60.

711,431. T AND DESIGN. Titeflex, Inc. SN 100,192. Pub. 12-6-60. Filed 7-1-60.

Class 15—Oils and Greases

711,432. PIN-EZ. Varney E. Boyd, d.b.a. Planet Products. SN 47,919. Pub. 10-28-58. Filed 3-18-58.

711,433. BLANK SHIELD DESIGN. Phillips Petroleum Company. SN 99,358. Pub. 12-6-60. Filed 6-20-60.

Class 16—Protective and Decorative Coatings

711,434. EPOXYCON. L. D. McLean, d.b.a. The McLean Company. SN 72,742. Pub. 12-6-60. Filed 5-1-59.

711,435. MOORLASTIC. Benjamin Moore & Co. SN 97,950. Pub. 12-6-60. Filed 5-26-60.

Class 18—Medicines and Pharmaceutical Preparations

711,436. CONVALLAN. Goedecke & Co. Chemische Fabrik A.G. SN 70,360. Pub. 12-6-60. Filed 3-27-59.

711,437. SUNACIN. Bristol-Myers Company. SN 85,714. Pub. 10-18-60. Filed 11-20-59.

711,438. NARDELZINE. Warner-Lambert Pharmaceutical Company. SN 89,222. Pub. 12-6-60. Filed 1-18-60.

711,439. AVINAR. Armour and Company. SN 90,473. Pub. 12-6-60. Filed 2-8-60.

711,440. PRELU-VITE. C. H. Boehringer Sohn, assignee of Geigy Chemical Corporation. SN 95,891. Pub. 12-6-60. Filed 4-27-60.

711,441. RESISTRON. H. H. Ward & Co., Inc. SN 98,954. Pub. 12-6-60. Filed 6-13-60.

711,442. TEL-I-VIS AND DESIGN. Wilco Laboratories, Inc. SN 99,388. Pub. 12-6-60. Filed 6-20-60.

711,443. RHEOMACRODEX. Pharmacia Laboratories, Inc. SN 99,650. Pub. 12-6-60. Filed 6-24-60.

711,444. CHRONOTABS. White Laboratories, Inc. SN 99,982. Pub. 12-6-60. Filed 6-29-60.

711,445. PERITHIAZIDE. Warner-Lambert Pharmaceutical Company. SN 100,197. Pub. 12-6-60. Filed 7-1-60.

711,446. DA-LE-VITES. United Whelan Corporation. SN 100,402. Pub. 12-6-60. Filed 7-6-60.

711,447. SONAMBUL. United Whelan Corporation. SN 100,403. Pub. 12-6-60. Filed 7-6-60.

711,448. CLEOCIN. The Upjohn Company. SN 102,073. Pub. 12-6-60. Filed 8-4-60.

711,449. PILOFRIN. Allergan Pharmaceuticals. SN 102,159. Pub. 12-6-60. Filed 8-8-60.

711,450. HYDRODIURIL-KA. Merck & Co., Inc. SN 102,330. Pub. 12-6-60. Filed 8-9-60.

711,451. 'ACTIFED-C'. Burroughs Wellcome & Co. (U.S.A.) Inc. SN 102,542. Pub. 12-6-60. Filed 8-12-60.

711,452. NUTRI-MATIC. National Remedy Products Company, Inc. SN 102,575. Pub. 12-6-60. Filed 8-12-60.

711,453. S-B-S. Parke, Davis & Company. SN 102,690. Pub. 12-6-60. Filed 8-15-60.

711,454. PALEROL. Sandoz, Inc. SN 102,698. Pub. 12-6-60. Filed 8-15-60.

711,455. SPORT-AMINS AND DESIGN. Sportsmen's Vitamin Corporation. SN 102,799. Pub. 12-6-60. Filed 8-16-60.

711,456. QUINOCICLINA. Bristol-Myers Company. SN 103,648. Pub. 12-6-60. Filed 8-30-60.

711,457. DIREXIN. American Home Products Corporation, d.b.a. Whitehall Laboratories. SN 103,828. Pub. 12-6-60. Filed 9-2-60.

711,458. G.B.-PREP. Gray Pharmaceutical Co., Inc. SN 103,851. Pub. 12-6-60. Filed 9-2-60.

711,459. ORTOXATE. The Upjohn Company. SN 103,995. Pub. 12-6-60. Filed 9-6-60.

Class 19—Vehicles

711,460. SAGINAW. Saginaw Products Corporation. SN 76,267. Pub. 6-28-60. Filed 6-22-59.

711,461. UNITED. The Echlin Manufacturing Company, d.b.a. United Parts Division. SN 89,425. Pub. 12-6-60. Filed 1-21-60.

711,462. TIARA. Toyota Motor Sales, U.S.A., Inc. SN 96,767. Pub. 12-6-60. Filed 5-9-60.

711,463. WABCOPAC. Westinghouse Air Brake Company. SN 99,471. Pub. 12-6-60. Filed 6-21-60.

711,464. PARAMOUNT. Vought Industries, Inc. SN 100,324. Pub. 12-6-60. Filed 7-5-60.

Class 21—Electrical Apparatus, Machines, and Supplies

711,388. CONSOLIDATED CERTIFICATE. See Class 1.

711,465. WEED-O-MATIC. Protectall Industries, Inc. SN 42,054. Pub. 12-16-58. Filed 12-9-57.

711,466. HOFFMAN. Hoffman Engineering Corporation. SN 54,525. Pub. 7-21-59. Filed 6-30-58.

711,467. FINE ART LAMPS LTD. AND DESIGN. Fine Art Lamps Limited. SN 70,648. Pub. 12-6-60. Filed 4-1-59.

711,468. PYROFORM. John A. Huston Company Limited. SN 84,427. Pub. 12-6-60. Filed 11-2-59.

711,469. XL. I-T-E Circuit Breaker Company. SN 85,344. Pub. 8-9-60. Filed 11-16-59.

711,470. CHEYENNE. Daystrom, Incorporated. SN 88,145. Pub. 5-10-60. Filed 12-29-59.

711,471. SENECA. Daystrom, Incorporated. SN 88,147. Pub. 5-10-60. Filed 12-29-59.

711,472. MOHAWK. Daystrom, Incorporated. SN 88,148. Pub. 5-10-60. Filed 12-29-59.

711,473. COMANCHE. Daystrom, Incorporated. SN 88,149. Pub. 5-10-60. Filed 12-29-59.

711,474. MPAC. Cutler-Hammer, Inc. SN 88,650. Pub. 7-26-60. Filed 1-8-60.

711,475. PROTECT-O-LITE. Energy Kontrols, Inc. SN 89,148. Pub. 12-6-60. Filed 1-18-60.

711,476. "CLAREED." C. P. Clare & Company. SN 89,252. Pub. 12-6-60. Filed 1-19-60.

711,477. AT AND DESIGN. Airtec Inc. SN 89,826. Pub. 12-6-60. Filed 1-28-60.

711,478. POWERIGHT. Essex Wire Corporation. SN 90,042. Pub. 12-6-60. Filed 2-1-60.

711,479. MICRO-MOD. Amphenol-Borg Electronics Corporation. SN 99,034. Pub. 12–6–60. Filed 6–15–60.

711,480. S AND SINE WAVE SYMBOL. Shure Brothers, Incorporated. SN 99,096. Pub. 12–6–60. Filed 6–15–60.

711,481. S (SYMBOL). Shure Brothers, Incorporated. SN 99,097. Pub. 12–6–60. Filed 6–15–60.

711,482. AUTO SAV AND DESIGN. Auto Sav, Inc. SN 99,277. Pub. 12–6–60. Filed 6–20–60.

711,483. T AND DESIGN. Titeflex, Inc. SN 100,193. Pub. 12–6–60. Filed 7–1–60.

Class 22 — Games, Toys, and Sporting Goods

711,484. GLAD HAND-LE. Chartered Enterprises, d.b.a. Superior Sports Specialties. SN 91,590. Pub. 12–6–60. Filed 2–25–60.

711,485. REMCO AND DESIGN. Remco Industries, Inc. SN 91,844. Pub. 12–6–60. Filed 2–29–60.

711,486. WHEELZAFUN. Milton D. Youngren. SN 97,357. Pub. 12–6–60. Filed 5–17–60.

711,487. CRUSADE. Valley Development Company. SN 97,530. Pub. 12–6–60. Filed 5–19–60.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

711,488. POLYGRAPH BUBIMA LEIPZIG AND DESIGN. VEB Buchbindereimaschinenwerk Leipzig. SN 66,311. Pub. 12–6–60. Filed 1–22–59.

711,489. REDI-SPRAY. Gray Company, Inc. SN 72,037. Pub. 12–6–60. Filed 4–22–59.

711,490. MAJOR JET. The Deming Company. SN 76,374. Pub. 12–6–60. Filed 6–24–59.

711,491. LAUREL. Wurttembergische Metallwarenfabrik. SN 79,202. Pub. 9–6–60. Filed 8–7–59.

711,492. RAFFINATOR. Aktiebolaget Defibrator. SN 83,684. Pub. 12–6–60. Filed 10–21–59.

711,493. MADISON AND DESIGN. Trans-World Industries, Inc. SN 88,501. Pub. 12–6–60. Filed 1–5–60.

711,494. DORREAL. Dornbusch & Co. SN 88,886. Pub. 12–6–60. Filed 1–4–60.

711,495. HOTMASTER AND DESIGN. Peltzer & Ehlers Kommandit Gesellschaft. SN 96,355. Pub. 12–6–60. Filed 5–3–60.

711,496. UDS. National Automotive Wholesalers Association. SN 98,232. COLLECTIVE MARK. Pub. 12–6–60. Filed 6–1–60.

711,497. TYPIT. Mechanical Enterprises, Inc. SN 99,474. Pub. 12–6–60. Filed 6–20–60.

Class 25 — Locks and Safes

711,498. REPRESENTATION OF CHEVRONS AND DESIGN. Sargent & Company. SN 82,602. Pub. 12–6–60. Filed 10–2–59.

Class 26 — Measuring and Scientific Appliances

711,499. SCAT. Safe Flight Instrument Corporation. SN 84,804. Pub. 12–6–60. Filed 11–6–59.

711,500. RAYMASTER. The Radium Emanation Corporation. SN 85,245. Pub. 12–6–60. Filed 11–13–59.

711,501. GKI. General Kinetics Incorporated. SN 88,951. Pub. 12–6–60. Filed 1–8–60.

711,502. LA NOUVELLE VAGUE. Advance Pattern Co., Inc. SN 96,069. Pub. 10–11–60. Filed 4–29–60.

Class 27 — Horological Instruments

711,503. STC AND DESIGN. Standard Time Corporation. SN 95,650. Pub. 11–15–60. Filed 4–22–60.

Class 28 — Jewelry and Precious-Metal Ware

711,504. ARTS OF THE WORLD. Swank, Inc. SN 99,103. Pub. 12–6–60. Filed 6–15–60.

711,505. BEE DEL. Donald J. Lund. SN 99,343. Pub. 12–6–60. Filed 6–20–60.

711,506. FORUM. Speidel Corporation. SN 99,885. Pub. 12–6–60. Filed 6–28–60.

711,507. NEW MOON. Speidel Corporation. SN 99,890. Pub. 12–6–60. Filed 6–28–60.

711,508. TUBULAIRE. Speidel Corporation. SN 99,891. Pub. 12–6–60. Filed 6–28–60.

711,509. OYSTERBORN. H. S. Strygler & Co. SN 100,071. Pub. 12–6–60. Filed 6–30–60.

Class 29 — Brooms, Brushes, and Dusters

711,510. DESIGN OF RED TRIANGLE. American-Marietta Company. SN 86,553. Pub. 12–6–60. Filed 9–3–57.

Class 31 — Filters and Refrigerators

711,511. ROCKET. Permanent Filter Corporation. SN 54,960. Pub. 5–17–60. Filed 7–8–58.

Class 32 — Furniture and Upholstery

711,512. "WELL STACKED." Equipment Manufacturing, Inc. SN 54,028. Pub. 12–6–60. Filed 6–28–58.

711,513. DUO-EXECUTIVE. Duo-Bed Corporation. SN 70,451. Pub. 8–2–60. Filed 3–30–59.

711,514. ROCK-A-LOUNGE. Rose-Derry Company. SN 92,550. Pub. 6–28–60. Filed 3–10–60.

711,515. CARL FORSLUND. Carl Forslund, Inc. SN 96,206. Pub. 12–6–60. Filed 5–2–60.

711,516. CRAFT MASTER. Palmer-Paan Corporation. SN 96,250. Pub. 12–6–60. Filed 5–2–60.

711,517. MODERN CRAFT. Gabel Manufacturing Company. SN 96,589. Pub. 12–6–60. Filed 5–6–60.

Class 34 — Heating, Lighting, and Ventilating Apparatus

711,518. COLEMAN AND DESIGN. The Coleman Company, Inc. SN 87,479. Pub. 12–6–60. Filed 12–17–59.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

711,519. MAUREY SUPER WEDGE. Maurey Manufacturing Corporation. SN 84,440. Pub. 10–11–60. Filed 11–2–59.

Class 36 — Musical Instruments and Supplies

711,520. JANUS AND REPRESENTATION OF JANUS. Frank L. Kaltman, d.b.a. Frank L. Kaltman Enterprises. SN 64,183. Pub. 12–6–60. Filed 12–12–58.

711,521. KALART. The Kalart Company, Inc. SN 98,292. Pub. 12–6–60. Filed 6–2–60.

Class 37 — Paper and Stationery

711,522. MONEY MINDER AND DESIGN. Grace V. Hoppert. SN 77,212. Pub. 12–6–60. Filed 7–7–59.

711,523. WHITEFACE. J. & J. Rogers Company. SN 86,327. Pub. 12–6–60. Filed 11–30–59.

711,524. SNO-BRITE. Philip A. Wooster, d.b.a. Acorn Paper Company. SN 88,121. Pub. 10–18–60. Filed 12–28–59.

711,525. A. W. FABER-"CASTELL" ETC. AND DESIGN. A. W. Faber-Castell Pencil Co., Inc. SN 93,515. Pub. 12–6–60. Filed 3–23–60.

711,526. HIYIELD PRINTKOTE. West Virginia Pulp and Paper Company. SN 93,890. Pub. 12–6–60. Filed 3–28–60.

711,527. MAGIC-RUB. A. W. Faber-Castell Pencil Co., Inc. SN 94,155. Pub. 12–6–60. Filed 4–1–60.

711,528. PERICLES OPAQUE. Mohawk Paper Mills, Inc. SN 95,298. Pub. 12–6–60. Filed 4–18–60.

Class 38 — Prints and Publications

711,529. TIME CARDS AND DESIGN. Time Greeting Cards, Inc. SN 90,199. Pub. 12–6–60. Filed 2–2–60.

711,530. PREDICASTS. Economic Index and Surveys, Inc. SN 96,685. Pub. 12–6–60. Filed 5–9–60.

711,531. A VINTAGE BOOK. Vintage Books, Inc. SN 97,146. Pub. 12–6–60. Filed 5–13–60.

711,532. HOMEWARD SAILS. Norcross, Inc. SN 97,238. Pub. 12–6–60. Filed 5–16–60.

711,533. VOYAGER. North American Van Lines, Inc. SN 97,241. Pub. 12–6–60. Filed 5–16–60.

Class 39 — Clothing

711,534. BLUE INDIGO ALEUTIAN. Northwood Fur Farm, d.b.a. Northwood Mink Farms. SN 52,825. Pub. 12–6–60. Filed 6–3–58.

711,535. FLEX-LITE. Terry Footwear Corporation. SN 60,696. Pub. 3–22–60. Filed 10–15–58.

711,536. GOLD SHIELD. Feldan Brothers, Inc. SN 71,106. Pub. 12–6–60. Filed 4–8–59.

711,537. ROYAL GRENADIER. Rosecrest, Inc. SN 76,428. Pub. 12–6–60. Filed 6–24–59.

711,538. HAPPY HOME. Huntington Mfg. Co., Inc. SN 76,483. Pub. 12–6–60. Filed 6–25–59.

711,539. MR. THOM PRINCESS LACE. Melville Shoe Corporation. SN 79,346. Pub. 12–29–59. Filed 8–11–59.

711,540. KRAWLETTES. Kiddy Krawlers, Inc. SN 81,825. Pub. 12–6–60. Filed 9–22–59.

711,541. TV TOPPER. Norman Bennett. SN 82,629. Pub. 12–6–60. Filed 10–5–59.

711,542. ACTION ETC. AND DESIGN. The Enro Shirt Company, Inc. SN 84,216. Pub. 12–6–60. Filed 10–29–59.

711,543. JET CREW. Standard Garments, Inc. SN 86,690. Pub. 12–6–60. Filed 12–4–59.

711,544. LEE NYOCO. The H. D. Lee Company, Incorporated. SN 86,979. Pub. 12–6–60. Filed 12–9–59.

711,545. PILLOW WALKS. M. Beckerman & Sons, Inc., assignee of Flexline Shoe Company. SN 87,314. Pub. 12–6–60. Filed 12–14–59.

711,546. LUSTER-GLO AND DESIGN. Bulluck Hosiery, Inc. SN 87,632. Pub. 12–6–60. Filed 12–21–59.

711,547. TRADITION-AIRE. Friedman-Marks Clothing Co., Inc. SN 87,665. Pub. 12–6–60. Filed 12–21–59.

711,548. IMPERIAL. Ottenheimer & Company, Inc. SN 87,712. Pub. 12–6–60. Filed 12–21–59.

711,549. CUSHIONED SUPER LINER. Wilco Hosiery Mills, Inc. SN 87,756. Pub. 12–6–60. Filed 12–21–59.

711,550. YOUNG SPORTS FASHIONS AND DESIGN. Altshul, Stern & Co. Inc. SN 88,196. Pub. 12–6–60. Filed 12–30–59.

711,551. IN V ZIP (WITH FANCIFUL V). Esquire Sportswear Mfg. Co. SN 88,600. Pub. 12–6–60. Filed 1–7–60.

711,552. BAXTER. Wonder-Knit Corporation. SN 89,228. Pub. 12–6–60. Filed 1–18–60.

711,553. MARGIE LANE. Margie Lane, Inc. SN 90,074. Pub. 12–6–60. Filed 2–1–60.

711,554. JANE JAY. Blue Jeans Corporation. SN 90,816. Pub. 12–6–60. Filed 2–12–60.

711,555. ACTIVE WOMAN. Gladstone-Arcuni, Inc. SN 91,600. Pub. 12–6–60. Filed 2–25–60.

711,556. LADY FLO. Joseph P. Lamberts. SN 93,439. Pub. 12–6–60. Filed 3–22–60.

711,557. POTTER. Malone Knitting Company. SN 93,823. Pub. 12–6–60. Filed 3–28–60.

711,558. HONOR MAN. The Kaynee Company. SN 94,170. Pub. 12–6–60. Filed 4–1–60.

711,559. VELUSUEDE. Henry Pollak, Inc. SN 94,981. Pub. 12–6–60. Filed 4–13–60.

711,560. BERMA VEST-ON. Bud Berman Sportswear, Inc. SN 95,051. Pub. 12–6–60. Filed 4–14–60.

711,561. THE DAR-WIN. Joseph H. Cohen & Sons, Inc. SN 95,563. Pub. 12–6–60. Filed 4–22–60.

711,562. GOOD-I-KIN. South Jersey Sportswear Corp. SN 95,777. Pub. 12–6–60. Filed 4–25–60.

711,563. QUICK-DRAW AND DESIGN. Fernand Delbert, d.b.a. Quinn & Delbert Boot & Shoe Co. SN 95,884. Pub. 12–6–60. Filed 4–27–60.

711,564. KNITTIN' PRETTY. Mr. Herbert Headwear, Inc. SN 96,023. Pub. 12–6–60. Filed 4–28–60.

711,565. FREE-LINE. The Warner Brothers Company. SN 96,773. Pub. 12–6–60. Filed 5–9–60.

711,566. NIGHTGOON. Gloria H. Clark. SN 96,829. Pub. 12–6–60. Filed 5–11–60.

711,567. DOKES AND DESIGN. Joseph De Young, Inc. SN 96,948. Pub. 12–6–60. Filed 5–12–60.

711,568. OILMAC. Jomac, Inc. SN 96,963. Pub. 12–6–60. Filed 5–12–60.

711,569. ORBUTAN. Ortho-Vent Shoe Company, Inc. SN 97,089. Pub. 12–6–60. Filed 5–13–60.

711,570. HALF JOCKEY DESIGN. Coopers, Inc. SN 97,173. Pub. 12–6–60. Filed 5–16–60.

711,571. FLUFFIES. Great American Knitting Mills, Inc. SN 97,305. Pub. 12–6–60. Filed 5–17–60.

711,572. MITY-DIDY AND DESIGN. Mity-Didy Corporation. SN 97,321. Pub. 12–6–60. Filed 5–17–60.

711,573. PERSONALITY BILL. Joseph H. Cohen & Sons, Inc. SN 97,622. Pub. 12–6–60. Filed 5–23–60.

711,574. AMY JOY. The House of Perfection, Inc. SN 97,659. Pub. 12–6–60. Filed 5–23–60.

711,575. PAR AVION. Grossman Clothing Co. SN 97,840. Pub. 12–6–60. Filed 5–25–60.

711,576. MAGICURL. Poretz Brothers Inc. SN 97,867. Pub. 12–6–60. Filed 5–25–60.

711,577. SCHOOLOTTE. Reid & Reid Sportswear, Inc. SN 97,904. Pub. 12–6–60. Filed 5–25–60.

711,578. SHIRLOTTE. Reid & Reid Sportswear, Inc. SN 97,905. Pub. 12–6–60. Filed 5–25–60.

711,579. SUNLOTTE. Reid & Reid Sportswear, Inc. SN 97,906. Pub. 12–6–60. Filed 5–25–60.

711,580. FENWYN. Neiman-Marcus Company. SN 97,955. Pub. 12-6-60. Filed 5-26-60.

711,581. NORFOLK HOUSE. Byer-Rolnick Hat Corporation. SN 97,986. Pub. 12-6-60. Filed 5-27-60.

711,582. SOUTHERN COLONEL. Byer-Rolnick Hat Corporation. SN 97,987. Pub. 12-6-60. Filed 5-27-60.

711,583. CRESTVIEW. White Stag Manufacturing Co. SN 101,064. Pub. 12-6-60. Filed 7-18-60.

711,584. PAK-A-WAY JR. United States Rubber Company. SN 102,520. Pub. 12-6-60. Filed 8-11-60.

Class 40 — Fancy Goods, Furnishings, and Notions

711,585. CHELSEA AND DESIGN. Ernest Greenwood. SN 86,775. Pub. 12-6-60. Filed 12-7-59.

711,586. JEWELSNAP. The Patent Button Company. SN 86,990. Pub. 12-6-60. Filed 12-9-59.

711,587. THE MARTINAIRE. Don S. Martin, d.b.a. Martin & Company. SN 95,101. Pub. 12-6-60. Filed 4-14-60.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

711,588. GARNELENE. G. Garnett & Sons Limited. SN 57,782. Pub. 2-17-59. Filed 8-25-58.

711,589. ALATIA. Alamac Knitting Mills, Inc. SN 98,840. Pub. 12-6-60. Filed 6-13-60.

711,590. GLAD PLAID. Morgan-Jones, Inc. SN 99,644. Pub. 12-6-60. Filed 6-24-60.

711,591. TRI-LIGHT. Plastic Products, Inc. SN 100,927. Pub. 12-6-60. Filed 7-15-60.

711,592. FLEURS DE PARIS. I. Zendman, Inc. SN 101,143. Pub. 12-6-60. Filed 7-19-60.

Class 43 — Thread and Yarn

711,593. ADELAIDE SOFTEE. Adelaide Mills. SN 64,942. Pub. 12-6-60. Filed 12-29-58.

711,594. VYCRON. North American Rayon Corporation. SN 72,519. Pub. 12-6-60. Filed 4-29-59.

711,595. COLOR WELD. J. P. Stevens & Co., Inc. SN 88,948. Pub. 12-6-60. Filed 1-13-60.

711,596. SNIACRILE. Snia Viscosa Società Nazionale Industria Applicazioni Viscosa S.p.A. SN 89,811. Pub. 12-6-60. Filed 1-27-60.

711,597. KIRKLON. Kirklees Limited. SN 100,912. Pub. 12-6-60. Filed 7-15-60.

711,598. LOFTURA. Eastman Kodak Company. SN 100,983. Pub. 12-6-60. Filed 7-18-60.

Class 46 — Foods and Ingredients of Foods

711,599. HAYFERS. Carnation Company. SN 73,658. Pub. 12-6-60. Filed 5-14-59.

711,600. ROCKLAND. Harry G. Herrlein, d.b.a. Rockland Farms. SN 74,579. Pub. 12-6-60. Filed 5-27-59.

711,601. W. Ward Baking Company. SN 75,954. Pub. 12-6-60. Filed 6-17-59.

711,602. THEM. Circle M Foods, Inc., assignee of Red Dot Foods, Inc. SN 76,511. Pub. 12-6-60. Filed 6-25-59.

711,603. MISSION. Golden Grain Macaroni Co., d.b.a. Mission Macaroni Company. SN 78,781. Pub. 12-6-60. Filed 7-31-59.

711,604. LONE PINE. The Fort Lupton Canning Company. SN 87,051. Pub. 12-6-60. Filed 12-10-59.

711,605. SAUCY SUSAN. Saucy Sue Products, Inc. SN 87,142. Pub. 12-6-60. Filed 12-11-59.

711,606. RED STAR. Red Star Yeast and Products Company. SN 87,719. Pub. 12-6-60. Filed 12-21-59.

711,607. BREAKFAST TREAT. D. E. Winebrenner Company, Inc. SN 90,208. Pub. 12-6-60. Filed 2-2-60.

711,608. BT. D. E. Winebrenner Company, Inc. SN 90,209. Pub. 12-6-60. Filed 2-2-60.

711,609. MRS. M. V. FILBERT AND PORTRAIT. J. H. Filbert, Inc. SN 93,800. Pub. 12-6-60. Filed 3-21-60.

711,610. NU-DIET. Colfax Mineral Springs Company, Inc. SN 94,462. Pub. 12-6-60. Filed S.R. 4-6-60; Am. P.R. 10-17-60.

711,611. MIX-N-MATCH. Continental Nut Company. SN 94,465. Pub. 12-6-60. Filed 4-6-60.

711,612. ANDREWS AND DESIGN. Best Feeds & Farm Supplies Inc. SN 95,972. Pub. 12-6-60. Filed 4-28-60.

711,613. MRS. HENZ. Eastern States Farmers' Exchange, Incorporated. SN 95,989. Pub. 12-6-60. Filed 4-28-60.

711,614. MADEMOISELLE. The J. M. Smucker Company. SN 96,367. Pub. 12-6-60. Filed 5-3-60.

711,615. CHEFS-OWN. A.M.S. Packing Company. SN 97,745. Pub. 12-6-60. Filed 5-24-60.

711,616. HERITAGE. The Sugardale Provision Company. SN 98,034. Pub. 12-6-60. Filed 5-27-60.

711,617. ROBINSON'S. Robinson Syrup Company, Inc. SN 98,239. Pub. 12-6-60. Filed 6-1-60.

711,618. LA REGINA AND DESIGN. A. Accardi Co. SN 98,415. Pub. 12-6-60. Filed 6-6-60.

711,619. REPRESENTATION OF A GIRL'S HEAD. The Cracker Jack Co. SN 99,049. Pub. 12-6-60. Filed 6-15-60.

711,620. GLADBROOK. Gladbrook Pickles, Inc. SN 99,622. Pub. 12-6-60. Filed 6-24-60.

711,621. HAP-P-NUT. Fine Brands Corp. SN 99,733. Pub. 12-6-60. Filed 6-27-60.

711,622. CHIQUITA. United Fruit Company. SN 100,555. Pub. 12-6-60. Filed 7-8-60.

Class 47 — Wines

711,623. C AND DESIGN. Klosterbrennerei A.G. Erste Badische Wein- und Edelbranntweinbrennerei. SN 93,524. Pub. 12-6-60. Filed 3-23-60.

711,624. SILVER CROSS. Societa per Azioni Chianti Ruffino Esportazione Vinicola Toscana. SN 93,872. Pub. 12-6-60. Filed 3-28-60.

711,625. GOLD CROSS. Societa per Azioni Chianti Ruffino Esportazione Vinicola Toscana. SN 93,874. Pub. 12-6-60. Filed 3-28-60.

711,626. FEUERHEERD'S. Feuerheerd Bros. & Companhia Limitada. SN 95,993. Pub. 12-6-60. Filed 4-28-60.

Class 49 — Distilled Alcoholic Liquors

711,627. ANCIENT MEMORIES. H. C. Macpherson, d.b.a. Macpherson & Company and A. & B. Mackay & Company. SN 87,692. Pub. 12-6-60. Filed 2-13-59.

711,628. ROYAL GARTER. H. C. Macpherson, d.b.a. Macpherson & Company. SN 90,537. Pub. 12-6-60. Filed 2-8-60.

711,629. HIGHLAND COMMAND. J. & W. Nicholson & Co. Limited. SN 92,390. Pub. 12-6-60. Filed 3-8-60.

711,630. JOSE CUERVO. Tequila Cuervo, S.A. SN 94,209. Pub. 12-6-60. Filed 4-1-60.

711,631. P AND DESIGN. John Power & Son Limited. SN 95,389. Pub. 12-6-60. Filed 4-19-60.

Class 50—Merchandise Not Otherwise Classified

711,632. CLAMP-O-FRAME. The Hopp Press, Inc. SN 97,057. Pub. 12–6–60. Filed 5–13–60.

711,633. SNO-GLO. Joseph Scioscia, d.b.a. Gateway Aerosol Company. SN 97,417. Pub. 12–6–60. Filed 5–18–60.

711,634. WOOD-IMALS. Forrest L. Morrow. SN 97,509. Pub. 12–6–60. Filed 5–19–60.

Class 52—Detergents and Soaps

711,635. BRUSH BOY. Kyanize paints, Inc. SN 94,591. Pub. 12–6–60. Filed 4–7–60.

711,636. CASO. Mud Control Laboratories, Inc. SN 94,795. Pub. 12–6–60. Filed 4–11–60.

711,637. WISHY WASH. Piggly Wiggly Operators' Warehouse, Inc. SN 95,616. Pub. 12–6–60. Filed 4–22–60.

711,638. LESTOCON. Lestoil Products, Inc., assignee of Adell Chemical Co. SN 95,667. Pub. 11–1–60. Filed 4–25–60.

Service Marks

Class 100—Miscellaneous

711,639. HOWARD JOHNSON'S. Howard D. Johnson Company. SN 51,799. Pub. 12–6–60. Filed 5–16–58.

711,640. HOST OF THE HIGHWAYS. Howard D. Johnson Company. SN 65,672. Pub. 12–6–60. Filed 1–12–59.

711,641. COMPASS AND AUTO DESIGN. William J. Rouke, d.b.a. Enco Engineering Company. SN 74,897. Pub. 12–6–60. Filed 6–1–59.

711,642. GKI. General Kinetics Incorporated. SN 88,950. Pub. 12–6–60. Filed 1–8–60.

Class 101—Advertising and Business

711,643. VPI. Video Pictures, Inc. SN 86,006. Pub. 12–6–60. Filed 11–24–59.

711,644. STAMPIE AND DESIGN. Family Discount Stamp Co. SN 95,262. Pub. 12–6–60. Filed 4–18–60.

Class 102—Insurance and Financial

711,645. THOUSANDAIRE CLUB. Mountain Trust Bank. SN 74,701. Pub. 12–6–60. Filed 5–12–59.

Class 103—Construction and Repair

711,646. SING. Sing Oil Company, Inc. SN 76,435. Pub. 12–6–60. Filed 6–24–59.

711,647. FC ETC. AND DESIGN. Fruin-Colnon Contracting Co. SN 87,052. Pub. 12–6–60. Filed 12–10–59.

Class 107—Education and Entertainment

711,648. COMPEX. Combined Philatelic Exhibition of Chicagoland, Inc. SN 78,001. Pub. 12–6–60. Filed 7–20–59.

Collective Membership Mark

Class 200

711,649. MEMBER OCEAN HIWAY ASSOCIATION AND DESIGN. Ocean Hiway Association. SN 73,423. Pub. 12–6–60. Filed 5–11–59.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

Class 12—Construction Materials

711,650. Unistrut Products Company, Chicago, Ill. SN 85,427. Filed P.R. 11–16–59; Am. S.R. 12–6–60.

MET-L-STRUT

For Flooring Systems.
First use Mar. 31, 1959.

711,651. Barry Wright Corporation, Watertown, Mass., by consolidation and change of name from Barry Controls Incorporated, Watertown, Mass. SN 89,496. Filed P.R. 1–22–60; Am. S.R. 12–23–60.

LO-Q

For Shelves, Mounting Bases for Stable Platforms Used in Ground-to-Air Missiles, Supports for Countermeasure Systems in Aircraft and Test Fixtures, and Plates, I-Beams, Channels, Angles and Other Construction Materials Made of Combinations of Metal and Viscoelastic Materials for Use in Making the Aforesaid Articles and Also for Use in Making Boxes, Ducts, Buildings, Rooms, Machinery Foundations, Airplane and Missile Structures and Chassis and Parts for Electrical and Electronic Equipment.
First use Dec. 4, 1959.

Class 15—Oils and Greases

711,652. Ethyl Corporation, New York, N.Y. SN 91,681. Filed P.R. 2–26–60; Am. S.R. 12–19–60.

MOTOR 33 MIX

For Antiknock Compounds for Motor Fuel.
First use at least Dec. 3, 1959.

Class 16—Protective and Decorative Coatings

711,653. East Coast Soap Corp., Brooklyn, N.Y. SN 87,482. Filed P.R. 12–17–59; Am. S.R. 10–14–60.

TOP-GLOSS

The term "Gloss" is disclaimed apart from the mark as shown.
For Liquid Floor Finish for Vinyl, Rubber, Asphalt and Composition Floors.
First use Sept. 15, 1959.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

711,654. The Osborn Manufacturing Company, Cleveland, Ohio. SN 71,412. Filed P.R. 4-13-59; Am. S.R. 12-22-60.

SCUF-GARD

For Power Driven Rotary Brushes.
First use Apr. 3, 1959.

711,655. Eagle Manufacturing Company, Wellsburg, W. Va. SN 88,167. Filed P.R. 10-13-59; Am. S.R. 12-19-60.

HANDI-GRIP

For Pump Actuated Oilers.
First use Oct. 1, 1959.

Class 29—Brooms, Brushes, and Dusters

711,656. Sigma Chemical Company, St. Louis, Mo. SN 70,746. Filed P.R. 4-2-59; Am. S.R. 12-27-60.

BUCK BUFFER

For Device Used for Restoring Whiteness to Shoes and Certain Fabrics, by Gently Applying a White Powder to the Soiled Spots and Then Rubbing the Same Spots and Brushing Away the Surplus Powder With a Suitable Brush.
First use Mar. 2, 1937.

Class 32—Furniture and Upholstery

711,657. Salmanson & Co., Inc., New York, N.Y. SN 101,577. Filed P.R. 7-27-60; Am. S.R. 12-8-60.

Alhambra

For Garden and Patio Furniture—Namely, Tables, Chairs, Loveseats, Settees, Chaises and Tea Carts, None of Which Are Upholstered.
First use Mar. 1, 1959.

711,658. Base Wholesale Furniture Co., Louisville, Ky. SN 105,488. Filed 9-30-60.

BASS

For Bedroom, Dining Room, Living Room, Office and Occasional Furniture and for Summer Furniture—Namely, Aluminum, Iron and Rattan Chairs and Tables.
First use Feb. 24, 1959.

Class 33—Glassware

711,659. Daum & Cie, Nancy, Meurthe-et-Moselle, France. SN 93,969. Filed P.R. 3-30-60; Am. S.R. 12-2-60.

Daum

Owner of French Reg. No. 438,025, dated Jan. 15, 1954 (Seine); Natl. Inst. No. 27,349.
For Glass and Crystal Vases and Cups; Glass and Crystal Decanters, Flasks and Bottles; Glass and Crystal Drinking Glasses, Knife-Rests, Salt-Cellars, Sugar-Basins, Pitchers, Butter-Dishes, Jam-Pots and Jam-Dishes; Glass and Crystal Ash-Trays and Paper-Weights.

Class 39—Clothing

711,660. Ballston Knitting Co., Inc., Ballston Spa, N.Y., by change of name from Ballston-Stillwater Knitting Co., Inc., Ballston Spa, N.Y. SN 44,249. Filed P.R. 1-20-58; Am. S.R. 3-16-60.

lasting wear in every pair

For Socks.
First use Dec. 4, 1957.

Class 44—Dental, Medical, and Surgical Appliances

711,661. Medical Plastics Inc., Jamaica, N.Y. SN 77,299. Filed P.R. 7-8-59; Am. S.R. 11-8-60.

RESCUE BREATHER

For Mouth to Mouth Resuscitator.
First use Apr. 2, 1959.

711,662. Paul I. Zandberg, Los Angeles, Calif. SN 91,487. Filed P.R. 2-23-60; Am. S.R. 12-7-60.

STAY-SHINE

For Dental Polishing Material.
First use Jan. 6, 1959.

711,663. Thonet Industries, Inc., New York, N.Y. SN 100,659. Filed 7-11-60.

LIFT RITE

For Hospital Beds.
First use June 30, 1959.

Class 45—Soft Drinks and Carbonated Waters

711,664. Bohemian Distributing Company, d.b.a. Calcutta Products Company, Los Angeles, Calif. SN 75,256. Filed P.R. 6-8-59; Am. S.R. 12-12-60.

CALCUTTA

For Quinine Water.
First use May 18, 1959.

Class 46 — Foods and Ingredients of Foods

711,665. The Berst Corporation, d.b.a. Appleton Cheese Co., Portage, Wis. SN 88,726. Filed P.R. 1-11-60; Am. S.R. 11-1-60.

BIG WHEEL

For Cheese.
First use Sept. 18, 1950.

Service Mark

Class 102 — Insurance and Financial

711,666. Chicago National Bank, Chicago, Ill. SN 80,059. Filed P.R. 8-24-59; Am. S.R. 6-23-60.

Line-ō-Credit

For Personal Loan Services.
First use June 17, 1959.

TRADEMARK REGISTRATIONS RENEWED

138,039. KELLOGG. Cl. 28. 12-14-20.
138,354. TIFFANY & CO. Cl. 15. 12-21-20.
138,355. TIFFANY. Cl. 15. 12-21-20.
138,356. TIFFANY. Cl. 36. 12-21-20.
138,516. LANASOL. Cl. 6. 12-28-20.
139,544. ERA. Cl. 14. 2-8-21.
140,588. DOW AND DESIGN. Cl. 6. 3-22-21.
141,882. CORONA AND DESIGN. Cl. 52. 5-3-21.
142,676. LARK. Cl. 17. 5-17-21.
142,958. WEARPLEDGE. Cl. 39. 5-24-21.
380,917. CONTOURE. Cl. 51. 9-10-40.
382,955. FIREFLY. Cl. 51. 11-19-40.
383,760. POLY-B. Cl. 18. 12-24-40.
383,761. VI-LITRON. Cl. 18. 12-24-40.
383,889. 1840. Cl. 51. 12-24-40.
384,010. 1840. Cl. 52. 12-31-40.
384,059. CINDERELLA TEEN-MISS. Cl. 39. 1-7-41.
384,062. SPIRO SEAL. Cl. 35. 1-7-41.
384,094. NAME STRIP DESIGN. Cl. 46. 1-7-41.
384,196. LEMO-NIZER. Cl. 45. 1-7-41.
384,267. UNICAP. Cl. 18. 1-7-41.
384,467. FRUITMASTER. Cl. 15. 1-21-41.
384,496. ROYAL DISH AND DESIGN. Cl. 46. 1-21-41.
384,841. STYLECRAFT. Cl. 3. 2-4-41.
385,381. CLARION. Cl. 37. 2-25-41.
385,469. ENDURO. Cl. 4. 3-4-41.
385,568. PARGO. Cl. 22. 3-11-41.
385,620. SWAN-SOFT. Cl. 39. 3-11-41.
385,834. TEXCEL. Cl. 5. 3-18-41.
385,885. LOWILA. Cl. 52. 3-18-41.
386,013. WASH-WITE. Cl. 6. 3-25-41.
386,490. STRONGHEART. Cl. 46. 4-15-41.
386,946. CONTOURE. Cl. 51. 4-29-41.
387,065. TACKLE TWILL. Cl. 42. 4-29-41.
387,080. ORTHO. Cl. 44. 4-29-41.
387,134. ACOUSTILITE. Cl. 12. 5-6-41.
387,383. TACKLE TWILL. Cl. 39. 5-13-41.
387,552. NEOTEX. Cl. 6. 5-20-41.
387,827. DE SOTO. Cl. 19. 6-3-41.
387,963. LIFE STRIDE. Cl. 39. 6-10-41.

TRADEMARK REGISTRATIONS CANCELED

Section 8

101,011. F AND DESIGN. Cl. 15. 11-8-14.
234,118. HONEY BEE. Cl. 46. 10-18-27.
315,201. BABY POLLY. Cl. 45. 7-24-34.
315,331. "SEA HAWK" AND DESIGN. Cl. 23. 7-24-34.
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Eckart, Charles G.
Hughes, Edward, L., Jr., Portland, Oreg. 600,501, canc. Cl. 107.
Humble Oil & Refining Co.: *See*—
Penola Inc.
Hume, G. W., Co., San Francisco, Calif. 234,113, canc. Cl. 46.
Huntington Mfg. Co., Inc., Chicago, Ill. 711,538, pub. 12–6–60. Cl. 39.
Huston, John A., Co. Ltd., Toronto, Ontario, Canada. 711,468, pub. 12–6–60. Cl. 21.
I-T-E Circuit Breaker Co., Philadelphia, Pa. 711,469, pub. 8–9–60. Cl. 21.
Imperial Chemical Industries Ltd., London, England. 711,411, pub. 12–6–60. Cl. 9.
Industrial Tape Corp., to Johnson & Johnson, New Brunswick, N.J. 385,884, ren. 2–21–61. Cl. 5.
Insulite Co., The, to Minnesota and Ontario Paper Co., Minneapolis, Minn. 387,134, ren. 2–21–61. Cl. 12.
Interelectronics Corp., New York, N.Y. 711,412, pub. 12–6–60. Cl. 9.
International Rectifier Corp., Los Angeles, Calif. 600,278, canc. Cl. 21.
Johns-Manville Corp., New York, N.Y. 711,419, pub. 12–6–60. Cl. 12.
Johnson, Howard D., Co., Wollaston, Mass. 711,630–40, pub. 12–6–60. Cl. 100.
Johnson & Johnson: *See*—
Industrial Tape Corp.
Jomac, Inc., Philadelphia, Pa. 711,503, pub. 12–6–60. Cl. 39.
Jones Bros. Roofing Co.: *See*—
Jones, Howard H.
Jones, Howard H., d.b.a. Jones Bros. Roofing Co., Montgomery, Ala. 600,251, canc. Cl. 12.
Kalart Co., Inc., The, Plainville, Conn. 711,521, pub. 12–6–60. Cl. 24.

Kaltman, Frank L., Enterprises: *See*—
Kaltman, Frank L.
Kaltman, Frank L., d.b.a. Frank L. Kaltman Enterprises, Newark, N.J. 711,520, pub. 12–6–60. Cl. 26.
Kaynee Co., The, Greenville, S.C. 711,558, pub. 12–6–60. Cl. 39.
Keller, H. V., Mfg. Co., Minneapolis, Minn. 600,511, canc. Cl. 12.
Kellogg Mfg. Co., Rochester, N.Y., to American Brake Shoe Co., New York, N.Y. 128,030, ren. 2–21–61. Cl. 23.
Kiddy Krawlers, Inc., New York, N.Y. 711,540, pub. 12–6–60. Cl. 39.
Kirklees Ltd., Tottington, near Bury, England. 711,597, pub. 12–6–60. Cl. 43.
Klee, Samuel H.: *See*—
Midwest Mfg. Co.
Klosterbrennerei A.G. Erste Badische Wein- und Edelbranntweinbrennerei, Emmendingen, Germany. 711,623, pub. 12–6–60. Cl. 47.
Knitting Co., Inc., by change of name from Ballston-Stillwater Knitting Inc., Ballston Spa, N.Y. 711,660. Cl. 39.
Koninklijke Nederlandsche Gist-en Spiritusfabriek N.V., d.b.a. Royal Netherlands Distilleries, Delft, Netherlands. 711,406, pub. 12–6–60. Cl. 6.
Korfund Co., Inc., The, Long Island City, N.Y. 711,424–5, pub. 12–6–60. Cl. 12.
Kotake Co., Ltd., Honolulu, Hawaii. 600,201, canc. Cl. 22.
Kraft Foods Co., Chicago, Ill. 600,358, canc. Cl. 38.
Kyanize Paints, Inc., Everett, Mass. 711,635, pub. 12–6–60. Cl. 52.
Lamberts, Joseph P., Kansas City, Mo. 711,556, pub. 12–6–60. Cl. 39.
Lane, Margie, Inc., New York, N.Y. 711,553, pub. 12–6–60. Cl. 39.
Lee, H. D., Co., Inc., The, Kansas City, Mo. 711,544, pub. 12–6–60. Cl. 39.
Lengsfield Brothers, Inc., New Orleans, La. 711,392, pub. 12–6–60. Cl. 2.
Les Parfums De Dana, Inc.: *See*—
Trotter, Hugh B.
Lestoil Products, Inc., from Adell Chemical Co., Holyoke, Mass. 711,399, pub. 10–25–60. Cl. 4.
Lestoil Products, Inc., from Adell Chemical Co., Holyoke, Mass. 711,638, pub. 11–1–60. Cl. 52.
Liggett & Myers Tobacco Co., New York, N.Y. 142,676, ren. 2–21–61. Cl. 17.
Lilly, Stuart C., London, Ohio. 600,510, canc. Cl. 12.
Loring, Murray, Williamsburg, Va. 583,238, canc. Cl. 46.
Lucky Stores, Inc.: *See*—
Markets, Inc.
Lund, Donald J., Bismarck, N. Dak. 711,505, pub. 12–6–60. Cl. 28.
Lutex Chemical Corp., Tyner, Tenn. 711,404, pub. 7–26–60. Cl. 6.
MacDougald Construction Co., d.b.a. Georgia Lightweight Construction Co., Atlanta, Ga. 711,414, pub. 12–6–60. Cl. 12.
Mackay, A. & B., & Co.: *See*—
MacPherson, H. C.
MacPherson & Co.: *See*—
MacPherson, H. C.
MacPherson, H. C., d.b.a. MacPherson & Co. and A. & B. Mackay & Co., San Francisco, Calif. 711,627, pub. 12–6–60. Cl. 49.
MacPherson, H. C., d.b.a. MacPherson & Co., San Francisco, Calif. 711,628, pub. 12–6–60. Cl. 49.
Maine Potato Growers, Inc., Fort Fairfield, Maine. 317,199, canc. Cl. 46.
Malone Knitting Co., Springfield, Mass. 711,557, pub. 12–6–60. Cl. 39.
Marine Moisture Control Co., Inc., Inwood, N.Y. 711,429, pub. 12–6–60. Cl. 13.
Market Forge Co., Everett, Mass. 600,517, canc. Cl. 19.
Markets, Inc., Oakland, Calif., to Lucky Stores, Inc., San Leandro, Calif. 386,013, ren. 2–21–61. Cl. 6.
Martin & Co.: *See*—
Martin, Don S.
Martin, Don S., d.b.a. Martin & Co., Fort Worth, Tex. 711,587, pub. 12–6–60. Cl. 40.
Maurey Mfg. Corp., Chicago, Ill. 711,519, pub. 10–11–60. Cl. 35.
McDevitt, James E., New York, N.Y. 600,302, canc. Cl. 22.
McLean Co., The: *See*—
McLean, L. D.
McLean, L. D., d.b.a. The McLean Co., South Pasadena, Calif. 711,484, pub. 12–6–60. Cl. 16.
Mechanical Enterprises, Inc., Arlington, Va. 711,497, pub. 12–6–60. Cl. 23.
Medical Plastics Inc., Jamaica, N.Y. 711,661. Cl. 44.
Meltonian Wren Ltd., London, England. 711,400, pub. 12–6–60. Cl. 4.
Melville Shoe Corp., New York, N.Y. 711,589, pub. 12–20–60. Cl. 39.
Merck & Co., Inc., Rahway, N.J. 711,450, pub. 12–6–60. Cl. 18.
Midwest Mfg. Co., to Samuel H. Klee, d.b.a. Midwest Mfg. Co., Detroit, Mich. 385,469, ren. 2–21–61. Cl. 4.
Millus Shoe Co., to Brown Shoe Co., Inc., St. Louis, Mo. 387,963, ren. 2–21–61. Cl. 39.
Minnesota and Ontario Paper Co.: *See*—
Insulite Co., The.
Mity-Didy Corp., Studio City, Calif. 711,572, pub. 12–6–60. Cl. 39.
Mobac Laboratories, Inc., Lansdowne, Pa. 711,406, pub. 12–6–60. Cl. 6.
Modern Lighting & Mfg. Co., Des Moines, Iowa. 600,520, canc. Cl. 21.
Mohawk Paper Mills, Inc., Cohoes, N.Y. 711,528, pub. 12–6–60. Cl. 37.
Moore, Benjamin, & Co., New York, N.Y. 711,435, pub. 12–6–60. Cl. 16.
Moore, P. O., Inc., New York, N.Y. 600,477, canc. Cl. 50.
Morgan-Jones, Inc., New York, N.Y. 711,560, pub. 12–6–60. Cl. 42.
Morrow, Forrest L., Elgin, Ill. 711,634, pub. 12–6–60. Cl. 50.
Mountain Trust Bank, Roanoke, Va. 711,645, pub. 12–6–60. Cl. 102.
Mud Control Laboratories, Inc., Oklahoma City, Okla. 711,636, pub. 12–6–60. Cl. 52.
Murray, Arthur, Enterprises, Inc., New York, N.Y. 600,305, canc. Cl. 22.
Nagel, Margie M., New York, N.Y. 600,555, canc. Cl. 50.
National Automotive Wholesalers Association, Atlanta, Ga. 711 496, pub. 12–6–60. Cl. 23.
National Biscuit Co., New York, N.Y. 384,094, ren. 2–21–61. Cl. 46.
National Remedy Products Co., Inc., Springfield, Mo. 711,452, pub. 12–6–60. Cl. 18.
Neiman-Marcus Co., Dallas, Tex. 711,580, pub. 12–6–60. Cl. 39.
New Jersey Machine Corp., Hoboken, N.J. 583,251, canc. Cl. 23.
Nicholson, H. R., Co., The, Baltimore, Md. 384,198, ren. 2–21–61. Cl. 45.
Nicholson, J. & W., & Co. Ltd., London, England. 711,629, pub. 12–6–60. Cl. 49.
Norcross, Inc., New York, N.Y. 711,582, pub. 12–6–60. Cl. 38.
North American Aviation, Inc., Los Angeles, Calif. 711,415, pub. 12–6–60. Cl. 12.
North American Rayon Corp., New York, N.Y. 711,287, pub. 12–6–60. Cl. 1.
North American Rayon Corp., New York, N.Y. 711,594, pub. 12–6–60. Cl. 43.
North American Van Lines, Inc., Wayne, Ind. 711,533, pub. 12–6–60. Cl. 36.
North Star Woolen Mill Co., Lima, Ohio. 600,410, canc. Cl. 42.
Northwood Fur Farm, d.b.a. Northwood Mink Farms, Cary, Ill. 711,534, pub. 12–6–60. Cl. 39.
Northwood Mink Farms: *See*—
Northwood Fur Farm.
Nott Mfg. Co.: *See*—
Harkins, Robert H.
Nott Mfg. Co., Inc.: *See*—
Harkins, Robert H.
Oakley, Annie, Enterprises, Inc., Los Angeles, Calif. 600,306, canc. Cl. 22.
Oakley, Annie, Enterprises, Inc., Los Angeles, Calif. 600,484, canc. Cl. 51.
Ocean Hiway Association, Wilmington, Del. 711,649, pub. 12–6–60. Cl. 200.
O'Connell Controls, Oak Park, Ill. 600,320, canc. Cl. 23.
Ortho Pharmaceutical Corp.: *See*—
Ortho Products, Inc.
Ortho Products, Inc., Linden, to Ortho Pharmaceutical Corp., Raritan, N.J. 357,060, ren. 2–21–61. Cl. 44.
Ortho-vent Shoe Co., Inc., Salem, Va. 711,569, pub. 12–6–60. Cl. 39.
Osborn Mfg. Co., The, Cleveland, Ohio. 711,654. Cl. 23.
Ottenheimer & Co., Inc., Chicago, Ill. 711,548, pub. 12–6–60. Cl. 39.
Palmer-Paan Corp., Toledo, Ohio. 711,516, pub. 12–6–60. Cl. 32.
Parke, Davis & Co., Detroit, Mich. 711,453, pub. 12–6–60. Cl. 18.
Patco Mfg. Co.: *See*—
Thompson, Paul J.
Patent Button Co., The, Waterbury, Conn. 711,596, pub. 12–6–60. Cl. 40.
Paul Industries Corp., New York, N.Y. 600,408, canc. Cl. 39.
Pease Woodwork Co., Inc., Cincinnati, Ohio. 594,419, canc. Cl. 12.
Peltzer & Ehlers Kommandit Gesellschaft, Krefeld, Germany. 711,495, pub. 12–6–60. Cl. 23.
Penola Inc., Pittsburgh, Pa., to Humble Oil & Refining Co., Houston, Tex. 384,467, ren. 2–21–61. Cl. 15.
Perf, Inc.: *See*—
Perfume Gems, Inc.
Perfume Gems, Inc., to Perf, Inc., New York, N.Y. 600,479, canc. Cl. 51.
Permanent Filter Corp., Los Angeles, Calif. 711,511, pub. 5–17–60. Cl. 31.
Pet Dieticians, The: *See*—
Thompson, John B.
Pharmacia Laboratories, Inc., New York, N.Y. 711,442, pub. 12–6–60. Cl. 18.
Phelan, L. A. M., Rockton, Ill. 600,441, canc. Cl. 46.
Phenix Mfg. Co., Inc., Milwaukee, Wis. 711,422, pub. 12–6–60. Cl. 12.
Phillips Petroleum Co., Bartlesville, Okla. 711,423, pub. 12–6–60. Cl. 15.
Piggly Wiggly Operators' Warehouse, Inc., Shreveport, La. 711,637, pub. 12–6–60. Cl. 52.
Planet Products: *See*—
Boyd, Varney E.
Plastic Products, Inc., Richmond, Va. 711,391, pub. 12–6–60. Cl. 42.
Plymouth Cordage Co., Plymouth, Mass. 711,410, pub. 12–6–60. Cl. 7.
Pollak, Henry, Inc., New York, N.Y. 711,550, pub. 12–6–60. Cl. 39.
Poretz Brothers Inc., New York, N.Y. 711,576, pub. 12–6–60. Cl. 39.
Potts, Horace T., Co., to Horace T. Potts Co., Philadelphia, Pa. 600,513, canc. Cl. 12.
Power, John, & Son Ltd., Dublin, Ireland. 711,631, pub. 12–6–60. Cl. 49.
Price-Pfister Brass Mfg. Co., Los Angeles, Calif. 600,259, canc. Cl. 13.

Protectall Industries, Inc., Batavia, Ill. 711,465, pub. 12–16–60. Cl. 21.
Purex Corp. Ltd.: *See*—
Burke, Frank G.
Queen Ribbon & Carbon Dist. Corp., New York, N.Y. 600,399, canc. Cl. 37.
Quinn & Delbert Boot & Shoe Co.: *See*—
Delbert, Fernand.
Radium Emanation Corp., The, New York, N.Y. 711,500, pub. 12–6–60. Cl. 26.
Ramsey Accessories Mfg. Corp., to Ramsey Corp., St. Louis, Mo. 384,093, ren. 2–21–61. Cl. 35.
Ramsey Corp.: *See*—
Ramsey Accessories Mfg. Corp.
Red Dot Foods, Inc.: *See*—
Circle M Foods, Inc.
Red Star Yeast and Products Co., Milwaukee, Wis. 711,606, pub. 12–6–60. Cl. 46.
Reid & Reid Sportswear, Inc., Long Island City, N.Y. 711,577–9, pub. 12–6–60. Cl. 39.
Remco Industries, Inc., Newark, N.J. 711,485, pub. 12–6–60. Cl. 22.
Robbins Ethol Corp., Salt Lake City, Utah. 600,213, canc. Cl. 6.
Robinson Syrup Co., Inc., Cairo, Ga. 711,617, pub. 12–6–60. Cl. 46.
Robinson, Wm. C., & Son Co., Baltimore, Md., and Coraopolis, Pa. 101,011, canc. Cl. 15.
Rockland Farms: *See*—
Herrlein, Harry G.
Rogers, J. & J., Co., Ausable Forks, N.Y. 711,523, pub. 12–6–60. Cl. 37.
Rogers, Mary P., Hilo, Hawaii. 584,152, canc. Cl. 1.
Rosecrest, Inc., Boston, Mass. 711,587, pub. 12–6–60. Cl. 39.
Rose-Derry Co., Newton, Mass. 711,514, pub. 6–28–60. Cl. 32.
Rosenau Bros., Inc., to Rosenau Brothers, Inc., Philadelphia, Pa. 384,059, ren. 2–21–61. Cl. 39.
Rosenau Brothers, Inc.: *See*—
Rosenau Bros., Inc.
Rouke, William J., d.b.a. Enco Engineering Co., Detroit, Mich. 711,641, pub. 12–6–60. Cl. 100.
Royal Netherlands Distilleries: *See*—
Koninklijke Nederlandsche Gist-en Spiritusfabriek N.V.
Safe Flight Instrument Corp., White Plains, N.Y. 711,499, pub. 12–6–60. Cl. 26.
Saginaw Products Corp., Saginaw, Mich. 711,460, pub. 6–28–60. Cl. 19.
St. Clair Rubber Co., Detroit, Mich. 711,401, pub. 12–6–60. Cl. 6.
Salmanson & Co., Inc., New York, N.Y. 711,657. Cl. 32.
Sandoz, Inc., Hanover, N.J. 711,454, pub. 12–6–60. Cl. 18.
Sargent & Co., New Haven, Conn. 711,498, pub. 12–6–60. Cl. 25.
Saucy Sue Products, Inc., Yonkers, N.Y. 711,605, pub. 12–6–60. Cl. 46.
Schecter, Herman J., d.b.a. Sommers Plastic Products Co., New York, N.Y. 711,391, pub. 11–29–60. Cl. 1.
Sciascia, Joseph, d.b.a. Gateway Aerosol Co., Pittsburgh, Pa. 711,633, pub. 12–6–60. Cl. 50.
Seal Rite Caulking Co., Inc., Detroit, Mich. 600,249, canc. Cl. 12.
Selectile Co., Inc., Los Angeles, Calif. 711,413, pub. 10–7–58. Cl. 12.
Sholb, Morris, Roxbury, Mass. 600,500, canc. Cl. 107.
Shure Brothers, Inc., Evanston, Ill. 711,480–1, pub. 12–6–60. Cl. 21.
Sigma Chemical Co., St. Louis Mo. 711,656. Cl. 29.
Simonis Co., Chicago, Ill. 600,217, canc. Cl. 6.
Sing Oil Co., Inc., Pelham, Ga. 711,646, pub. 12–6–60. Cl. 103.
Siser, Richard, Ltd., Kingston-Upon-Hull, England. 318,722, canc. Cl. 23.
Skinner, William, & Sons, New York, N.Y. 387,065, ren. 2–21–61. Cl. 42.
Skinner, William, & Sons, New York, N.Y. 387,383, ren. 2–21–61. Cl. 39.
Skyway Luggage Co., Seattle, Wash. 711,397, pub. 12–6–60. Cl. 3.
Smith, E. J., Co.: *See*—
Smith, Earl J.
Smith, E. J., & Sons Co.: *See*—
Smith, Earl J.
Smith, Earl J., d.b.a. E. J. Smith Co., to E. J. Smith & Sons Co., Charlotte, N.C. 385,568, ren. 2–21–61. Cl. 22.
Smucker, J. M., Co., The, Orrville, Ohio. 711,614, pub. 12–6–60. Cl. 46.
Snia Viscosa Societa Nazionale Industria Applicazioni Viscosa S.p.A., Milan, Italy. 711,596, pub. 12–6–60. Cl. 43.
Societa per Azioni Chianti Ruffino Esportazione Vinicola Toscana, Brescia, Italy. 711,624–5, pub. 12–6–60. Cl. 47.
Society of Chemical Industry in Basle, to Ciba Ltd., Basle, Switzerland. 138,516, ren. 2–21–61. Cl. 6.
Sommers Plastic Products Co.: *See*—
Schecter, Herman J.
South Jersey Sportswear Corp., New York, N.Y. 711,562, pub. 12–6–60. Cl. 39.
Southern Biscuit Co.: *See*—
Weston Biscuit Co. Inc.
Speidel Corp., Providence, R.I. 711,506–8, pub. 12–6–60. Cl. 28.
Spencer Chemical Co., Kansas City, Mo. 600,220, canc. Cl. 6.
Sportsmen's Vitamin Corp., Sacramento, Calif. 711,455, pub. 12–6–60. Cl. 18.
Standard Garments, Inc., Baltimore, Md. 711,543, pub. 12–6–60. Cl. 39.
Standard Time Corp., St. Thomas, V.I. 711,503, pub. 11–15–60. Cl. 27.
Stanley Works, The, New Britain, Conn. 711,428, pub. 12–6–60. Cl. 13.
Stevens, J. P., & Co., Inc., New York, N.Y. 711,595, pub. 12–6–60. Cl. 43.
Strygler, H. S., & Co., New York, N.Y. 711,509, pub. 12–6–60. Cl. 28.
Sugardale Provision Co., The, Canton, Ohio. 711,616, pub. 12–6–60. Cl. 46.
Superior Sports Specialties: *See*—
Chartered Enterprises.
Swan-Finch Oil Corp., New York, N.Y. 600,206, canc. (Consolidated certificate, Classes 5, 6, 15, and 16.)
Swank, Inc., Attleboro, Mass. 711,504, pub. 12–6–60. Cl. 28.
Tequila Cuervo, S.A., Mexico City, Mexico. 711,620, pub. 12–6–60. Cl. 49.
Terry Footwear Corp., New York, N.Y. 711,535, pub. 3–22–60. Cl. 39.
Testworth Products Corp., Addison, Ill. 711,402, pub. 12–6–60. Cl. 6.
Thompkins, Stuart A., d.b.a. Bachelor Button Products, San Francisco, Calif. 600,344, canc. Cl. 28.
Thompson, John B., d.b.a. The Pet Dieticians, Baltimore, Md. 600,446, canc. Cl. 46.
Thompson, Paul J., d.b.a. Patee Mfg. Co., Philadelphia, Pa. 600,367, canc. Cl. 34.
Thonet Industries, Inc., New York, N.Y. 711,663. Cl. 44.
Tiffany & Co., New York, N.Y. 138,254–5, ren. 2–21–61. Cl. 15.
Tiffany & Co., New York, N.Y. 138,856, ren. 2–21–61. Cl. 36.
Time Greeting Cards, Inc., Ozone Park, N.Y. 711,529, pub. 12–6–60. Cl. 38.
Titeflex, Inc., Springfield, Mass. 711,431, pub. 12–6–60. Cl. 13.
Titeflex, Inc., Springfield, Mass. 711,483, pub. 12–6–60. Cl. 21.
Toyota Motor Sales, U.S.A., Inc., Los Angeles, Calif. 711,462, pub. 12–6–60. Cl. 19.
Trans-World Industries, Inc., Long Island, N.Y. 711,493, pub. 12–6–60. Cl. 23.
Trix Electrical Co. Ltd., The, London, England. 600,292, canc. Cl. 21.
Trotter, Hugh B., Evanston, Ill., to Les Parfums DeDana, Inc., New York, N.Y. 600,490, canc. Cl. 51.
Unger, Frank J., Cleveland, Ohio. 600,275, canc. Cl. 18.
Unistrut Products Co., Chicago, Ill. 711,650. Cl. 12.
United Fruit Co., Boston, Mass. 711,622, pub. 12–6–60. Cl. 46.
United Mills Corp., Mt. Gilead, N.C. 600,536, canc. Cl. 39.
U.S. Equipment Corp., Indianapolis, Ind. 600,208, canc. Cl. 5.
United States Rubber Co., New York, N.Y. 600,224, canc. Cl. 6.
United States Rubber Co., New York, N.Y. 711,534, pub. 12–6–60. Cl. 39.
U.S. Vitamin Corp., to U.S. Vitamin & Pharmaceutical Corp., New York, N.Y. 383,760–1, ren. 2–21–61. Cl. 18.
U.S. Vitamin & Pharmaceutical Corp.: *See*—
U.S. Vitamin Corp.
United Whelan Corp., Brooklyn, N.Y. 711,446–7, pub. 12–6–60. Cl. 18.
Universal Metal Roll Forming Co., Lynwood, Calif. 711,421, pub. 12–6–60. Cl. 12.
Upjohn Co., The, Kalamazoo, Mich. 711,448, pub. 12–6–60. Cl. 18.
Upjohn Co., The, Kalamazoo, Mich. 711,449, pub. 12–6–60. Cl. 18.
Upjohn Co., The, to The Upjohn Co., Kalamazoo, Mich. 384,267, ren. 2–21–61. Cl. 18.
Upressit Metal Cap Corp., Wilmington, Del. 581,816, canc. Cl. 50.
VEB Buchbindereimaschinenwerk Leipzig, Leipzig, Germany. 711,488, pub. 12–6–60. Cl. 28.
Vacuum Cleaner Bags Inc., Brooklyn, N.Y. 711,393–5, pub. 12–6–60. Cl. 2.
Valay Industries Ltd., London, England. 711,398, pub. 12–6–60. Cl. 4.
Valley Development Co., Minneapolis, Minn. 711,487, pub. 12–6–60. Cl. 22.
Van Camp Sea Food Co.: *See*—
West Coast Packing Corp.
Vereinigte Kugellagerfabriken Aktiengesellschaft, Schweinfurt, Germany. 600,312, canc. Cl. 28.
Video Pictures, Inc., New York, N.Y. 711,643, pub. 12–6–60. Cl. 101.
Vintage Books, Inc., New York, N.Y. 711,531, pub. 12–6–60. Cl. 38.
Vought Industries, Inc., Dallas, Tex. 711,464, pub. 12–6–60. Cl. 19.
Waldron, John, Corp., Highland Park, N.J. 600,328, canc. Cl. 23.
Wamsutta Mills, New Bedford, Mass. 600,544, canc. Cl. 42.
Ward Baking Co., New York, N.Y. 711,601, pub. 12–6–60. Cl. 46.
Ward, H. H., & Co., Inc., New York, N.Y. 711,441, pub. 12–6–60. Cl. 18.
Warner Brothers Co., The, Bridgeport, Conn. 711,585, pub. 12–6–60. Cl. 39.
Warner-Lambert Pharmaceutical Co., Morris Plains, N.J. 711,438, pub. 12–6–60. Cl. 18.
Warner-Lambert Pharmaceutical Co., Morris Plains, N.J. 711,445, pub. 12–6–60. Cl. 18.
Wegmann, Helen D., Ridgefield, N.J. 600,542, canc. Cl. 39.
West Coast Packing Corp., to Van Camp Sea Food Co., Long Beach, Calif. 384,498, ren. 2–21–61. Cl. 46.
West Virginia Pulp and Paper Co., New York, N.Y. 711,407, pub. 12–6–60. Cl. 6.
West Virginia Pulp and Paper Co., New York, N.Y. 711,526, pub. 12–6–60. Cl. 37.

Westerman Mfg. Co.: See—
Westerman, Max E.
Westerman, Max E., d.b.a. Westerman Mfg. Co., New York, N.Y. 600,351, canc. Cl. 28.
Westinghouse Air Brake Co., Wilmerding, Pa. 711,468, pub. 12–6–60. Cl. 19.
Weston Biscuit Co. Inc., d.b.a. Southern Biscuit Co., Passaic, N.J. 600,452, canc. Cl. 46.
Westwood Pharmacal Corp., to Foster-Milburn Co., Buffalo, N.Y. 385,885, ren. 2–21–61. Cl. 52.
White Laboratories, Inc., Kenilworth, N.J. 711,444, pub. 12–6–60. Cl. 18.
Whitehall Laboratories: See—
American Home Products Corp.
White Stag Mfg. Co., Portland, Oreg. 711,563, pub. 12–6–60. Cl. 39.
Wight, Frank L., Distilling Co., The, Loreley, Md. 317,930, canc. Cl. 49.
Wilco Hosiery Mills, Inc., Helen, Ga. 711,549, pub. 12–6–60. Cl. 39.
Wilco Laboratories, Inc., Chicago, Ill. 711,442, pub. 12–6–60. Cl. 18.
Williams, J. B., Co., Inc., The: See—
Williams, J. B., Co., The.
Williams, J. B., Co., The, Glastonbury, Conn., to The J. B. Williams Co., Inc., New York, N.Y. 383,889, ren. 2–21–61. Cl. 51.
Williams, J. B., Co., The, Glastonbury, Conn., to The J. B. Williams Co., New York, N.Y. 384,010, ren. 2–21–61. Cl. 52.
Winebrenner, D. E., Co., Inc., Hanover, Pa. 711,607–8, pub. 12–6–60. Cl. 46.
Wonder-Knit Corp., New York, N.Y. 711,552, pub. 12–6–60. Cl. 39.
Woodhead, Daniel, Co., Chicago, Ill. 600,331, canc. Cl. 22.
Wooster, Philip A., d.b.a. Acorn Paper Co., San Francisco, Calif. 711,524, pub. 10–18–60. Cl. 37.
Wright, Barry, Corp., by consolidation and change of name from Barry Controls Inc., Watertown, Mass. 711,651. Cl. 12.
Württembergische Metallwarenfabrik, Geislingen (Steige), Württemberg, Germany. 711,491, pub. 9–6–60. Cl. 23.
York-Shipley, Inc., York, Pa. 600,366, canc. Cl. 34.
Youngren, Milton D., Chicago, Ill. 711,486, pub. 12–6–60. Cl. 22.
Zandberg, Paul L., Los Angeles, Calif. 711,662. Cl. 44.
Zendman, L., Inc., New York, N.Y. 711,582, pub. 12–6–60. Cl. 42.
Zorbet Pharmacal Co., St. Joseph, Mo. 584,223, canc. Cl. 18.

U.S. GOVERNMENT PRINTING OFFICE: 0——1961

OFFICIAL GAZETTE • UNITED STATES PATENT OFFICE

February 28, 1961 Volume 763 Number 4

PATENTS

NOTICES

Foreign Patents Received in the Scientific Library as of January 31, 1961

Country	Date received	Highest number
Australia :		
(*Abstracts*)	Jan. 9, 1961	61,115
(*Patents*)	Jan. 10, 1961	228,866
Austria	Jan. 3, 1961	212,200
Belgium	Jan. 3, 1961	569,000
Canada	Jan. 23, 1961	612,956
Denmark	Dec. 1, 1960	89,180
Egypt	Nov. 16, 1960	1,872
Finland	Jan. 3, 1961	30,890
France :		
(*Patents*)	Jan. 18, 1961	1,238,600
(*Additions*)	Jan. 18, 1961	73,400
Germany :		
(*Auslegeschriften*)	Jan. 5, 1961	1,092,850
(*Patents*)	Jan. 5, 1961	1,080,936
Great Britain	Jan. 23, 1961	858,150
India	Nov. 1, 1960	66,101
Ireland	Nov. 16, 1960	22,450
Italy	Dec. 2, 1960	573,900
Japan	Jan. 6, 1961	17,750/60
Netherlands	Jan. 10, 1961	96,474
Norway	Jan. 19, 1961	97,152
Pakistan	Apr. 17, 1959	107,298
Poland	Jan. 23, 1961	44,004
Rumania	Oct. 10, 1960	41,277
Sweden	Jan. 10, 1961	173,347
Switzerland	Jan. 19, 1961	350,261
U.S.S.R.	Jan. 5, 1961	133,005

Australia : First 2,000 incomplete
Belgium : First printed 493,079/1960
Canada : First printed 445,931/1948
Czechoslovakia : Latest 81,300/1952
Finland : First printed 19,428/1941
First 500 incomplete
Hungary : First received 5,792/1896
Latest 140,582/1951
Ireland : Missing 1–10,000
Italy : First 243,000 incomplete
Philippine Republic : Latest 217/1956
Rumania : First received 40,380/1957
U.S.S.R. : Not received between 2,496/1928 and 116,000/1958
Yugoslavia : First received 10,001/1933
Latest 16,461/1941

Errata

All references to Patent No. 2,970,908 to Armin Ossenbrunner, Hermann Schnell, Helfried Klockgether, Julius Geiger and Joachim Freier, assignors to Agfa Aktiengesellschaft, for Photographic Material, appearing in the OFFICIAL GAZETTE of February 7, 1961, should be deleted as the application was withdrawn from issue and the patent was not issued.

All references to Patent No. 2,971,529 to Francis J. Eichelman, assignor to Chemetron Corporation, for Tamperproof Gas Outlet, appearing in the OFFICIAL GAZETTE of February 14, 1961, should be deleted as the application was withdrawn from issue and the patent was not issued.

Adverse Decisions in Interferences

In the designated interferences involving the indicated claims of the following patents final decisions have been rendered that the respective patentees were not the first inventors with respect to the claims listed.

Pat. 2,798,411, K. R. Coleman, Two member anamorphotic prism systems having their operative planes at right angles and axial deviation directions parallel, decided Jan. 12, 1961, Interference No. 89,703, claims 18, 19, 22 and 25.

Pat. 2,803,106, H. C. Lindemann et al., Spindle stop, decided Oct. 28, 1960, Interference No. 90,420, claims 2 and 8.

Pat. 2,820,909, R. L. Plouffe, Jr., Delay line pulse shaper, decided Nov. 16, 1960, Interference No. 89,876, claim 8.

Pat. 2,893,197, A. W. Vibber, Apparatus for and method of twisting and plying strands, decided Jan. 25, 1961, Interference No. 90,776, claim 1.

Erratum

In the OFFICIAL GAZETTE, issue of Dec. 27, 1960, vol. 761, p. 899, under the heading "Adverse Decisions in Interferences," lines 5 to 7 inclusive, strike out "Pat. 2,699,415, J. S. Nachtman, Method of producing refractory fiber laminate, decided Sept. 20, 1960, Interference No. 87,976, claim 19.", as this was inadvertently published and should be deleted.

Disclaimers

2,384,839.—*Merrill M. Kistner*, Chicago, Ill. STEAM-ELECTRIC PRESSING AND IRONING DEVICE. Patent dated Sept. 18, 1945. Disclaimer filed Jan. 25, 1961, by the assignee, *Steam Iron Corporation*; the inventor approving.

Hereby enters this disclaimer to claims 15 and 16 of said patent.

2,882,816.—*Donald W. Van Doorn* and *William C. Pease, III*, Columbus, Ga. CONTROL SYSTEM FOR BALING PRESSES AND ASSOCIATED APPARATUS. Patent dated Apr. 21, 1959. Disclaimer filed Jan. 13, 1961, by the assignee, *Lummus Cotton Gin Company*.

Hereby enters this disclaimer to claims 1 and 2 of said patent.

New Applications Received During December 1960

Patents	7,081
Designs	366
Plant Patents	9
Reissues	18
Total	7,474

Issue

Patents	773—	No. 2,972,746 to No.	2,973,518, incl.
Designs	29—	No. 189,808 to No.	189,836, incl.
Plant Patents	2—	No. 2,030 to No.	2,031, incl.
Reissues	5—	No. 24,940 to No.	24,944, incl.
Total	809		

Board of Appeals Decisions Rendered in the Month of January 1961

Examiner affirmed	154
Examiner affirmed in part	39
Examiner reversed	53
Total	246

Patents Available for Licensing or Sale

2,716,558. Article Carrying and Rolling Transport Device. Anna K. Sullivan, 2120 W. 12th St., Los Angeles 6, Calif.

2,965,945. Operating Device for Slide Fasteners. Radovan P. Lazich, 2735 Kray Way, Sacramento 17, Calif.

The following 2 patents are offered by: Thomas J. Finan, 5116 Harvard, Detroit 24, Mich.

2,668,009. Deflated Tire Warning Device.

2,679,435. Traction Device.

General Electric Company is prepared to grant non-exclusive licenses under the following 12 patents upon reasonable terms to domestic manufacturers.

Applications for license may be addressed to: General Electric Company, Flight Propulsion Division, Cincinnati 15, Ohio, Attention: Patent Counsel.

2,446,013. Combustion Chamber Drain Arrangement.

2,894,880. Fuel Composition.

2,913,872. Speed Limiting Arrangement for Turbine Rotors.

2,914,296. Overspeed Control for Fuel System Turbopump.

2,914,297. Rotor Construction.

2,915,281. Stator Vane Locking Key.

2,916,258. Vibration Damping.

2,916,806. Blade for Turbomachines.

2,924,407. Overspeed Protective Device.

2,924,424. Temperature Compensated Butterfly Valve.

2,931,375. Governor for Constant Speed Drives.

2,933,235. Variable Stator Compressor.

2,943,873. Compensated Seal.

CONDITION OF PATENT APPLICATIONS AS OF DECEMBER 31, 1960

Total number of pending applications (excluding Designs)	189,295
Total number of pending Design applications	5,684
Total number of applications awaiting action (excluding Designs)	86,501
Total number of Design applications awaiting action	1,457
Date of oldest new application	August 4, 1959
Date of oldest amended application	August 4, 1959

M. C. ROSA, Director, Patent Examining Operation

PATENT EXAMINING GROUPS AND SUPERVISORY EXAMINERS	DIVISIONS
(I) STONE, I. G., CHEMICAL AND RELATED ARTS	6, 31, 38, 43, 46, 50, 58, 59, 60, 63, 64.
(II) EVANS, N. H., COMMUNICATIONS, RADIANT ENERGY AND ELECTRICAL ARTS	16, 36, 37, 41, 42, 44, 48, 51, 54, 65.
(III) YUNG KWAI, B., MECHANICAL MANUFACTURING, MACHINE ELEMENTS AND DESIGNS	2, 12, 13, 14, 21, 28, 57, 58, 61, 81, 83.
(IV) SPINTMAN, S., MATERIAL HANDLING AND TREATING, OPTICS, RAILWAYS AND AMUSEMENT DEVICES.	7, 11, 17, 27, 34, 35, 39, 53, 62.
(V) HULL, J. S., STATIC STRUCTURES AND INSTRUMENTS OF PRECISION	5, 8, 20, 29,33, 36, 40, 52, 66.
(VI) MURPHY, T. F., AGRICULTURE, CALCULATORS, PUMPS AND MOTORS, TRANSPORTATION	1, 4, 9, 10, 19, 22, 23, 28, 45, 47.
(VII) KAUFFMAN, H. E., HEATING AND COOLING, PLASTIC SHAPING AND COATING, SEPARATION AND MIXING, BODY TREATMENT AND CARE.	3, 15, 18, 25, 30, 32, 49, 55, 67.
(CLASS.) GORECKI, G. A., ARTS UNDERGOING RECLASSIFICATION AS LISTED UNDER CLASSIFICATION DIVISIONS.	91, 92, 93, 94, 95.

DIVISIONS, EXAMINERS, AND SUBJECTS OF INVENTION (Roman numerals in parentheses indicate Examining Group)	Oldest Application	
	New	Amended
1. (VI) GOLDBERG, A. J., Brakes; Planting; Plant Husbandry; Scattering Unloaders; Earth Working	6-2-60	5-16-60
2. (III) STONE, A., Fishing, Trapping and Vermin Destroying; Presses; Tobacco; Textile Wringers; Buckles, Buttons and Clasps	6-23-60	6-30-60
3. (VII) WINDHAM, R. (acting), Metal Founding and Treatment; Metallurgy (Process and Apparatus); Alloys; Electrical Resistors	5-2-60	4-25-60
4. (VI) FALLER, E. A., Hoists; Power Driven Conveyors; Handling Apparatus; Elevators; Pneumatic Dispatch; Store Service; Conveyors, Chutes, Skids, Guides and Ways	4-11-60	4-4-60
5. (V) ROBINSON, C. W., Harvesters; Unearthing Objects; Threshing; Knotters; Animal Husbandry; Bee Culture; Dairy; Butchering; Vegetable and Meat Cutters and Comminutors; Fences; Gates; Music; Signals and Indicators; Acoustics	11-5-59	12-7-59
6. (I) LIDOFF, H. J., Carbon Chemistry (part), e.g., Heterocyclic, General Organic Processes, Amides	3-29-60	3-8-60
7. (IV) ANDERSON, E. G., Optics	3-29-60	4-4-60
8. (V) BREHM, G. L., Beds; Chairs and Seats; Cabinets; Tables; Miscellaneous Furniture; Fire Escapes; Ladders; Deposit and Collection Receptacles; Scaffolds	7-5-60	7-5-60
9. (VI) BRANSON, J. H., Pumps; Fans; Turbines	3-2-60	4-8-60
10. (VI) HORTON, A. M. (acting), Firearms; Ordnance; Ammunition; Explosive Charge Making	3-2-60	4-20-60
11. (IV) BENHAM, E. V., Boots, Shoes and Leggings; Shoe and Leather Manufacture; Button, Eyelet and Rivet Setting; Nailing, Stapling and Clip Clenching; Card, Picture and Sign Exhibiting; Cutlery; Pipes and Tubular Conduits	4-5-60	4-6-60
12. (III) DURHAM, B. G. (acting), Machine Elements; Engine Starters; Interrelated Clutch and Motor Controls	4-15-60	4-29-60
13. (III) BEALL, T. E., Gear Cutting; Electric Lamp and Tube Manufacture; Needle and Pin Making; Metal Working (part), e.g. Special Work, Forging, Plastic Working, Drawing, Sewing, Milling, Planing, Turning	3-8-60	3-14-60
14. (III) WILTZ, W. A., Metal Working (part) e.g. Sheet Metal; Metal Bending, Miscellaneous Processes, Assembly and Disassembly Apparatus; Wire Fabrics	3-7-60	1-21-60
15. (VII) BRINDISI, M. V., Plastics; Plastic Block and Earthenware Apparatus	7-5-60	7-5-60
16. (II) ANDRUS, L. M., Telephony; Recorders (part)	12-11-59	12-8-59
17. (IV) LEIGHEY, R. A., Packaging; Typewriters; Printing; Type Casting and Setting; Sheet Material Associating or Folding; Sheet Feeding or Delivering	4-14-60	5-4-60
18. (VI) BLUM, A., Power Plants; Fluid Transmissions; Servomotor Systems; Jet Motors; Combustion Turbines; Speed or Acceleration	7-15-60	6-20-60
19. (VII) PATRICK, P. L., Stoves and Furnaces; Boilers; Fluid Fuel Burners; Heating Systems; Miscellaneous Heating; Automatic Temperature and Humidity Regulation; Illuminating Burners	5-19-60	3-21-60
20. (V) SEERS, J. D., Miscellaneous Hardware; Closure Fasteners; Locks; Safes; Bank Protection; Bread, Pastry and Confection Making; Tents and Canopies; Umbrellas; Canes; Undertaking; Electrical Connectors	7-1-60	7-1-60
21. (III) MADER, R. C., Textiles	5-10-60	5-16-60
22. (VI) BUCHLER, M. B., Aeronautics; Boats; Buoys; Ships; Marine Propulsion; Propellers; Windmills; Fluid Diaphragms and Bellows	4-5-60	3-25-60
23. (VI) SMILOW, L., Data Processors; Digital and Analog Computers; Calculators; Bookkeeping Machines; Cash and Fare Registers; Voting Machines; Counters	8-4-59	8-4-59
24. (III) HICKEY, T. J., Apparel (except Corsets and Brassieres); Apparel Apparatus; Sewing Machines; Textiles, Ironing or Smoothing; Clutches and Power-Stop Control; Work Holders	5-2-60	5-2-60
25. (VII) NEVIUS, R. D., Coating—Processes, Miscellaneous Products and Apparatus; Distillation; Wood Treating Apparatus; Paper Making	2-19-60	2-8-60
26. (II) RADER, O. L., Electricity—Generation, Motive Power, Transmission Systems, Voltage and Phase Control Systems, Furnaces, Battery Charging and Discharging, Arc Lamps, Prime Mover Dynamo Plants; Elevators (part), e.g. Miscellaneous Electric Control Mechanisms; Inductors; Transformers	3-7-60	2-1-60
27. (IV) JAMES, S., Brushing, Scrubbing and General Cleaning; Brush, Broom and Mop Making; Textiles, Fluid Treating Apparatus; Cleaning and Liquid Contact With Solids	6-13-60	5-25-60
28. (VI) BRAUNER, R. H., Internal Combustion Engines; Expansible Chamber Motors; Fluid Servomotors; Spring, Weight and Animal Powered Motors; Cylinders; Pistons; Drive Shafts; Flexible-Shaft Couplings; Chucks or Sockets; Fluid Current Conveyors; Pressure Modulating Relays; Wheel Substitutes	7-1-60	5-19-60
29. (V) FRITZ, M. M., Tools; Woodworking; Button, Barrel and Wheel Making; Baggage; Cloth, Leather and Rubber Receptacles; Package and Article Carriers; Valved Pipe Couplings; Rod Joints; Tool-Handling Fastenings	4-11-60	4-26-60
30. (VII) O'LEARY, E. A., Comminutors; Refrigeration; Fluid Sprinkling, Spraying and Diffusing, Separating and Assorting Solids (part)	6-27-60	6-27-60

DIVISIONS, EXAMINERS, AND SUBJECTS OF INVENTION (Roman numerals in parentheses indicate Examining Group)	Oldest Application	
	New	Amended
31. (I) SULLIVAN, A. D. (acting), Carbon Chemistry (part), e.g., Urea Adducts, Silicon Containing Carbon Compounds, Hydrogenation of Carbon Oxides, Partial Oxidation of Non-Aromatic Hydrocarbon Mixtures, Hydrocarbons, Halogenated Hydrocarbons; Synthetic Resins (part) (e.g., Oil-Modified; Stabilized); Mineral Oils	5-20-60	5-18-60
32. (VII) MARTIN, H. L. (acting), Gas and Liquid Contact Apparatus; Heat Exchange; Agitation; Fire Extinguishers; Centrifugal Bowl Separators; Liquid Separation or Purification (part)	5-2-60	5-2-60
33. (V) MUSHAKE, W. L., Bridges; Hydraulic and Earth Engineering; Roads and Pavements; Building Structures	2-24-60	3-4-60
34. (IV) QUACKENBUSH, L., Railways—Draft Appliances, Switches and Signals, Surface Track, Rolling Stock, Track Sanders; Electricity, Transmission to Vehicles; Dumping Vehicles; Vehicle Fenders; Hand and Hoist Line Implements	3-7-60	2-25-60
35. (IV) DEMBO, L. J., Dispensing; Filling Receptacles; Toilet; Severing by Tearing or Breaking; Coin Controlled Apparatus; Dispensing Cabinets; Article Dispensing; Coin Handling	5-9-60	5-2-60
36. (V) EVANS, R. L., Measuring and Testing (part)	3-23-60	3-11-60
37. (II) LEVY, M. L., Electricity—Switches, Welding, Heating, Photo-Cell Circuits	2-29-60	2-29-60
38. (I) PARKER, C. B., Carbon Chemistry (part), e.g., Azo, Carbocyclic or Acyclic Compounds (part), e.g., Anthrones, Triarylmethanes, Esters, Acids, Ketones, Aldehydes, Ethers, Phenols, Alcohols, Proteins, Amines, Natural Resins	2-6-60	2-18-60
39. (IV) WEIL, I., Fluid-Pressure Regulators; Valves; Fluid Handling (except Pressure Modulating Relays, Float Valves, Diaphragms and Bellows)	5-4-60	5-4-60
40. (V) DRUMMOND, E. J., Receptacles—Metallic, Paper, Wooden, Glass; Special Receptacles and Packages	6-9-60	6-13-60
41. (II) LOVEWELL, N. N., Recorders (part); Sound Recording; Television; Telegraphy (part)	1-26-60	12-30-59
42. (II) REYNOLDS, E. R., Electric Signaling; Telegraphy (part)	4-1-60	4-6-60
43. (I) KNIGHT, W. B. (WOLK, M. O., acting), Medicines, Poisons, Cosmetics; Sugar and Starch; Skins and Leathers; Preserving, Sterilizing and Disinfecting (except Wood Treatment Apparatus); Bleaching, Dyeing, Fluid Treatment of Textiles	12-1-59	11-23-59
44. (II) JUSTUS, C. L., Directive Radio Systems; Nuclear Batteries; Nuclear Resonant Devices; Radar; Sonar; Torpedoes	11-30-59	11-24-59
45. (VI) MANIAN, J. A., Wheels, Tires and Axles; Railway Wheels and Axles; Lubrication; Bearings and Guides; Belt and Sprocket Gearing; Spring Devices; Animal Draft Appliances; Excavating	5-16-60	5-20-60
46. (I) WILES, W. G. (CAMPBELL, R. L., acting), Actinide Series (e.g., Fissionable) Compounds; Sintered Metal Stock; Explosives; Power Plants (part); Metallurgy (part); Radioactive Medicines; Nuclear Reactions; Carbon Chemistry (part)	3-25-60	3-8-60
47. (VI) ARNOLD, P. (acting), Mining, Quarrying, and Ice Harvesting; Motor Vehicles; Land Vehicles; Education	6-8-60	6-14-60
48. (II) BERNSTEIN, S., Electricity—Conversion Systems, Protective Systems; Measuring and Testing (except Meters); Switchboards, Relays, Magnets, Condensers, Transistors, Barrier Layer Rectifiers	3-4-60	3-7-60
49. (VII) BENDETT, B., Drying and Gas or Vapor Contact With Solids; Ventilation; Wells; Concentrating Evaporators; Earth Boring	4-4-60	3-11-60
50. (I) ARNOLD, D., Carbon Chemistry (part), e.g., Synthetic Resin Compositions (part), Synthetic Rubber Compositions, Natural Rubber; Synthetic Resins (part) (e.g., Butadiene Polymers and Copolymers, Polyacrylonitriles, Acrylate Polymers and Copolymers)	2-4-60	2-5-60
51. (II) WESTBY, G. N., Modulators; Piezoelectric Devices; Antennas; Oscillators; Miscellaneous Electron Space Discharge Device Systems; Radio Detectors	3-11-60	3-2-60
52. (V) LE ROY, C. A., Supports and Racks; Separating and Assorting Solids (part)	5-23-60	5-23-60
53. (IV) NINAS, G. A., Label Pasting and Paper Hanging; Books and Book Making; Manifolding; Printed Matter; Stationery; Paper Files and Binders; Flexible or Portable Closures or Partitions; Doors, Windows, Awnings, and Shutters; Harness; Whip Apparatus; Food Apparatus; Closure Operators; Illumination	6-27-60	6-24-60
54. (II) NILSON, R. G., Electric Lamps; Electronic Tubes; Miscellaneous Discharge Devices; Lamp, Cathode Ray and Gas Discharge Device Circuits; Ray Energy (e.g., X-Ray, Ultraviolet, Radioactive) Applications; Mass Spectrometers	4-7-60	5-6-60
55. (VII) WHITMORE, H. B. (acting), Surgery; Dentistry; Artificial Body Members	5-2-60	5-2 60
56. (I) SPECK, J. R., Abrading Compositions; Batteries; Coating or Plastic Compositions; Electrical and Wave Energy Chemistry	4-5-60	4-1-60
57. (III) TOMLIN, C. W. (acting) Bolt, Nut, Rivet, Nail, Screw, Chain, and Horseshoe Making; Driven and Screw Fastenings; Nut and Bolt Locks; Jewelry; Pipe Joints or Couplings; Cutting	3-8-60	1-11-60
58. (III) BRONAUGH, F. H. (acting), Rolls and Rollers; Making Metal Tools and Implements; Stone Working; Abrading Processes and Apparatus; Baths, Closets, Sinks, and Spittoons; Boring and Drilling; Paper Manufactures; Selective Cutting	5-2-60	4-20-60
59. (I) BRINDISI, M. A., Inorganic Chemistry; Fertilizers; Gas, Heating and Illuminating	12-30-59	12-7-59
60. (I) MANGAN, P. E., Carbon Chemistry (part), e.g., Synthetic Resins (part); Miscellaneous Polymers (e.g., Vinyl Polymers); Synthetic Resin Compositions (part), Synthetic Rubber; Photographic Processes and Products	5-5-60	5-13-60
61. (III) STRIZAK, J. P., Winding and Reeling; Pushing and Pulling; Horology; Railway Mail Delivery; Feeding of Indefinite Lengths	6-20-60	6-20-60
62. (IV) LOWE, D. B. (FULLER, E. E., acting), Games; Toys; Amusements and Exercising Devices; Mechanical Guns and Projectors; Photographic Apparatus	6-1-60	6-2-60
63. (I) WINKELSTEIN, A. H., Foods and Beverages; Fermentation; Carbon Chemistry (part), e.g., Lignins, Carbohydrate Derivatives, Fats, Sulfurized Compounds; Heavy Metal Compounds	3-8-60	2-17-60
64. (I) GREENWALD, J., Fuels; Miscellaneous Compositions	4-1-60	3-25-60
65. (II) SAX, E. J., Wave Guides; Electric Meters; Conductors; Insulators; Amplifiers	5-2-60	5-2-60
66. (V) LISANN, I., Geometric Instruments; Measuring and Testing (part)	12-29-59	12-18-59
67. (VII) KRAFFT, C. F., Liquid Separation or Purification (part); Laminated Fabrics	4-27-60	4-18-60
81. (III) MONCURE, J. A., Industrial Arts	10-7-60	10-14-60
82. (III) HUNTER, E. H., Household, Personal and Fine Arts	10-14-60	10-24-60
91. KENT, A. P. (acting), Ornamentation; Glass	6-1-60	6-1-60
92. GAUSS, H., Radio Transmitters, Receivers and Tuners	7-30-60	7-22-60
93. WAHL, R. A., Wire Working	8-4-60	9-19-60
94. BERLOWITZ, W., Gas Separation	6-14-60	6-6-60
95. ANGEL, C. D., Metallic Building Structures; Packed Rod Joints; Joint Packings	6-29-60	6-29-60
M. E. DIV. A (I) GASTON, L. H., Carbon Chemistry (part), e. g., Steroids; Synthetic Resins (part), i. e., Polyethylenes	6-15-60	3-28-60

EXPIRATION OF PATENTS

The patents within the range of numbers indicated below expire during February 1961, except those which may have been extended under the provisions of the Veterans Patent Extension Act (64 Stat. 316 as amended by 66 Stat. 321) and those which may have expired earlier due to shortened terms under the provisions of Public Law 600. A list of Veterans' patents which have been extended appears in the *Annual Index of Patents—1963*.

Patents..... Numbers 2,840,284 to 2,843,226, inclusive
Plant Patents..... Numbers 613 to 618, inclusive

DECISIONS IN PATENT AND TRADEMARK CASES

In the United States Patent Office
Before the Board of Appeals

EX PARTE RUBIN

Appeal No. 88-54. Decided September 30, 1959

1. PATENTABILITY—DOUBLE PATENTING—AFFIDAVIT UNDER RULE 131.

"The Examiner has * * * expressed the view that a Rule 131 affidavit is ineffective for appellant to overcome his own patent if the present claims are unpatentable over the patent, and this view would imply, as more fully brought out by the Examiner in answering appellant's arguments, that the basis for the rejection is the invention claimed in appellant's prior patent. In such a rejection if the appealed claims are not patentable over the claims of the patent, a Rule 131 affidavit obviously is ineffective, as only one patent can issue for a single inventive concept. However, if the claims herein are patentably distinct over those of the patent, a Rule 131 affidavit obviously would not be required. There is therefore no need to consider the Rule 131 affidavit."

2. SAME—SAME—DEDICATION TO THE PUBLIC.

"The Examiner in his refusal of the claims has included in his statement language indicative that he considers appellant to have dedicated to the public the method recited in the appealed claims. A basic requisite for a rejection on this ground is that what is claimed herein is disclosed but not claimed in appellant's patent. However, the Examiner has not even alleged that the sequence of steps required by the claims before us is disclosed in the patent, and we fail to find any such disclosure in the patent. In fact, the Examiner's argument as to the non-criticality of the reversal of the order of steps of the present claims over those of the Rubin patent indicates the lack of any such unclaimed disclosure in the patent. It is obvious therefore that there is no basis for any 'dedication' of the method claimed herein and hence the position of the Examiner is untenable and cannot be sustained, * * *."

3. SAME—SAME—CHANGE IN ORDER OF PROCESS STEPS.

Where appellant conceded that the same product was obtained by either the method claimed in her application on appeal or that claimed in her patent, and stated that "The method described in the patent is considered the better of the two methods invented, but the method set forth in the instant case does perform satisfactorily," *Held* that "It is evident * * * that no unexpected result is obtained by reversing the order of steps recited in the method claimed in the * * * patent," and *Held* that "* * * the method recited in the appealed claims is not patentable over appellant's patented method * * *."

4. SAME—SAME—PARTICULAR SUBJECT MATTER—METHOD OF MANUFACTURING A CONDUCTIVE COATED SHEET.

The rejection of certain claims to a method of manufacturing a conductive coated sheet as unpatentable over the claims in applicant's prior patent affirmed.

APPEAL from the Examiner. Serial No. 513,642.

AFFIRMED.

Ezekiel Wolf for appellant.

Before SUBLE, *Examiner-in-Chief*, and MAGIL and WILES, *Acting Examiners-in-Chief*

WILES, *Acting Examiner-in-Chief:*

This is an appeal from the final rejection of claims 1 to 9. Since claims 1, 4 and 5 were withdrawn from further consideration as not reading on the elected species, the appeal as to these claims will be dismissed, leaving for our consideration only claims 2, 3 and 6 to 9. No claims have been allowed.

Claims 2 and 9 are sufficiently representative and are reproduced below:

2. A method of manufacturing a plate or sheet having an electrical conductive non-alkali metallic plated coating which comprises taking a base sheet of flexible impregnable paper material, first impregnating the sheet from at least one side with a thermosetting resin and partially curing said resin in the sheet, then depositing a smooth highly-conductive metallic film of uniform thickness on the other side capable of being etched into a printed circuit, and then laminating the sheet to a backing sheet of thermosetting material and making the final cure of the assembly under heat and pressure.

9. A method of manufacturing a plate or sheet having an electrical conductive nonalkali metallic plated coating including the steps of taking a base sheet of flexible impregnable paper material and first impregnating the sheet from one side with a thermosetting resin; and the additional steps of depositing a smooth metallic film of uniform thickness and capable of being etched into a printed circuit on the other side of the base sheet, and laminating the sheet with the metallic coating and the resin to a backing sheet of thermosetting material, with the backing sheet on the side of the base sheet opposite the metallic film.

The references relied upon are:

Baekeland, 1,019,406, March 5, 1912.
Keller, 2,439,137, April 6, 1948.
Rubin, 2,680,699, June 8, 1954.

The claims are directed to a method of forming a laminated sheet, one surface of which is made of highly conductive material, which method is more fully described on pages 3 to 5 of appellant's brief.

The alleged invention of the instant application is best summarized by appellant on page 5 of his brief as relating "to a method of making a laminated sheet wherein a base sheet is *first impregnated* with a thermosetting material and thereafter *coated* with a metallic film."

The Examiner has rejected the claims as unpatentable over Rubin as well as unpatentable over Keller in view of Baekeland.

As pointed out by appellant in his brief, the Examiner several times seems to have considered appellant's patent as a publication, as he has rejected the appealed claims as unpatentable over the disclosure thereof, although in Paper No. 9, as well as in the statement, the rejection seems to be based upon the claims of the Rubin patent. [1] The Examiner has also expressed the view that a Rule 131 affidavit is ineffective for appellant to overcome his own patent if the present claims are unpatentable over the patent, and this view would imply, as more fully brought out by the Examiner in answering appellant's arguments, that the basis for the rejection is the invention claimed in appellant's prior patent. In such a rejection if the appealed claims are not patentable over the claims of the patent, a Rule 131 affidavit obviously is ineffective, as only one patent can issue for a single inventive concept. However, if the claims herein are patentably distinct over those of the patent, a Rule 131 affidavit obviously would not be required. There is therefore no need to consider the Rule 131 affidavit.

[2] The Examiner in his refusal of the claims has included in his statement language indicative that he considers appellant to have dedicated to the public the method recited in the appealed claims. A basic requisite for a rejection on this ground is that what is claimed herein is disclosed but not claimed in appellant's patent. However, the Examiner has not even alleged that the sequence of steps required by the claims before us is disclosed in the patent, and we fail to find any such disclosure in the patent. In fact, the Examiner's argument as to the non-criticality

of the reversal of the order of steps of the present claims over those of the Rubin patent indicates the lack of any such unclaimed disclosure in the patent. It is obvious therefore that there is no basis for any 'dedication" of the method claimed herein and hence the position of the Examiner is untenable and cannot be sustained (*Ex parte Harman*, Patent File No. 2,520,280).

[3] This leaves for our consideration the question of whether the method claimed herein is patentable over the method claimed in appellant's patent as only one patent can be granted if there be but one invention. The Examiner has quite fully set forth his position in support of this rejection and answered appellant's arguments with respect thereto. We therefore find little need for any extended comments except to note that appellant has not attempted to refute the Examiner's position that it is not inventive to change the order of steps. In fact, appellant concedes that the same product is obtained by either the method claimed herein or that claimed in the patent. Moreover, appellant, on page 6 of the brief, states that:

"The method described in the patent is considered the better of the two methods invented, but the method set forth in the instant case does perform satisfactorily."

It is evident therefore that no unexpected result is obtained by reversing the order of steps recited in the method claimed in the Rubin patent. *In re Haller et al.*, 24 CCPA 887; 1937 C.D. 281; 481 O.G. 6; 87 F.2d 520; *New Wrinkle, Inc. et al.* v. *Watson*, 1953 C.D. 18; 670 O.G. 306; 204 F.2d 35; 96 USPQ 436, 438. Accordingly, we agree with the Examiner that the method recited in the appealed claims is not patentable over appellant's patented method and we will sustain the rejection.

The Examiner has also rejected the claimed method as unpatentable over Keller in view of Baekeland, his position being as follows:

"Keller discloses impregnating a fibrous sheet with thermosetting resin and spraying a highly conductive metal on one or both sides of the sheet and laminating this to another similar resin impregnated sheet under heat and pressure. The Baekeland reference is used to show that curing a resin in several stages is old in the art. Partially curing the resin of Keller before the metal layer has been deposited is considered an obvious modification of Keller's process of curing. No invention is seen in applying a metal film of uniform thickness instead of the irregular thickness as in Keller since to do so would be mere mechanical expedient. Nowhere does applicant show the criticality of this step or that any new and unobvious result would be accomplished by coating the metal uniformly instead of non-uniformly."

While Keller discloses that the metal coating may be on one or both sides of the sheet, we find no disclosure therein which even suggests, when only one side is metallized, that the other side is to be impregnated with the thermosetting resin and that the impregnated side may then be laminated to a backing sheet of thermosetting material. Additionally, in the process of Keller it is the metallized face or side of the sheet which is laminated to a resinous material and results in a product which would not be suitable for appellant's purpose. We therefore are constrained to agree with appellant that the procedure of Keller is not suggestive of the claimed method and the rejection will not be sustained.

The appeal is dismissed as to claims 1, 4 and 5. [4] The decision of the Examiner is affirmed.

AFFIRMED.

PATENT SUITS

Notices under 35 U.S.C. 290; Patent Act of 1952

2,254,214, E. G. Gage, Safety circuit for cathode ray tubes; 2,281,571, same, Safety circuits for thermionic apparatus; 2,319,594, same, Safety high potential electrical sources and circuits; 2,375,697, same, High potential apparatus rendered safe for handling, filed Oct. 31, 1960, D.C., S.D.N.Y., Doc. 60/4254, *Lexington School for the Deaf* v. *Sears, Roebuck and Company*. Stipulation and order of voluntary dismissal pursuant to Rule 41 Dec. 29, 1960. Same, filed Jan. 4, 1961, same, Doc. 60/30, *Lexington School for the Deaf et al.* v. *R. H. Macy & Co., Inc.*

2,281,571. (See 2,254,214.)

2,319,594. (See 2,254,214.)

2,375,697. (See 2,254,214.)

2,477,782, W. E. Bassett, Nail clipper; 2,664,624, same; 2,738,795, same; Des. 185,596, same, filed Dec. 30, 1960, D.C., S.D.N.Y., Doc. 60/5113, *W. E. Bassett Company* v. *Revlon, Inc.*

2,489,639, E. F. Haskell, Cake of soap, filed Dec. 28, 1960, D.C., S.D.N.Y., Doc. 60/5041, *Edward F. Haskell* v. *Lever Brothers Company*.

2,510,488, K. M. Tuohy, Contact lens, filed Jan. 5, 1961, D.C., S.D. Calif. (Los Angeles), Doc. 13/61–PH, *Soleg Laboratories, Inc.* v. *United Contact Lens Corporation et al.*

2,514,130, H. T. Jones, Locking wrench and plier, filed Mar. 4, 1958, D.C. Colo. (Denver), Doc. 5982, *Harold T. Jones et al.* v. *Sears, Roebuck and Co. et al.* Judgment for the plaintiffs as to claims 1, 4 and 5 of Patent No. 2,514,130 Jan. 3, 1961.

2,567,845, N. Sperber et al., Aryl-(2-pyridyl)-amino alkanes and their production, filed Oct. 18, 1960, D.C.N.J. (Newark), Doc. C–909/60, *Schering Corporation* v. *Caesar C. Bottone et al.* Consent judgment; patent held valid and infringed; injunction granted Jan. 3, 1961.

2,587,040, E. H. Green, Spray nozzles; 2,913,184, C. O. Kuffer, Aerosol valve assembly, filed Jan. 6, 1961, D.C., N.D. Ill. (Chicago), Doc. 61c44, *Aerosol Research Company* v. *Newman-Green, Inc. et al.*

2,587,553, L. G. S. Ward, Bean picker; 2,675,663, same, filed Jan. 30, 1959, D.C., W.D. Wis. (Madison), Doc. 3130, *Chisholm-Ryder Company, Inc. et al.* v. *T. Howard Paulson.* Claims 1, 2, 3 and 4 of Patent No. 2,587,553 and claim 1 of Patent No. 2,675,663 held invalid; plaintiffs' complaint dismissed with prejudice; defendant T. Howard Paulson's counterclaim for unfair competition dismissed with prejudice Oct. 20, 1960.

2,666,362, R. A. Garrison, Power steering boosters; Re. 23,967, same, Power steering booster of the hydraulic type, filed Dec. 29, 1960, D.C., S.D. Calif. (Los Angeles), Doc. 1440/60–HW, *R. A. Garrison et al.* v. *General Motors Corporation.*

2,625,905, S. L. Richards, Jr., Apparatus for applying coating material to pipe; 2,669,486, C. K. Smith, Apparatus for preparing and applying plastic coating material; 2,764,218, S. L. Richards, Apparatus for coating and reinforcing pipe, filed Jan. 5, 1961, D.C., N.D. Okla. (Tulsa), Doc. 5095, *H. C. Price Company* v. *Reesen-Richards Processing Co., Inc.*

2,664,624. (See 2,477,782.)

2,669,486. (See 2,625,905.)

2,675,663. (See 2,587,553.)

2,694,182, Edlen and Diambra, Impedance-matching tap-off coupler for wave transmission lines; 2,694,183, same, Tap-off coupler with fixed attenuation for coaxial lines, Appeal, filed Jan. 6, 1961, C.C.A., 4th Cir., Doc. 6302, *Entron of Maryland, Inc.* v. *Jerrold Electronics Corporation.*

2,694,183. (See 2,694,182.)

2,738,795. (See 2,477,782.)

2,764,218. (See 2,635,905.)

2,764,460. (See Re. 24,454.)

2,946,267, J. W. Fields, Tipping body, filed Jan. 3, 1961, D.C., S.D. Calif. (Los Angeles), Doc. 3/61-TC, *Anthony Company* v. *Cook Brothers Equipment Company*.

2,892,393, Hixon and White, Photographic print basket; 2,892,394, same, filed Dec. 19, 1960, D.C., N.D. Ill. (Chicago), Doc. 60c1940, *Rolor Manufacturing Corporation* v. *William G. Hill, doing business as Photographic Instruments Company*.

2,892,394. (See 2,892,393.)

2,896,125, R. C. Morten, Electric lamp switching mechanism, filed July 22, 1960, D.C., E.D.N.Y. (Brooklyn), Doc. 60-C-680, *California Computer Products, Inc.* v. *Slater Electric & Manufacturing Co., Inc. et al.* Dismissed by stipulation Jan. 6, 1961.

2,913,184. (See 2,587,040.)

Re. 23,897. (See 2,608,263.)

Re. 24,454, K. H. Wilson, Folding sectional table; 2,764,460 (included by counterclaim Feb. 13, 1959), same, filed Dec. 23, 1958, D.C. Minn. (St. Paul), Doc. 3/58/447, *Kermit H. Wilson* v. *Heidemen-Hemme Manufacturing Company*. Consent decree; Re. 24,454 held valid and infringed; defendant's counterclaims I and III dismissed with prejudice; defendant's counterclaim II dismissed without prejudice; Kermit H. Wilson and Sico Manufacturing Company, Inc. released from any claims for past infringement of Patent No. 2,764,460 Dec. 20, 1960.

Re. 24,483 (of 2,766,592), P. F. Danel et al., Artificial blocks for structures exposed to the action of moving water, filed Sept. 3, 1957, D.C., S.D. Tex. (Houston), Doc. 12/084, *Etablissements Neyrpic and Societe d'Exploitation de Brevets Pour Travaux a la Mer Setramer* v. *Elmer C. Gardner, Inc. et al.* Patent held valid; defendants enjoined Dec. 27, 1960.

Des. 185,896. (See 2,477,782.)

Plant Pat. 695, D. J. Nicholson, Seedless navel orange tree, filed Oct. 21, 1957, D.C., S.D. Fla. (Jacksonville), Doc. 3859-J, *Donald John Nicholson, doing business as Royal Purple Citrus Research Nursery* v. *O. J. Warmack*. Judgment for plaintiff (notice Dec. 28, 1960).

REISSUES

FEBRUARY 28, 1961

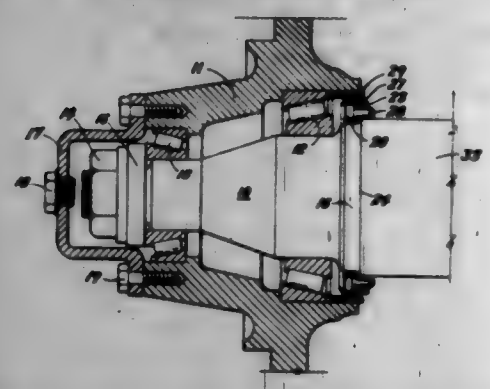
Matter enclosed in heavy brackets [ ] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates additions made by reissue.

24,940
HUB SEALING MEANS

Allen J. Stephens, 1144 Broadway, Denver, Colo.

Original No. 2,896,979, dated July 28, 1959, Ser. No. 734,212, May 9, 1958. Application for reissue Mar. 18, 1960, Ser. No. 16,111.

8 Claims. (Cl. 286—11)



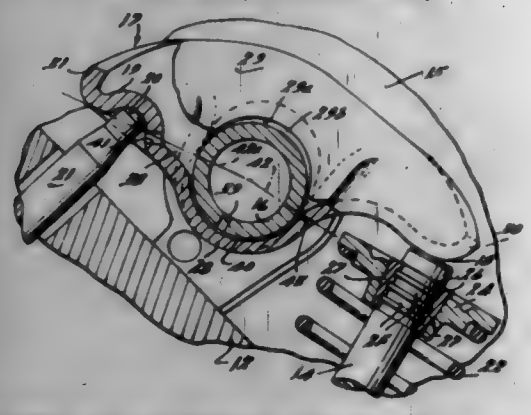
1. Means sealing a wheel hub on an axle spindle comprising: a hub ring fitted in said hub about said spindle; an annular throat member projecting radially inward from said hub ring toward said spindle; a sealing ring sleeve fitted over said spindle within said hub ring; an annular skirt carried by said sealing ring sleeve, said skirt projecting axially toward and into contact with said throat member; resilient means formed on and connecting said skirt and sleeve and acting to continuously urge said skirt in an axial direction toward said throat member; and an annular rigid confining band positioned to prevent radial expansion of said [skirt] *sleeve*.

24,941
ROCKER ARM

Raymond L. Latham, Detroit, Mich., assignor to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware

Original No. 2,905,161, dated Sept. 22, 1959, Ser. No. 728,399, Apr. 14, 1958. Application for reissue Feb. 9, 1960, Ser. No. 7,737

25 Claims. (Cl. 123—90)



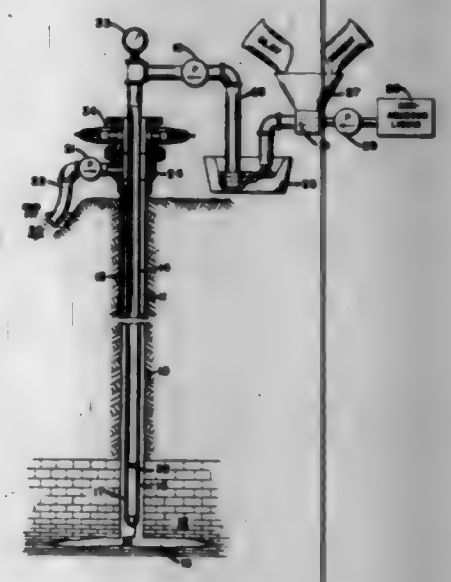
1. A rocker arm adapted to be pivotally mounted on a cylindrical supporting shaft, said rocker arm having a cylindrically shaped bottom strap adapted to conform to the lower portion of the cylindrical contour of said shaft and to engage the same in bearing relation, said strap terminating upwardly at opposite ends in lateral valve stem engaging and push rod engaging projections respectively, each projection having axially spaced sides extending upwardly and joining to bridge the space above said shaft at opposite sides of said strap, said strap at its axially opposite sides adjacent its juncture with said push rod engaging projection having upward extensions conforming closely to the contour of said shaft to restrict the flow of lubricating fluid axially therealong at the regions of said extensions, the latter merging with the axially spaced sides respectively of said push rod engaging projection and cooperating therewith to provide a pocket for said fluid.

24,942
RECOVERY OF LOST CIRCULATION IN A DRILLING WELL

George C. Howard and Platho P. Scott, Jr., Tulsa, Okla., assignors to Pan American Petroleum Corporation, a corporation of Delaware

Original No. 2,801,077, dated July 30, 1957, Ser. No. 401,196, Dec. 30, 1953. Application for reissue June 13, 1958, Ser. No. 741,978

19 Claims. (Cl. 166—32)



11. A process for the recovery of circulation in a drilling well that penetrates a formation which takes whole mud, comprising intimately mixing with an aqueous liquid within said well a non-aqueous liquid slurry of finely divided hydraulic cement and a non-aqueous liquid slurry of finely divided clay, the concentration of said clay in said non-aqueous liquid slurry being great enough to produce a mixture too viscous to pump, and displacing at least a part of said mixture into said formation.

24,943
ELECTRICALLY CONTROLLED MAGNETIC MOVEMENT

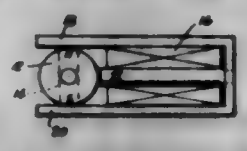
Alfred Skrobisch, Huntington Station, N.Y., assignor to Allard Instrument Corp., New York, N.Y., a corporation of New York

Original No. 2,836,773, dated May 27, 1958, Ser. No. 504,979, Apr. 29, 1955. Application for reissue Mar. 18, 1959, Ser. No. 800,353

23 Claims. (Cl. 317—171)

1. An electrically controlled magnetic movement comprising a permanent magnet, means mounting the same for rotation, [the poles of said magnet being diametrically related to the axis of rotation,] and a stationary electro-

magnet having a core made of material which may be temporarily but not permanently magnetized, said core when magnetized having two spaced poles of like polarity and a single pole of opposite polarity, said like poles being disposed diametrically of the axis of rotation and said opposite pole being disposed at one end of a diameter



transverse to the diameter of the like poles, whereby when the electromagnet is energized the permanent magnet rotates *no more than 90°* to bring one of its poles toward the single pole of the electromagnet [, and when the electromagnet is de-energized the permanent magnet moves back to a rest position with its poles adjacent the like pole].

24,944

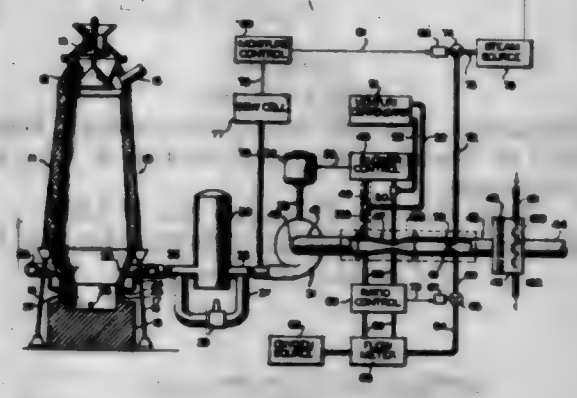
APPARATUS FOR OPERATING METALLURGICAL FURNACES

Julius H. Strassburger, Coraopolis, Pa., assignor to National Steel Corporation, a corporation of Delaware

Original No. 2,778,018, dated Jan. 15, 1957, Ser. No. 312,877, Oct. 3, 1952. Application for reissue May 2, 1958, Ser. No. 735,083

25 Claims. (Cl. 266—30)

20. In a blast furnace installation including a blast furnace having tuyere means through which blast gas is discharged into the furnace, means forming streams of atmospheric air, oxygen rich gas and water vapor, means combining the streams to form a composite stream, conduit means for conducting the composite stream to the tuyere means, means including compressor means for blowing the composite stream through the conduit means



to the tuyere means as blast gas for the furnace, stove means connected to the conduit means, moisture measuring means for measuring the moisture content of the composite stream upstream of the stove means, and moisture control means operative responsively to the moisture measuring means for controlling the rate of flow of the stream of water vapor.

PLANT PATENTS

GRANTED FEBRUARY 28, 1961

Illustrations for plant patents are usually in color and therefore it is not practicable to reproduce the drawing.

2,030

CHRYSANTHEMUM PLANT

Grace H. Mack, New Canaan, Conn., assignor to Bristol Nurseries, Inc., Bristol, Conn., a corporation of Connecticut

Filed June 1, 1960, Ser. No. 33,352

1 Claim. (Cl. 47—60)

A new and distinct variety of chrysanthemum plant of the decorative class, substantially as herein shown and described, characterized particularly as to novelty by the unique combination of a robustly erect and regal plant habit, an early blooming habit averaging about mid-season, a habit of bearing flowers on long and strong stems, with consequent special suitability thereof for cut flowers, and a distinctive glowing and pure white general color tonality of the flowers.

2,031

ROSE PLANT

Francis Meilland, deceased, late of Cap d'Antibes, Alpes Maritimes, France, by Marie Louise Meilland, née Paolino, legal representative, Cap d'Antibes, Alpes Maritimes, France, assignor to The Conard-Pyle Company, West Grove, Pa., a corporation of Pennsylvania

Filed June 6, 1960, Ser. No. 34,346

1 Claim. (Cl. 47—61)

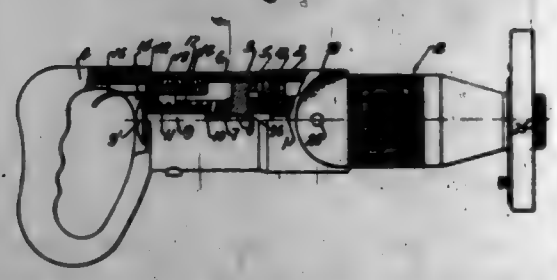
A new and distinct variety of rose plant of the hybrid tea class, substantially as herein shown and described, characterized particularly as to novelty by the unique combination of a spreading, well-branched, vigorous habit of growth, superior floriferousness in comparison with other varieties of its color class, a superior opening flower form of exhibition type and size, and a distinctive, varying general color tonality of the flowers ranging from Peach to Shell-Pink.

PATENTS

GRANTED FEBRUARY 28, 1961

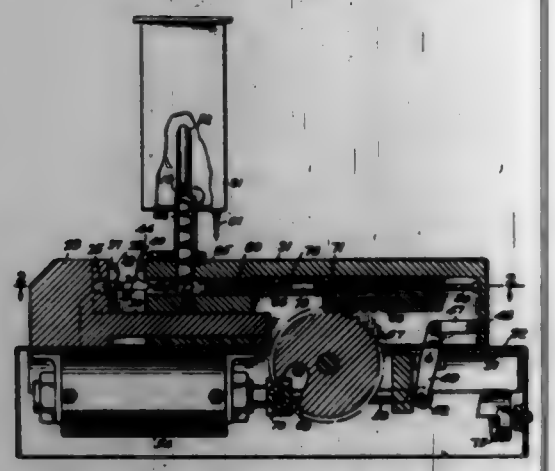
GENERAL AND MECHANICAL

2,972,746
BOLT GUNS
Max Skumanwitz, Lintorf, Bezirk Duesseldorf, Germany, assignor to Tornado Ramset G.m.b.H. & Co., Duesseldorf, Germany
Filed Feb. 25, 1958, Ser. No. 717,500
Claims priority, application Germany Mar. 14, 1957
3 Claims. (Cl. 1—44.5)



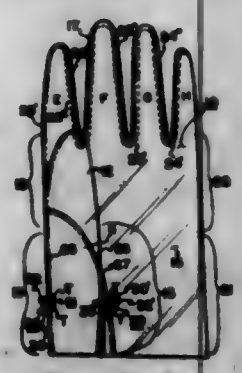
1. A device for propelling bolts and the like comprising in combination, a barrel casing, a hollow handle part releasably secured to said barrel casing, a barrel displaceable in said barrel casing, said handle part being displaceable on said barrel, a firing pin mechanism in said handle part, said handle part having a grooved end portion on its internal face, said grooved portion consisting of a pair of longer and shorter, spaced axial grooves, a transverse groove connecting said grooves, said end portion formed with arcuate recesses, bayonet means releasably connecting said handle part and said barrel casing, said means including a pair of diametrically opposed radially extending guide pins secured to said barrel casing and engaging in the grooves of said grooved portion, said pins being axially and rotatably displaceable in the latter, whereby both said barrel casing and barrel may be locked in axial alignment or inclined towards one another by relative axial and rotary movement of said handle part and said barrel casing.

2,972,747
MACHINE FOR TYING CASINGS
Howard Kelem, Far Rockaway, N.Y. (% Global Industrial Machinery Corp., 686 Henry St., Brooklyn 31, N.Y.)
Filed Aug. 19, 1958, Ser. No. 755,945
18 Claims. (Cl. 1—95)



1. In a machine for compacting the end portion of a flexible casing and for applying to said end portion a U-shaped fastener having a pair of legs joined by an arcuate connecting portion, an anvil having a cavity therein, the walls of the cavity comprising an uninterrupted cylindrical surface joining a pair of converging flat surfaces, means to compact said end portion at a point in inward spaced relation to the cavity walls, means to advance the fastener into the cavity and to cooperate with the surfaces of the cavity to bend the fastener into a closed ring around and in outward spaced relation to the compacted end portion of the casing and with the end edges of the legs in pressed abutting contact, said advancing means comprising a driver, and an indenter slidable within and projectable out of the driver and against the connecting portion of the fastener to indent said portion.

2,972,748
WOMAN'S OVERGLOVE OR THE LIKE
Billie R. Haynes, 149 Jeremy St., Salt Lake City, Utah
Filed Feb. 20, 1959, Ser. No. 794,739
4 Claims. (Cl. 2—46)



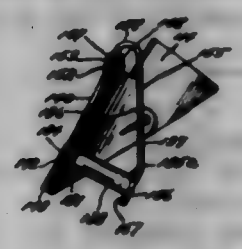
1. A transparent, self-packaging overglove for women including, in combination, a principal member having fingers, a front portion having palm and wrist areas integral with each other, and a rear portion having back and wrist areas integral with each other, and provided with a longitudinal, thumb member securement edge, said palm and wrist areas of said front portion being provided with a marginal, open indentation forming an additional, thumb member securement edge, said indentation extending from and through said front portion wrist area toward but not reaching said fingers, said additional edge of said indentation being indented with respect to said thumb member securement edge of said rear portion; a thumb member having a thumb portion and a fullness characterized wrist portion integral therewith, said thumb member being disposed over said indentation and being joined to said rear portion at said longitudinal, securement edge, thereof to form a first seam and to said front portion at said additional, securement edge thereof to form a second seam which meets said first seam between said thumb portion and said fingers; and first and second, intercooperating, fastener element means respectively disposed in the proximity of said seams at medial points thereof for selectively joining said medial points together in a forward direction to secure the over-glove tightly about the wearer's wrist and, alternatively, when joining said medial points in a double-back direction, to secure in a small, tight package said glove, with portions thereof folded together and said thumb member wrist portion wrapped therearound and secured together by said fastener element means.

2,972,749
NECKTIE KNOT SUPPORT
Henry Gruber, 7420 Wise Ave., St. Louis 17, Mo.
Filed Apr. 30, 1959, Ser. No. 810,842
1 Claim. (Cl. 2—153)



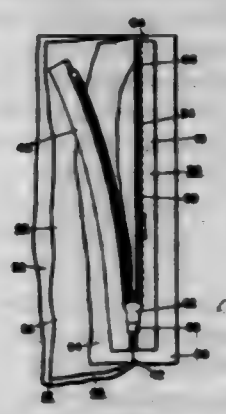
A necktie knot support comprising a narrow straight upright shank having an outwardly flared generally triangular upper portion and an arcuately reverted generally triangular end portion depending in spaced parallel relation to said upper portion, said upper portion and said end portion being cutaway to form a central recess, upstanding arcuate end shoulder portions formed on opposite sides of the cutaway portion forming bights connecting said upper portion and said end portion, and a spring clip comprised of a pair of interengaged transversely elongated resilient loops integrally mounted on the lower portion of said shank adapted to secure the narrow portion of a necktie to said shank.

2,972,750
NECKTIE FORM
Harry Kanter, New York, N.Y., assignor to France Neckwear Co., Inc., New York, N.Y., a corporation of New York
Filed May 15, 1959, Ser. No. 813,387
3 Claims. (Cl. 2—153)



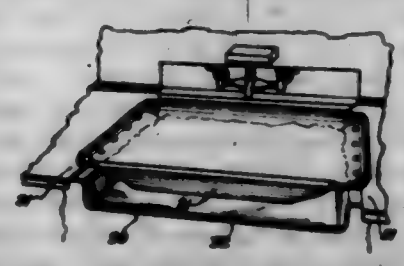
2. A necktie form for use in conjunction with pre-tied neckties comprising: a necktie supporting element, and a collar attachment element; said necktie supporting element including a first support member of resilient material having a pair of substantially rectilinear upper edges and a pair of angularly disposed lower edges converging in a downward direction, and a second support member of material more rigid than that of said first support member connected thereto to lie inwardly of said upper and lower edges in such manner as to impart shape-retaining properties to the body of said first support member while providing for limited resiliency in said upper and lower edges; said collar attachment element including a generally planar resilient member having first and second opposed portions having oppositely directed lines of action and forming a space therebetween, said resilient member being disposed upon a surface of said first support member opposite that which contacts said second support member; a substantially non-resilient collar engaging clip member having a first planar portion engageable within said space between said first and second resilient portions of said resilient member, and a second portion disposed generally parallel to said first planar portion, means interconnecting said first and second support members and said resilient member, said means having an extension projecting rearwardly to selectively contact a surface of said second portion of said clip member.

2,972,751
PROCESS FOR INSERTING CONCEALED SLIDE FASTENER IN CLOTH ARTICLE
William T. Leonard, Reading, and Kenneth F. Diehm, Temple, Pa., assignors to Irving Constant, New York, N.Y.
Filed June 20, 1958, Ser. No. 743,259
5 Claims. (Cl. 2—265)



1. A method for mounting a slide fastener upon a cloth article which comprises applying a first line of stitching to join one fastener element carrying tape of a slide fastener comprising a pair of mating fastener element carrying tapes joined together by a bottom stop to one flap of the cloth article while the slider of said slide fastener is adjacent the bottom stop of said slide fastener so that the fastener elements carried by the tapes are disengaged, extending said first line of stitching adjacent to said slider, applying a second line of stitching to join the other fastener element carrying tape of said slide fastener to another flap of said cloth article while the slider of said slide fastener is adjacent to the bottom stop of said slide fastener, extending said second line of stitching adjacent to said slider, moving the slider a spaced distance from the ends of said lines of stitching which are proximate the bottom stop so that said slider is carried upon the stitcher portions of said tapes, cutting off the bottommost portion of said slide fastener while the elements of the tapes intermediate the slider and the bottom stop are matingly engaged, and applying a bottom clip to engaged slide fastener elements at the bottom end of the slide fastener.

2,972,752
PORTABLE BATH
Leslie E. Rudolf, 87 Cooper Drive, New Rochelle, N.Y.
Filed Apr. 7, 1958, Ser. No. 726,694
1 Claim. (Cl. 4—177)



For use with a kitchen sink having a rectangular basin with a rectangular top rim, a baby bath comprising in combination a rectangular frame having a fixed width approximately as wide as the average distance between the front and rear rims of customary kitchen sinks, and a variable length which is freely adjustable between a minimum length and a maximum length exceeding the distance between the right and left end rims of the longer of said customary sinks so as to rest on said end rims, said frame being formed by two members each made of a length of metal tubing, each member being formed to have two parallel leg portions joined at one end by a bight or mid portion at substantially 90°, the tubing of one member being smaller in diameter than the other, the

smaller diameter leg portions being slideably telescoped within the larger diameter leg portions when said members are assembled to form said frame, the inner diameters of the larger diameter leg portions being slightly larger than the outer diameters of the smaller diameter leg portions to provide easy relative movement of said frame members, the lengths of said leg portions being such as to maintain telescopic engagement of said leg members when the frame is adjusted to said maximum length, and the minimum length of said frame being determined by the lengths of said leg portions when fully telescoped together; a flexible tub sheet portion of a single rectangular piece of water tight non metallic flexible sheet material, said tub sheet having fixed hems along two opposite longer sides through which corresponding pairs of the telescoped frame legs extend, flaps along the shorter sides of the tub sheet looped around the respective mid portions of the frame, separable fastener means attached to the sheet material removably securing said flaps, around said mid portions, said flaps being spaced apart from each other at a distance less than the sum of the lengths of a pair of telescoping leg portions to prevent separation of said frame members further than when the frame is adjusted to said maximum length while maintaining telescopic engagement of said leg portions, said tub sheet having a width dimension between the side hems greater than the distance between opposite telescoping pairs of leg portions, and whereby when the bath is placed on a sink in use, said frame members are readily moveable toward each other while supported on the rim of the sink by the forces acting through the tub portion caused by the weight of an infant being washed and allowing the bottom of the tub portion to touch the bottom of the sink.

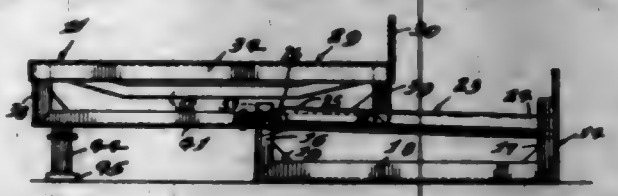
2,972,753
MOTOR OPERATED BED DAVENPORT
Joseph R. Thomas, 8348 S. Ingleside Ave., Chicago, Ill.
Filed Oct. 3, 1955, Ser. No. 538,011
11 Claims. (Cl. 5—13)



1. In a folded bed davenport, the combination with a davenport frame, of a seat section therefor and means mounting it in the frame for rearward overturning movement in changing from a seat to a bed, other bed sections connected to each other and to the rear of the seat section when in seat position, coordinating means connected to the seat section and to said other sections to fold them in a position behind and below the seat section in its seat position and to unfold them to a bed position in front of the seat section when it is overturned rearwardly, and motor means mounted in the frame and connected to the mounting means for selectively extending the sections in alignment in front of the frame and for folding the bed sections below the seat section within the frame.

2,972,754
COMBINATION SITTING AND SLEEPING PIECE
Urban A. Weidner, Park Ridge, Ill., assignor to Burton-Dixie Corporation, Chicago, Ill., a corporation of Delaware.
Filed Dec. 23, 1957, Ser. No. 704,657
1 Claim. (Cl. 5—17)

In a combination bed and sitting piece capable of being converted from a lounge to a bed and back to a lounge and having a stationary back-rest, a horizontally disposed stationary frame, and a frame movably and slidably mounted upon said sationary frame and capable of providing a rearwardly inclined support for a seat when converted to a lounge and a substantially horizontal support for a mattress when converted to a bed, said stationary back-rest partially overlying said movable frame when in the lounge position, said stationary frame provided with spaced uprights and a track adjacent each end of the frame with each track joined at its ends to and bridging said uprights, each track being inclined rearwardly and downwardly through the greater portion of its length and inclined downwardly and outwardly adjacent its forward end to provide a well with an adjacent upright at each end, a resilient bumper on the forward uprights



to provide a cushion in the well for each said track, said tracks being C-shaped channel members opening inwardly, said movable frame at its opposite ends having a front leg and rearwardly spaced supporting rollers received in and movable in said tracks when said movable frame is advanced or retracted, guide rollers mounted on the front uprights of said stationary frame and forwardly of said frame, said guide rollers contacting the outer edges of said movable frame to guide said movable frame between its extended and retracted positions, said legs being elevated as the movable frame is being moved to either of its positions of use and contacting the floor when the forward supporting rollers move into said wells and abut said resilient bumpers at the fully extended position of said movable frame, said spaced rollers at each end being disposed substantially in horizontal alignment.

2,972,755
STRETCHER
Albert W. Abel, 911 Independence Ave., Kansas City, Mo.
Filed June 26, 1958, Ser. No. 744,865
2 Claims. (Cl. 5—82)



1. A stretcher comprising a frame, said frame including a pair of opposed, elongated sections, each section having an upper and a lower L-shaped rail; plates rigidly interconnecting said rails of each section; wheel and axle assemblies carried by said plates and interconnecting said sections; an elongated, flexible load-supporting member secured to said upper rails, said member having a width greater than the distance between said sections to create a transversely arched member disposed substantially en-

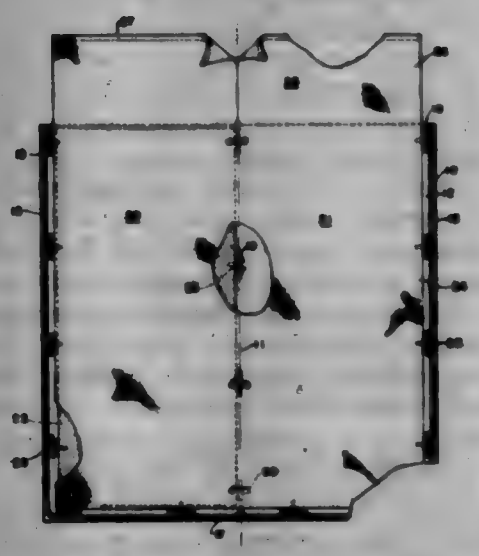
tirely below the plane of the upper edges of said sections; strips securing said load-supporting member to said bottom rails; a body-receiving bag mounted on and secured to said supporting member; straps secured to said supporting member and normally passing over the bag for holding the body within the bag; a rod joining said upper rails at one end thereof; a sleeve surrounding said rod and rotatable thereabout; and a rope pivotally interconnected with said sleeve.

2,972,756
BED OR TABLE COVER
Albert Monier and Lisette Monier, née Alperovitch, both of 87 Ave. de la Grande Armee, Paris (Seine), France
Filed Jan. 28, 1958, Ser. No. 711,724
2 Claims. (Cl. 5—334)



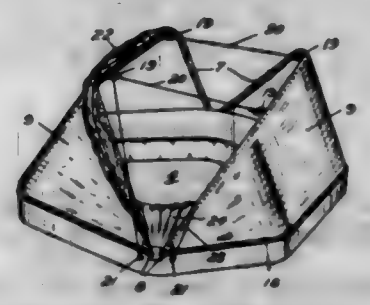
1. In a bed cover, a flat rectangular piece of fabric of sufficient size to cover the top of a mattress and to hang down over the sides and ends of said mattress, a plurality of buttonholes in said fabric placed along the outer edge of said fabric and adjacent each corner thereof, two buttonholes being located on the side edge of said fabric and more than two buttonholes being located on the end edge adjacent each corner of the fabric so that each corner of said fabric is foldable inwardly to form two overlapping triangular flaps which are located beneath the end edge of said fabric, said buttonholes being so placed that a buttonhole in each said triangular flap and in said hanging down end portion are in alignment when so folded with all buttonholes being located on the end edge of the mattress, and removable means for engaging said aligned buttonholes to hold the various thicknesses of fabric to each other, whereby said cover may be readily converted from the flat cloth to the contour sheet conforming to the top, side and ends of said mattress.

2,972,757
SLEEPING BAG
Janet Gaynor Adrian, 10464 Bellagio Road, Los Angeles, Calif.
Filed June 5, 1957, Ser. No. 663,735
1 Claim. (Cl. 5—343)



A sleeping bag combination comprising a flat cover formed by a comforter or the like of rectangular shape and having a longitudinal centerline dividing the cover into sections, said cover being adapted to be folded along said centerline to form upper and lower sections, said cover having inner and outer faces, zipper means disposed on the inner face of said cover along the side edges and at one end edge thereof, said zipper means being disposed slightly inside said edges and being thereby concealed from view from the outer face of said cover, said zipper means being engageable to form the cover into a bag, a flat blanket section corresponding generally in shape to the upper one of the sections of said cover and not substantially larger than said upper section, said blanket section being secured to the inner face of said upper cover section, and a sanitary sheet having a body portion corresponding generally in size and shape to the entire cover and being secured to the inner face of said cover, said sheet being adapted to be folded along its centerline with said cover, said blanket section lying between said one cover section and said sheet, said sheet being of greater length than said cover and having a portion projecting beyond one end of the cover, said projecting portion being split longitudinally to form flaps, one of the flaps being adapted to be turned over the outer face of said cover, and the other of the flaps being adapted to extend beyond the end of the cover, said cover having fastening loops of elastic material along its side edges and along said centerline, the side edges of said blanket section being secured to fastening loops along one side edge and along said centerline, and said sheet being secured along its side edges to fastening loops along the side edges of said cover and along its centerline to fastening loops along the centerline of said cover.

2,972,758
LIFE RAFTS
Marcel A. Belin, 11 Rue Voltaire (Loire Atlantique), Nantes, France
Filed Dec. 26, 1957, Ser. No. 705,304
3 Claims. (Cl. 9—11)



1. A life raft comprising a rigid frame, light weight buoyant elements affixed to said frame, a floor covering the middle portion of the frame in substantially coplanar relation therewith, an imputrescible watertight envelope surrounding said frame, said elements and said floor, a pair of hoops hinged to said frame and so sized as to be shiftable from one side to the other side of the plane of said frame, an impervious cloth secured to said hoops and to the periphery of said frame so as to provide a hood which can be opened out irrespective of the side on which the raft is buoyed, and means for retaining said hoops and said impervious cloth in their opened condition.

2,972,759
AUTOMATIC NUT TAPPING MACHINE HAVING TOOLS AND WORK HOLDERS MOVABLE IN A CIRCULAR PATH WITH IMPROVED NUT FEEDING AND PICK OFF MEANS
Swan Hillman, % Rockford Screw Products Co., 2501 9th St., Rockford, Ill.
Filed Dec. 26, 1957, Ser. No. 705,333
1 Claim. (Cl. 10—139)

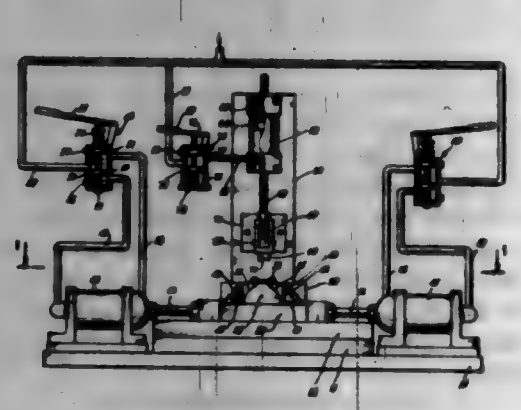
In a machine for tapping center holes in nut blanks, the combination of, a carrier continuously rotatable about

a fixed axis, axially alined pick-off and tapping elements paralleling said axis and mounted on said carrier on opposite sides of a transaxial medial plane disposed between adjacent ends of the elements, said pick-off element having a reduced end portion adapted to fit closely in said blank holes and terminating in a coned end surface coacting with the wall of a hole to center the blank on said reduced end portion, the latter terminating in an axially facing shoulder, means supporting a row of said blanks and advancing the same one by one to a pick-off position in which terminal blank lies in said plane with its axis in the cylindrical path defined by the axis of said elements, a stationary guide paralleling and extending along said path from said pick-off position on the side of said plane opposite said pick-off element and engageable with the blank to form a backing for maintaining the blank substantially in the plane during its movement edgewise out



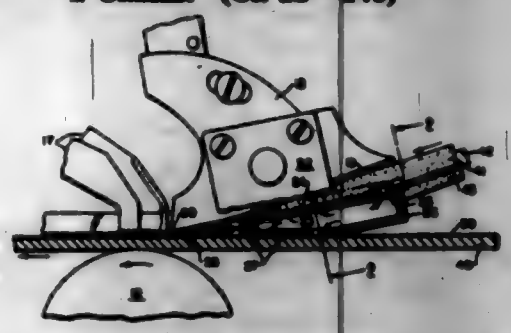
of said position and for a limited movement therebeyond, mechanism supporting said pick-off element on said carrier for axial movement toward said plane, mechanism operable, during turning of said carrier and movement of said elements therewith past said pick-off position and while said tapping element remains retracted away from said plane, to advance said pick-off element axially into the hole of said terminal blank at said position and cause said coned end surface to enter the blank hole and guide the blank onto said reduced end portion as the blank is pushed against and held by said shoulder against said guide while being slid edgewise along the guide and out of said position, and mechanism operable after centering of the picked-off blank on said reduced end and while the blank is held against said guide, to shift said elements relative to each other along their axis to bring the blank into engagement with said tapping element also during turning of said carrier.

2,972,760
APPARATUS FOR COVERING SHOE HEELS
Donald Lipp, 192—10A 69th Ave., Apt. 1C, Fresh Meadows, N.Y.
Filed Nov. 3, 1958, Ser. No. 771,267
15 Claims. (Cl. 12—49.1)



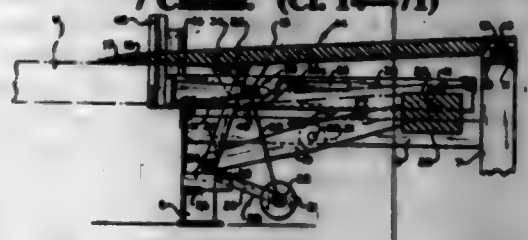
1. Apparatus for severing a covering sheet applied to a heel body, said apparatus comprising a supporting plate having one face engageable with the breast of a heel body with the covering sheet extending on opposite sides of the supporting plate beyond the other face thereof, and cutter members movable past said opposite sides of said supporting plate in shearing coaction with said other face thereof to sever the extending portions of said covering sheet.

2,972,761
HEAT SEALING PROCESS FOR RIB STRIPPING
Joseph C. Antell, Lynn, Mass., assignor to Prime Manufacturing Company, Lynn, Mass., a corporation of Massachusetts
Filed Mar. 11, 1958, Ser. No. 720,711
2 Claims. (Cl. 12—146)



1. The process of heat sealing cement-coated rib stripping to a sole comprising the steps of advancing the stripping and sole in convergent paths into contact, heating the sole progressively by direct conduction of hot metal, with ironing action in an area spaced rearwardly from its point of intial contact with the stripping, and heating the cement-coated face of the stripping throughout a substantial area thereof in approaching the said point of contact.

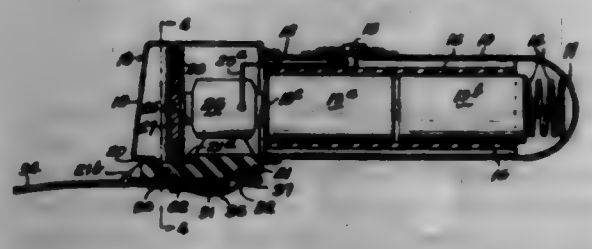
2,972,762
ADJUSTABLE LOADING RAMP
Thomas H. McConica, Clare, Mich., assignor to Loomis Machine Company, Clare, Mich., a corporation of Michigan
Filed May 9, 1958, Ser. No. 734,352
7 Claims. (Cl. 14—71)



1. An adjustable loading ramp construction comprising support means; a ramp member; means mounting said ramp member on said support means for swinging movements from a normal, substantially horizontal position to raised and lowered positions; a bumper frame member; means mounting said bumper frame member on said support means for movements from and to a first position in which its forward end extends beyond the forward end of said ramp member to and from a second position in which the forward end of said ramp member overlies the forward end of said bumper frame member; biasing means supported by said support means and connected to said ramp member for constantly exerting a force on the latter tending to raise it from its said normal position; overbalancing means capable of overcoming the force exerted by said biasing means on said ramp member and exerting a net force on the latter tending to lower said ramp member; means mounting said overbalancing means below said ramp member for forward and rearward swinging movements in a substantially vertical plane about an axis of rotation; stop means supported at the forward side of said axis and in the path of movement of said overbalancing means for limiting movement of the latter in a forward direction; force transmitting means interconnecting said overbalancing means and said ramp member operable to transmit the force of said overbalancing means to said ramp member; means carried by said bumper frame member and having a slidable connection with said force transmitting means movable with said bumper frame member for exerting a pull on said force transmitting means when said bumper frame member moves from either of said positions to the other so as

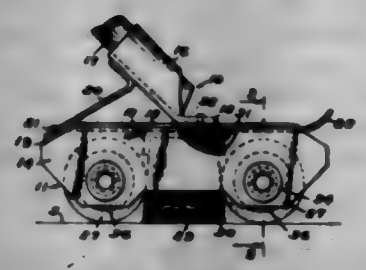
to swing said overbalancing means through said dead center position; and means urging said bumper frame member to said first position.

2,972,763
MATERIAL HANDLING DEVICE
James T. Payne, 735 NW. 18th St., Fort Lauderdale, Fla.
Filed Mar. 19, 1959, Ser. No. 800,566
8 Claims. (Cl. 15—1.5)



1. A material handling device comprising, a hand grip member, a material engaging element of electrically non-conducting composition carried by said hand grip member, and a static electricity generator supported by said hand grip member, and comprising a motor and a flexible non-conducting body of material driven by said motor in a sweeping movement on a part of said element to charge said element with static electricity.

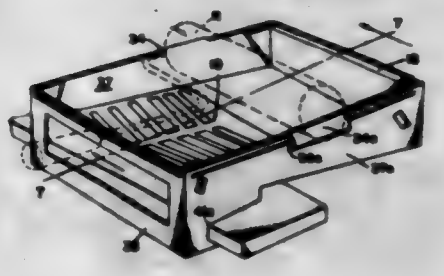
2,972,764
RUG CLEANING DEVICE
Robert W. Linenfelser, Brooklyn, Mich.
Filed Feb. 25, 1958, Ser. No. 717,390
5 Claims. (Cl. 15—114)



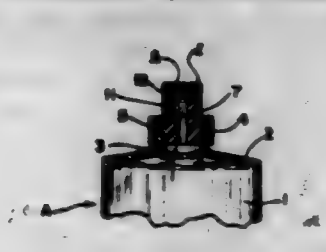
1. A device for cleaning the surfaces of rugs and the like comprising a movable head, a scrubbing brush fixedly carried by said head, a roller having a liquid pervious peripheral surface of a resilient deformable material, said roller being journaled on said head in position to engage and roll upon the surface to be cleaned during movement of said head over the latter surface with said scrubbing brush in contact with the latter surface, said roller further being positioned adjacent said scrubbing brush and the bristles of said brush being flexible for flexure toward and against the peripheral surface of said roller during movement aforesaid of said head and rotation of said roller to squeeze from the peripheral surface of said roller and produce a foaming action on cleaning fluid used in conjunction with said device.

2,972,765
PAINT TRAY ASSEMBLY
James C. Macy, Westfield, Frank J. Camille, Scotch Plains, and Alfred L. Smith, Westfield, N.J., assignors to Camilco, Inc., Fanwood, N.J., a corporation of New Jersey
Filed Nov. 29, 1956, Ser. No. 625,877
18 Claims. (Cl. 15—257.06)

1. A paint tray assembly comprising a substantially rectangular and relatively shallow support including side and end walls and bottom wall means inclined downwardly from one end wall to the other, a disposable tray-like liner of complemental configuration to that of the support and having a bottom and side and end walls fitting respectively within the side and end walls of said support with the bottom wall resting on said bottom wall means to incline the liner from one end to the other, and mutually interfitting means adjacent the corners of said support and liner confining the corners of the liner to the corners of the support and maintaining the side and end walls of the liner in juxtaposition to the corresponding walls of the support.

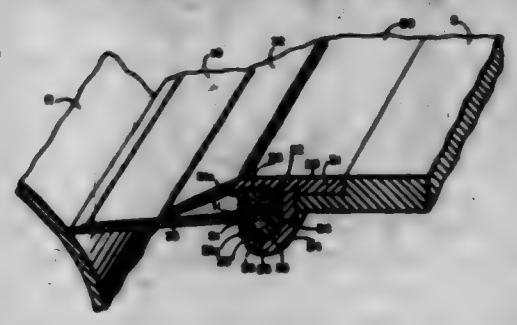


2,972,766
DISPENSING APPLICATORS
Charles D. Pauli, Jr., Rte. 2, Box 424, Chesterfield, Mo.
Filed Mar. 20, 1958, Ser. No. 722,752
6 Claims. (Cl. 15—565)



1. A dispensing applicator comprising a squeeze-bottle having a tubular neck, a cap mounted on said neck, a plug mounted in and projecting through the cap and having a flat annular outer face and an internal cylindrical side wall which extends partially through the plug from the outer face whereby to define an outwardly opening cup-like recess in its outwardly presented end, said plug also having a duct extending therethrough establishing communication between the interior of the bottle and the recess, and a porous element mounted in said recess having a substantially flat face parallel to and spaced inwardly from the flat annular face across the top of the side wall.

2,972,767
DOCTOR ASSEMBLY AND FRONT REMOVABLE BLADE AND HOLDER THEREFOR WITH CAPACITY FOR OSCILLATION
Richmond W. Smith, Walpole, Mass., assignor to Bird Machine Co., South Walpole, Mass., a corporation of Massachusetts
Filed Jan. 27, 1956, Ser. No. 561,845
16 Claims. (Cl. 15—256.5)



1. In a doctor of the type described, in combination, an elongated blade, an elongated light weight flexible generally cylindrical holder having a flatted front face and a longitudinal recess in said holder face receiving the blade back, detent means carried by said blade and recessed means on said holder and interfitting to prevent

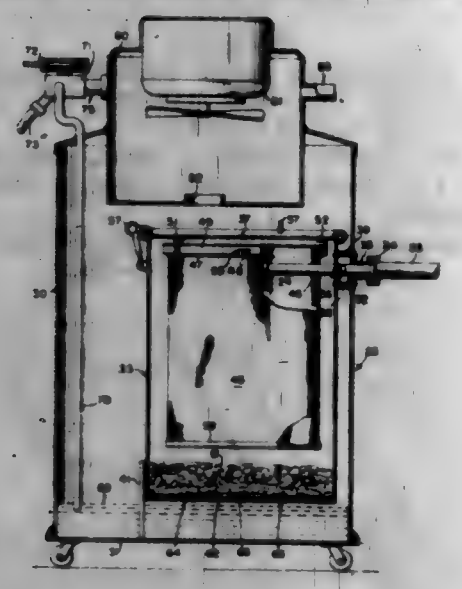
frontwise removal of the blade from the holder and an elongated carrier having a cylindrical open ended bearing recess in which said holder is rotatably and slidably received, the carrier defining at said bearing recess a front opening proportioned to retain the holder in operative position and to permit its front removal therethrough when rotated to present thereat said flatted face.

2,972,768
SHOE POLISHING BRUSHES
Louis J. Petion, 1 Town House, Great Neck, N.Y.
Filed June 10, 1959, Ser. No. 819,286
6 Claims. (Cl. 15—258)



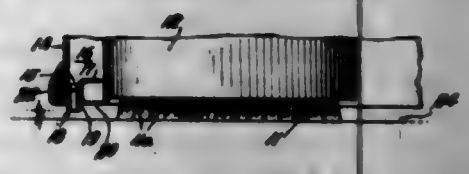
1. In a shoe polishing device, an elongate base plate having two faces and ends, a polishing brush on one face of said base plate, a pressure container of shoe polish mounted on the other face of said base plate, a cover defining a cavity to selectively accommodate said container and said brush, said cover having opposed end walls, means establishing an axis of rotation for said base plate and including a pivot at one end of said base plate and mounted in one of said end walls, a nozzle forming a part of said pressure container, the other of said end walls having an aperture in which said nozzle is disposed, said nozzle and said pivot being coaxial.

2,972,769
SCRUBBING MACHINE FOR ON-LOCATION CLEANING OF PILE-TYPE FLOOR COVERING
Esmond J. Keating, Albert S. Cooper, Jr., and Albert M. Walker, New Orleans, La., assignors to the United States of America as represented by the Secretary of Agriculture
Filed July 24, 1959, Ser. No. 829,469
2 Claims. (Cl. 15—321)
(Granted under Title 35, U.S. Code (1952), sec. 266)



2. A receiver for soil-and-lint laden detergent suds comprising an outer container having a solid bottom and having an inlet port in its wall through which the soil-and-lint laden suds are received, an inner container positioned and supported within said outer container and spaced from the inner wall of said outer container, said inner container having an inlet port in its wall communicating with said inlet port of said outer container for receiving the soil-and-lint laden suds therefrom, having an open bottom spaced from the bottom of the outer container thereby forming a reservoir between said bottoms of the inner and outer containers for collecting detergent solution as the suds are subsequently reconverted thereto, and having a tight fitting removable lid, a screen trap, detachably mounted within said inner container for separating the lint from said soil-and-lint laden suds and holding the lint thereon thereby producing lint-free suds, a suds-breaking barrier communicating with said screen trap for reconverting the lint-free suds, upon contact therewith, to detergent solution which thereupon flows into the said reservoir and collects therein, means for supporting said suds-breaking barrier, and suction means communicating with said inlet port of the inner container, said screen trap being interposed between said inlet port of the inner container and said suction means, said suds-breaking barrier being interposed between said screen trap and said suction means, said suction means being adapted to draw the soil-and-lint laden suds through the inlet port of said outer container, then through the communicating inlet port of said inner container, then through said screen trap and thence through said suds-breaking barrier as a result of which the lint is separated from the soil-and-lint laden suds by said screen trap and collected therein thereby producing lint-free suds which are deconverted to detergent solution upon contacting the suds-breaking barrier whereupon the resulting reconverted detergent solution flows into and collects in the reservoir, a conduit, the inlet end of which is positioned within the outer container below the bottom of the inner container, means for conveying the reconverted detergent solution, as it collects in the reservoir, through said conduit out of said receiver at a rate sufficient to maintain the level of the detergent solution below the bottom of the inner container, and means for removing the screen trap holding the accumulated lint collected therein for cleaning.

2,972,770
SURFACE TREATING APPARATUS
Nils Gunnar Cronhage, Bromma, Sweden, assignor to Aktiebolaget Electrolux, Stockholm, Sweden, a corporation of Sweden
Filed Mar. 25, 1957, Ser. No. 648,469
Claims priority, application Sweden Mar. 29, 1956
1 Claim. (Cl. 15—354)



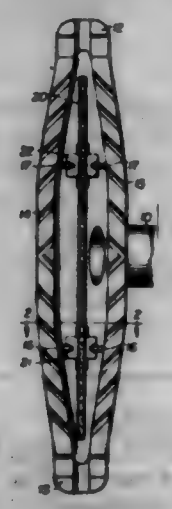
In floor polishing apparatus of the class described including structure providing a housing having a downwardly depending skirt about the periphery thereof and rotatable brush means having bristles adapted to be positioned on a surface and be moved thereover, the combination of means at the underside of the housing to provide an elongated slit defining a first inlet at the vicinity of the lower end of the skirt through which air is adapted to be withdrawn from the surface, an elongated apertured member having spaced elongated walls and connecting end walls defining an air passage which extends substantially parallel to the walls and has air admission and exit openings, at least the air exit opening end of the apertured member being formed of resilient material, and means including the air exit opening end of the elongated apertured member for detachably connecting the latter to the elongated slit with the air admission opening end thereof projecting downward and the

air admission opening defining a second inlet which is removed from the surface, the means providing the elongated slit and the rotatable brush means being so constructed and formed that when the structure is in an upright position on the surface and the brush bristles are worn and about one-half of their original length, the first inlet defined by the elongated slit will be removed from the surface by a distance within one-half of the unworn length of the bristles, and the elongated apertured member being so constructed and formed that when the brush bristles are new and unworn it is effective to extend, or project the inlet from the first inlet to the second inlet in a direction toward the surface by a distance approximately one-half the unworn length of the brush bristles.

2,972,771
VACUUM CLEANER NOZZLE WITH RESILIENTLY MOUNTED BRUSH

John A. Kemper, Cleveland, Ohio, assignor to The Scott & Fetzer Company, Cleveland, Ohio, a corporation of Ohio

Filed Apr. 21, 1959, Ser. No. 807,842
3 Claims. (Cl. 15—371)



1. A suction cleaning tool comprising a nozzle having end portions and side walls defining a lower work face provided with an elongated suction opening, said suction opening extending upwardly to form a suction passage through said tool, pairs of cooperating ribs extending transversely into said passage from the side walls of the nozzle, each pair of said ribs being provided with opposing upwardly facing shoulder portions, an elongated brush member positioned longitudinally of said suction opening intermediate said side walls, supporting brackets mounted on said brush member, each of said supporting brackets having slotted outwardly extending flanges and upwardly extending spring means, said brush member and its supporting brackets being mounted by engagement of the slots in the flanges of said brackets with said transverse ribs, said brush member being maintained in an outwardly extending position by said spring means and being restrained from movement outwardly of the nozzle by the engagement of said flanges with the shoulder portions of said ribs.

2,972,772
WAXING MEMBER FOR FLOOR POLISHING MACHINES

José B. Cortéz, Buenos Aires, Argentina, assignor to Fequilite S.R.L., Buenos Aires, Argentina, a company of Buenos Aires, Argentina

Filed Aug. 18, 1958, Ser. No. 755,000
5 Claims. (Cl. 15—501)

1. A waxing member for attachment to a rotary floor polishing machine having a power driven disk comprising, a circular base portion having means for coupling it to said disk for rotation therewith, a cylindrical body of solid floor wax having one end mounted on said base portion for rotative movement with said base portion and the other end frictionally engageable with the floor, a distributor coupled with said base portion for rotational

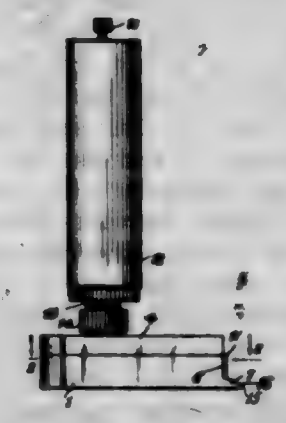


movement therewith, said distributor being abradable by rotative friction with the floor, said distributor being a container surrounding the side of said cylindrical body of solid floor wax and extending from said base portion to the floor engageable end of said body of wax.

2,972,773
APPLICATORS FOR ADHESIVES

Kent Harlan, Paramus, N.J., assignor to La France Carpets, Inc., New York, N.Y., a corporation of New York

Filed Dec. 18, 1958, Ser. No. 781,332
1 Claim. (Cl. 15—560)



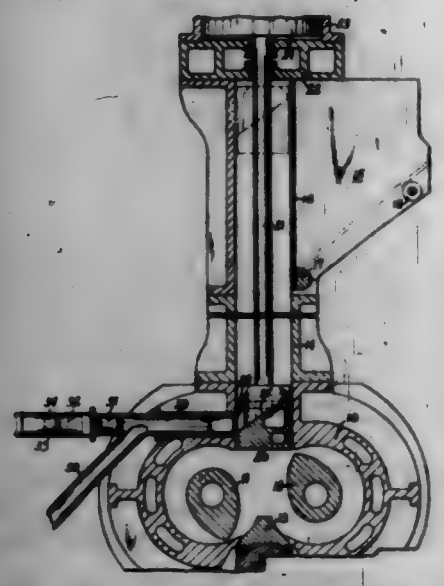
An applicator for adhesive comprising, a glue-container consisting of a shallow, triangulated, flat receptacle having a top wall, a bottom wall and a surrounding side wall, the forward end of the container being narrower than the rear end, the side wall having an aperture located at said forward end of the container, a roller mounted within the container on an axis perpendicular to the bottom wall and having a portion of its periphery projecting out of the aperture for application against a surface to be glue-coated, a glue holder connected to the top wall of the container and disposed at right angles to the plane of said top wall and with its axis substantially parallel to the axis of the roller, said glue holder supplying glue into the container while the bottom wall of the container is flatly disposed against a surface, the bottom wall of the glue container having an integral extension in the form of a lip projecting wholly forwardly of the projecting peripheral part of the roller, said lip having its under surface in the plane of the entire lower face of the bottom wall of the container, said lip being wedge-shaped and having a relatively sharp forward edge and having its upper face inclined upwardly from its sharp forward edge to the rear of said lip at the periphery of said roller, said forward edge of the lip being arcuately curved, the shape of said lip tending to elevate carpeting under which it is inserted to thereby bring the elevated edge of the carpeting against the periphery of the roller when the bottom wall of the container is moved along a flat surface on which the carpeting is resting.

2,972,774

MIXERS FOR PLASTIC MATERIALS WITH LIQUID DISCHARGE MEANS

Douglas W. MacLeod, Ansonia, Conn., assignor to Farrel-Birmingham Company, Incorporated, Ansonia, Conn., a corporation of Connecticut

Filed Nov. 9, 1959, Ser. No. 851,785
11 Claims. (Cl. 18—2)



11. A mixer for treating and demoisturizing plastic material having a chamber within which the material is treated, said chamber having a charging passage, a charging stack communicating with said passage through which the material is introduced into the chamber, a ram slidably mounted in the stack to close said passage with lateral clearance between the ram and the wall of the passage to permit liquid to pass upwardly from the chamber to the upper surface of the ram, the wall of said passage having a laterally directed opening therein adjacent the upper portion of the ram when the latter is in closed position, a drain tube connected with said opening to carry away the liquid from the upper surface of the ram, a closure member reciprocably mounted in said tube and movable to a forward position to close the opening in the wall of the passage and to a retracted position to uncover said opening, fluid-pressure-actuated means to move said closure member, a valve controlling the introduction of fluid pressure to said means, electrical means for moving said valve, and a switch actuated by movement of the plunger to energize said electrical means.

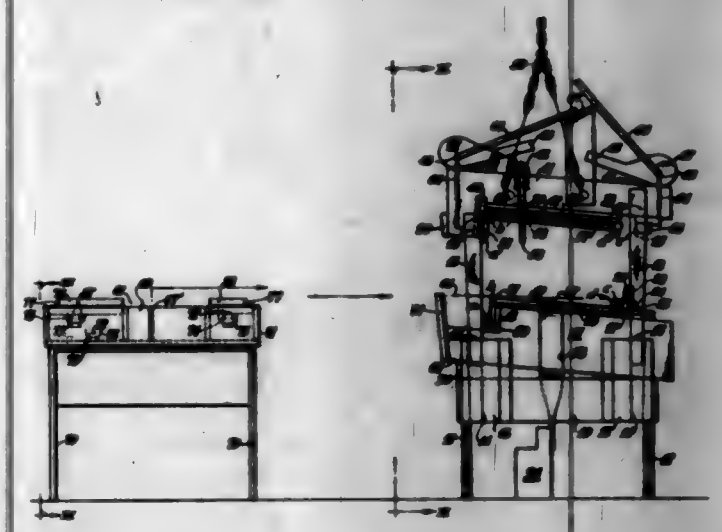
2,972,775

APPARATUS FOR FORMING SHEET MATERIAL

Richard P. Baillie, Forward Township, Butler County, and William H. Smith, Evansburg Borough, Pa., assignors, by mesne assignments, to Dominion and Schenck Company, Evans City, Pa., a corporation of Pennsylvania

Filed Aug. 26, 1954, Ser. No. 452,322
4 Claims. (Cl. 18—19)

1. Apparatus for forming postformable sheet material, comprising, in combination, a forming machine having a lower frame member and an upper frame member, said frame members further being movable relative to one another to open and close said machine, upper and lower forming rigid unitary dies of similar cross section respectively connected to said frame members, said dies having parallel forming surfaces including an intermediate area portion substantially at right angles to the direction of relative vertical movement of said dies, said dies being apart the thickness of said sheet material when said dies are closed, said parallel forming surfaces being in continuous right angle arrangement from front to back and straight from side to side, retainer members mounted in said upper frame member and extending through said upper forming die on said upper frame member to press only against said sheet material, said upper forming die and said lower forming die having their complementary forming surfaces somewhat tilted in general parallelism with said intermediate area portion correspondingly tilted from the horizontal, said lower forming die having at least line contact with said sheet material placed thereon when



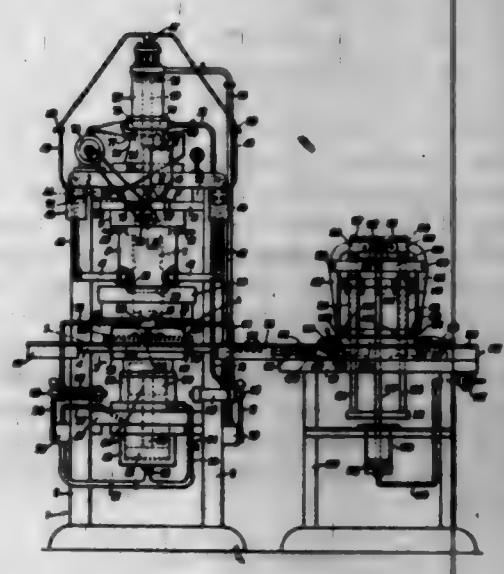
said machine is open, means to move said retainer members below said upper forming die to engage and press yieldably against said sheet material toward said lower forming die as said machine is closed to prevent relative surface shifting between said sheet material and said respective dies, and means for closing said machine and said dies to form said sheet material in conformance with the parallel forming surfaces of said dies.

2,972,776

MOULDING APPARATUS

John Christian Siegrist, Case Postale 50, Delemont, Jura Bernois, Switzerland, assignor of one-half to Georges Coppi, Bassecourt, Jura Bernois, Switzerland

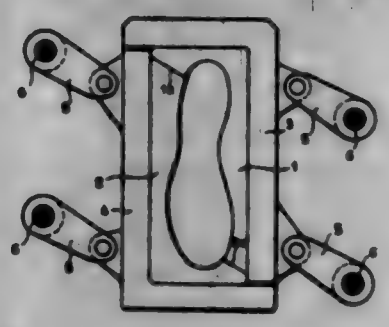
Filed Aug. 20, 1956, Ser. No. 605,073
6 Claims. (Cl. 18—30)



1. Injection moulding apparatus comprising press members for supporting a mould during a moulding operation, injection means including an injection tube for the reception of moulding material, an injection nozzle co-axial with said tube for injecting moulding material into a mould, a plunger device movable axially in said injection tube for compressing moulding material and urging said material from said tube into said injection nozzle, fluid pressure means for actuating said plunger

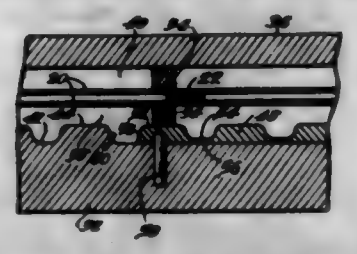
device to force moulding material through said injection nozzle at a required injection pressure, a valve element guided for displacement axially within said injection nozzle to control the passage of moulding material through said nozzle, holding means for holding said valve element in its closed position, and control means operatively connected to said holding means for controlling operation of said holding means, said control means being operable to release said holding means to permit displacement of the valve element from its closed position for injection of moulding material at the required injection pressure, said apparatus further comprising an upright cylinder co-axial with said injection tube, means for removably holding said injection tube within said cylinder, a relatively fixed housing surrounding and supporting said cylinder, a bolster member disposed at the end of said housing adjacent said injection nozzle and constituting one of said press members, means adjustably securing said bolster member to said housing to ensure that, when a mould is brought into engagement with the bolster member, said injection nozzle will be properly seated in a sprue opening of the mould, the other of said press members for co-operation with said bolster member comprising a table, a guide extending along said table transversely to the axis of said injection plunger and nozzle, for guiding a mould to and from a moulding position beneath the injection nozzle, stop means for locating the mould in said moulding position and hydraulically operated ram means for moving said table vertically toward and away from said bolster member at the start and finish of a molding operation, said ram means comprising upper and lower co-axial ram cylinders and pistons, a piston rod interconnecting said pistons, and fluid pressure means for operating said ram pistons to effect displacement of said table.

2,972,777
MOULD FOR VULCANIZING SOLES OF RUBBER, PLASTICS OR THE LIKE TO SHOE UPPERS
Sergio Ghignatti, Milan, Italy, assignor to Umberto Ghignatti, Milan, Italy
Filed Oct. 16, 1957, Ser. No. 690,548
Claims priority, application Italy Dec. 13, 1956
5 Claims. (Cl. 18—34)



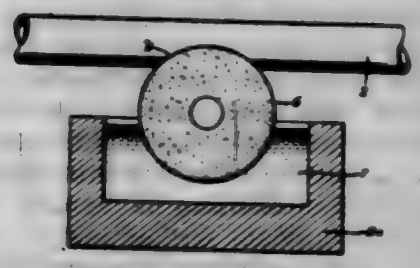
5. In a sole vulcanizing mould, a pair of movable peripheral sections adapted to jointly shape the lateral surface of a sole, one of the said sections including the tip forming portion and the other section including the heel forming portion of the mould, and an articulated parallelogram system for each section for opening and closing the mould, a single pressure fluid actuating means operatively associated with the two articulated parallelogram systems, said pressure fluid actuating means comprising two pairs of opposite pistons, a double-acting cylinder for each pair of pistons wherein the pair of pistons is operative, piston rods protruding from each end of the cylinders, a common pressure fluid delivery source operatively associated with the two cylinders, and means connecting the piston rods with the articulated parallelogram systems thereby to selectively open and close the mould.

2,972,778
MAT MOLD HAVING A SPECIAL INSERT
Lance Wikkerink, Milwaukee 15, Wis., assignor to George W. Housley, Jr., Chicago, Ill.
Filed Sept. 3, 1957, Ser. No. 681,819
4 Claims. (Cl. 18—44)



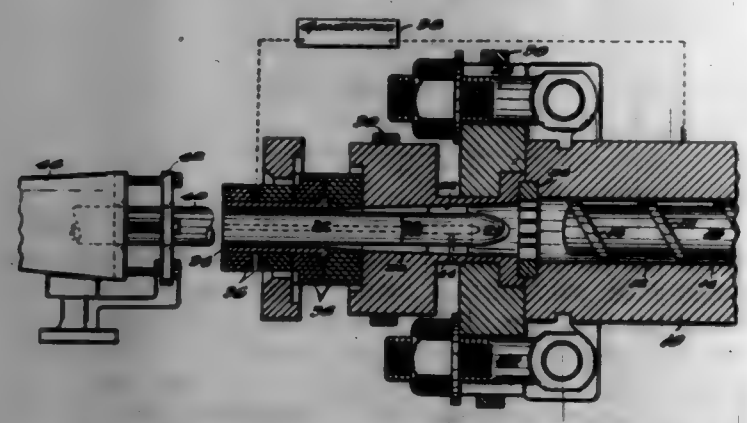
1. A mold for forming a resilient mat comprising a mold element having a surface for forming the mat upper face, said surface being design engraved so as to cause the mat upper face to have a relief design formed thereon over the major portion of its area, said mold element surface having a relatively large area surrounded by said design engraved area reentrantly engraved to a uniform depth to form a plane surface at substantially the depth of said design engraving, a mold insert having a plane bottom surface adapted to fit into said relatively large area, said insert being formed to the same general peripheral contour as the periphery of said relatively large area but being appreciably smaller so that when said insert is centered in said relatively large area a portion of said plane depressed area is exposed completely around said insert so as to form a continuous groove of substantial width completely around said insert, said groove being bounded by the peripheral edge of the insert on the inside and the edge of said relatively large area on the outside, means for removably fixing said insert in centered relation in said relatively large area, the thickness of said insert being substantially the same as the depth of said design engraving, said insert having a special design engraved thereon with the depth of said special design engraving being less than the depth of the first said design engraving, and mold means which in conjunction with said mold element and insert forms a mold cavity for forming a mat, whereby the upper face of a mat formed in said mold bears said special design in relief thereon surrounded by a continuous rib surrounded in turn by the first said relief design with the top of said rib substantially flush with the top of the first said design and slightly above the top of the special design.

2,972,779
PLASTIC TUBING PROCESS
Calvin C. Cowley, La Canada, Calif., assignor to Don Baxter, Inc., Glendale, Calif., a corporation of Nevada
Original application June 7, 1954, Ser. No. 434,879. Divided and this application Nov. 14, 1958, Ser. No. 773,998
5 Claims. (Cl. 18—48)



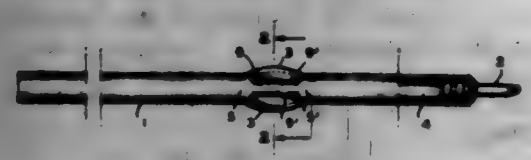
1. A process of producing a polyvinyl tubing with a smoothed opening therein, which process comprises, first punching an opening in the tubing, then simultaneously grinding and dissolving the tubing at said opening by contacting the walls of the opening with a moving grinding element supplied at its surface with a solvent of a polyvinyl polymer.

2,972,780
PROCESS FOR EXTRUSION AND CONTINUOUS CURE OF POLYMERIC COMPOSITIONS
Bram B. S. T. Boonstra, Sharon, Mass., assignor to Cabot Corporation, Boston, Mass., a corporation of Delaware
Filed May 17, 1957, Ser. No. 659,867
9 Claims. (Cl. 18—55)



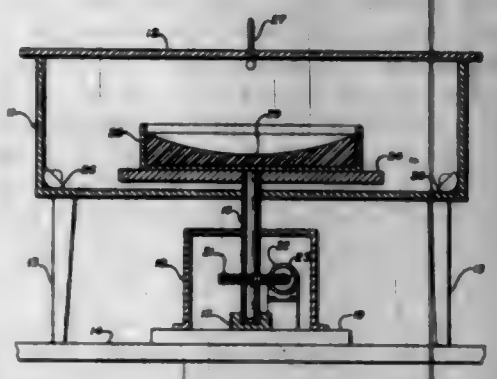
1. A fully continuous process for producing a finished cured article of uniform cross-sectional shape and continuously extended length from a heat-curable polymeric composition which, at temperatures below the minimum temperature required for active curing thereof, softens to the point of being formless per se and readily shapable, comprising heating said composition to a temperature at which it is shapable but not curable, causing it to flow into a uniform passage of substantially the cross-sectional shape desired in the finished article while maintaining the said composition below its active curing temperatures, then quickly introducing additional heat into said composition as it is flowing through said passage so as to raise its temperature to a temperature above the minimum temperature required for active curing thereof, the time-temperature relationship of said heating in said passage being such that a minor but form-stabilizing portion of the total cure obtainable in said composition has been accomplished when it emerges from said passage, and then completing cure of the thus shaped and form-set composition while it is not closely confined by contacting surfaces.

2,972,781
METHOD OF DEFORMING PLASTIC ARTICLES
Morris Levy, Teaneck, N.J., assignor to David Kahn, Inc., Hudson, N.J., a corporation of New Jersey
Filed Nov. 5, 1957, Ser. No. 694,614
13 Claims. (Cl. 18—56)



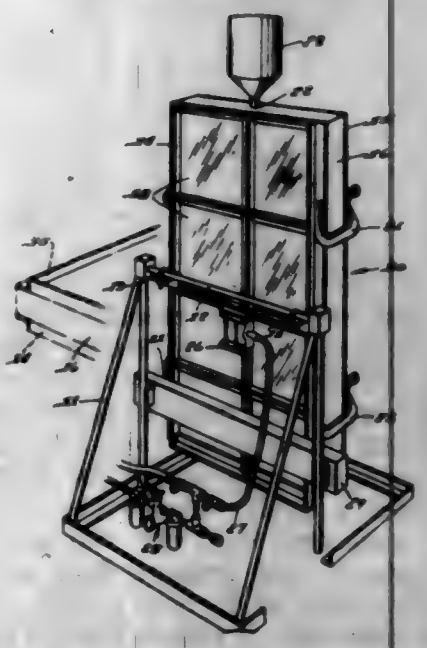
1. In a method of making a ball point cartridge having a ball point writing tip at one end thereof, the steps of providing an elongated organic plastic tube and forming at least one lateral projection on a portion of said tube intermediate the extremities thereof by applying pressure to a segmental portion of said intermediate portion in a direction generally transverse to the axis of said tube to cause outward flow of the wall of said segmental portion, said pressure being sufficient to exceed the elastic limit of said plastic but short of the rupturing point of said plastic, and but short of the rupturing point of said plastic, and then releasing the pressure, said pressure being applied by a die, the face of which is rearwardly inclined with respect to the direction of movement of said die, said inclination being in an outward direction relative to the axis of said tube to form an angle with respect to a plane perpendicular to the direction of movement of said die, the mechanical properties of the plastic being such that the plastic will not rupture under said pressure and will maintain the deformation resulting from the flow of the plastic when the pressure is released.

2,972,782
PROCESS FOR THE MANUFACTURE OF REFLECTOR BACKINGS
Paul B. Archibald, Livermore, Calif. (659 Bonita Ave., Pleasant, Calif.), assignor of twenty-five percent to Dominick Nardelli, Castro Valley, Calif.
Filed Dec. 16, 1957, Ser. No. 702,915
1 Claim. (Cl. 18—58.3)



A method for producing a highly accurate, cast paraboloidal surface comprising the steps of disposing a fluid epoxy resin in an open pan, rotating said pan about an axis which is inclined to a vertical line and which forms an angle of less than ten degrees with said vertical line while allowing said resin to harden, whereby a highly accurate hardened cast paraboloidal surface coaxial with said axis on which said pan is rotating is formed in said hardened epoxy resin.

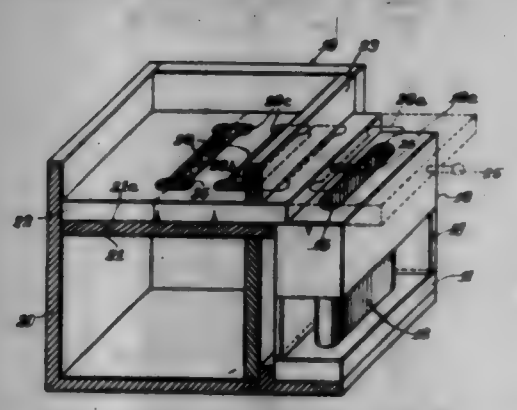
2,972,783
METHOD FOR FABRICATING GLASS BLOCK PANELS
Richard G. Russell and Jean P. Theisen, Sylvania, and Charles H. Stark, Waterville, Ohio, assignors to Kimble Glass Company, a corporation of Ohio
Filed Dec. 2, 1957, Ser. No. 700,205
1 Claim. (Cl. 18—59)



In a method of fabricating a complete glass block panel having a peripheral frame surrounding a plurality of glass blocks joined to one another and to the frame, the steps of positioning the blocks and frame in their finally assembled and spaced relation, the frame enclosing the perimeter of the assembled blocks, sealing the in-

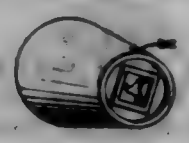
terstices between adjacent blocks and between the blocks and the adjacent portions of the frame while maintaining interconnecting flow passages therebetween, positioning the block and frame assembly in a substantially upwardly extending position, introducing a curable cementitious bonding material into the sealed assembly for flow through said flow passages into the sealed interstices, vibrating the block and frame assembly in its upwardly extending position, positioning said assembly in a substantially horizontal position, vibrating the assembly while in its substantially horizontal position, the combined vibrating steps eliminating essentially all voids within the bonding material, at least partially curing the essentially void-free bonding material and then removing the integrally joined frame and blocks as a complete unit.

2,972,784
METHOD OF ENCAPSULATING A MAGNET WITH POLYTETRAFLUOROETHYLENE
Francis R. Shonka, Riverside, and Edward G. Solecki, Chicago, Ill., assignors to Arthur S. La Pine & Company, a corporation of Illinois
Filed Mar. 4, 1958, Ser. No. 719,148
5 Claims. (Cl. 18—59)



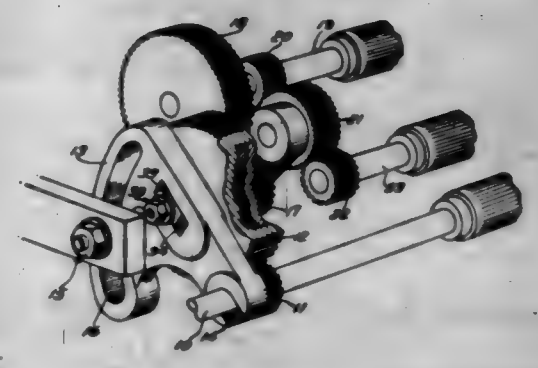
1. The method of preforming a Teflon encapsulated rod magnet comprising in combination, the steps of: depositing a first quantity of granular Teflon in a mold cavity so as to provide an increased height of the upper surface of the Teflon at opposite portions of the cavity; disposing a rod magnet on the deposited Teflon in a centered position to extend between said opposite portions in the cavity; depositing a second quantity of granular Teflon over said first quantity and magnet in the mold cavity, the depositing of the second quantity being controlled to deliver a greater amount of the Teflon to opposite portions of the cavity than to the portion therebetween; and urging means relatively together in the cavity to compact the Teflon about said magnet without substantial flow thereof.

2,972,785
MECHANICAL ELEMENTS FORMED FROM ALUMINA-FILLED POLYESTER RESINS
Enrique G. Toscoda, Turkey Run Road, McLean, Va.
Filed Jan. 13, 1956, Ser. No. 559,088
11 Claims. (Cl. 18—59.3)



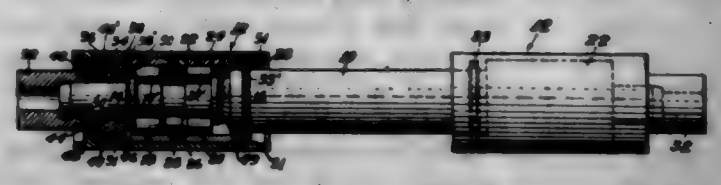
3. A die adapted in use to apply pressure having its working surface shaped to desired form by casting, said die working surface consisting of an alumina filled polyester resin, said resin being filled with fine particulate levigated alumina having a particle size in the range of 0.1 to 3 microns in proportion of about 30 to 65 percent by weight of said resin, said filler resin being characterized by having a compressive strength of at least 25,000 p.s.i.

2,972,786
DRAFTING DRIVE ASSEMBLY
Warner H. Tabor, Bristol, R.I., assignor to Dixon Corporation, a corporation of Rhode Island
Filed June 12, 1959, Ser. No. 819,853
4 Claims. (Cl. 19—130)



1. In a spinning frame having a plurality of drafting rolls, a driving assembly for rotating said rolls comprising means for driving the front roll, planetary gearing driven from the front roll, said planetary gearing having its output coupled to a draft change gear, said draft change gear driving suitable gearing driving the remaining rolls of said drafting assembly.

2,972,787
TOP ROLLER FOR SPINNING MACHINES
Walter Sommer, Leonberg, Wurttemberg, and Friedrich Schmidt, Stuttgart-Zuffenhausen, Germany, assignors to SKF Kugellagerfabriken Gesellschaft mit beschrankter Haftung, Stuttgart-Bad Cannstatt, Germany, a German company
Filed Mar. 6, 1959, Ser. No. 797,772
9 Claims. (Cl. 19—142)



9. A top roller for a spinning machine, comprising a shaft; a roll rotatably mounted at each end of the shaft, each roll including a tubular member and an outer sleeve fitted upon the tubular member; a single antifriction bearing for each of the rolls, the shaft constituting the inner raceways, and the tubular members constituting the outer raceways of the bearings; a ring detachably connecting the tubular member and outer sleeve, the connecting ring being of resilient material and being provided with locking means, the tubular member and outer sleeve being provided with complementary locking means; a packing body outside of each bearing, each packing body being provided around, and on the side of an end of, the shaft, being of resilient material, and including a substantially tubular portion and two spacedly arranged annular flanges integrally formed with the tubular portion, said connecting ring together with one of said flanges forming a first sealing gap, and said tubular member together with the other one of said flanges forming a second sealing gap, said gaps being spaced, the first gap serving to prevent infiltration of fiber particles into the associated bearing, the second gap permitting lubrication of the associated bearing and serving at the same time to prevent the lubricant used from escaping from the bearing.

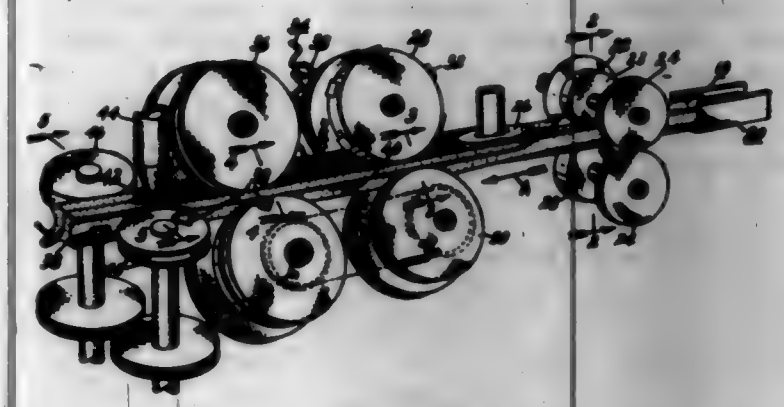
2,972,788
SWINGING DOOR SUPPORT
Bertram M. Sheen, Chicago, Ill., assignor to George W. Housiby, Jr., Chicago, Ill.
Filed July 14, 1958, Ser. No. 748,242
3 Claims. (Cl. 20—16)



1. In a swinging door assembly, the combination of a generally flat vertical door including a horizontal bridge element on the lower end thereof and two skirt elements depending from opposite sides of the bridge element in generally parallel relation to the central plane of the door, a shim plate placed flat against the underside of said bridge element at one end thereof, a pin plate secured to said bridge element in underlying relation to said shim plate, a pin depending rigidly from said pin plate, a horizontal arm having a door support section underlying said pin plate and defining a slot elongated parallel to the central plane of the door and receiving said depending pin, adjusting means on said arm engaging said pin to adjust the latter horizontally in said slot, said door support section of said arm projecting laterally to one side of said door, the projecting end of said door support section defining therein a downwardly open vertical opening, a rotatable door support shaft projecting upwardly into said opening, an internally threaded annular collar fixed to said door support section of said arm and encircling said opening in overlying relation to said shaft, an externally threaded adjusting plug threaded into said collar and engaging the upper end of said shaft to adjust said arm vertically on the shaft, the end portion of said arm defining said opening and said collar defining a vertical slot therethrough extending radially outward from said adjusting plug and radially outward from said opening, a clamping screw spanning said slot and coacting with the shaft encircling portion of the arm to contract the latter tightly around said shaft and to clamp said adjusting plug, said arm including a blade section joining the door end of said door support section of the arm and projecting horizontally therefrom between said skirt elements, the projecting end of said blade section defining two vertically spaced pairs of horizontally spaced openings, and two adjusting screws extending through said respective skirt elements and threaded into one of said pairs of blade openings.

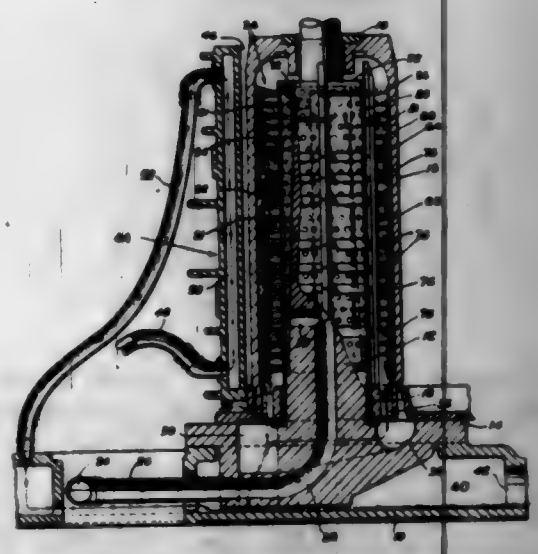
2,972,789
SEALING STRIP AND METHOD OF MANUFACTURING SUCH STRIP
Thomas O. Mathues, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Nov. 6, 1959, Ser. No. 851,371
8 Claims. (Cl. 20—69)

5. In a method for making a reinforced sealing strip having spaced attachment points extending outwardly therefrom, comprising, providing an elastomeric sealing strip, slitting the sealing strip longitudinally thereof and in a plane normal to the plane in which the attachment points normally extend, perforating one side of the slit strip, progressively opening the slit, progressively passing attachment points through the slits whereby the attach-



ment points extend through the slits and outwardly of the strip and finally progressively closing the slit.

2,972,790
COOLING APPARATUS FOR A STEREOTYPE PLATE CASTING CYLINDER
James F. McGahan, 50 Copley St., Wellesley, Mass.
Filed June 8, 1959, Ser. No. 819,888
3 Claims. (Cl. 22—5)

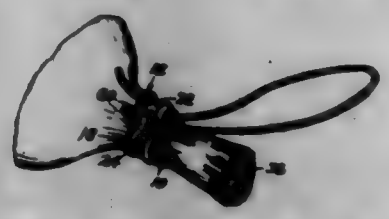


1. In a stereotype plate casting device, in combination, a vertically disposed hollow casting cylinder, a tubular member having a plurality of perforated openings throughout its circumference and disposed within and spaced from the inner wall of the cylinder providing an annular space between said wall and the exterior wall of the tubular member, means for directing cooling liquid under pressure into said tubular member to be discharged through said perforated openings against the inner wall of the cylinder, and separate baffle means disposed in said annular space for retarding the downward flow of the liquid therethrough and for redirecting the flow back onto the cylinder wall, said baffle means comprising a plurality of vertically spaced annular deflecting elements, each deflecting element being inclined downwardly and outwardly.

2,972,791
CASING TIE AND MAKING SAME
Howard Kolom, Far Rockaway, N.Y. (% Global Industrial Machinery Corp., 686 Henry St., Brooklyn 31, N.Y.)
Filed July 24, 1958, Ser. No. 750,624
9 Claims. (Cl. 24—30.5)

5. The method of making a tie on a flexible casing comprising applying to a reduced casing end a U-shaped fastener having plane end edges, compressing said reduced end, the fastener being passed around the compressed end and out of contact therewith, bending the

fastener into a tightly closed ring with the plane end edges in pressed contact with each other throughout, the fastener having transversely spaced apart parallel ribs pressed outwardly and each terminating in spaced relation to the flat end edges, crimping and indenting the



longitudinal middle strip between the ribs by applying pressure directly only to said strip until the ribs are indented and the longitudinal strip of the fastener between the ribs is indented to a greater depth than the indentation of the ribs.

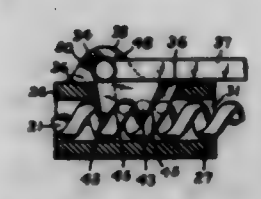
2,972,792
RESILIENT RIB AND GROOVE SLIDE FASTENERS
Valdimar C. Johnson, Edmonds, Wash.
(Rte. 1, Box 3650, Issaquah, Wash.)
Filed May 31, 1955, Ser. No. 512,263
3 Claims. (Cl. 24—201)



1. A separable fastener comprising a strip having along one edge thereof a rib always of greater width transversely of said strip than parallel to the plane of said strip when the portion of said strip adjacent to said rib is in planar condition, a grooved member for receiving said rib therein and having an access slot extending lengthwise therealong, a slider interengaged between said rib and said grooved member and including a projection engageable with said rib to twist it adjacent to the location of such engagement and, progressively along the length of said rib, to effect movement of said rib generally edgewise through such access slot, the rib tapering toward and to an end short of the corresponding end of the strip, and the edge of the strip between such tapered end of the rib and the adjacent end of the strip being inclined toward such corresponding end of the strip in a direction away from the rib.

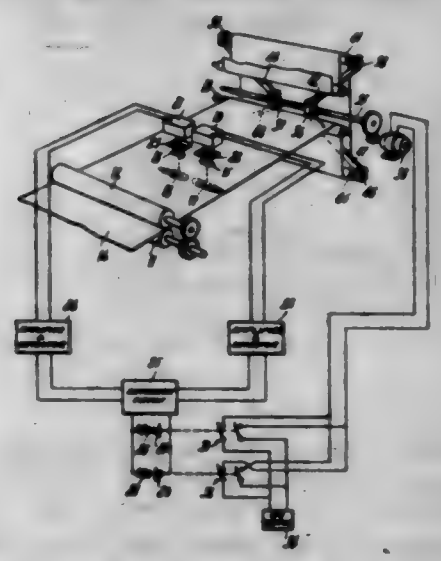
2,972,793
SLIDER FOR SLIDE FASTENERS
John E. Burbank, Stamford, Conn., assignor, by mesne assignments, to Cue Fasteners, Inc., a corporation of New York
Filed June 19, 1956, Ser. No. 592,286
4 Claims. (Cl. 24—205.14)

1. In a lock-type slider for slide fasteners, said slider having spaced parallel plates, an island connecting said plates adjacent one end and guide flanges at the lateral edges of said plates, the improvement comprising a bail extending lengthwise of and mounted on one plate, the bail having a transverse opening therein above the surface of the plate, a substantially U-shaped pull tab having a pair of arms joined at one end, the arms at the open end having inwardly-directed extended portions adapted to be rotatably received within the transverse opening of the bail, detent means arranged on the bail



intermediate the locked and vertical positions of the tab and detent means arranged intermediate the vertical position and fully opened position of the tab, both of said detent means being adapted to be overcome by the application of pressure to the tab and to maintain the tab in a position substantially vertical to the fastener elements when said tab is placed in said vertical position.

2,972,794
WEFT STRAIGHTENER
Robert J. Saul, Boston, Royce C. Kahler, Weston, and James M. Moran, Leominster, Mass., assignors, by mesne assignments, to Cranston Print Works Company, Cranston, R.I., a corporation of Rhode Island
Filed May 23, 1958, Ser. No. 737,372
10 Claims. (Cl. 26—51.5)

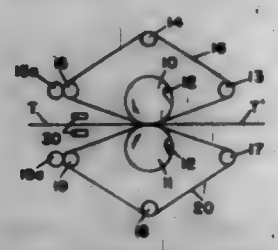


1. Apparatus of the character described comprising in combination feed means to produce longitudinal travel of a strip of woven material past a fixed station, said woven material being made up of spaced warp and weft elements defining interstices, cylindrical lens means to produce real enlarged images of the weft elements as they pass said fixed station, and light sensitive means disposed beyond said lens means on the same side of the material thereas to produce a modulating electrical signal in response to the images of said weft elements and their interstices and means to detect the modulation amplitude of said signal.

2,972,795
PROCESS FOR TREATING TEXTILE MATERIALS
Stanley Backer, Waban, and Per G. Nordhammer, Cambridge, Mass., assignors to Crompton & Knowles Corporation, Worcester, Mass., a corporation of Massachusetts
Filed Aug. 13, 1957, Ser. No. 677,872
5 Claims. (Cl. 26—54)

1. The method of treating a flexible fibrous structure, consisting in the following steps: feeding each of two elastic deformable media around a center and by a

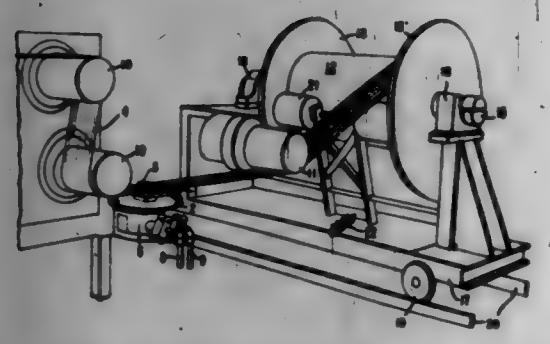
reduction of their thickness causing them as they move toward a line joining the centers to be progressively deformed lengthwise in the direction in which they move and then as they move away from said line to progressively recover from their lengthwise deformation, feeding a fibrous structure between said media and causing the latter to establish frictional contact with the fibrous structure and stretch the material elements of the structure beyond their tensile elastic limit as the media move toward said line and then forcing the structure to effectively recover its over-all length by the media as the latter recover from their deformation, the fibrous structure undergoing its stretching and recovery while in frictional contact with the media.



2,972,796
PROCESS AND APPARATUS FOR HANDLING YARNS

Le Roy P. Block, Camden, S.C., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed June 28, 1958, Ser. No. 743,325
9 Claims. (Cl. 28—37)



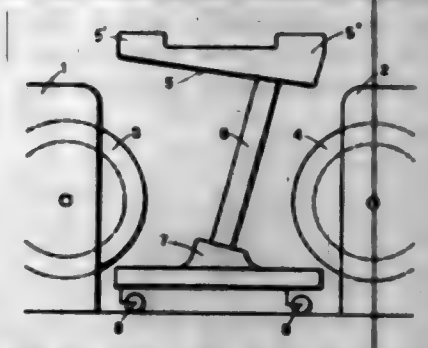
1. A method for simultaneously winding a plurality of yarns onto a rotating yarn support which comprises spacing said yarns apart in adjacent parallel relationship to form a warp sheet, traversing said yarns back and forth across said support, progressively decreasing the distance between the yarns in about one-half of said warp sheet adjacent the end of said support as said yarns approach the end of said support while simultaneously increasing the distance between the remainder of said yarns, maintaining said parallel relationship while winding said yarns onto said support.

2,972,797
MOUNTING FRAME FOR WARP TYING MACHINE

Alois Altenweger, Uster, Switzerland, assignor to Zellweger Ltd., Uster Factories for Apparatus and Machines, Uster, Switzerland, a corporation of Switzerland

Filed Mar. 18, 1959, Ser. No. 800,195
Claims priority, application Switzerland Mar. 26, 1958
1 Claim. (Cl. 28—41)

A mounting frame for a warp tying machine for looms for weaving, comprising an oblong top portion having a longitudinal marginal front portion, said top portion having a longitudinal marginal rear portion distant of said marginal front portion, a plurality of foot members spaced from and placed beneath said top portion, and a plurality of leg members connected at their lower ends one to each foot member, substantially at the center of the foot member, said leg members being in a reclining

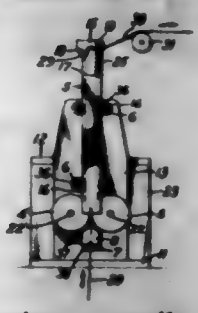


position and being connected at their upper ends to the marginal rear portion of said top portion.

2,972,798
CRIMPING

Robert K. Stanley, 318 W. Germantown Pike, Plymouth Meeting, Pa., and Ira Schwartz, 615 W. Arbutus St., Philadelphia, Pa.

Filed Jan. 23, 1957, Ser. No. 635,845
3 Claims. (Cl. 28—72)



3. Process of treating a textile strand of continuous filaments comprising the steps of twist-crimping such a strand to give it a regular helical crimp, and crimping said twist-crimped strand to modify the regular helical crimp by superimposing thereon a haphazard crimp with a random distribution of crimp angle.

2,972,799
TUBULAR WOVEN COTTON PICK SACK AND METHOD OF FORMING SAME

Dale W. Kern, Ware Shoals, S.C., and Clarence Taggart, Haworth, N.J., assignors to Riegel Textile Corporation, a corporation of Delaware

Filed Oct. 14, 1957, Ser. No. 689,938
8 Claims. (Cl. 28—74)



1. The method of forming a cotton pick sack which comprises weaving a tubular web, joining the opposite faces of said web transversely at intervals lengthwise of said web based on a multiple of the length of pick sack desired, coating spaced surface portions on one face of

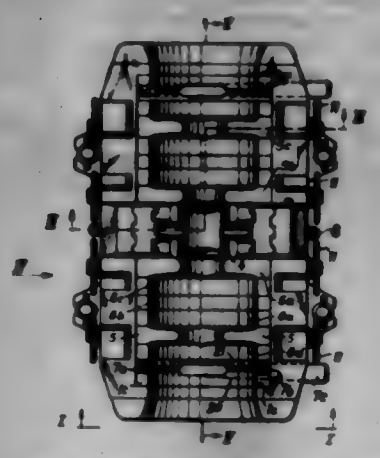
said web adjacent the transverse joints in a sufficient extent to provide a wear surface for said pick sack, and subsequently severing said web transversely at said joined opposite faces.

2,972,800
GUN BARREL LINER
Donald R. Sterba, Westchester, and Arthur M. Olsen, Chicago, Ill., assignors to Crane Co., Chicago, Ill., a corporation of Illinois
Filed Mar. 26, 1956, Ser. No. 574,046
2 Claims. (Cl. 29—1.1)



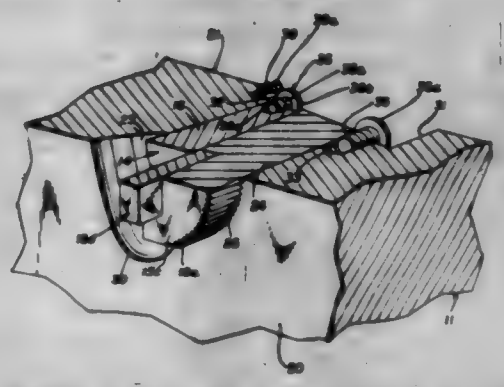
1. The method of making a gun barrel which comprises the assembly in the barrel of a plurality of washers in face to face relation to each other, the steps including grooving transversely the outer edge surfaces of the washers upon predetermined relative rotative positioning of the washers and assembling said washers to hold against relative rotation, applying strips to predetermined portions of said outer edges, welding said peripheral portions of the outer edges of washers to hold the latter against substantial movement, and finally assembling the assembled washers within the barrel.

2,972,801
FORGING OF MULTI-THROW CRANK-SHAFT
Helmut Robra, Mulheim (Ruhr), Germany, assignor to Schloemann Aktiengesellschaft, Duesseldorf, Germany
Filed May 6, 1957, Ser. No. 657,346
Claims priority, application Germany May 16, 1956
1 Claim. (Cl. 29—6)



Apparatus for successively forging the crank-throws of a crank shaft on which central journals have been previously formed, comprising a base plate, semicircularly recessed exchangeable lower holding members displaceable and securable on the base plate, semicircularly recessed spacing members between the holding members, an exchangeable forging die adapted to be secured against upward movement relatively to the base plate, a vertically movable press ram adapted to co-operate with the forging die to forge a single crank throw, two side walls formed integral with the base plate and having top surfaces level with the upper extremities of the forging die, of the spacing members and of the holding members, two end walls formed integral with the side walls and base plate and having a height substantially equal to that of the holding members, a cover apertured to permit the passage of the press ram and adapted to rest on top of the walls of the base plate during movement of the ram relatively to the die, semicircularly recessed upper holding members mounted in the cover member and adapted to co-operate with the lower holding members to define apertures surrounding the central journals of the shaft, a niche in each end wall of the base plate, and at each end of the base plate an outer wedge-shaped fitting piece accommodated in the niche in the end wall and having a height equal to that of the end wall and bearing against the end wall, an inner wedge-shaped fitting piece disposed adjacent the outer fitting piece and bearing against an adjacent one of the spacing members and having a height equal to that of the outer fitting piece, a lower horizontal wedge key driven between the inner and the outer fitting piece, and two vertical wedge keys driven between the inner and the outer fitting pieces and projecting above the tops of the fitting pieces, whereby the holding members, the spacing members and the press die are clamped in the longitudinal direction of the base plate and the clamping action is exerted over substantially the whole of the height of the holding members.

2,972,802
MILLING CUTTER WITH ADJUSTABLE RADIAL RAKE
William B. Stein, 619½ Tuscarawas Ave., Barberton, Ohio
Filed Oct. 10, 1957, Ser. No. 689,408
9 Claims. (Cl. 29—105)

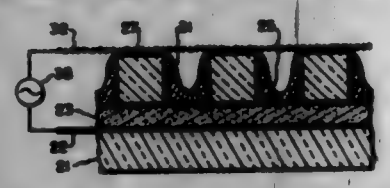


1. A milling cutter of the character described, comprising; a tool body having an axis of rotation and a front face that is substantially normal to said axis of rotation; at least one elongate slot extending inwardly of said body from said front face at a radial distance from said axis of rotation of said body and including opposed and longitudinally extending bit receiving and wedge receiving surfaces; a series of serrations extending longitudinally of said bit receiving surface of said slot in parallelism with each other; an elongate bit member receivable in said slot and having a cutting edge projecting beyond said front face; said bit having opposed slot engaging and wedge engaging surfaces that extend longitudinally thereof; a second series of serrations extending longitudinally of said slot engaging surface of said bit member in parallelism with each other and being complemental to said first series of serrations; and an elongate wedge member receivable in said slot for seating between said wedge engaging surfaces of said slot and said bit member with said wedge member urging said first and second series of serrations into mesh upon seating of said wedge in said slot; said second series of serrations being indexable relatively of said first series upon unseating of said wedge member.

2,972,803
METHOD OF MAKING A LIGHT AMPLIFIER AND STORAGE DEVICE
Frederic Koury, Lexington, and Frederick A. Loughridge, Peabody, Mass., assignors, by mesne assignments, to Sylvania Electric Products Inc., Wilmington, Del., a corporation of Delaware
Filed July 1, 1957, Ser. No. 669,180
6 Claims. (Cl. 29—155.5)

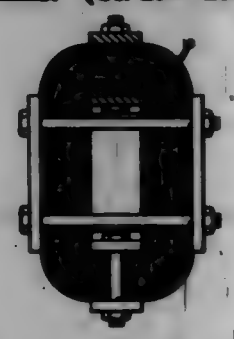
1. In a method of fabricating a light amplifier and storage device having a photoconductive layer and an

electroluminescent layer in series, the steps which comprise cutting at least a slot in a first surface of a glass blank, the bottom of said slot being at a point adjacent the opposite surface of said blank, packing said slot with inert material to a point a predetermined distance beneath said first surface, applying a conductive film over said first surface, said packed material and the exposed walls of said slot, removing said material and only that part



of said conductive film which is supported by said material, bonding said first surface of said glass blank to said electroluminescent layer, grinding the opposite surface of said blank to a depth which includes the bottom of said slot, placing photoconductive material in said slot from said opposite surface, forming an electrode on said opposite surface and making electrical connections to said electrode and to said electroluminescent layer.

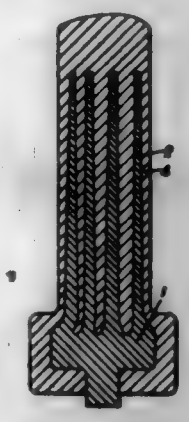
2,972,804
METHOD OF MAKING STEPPED-LAP CORE FOR INDUCTIVE APPARATUS
Belvin B. Ellis, Lackawannock Township, Mercer County, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Dec. 29, 1955, Ser. No. 556,152
9 Claims. (Cl. 29—155.57)



1. The method of making a wound type core, comprising the steps of winding a predetermined number of turns of oriented magnetic strip to form a core loop, cutting the core loop along a line at substantially right angles to the turns providing independent laminations, first restraining the laminations near the cut, partially unrolling the thus restrained laminations to substantially straighten a first portion of them, thereby arranging the laminations at the first unrestrained ends in stepped relationship, secondly restraining the laminations near the end remote from the point of first restraint, removing the restraint at the point where the first restraint is applied, rolling the laminations into substantially their original wound shape to arrange the laminations at the ends near the point of first restraint in stepped relationship to substantially match the stepped relationship of the ends of the laminations near the point of the second restraint, whereby the lamination's ends may be fitted to provide a stepped-lap contact of the laminations.

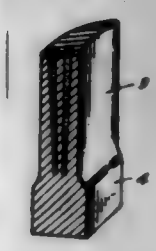
2,972,805
PRODUCTION OF HOLLOW METAL ARTICLES
Harold W. G. Hignett, Harborne, Birmingham, and Philip G. Turner, Inkberrow, England, assignors to The International Nickel Company, Inc., New York, N.Y., a corporation of Delaware
Filed June 19, 1957, Ser. No. 666,541
Claims priority, application Great Britain June 20, 1956
2 Claims. (Cl. 29—156.8)

1. A process for the production of a wrought fluid-cooled turbine blade blank which comprises casting a billet of heat-resistant metal around a frangible insert having a base portion, a plurality of branches affixed thereto and a spigot portion extending from said base portion while promoting the formation of a small grain size in the cast metal, removing the frangible insert from the cast billet, inserting filler in the void left after removing the insert, hot working the composite billet thus



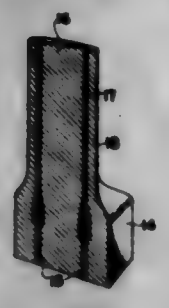
formed to substantially reduce the cross section thereof, to elongate the filler therein and to form a wrought structure in the cast portion of said billet and thereafter removing the filler therefrom to provide a wrought turbine blade blank having a plurality of cooling passages in the blade portion thereof which communicate with a manifold cavity in the root portion thereof.

2,972,806
PRODUCTION OF TURBINE OR COMPRESSOR BLADES
Harold W. G. Hignett, Harborne, Birmingham, and Philip George Turner, Inkberrow, England, and Campbell C. Horne, Glasgow, Scotland, assignors to The International Nickel Company, Inc., New York, N.Y., a corporation of Delaware
Filed Jan. 27, 1958, Ser. No. 711,375
Claims priority, application Great Britain Jan. 30, 1957
7 Claims. (Cl. 29—156.8)



1. A process for the production of a turbine blade blank which comprises providing a tapered metal billet having a larger cross-sectional area at one end than the other end and having holes of substantially uniform cross-sectional area which are filled with a filler having deformation characteristics similar to the deformation characteristics of the metal of said billet and which extend from one of said ends toward the other, hot working said tapered metal billet in a direction parallel to the direction of said filled holes to provide a worked billet having a substantially uniform cross section and thereby tapering said filled holes so that said filled holes have a larger cross-sectional area at one end than the other end, deforming the billet of uniform cross-sectional area so produced to provide a turbine blade blank and thereafter removing the filler from the filled holes in said blank to provide tapered cooling passages therein.

2,972,807
METHOD OF MAKING HOLLOW TURBINE OR COMPRESSOR BLADES
Phillip George Turner, Inkberrow, and George Robert Stuart, Thornliebank, England, assignors to The International Nickel Company, Inc., New York, N.Y., a corporation of Delaware
Filed Feb. 18, 1958, Ser. No. 715,977
Claims priority, application Great Britain Feb. 19, 1957
3 Claims. (Cl. 29—156.8)



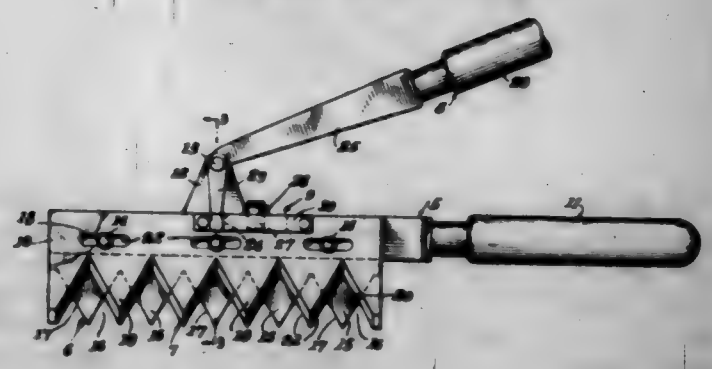
1. A process for the production of a turbine blade blank having cooling passages therein which comprises providing a billet of simple geometrical form having a predetermined root portion and blade portion; drilling from the tip end of the blade portion and filling a plurality of holes extending into the root portion and through the blade portion thereof; thereafter drilling from the periphery of the root portion and filling at least one auxiliary smaller hole which extends from the periphery of the root portion to connect with and penetrate the bottom part of at least one of the originally drilled and filled holes extending into the root portion to provide a continuous filled passage from each of said originally drilled and filled larger holes to the periphery of said root portion; partially extruding the drilled and filled billet with blade portion leading to provide an extruded blade portion and an unextruded root portion; and thereafter removing the filler from the formed turbine blade blank.

2,972,808
CERAMIC-TO-METAL SEALS
Charles V. Litton, Grass Valley, Calif., assignor to Litton Engineering Laboratories, Grass Valley, Calif.
Filed Apr. 3, 1957, Ser. No. 650,451
11 Claims. (Cl. 29—473.1)



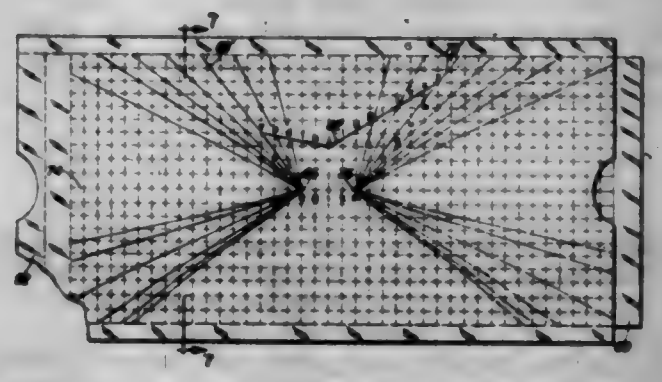
1. In the method of producing a ceramic-to-metal hermetic seal between a metallic sleeve and the metallized surface of a ceramic cylinder, the steps comprising: tapering one end of the ceramic cylinder, tapering one end of the metallic sleeve in a complementary manner to produce a tapered surface that is capable of uniformly engaging with the tapered surface of the ceramic cylinder, metallizing the tapered surface of the ceramic cylinder, alloying nickel and copper to produce a thin alloy sheet which is predominantly copper, forming a hollow conical frustrum from a strip of the alloy sheet and in a shape to fit snugly over the metallized surface of the ceramic cylinder, sandwiching the conical frustrum between the tapered surface of the metallic sleeve and the metallized surface of the ceramic by axially assembling the cylinder and sleeve with their tapered surfaces engaging opposite sides of the formed alloy sheet and applying a relatively small axial force to uniformly stress the alloy between the surface of the cylinder and sleeve, and applying heat to braze the metallic sleeve to the metallized surface of the ceramic to produce a continuous metal bond between the cylinder and sleeve.

2,972,809
HEDGE TRIMMER
George M. Sato, 133 S. Vancouver Ave., Los Angeles, Calif.
Filed July 6, 1959, Ser. No. 825,240
6 Claims. (Cl. 30—209)



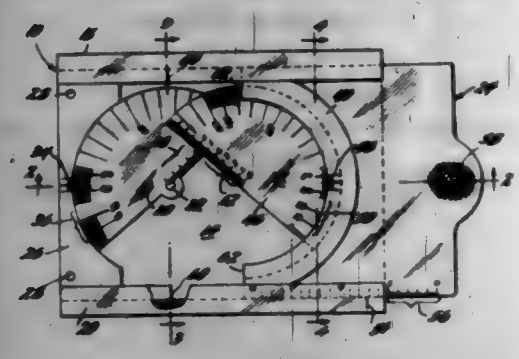
1. A hedge trimmer comprising an elongated member provided with a fixed handle, two cutter blades superposed on each other and on said member, a handle-provided lever pivotally carried by said member and engaged to move one of the cutter blades longitudinally relative to said member, and means interconnecting the blades to move the other blade oppositely to the blade moved by the lever.

2,972,810
DEVICE FOR COMPUTING AREAS AND VOLUMES
Franklin Le Roy Davis, 3811 NE. 36th Ave., Portland, Oreg.
Filed Dec. 17, 1956, Ser. No. 628,663
1 Claim. (Cl. 33—1)



A template comprising a pair of superimposed relatively slidable plates, the plates having guide means constraining them to translational sliding motion parallel to a predetermined axis of one of the said plates; said plates being adapted for viewing a registering plot of a transverse profile of an area to be built up or cut away, one of said plates having marked thereon a coordinate grid having one axis coincident with said predetermined axis and also having thereon a plurality of slope lines originating at an intersection point of the grid near the middle and on said axis, the slope lines diverging from each other and lying to one side of a plane normal to said axis through said point; and the other of said plates having thereon a plurality of slope lines originating at a second point on said axis spaced to the other side of said intersection point and diverging oppositely to said first plurality and to the opposite side of a plane normal to said axis through said second point and wherein said plates are transparent.

2,972,811
TRIGONOMETRIC AID
Kenneth W. Swayze, 568 5th St., Imperial Beach, Calif.
Filed Mar. 25, 1958, Ser. No. 723,695
1 Claim. (Cl. 33—1)

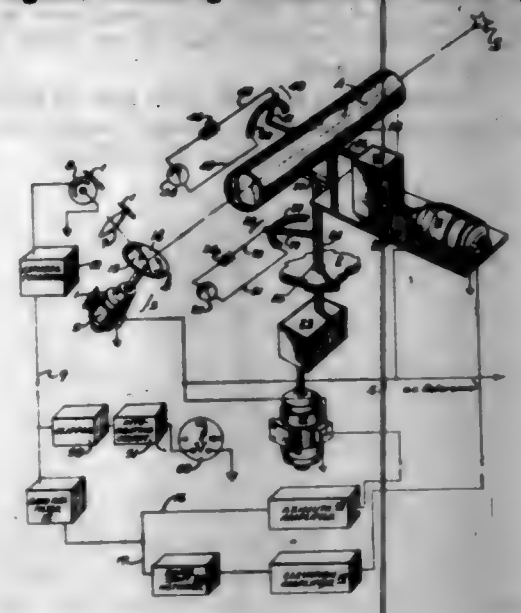


A device for the solution of plane trigonometric problems comprising: a planar base member; a first flat, movable protractor member, having at least one lineal scale in the plane along the diameter thereof pivoted to said base for movement in a closely adjacent, parallel plane with respect to said base; a complemental angular scale and index, the latter carried by said base and the former by said first protractor member for indicating the angular relationship of said first protractor member to said base, about the pivot point; a flat slide member mounted for linear movement in a closely adjacent, parallel plane of said base; a complemental linear scale and index, one each carried by said base and said slide member for indicating the position of the slide member with respect to the base in its direction of movement; a second, flat movable protractor member having at least one lineal scale in the plane along the diameter thereof, pivoted to said slide for movement in a closely adjacent, parallel plane with respect to said slide and said base; and a second complemental angular scale and index, the latter carried by said base and the former by said second protractor member for indicating the angular relationship of said second protractor member to said base about the pivot point; said slide being movable on said base to bring the lineal scales of said first and second protractor members into intersecting relationship whereby each scale serves to index the other.

2,972,812
LIGHT CHOPPER
Thirston H. Jackson, Jr., Los Angeles, Calif., assignor to Northrop Corporation, a corporation of California
Filed Mar. 14, 1949, Ser. No. 81,221
23 Claims. (Cl. 33—61)

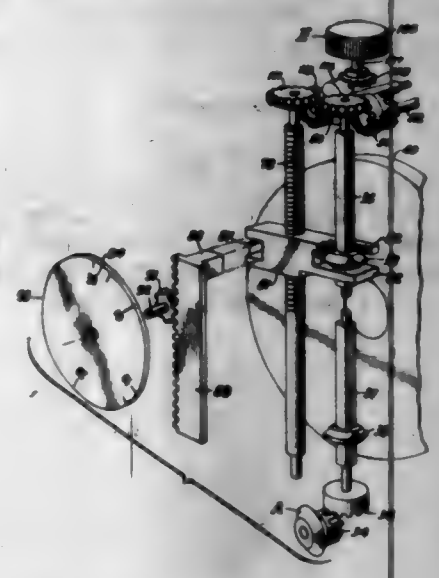
15. A star tracker comprising an optical means for focusing the image of an interesting star, a scanner disc positioned in the focal plane of said optical means with its center intersected by the optical axis thereof, an Archimedes spiral and a straight line intersecting at the exact center of said disc and dividing said disc into reflective and non-reflective areas, a reference frequency supply, a synchronous motor for rotating said scanner at said reference frequency, said scanner chopping any deviation of said image from the center thereof into periodic signals recurring at said reference frequency, and means for visually indicating in accordance with said periodic signals the magnitude of deviation of said image from said disc center.

16. A star tracker comprising an optical means for focusing the image of an interesting star, a scanner disc positioned in the focal plane of said optical means with its center intersected by the optical axis thereof, an Archimedes spiral and a straight line intersecting at the exact center of said disc and dividing said disc into reflective and non-reflective areas, a reference frequency supply, a synchronous motor for rotating said scanner at said reference frequency, said scanner chopping any deviation of said image from the center thereof into periodic light signals recurring at said reference frequency,



means for translating said light signals into periodic electrical signals, a movable member, and means for moving said member in accordance with said periodic electrical signals.

2,972,813
FLIGHT TIME COMPUTER
Frederick M. Stinton, 650 Dixie St., Liberty, Mo.
Filed May 5, 1958, Ser. No. 733,129
5 Claims. (Cl. 33—142)



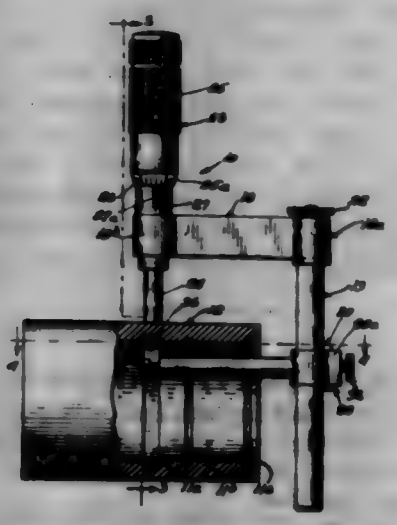
1. In a flight time computer having a case housing a time indicator, a gear assembly in drive relation with said indicator, and a rotatable contact wheel adapted to be rolled over a map surface, the combination of a variable transmission carried within said case and operatively interposed between said gear assembly and said contact wheel, said transmission including a rotatable friction disk having a flat surface and a pair of friction wheels engaging said surface, each of said friction wheels having its axis parallel with a radial line of said disk and being movable axially and independently with reference to the other of said friction wheels into varying contact positions of selected radii with reference to said disk, means for axially and independently moving one of said disks into selected axial positions according to map scale, and means for moving the other of said disks into selected axial positions according to flight speed.

2,972,814

MEASURING INSTRUMENT

Edward G. Rix, Wilmette, Ill., assignor to Stanley L. Shetler and Edward G. Rix, a copartnership doing business as Illinois Metal Products

Filed Mar. 5, 1958, Ser. No. 719,245
2 Claims. (Cl. 33—165)



1. An instrument for measuring the size of an internal recess formed in a workpiece of tubular configuration or the like, said instrument comprising: an elongated element; a first arm affixed to said element and extending angularly therefrom; an extensible and retractable elongated spindle carried on said first arm in spaced relation with respect to said element, for contacting the outer periphery of the workpiece; said spindle including means for measuring the amount of longitudinal adjustment of the same, relative to said first arm; an elongated second arm affixed to and extending angularly outward from said elongated element and in spaced relation with respect to said first arm, said second arm having an outer end surface disposed generally parallel to and adjacent an extension of the longitudinal axis of said spindle, the free end portion of said second arm being positionable within the interior of the workpiece; and an adapter removably mounted on said outer end surface; said adapter including a protuberance extending toward said spindle beyond the periphery of said outer end surface; said protuberance having a pair of spaced substantially flat side surfaces parallel to each other and to the axis of said spindle and transverse to said second arm, and an upwardly convex substantially semi-cylindrical shaped intermediate surface having a directrix oriented substantially normal to said flat side surfaces and intersecting the longitudinal axis of said spindle.

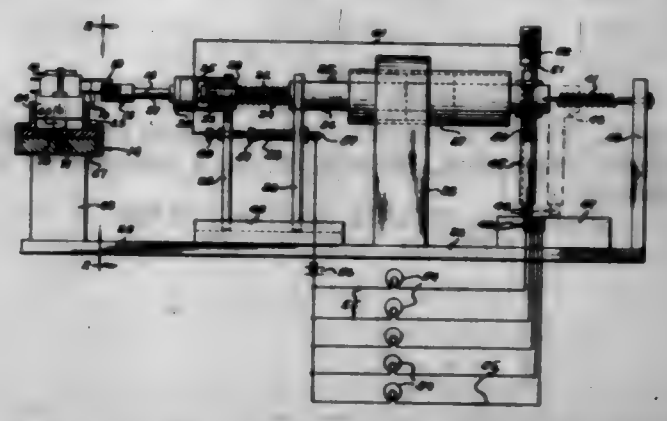
2,972,815

DEVICE FOR CHECKING AND INDICATING THE POSITION OF PORTIONS OF AN ARTICLE

John G. Weeks, Downers Grove, Ill., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Filed Feb. 8, 1957, Ser. No. 639,149
2 Claims. (Cl. 33—174)

1. A device for checking the position of a terminal on an electrical component which comprises a base, a holder on said base for holding the component in a predetermined position with the terminal extending therefrom, a carrier, means mounting said carrier on said base for movement along a predetermined axis toward said holder, a gage mounted on said carrier for movement therewith along said axis into engagement with the terminal of the component on said holder and for limited axial movement relative to said carrier, resilient means for yieldably maintaining said gage in a normal position on said carrier, said gage having a plurality of gaging surfaces engageable with the terminal and disposed in axially spaced relation to one another and in different positions laterally of the axis, means for actuating said carrier toward said holder to move the gage into contact with said terminal and to effect relative movement between said gage and said carrier, a plurality of signal



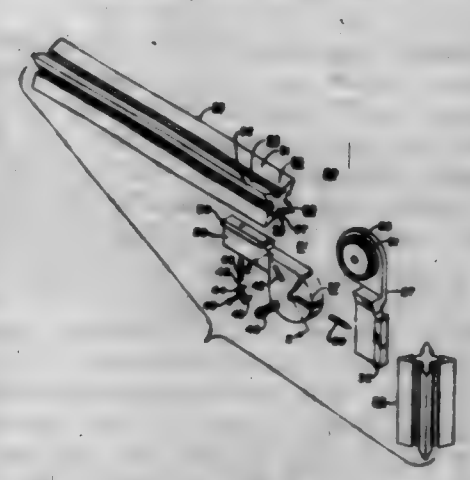
circuits, commutator means responsive to the movement of the carrier for selecting the signal circuit corresponding to the gaging position of the gage, and means operable in response to said relative movement between the carrier and the gage when the latter is in contact with said terminal for actuating the selected signal circuit.

2,972,816

ALIGNING AND LEVELING DEVICE

Karl M. Richardson, 609 N. Hamilton St., Dalton, Ga.

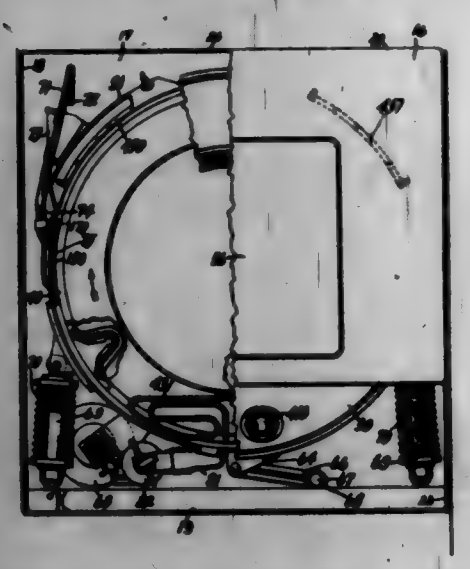
Filed Feb. 20, 1958, Ser. No. 716,403
7 Claims. (Cl. 33—189)



1. A leveling device including in combination a channel shaped base, a housing having a front face, pivot means pivotally securing said housing to said base, a positioning mark on said front face of said housing, wall means defining a tapered opening in said housing, a tapered annular vernier member residing in said opening in said housing, said vernier member having inner and outer surfaces defining a front face with inner and outer edges, indicia on said front face of said vernier member at said inner and outer edges thereof, adjacent indicia on said inner and outer edges being spaced increasing predetermined angular distances from each other, a tapered annular block having a front face and residing in said inner surface of said vernier member, indicia on said front face of said annular block and being spaced at even predetermined angular intervals, level means carried by said tapered annular block for indicating a horizontal position, a first screw exteading from the front face of said tapered annular block into said vernier member for alternatively allowing and preventing relative rotation between the same, a second screw extending from the back of said housing and into said first screw for alternatively allowing and preventing relative rotation between said housing and said annular block and vernier member, first and second handle members on said vernier member and said annular block respectively for enabling one to ro-

tate the same, a punch member carried by a portion of said channel shaped base and having a spring biasing the same to an inactive position, and said punch member having a head upon which a force may be exerted to cause said punch to mark an object upon which said channel shaped base resides.

2,972,817
LAUNDRY APPARATUS
Thomas E. Davidson, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Nov. 19, 1956, Ser. No. 623,051
3 Claims. (Cl. 34—45)



1. A laundry apparatus including a drum casing, a rotatable drum within the casing, heating means within and extending over the greater part of the upper portion of said casing for heating laundry within said drum, condensing means extending from the mid-point on one side of the drum to the lower portion of the casing for condensing moisture vaporized from the laundry in said drum by the heating means, said heating means being located in close spaced relation with the upper part of the condensing means, and thermostatic control means operably connected to said heating means for controlling said heating means, said thermostatic control means having a thermosensitive element exposed upon the inner periphery of said casing between the adjacent portions of the heating means and the condensing means.

2,972,818
SELF-SEALING ROTARY KILN
William H. Nebgen, Woodside, N.Y., assignor to Chemical Construction Corporation, New York, N.Y., a corporation of Delaware
Filed Feb. 11, 1960, Ser. No. 8,130
8 Claims. (Cl. 34—137)



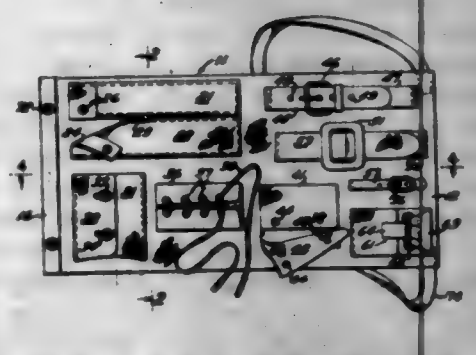
1. Rotary kiln with means for gas tight self-sealing solids entry combined with gas removal comprising a reaction kiln, a solids feed conduit attached to and coaxially extending from an axially-located opening in said kiln whereby rotation of said kiln effects circular rotation of said conduit, helicoid spiral flighting disposed within said conduit and attached to said conduit, said flighting terminating at an inner perimeter whereby a central axial void space is provided within said conduit, a stationary solids container having an opening through which said conduit extends into said solids container, a stationary gas outlet duct extending through said solids container and through said conduit within the inner perimeter of said flighting and into said kiln, a solids retention baffle within said solids container juxtaposed relative to the end of said conduit whereby passage of solids from said solids container into said flighting is substantially controlled, support means for said baffle within said solids container, and solids sealing means extending between the opening in said solids container and said conduit.

2,972,819
DEVOTIONAL PRAYER COUNTING DEVICE
Zita F. Graham, Washington, Ind., assignor to St. Simon's Church, Washington, Ind., Most Reverend Henry J. Grimmelsman, Bishop of the Roman Catholic Diocese, Evansville, Ind.
Filed June 29, 1959, Ser. No. 823,531
2 Claims. (Cl. 35—23)



1. A prayer counting device for attachment to an automobile steering wheel comprising a strip of flexible material attachable to said steering wheel and having a portion overlying the right hand and a portion overlying the left hand peripheries of said wheel, said strip having protrusions extending outwardly thereof, one of said portions having a group of protrusions representing a certain group of rosary prayers and the other said portion of said tape having at least one group of protrusions for counting prayers said in said other group of protrusions.

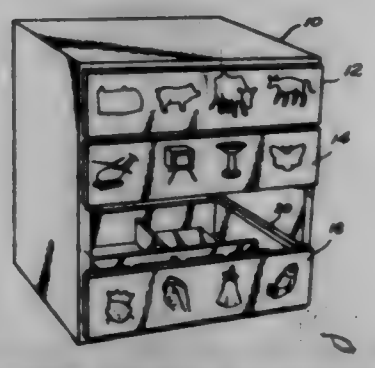
2,972,820
EDUCATIONAL TRAINING DEVICE
Mary Arlene Cano, 115 Newport Drive, Irvington, Calif.
Filed Oct. 6, 1958, Ser. No. 765,436
2 Claims. (Cl. 35—56)



1. A training device comprising a sheet formed of separate layers of pliable material joined about three

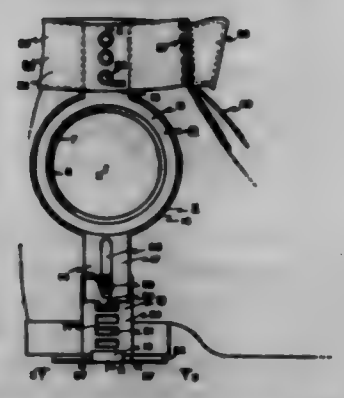
edges to form an open ended pocket therebetween for insertion of stiffening means substantially coextensive with said sheet and foldable into flat folded position with means fastening same in such position, a plurality of different fastening means mounted in operable position upon the inner layer of said sheet for manual manipulation to engage and disengage same with said last named means spaced from a transverse medial axis parallel to said open end whereby said material may be folded, and a carrying strap releasably secured to said sheet for transport of same in folded and unfolded position.

2,972,821
KINESTHETIC VISUAL TEACHING AID
Leona E. Bond, 514 S. 3rd St., Kelso, Wash.
Filed Feb. 25, 1957, Ser. No. 642,274
3 Claims. (Cl. 35—60)



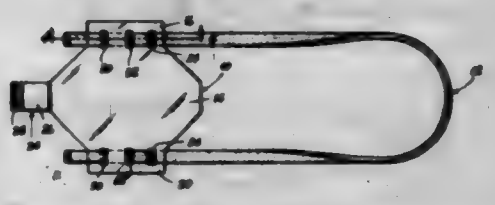
1. A kit for teaching reading comprising in combination a receptacle having a face panel exteriorly marked with a plurality of pictures of objects, rearwardly extending, compartment means within the receptacle, and a plurality of pairs of rubber stamps in the compartment means, each pair of the stamps being aligned rearwardly with a picture on the face panel, a pair thus aligned comprising a first stamp bearing the same picture as that on the face panel with which it is aligned, and a second stamp bearing the name of the object portrayed in the picture.

2,972,822
ANKLE SUPPORT DEVICE
John V. Tanner, 4731 W. 4955 S., Salt Lake City 18, Utah, assignor of fifty-five percent to William L. Wright, Lakewood, Colo.
Filed Sept. 17, 1959, Ser. No. 840,707
6 Claims. (Cl. 36—8.5)



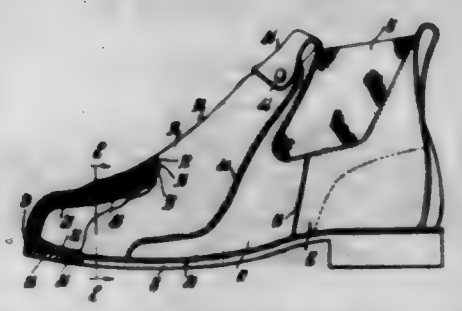
1. An ankle support device including, in combination, a first member having a ring portion and a mounting tongue portion; a second member having a ring portion and a strap portion, the two ring portions of said first and second members overlapping each other, thereby defining a common, ankle bone relief opening, and being slideably secured together for relative, rotational displacement about their common axis; means engaging said mounting tongue portion of said first member for securing said mounting tongue portion to the ankle portion of foot apparel; and means engaging said strap portion of said second member for securing said strap portion to the heel of foot apparel.

2,972,823
ICE GRIPPER
Albert R. Bailey, 5560 Pershing Ave., St. Louis, Mo.
Filed Feb. 12, 1960, Ser. No. 8,335
3 Claims. (Cl. 36—62)



1. An anti-slip device for attachment to the bottom of a shoe which comprises a rigid, flat plate having gripping elements on its bottom surface, a rigid hook extending vertically from one side of the plate, an elastic band anchored at its ends to said plate and forming a loop extending from an opposite side of the plate, said looped band being adapted to be stretched over the shoe to engage said hook at a medial portion of the loop and thereby define two separated elastic strands extending over the shoe from one side of the plate to the other and retain the plate on the bottom of the shoe, and means for adjusting the length of said looped band, said means comprising a series of slots at one side of the plate through which the end of the band is threaded, said slots being only slightly larger than the band whereby the band is locked in the slots when under tension but may be threaded through the slots when tension is released.

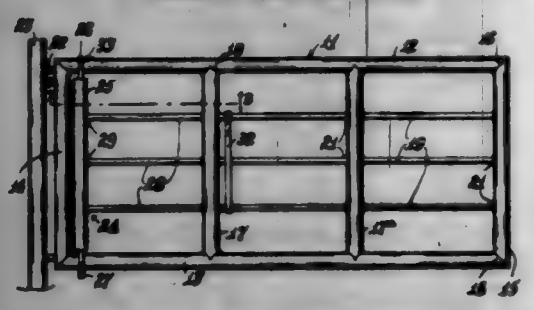
2,972,824
SAFETY SHOE WITH INSTEP GUARD
Frederick H. Schlecht, Worcester, Mass., assignor to H. H. Brown Shoe Company, Inc., Worcester, Mass., a corporation of Massachusetts
Filed July 5, 1960, Ser. No. 40,850
3 Claims. (Cl. 36—72)



1. A safety shoe comprising an upper including a portion adapted to cover the instep of the foot of the wearer, a reinforced toe cap adapted to be positioned over the toe of the wearer, a sole, an instep guard overlying the instep and toe portions of said upper, said instep guard being formed with a relatively rigid member having its forward end positioned above said reinforced toe cap, and being encased in an envelope having an inner member and an outer member, said outer member overlying said relatively rigid member and extending downwardly over the toe cap to be secured together with said upper to said sole by means of a welt and said inner member underlying said guard member and being joined to said outer member along the sides and upper end thereof, said inner member extending over said toe cap but not being secured to said welt and a plastic impregnated member interposed between said inner member and said toe cap, said plastic impregnated member having adhesive characteristics which enables it to adhere both to said

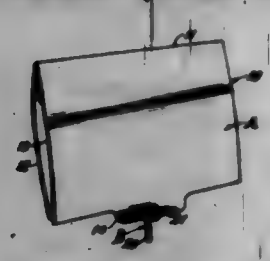
inner member and to said toe cap so that said inner member is positively secured relative to said toe cap, said envelope extending upwardly and rearwardly over said upper, and means to detachably secure said envelope to said upper.

2,972,825
FARM GATE
Orval W. Stillwell, Allendale, and Charlotte B. Stillwell, 701 N. Michigan Ave., Chicago, Ill.
Filed Nov. 28, 1958, Ser. No. 776,828
1 Claim. (Cl. 39—75)



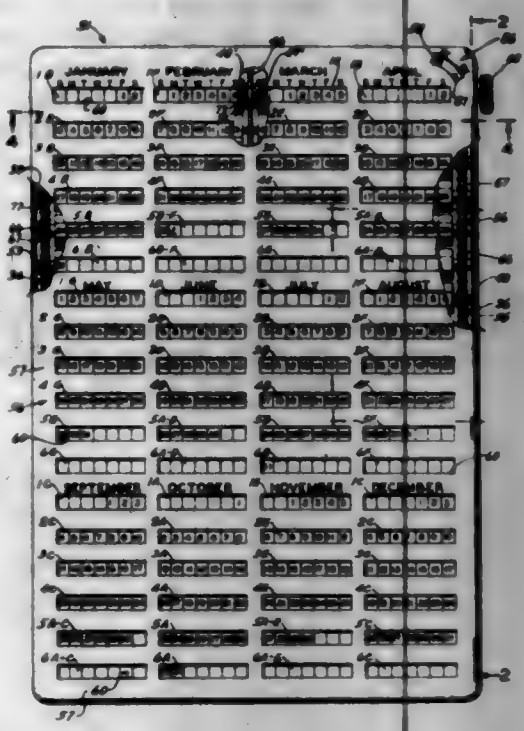
A gate structure of a character including a rectangular frame comprised of top, bottom and end rails, a plurality of rigid posts in said frame extending between said top and bottom rails and being spaced apart and from the end rails, rods bridging the space between said posts and between one post and an adjacent end rail, said rods being integrally secured to said one end rail and posts, an upright extending between the top and bottom rails arranged in the space between the other end rail and the adjacent post, an inverted U-shaped strap on the upper end of said upright slidably embracing the top rail for suspending the upright therefrom, a U-shaped strap on the lower end of said upright slidably embracing the bottom rail, rods carried by said upright complemental to the rods in the frame, said last named rods slidably extending through apertures in the adjacent post and having their free end portions overlying the complemental rods and lying in a plane parallel to said complemental rods, a strap carried by the free end portions and bridging the complemental rods and a shoulder on the upper rail normally lying in the path of the upper U-shaped strap to resist initial movement of the upright and its rods from a position closing the opening into an open position.

2,972,826
IDENTIFICATION BADGE
Bernard L. Newell, Chicago, Ill., assignor to Geo. Lauterer Corp., Chicago, Ill., a corporation of Illinois
Filed July 9, 1959, Ser. No. 825,982
8 Claims. (Cl. 40—1.5)



1. An identification badge comprising an identification card having front and rear panels hingedly connected along the upper edges thereof, and a spring clamp having a pair of depending spring arms being joined to each other at their upper ends and having their lower end portions normally in surface contact, one of said arms being disposed behind said rear panel, and the other of said arms being attached to said rear panel and being anchored against movement relative to said card, said other of said arms extending below the bottom edge portions of said front and rear panels and being equipped with means for holding said portions together.

2,972,827
PERPETUAL CALENDARS
James E. Lewis, 3219 N. Panama, Chicago 34, Ill.
Filed May 31, 1960, Ser. No. 32,983
12 Claims. (Cl. 40—114)



1. A perpetual calendar for simultaneously showing a complete calendar for any selected year and comprising a plurality of heptagonal-faced rods arranged in groups corresponding to the twelve months of a year, operating means for rotating the rods to present to view different combinations of rod faces corresponding to different years, and means affording substantially one-seventh of a turn of relative rotation between the rods allocated to the months of January and February and the rods allocated to the remaining months of the year to compensate for leap years.

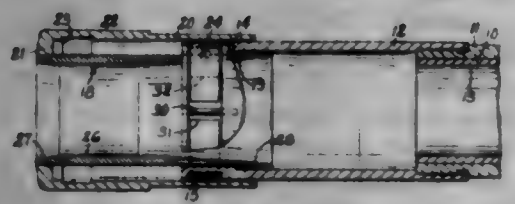
2,972,828
CONSTRUCTION OF EAR TAG FOR USE IN THE MARKING OF SHEEP, CATTLE, AND OTHER ANIMALS
Kenneth George Dumbrell, 33A Harcourt St., Auburn, near Melbourne, Victoria, Australia
Filed Oct. 30, 1957, Ser. No. 693,281
Claims priority, application Australia Nov. 1, 1956
5 Claims. (Cl. 40—302)



1. A tag adapted for permanent attachment to an ear of an animal comprising a generally U-shaped body of synthetic plastic including a back portion for engagement in a punched hole in such ear, said back portion being substantially of circular shape in cross-section throughout its length but of varying diameter, the smallest diameter occurring intermediate the ends of said back portion, two arms extending from said ends of the back portion in substantially parallel relation and having a maximum width at the point of connection with said back portion which is at least equal to the diameter of said back portion ends, said arms serving to prevent said circular back portion from leaving such hole in an animal's ear and thereby locking the tag relatively to such ear, said arms being resiliently supported by said back portion to permit the arms to be appreciably sprung apart, said arms further

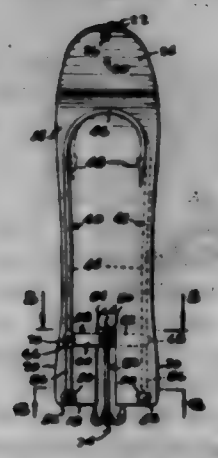
terminating in lip portions, one lip fitting within the other lip to provide overlapping ends, at least one of said arms having a recessed portion along its length, and a plurality of U-shaped resiliently deformable identification members to provide cooperating indicia, each identification member having legs to embrace said recessed portion to permit ready attachment and subsequent removal of said member with respect to said one arm, the combined length of said members being substantially equal to the length of said recessed portion, said members being removable to accommodate desired changes of identification by such tag without requiring removal of the tag from such ear.

2,972,829
AUTOMATICALLY ADJUSTABLE CHOKE FOR SHOTGUNS
Arne Y. Grahn, Hartford, Conn., assignor to The Poly Choke Company, Incorporated, East Hartford, Conn., a corporation of Connecticut
Filed Mar. 27, 1958, Ser. No. 724,451
8 Claims. (Cl. 42—79)



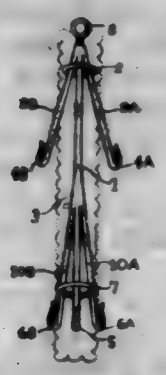
6. A choke mechanism comprising a hollow cylindrical member extending outwardly from the muzzle of a gun barrel in fixed relation thereo, a choke tube having a charge-choking tubular part extending into said member in slidable and rotatable relation thereto, for forward propulsion by impact thereon of a charge fired from the gun, said choke tube being adjustable lengthwise of said member, frictional means for slowing lengthwise movement of the choke tube upon impact of a charge on said tube part and including an axially fixed friction member movable in a plane transversely of the choke tube and engageable with the tube and means operable by manual rotation of said choke tube and cooperating with said friction member for locking the choke tube in one position so that the choke tube is positively held against movement on discharge of the gun, the last-named means comprising a locking recess formed in the choke tube and an actuator member for engagement with the friction member to lock the latter in the locking recess in the choke tube.

2,972,830
SPOON HAVING CONCEALED GRIPPING HOOKS
Carl R. Sarnow, 5212 Kent Drive, Bakersfield, Calif.
Filed Apr. 28, 1959, Ser. No. 809,461
8 Claims. (Cl. 43—35)



1. A fishing spoon compriting an elongated spoon body having forward and rear ends, fishing line attaching means on said body at the forward end thereof, a pair of fish-gripping hooks having shanks terminating in rear ends and in forward ends having laterally inwardly directed barbed bends, said hooks having inoperative positions in which their shanks are nested within and extend longitudinally of the body and are parallel spaced crosswise of the body with said bends overlapping and positioned at the forward end of the body and with said rear ends at the rear end of the body, and pivot means pivoting the rear ends of the shanks on the body at the rear end thereof, and means connecting said shanks together for movement from the inoperative nested position to an operative position in which the shanks project outwardly of said body in criss-cross relation with the barbed bends spaced from and facing toward each other.

2,972,831
LIVE BAIT HOLDER AND HARNESS
James V. Anselmi, 16 Essex St., Deep River, Conn.
Filed July 29, 1958, Ser. No. 752,160
6 Claims. (Cl. 43—44.4)



1. A live bait holder comprising means for attaching a line thereto, a shank, at least one side hook attached to each side of said shank and extending downwardly from said shank at an angle less than 90° and biasing out from said shank at an angle less than 90°, means to force said side hooks toward one another, means to retain said side hooks so forced in a substantially fixed position, and a harnessing means fixed to the downward side of said shank and extending substantially parallel thereto so that said harnessing means extends between said side hooks.

2,972,832
LIVE BAIT HOLDER
James V. Anselmi, 16 Essex St., Deep River, Conn.
Filed July 29, 1958, Ser. No. 752,162
7 Claims. (Cl. 43—44.4)



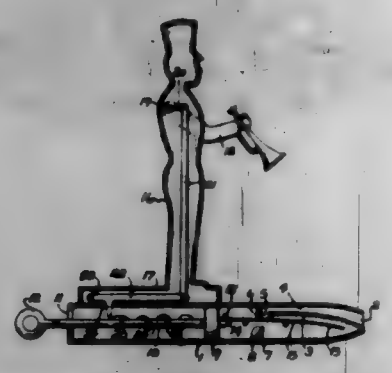
1. A live bait holder compriting, means for attaching a line thereto, a shank, a crotch hook attached to the rearward end of said shank and extending rearwardly therefrom, at least one side hook attached to each side of said shank near the rearward end of said shank and extending rearwardly therefrom and biased outwardly therefrom at an angle less than 90° away from said

shank, means to force said side hook toward one another and retain said side hooks so forced in a substantially fixed position, and a harnessing means mounted on said shank toward the forward end of said shank opposite said crotch hook.

2,972,833
PLASTIC BLOCK ASSEMBLY
Pascal La Grutta, Newark, N.J., assignor to Lapin Products, Inc., Newark, N.J., a corporation of New York
Filed July 5, 1957, Ser. No. 670,825
2 Claims. (Cl. 46—25)

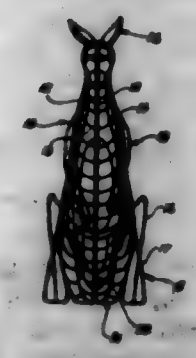
1. A molded one piece box-like polyethylene polygonal building block having a flat base to form a building wall and inturned transverse perpendicular walls, said box having an open inside back, said walls on opposite sides of the block having projections and recesses, said projections extending outwardly from the middle portion of the walls and having a short cylindrical neck portion and an outer ball portion and said recesses consisting of slots extending perpendicularly inwardly from the base on the outside faces of the walls opposite the projections and terminating short of the inside edges of the walls and said slots having the same depth as the thickness of the wall so as to open the interior of the box to the outside at the ends of the slots, and triangular transverse reinforcement fins positioned inside the block at the junctions of the base and the walls and positioned adjacent said recesses and projections.

2,972,834
ANIMATED BIRD WHISTLE
John H. Bacon, 93 Garden Road, Wellesley Hills, Mass.; Robert C. Bacon, administrator of said John H. Bacon, deceased
Filed Sept. 30, 1955, Ser. No. 537,866
4 Claims. (Cl. 46—118)



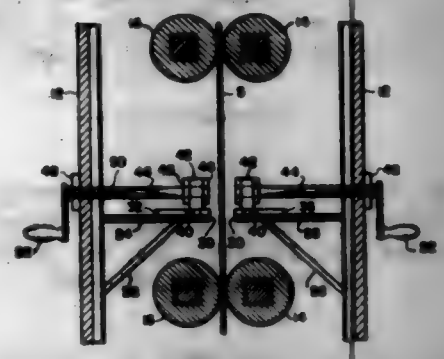
1. A toy whistle comprising an elongated tube having a constricted air passage, an air deflecting edge aligned therewith, a piston and shaft having an enlarged member formed on said shaft, said shaft positioned within said tube for varying the resonant length of said tube, an elongated band having holes formed therein, means securing said band to said piston for longitudinal movement with said piston whereby said holes may be successively aligned with said piston whereby said holes may be successively aligned with said passage and edge, a lever linkage system adapted to be operatively engaged at one end by said enlarged member and animatable means operable by said system.

2,972,835
MINIATURE ANIMAL FORMS
Madeline Mary Randall, 4212 Altadena Ave., San Diego, Calif.
Filed Nov. 12, 1958, Ser. No. 773,523
2 Claims. (Cl. 46—162)



1. A miniature animal form comprising a pair of separate, longitudinally symmetrical, skeletonized frame portions, and means securing said frame portions in juxtaposed relation in a common plane providing a substantially complete form profile for receiving a covering, said frame portions providing a base component upon which an animal form may be produced, said frame portions each comprising a plurality of spaced intersecting wire elements terminating at a common margin, said common margin comprising the plane about which said animal form is symmetrical, said wire elements comprising two different groups, one of said groups being at right angles to those of the other group, said first mentioned group being arcuate and having opposite ends terminating at said common margin, said common margin comprising a continuous wire element having the basic side elevational outline of said animal form.

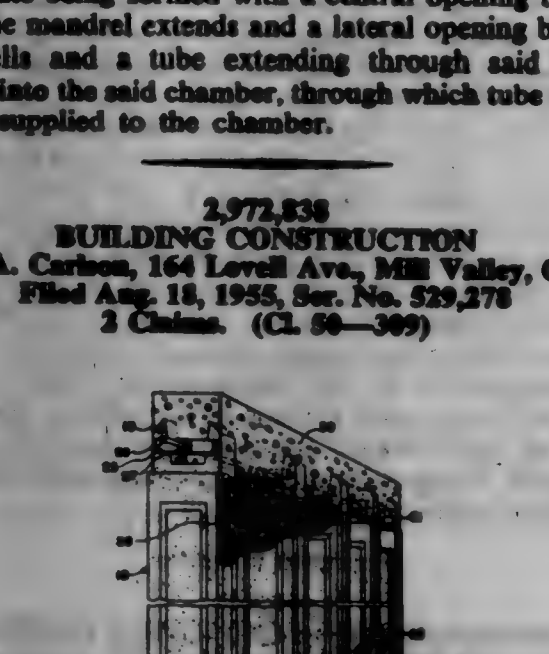
2,972,836
GLASS DRAWING APPARATUS
Fred W. Mowrey, New Kensington, and Donald A. Tench, Jeannette, Pa., assignors to American Window Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Nov. 6, 1957, Ser. No. 694,786
6 Claims. (Cl. 49—17)



6. Glass drawing apparatus formed with an elongated chamber and comprising successive sets of rolls for drawing a sheet of glass through the chamber, damper means intervening among the lower sets of rolls at locations between at least every three sets of adjacent rolls at a level immediately above the level of the closest set of rolls therebelow, and defining a damper opening at each location for the glass, each of said damper means in said chamber comprising transversely disposed damper plates in confronting relationship therein to define the damper opening in a manner to have a minimum width at the center, with the adjacent edges of said plates arranged in a uniformly diverging relationship therefrom causing the opening to consistently gradually widen toward the ends, the resistance thus

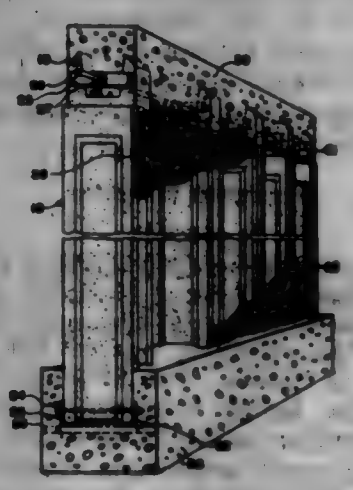
presented to the flow of ambient gases in the apparatus through said damper means at their ends being of a comparatively lesser magnitude whereas more resistance is offered to the upwardly flowing atmosphere near the center of the opening of the damper means.

2,972,837
APPARATUS FOR CONTINUOUSLY FORMING TUBING AND RODS FROM VISCOUS MATERIALS
Alfred D. Pinotti, Toledo, Ohio, assignor to Kimble Glass Company, a corporation of Ohio
Filed Mar. 6, 1957, Ser. No. 644,409
4 Claims. (Cl. 49—17.1)



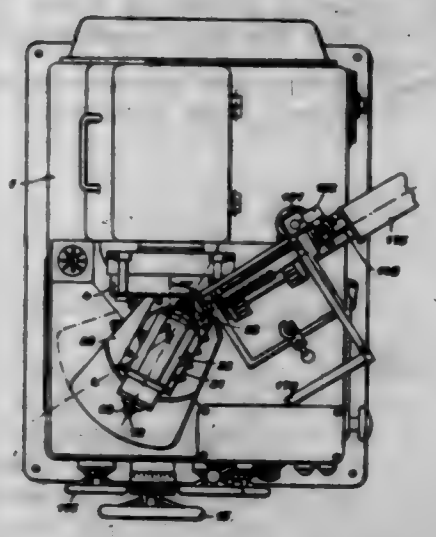
1. Apparatus for continuously forming a glass rod, said apparatus comprising a mandrel in the form of a rod, means for mounting said mandrel in a downwardly and forwardly inclined position, means for rotating the mandrel about its axis, a head secured to the lower end portion of the mandrel, said head including a downwardly and forwardly inclined conical inner shell, and a downwardly and forwardly inclined conical outer shell surrounding the inner shell, the walls of said shells being spaced to provide a chamber forming a reservoir for a pool of molten glass, said shells being formed to provide an annular outlet opening at the lower forward end of said head, a stationary cover plate overlying and bridging the upper ends of said shells and substantially closing the chamber between the shells at said upper ends, the cover plate being formed with a central opening through which the mandrel extends and a lateral opening between said shells and a tube extending through said lateral opening into the said chamber, through which tube molten glass is supplied to the chamber.

2,972,838
BUILDING CONSTRUCTION
John A. Carbon, 164 Lovell Ave., Mill Valley, Calif.
Filed Aug. 18, 1955, Ser. No. 529,278
2 Claims. (Cl. 50—309)



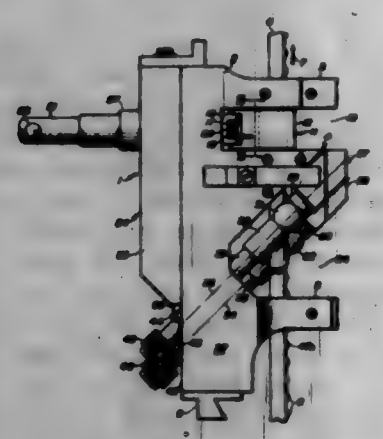
1. A construction for buildings made of monolithic concrete reinforced with steel of the type wherein lathing material carrying cementitious material is secured to a plurality of solid precast concrete studding spaced apart at selected intervals and supported and secured at their bases to supporting material and rendered rigid by a continuous girder extending across the tops of the studding and to which the tops of said studding are connected, the improvement comprising the upper ends of said studding being molded substantially in U shape providing segments of a channel in alignment with the studding, opposite lateral edges of said studding beneath the legs of the U-shaped end being provided with a continuous longitudinal groove, rods spaced at intervals embedded in said studding and extending centrally of the said grooves beyond the edges of the studding, said rods adapted to be bent over lathing within said grooves, said lathing material positioned over said rods and drawn taut by said projecting rods when the latter have been bent over and depressed with a portion of the lathing material into said grooves, the bent over ends of said rods within said grooves being embedded in said cementitious material carried by the lathing, said concrete girder being of poured concrete and extending through said channel segments provided by the upper ends of said studding and interlocked with said U-shaped ends of the studding, and in which the sides of the upper ends of said precast studding adjacent said longitudinally grooved sides are provided with molded shoulders transverse to said grooves and adapted to support the bottom of top girder forms extending between adjacent studding to enable a continuously formed concrete top girder to pass through and interlock the legs of the upper U-shaped ends of the studding.

2,972,839
METHOD AND A DEVICE FOR GRINDING TWIST DRILLS
Ferenc Erdélyi, 2912 E. 102nd St., Cleveland, Ohio
Filed Mar. 10, 1958, Ser. No. 720,229
Claims priority, application Germany Oct. 2, 1957
14 Claims. (Cl. 51—124)



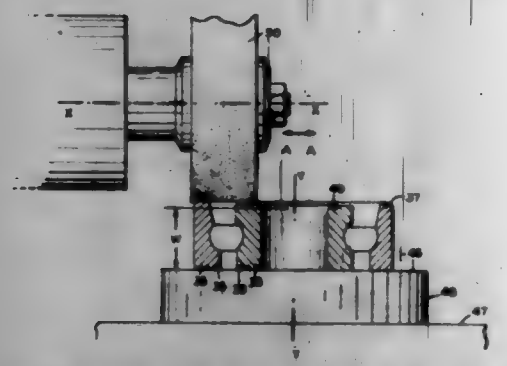
4. In a machine for automatically grinding twist drills, a frame, a grinding wheel rotatably journaled on said frame, carriage means mounted on said frame for pivotal and linear movement with respect to said grinding wheel, means mounted in said frame pivoting and lineally moving said carriage in pre-determined synchronism, a drill support mounted on said carriage, means actuating said drill support for clamping and unclamping a drill therein, magazine supplied feed means mounted on said frame and control means actuating said drill support actuating means and feed means upon said carriage arriving at a predetermined position to introduce a new drill into said drill support upon completion of the grinding of the previously ground drill.

2,972,840
BLADE SHARPENING APPARATUS
Clarence H. Ludwig, 914 W. Washington St., Bluffton, Ind.
Filed Apr. 17, 1957, Ser. No. 653,404
17 Claims. (Cl. 51—248)



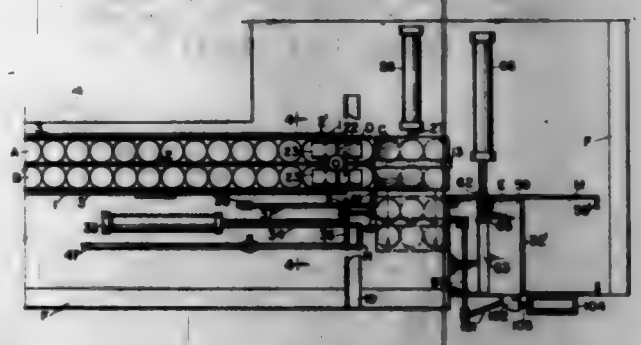
1. Apparatus for sharpening and honing the cutting edge of an elongated scalloped blade comprising: a pair of spherical balls formed of abrasive material; support means for receiving said blade for movement in a longitudinal direction; and a pair of means on said support means respectively releasably clamping and rotatably mounting said balls for rotation about axes inclined at angles with respect to said direction of movement of said blade, said mounting means being spaced apart in the direction of said movement respectively an amount equal to the pitch of the teeth of said blade and being adapted respectively to hold said balls in engagement with opposite sides of said cutting edge so that said longitudinal movement of said blade causes said balls to rotate about said axis thereby sharpening and honing said cutting edge.

2,972,841
METHOD OF UNIVERSAL PRELOAD GRINDING OF DUPLEX BALL BEARINGS
Warren D. Anderson, Glenbrook, Conn., assignor to Norma-Hoffmann Bearings Corporation, Stamford, Conn., a corporation of New York
Filed July 31, 1958, Ser. No. 752,328
5 Claims. (Cl. 51—291)



1. In a ball bearing having an inner ring with thrust and non-thrust faces and an outer ring with oppositely disposed thrust and non-thrust faces with one set of oppositely disposed thrust and non-thrust faces defining the minimum width of the bearing while the bearing is under a ball seating load, the method of universal preload grinding to produce an equal specified protrusion between each pair of adjacent faces, which method consists in disassembling the bearing, then placing one of the faces included in said set upon the work support surface of a grinding machine, then reversing the position of the other ring and placing the second face of said set upon said work support surface, then grinding the exposed faces of the rings until both of said faces are co-planar and both of said rings have a width differing from said minimum width by an amount equal to said specified protrusion, and then reversing one ring relative to the other and reassembling the bearings so that the thrust faces of the rings are in their original oppositely disposed relationship.

2,972,842
CAN PACKAGING METHOD AND MACHINE
Eugene B. Hitchcock, Box 51, Longwood, Fla.
Filed Oct. 12, 1956, Ser. No. 615,718
11 Claims. (Cl. 53—55)

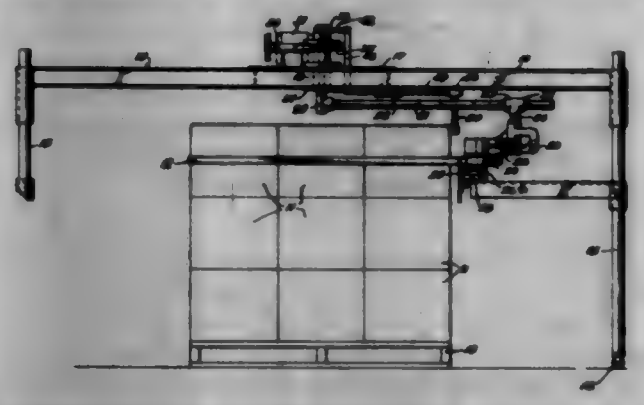


1. In a machine for loading a plurality of objects into a carton, an object receiving station, means feeding objects to said station, an object carrier proportioned to receive a predetermined number of said objects, means to position said carrier at said station to receive objects from said feeding means, a carton loading station spaced from said receiving station, control means for said positioning means, said positioning means being responsive to operation of said control means to transport said carrier from said receiving station to said loading station, ram means comprising a moveable portion including an impact head at said loading station and also comprising means for driving said head forwardly into said carrier at said loading station to eject the objects from said carrier and for rearwardly retracting said head out of said carrier, said control means being responsive to filling of said carrier with said predetermined number of objects and concurrent retraction of said head to actuate said positioning means to transport said carrier from said receiving station to said loading station, a control element operatively engaged by said carrier upon reaching said loading station, said element being connected to said ram means and effective upon said engagement by said carrier to control said ram means to move said moveable portion forwardly thereby to force said head into said carrier, and means coupled to said moveable portion of said ram means and operated by said forward movement of said portion connected controllingly to said control element and effective upon reaching of a predetermined position of advance of said ram head to actuate said control element to retract said head, said first control means comprising object engageable presence sensing means engageable by an object at said carton loading station operative upon ejection of the objects from said carrier by said forward travel of said head to actuate said carrier transporting means to return said carrier to said object receiving station.

2,972,843
APPARATUS FOR PERIMETRIC TAPING
Warren Du Broff, Highland Park, Ill., assignor to Charles Barnecik, Chicago, Ill.
Filed Oct. 30, 1958, Ser. No. 770,630
18 Claims. (Cl. 53—74)

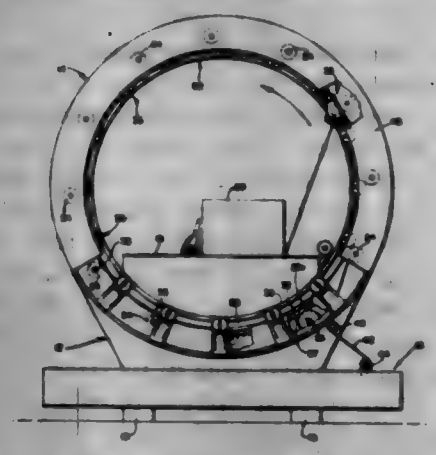
1. In perimetric taping apparatus, a frame, an arm journalled for rotation in said frame over an article to be perimetrically taped, a subframe on said arm spaced sufficiently from the rotational mounting of said arm to circumscribe the periphery of the said article, said subframe providing a pair of arcuately shaped members

positioned in a plane below and parallel to the plane defined by the rotation of said arm, one of said members carrying a supply of tape and having an unattached end positioned forwardly of said arm, the other arm having an attached end trailing the rotation of said arm,



the unattached end of said other member rotatably carrying a tape-pressing roller, said frame being equipped with means for rotating said arm, and means for coupling said arm and rotating means for only one rotation of said arm.

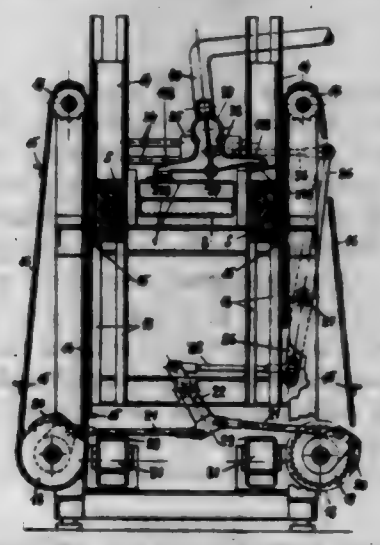
2,972,844
BAND-FORMING STRAPPING MACHINE
Mills N. Ripley, Scarsdale, N.Y., assignor to General Strapping Corporation, New York, N.Y.
Filed Apr. 11, 1958, Ser. No. 727,830
12 Claims. (Cl. 53—198)



1. In an improved package banding machine adapted to bind a package with formed metallic band of a given cross-sectional configuration, and having a wrapping ring adapted to draw band from a supply thereof, said supply being fixed with respect to the path of movement of said wrapping ring, means for gripping the free end of said band adjacent said package, means for rotating said ring whereby band is drawn therefrom and wrapped around said package, means for fastening the band so wrapped and severing it from the remainder thereof, the improvement comprising band forming rolls attached to said wrapping ring and adapted to impart said cross-sectional configuration to flat band passing therebetween, whereby band from such fixed supply may be threaded through said forming rolls to be formed with said configuration immediately prior to being wrapped around said package.

2,972,845
DEVICE FOR PICKING UP BY SUCTION THE CIGARETTES ADVANCING IN ROWS ON CONVEYOR TAPES, FOR DISCHARGING SAME INTO BOXES, AND FOR CARRYING AWAY THE FILLED BOXES
Scipione Innocenti, 11 Via Golte, Bologna, Italy
Filed Apr. 11, 1956, Ser. No. 577,524
Claims priority, application Italy Apr. 18, 1955
5 Claims. (Cl. 53—236)

2. In an automatic device for collecting cigarettes from a cigarette-conveyor tape on which the cigarettes are fed in at least one continuous row, and for feeding the collected cigarettes in a plurality of layers into a cigarette-collecting box arranged at one side of the tape, a cigarette pick-up head constituted by a hollow body having at its lower part at least one mouth, means for alternately shifting said pick-up head with its mouth onto said cigarette-conveyor tape and laterally with respect thereto to said one side of the tape; and valve means for putting said mouth into communication with a source of suction when the mouth is on the tape and for connecting same to a vent valve when it is shifted to said one side of the tape; whereby said pick-up head being alternately shifted onto the tape and in correspondence with the collecting box, picks up a batch of cigarettes from the conveyor tape and discharges same into the collecting box; in combination with spaced upright guides, comprising outer guides and inner guides, at least at said one side of the cigarette-conveyor tape arranged in such manner as to permit a rectangular cigarette-collecting box to be slidably inserted therein; sprocket pairs arranged at the outer side of said guides, one of said sprockets being driven

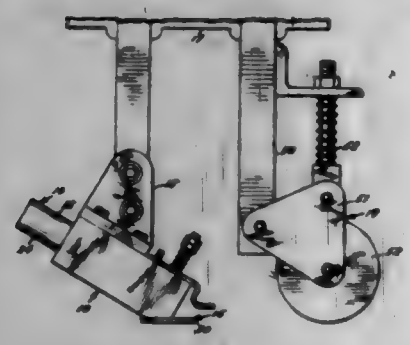


step-wise downwardly in timed relation with the shifting of the pick-up head to maintain the height of the upper layer of cigarettes in the box substantially constant during the feeding therein of the cigarettes; endless chains mounted on each pair of said sprockets and having their inner run running substantially parallel in the space between said outer guides; horizontal bars between said outer guides, said horizontal bars having bracket-like portions connecting said chain pairs at intervals and measuring not less than a cigarette box height, said bracket-like portions projecting between said guides in such a manner that the box may be supported thereon when inserted between said guides; the lower ends of said guides being so shaped as to permit the boxes to be slid thereout in horizontal direction towards the outlet end of the device; a substantially horizontal endless belt mounted on rollers under said guides; and means for driving the upper run of said belt towards the outlet end of the collecting device, whereby, as soon as the cigarette-collecting box in its step-wise downward movement comes into contact with said belt, it is shifted out of said guides towards the outlet ends of the device.

2,972,846
MEANS FOR DISPENSING SPHERICAL FORMS
Arthur W. Weller and Donald E. Lanigan, Brooklyn, N.Y., assignors to Resina Automatic Machinery Co., Inc., Brooklyn, N.Y., a corporation of New York
Filed Oct. 28, 1959, Ser. No. 849,339
2 Claims. (Cl. 53—316)

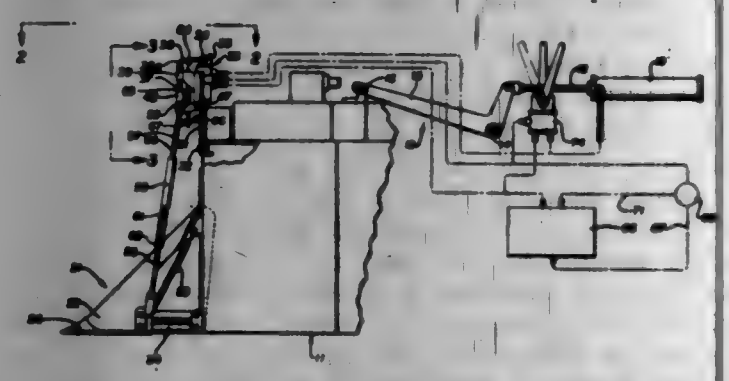
1. A device for singly dispensing a plurality of spherical forms upon the open arcuate ends of containers passing in succession beneath said device comprising: chute

means for singly advancing said spherical forms to a discharge point at the lower end thereof, said chute means having a substantially downwardly extending opening therein, a pair of rail members generally horizontally disposed and secured to the lower portion of said chute means to at least partially project below said opening, a pedal member resiliently associated with said tube for movement in a substantially vertical plane, said pedal member having a free end portion which overlies said opening in such manner that the leading spherical form is maintained upon said rails, said rails being spaced apart



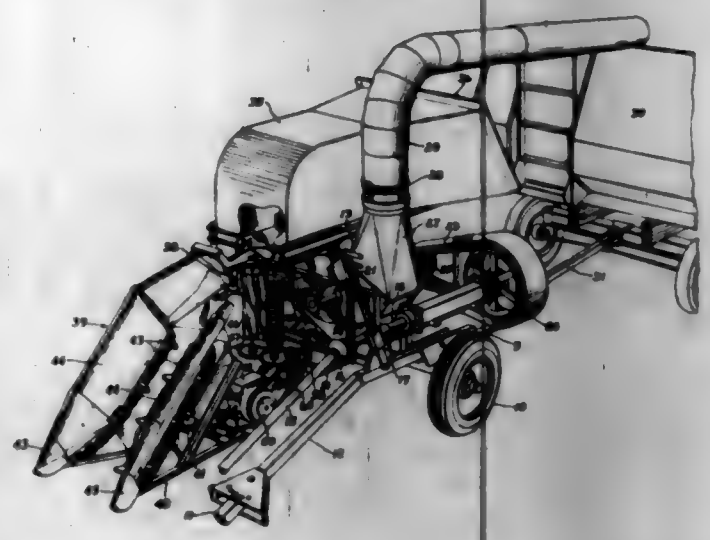
a distance sufficient to permit a portion of each of said spherical forms to project downwardly therebetween to lie with the path of successive containers; said pedal member including a first downwardly facing surface arranged at substantially an acute angle with respect to the plane of said track members, and a second generally horizontal downwardly facing surface, the plane of said first and second surfaces meeting in a line lying in a substantially horizontal plane; said spherical forms in exiting from said chute means successively rolling upon said first surface, pivoting upon said line, and sliding under said second surface.

2,972,847
COTTON PICKER WITH AUTOMATIC POSITIONING MEANS
Clem Matthews, Jr., P.O. Box 41, Firebaugh, Calif.
Filed Sept. 15, 1958, Ser. No. 761,001
6 Claims. (Cl. 56—11)



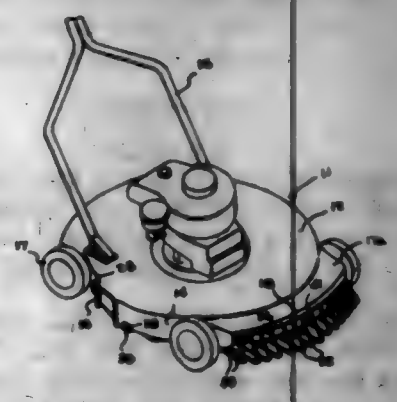
1. In automatic positioning means for a cotton picker, a vertically adjustable picker mechanism, a hydraulic ram connected to said picker mechanism, means providing a source of hydraulic fluid under pressure, manually operated control valve means connected to said source of hydraulic fluid and to said hydraulic ram, a pair of ground traversing shields mounted on said picker mechanism for vertical movement with respect to said picker mechanism, automatic control valve means mounted on said picker mechanism for movement with the picker mechanism, and connected to said means providing a source of hydraulic fluid and to said hydraulic ram, a mechanical linkage connecting said automatic control valve means to at least one of said ground traversing shields so that as said one ground traversing means is moved vertically, said hydraulic ram will be operated to cause raising and lowering of said picker mechanism and manual to automatic control valve means connected to said manually operated control valve means for selecting whether said picker mechanism may be raised or lowered by said manually operated control valve means or by said automatic control valve means.

2,972,848
CORN HARVESTING MACHINE
Russell C. McKee, Elmira, Ontario, Canada
Filed Nov. 12, 1958, Ser. No. 773,455
7 Claims. (Cl. 56—16)



1. A corn harvesting machine comprising a supporting unit, a fan fixed thereon having a driven impeller rotatable on a longitudinal axis within a housing, said housing having an ingress offset relative to said axis and a tangential egress for material such as corn stalks, a ledger plate supported at said ingress, rotary knives within said housing and rotatable in unison with said impeller, said knives disposed in a plane parallel to said ledger plate for co-acting therewith in the chopping of corn stalk material introduced into said ingress, co-acting crushing rollers journalled on vertical axes of rotation on said supporting unit in front of said ingress outside of said housing and providing a nip means for raising the crushed corn stalk material delivered from a source of supply, whereby the crushed material is fed into said ingress in the movement of said rollers, and means for driving said rollers.

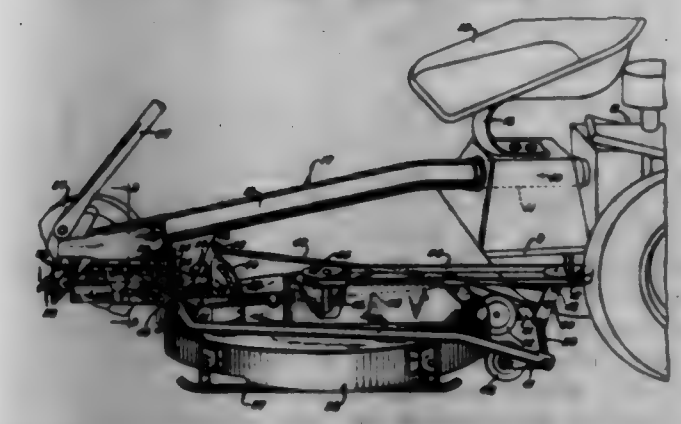
2,972,849
POWER LAWN MOWER WITH GUARD ATTACHMENT
Charles A. Eidemour, 100 4th St., Apt. J, Chester, W. Va.; Francis D. Irwin, Wellsville, Ohio (P.O. Box 389, East Liverpool, Ohio); and Everett R. Little, East Liverpool, Ohio (R.D. 1, Bergholz, Ohio)
Filed Aug. 8, 1958, Ser. No. 753,929
1 Claim. (Cl. 56—25.4)



In a power lawn mower of the type having a wheeled frame provided with a rotary horizontal blade and a de-

pending peripheral flange, a guard attachment comprising a bottom plate having an arcuately curved, horizontal, forwardly convex forward margin, means rigidly connecting said bottom plate to the bottom edge of said peripheral flange, said bottom plate being of sufficient size to cover the major portion of the underside of said wheeled frame but terminating a sufficient distance short of the forward end of said frame to allow a substantial portion of the horizontal blade to be exposed from below forwardly of the arcuately curved forward margin of said bottom plate at the forward portion of said frame, a grill comprising a plurality of parallel, spaced, longitudinally extending continuous grill rods having upwardly and rearwardly inclined forward portions defining vertical, substantially U-shaped bends at the forward ends of said grill rods, a first arcuately curved horizontal transverse bar member secured to the rear ends of said grill rods, means rigidly mounting said first transverse bar member on the forward margin of said bottom plate, a second arcuately curved transverse bar member vertically secured to the top ends of said inclined forward portions, and means rigidly connecting said second transverse bar member to the bottom marginal portion of the peripheral flange at the forward end of said frame.

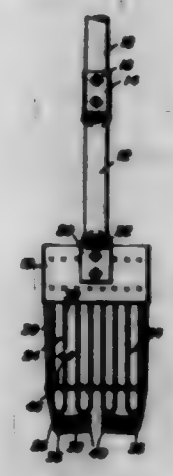
2,972,850
RIDABLE POWERED IMPLEMENT
Mando S. Ariens, West De Pere, and Willard O. Tschantz, Brillion, Wis., assignors to Ariens Company, Brillion, Wis., a corporation of Wisconsin
Filed Jan. 16, 1959, Ser. No. 787,251
3 Claims. (Cl. 56—25.4)



1. In a vehicular power implement assemblage which includes a wheeled, motorized tractor and a forwardly disposed carriage having a rigidly depended, wheeled, front axle unit and a longitudinal frame bar oscillatably and detachably coupled with the wheeled tractor and a ground engaging powered tool; an articulated equalizing sling for adjustably mounting the tool on the under portion of the carriage, pivotal supports for opposite ends of the sling including links pivotally connected with the front end portion of the sling and adjustably and pivotally connected to the front axle unit, and ground engaging wheel members rockingly carried by the rear end portion of the sling.

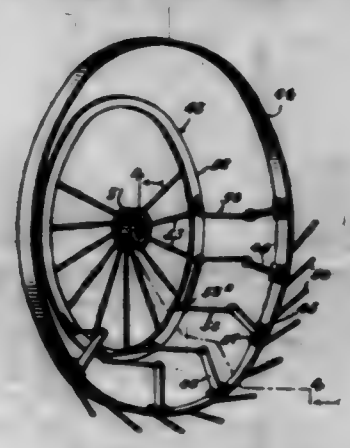
2,972,851
PECAN GATHERER
Frederick M. Goolsbee, 110 Henry St., Cuero, Tex.
Filed Dec. 17, 1957, Ser. No. 703,317
3 Claims. (Cl. 56—328)

1. A pecan pickup and gathering implement comprising, in combination, a rigid frame having transverse end members connected by longitudinal side members, a handle of requisite length, means rigidly connecting the lower end of the handle to the frame, an openwork pecan pick up and gathering cage embodying a plurality of flexibly resilient wire members disposed in spaced apart parallelism and depending vertically from and attached to the respective side and end members of the frame and having their lower end portions connected by a flexible cord associated with and cooperatively attached to individual wire members, the wire members at the transverse ends of the frame being substantially U-shaped in form and having arms the upper ends of which are rigidly attached to interior surfaces of the transverse end members, and the wire members along the longitudinal sides of said frame comprising individual resilient limbs attached at upper ends to said side members and having lower ends depending below the



lower bight portions of the U-shaped wire members and directed inwardly and upwardly and providing converging fingers having free terminals, the terminals of the converging fingers along one longitudinal side of the cage being spaced from cooperating terminals of the fingers along the relatively opposite longitudinal side and providing an entrance slot between themselves and said slot widening and opening to feed the pecans into the receptacle portion of the cage and automatically closing to prevent the pecans from dropping out of the cage.

2,972,852
DEVICE FOR LATERALLY DISPLACING GRASS, HAY OR OTHER MATERIAL LYING ON THE GROUND
Cornelis van der Lely and Ary van der Lely, Maasland, Netherlands, assignors to C. van der Lely N.V., Maasland, Netherlands, a Dutch limited company
Original application Dec. 3, 1953, Ser. No. 395,958, now Patent No. 2,861,413, dated Nov. 25, 1958. Divided and this application Oct. 13, 1958, Ser. No. 766,743
18 Claims. (Cl. 56—377)

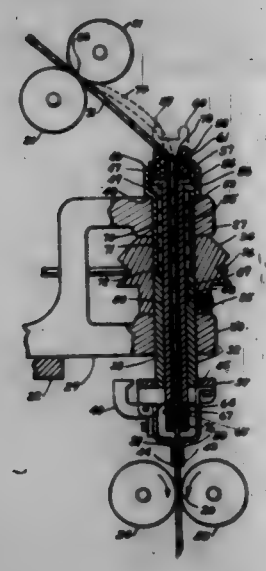


1. A side delivery rake comprising a mobile frame, a plurality of horizontal axles rigidly connected to said frame and extending outwardly therefrom, a rake wheel rotatably mounted on each of said axles, said rake wheels being arranged in an echelon on said frame and obliquely with respect to the intended direction of travel thereof, said rake wheels incorporating raking teeth and substantially resilient means providing support for said raking teeth.

2,972,853
FALSE TWIST ASSEMBLY

Joseph F. Lemieux, Jr., Manchester, N.H., assignor to L, M and L Corporation, Claremont, N.H., a corporation of New Hampshire

Filed Dec. 30, 1957, Ser. No. 706,129
10 Claims. (Cl. 57—51.6)

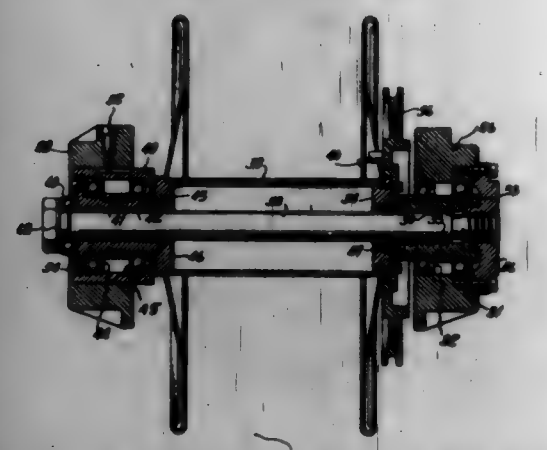


1. A false twist device for use in textile fibre spinning machines, said device comprising a unitary false twist head member having a straight cylindrical, axial bore and diametrically opposed pins extending axially from the upper end thereof, a false twist body member having a straight cylindrical axial bore and adapted to be rotatable around its axis, said head member being axially slideable in the bore of, and rotatable with, said body member, yarn engaging means at the lower end of said body member, and spring means between said head and body members continually urging said head member axially away from said yarn engaging means but yieldable in the opposite axial direction for responding to variations in tension exerted by a textile strand on said head member.

2,972,854
CRADLE ASSEMBLY FOR STRANDING MACHINE

Carl O. Bruestle, Metuchen, N.J., assignor to Syncro Machine Company, Perth Amboy, N.J., a corporation of New Jersey

Filed Apr. 2, 1958, Ser. No. 725,824
2 Claims. (Cl. 57—65)

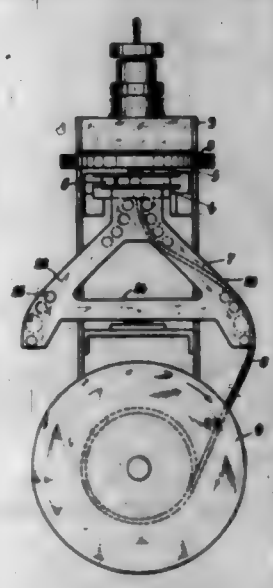


1. In a cable stranding machine, a rotatable spool supporting cradle having a pair of side frame members, a pintle assembly fixed in one of said side frame members including a rotatable spool supporting fixture journaled in a thrust bearing, a second pintle assembly axially aligned with said first pintle assembly and slidably mounted in the other side frame member and including a rotatable spool supporting fixture journaled in a bearing, a tie bar, a thrust bearing interposed between it and said second rotatable fixture, a plate secured to the frame member of the other pintle assembly, said tie bar bearing on said plate, to preload said thrust bearing while clamping a spool between said fixtures, and means for locking said second pintle assembly against movement in its frame member.

2,972,855
DEVICE FOR WINDING LINE

Carl Julienne Holm, Lerkendalsveien 19, Trondheim, Norway

Filed Aug. 28, 1958, Ser. No. 757,844
Claims priority, application Norway Oct. 4, 1957
1 Claim. (Cl. 57—66.5)

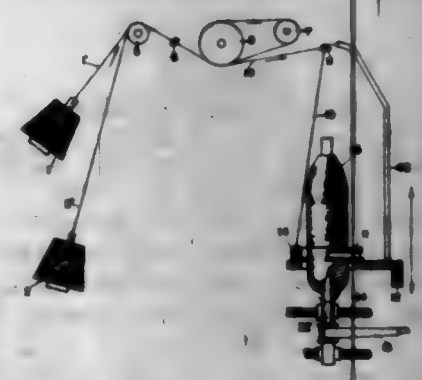


A device for winding line on a spool comprising rotatable frame means for supporting the spool and defining an axis of rotation, a cam supported by said means and rotatable about said axis, and an arm structure journalled in the cam for oscillation on said axis, said arm structure being engaged with said cam and being controlled thereby to sweep back and forth across said spool, said arm structure extending in opposite directions symmetrically away from said axis in balanced arrangement whereby the device operates independently of centrifugal forces due to the position of said arm structure and whereby the device can operate at increased rotational speeds of said frame means without deleterious results.

2,972,856
PROCESS AND APPARATUS FOR TWINING THREADS

Edmund Hamel, Munster, Westphalia, Germany, assignor to Hamel Projektierungs- und Verwaltungs-A.G., Horn, Thurgau, Switzerland, a corporation of Switzerland

Filed Mar. 25, 1959, Ser. No. 801,831
Claims priority, application Germany May 22, 1958
4 Claims. (Cl. 57—156)



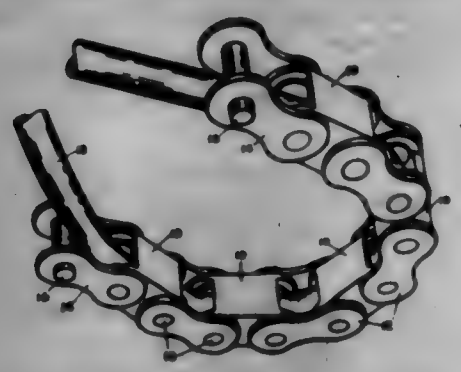
1. A process for twining threads, comprising the steps of blending a plurality of filaments from respective

sources into a yarn by advancing said filaments together at a relatively high and equal forward speed while imparting to the yarn a preliminary twist with a relatively low number of turns per unit of length, and subsequently imparting to said yarn a finishing twist of a relatively high number of turns per unit of length while advancing the twisted yarn at a relatively low forward speed, the minimum ratio of said high and low number of turns being about ten to one.

2,972,857
BOX TYPE TENSION CHAIN FOR PROTECTING ELECTRIC CABLE

Ralph H. Bodmann, Woods Hole, Mass., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Jan. 10, 1956, Ser. No. 558,393
6 Claims. (Cl. 59—78.1)

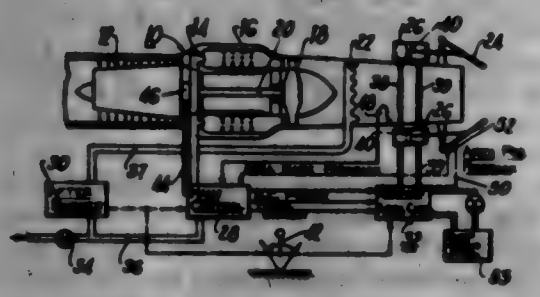


1. A box type chain comprising a plurality of separate sections of tubing, each rectangular in transverse cross section, the top and bottom walls of each section terminating at each end substantially shorter than the side walls, and the ends of the side walls being semicircular and convex, said sections being arranged end to end but in spaced relation to one another and plate like links having their ends of widths approximately equal to the widths of the side walls and arcuately convex and semicircular, disposed one against each side wall of a section and overlapping with the adjacent semicircular ends of two tube sections that are in end to end relation, each overlapping side of a tube and link being pivoted together by a pin individual to each link end and the side wall which it overruns, and all pins separate from one another, leaving a continuous internal passage lengthwise of the chain unobstructed by said pins through which a cable may be threaded.

2,972,858
EXHAUST AREA CONTROL FOR GAS TURBINE ENGINES

George R. Pavlick, South Bend, Ind., assignor to The Bendix Corporation, a corporation of Delaware

Filed Nov. 5, 1956, Ser. No. 620,485
12 Claims. (Cl. 60—35.6)

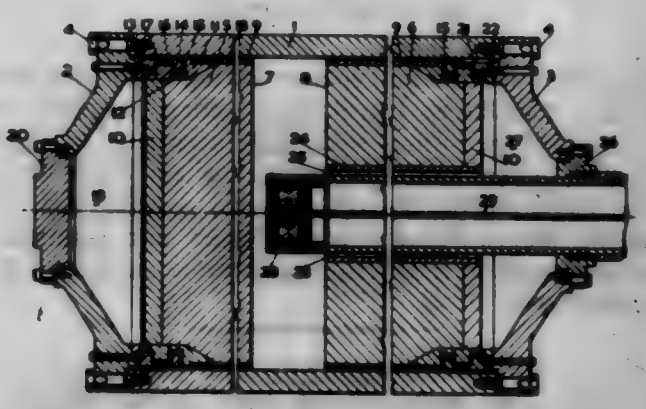


1. An exhaust area varying mechanism for a gas turbine engine comprising means for varying the effective area of the exhaust nozzle, servo valve means for controlling the operation of the area varying means, and means for controlling the effective position of said servo valve means including a linkage system, a spring-loaded cam operably attached to one of the links in said system, a throttle member, a differential gearing structure operably positioned between said cam and said throttle member, and engine speed responsive means connected to said gearing structure such that movement of said throttle member is transmitted to said cam only when engine speed reaches a desired value.

2,972,859
ROCKET MOTORS

Frederick James Porcher, Edgbaston, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

Filed Feb. 11, 1959, Ser. No. 792,224
Claims priority, application Great Britain Nov. 25, 1958
4 Claims. (Cl. 60—35.6)



1. A rocket motor comprising a casing, first and second propellant charges mounted in said casing in spaced apart relationship, a gas tight joint between said second charge and said casing whereby passage of gas over the outer circumferential surface of said second charge is prevented, the facing surfaces of said propellant charges constituting ignition end surfaces and the other surfaces of said charges being covered with ignition-inhibiting material, a passage through said second charge, a gas transfer tube extending through said passage and through the casing, a gas tight joint between said transfer tube and said casing, said passage being larger than said gas transfer tube whereby gases generated in the space between said charges may flow between said gas transfer tube and said second charge to the remote end of said second charge to provide a cushion of substantially static gas to equalize the pressure on said second charge, means affording a flow path around the outer circumferential surface of said first charge for permitting gas to flow to the remote end of said first charge to provide a cushion of substantially static gas to equalize the pressure on said first charge, and means for igniting the ignition end surfaces of said charges substantially simultaneously.

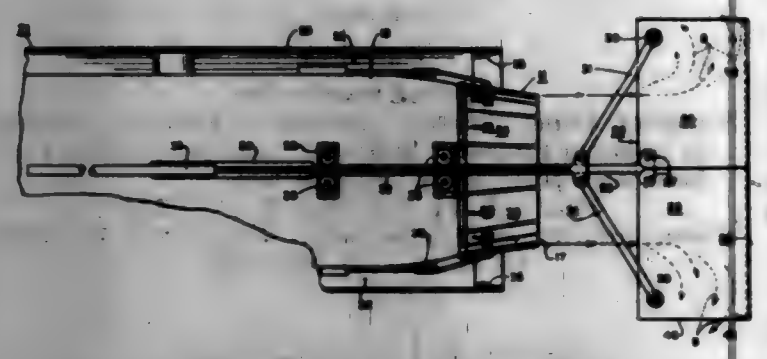
2,972,860
COMBINED VARIABLE EJECTOR AND THRUST REVERSER

Tsoy K. Moy, San Jose, Calif., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Jan. 30, 1958, Ser. No. 712,156
4 Claims. (Cl. 60—35.55)

1. In an aviation jet propulsion engine, an inner tubular casing provided with an exhaust nozzle for ejecting hot gases to the atmosphere to provide a propulsive thrust to the engine, outer tubular shell structure encompassing said inner casing and disposed in concentrically spaced relation therewith, a tubular ejector shell structure, said ejector shell structure being disposed in said outer shell and including a pair of divided shell segments, means pivotally connecting said shell segments to each other adjacent juxtaposed portions thereof for

rotation about an axis normal to the central axis of said exhaust nozzle, first actuator means for translating said shell segments in forward and rearward direction parallel to said central axis, said shell segments being movable in rearward direction beyond said exhaust nozzle and jointly providing a continuation of said outer shell, means for preventing rotation of said shell segments about said pivotal means during a portion of their rearward translatory travel, and second actuator means for rotatably actuating said shell segments in opposite directions about said pivotal means and into the path of the gases ejected by said exhaust nozzle, said second actuating means being effective when said rotation preventing means is ineffective to prevent rotation of said shell segments.

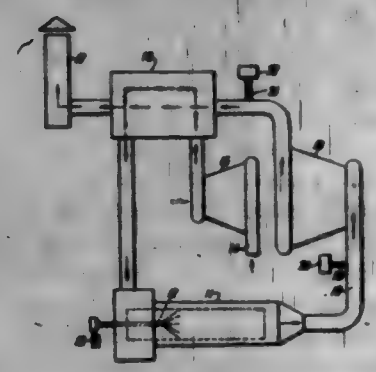


2,972,861

METHOD OF REDUCING THE CORROSIVE ATTACK OF COMBUSTION GASES ON METAL

Edward Brett Davies, Oldbury, Birmingham, England, assignor to The Midland Tar Distillers Limited, Birmingham, England

Filed Mar. 11, 1953, Ser. No. 341,990
7 Claims. (Cl. 60—39.82)



1. A method of reducing combustion gas acid corrosion of metals in a system where the metals are subjected to direct contact with combustion gases produced by the combustion of hydrocarbon fuels in a combustion chamber comprising the step of introducing into the products of combustion at a point outside said chamber but prior to contact with said metals at least one liquid tertiary amine, so that the amine is vaporized and is carried by the products of combustion into contact with the metal to be protected.

2,972,862

PULSE REACTOR

Pierre Servanty, Aulnay-sous-Bois, France, assignor to Societe Nationale d'Etude et de Construction de Moteurs d'Aviation, Paris, France, a company of France

Filed Apr. 27, 1959, Ser. No. 809,108
Claims priority, application France May 6, 1958
4 Claims. (Cl. 60—39.34)

1. A thermo-propulsive pipe functioning periodically, suitable for driving a shaft about an axis of rotation, comprising a combustion chamber mounted coaxial with said axis of rotation, at least two ejector nozzles extending from said chamber for discharging into the atmosphere the combustion gases of said chamber, at least two air intake ducts extending from said chamber and having aerodynamic flaps, a fairing surrounding said ejector



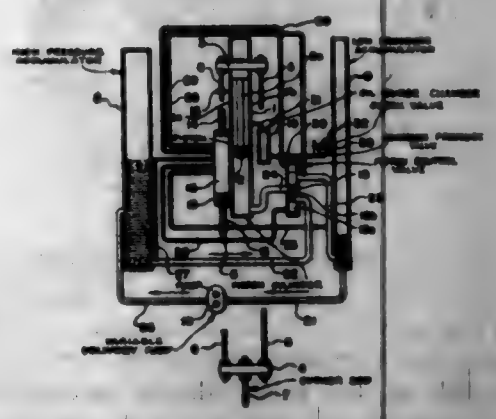
nozzles and said air intake duct, trunks housed in said fairing and extending said air intake ducts at a distance therefrom for providing therewith a gap whereby ambient air is sucked into said ducts and said trunks.

2,972,863

HYDRO-PNEUMATIC WORKING HEAD FOR PLUNGER PUMPS

Floyd D. Hyde, San Diego, Calif., assignor to Inventors Development Company, San Diego, Calif., a corporation of California

Filed Mar. 16, 1954, Ser. No. 416,633
10 Claims. (Cl. 60—51)



1. A cylinder, a piston reciprocally mounted in said cylinder, a high pressure accumulator, a low pressure accumulator, a pump interconnecting said high pressure accumulator and said low pressure accumulator to deliver hydraulic fluid from said low pressure accumulator to said high pressure accumulator, compressible fluid in the upper portions of each of said accumulators, and a valve interconnecting said cylinder with said high and low pressure accumulators to alternately deliver high pressure fluid from said high pressure accumulator to said cylinder, and from said cylinder to said low pressure accumulator, means communicating with the inlet side of said pump for admitting air thereto when pressure therein drops below atmospheric, a pressure regulator intercommunicating with said low pressure accumulator and said pump to maintain pressure in said low pressure accumulator above atmospheric pressure when fluid pressure at the inlet of said pump is below atmospheric pressure, said pressure regulator having a pressure regulator valve interconnecting said low pressure accumulator and said pump to control flow of fluid from said low pressure accumulator to said pump, a movable means connected with said valve and having opposed first and second surfaces, second means for applying regulated pressure to said first surface and to the interior of said low pressure accumulator and a check valve intercommunicating with said low pressure accumulator and said first surface to prevent pressure existing in said cylinder from passing out of said low pressure accumulator to said first surface, said second surface communicating directly with pressure in said low pressure accumulator, said first surface having greater area exposed to regulated pressure than the area of said second surface exposed to pressure in the low pressure accumulator, whereby pressure in said low pressure accumulator is increased when the piston in said cylinder falls, causing the increased pressure to act on said second surface and to open said valve in opposition

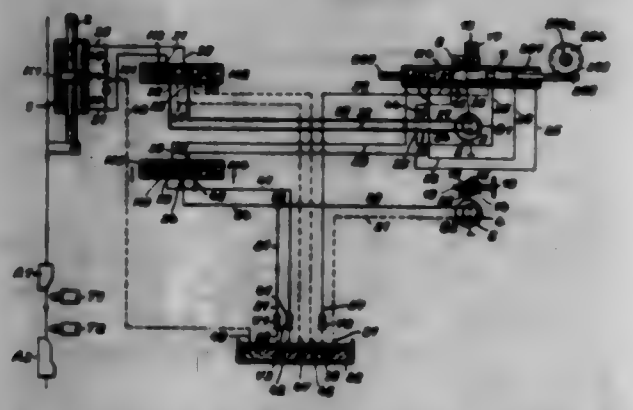
to said regulated pressure acting on said first surface, said pressure regulator valve when open permitting fluid to pass from said low pressure accumulator to said pump.

2,972,864

HYDRAULIC DRIVES FOR RECTILINEAR ALTERNATING MOTIONS FOR RECIPROCATING MACHINES

Friedrich Klopp, Friedrich Klopp, Jr., and Friedhelm Leesmich, Solingen-Wald, Germany, assignors to Klopp-Werke G.m.b.H., Solingen-Wald, Germany, a corporation

Filed Dec. 31, 1959, Ser. No. 863,268
Claims priority, application Germany Jan. 5, 1959
5 Claims. (Cl. 60—52)



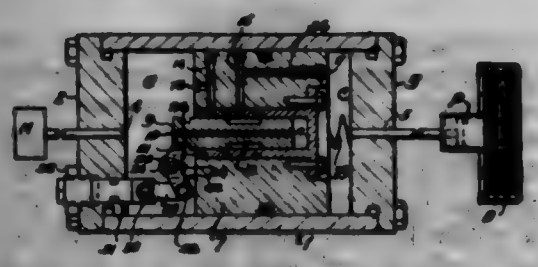
1. In a hydraulic drive for effecting alternating rectilinear motion, a cylinder, a piston within said cylinder connected to a driven machine member, an advance motor for said member, first and second chambers of varying volume defined by said piston, means for generating hydraulic pressure including a variable delivery pump, conduit means connecting one side of said generating means with said first chamber and connecting the other side of said generating means with said second chamber, an adjusting member movable from a neutral position in either direction for infinitely varying the output capacity of said generating pump and for reversing the flow direction thereof, a reciprocable reversing valve of the piston slide valve type having a valve cylinder and stroke of predetermined length, a precontrol valve of the piston slide valve type responsive to arrival of said piston at a definite position for causing said reversing valve to shift through said predetermined stroke, connecting means between said reversing valve and said adjusting member for causing a constant shifting of said adjusting member during the movement of said reversing valve, the position of said adjusting member at any instant being proportional to the position of said reversing valve, said advance motor being drivably connected with and operated simultaneously by the stroke of said reversing valve piston.

2,972,865

FLUID PRESSURE TAKE-UP

Elias Orshansky, Jr., New York, N.Y., assignor to Chicago Railway Equipment Company, Chicago, Ill., a corporation of Illinois

Filed May 11, 1959, Ser. No. 812,497
8 Claims. (Cl. 60—54.5)



1. A fluid pressure take-up comprising a cylinder, a piston therein, a pressure fluid inlet to the cylinder at one side of the piston, a pressure fluid outlet from the cylinder at the other side of the piston, there being a passage through the piston from one side to the other side, a valve normally closing said passage against inlet pressure fluid, means for moving said valve in one direction relative to the cylinder and piston when the pressure at the inlet side of the piston moves the latter past a predetermined point, said means moving said valve relative to the cylinder and piston in the opposite direction when the pressure fluid at the outlet side of the piston moves the latter past a predetermined point.

2,972,866

BRAKE SYSTEM

Burlin W. Oswalt, Union, Ohio, assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York

Filed July 3, 1958, Ser. No. 746,480
8 Claims. (Cl. 60—54.6)



1. In an internal expanding self-energizable brake with a leading shoe and a trailing shoe and primary actuation means to engage the shoes with a brake drum, the improvement comprising a fluid-actuated automatic slack adjusting mechanism for interconnecting the toes of said shoes and operable for engaging said toes with the drum prior to the operation of said primary actuation means; said mechanism comprising a housing having a fluid inlet therein and being adapted to engage the toe of one of said shoes, a member engaged slidably with said housing and adapted to engage the toes of the other of said shoes, said latter member and portions of said housing defining an expansion chamber to receive fluid to effect relative axial displacement of said housing and said member, a floating piston assembly movable in said housing in response to actuating fluid pressure at said inlet, valve means in said housing axial with said floating piston assembly and defining with said assembly an intermediate chamber, means normally biasing said floating piston assembly away from said valve means, said valve means including a normally open passage communicating said intermediate chamber and said expansion chamber and means engageable by said floating piston assembly in the actuated position thereof to close the latter passage, and a one-way normally closed valve in said valve means operable to open in response to a predetermined pressure differential between said chambers to communicate said chambers when the latter said passage is closed; and a normally closed pressure sensing valve in said floating piston assembly operable to open to communicate said intermediate chamber with said inlet in response to a predetermined pressure of fluid in either said inlet or said intermediate chamber.

2,972,867

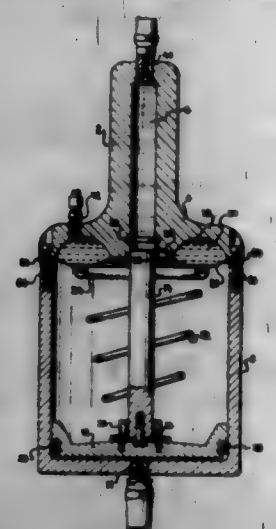
PRESSURE INTENSIFICATION DEVICE

Martin L. Klingler, Hershey, Pa., assignor to AMP Incorporated, Harrisburg, Pa.

Filed July 27, 1959, Ser. No. 829,815
6 Claims. (Cl. 60—54.6)

1. Apparatus for pressurizing a hydraulic fluid comprising, a low pressure cylinder and a high pressure cylinder, said high pressure cylinder having a base portion which forms one end of said low pressure cylinder, a

piston in said low pressure cylinder having a plunger extending therefrom into said high pressure cylinder, a replenishing reservoir for said high pressure cylinder in said low pressure cylinder and disposed adjacent said one end, a passageway extending from said reservoir to said high



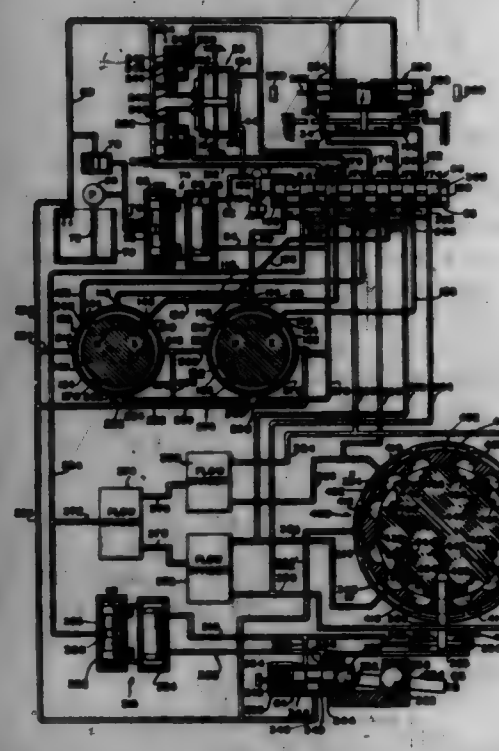
pressure cylinder, resilient means surrounding said plunger and normally biasing said piston towards the opposite end of said low pressure cylinder, said resilient means bearing against said reservoir thereby to maintain a pressure on said reservoir and maintain a full charge of fluid in said high pressure cylinder.

2,972,868
MACHINE TOOL SLIDE CONTROL

Bernard Sassen, Torrington, Conn., assignor to The Monarch Machine Tool Co., Sidney, Ohio, a corporation of Ohio

Continuation of abandoned application Ser. No. 387,622, Oct. 22, 1953. This application Mar. 5, 1958, Ser. No. 719,389

20 Claims. (Cl. 60—97)



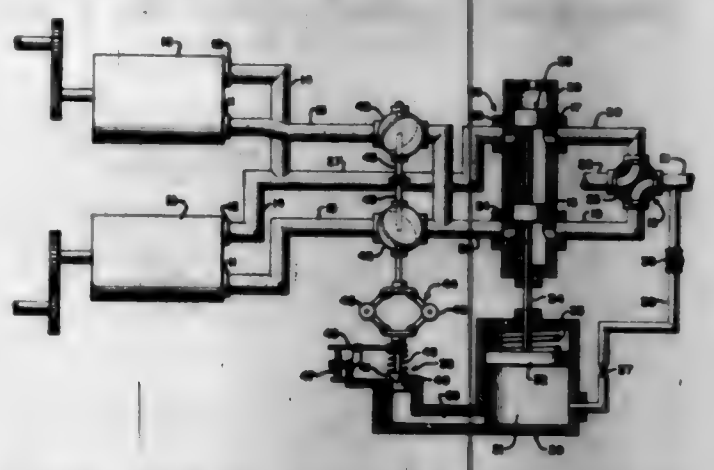
1. A movement-effecting and control system for a machine tool comprising: a pair of motive means, one movable by the other, for effecting reversible linear movement along a pair of angularly disposed paths; control means for said motive means including means for operating the latter to effect said movement selectively at preset feed or rapid-traverse rates; means independent of said control means for adjusting said feed rates; and a single manually-operable handle operatively connected to said control means for operating the latter to effect movement of said motive means selectively and at said feed rates or said rapid-traverse rates selectively.

2,972,869
MEANS FOR SYNCHRONIZING A PLURALITY OF PNEUMATIC MOTORS

Raymond W. Jensen, Los Angeles, Calif., assignor to The Garrett Corporation, Los Angeles, Calif., a corporation of California

Filed Apr. 24, 1959, Ser. No. 808,735

12 Claims. (Cl. 60—97)



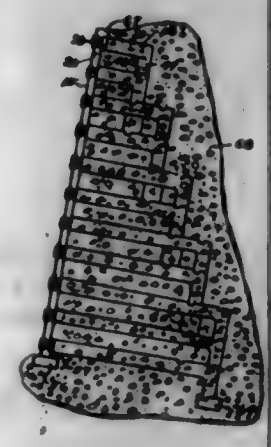
1. Control means for a plurality of fluid motors comprising: valve means connected between a source of pressure fluid and the fluid motors; a metering device between said valve means and each fluid motor, said metering devices being actuated by fluid supplied to the fluid motors; means coupling said metering devices for operation in unison; actuating means for said valve means; and means driven by and responsive to the operation of said metering devices to control the operation of said valve actuating means.

2,972,870
CRIBBING WALL

Alva N. Cooper, Los Angeles, Calif.; Herbert Potter, administrator of said Alva N. Cooper, deceased, assignor of one-half to Herbert Rose, Beverly Hills, and one-half to Harmon Enterprises, Inc., Los Angeles, Calif., a corporation of California

Filed Aug. 27, 1957, Ser. No. 680,585

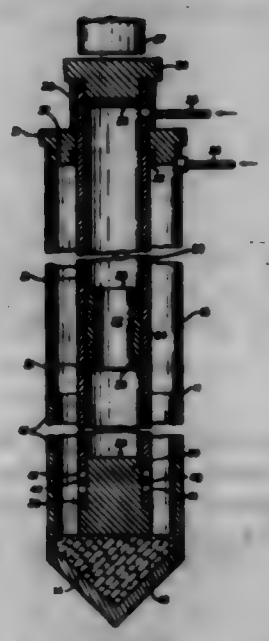
6 Claims. (Cl. 61—47)



1. A cribbing wall structure comprising a plurality of superimposed courses of stretcher blocks, each course including a plurality of individual stretcher blocks having their lower surfaces in contact with the upper surfaces of the stretcher blocks therebelow and with said stretcher blocks in end joint contact, said stretcher blocks each having a notch formed inwardly from each of its upper and lower surfaces and with the notches of the superimposed stretcher blocks in vertical alignment to form a socket between them and with each notch having a

base opposed to and diverging from the other to form the top and bottom of its socket, said sockets top and bottom each having its surface to a configuration formed by an upward curve and a tangential reverse curve together providing a rounded shoulder and a plurality of headers rearwardly projecting from the stretcher blocks with each header having a tongue at its forward end disposed in a stretcher blocks socket with a shoulder at the inner of the tongue and each tongue including means cooperating with the configuration of the socket top and bottom said stretcher blocks with the header tongues disposed in said stretcher blocks sockets being normally retained in operative positions by the weight of the said stretcher blocks, and said top and bottom configuration of said stretcher blocks sockets rounded shoulders causing the stretcher blocks to engage the tongues shoulders and requiring a heavy force to cause a movement thereof relative to the header tongue and a rapid positive return of the stretcher blocks to normal operative positions upon relief of said force.

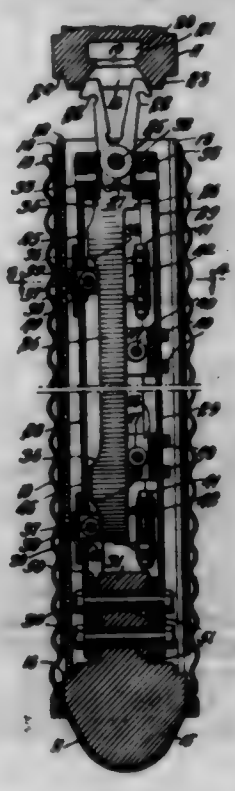
2,972,871
APPARATUS FOR DRIVING A PILE SHELL
Edward W. Foley, Jr., Providence, R.I.
(P.O. Box 499, New City, Rockland County, N.Y.)
Filed Jan. 3, 1957, Ser. No. 632,359
4 Claims. (Cl. 61—53.7)



1. Apparatus for driving a pile comprising a tubular casing, a tubular core within the same and in spaced relation to the inner wall thereof, a driving point affixed to the casing, a lower end fitting for the tubular core closing off the same and supported on the driving point, the said fitting comprising a plug fitting in the core, a collar at the upper end of the casing closing the space between casing and core and slidably fitting the core, means on said casing and core which are adapted to communicate with a source of water under pressure for maintaining the space within the core and the space between the core and casing full of water under pressure, and an anvil fitting at the top of the core for driving the same.

2,972,872
CONCRETE PILE FORM
John J. Kupka, Gladstone, N.J., assignor to McKiernan-Terry Corporation, Harrison, N.J., a corporation of New Jersey
Filed Jan. 17, 1958, Ser. No. 709,604
13 Claims. (Cl. 61—53.52)

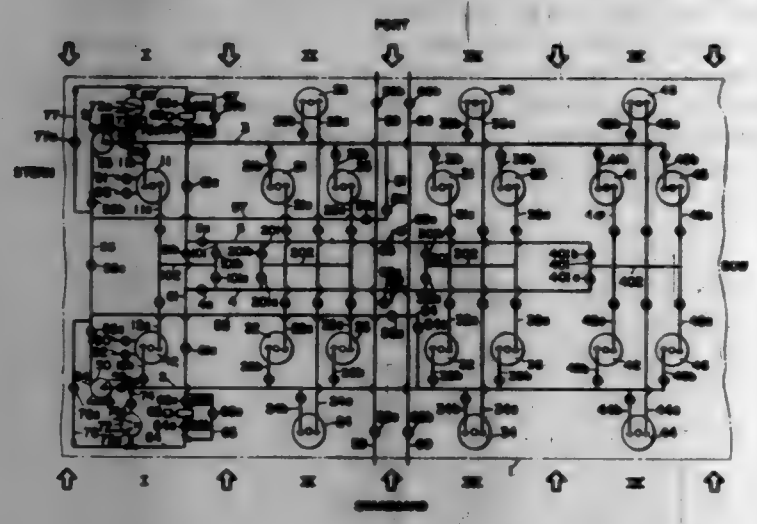
1. Form for a concrete pile comprising the combination of a shell adapted to be driven and left in the ground as a form for the concrete and a core expansible to effect driving engagement with the shell and contractible to effect release and permit removal of the core from the driven shell, said core having a driving shoe at the lower end provided with an upwardly faced annular driving shoulder, a longitudinally split spring driving tube within said shell centered in driving engagement at its lower end on said annular shoulder, said split tube being of spring material and tensioned to a normally substantially closed contracted condition free of the surrounding shell but expansible under internal pressure, a cushion of resilient gripping material on said split tube positioned to be forced by expansion of the tube into gripping driving engagement with the surrounding shell, an upright frame mounted on said driving shoe within said split tube, expansible and contractible tube expanders on said frame in thrust applying spreading engagement with the tube at opposite sides of the split therein, a hammer element having a downwardly faced annular shoulder in driving engagement with the upper end of the split tube and means operable by said hammer element for imparting tube expansive movement to said tube expanders on downward movement of said hammer element and for effecting contraction of said expanders and lifting of the core upon upward movement of said hammer element.



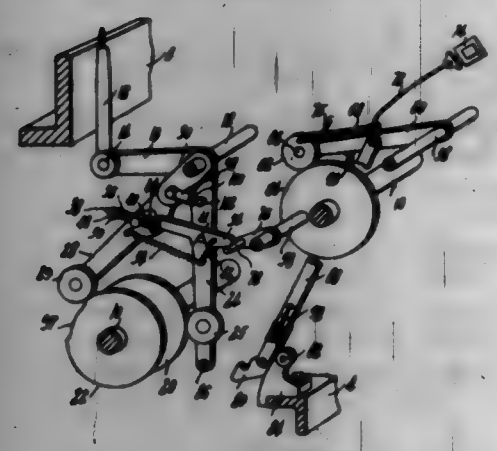
2,972,873
SYSTEM FOR LOADING AND UNLOADING LIQUEFIED GASES FROM TANKERS
John R. Peet, Westfield, George Claypole, Sparta, Arnold Fink, Rahway, and Christopher E. Loeser, Scotch Plains, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
Filed Jan. 2, 1959, Ser. No. 784,714
3 Claims. (Cl. 62—51)

3. A method for discharging a liquefied gas from a group of storage vessels in which said liquefied gas is contained, and wherein said group of storage vessels belong to an associated series of liquefied gas containers, comprising heating the liquefied gas contained in a first vessel in said series to a temperature at which the vapor pressure of said liquefied gas is at least equal to the static pressure of a column of said liquefied gas having a height greater than that of any vessel in said series; vaporizing said liquefied gas and maintaining said vapor pressure by continued heating; placing said first vessel in communication with a first group of other storage vessels in said series at a pressure level above the pressure level of liquefied gas therein; simultaneously discharging the liquefied gas in said first group of other stor-

age vessels therefrom substantially under the pressure exerted thereon by vapors of the heated liquefied gas contained in said first vessel; evacuating vapors from a previously discharged second group of other storage vessels; condensing said evacuated vapors, and combining the resulting condensate with the liquefied gas discharged from said first group of other storage vessels.

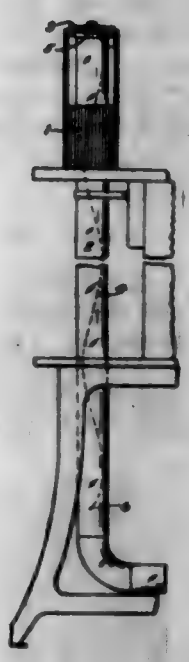


2,972,874
POSITIVE NEEDLE CAM MOTION
Arthur J. Cobert, Chattanooga, Tenn., assignor to Beautiful Bryans, Incorporated, Chattanooga, Tenn., a corporation of Tennessee
Filed Dec. 20, 1957, Ser. No. 704,071
9 Claims. (Cl. 66—82)



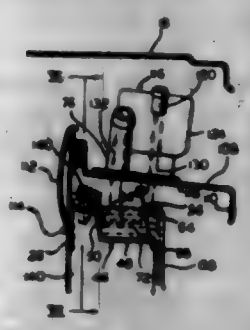
4. In a full-fashioned knitting machine having knitting devices including a series of needles movable as a unit in forward and back and up and down directions, and a cam shaft, the combination of a needle up and down motion rock shaft, a needle up cam and a needle down cam mounted on the cam shaft for producing respectively the up and down movement of the needles, a needle down cam follower lever mounted on the rock shaft and adapted to engage its cam at one side of said cam shaft, a needle up cam follower lever mounted from the rock shaft at an angle with relation to said needle down cam follower lever for engagement with its cam at the opposite side of said cam shaft from the needle down cam follower lever, said cams being contoured to maintain constant said angle between the needle up and down cam follower levers during rotation of the cam shaft, means securing one of said follower levers rigidly to the rock shaft, means connected between said needle up and down cam follower levers to maintain a predetermined minimum angular relation therebetween including a spacing device disposed between said follower levers to limit the relative approach of said follower levers, spring means acting upon said follower levers to effect said relative approach of said follower levers and to maintain said levers in said minimum angular position, and means acting when rendered operative to disconnect said spacing device from between said follower levers.

2,972,875
FABRIC DRAW-OFF MECHANISM
Paul L. St. Pierre, Pawtucket, R.I., assignor to Hemphill Company, Central Falls, R.I., a corporation of Massachusetts
Filed Jan. 30, 1956, Ser. No. 562,210
9 Claims. (Cl. 66—150)



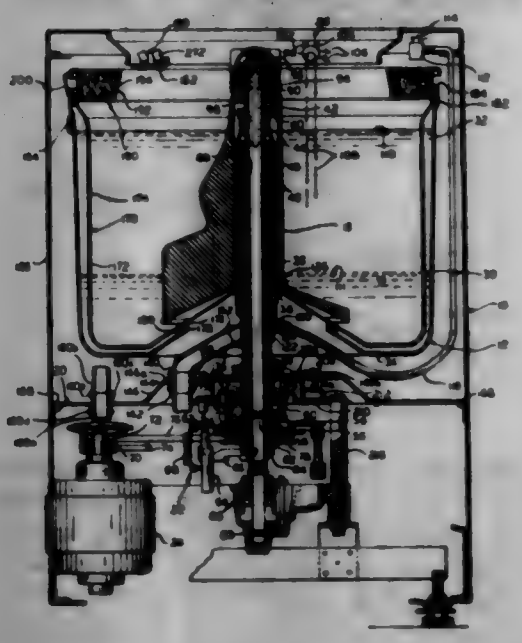
4. In a circular knitting machine of the rotatable cylinder and dial type a flexible, fabric engaging, linear member depending freely from the dial.

2,972,876
SELF-CLEANING FILTER STRUCTURE
Peter Eduard Geldhof, Benton Harbor, Mich., assignor to Whirlpool Corporation, a corporation of Delaware
Filed May 20, 1957, Ser. No. 660,309
5 Claims. (Cl. 68—18)



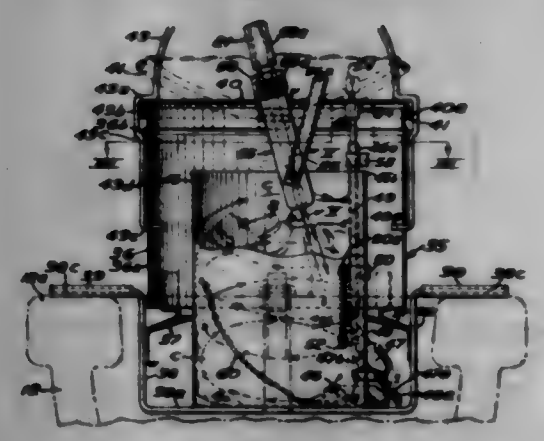
4. In combination with a laundry machine which includes a basket and surrounding tub forming an annular chamber therebetween and conduit means supported by the tub and discharging recirculating laundering fluid therein during the washing cycle; the improvement which comprises an annular trough-shaped filter carried by the basket to receive laundering fluid from the conduit means prior to discharge into the tub and basket, said filter having an outwardly inclined, vertically disposed inner filter wall, an imperforate bottom wall, and an imperforate outer wall arranged generally parallel to said inner wall and disposed relatively more closely to said tub than said filter wall; and second conduit means adjacent the first conduit means arranged to direct rinsing fluid against the filter wall at an angle thereto during the rinsing cycle to cleanse the filter.

2,972,877
LAUNDRY MACHINE
Clark Ira Platt, Benton Harbor, Mich., assignor to Whirlpool Corporation, St. Joseph, Mich., a corporation of Delaware
Filed May 24, 1957, Ser. No. 661,478
11 Claims. (Cl. 68—18)



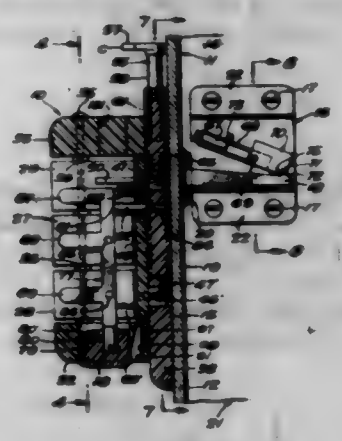
1. A control system for a laundering machine comprising an outer tub, an imperforate basket within the tub having means at the top for accommodating the flow of fluid from the basket to the tub, operational means for the machine aiding in the laundry operation, a pressure responsive switch means connected to the operational means for beginning and stopping operation thereof, and a tube connected at one end to receive fluid from the basket and connected at the other end to the pressure responsive switch means and leading to a location above the normal level of the fluid in the tub before connecting to the switch to form an air column in the tube whereby variations of fluid level in the tub will operate the air column in the tube to cause operation of the switch.

2,972,878
PORTABLE WASHER FOR DIAPERS
David F. Dickey, Pittsburgh, Pa.
(4863 Rivoli Drive, Macon, Ga.)
Filed Nov. 12, 1957, Ser. No. 695,948
9 Claims. (Cl. 68—181)



1. A portable quick-washing device suitable for connection to the faucet of a wash bowl and for washing an article such as infant's wear which comprises, a pair of inner and outer housing members having wall portions in a spaced-apart relation with each other, said inner member having an open top end portion located below the top end portion of said outer member to define a lip spillway and having a closed bottom end portion to define a washing chamber therein, said outer housing member being open at its top and bottom end portions to define a vertical spillway chamber with said inner housing member and a bottom discharge outlet about the bottom end portion of said inner housing member, a closure adapted to cooperate wtih the top end portion of said outer member and close it off after an article has been introduced into the washing chamber of said inner member, a liquid-introducing nozzle carried by said closure for said outer member and having a lower portion positioned below said lip spillway to project liquid into the washing chamber of said inner member, and pulsatile means operatively associated with said nozzle for automatically lowering the level of liquid within said inner housing member from a pre-determined level along said lower portion of said nozzle to a level therebelow.

2,972,879
LOCK
Carroll Brooks Fry, 436 N. Roxbury Drive, Beverly Hills, Calif..
Filed Nov. 10, 1958, Ser. No. 772,753
25 Claims. (Cl. 70—276)

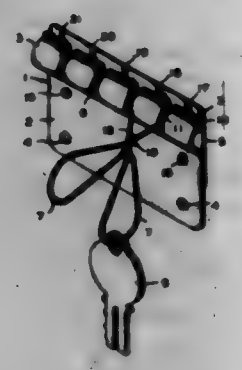


1. A lock which comprises a latch member, a slidable latch actuator, said latch member being operative in response to movement of said latch actuator, means normally engaging said latch actuator and maintaining it in fixed position, said means being movable with respect to said latch actuator for releasing same, said latch member being maintained in locked position when said latch actuator is in said fixed position, a digitally actuable pivotally mounted tumbler, a digitally actuable operating member mounted to operate said latch actuator engaging means to release said last mentioned means from said latch actuator, said tumbler in normal position providing an interference against actuation of said operating member, said tumbler being adapted on pivotal movement to withdraw said interference and permit actuation of said operating member, to release said latch actuator engaging means from said latch actuator, and at least one pivotally mounted digitally actuable member mounted adjacent to and of similar external shape as said tumbler, said last mentioned member being inoperative to permit actuation of said operating member.

2,972,880
KEY HOLDER
David Robinson, 3325 Hudson Ave., Union City, N.J.
Filed July 5, 1957, Ser. No. 670,195
13 Claims. (Cl. 70—456)

1. A holder for releasably retaining at least one hanger having a shank portion and a wider head portion, said holder comprising a base member having curved hanger retaining fingers projecting therefrom, said fingers being spaced apart sufficiently to provide a slot to pass the shank of said hanger but not to pass the head portion of said hanger, and a resilient spring-like backing member, said backing member being superimposed on and

secured to said base member, the spring-like characteristics of said backing member urging said backing member into abutment with the rear face of the tips of said fingers to normally prevent passage of said head portion



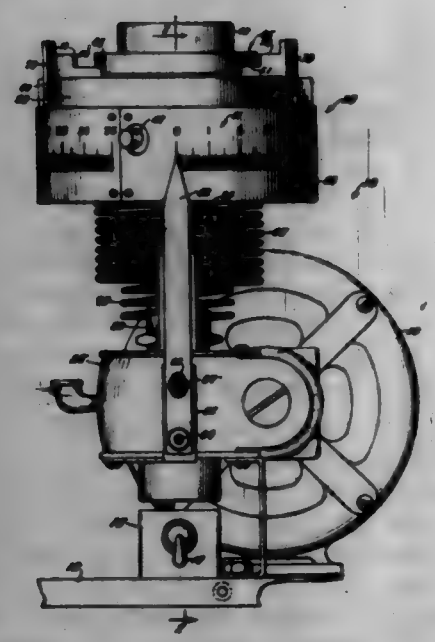
between the rear face of the tips of the fingers and said backing member whereby a hanger may be removed and inserted into said slot by sliding the head portion of the hanger between the tips of said fingers and the abutting surface of said resilient spring-like backing member.

2,972,881

SEALING FRICTION TESTING APPARATUS

Theodore F. Koch, Elmhurst, Ill., assignor to Chicago Rawhide Manufacturing Company, Chicago, Ill., a corporation of Illinois

Filed Oct. 23, 1956, Ser. No. 617,863
9 Claims. (Cl. 73—9)



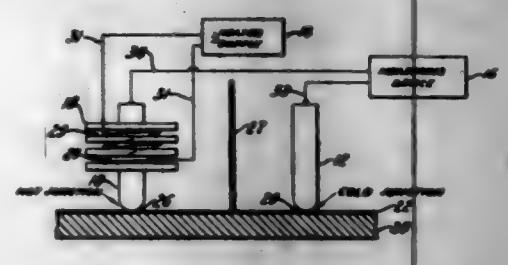
1. A radial seal friction testing apparatus including a housing having a vertical shaft therein extending through a top portion thereof, a chuck having radially directed adjustable jaw means received concentrically about said shaft and supported on said shaft by bearing means, said chuck extending outwardly of the top portion of said housing for ready access thereto, resilient means connected to said chuck to resist the turning of the same with said shaft upon rotation of the latter and the clamping of a seal by said jaw means in engagement with said shaft, adjustment means connected to said resilient means to vary the effectiveness of said resilient means for calibration of said apparatus, drive means for rotating said shaft, and indicator means for determining the extent of movement of said chuck against said resilient means.

2,972,882

APPARATUS FOR MEASURING COATING THICKNESSES

Wesley S. Erwin, deceased, late of Detroit, Mich., by Kathrine S. Erwin, administratrix, Birmingham, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Aug. 12, 1952, Ser. No. 304,041
2 Claims. (Cl. 73—15)



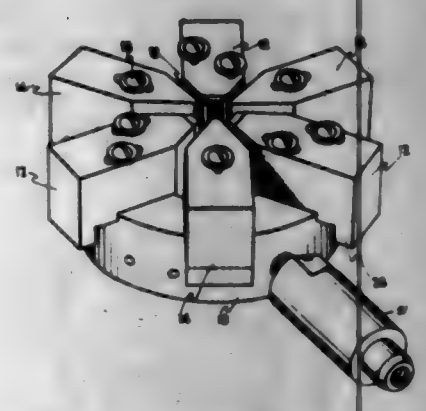
1. An apparatus for thermoelectrically measuring the thickness of a metallic coating on a base metal, said apparatus comprising a first metallic probe member having a convexly curved contact end, a second metallic probe member having a convexly curved contact end, both of said probes being of metal forming thermoelectric junctions with said metallic coating, an electrical resistance heater surrounding said first probe for heating it to a predetermined temperature, a heat shield between said probes and an electrical indicating device connected in series with said probe members to indicate a differential E.M.F. generated upon contact of said probe members with a metallic surface.

2,972,883

ADJUSTABLE PNEUMATIC GAGE

Balint Gyurko, Jr., Torrington, Conn., assignor to Pratt & Whitney Company Incorporated, West Hartford, Conn., a corporation of Delaware

Filed Oct. 31, 1957, Ser. No. 693,669
2 Claims. (Cl. 73—37.8)



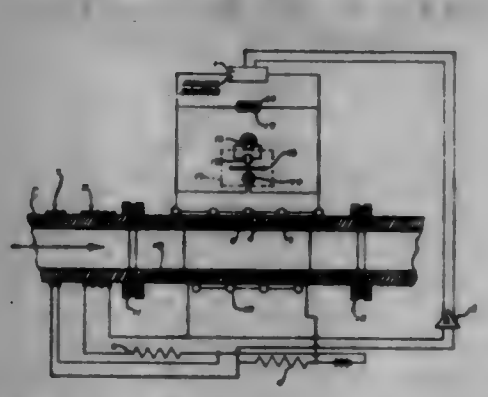
2. A pneumatic gage comprising a base having a cylindrical periphery, said base also having radially disposed grooves formed in the upper surface thereof, elongated radially adjustable gaging members mounted in said grooves and having air supplying conduits therein extending to orifices at their adjacent inner end faces, elongated radially adjustable centering members slidably engaging the part being gaged at the inner ends of said centering members, and depending flanges on said gaging and centering members having their inner surfaces normal to the direction of movement of their respective gaging or centering members, whereby the spacing of said flanges from the peripheral surface of said base will indicate the central and radial adjustment of said gaging and centering members.

2,972,884
TENDERNESS TESTING APPARATUS FOR FOOD PRODUCTS
Anilind Kramer, Silver Spring, Gilbert Nielsen, District Heights, and Samuel Bryan, Silver Spring, Md., assignors to L.E.E., Inc., Washington, D.C., a corporation of Maryland
Filed Aug. 7, 1956, Ser. No. 602,590
3 Claims. (Cl. 73—101)



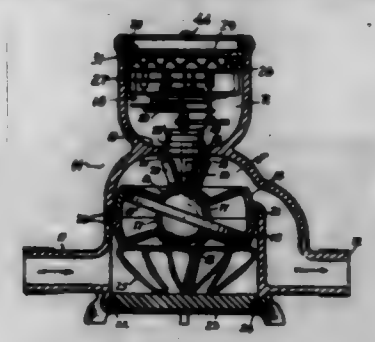
1. A machine for testing the tenderness of materials, comprising a cell having at least one slotted wall, and adapted to contain the material being tested, a bladed ram adapted to move between a position in which its blade tips are clear of the general surface of said slotted wall by a predetermined amount and a position in which it passes through said wall and into said cell, and blade guiding elements comprising lands extending outwardly from the wall portions between adjacent slots by an amount greater than the clearance between said blade tips and the wall surface in the first position of said ram; and said lands being coextensive with said wall portions, the slots formed by the lands being open and unobstructed at least at one end thereof.

2,972,885
FLOW METER
John Harry Lamb, 331 Forest Drive, Short Hills, N.J.
Filed Sept. 24, 1954, Ser. No. 458,209
12 Claims. (Cl. 73—204)



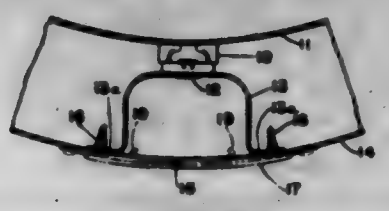
1. A digitally operating system for detecting the rate of flow of a fluid through a conduit comprising, in combination: an electrical heating means associated with said conduit to transmit heat to the fluid flowing therethrough; an electrical pulse generator means interconnected to intermittently energize said heating means, triggering means for energizing said generator means, said triggering means including a first temperature responsive means located on said conduit and adapted to create a signal responsive to the fluid temperature prior to the transmission of heat thereto and a second temperature responsive means located on said conduit and adapted to create a signal responsive to the fluid temperature after the transmission of heat thereto; comparing circuit means responsive to the difference in signals created by said two temperature responsive means to create a resulting electrical signal; and means coupling said resulting electrical signal to said generator means, said generator means being responsive to said resultant electrical signal to produce a pulse of electrical power for transmission to said heating means, whereby the generated electrical pulses constitute a digital representation of the fluid flow through said conduit.

2,972,886
FLUID METERS
Frederick W. Hanks, 646 E. 106th St., Cleveland, Ohio; Louise L. Hanks, administratrix of said Frederick W. Hanks, deceased
Filed May 23, 1956, Ser. No. 586,784
5 Claims. (Cl. 73—258)



1. In a fluid meter of the type including an enclosed nutating disc and a spindle projecting therefrom through an opening in the enclosure, a guide for the spindle, the latter sweeping about the surface of such guide upon movement with the disc, register means including a drive shaft extending through said guide, and a member connected to said shaft and overlying such guide surface for engagement by the spindle, one side of said member being tapered to displace the spindle when brought into engagement with the same outwardly away from the guide and against the disc enclosure at the spindle opening, the member thereupon being wedged between the spindle and the guide to preclude further movement of the spindle in the same direction, engagement of the sweeping spindle with the other side of said member causing the latter to move freely with the spindle and thus actuate the register means.

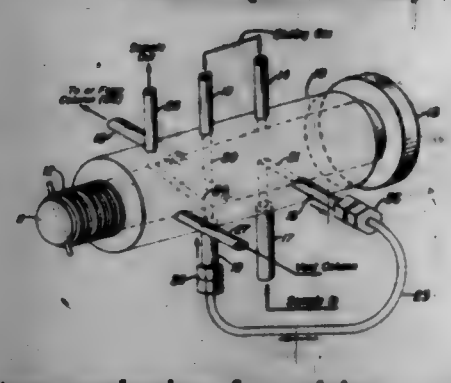
2,972,887
THERMOSTAT MOUNTING ASSEMBLY FOR HOT WATER HEATERS
James H. Germany, Mansfield, Ohio, assignor, by mesne assignments, to Therm-O-Disc, Incorporated, Mansfield, Ohio, a corporation of Ohio
Filed Jan. 9, 1958, Ser. No. 707,976
2 Claims. (Cl. 73—339)



1. An assembly comprising a thermostat and holding means therefor adapted to be mounted between the wall of a container and an outer wall spaced therefrom and formed with an access opening, the thermostat having a face to be held against the wall of the container and the holding means comprising a U-shaped leaf springs interposed under stress between the thermostat and the said outer wall to hold the thermostat in pressure con-

tact with the wall of the container said spring arranged to have its mid-portion engaging and traversing the thermostat and its leg members engaging and secured to the surface of said outer wall adjacent the said access opening.

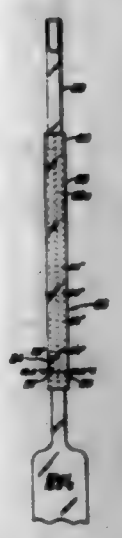
2,972,888
FLUID SAMPLING AND INJECTION VALVE
John C. Lamkin, Independence, Mo., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana
Filed June 25, 1957, Ser. No. 667,890
1 Claim. (Cl. 73—422)



A unitary mechanism for valving a gas chromatography column which comprises: a valve of the plug and body cock type heaving a rotatable tapered self-lubricating plug member in the valve body; means for urging said plug member axially of said body to maintain the inner wall of the body and the outer wall of the plug member in gas-sealing contact; eight tubes communicating through said valve body and extending to said plug member, including first and second manifolded eluting gas tubes and a sample outlet tube in spaced arrangement along a first longitude, a first sample collecting tube and a column vent tube in spaced arrangement along a second longitude located substantially 90 degrees from the first longitude, a sample inlet tube and a second sample collecting tube in spaced arrangement along a third longitude located substantially 90 degrees from said second longitude and diametrically opposite said first longitude, and a chromatographic column communication tube located substantially 90 degrees from said third longitude; a replaceable sample measuring loop exterior of said valve body and communicating with said first sample collecting tube and said second sample collecting tube; and said plug member containing three gas-conducting bores registering, respectively, (1) in a first angular position with the sample inlet tube and the first sample collecting tube, with the second eluting gas tube and the chromatographic column communication tube, and with the second sample collecting tube and the sample outlet tube, whereby to pass eluting gas through the chromatographic column and to fill the sample measuring loop with a gas sample, (2) in a second angular position with the first eluting gas tube and the first sample collecting tube, and with the second sample collecting tube and the chromatographic column communication tube, whereby to charge the sample from the sample measuring loop to the chromatographic column, and (3) in a third angular position with the chromatographic column communication tube and the column vent tube, whereby to permit venting or back-eluting the column.

2,972,889
UNIVERSAL TEMPERATURE CALIBRATED PIPETTE
Elmer Bradley Offutt, Independence, Mo., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana
Filed July 18, 1956, Ser. No. 598,599
1 Claim. (Cl. 73—425.6)

In pipette for use in determining the tetraethyllead content in gasoline, and of the type having a liquid reservoir chamber, a discharge line depending from said chamber, a vertically extending stem axially aligned with and carried by said chamber and having a bore through said stem, said liquid reservoir chamber, said discharge line, and said vertically extending stem being in fluid communication, and an index mark on said vertically extending stem indicating the delivered volume of a liquid at a standard temperature, the improvement whereby the pipette is capable of delivering, at a plurality of temperatures, either water or gasoline, said gasoline having a



different coefficient of expansion from water, which comprises a single replaceable sleeve insertable around said vertically extending stem and alignable with said index mark, and two graduated scales on said sleeve calibrated in degrees of temperature, the first scale indicating the delivered volumes of water over a range of temperatures equivalent to the delivered volume of water at the standard temperature, and the second scale indicating the delivered volumes of gasoline over a range of temperatures equivalent to the delivered volume of gasoline at the standard temperature.

2,972,890
BALANCING MACHINE WITH ELECTRICAL INDICATING DEVICE
Herbert Bergmann, Duesseldorf, and Hermann Josef Beckhaus, Muenchen-Friedrichsfeld, Germany, assignors to Firma Losenhausenwerk, Duesseldorfer Maschinenbau A.G., Duesseldorf-Grafenberg, Germany
Filed Aug. 20, 1956, Ser. No. 614,773
2 Claims. (Cl. 73—462)

1. A circuit system for balance testing machines including a rectifier system comprising four arms connected in the form of a Wheatstone bridge to provide first and second pairs of opposite terminals, means for im-

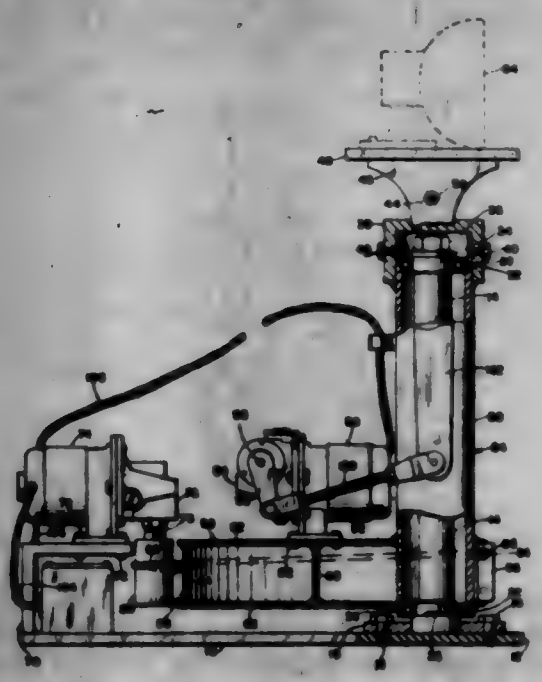
pressing on the first pair of terminals an alternating measuring voltage responsive to electromechanical transmitter means of a dynamic balance tester, said means including a low pass filter adapted to relatively reduce the higher harmonics of the measuring voltage, means for impressing on the second pair of terminals an auxiliary alternating voltage in synchronism and predetermined phase relation to the measuring voltage, and a direct current meter connected to measure the measuring current as modified by the rectifier system thus energized, said rectifier system having rectifiers in two opposite arms having the same direction of rectification each with respect to its first terminals connection, and the other arms being resistive arms of substantial equal conductivity for current in both directions.

2,972,891

REMOTELY-CONTROLLABLE SUPPORTING MEANS FOR DIRECTIONAL CONTROL OF APPARATUS

Darius W. Elliott, Omaha, Nebr., assignor to Elliott Manufacturing Company, Omaha, Nebr., a corporation of Nebraska

Filed Dec. 19, 1958, Ser. No. 781,781
4 Claims. (Cl. 74—1)



1. Remotely-controllable supporting means for directional control of apparatus supported thereon, comprising: a base support; an upright post mounted to said support; a tubular pedestal enclosing and rotatably mounted on said post; a first reversible electric motor mounted to said support; a reduction drive between said motor and said pedestal for rotating the latter to a limited extent by operation of said motor; a bracket for supporting apparatus to be directed; means securing said bracket to the top of said pedestal for pivotal movement about an axis perpendicular to that of said pedestal; a second reversible electric motor; means mounting said second motor to said pedestal; and a reduction drive between said second motor and said bracket for pivoting the latter by operation of said second motor.

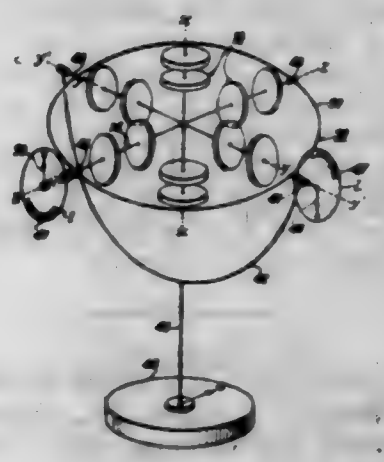
2,972,891

STABLE ELEMENT

Carter Tiffany, Annapolis, Md., assignor to Tiffany Associates, Annapolis, Md., a partnership

Filed July 15, 1958, Ser. No. 748,707
10 Claims. (Cl. 74—5.37)

1. In apparatus of the class described, mounting means for a plurality of rotors, such mounting means having orthogonal axes having a common point of intersection, and power means for angularly oscillating said rotors about their respective axes at a constant frequency, each



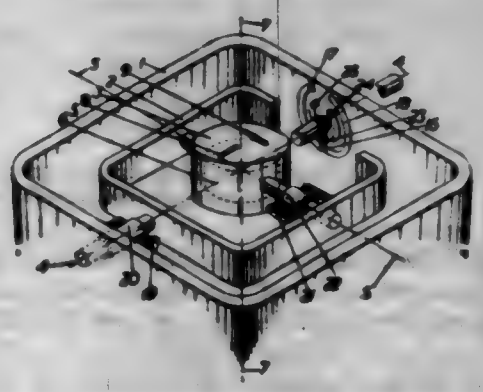
cycle of oscillation including angular motion in opposite directions.

2,972,893

GYRO VERTICALS

Alastair Michael Adair Majendie, Cookham Dean, and Heinz Pollak, Cheltenham, England, assignors to Smiths America Corporation, Washington, D.C.

Filed Feb. 3, 1958, Ser. No. 712,737
Claims priority, application Great Britain Feb. 1, 1957
8 Claims. (Cl. 74—5.47)



6. Gyro-vertical apparatus comprising a rotor casing, a gyroscope rotor mounted for rotation within the rotor casing about a spin axis, a first gimbal ring and means supporting the rotor casing relative to the first gimbal ring for rotation about a pitch axis normal to the spin axis of the rotor, a second gimbal ring fixed relative to the craft and means supporting the first gimbal ring within the second gimbal ring for rotation about a bank axis normal to both the pitch axis and the spin axis when the rotor is in its normal position in pitch, first and second gravity sensitive devices mounted on the rotor casing to detect deviation of the spin axis from the apparent vertical in pitch and bank respectively, pitch erection means for exerting a torque between the first and second gimbal rings about the bank axis to cause precession of the spin axis about the pitch axis, bank erection means for exerting a torque between the rotor casing and the first gimbal ring about the pitch axis to cause precession of the spin axis about the bank axis, means for energizing the pitch erection means under the control of the first gravity sensitive device to maintain the spin axis substantially erect in pitch, first and second electrical contactors each having a moving contact member mounted for rotation about the bank axis with the first gimbal ring relative to the second gimbal ring and contact members fixed on the second gimbal ring and arranged to be contacted by the moving contact member on deviation of the spin axis in bank from its normal position relative to the second gimbal ring (i.e. its position relative to the second gimbal ring when erect during straight and level motion of the craft), switching means controlled by the first contactor

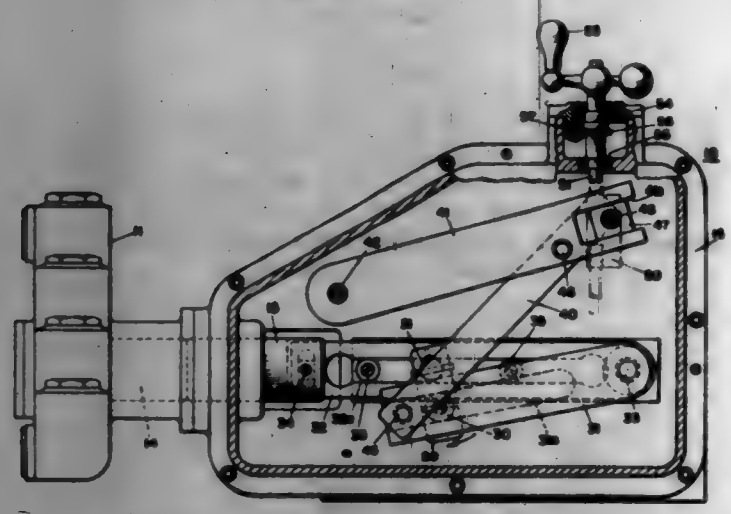
which switching means, when there is no contact between the contact members of the first contactor, connects the second gravity sensitive device to control energization of the bank erection means but, when contact is made in the first contactor, connects the first gravity sensitive device to control energization of the bank erection means thereby securing pitch-bank erection and the second contactor operating, when there is contact between its contact members, to cause energization of the bank erection means to erect the spin axis in bank at a rate less than that at which it is erected in bank under the control of the first and second gravity sensitive devices.

2,972,894

VARIABLE STROKE ADJUSTMENT MECHANISM

Richard A. Bennett, Glenside, Pa., assignor to Milton Roy Company, Philadelphia, Pa., a corporation of Pennsylvania

Filed Mar. 26, 1959, Ser. No. 802,139
17 Claims. (Cl. 74—40)



1. A variable stroke mechanism comprising a crosshead to be reciprocated along a given path, a connector member pivotally connected at one end to said crosshead along said path, an adjuster member having a fixed pivot at one end thereof disposed to one side of said path, a swing member pivotally interconnecting the opposite ends of said connector member and said adjuster member, the effective lengths of all of said members between their respective pivots being equal, driving means effective on said connector member to pivot said connector member about its pivotal connection to said crosshead on said given path for moving said pivotal connection of said connector member to said swing member along an arcuate path from a position coincident with the fixed pivotal axis of the adjuster member to the opposite side of said path of said crosshead, and means for adjusting the position of said pivotal connection between said adjuster member and said swing member relative to said given path of said crosshead to adjust the position of said arcuate path which in turn adjusts the stroke of said crosshead.

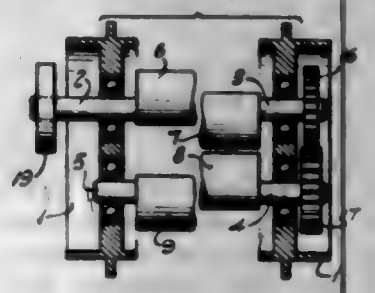
2,972,895

VIBRATING MEANS FOR SCREENS AND THE LIKE

Albert Wilson, Garfield, N.J., assignor to Hewitt-Robins Incorporated, New York, N.Y., a corporation of New York

Filed Aug. 7, 1958, Ser. No. 754,123
3 Claims. (Cl. 74—61)

1. Vibrating means for screens and the like for producing an alternating force along a desired line of action comprising parallel shafts, each of said shafts having a longitudinal axis, each shaft further having an eccentric weight portion dispcsed eccentrically of its axis, said vibrating means having a central axis, said shafts being arranged with their axes parallel to said central axis of said vibrating means, said shafts further being arranged in two pairs diametrically disposed with respect to said central axis, means drivingly interconnecting said shafts for timed relative rotation of the shafts of each pair in the same direction and the shafts of each pair in a direction opposite that of the shafts of the other pair.

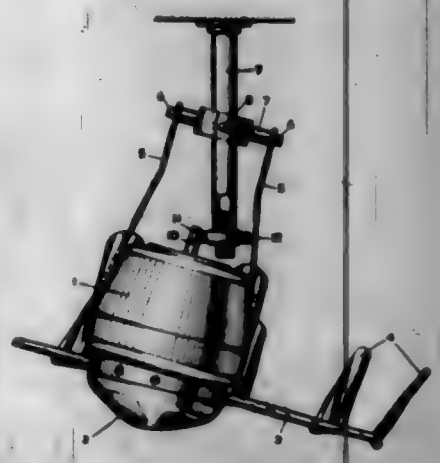


2,972,896

CEILING VENTILATOR

Willem Hendrik Braskamp, Voorburg, Netherlands, assignor to N.V. Industriele Ondernoming W. H. Braskamp, Rijswijk, Netherlands, a Dutch limited-liability company

Filed Nov. 21, 1957, Ser. No. 697,991
Claims priority, application Netherlands Oct. 19, 1957
1 Claim. (Cl. 74—86)



Apparatus for supporting and driving a fan comprising a vertical post, a universal coupling on the post and spaced substantially from the bottom of the latter, a motor positioned effectively below the post and suspended from and substantially below the coupling, a guide on and toward the bottom of the post, said guide being positioned below said universal coupling and between the latter and said motor, and a driven shaft in and extending upwardly from the motor to engage the guide and to drive the motor in a closed loop around the post, the guide being a horizontal disc centered on the post, the disc having a lateral friction surface and the shaft including a frustoconical extremity engaging said surface.

2,972,897

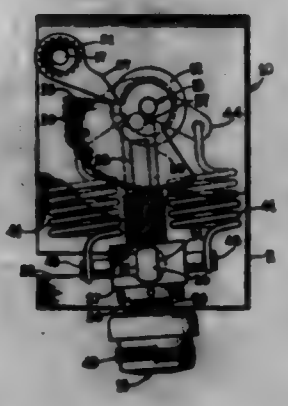
VARYING TORQUE HEAT MOTOR

Mullapudi M. Reddi, Chicago, Ill., assignor to The Dole Valve Company, Chicago, Ill., a corporation of Illinois

Filed Mar. 30, 1956, Ser. No. 575,093
2 Claims. (Cl. 74—99)

1. In a drive mechanism particularly adapted for ice cube makers and the like, a housing, a power member rockingly carried in said housing and extensible upon the application of energy thereto, a crank shaft journalled in said housing, an engaging connection between said power member and said crank shaft, spring means maintaining said crank shaft in engagement with said power member and returning said power member upon the cessation of the application of energy

thereto, an output shaft journalled in said housing, and a varying moment arm drive connection between said crank shaft and said output shaft comprising a gear sector on said crank shaft and rotatably moved thereby and having at least one generally radially extending wall at one end of the teeth of said gear sector and defining a cam face, a lever arm on said output shaft having slidable engagement with said cam face for rotating



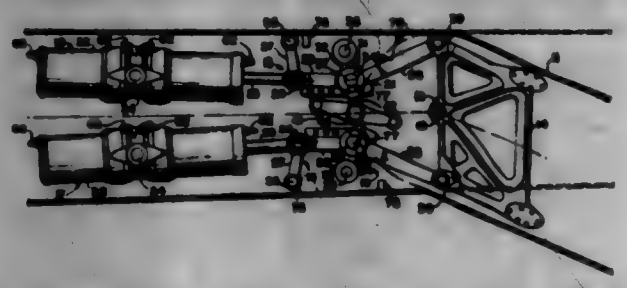
said output shaft upon rotatable movement of said gear sector, and a pinion on said output shaft spaced from the teeth of said gear sector when said power member is in a retracted position and meshed with the teeth of said gear sector and driven thereby upon a predetermined extent of extensible movement of said power member and moving said lever arm away from said cam face when meshed with the teeth of said gear sector.

2,972,898

ACTUATION MECHANISM

Erwin H. Hartel, Cleveland, Ohio, assignor to Cleveland Pneumatic Industries, Inc., Cleveland, Ohio, a corporation of Ohio

Filed May 26, 1959, Ser. No. 815,947
11 Claims. (Cl. 74—105)



1. An actuating system comprising first and second members hinged together for relative rotation about a hinge axis between a first and a second position, a linkage including a locking crank pivoted on said first member and a locking link pivoted on said second member, a pivot connecting said locking link and crank, said linkage being in substantially an extended dead center position when said members are in said first position and in substantially a retracted dead center position when said members are in said second position, and fluid operated means connected to said locking crank operable to move said linkage between said extended dead center position and said retracted dead center position.

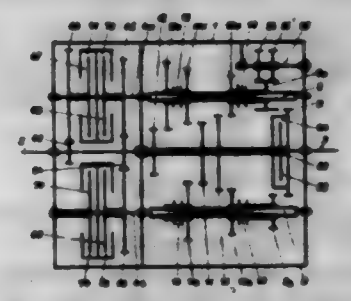
2,972,899

MECHANICAL POWER CONVERTER OF VARIABLE TRANSMISSION RATIO

Georg Wiggermann, Spitzgartenweg 18, Krefeld-Uerdingen, Germany, assignor of one-half to Walter Reiners, M. Gladbach, Germany

Filed Apr. 27, 1956, Ser. No. 581,112
11 Claims. (Cl. 74—329)

1. A mechanical power converter, comprising an input shaft, an output shaft, a plurality of counter shafts parallel to each other and to said output shaft; a speed-change mechanism having groups of intermeshable gears of fixed transmission-ratio graduation from group to group, each group having a main gear on said output shaft and selectively operable counter gear on said respective counter shafts; an auxiliary mechanism connecting said input shaft with said respective counter shafts and having two selectively operable gear transmissions in parallel between said input shaft and a predetermined one of said counter shafts, said two gear transmissions



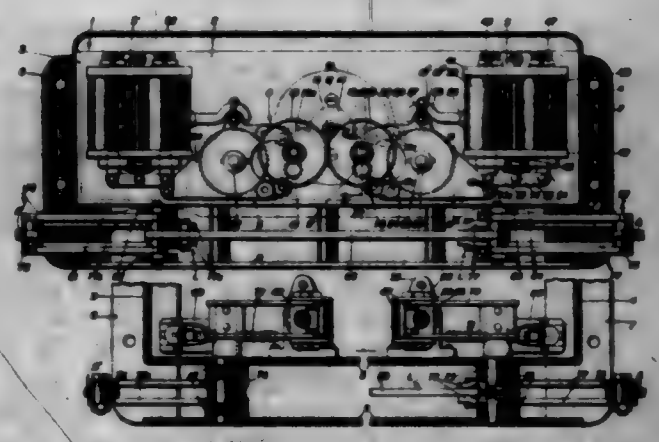
having spur gear pairs of different respective transmission ratios with the same graduation as said speed-change groups, said auxiliary mechanism comprising slip clutch means including respective controllable double main clutches, one side of each of said clutches being connected to a respective one of said counter shafts and the other side thereof being connected to said input shaft through a respective one of said spur gear pairs for continuously varying the speed of said predetermined one counter shaft through the range determined by said graduation.

2,972,900

MOTOR-TRANSMISSION SYSTEM

Emmett C. Bailey, Riverside, Calif., and Wesley Spangenberg, Takoma Park, Md., assignors to the United States of America as represented by the Secretary of the Navy

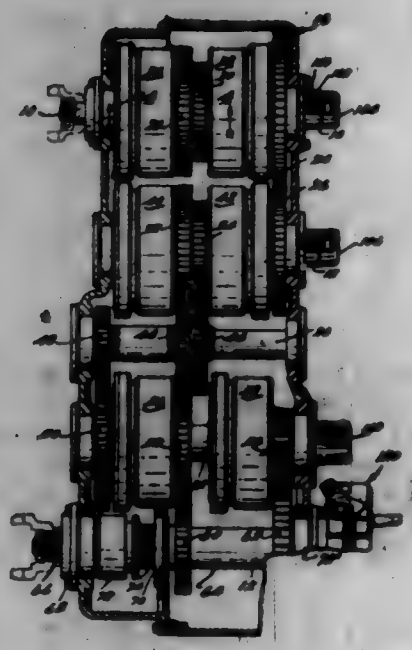
Original application Jan. 18, 1945, Ser. No. 573,398, now Patent No. 2,959,066, dated Nov. 8, 1960. Divided and this application Feb. 7, 1952, Ser. No. 270,498
2 Claims. (Cl. 74—354)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. Transmission means comprising a pair of meshed driving gears, a driven gear spaced from said driving gears, a carrier mounted for pivotal movement about the axis of the driven gear, two sets of gears mounted on said carrier, each set of gears being intermeshed and having one gear which is in constant mesh with the driven gear, each set of gears having another gear, one of which is engageable with one of the driving gears upon pivotal movement of the carrier, the other of which is engageable with the other of the driving gears upon pivotal movement of the carrier in an opposite direction, whereby either a clockwise or counterclockwise torque may be

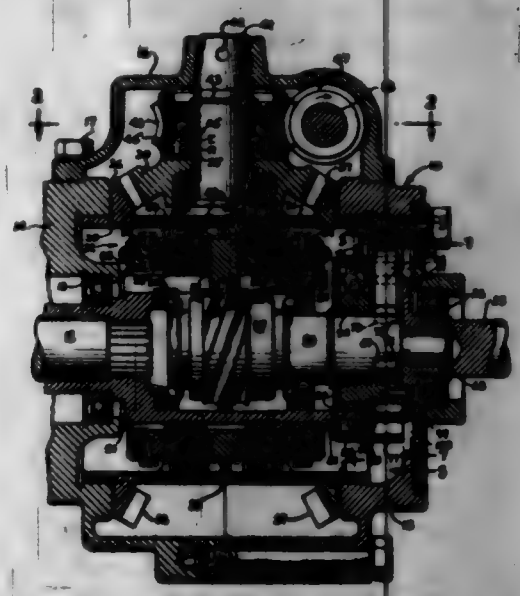
transmitted to the driven gear, the driving, driven and carrier-mounted gears being so positioned that in either driving position of the carrier the line of action between the operative driving gear and the carrier mounted gear meshed therewith is substantially tangent to the driven gear, whereby the moment of the force, exerted by either driving gear on its respective meshing carrier-mounted gear and directed along the line of action between these two gears, about the axis of rotation of the carrier is substantially balanced by the moment of the reactive force, exerted by the driven gear upon the corresponding one of the constantly meshing carrier-mounted gears and directed along the line of action between these two gears, whereby any tendency of the carrier to pivot about its axis, caused by such moments, is substantially reduced.

2,972,901
FORWARD AND REVERSE REDUCTION TRANSMISSION
Chris Gerst, 9059 Sorrento, Detroit, Mich.
Filed Oct. 14, 1959, Ser. No. 846,482
11 Claims. (Cl. 74—368)



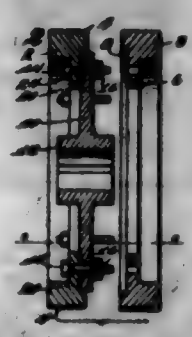
1. A forward and reverse reduction transmission comprising a pair of clutch shafts geared together for rotation in opposite directions, one of said shafts forming an input shaft for the transmission, a distributor shaft having first and second gears fixed thereon for rotation therewith, a first set of gears including a forward drive gear journaled on one clutch shaft and a reverse drive gear journaled on the other clutch shaft geared with said first gear on said distributor shaft, a second set of gears including a forward drive gear journaled on one clutch shaft and a reverse drive gear journaled on the other clutch shaft geared with said second gear on said distributor shaft, a normally disengaged clutch operatively disposed between each of said gears of said sets of gears on said clutch shafts and its respective shaft and operable when engaged for coupling such a gear with the shaft on which it is journaled, a countershaft disposed parallel to and geared with said distributor shaft so as to be driven thereby, a plurality of gears journaled on said countershaft for rotation relative thereto, a normally disengaged clutch operatively disposed between each of said gears on said countershaft and said countershaft and operable when engaged for coupling such gear with said countershaft for rotation therewith, and an output shaft disposed parallel with said countershaft and having gears thereon geared with said gears on said countershaft, said clutches on said countershaft being selectively engageable.

2,972,902
POWER BOOSTER MECHANISM
Edward A. Rockwell, 167 Ashdale Place, Los Angeles, Calif.
Filed May 1, 1958, Ser. No. 732,235
8 Claims. (Cl. 74—388)



1. In a power actuating mechanism having a rotatable hub, the combination comprising, an output member mounted for rotary movement, an energizing device movably mounted on said hub and connected to said output member so that movement of the energizing device produces movement of the output member, said energizing device including a rotatable coupling driven by said hub and engageable to connect said hub and said output member while the hub is rotating, an actuating member for the mechanism, means for engaging said coupling including an element mounted for movement relative to said actuating member, and proportioning means between said actuating member and said energizing device, said proportioning means including a rigid connection both to said engaging means element and to said output member from said actuating member for dividing force received from the actuating member into a fixed proportion and applying one portion so as to move said energizing device and thus the output member directly, and another portion to said engaging means element for operating said energizing device and engaging said coupling so as to derive power from the hub while rotating for moving said energizing device and thus the output member for boosting the direct effort applied to the output member.

2,972,903
SECTIONAL GEARING WITH LUBRICATING MEANS THEREFOR
Henry Y. Lee, 3718 Manini Way, Honolulu 16, Hawaii
Filed Nov. 12, 1958, Ser. No. 773,315
3 Claims. (Cl. 74—468)



1. In a sectional gear of the type comprising a pair of cooperative peripherally-toothed circular bands in side-by-side relationship; a flange carried by each of said gear bands and extending inwardly toward the axis thereof; an annular member disposed intermediately of, and in

contact with, the flanges carried by said gear bands; screw-threaded means for detachably securing said flanges to said annular member; and a series of generally radially extending oil conduits formed by and between said annular member and the flange carried by one of said gear bands; said oil conduits providing communication between the toothed periphery of said last-mentioned gear band and the inner periphery of the flange which is carried thereby.

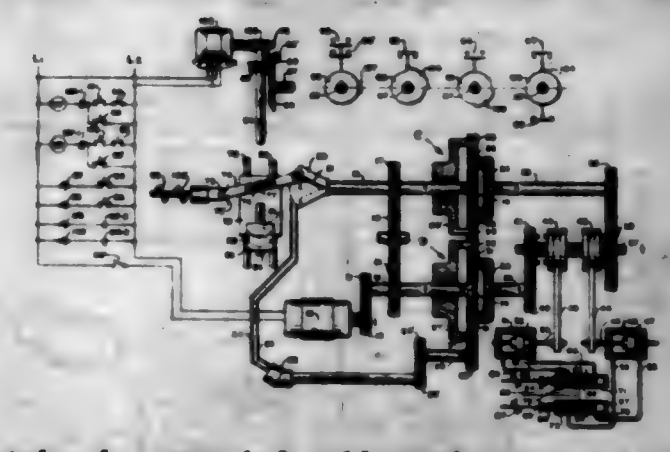
2,972,904
TORSIONAL VIBRATION DAMPER
William J. Troyer, Indianapolis, Ind., assignor to Schwitzer Corporation, Indianapolis, Ind., a corporation of Indiana
Filed May 31, 1957, Ser. No. 662,842
9 Claims. (Cl. 74—574)



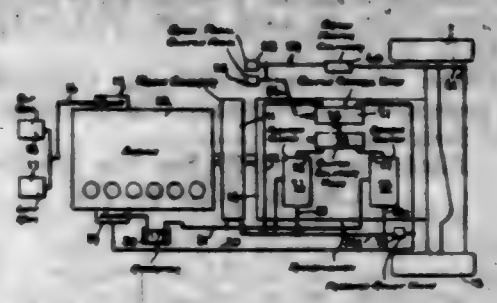
1. A torsional vibration damper assembly for mounting in operative relation to the crankshaft of an engine comprising a driving member generally in the form of an annulus and attachable to one end of said crankshaft, said driving member including an axially extending rim in concentric relation to said crankshaft, said rim having a concave peripheral surface, a driven inertia member mounted concentrically of said driving member and including an annular convex surface radially spaced from the concave surface of said driving member, and a concavo-convex elastic element interposed between said convex surface and said concave surface in a state of radial compression, and said elastic element tuning the assembly to the engine in such a manner that said element absorbs portions of the vibrational energy created by the engine, the curvature of said concave and convex surfaces and of said elastic member being such that substantially uniform torsional shearing stresses occur throughout the elastic member such that a substantial compressive effect occurs between the driving member and the inertia member upon relative axial movement of said members, the internal diameter of said inertia member being greater than the maximum diameter of said driving member whereby said driving member may be assembled within said inertia member.

2,972,905
VARIABLE SPEED TRANSMISSION
Edward P. Bullard III, Stoney Creek, Conn. (Cherry Lane, Fairfield, Conn.)
Filed Aug. 30, 1957, Ser. No. 681,239
34 Claims. (Cl. 74—681)

1. In a variable speed transmission, an input shaft; an output shaft; two epicyclic gearing arrangements between said input and output shafts for transmitting power independently of each other from said input to said output shaft, each arrangement comprising three power transmitting elements; means for driving one of the elements of each of said arrangements from said input shaft; a variable speed device; means for increasing and decreasing the speed of said variable speed device; means connecting a second element of each of said arrangements to said variable speed device, the construction and arrangement of the parts being such that as the variable speed device increases in speed, one of said third elements increases in speed and the other of said third elements simultaneously decreases in speed; dissimilar ratio means between said epicyclic gearing arrangements and said output shaft adapted to cause the output shaft to rotate at the same speed when one of the third elements is connected to the output shaft and is rotating at a speed above the base speed of its corresponding epicyclic gearing arrangement and the other of said third elements is connected to the output shaft and is rotating at a speed below the base speed of its corresponding epicyclic gearing arrangement; and means for transferring the flow of power to said output shaft from one of said epicyclic gearing arrangements to said other epicyclic gearing arrangement when said third elements, respectively, are rotating at a speed above and below the base speed of their corresponding epicyclic gearing arrangements.



2,972,906
INCHING CONTROL FOR INDUSTRIAL TRUCK
Charles S. Schroeder, Villanova, Pa., assignor to The Yale and Towne Manufacturing Company, Stamford, Conn., a corporation of Connecticut
Filed Sept. 21, 1959, Ser. No. 841,195
6 Claims. (Cl. 74—732)

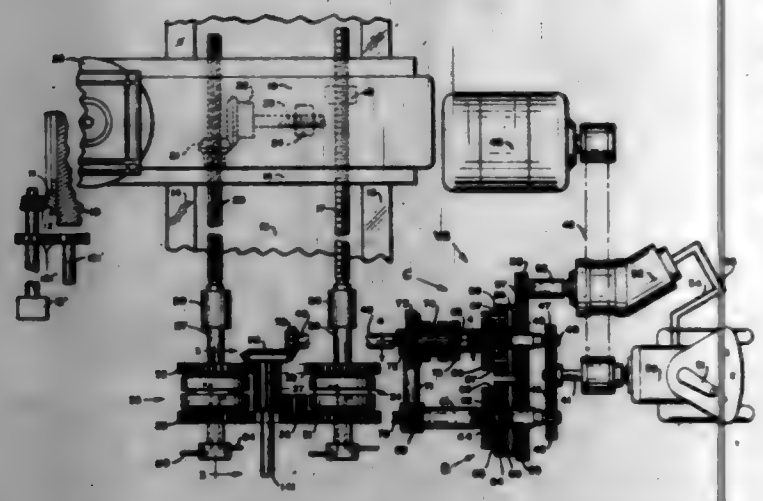


6. In an industrial truck, a source of fluid under pressure, a fluid actuated clutch for controlling movement of the truck, means having first passageway means of relatively high volumetric capacity connecting said source of fluid under pressure to said clutch whereby to actuate said clutch quickly, means having second passageway means of relatively low volumetric capacity connecting said clutch to said source of fluid pressure, means having relief passageway means for relieving fluid pressure on said clutch to permit slippage of the clutch, and control means for closing said relief passageway means when said clutch is connected to said source of fluid pressure through said high volumetric passageway means and for opening said relief passageway means when said fluid operated clutch is connected to said fluid pressure source only through said relatively low volumetric passageway means.

2,972,907
MACHINE TOOL FEEDWORKS
Edward P. Bullard III, Southport, Conn. (Cherry Lane, Fairfield, Conn.)
Filed Nov. 20, 1958, Ser. No. 775,307
24 Claims. (Cl. 74—750)

1. Apparatus comprising in combination, a member; a variable speed means for moving said member along

a path at varying rates of motion; another member; separate variable speed means for moving said other member along a path at varying rates of motion; means for adjusting the variable speed means of one of said members to provide a predetermined ratio of movements of said members relatively to each other; epicyclic gearing means including three motion transmitting elements; means for connecting each of said variable speed means



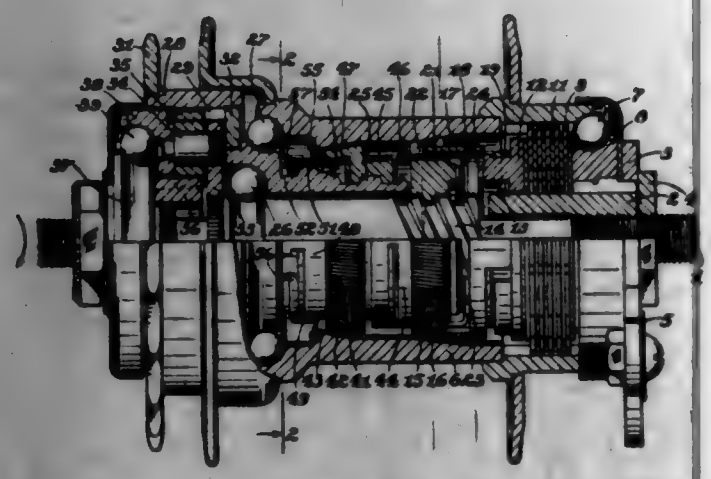
to separate of said motion transmitting elements; and means for connecting the third motion transmitting element of said epicyclic gearing means to the means for adjusting the variable speed means of one of said members, whereby said ratio of movements of said members relatively to each other is maintained constant for any given adjustment of said variable speed means of said one of said members regardless of adjustments of said other variable speed means.

2,972,906

SEMI-AUTOMATIC TWO-SPEED HUB AND COASTER BRAKE FOR VELOCIPEDES AND THE LIKE

Edwin Elliott Hood and Hollis K. Gleasman, Elmira, N.Y., assignors to The Bendix Corporation, a corporation of Delaware

Filed May 29, 1959, Ser. No. 816,786
5 Claims. (Cl. 74—750)



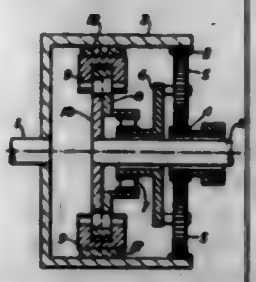
1. In a two-speed rear hub for velocipedes and the like, a fixed axle, a low-speed screw shaft journalled thereon, a high-speed screw shaft rotatably mounted on the low-speed screw shaft, a hub rotatably mounted relative to the fixed axle, a driving member, means for rotating both screw shafts from the driving member at different gear ratios, a low-speed clutch nut threaded on the low-speed screw shaft for movement into and out of clutching engagement with the hub, a high-speed clutch nut threaded on the high-speed screw shaft for movement into and out of clutching engagement with the hub, retarder means for frictionally resisting rotation of said clutch nuts and means under the control of the operator for blocking the engaging movement of the high-speed clutch nut including a selector sleeve fixedly mounted on the high-speed clutch nut, an indexing and abutment ring swivelled on the high-speed screw shaft in the path of travel of the high-speed clutch nut, said selector sleeve having equally spaced, circumferentially arranged spring arms bearing frictionally on the abutment ring, said abutment ring having similarly spaced radial lugs movable into and out of the path of said arms, said abutment ring also having a spring pawl bearing on the periphery of the high-speed screw shaft, said high-speed screw shaft having ratchet teeth formed thereon for cooperating with said pawl to index the abutment ring on the high-speed screw shaft responsive to backward and forward rotation of the high-speed screw shaft.

2,972,909

AUTOMATIC CHANGE SPEED GEARS

Albert Arthur Miller, Esher, England, assignor, by mesne assignments, to Self Changing Gears Limited, Coventry, England, a British company

Filed May 26, 1953, Ser. No. 357,550
Claims priority, application Great Britain May 28, 1952
13 Claims. (Cl. 74—751)



1. An automatic change speed gear, comprising a driving member, a driven member, a relatively low speed transmission train between said driving member and said driven member, a relatively high speed transmission train between said driving member and said driven member, a clutch-and-link device separate connections connecting said clutch-and-link device between elements of said low speed transmission train, whereby said clutch-and-link device acts as a rotating link in said low speed transmission train, a complementary clutch element, said clutch-and-link device and said complementary clutch element forming the two elements of a clutch, and said clutch, when at the engaged state, completing said high speed transmission train, over-run means apertaining to the low speed transmission train enabling said driven member to be driven through said high speed transmission train, one of said separate connections being a lost motion connection providing an action whereby the torque transmitted by said clutch-and-link device acting as a link in said low speed transmission train urges said clutch-and-link device out of engagement with said complementary clutch element, whereby falling torque tends to effect the change from the relatively low speed to the relatively high speed transmission train said last named connection being out of torque transmitting relationship with the high speed transmission train.

2,972,910

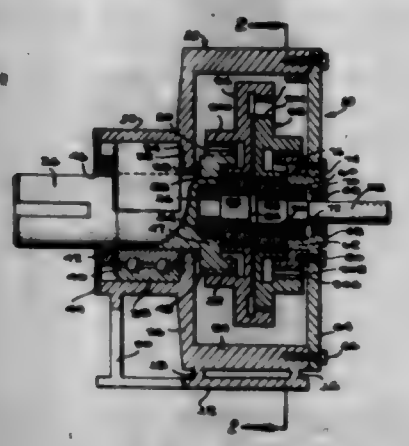
SPEED REDUCER

Theodore L. Monge, Sr., Shreveport, La., assignor of sixteen and two-thirds percent to Albury H. Temple, fifty percent to William C. Randolph, and thirty-three and one-third percent to Temple Iron Works, Inc., all of Shreveport, La.

Filed June 6, 1958, Ser. No. 740,364
2 Claims. (Cl. 74—804)

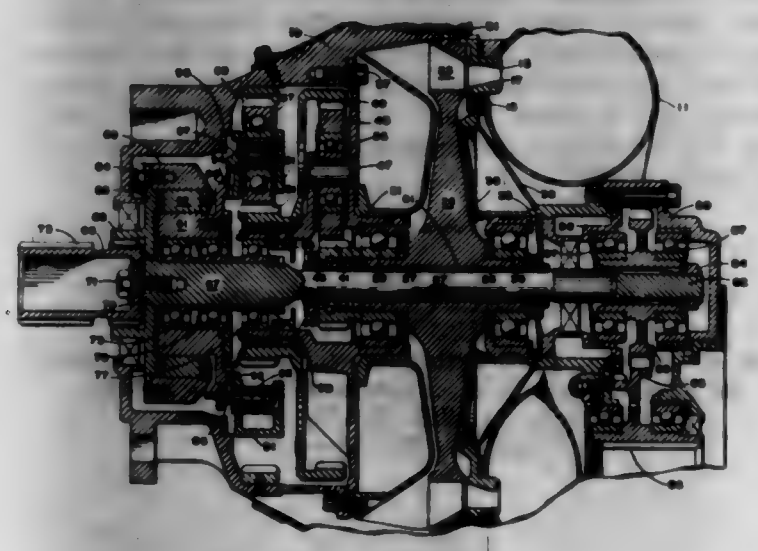
1. A speed reducer comprising a substantially hollow housing having a pair of opposed open ends, a closure

member for each of said open ends, a power input shaft extending through one of said closure members and journalled for rotation within said housing, said shaft having a pair of identical eccentric portions formed thereon and disposed 180 degrees out of phase with respect to each other, a spur gear disposed within said housing and fixedly secured to said one closure member in coaxial alignment with said power input shaft, a first internal spur gear mounted on one of said eccentrics and having a first series of teeth meshing with the teeth of



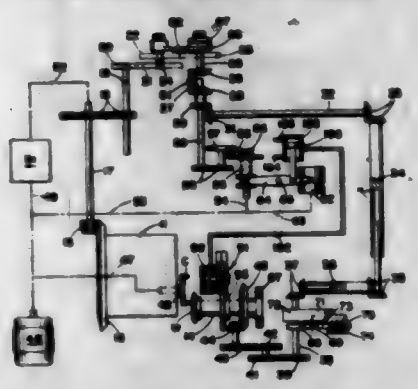
said first spur gear, said first internal spur gear having a second series of teeth formed thereon, a second internal spur gear having a first series of teeth meshing with said second series of teeth on said first internal spur gear, said second internal spur gear having a second series of teeth formed thereon, a power output shaft extending through the other of said closure members and journalled for rotation within said housing, a second spur gear fixedly secured on said power output shaft and having teeth thereon meshed with said second series of teeth on said second internal spur gear.

2,972,911
STARTER AND ACCESSORY DRIVE
Emil A. Volk, Jr., Hasbrouck Heights, N.J., and Henry Troeger, Cooperstown, N.Y., assignors to The Bendix Corporation, a corporation of Delaware
Filed July 27, 1959, Ser. No. 829,634
9 Claims. (Cl. 74—810)



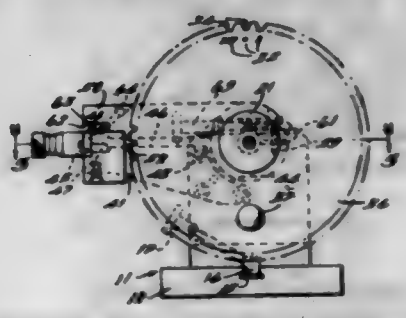
1. A turbine starter having an accessory drive for starting an engine and then providing for the engine to drive an accessory comprised of a turbine wheel having a pinion gear, planetary gear means drivingly connected to said pinion gear and terminating in an annular output member, engine connection means including an overrunning clutch connected to said output member for connection to an engine for the starting thereof whereby, when started, the engine will overrun the starter, said turbine wheel having an axial bore, an axial accessory drive shaft connected to said engine connection means and extending through said axial bore in said turbine wheel, said accessory drive shaft having accessory connection means whereby an engine can be started through said engine connection means and then can overrun the starter and drive an accessory.

2,972,912
GEAR CUTTING MACHINE WITH WORK SPINDLE POSITIONING MEANS
Leonard O. Carlson, Rochester, N.Y., assignor to The Gleason Works, Rochester, N.Y., a corporation of New York
Filed Nov. 22, 1957, Ser. No. 698,111
11 Claims. (Cl. 74—813)



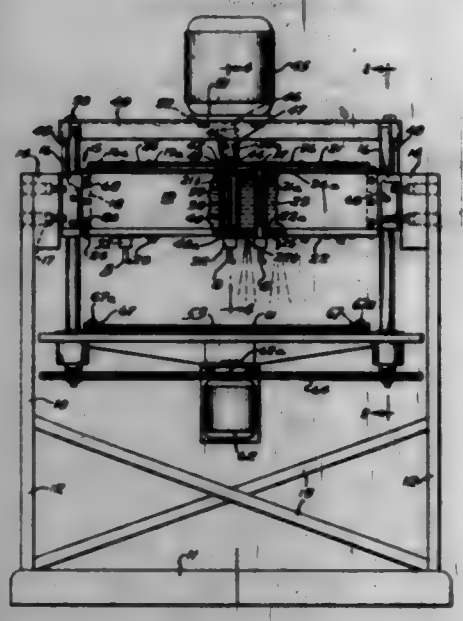
1. A machine for cutting gears and the like, having a work spindle driven by an intermittent indexing mechanism through a drive train comprising a plurality of shafts connected by gears, said indexing mechanism including an intermittently driven member connected to said train for driving the same and a means for holding said member against rotation when it is not being driven, one such shaft remote from said mechanism and adjacent the work spindle being rotatable through a predetermined angle during each indexing operation, the machine being characterized by having a device for angularly positioning said shaft in predetermined relation to a non-rotating part of the machine at the conclusion of every indexing operation.

2,972,913
PRECISION INDEXING DEVICE
John James Lawhon, 19736 Rowe, Detroit, Mich., assignor of one-fourth to Lillian R. Lawhon, one-fourth to E. L. Senz, and one-fourth to James I. Skiver, all of Detroit, Mich.
Filed May 15, 1959, Ser. No. 813,424
5 Claims. (Cl. 74—815)



1. In an indexing mechanism, means for rotatably supporting a workpiece, an index wheel connected to said supporting means, a plurality of locating elements formed on said wheel, a stationarily mounted element movable into engagement with any one of said locating elements, a stationary platform, a sine bar rotatably mounted with respect to said wheel on a common axis therewith, means for selectively locking said sine bar to said supporting means and wheel, and means for locking said supporting means in stationary position independently of said sine bar.

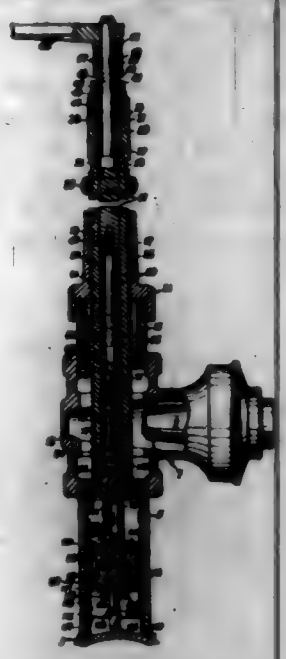
2,972,914
MULTIPLE SPINDLE BORING MACHINE
Reginald S. Lanier, Wayzata, Minn., assignor to Washington Machine & Tool Works, Inc., Minneapolis, Minn., a corporation of Minnesota
Filed Oct. 10, 1957, Ser. No. 689,300
2 Claims. (Cl. 77—22)



1. A boring machine for producing bore holes in a workpiece constructed of a certain material, said machine comprising a supporting structure, a head on the supporting structure defining a tempering liquid-confining chamber, said head having spaced, readily replaceable upper and lower portions defining walls of the chamber and being constructed of material identical to the material from which the workpiece is constructed, means for circulating tempering liquid through the chamber, said upper and lower portions of the head having a plurality of aligned apertures therein, a plurality of boring bar mounting spindles, a plurality of tubular spindle-mountings each projecting through aligned apertures in the upper and lower portions of the head in a substantially sealing close tolerance fit and said tubular mountings being longitudinally rearactable from the head, said spindle mountings having internal rotary bearing means and receiving said spindles therethrough, the lower ends of the spindles being adapted for mounting boring bars thereon, mechanism carried by the supporting structure for rotating the spindles on their respective axes, a workpiece-supporting table below the head, mechanism movably connecting the table and the head and producing vertical movement of the table whereby to produce engagement between the boring bars and workpiece, and means directing the tempering liquid onto the workpiece to maintain the workpiece, spindles, and head at substantially identical temperatures, whereby the upper and lower portions of the head are readily replaceable when a workpiece of different design or different material is to be bored.

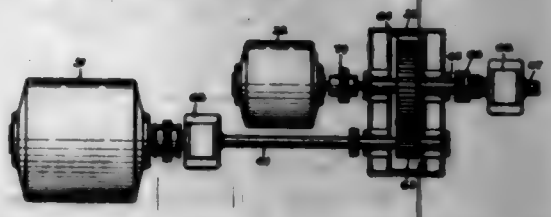
2,972,915
DRILLING MACHINE
William T. Milanovits, Crestwood, and Thomas Milanovits, Richmond Heights, Mo., assignors to M. L. Mfg. Co., Manchester, Mo., a corporation of Missouri
Filed June 29, 1959, Ser. No. 823,574
14 Claims. (Cl. 77—42)

1. A drilling machine comprising a cutting head, a sleeve, an external holder in which said sleeve is axially adjustable, means for attaching the holder to a connector on a work member to be drilled, coaxially arranged driving and driven elements in said sleeve, said driven element supporting said cutting head, a telescopic rotary driving connection between said driving and driven elements, resilient means between said driving and driven elements biasing the driven element and the supported cutting head from the sleeve through said connector to



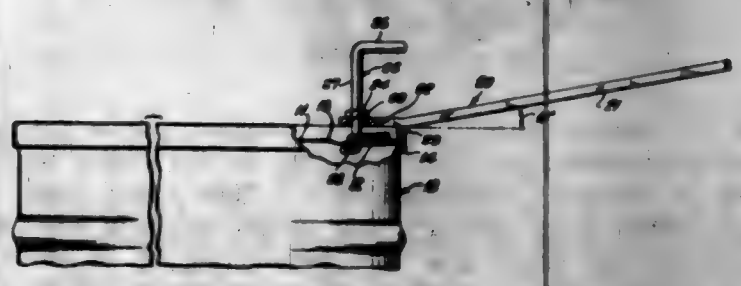
force said head into contact with the work member, and means for applying torque to said driving element.

2,972,916
ROLLING MILL DRIVE
Myles Morgan, Worcester, Mass., assignor to Morgan Construction Company, Worcester, Mass., a corporation of Massachusetts
Filed June 13, 1958, Ser. No. 741,970
2 Claims. (Cl. 80—54)



1. A vertical rolling mill, comprising a stand of two generally parallel rolls, a driven shaft for driving said rolls, a high-power low-speed motor, a low-power high-speed motor, means connecting the low-power high-speed motor directly to the driven shaft, a drive means for the high-power low-speed motor comprising a transmission and a clutch means adapted selectively to connect and disconnect the high-power low-speed motor to the driven shaft.

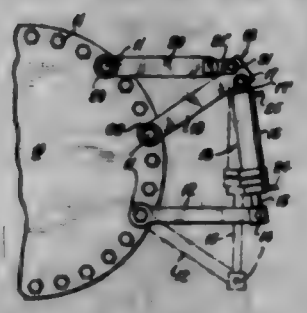
2,972,917
HAND TOOL FOR STRAIGHTENING BENT DRUM HEADS
Earl R. Moxon, Port Arthur, Tex., assignor to Texaco Inc., New York, N.Y., a corporation of Delaware
Filed July 15, 1959, Ser. No. 827,306
3 Claims. (Cl. 81—15)



1. A lever for use in straightening an inward deformation adjacent a filling opening in a drum head comprising a handle at one end thereof and a lifting end at the other end thereof and a fulcrum separating said handle

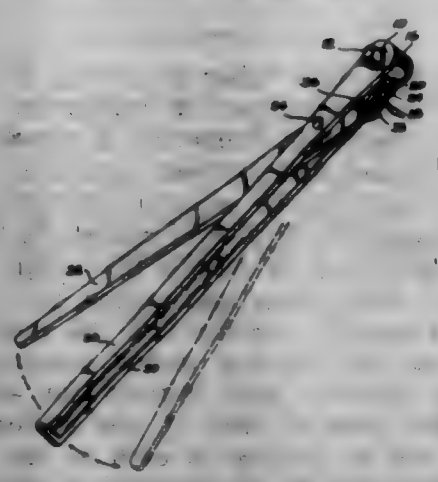
from said lifting end, said lifting end having a perforation therein, and a work engaging member rotatably mounted in said perforation and having a lip for engagement with the underside of said drum adjacent said deformation, said perforation being spaced from said fulcrum at a distance such that said work engaging member will project through said filling opening when said lever is positioned operatively on the rim of said drum head.

2,972,918
DEVICE FOR USE WITH A FLUID PRESSURE ACTUATED WRENCH
O. C. Hall, Port Arthur, Walter J. Belanger, Jr., Groves, and Donald F. Burnett, Port Arthur, Tex., assignors to Texaco Inc., New York, N.Y., a corporation of Delaware
Filed May 27, 1959, Ser. No. 816,256
2 Claims. (Cl. 81—53)



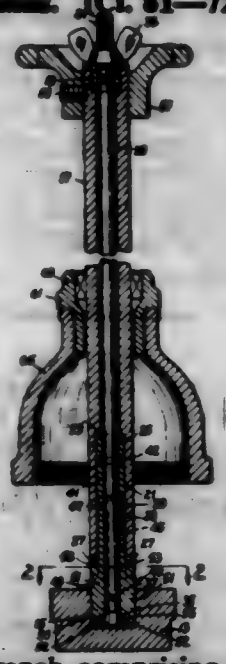
1. In combination, a device for supporting a hydraulic actuated wrench for removing nuts on a relatively large diameter unit in petro-chemical operations comprising an A-frame type member adapted to be supported by said nuts at the terminal ends of the legs thereof, a hydraulic ram consisting of a piston and a housing cylinder therefor pivoted at one end thereof to the apex of said member, a wrench pivotally supported by said hydraulic means at the other end thereof for engaging a nut located at a distance from the nuts supporting said A-frame type member, and means to provide fluid under pressure to said ram operatively connected thereto.

2,972,919
REVERSIBLE RATCHET WRENCH
Alfred R. Stallup, Box 783, Roseburg, Oreg.
Filed Mar. 3, 1959, Ser. No. 796,862
3 Claims. (Cl. 81—63)



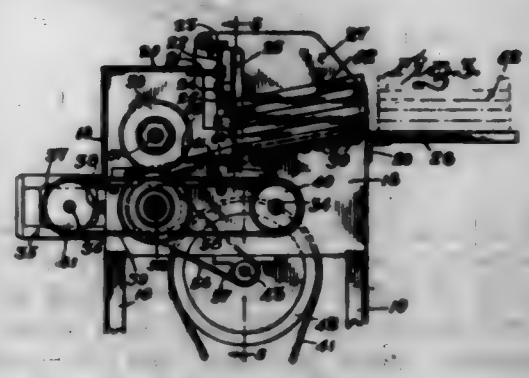
3. A ratchet wrench comprising a ratchet head, a casing journaled on the head, a first lever arm rigid with the casing and extending outwardly therefrom, a handle journaled on the head, and a second lever arm pivotally connected intermediate its ends to the handle and pivotally connected at one of its ends to the outer end of the first lever arm to increase leverage forces applied to the head upon relative pivotal movement of the handle and the second lever arm.

2,972,920
EXTENSION PLUG WRENCH
Thomas Milanovits, Crestwood, and William T. Milanovits, Richmond Heights, Mo., assignors to M. L. Mfg. Co., Manchester, Mo., a corporation of Missouri
Filed June 29, 1959, Ser. No. 823,573
3 Claims. (Cl. 81—72)



1. An extension wrench comprising a tubular element having a handle grip at one end and a slotted portion at the other end, a pull rod extending through said tubular element and having threaded means adjacent the handle grip for the reception of a threaded draw nut, said pull rod having a crosspin and a wedge on a portion extending from the other end of the tubular element, a resilient split collet on said pull rod adjacent said wedge, said split collet being formed with slots providing separate polygonal members and having means effecting an interlocking driving relationship with said slotted portions on the tubular element, said slots receiving said crosspin to prevent rotation of the pull rod in the tubular element upon rotation of the draw nut, said polygonal portions carrying conjugate wedge portions adjacent said wedge on the pull rod adapted to be driven apart by the wedge for transverse movements when the pull rod is moved axially by said draw nut.

2,972,921
MAGAZINE SHREDDING MACHINE
Thomas S. Mundy, Jr., 1417 Young St., Richmond 23, Va.
Filed Apr. 2, 1958, Ser. No. 725,918
1 Claim. (Cl. 83—155)



A machine of the character described, comprising a frame, a pair of upwardly extending sidewalls carried by said frame, a vertically extending hopper wall mounted substantially centrally between said sidewalls, a toothed feed roller transversely extending between said sidewalls immediately below said hopper wall, an upper and a lower relatively thin circular cutter blade, said blades centrally mounted between the rearward portion of said sidewalls, a pair of endless driven belts mounted horizontally adja-

cent to and at either side of said blades and adapted to carry magazines and the like to and beyond said blades, said blades being in overlapping cooperative engagement in substantially the same horizontal plane of that of the upper flights of said endless belts, and means for delivering the bottom one of a stack of magazines successively to said feed roller, said means comprising a series of transversely extending parallel supporting rollers carried by the forward portion of said sidewalls, and means for vertically adjusting said hopper wall with respect to said feed roller, said supporting rollers having their axes arranged in a rearwardly and downwardly extending plane which includes the axis of said feed roller, said feed roller being vertically spaced from the upper flights of said endless belts.

2,972,922
ELECTRICAL MUSICAL INSTRUMENT IN THE NATURE OF A PIANO
Harold B. Rhodes, 1003 N. Lido, Anaheim, Calif.
Filed Mar. 9, 1959, Ser. No. 798,097
16 Claims. (Cl. 84—1.15)



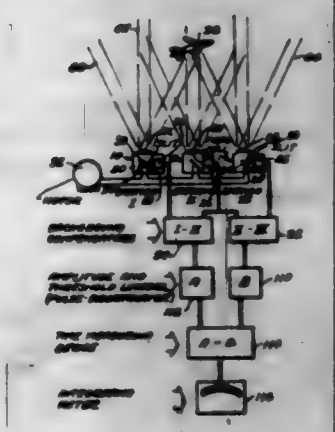
1. An electrical musical instrument, comprising a tuning fork having a first leg of high mass and a second leg of low mass, said legs being in tune with each other, a pick-up means operatively associated with said low-mass leg to produce an electrical signal which is determined at least substantially entirely by vibration of said low-mass leg only, and exciting means operatively associated with said low-mass leg only.

2,972,923
FLOATING TREMOLO AND BRIDGE CONSTRUCTION FOR LUTE-TYPE MUSICAL INSTRUMENTS
Clarence L. Fender, 2212 E. Revere, Fullerton, Calif.
Filed Nov. 6, 1958, Ser. No. 772,310
14 Claims. (Cl. 84—313)



1. A musical instrument of the lute class, which comprises a body, a neck connected to one end of said body, a plurality of strings connected to tuning screws at the outer end portion of said neck, said strings extending longitudinally above said neck and over said body, a string element pivotally connected to said body for pivotal movement about an axis transverse to said strings, means to connect said string element to said strings on one side of said axis to thereby tend to effect pivotal movement of said string element in a predetermined direction around said axis, spring bias means provided between said spring element and said body and tending to effect pivotal movement of said spring element in the opposite direction about said axis to thereby counterbalance the tension of said strings, adjustable stop means movable to an operative position which limits the amount of pivoting of said string element due to the action of said spring bias means and maintaining said string element in a predetermined position despite an increase in the pressure exerted by said spring bias means, means to adjust the pressure of said spring bias means until the spring tension on said string element is exactly neutralized when said string element is in said predetermined position, a bridge element mounted between said strings and said body and located intermediate said string element and said neck, means to pivotally associate said bridge element with said body to permit pivotal movement of said bridge element relative to a second axis generally parallel to said first-mentioned axis and spaced therefrom whereby said bridge element may move with said strings, the distance between said bridge element and said second axis being sufficiently great that movement of said bridge element with said strings produces only a slight tipping of said bridge element, and manually-operable means to effect pivoting of said spring element about said first-mentioned axis when said stop means is in inoperative position in order to increase and decrease the tension on said strings and thus provide a tremolo effect.

2,972,924
OPTICAL COMPARATOR AND RANGE FINDER
John E. Clemens, Xenia, Ohio, assignor to the United States of America as represented by the Secretary of the Air Force
Filed Feb. 26, 1958, Ser. No. 717,791
2 Claims. (Cl. 88—1)
(Granted under Title 35, U.S. Code (1952), sec. 266)



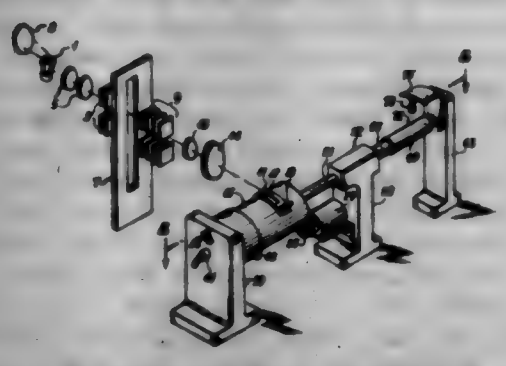
2. A passive range finder for finding the range of an object distinguishable from the background by virtue of its contrast therewith comprising a plurality of spaced apart observation stations, said stations being positioned to receive substantially parallel radiation beams from said background, each of said stations including a lens, a mirror positioned to receive the image produced by said lens, a shield about said mirror, said shield having a slot, a photocell responsive to the radiation passing through the slot, driving means connected for synchronously rotating said mirrors for simultaneously scanning the view of each of said stations across the respective slot to produce in each of said photocells a signal proportional to the intensity of radiation passing through the respective slots, a first comparison circuit connected to receive the output signals of the first and second photocells to provide a first composite signal, a second comparison circuit connected to receive the output signals of the second and third photocells to provide a second composite signal, said composite signals containing substantially only object information and time measuring means responsive to said first and second composite signals.

2,972,925

DENSITOMETER WITH OSCILLOSCOPE DISPLAY

Bernard H. Armbrecht, 3900B Hamilton St., Hyattsville, and John E. Malloy, Cheverly, Md.; said John E. Malloy assignor to Ethel D. Armbrecht, Hyattsville, Md.

Filed Mar. 3, 1955, Ser. No. 491,882
10 Claims. (Cl. 88—14)



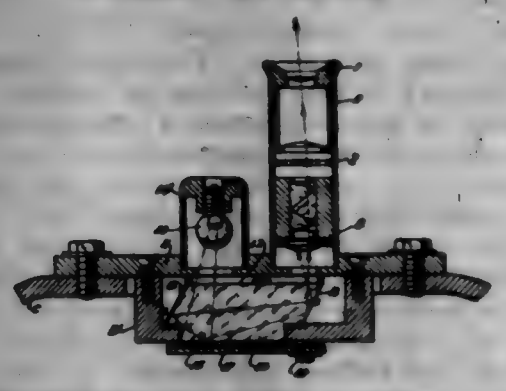
1. A system for displaying linear variation in apparent optical absorbence along a test strip having colored zones with varying absorbence characteristics along its length, comprising: a monochromator providing a narrowly defined emergent light beam of selectable wave length; optical means to collimate said light beam so as to direct said light beam upon the test strip; scanning means for moving said test strip repetitively with respect to said light beam to successively and repetitively expose said zones to said light beam; photoelectric means for developing a continuous voltage linearly proportional to the apparent optical absorbence of said zones, said photoelectric means including a photomultiplier tube having a photocathode and a plurality of dynodes connected by a resistance network, and circuit means including a voltage control tube and a regulator tube for automatically varying the voltage across the dynodes of said photomultiplier tube in relation to the incident light striking said photocathode, and a variable resistance connected to said regulator tube for selectively compensating the voltage output of said photomultiplier tube to correct for deviations from ideal absorbency behavior of the test strip to thereby provide said substantially linear voltage function of the apparent optical absorbence of the zones along said test strip; and an electron beam oscilloscope having plural deflecting means, at least one of said deflecting means being controlled by said continuous voltage whereby a visual trace representative of said optical absorbence is displayed upon the screen of said oscilloscope.

2,972,926

REFRACTOMETERS

Emanuel Goldberg, 200 Dizengoff Road, Tel Aviv, Israel, and Herbert Goldberg, Keene, N.H.

Original application Aug. 20, 1951, Ser. No. 242,608, now Patent No. 2,768,553, dated Oct. 30, 1956. Divided and this application Oct. 22, 1956, Ser. No. 626,782
8 Claims. (Cl. 88—14)



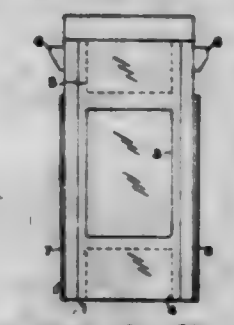
1. A refractometer comprising a casing, a telescope mounted on said casing for the observation of refracted light passing through said casing, a testing prism within said casing and having an interface, said prism having one surface exposed to the medium to be tested and receiving refracted light from said medium, a source of light mounted on said casing and located at a point separated by a part of the prism from said exposed surface, said prism having at least one surface inside the casing located outside of the direct path of the light emitted from said source, an anti-reflection quarter wave layer covering the last-mentioned surface, said prism having another surface arranged behind said quarter wave layer and adapted to absorb light transmitted through said quarter wave layer from inside said prism, the path of the light extending from the source of light through the prism to the interface of the latter with the medium to be tested, out of the interface into the medium, back from the medium through the interface and through the prism to the telescope.

2,972,927

PRESSURE PLATES FOR FILM PROJECTOR

Henry J. Walter, Bethpage, N.Y., assignor to Viewlex, Inc., Long Island City, N.Y.

Filed Jan. 28, 1960, Ser. No. 5,220
2 Claims. (Cl. 88—17)



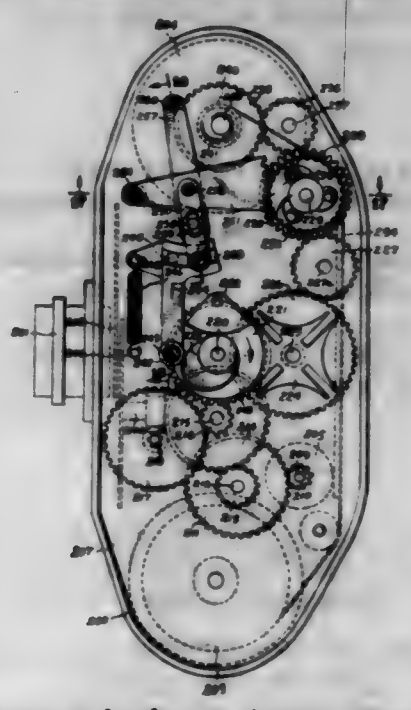
1. Pressure plate means for film comprising a pair of glass plates, raised edges on said plates to support said film, said plates having an etched surface to minimize sticking of the film thereto, said etched surface being of sufficiently fine texture to limit abrasion of film and light diffusion to a degree sufficient for practical use of said film for viewing.

2,972,928

IMAGE MOTION COMPENSATION MECHANISMS IN AERIAL CAMERAS

John Andrew Maurer, Jr., 320 W. 86th St., New York 24, N.Y.

Filed Nov. 9, 1956, Ser. No. 621,288
3 Claims. (Cl. 88—18.3)



1. In a camera having a shutter adapted to provide exposure periods and a film feeding mechanism which

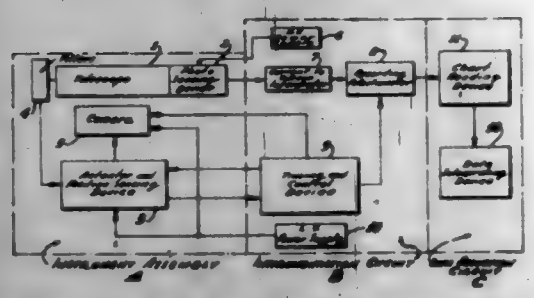
includes a selectively actuated rotatable film advancing roller, the combination of a rotatable cam, a cam follower engaging the cam, a gear coaxially with the film advancing roller, a gear driven mechanical clutch interconnecting the roller and the gear, a gear segment pivoted at its not-toothed end for reciprocating movement and having its toothed end meshing with the gear so that on movement in one direction the clutch engages the gear to the roller rotating the roller while on movement in the other direction the clutch disengages the gear from the roller stopping the roller, and a variable ratio lever connected to the cam follower at a first point and to the gear segment at a second point, the variable ratio applying between the first and second points, the cam effecting the reciprocating movement of the gear segment through the lever during the interval of the exposure periods.

2,972,929

AUTOMATIC RECORDING PHOTOMETER

Phillip A. Painchaud, San Gabriel, Calif., assignor to Northrop Corporation, Hawthorne, Calif., a corporation of California

Filed Nov. 18, 1952, Ser. No. 321,177
7 Claims. (Cl. 88—23)



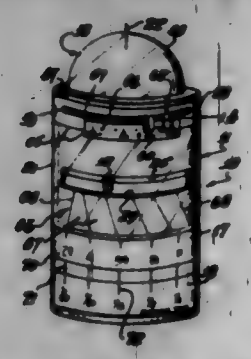
1. In an automatic recording photometer, a photo-sensing device, an optical system positioned to direct light from the sky into said photo-sensing device, means for measuring and recording the output of said photo-sensing device, and means for selectively exposing said photo-sensing device to a light source of substantially constant intensity only, said latter means comprising movable container means including a screen portion of light transmitting material, a layer of phosphor on said material, a radioactive substance having a relatively long half life positioned to energize the phosphor on said screen, and means operable to move said container, screen, and radioactive substance into and out of the optical path between said optical system and said photo-sensing device with said phosphor in position to energize said photo-sensing device and said container in position to block all other light from said device.

2,972,930

LIGHT METER DEVICE

Donald W. Norwood, 1470 San Pasqual St., Pasadena, Calif.

Filed July 21, 1958, Ser. No. 749,844
12 Claims. (Cl. 88—23)



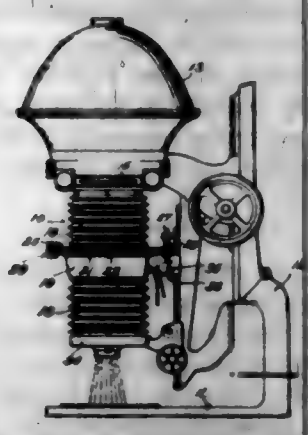
1. A photographic light meter comprising a light sensitive element, a unit actuated by said light sensitive element and having an indicator part which automatically moves to different settings along a predetermined path in accordance with variations in the amount of light falling on said element, a channel chart extending alongside said path and having markings defining channels which convert irregularly spaced readings of said indicator part to uniformly spaced readings, a first scale member mounted for movement in essentially the same direction as said indicator part, markings associated with said first scale member and said channel chart and indicating different relative settings thereof and representing a series of different film sensitivities for which the scale member is preset in its different relative settings, said scale member having a lens aperture scale formed thereon positioned to be readable against said channel chart and said indicator in a relation such that the position of the indicator relative to said scale, as read through the channel chart, indicates directly on the scale a proper camera lens aperture setting for use under prevailing light conditions assuming a predetermined shutter time and assuming the film sensitivity for which said scale has been preset, and a second scale member mounted for movement in essentially the same direction as said indicator and having a shutter time scale formed thereon at a location to be readable against said lens aperture scale and against said channel chart and indicator, said shutter time scale being so positioned relative to said lens aperture scale and said channel chart and indicator that if a marking on the shutter time scale representing said predetermined shutter time is located in alignment with the position of said indicator as read through the channel chart, the various registering markings on the two scales will then give a series of lens aperture and shutter time combinations which are proper for use under prevailing light conditions, assuming said film sensitivity for which the first scale is preset.

2,972,931

VIGNETTING APPARATUS

Walter J. Roob, 2463 N. Grant Blvd., Milwaukee 10, Wis.

Filed July 18, 1957, Ser. No. 672,727
3 Claims. (Cl. 88—24)



1. A vignetting apparatus for use in conjunction with a photographic enlarger which photographic enlarger is characterized by having a lamp house enclosing a primary light source, a negative holder slidably receivable in said lamp house adjacent a light transmitting opening formed therein, a bellows surrounding the light transmitting opening in the lamp house, a lens mounted in the free end of the bellows, a support for a sheet of sensitized photographic paper, adjusting means for altering the position of the lamp house with respect to the sensitized photographic paper support and the lens with respect to the negative holder whereby the image projected from a negative in the holder is properly focused on a sheet of sensitized photographic paper, of a vignetting apparatus mounted in said bellows intermediate its ends, said vignetting apparatus comprising a vignette holder composed of apertured upper and lower plates, resilient means for releasably retaining said plates in associated relationship,

and an auxiliary light source fixedly attached to and disposed below said lower apertured plate, said vignette holder and said auxiliary light source being disposed in the bellows, adjusting means for altering the position of said vignette holder with respect to a photographic negative positioned in the negative holder, an apertured vignette positioned in said vignette holder, the adjusted position of said apertured vignette serving to control the size and shape of the image projected from the negative onto the said sensitized photographic paper through the aperture of said vignette, the position of said auxiliary light source being more remote from the photographic negative than that of said apertured vignette, the light from said primary light source passing through the aperture of said vignette serving to control the intensity of the image projected onto the sheet of sensitized photographic paper, and the light projected from said auxiliary light source providing illumination for the side of the vignette disposed opposite the primary light source to thereby reflect and project light rays to control the intensity of light on marginal area of the sensitized photographic paper surrounding that area delineated by the image projected through said apertured vignette.

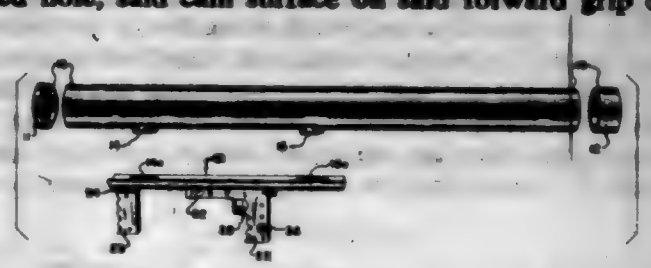
2,972,932
INFRARED TRANSMITTING ACHROMATIC LENS SYSTEM
Norman Marcus, Franklin Square, N.Y., and Walter A. Fraser, Crozet, Va., assignors to Servo Corporation of America, New Hyde Park, N.Y., a corporation of New York
Filed Oct. 17, 1955, Ser. No. 542,943
3 Claims. (Cl. 88—57)



2. An infrared transmitting achromatic lens system corrected for spherical and chromatic aberrations and coma in the wavelength region of substantially 6 to 12 microns for relative apertures substantially as large as $f/1.5$ at focal lengths ranging from about 400 mm. down to about 100 mm., comprising an outwardly facing negative element of vitreous non-crystalline arsenic trisulfide glass having opposite faces of radii r_1 and r_2 in contact at the r_2 face with an inwardly facing positive element of silver chloride having opposite faces of radii r_3 and r_4, wherein r_4 is greater than r_1, r_1 is greater than r_2 and r_2 equals r_3, and wherein the V-number of the positive element is larger than that for the negative element.

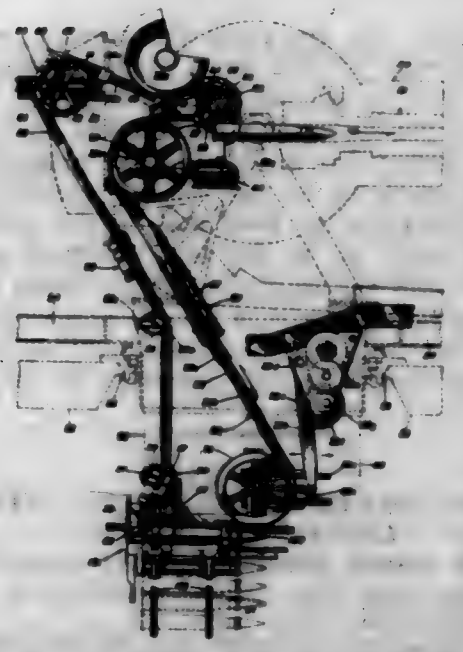
2,972,933
MISSILE HAND LAUNCHING SYSTEM
John M. Guthrie, Pomona, George D. Harkey, Jr., La Verne, and Donald L. Smith, La Mesa, Calif., assignors to General Dynamics Corporation, San Diego, Calif., a corporation of Delaware
Filed Dec. 23, 1957, Ser. No. 704,560
3 Claims. (Cl. 89—1.7)

1. A hand launching system for missiles comprising a gripstock, an expendable launch tube, said gripstock forming a curved open ended trough with a rear grip and a fore and aft pivotably connected forward grip on its underside, said forward grip having a cam surface on its rear side, a tubular retainer adjacent to said rear grip and between said rear grip and said forward grip, said trough having a plurality of alignment holes, one of said holes positioned between said forward grip and said tubular retainer, said launch tube having a plurality of alignment lugs, one of said lugs corresponding to said positioned hole, said cam surface on said forward grip con-



tacting the forward end of said lug when said launch tube is positioned on said gripstock, and the rearward movement of said forward grip forcing said lug and launch tube rearwardly until said lug engages said tubular retainer thereby mechanically locking said launch tube to said gripstock.

2,972,934
CONTINUOUS HOIST FOR AMMUNITION
Haviland H. Platt, New York, N.Y., and Leon Mayon, Philadelphia, Pa., assignors, by direct and mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed May 11, 1951, Ser. No. 225,742
7 Claims. (Cl. 89—46)

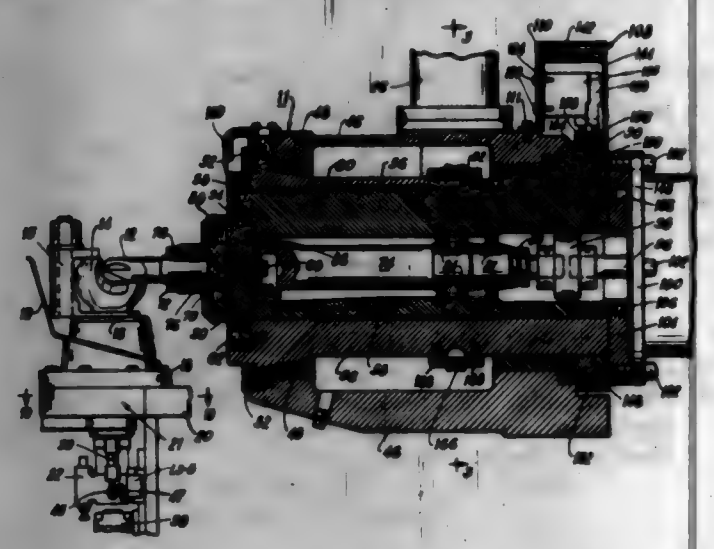


5. A device for conveying objects comprising a pair of spaced parallel endless conveyor bands, guide wheels for supporting and guiding the conveyor bands along parallel paths, a cradle carried between the bands by spaced elongated side arms each being pivotally secured at opposite ends to one of the respective conveyor bands, said side arms being contractible and expansible forwardly of the cradle object gripping jaws on the cradle, guide means in the proximity of an object pickup station to change the direction of band movement from a path at an angle to the axis of the object to a path substantially parallel therewith, and means for closing the jaws about the object at the pickup station as the change in direction is completed.

2,972,935
BALL RACE CUTTING MACHINE
Alfred Westrom and Kasper K. Falk, South Bend, Ind., assignors to The Bendix Corporation, a corporation of Delaware
Filed May 24, 1954, Ser. No. 431,636
1 Claim. (Cl. 90—15.1)

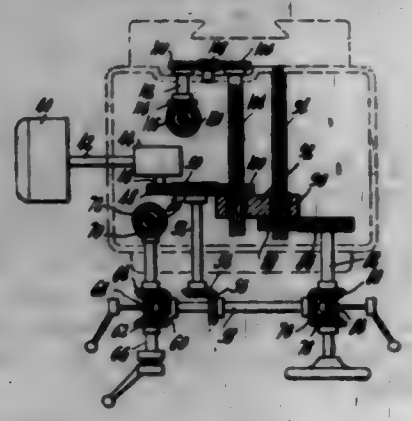
An automatically operable mechanism for, in succession, performing a plurality of different cutting opera-

tions upon a work piece said mechanism including a bodily movable head unit comprising a body member, a flange member, an eccentric housed within the body member, secured to the flange member, and rotatable about the longitudinal axis of the unit, a rotatable shaft mounted within the eccentric said shaft being bodily moved when the eccentric is being rotated, a cutting tool mounted on one end of the shaft, means for operating the shaft and in part controlling the operation of the mechanism, said means including an electrical motor, mounted on the flange, for operating the shaft, a motor, mounted on the



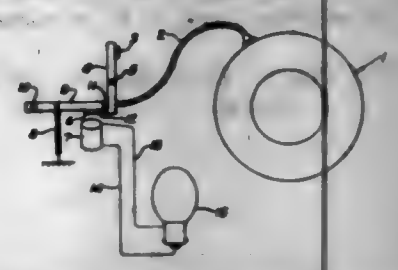
body member, for operating the eccentric, switch mechanism mounted on the body member, and means for operating said switch mechanism, including cam means, secured to the eccentric; index means, including a plurality of motors, for positioning and holding in position the work piece to be cut; means, including a motor, for bodily moving the head unit toward and away from the work piece to be cut said movements being synchronized with the operation of the index means; and means, including electrical means cooperating with the aforementioned switch mechanism and switch operating means, for controlling the operation of the mechanism.

2,972,936
MILLING MACHINE KNEE WITH DRIVE SHAFT AND SCREW IN SADDLE
George B. Hirsch, Providence, R.I., assignor to Brown & Sharpe Mfg. Co., Providence, R.I., a corporation of Rhode Island
Filed July 11, 1957, Ser. No. 671,209
5 Claims. (Cl. 90—21)



1. In a milling machine, a column with a tool spindle and vertical knee supporting ways centrally disposed at the front side of said column, and a work support assembly having a vertically adjustable knee with ways extending in a forward and back direction and with an upwardly projecting bearing support bracket mounted on the knee between said ways, cover means forming a fixed part of the knee enclosing portions of the knee disposed between said ways on the knee and surrounding said upwardly projecting bearing support bracket, a saddle mounted on said ways formed with a bearing support bracket receiving channel in the underside thereof extending lengthwise of and between said ways, and a table mounted on the saddle for movement longitudinally, means for imparting translatory movements to each of the knee, saddle and table including a power source on the knee, power transmitting connections from said power source located within the knee including a saddle drive nut and a splined table driving sleeve element rotatably mounted to turn on parallel axes on said bearing support bracket within the channel formed in the underside of the saddle, a saddle feed screw secured to the saddle and wholly contained within said channel and threaded to said saddle drive nut, a spline table drive shaft rotatably supported on the saddle within said channel in parallel relation to the saddle screw and splined to said splined table driving sleeve element, and power transmitting connections from said spline shaft wholly contained within the saddle and table for driving the table from said spline shaft longitudinally with relation to the saddle.

2,972,937
FLASH APPARATUS
Chauncey G. Suits, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York
Filed Mar. 14, 1958, Ser. No. 721,430
4 Claims. (Cl. 95—11.5)

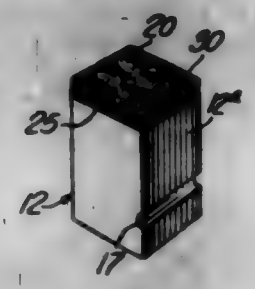


1. In combination, a photographic apparatus comprising a camera shutter, means for actuating said shutter, a piezoelectric crystal, means arranged to deform said crystal, actuating means interconnecting said crystal deforming means with said shutter actuating means to effect synchronous operation thereof, and a photographic flash lamp comprising a sealed radiation transmitting bulb, a pair of spaced metallic electrodes extending into said bulb, one of said electrodes having substantially its full length within the bulb coated with electrically insulating material, at least a portion of said insulating material, consisting of a primer, a loose mass of metallic combustible material substantially filling said bulb and in contact with both the primer on said one electrode and with the other electrode and forming an electrically conducting path therebetween for formation of a spark discharge between said one electrode and the combustible material through said primer upon application of a high-voltage low-energy impulse to said electrodes, and a combustion supporting atmosphere in said bulb, said piezoelectric crystal being electrically connected across the electrodes of said lamp so as to apply a voltage thereacross effective to flash the lamp immediately upon deformation of the crystal by said deforming means.

2,972,938
DISPLAY PHOTO-COMPOSING
George J. H. Samsole, New Providence, N.J., assignor, by mesne assignments, to Whittin-ATF Corp., Elizabeth, N.J., a corporation of Delaware
Filed Jan. 12, 1959, Ser. No. 786,428
2 Claims. (Cl. 95—85)

1. For use as a photo-matrix in a photo-composing system of the class described, a movable self-supporting character bearing element comprising a conventional hot-metal letter-press type cast from common type-metal

alloy, a coating of hard metal upon the type face, a dark colored filler material permanently applied to the relieved



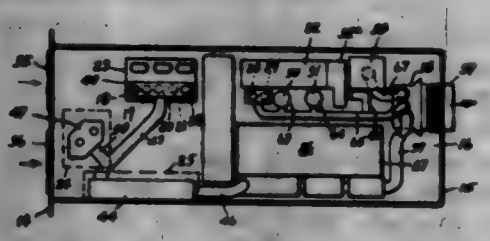
portions of the type body including the counter and shoulder portions thereof.

2,972,939
VEHICLE ROOF EXHAUST VENTILATOR
Clinton Tomlinson, York, Pa.
Filed Sept. 25, 1957, Ser. No. 686,125
1 Claim. (Cl. 98—2)



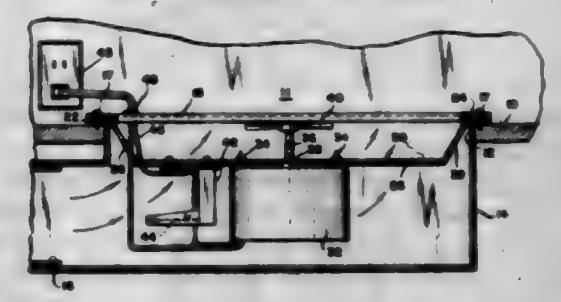
A ventilating vehicle roof structure comprising an elongated relatively shallow channel member of sheet material having a U-shaped cross-sectional configuration providing an open top thereto and an opening in one end portion of the bottom thereof, a vehicle roof sheathing, a plurality of ribs each connected at one end to a side of said member and extending laterally thereof, said sheathing being positioned on said member closing the same and on said ribs with said member extending longitudinally of said roof sheathing, said sheathing having a raised central portion of a U-shaped cross-sectional configuration similar to said member at its edge forming the rear central edge of said roof sheathing, said member extending through and supporting said sheathing raised portion and having a second opening at its opposite end beneath said raised portion edge of said sheathing, a plate extending across and closing said member on a side of said first-mentioned opening opposite to said second opening and means in said member first-mentioned opening for controlling the flow of air therethrough.

2,972,940
COOLING SYSTEM FOR COMMUNICATION CHASSIS
Luther R. Moore and Laurence D. Shaw, Fort Wayne, Ind., assignors to The Magnavox Company, Fort Wayne, Ind., a corporation
Filed Aug. 26, 1957, Ser. No. 680,333
4 Claims. (Cl. 98—42)



1. In combination with an aircraft having a pressurized crew space and a non-pressurized space within the outer shell of the fuselage, a cooling system for electronic equipment comprising a container mounted with one end exposed to said pressurized crew space and the other end exposed to said non-pressurized space, an inlet port in said one end of said container for pressurizing the interior thereof, an outlet port in the said other end of said container, electronic apparatus supported within said container and including heat-generating devices, duct members superimposed on said heat-generating devices with one end of each duct member open to the interior of said container, manifolds connected to groups of said duct members, and ducts connected between said manifolds and said outlet ports, whereby cooling air flows from the interior of said container through said duct members and ducts to said outlet port.

2,972,941
AIR DISTRIBUTION SYSTEMS AND APPARATUS
Michael W. Bennett, McLean, Va., assignor to Boostair Corporation, Washington, D.C., a corporation of the District of Columbia
Filed Jan. 14, 1960, Ser. No. 2,514
2 Claims. (Cl. 98—101)

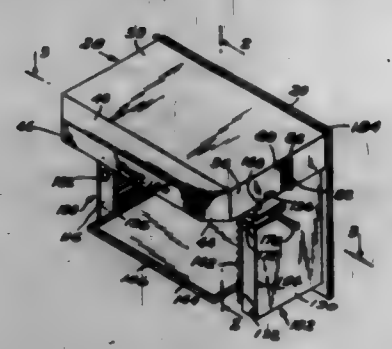


1. A self-contained unitary auxiliary air distribution unit for use with a central forced air air-conditioning system having air ducts terminating in stack heads having outlets substantially flush with a wall surface of a room, said outlets being provided with a normal register detachably held in place by retaining means comprising a substantially flat register grill of the same frontal area and shape as said normal register and having a solid peripheral rim and a central perforate grill portion, said register grill being held in place at said outlet substantially flush with said wall surface by said retaining means, a mounting strap rigidly secured to said register at the rear side thereof, said mounting strap being bent away from said register to provide a mounting portion spaced from said register, an electric motor, means securing the forward portion of said motor to said mounting portion of said mounting strap, a fan driven by said motor and disposed between said motor and said register and adjacent the rear surface of said register, an electric cord connected to said motor and extending through an opening in said register for connection to an electric outlet in said room, a thermostat, means rigidly mounting said thermostat on said register at the rear side thereof directly in the path of air passing through said stack head, said thermostat being connected in said electric cord for selectively energizing and de-energizing said motor in response to changes in the temperature of the air passing through said stack head.

2,972,942
COLLAPSIBLE BROILER
Chester J. Goldberg, 365 New York Ave., Brooklyn 13, N.Y.
Filed Aug. 13, 1958, Ser. No. 754,771
10 Claims. (Cl. 99—421)

1. A collapsible broiler comprising in combination: a vertically disposed base adapted to be secured in a substantially vertical position; a broiler unit having an electrical heater element and being in a substantially horizontal operative position extending from said base at substantially right angles thereto; a first pivotal means pivotally connecting said broiler unit to said base so that said broiler unit is displaceable from said horizontal operative position to a substantially vertical collapsed

position against said base; a first arm and second arm being spaced from one another and being in a substantially vertical operative position extending from said base at substantially right angles thereto and at right angles with respect to said broiler unit, said arms supporting said broiler unit in its operative position; a second and third pivotal means respectively pivotally connecting said first arm and said second arm to said base so that said arms



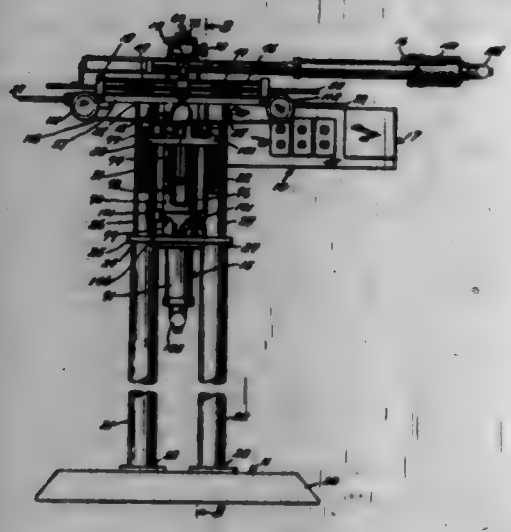
are pivotal from their vertical operative position to a substantially vertical collapsed position at which they are against said base and substantially contiguous one another, and said broiler unit and said pivotal arms being so constructed and arranged that when said pivotal arms are in their collapsed position they are adapted to be contained within said broiler unit when the latter is in its collapsed position.

2,972,943

SPECIAL ARTICLE STENCILLING DEVICE

Anthony Volonis, Glen Rock, N.J., assignor to Ceragraphic, Inc., Hackensack, N.J., a corporation of New Jersey

Filed Apr. 29, 1958, Ser. No. 731,753
6 Claims. (Cl. 101—124)



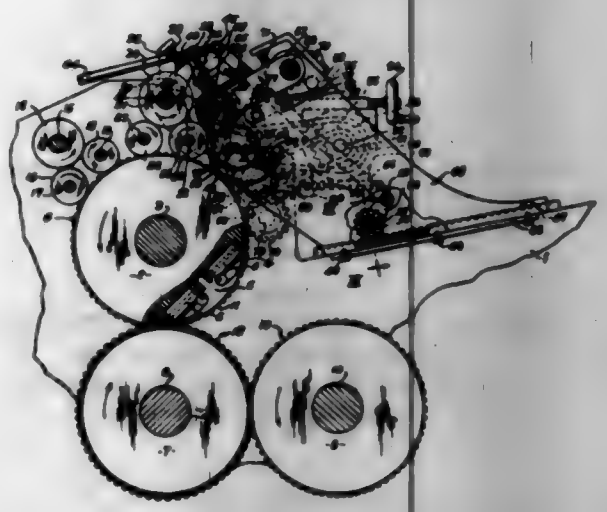
1. In a glassware stenciling device including a rotatable chuck element, a first platform relatively fixed with respect to said chuck element and a second platform relatively movable with respect to said chuck element, and cable means associated with said second platform for transmitting motion to said chuck element, the improvement comprising: first and second pulleys mounted on said movable platform, said chuck element having a third pulley, said cable means passing about said first, second and third pulleys, one of said pulleys on said movable platform having an axis of rotation arranged for rocking movement with respect to said movable platform whereby relative movement between said first and second platforms may serve to selectively tense said cable means.

2,972,944

DAMPENING DEVICE AND METHOD FOR LITHOGRAPHIC OFFSET PRINTING PLATE

Harold P. Dahlgren, Mobile, Ala.
(6919 Blackwood, Dallas 31, Tex.)

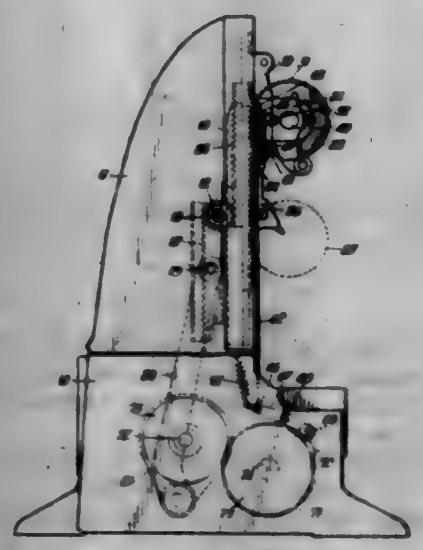
Filed Apr. 9, 1956, Ser. No. 577,031
11 Claims. (Cl. 101—148)



1. A plate dampening device for a lithographic offset printing machine comprising, a dampening fluid container disposed on said machine and adapted to contain a quantity of dampening fluid; a fluid supply roller rotatably mounted on the machine and disposed in said container with one side thereof adapted to be immersed in said fluid; fluid transfer means arranged to transfer dampening fluid received thereby to the surface of said plate by pressure contact application, said fluid transfer means including a fluid transfer roller rotatably disposed on the machine in parallel and spaced relationship to the supply roller; a cylindrical brush rotatably mounted on the machine having springy bristles thereon, with the exposed surface of the supply roller impressed into the bristles of the brush; the peripheral surface of said brush extending into the region separating the opposed curved surfaces of the transfer roller and the supply roller; and means to rotate the brush, transfer roller and supply roller, whereby as the supply roller and brush rotate the bristles are released from the roller to atomize and project the fluid from the surface of the supply roller through said region directly against the surface of the transfer roller.

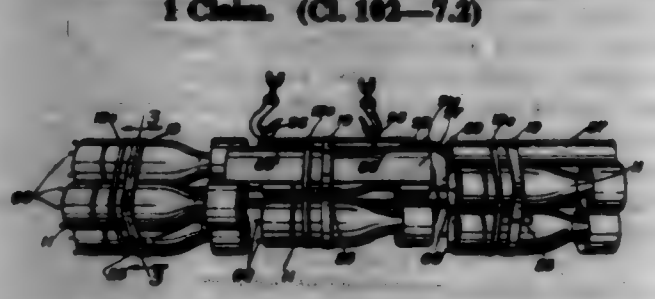
11. A method of applying lithographic plate dampening liquid to the surface of a lithographic plate carried by a rotating cylinder having a gap therein by pressure contact with liquid transferring means running in surface contact with said plate for maintaining ink repellent the non-printing areas thereof, comprising the steps of, providing and renewing a thin film of dampening liquid of predetermined thickness on a supporting surface generally parallel to the cylinder, engaging said supporting surface in a narrow band of contact with the ends of a multiplicity of springy brush bristles located closely adjacent but spaced from said liquid transferring means to cause deflection of the bristles, maintaining said liquid transferring means closely adjacent but spaced from said bristles and so related to the plane tangent to said bristles at said narrow band as to intercept and confine atomized liquid flicked by said bristles from said narrow band, moving the bristles and said supporting surface relatively to each other to allow the bristles to spring back to undeflected positions with resultant flicking of the liquid in finely atomized form from said narrow band through the adjacent relatively quiescent body of air toward and onto the surface of said liquid transferring means, and transferring the liquid received by said transferring means to said lithographic plate by rolling contact under pressure.

2,972,945
CYLINDER DRIVE CONTROL AND SAFETY MEANS
Edward F. Dudley, Los Angeles, Calif., assignor to Miehle-Goss-Dexter, Incorporated, Chicago, Ill., a corporation of Delaware
Filed Mar. 24, 1958, Ser. No. 723,393
4 Claims. (Cl. 101—282)



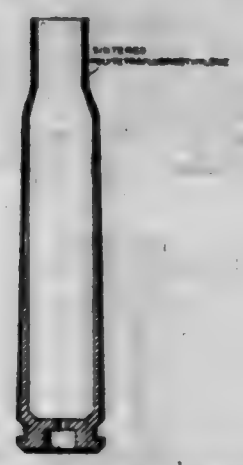
4. In a printing press the combination comprising an impression cylinder mounted for intermittent, rotary motion, a driving gear relatively movable with respect to said cylinder, means for releasably connecting said cylinder with said gear including a pawl on said cylinder and ratchet on said gear, a lever associated with said pawl, an annular flanged member having coaction with said lever to maintain said pawl engaged with said ratchet during rotation of said cylinder, a slot in said flanged member to permit movement of said lever and therewith said pawl to a disengaged position with respect to said ratchet when said cylinder rotates to a predetermined angular position, and means for temporarily displacing said flanged member and therewith said slot to preclude movement of said lever and pawl to said disengaged position until the cylinder is in said predetermined position.

2,972,946
BOMB CLUSTER
Thomas C. Poulter, Palo Alto, Calif., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed July 7, 1950, Ser. No. 172,562
1 Claim. (Cl. 102—7.2)



A missile cluster scattering and missile arming control circuit comprising two energy storing condensers, means for charging said condensers, time delay means for connecting a first of said condensers to a missile scattering means, energizing means for said time delay means, said first condenser when charged operating said missile scattering means in response to said time delay means, each missile of said cluster having impact responsive means for closing the missile's detonator circuit, an arming switch, a charge receiving condenser, an arming condenser, a leakage resistor connecting said charge receiving and arming condensers, a drainage resistor connected across said arming condenser, and time delay means for actuating said arming switch, the second of said storing condensers when charged operating to energize said last mentioned time delay means and to charge said receiving condenser, said charge receiving condenser charging said arming condenser through said leakage resistor, said last mentioned time delay means operating to actuate said arming switch to place the missile detonating charge and the impact responsive means in electrical series with said arming condenser, said arming condenser firing said detonator charge in response to said impact responsive means, and said drainage resistor enabling said arming condenser to discharge in timed relationship to the charging thereof.

2,972,947
AMMUNITION CARTRIDGE CASES
Vincent G. FitzSimmons, Washington, D.C., and William A. Zisman, Silver Spring, Md., assignors to the United States of America as represented by the Secretary of the Navy
Filed Sept. 30, 1954, Ser. No. 459,563
2 Claims. (Cl. 102—43)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A metal cartridge case for ammunition of a caliber used for automatic rapid fire guns in which the exterior surface of the cartridge case is a continuous thin film of low thermal conductivity providing lubrication for the cartridge case, said film being of a thickness not substantially exceeding 0.7 mils and consisting essentially of bonded, sintered polytetrafluoroethylene free from metallic particles.

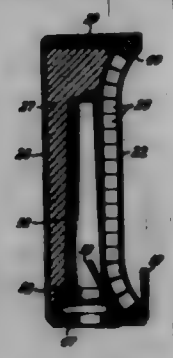
2,972,948
SHAPED CHARGE PROJECTILE
Raymond H. Kray, Box 697, Indian Head, Md.
Filed Sept. 16, 1952, Ser. No. 309,957
1 Claim. (Cl. 102—56)
(Granted under Title 35, U.S. Code (1952), sec. 266)



In an explosive projectile, the combination of a casing having a nose detachably secured thereto, a portion of

said casing and nose forming a circumferential groove, a shaped charge having a cone shaped recess in the forward end thereof with the wall defining said recess converging in a rearwardly direction, said charge being disposed and confined within said casing and capable of producing a jet having a potent and concentrated striking force when fired, a sealed cone shaped capsule disposed within said recess and having inner and outer mutually spaced walls diverging in a rearwardly direction, a flange on each of said walls at the base of said cone shaped capsule in snug engagement with respect to each other and disposed within said groove and in snug engagement with said casing and nose for locking said capsule to said casing and maintaining the capsule within said recess, a chemically interreactive metallic material sealed within said capsule contiguous with said shaped charge and activated thereby and concurrently therewith for producing a mass of molten metal, the heavier molecules of which intermingle with said jet sufficiently to form an integral part thereof at the leading end of the jet thereby to increase the striking force of the jet.

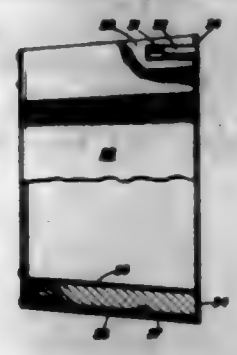
2,972,949
ANTI-PERSONNEL FRAGMENTATION WEAPON
Norman A. MacLeod, Hemet, Calif.
(1330 N. Fullerton Road, La Habra, Calif.)
Filed Jan. 18, 1956, Ser. No. 560,921
7 Claims. (Cl. 102—67)



7. Anti-personnel fragmentation weapon comprising: a housing having a front wall, a back wall paralleling said front wall, a top edge wall, a bottom edge wall and side edge walls, said housing being relatively shallow in depth from said front wall to said back wall, only said front wall including a plurality of elements made of relatively hard, heavy and infrangible material, the remaining walls of said housing being relatively thin, light and frangible, explosive within said housing substantially filling the same, and means located adjacent said front wall for receiving a detonator within said housing, said detonator receiving means being positioned within said explosive and contiguous to said front wall.

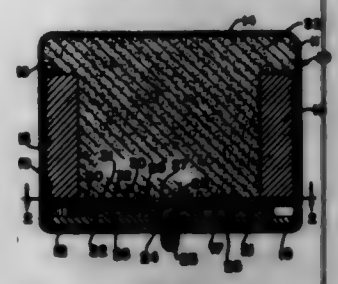
2,972,950
ROD TYPE EXPLOSIVE WARHEAD
Ludolph F. Wolanetz, Hempstead, N.Y., assignor to the United States of America as represented by the Secretary of the Navy
Filed Aug. 22, 1952, Ser. No. 305,761
2 Claims. (Cl. 102—68)

2. A missile warhead comprising, a pair of arcuate companion sections, each of said sections having a straight inner wall and an outer wall parallel with said inner wall for defining a compartment semi-annular in cross section, said inner walls having flanges to form side walls for said compartments, said outer walls being formed of interconnected rod-shaped members, annular rings for retaining said companion sections in assembled relationship with the flanges of each section in abutment with the flanges of the adjacent section, said abutting flanges being shaped to define a recess to receive firing means, firing means in the recess, and an explosive charge within the compartment of each section, detonation of said explosive



charge causing fracture of said outer wall into rod-shaped fragments.

2,972,951
ELECTRIC INITIATOR FOR FUZE
Richard H. Stresau, Washington Grove, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed May 6, 1952, Ser. No. 286,415
1 Claim. (Cl. 102—70.2)
(Granted under Title 35, U.S. Code (1952), sec. 266)

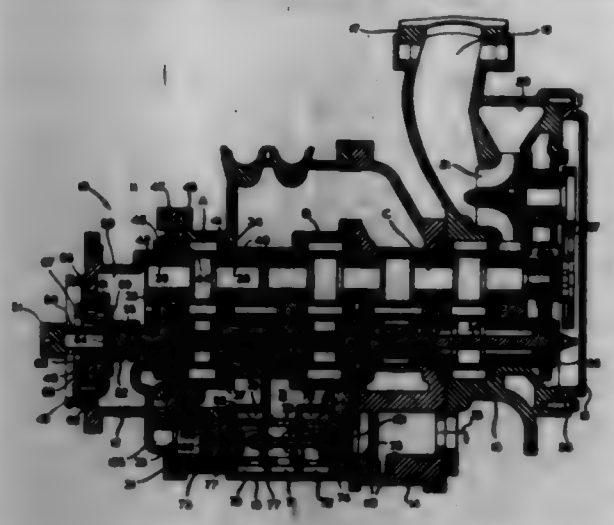


An electroresponsive detonator comprising a conductive casing having a flanged open end formed thereon, an explosive charge arranged within said casing, a centrally apertured base plate composed of insulating material seated upon said flanged open end, an apertured disc composed of insulating material arranged within said casing, a pair of conductive surfaces sprayed on the top face of said disc while in a molten state, one of said surfaces encompassing the aperture in said disc, a bridge wire extending between and bonded to said conductive surfaces, a conductive film sprayed on the under face of said disc while in a molten state and communicating with said one surface through said disc aperture, a conductive disc engagingly positioned between said conductive film and said base plate and having a protuberance integrally formed thereon extending through said base plate aperture, and a conductive sleeve abutting said casing and the other one of said sprayed surfaces, said casing and protuberance providing an electrical connection from said bridge wire to an external electrical energy source thereby to effect heating of said bridge wire and consequent ignition of said explosive charge.

2,972,952
COMBINATION MAIN BURNER AND AFTER BURNER FUEL PUMP
John F. Murray, Macedonia, Ohio, assignor to Thompson Ramo Wooldridge Inc., a corporation of Ohio
Filed May 18, 1955, Ser. No. 509,313
10 Claims. (Cl. 103—4)

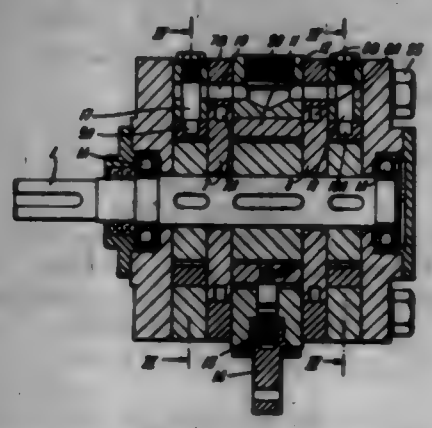
1. In combination, first and second pumps each discharging to separated points of utilization, a third pump having a flow-transferring means receiving the discharge thereof, said flow-transferring means comprising a sleeve having three longitudinally spaced openings, the end openings communicating separately with the separated points of utilization, the intermediate opening receiving the discharge of the third pump, a valve reciprocably slidable

in said tubular sleeve between spaced portions in said sleeve and having longitudinally spaced portions for selectively closing off either of said end openings, thereby to selectively parallel the discharge of the third pump with



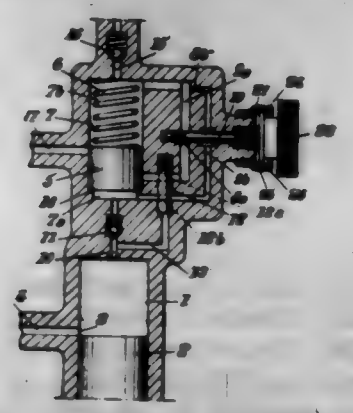
the discharge of said first and second pumps upon movement of said valve to either of said spaced positions through the intermediate opening and the other of said end openings.

2,972,953
ROTARY PUMPS AND MOTORS
Charles Scott Prendergast, Shoreham by Sea, England, assignor to Brakeshoe International, S.A., Geneva, Switzerland, a corporation of Switzerland
Filed Jan. 22, 1958, Ser. No. 710,573
Claims priority, application Great Britain Apr. 15, 1957
5 Claims. (Cl. 103—4)



1. A rotary pump or motor comprising a pair of end vane rotor sections and an intermediate vane rotor section mounted for rotation in unison, said vane rotor sections arranged in axially spaced relation, partition means separating said rotor sections, a pair of end stator sections and an intermediate stator section receiving said end and intermediate vane rotor sections, the end stator sections having fixed eccentric relation to the end vane rotor sections, and the intermediate stator section having variable eccentric relation to the intermediate vane rotor section, means to adjust the eccentricity of the intermediate stator section in the same direction or in opposition to the relative eccentricity of the end stator sections, the intermediate rotor and stator section being axially substantially twice as wide as the axial width of each end rotor and stator section to thereby have pumping displacement substantially equal to the combined displacement of the end rotor and stator sections, radial inlet-outlet passage means for the intermediate stator section, common outlet passage means for said end and intermediate stator sections, and inlet passage means common to said end stator sections and in non-communicating relation to the intermediate stator section, whereby when the eccentricity of the intermediate stator section is opposed to the eccentricity of the end stator sections fluid is fed in through said inlet-outlet passage means and added to the fluid displaced by the end rotor sections, and when the eccentricity of the intermediate stator section is in the same relative direction as the eccentricities of the end stator sections the displacement in the intermediate stator section will be subtracted from the displacement of the end stator sections.

2,972,954
RECIPROCATING LIQUID PUMPS, AND IN PARTICULAR FUEL INJECTION PUMPS
Pierre Etienne Beniere, 55 Blvd. Commandant, Paris, France
Filed July 22, 1957, Ser. No. 673,343
Claims priority, application France Aug. 14, 1956
20 Claims. (Cl. 103—41)



1. For use with an internal combustion engine, a reciprocating action fuel pump which comprises, in combination, a main cylinder, a main piston adapted to cooperate with said cylinder mounted for reciprocating displacement therein, said cylinder having a delivery orifice, a second cylinder rigid with the first one, a passage extending between one end of said second cylinder and said delivery orifice of said main cylinder, a second piston adapted to cooperate with said second cylinder and mounted for reciprocating displacement therein, said second cylinder being divided by said second piston into two chambers, to wit a first chamber located at said above mentioned end of said second cylinder and a second chamber located at the other end of said second cylinder, a fuel delivery conduit in communication with said second chamber, a check valve mounted in said passage to prevent fuel from flowing back from said first chamber to said main cylinder, a spring device interposed between said second cylinder and said second piston to exert on said second piston a return force opposed to that exerted on said second piston by the fuel pressure from said main cylinder during the delivery stroke of said main piston, a by-pass conduit arranged to connect said two chambers of said second cylinder with each other, said by-pass conduit including a throttle portion, and valve means in said by-pass conduit operative to close said by-pass conduit during the delivery stroke of said main piston.

2,972,955
SUBMERSIBLE PUMP
Harald Richter, 3 Rotwandstrasse, Grosshesselohe, near Munich, and Carlo Kurtz, 23 Waldstrasse, Lingen an der Ems, Germany
Filed Mar. 21, 1957, Ser. No. 647,731
10 Claims. (Cl. 103—46)

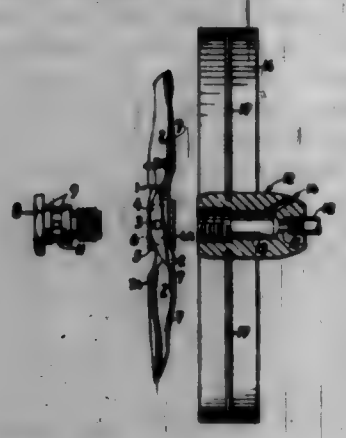
1. A submersible pump comprising a housing adapted for connection to the lower end of a filter body and the like in a well bore, a cylinder block having a plurality of cylinders mounted for rotation within said housing, a plurality of pistons disposed for reciprocal movement within said cylinders, a tumbling disc operably connected to said pistons adapted to impart reciprocal movement

thereto, a control head fixedly mounted within said housing including an inlet and outlet disposed for communication with said cylinders, and a delivery pipe communicating with said outlet, a drive shaft having drive means at one end thereof and with said shaft extending through said cylinder block for rotation thereof and said shaft being disposed at its opposite end for rotation in journaled



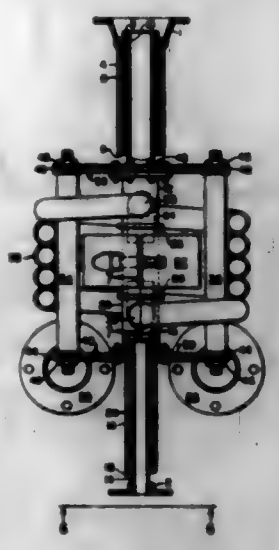
relation to said control head, and a bearing arrangement for said one end of the drive shaft having a radial bearing, an axial bearing disposed below said radial bearing including a bearing sleeve, said sleeve being secured against rotation and being movable in an axial direction, and said bearing arrangement further including bias means disposed below said bearing sleeve adapted to urge and urging the drive shaft into the journal of said control head.

2,972,956
BOAT BAILER
Devanison Dan Newton, 154 S. Main St., Homer, N.Y.
Filed Jan. 17, 1958, Ser. No. 709,665
3 Claims. (Cl. 103—60)



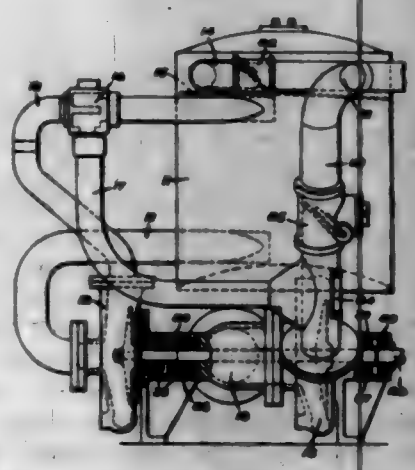
1. In a boat bailer the combination of; a body member having an axial bore therethrough and a priming duct formed between said axial bore and the outside of said body member, one end of said body member being connected with an inlet, a bearing nut fastened into one end of said body member, said bearing nut having an axial hole therein and a transverse groove having holes therethrough communicating with said axial hole, an impeller rotatably mounted on said bearing nut, said impeller having a blade having a radial hole formed therethrough in alignment with said groove, said impeller being adapted to be rotated by movement of a body of water relative to the movement of the vessel retaining said bailer whereby the radial hole in said blade is in communication with the transverse groove and holes in said nut and water is adapted to flow through said bailer from said inlet and be discharged centrifugally from said impeller.

2,972,957
PUMP
John C. Fisher, Cambridge, Mass., assignor to Am Dyne Trust, a trust of Massachusetts
Filed May 20, 1957, Ser. No. 660,298
20 Claims. (Cl. 103—76)



1. A pump comprising a generally annular member having end portions and providing an accelerator tube containing a propellant liquid, means for imparting to said accelerator tube a rotary oscillatory movement so as to produce an alternating flow therein, the length of said tube being approximately one-half an odd integer multiple of the wave length of sound within the liquid in the tube at the fundamental operating frequency, ducts connected with the end portions of said accelerator tube so as to provide an inlet and a discharge, a rectifier means connected with said ducts so that a unidirectional flow is produced in said discharge in response to an alternating flow in said accelerator tube.

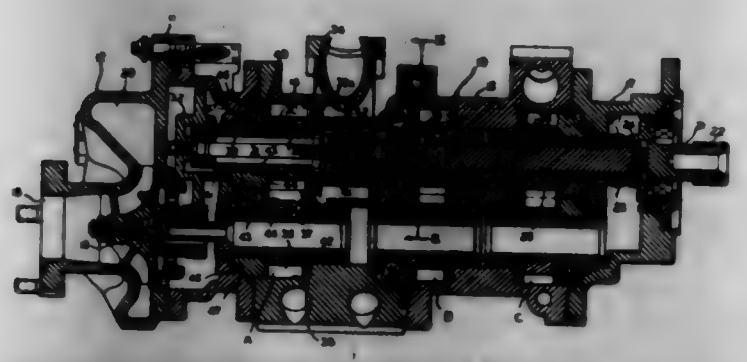
2,972,958
PUMPING UNIT
Francis E. Daddario, Reading, Mass.
(1418 Commonwealth Ave., Newton, Mass.)
Filed Dec. 31, 1952, Ser. No. 328,939
1 Claim. (Cl. 103—113)



In pumping apparatus, the combination of a tank having an outlet, a first pump disposed with its inlet in communication with the tank contents thereby to be primed by the head thereof, a connection between the outlet of said first pump and the upper part of said tank, and a suction producing device of the jet type located in said connection above said first pump and including a suction tube, and a second pump including an inlet and a valve controlled outlet, said suction tube being in priming com-

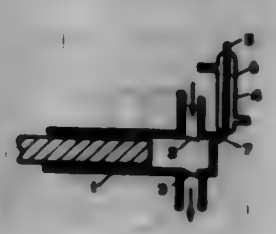
munication with said second pump, said second pump outlet being connected to the outlet of said tank, and a valve in said tank outlet between said tank and its connection with the second pump outlet.

2,972,959
BEARING PLATE FOR PRESSURE LOADED GEAR PUMPS
Robert W. Wilson, Euclid, and Joseph H. Brettnacher, Painesville, Ohio, assignor to Thompson Ramo Wooldridge Inc., a corporation of Ohio
Filed Mar. 26, 1957, Ser. No. 648,627
12 Claims. (Cl. 103—126)



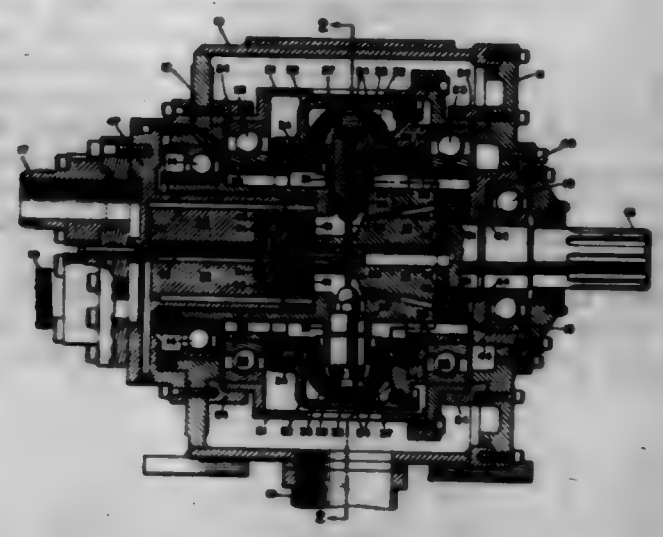
1. A gear pump comprising a housing having a cavity, an inlet and an outlet for said cavity, a pair of rotary gears rotatably mounted in said cavity in intermeshing relation, said cavity being defined in part by a pair of movable pressure-loaded bushings having radial sealing faces complementary to the adjacent gear faces and complementary flat mating contact surfaces on said bushings adjacent the area of intermesh of the gears, and barrier means for preventing the flow of pressure fluid between said bushings across said flat surfaces, said barrier means comprising a separate insert member received in and filling recesses open only to said flat surfaces and spaced inwardly from all other surfaces of the bushings at the margins of said flat surfaces.

2,972,960
LIQUID PUMPING APPARATUS
Thomas Bruce Philip, Ellesmere, England, assignor to The Distillers Company Limited, Edinburgh, Scotland, a British company
Filed Sept. 3, 1957, Ser. No. 681,721
Claims priority, application Great Britain Mar. 21, 1957
2 Claims. (Cl. 103—153)



1. Apparatus for pumping readily vaporizable liquids comprising a pump having a pump casing enclosing a pumping chamber, inlet and outlet valves controlling the admission of readily vaporizable liquid to the pumping chamber and its discharge therefrom, a movable member operable within the pumping chamber to exert pressure upon the liquid to be pumped, and a condenser consisting of a tube of reduced cross-section with respect to the pumping chamber in combination with an external jacket for coolant, the condenser being at all times in direct connection with the pumping chamber and forming an enclosed and indivisible volume therewith.

2,972,961
HYDROSTATIC LUBRICATING APPARATUS
Albert P. Clark, West Chester, Pa., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Sept. 18, 1957, Ser. No. 684,825
3 Claims. (Cl. 103—161)

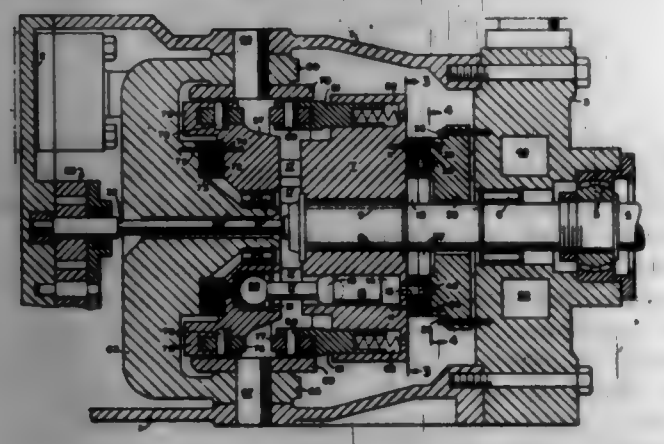


1. Apparatus for providing hydrostatic lubrication in a piston-type positive displacement machine which includes a source of low pressure working fluid, a rotating cylinder barrel and provided with a plurality of radially disposed cylinders, a plurality of pistons operatively arranged within the cylinders and in fluid communication with said source of low pressure fluid, and an eccentric reacting member disposed for effecting reciprocation of the pistons in the cylinder barrel, the apparatus comprising; a pad for each piston and having a hollow spherical portion provided with a pair of bearing surfaces extending outwardly therefrom on opposite sides thereof, said bearing surfaces being disposed between the piston individual thereto and in engagement with the reacting member, each of said spherical portions being provided with a socket, a hollow ball disposed within said spherical portion and slidably disposed over the exterior surface of each cylinder for tiltably carrying said pad on the outer end of its respective piston, a chamber separated and surrounded by said working fluid and containing high pressure lubricating fluid, said chamber being disposed within the cylinder barrel and on the axis of rotation thereof, conveying means connected to said chamber for supplying high pressure lubricating fluid thereto, the interior portions of each of said pistons and pads being concentric with the longitudinal axes thereof and defining a bore, a tubular member slidably retained at one end thereof within said bore and rigidly secured at the other end thereof to said cylinder barrel in fluid communication with said chamber, groove means formed in each of said bearing surfaces, passageways formed in said spherical portions and the bearing surfaces in fluid communication with the groove means and with said chamber by way of said tubular members for supplying high pressure lubricating fluid to the bearing surface of said pad to enable the high pressure lubricating fluid to perform both load supporting and hydrostatic lubricating functions between the bearing surface of the pad and the reaction ring.

2,972,962
HYDRAULIC THRUST BEARING
James K. Douglas, Shorewood, Wis., assignor to The Oilgear Company, Milwaukee, Wis., a corporation of Wisconsin
Filed July 16, 1956, Ser. No. 597,944
6 Claims. (Cl. 103—162)

1. In a hydrodynamic machine operable as a pump and as a motor and having a rotatable shaft radially

rigidly supported, a first member rigidly mounted on said shaft for rotation therewith and provided with a flat face having holes in a circular row concentric with said shaft and successively supplied with liquid under the operating pressure of said machine, a non-rotatable second member restrained from movement axially of said shaft and having a flat face parallel and opposed to the flat face on the first member, and means urging said members toward each other with a force substantially proportional to the pressure in said holes, the improvement comprising a flat thrust transmitting plate and an opposed flat thrust receiving bearing plate disposed between the opposed faces of said members, means securing said thrust plate in non-rotatable relation to said rotatable member and permitting relative axial movement therebetween, said thrust plate having ports in opposite faces thereof connected by axial passages in said thrust plate in alignment with said holes in said rotatable member, means securing said bearing plate in



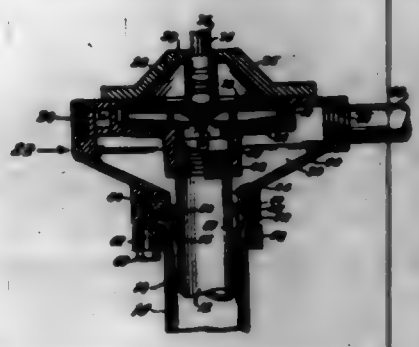
non-rotatable relation to said second member and permitting relative axial movement therebetween, said bearing plate having diametrically opposed ports in front and back faces thereof connected by axial passages in said bearing plate and arranged so that said ports in said thrust plate alternately register with said ports in said bearing plate, drain recesses in the back faces of each of said plates and in a front face of one of said plates, said drain recesses connected to exhaust and spaced radially outward of said ports, pressure recesses disposed only in a front face of one of said plates radially outward of said drain recesses, and a restriction passage in a front face of one of said plates connecting each said pressure recess with one of said ports so that the hydrostatic forces urging said plates together are opposed by equal hydrostatic forces tending to separate them and so that the hydrostatic forces tending to separate each of said plates from the supporting member is slightly less than the hydrostatic forces between said plates.

2,972,963
COMBINATION PUMP HOUSING AND MOUNTING MEANS

William H. Hamilton, Chicago, Ill., assignor, by mesne assignments, to Motor Products Corporation, Detroit, Mich., a corporation of New York

Filed Dec. 3, 1957, Ser. No. 700,358
2 Claims. (Cl. 103—219)

1. A combination pump housing and mounting means for wholly supporting a pump on the upper projecting end of an upright well casing and for supporting a substantially smaller suction pipe concentrically within said casing, said pump housing comprising, an upper cylindrical portion, a lower inverted conical portion depending concentrically therefrom with the largest diameter of said conical portion being substantially equal to the diameter of said upper cylindrical portion, a baffle enclosing the top of said cylindrical portion, said baffle having an impeller chamber in the central portion and there being an internally threaded circumferential flange depending from the center of said impeller chamber down into said inverted conical portion and terminating in spaced relation therein, a depending neck portion on the bottom of said conical portion being in approximately concentric alignment with said circumferential flange, said neck portion having a double counterbore so as to provide an inner annular shoulder and an outer annular shoulder, said inner annular shoulder being adapted to fit over the upper end of said upright well casing for wholly supporting said pump housing thereon, the inner suction pipe adapted to extend in spaced relation through said neck portion and

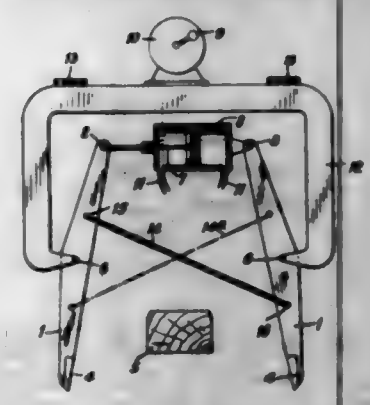


through said inverted conical portion with its upper end adapted to be secured in said internally threaded circumferential flange to provide a fluid inlet to said impeller chamber from which chamber fluid may be pumped into said inverted conical portion through passages formed in said baffle, a portion of said pumped fluid adapted to pass downwardly from said inverted conical portion into an annular space defined between the well casing and the suction pipe, a sealing gasket disposed against the outer annular shoulder of said double counterbore of said neck portion, and a collar disposed on the well casing and adapted to be drawn up toward said neck portion to compress said gasket against said outer annular shoulder to provide a fluid-tight seal between said neck portion and the well casing.

2,972,964
MACHINE FOR RAMMING THE BALLAST OF RAILWAY LINES

Paul Allemann, Renens, Switzerland, assignor to Materiel Industriel S.A., Lausanne, and Constructions Mecaniques S.A. Renens, Renens, Switzerland

Filed Jan. 22, 1958, Ser. No. 710,465
Claims priority, application Switzerland Feb. 4, 1957
1 Claim. (Cl. 104—12)



Ramming apparatus comprising opposed ramming tools, tool carriers supporting said ramming tools, a supporting frame, each of said tool carriers being pivoted on said frame, piston and cylinder means coupled to said tool carriers on the same side of the connection between the tool carrier and the frame and responsive to a pressure medium for oscillating said tools toward and away from each other, and a connecting rod connected solely between said tool carriers, said rod being connected to

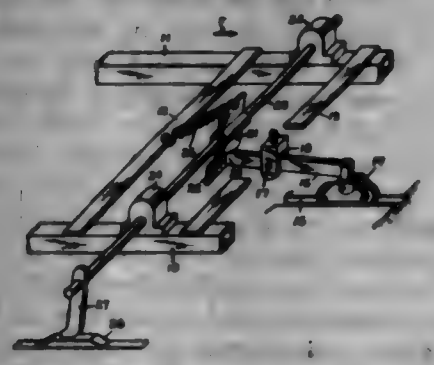
one carrier above the connection of the latter to said frame and to the other carrier below the connection of the latter to said frame and being spaced the same distance from the pivot connection point between the tool carrier and the frame, said rod insuring a correlated movement of said carriers.

2,972,965
SUPPORTING BEAM
Robert L. Sjostrom, Miami Beach, Fla. (Sjostrom Machine Co., 16th St. at 2nd Ave., Boca Raton, Fla.)
Filed Apr. 16, 1957, Ser. No. 653,101
4 Claims. (Cl. 104—89)



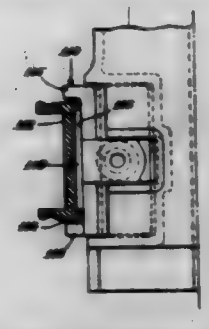
1. As an article of manufacture an elongated side supporting beam of unitary structure having a continuous cross section providing a pair of vertically aligned U-shaped channels, upper and lower vertical parallel sections horizontally offset from one another with the lower edge of said upper section directly connected to the upper edge of said lower section by a horizontally disposed shoulder section, an inverted U-shaped channel having a smoothly contoured upper surface vertically aligned with said shoulder section, one wall of said inverted U-shaped channel formed by and continuous with the upper portion of said upper section and the other wall formed by and continuous with one wall of the upper of said aligned U-shaped channels, and the other of said aligned U-shaped channels connected to the lower end of said lower section.

2,972,966
APPARATUS FOR AUTOMATICALLY CONTROLLING THE POSITION OF A VEHICLE MOVABLE MEMBER WITH RELATION TO TRACK MEANS THEREFOR
Pierre Marcel Bourdon, Paris, France, assignor to Compagnie Generale des Etablissements Michelin (Robert Puiseux & Cie), Clermont-Ferrand, France, a company of France
Filed Jan. 29, 1957, Ser. No. 636,973
Claims priority, application France Feb. 3, 1956
28 Claims. (Cl. 104—247)



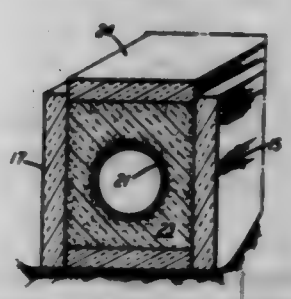
1. In apparatus for automatically controlling the position of a movable member on a vehicle in relation to track means therefor, the combination of mechanism on the vehicle and ramp means located along the route of the vehicle for raising said movable member, and means on said vehicle for retaining said movable member releasably in the raised position.

2,972,967
SNUBBED TRUCK
Fred E. Bechman, St. Louis, Mo., and Arthur F. Baker, Granite City, and Robert B. Cottrell, Belleville, Ill., assignors to American Steel Foundries, Chicago, Ill., a corporation of New Jersey
Filed Oct. 11, 1957, Ser. No. 689,633
2 Claims. (Cl. 105—197)



1. In a snubbed truck arrangement, the combination of: a side frame having a column presenting a vertical friction surface; a bolster resiliently supported on the side frame and having a pocket facing said side frame column and presenting in said pocket a wedge surface inclined toward the friction surface of said column; a one-piece friction shoe disposed within said pocket and presenting friction and wedge faces disposed for engagement with the friction and wedge surfaces of the side frame and bolster, respectively; resilient means to urge the shoe friction and wedge faces into engagement with the respective friction and wedge surfaces, said resilient means being carried in the bolster pocket for vertical movement therewith; means to prevent lateral movement of the shoe lengthwise of the bolster; and a pair of integral gibs projecting from the shoe toward opposite sides of the side frame column and serving as the only means of limiting longitudinal movement of the bolster relative to the side frame.

2,972,968
METHOD OF INSULATING AND PROTECTING PIPE
Thomas D. Stafford, 3120 Uplands Drive SE., Grand Rapids, Mich.
Filed Nov. 21, 1956, Ser. No. 623,690
4 Claims. (Cl. 111—5)



4. A method of insulating and protecting pipes operating at elevated temperatures, comprising: forming a U-shaped channel of rigid insulating material and placing the same around a pipe, with the open side of said channel upward; pouring granular asphaltic material consisting primarily of discrete particles having the characteristic of fusing and contracting into a solid mass at temperatures obtainable in said pipe after installation

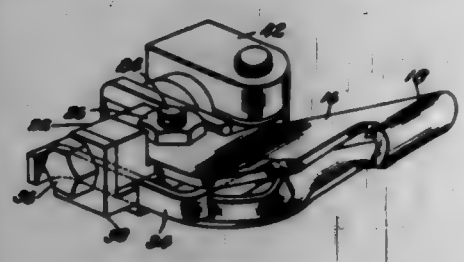
into said channel around said pipe, and remaining unfused at temperatures substantially below said obtainable temperatures; and placing a cover of rigid material over the poured material and between the walls of said channel, said cover being free to move downwardly with said poured material as said poured material contracts.

2,972,969

SHOE SEWING MACHINES

Lloyd G. Miller, Beverly, Mass., assignor to United Shoe Machinery Corporation, Boston, Mass., a corporation of New Jersey

Filed Jan. 29, 1959, Ser. No. 789,842
5 Claims. (Cl. 112—52)



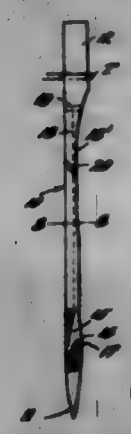
1. A machine for attaching a welt to a last supported Goodyear welt shoe upper and to a sole member, having stitch-forming devices, including a curved hook needle and a welt guide formed of a doubled-over strip of sheet material with a connecting base, between spaced doubled-over portions of which the welt is directed, in combination with edge gage means for pressing the welt widthwise against the connecting base between the doubled-over portions, said gage means comprising an elongated leaf spring fitting the space between the doubled over portions of the welt guide strip and forming an incomplete yielding loop having a gap to enable widthwise movement in the welt limited by the width of the gap as the curvature of a shoe being sewn changes from concave to convex and to form a rigid stop when the gap is closed.

2,972,970

SELF-THREADING SEWING MACHINE NEEDLE

Leighton Homer Surbeck, 10 Park Ave., New York, N.Y.

Filed Dec. 3, 1958, Ser. No. 777,909
12 Claims. (Cl. 112—224)



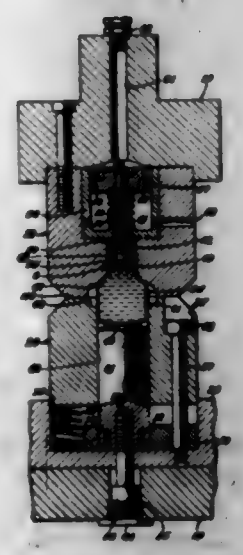
1. Self-threading sewing machine needle comprising a shaft having a point at one end and a butt for attachment to the plunger of a sewing machine at the other end, said needle being formed to provide an eye extending therethrough near the pointed end thereof, the end wall of said eye nearest the needle point being continuous and being inclined generally throughout its length relative to the axis of said shaft, one end of said end wall intersecting the peripheral surface of said shaft at an acute angle, said shaft being formed with a longitudinal groove extending from said eye toward the butt end of said needle, said longitudinal groove opening into said eye in substantial longitudinal alignment with said acute intersection, said end wall extending from said acute intersection toward the point of said needle, including means adjacent to the butt of said shaft to assist in guiding the thread into said longitudinal groove, said means comprising two transverse grooves extending into said needle on the same side of said shaft as said longitudinal groove, at least one said transverse groove entering into communication with said longitudinal groove.

2,972,971

METHOD OF DRAWING DOOR KNOBS

Carl C. Hillgren, Newport Beach, Calif., assignor to Hillgren Manufacturing Company, Huntington Park, Calif., a corporation of California

Filed July 18, 1955, Ser. No. 522,670
4 Claims. (Cl. 113—51)

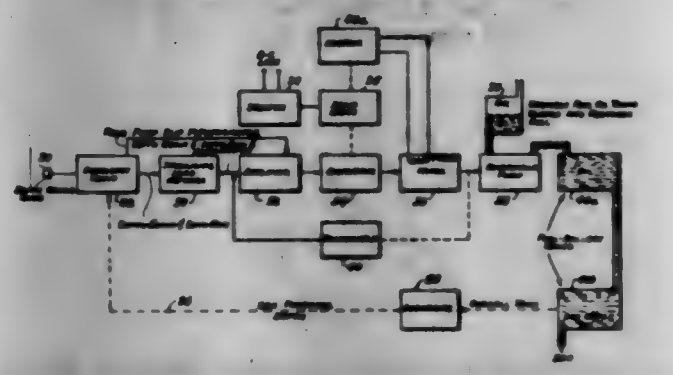


2. A process for converting a blank of predetermined interior volume having a substantially cylindrical smooth walled bulbous portion forming a closed end and a substantially cylindrical smooth walled neck portion of smaller uniform diameter throughout the length thereof forming an open end, said neck portion being joined to the bulbous portion by an annular curved section into an annular curved bulbous object having a neck with a smooth walled interior of predetermined diameter comprising forming upper and lower vertically separating die blocks into upper and lower matching die cavities each adapted to form a partial section of the bulbous portion respectively above and below a horizontal parting line, forming a die cavity in the upper die block for the neck and a central opening therefor at the center of the upper die cavity and making the aggregate volume of the die cavities substantially the equivalent of the volume of the blank, placing a quantity of hydraulic liquid in the blank roughly equivalent to the aggregate volume of the die cavities, displacing liquid in the blank by insertion of a block loosely within the die cavity for the neck until the liquid level is even with the rim of the neck, closing off the interior of the blank at said rim, and forming a single annular seal between the upper die cavity and the exterior only of the blank, whereby to prevent egress of said liquid during a subsequent forming operation, moving said die blocks into face to face relationship at said horizontal parting line, then while the die blocks are in face to face relationship exerting endwise pressure against the exterior of the blank at the closed end thereof moving said end inwardly toward the cavities and forcing the wall of the blank into contact with the inner surfaces of the die cavities, then opening the die cavities along said horizontal parting line and expelling the finished object downwardly from the upper die cavity.

2,972,972
AUTOMATIC HOVERING CONTROL SYSTEM FOR SUBMARINES

Thomas E. Allen, Schenectady, N.Y., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Apr. 11, 1955, Ser. No. 500,707
5 Claims. (Cl. 114—16)

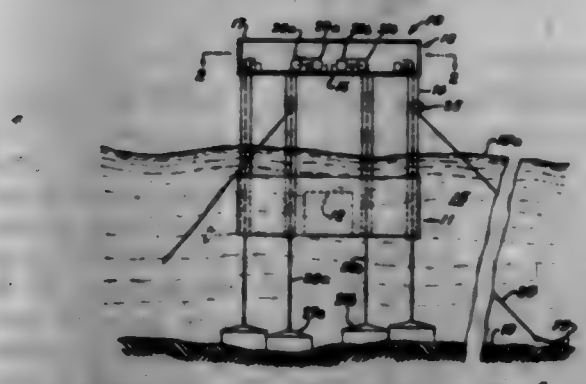


1. A submarine automatic hovering control system comprising a submarine; tank means in said submarine vented into said submarine for containing a variable quantity of sea water ballast; a reversible pump; conduits connecting said tank means in fluid communication with said pump and the sea water surrounding the submarine whereby the quantity of sea water ballast in said submarine is changeable by said pump; a reversible motor connected to said pump for driving said pump; hydrostat servo means manually settable for storing information on a selected hovering depth for the submarine and communicating with the sea water surrounding the submarine for responding to the pressure of the sea water surrounding the submarine to continuously produce an error voltage signal output whose magnitude and phase are functions of the difference between the actual depth of the submarine and the selected hovering depth for the submarine and the rate at which its depth is changing; and means connected in circuit with and responsive to the hydrostat voltage signal for energizing said motor for driving said pump in a direction for reducing the hydrostat voltage signal output to zero.

2,972,973
OFFSHORE PLATFORM

Ernest L. Theurle, 12710 S. 3rd St., Yucaipa, Calif.

Filed May 6, 1958, Ser. No. 733,284
8 Claims. (Cl. 114—43.5)

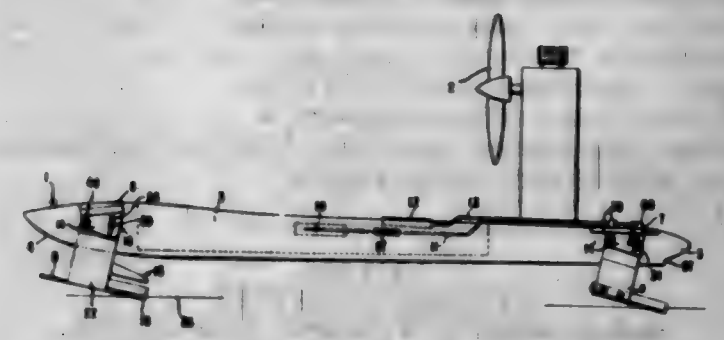


1. A platform structure of the character described comprising a deck, a buoyant hull supporting the deck, said hull having inlet means and outlet means to admit and expel water and thereby decrease and increase its buoyancy, respectively; means for anchoring the platform to restrain the same from transverse displacement, weights opposing the buoyancy of the platform, cables connected to said weights and to the platform, and control and sensing means actuated by tension in said cables to operate said inlet and outlet means to increase and decrease the buoyancy of the hull and maintain the deck in a fixed horizontal plane.

2,972,974
HYDROFOIL CRAFT

Harold E. Follett, 100 Rosmer Park, Wilmington, Del.

Filed July 23, 1956, Ser. No. 599,457
5 Claims. (Cl. 114—66.5)

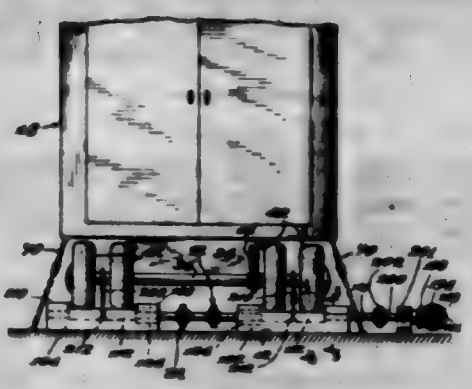


1. An arrangement comprising a watercraft and a device operatively connected to said watercraft for lifting and then supporting said watercraft above a water surface, said device comprising a unitary support inclined downwardly and rearwardly with respect to said watercraft and made up of a first and a second support section, said first section being a hydrofoil surface which is submerged below the water surface at low speeds and spaced above said surface at high speeds, said second section being a hydroski surface which is in contact with the water at such times when said craft is supported by said water and which is disposed rearwardly and downwardly of said first section, said second section being of less transverse dimension than said first section.

2,972,975
SHIPBOARD ACCOMMODATIONS FOR MECHANICALLY REFRIGERATED SEMI-TRAILERS

Effie E. White, 1701 Plum St., Aurora, Ill.

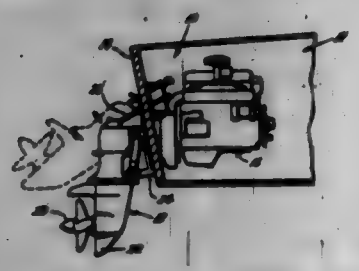
Filed Aug. 25, 1958, Ser. No. 756,896
1 Claim. (Cl. 114—72)



In a navigable vessel having an exposed deck provided with a deck winch having a rotary winding shaft, the axis of which extends horizontally and transversely of the ship centerline, means for rotating said winding shaft, a line shaft mounted for rotation about a horizontal axis above the level of said deck, a plurality of power take-off devices positioned along said line shaft, a power train operatively connecting said winch winding shaft and line shaft in driving relationship, a clutch device interposed in said power train, a plurality of motor vehicle trailers supported on said deck, each trailer having a traction wheel operable upon rotation thereof to effect rotation of the power shaft of a refrigeration unit associated with the trailer, a pair of spaced bearing supports, one for each trailer, mounted on said deck, a roller cradle extending between said bearing supports and including three spaced parallel horizontally extending traction rollers each having its ends rotatably journalled in said bearing supports respectively, said three rollers including a medial roller disposed at a relatively low elevation and a pair of end rollers disposed at elevations higher than said low elevation, said rollers, in effect,

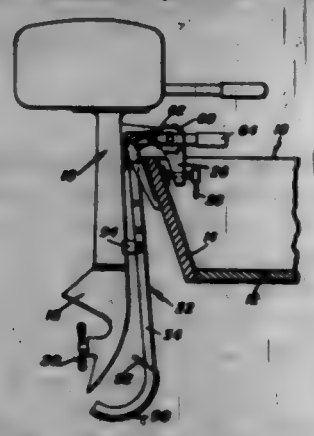
providing a wheel-receiving trough therebetween in which a traction wheel of one of the trailers is adapted to seat whereby rotational movement of said one traction roller will effect rotation of said traction wheel, said rollers having their respective axes arranged in circumferential fashion about a central axis which is spaced from said roller axes a distance substantially equal to the diameter of the traction wheel, and anchoring means for fixedly supporting said trailer in position on said supporting deck against shifting movement in any direction thereon with the traction wheel thereof in frictional contact with each of said traction rollers.

2,972,976
STEERING CONTROL
Blakely Smith, 2002 Bolsover, Houston, Tex.
Filed Apr. 13, 1960, Ser. No. 21,919
6 Claims. (Cl. 115—35)



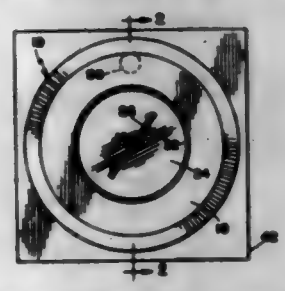
1. The steering control for a rudder of a boat having a steering tiller operable by steering control means comprising, a yoke arranged to be pivotally connected to the boat adjacent the steering tiller, means on the yoke for receiving the steering tiller whereby movement of the yoke moves the steering tiller, a connecting member arranged to be pivotally connected to the boat proximate the yoke, said connecting member connectable to the steering controls, and means detachably connecting the connecting member to the yoke whereby operation of the steering control means moves the connecting member and thereby the yoke when connected thereto.

2,972,977
OUTBOARD MOTOR ATTACHMENT
Edgar C. Hansmann, 15862 Cruse Ave., Detroit, Mich.
Filed July 18, 1956, Ser. No. 598,603
10 Claims. (Cl. 115—42)



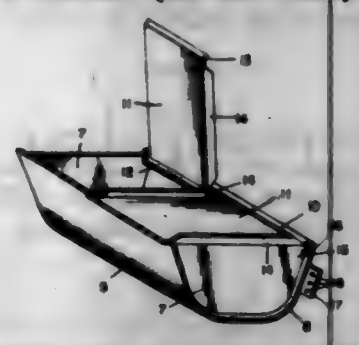
1. In combination with a boat transom having an outboard motor secured thereto, said motor including an engine with a lower housing unit secured thereto and depending therefrom, said lower housing unit including a propeller mounted for rotation and operatively connected to said engine; an outboard motor guard attachment comprising a mounting bracket, means on said mounting bracket for removably attaching said bracket to said transom independent of said outboard motor, a depending support arm, means mounting said support arm on said mounting bracket for pivotal movement, a bottom engaging shoe carried by said support arm at the lower end thereof with said bottom engaging shoe positioned in alignment with and forwardly of the lower end of said lower housing unit and said propeller to form a shield therefor.

2,972,978
SHAFT POSITION INDICATOR
William F. Collison, Escondido, Calif., assignor to Non-Linear Systems, Inc., Del Mar, Calif.
Filed June 15, 1959, Ser. No. 820,357
11 Claims. (Cl. 116—115)



1. A shaft position indicator, comprising: a generally knob-like member having a deep socket therein; a shaft fixed to and extending axially from said member for rotatable attachment to a support; a plurality of flat transparent elements stacked axially of said socket and in fixed relation to said member; said transparent elements having indicia inscribed thereon, the indicia being substantially less transparent than the remainder of the elements; said member having a plurality of circumferentially spaced openings, each of said openings being aligned with the edge of one of said transparent elements; and a light source fixed circumferentially of said member, whereby when the member is rotated, each of said transparent elements is illuminated successively and individually.

2,972,979
COMBINATION HOG FARROWING FEEDER AND WATERER
Horace Struck, Chancellor, S. Dak.
Filed Feb. 5, 1959, Ser. No. 791,305
2 Claims. (Cl. 119—51.5)



1. A combination hog farrowing feeder and waterer including an open top trough body the ends of which are closed, and the top of the aft edge of the body turned in at right angles to form a flange, a fixed partition wall in the trough body intermediate said closed ends, to provide a pair of compartments, a shaft extending longitudinally through the closed ends and partition of the trough, below said flange, and a closure for each compartment, the aft margin of each closure being convoluted on the shaft to provide a hinge, the extent of opening movement of the closures being limited by the body trough flange.

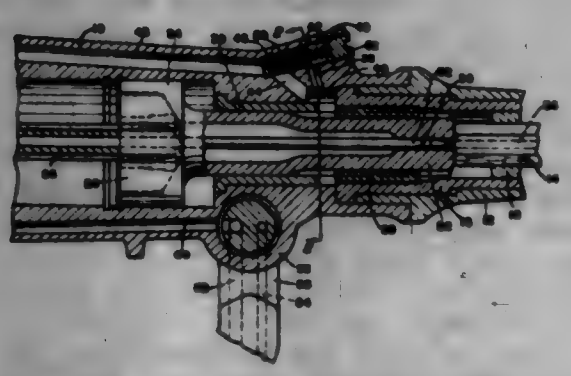
2,972,980
BALL POINT PEN
James V. MacDonald, Thomaston, Conn., assignor to Scovill Manufacturing Company, Waterbury, Conn., a corporation of Connecticut
Filed July 31, 1959, Ser. No. 830,794
2 Claims. (Cl. 120—42.03)

1. In a cap for a ball point pen adapted to be attached to the pen barrel, which includes a push rod

slidably mounted within said barrel having a manipulating portion extending through the upper end of the cap, retracting mechanism inside the cap cooperating with said push rod to latch the same in projected or retracted position, said retracting mechanism including a control member slidably fitting against said push rod; the improvement which consists of a one-piece housing for said push rod and retracting mechanism, said housing consisting of a tubular member with a slit extending throughout its length and having a lower portion of such diameter as to fit snugly within the lower end of said cap, said lower portion having internally formed means adapted to interengage with the pen barrel, an intermediate portion surrounding and confining said retracting mechanism with the upper end of said control member bearing against an internal shoulder of the housing, and a relatively smaller diameter upper portion beyond said shoulder extending into engagement with the upper portion of the cap and serving as a guide for the upper end of the push rod, the walls of the tubular member having an inwardly indented section at the bottom of said intermediate portion to confine said control member against endwise movement, the walls of the tubular housing member being sufficiently springy to permit spreading to allow the assembled push bar and control member to pass endwise by said indented section during assembly of the parts.

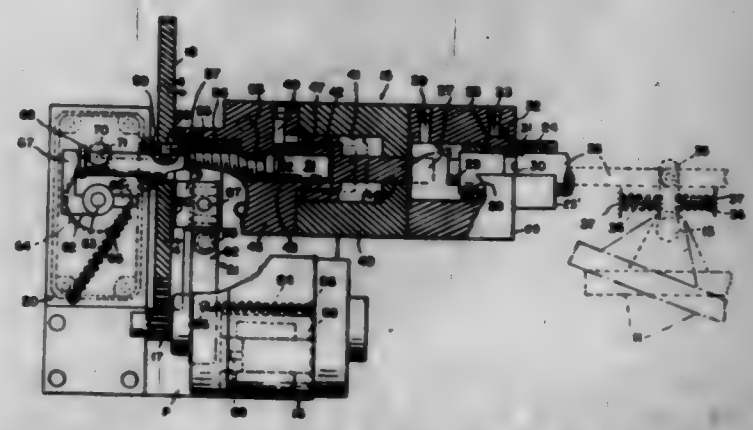


2,972,981
ROCK DRILL
Martin Wermuth, Phillipsburg, N.J., assignor to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey
Filed Apr. 18, 1960, Ser. No. 22,757
6 Claims. (Cl. 121—10)



1. A pneumatic rock drill having a cylinder, a front head to receive a drill rod, a chuck in the front head to engage such drill rod, a hammer piston in the cylinder provided with a fluted nose extending into the chuck, a chuck nut slidingly engaging the fluted nose of said piston and fixedly attached to said chuck, a front cylinder washer to guide the nose of said piston, a vent passage to conduct leakage air from the interior of said chuck to atmosphere, a blower port in said cylinder leading to the interior of said chuck, and means normally closing said port, operable to open said port and simultaneously to close said vent passage.

2,972,982
FLUID PRESSURE-OPERATED CONTROL AND ADJUSTING MECHANISM THEREFOR
Arthur B. Bennett, Detroit, Mich., assignor to National Broach & Machine Company, Detroit, Mich., a corporation of Michigan
Filed Dec. 9, 1957, Ser. No. 701,621
14 Claims. (Cl. 121—38)

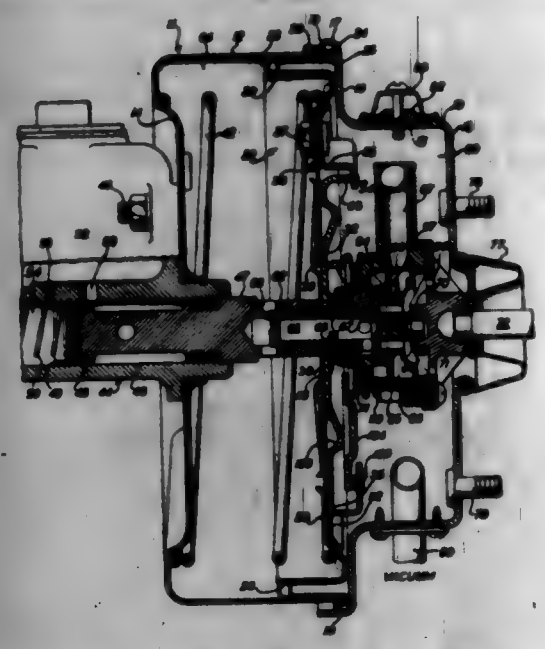


13. A control unit of the type described comprising housing means providing first and second axially aligned, fluid pressurizable cylinders and an axial bore therebetween, an actuating plunger slidable in and axially outwardly of said first cylinder under pressure therein, a stop piston predeterminedly positionable in said second cylinder under pressure therein and having a portion receivable in said bore and first cylinder to limit reverse movement of said plunger, said housing means providing a further bore opening axially to the side of said second cylinder opposite said first bore, a stop rod axially adjustable in said further bore, being threadedly engaged with said housing means for axial movement upon rotation relative to the latter, for variable stop engagement with said piston to determine the plunger-limiting position of the latter, and means to axially adjust said stop rod, including a motor operatively connected to said stop rod to reversibly rotate the latter, and a mechanism operatively connected to and responsive to axial movement of said stop rod to indicate its effect on said control unit, said last named mechanism comprising a feeler directly engaging and moved under the control of said rod, and indicating means including an electrical indicating circuit variably energized in response to movement of said feeler.

2,972,983
BOOSTER MECHANISM
David T. Ayers, Jr., Birmingham, Mich., assignor to Kelsey-Hayes Company, Detroit, Mich., a corporation of Delaware
Filed Jan. 15, 1958, Ser. No. 709,113
17 Claims. (Cl. 121—41)

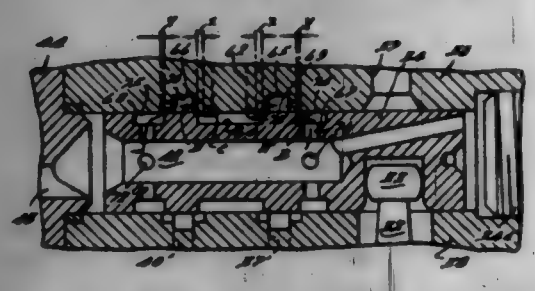
1. In a booster mechanism, a motor comprising a casing, a pressure responsive unit therein dividing said casing to form a variable pressure chamber and a constant pressure chamber open to the atmosphere, a member to be operated connected at one end to said pressure responsive unit coaxially thereof and projecting through said variable pressure chamber, a valve housing in said constant pressure chamber movable axially relative to said pressure responsive unit and provided with a valve seat relatively movable axially thereof, a pair of coaxial annular valves

facing toward said valve seat and engageable therewith, the outer of said valves being carried by said valve housing and normally engaging said valve seat and the inner of said valves being connected to said member to be operated and normally disengaged from said valve seat to open said variable pressure chamber to the atmosphere, said housing having a space radially outwardly of said outer valve connected to a source of vacuum, means pro-



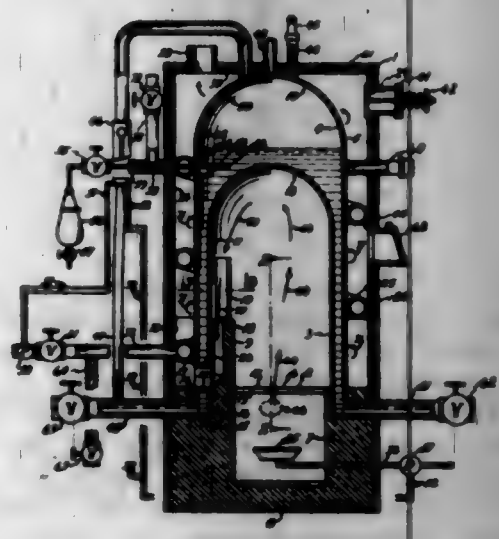
jecting into said constant pressure chamber and engaging said housing to move it axially toward said pressure responsive unit to open said outer valve and close said inner valve to connect said variable pressure chamber to the source of vacuum, and means connected between a portion of said pressure responsive unit and said valve housing for reacting against valve operating movement thereof proportional to differential pressures in said constant and variable pressure chambers.

2,972,984
STAGGERED LAND SPOOL VALVE
William O. Heyn, Roseville, and Charles E. Brady, Oak Park, Mich., assignors to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware
Filed Jan. 23, 1959, Ser. No. 788,542
10 Claims. (Cl. 121—46.5)



6. In a valve for a fluid system having inlet and exhaust ports, the combination of fixed and shiftable valve members, a pair of lands on said shiftable member spaced by a central recess in communication with said inlet port, a pair of lateral recesses in said shiftable member extending endwise of said pair of lands respectively and being in communication with said exhaust port, a pair of working ports in said fixed member and associated with said lateral recesses respectively, said working ports being in communication with said inlet port when said shiftable member is at a central position, a pair of lateral land portions on said fixed member laterally of said working ports respectively and cooperable with said lands to close one or the other of said lateral recesses from its associated working port upon endwise movement of said shiftable member in one direction or the opposite respectively from said central position, a pair of central land portions on said fixed member confronting said central recesses and cooperable with said pair of lands respectively to progressively open to said inlet one or the other of said working ports associated with said one or the other of said lateral recesses respectively upon said endwise movement of said shiftable member in said one direction or the opposite respectively and simultaneously to progressively close said other and the one of said working ports from said inlet, said lands and land portions being arranged to close said one recess from said working port prior to the closing of said other working port from said inlet port upon said movement of said shiftable member in said one direction, and to close said other recess from said other working port prior to the closing of said one working port from said inlet port upon said movement of said shiftable member in said opposite direction.

2,972,985
BOILER
William H. Allen, 2201 Riverside Ave., Jacksonville 4, Fla.
Filed Oct. 6, 1959, Ser. No. 844,720
2 Claims. (Cl. 122—183)



1. In a boiler, a combustion chamber having an upwardly opening cavity, a fuel burner disposed in said cavity, means for supplying fuel to said burner, a water chamber including a pair of concentrically arranged cylindrical shells mounted on said chamber and adapted to retain water and steam between the inner and outer of said pair of shells, said shells having respective upper closure portions, a baffle mounted on said combustion chamber adjacent said cavity and extending upwardly into the inner of said shells, said baffle having a top portion disposed spacedly below the upper portion of said inner shell and side edges therebelow which are contiguous with the wall of said inner shell, said baffle being spaced from said wall of said inner shell between said sides and defining therewith a vertically extending passageway, another cylindrical shell having an insulating lining concentrically arranged around and disposed spacedly outwardly of said outer shell thereby defining a vertically extending gaseous zone between said outer shell and said other shell, a flue pipe extending through said other shell and communicating with the upper end of said zone, a boiler water feed tube having an inlet end adjacent said combustion chamber and extending therefrom upwardly and helically around said outer shell and having an upper end communicating within said water chamber adjacently below said upper portion of said outer shell, said tube being in contact with said outer shell and with said other shell and defining a helical gas path between said outer shell and said other shell, and conduit means connected to said lower end of said tube for passing water into said tube, a second passage-

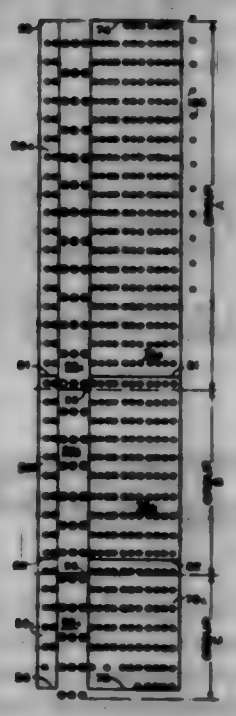
way extending through said shells of said water chamber adjacent said combustion chamber and interconnecting the lower end of said vertically extending passageway and the lower end of said zone whereby hot gases produced by combustion in said cavity pass upwardly into said combustion chamber and thence downwardly through said vertically extending passageway and from said lower end thereof through said second passageway into the lower end of said zone and thence upwardly through said helical gas path to said upper end of said zone and into said flue pipe.

2,972,986

VAPOR GENERATING UNIT WITH SEQUENTIAL BLOW-DOWN

Roy Bagley, London, England, assignor to The Babcock & Wilcox Company, New York, N.Y., a corporation of New Jersey

Filed Dec. 21, 1954, Ser. No. 476,728
Claims priority, application Great Britain Dec. 23, 1953
4 Claims. (Cl. 122—379)



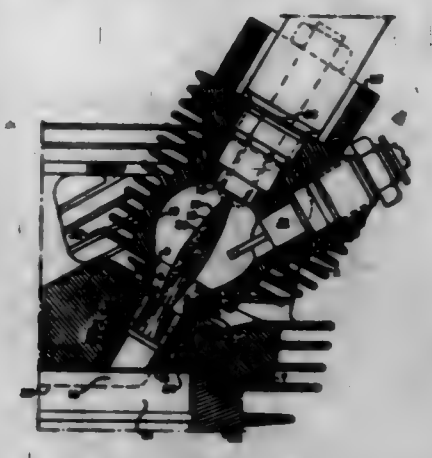
1. In a vapor generating unit for generating vapor under pressure, an upper vapor and liquid separating drum constructed to provide a first separated liquid chamber and a second separated liquid chamber, a first natural circulation system including a first lower liquid chamber and groups of downcomer and heated riser tubes with the downcomer tubes normally conducting liquid from the first separated liquid chamber through said first lower liquid chamber to the inlet ends of the riser tubes, the riser tubes normally discharging vapor and liquid mixtures into said first separated liquid chamber, a second natural circulation system including a second lower liquid chamber and groups of downcomer and heated riser tubes with the downcomer tubes normally conducting liquid from the second separated liquid chamber through said second lower liquid chamber to the inlet ends of said second group of riser tubes, the second group of riser tubes normally discharging liquid and vapor mixtures into said second separated liquid chamber, the heated riser tubes in both of said natural circulation systems being arranged in corresponding locations relative to the heating gas flow path through said unit to have approximately the same average heat absorption rate per unit of area, other heated riser tubes having their inlet ends connected to receive liquid from said first lower liquid chamber and their outlet ends connected to discharge into said second separated liquid chamber and thereby normally providing a blow-down connection from said first separated liquid chamber to said second separated liquid chamber, fuel burning means providing high temperature gases for heating said riser tubes, means supplying feed liquid to said first separated liquid chamber, and final blow-down means for the unit in communication with said second separated liquid chamber.

2,972,987

INTERNAL COMBUSTION ENGINES

Walter Steidler, Feudenheimerstrasse 38, Ilvesheim, Germany

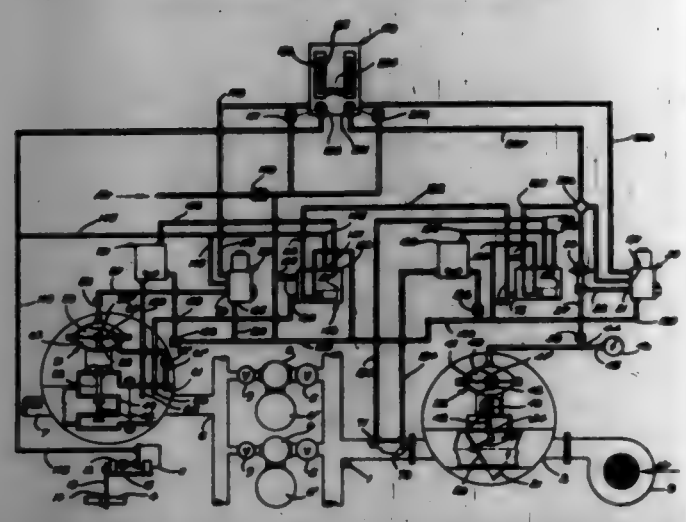
Filed Aug. 18, 1959, Ser. No. 834,522
Claims priority, application Germany June 16, 1959
1 Claim. (Cl. 123—32)



An internal combustion engine of the liquid fuel injection compression ignition kind comprising a cylinder having a working chamber, a piston slidable in the cylinder and having a crown with a depression therein, a cylinder head defining an open mouth auxiliary combustion chamber, an insert piece positioned in the mouth of the auxiliary combustion chamber and facing said depression, said insert piece defining with the cylinder head an air gap, said insert having an inner sleeve defining an inner duct, an outer sleeve surrounding and coaxial with said inner sleeve, a plurality of rib-like structures interconnecting said sleeves, said sleeves and structures defining between them a plurality of outer ducts, a cylindrical wall portion defining a constricted communicating channel between said ducts and said depression and coaxial with said inner duct, a fuel injection nozzle projecting into said auxiliary combustion chamber and disposed symmetrically in relation to the axis of the auxiliary combustion chamber so that a fuel stream injected into said auxiliary combustion chamber towards the end of the compression stroke of the piston is directed towards the inner duct and comes at its greatest diameter substantially into contact with the wall of the inner duct, the dimensions of the auxiliary combustion chamber, the inner and outer ducts and the depression being such that at the end of the compression stroke of the piston between 30% and 70% of the combustion air is in the auxiliary combustion chamber and ducts, the ratio of the least cross-sectional area of the inner duct to the sum of the least cross-sectional areas of the outer ducts ranging between 1:1 and 1:10, the sum of the volumes of the auxiliary combustion chamber and the inner and outer ducts measured in cm.^{3} divided by the sum of the least cross-sectional areas of the inner and outer ducts measured in cm.^{2} lying between 20 and 100 cms. and the ratio of the cross-sectional areas of said constricted channel to the sum of the least cross-sectional areas of said inner and outer ducts ranging between 1:1 and 2:1, and a conical wall portion defining a conical channel communicating at the wider end thereof with said ducts and at the narrower end thereof with said constricted channel, the maximum diameter of said conical channel being substantially equal to the external diameter of said outer sleeve, the minimum diameter of said conical channel being substantially equal to the diameter

of said constricted channel, said conical wall portion defining a cone angle substantially of 120°, said insert piece being spaced from said constricted channel by an amount which ranges between 0.1 and 0.25 times the diameter of said constricted channel.

2,972,983
AUTOMATIC CONTROL FOR ENGINE MIXTURES AND SPEED
Jack M. Reack, Kansas City, Mo., assignor to Panhandle Eastern Pipe Line Company, Inc., Kansas City, Mo., a corporation of Delaware
Filed Feb. 19, 1960, Ser. No. 9,844
10 Claims. (Cl. 123—120)



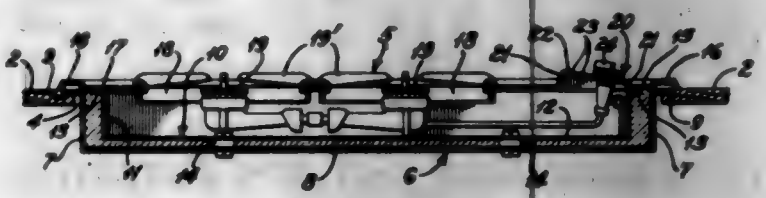
1. In an air-fuel ratio control system for an internal combustion engine having separate air and fuel flow passages comprising, an air flow regulating control in said air passage to regulate air pressure downstream therefrom and a fuel flow regulating control in said fuel passage to regulate fuel pressure downstream therefrom, means responsive to the regulated fuel pressure; means responsive to the temperature of the regulated air; an engine driven means responsive to the speed of said engine; said fuel flow control being actuated by the response of said driven means; signal producing means being actuated by the responses of said driven means and said means responsive to the regulated fuel pressure and said means responsive to the regulated air pressure and said means responsive to the temperature of the regulated air, the signal produced by said signal producing means actuating said air flow control.

2,972,989
IRON OXIDE GRATE BARS
Kurt M. Meyer, Frankfurt am Main, Germany, assignor to Metallgesellschaft Aktiengesellschaft, Frankfurt am Main, Germany
No Drawing. Filed Dec. 23, 1957, Ser. No. 704,268
Claims priority, application Germany Jan. 8, 1957
2 Claims. (Cl. 126—152)

1. In a grate having a plurality of spaced grate bars forming the bottom of the grate, the improvement comprising grate bars each consisting essentially of finely ground raw iron ore compressed into grate bar form and hard burned in an oxidizing atmosphere at a temperature of from about 1200° C. to 1500° C.

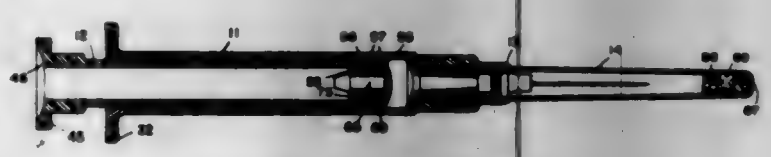
2,972,990
BUILT-IN COOKING UNIT
Robert H. Caldwell, Lookout Mountain, Tenn., assignor to Tennessee Stove Works, Chattanooga, Tenn., a corporation
Filed Apr. 21, 1958, Ser. No. 729,857
3 Claims. (Cl. 126—214)

1. A cooking unit comprising an imperforate bottom, side sections and a generally flat top together defining an enclosure, a gas burner in said enclosure, said top having a burner opening therein above said burner, means having an upper edge defining a separate opening in said top for



admission of air to said enclosure, said defining edge being in a plane above the general plane of said top and defining a dam surrounding said air admission opening and control means for said burner also on said top.

2,972,991
DISPOSABLE SYRINGE
George K. Burke, Bethlehem, Pa., assignor to Burron Medical Products, Inc., Bethlehem, Pa., a corporation of Pennsylvania
Filed Oct. 1, 1958, Ser. No. 764,657
12 Claims. (Cl. 128—218)

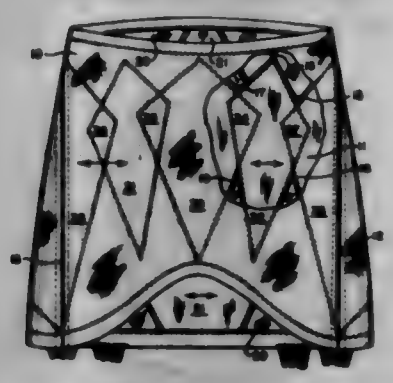


1. A disposable syringe which comprises a generally cylindrical hollow barrel, a substantially cylindrical hollow plunger slidably positioned within said barrel, said plunger having a reduced end portion having an irregular outer surface, a resilient plunger ring having a plurality of substantially annular rings formed on the outer surface thereof, said ring having formed in one surface thereof an irregular recess complementary to the irregular configuration of said reduced end portion and preventing relative rotation between said plunger and said plunger ring, said plunger ring also having another opening formed in the opposite surface thereof and in communication with said recess, said reduced end portion having an opening formed therethrough in communication with the hollow interior of said plunger, and pin means extending through the opening in said ring and the opening in said reduced end portion for securing said resilient plunger ring to said plunger.

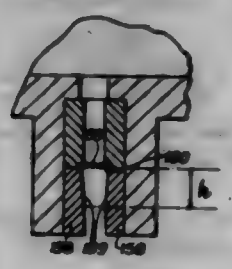
2,972,992
GIRDLE
Harold P. Kurzman, New York, N.Y., assignor to Lily of France, Inc., New York, N.Y., a corporation of New York
Filed Jan. 7, 1959, Ser. No. 785,389
6 Claims. (Cl. 128—547)

1. An undergarment of woven elastic material including a tight-fitting, body-encircling structure comprising a front panel, and a rear panel, a front and rear underlying panel superimposed upon said front and said rear panels respectively, the side edges of said front and rear underlying panels being coextensive with the side edges of said front and rear panels respectively, said side edges of said

front panel and said underlying front panel being vertically joined to the side edges of said rear panel and said underlying rear panel; the upper and lower edges of said underlying front and rear panels being formed in alternating acute and obtuse angles; said underlying panels being superimposed upon said front and rear panels respectively, forming a series of irregular quadrilateral patterns upon the bases thereof.

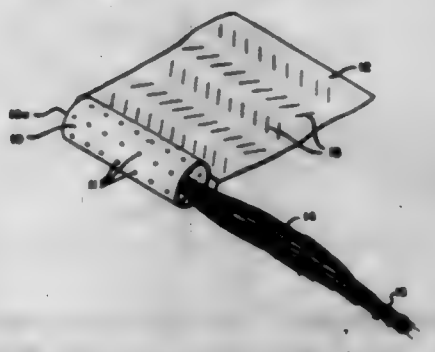


2,972,993
APPARATUS FOR FORMING A CONTINUOUS TOBACCO FILLER
Francis Auguste Maurice Labbé, Orleans, France, assignor to Molins Machine Company Limited, London, England, a British company
Filed May 5, 1959, Ser. No. 811,032
Claims priority, application Great Britain May 15, 1958
2 Claims. (Cl. 131—84)



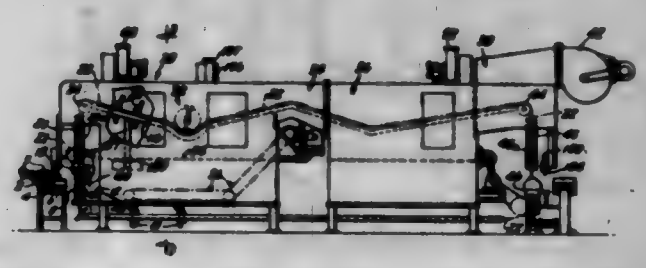
1. Apparatus for forming a continuous tobacco filler on a tobacco manipulating machine, comprising a perforated conveyor having a tobacco receiving surface, opposed side walls extending along the said conveyor at opposite sides thereof and cooperating with said surface to define a trough for tobacco, tobacco feeding means to feed tobacco continuously to the said tobacco receiving surface so that a tobacco filler is progressively built up on said tobacco receiving surface as the conveyor moves, and means to apply suction through the said perforated conveyor to urge tobacco toward the said tobacco receiving surface and compress the filler transversely of its length during the building up of the filler, wherein the said side walls have parts which are divergent from each other considered in a direction toward said tobacco receiving surface, and wherein the said divergent parts extend lengthwise along the trough and diverge from the said tobacco receiving surface considered in the direction of movement of the latter, so as to be spaced progressively further from the tobacco receiving surface at successive positions lengthwise of the trough at which the filler progressively increases in depth as its building up proceeds, and wherein the said side walls have substantially parallel parts extending between the tobacco receiving surface and the said divergent parts, whereby the lateral capacity of the trough increases along the length of the trough to relieve friction between the side walls and the filler as the latter increases in depth, while the width of the trough adjacent the said tobacco receiving surface remains substantially uniform along the length of the trough.

2,972,994
HAIR CURLERS
Marcella Ferens, Box 84, Darragh, Westmoreland County, Pa.
Filed Apr. 22, 1957, Ser. No. 654,254
3 Claims. (Cl. 132—40)



1. A hair curler comprising a perforated hollow cellulose tube open at each end, a sheet of parchment attached along one of its edges to the periphery of the tube and adapted to lie between successive layers of hair and a hank of soft, unwoven wool-like fibrous material fixed at one end to one end of the tube and adapted to pass over the hair curled on the tube and be inserted in the end of the tube opposite the fixed end of the fibrous material.

2,972,995
WASHING APPARATUS
Emil Umbricht, Jackson, and Dewey Evans, Belleville, Mich., assignors to AJEM Laboratories, Detroit, Mich.
Filed Oct. 20, 1954, Ser. No. 463,471
16 Claims. (Cl. 134—72)

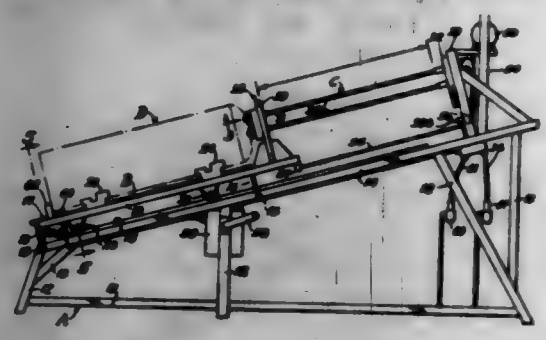


11. A parts washer comprising means defining a parts receiving position and means defining a parts delivery position and a continuous chain conveyor extending between said positions, a plurality of parts-holding fixtures positioned at spaced intervals along said conveyor, said conveyor including an endless chain extending between said positions, a conduit extending a substantial portion of the distance between said positions, a track for said chain secured to said conduit and supported thereby, means for guiding said chain along said track, and a plurality of fluid spray nozzles coupled to spaced points along said conduit and directed toward the path of said fixtures.

2,972,996
TANK SPRAYING APPARATUS
Arthur E. Phillips, La Porte, Ind., assignor to The Coleman Company, Inc., Wichita, Kans., a corporation of Kansas
Filed Sept. 23, 1957, Ser. No. 685,737
10 Claims. (Cl. 134—102)

1. In an apparatus for spraying the cavity of a cement-lined tank to remove excess lime therefrom, said tank having a spud opening at its upper end and a drain opening at its lower end, a frame having at least one inclined spray tube equipped with a spray nozzle at the lower end thereof, a tank support mounted upon said frame for supporting a tank in inclined position and in axial alignment with said spray tube and with the spud opening of said tank facing upwardly adjacent said nozzle, means for relatively moving said tank support and said spray

tube towards and then away from each other along the longitudinal axis of said inclined tube to pass said nozzle in opposite directions through the cavity of said tank,



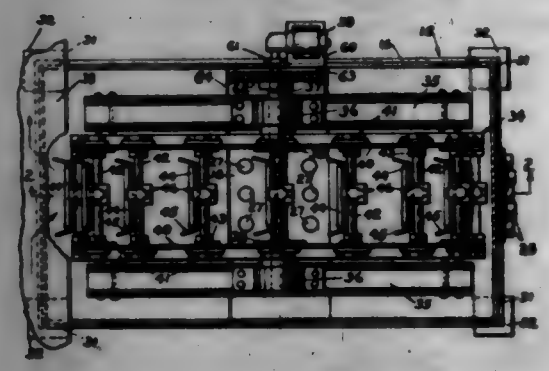
and means synchronized with said first mentioned means for directing the flow of fluid through said spray tube and nozzle while said tank support and spray tube are in a relative movement towards and away from each other.

2,972,997

APPARATUS FOR CLEANING SURFACES

William E. McCown and James W. McAuley, Toledo, Ohio, assignors to Libbey-Owens-Ford Glass Company, Toledo, Ohio, a corporation of Ohio

Filed Apr. 9, 1956, Ser. No. 577,023
5 Claims. (Cl. 134—128)



1. Apparatus for cleaning sheet material, comprising a tank for containing a cleaning liquid therein, a conveyor for carrying sheet material along a definite path into and out of said cleaning liquid, a plurality of holders carried by said conveyor for holding said sheet material, first vibration generating means positioned within said liquid for directing vibratory energy at relatively large acute angles onto the major surfaces of said sheet material, and second vibration generating means positioned within said cleaning liquid for directing vibratory energy at relatively small acute angles to the major surfaces of said sheet material.

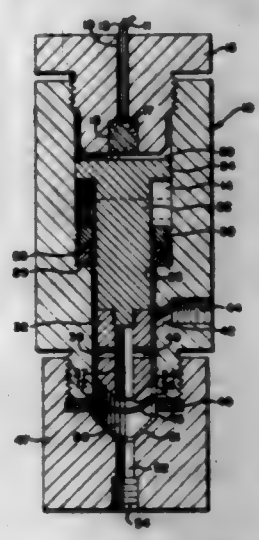
2,972,998

EXPLOSIVE OPERATED VALVE

Robert L. Detwiler, Silver Spring, Md., assignor to the United States of America as represented by the Secretary of the Navy

Filed July 2, 1956, Ser. No. 595,566
5 Claims. (Cl. 137—68)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. An explosive operated valve for permitting fluid communication between a pair of fluid passages upon detonation of an explosive comprising a casing having a chamber in communication with said pair of fluid passages, a frangible diaphragm in said chamber forming a seal between said passages, a valve body having a cutter at the forward end thereof and slideably mounted in said chamber to rupture said diaphragm when driven to a forward position, said valve body having internal passages therein with inlet and outlet orifices for permitting fluid communication between said fluid passages upon rupture of said diaphragm, said body having an external conical surface at the forward end thereof and an internal coaxial bore forming one of said internal passages and intersecting said conical surface, a cutting edge of said cutter formed by the intersection of said bore and said conical surface, explosively responsive means for driving said body to said forward position through said diaphragm, and stop means limiting forward travel of



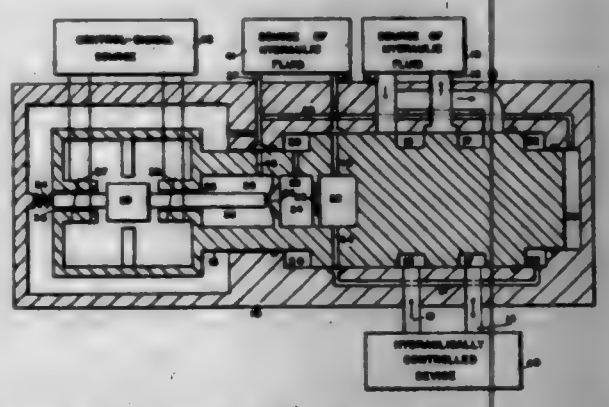
said cutter to said forward position, said fluid passages being so disposed that when the cutter is in said forward position fluid communication is established between said passages, said stop means comprising a conical shoulder portion providing a seat for said valve body and engageable by said conical surface to bring the cutter to rest when the cutter has traveled to said forward position.

2,972,999

TWO-STAGE, DIFFERENTIAL, HYDRAULIC SERVO VALVE

Paul F. Hayner, Nashua, N.H., assignor to Sanders Associates, Inc., Nashua, N.H., a corporation of Delaware

Filed Nov. 1, 1955, Ser. No. 544,218
15 Claims. (Cl. 137—85)



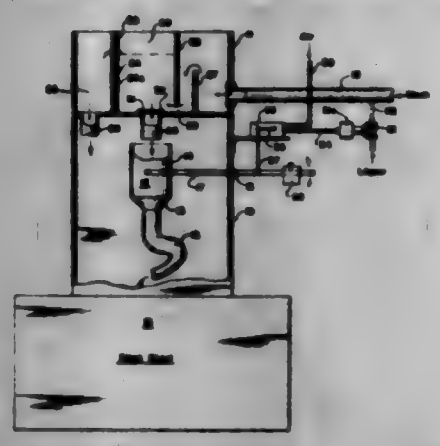
1. A two-stage, differential, hydraulic servo valve, comprising: a valve housing including passages for fluid under pressure; a piston-valve movably mounted within said housing for controlling the flow of fluid through said passages, said piston-valve including a variable pressure-fluid chamber and at least one fluid control orifice communicating with said chamber; auxiliary passages for coupling fluid into said chamber; pilot means carried by and coupled to said piston-valve, said pilot means including a pilot valve movably mounted with respect to said orifice for effecting motion of said piston-valve with respect to said housing by varying the effective size of said orifice to change the pressure of the fluid in said chamber; and motor means carried by said piston-valve for moving said pilot valve with respect to said orifice in response to a control signal for differentially displacing said valves in response to a control signal to effect said pressure change.

2,973,000

CONSISTENCY RESPONSIVE DEVICE

Robert L. Pearson, Wilmington, N.C., assignor to Riegel Paper Corporation, New York, N.Y., a corporation of Delaware

Filed Jan. 31, 1956, Ser. No. 562,454
2 Claims. (Cl. 137—91)



1. A consistency responsive device for use in a system for regulating the consistency of paper making stock, comprising a tank for containing a supply of stock, means dividing said tank into first and second chambers, one wall of said first chamber being of predetermined height whereby said first chamber maintains a stock supply at a predetermined height from the bottom wall of said first chamber, means in said bottom wall forming an orifice through which stock is discharged from said first chamber, said orifice being of predetermined size substantially smaller than the effective area of said bottom wall, a source of substantially uniformly mixed stock for discharge into said second chamber through an inlet in a side wall thereof, baffle means positioned intermediate the side walls of said second chamber and in the line of flow of stock from said inlet to divide the inflowing stream of stock and maintain said stock in a turbulent state, said dividing means being spaced from the bottoms of said first and second chambers and providing substantially the only communication between said chambers for the flow of stock from said second to said first chamber, said orifice forming means being positioned closely adjacent said means of communication, whereby stock flowing into said first chamber is directed generally along its bottom wall and a portion of the stock is caused to flow directly over said orifice forming means, and overflow means for receiving excess stock from the upper portion of said first chamber.

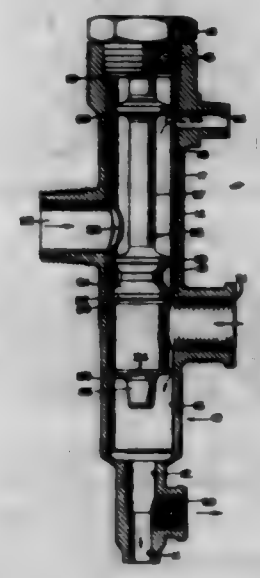
2,973,001

MULTIPLE-PASSAGE PRESSURE-RESPONSIVE VALVE

James E. McAuley, Compton, Calif., assignor, by mesne assignments, to William Douglas Sellers, Pasadena, Calif.

Filed Apr. 5, 1956, Ser. No. 576,423
9 Claims. (Cl. 137—118)

4. A pressure-responsive valve mechanism adapted to control the flow in different interconnected circuits depending on pressure conditions therein comprising, an elongated housing having a bore opening through an end thereof, a sleeve in said bore terminating short of one end thereof and having a fluid-tight seal with the bore, a pair of openings extending into said one end with one opening being positioned adjacent the end of said sleeve and adapted to be connected to a pressurized fluid source, a unitary valve assembly movably supported in said housing and including a stem interconnecting a pair of non-flexible pistons of different diameters at one end and a single piston at the other end, said single piston and the adjacent one of said pair of pistons having similar loose fits with the juxtaposed inner surfaces of said sleeve, the larger-diameter one of said pair of pistons having a loose fit with said bore wall and being movable across said pressurized fluid inlet opening into seating engagement with the adjacent end of said sleeve which sleeve is of smaller diameter than said larger piston, said single piston being



movable simultaneously with said pair of pistons between operating positions on the opposite sides of an outlet opening adapted to be closed normally, and a fourth opening extending into said housing at a point between the paths of travel of said single piston and said pair of pistons.

2,973,002

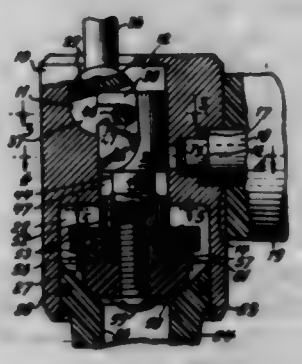
WITHDRAWN

2,973,003

FLUID DISPERSION VALVE

Vernon P. Steele, 30 Rugby St., Stamford, Conn.

Filed Aug. 6, 1959, Ser. No. 832,116
8 Claims. (Cl. 137—170.1)



1. A dispensing valve for carbonated fluids including, in combination, a valve body constituting a housing having a plurality of bores including inlet and valve bores, a fluid passage and a fluid dispersion chamber, the valve bore providing said fluid passage, said bore extending longitudinally of said valve body and opening at its lower end into the fluid dispersion chamber, said inlet bore opening into the valve bore at one side thereof and at a place therein constituting said fluid passage, a valve assembly slidable in the fluid passage and extending into said dispersion chamber, said valve assembly including a head for opening and closing said inlet bore, a stem on said head having a squared portion and a cylindrical portion each providing fluid passages connecting the inlet with said chamber, a cylindrical sleeve disposed in said valve bore and on said squared portion and defining fluid passages along and between the flat faces of said squared

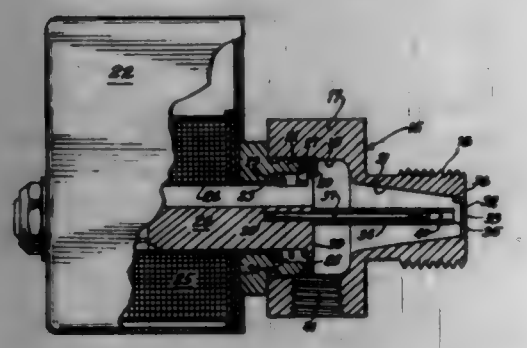
portion and the inner wall of said sleeve, a plurality of fluid dispersing disks each having a circular opening fitting over the squared portion at the end of the sleeve to define fluid passages between the flat faces of said squared portion and the circular edges of said disks, the disks providing fluid passages therebetween leading from said flat faces to said fluid dispersion chamber, outlet means opposite the bore end of the dispersion chamber, and valve seat means connected to and abutting the lower squared end of said valve stem and for sealing said outlet means and supporting said disks on said squared portion, said disks being held between the valve seat means and the lower edge of said sleeve.

2,973,004

ORIFICE PLATE AND SOLENOID VALVE FOR GRITTY LIQUIDS

David W. Jones, Cavecreek, Ariz., assignor to Crane Packing Company, Morton Grove, Ill., a corporation of Illinois

Filed Nov. 13, 1958, Ser. No. 773,705
4 Claims. (Cl. 137—242)



1. Apparatus for controlling trickle of a gritty liquid from a container having a thin wall over one region thereof and an orifice through the thin wall of a diameter substantially equal to the thickness of said thin wall, said apparatus comprising a tube of resilient material having an end region of a size adapted to encircle the orifice, a support for holding the tube adjacent the orifice, said support including means for closing the interior of the tube at a point removed from the orifice end of the tube, and means for shifting the support and tube from a position wherein the tube is held over the orifice to close said orifice to a position wherein the tube is held removed from the orifice to allow the gritty liquid to trickle out of the orifice.

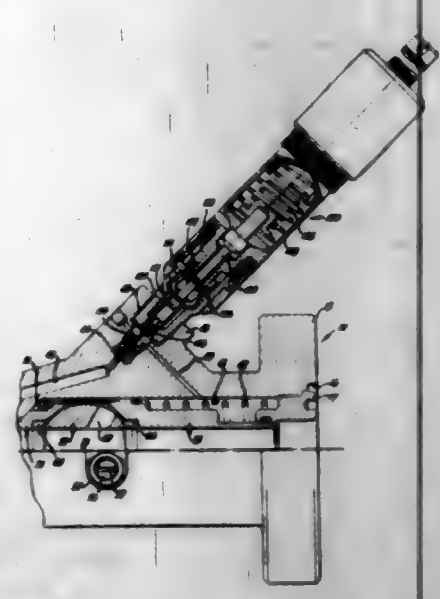
2,973,005

BALL-TYPE SURFACE SAFETY VALVE

William W. Dollison and Phillip S. Sizer, Dallas, Tex., assignors to Otis Engineering Corporation, Dallas, Tex., a corporation of Texas

Filed Apr. 13, 1959, Ser. No. 805,919
12 Claims. (Cl. 137—458)

1. A ball-type surface safety valve comprising a valve body provided with a straight bore therethrough having upstream and downstream restricted diameter portions on either side of an enlarged diameter portion, a pair of upstream and downstream oppositely facing and spaced apart tubular valve seat members each longitudinally slidable in one of said bore end portions and projecting into said enlarged bore mid-portion, a ball-valve member having an opening therethrough and seatable between said seats for opening and closing said bore upon the rotation thereof about an axis transverse to the opening therethrough, interengaging cam slots on one and cam lugs on the other of the opposite sides of said ball-valve member and the valve body for causing rotation of said ball-valve member to closed position upon downstream longitudinal movement thereof in said bore and to open position upon upstream longitudinal movement thereof in said bore, connecting means coupling said valve seat members for unitary longitudinal movement thereof within said bore, an external annular flange formed on the downstream valve seat member in sliding engagement with said enlarged bore mid-portion to form a variable capacity chamber between the enlarged bore mid-portion and the downstream valve seat member, resilient



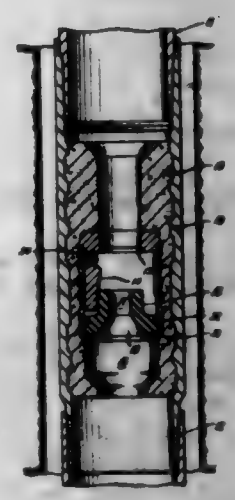
means in said valve body biasing said downstream valve seat member in an upstream direction, means including a valve for selectively fluidly communicating said chamber to the upstream end of said bore or to atmosphere and passage means for fluidly communicating the enlarged bore mid-portion between said valve seat members with the downstream end of said bore at all times during opening and closing movement of said ball-valve member.

2,973,006

FLOW CONTROL DEVICE

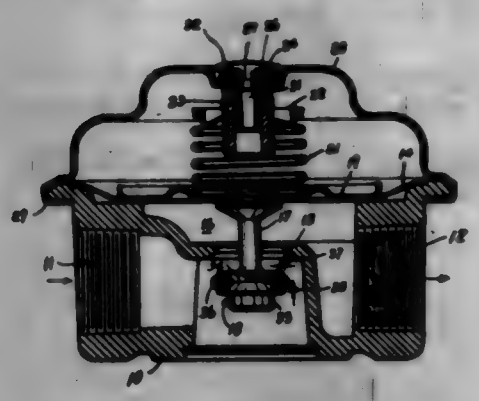
Wayne F. Nelson, Waxahachie, Tex., assignor, by mesne assignments, to Koehring Company, Milwaukee, Wis., a corporation of Wisconsin

Filed Sept. 30, 1957, Ser. No. 686,947
8 Claims. (Cl. 137—493.9)



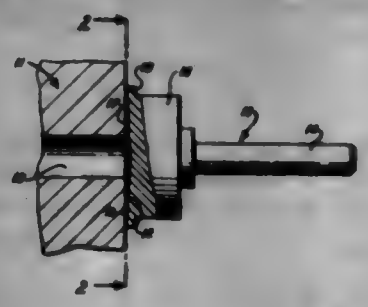
1. A flow control device comprising, a body having a flow way therethrough, flapper check valve means controlling flow through the device, expansible cone-like resilient valve means positioned across the flow way and controlling flow in response to a predetermined differential in one direction across the resilient valve means, said resilient valve means rendering the check valve inoperative and movable into an out-of-the-way position in response to a predetermined differential in the other direction to render the check valve means operative.

2,973,007
PRESSURE REGULATOR
Wayne H. Schutmaat, Elkhart, Ind., assignor to Penn Controls, Inc., Goshen, Ind., a corporation
Filed July 11, 1958, Ser. No. 747,999
2 Claims. (Cl. 137—505.41)



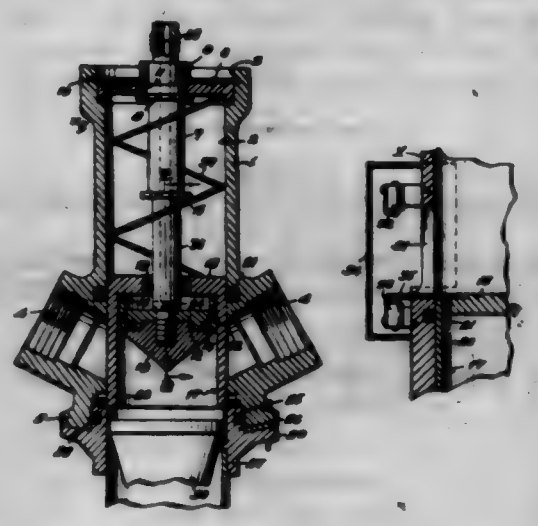
1. In a fluid pressure regulator valve, flow control means comprising: means defining first and second chambers; means defining a flow passage between said chambers and having an annular inlet portion defining a frustoconical valve seat confronting the first chamber; a valve stem extending longitudinally through said flow passage; a pressure responsive flexible diaphragm across said second chamber having a randomly disposable mid-portion; means securing one end of said valve stem to said diaphragm mid-portion for reciprocation of the valve stem generally coaxially to said flow passage and freely to permit a slight random displacement of the axis of the stem relative to the axis of the flow passage; a valve member on said valve stem in said first chamber for controlling fluid flow through said flow passage, said valve member including a portion having a circumferential groove provided with a flared surface coaxial with the stem and windening away from said inlet portion, and a resilient ring seated in said groove for selective engagement with said valve seat, said valve seat having an angle relative to the axis of said flow passage greater than pproximately 45° whereby engagement of the ring with only a limited portion of the valve seat as a result of a displacement between said ring and valve seat axes causes said ring to roll over said flared surface to vary the annular diameter thereof and thereby regulate accurately the fluid flow through said flow passage at low volume rates of flow.

2,973,008
VALVE
Alfred J. Kloss, Rolling Hills, Calif., assignor to Wallace O. Leonard, Inc., Pasadena, Calif., a corporation of California
Filed Jan. 9, 1958, Ser. No. 707,965
2 Claims. (Cl. 137—516.29)



1. A valve structure comprising a body defining a flow passage and forming a planar seating surface surrounding the flow passage, and a poppet of a resilient plastic material selected from the group consisting of polyamides, polytetrafluoroethylenes and polychlorotrifluoroethylenes, said poppet including a sealing element having a peripheral rim substantially parallel to the seating surface and bearing thereon, a first surface defining a recess in the shape of a right cone with its base coplanar with the peripheral rim, and a second surface opposite to the peripheral rim and spaced from said first surface by a substantial thickness of said plastic material, said recess being aligned with the flow passage and having a ratio of slant height to altitude in the range from 11 to 29 so that responsive to pressure on said second surface of the sealing element a portion of said first surface is pressed into sealing engagement with the seating surface and the portion of said first surface dispoeed over the flow passage remains spatially separated therefrom.

2,973,009
FUEL CONTROL VALVE OF A MISSILE SYSTEM
Raymond J. Kazyaka, Scotia, N.Y., assignor to the United States of America as represented by the Secretary of the Army
Filed July 23, 1959, Ser. No. 829,166
1 Claim. (Cl. 137—554)

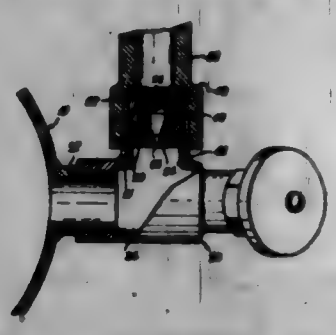


A valve comprising a body having an axial bore, an inlet and a plurality of substantially radial outlets, a shaft fixed to said body and disposed in said bore, a piston connected to said shaft, a valve member having a sleeve portion, the interior surface of which is slidable on said piston and the exterior surface of which is slidable in said body bore, said valve member also having an end wall, passageways in said shaft to admit fluid between said piston and valve member end wall to move said valve member in one direction, spring means for moving said valve member in the opposite direction and means for indicating the fully opened and closed positions of said valve, said means including a plate carried by said sleeve portion of said valve, a pair of spaced switches carried by said body, said plate being adapted to contact one of said switches when in the said fully open and said fully closed positions respectively.

2,973,010
HOT WATER SUPPLY SYSTEMS AND COMPONENTS
John M. Lyle, Kalamazoo, Mich., assignor to Ruud Manufacturing Company, Kalamazoo, Mich., a corporation of Delaware
Filed Apr. 4, 1957, Ser. No. 650,741
1 Claim. (Cl. 137—564)

A hot water supply system comprising a hot water storage tank having a drain pipe fitting at its lower end, a hot water delivery line leading from the top of said tank to an appliance, a separate return line connected to the delivery line adjacent said appliance, a combined drain valve and recirculating fitting comprising a one-piece hollow body having an attaching portion mounted on said fitting and having an outlet portion, an internal partition between said attaching portion and said outlet portion, a valved opening in said partition, said body also

having a relatively enlarged diffuser chamber between said attaching portion and said partition, a hollow boss formed on said body between said attaching portion and said partition, the inner end of said boss being in open communication with said diffuser chamber and the



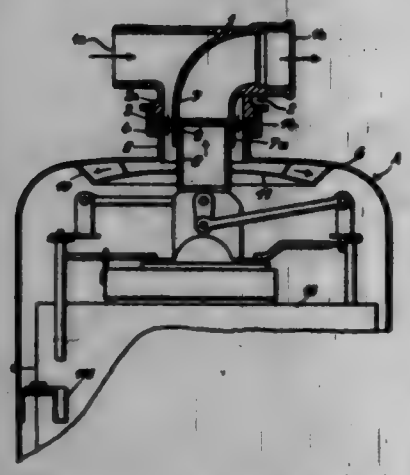
outer end of said boss being connected to said return line and a flow control orifice member of fixed size removably mounted in said boss coaxially thereof and outwardly of said diffuser chamber whereby water issuing from said orifice passes through said diffuser chamber before it enters said tank through said drain pipe fitting.

2,973,011

MEANS FOR CONNECTING A FLUID-HANDLING DEVICE TO A PIPELINE

Manfred Klare, Osnabruck, Germany, assignor to G. Kromschroder Aktiengesellschaft, Osnabruck, Germany

Filed Dec. 17, 1956, Ser. No. 628,716
Claims priority, application Germany Dec. 19, 1955
2 Claims. (Cl. 137—590)



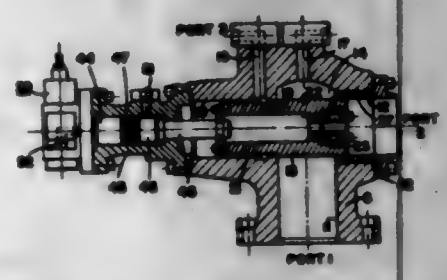
1. A coupler for fluid-tight connection of a fluid handling device having a double conduit fitting comprised of inner and outer tubes defining inflow and outflow passages, comprising a pipe coupling provided with a double-conduit nipple, said double-conduit nipple being provided with outer and inner nipple parts defining outer and inner conduits, fastening means connected with said outer nipple part of said double-conduit nipple and with the outer tube of the double-conduit fitting and drawing the same toward and against one another substantially without relative rotation of the parts being drawn together, said inner nipple part of said double conduit nipple and said inner tube being telescopically arranged with respect to one another, and a pressure seal interposed between said telescoping connecting nipple and said inner nipple part and being affixed to one of the telescoping end portions of said connecting nipple and said inner nipple part at a sufficiently forward position thereon to come into sealing engagement with the other of said telescoping end portions before the outer tube of the double conduit fitting and the outer nipple part are brought together, whereby the tightness of the telescoping seal thus provided may be felt, and whereby after feeling the tightness of said seal, said outer nipple part may then be brought to sealed condition with said outer tube of said double conduit fitting of said fluid handling device by said fastening means.

2,973,012

SURGE VALVE

Adolf R. Grad, Milwaukee, Wis., assignor to The Oilgear Company, Milwaukee, Wis., a corporation of Wisconsin

Filed Sept. 15, 1958, Ser. No. 761,000
11 Claims. (Cl. 137—626)



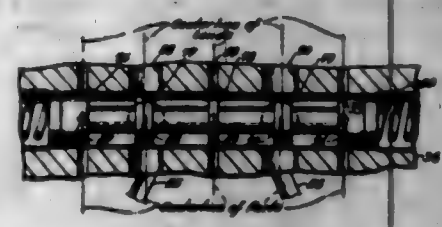
1. In a valve adapted for use as a surge valve for a hydraulic press, a valve body having a fluid pressure receiving chamber, a first port open to said chamber, a bore defining a second port open to said chamber at one side thereof, an inlet port open to said bore adjacent the other side of said chamber for supplying high pressure fluid thereto, a substantially rigid sleeve secured in sealing engagement with a wall of said bore adjacent said second port, a leading end portion of said sleeve being spaced from said wall of said bore, a plunger reciprocable in said bore for opening and closing said inlet port to said chamber and having an end portion movable into said leading end portion of said sleeve for closing said second port to said chamber when said first port is open to said chamber, and said leading end portion of said sleeve deforming under operating pressure to a substantially fluid tight engagement with said plunger.

2,973,013

HYDRAULIC VALVE

Samuel A. Myers, Whittier, Calif., assignor to Northrop Corporation, Hawthorne, Calif., a corporation of California

Filed May 15, 1956, Ser. No. 585,072
3 Claims. (Cl. 137—622)



1. In a hydraulic servo valve assembly the combination comprising: a housing having a cylindrical valve chamber formed therein; an elongated valve spool including a primary land, a pair of secondary lands and a pair of auxiliary lands; said valve spool being slideably mounted in said chamber for bi-directional movement between a centered and a plurality of non-centered positions; portions of said housing defining a fluid inlet passage, a pair of fluid outlet passages and a pair of fluid motor passages; inner ends of said inlet, outlet and motor passages opening into said chamber; said lands being positioned on said valve spool so that said primary land closes said inlet passage, said auxiliary lands close said outlet passages and said secondary lands partially close said motor passages at such times as said valve spool is

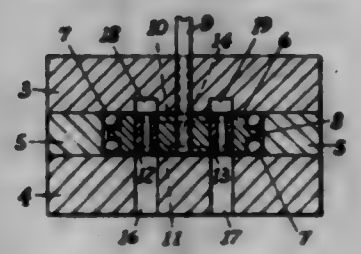
in said centered position; and means for moving said valve spool between said centered and non-centered positions.

2,973,014

FLUID CONTROL VALVES HAVING ANGULARLY MOVABLE PARTS WITHIN PORTED HOLLOW BODIES

George Selwood, Taunton, Somerset, and John Wesley, Burnham-on-Sea, England, assignors to Wilmot-Breeden Limited, Somerset, England

Filed Nov. 23, 1959, Ser. No. 854,914
Claims priority, application Great Britain Nov. 27, 1958
1 Claim. (Cl. 137—624)



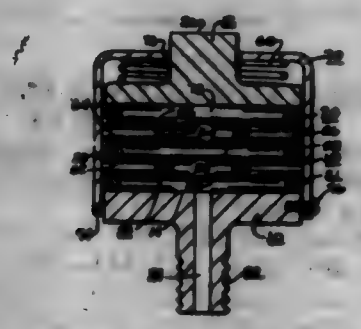
A fluid control valve of the kind specified, comprising in combination a hollow body provided with inlet and outlet ports, and with a pair of parallel internal surfaces in spaced relationship, a circular member which has formed therein at least one passage, and which is mounted within the hollow body between the said parallel internal surfaces thereof so as to be movable about a central axis for controlling fluid flow through the inlet and outlet ports, an actuating spindle secured at one end to the circular member in coaxial relationship thereto, and extending through one side of the hollow body, the circular member having a pair of parallel faces separated from the said parallel internal surfaces of the hollow body by small predetermined clearances, and two annular rows of anti-friction bearing members situated within the hollow body between, and in contact with, the circular member and the said parallel internal surfaces of the hollow body to support the circular member and maintain the small predetermined clearances between the parallel faces of the circular member and the said parallel internal surfaces of the hollow body.

2,973,015

BELLOWS STRUCTURE

Tom H. Thompson, Daytona Beach, Fla., assignor to Sabre Research Corporation, Daytona Beach, Fla., a corporation of Florida

Filed Oct. 26, 1959, Ser. No. 848,965
14 Claims. (Cl. 137—796)



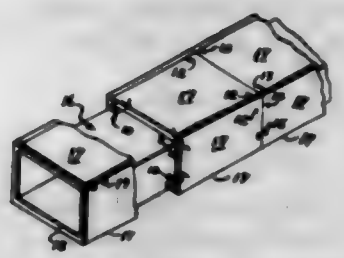
1. A bellows structure including the combination of a pair of axially deflectable washer members disposed one above the other; a concentric, intervening, load supporting ring of substantially incompressible material having a cross section presenting upper and lower surfaces abutting the opposed faces of the washer members adjacent a periphery of one of them and the corresponding periphery of the other; and a sealing ring of resilient material adjacent and concentric with the load supporting ring and having upper and lower portions abutting the said opposed surfaces of the washer members, the said upper and lower portions of the sealing ring, in the relaxed state of such ring, protruding above and below the said upper and lower surfaces of the load supporting ring whereby, when one of the washers is deflected in a direction to approach the other, with the said opposed faces of the washer members abutting the said upper and lower surfaces of the load supporting ring, the sealing ring is compressed.

2,973,016

MEANS FOR SECURING INSULATING MATERIAL ABOUT A DUCT

Ernest L. Holtford, % Bodhan Insulation Co., 1909 1st Ave. S., Birmingham, Ala.

Filed May 19, 1958, Ser. No. 736,269
2 Claims. (Cl. 138—64)



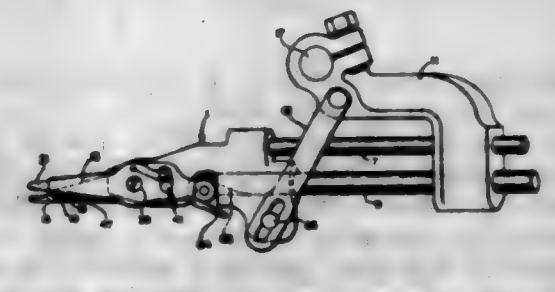
1. In combination, a rectangular duct, layers of insulating material covering the four sides of the duct and comprising separate sheets arranged in end-to-end contact relation, the joint formed between the sheets extending about the periphery of the duct and lying in a common plane, a clip member on each of the four corners of the duct at the joint formed by the ends of adjacent insulating sheets, each of the clip members having a pair of connected legs arranged in right angular relation with one leg disposed against one side of the duct and the other leg disposed against an adjacent side of the duct, said clip members being unsecured to the duct and free to move relative thereto, a pair of bendable prongs on each of the legs and extending in a direction generally perpendicular to the leg from which the prongs extend, and each pair of said prongs being inserted through a pair of adjacent contacting insulating sheets and bent downwardly onto the outer surface of the sheets for securing the sheets about the duct with said sheets being unsecured to said duct and having no mechanical attachment thereto, whereby said duct may expand longitudinally relative to the clip members and insulating sheets.

2,973,017

WEFT END PARTING AND HOLDING DEVICES

Curry M. Bartlett, Newton, Mass., assignor to H. F. Livermore Corporation, Boston, Mass., a corporation of Delaware

Filed Mar. 31, 1958, Ser. No. 725,187
11 Claims. (Cl. 139—263)



1. A weft holder and parter for looms having a lay, comprising in combination a carrier, means mounting the carrier for movement toward and from the lay, a cutting blade operatively fixed on the carrier, a cutting blade movable relatively to the carrier and fixed blade, a weft-

gripping jaw in engagement with one of such blades, and a holding blade on which the jaw is fulcrumed and against which the weft is gripped by the jaw.

2,973,018
CELLULOSE TRIACETATE PILE FABRIC AND METHOD OF MAKING SAME
Donald Finlayson, Bolesław Krzesinski, and Albert William Mortimer Cooke, Spondon, near Derby, England, assignors to British Celanese Limited, a corporation of Great Britain
No Drawing. Filed Feb. 23, 1956, Ser. No. 567,079
Claims priority, application Great Britain Mar. 9, 1955
13 Claims. (Cl. 139—391)

1. Pile fabrics in which the pile contains short lengths of twisted yarn made up at least in part of heat set cellulose triacetate fibres having an acetyl value above 60% reckoned as acetic acid, the twist ranging between a minimum of one turn per pile length to a maximum of

$$\frac{600}{\sqrt{d}}$$

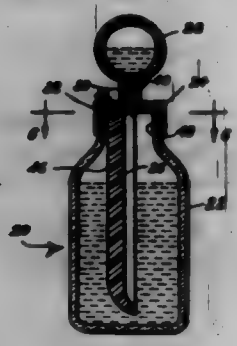
turns per inch where d is the denier of the yarn.

11. Process for the manufacture of pile fabrics, which comprises the steps of forming into a pile cellulose triacetate yarn in which the cellulose triacetate is in a metastable form in which the proportion in the crystalline state is too small to give a sharp X-ray diffraction diagram, the said yarn having a twist of less than

$$\frac{600}{\sqrt{d}}$$

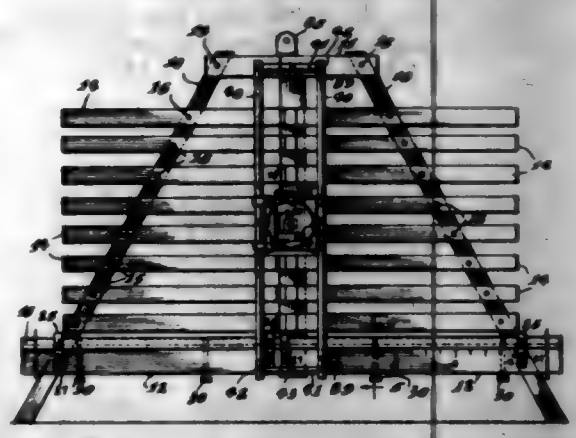
turns per inch, where d is the denier of the yarn, and setting the twist in the yarn at any stage in the process by heating it to a temperature at which the cellulose triacetate changes to the stable form in which the proportion thereof which is crystalline is sufficient to give a sharp X-ray diffraction diagram.

2,973,019
DISPENSING DEVICE
Gerald D. Robb, 121 E. Main St., Trinidad, Colo.
Filed Apr. 21, 1958, Ser. No. 729,774
1 Claim. (Cl. 141—24)



A dispensing device including a container closed at its bottom and having an open top providing an outlet defined by an annular surface of circular configuration in transverse section, a closure cap detachably connected to said open top, a spoon attached to the interior of said cap and depending therefrom through said outlet and into said container, said spoon having a concavity in one side thereof and being convex on the other side, the transverse sectional configuration of said convex side being uniform throughout substantially the entire length of said spoon, said convex side being complementary to and in mutual engagement with said annular surface of said outlet, a flexible-walled bulb carried by said cap externally of said container, and means defining a liquid passageway extending between said bulb and said spoon.

2,973,020
APPARATUS FOR SAWING WIDE BOARDS
Richard C. Bennett, Laceyville, Pa.
Filed May 2, 1958, Ser. No. 732,556
6 Claims. (Cl. 143—47)

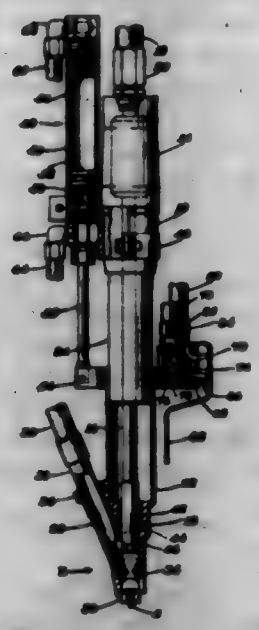


1. In a wide board saw as described and which comprises in combination, a supporting frame comprising in part supporting legs, a board supporting bed secured to the frame, the bed at a longitudinal edge thereof having a raised supporting shoulder projecting above the surface of the bed proper, cross slide rail members comprising spaced longitudinal members and transverse members connecting the longitudinal members adjacent their ends, the cross slide mounted over the bed, extending transversely thereof and spaced therefrom, and an electric power hand saw carriage slideably mounted on said cross slide rails; the improvement in said carriage structure comprising a substantially flat base portion surrounding and defining a circular opening therethrough, a turntable member mounted on said base portion and supported on an annular portion of such base portion immediately surrounding the opening therethrough, means retaining the turntable member on the bed portion of the carriage and comprising substantially Z form clip members secured to the base portion of the carriage and having portions thereof overhanging the edge of the turntable member, the clips being spaced circumferentially approximately 90°, and a third retaining member positioned diametrically opposite the mid-point between the previously said clips and comprising a biased retractable member mounted to the carriage structure and extending over the edge of the turntable.

2,973,021
POWER OPERATED FASTENER FEEDING AND APPLYING DEVICES
William P. Crossen, Ipswich, Mass., assignor to United Shoe Machinery Corporation, Boston, Mass., a corporation of New Jersey
Filed Aug. 12, 1957, Ser. No. 677,637
6 Claims. (Cl. 144—32)

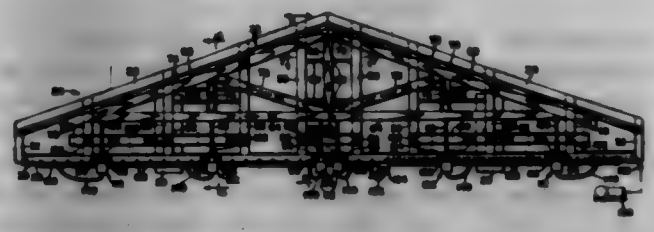
1. A fastener applying device having a main body portion, a driver extending from said body portion, means at the extending tip of said driver for releasably retaining a fastener in engagement therewith, a fastener receiving nosepiece, jaws in said nosepiece aligned with said driver and means for feeding fasteners to said jaws, characterized by the provision of means for effecting relative movement between the nosepiece and the body portion between a first position with the driver withdrawn from the jaws to enable the jaws to receive a fastener from the feeding means and a second position with the driver extending through and beyond the jaws

to remove the fastener therefrom, whereby the fastener may be applied to a work piece while in engagement with



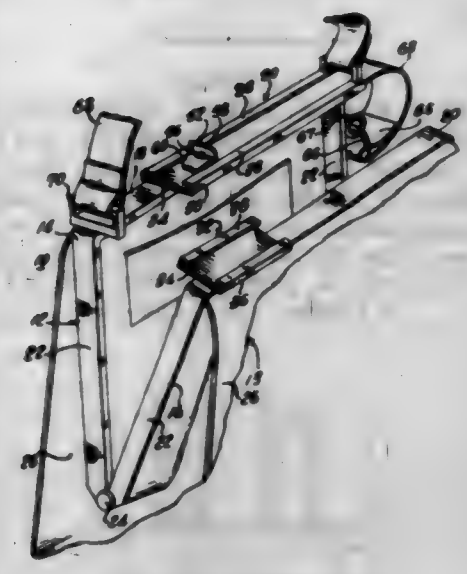
the driver and spaced from the jaws without said jaws ever contacting the work piece.

2,973,022
ROOF TRUSS ASSEMBLING APPARATUS
Alfred J. Danielsen, Jr., Bettendorf, and Raymond C. Schnechloth, Clinton, Iowa, assignors to Bettendorf Distributing Co., Bettendorf, Iowa, a corporation of Iowa
Filed Apr. 7, 1959, Ser. No. 804,829
6 Claims. (Cl. 144—288)



1. Apparatus for assembling a roof truss, comprising: a jig table initially positioned substantially horizontally and presenting upper coplanar support portions for receiving and supporting a plurality of separate roof truss members in a predetermined pattern; means on the table affording an elongated base element along one edge of said table; abutment elements on the table and spaced horizontally from the base element for engaging certain of the roof truss members; force-exerting means on the base element for engaging other of the truss members to apply horizontal compressive forces to said other of said members in the direction of the abutment elements to releasably clamp the members in said pattern; support means; means mounting the table on the support means on a pivot axis proximate to and paralleling the base element for upward swinging of the table and clamped truss to a generally upright position, said axis being offset from the base element in the direction of the abutment elements in such amount that the weight of the table and truss is distributed to both sides of said axis so as to facilitate swinging of the table and truss to said upright position, and said axis further being offset below the level of the base element so that as the table and truss swing to said upright position the weight thereof passes over-center as respects said axis whereby said upright position is maintained; means for adjusting the mounting means to selectively vary the position of the axis back and forth relative to the abutment elements so as to vary the relationship of said axis to the weight of the table and truss; first stop means limiting downward swinging of the table to said horizontal position; second stop means limiting upward swinging of the table to said upright position; and said table having openings therein exposing the junctions of the truss members with each other from the underside of the table so that when the table and truss are in said upright position fasteners may be applied to the clamped members at said junctions and from both sides of the table.

2,973,023
CLOSURE FOR HANDBAGS AND THE LIKE
Elizabeth N. Graham, 834 5th Ave., New York, N.Y.
Filed Aug. 19, 1959, Ser. No. 834,887
5 Claims. (Cl. 150—42)

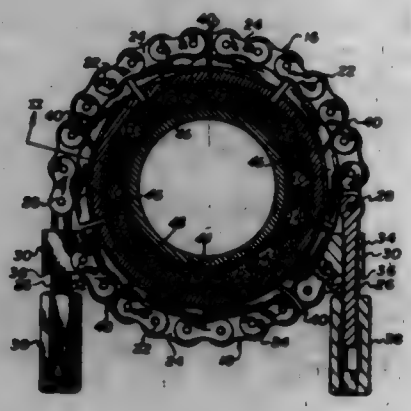


1. In a handbag, pocketbook or the like, a pair of hinged first and second complementary frame members relatively movable between a closed and open position and including first and second cross bars and end legs depending therefrom and pivoted at their lower termini, channel-shaped first and second track members mounted respectively on said first and second cross bars and disposed in substantially aligned end-to-end arrangement when said frame members are in closed position, each of said track members including a base web having upstanding side walls provided with inwardly directed legs, an elongated latch member slidably registering with said first track and longitudinally movable therein into locking slidable engagement with said second track to effect a locking of said frame members in closed position, said latching member having a leading end thereof cammed on one side, said side being adapted to contact the inner side of said second track adjacent the proximate end thereof to urge said tracks into alignment upon movement of said latching member toward locking engagement with said second track.

2,973,024
ASSEMBLY TOOL
Henry H. Merriman, Jackson, Mich., assignor to Aeroquip Corporation, Jackson, Mich., a corporation of Michigan
Filed July 28, 1958, Ser. No. 751,541
6 Claims. (Cl. 153—1)

1. In a segmental hose fitting assembly tool, a plurality of arcuate jaw members adapted to engage the segments of the hose fitting, said jaw members each having an inner concave segment engaging surface whereby said surfaces define a cylindrical circumference and tension

means circumferentially engaging said jaw members adapted to translate said jaw members radially with re-



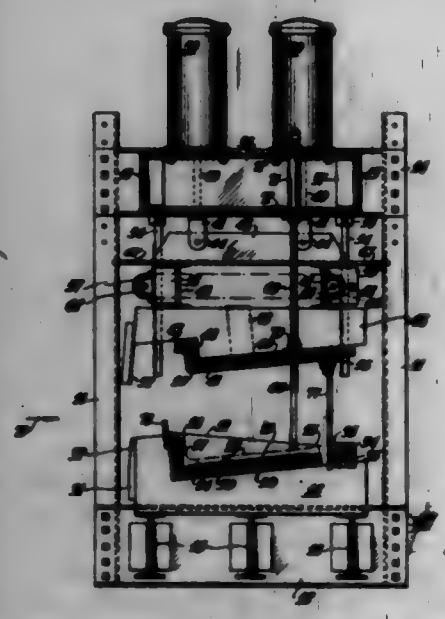
spect to the axis of the hose fitting and contracting said circumference.

2,973,025

APPARATUS FOR MAKING SURFACE SHAPES COVERED WITH FORMED SHEET MATERIAL

Richard P. Baillie, Forward Township, Butler County, and William H. Smith, Evansburg, Pa., assignors, by mesne assignments, to Dennison and Schenck Company, Evans City, Pa., a corporation of Pennsylvania

Filed July 6, 1955, Ser. No. 520,334
6 Claims. (Cl. 154—1)



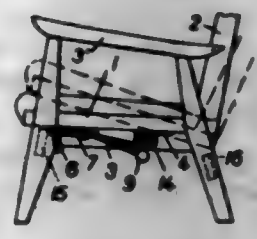
1. Apparatus for making surface shapes covered with formed sheet material, comprising, in combination, a structural frame of cubical outline, a plurality of spaced parallel lower bars mounted on said frame between the ends thereof, a tilted right-angled platen supported on said lower bars between the ends of said apparatus, a plurality of spaced fluid cylinders mounted on the upper part of said frame, said cylinders having piston rods projecting from the bottoms thereof toward said lower platen, a supporting beam member connected to said piston rods and depending therefrom, a plurality of spaced upper bars connected to the underside of said beam member, an invert upper right-angled platen supported on the underside of said bars in cooperative relation to said lower platen, an upper metal die covering the exterior of said upper platen for cooperative sheet forming relation with a lower die supported by said lower platen, means for positioning elements of a base for a surface shape in evenly supported relation to said lower platen to act as a lower die, means to heat at least one of said dies, means to generally guide movement of said upper platen and die relative to said lower platen and die, depending rack members adjacent the corners of said apparatus, rack pinions mounted on shafts on said beam member for engagement with said rack members, sprocket and chain members connected to said shafts to make all parts of said upper platen and die move uniformly relative to said lower platen and die, holddown fluid cylinders mounted on the upper part of said frame, holddown plungers projecting below said bottoms of said holddown cylinders, said upper platen and die having openings therethrough for the passage of said holddown plungers, means for positioning a sheet of formable material overlying a base placed in said lower platen, means for extending said holddown plungers to hold said material at least during commencement of engagement of said material by said upper die during a closure movement of said apparatus, means for retracting said holddown plungers, and menas for retracting said piston rods to raise said upper platen and die and open said apparatus when said material is shaped and bonded to said base.

2,973,026

ARMCHAIR

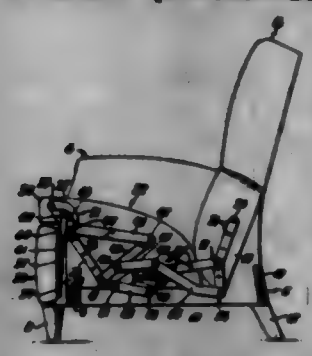
Roald Haaland, Oslo, Norway, assignor to Arnestad Bruk, Oslo, Norway, a firm

Filed July 15, 1958, Ser. No. 748,684
Claims priority, application Norway July 15, 1957
2 Claims. (Cl. 155—77)



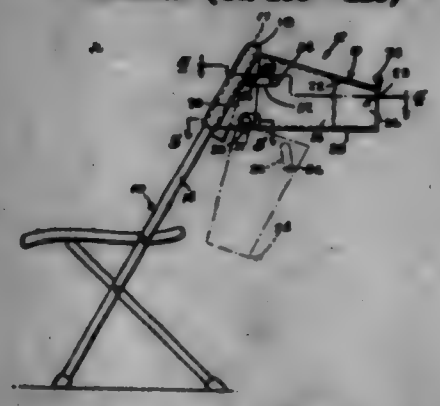
1. A rockable chair of relatively open appearance and configuration comprising, in combination, an exposed open frame supported on the floor, a seat having a front half and a rear half rigidly connected to a back member to form a rigid unit, said seat being of relatively shallow vertical thickness, pivot means defining a pivot axis affixed to the rear half of said seat adjacent the general plane thereof and mounted on said frame pivotally mounting said unit to said frame for movement from nontilted to tilted positions, a planar crossbar defining a portion of and extending across the front of said frame below the front half of said seat, a first spring anchor affixed to the backside of said crossbar near each end thereof, second spring anchors affixed to said seat front half vertically disposed above said first anchors, a spring interposed between each of said first anchors and the second anchor disposed thereabove, said first anchors being further from the axis of said pivot means than said second anchors whereby the included angle defined by a spring and a line passing through the spring connection to the associated second anchor perpendicularly intersecting the pivot axis is obtuse when said unit is in the nontilted position, said first anchors being so located whereby said included angle approaches 90° as said unit is increasingly tilted, a bracket affixed to said frame adjacent the underside of said seat intermediate said crossbar and said pivot axis, a slot defined in said bracket, a toothed locking segment mounted on the underside of said seat extending downwardly through said slot, a dog operatively associated with an operating handle pivotally mounted on said bracket for selective locking engagement with the teeth of said segment, deviated surfaces defined on the ends of the teeth of said segment facilitating engagement of the dog with said teeth, said planar crossbar substantially hiding said first anchors, springs, bracket and locking segment from view.

2,973,027
RECLINING CHAIR
Ward J. Navelle, Park Road, Medina, N.Y.; Nicholas de Vries, Tradition Corner, Brookfield, Conn.; and Ernest F. Becher, 250 Elmwood Ave., East Aurora, N.Y.
Filed July 5, 1956, Ser. No. 596,034
3 Claims. (Cl. 155—106)



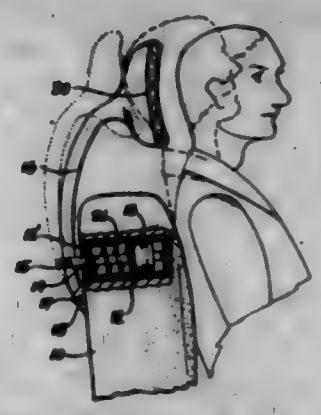
1. A reclining chair, comprising a base, a back part pivoted at its lower end to said base to swing about a horizontal transverse axis, a seat part pivoted at its rear end to said base to swing about a horizontal transverse axis, and a linkage interconnecting said back part and seat part to move in unison, comprising a pair of levers each of which is pivoted near its center to a side of said seat part to swing about a common axis parallel with said first axis, a first link at each side of said seat part and pivotally connected at one end to one end of said lever and pivotally connected at the other end with said base, a second link at each side of said seat part and pivotally connected at one end to the other end of said lever and pivotally connected at the other end with said back part in vertically spaced relation to said first axis, a leg rest part, a lever arm connected to said leg rest part at each side thereof and extending to embrace opposite sides of the upper front corner of said seat part, means pivotally connecting said lever arms to said upper front corner of said seat part to swing about a common axis generally parallel with said first axis, a pair of second levers each being connected at its lower end to said seat part, a third link connecting the upper end of each of said second levers with corresponding one of said lever arms, and a fifth link connecting the middle portion of each second lever with the end portion of the first lever having connection with said second link, all being arranged so that said leg rest part is swung toward a horizontal position in response to upward movement of said seat part.

2,973,028
DESK OR TABLE ATTACHMENT FOR FOLDING CHAIRS
Carmine S. Celeste, 1546 Virginia Ave., Monaca, Pa.
Filed July 3, 1958, Ser. No. 746,373
9 Claims. (Cl. 155—123)



1. In combination, a chair having a back comprising vertical side rails and a cross member extending between the upper ends of the rails, a U-shaped channel mounting member having a bight portion engaged over said cross member and legs engaged over said side rails, and vertical flanges fixed to said legs and extending rearwardly therefrom, said flanges having upper and lower ends and rear edges, a desk assembly having forward and rear ends, means horizontally pivoting the desk assembly at its forward end on said mounting member to swing from a horizontal operative position to a pendant inoperative position, and means adapted to extend between the desk assembly and portions on said flanges for holding the desk assembly up in its operative position.

2,973,029
PASSENGER SAFETY EQUIPMENT FOR AUTOMOBILE
Clifford F. Schloestein, 2003 Smith Tower, Seattle, Wash.
Filed June 16, 1958, Ser. No. 742,230
2 Claims. (Cl. 155—173)



1. A safety means for preventing "whiplash" injury to a person occupying a vehicle seat; said safety means comprising a head cushioning member, a support for holding said cushioning member in a normal position immediately back of the head of the person occupying the seat, means associated with said support for yieldingly resisting rearward movement of said cushioning member and support, and means for resisting the automatic return of the cushioning member and support to normal position after being moved rearwardly.

2,973,030
BODY FATIGUE-RELIEVING SUPPORT
Walter J. Matthewson, 250 E. Cypress Ave., Monrovia, Calif.
Filed July 29, 1958, Ser. No. 751,702
7 Claims. (Cl. 155—175)



1. For use in overcoming fatigue in the occupant of a vehicle seat, a body fatigue-relieving support comprising a flexible post, means connected to said post for attaching said support to the vehicle seat occupant's waist, inverted U-shaped shoulder-supported rests on said post, and an adjustable neck rest on said post, said neck rest means being free of any head securing means, said neck rest having adjustment means thereon operable by the wearer while said support is in position on said wearer.

2,973,031
CAST BASE FOR CHAIR SEATS
Roy A. Cramer, Jr., Kansas City, Mo., assignor to Cramer Posture Chair Company, Inc., Kansas City, Kans., a corporation of Missouri
Filed Dec. 8, 1958, Ser. No. 778,805
2 Claims. (Cl. 155—194)

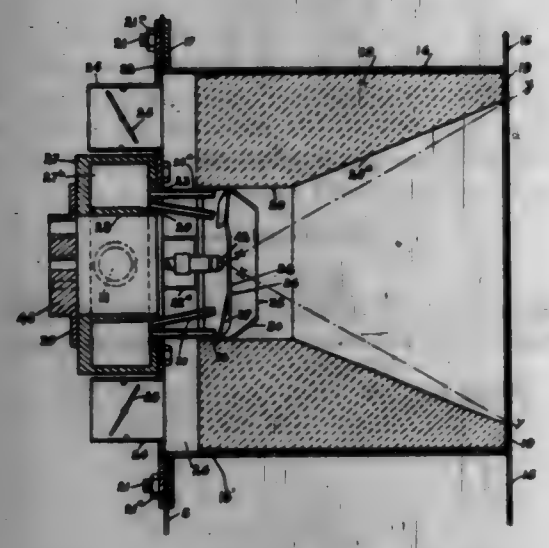
2. A chair seat base having a boss integral therewith; said seat base being adapted to support a cushion seat

and a back, said base having a top and a bottom, said boss depending from said bottom and having a socket extending longitudinally thereof for receiving a standard, said base including integral ribs extending downwardly and radially from said bottom and grooves positioned oppositely of said ribs on said top, integral spaced walls



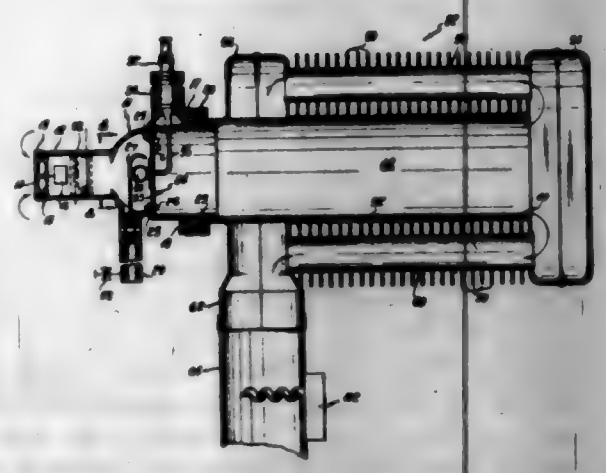
extending from said boss to the rear edge of said base, integral cross members connecting said spaced walls forming a channel in said base for receiving said back, said ribs and boss being tapered inwardly as they extend downwardly, whereby said seat base, boss, and ribs may be cast integrally.

2,973,032
GAS OR OIL BURNER
Bertram B. Reilly and John J. Mehler, Pittsburgh, Pa., and Edward L. Kelly, Batavia, Ill., assignors to Dravo Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Feb. 14, 1957, Ser. No. 640,194
12 Claims. (Cl. 158—11)



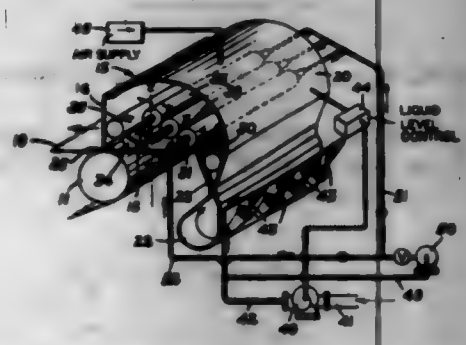
1. A burner for selectively burning liquid or gaseous fuel comprising a cylindrical sleeve, an enclosure providing an air plenum into which one end of the sleeve opens, a gas plenum concentrically located with respect to the air plenum and the axis of the sleeve and forming part of the enclosure for the air plenum, the gas plenum being in the form of an annulus, a burner plate mounted on the said annulus and forming a closure for the central passageway through the annulus, a burner tube for liquid fuel separate from the gas plenum on said plate projecting from the plate axially through the center of the gas plenum and the air plenum into the sleeve and terminating in a spray nozzle, a refractory body in the sleeve between the air plenum and the opposite end of the sleeve having a passageway extending axially therethrough, a fixed swirler plate in the passageway with a central opening adjacent which the spray nozzle of the burner tube is located, the spray nozzle being directed toward the opening in the swirler plate, and an annular series of gas supply tubes around said burner tube leading from said gas plenum across the air plenum into the sleeve and which converge toward the axis of the sleeve and terminate in fixed spaced relation to the swirler plate.

2,973,033
FLUID BURNING HEATERS
Malcolm W. Patrick, Bedford Heights, Ohio, assignor to Hupp Corporation, Cleveland, Ohio, a corporation of Virginia
Filed Mar. 26, 1957, Ser. No. 648,646
2 Claims. (Cl. 158—28)



1. A fuel burner comprising means defining an elongated hollow tubular body having an inlet opening at one end and an outlet opening at the other end, means for delivering air to said inlet opening to pass through said body toward said outlet opening, a flame holder plate extending transversely across said body, said flame holder plate having a central opening and radially elongated slots which are inclined with respect to the axis of said body to direct air flowing through the slots in a swirling path downstream of the flame holder plate, a cover plate mounted on the upstream side of said flame holder plate and covering said central opening, means for supplying fuel to said burner immediately adjacent the central portion of the upstream side of said flame holder plate, and ignition means adjacent the central portion of the downstream side of said flame holder plate.

2,973,034
PAPER MACHINERY
William A. White, Jr., Watertown, Ohio, assignor to The Black-Clawson Company, Hamilton, Ohio, a corporation of Ohio
Filed Mar. 3, 1958, Ser. No. 718,780
9 Claims. (Cl. 162—339)



1. A stock supply system for the forming member of a paper making machine, comprising a headbox having a main stock inlet at one end thereof and a slice outlet at the other end thereof for discharge to said forming member, means providing a main flow of stock to said inlet at a maintained predetermined first pressure, a perforate rectifier roll extending across said headbox substantially perpendicularly to the path of said main stock flow from said inlet to said outlet, means defining a secondary stock inlet directly to the interior of said roll from outside said headbox, and means for delivering a secondary flow of stock to said secondary inlet at a maintained pressure sufficiently lower than said first pressure for radially outward flow with said main flow from

within said roll to said outlet while providing hydraulic restriction to the passage of said main flow through said roll.

2,973,035

METHODS AND APPARATUS FOR THE TREATMENT OF WELLS HAVING MULTIPLE FORMATIONS

Cicero C. Brown, 2216 Campbell, Houston, Tex.

Filed Nov. 2, 1954, Ser. No. 466,291
16 Claims. (Cl. 166—46)



1. A well apparatus including, a tubing lowerable into a well bore to extend therethrough, an upper packer including an upper packer mandrel and packer element mounted on the tubing, a lower well packer including a lower packer mandrel and packer element mounted upon said tubing and longitudinally spaced from the upper packer, said upper and lower packer mandrels forming a continuation of the tubing, said tubing being utilized to position the packers within the well bore, a releasable connecting means between the upper and lower mandrels, said lower packer including co-acting means between the lower packer element and the lower packer mandrel and operable by manipulation of said tubing to set or release the lower packer, said upper packer including co-acting means between the upper packer element and the upper packer mandrel and operable by manipulation of said tubing to set or release the upper packer, the releasable connecting means being operable by manipulation of the tubing whereby the upper packer may be moved upwardly with respect to the lower packer after said lower packer is set, said releasable connecting means being subsequently re-connectible to again connect both packers to the tubing, whereby the selective setting and releasing of said packers is under the control of said tubing.

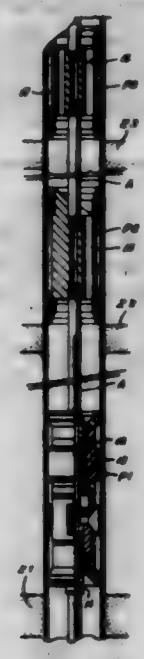
2,973,036

METHODS OF AND MEANS FOR PRODUCING WELL FLUIDS FROM MULTIPLE ZONES

Cicero C. Brown, 2216 Campbell St., Houston, Tex.

Filed Dec. 3, 1956, Ser. No. 626,057
10 Claims. (Cl. 166—46)

10. The method of positioning in the well bore a well production apparatus for producing well fluids from a lower producing zone, an intermediate producing zone, and an upper producing zone; said method including, lowering and setting a lower well packer of the type which is releasable from its setting mechanism between and separating the lower and intermediate producing zones, lowering in the well bore a first production string having upper and intermediate well packers mounted thereon in spaced relationship and engageable with the wall of the well bore to separate the intermediate and upper zone and to locate the upper packer above the upper zone, landing the lower end of the production string in the lower well packer, the lower end of said first production string when landed being in fluid communication with the lowermost producing zone, running a second production string through the upper packer exteriorly of and parallel to the first string in the intermediate packer after the first string is in place in the well bore, said second production string providing for



fluid communication between the interior of the second string and the intermediate zone, and lowering a third production string exteriorly of and parallel to the first and second strings and landing said third production string in the upper packer after the first string is in place, said third production string providing for fluid communication between the interior of the third string and the upper zone.

2,973,037

RETRIEVING TOOL

Thomas A. Kennard, 1106 N. Main, Jennings, La.

Filed May 8, 1958, Ser. No. 733,858
12 Claims. (Cl. 166—55.1)



1. Apparatus for retrieving a well tool secured within a well casing above the bottom thereof, said well tool including permanently set locking means positively gripping the inner surface of said casing to prevent axial movement of said well tool, said apparatus comprising a tubular housing adapted to be moved axially within said casing, an annular cutting member on the lower end of said housing adapted to engage and then to mill said locking means upon rotation of said housing, said housing being

open at the lower end thereof to receive central portions of said well tool as said cutting member penetrates axially through said locking means, gripping means within said housing to engage and support said central portions, the portion of said gripping means adapted to engage said central portions being a plurality of helical threads, said gripping means being adapted to be threaded out of engagement with said central portions, said gripping means being normally rotatably carried within said housing, and coupling means operative upon predetermined axial movement of said housing relative to said gripping means to couple said gripping means and said housing for rotation together.

2,973,038

HYDRAULIC PULLING TOOL

August V. Segelhorst, Corona del Mar, Calif., assignor to Bowen Itco, Inc., Houston, Tex., a corporation of Texas

Filed Nov. 19, 1956, Ser. No. 623,188
4 Claims. (Cl. 166—98)



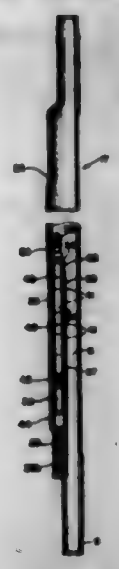
1. In a hydraulic pulling tool, comprising a tubular cylinder, a pipe extending into the bottom of said cylinder, said pipe being longitudinally movable in said cylinder, a lost article gripping means on the lower end of said pipe, said pipe and cylinder defining a chamber therebetween, a piston on said pipe within the chamber, said pipe having a fluid port extending through the wall thereof and into said chamber below said piston, sealing means in the cylinder below the piston and surrounding said pipe, normally retracted wall gripping means adapted to be projected from said cylinder to engage the well wall and hold the cylinder against longitudinal movement, a control valve comprising a tubular mandrel extending into the top of said cylinder, said mandrel having a limited longitudinal movement in said cylinder, a drill pipe attaching means on the upper end of said mandrel, said mandrel having fluid control ports extending through the side thereof, said cylinder having exhaust holes therein adjacent said fluid control ports, valve means slidably mounted on the mandrel, normally positioned to close the fluid control ports in the mandrel and the exhaust holes in the cylinder, means on the mandrel engaging said valve means in normal position on the mandrel to move said valve means therewith to raised position when the mandrel is moved upwardly in the cylinder, whereby the fluid control ports remain closed while the exhaust holes are opened, and means engaging and maintaining said valve means in raised position opening the fluid control ports when the mandrel is moved downwardly to reposition the flow control ports opposite the exhaust holes.

2,973,039

MULTIPLE ZONE FLUID CIRCULATING APPARATUS

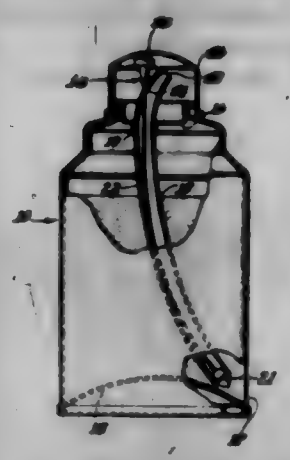
Winfield S. Payne, Jr., Long Beach, Calif., assignor to Richfield Oil Corporation, Los Angeles, Calif., a corporation of Delaware

Filed Nov. 2, 1956, Ser. No. 619,979
2 Claims. (Cl. 166—224)



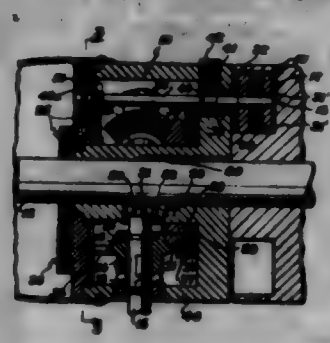
1. An apparatus for controlling the quantities of water transferred from an upper water bearing region and injected into a plurality of lower hydrocarbon producing regions traversed by a well bore which comprises a well casing cemented in the well bore and perforated at the position of the water bearing region and at each of a plurality of hydrocarbon producing regions through which the well casing extends, a tubing string within said well casing, packing means forming a seal between the tubing string and well casing intermediate the water bearing region and the hydrocarbon producing regions, said tubing string being perforated above said packing means so that water can flow from said water bearing region into said tubing string, packing means forming seals between the tubing string and well casing intermediate each pair of said plurality of hydrocarbon producing regions, a laterally enlarged tubing section in the tubing string adjacent each of said plurality of producing regions, a tubular flow control member seat in each of said plurality of laterally enlarged sections, said seat being in communication with the bore of said tubing section and having an opening communicating externally of said tubing section, a bored flow control member removably disposed in said flow control member seats, said flow control members being adapted to be removed and inserted in said seats by a well tool insertable into said tubing sections, said flow control members seats and laterally enlarged portions of said tubing section being proportioned to enable the flow control members to pass through said tubing section bore, a first opening in said flow control members communicating with the bore of said flow control members and the bore of said tubing section, a second opening in said flow control members vertically displaced from said first opening and communicating with the bore of said flow control members and the opening in the flow control member seats communicating externally of said tubing section, said flow control member having a removable member positioned between said first and second openings for restricting flow through said flow control members, flow preventing means disposed between the flow control member seats and flow control members intermediate the first and second openings in the flow control members, and means to sealingly separate the internal portion of the flow control member seats communicating with the second opening from communication with the bore of said tubing section except through the bore of said flow control members.

2,973,040
FIRE EXTINGUISHER
Kenneth B. Covert, Marinette, Wis., assignor to Safe, Incorporated, Marinette, Wis., a corporation of Wisconsin
Filed Aug. 24, 1956, Ser. No. 606,858
5 Claims. (Cl. 169—31)



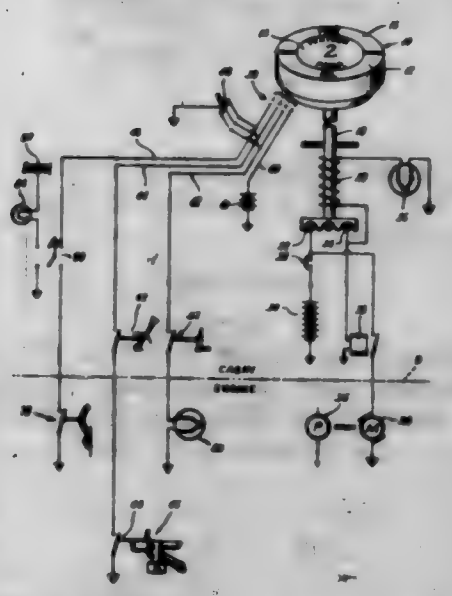
1. A package comprising a pressure-type container having a valve-controlled opening charged with a fire-extinguishing dry powder and a gaseous propellant confined in the container under the vapor pressure of the propellant, the powder being sodium bicarbonate and the propellant being dichlorodifluoromethane in an amount from about 2½% to about 5½% of the powder by weight.

2,973,041
VARIABLE PITCH WINDMILL
Jacob Rabinow, Takoma Park, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed Feb. 14, 1951, Ser. No. 210,985
4 Claims. (Cl. 170—68)
(Granted under Title 35, U.S. Code (1952), sec. 266)



4. A variable pitch windmill comprising two relatively rotatable members, a first of said members having a channel formed therein, rotatable means eccentrically carried by the second member and extending into said channel for movement therealong in response to relative rotation of said two members, the size of said channel being sufficient to permit free travel of said rotatable means therein, vanes extending radially from said second member and being axially rotatable, means linking said rotatable means with said vanes for rotating said vanes in response to rotation of said rotatable means, rotation of said second member thereby exerting a centrifugal force upon said rotatable means tending to force it into engagement with one wall of said channel, and means urging said rotatable means away from said wall and into engagement with another wall of said channel, a rotational speed of said second member greater than an amount determined by said urging means thereby causing said rotatable means to engage said first-mentioned wall causing said rotatable means to rotate in one direction and hence the vanes to rotate in accordance therewith and a rotational speed of said second member less than said amount enabling said urging means to force said rotatable means into engagement with the second-mentioned wall causing the rotatable means to rotate in the opposite direction and hence the vanes to rotate in accordance therewith.

2,973,042
MULTI-ENGINE AIRCRAFT FEATHER INDICATING SYSTEM
Wallace W. Lowrey, 5225 Claremont, Houston, Tex.; George T. Cendrick, Jr., 1016 Ave. F, South Houston, Tex.; Robert J. McQuilkin, Houston, Tex.; and John H. Klopp, 7505 Annac, Houston, Tex.; said McQuilkin assignor to said Lowrey, said Cendrick, and said Klopp
Filed Aug. 17, 1954, Ser. No. 450,482
1 Claim. (Cl. 170—135.24)

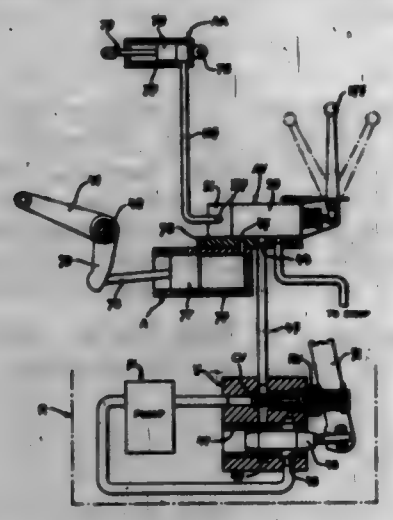


A feather indicating system for multi-engine aircraft comprising, a separate feather system for each engine of said aircraft for separate feathering of each said engine, a separate feather button operatively connected to each said feather system, and signal means at least closely adjacent each feather button and separate from the other of the feather buttons directly responsive to reduced or reverse torque of the engine which that feather system controls, said signal means including an electric circuit, a switch actuated by reverse or reduced torque of the engine for closing the circuit, a lamp in the circuit disposed in the feather button for indicating said reverse or reduced torque of the engine, and an additional switch in the circuit linked to the throttle of the engine and arranged to open the circuit upon retarding the throttle a predetermined amount.

2,973,043
CONTROL MECHANISM FOR TRACTOR HYDRAULIC SYSTEMS
Lee E. Elfes, Birmingham, Mich., assignor to Massey-Ferguson Inc., a corporation of Maryland
Filed Aug. 31, 1955, Ser. No. 531,755
5 Claims. (Cl. 172—9)

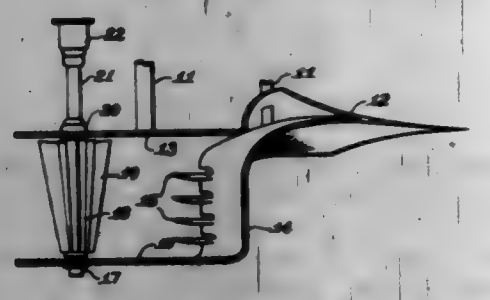
1. In a tractor having a vertically swingable implement hitch and a main hydraulic actuator for raising and lowering the hitch, a source of fluid under pressure, and draft responsive means including main valve means controlling the delivery of fluid from the source to the actuator and the exhaust of fluid from the actuator, an auxiliary actuator, valve means including a pair of independently operable valves, each connected to the fluid source, one of said valves having a connection with the main actuator and the other having a connection with the auxiliary actuator, manually operable means for actuating said one valve to supply pressure fluid to or exhaust pressure fluid from the main actuator to raise or lower the hitch, manually operable means for actuating the other valve

to supply pressure fluid to or exhaust pressure fluid from the auxiliary actuator, and connections between said



valves preventing exhaust of fluid from the main actuator when that valve is actuated to supply fluid to the auxiliary actuator.

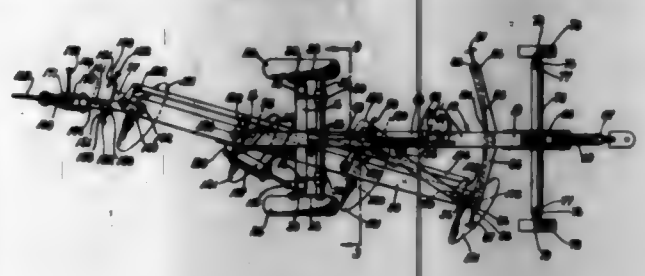
2,973,044
COMBINATION PLOW AND CUTTING TOOL
Mike Meredich, 1653 Hartnell Ave., Youngstown, Ohio
Filed Oct. 8, 1957, Ser. No. 688,994
2 Claims. (Cl. 172—67)



1. The combination of a plow capable of over turning earth and cutting tools operable in the over-turned earth including a plow blade having a pointed front end and a laterally extending moldboard having upper and lower edge portions, a plurality of downwardly extending ground engaging cutting blades secured to the lower edge of the moldboard, a pair of rearwardly extending parallel arms, one of said arms secured to the plow blade, the other of said arms secured to said moldboard respectively, a reel type cutter having a plurality of elongated blades journaled in said arms and disposed therebetween, the elongated blades of said reel cutter extending parallel to the moldboard to engage the earth and cut same transversely after its passage through the cutting blades of said moldboard, mounting brackets attached to and extending from said arm attached to the plow blade and adapted to be engaged on a vehicle and movable means engaging the plow for adjusting the relative position of said plow on said vehicle.

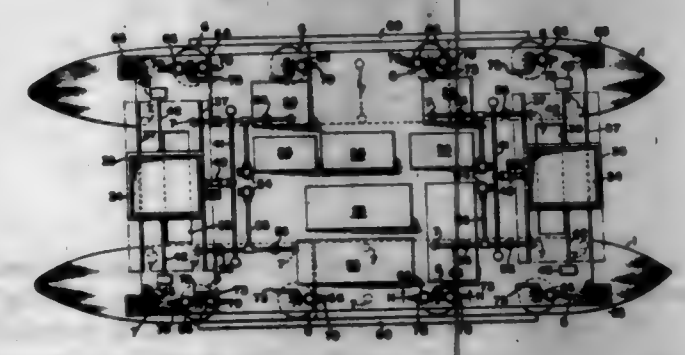
2,973,045
REVERSIBLE DISC PLOW
Anthony R. Coviello, P.O. Box 208, Tulare, Calif.
Filed Dec. 22, 1958, Ser. No. 782,274
6 Claims. (Cl. 172—222)

1. A reversible disc plow comprising an elongated frame having predetermined forward and rearward end portions and opposite sides; means mounted on the forward end portion of the frame adapted to connect the frame to a draft appliance; a beam pivotally mounted in the rearward end portion of the frame and forwardly extended therefrom for adjustment between opposite operational positions at opposite sides of the frame; a plurality of reversible disc blades mounted in substantially equally spaced relation along the beam, there being a forwardmost disc blade movable between predetermined maximum spaced positions spaced transversely of each other with respect to the frame incident to movement of the beam between opposite operational positions; a pair of axially aligned ground engaging support wheels mounted on the frame with their common axis extended transversely of the frame between adjacent blades and on opposite sides of the beam, each of the support wheels



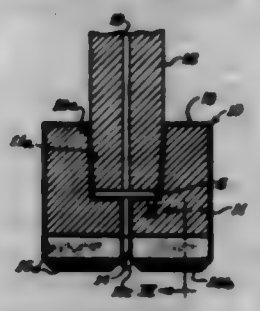
being spaced a distance transversely of the frame less than the maximum predetermined spaced position of the forwardmost blade on its respective side of the frame; means connected to the beam for adjustably positioning the beam in the frame between its opposite operational positions; and laterally spaced, alternately employed depth control wheels mounted on opposite sides of the forward end portion of the frame forwardly of the forwardmost blade, each of the depth control wheels being spaced from the frame by an amount less than the maximum spacing of the forwardmost blade on its respective side of the frame.

2,973,046
APPARATUS FOR OFFSHORE RECOVERY AND STORAGE OF OIL AND THE LIKE
Malcom P. McLean, Mobile, Ala., and Robert H. Macy, Pascagoula, Miss., assignors to McLean Industries Inc., Mobile, Ala., a corporation of Delaware
Filed Feb. 7, 1957, Ser. No. 638,771
5 Claims. (Cl. 175—8)



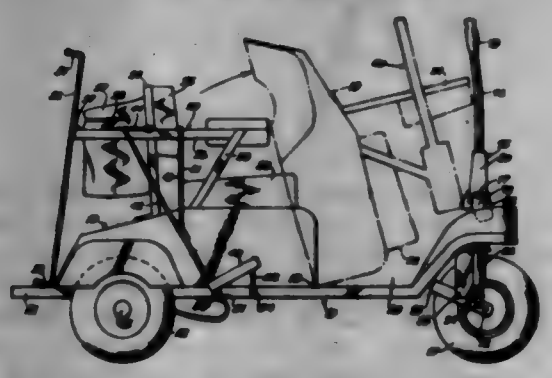
4. Apparatus for offshore drilling and recovery of oil comprising a pair of separate hulls each having tank means for water ballast and oil storage including tanks within the hull and a plurality of hollow columns mounted on the hull and communicating with the tanks, a rigid connection securing said hulls in fixed laterally spaced relation, a platform supported on said columns, drilling and pumping equipment mounted on said platform, each of said columns comprising a plurality of superposed concentric sections circular in cross section and of different diameters, the lower sections being of greater diameter than the upper sections and the sections of each column being axially fixed together, and means for flooding said tank means, including said tanks and columns, progressively by filling first the tanks and thereafter the larger and finally the smaller sections of the columns, so as to sink the hulls and columns in a body of water.

2,973,047
ROCK DRILL BIT AND METHOD OF MANUFACTURE THEREOF
John Stanley Edgar and John A. King, St. Catharines, Ontario, Canada, assignors to Thompson Products, Ltd., St. Catharines, Ontario, Canada, a corporation of Ontario
Filed Nov. 6, 1958, Ser. No. 772,287
5 Claims. (Cl. 175—410)



2. A drill bit for rock drilling and the like, comprising a bit body and drilling inserts carried by said body and located in notches provided therein, and a layer of alloy material of substantially uniform thickness bonding the inserts to the bit body notch surfaces, the same alloy layer essentially completely covering the bit body and inserts to eliminate exposed surface imperfections in the body and reduce substantially stress concentrations therein.

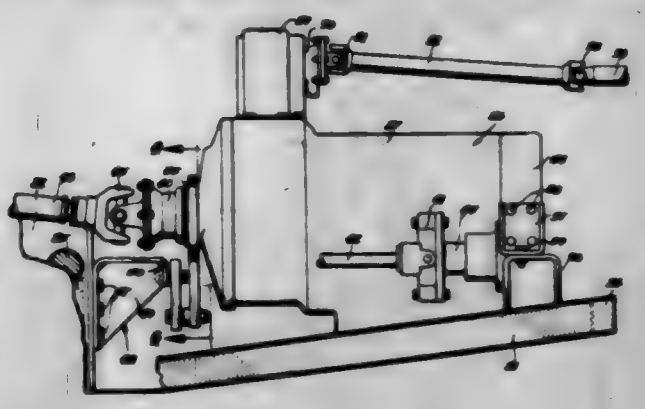
2,973,048
THREE WHEELED MOTORIZED GOLF VEHICLE
William A. Jensen, Box 278, Addison, Ill.
Filed Jan. 6, 1959, Ser. No. 785,281
5 Claims. (Cl. 180—27)



1. In a vehicle of the character described, a chassis having a body mounted thereon adjacent the rear of the chassis, said body being generally rectangular in nature and being spaced inwardly of the side and rear edges of said chassis, a frame secured to said body, said frame being equipped with a forwardly-directed, generally U-shaped member parallel to said chassis and spaced thereabove, a plurality of pairs of vertically-extending openings in said member and a similar plurality of pairs of vertically-extending openings provided in said chassis outward of said body, and at least one golf bag rack releasably mounted on said member and chassis, said rack comprising an elongated framework equipped with spaced-apart opening-engaging means adjacent both ends thereof.

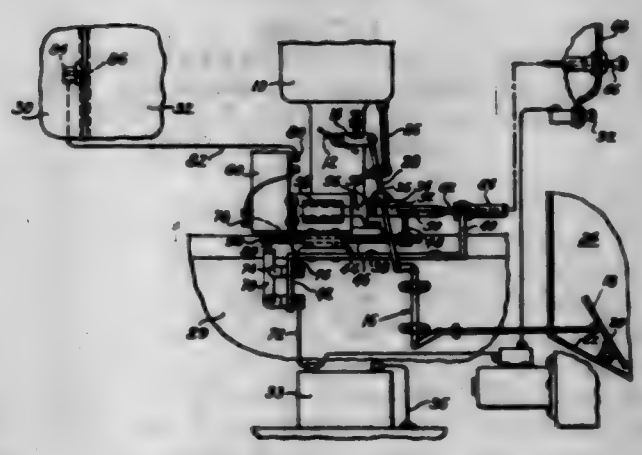
2,973,049
TRANSMISSION MOUNTING MEANS FOR VEHICLES
Kenneth J. Kolinger, Riverside, Emil F. Moreno, Melrose Park, and Albert F. Selimino, Carpentersville, Ill., assignors to International Harvester Company, Chicago, Ill., a corporation of New Jersey
Filed July 6, 1959, Ser. No. 824,994
6 Claims. (Cl. 180—70)

1. For a wheeled vehicle having a frame including a pair of transversely spaced longitudinal frame members, ground wheels on said frame, a power unit on said frame, a transmission including a casing positioned in laterally spaced relation between said frame members, a driven member on said transmission, a drive member on said power unit, a universal connection connecting said drive member with said driven member, and a drive means from said transmission to said ground wheels; a supporting structure for said transmission comprising a first pair of brackets rigidly connected to said frame members on opposite sides of said casing, means rigidly connecting said brackets to said casing, at a rear portion thereof, a transversely extending supporting member connecting said frame members forwardly of said casing, a



second bracket connected to said transverse member below and in substantially vertical alignment with said universal connection, a vertical arm rigidly connected to said casing adjacent said universal connection and extending downwardly with respect thereto, a first ball type bearing member on said second bracket projecting toward said arm, a second ball type member on said arm below said first bearing member and projecting toward said second bracket, a tension link substantially parallel to said arm, and first and second vertically spaced resilient socket members on said link respectively pivotally engaged by said first and second ball type members to provide a flexible support between said frame and said casing.

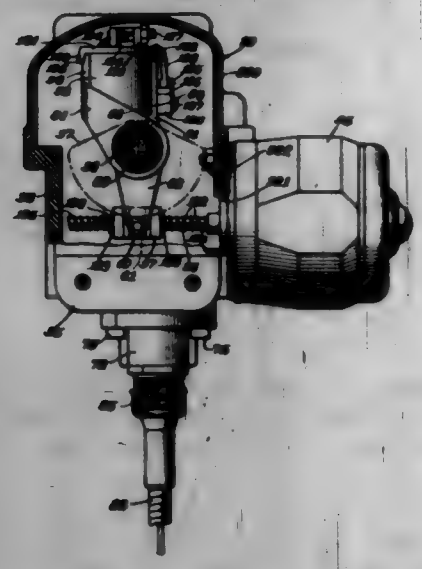
2,973,050
MOTOR VEHICLE THROTTLE LOCK
Lucius L. Bennett, 984 SW. 4th St., Miami 36, Fla.
Filed July 16, 1959, Ser. No. 827,621
7 Claims. (Cl. 180—82)



1. For use in a motor vehicle having a carburetor valve, a control throttle, a linkage connecting the valve to the throttle, and a source of electricity; a throttle lock automatically lockable while the vehicle door is in open position, said throttle lock comprising a circuit connected to said source of electricity activated by opening the vehicle door, means electrically activated by said circuit into control throttle locking position, and a circuit interrupting switch in said circuit operable to circuit interrupting position by movement of said control throt-

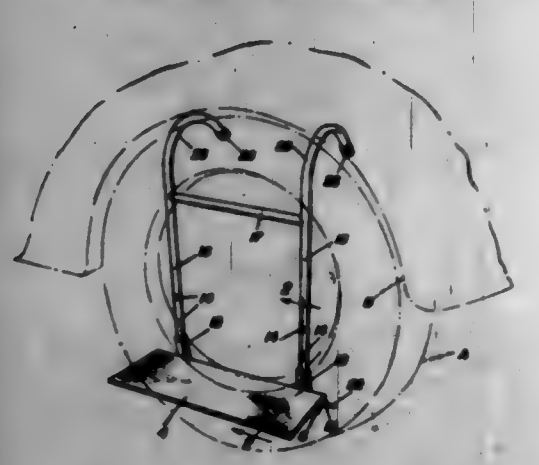
tle locking means, said electrically activated throttle locking means comprising a solenoid mounted in said circuit, a lock block arranged to be suitably mounted on the throttle valve linkage, and a lock block locking means actuatable by said solenoid into locking position relative to said lock block.

2,973,851
SPEED CONTROL DEVICE FOR AN AUTOMOTIVE VEHICLE
Ralph R. Teetor, Hagerstown, Ind., assignor to Perfect Circle Corporation, Hagerstown, Ind., a corporation of Indiana
Filed Sept. 30, 1957, Ser. No. 686,817
35 Claims. (Cl. 180—82.1)



29. A speed control device for an automotive vehicle having a driver-operated throttle control member, said device comprising a movable member having a connection for moving said movable member by said control member in one direction on advancing movement of the latter, non-yielding means including drive means and engageable with said movable member for positively moving said movable member in the opposite direction, and means including relatively movable parts respectively responsive to the speed of the vehicle and the movement of said movable member for energizing said drive means at a predetermined vehicle speed.

2,973,852
MECHANIC'S PORTABLE STEP
John M. Miller, Box 711, Blytheville, Ark.
Filed Oct. 30, 1958, Ser. No. 770,753
2 Claims. (Cl. 182—150)



1. A readily attachable and detachable mechanic's step attachment for truck wheel comprising a frame embodying a pair of coplanar spaced parallel uprights having their upper ends formed with attaching and suspending hooks, the upper end portions of said uprights being joined by a cross brace located between said upper end portions, the lower ends of said uprights being provided with collars, a support bracing and abutment rod member having end portions rigidly attached to the respective collars and having terminal portions projecting outwardly beyond the adjacent respective uprights and adapted to bear firmly against a tire surface, a pair of oversize freely slidable sleeves, one sleeve slidably mounted on each upright, said uprights being provided with vertically spaced keeper holes, a step at right angles to and spanning the space between the lower end portions of said uprights, said step being provided on an underside of one lengthwise edge portion with an angle iron, said angle iron being commensurate in length with the length of said step and having a depending vertical flange, said vertical flange being flush with said lengthwise edge and having keeper pins fixedly mounted, said keeper pins extending inwardly through openings provided therefor in their respective sleeves and being adapted to be releasably connected with the keeper holes.

2,973,853
TRESTLE LEG CONNECTING UNIT
Clarence E. Beaty, Urbana, Ill., assignor to Harrison Cropsaver Co., Champaign, Ill., a corporation of Illinois
Filed Jan. 3, 1957, Ser. No. 632,330
4 Claims. (Cl. 182—155)

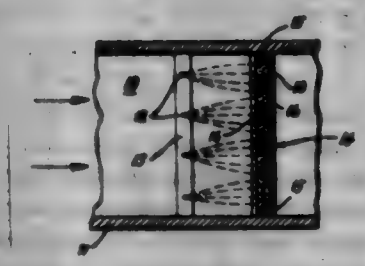


1. In a foldable trestle formed from a cross member supported by separate depending legs, the provision of a leg connecting unit including an upwardly opening channel shaped member in which a portion of said cross member is received, leg holding and positioning members attached to each side of said channel shaped member, said leg holding and positioning members being adjustably held in substantially vertical relation to said channel shaped member in the erected condition of said trestle and in substantially horizontal relation to said channel shaped member in the folded condition of said trestle by adjustable clamping means interconnecting all of said members and legs, and vertically spaced slot and grooved locking means forming a part of said channel shaped member on each side thereof, said leg holding and positioning members including inwardly directed slot engaging means at the top thereof which when received in said slot means upon erection of said trestle in combination with the receiving of said legs in associated grooved locking means prevent movement of said legs relative to said cross member, said slot and slot engaging means being positioned above said adjustable clamping means and said grooved locking means being positioned below said adjustable clamping means.

2,973,854
GAS CLEANING UNIT
Robert G. Kurtz, Philadelphia, Pa., assignor to Philco Corporation, Philadelphia, Pa., a corporation of Pennsylvania
Filed Feb. 15, 1956, Ser. No. 565,601
4 Claims. (Cl. 183—7)

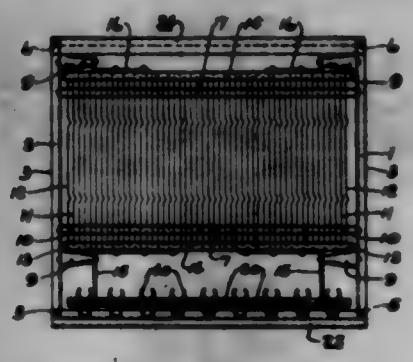
2. In apparatus through which may flow a stream of gas containing suspended particles to be removed, means

for creating a combined particle ionizing and collecting field extending substantially entirely in the direction of gas flow, comprising: discharge electrode means consisting of a plurality of electrode elements spaced one from the other and disposed in a plane extending transverse said path; a collector electrode consisting of a substantially planar member of electrically conductive material extending parallel to the plane of and disposed closely adjacent the downstream side of said electrode elements;



means for electrically insulating said electrode elements from said collector electrode; and means operative to impress an ionizing potential across said discharge electrode means and said collector electrode to create a corona discharge about the former in the presence of said particles thereby to create said combined particle ionizing and collecting field, said field consisting of a plurality of adjacent fan-shaped fields each extending from an electrode element to said collector electrode in the direction of gas flow.

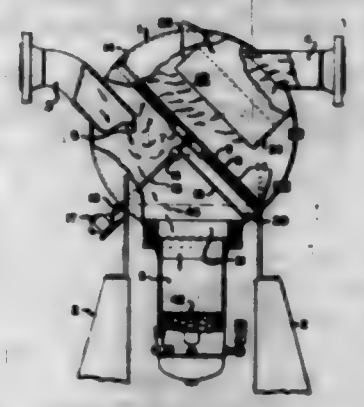
2,973,055
ELECTRONIC AIR CLEANER
Paul W. Altenhoud, Ross Township, Allegheny County, Pa., assignor to Electro-Air Cleaner Company, Inc., McKees Rocks, Pa., a corporation of Pennsylvania
Filed Aug. 28, 1957, Ser. No. 680,842
7 Claims. (Cl. 183—7)



1. An electronic air cleaner comprising a tubular housing surrounding a bank of parallel collector plates and an ionizer, alternate of said collector plates mounted for connection to positive polarity and the balance mounted for connection to ground, said ionizer mounted in front of said collector plates and including an alternate series of parallel ionizing wires and electrodes mounted for connection to positive and ground, each electrode having a leading edge up air stream of an associated ionizing wire, a side facing said wire and a trailing edge, said leading edge being convexly rounded and extending back along a side through a rounded reverse curve into a concave surface facing an ionizing wire, the trailing end of each of said ionizing electrodes extending through a second convexly rounded reverse curve.

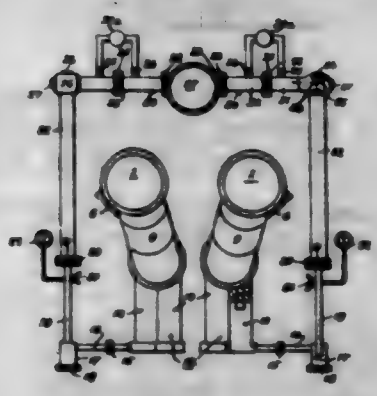
2,973,056
GAS CLEANING APPARATUS
Donald A. Sillers, Jr., % Peerless Manufacturing Co., P.O. Box 13165, Dallas, Tex.
Filed July 6, 1956, Ser. No. 596,316
10 Claims. (Cl. 183—10)

1. A gas scrubber comprising a generally spherical casing having a portion adapted to receive impurities entrained in an incoming gas stream, rotatably mounted gas filter means comprising a thin flat filter medium within the casing, inclined at an angle to the vertical, and forming an inlet chamber generally below the filter means and ar outlet chamber generally above the filter means, the filter means blocking free passage of gas from one chamber to the other, gas inlet means discharging into the



chamber beneath the filter means toward the impurity-receiving portion of the casing, gas outlet means from the chamber generally above the filter means, with the gas outlet means, and means to rotate the filter means through a washing liquid whereby the washing liquid is passed over the filter means and washes particles from the filter means in a direction generally opposite to flow gas therethrough.

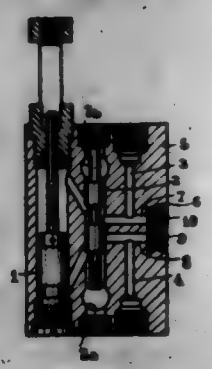
2,973,057
METHOD AND APPARATUS FOR FLY-ASH SEPARATION IN COAL-BURNING GAS TURBINE
John I. Yellott, New York, N.Y., and Peter R. Brandley, Elizabeth, N.J., assignors to Bituminous Coal Research, Inc., Washington, D.C., a corporation of Delaware
Filed Nov. 30, 1955, Ser. No. 550,083
11 Claims. (Cl. 183—38)



11. The improved method of separating particulate solids from pressurized gasiform fluids comprising the following steps: establishing a first pressure stage wherein a stream of solids-bearing pressurized gasiform fluid is continuously vortically whirled and the solids are centrifugally separated from the entraining fluid; separately withdrawing the cleaned gas and the separated solids, the solids being withdrawn in a pressurized blowdown stream of the gasiform fluid; passing the blowdown stream through a first blowdown line and at the original pressure; establishing a second, reduced pressure stage of increased diameter coupled to the first said blowdown line through a critical flow reducer which will result in the second reduced pressure approximating .53 times the original pressure, said second stage incorporating a rectilinear flow path of sufficient length to insure dissipation of the velocity resulting from the critical flow expansion, said flow path terminating in a bend embodying an impact surface in the axis of the flow path; establishing a third, discharge stage coupled to the bend and incorporating flow measuring means; discharging the re-

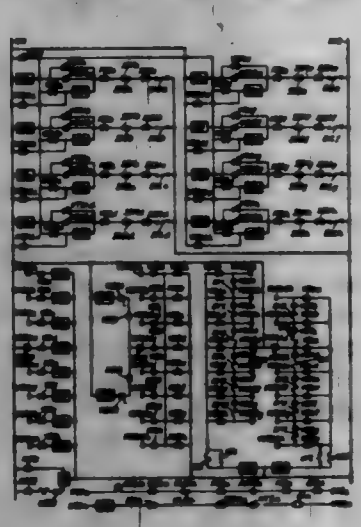
duced pressure blowdown stream and its entrained solids to an atmospheric vortical whirl separation stage, and separately withdrawing the cleaned gas and solids.

2,973,858
METERING DISTRIBUTORS OF TWO-LINE CENTRAL LUBRICATION SYSTEMS
Henri Bricout, Meudon, France, assignor to Etablissements Georges Martin, Levallois-Perret (Seine), France, a corporation
Filed Mar. 21, 1960, Ser. No. 16,433
Claims priority, application France Mar. 26, 1959
3 Claims. (Cl. 184—7)



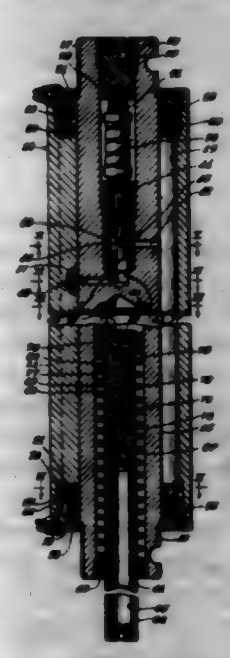
1. In a central lubrication system comprising two feed lines and a lubricant metering distributor of the type consisting of a body formed on the one hand with two cylindrical bores receiving the one a metering piston and the other a distributor slide-valve, and on the other hand with a pair of outlets connected to said feed lines respectively and to said slide-valve bore through branch passages, a chamber having tapped side walls formed in said body, said branch passage opening into the bottom of said chamber, a solid disk in the bottom of said chamber and a screw plug fitting in said chamber and adapted to press said disk against the outlet orifices of said branch passages in said chamber.

2,973,859
ELEVATOR SELECTION SYSTEM
Stephen Anthony Hornung, New York, N.Y., assignor to Otis Elevator Company, New York, N.Y., a corporation of New Jersey
Filed Mar. 23, 1959, Ser. No. 801,398
28 Claims. (Cl. 187—29)



28. A dispatching system for three or more elevator cars having their entrances in side-by-side relationship on each side of the corridor at a dispatching floor and in opposing relationship across the corridor comprising; mechanism for dispatching in succession the selected cars from the dispatching floor; and means for selecting the cars for dispatching, said selecting means including means for each car for registering the availability of that car for selection, a selection switch for each car, an electronic tube for each selection switch for controlling operation thereof, each having an anode, cathode and control electrode, the switch for which the tube is provided having an operating coil in the anode-cathode circuit of the tube, a control circuit for each selection switch connected to control the potential of the control electrode of the tube for that switch and subject to the availability registering means for the car for which the selection switch is provided, circuits interconnecting the control circuits for cars having adjacent entrances and for interconnecting the control circuits for cars with directly opposed entrances, each interconnecting circuit having rectifying means connected in parallel therein in opposing relationship, the rectifying means in the interconnecting circuits between cars with side-by-side entrances having a potential drop different from those in the interconnecting circuits between cars with opposed entrances, the control circuits, when a car is selected, for other cars which are available being completed through said interconnecting circuits, a resistor and capacitor connected in parallel in a circuit common to the cathodes of such tubes, the potential drop across said resistor when a car is selected being adapted to lock out the tubes for the other cars from conducting, and means responsive to the dispatching of a selected car by said dispatching mechanism under conditions where there are available for selection as next to be dispatched from the dispatching floor another car directly across the corridor from the one being dispatched and another car next to the one being dispatched for breaking the anode-cathode circuit for such dispatched car, said capacitor thereupon acting to reduce the potential drop across said resistor to render conductive that one of the tubes for such other cars, the control electrode for which has the higher potential to cause operation of the selection switch for which such tube is provided to select the car for which such switch is provided.

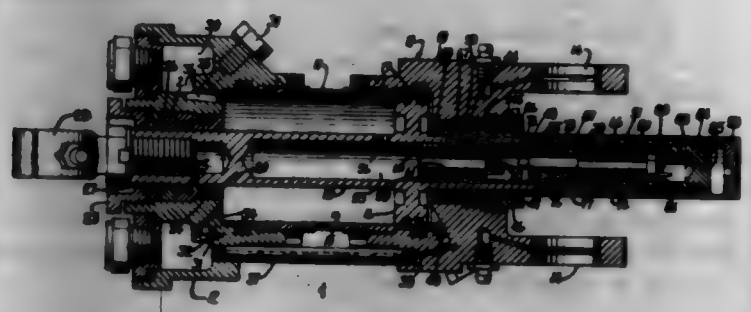
2,973,860
FLUTTER DAMPER
Paul E. Gies, Snyder, N.Y., assignor to Houdaille Industries, Inc., Buffalo, N.Y., a corporation of Michigan
Filed Oct. 7, 1957, Ser. No. 688,623
2 Claims. (Cl. 188—[illegible])



1. A rotary damper particularly adapted to damp flutter of a vibrating member relative to a stationary member, comprising a housing having an interior cylindrical wall defining a damping chamber, a rotary piston within said damping chamber and having vanes having slidable engagement with the wall thereof, fluid reaction abutments extending inwardly from said cylindrical wall into slidable engagement with said rotary piston and with said vanes defining a plurality of complemental and op-

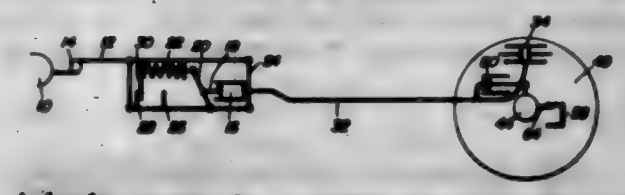
posed working chambers, said rotary piston having shaft portions extending from opposite ends thereof and rotatably mounted in the ends of said housing and having end portions extending beyond opposite ends of said housing, each of said end portions of said shaft portions being fixedly connected to one of said members, a valve chamber within said piston opening through one of said shaft portions and having fluid communication with said damping chambers, an energy absorbing orifice control valve in said valve chamber affording fluid resisted movement from one set of said working chambers to the other upon the tendency of said piston to rotate relatively to said chamber, a damping fluid replenishing chamber within said piston and opening to the end of the other of said shaft portions and having fluid communication with said damping chambers, a replenishing piston within said replenishing chamber biased to maintain pressure on the damping fluid within said replenishing chamber, said replenishing piston having a hollow rod portion extending outwardly beyond the end of the shaft portion having said replenishing chamber opening to the end thereof, said hollow rod portion accommodating the filling of said replenishing chamber from the end of the associated shaft portion, and check valve means in said rod portion maintaining pressure within said replenishing chamber.

2,973,061
DIRECT ACTING DAMPER STRUCTURE
Rollin Douglas Rumsey, Buffalo, N.Y., assignor to Houdaille Industries, Inc., Buffalo, N.Y., a corporation of Michigan
Filed Oct. 1, 1957, Ser. No. 687,451
4 Claims. (Cl. 188—96)



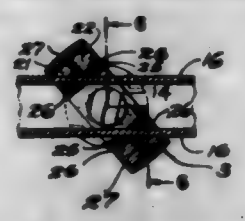
1. A direct acting linear damper comprising a housing having an inner cylindrical wall defining a damping chamber, a piston within said damping chamber having a piston rod extensible from one end of said housing, orifice means connecting one side of said piston with the other, a variable rate of flow double acting pilot operated orifice control relief valve having communication with said orifice means and accommodating the flow of damping fluid therebetween, a single constant rate spring seated within said piston rod and having operative connection with said valve to normally center said valve in each direction of movement of said piston, the differential in pressure acting on said valve against said spring varying the rate of flow between said orifice means at a rate increasing proportionately with pressure squared in each direction of movement of said piston relative to said damping chamber, said valve comprising a hollow valve spool having a cylindrical outer surface having V-shaped notches in the face thereof diverging from a position adjacent the center of said spool and in communication with said orifice means in all positions of said valve and opening to opposite ends of said valve and providing flow areas through said orifice means increasing proportionately with pressure squared.

2,973,062
BRAKING SYSTEM
Maurice L. Tucker, 1342 McKaig, Troy, Ohio, assignor of fifty percent to Douglas S. Wade, Detroit, Mich.
Filed Oct. 4, 1957, Ser. No. 688,195
10 Claims. (Cl. 188—112)



1. A brake system for a vehicle drawn trailer wherein the trailer has a master cylinder responsive to traction and pushing forces between the trailer and vehicle, an axle mounted for rotary displacement, a back plate attached to the axle, a wheel cylinder carried by said back plate and mounted for rotary displacement with said axle, a brake line operatively connecting said master cylinder to said wheel cylinder to actuate the latter, a brake fluid relief device mounted on said trailer having an expansible chamber and operatively connected with the wheel cylinder, to receive brake fluid therefrom, mechanical means connected to said relief device and to said axle and responsive to limited rotary displacement of the wheel cylinder in one direction to effect movement of brake fluid from said wheel cylinder into said chamber and thereby bleed said wheel cylinder.

2,973,063
RAILWAY BRAKE BEAM STRUCTURE
Irvin J. Spaeth, Chicago, Ill., assignor to Chicago Railway Equipment Company, Chicago, Ill., a corporation of Illinois
Filed Mar. 14, 1957, Ser. No. 645,997
6 Claims. (Cl. 188—229.6)

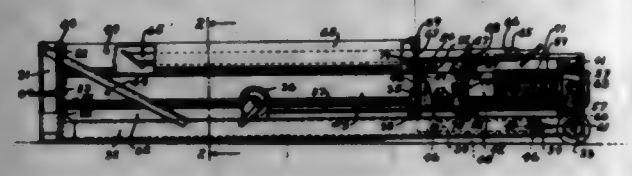


1. A railway truss type brake beam comprising a compression member, a tension member and an elongated strut between said members intermediate their ends and having a rectangular loop at one end surrounding the compression member in a direction generally transversely of the length of the latter, said strut being rotatable relative to said members about its longitudinal axis from a right-hand lever-mounting functioning position, to a left-hand lever-mounting functioning position, one of the upright walls of the loop forming spaced, substantially parallel seats facing inwardly of the loop opposite to the compression member and offset from each other lengthwise of the strut so as to be higher and lower respectively relative to said loop wall, there being inclined ramp surfaces leading diagonally of the length of the loop between adjacent ones of the offset seats and over which the compression member rides as the strut is shifted from one of said positions to the other of said positions, and a slight ridge along the juncture of each higher seat and the corresponding ramp, said ridges restraining the strut against rotation from movement off of the higher level seats.

2,973,064
PORTABLE TOWER
Bert E. Lee, Milwaukee, Wis., assignor, by mesne assignments, to Gleason Reel Corp., Milwaukee, Wis., a corporation of Wisconsin
Filed Mar. 1, 1956, Ser. No. 568,866
8 Claims. (Cl. 189—26)

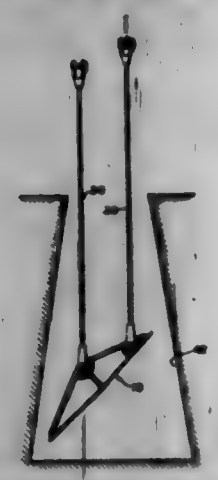
1. In a sectional portable tower, the combination of: a plurality of tower sections of substantially uniform

cross-section with respect to each other and throughout each; a base, for supporting the sections when assembled and erected; hoist-means, carried on and guided by the base, including means for engaging the bottom end of each section in succession to move the same relative to said base and extend and retract the tower, section by section; means for locking each section in turn to the base, after its extending movement therealong by said



hoist means, whereby the latter may be disengaged from such locked section to engage and move the next succeeding section into a position of coaxially aligned adjacency therebeneath, means for locking successive sections coaxially together, end to end, prior to each successive extension of the tower; and means carried by the base, for guiding successive sections as they are being raised or lowered.

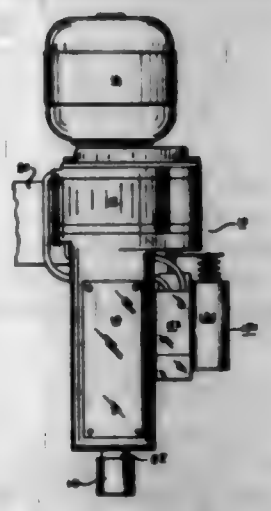
2,973,065
EARTH ANCHOR
William J. Cordes, 330 F St., Bakersfield, Calif.
Filed July 22, 1955, Ser. No. 523,666
6 Claims. (Cl. 189—90)



1. An earth anchor adapted to be disposed within a back-filled ground hole comprising an elongated plate having ends and sides, a cable pivotally connected to said plate substantially centrally thereof and a second cable having an off-center permanent and pivotal connection with said plate adjacent one end and one side thereof and so positioned that when an upward pulling force is applied to said second cable said plate will tend to move end-wise and edge-wise through the back-fill of the ground hole.

2,973,066
TORQUE RESPONSIVE CONTROL DEVICE
William C. Eddy, Jr., Michigan City, Ind., assignor to Television Associates, Inc., Michigan City, Ind., a corporation of Illinois
Filed Aug. 12, 1958, Ser. No. 754,596
9 Claims. (Cl. 192—.02)

1. A rotary tool drive mechanism with an overload mechanism therein, comprising an electrical motor, a power input shaft connected to said motor, a power output shaft, a tool holding device mounted on one end of said last mentioned shaft, a power transfer shaft interposed axially between said power input and power output shafts, a clutch plate rigidly mounted on the end of said input shaft adjacent said transfer shaft, a clutch plate rotatably mounted on said transfer shaft and spaced from the end thereof, an axially movable clutch plate mounted on the end of said transfer shaft between said first two mentioned plates and connected to said transfer shaft for rotation therewith, a shaft spaced from and parallel with said shafts, gears connecting said input shaft with said last mentioned shaft, gears connecting said second mentioned plate with said last mentioned shaft for rotation in the direction opposite said input shaft, a body having a cylindrical chamber around said third mentioned plate and in axial alignment with said transfer shaft, a piston dividing said chamber into two compartments and being connected to said third mentioned plate for relative rotation and axial movement therewith, means defining a passage connecting said compartments with a source of

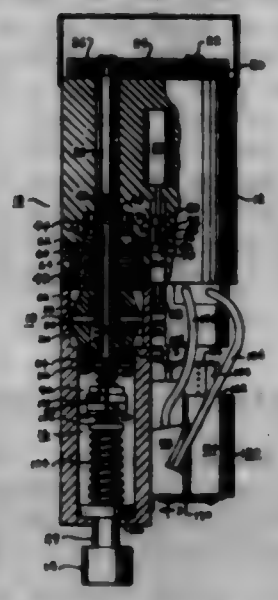


air under pressure, a valve means in said passage for controlling the flow of air therethrough, an electrical means for operating said valve means, an electrical circuit for controlling said electrical means, a collar mounted around and rigidly connected to said transfer shaft, a pair of collars mounted around said power output shaft and being rotatively adjustable on said shaft and to each other, a calibrated spring mounted around said output shaft, one end being connected to said first mentioned collar and the other end to one of the collars of said pair, an electrical contact element on the periphery of each collar of said pair, and an electrical contact element secured to said first mentioned collar and adapted to contact said first mentioned contacts when predetermined torque is reached for closing said circuit.

2,973,067
TORQUE RESPONSIVE CONTROL DEVICE
William C. Eddy, Jr., Michigan City, Ind., assignor to Television Associates, Inc., Michigan City, Ind., a corporation of Illinois
Filed Aug. 12, 1958, Ser. No. 754,595
10 Claims. (Cl. 192—.034)

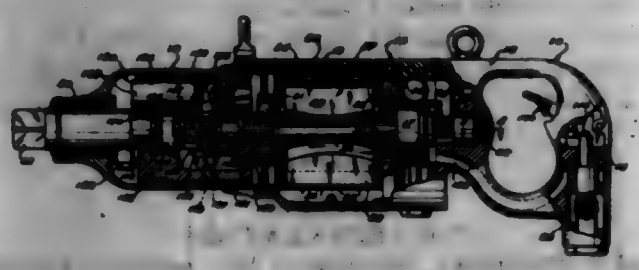
1. A rotary tool drive mechanism with an overload mechanism therein, comprising a chuck for a tapping tool, a pneumatic motor for driving said chuck, a shaft having a longitudinal slot near one end, a means for operatively connecting the other end of said shaft with said motor, a second shaft axially aligned with said first shaft and having an axially aligned recess receiving the end of said first mentioned shaft having the slot therein, a key secured to said last mentioned shaft and extending through said slot, a spring mounted around said last mentioned shaft for urging said last mentioned shaft onto said first mentioned shaft, a longitudinally movable clutch plate rotatably mounted on said first mentioned shaft and operatively connected to said means, a second clutch plate rotatably mounted on said first mentioned shaft between said first mentioned clutch plate and said second mentioned shaft for cooperation with said first plate, a spring urging said plates apart, walls forming a chamber in alignment with said first mentioned plate, a piston in

said chamber connected to said first mentioned plate, a conduit connecting said chamber with a source of air under pressure, a valve in said conduit, a collar mounted around said first mentioned shaft and rigidly connected to said second mentioned plate, a pair of collars mounted around and rigidly connected to said first mentioned shaft, the collars of said pair being rotatively adjustable on said shaft and to each other, a calibrated spring mounted around said first mentioned shaft, one end being connected to said first mentioned collar and the other end to one of the collars of said pair, an electrical contact element in the periphery of each collar of said pair, an



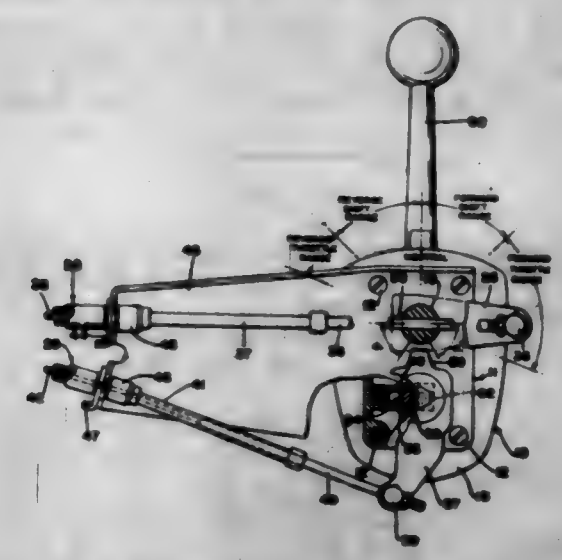
electrical contact element secured to said first mentioned collar and adapted to contact said first mentioned contacts when a predetermined torque is reached, conduits connecting said motor with a source of air under pressure, a valve for controlling the direction of flow of air through said conduits and thereby controlling the direction of rotation of said motor, electrical means controlling said first mentioned valve and controlled by said contacts for clutching and declutching said movable clutch plate, and electrical means controlling said second mentioned valve and controlled by said contacts for changing the direction of rotation of said motor.

2,973,068
IMPACT TOOL TORQUE CONTROL
James Sturreck, Orwell, Ohio, assignor, by mesne assignments, to Master Power Corporation, Bedford, Ohio, a corporation of Maryland
Filed Mar. 7, 1958, Ser. No. 719,967
9 Claims. (Cl. 192—.096)



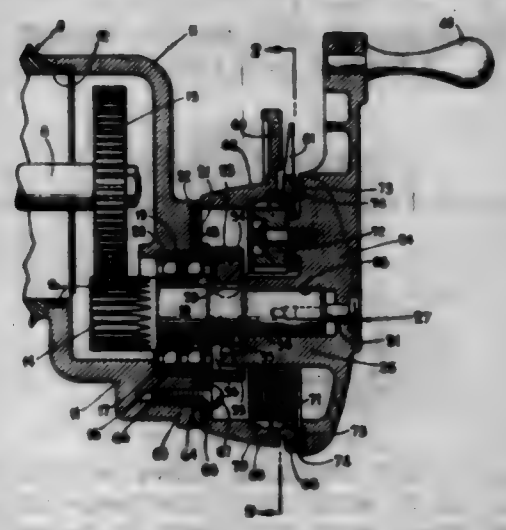
1. A pneumatic impact wrench comprising a driving motor, a driven spindle and an impact clutch for transmitting the driving torque from said motor to said spindle, a channel providing communication from an air source to said motor, a first spring biased valve interposed in said channel for controlling the supply of air to said motor, a cam rotatable with said motor and an inertia cam follower engageable with said cam and being responsive to sudden deceleration of said motor to continue rotation and to operate against said valve to impart a closing thrust thereto, a second spring biased valve interposed in said channel between said air source and said first valve, said second valve being manually operable to control the supply of air to said motor and valve means opened by the closing of said second valve to provide communication with the portion of said channel between said valves and ambient space.

2,973,069
NEUTRAL THROTTLE STOP FOR SINGLE LEVER ENGINE CONTROL
John F. Meese, 21 Clinton St., Hudson, Ohio
Filed Aug. 15, 1958, Ser. No. 755,258
6 Claims. (Cl. 192—.096)



1. In a single lever control unit for the throttle and clutch of an engine, said unit having a housing, throttle and clutch control shafts journaled in said housing and operatively connected for cooperative rotation only during a portion of rotation of said throttle control shaft, and said clutch control shaft being axially shiftable to operatively disconnect it from said throttle control shaft, the improvement comprising interlocking means on said shafts for engaging with each other when said clutch control shaft is shifted selectively to operatively disconnected position to selectively limit rotation of the throttle control shaft from neutral position in either direction.

2,973,070
ANTI-CREEP DEVICE
Edward P. Firth, La Mirada, and Paul B. O'Reilly, Pico-Rivera, Calif., assignors to U.S. Electrical Motors Inc., Los Angeles, Calif., a corporation of California
Filed Aug. 17, 1959, Ser. No. 834,335
4 Claims. (Cl. 192—8)



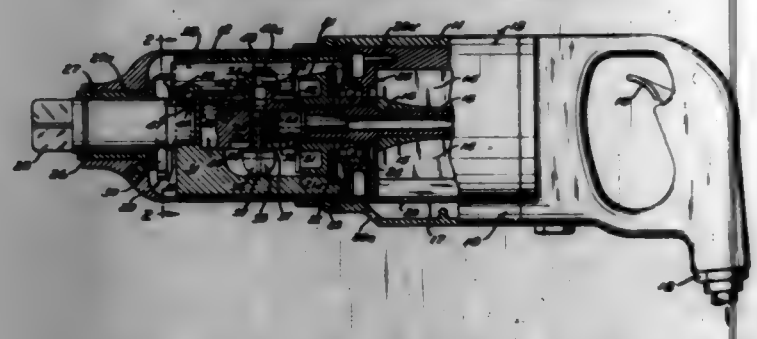
1. In combination: a casing having an opening; a bearing supported at the opening; a shaft projecting through

the opening and supported by the bearing; a bearing retainer secured to the casing about the opening, and having a sleeve forming an interior cylindrical surface outwardly adjoining the bearing and through which said shaft projects; a cam member mounted on the shaft and located with clearance within the cylindrical surface; said cam member having a pair of angularly spaced peripherally located grooves opposed to said surface and forming wedge spaces therewith, the wedge spaces converging to a point fixed with respect to the cam and located between the wedge spaces; wedging pins in said spaces; compression springs carried by the cam member and urging the pins into wedging relationship with said surface; and a handle journalled upon the shaft, said handle forming with the casing at least part of an enclosure surrounding the sleeve; said handle having an eccentric projection located between said pins for optionally moving either pin out of wedging relationship and for driving the cam member.

2,973,071
IMPACT TOOL

James Sturrock, Orwell, Ohio, assignor, by mesne assignments, to Master Power Corporation, Bedford, Ohio, a corporation of Maryland

Filed Oct. 31, 1956, Ser. No. 619,510
9 Claims. (Cl. 192—30.5)

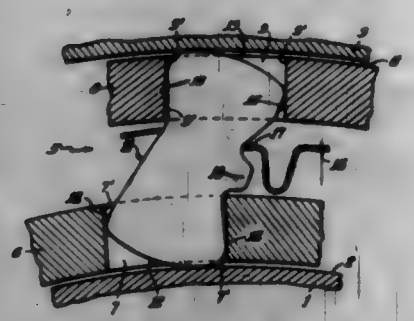


1. A rotary impact tool comprising, a driving motor, a rotatable anvil, a rotatable impact element driven by said motor for driving said anvil, actuating means for moving said element into position to strike said anvil, means for moving said element out of anvil striking position, latch means for automatically locking said element out of striking position each time said element is moved out of its anvil striking position, and cam means fixed to said anvil for releasing said element from its locked position after rotation of said element with respect to said anvil through a predetermined angular extent.

2,973,072
ONE-WAY CLUTCH

Ernest A. Ferris, Downers Grove, Ill., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois

Filed June 18, 1956, Ser. No. 592,037
2 Claims. (Cl. 192—45.1)



1. In a one-way engaging device adapted for use between a pair of inner and outer concentric races, a plurality of sprags generally dumbbell shaped in radial cross section so as to have axially enlarged portions at the radial ends thereof and an axially reduced section in the radial central portion thereof tiltable through a normal range including an overrunning condition and a load-carrying condition having eccentrically curved race engaging surfaces whereby the races are coupled together by the sprags during attempted relative rotation of the races in one direction and whereby the races are freely rotatable in the opposite relative direction of rotation, a pair of radially spaced and relatively rotatable rigid cages disposed between the races, means defining circumferentially spaced openings in said cages, each of said sprags extending through an opening in the inner cage and an opening in the outer cage, the contacting edges of said sprags and said openings defining means whereby the contact therebetween will be maintained throughout the normal tilting range of the sprags, spring means in engagement with said sprags adapted to bias said sprags toward engagement with the races, and circumferentially extending means integral with said sprags projecting axially outwardly from said radially central portion of said sprags and between the cages and normally out of engagement with said cages effective to engage at least one of said cages to prevent excessive tilting of said sprags beyond the normal overrunning condition thereof.

2,973,073
ROLLER-BOLSTER CARGO HANDLING SYSTEM

Carl E. Elliott, Redondo Beach, Calif., assignor to Northrop Corporation, a corporation of California

Filed Nov. 29, 1957, Ser. No. 699,697
2 Claims. (Cl. 193—35)



1. The combination with a conveyance having a cargo deck defining an upper plane surface of cargo handling equipment, said cargo handling equipment comprising a plurality of elongated unhoused inflatable bag-like members constructed of a flexible material which is non-pervious to compressed air and having upper, lower and side walls, said bag-like members being fixedly mounted on said plane surface in spaced parallel relation with their lower walls contacting said plane surface and defining a plurality of spaced passageways, valve stem means in each of said bag-like members enabling said bag-like members to be inflated and deflated, said bag-like members including thread-like means secured to and extending between said upper and lower walls limiting the expansion thereof whereby the upper walls of all of the said bag-like members are located in a common plane at such times as said members are fully inflated, and a plurality of mobile roller assemblies which may be selectively positioned in or removed from said passageways at such times as said members are fully inflated and cargo is supported on their upper walls.

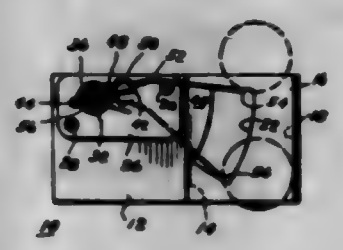
2,973,074
COIN SEPARATORS

Merral P. Haverstick, Normandy, Mo., assignor, by mesne assignments, to National Rejectors, Inc., a corporation of Missouri

Filed Sept. 9, 1957, Ser. No. 682,822
7 Claims. (Cl. 194—9)

1. In a coin-actuated switch that has relatively movable contacts and a rotatable shaft and is mounted on a bracket, the improvement that comprises a diametric slot in said shaft opening to one end of said shaft, a flange on a flanged sleeve on said shaft that projects radially outwardly beyond the periphery of said shaft, said flange being adjacent the closed end of said diametric slot and defining a plane that is contiguous with said

closed end of said slot, a switch actuator in the form of an elongated wire, said switch actuator having a straight portion disposable in but movable relative to said diametric slot and having a second portion spaced from said straight portion by a reentrant bend and having a plurality of semi-circular offsets in said second portion that are complementary to and selectively engageable with part of said periphery of said shaft and having a coin-receiving portion, said bracket having a coin chute therein and having a slot in the side of said chute to accommodate said coin-receiving portion, said semi-circular offsets being spaced apart, and a retaining disc that telescopes over said one end of said shaft and holds the first said and said second portions of said switch actuator against said closed end of saids lot and against said flange, respectively, one of said semi-circular offsets being en-



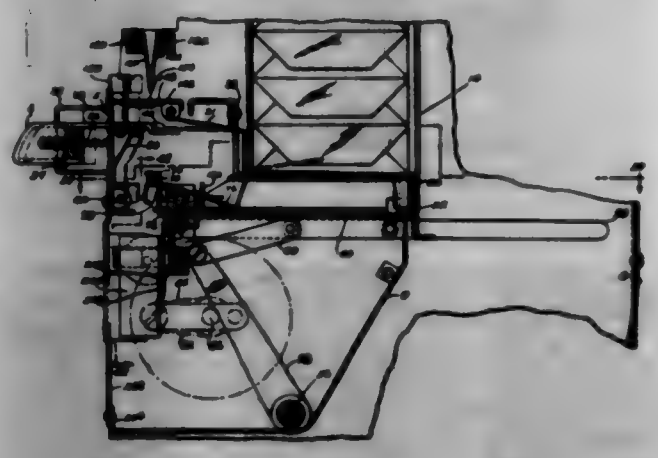
gageable with said part of said periphery of said shaft to dispose said coin-receiving portion at one side of said slot and in the path of a coin of predetermined diameter, another of said semi-circular offsets being engageable with said part of said periphery of said shaft to dispose said coin-receiving portion at the opposite side of said slot and in the path of a coin of different predetermined diameter, said reentrant bend being openable to permit said second portion of said switch actuator to be moved relative to said part of said periphery of said shaft to dispose said one or said other semi-circular offset in engagement with said part of said periphery of said shaft, said reentrant bend restoring itself to cause said one or said other semi-circular offset to precisely center itself on and thereafter hold itself adjacent said part of said periphery of said shaft.

2,973,075

ELECTRIC VENDING MACHINES

Francis C. Du Grenier, 15 Hale St., Haverhill, and Frank B. Perri, Groveland, Mass.; said Perri assignor to Blanche E. Bouchard, Haverhill, Mass.

Filed Feb. 18, 1954, Ser. No. 411,109
8 Claims. (Cl. 194—10)



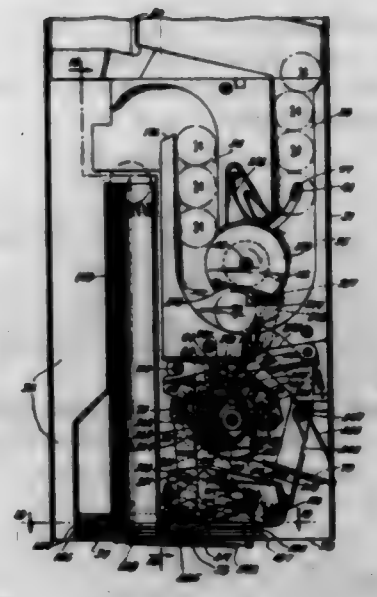
1. In a coin operated electrical vending machine for vending articles of one or more values for one or more coins of one or more values, a series of compartments containing articles of one or more values, a selector for each compartment, an operating slide positioned beneath said compartments and carrying a plurality of ejector means, each of said ejector means being associated with one of said compartments, each of said ejector means being operated by one of said selectors, a locking member for locking the selected ejector in ejecting position and maintaining the other ejectors in inoperative position, an electric motor for causing reciprocal movement of said slide whereby said selected ejector operates to remove at least one article from one of said compartments, a switch for completing the circuit to said motor, and means operated by said selectors for closing said switch to initiate operation of said motor, whereby to permit said machine to vend an article of the value of the coin or coins inserted.

2,973,076

COIN CONTROLLED APPARATUS

Creel W. Hatcher, Valley Forge, Pa.
(448 Conshohocken State Road, Gladwyne, Pa.)

Filed Sept. 30, 1955, Ser. No. 537,622
14 Claims. (Cl. 194—10)



1. In a coin-controlled apparatus, the combination comprising means for receiving and directing coins through a controlled path, means for detecting the presence of a coin in said path, means for positively impelling said coin through at least a part of said path, an electric motor for driving said impelling means through a single revolution, means responsive to detection of a coin by said detecting means for energizing said motor, means responsive to cumulative passage through said apparatus of a plurality of coins whose total value equals the vending price for energizing an associated vending apparatus, means responsive to the operation of said last-named means for operating said impelling means through an additional revolution, and means responsive to said operation through said additional revolution for resetting said cumulative passage-responsive means to its initial condition.

2,973,077

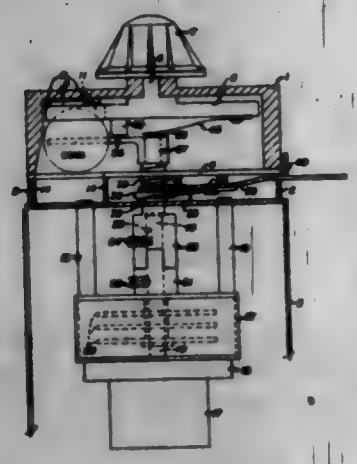
CONTROL MECHANISM FOR AUTOMATIC APPLIANCES

Joseph W. Crockett, 2380 E. Ohio Ave., Denver 9, Colo.

Filed Oct. 29, 1951, Ser. No. 253,617
6 Claims. (Cl. 194—84)

1. In a control mechanism for automatic appliances including a timer having a control element operable through one cycle for each complete operation of the appliance, the combination of an actuator for the timer control element, a coin controlled mechanism operable, following the insertion of a coin, to advance the timer control element to a position where it is effective to start the appliance, the timer control element being advanced by contact of the actuator with the inserted

coin, and a manipulative means operable to shift the actuator into the path of a part on the coin controlled mechanism, whereby further operation of the coin controlled mechanism further advances the timer control



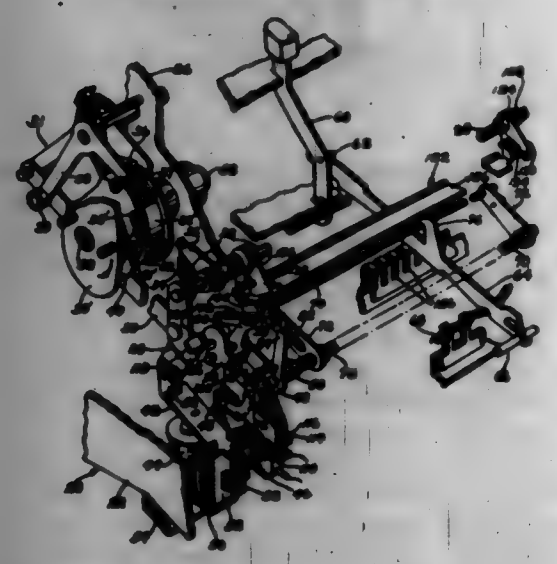
element, by engagement of the actuator with said part, to a position short of the appliance starting position but effective to permit a second normal operation of the coin control mechanism.

2,973,878

ELECTRIC TYPEWRITER OPERATING MECHANISM

William B. Templeton, Northville, Martin Siegel, Oak Park, and Kenneth L. Lockey, Livonia, Mich., assignors to Burroughs Corporation, Detroit, Mich., a corporation of Michigan

Filed Dec. 12, 1958, Ser. No. 779,876
10 Claims. (Cl. 197—17)



1. In a business machine having a control for controlling a cycling operation of the machine and a key to initiate the cycling operation, a mechanism for operatively connecting the key to the control comprising a lever acting to pivot in one direction to actuate the control and initiate operation of the machine, a solenoid, a solenoid actuated latch normally holding said lever against pivoting in said one direction and retractable to release said lever, a solenoid switch operator operable to effect withdrawal of said latch to release said lever, a key operated lever pivotal in one direction to operate said switch operator, a yieldable member movable with said second lever to engage and actuate said switch operator upon predetermined angular movement of said second lever in said one direction, said yieldable member movable relative to said second lever to release said switch operator, and means for moving said yieldable member by and upon release of said first lever.

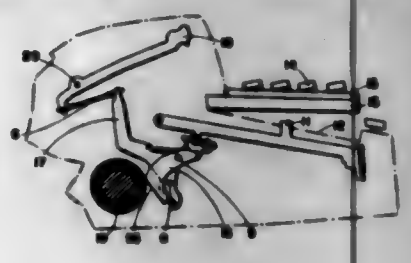
2,973,879

TYPEWRITERS

Reynold Hemstech, 300 E. 61st St., New York, N.Y.

Filed Mar. 12, 1958, Ser. No. 720,852
5 Claims. (Cl. 197—19)

1. The combination with an electric typewriter having type-bars and other functional instrumentalities linked with mechanisms which activate and control them when placed in contact with a motor-driven roller by manual force applied on keys associated with the mechanisms; of separate, detachable, interchangeable panels of varying specifications and designs, in which keys are springably mounted with an action which is self-contained within the panel instead of being mounted on key-levers attached to the typewriter as is the well-known practice



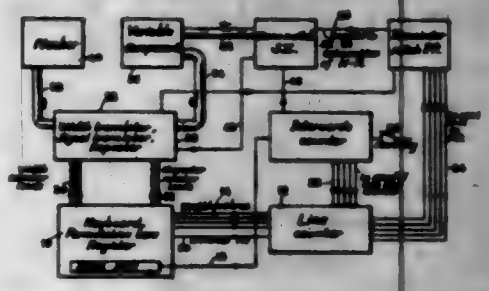
in the art and one panel varying from another panel in order to offer to operators a choice of the one best suited for their requirements; means for quickly and easily attaching said panels to the typewriter alternately; and means for transmitting manual force applied on a key to the mechanism on the typewriter with which that key is associated, regardless of the location of the key on the panel.

2,973,880

CHARACTER SPACE CONTROLS FOR TYPE COMPOSITION

Rene A. Higonnet, Cambridge, and Louis M. Moyroud, West Medford, Mass., assignors to Graphic Arts Research Foundation, Inc., Cambridge, Mass., a corporation of Delaware

Application Jan. 12, 1954, Ser. No. 403,556, now Patent No. 2,865,270, dated Dec. 23, 1958, which is a division of application Ser. No. 70,472, Jan. 12, 1949, now Patent No. 2,682,814, dated July 6, 1954. Divided and this application Dec. 15, 1958, Ser. No. 780,547
Claims priority, application France January 16, 1948
5 Claims. (Cl. 197—84)



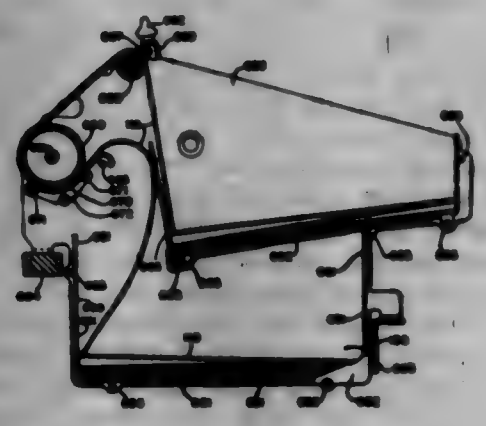
3. In type composing apparatus, the combination of a keyboard having character keys and a function key operable at the end of a line of composed characters, a register to store information corresponding to said characters and said function key, means to read said information successively, sequence control switch means having a homing circuit and a home position, a circuit connected to said function key to step said switch means from said home position, character transcribing and spacing means operable by the reading means through said switch means to transcribe the characters in a line, and a circuit operable by the reading means upon reading the information corresponding to said function key to return said switch means to its home position.

2,973,081
PAPER SUPPLY AND FEED MECHANISM FOR PRINTING BUSINESS MACHINES

Earl P. Maidment, Royal Oak, and Byron A. Runde, Farmington, Mich., assignors to Burroughs Corporation, Detroit, Mich., a corporation of Michigan

Original application Dec. 26, 1957, Ser. No. 705,443. Divided and this application Nov. 9, 1959, Ser. No. 851,624

4 Claims. (Cl. 197—133)



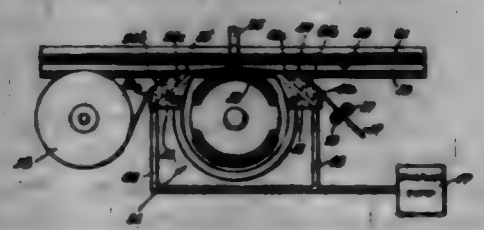
1. A printing business machine having a paper carriage comprising a rotatable platen roller, a paper supply and receiving container having side members carrying means to support a supply roll of paper and transverse members providing between said side members a supply compartment to hold a supply of fan-fold paper and a receiving compartment to receive the paper returning from said platen after passing about said platen from either supply, feed means to feed said returning paper from said platen into said receiving compartment, and means driven by said platen upon rotation thereof to drive said feed means.

2,973,082
TYPEWRITER RIBBON CONTROL

Douglas A. Newman, Glen Cove, and Angelo Vaccaro, Port Washington, N.Y., assignors to Columbia Ribbon & Carbon Manufacturing Company, Inc., Glen Cove, N.Y., a corporation of New York

Original application Nov. 29, 1956, Ser. No. 625,165, now Patent No. 2,919,785, dated Jan. 5, 1960. Divided and this application Nov. 20, 1959, Ser. No. 854,344

5 Claims. (Cl. 197—170)

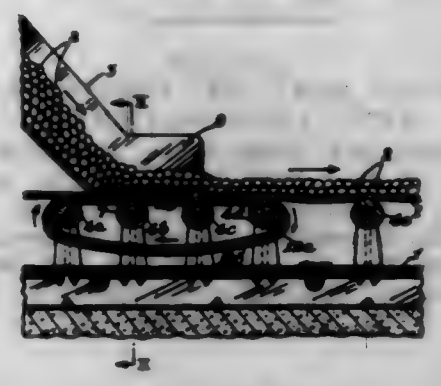


1. In a typewriter, means defining a printing point at which the type, ribbon and worksheet are brought into marking engagement; means for supporting a typewriter ribbon and for feeding the same past said printing point between the type and worksheet; means providing a guide surface for said ribbon normally spaced from the worksheet location in the vicinity of said printing point, said guide-providing means having its parts closely adjacent the ribbon but confined to positions at the surface of the ribbon not directed towards the worksheet; and means for causing atmospheric pressure to hold said ribbon in close contact with said guide surface and away from said worksheet, except as the ribbon is locally pressed into contact with the worksheet during typing operations.

2,973,083
BELT CONVEYOR SUPPORTING MEANS

Edmond Percival Otto Booth, % Edward L. Bateman Limited, Founders Bldg., 34 Ameshoff St., Braamfontein, Johannesburg, Transvaal, Union of South Africa

Filed Dec. 10, 1958, Ser. No. 779,316
Claims priority, application Union of South Africa Dec. 30, 1957
1 Claim. (Cl. 198—184)

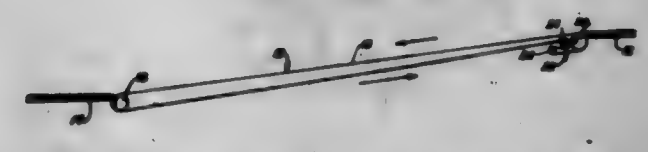


An auxiliary supporting means for a concentrated weight-carrying area of an endless belt conveyor, said conveyor being supported on spaced rollers and having upper and lower runs said auxiliary supporting means comprising an endless sheet steel belt extending for the length of said concentrated weight-carrying area and having in cross section convex and concave sides with the convex side outermost, said steel belt being non-sagable and resistant to a force normal to said convex side until deformed straight, auxiliary rollers mounted to movably support said auxiliary steel belt between the upper and lower runs of said conveyor belt and with the convex side of the steel belt in contact and movable with the upper run of said conveyor belt, said auxiliary rollers having convex surfaces to mate with the concave inner side of said auxiliary steel belt which is thereby prevented from deforming straight by said convex rollers, whereby said auxiliary supporting means provides uniform continuous support for the normally applied load of the endless conveyor belt along the length of the auxiliary steel belt in contact and moving with said conveyor belt.

2,973,084
REVERSIBLE DRIVE FOR MOVING SIDEWALKS AND THE LIKE

Alfred D. Sinden, Aurora, and Robert O. Schaeffer, Elgin, Ill., assignors to Stephens-Adamson Mfg. Co., Aurora, Ill., a corporation of Illinois

Filed Apr. 4, 1957, Ser. No. 650,734
2 Claims. (Cl. 198—203)



1. In a belt conveyor, the combination of an endless flexible ribbon belt, end pulleys supporting the belt with the belt having an upper load-carrying surface intermediate the end pulleys, a pressure pulley located adjacent one of said end pulleys and beneath the upper run of said belt, a movable take-up pulley also located adjacent said one end pulley, said belt being successively trained over said one end pulley, said take-up pulley and said pressure pulley, a sealing lip adjacent said one end pulley and in close sealing engagement with the load-carrying surface of the belt, means for supporting said pressure pulley to resiliently urge it toward said one end pulley to thereby compress the belt between said pressure pulley and said one end pulley, said one end pulley and said pressure pulley constituting drive pulleys for said belt, and means for reversibly driving at least one of said

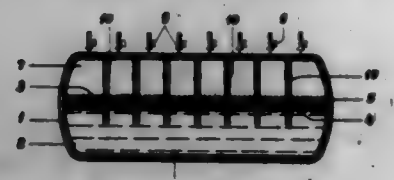
drive pulleys, whereby said one end pulley serves to drive the belt in a direction leading from the load-carrying surface to said one end pulley, and the pressure pulley serves to drive the belt in the opposite direction, said take-up pulley serving to maintain a firm wrap around said one end pulley irrespective of the direction of travel of said belt, and preventing the formation of slack in the belt adjacent to said sealing lip.

2,973,085

PROCESS FOR THE SAFE STORING OF LIQUID ACETYLENE SOLUTIONS

Oskar K. Nissen and Moritz Maier, Frankfurt am Main, and Hans Weller, Hofheim, Germany, assignors to Knapsack-Griesheim Aktiengesellschaft, Knapsack Bezirk Koln, Germany, a company of Germany

Filed Oct. 18, 1955, Ser. No. 541,261
Claims priority, application Germany Oct. 18, 1954
6 Claims. (Cl. 206—.7)



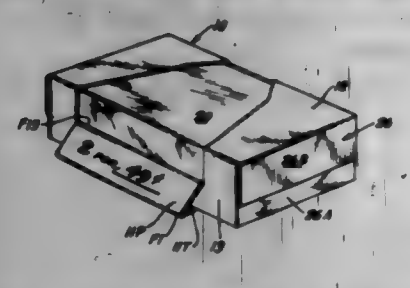
1. A container for storing and transporting a liquid mixture of acetylene and a solvent under substantially atmospheric pressure comprising a closed vessel insulated against the influence of temperature, a gas and liquid permeable partitioning means separating the container into an upper protective gas zone and a lower liquid mixture zone, a safety relief valve connecting the upper zone with the atmosphere and set at a predetermined pressure above atmospheric pressure and a layer of porous filling material permeable to gas and liquid and having a large surface area per unit of weight supported by the partitioning means and extending across the entire inner cross-sectional area of the container.

2,973,086

CARTONS

Joseph Thompson, Upper Saddle River, N.J., assignor to Coates Board & Carton Co., Inc., Garfield, N.J., a corporation of Delaware

Filed June 18, 1958, Ser. No. 742,926
2 Claims. (Cl. 206—45.31)



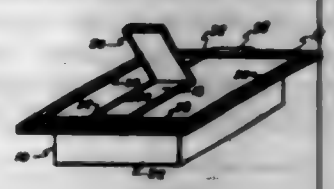
1. A display carton comprising a top wall including a body portion, a bottom wall, front and rear and end walls; an opening panel having a top portion formed coplanar with and constituting a part of the top wall of the carton and being connected by perforate lines to the said body portion of said top wall, said opening panel including a side wall portion formed coplanar with and constituting part of one side wall of the carton and bearing data on its inner surface, and said opening panel being movable out of the plane of the said top wall and out of the plane of said one side wall of the said carton; the said data bearing portion of said opening panel being permanently joined to said one side wall along a longitudinal fold line extending parallel to and above the lower edge of said one side wall approximately at the longitudinal center line of said one side wall; said opening panel being foldable about said longitudinal fold line out of the plane of said top wall and out of the plane of said side wall to enable the said top portion of the said opening panel to be hingedly pivoted about said longitudinal fold line and extended under and parallel to the bottom wall of the said carton, with said data-bearing portion of said opening panel extending downwardly at an acute angle away from the said side wall to expose to view the data on the inner surface of said data-bearing portion of said side wall; said opening panel including a second longitudinal fold line coincident with the top edge of said side wall; a transparent sheet including a portion secured to the inside surface of the said top wall of said carton below the top wall portion of said opening panel and said transparent sheet having a portion extending downwardly along the inner surface of said one side wall and secured to the inner surface thereof and enclosing the area of said one side wall defined by said data-bearing portion of said side wall portion of said opening panel; said carton including glue flaps joined to said top wall thereof at opposite sides of said top wall portion of said opening panel along a longitudinal fold line and being adhesively united to the other one of said side walls; and means for releasably lathing the said opening panel to the said other one of said side walls.

2,973,087

EASY OPENING BLISTER PACK

Howard A. Robdin, 397 Forest Ave., Glen Ridge, N.J.

Filed June 23, 1958, Ser. No. 743,586
1 Claim. (Cl. 206—56)



An impervious package comprising: a blister portion molded from a sheet of plastic material having an initially uniform caliper, said blister portion having an outwardly extending planar flange around its entire periphery; a lid formed by a sheet of plastic material, of uniform caliper throughout its area, said lid having its margins heat-sealed to the flange of said blister portion, said heat-seal being spaced inwardly from the edges of the lid, said lid having formed therein a double fold extending transverse one dimension of said blister portion, one margin of said double fold being heat-sealed to itself throughout its transverse extent to provide a line relatively greater in strength as compared to the immediately adjacent portions of said lid, the said heat-seal traversing the double fold adjacent to but spaced inwardly from each end thereof to provide at said extremities, areas of greater strength than that of said heat-sealed double fold and of the untreated material of said lid, thereby providing a tear tape for the package.

2,973,088

SELF-BONDING MATERIAL

Peter J. Canterino, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Aug. 23, 1956, Ser. No. 605,700
10 Claims. (Cl. 206—59)

1. A material which is capable of adhering to itself consisting essentially of a blend of (1) a chlorinated polymer of aliphatic 1-olefins having no more than four carbon atoms per molecule, the polymer prior to chlorination having a density of at least 0.94 at 25° C. and a crystallinity of at least 70% at 25° C., said polymer containing between 40 and 60 weight percent chemically combined

chlorine, and (2) from 2 to 25 parts by weight per 100 parts of chlorinated polymer of a plasticizer compatible therewith.

2,973,089
PROCESS FOR THE PROTECTION OF GLASS AGAINST IRIDESCENCE AND PACKAGE FOR CARRYING THIS PROCESS INTO EFFECT

Edgard Brichard, Jumet, Emile Plumat, Gilly, and Lucien Leger, Montigny-le-Tilleul, Belgium, assignors to Union des Verreries Mecaniques Belges, Societe Anonyme, Charleroi, Belgium, a Belgian company

Filed May 8, 1957, Ser. No. 657,745
Claims priority, application Belgium May 11, 1956
10 Claims. (Cl. 206—62)

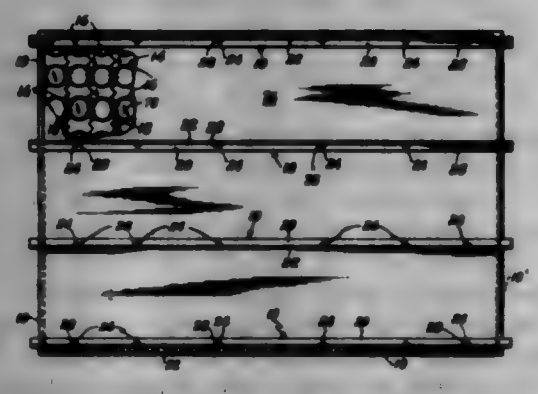


2. Glass sheets protected from irideacence of the surfaces thereof comprising a plurality of said glass sheets stacked together, and wrapping paper interleaved between successive glass sheets, said paper being impregnated with 0.3 to 0.5 grams per square meter of sodium bisulphate.

2,973,090
REUSABLE BEDSPRING CRATE

Charles M. Dunlap, Mansfield, Ohio
(3342 Waltham Ave, Kettering 29, Ohio)

Filed Sept. 19, 1958, Ser. No. 762,047
22 Claims. (Cl. 206—65)



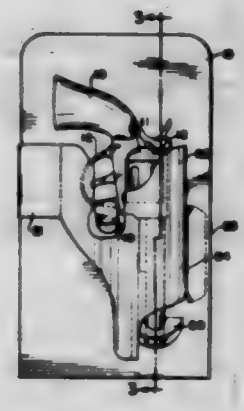
1. A crate assembly adapted for retaining one or more bedsprings in compressed condition comprising, a pair of slat means to be positioned on opposite sides of a bedspring or a stack of bedsprings, one of said slat means including connecting means rigid with said one of said slat means and extending laterally therefrom, said connecting means, when the assembly is used to crate a bedspring or a stack of bedsprings, passing through or between the springs of said bedspring or bedsprings, the other of said slat means including aligned means receiving said connecting means, and other means, carried by said other slat means and cooperating with said receiving means, securing said connecting means to said other slat means.

2,973,091
HOLSTER CARTON

Elmer H. Berry, North Madison, Conn., assignor to The New Haven Board & Carton Company, New Haven, Conn., a corporation of Connecticut

Filed Jan. 11, 1960, Ser. No. 1,634
4 Claims. (Cl. 206—79)

1. A package comprising a toy revolver having a grip, a cylinder, a trigger guard, a striking plate, and a barrel, and a carton enclosing at least the barrel and formed of a base panel having openings for partly receiving the grip and the cylinder, and outer panel connected along one side edge to the base panel, interengaging parts on the base panel and the other side edge of the outer

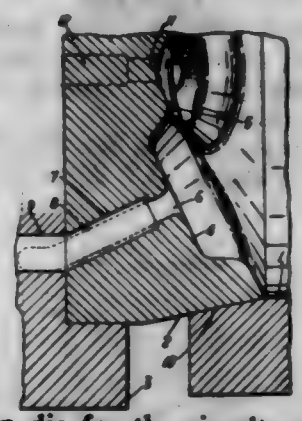


panel, the part of the outer panel between its side edges bulging outwardly from the base panel to provide space for the barrel, cylinder, and trigger guard, and a flap struck from the base panel and having an opening receiving the outer end of the barrel.

2,973,092
PRODUCTION OF METAL ARTICLES BY EXTRUSION

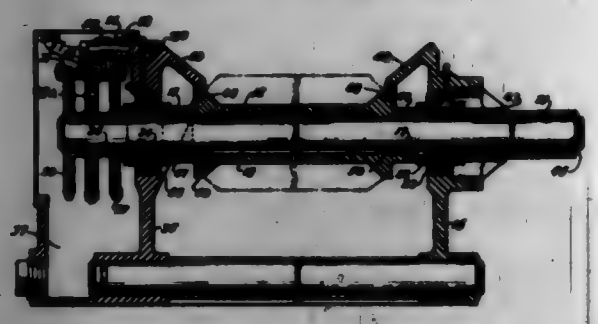
Alexander Barbour Graham, Glasgow, Scotland, assignor to The International Nickel Company, Inc., New York, N.Y., a corporation of Delaware

Filed Jan. 24, 1958, Ser. No. 711,100
Claims priority, application Great Britain Jan. 28, 1957
2 Claims. (Cl. 207—17)



1. An extrusion die for the simultaneous extrusion of a plurality of solid metal articles, said die comprising a single piece structure having a generally concave billet engaging face, the latter having a central frusto-conical cavity with outer frusto-conical cavities thereabout, said central cavity having its axis coincident with the die axis and having a bottom which is substantially perpendicular to said axis, each of said outer cavities extending in a direction which is outwardly inclined thus making each outer cavity axis closer to said die axis on the billet engaging side than on the exit side of said die, each of said outer cavities having a bottom which is substantially perpendicular to its corresponding said cavity axis, each of said central cavity and said outer cavities having a centrally disposed extrusion orifice which leads into a clearance passage, said orifice and said passage being coaxial with their respective preceding cavity, each of said central cavity and said outer cavities having its upper edge rounded and having a fillet provided between its lower edge and the corresponding cavity bottom, whereby workmetal will tend to flow substantially uniformly to the respective said central cavity and said outer cavities and each cavity will serve as a reservoir for lubricant which is introduced before said workmetal.

2,973,093
ROLLER DEVICE WITH REMOVABLE ROLLS
Lewis C. Ericksen, 3328 E. Superior St., Duluth 4, Minn.
Filed May 17, 1956, Ser. No. 585,550
5 Claims. (Cl. 209—106)



4. A bed of driven rollers including first and second side frames, a series of pairs of bearings with one bearing of each pair carried by each side frame, a shaft extending through each pair of bearings, drive means along the first side frame including a series of sprockets associated with the bearings of that side frame and chain means driving the sprockets, a roll on each shaft, the end portions of the rolls being supported by the shafts near the bearings, the bearings on the second side frame being separable to permit axial removal of the rollers, and separable driving coupling means between the sprockets and the rollers whereby the drive means may be left intact when the rollers are removed.

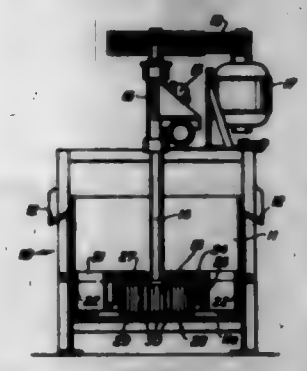
5. A bed of driven rollers according to claim 4 in which the rollers are elliptical and displaced approximately 90° in phase from adjacent rollers and the driving coupling means can be reengaged only at angular intervals spaced approximately by an integral multiple of 90°.

2,973,094
SEPARATING APPARATUS AND METHOD
Alvin S. Lundy, Bloomfield Hills, Mich., assignor to Claude B. Schneible Co., Detroit, Mich., a corporation of Michigan
Filed Sept. 2, 1958, Ser. No. 758,515
5 Claims. (Cl. 209—144)



1. In apparatus for the separation, classifying or the like, of particles from a gaseous medium, at least two chambers in side-by-side relation, each of said chambers having a cylindrically-shaped upper portion provided by a pair of curved side walls and vertically-extending end walls, each of said chambers having a hopper-shaped lower portion, an outlet in one end wall of each chamber and an inlet in the other end wall of each chamber, the outlet of one chamber communicating with the inlet of the other chamber, a refuser wheel mounted in each chamber with its outlet in alignment with the outlet of said chamber, a downwardly arcuate separator plate in each chamber extending between said end walls below the refuser wheel therein and cooperating with the cylindrically-shaped upper portion to provide a cylindrical casing for said wheel, said plate terminating short of said side walls and providing with the side walls of said chamber the only medium flow passages communicating the upper chamber portion with the hopper portion of said chamber, the inlet of each chamber being positioned above its separator plate, means for rotating said refuser wheels, the refuser wheel first contacted by said medium having a lower peripheral velocity than the other wheel whereby said wheels provide a stepwise increase in the centrifugal force acting on particles in said medium as it passes through said chambers by increasing the rate of rotation of said medium.

2,973,095
IMPELLER-STATOR COMBINATION FOR AERATION MACHINES
Charles M. Anderson and Marshall J. Sayers, Salt Lake City, Utah, assignors to The Galigher Company, Salt Lake City, Utah, a corporation of Utah
Filed July 9, 1957, Ser. No. 670,688
3 Claims. (Cl. 209—169)

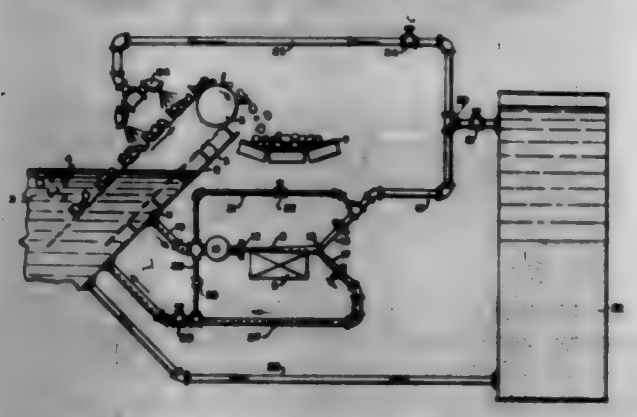


1. In a flotation machine which includes a container for liquid to be aerated and froth overflow means, an impeller-stator combination comprising stator members fixedly mounted within said container in mutually spaced relationship defining side-discharge ports therebetween; a hollow impeller mounted for rotation within said container about a substantially vertical axis, said impeller having a substantially closed top and a peripheral series of finger members depending therefrom and defining a multiplicity of side-discharge ports; and means remote from the impeller for introducing a stream of air into the interior of said impeller axially thereof and at the underside of its said closed top while the impeller is rotating, said stator members extending within the hollow interior of the impeller into the path of air dissemination so that the side-discharge ports thereof are disposed in the line of action of the side-discharge ports of the impeller, the container being deep relative to the heights of the impeller and stator members, the impeller having an open bottom for the entry of flotation pulp from the container, and the finger members of said impeller terminating well above the bottom of the container and the lower ends of the said side-discharge ports of the stator, so that entry of pulp into the hollow interior of the impeller takes place essentially from below.

2,973,096
MAGNETIC SEPARATION APPARATUS AND TREATING METHODS INVOLVING MAGNETIC SEPARATION
Melvin J. Greaves, Parma, Ohio, assignor to Robert A. Cummings, Jr., Pittsburgh, Pa.
Filed Apr. 18, 1958, Ser. No. 729,411
7 Claims. (Cl. 210—65)

2. A method of recovering substantially magnetic material free liquid from liquid containing magnetic material comprising flowing in a stream liquid containing magnetic material, drawing toward one side of the stream magnetic material in the liquid by a magnetic field, advancing in the direction of flow at approximately equal speeds the magnetic field and that portion of the stream containing the magnetic material, confining the dimen-

sion of the stream parallel to the direction of magnetic attraction to a minimum in the zone of entry of the stream into the magnetic field, increasing said dimension in a zone advanced in the direction of flow relatively to said



first mentioned zone, delivering the magnetic material at said side of the stream and delivering substantially magnetic material free liquid at the opposite side of the stream.

2,973,097

APPARATUS FOR THE PURIFICATION, NEUTRALIZATION, CLARIFICATION AND SOFTENING OF LIQUIDS

Kenneth M. Snider, Mansfield, Ohio, assignor, by mesne assignments, to Water Purification, Inc., Mansfield, Ohio, a corporation of Ohio

Filed Mar. 16, 1959, Ser. No. 799,718
8 Claims. (Cl. 210—279)



1. Apparatus for the treatment of liquids, including a housing, having a closure provided with a first port and a second port, defining a major chamber containing a treating material-containing chamber part and an outermost chamber part; a tubular conduit carried by said housing and in communication with said first port extending into said chamber with the inner end portion of said conduit within said treating material-containing chamber part and provided with a first end closure and a minutely narrow slot spaced from said end closure; a sleeve depending from said closure and extending into said chamber at said outermost chamber part and surrounding a portion of said tubular conduit, with said sleeve and the portion of said tubular conduit surrounded thereby providnig a space in liquid communication with said second port, said sleeve being of flexible material and provided with an elongated, minutely narrow slot in the wall thereof, extending substantially parallel to the longitudinal axis of said sleeve and opening to said space, and a second end closure encircling an outer portion of the periphery of said tubular conduit and having a slip fit therewith and being secured to the inner periphery of said sleeve to slip along said tubular conduit upon movements of said sleeve, whereby upon flow of liquid under pressure through said first port, and thence through said tubular conduit, said first mentioned slot, said major chamber, including said treating material-containing chamber part, said second mentioned elongated slot, said space and out of said second port, the flexible walls of said sleeve will be forced inwardly, said second end closure will move and the width of said second mentioned elongated slot will narrow so that foreign matter in said chamber exteriorly of said sleeve will not enter said space, and upon flow of liquid under pressure through said second port and thence through said space, said second mentioned elongated slot, said major chamber, said first mentioned slot, said tubular conduit and said first port, the flexible wall of said sleeve will be forced outwardly, said second end closure will move and the width of said second mentioned elongated slot will enlarge so that foreign matter collected in said space will exit through said second mentioned elongated slot into said chamber exteriorly of said sleeve.

2,973,098

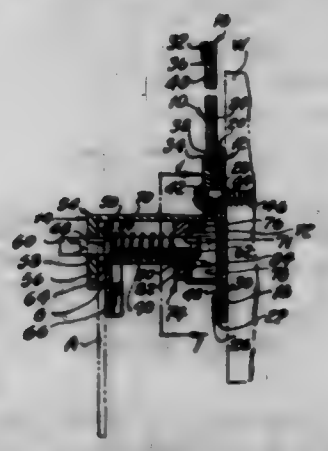
WITHDRAWN

2,973,099

MULTIPLE ARTICLE HOLDER

Clarence Sova, 729½ Pierre Ave., Windsor, Ontario, Canada

Filed Aug. 11, 1958, Ser. No. 754,428
4 Claims. (Cl. 211—89)



1. A multiple article holder adapted for mounting upon a supporting structure, comprising a generally plate-shaped article holder support having a horizontally-disposed guideway therein with parallel upper and lower guide grooves, a plurality of individual article holders disposed in approximately side-by-side arrangement, each having a housing with a generally plate-shaped back having parallel upper and lower edge portions slidably engaging said parallel upper and lower guide grooves of said guideway, and means on said article holder support for securing said article holder support to the supporting structure; each article holder having a forwardly-disposed abutment member, a rearwardly-disposed clamping member movable into and out of clamping relationship with said abutment member, and a resilient member yieldingly urging said clamping member into clamping engagement with said abutment member.

2,973,100

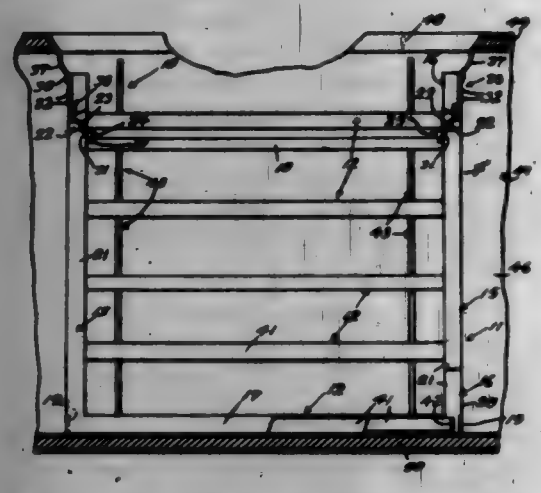
RACK AND TRAY STRUCTURE

George D. Wiley, Cherry Lane, R.D. 3, Doylestown, Pa.

Filed June 17, 1960, Ser. No. 36,902
8 Claims. (Cl. 211—126)

1. A rack and tray structure comprising a rack having an open upper end and including upright corner posts of angular cross section and disposed to open inwardly thereof, a plurality of commodity supporting trays stacked

one upon the other within said rack, a pair of tray supporting members, means swingably mounting said tray supporting members within said rack, said means engaging said corner posts for mounting one of the tray supporting members between two of said corner posts and the other tray supporting member between the other two corner posts, means connecting the tray supporting members to corner posts thereof for preventing swinging movement of said tray supporting members downwardly and in-



wardly of the rack beyond substantially horizontal positions, said tray supporting members being disposed near the top of the rack and engaging under the uppermost tray for supporting the uppermost tray within the top of the rack when said support members are in horizontal positions, and said support members being swingable upwardly to permit a tray to be drawn upwardly therebetween and being released by movement of the tray thereabove for return to horizontal positions to support the tray thereon.

2,973,101

SHELF DIVIDER STRUCTURE

John C. Dunham, Aurora, Ill., assignor to Aurora Equipment Company, Aurora, Ill., a corporation of Illinois

Filed Apr. 25, 1960, Ser. No. 24,537
11 Claims. (Cl. 211—184)



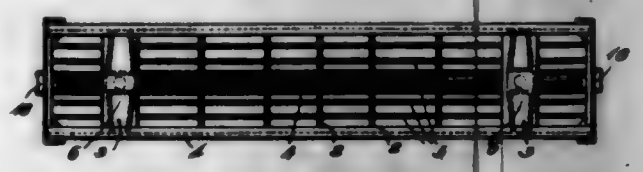
1. As an article of manufacture, a shelf divider structure for use with a shelf structure and adapted to be mounted on an underside of a shelf on a shelf structure with the shelf having channeled shelf edges, the shelf divider structure including a crosspiece member having opposite ends constructed for engagement within opposite channeled shelf edges of a shelf, and a shelf divider comprising a flat plate slidable along the length of said crosspiece member and having a pair of tabs connected to said plate and extending away from the plate at its opposite sides and in opposite directions with respect to the plate and to one another, said crosspiece member having an area formed to enable one of the tabs to be telescoped therethrough so that the tabs may be engaged and carried in assembly on one side of the cross-piece member, the tabs bearing against the crosspiece member to assist in preventing the shelf divider from being displaced along the length of the crosspiece member when a lower end portion of the flat plate is subjected to a load.

2,973,102

UNDERFRAME WITH RECOILING CENTER SILL

Karl F. Nystrom, Chicago, Ill., assignor to International Steel Company, Evansville, Ind., a corporation of Indiana

Filed Dec. 15, 1958, Ser. No. 780,299
8 Claims. (Cl. 213—8)



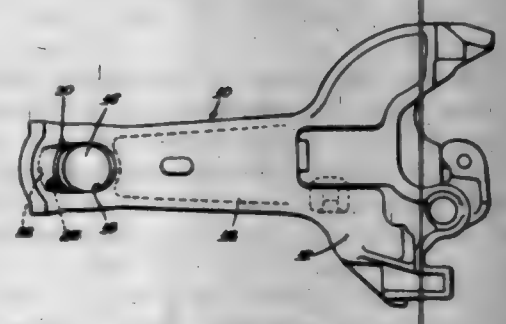
1. A railway car underframe with recoiling center sill comprising an underframe structure including body bolsters on either end thereof, a movable center sill extending through said underframe structure and through said body bolsters, said movable center sill having a striker assembly on either end thereof and a pocket on each end thereof behind said striker assembly and in front of said body bolsters, each of said pockets containing a yieldable cushion gear, a second pocket on each end of said movable center sill in the rear of said body bolsters, a yieldable cushion gear with a movable follower member on each end thereof interposed in each of said second pockets, aligned longitudinal slots provided in each side wall of said movable center sill adjacent each end of each of said second pockets, a key member adjacent either end of each of said second mentioned yieldable cushion gears, said key members extending through said aligned longitudinal slots and extending beyond the side walls of said movable center sill and movably engaging slotted link bar members on either side thereof, a pair of said slotted link bar members being securely fastened to the rear of each of said body bolsters through anchor plate members on either side of said movable center sill, each pair of said slotted link bar members movably engaging said key members of the associated second pocket.

2,973,103

COUPLER BEARING BLOCK ASSEMBLY

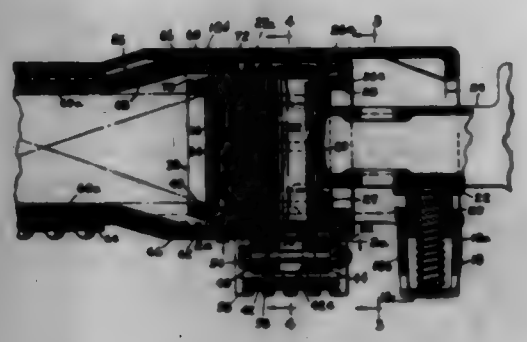
Carl E. Tack, Elmhurst, Ill., assignor to American Steel Foundries, Chicago, Ill., a corporation of New Jersey

Filed May 22, 1959, Ser. No. 815,044
1 Claim. (Cl. 213—64)



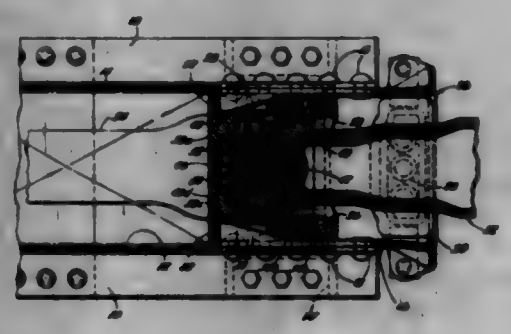
A railway car coupler comprising: a shank having an opening; a bearing block received in said opening, said bearing block having at least one hole extending partially therethrough; a spring received in said hole and projecting outwardly thereof for resiliently holding the bearing block in the shank opening; and means for preventing accidental removal of said spring from said hole when the bearing block is disassembled from the coupler shank, said means comprising an end coil of said spring expanded radially outward from the other coils with its diameter, before insertion of the spring into the opening, being larger than the diameter of the opening so that when the spring is disposed within the opening with said end coil at the closed end thereof said end coil will exert a pressure radially on the periphery of said opening.

2,973,104
DRAFT RIGGING FOR RAILWAY VEHICLES
William J. Metzger, East Cleveland, Ohio, assignor to National Malleable and Steel Castings Company, Cleveland, Ohio, a corporation of Ohio
Filed Jan. 28, 1954, Ser. No. 406,828
12 Claims. (Cl. 213—69)



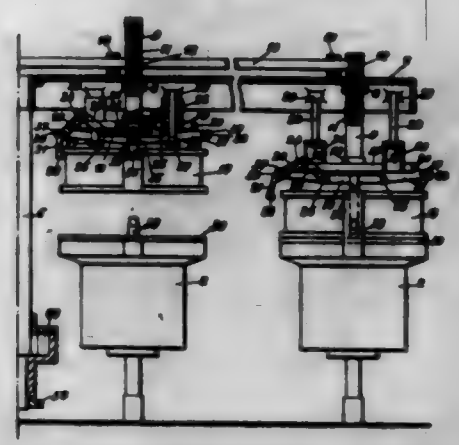
6. In a railway draft rigging a yoke having a head portion for receiving a coupler shank, said head portion having a cylindrical inner surface, a member within said head portion engaging said surface and being rotatable relative to said yoke, said member having an opening for receiving a coupler shank, a pivot pin for connecting said member to a coupler shank, said head portion having an opening through which said pin is applied to said member, and a pin supporting element received in said last-named opening, said element having a curved surface which forms a continuation of said surface in said head portion.

2,973,105
DRAFT RIGGING FOR RAILWAY VEHICLES
William J. Metzger, East Cleveland, Ohio, assignor to National Malleable and Steel Castings Company, Cleveland, Ohio, a corporation of Ohio
Filed Oct. 4, 1954, Ser. No. 460,164
10 Claims. (Cl. 213—71)



8. In a rotary coupler arrangement, a sill securable to a car body, a striker disposed within the sill and secured thereto adjacent the front end of the sill, a coupler comprising a coupling head and a shank, a draft gear comprising a yoke having straps thereon receiving a spring unit, a front follower disposed within the yoke and engaging the front portion of said spring unit, rear stop lugs on the sill engaging the rear portion of the spring unit, front stop lugs engaging the front face of the follower, arcuate surfaces defined by the yoke adjacent the forwardly facing opening, a rotary collar rotatably received within the yoke and having surfaces thereon complementally arranged relative to the arcuate surfaces of the yoke, said shank being telescoped within said sill, striker, yoke and collar, apertures in collar and shank, and a pin received within said apertures and rotatably connecting the shank to the collar.

2,973,106
APPARATUS FOR LIFTING AND SETTING DOWN OF MOULDING BOXES
Eduard Menger, Mühlegasse 198, Kallnach, Switzerland
Filed Aug. 22, 1957, Ser. No. 679,619
Claims priority, application Switzerland Aug. 24, 1956
11 Claims. (Cl. 214—1)

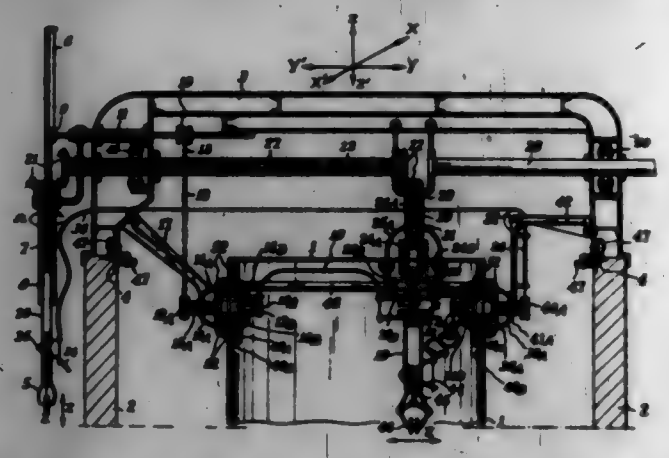


1. Apparatus for handling boxes, comprising, in combination, conveyor means for boxes having an end portion to which boxes are conveyed; swingable means including a supporting arm means supported at one end for turning movement about a first axis located in the region of said conveyor means, and a jib arm means supported on the other end of said support arm means for turning movement about a second axis parallel to said first axis, said swingable means being movable between a folded position in which said supporting arm means and said jib arm means are folded over each other along said conveyor means, and an expanded position in which jib arm means projects from said other end of said support arm means and in which said support arm means extends in a direction transverse to said conveyor means; a support located in the region of said jib arm means in said expanded position of said swingable means; means mounted on said jib arm means for grabbing in said folded position of said swingable means boxes located on said end portion of said conveyor means and for depositing in said expanded position of said swingable means the boxes on said support; and operating means for moving said swingable means between said folded and expanded positions, and including first actuating means operatively connected to said support arm means for turning the same about said first axis, second actuating means connected to said jib arm means for turning the same about said second axis, and control means controlling and actuating said first and second actuating means in a selected sequence so that said support arm means and said jib arm means sweep over a selected small area during movement of said swingable element.

2,973,107
REMOTE-CONTROLLED MANIPULATING APPARATUS FOR MANIPULATING OBJECTS INSIDE SEALED CHAMBERS
Guy Chérel, Clamart, France, assignor to Commissariat a l'Energie Atomique, Paris, France
Filed Nov. 17, 1958, Ser. No. 774,484
Claims priority, application France Nov. 16, 1957
12 Claims. (Cl. 214—1)

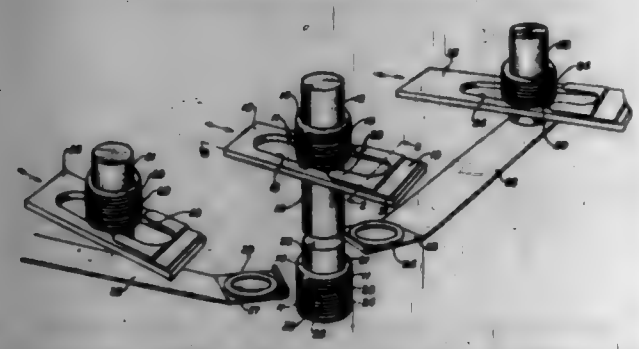
1. A telemanipulator for manipulating objects inside a sealed chamber having walls of non-magnetic material, comprising manipulative means for manipulating objects; means for movably mounting said manipulative means inside said chamber; operating means operatively connected to said manipulative means located inside said chamber; control means located outside said chamber; control magnet means connected to said control means; operating magnet means connected to said operating means for cooperation with said control magnet means,

whereby control movements applied to said control means are imparted to said manipulative means; said manipulative means being mounted for sliding movement on a beam movable in a plane parallel to and below a



top wall of the chamber; other operating magnet means for opening, closing, and vertically moving said manipulative means mounted on the ends of said beam; and other control magnet means, cooperating with said other operating magnet means, connected to said control means.

2,973,108
DEVICE FOR DISPENSING APERTURED PLATES
Edward O. Gable, Rochester, N.Y., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed June 14, 1949, Ser. No. 98,948
1 Claim. (Cl. 214—8)



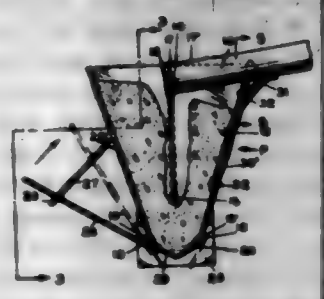
Assembly apparatus for apertured members some with circular apertures and some with noncircular apertures, comprising support members constituting right and left stations convenient to the right and left hands of an operator, means for feeding circular apertured members one at a time to said right and said left hand stations, a noncircular mandrel rod between the two stations with a cross section smaller than the circular and noncircular apertures and rotation-preventively fitting the noncircular aperatures, a fixed vertical rod in axial alignment with and spaced from the mandrel rod sufficient to allow hand insertion of circular apertured members on the top of the mandrel rod and still close enough to allow properly oriented noncircular apertured members from the fixed rod to fall still so oriented onto said mandrel rod, said fixed rod having a noncircular cross section rotation-preventively fitting the noncircular apertures oriented in alignment with the cross section of said mandrel rod, a reciprocating horizontal slide having an elongated slot wider at one end than the outside diameter of said noncircular apertured members and at the other end narrower than said outside diameter but wider than said fixed rod, said fixed rod extending vertically through said slot in said slide, and means movable with said slide and spaced therefrom for separating a predetermined number of noncircular apertured members and for supporting the remainder of said noncircular apertured members when said fixed rod is in the wider portion of said slot.

2,973,109
APPARATUS FOR STACKING APERTURED PLATES
Edward O. Gable, Rochester, N.Y., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Oct. 7, 1949, Ser. No. 120,855
3 Claims. (Cl. 214—8)



3. Apparatus for stacking, with the same side up, apertured plates having opposite sides of relatively high and low reflectance, comprising a wide, approximately horizontal, continuously moving endless belt for receiving said plates in a heterogeneous pile, a wide inclined belt having a high coefficient of friction with said plates relative to the coefficient of friction between the plates moving continuously upward at approximately three times the speed of the horizontal belt and disposed to receive the plates as they fall from the horizontal belt, a number of narrow inclined belts also having high coefficient of friction with said plates relative to the coefficient of friction between the plates moving continuously downward at approximately four times the speed of said wide inclined belt, means for receiving the plates as they fall from the wide inclined belt and feeding the plates onto the narrow inclined belts, said wide and said narrow inclined belts having angles of inclination with the horizontal whose tangents are greater than the coefficient of friction between plates but less than the coefficient of friction between a plate and said inclined belts, a first group of narrow, approximately horizontal, endless belts disposed to receive the plates as they fall from the narrow inclined belts moving at approximately twice the speed of said narrow inclined belts, a second group of narrow, approximately horizontal, endless belts parallel to, adjacent to, and moving in unison with the belts of the first group, means including photoelectric cells for ejecting only plates having one of the two reflectances at the upper surface thereof onto belts of the second group, a number of inclined rods equal in number to the narrow horizontal belts disposed to catch the apertured plates as they fall from the narrow horizontal belts, and means for driving said belts.

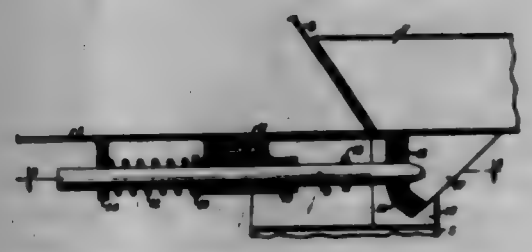
2,973,110
POURING SPOUTS FOR CONCRETE
Golden T. Gentle, 4333 NE. Mason, Portland, Oreg.
Filed Mar. 11, 1958, Ser. No. 720,764
1 Claim. (Cl. 214—17)



Pouring means for concrete mixers, comprising a delivery chute, a hopper positioned below said chute

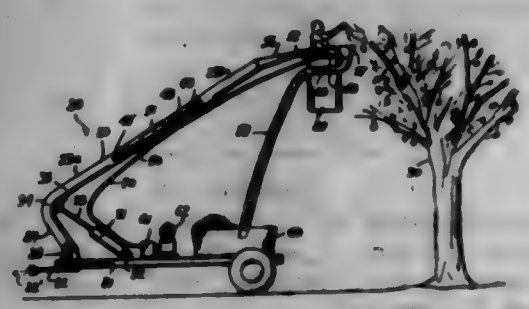
in depending relation to the delivery end of said chute, pivoted gates at the lower end of said hopper, a vertically elongated tapered cut-out portion in the wall of said hopper, and open at the top end of said hopper, and a flexible sheet of material releasably secured to the edges and bottom of said cut-out portion and having its top edge substantially flush with the top of said hopper to provide a yieldable resilient rest and sealing means for said chute.

2,973,111
COMPACTION BODIES
George R. Dempster and William A. Herpich, Knoxville, Tenn.; said Herpich assignor to Dempster Brothers, Inc., a corporation of Tennessee
Filed Feb. 11, 1958, Ser. No. 714,641
9 Claims. (Cl. 214—82)



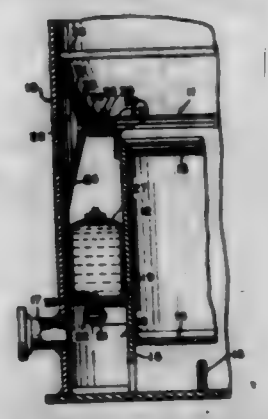
1. In a compaction body having a filling opening and packer means within the body for movement relative to the filling opening, the combination of a cover, means mounting the cover on the body for opening and closing movements with respect to the filling opening, latch means on the body in position for latch engagement with the cover in the closed position thereof to hold the cover closed on the opening, and means actuated by the movement of the packer means for actuating the latch means.

2,973,112
FRUIT PICKER
John W. Young, Barrington, R.I.
(815 N. Glenwood Ave., Clearwater, Fla.)
Filed Jan. 23, 1957, Ser. No. 635,870
4 Claims. (Cl. 214—83.1)



1. An adjustable travelling platform, comprising a wheeled chassis, a boom pivotally mounted on said chassis for swinging in a vertical plane, power means for swinging said boom, said boom comprising a lower section pivoted to the chassis and an upper section pivoted to said lower section for swinging laterally relative thereto, power means for swinging said upper section, a yoke pivotally attached to said upper section for lateral swinging about an axis disposed in the plane of the upper section, an operator's platform pivotally suspended and depending freely from said yoke for swinging about a horizontal axis transverse to the axis of swinging of said yoke whereby said platform may remain substantially upright under gravity regardless of the position of said boom, and control means for said first and second mentioned power means.

2,973,113
WEATHER SEAL
Alexander F. Fino, Warren, Pa., assignor, by mesne assignments, to Pittsburgh-Des Moines Steel Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 28, 1958, Ser. No. 770,092
4 Claims. (Cl. 220—26)



4. In combination with a liquid storage tank having a confining shell and a floating roof disposed therewithin to rise and fall with the level of liquid within the tank, said roof providing an annular space therearound between the same and said shell and there being a flexible scuff band carried by the roof engaging and sealing against the inner surface of the shell, a protective strip secured to the upper region of said roof and including an inner substantially coplanar annulus fixed to the roof, an intermediate portion integrally joined with said annulus and of frusto-conical configuration extending angularly upwardly and outwardly therefrom toward the inner surface of said shell, the outer periphery of said intermediate portion terminating in closely spaced relationship to said inner surface of the shell, and an outer marginal edge portion integrally joined to said intermediate portion and extending therefrom into engagement with the inner surface of said shell, the normal dimensions of the protective strip being such that the outer marginal edge portion thereof presents a diameter greater than the inner diameter of said shell so that said outer marginal edge of the strip is forcefully deformed and sealingly engaged against the inner surface of said shell, said strip being formed of rubber with the outer marginal edge thereof being materially softer than the intermediate portion of said strip, said strip at the juncture between said annulus and the intermediate portion thereof being of reduced thickness to facilitate flexing in this region, and there being a strip of resilient hinge sheet material embedded within the material of the strip joining the annulus and immediately adjacent portions of the intermediate portion so as to pass through the region of reduced thickness, such sheet material being initially deformed to render a preformed shape to the strip.

2,973,114
CONTAINER COVER
Franklin S. Patton, 370 Arlington Road, Erie, Pa.
Filed May 31, 1957, Ser. No. 662,904
1 Claim. (Cl. 220—42)

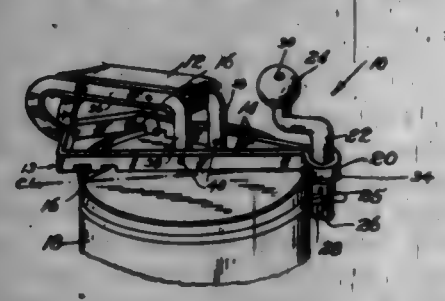
In combination, a container and a cap therefor comprising a container having a generally cylindrical wall terminating at the upper end in an edge, a top, said top having a peripheral edge overlying the upper edge of said cylindrical wall, then bent inwardly, then downwardly, then inwardly and upwardly to form a groove, then bent outwardly and upwardly and rolled back on itself, a cap, said cap comprising an outer cup and an inner cup, said inner cup being nested in said outer cup, said outer cup having a straight cylindrical side wall terminating at one end in an inwardly extending shoulder disposed substantially at a right angle to said side wall and defining a central opening therethrough, said inner cup having an open

end and a top, the open end of said outer cup terminating in a rim resting in said groove with the outer periphery of said rim engaging said downwardly extending portion of said top, said inner cup having an outer peripheral groove disposed adjacent the closed end thereof, the



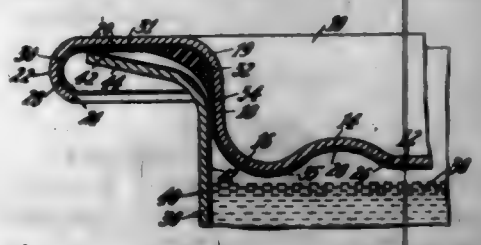
material of said outer cup shoulder being received in said outer groove, the side wall of said inner cup terminating in a rim, said inner cup rim frictionally engaging said rolled back portion of said top and resting on said inwardly and upwardly extending portion of said top.

2,973,115
COFFEE CAN OPENER
John Kabeci, Box 594, Idyllwild, Calif.
Filed May 31, 1960, Ser. No. 33,035
5 Claims. (Cl. 220—52)



1. An implement for opening a can of the type that consists of a cup-shaped body with a skirt equipped cover by removing the tear strip extending around the can a short distance below a peripheral rim rising above the top of the cover, comprising: a main frame formed of a single length of metal stock rectangular in cross-section, and embodying a pair of horizontally diverging arms adapted to overlie such a can and can cover and rest on said rim, the arms having their inner converging end portions thereof connected together by a circular mid-portion of said metal stock forming a vertically extending cylindrical bearing ring that is adapted when the pair of arms are in place across the top of the can cover to assume a position wherein it is substantially above and outwardly of the rim of the can cover, the outer diverging end portions of said arms being bent inwardly towards each other and upwardly a suitable distance and then toward the coverging ends of said arms forming a pair of horizontal longitudinal main-handle support members arranged above said arms, the remaining free end portions thereof being bent downwardly with the free ends thereof secured to the intermediate portions of said arms, a main-handle secured to and between said longitudinal main-handle support members, and a vertically extending shaft having the central portion thereof journalled in said bearing ring, embodying in its lower end a diametric slot for receiving the tongue of the tear strip of the can, having the upper end thereof provided with turning means, and adapted when it is turned by said means after insertion of the tongue into the slot to wind the tear strip around its lower end and thus effect release of the cover of the can from the can body.

2,973,116
CONTAINER CLOSURE
Howard Roberge, Park Ridge, N.J., assignor to American Can Company, New York, N.Y., a corporation of New Jersey
Filed May 1, 1959, Ser. No. 810,307
2 Claims. (Cl. 220—61)

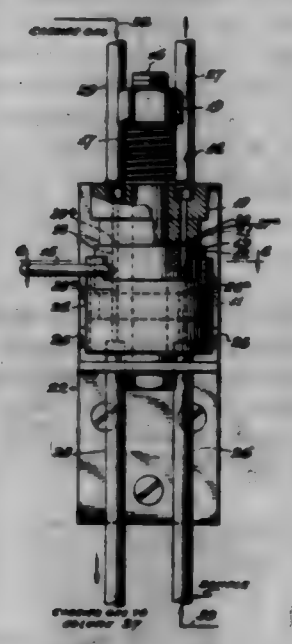


2. In an interiorly coated can end member which is formed with a depressed panel, a countersink radius wall, a countersink wall which extends upwardly from said countersink radius wall, and a peripheral flange which extends outwardly from said countersink wall at an angle thereto and terminates in an open edge curl which extends downwardly and inwardly toward said countersink wall, said countersink wall extending downwardly beyond the edge of said curl, and said flange and curl and said countersink wall being adapted to be interlocked in double seamed engagement with the marginal end portion of an interiorly coated can body, the improvement which comprises a multi-component lining system for said can end, the first component of said system comprising a thin layer of a rubber-based compound which is non-extrudable at normal room temperatures and is carried on the outer portion of said peripheral flange, the second component of said system comprising a heavy layer of a rubber-based compound which is extrudable at room temperatures and is carried on the inner portion of said peripheral flange and on a portion of said countersink wall above the plane of the edge of said flange curl, the third component of said system comprising a thin film of a non-blocking wax which is deposited on the remaining portion of said countersink wall and on said curved countersink radius, whereby when said end is secured to said can body in a double seam, said non-extrudable compound remains in place and hermetically seals the outer layers of said seam and forms a barrier against the movement of said extrudable compound toward the peripheral edge of said flange so that said extrudable compound is forced to flow in the opposite direction along said countersink wall toward the interior of the can to cooperate with said wax film to fill and seal the space between the inner layers of said double seam and shield said layers from the corrosive action of the product within the container.

2,973,117
MEASURING AND CHARGING VALVE
Raymond O. Conklin, Union County, Ark., assignor to The American Oil Company, New York, N.Y., a corporation of Maryland
Filed Dec. 16, 1957, Ser. No. 703,194
4 Claims. (Cl. 222—3)

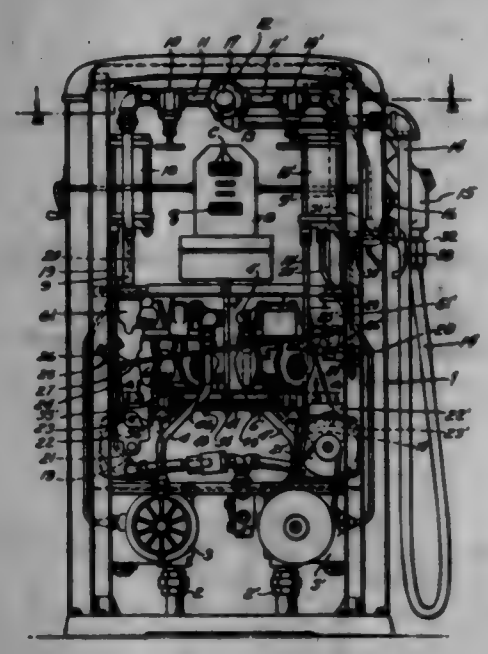
1. In a sampling and injecting valve the combination of a valve body assembly, said body assembly comprising first and second spaced segments, an interposed third segment in rotational sliding contact with said first and second segments, a measuring chamber of known volumetric capacity in said third segment, a shaft extending through said segments and about which said third segment rotates, bracket means supporting said shaft and valve body assembly, a first pair of sample conduits extending from said first segment and passing through said bracket to prevent rotation of said first segment, a second pair of injection conduits extending from said second segment and in axial alignment with said first pair of conduits, stop means on said second segment engaging a slot in said bracket and preventing rotation of said sec-

ond segment, rotating means for said third segment comprising a radially extending arm means adapted to bring said chamber selectively in alignment with aligned conduits in said pairs, rotation-limiting means fixed relative



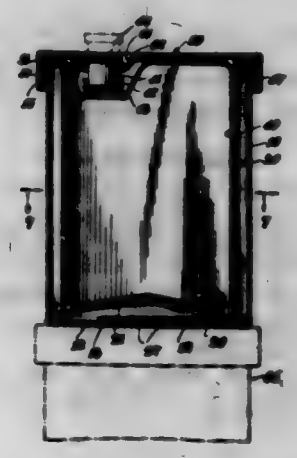
to said first and second segments and restricting the movement of said rotating arm means, and spring means on said shaft urging said three segments in fluid-tight sliding contact.

2,973,118
PROPORTIONING TYPE LIQUID DISPENSING APPARATUS
Alfred L. Grisé, Springfield, Mass., assignor to Gilbert & Barker Manufacturing Company, West Springfield, Mass., a corporation of Massachusetts
Filed Oct. 4, 1956, Ser. No. 613,928
1 Claim. (Cl. 222—26)



In a blending type liquid measuring and dispensing apparatus, having two meters with parallel driven shafts and supply and discharge conduits therefor, means for simultaneously forcing liquids to said meters to operate the latter and said shafts, a register having a driving shaft parallel with and in the same plane as the meter shafts and equidistant therefrom, a fixed plate in which the meter shafts and register shaft are journaled, a detachable plate having mounting means for support from said fixed plate for convenient attachment and detachment, said mounting means being symmetrically located with reference to the aforesaid plane and said meter shafts, a train of gears rotatably carried on said detachable plate, said train including a gate connected to each meter shaft a gear connected to the register driving shaft and idler gears intermediate the register shaft gear and each meter shaft gear, said detachable plate being detachable and reversible to reverse the gears to which the meter shafts are connected and change the blend ratio.

2,973,119
PORTABLE CONTAINER FOR LIQUIDS
Brooks O'C. Parker, 44 E. 65th St., New York, N.Y.
Filed Apr. 15, 1957, Ser. No. 652,782
14 Claims. (Cl. 222—131)

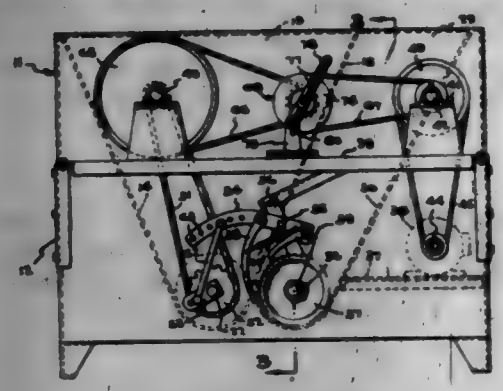


8. A container for liquids compriting an outer sleeve of paperboard and of rectangular shape in horizontal cross section with flat vertical wall sections, a bottom closure, a top closure of paperboard, a reinforcing interliner within said sleeve embodying a panel section located adjacent each outer wall section, each said panel section being comprised of corrugated paperboard with the corrugations arranged horizontally and each being scored along a vertically extending line at its mid portion and having a width in flattened condition greater than the width of the corresponding wall section of the outer sleeve, and in assembled position having its vertically extending mid portion at said score line spaced inwardly from the outer wall with its vertical edges engaged into the corresponding spaced corners of the outer sleeve, and an inner bag unit of flexible material adapted to hold liquid, a spout sealed into an opening in the top of said bag and adapted to extend upwardly through said top closure, said top closure having a generally cup shaped depression extending below the upper surface thereof with an opening through which said spout extends in slidable relation therewith, said spout being adapted selectively to be pulled upwardly beyond the upper surface of said top closure or pushed down into said cup shaped depression.

2,973,120
DISPENSER FOR ANIMAL FEED MATERIALS
Wilbur E. Stevenson, 753 N. Maple St., Rte. 1, Marysville, Ohio, and Lee Thiergartner, Rte. 1, Milford Center, Ohio
Filed July 17, 1959, Ser. No. 827,868
9 Claims. (Cl. 222—134)

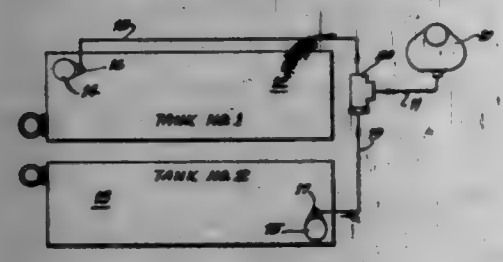
1. In a feed dispenser, a pair of supply compartments adapted to contain feed ingredients to be mixed, means defining respective discharge troughs communicating with the bottom portions of said compartments, said troughs being in side-by-side relationship, respective feed-conveying augers journaled horizontally in the bottom portions of said compartments in parallel relationship and extending into said discharge troughs, a drive motor, means drivingly coupling said motor to one of said feed-conveying augers to rotate said one of the augers continuously responsive to continuous operation of the

motor, and means drivingly coupling the other feed-conveying auger to said one of the augers to rotate said other



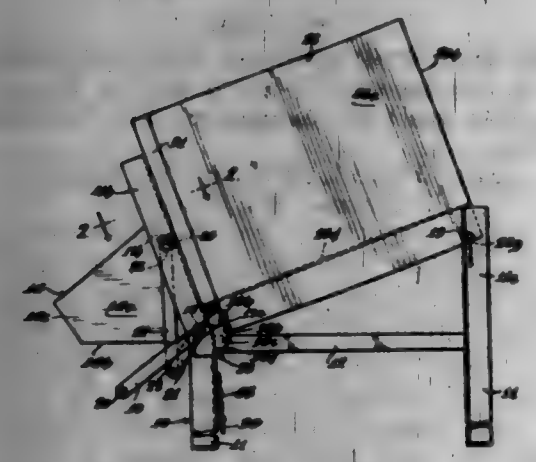
auger in intermittent steps responsive to the continuous rotation of said one of the augers.

2,973,121
CONTINUOUS FUEL SUPPLY MEANS FROM ONE OR MORE TILTABLE TANKS
Oscar H. Banker, Evanston, Ill., assignor, by mesne assignments, to Fawick Corporation, Cleveland, Ohio, a corporation of Michigan
Filed Oct. 15, 1956, Ser. No. 615,833
7 Claims. (Cl. 222—135)



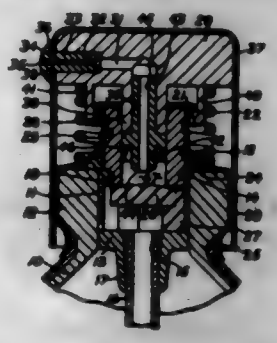
1. In combination, container means for a liquid, said container means having a substantially flat normally level bottom wall, oppositely facing side walls and oppositely facing end walls, a pair of simultaneously operating pump means in the container means adjacent the bottom wall and disposed one in the corner formed by the intersection of one side wall and one end wall and the other in the corner formed by the intersection of side and end walls respectively opposite the first-mentioned side and end walls, a common outlet pipe, and means connecting the output of the pair of pump means to the outlet pipe.

2,973,122
MATERIAL HANDLING APPARATUS
Gerald O. Heinz, Streator, Ill., assignor to Streator Dependable Manufacturing Company
Filed Sept. 4, 1958, Ser. No. 759,927
7 Claims. (Cl. 222—185)



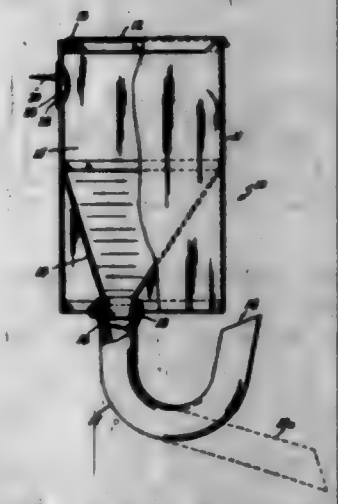
1. Material handling apparatus, comprising: a container for the material including a wall having a discharge opening; a movable door closing said opening; a structure releasably supporting the container; a receiver on said structure positioned to receive material from the container through the opening; a movable operating device on the supporting structure for engaging the door, the device and door being movable from fully closed to fully open positions; and means for substantially immovably securing the operating device and door in a selected one of a plurality of positions between fully closed and fully open positions to regulate the effective size of the discharge opening and thus the rate of discharge through said opening.

2,973,123
FLUID DISPENSING MEANS
Rene Paul Rousset, Middlesex, England, assignor to Sparklets Limited, a British company
Filed Apr. 16, 1958, Ser. No. 728,858
Claims priority, application Great Britain Apr. 18, 1957
5 Claims. (Cl. 222—394)



1. A dispensing device for controlling the discharge of a fluid under pressure comprising a cylindrical member, a resilient sealing member, means for holding said resilient sealing member in sealing contact with an end of said cylindrical member, an actuating member slidable in said cylindrical member and having walls defining a passage therein through which discharge can occur, and an annular sealing skirt carried by said actuating member and making resilient contact with the inner wall of said cylindrical member, said actuating member having an end adapted to be pressed on said resilient sealing member to break the seal between it and said end of said cylindrical member.

2,973,124
DISPENSER FOR GRANULAR MATERIAL
Lee Reese, San Angelo, Tex.
(613 W. Wall St., Midland, Tex.)
Filed Apr. 1, 1958, Ser. No. 725,689
4 Claims. (Cl. 222—513)



4. A dispenser for powderous, granular or flaky materials, comprising in combination a vertically elongated hopper adapted to be mounted on a wall, said hopper having an open top and being provided at the bottom thereof with a tubular outlet neck, an openable cover

provided on the open top of said hopper, and a combined spout and valve means comprising a substantially U-shaped tube of resiliently flexible rubber-like material disposed entirely below the bottom of said hopper and connected at one end thereof to said outlet neck, said tube being rigid enough to normally retain its U-shaped configuration wherein the other end thereof is substantially horizontally coplanar with the first mentioned end to prevent flow of material from said hopper through said other end, but being flexible enough to permit downward movement of its other end portion to a point below its intermediate portion for dispensing material from said hopper therethrough, said other end portion of the tube being automatically returnable to its raised normal position solely by the inherent resiliency of the tube when downward bending force on said other end portion is relaxed whereby the tube constitutes sole, manually openable and automatically closable valve for controlling the flow of material from said hopper.

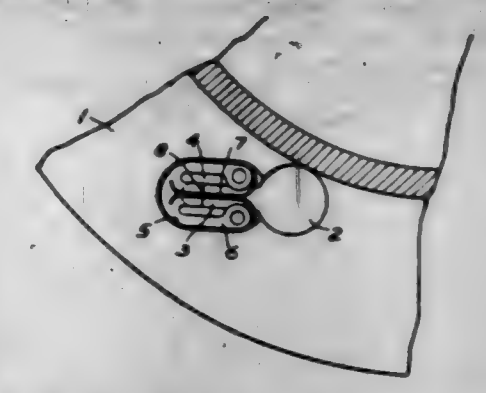
2,973,125
FISHING ROD SUPPORT
Robert D. Parry, 1336 Custer Ave., Cincinnati, Ohio, assignor of one-fourth to Alfred Bloch, Cincinnati, Ohio
Filed July 21, 1958, Ser. No. 750,031
3 Claims. (Cl. 224—5)



1. A fishing rod support comprising a cup to receive the butt of a fishing rod, a length of line which is doubled to provide a loop for engagement about the neck of a fisherman and two strands which depend side by side from the loop, the ends of said doubled line affixed to said cup, a slide engaged upon both of the strands of the doubled line between said loop and said cup in slip-fit relation to serve as a means for adjusting the size of the loop, and a hook integral with said slide and engageable with a fishing rod the butt of which is resting in said cup.

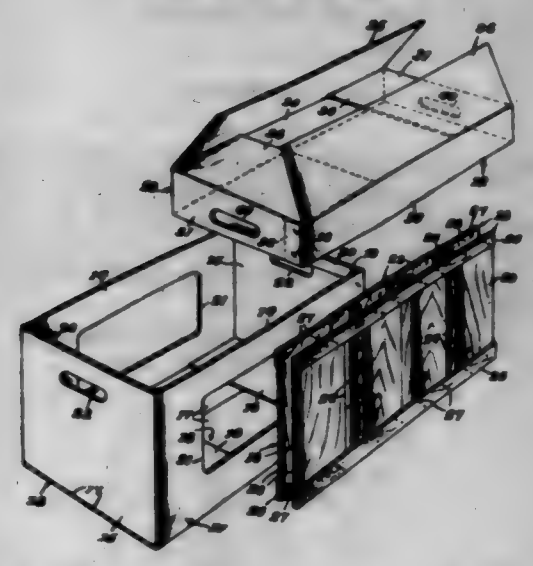
2,973,126
THREAD HOLDING MEANS FOR LAYING-ON A THREAD TO A SPOOL
Albert Kreuslein, Dettingen, Germany, assignor to Vereinigte Glanzstoff Fabriken A.G., Wuppertal-Elberfeld, Germany, a corporation of Germany
Filed July 18, 1955, Ser. No. 522,784
Claims priority, application Germany July 20, 1954
9 Claims. (Cl. 225—63)

1. A combined thread holder and cutter for mounting within an indent of a spool comprising, in combination, a cutting member, a spring having a pair of pre-stressed clamping jaws yieldably converging into yieldable contact with each other in a direction toward said cutting member, said cutting member having a cutting edge alongside said pair of jaws lying in a plane spaced apart from the clamping surfaces thereof, said jaws releasably gripping a length of thread therebetween with the end of the thread immediately adjacent to said cutting edge, said cutting member being of substantially U-shaped configuration having a bight part and a pair of spaced apart paral-



lel resilient sides, said bight part of said U-shaped member defining said cutting edge.

2,973,127
CONTAINER FOR PACKAGING APPLES
Mark B. Royce, Hoboken, N.J., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Jan. 13, 1960, Ser. No. 2,230
4 Claims. (Cl. 229—6)

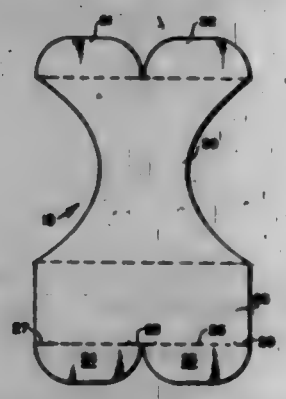


4. A container unit for packaging fruit and the like disposed on trays, said container unit comprising a box having a bottom and upstanding walls, at least one of said upstanding walls having an opening therein for the circulation of air through said one upstanding wall to ventilate the interior of said box, said one upstanding wall having interior edges defining boundaries of said ventilation opening with opposed portions of said interior edges being spaced apart to permit free circulation of air through said ventilation opening, and a cover member, said cover member having a tubular body portion corresponding generally to the outline of the bottom of said box and imperforate top forming flaps connected to said body portion along the upper edges thereof, said top forming flaps being initially free and swingable upwardly to form extensions of said body portion, the combined vertical dimension along said body portion and an associated one of said top forming flaps being at least as great as the distance from said bottom to the top of said ventilation opening whereby said cover member may be telescoped over said box with said body portion and said top forming flaps combining to temporarily close said ventilation opening and thus provide an air cushion for trays descending in said box, and the height of said body portion being relatively small as compared to the height of said side walls and generally equal to the distance between the top of said box and the upper boundary of said ventilation opening, whereby when said cover is in a normal box closing portion substantially all of said ventilation opening will be exposed.

2,973,128
CARTON CONNECTOR

Salvatore J. Leone, Wallingford, Conn., assignor to The New Haven Board & Carton Company, New Haven, Conn., a corporation of Connecticut

Filed June 14, 1960, Ser. No. 36,049
5 Claims. (Cl. 229—15)

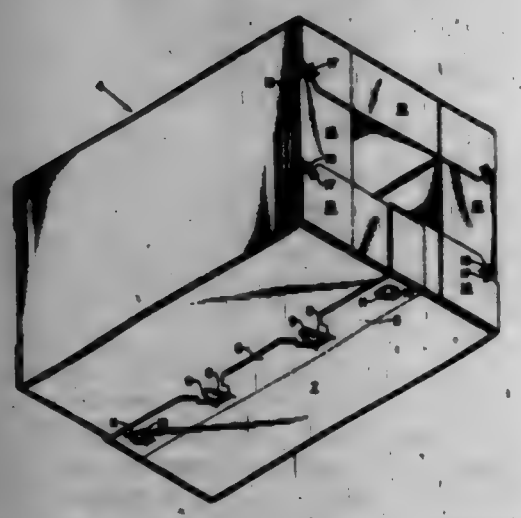


4. A connector for securing cartons together to form a package, which comprises a side panel, a plurality of flaps hinged to one end edge of the panel, a bottom panel hinged along one edge to the other end edge of the side panel, and a plurality of flaps hinged to the opposite edge of the bottom panel.

2,973,129
DUAL LOCKING CONSTRUCTION FOR PAPERBOARD WRAPPERS

Orison W. Stone, Valley Cottage, N.Y., and Laurie H. Campbell, New London, Conn., assignors to Continental Can Company, Inc., New York, N.Y., a corporation of New York

Filed Nov. 14, 1957, Ser. No. 696,365
1 Claim. (Cl. 229—16)



Dual locking construction for a paperboard wrapper having the general form of a four-sided tube made from a rectangular blank having edges overlapped at one side of the tube, said dual locking construction including: a first locking means comprising interlocking tongues and slots in said overlapped edges, said tongues folded about locking edges of the slots arranged substantially parallel to the axis of the tube, and a second locking means comprising partial end flaps folded into overlapping relation at the corners of the wrapper to form an inwardly projecting marginal flange extending around the ends of the tube, said end flaps having interlocking tongues and slots in the four corners of said marginal flange, said last-named tongues folded about locking edges of the slots with which they interlock, said locking edges disposed substantially parallel to the adjacent diagonals of the ends of the tube.

2,973,130
SEPARABLE PLURAL CARTON AND BLANK THEREFOR

Charles E. Cottrill, Fairborn, Ohio, assignor, by mesne assignments, to Standard Packaging Corporation, New York, N.Y., a corporation of Virginia

Filed Apr. 24, 1957, Ser. No. 654,919
2 Claims. (Cl. 229—51)



1. A plural carton made from a single blank comprising a common front wall panel, two outer side wall panels, one connected by a score line to one side of the common front wall panel and the other connected by a score line to the other side of the common front wall panel, two rear wall panels opposite said common front wall panel, one connected by a score line to one of said outer side wall panels and the other connected by a score line to the other of said outer side wall panels, two inner side wall panels, one connected by a score line to one of the rear wall panels and the other connected by a score line to the other of the rear wall panels, tab means carried by each of the inner side wall panels connecting each of the inner side wall panels to the inner surface of the common front wall panel, whereby the inner side wall panels are disposed in side-by-side relationship, the tab means extending the entire longitudinal length of said carton, an end flap connected to an end edge of a panel forming part of one carton, another end flap connected to an end edge of a panel forming part of the other carton, one of said end flaps having a bridging portion which extends in face-to-face relationship with part of the other end flap when both are in a closed position, said bridging portion of one end flap being affixed to the other end flap to join the two cartons together and prevent accidental separation of the inner side wall panels in the normal handling of the plural carton before the separation of one from the other, a weakened connection joining said bridging portion to the respective end flap of which it forms an extension, permitting separation of the end flaps when the cartons are to be divided, a tear strip defined by two closely-spaced longitudinal weakened lines formed in the common front wall panel and extending substantially the entire longitudinal length, said tab means carried by the inner side wall panels being adjacent but not affixed to a portion of the tear strip and being adjacent and affixed to a portion of the common front wall panel, whereby the tab means is free of the tear strip so that the tear strip can be removed while leaving both cartons intact, the removal of the tear strip permitting separation of the cartons without the application of a twisting action to the cartons or the application of a force to pull them apart.

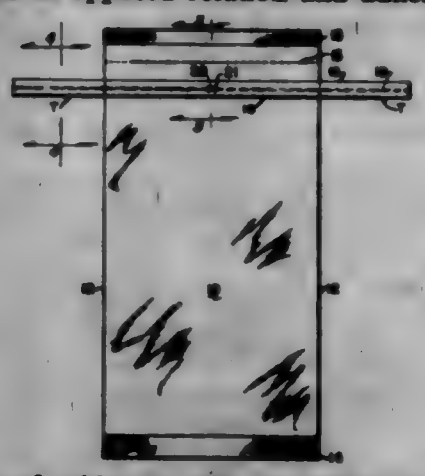
2,973,131
BAG FOR SAMPLING MILK AND THE LIKE

Harry A. Mead, Lakewood, and Lamont Siegel, Denver, Colo., assignors, by mesne assignments, to National Agricultural Supply Company, Fort Atkinson, Wis., a corporation of Wisconsin

Filed May 26, 1958, Ser. No. 737,581
9 Claims. (Cl. 229—66)

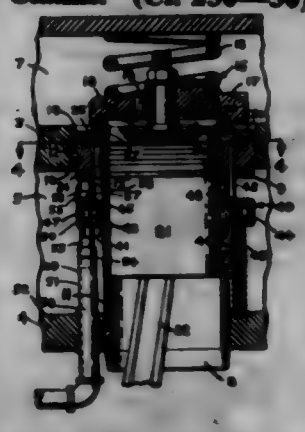
7. A bag for liquid, comprising front and rear walls connected at the side edges and formed of flexible, heat sealable material; a heat seal closing the bottom of said bag; a heat seal closing the top of said bag; opening and

closing means extending transversely of said bag adjacent the top thereof, said opening and closing means providing a laterally extending tab at each side and including a deformable member extending across each of the front and rear walls and a pair of strips of flexible material each having an adhesive surface on one side adhered to the respective front and rear walls of said bag, said strips being disposed in opposed relation and adhered together



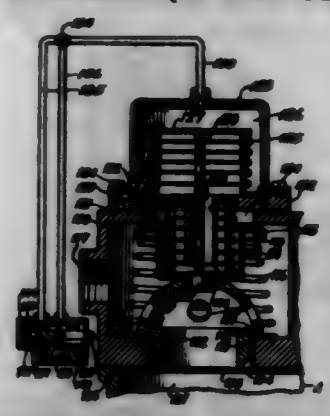
over the area of said tabs with the deformable members therebetween, said deformable members being formed of a material tending to maintain any configuration in which placed and thereby being adapted to hold the top of said bag open and said strips being sufficiently flexible to permit said deformable members to hold the top of said bag open; and a series of cuts extending transversely of said bag between said opening and closing means and said heat seal at the top of said bag.

2,973,132
UNLOADING MEANS FOR RECIPROCATING COMPRESSOR
Sylvan R. Hirsch, West Orange, N.J., assignor to Worthington Corporation, Harrison, N.J., a corporation of Delaware
Filed Oct. 20, 1958, Ser. No. 768,127
6 Claims. (Cl. 230—30)



1. Means for varying the capacity of a reciprocating compressor including a casing, a cylinder in said casing, a piston slidably disposed in said cylinder, a suction inlet and discharge outlet for said cylinder and having valve means to control fluid flow into and out of said cylinder, said means for varying the capacity of said compressor comprising an annular ring movably mounted about said cylinder and concentric therewith and having a fluid receiving chamber therein, actuating means connected to one end of said chamber and at the other end adapted to engage said valve for said suction inlet, spring means mounted on the other end of said fluid chamber and to cause said fluid chamber to move said pin means into engagement with said valve for said suction inlet, a hollow extensible means connected at one end of said fluid receiving chamber for providing a source of fluid thereto, and expansible actuating means abutting said cylinder at one end and at the other end connected to the fluid receiving chamber to receive fluid therefrom to move said pin means out of engagement with said valve for said suction inlet when fluid is supplied thereto.

2,973,133
COMPRESSOR UNLOADER
Alwin B. Newton, Wichita, Kans. (850 Clubhouse Road, York, Pa.)
Filed June 7, 1956, Ser. No. 589,946
10 Claims. (Cl. 230—31)

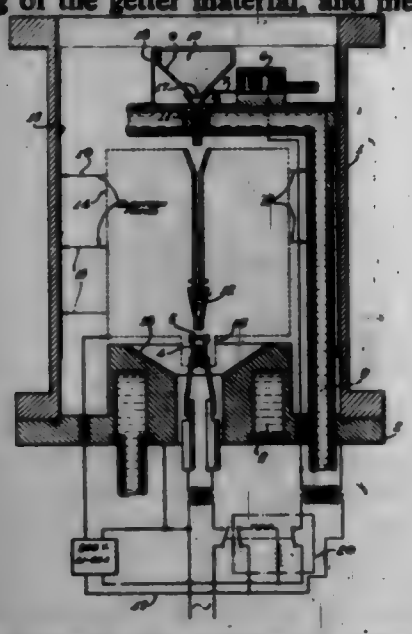


1. In a compressor unloading apparatus, a plurality of compressor units each having a compression chamber therein, a valve casing having a plurality of suction chambers each communicating with one of said compression chambers through a flow port, a movable valve member adjacent each of said flow ports, a plurality of valve seats each being shiftable between two positions and each being cooperable with one of said valve members for closing said port only when said seat is in one of said two positions, pressure-responsive means cooperating with each of said seats to position the same for independently loading and unloading each of said compressors, a motor for driving said compressor units, pressure fluid pumping means operably connected to said motor, pressure fluid passage means for delivering pressure fluid from said pump to said pressure-responsive means, said pressure-responsive means comprising a plurality of pairs of opposing and internally communicating bellows of unequal size, the smaller of said bellows of each pair being disposed within each of said suction chambers for exposure to the suction pressure therein and the larger of said bellows of each pair being subjected to pressure fluid delivered by said pressure fluid passage means, said valve seats each being connected to a pair of bellows for movement into an unloading position when the larger of said bellows is compressed and into a loading position when the smaller of said bellows is compressed, the size differential of said paired bellows being different for successive pairs for the sequential unloading and loading of a plurality of compressor units.

2,973,134
ION GETTER PUMP
Manfred von Ardenne, Dresden-Weisser Hirsch, Germany, assignor to VEB Vakutronik, Dresden, Germany
Filed Dec. 10, 1958, Ser. No. 779,446
Claims priority, application Germany Dec. 12, 1957
12 Claims. (Cl. 230—69)

1. An ion getter pump for producing a vacuum by means of the evaporation of a getter material and the ionization of the residual gas in an ionization space by electrons emitted by a cathode, comprising a housing, a grid electrode in the housing defining said ionization space, an integral evaporator cathode of refactory conducting material within the grid electrode having a cathode portion and an evaporator portion, means connected to the cathode for supplying heating current through the cathode, and means mounted in the housing above the evaporator portion of the cathode for supplying the getter material to the evaporator portion of said evaporator cathode; and electrical circuit means for controlling a chronological sequence of operations, said sequence controlling means comprising means connected to the getter material supplying means for feeding the getter material to the evaporator portion intermittently, means

conneced to the cathode current supplying means for automatically interrupting the heating of the evaporator-cathode during the periods when getter material is being supplied to the evaporator-cathode, thus preventing partial sintering of the getter material, and means connected



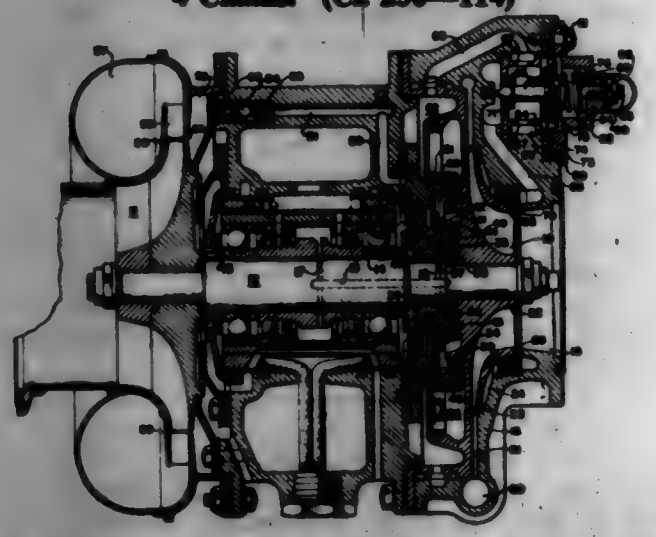
to the grid electrode for applying a voltage to the grid electrode after the vaporization of the getter material has been effected, for initiating an ion pump action superimposed on the vaporization getter action and the contact getter action.

2,973,135

SEAL FOR REFRIGERANT COMPRESSOR

Harold A. Greenwald, Los Angeles, Calif., assignor to The Garrett Corporation, Los Angeles, Calif., a corporation of California

Filed Dec. 21, 1956, Ser. No. 629,884
4 Claims. (Cl. 230—114)



1. A compressor comprising: a drive shaft; a centrifugal impeller having an inlet and discharge, said impeller being mounted on said shaft; bearing means for rotatably supporting said shaft; driving means for driving said impeller; vent means for venting the side of said impeller opposite said inlet to said inlet; flow control means mounted in said vent means, and means for actuating said flow control means in response to the atmospheric pressure surrounding said compressor to maintain the pressure on said side of said impeller above atmospheric pressure.

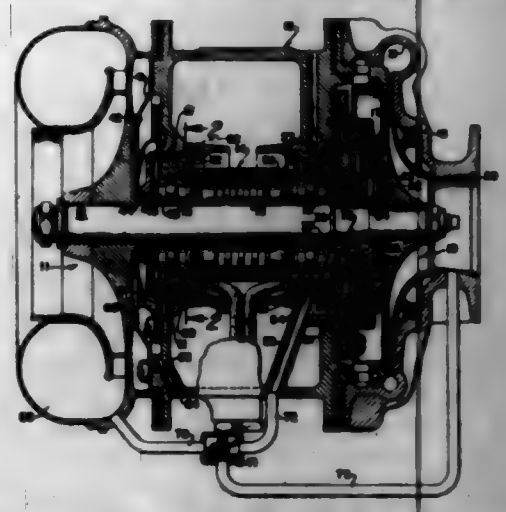
2,973,136

COMPRESSOR

Harold A. Greenwald, Los Angeles, Calif., assignor to The Garrett Corporation, Los Angeles, Calif., a corporation of California

Filed June 13, 1957, Ser. No. 665,523
4 Claims. (Cl. 230—116)

1. A refrigeration compressor unit adapted to handle a vapor cycle refrigerant having a normal suction pressure above normal sea level atmospheric pressure, comprising: a compressor unit and driving unit mounted in a common casing; the rotating elements of said compressor and driving units being mounted on a common shaft; bearing means mounted in said common casing for rotatably supporting said common shaft; first shaft sealing means mounted in said common casing between said bearing means and said driving unit; second shaft sealing means mounted in said casing between said bearing means and said compressor unit; a passageway formed in said casing adjacent said bearing means; inlet means connected to one end of said passageway adjacent



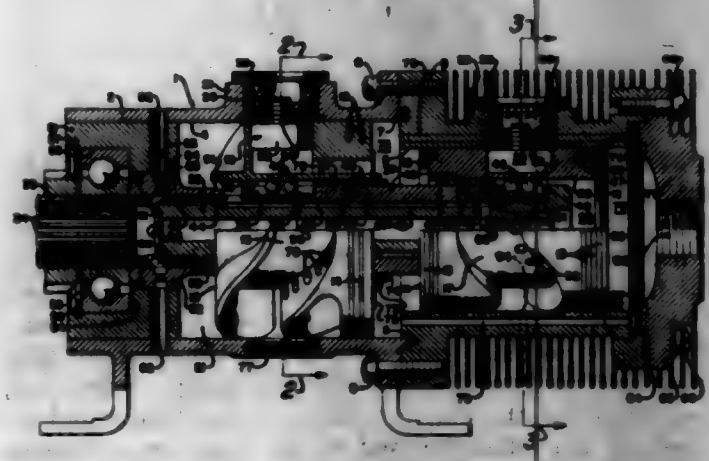
said compressor for conducting fluid under pressure to said passageway, said second shaft sealing means being subjected on one side to the pressure of the fluid in said passageway, the other end of said passageway terminating in an opening adjacent said first sealing means; an outlet opening formed in said casing and having restricted orifice means mounted therein for venting fluid from said passageway to a zone of lower pressure; and control means mounted in said inlet means, said control means being adapted to maintain the pressure of the fluid in said passageway a predetermined amount below the suction pressure of said compressor.

2,973,137

CAM PISTON TWO-STAGE COMPRESSOR

Raymond W. Jensen, Phoenix, Ariz., assignor to The Garrett Corporation, Los Angeles, Calif., a corporation of California

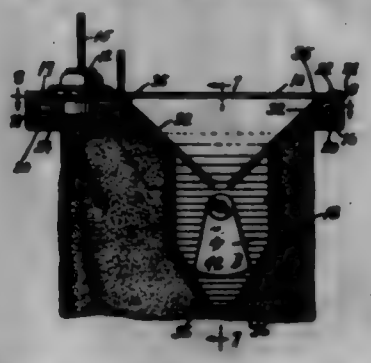
Filed Jan. 19, 1959, Ser. No. 787,610
7 Claims. (Cl. 230—200)



1. A compressor comprising: a housing; first and second piston means disposed for combined rotation and reciprocation in said housing, said pistons and housing serving to define a first chamber between said pistons, a second chamber between said second piston and said housing and a third chamber between said first piston and said housing; shaft means provided with a longitudinally extending bore, said shaft being supported for rotation in said housing and extending longitudinally thereof for driving connection with said pistons; means on said housing and pistons for effecting reciprocation

of said pistons upon the rotation of said shaft; breather passage means connecting said third chamber with an ambient region outside said housing via the bore of said shaft; means for establishing communication between a source of fluid and said first chamber; passage means connecting said first and second chambers; outlet means leading from said second chamber; and valve means operative upon the reciprocation of said pistons to permit flow of fluid from said source to said first and second chambers and through said outlet.

2,973,138
COIN RECEIVER
Louis L. Epstein, 504 Clinton Ave., Newark, N.J.
Filed Mar. 20, 1959, Ser. No. 800,755
1 Claim. (Cl. 232—1)



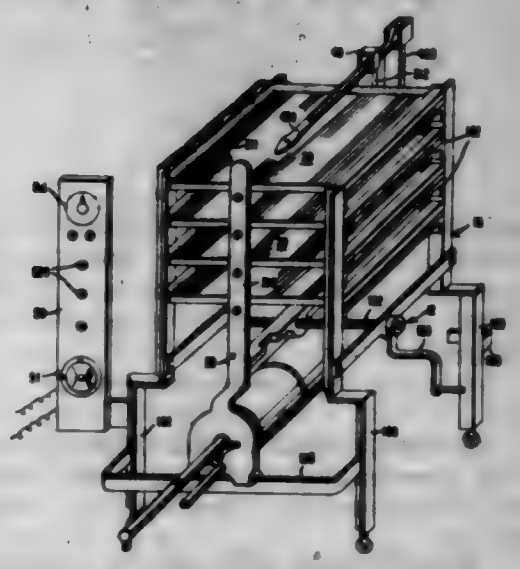
Coin receiving and retaining means comprising a coin hopper, a coin receptacle around and depending from the hopper, the hopper comprising a body portion and a top portion, the latter comprising opposed, downwardly and inwardly inclined plates spaced at their lower edges to provide a single coin slot, a horizontal shaft mounted in said body portion of the hopper directly below and adjacent and parallel to said coin slot, a single composite gate comprising a series of parallel plates depending from said shaft and individually freely swingable from side to side, to allow passage of coins, said body portion of the hopper open at the bottom, said inclined plates of said top portion of the hopper forming angular pockets with the upper part of said body portion by extending thereinto, whereby, in an attempt to obtain coins from said receptacle by inverting the latter and the hopper, said plates direct any coins which might pass them into said pockets, said parallel plates being wedge-shaped with their wider ends lowermost, the lower part of said body portion of the hopper inclined inwardly from two sides toward the edges of said plates, the bottom opening of said portion narrower than the width of the lower ends of the plates, said coin receptable comprising a frame and a bag secured at its upper end to the frame.

2,973,139
LOCKING COIN BOX
Adolph A. Leone, North Bergen, and Joseph T. Polese, East Paterson, N.J., assignors to Louis Lawrence Epstein, Newark, N.J.
Filed Jan. 5, 1959, Ser. No. 785,023
2 Claims. (Cl. 232—15)



2. A coin box comprising a coin-receiving body, a cover therefor having a coin slot, key-operated means for locking the cover to the body, a plate under the cover and slidable relative thereto, spring means normally moving the plate to a projected position in which an end portion of the plate extends beyond the rear end of the body, said plate being adapted to close said coin slot of the cover when in projected position, and to open the coin slot when pressed into the body against the action of the mentioned spring, and means under said cover for automatically locking said plate in the position closing said coin slot as the plate moves to the projected position from its inner or slot-open position, said automatic locking means comprising plate-engaging means for locking the slidable plate, a lever pivotally secured to said plate-engaging means, a cam adapted to engage the lever to hold the latter in locked position, a first spring means tending to move the plate-engaging means into engagement with the plate, a second spring means to move said lever into the path of said plate when the latter is in projected position, a third spring means adapted to move said cam into locking engagement with said lever when the latter is moved by said plate out of the plate's path as the plate moves into the box body from its projected position.

2,973,140
AUTOMATIC GRAPH COMPUTER
David Katz, 506 W. 35th St., Wilmington, Del.
Filed Sept. 26, 1957, Ser. No. 686,430
11 Claims. (Cl. 235—61.6)

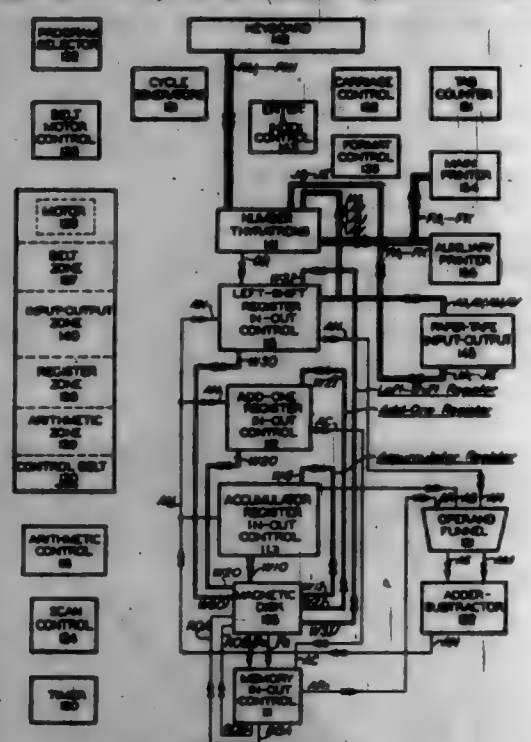


1. In combination, a plurality of resistors, a source of voltage and a movement control-mechanism joined together in a system of circuits corresponding to a Wheatstone bridge, said movement control-mechanism taking the place of the galvanometer in the ordinary Wheatstone bridge, at least one of the legs of said bridge comprising a variable resistor whose effective resistance value varies with the poistion of a movable contactor, and one of the legs of said bridge comprising a printed resistor having a non-conductive plate with semiconductive parallel lines imprinted thereon in position to represent the ordinates of a graph, and means controlled by said movement control-mechanism to mark off points on said ordinates in response to the movement of said movable contactor, whereby to outline by said points a graph on said imprinted plate, said graph bearing a predetermined mathematical relation to the variation of the effective resistance value of said variable resistor with the position of said movable contactor.

2,973,141
CONTROL MEANS WITH RECORD SENSING FOR AN ELECTRONIC CALCULATOR
Evelyn Berezin, New York, N.Y., assignor, by mesne assignments, to Curtiss-Wright Corporation, Carlstadt, N.J., a corporation of Delaware
Filed Feb. 24, 1956, Ser. No. 567,567
8 Claims. (Cl. 235—61.9)

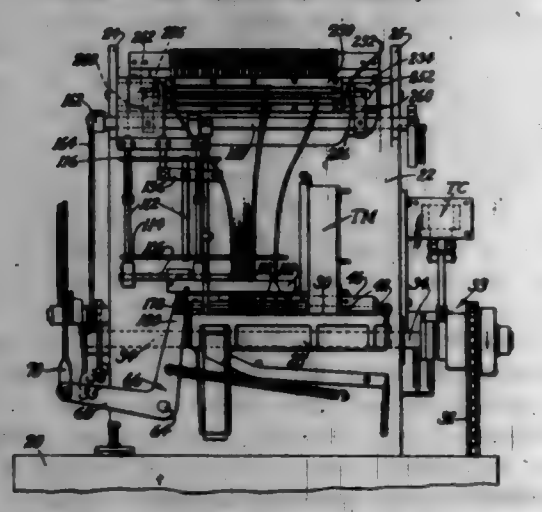
7. In a data processing device having an arithmetic unit, a recording unit of relatively slow speed, a control belt having lines of indicia recorded thereon to selectively control either said arithmetic unit or said recording unit, the combination of sensing means to read a line of indicia from said belt, means set by said sensing means in accordance with sensed indicia to determine operation

of said arithmetic or recording units, belt moving means to step said belt to a new position relative to said sensing means during an operation of said arithmetic unit, and means controlled by said recording means during an



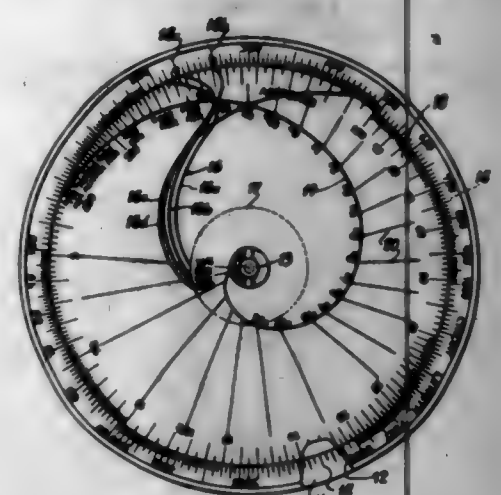
operation thereof and by said sensing means when a line of indicia requiring another operation of said recording means is sensed, to disable said belt moving means until the first operation of said recording means is terminated.

2,973,142
RECORD ANALYZING APPARATUS
Robert K. Jenner, Jr., Hamilton, Mass., assignor to A. Kimball Company, New York, N.Y., a corporation of New York
Filed Sept. 17, 1957, Ser. No. 684,525
4 Claims. (Cl. 235—61.11)



1. In apparatus for analyzing records having data encoded therein in a multi-position code, a sensing station having means to sense encoded data in a record positioned at said station, means for converting the sensed data into a single element code, said converting means including groups of electrical circuits, each of said groups including control circuits and error indicative circuits, relays controlled by said sensing means for selecting a single circuit in each group according to the encoded data sensed from said record, said circuits and said relays being arranged in such manner that upon sensing of correctly coded data indicative combinations from the record one of said control circuits is selected in each group and upon sensing of improperly coded combinations from the record one of said error circuits is selected, means effective upon selection of an error circuit in any group for causing said relays to be rendered ineffective thereby clearing all converted data from said converting means, and means effective upon non-selection of an error circuit for causing said control circuits to control the operation of a secondary device.

2,973,143
CALCULATOR
John West Thompson, Mexico City, Mexico
(Ave. Pirineos 305, Lomas, Mexico 10, D.F.)
Filed Feb. 19, 1958, Ser. No. 716,203
7 Claims. (Cl. 235—78)

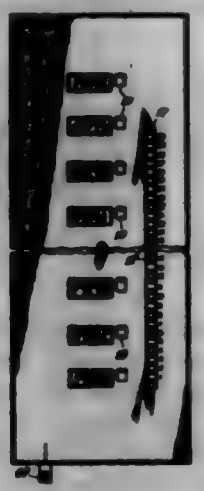


1. A calculator for determining the size of electrical cables for desired conditions comprising a lower disc and a transparent upper disc pivotally secured together for relative angular movement one with respect to the other, one of said discs having adjacent its peripheral margin a circular logarithmic scale of circuit length and a series of power factor curves extending generally outwardly from a central zone toward said circuit length scale, the other of said discs having a circular logarithmic scale of amperes disposed closely contiguous said circuit length scale, concentric therewith but inverted with respect thereto, and an indicator curve extending along a generally spiral path from a central area of said disc toward said ampere scale, said power factor curves and indicator curve being so disposed that upon relative angular movement of said discs said indicator curve will be intersected by said power factor curves at progressively varying positions lengthwise of said indicator curve, said last mentioned disc having a series of radial lines extending outwardly from said indicator curve at definite intervals along said curve corresponding to cable sizes respectively.

2,973,144
SUMMARISING OR TOTALIZING MACHINES
Lancelot Henry Robert Clyde and William Fredrick Hodge, Eton Wick, near Windsor, and Harold Hugh Longman, South Norwood, England, assignors to Unilever Limited, Port Sunlight, England, a British company
Filed Feb. 13, 1956, Ser. No. 565,268
Claims priority, application Great Britain Feb. 17, 1955
13 Claims. (Cl. 235—91)

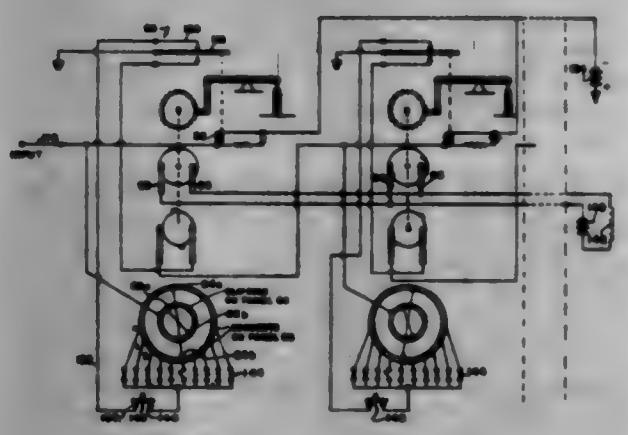
1. A summarising or totalising machine comprising in combination a plurality of counting devices of the type having a recording shaft and a resetting shaft, a displaceable member capable of displacement of varying lengths proportional to the size of the numbers comprising the addenda, a plurality of coupling members, one for each counting device, for coupling the recording shaft of its counting device to the displaceable member, so that the recording shaft of each of the said counting devices is individually rotatable by movement of the displaceable member, a plurality of reset wheels, one for each counting device, and a plurality of reset clutches one for each counting device for coupling the resetting shaft of its counting device to its reset wheel, means for engaging the

reset clutch when the recording shaft coupling member is disengaged and for disengaging the reset clutch when the recording shaft coupling member is engaged, the reset clutch being arranged so that coupling between



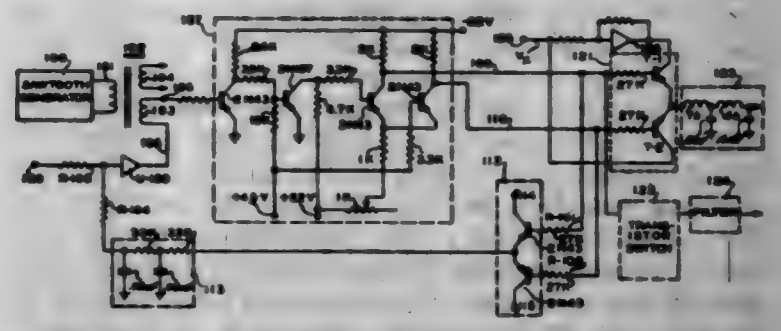
the reset wheel and the reset shaft occurs only when the reset shaft and reset wheel are in a predetermined relative position, and a displaceable reset member which is in engagement with all the reset wheels.

2,973,145
COUNTER
Howard L. Daniels and Valerius E. Herzfeld, St. Paul, Minn., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Jan. 31, 1956, Ser. No. 562,393
6 Claims. (Cl. 235—132)



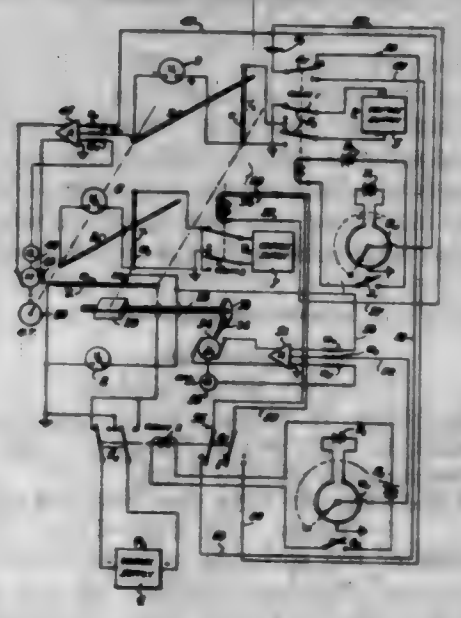
1. In an electro-mechanical counter unit, a movable assembly, means for moving the assembly step by step, a circuit for self-stepping the unit, means for completing the self-stepping circuit at a first point for energization of the moving means, energization of the moving means setting the moving means for moving the assembly one step upon de-energization of the moving means, switch means in the self-stepping circuit at a second point thereof arranged to be opened during at least a portion of the energization period of the moving means, and to be closed upon deenergization of the moving means the arrangement being such that upon completion of the self-stepping circuit at the first point the moving means is repetitively energized and de-energized by said switch means for stepping the counter, the unit further characterized by the self-stepping circuit including at a third point means for opening said circuit upon the moving assembly reaching a predetermined position and wherein the self-stepping circuit includes means for assigning in advance the stopping point of the movable assembly, whereby the unit may be preset to a predetermined position by the self-stepping action.

2,973,146
COMPUTER MULTIPLIER
Herman Schmid, Binghamton, N.Y., assignor to General Precision, Inc., a corporation of Delaware
Filed Oct. 30, 1957, Ser. No. 693,298
6 Claims. (Cl. 235—194)



1. Electronic multiplying apparatus, comprising in combination; time-modulation means responsive to an applied first direct voltage for deriving square-wave pulses, the relative time-widths of said pulses above and below a reference voltage level varying in accordance with the value of said first direct voltage; a transistor switching circuit comprising first and second transistors, each of said transistors having a base, an emitter and a collector electrode; circuit means for connecting said square-wave pulses to the base electrodes of said transistors; a circuit means for applying a pair of opposite-polarity equal-magnitude direct voltages to said collector electrodes, said emitter electrodes of said transistors being interconnected to a first output terminal, and pulse-averaging means connected to said output terminal to provide an output voltage, said time-modulation means comprising a direct-coupled amplifier connected to said applied first direct voltage and to a feedback potential, said direct-coupled amplifier being operable to provide an amplified direct voltage commensurate with the difference between said applied first direct voltage and said feedback potential; means for modulating said amplified direct voltage to provide said square-wave pulses; demodulating means responsive to said square-wave pulses for providing said feedback potential; and circuit means for applying said feedback potential degeneratively to said direct-coupled amplifier.

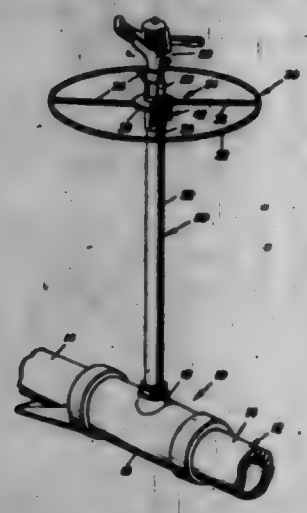
2,973,147
COMPUTER FOR MULTIPLICATION OR DIVISION OF VARIABLE QUANTITIES
Edwin Z. Gabriel, St. Davids, Pa.
(91 Mount Tabor Way, Ocean Grove, N.J.)
Filed Feb. 11, 1959, Ser. No. 792,628
10 Claims. (Cl. 235—195)



1. A system for physically presenting a triangular configuration of a geometric problem, the end result of which

is to produce a voltage proportional to the product of two variable quantities, said system comprising an elongated base member having a slot, a translationally movable block on said base slidably retained by said slot, a plurality of conductors of which two are good conductors and three others are resistors, said two good conductors having pivotal mounting next to one end of said base member and interconnected to each other so both make the same angle in relation to said base, one of said good conductors making contact in its various pivoted positions with a first one of said resistors, the other of said good conductors making contact in its various pivoted positions with a second one of said resistors, both the first and second resistors being perpendicular to said base and all of said resistors having voltages impressed there through, the third one of said resistors being parallel to the direction of translational movement of said block and said block having means for contacting said resistor as the block moves translationally, means for moving said two good conductors pivotally and means for moving said block translationally, graduated dials for indicating amounts of movement of said conductors and block, and meters for indicating voltages to points of contact on said resistors.

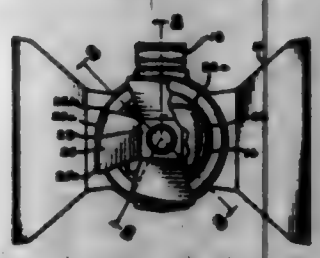
2,973,148
CROP GUARD FOR SPRINKLERS
Robert A. Franz, Schrag, Wash.
(Rte. 1, Box 133W, Ritzville, Wash.)
Filed May 14, 1958, Ser. No. 735,198
6 Claims. (Cl. 239—230)



1. In combination with a crop irrigation sprinkler of the type having an upstanding riser pipe with a spray nozzle disposed on the upper portion thereof, a crop guard comprising a ring, a mounting member, means centrally locating and fixedly mounting said member within said ring, said locating and mounting means including means for receiving said spray nozzle and said riser pipe between said ring and said mounting member, said mounting member including a radially extending and outwardly opening recess receiving said riser pipe upon radial movement of the latter and retaining means removably engaging said pipe and preventing its withdrawal from said recess.

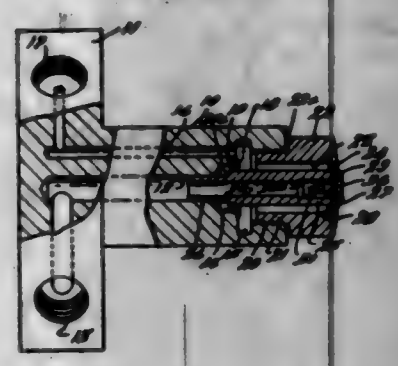
2,973,149
LAWN SPRINKLERS
Henry J. Kachergis, Waterbury, Conn., assignor, by mesne assignments, to Otto Bernz Company, Inc., Rochester, N.Y., a corporation of New York
Filed Oct. 16, 1958, Ser. No. 766,605
3 Claims. (Cl. 239—273)

1. A sprinkler for spraying a square area comprising a base, a hollow chamber mounted on said base, means connecting said base to a fluid supply, said chamber having a substantially spherical domed upper wall, a series of discharge ports provided in said wall, said ports being arranged in substantially a square pattern such that the angle with respect to the horizontal of the discharge ports progressively decreases from the center of its square pattern sides to the corners, and a rotary vane member mounted on said domed upper wall in line with the sprinkler axis, said vane member comprising a series of in-



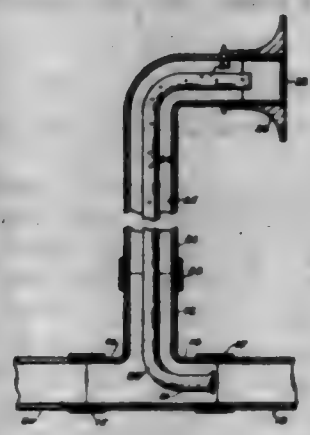
clined blades projected into line with some of the axes of the discharge ports whereby rotary movement will be imparted to said vane member by the jets issued from the discharge ports, the length of said blades being such that they do not intercept the jets from one or more of the discharge ports adjacent each corner of the square pattern.

2,973,150
FUEL NOZZLE FOR GAS TURBINE ENGINE
Thomas Golec, Jr., Royal Oak, Mich., assignor to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware
Filed May 12, 1958, Ser. No. 734,673
6 Claims. (Cl. 239—425)



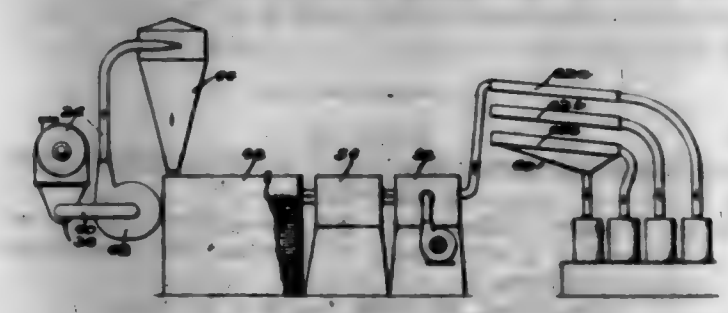
2. In a fuel-air atomizing nozzle having a discharge end, a nozzle body having a first fluid passage therein, a distributor element having an end portion slidably received in said first passage and having a fluid passage opening into said first passage to comprise a continuation thereof extending toward said discharge end, said body having a portion abutting said distributor element to limit sliding movement of the latter in one direction, said distributor element having an annular seal retaining shoulder enlarging conically in said direction at a location downstream of said end portion, a second fluid passage extending toward said discharge end in the space between the outer periphery of said distributor element and the wall of said first passage, separate conduit means in communication with said passages respectively to supply fuel and air thereto, means effecting a fluid seal between said first and second passages comprising a conical spring washer seal around said distributor element and enlarging in said direction in the assembled position at an angle greater than the conical angle of enlargement of said retaining shoulder, the inner periphery of said washer seal having a sharp edge sealingly engaging said retaining shoulder under tension and the outer portion of said washer seal sealingly engaging an annular shoulder of said body under tension at locations upstream of said second passage, said washer seal urging said distributor element yieldingly in said one direction with respect to said body, said distributor element being of softer material than said washer seal and body and having a different coefficient of thermal expansion than said body, and said sharp edge being embedded in the material of said retaining shoulder.

2,973,151
SHOWER SPRAY
Nicholas Zrolka, Detroit, Mich., assignor of one-tenth to Gadget-Of-The-Month Club, Inc., North Hollywood, Calif., a corporation of California
Filed Jan. 28, 1959, Ser. No. 789,738
1 Claim. (Cl. 239—432)



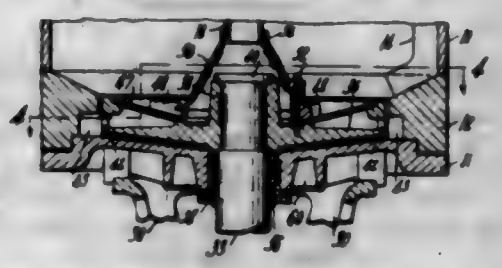
A hot and cold water mixer for spray showers comprising, in combination, a main fitting of substantially hollow T-shaped configuration having a crosshead terminating at each end thereof in terminal portions and having a hollow stem perpendicularly connected to a center part of said crosshead, said terminal portions of said crosshead each being provided with a separate individually controlled manually operated valve connected thereto and to a source of hot water at one end of said crosshead and to a source of cold water at the other end of said crosshead, mixing means having one end connected to said hollow stem, a spray nozzle connected to the opposite end of said mixing means, said mixing means comprising a pipe having a flared inlet end concentrically positioned in said crosshead in spaced relationship with and adjacent to the manually operated valve controlling the flow of hot water from the hot water source, and having a perpendicularly related intermediate portion concentrically positioned within said hollow stem and said connected mixing means, and being provided with a plurality of perforations positioned within said mixing means and in communication with the interior of said mixing means, and being provided with an end portion perpendicularly related with respect to said intermediate portion and extending into the interior of said spray nozzle whereby to effectively mix water from the hot and cold water sources and effectively provide heat transfer therebetween in a manner controlled by the relative settings of the two manually controlled valves.

2,973,152
METHOD OF RECOVERING CORK-LIKE MATERIAL FROM BIRCH TREE BARK
Robert Stuart Owens, 602 Cabell Ave., Charlottesville, Va.
Filed July 24, 1958, Ser. No. 750,648
11 Claims. (Cl. 241—28)



9. The method of treating a raw material including birch bark and any wood adhering thereto or mixed therewith to separate the resilient non-water-absorptive corky component of the bark from the wood and relatively brittle water-absorptive non-corky components which comprises reducing said raw material in the state of moisture content naturally present therein to particles of relatively small size by a combined flexing-shearing action effective to minimize deflation of the cellular structure of the corky component as reduction proceeds and to shatter the brittle wood and non-corky components sufficiently to break the same away from the resilient non-shatterable corky component thereby freeing the said components from each other so that a mixture of particles of wood and particles of the corky component and of the non-corky components of the bark is produced in said reduction, removing reduced raw material to a collecting zone substantially as fast as it is reduced to particles of the said relatively small size, separating the particulate corky component in the reduced raw material thus collected from the particulate wood and non-corky components by water flotation, separately collecting the floating corky component, subjecting the corky component thus collected to air-drying for an interval of time sufficient to remove surface moisture only from the same and subjecting said reduced dried corky component to a differential screening to separate the same into grades according to particle size.

2,973,153
PULPER
John P. Rich, Nashua, N.H., assignor to Improved Machinery Inc., Nashua, N.H., a corporation of Maine
Filed May 16, 1958, Ser. No. 735,752
4 Claims. (Cl. 241—46)

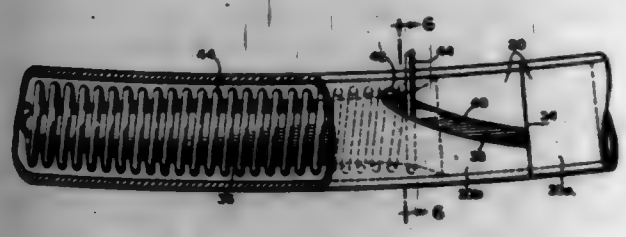


1. Apparatus for defibering paper pulp comprising a tank adapted to receive fluid pulp stock for defibering, a beater structure rotatably mounted for rotation in the bottom of said tank, said beater structure including a plurality of beater elements mounted thereon and a disc-shaped screen mounted adjacent the periphery of said beater structure for rotation therewith through which stock as refined by the beater elements is adapted to pass, a dilution water conduit for introducing dilution water into said tank onto the center of said beater structure such that said dilution water is discharged onto said screen for movement radially outward thereon on the upper surface thereof to clean said screen, and a deflector structure disposed adjacent said dilution water outlet in spaced relationship from said beater structure, said dilution water being discharged within said deflector structure and said deflector structure acting to deflect pulp outwardly onto said screen such that the dilution water may be directed onto said screen in a radially outward direction in preference to the pulp for maintaining the screen in suitably cleared condition.

2,973,154
MACHINE FOR WINDING STRAND MATERIAL
William L. Blackburn, Laurel Springs, N.J., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Mar. 26, 1957, Ser. No. 648,682
9 Claims. (Cl. 242—4)

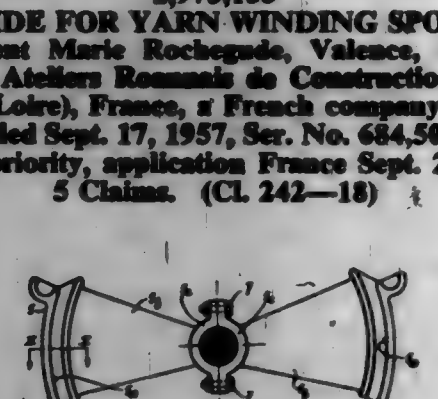
1. A shuttle for winding strand material upon elements, including those of toroidal shape, comprising, a transversely split ring formed of a hollow tube capable

of containing a helically wound coil of strand material extending throughout a major portion of its length, an elongated mandrel having a diameter less than that of the inner diameter of said tube, means rigidly supporting one end of the mandrel within one end of the said tube so that the other end of the mandrel projects outwardly from the said one end of said tube and extends into the other end of said tube so as to be spaced from the inner wall surface thereof and positioned within at least a portion of the coiled material when the latter is housed



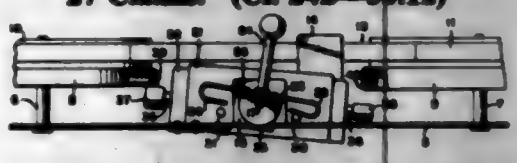
therein, that portion of the tube surrounding said mandrel having an aperture therein, said aperture opening through the side wall of said tube and extending around the wall in a direction toward the inner periphery of the tube so that the material coiled around said mandrel is obliged to be withdrawn from said tube under tension produced by the engagement of the winding turns of the material with said mandrel during withdrawal of the material through said aperture in a direction toward the area enclosed by the tube.

2,973,155
GUIDE FOR YARN WINDING SPOOL
Louis Vincent Marie Rochegude, Valence, France, assignor to Ateliers Roannais de Constructions Textiles, Roanne (Loire), France, a French company
Filed Sept. 17, 1957, Ser. No. 684,500
Claims priority, application France Sept. 27, 1956
5 Claims. (Cl. 242—18)



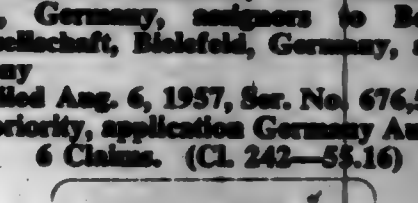
1. A yarn winding unit comprising a driving drum adapted to be rotated at a constant angular speed about its axis; a spindle adapted to support a cylindrical yarn package maintained in frictional engagement with the periphery of said drum to cause winding of the yarn on said package at a constant linear speed of said yarn; a pair of guide members disposed above said driving drum to maintain the ends of said spindle along an axis parallel to the axis of said drum and to permit said package to increase in diameter as said yarn is being wound, while retaining said spindle against axial and lateral displacement, each of said guide members being formed with a slot to receive one of the ends of said spindle, said slot being substantially in the form of an arc of a circle with the chord of the arc substantially vertical; a supporting rod of circular cross-section to carry said guide members, said rod being disposed in parallel relation to the axis of said drum; and securing means to secure each of said guide members on said supporting rod with said arcuate slots substantially concentric to said rod.

2,973,156
TAPE RECORDER
Willi Draheim, Hannover-Bemerode, Germany, assignor to Rhein-Handel, Gesellschaft für Import, Export und Transit, Etablissement, Vaduz, Liechtenstein
Filed Nov. 29, 1957, Ser. No. 699,623
Claims priority, application Germany Dec. 1, 1956
27 Claims. (Cl. 242—55.12)



12. A magnetic sound recorder comprising a sound head, a pair of spool holders each adapted to receive a spool for winding a magnetic tape upon one spool while unwinding it from the other spool and for conducting said tape past said sound head, means for alternately driving one of said spool holders or the other comprising a motor having a shaft projecting from both ends of the motor, and means for adjusting the position of said motor relative to said spool holders to at least three positions in one of which each of said shaft ends is coupled to a respective spool holder and in the other two positions, respectively, one or the other of said shaft ends is coupled to a respective spool holder and the remaining shaft end is disengaged from its respective spool holder.

2,973,157
REELING OF WEB MATERIAL
Alfred Kersch, Bad Salzuflen, and Waldemar Schlicht, Isselhorst, Germany, assignors to Benteler-Werke Aktiengesellschaft, Bielefeld, Germany, a corporation of Germany
Filed Aug. 6, 1957, Ser. No. 676,578
Claims priority, application Germany Aug. 6, 1956
6 Claims. (Cl. 242—55.16)

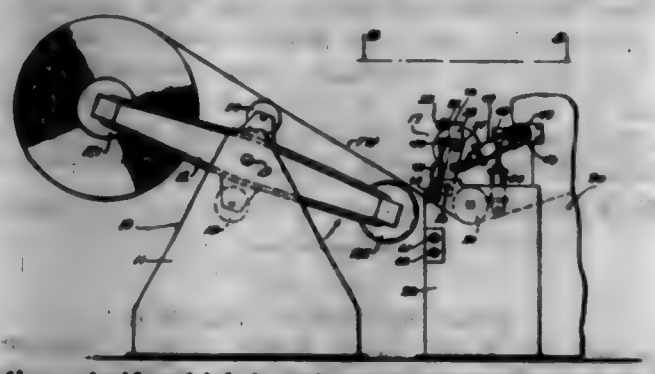


1. A method for the continuous storing and transporting, respectively, of a web of material by means of a train of more than two slotted rollers, all the rollers of the train being adapted to be simultaneously shifted for positioning among successive aligned stages including a drive stage wherein each roller in succession will be rotated, the steps comprising, threading the web through the rollers, severing the web between two successive rollers in the train one being positioned in a drive stage and the other after the drive stage, winding one portion of the web onto the roller in the drive stage, thereafter shifting said rollers to the next succeeding stage and rotating the roller which has been shifted to the drive stage whereby the roller in the drive stage will wind onto its exterior surface a second portion of the web and will unwind the said first portion of web off the roller positioned in the stage after the drive stage, thereby winding the material in a double layer.

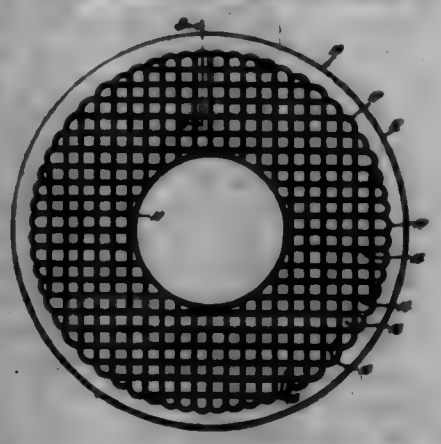
2,973,158
CUT-OFF KNIFE ASSEMBLY FOR CONTINUOUS REWINDERS
Peter Zernov, Milwaukee, Wis., assignor to Mercury Engineering Corporation, Milwaukee, Wis., a corporation of Wisconsin
Filed Sept. 19, 1958, Ser. No. 762,054
1 Claim. (Cl. 242—56)

A cut-off knife and presser roll assembly for a continuous rewinder of the type having a moving tensioned web and an empty core adapted to be moved adjacent

to said web, said assembly being swingably mounted, said assembly including a presser roll adapted to press said web against said core for adhesion thereto, mechanism for swinging said assembly in a radial direction relative to said core between a position away from said web and a position adjacent to said web where said pressure roll bears against the web, said assembly also including a knife which is swingable relative to and directly toward said core for severing said web simultaneously with the pressing of the web against the core, said cutting occurring on the discharge side of said presser roll and as the knife moves directly radially toward said core, and a double-acting ram carried by said assembly to shift said knife into cutting engagement with said web.



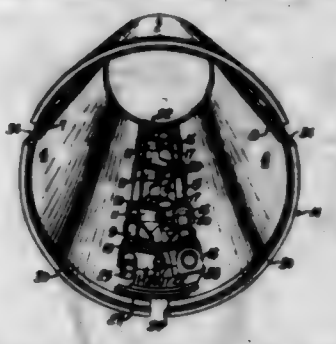
2,973,159
FRICTION REDUCING TAPE REEL
Thomas S. Kulka, 200 Film Bldg., 2108 Payne Ave., Cleveland, Ohio
Filed Aug. 17, 1959, Ser. No. 834,166
2 Claims. (Cl. 242—71.8)



1. A friction reducing tape reel comprising a hub, spaced radial extending flanges on said hub and inwardly projecting ribs disposed on the inner surface of each flange, said ribs intersecting at right angles to provide a criss-cross pattern providing rectangular recesses between the ribs, said criss-cross pattern intersecting with and extending outwardly from said hub, said ribs being connected at their outer ends remote from said hub by arcuate ribs to provide a scalloped edge radially inwardly of the outer edges of said flanges, whereby the side edges of tape wound on said hub between said flanges will lightly and continuously engage the peaks of said ribs to maintain a minimum of friction between the tape and said flanges.

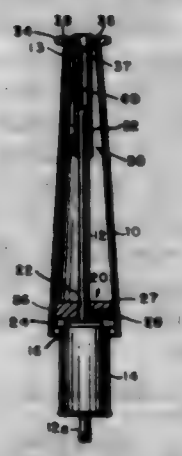
2,973,160
EXPANDABLE MANDREL FOR WEB REWINDERS
Peter Zernov, Milwaukee, Wis., assignor to Mercury Engineering Corporation, Milwaukee, Wis., a corporation of Wisconsin
Filed Jan. 26, 1959, Ser. No. 789,160
2 Claims. (Cl. 242—72)

1. A tubular and expandable mandrel for being removably mounted between the chuck heads of a web rewinder, said mandrel comprising, three elongated arcuate-shaped sections, two of said sections being hingedly connected along one of their longitudinal edges to opposite edges of the third section, said two sections being shiftably secured together by a toggle linkage assembly, said assembly including a shaft oscillatably mounted within said mandrel and along the inside of each of the adjacent longitudinal edges of said two sections, a series of axially-spaced toggle links connected between said shafts, one of said links of each series being rigidly secured to one



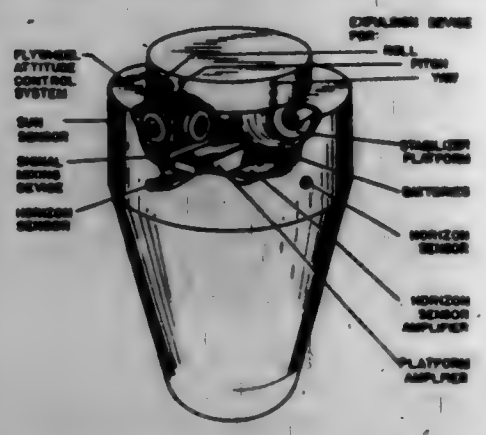
of said shafts, means on said one shaft for receiving a tool to oscillate said one shaft and said toggle links into collapsed and substantially dead-center positions to thereby respectively contract and expand the mandrel, and pairs of arcuate guide bars, one bar of each pair being rigidly secured to each of said two sections adjacent the longitudinal edges of said two sections for sliding and guiding contact with said two sections, the bars of each pair being adjacent one another.

2,973,161
CONE ADAPTER
Albert D. Harmon, Pendleton, S.C., assignor to Deering Milliken Research Corporation, near Pendleton, Oconee County, S.C., a corporation of Delaware
Filed Mar. 9, 1956, Ser. No. 570,489
4 Claims. (Cl. 242—130)



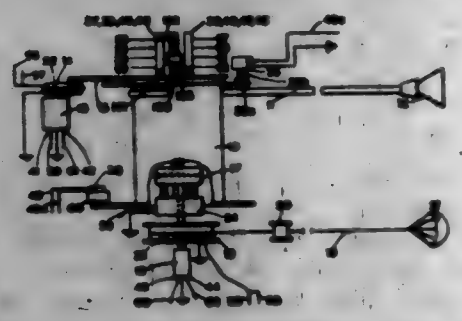
1. In combination a spindle having a rotatable whorl and blade assembly, a frusto-conical base adapter removably secured to said assembly adjacent said whorl, a tube having a bore therein substantially complementary to said blade, a disc flange on said tube, a hollow cone having a tapered hollow interior the larger end being adapted to fit in wedging relation over the frusto-conical base adapter and the smaller end having a radially inwardly extending lip defining an axial opening and being adapted to fit in substantially snug complementary relation with the periphery of said tube, said tube being adapted to be freely slidably removably mounted on the end of said blade, said disc flange being engageable in abutting relation with the tapered end of said cone, whereby said tube and disc flange assembly and said cone are adapted to be removably secured on said blade and whorl assembly in axially and radially secured relation, said cone being in seated position on said base adapter longer than the effective length of said blade from said base adapter to its end, and said lip being removably disposed outwardly beyond the end of said blade.

2,973,162
ATTITUDE CONTROL SYSTEM FOR SPACE VEHICLES
Walter Haussermann, 1607 Sandlin St. SE., Huntsville, Ala.
Filed Feb. 12, 1959, Ser. No. 792,930
18 Claims. (Cl. 244—1)
(Granted under Title 35, U.S. Code (1952), sec. 266)



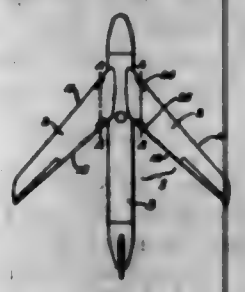
1. In combination: a space vehicle, adapted for use in a spatial vacuum, having an axis about which its attitude may be controlled; an attitude-controlling rotary mass on the vehicle, exerting a reaction tending to turn the vehicle about said axis; electromotive means for rotating said mass; a source of electrical current; means electrically connecting said source of current with said electromotive means, comprising a current-controlling means; an adjustable device that is constructed and arranged to indicate a desired vehicle attitude and to provide an electric signal when the vehicle is not in said desired attitude; means to conduct said signal to said current-controlling means, said current-controlling means comprising a device influenced by said signal to vary the flow of current to said electromotive means in accordance with said signal; means responsive to the speed of said rotary mass comprising an electrical switching device that is actuated when said mass reaches a maximum speed; mechanism for expelling materials from said vehicle in a direction such as to cause a reaction of the vehicle about said axis and in an amount sufficient to prevent further substantial increase in the speed of said electromotive means and attitude-controlling mass; and means electrically connecting said mechanism with said switching device.

2,973,163
APPARATUS FOR TRAILING A FLUID-TRANSMITTING HOSE OR TOW-LINE FROM AN AIRCRAFT
Arthur W. Goodliffe, Wimborne, Peter Stevens Macgregor, Upton, Poole, and Peter Gerard Procter, Rose Green, Bognor Regis, England, assignors to Flight Refueling Incorporated, Danbury, Conn., a corporation of Delaware
Filed Feb. 3, 1956, Ser. No. 563,388
13 Claims. (Cl. 244—3)



1. Airborne apparatus for trailing a flexible element, such as a hose or tow-line, from an aircraft, said apparatus comprising a main reel carrying such flexible element, an auxiliary reel, an auxiliary line carried by said auxiliary reel, a drag-creating device mounted on the end of said auxiliary line, means for operatively coupling the main reel to the auxiliary reel for such relative rotation as will cause the main reel to wind in the flexible element at the same time the auxiliary reel pays out the auxiliary line, and conversely, taking into consideration the directions in which the flexible element and the line are laid upon the respective reels, independent motor means for driving each of said main and auxiliary reels in either sense, and controllable clutch means for connecting and disconnecting each of said reels with and from its motor means.

2,973,164
WING SEVERING DEVICE
Raymond R. Grill, Long Beach, Calif., assignor to Northrop Corporation, Hawthorne, Calif., a corporation of California
Filed May 13, 1949, Ser. No. 93,143
5 Claims. (Cl. 244—14)



1. In combination, an aircraft having a body, wing elements attached to said body, laterally extending spars in said wing elements, an explosive charge inside of each wing element outboard of said body for severing said wing elements from said body, each of said charges comprising an explosive mass extending longitudinally of a wing element from adjacent the leading edge of said wing element through apertures in said spars to a point adjacent the trailing edge of said wing element, said charge having a peripheral channel therein shaped to direct a cutting blast through said spars and the outer covering of said element along predetermined lines to sever said wing element, said lines being substantially the same distance from said body in both wing elements, and means for simultaneously detonating said charges to sever said wing elements from said body along said predetermined lines.

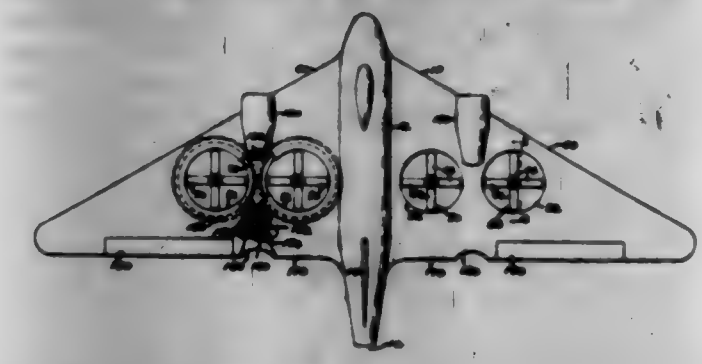
2,973,165
AIRCRAFT WITH JET ENGINES IN WINGS
Ivor Macaulay Davidson, Farnborough, England, assignor to Power Jets (Research and Development) Limited, London, England, a British company
Filed Jan. 22, 1958, Ser. No. 710,575
Claims priority, application Great Britain Feb. 4, 1957
12 Claims. (Cl. 244—15)



1. An aircraft having a wing comprising stress-carrying structure including a front spar and a rear spar extending spanwise of the wing, a plurality of straight tubular members arranged side by side along the wing span and extending chordwise of the wing from a position forward of the front spar through the spars to a

position rearward of the rear spar and means rigidly attaching the tubular members to the spars; a cylindrical member radially spaced from each of said tubular members and coaxially mounted relative thereto; rearwardly directed jet nozzle units connected to the rearward ends of the tubular members; and at least one jet engine mounted forwardly of the front spar and connected to discharge a propulsive jet stream through the tubular members and jet nozzle units.

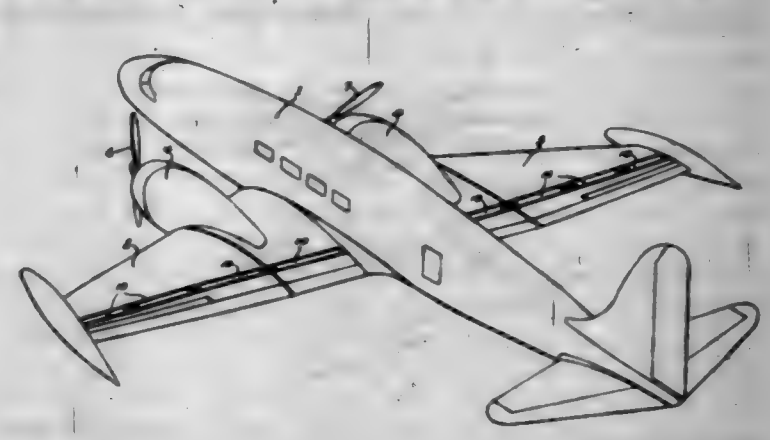
2,973,166
TURBINE PRINCIPLE HELICOPTER-TYPE BLADE FOR AIRCRAFT
Bernhardt Stuhmer, 1509 Chicago St., Omaha, Nebr.
Filed Apr. 21, 1955, Ser. No. 502,933
2 Claims. (Cl. 244—23)

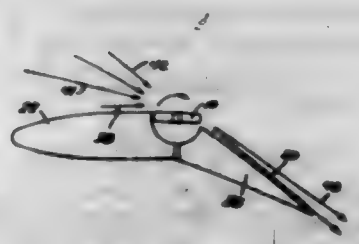


2. In an aircraft, two closely spaced vertical thrust propeller assemblies, said assemblies being on a same side of the aircraft rotating in approximately horizontal planes when said aircraft is upright, each assembly having a rim around its periphery and attached thereto, means rotatably mounting said propeller assemblies on said aircraft, and a plurality of spaced apart turbine-like buckets disposed in a circle adjacent the outer periphery of each respective assembly and attached thereto concentrically, said two propeller assemblies being disposed alongside each other and being closely spaced apart with respect to each other and being arranged for delivering downward thrusts of air at times when they are rotating in opposite directions, said propeller assemblies being disposed inboard and outboard of each other respectively and with respect to said aircraft, and means mounted on said aircraft for developing and delivering a driving stream of gas at the buckets of each propeller assembly and directed tangentially to the said circles of buckets respectively for driving said assemblies in opposite directions for downward thrusts of air, said gas streams developing and delivering means substantially directly delivering gas to said buckets and being free of any substantial stream direction diverting means between a position of gas stream development and said turbine buckets.

2,973,167
AIRFOIL AND BOUNDARY-LAYER CONTROL ROTOR
Harry F. Lake, 4417 Madison St., Dearborn, Mich.
Filed Jan. 24, 1957, Ser. No. 636,177
3 Claims. (Cl. 244—42)

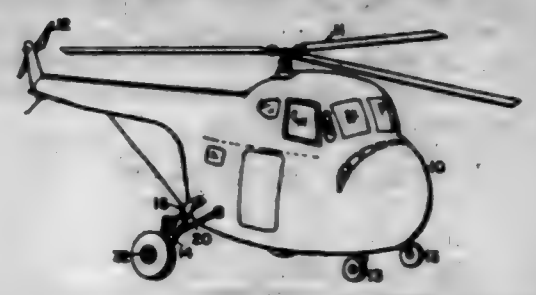
1. The combination with an airfoil having a leading edge and a trailing edge defined with reference to the air movement to which it is subject, said airfoil having a channel disposed between said edges and opening only to the upper surface of the airfoil and peripherally closed in a downward direction, said channel having a substantial extent transversely of the direction of air movement, a rotor disposed within the channel and comprising a hub portion and vanes, the vanes normally being flush with the top surfaces of the airfoil and disposed at a level to project from the channel as the rotor rotates, driving means independent of the air stream to which the airfoil is subject for actuating the rotor in a direc-





tion of rotation such that exposed portions move in the direction of air movement across the airfoil between, said edges.

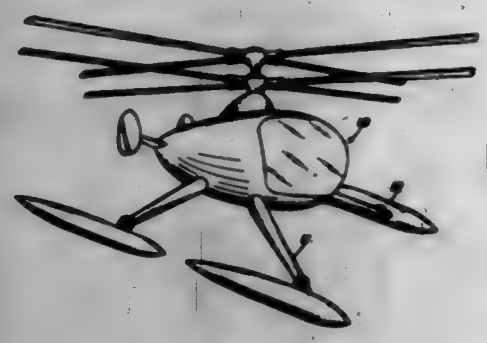
2,973,168
LANDING GEAR
Erwin H. Hartel, Cleveland, Ohio, assignor to Cleveland Pneumatic Industries, Inc., a corporation of Ohio
Filed Aug. 27, 1957, Ser. No. 680,569
4 Claims. (Cl. 244—104)



1. In combination an aircraft having a frame, an elongated flexible strut secured at one end to said frame extending laterally and downwardly therefrom to an outer end, support means connected to said outer end, a ground engaging element carried by said support means for movement along an axis inclined inwardly toward said frame and having a bottom portion adapted to engage the ground upon operation of the aircraft on the ground, said strut and element being subjected to vertical forces upon such operation of the aircraft on the ground effecting flexing of said strut and the resulting lateral movement of said outer end with respect to the frame in one direction and movement of said element along said inclined axis and its resulting lateral movement with respect to said outer end in an opposite direction.

2,973,169
TILT FLOAT HELICOPTER
Eugene H. Handler, Kensington, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed Aug. 7, 1958, Ser. No. 753,851
4 Claims. (Cl. 244—105)
(Granted under Title 35, U.S. Code (1952), sec. 266)
1. An aircraft of the vertically operable type com-

prised of a main body, rotors atop the main body to provide vertical lift and horizontal motion, a plurality of struts secured to said body, a float pivotally connected to



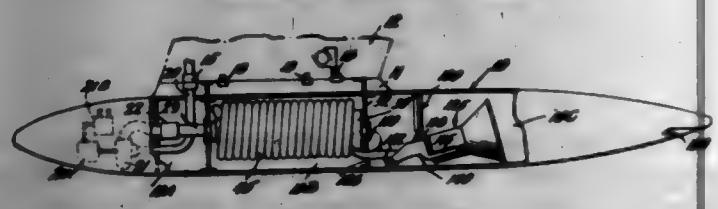
each of said struts for use in a horizontal position to support the aircraft when at rest in calm water, and means for rotating said floats to a vertical position for supporting and steadying said aircraft when at rest in an open sea.

2,973,170
WING STRUCTURE
Clarence J. Rodman, 1315 S. Union Ave., Alliance, Ohio
Filed June 27, 1957, Ser. No. 668,497
5 Claims. (Cl. 244—123)



3. An airplane with a wing having a continuous coating of porcelain enamel over the inner surface thereof, and a reinforcing element embedded in and completely covered by the enamel.

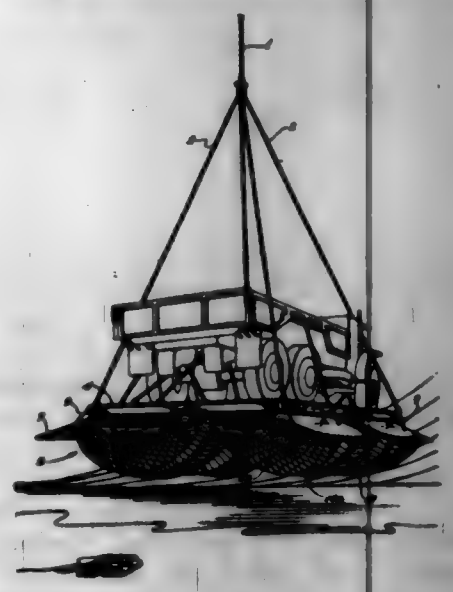
2,973,171
IN-FLIGHT CONNECTION FOR AIRCRAFT
Leonard G. Ward, Linthicum Heights, Noel R. White, Jr., Annapolis, and Walter M. Iwanowski, Catonsville, Md., assignors to Flight Refueling Incorporated, Baltimore, Md., a corporation of Delaware
Filed Jan. 15, 1957, Ser. No. 634,208
7 Claims. (Cl. 244—135)



1. In combination with a tanker aircraft, a substantially self-contained pod supported externally of said tanker aircraft for refueling a receiver aircraft in flight, means for quick-detachably supporting said pod from said tanker aircraft as for jettisoning it in an emergency, said pod being supported with its axis substantially parallel to the line of flight, a supply of dispensable fuel in said tanker aircraft, fuel conduits in said tanker aircraft and in said pod, and a quick detachable coupling between said conduits substantially at the point of severance between the said pod and said tanker aircraft, a hose reel rotatably mounted within said pod with its axis disposed in a fore-and-aft direction and substantially parallel with the axis of the pod, a hose supported on said reel, and adapted to be trailed from the pod in effecting the refueling operation, a quick detachable coupling disposed between the inboard end of the hose and the fuel conduit in the pod, a coupling part carried by the outboard end of said hose adapted to connect with a mating coupling part carried by the receiver aircraft, said hose adapted to be wound upon and payed out from said reel, and a level-wind device movably supported within said pod adjacent said reel for guiding said hose from its position in parallel transverse convolutions on the reel to its trailed position in a vertical longitudinal plane parallel to the line of flight, and means for driving said reel, said quick-detachable couplings providing means for readily jettisoning either the hose or the pod itself.

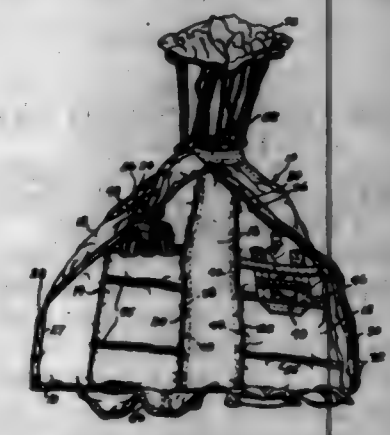
2,973,172
RADIAL CELL DECELERATOR
Harold W. Bixby, Encino, Calif., assignor to Northrop Corporation, a corporation of California
Filed Sept. 16, 1957, Ser. No. 684,172
6 Claims. (Cl. 244—138)

1. A landing decelerator system comprising a load platform with a hinged door in the lower side thereof, a decelerator installed in a collapsed condition between said door when closed and the lower side of said platform, said decelerator comprising a honeycomb cell cushion structure with its upper face secured to said platform lower side and its lower face secured to said door, the longitudinal dimension of the cells in said



cushion structure being perpendicular to the hinge line of said door, whereby when said door is opened substantially 180 degrees, said cushion cells open and form a radially expanded cellular shock absorber having open-ended cells aligned perpendicularly to the landing impact forces.

2,973,173
BELLOWS DEPLOYMENT BAG
George A. Zelinskas, 434 Alaska St., Dayton, Ohio
Filed Aug. 15, 1958, Ser. No. 755,360
5 Claims. (Cl. 244—148)
(Granted under Title 35, U.S. Code (1952), sec. 266)



5. A deployment bag capable of assuming a substantially flat contour for the purpose of packing a parachute therein, means for lacing said bag to assume a cylindrical contour, an inserted pannel member extending the

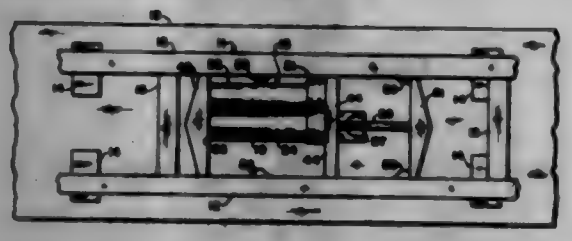
length of said bag, means for lacing the edges of said inserted pannel member together for forming a collapsible bellows thereby drawing said bag into a restricted cylindrical contour for stowing and eliminating the bellows member from the effective contour of said bag, means for cutting said last mentioned lacing means operable by the weight of a load attached to said lacing means to cut said lacing means when the weight of the load is applied thereto as in falling and expanding the said bag to its initial full cylindrical size to allow a parachute to be deployed therefrom.

2,973,174

VEHICLE LOAD SHOCK ABSORBING UNIT

Tad Stanwick, Washington, D.C., and Wallace Hamilton, Chagrin Falls, and Joseph E. Hannigan, Hudson, Ohio, assignors to Cleveland Pneumatic Industries, Inc., Cleveland, Ohio, a corporation of Ohio

Filed Aug. 6, 1959, Ser. No. 831,975
7 Claims. (Cl. 248—119)



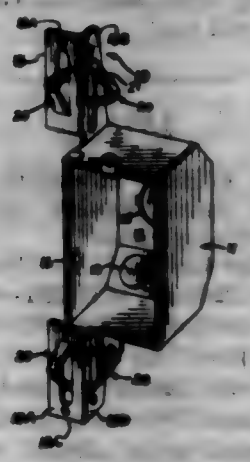
1. A load shock absorbing mechanism for vehicles comprising a frame on said vehicle movable relative thereto, first spaced opposed fixed stops mounted on said vehicle, second spaced opposed stops on said frame, a first member engageable with one of said first stops and one of said second stops, a second member engageable with the other of said first stops and the other of said second stops, and spring and damping means connected to said members resisting movement of one of said members relative to the other of said members in one direction, said members engaging both of their associated stops when said frame is in a midposition relative to said vehicle, said stops moving said one member relative to said other member in said one direction against the action of said spring and damping means in response to movement of said frame in either direction from said midposition.

2,973,175

ELECTRICAL BOX BRACKET

Arthur I. Appleton, Northbrook, Ill. (% Appleton Electric Co., 1701 Wellington Ave., Chicago 13, Ill.)

Filed Feb. 19, 1958, Ser. No. 716,136
7 Claims. (Cl. 248—216)



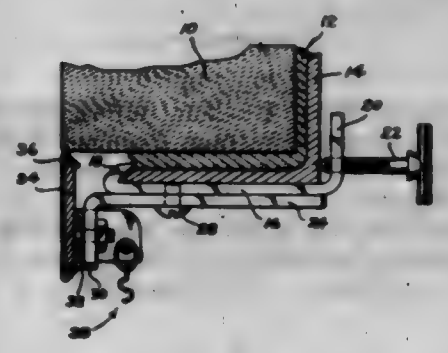
1. A bracket for nailing an electrical box to a wood support, comprising, in combination, a plate fastened to one wall of the box having a first section flat against said wall and a second section substantially perpendicular to said first section and extending therefrom so as to be positionable against the support, and a pair of closely adjacent deformable barbed nailing prongs struck out of said plate, each prong including a shank hinged to the plate and extending at an angle therefrom away from the support engaging side thereof and carrying a reversely curved toe extending toward the support so as to be drivable into the support as by a hammer blow, with the toes of said closely adjacent prongs set oppositely to enter a wood support behind said plate at oppositely inclined angles so that one embedded prong of said pair offsets the other to anchor said plate to the wood support, one of said prongs being hinged to the plate and facing away from the box, the driving of said prongs into the support causing the box to bend away from the plate a predetermined angle, said second plate section being initially set at said predetermined angle less than a right angle relative to said first section and the box so that when said prongs are completely embedded, the box lies square with relation to the support.

2,973,176

FIREPLACE SCREEN MOUNTING BRACKET

Dennie O. Malafouris, Portland, Oreg., assignor to Hearth Craft, Inc., Portland, Oreg., a corporation of Oregon

Filed Jan. 2, 1959, Ser. No. 784,532
3 Claims. (Cl. 248—228)



1. A bracket for suspending screen structures from fireplace lintels having a forwardly extending portion and an upwardly extending rear face, the bracket comprising a grip bar having on one end a reversely bent segment dimensioned to grip the forward edge of the lintel and on the other end an angularly bent segment adapted to overlie the rear face of the lintel, means for securing the bent segment to the rear face of the lintel providing with the forward edge grip opposite end suspended mountings for the bracket, a bracket bar underlying the grip bar, means for releasably securing the bracket bar to the grip bar while permitting relative movement thereof in a longitudinal direction for extending and retracting the bracket bar relative to the front face of the fireplace, and means on the outer end of the bracket bar for suspending a fireplace screen therefrom.

2,973,177

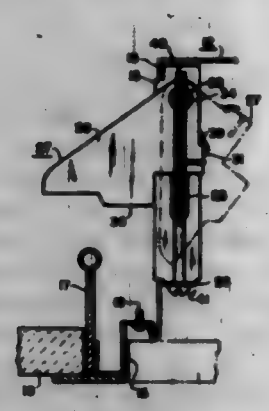
TROFFER SIDE SUPPORT

Walter W. Stubbe, Irwin, Pa., assignor to Pittsburgh Reflector Company, Irwin, Pa., a corporation of Pennsylvania

Filed Jan. 14, 1960, Ser. No. 2,512
5 Claims. (Cl. 248—343)

1. A support including an L-shaped frame having a first vertically elongated leg affixed to a second vertically elongated leg, said legs being joined along their vertically extending edges; said first leg having a vertical slot therein extending a substantial portion of the height of the leg; a horizontal short tab affixed to the lower edge of said first leg and extending perpendicular to said first leg and

in a direction opposite to said second leg; a tongue located on the outside of the L-shaped frame and in a plane parallel and contiguous to said first leg and perpendicular to said second leg and tab; a hole in said tongue; a nut positioned in and extending through said hole and said slot and a portion of the nut extending beyond said tongue; said portion of the nut having a vertical threaded hole therein; said tab having a hole therein; a headed



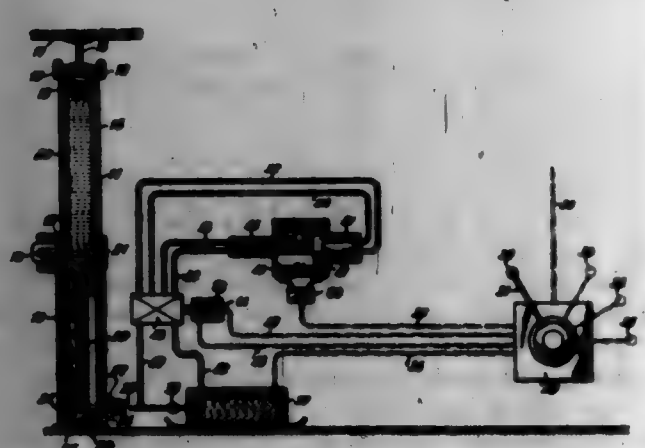
bolt passing vertically upward through and being freely rotatable in said hole in the tab, and being threaded into said threaded hole in the nut; said tongue being swingably mounted on said nut to move from a retracted position to an extended position; a spring encircling said nut to prevent removal of the nut from the said slot; and one end of said spring normally biasing the tongue to said extended position.

2,973,178

TWO-PART METALLIC MINE PROP

Wilhelm Ludwig Gustav Heusner, Bochum-Weitmar, Germany, assignor to Hermann Schwarz K.G., Wattenscheid, Germany

Filed Oct. 24, 1957, Ser. No. 692,208
Claims priority, application Germany Oct. 29, 1956
4 Claims. (Cl. 248—354)



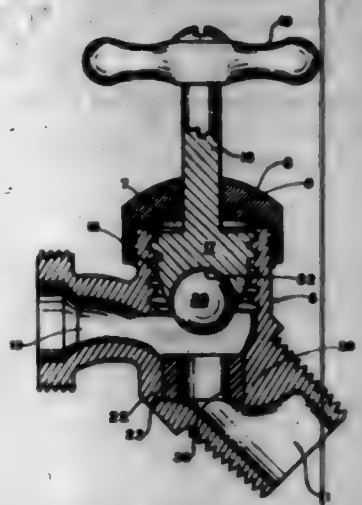
1. In a two-part metallic mine prop having an upper mine prop member, a lower mine prop member, and locking means for frictionally interlocking said mine prop members, the combination of: a pressure fluid cylinder confined by one of said mine prop members and forming a rigid unit therewith, a hollow piston extending into said cylinder, said cylinder being movable relative to said piston, a tubular piston rod connected to said piston and being open at that end thereof which is connected to said piston for selectively feeding fluid into and withdrawing fluid from said cylinder, said piston being provided with connecting means for connection with a pressure fluid system, means for preventing any substantial movement of said piston rod in axial direction thereof, conduit means associated with said cylinder and adapted to establish fluid communication between the upper portion of said cylinder and the atmosphere, and breather valve means arranged in said conduit means and operable in response to a sub-atmospheric pressure in said cylinder to establish communication between the latter and the atmosphere through said conduit means.

2,973,179

BALL FAUCET VALVE

Harry Kleinschmidt, Burbank, Calif. (23954 Haynes St., Canoga Park, Calif.), and Herman A. Stoffel, 140 N. Hamilton Road, Columbus, Ohio

Filed Feb. 11, 1958, Ser. No. 714,590
1 Claim. (Cl. 251—86)



In a faucet valve, a hollow casing having an inlet in its side and an outlet in its bottom, a partition separating said inlet from said outlet and having an opening therethrough, a valve seat member in the inlet end of said opening, said seat member having a flat annular surface towards said inlet, a plug threadedly mounted in said casing for movement towards and away from said seat member and presenting a bottom end portion having an inner surface defining a downwardly opening spherical socket and an uninterrupted smooth spherical outer surface converging with the bottom end of said inner surface to form a sharp annular edge portion defining the bottom end extremity of said plug; said inlet being disposed to direct liquid entering said casing through said inlet against said outer surface, a stainless steel ball valve floatingly mounted in said socket and having at least one-third of its surface depending from said socket and exposed below said edge, and an actuating stem rotatably carried by said casing for rotating said plug, said outer surface being disposed tangential to said exposed surface portion of said ball valve whereby to direct said liquid tangentially against said exposed surface portion of said ball valve for causing said ball valve to rotate relative to said plug when said ball valve is out of seating engagement with said seat.

2,973,180

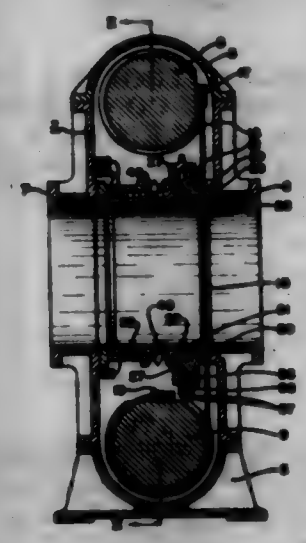
VALVE

Sidney T. Morgan, O'Hara Township, Allegheny County, Pa., assignor to Salem-Brosius, Inc., Carnegie, Pa., a corporation of Pennsylvania

Filed May 13, 1957, Ser. No. 658,560
11 Claims. (Cl. 251—170)

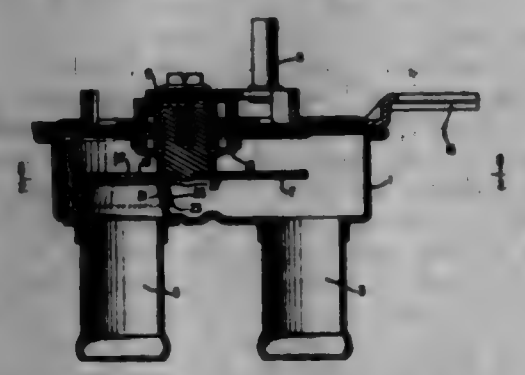
1. A valve for controlling flow through a conduit comprising a flexible sheet-like valve element having a portion with an opening therein adapted to be aligned with the conduit to permit flow through the conduit and another portion adapted to be aligned with the conduit to inhibit flow through the conduit, means for partially rolling up the valve element out of alignment with the conduit and thereby moving the valve element between posi-

tions in which said respective portions thereof are aligned with the conduit and sealing means connected with the



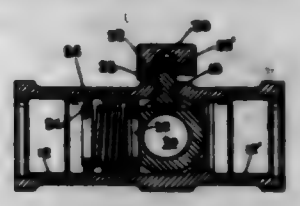
conduit adapted to engage the valve element at the opposite faces thereof.

2,973,181
VALVE
James Ray Johnson, % Knowles-Fisher Corp., Gowanda, N.Y.
Filed Oct. 31, 1960, Ser. No. 66,115
8 Claims. (Cl. 251—172)



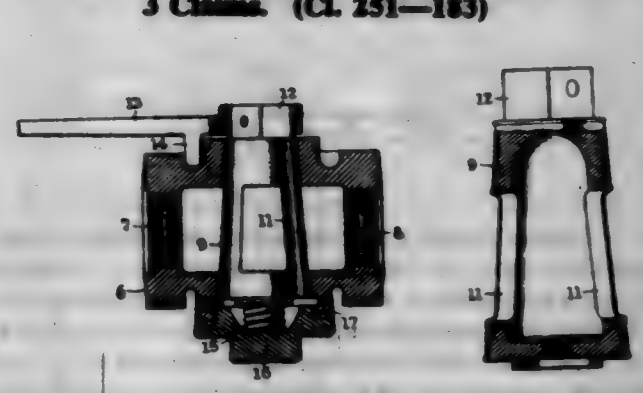
1. A valve for controlling the flow of fluid under pressure, comprising in combination a valve casing having inlet and outlet openings therein and a fluid passageway therethrough extending between and interconnecting the inlet opening and the outlet opening, a valve member mounted in the valve casing for movement between an open position in which pressure fluid may flow through the passageway and a closed position in which the valve member closes the passageway and divides the passageway into an upstream portion and a downstream portion, sealing means surrounding the fluid passageway and having first and second resiliently flexible portions in the form of continuous flanges disposed at at least 90° to each other in their unstressed condition, said first flexible portion having a sealing surface disposed in fluid sealing contact with the valve casing entirely about the fluid passageway, said second flexible portion having a sealing surface disposed entirely about the fluid passageway in the open valve position and in fluid sealing contact with the valve member entirely about a closed path on the valve member in at least the closed valve position in use, the portion of the valve casing with which said sealing surface of said first flexible portion is in contact being tapered and having closed cross-sectional configurations of progressively smaller diameter in a direction toward the valve member, said sealing surface of said first flexible portion being stretched on and entirely about and in contact with a continuous path around said tapered portion of the valve casing, the configuration of the casing being such that the stretched surface will continuously urge said second flexible portion toward sealing contact with the valve member with said first and second flexible portions disposed at an acute angle to each other, and means transmitting upstream fluid pressure to the side of the sealing means opposite the fluid passage in at least the closed valve position to press said first and second flexible portions against the valve casing and valve member, respectively, thereby to augment the seal between said sealing surfaces and the valve casing and valve member.

2,973,182
VALVE STRUCTURE
Vincent A. Gill, Montclair, N.J.
Filed Nov. 28, 1956, Ser. No. 624,791
4 Claims. (Cl. 251—174)



1. A valve structure comprising a tubular body having a bore for the passage of fluid therethrough, a plug valve mounted in said body for rotation about an axis perpendicular to the axis of flow through said body, said plug valve having a fluid conducting bore extending therethrough, said plug valve having an external surface of the revolution interrupted by a flat portion on the side thereof facing the inlet side of the body bore when the plug valve is closed with said flat portion being substantially parallel to the axis of the plug valve bore, a valve seat disposed within said body bore on the outlet side of the body bore, a plug valve engaging member axially movable within the inlet side of said body bore, and resilient means for pressing said plug valve engaging member against the plug valve, said plug valve engaging member having a surface engaging said plug valve at a zone displaced from the axis of rotation of said plug valve in a direction along the axis of said body bore, said plug valve engaging member surface engaging the flat portion of said plug valve when the plug valve is in its closed position to resiliently retain the plug valve in such position and to indicate that the plug valve has been rotated to its closed position.

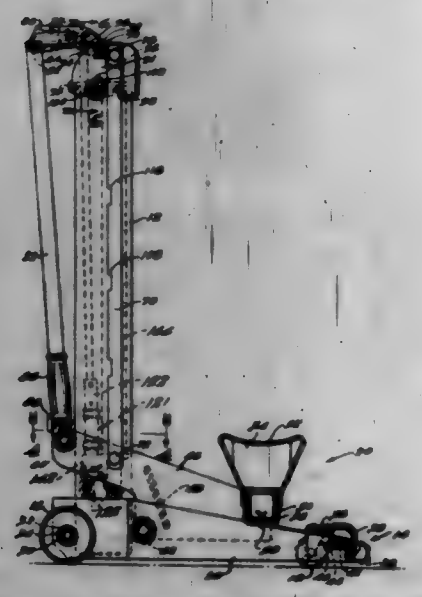
2,973,183
LOW FRICTION SLIDING VALVE WITH EDGE-SEALED PORTS
Martin J. Alger, Jr., Watertown, N.Y., assignor to The New York Air Brake Company, a corporation of New Jersey
Filed June 12, 1958, Ser. No. 741,523
3 Claims. (Cl. 251—183)



1. A valve comprising two relatively slidable valving members, each having a valving face; means defining a transverse surface on one of the valving members which intersects the valving face, the intersection defining a sharp edge in the valving face; a thin adherent coating

of Teflon on the valving face of said one valving member, the coating having a bead along said edge in the unstressed condition; and means for retaining said valving members in an operative relationship so that the bead on the coating is deformed and the coating assumes a uniform depth at all points where it is confined between the two valving members.

2,973,184
HYDRAULIC JACK
Walter C. Trautmann, Bridgeport, Conn., and Lyle L. Armes and Bernard J. Zimmermann, Racine, Wis., assignors, by mesne assignments, to Walker Manufacturing Company, Racine, Wis., a corporation of Delaware
Filed July 5, 1955, Ser. No. 519,884
13 Claims. (Cl. 254—2)



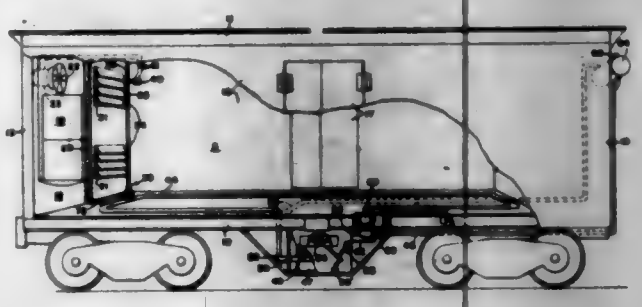
2. In a portable lift, an upright body member, a lifting frame movably mounted on said body member, a hydraulic power unit, a pair of vertical tension links connected to said lifting frame and movable by said hydraulic power unit, said links having a plurality of notches therein, latching means engageable with said notches, a manually operable release rod, means responsive to rotation of said release rod about its longitudinal axis for controlling said power unit, and means responsive to pivoting of said release rod about a transverse axis for controlling said latching means.

2,973,185
BARBED WIRE
Rudolf Josef Georg Brixner, Herrenhaus, Witzhave, Stormarn, Germany
Filed Mar. 17, 1959, Ser. No. 800,042
Claims priority, application Germany July 26, 1958
4 Claims. (Cl. 256—6)



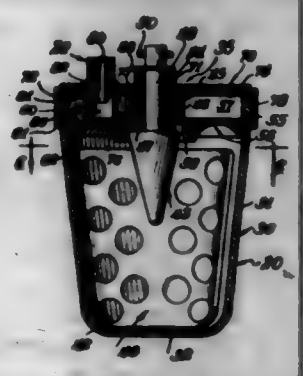
1. A barbed wire construction comprising a pair of substantially parallel support wires, a barb on said support wires comprising a pair of wires, a first end of one of said wires extending around said pair of support wires and having a reversely bent portion between said support wires and a second end extending in the same direction as its first end, the second of said pair of wires having a first end on the opposite side of said support wires from the first end of said first wire, said second wire extending around said support wires and having a reversely bent portion engaged in the reversely bent portion of said first wire and having a second end extending in the same direction as its first end.

2,973,186
TEMPERATURE-CONTROLLED SYSTEM FOR TRANSPORT CONTAINERS
Frederick E. Hazard, 57 E. Ohio St., Chicago, Ill.
Filed Aug. 20, 1956, Ser. No. 605,176
3 Claims. (Cl. 257—291)



1. A temperature-controlled system for the transportation of perishable commodities, comprising: a transportable insulated container having a floor, a roof and walls defining a lading space for such commodities and further including a cooling compartment separate from said space and adapted to contain a constantly effective cooling medium; means for effecting heat-transfer communication between the space and the compartment for extracting heat from said space; a constantly operating heater externally of the space; a main heater line within the lading space and connected to the heater for adding heat to said space at times during extraction of heat from said space by the aforesaid cooling medium; a heat by-pass line externally of said space and connected to the main heater line; and a heat flow control device having first and second positions respectively incurring main line heating and by-pass line cooling for adding heat to said space as aforesaid or by-pass line heating and main line cooling for discontinuing the addition of heat to said space, said device including a temperature-responsive device operative in response to rise and fall of container temperature relative to a predetermined value to respectively achieve the second and first positions of said device for regulating the addition of heat to said space; and means responsive to main line temperature for varying the capacity of said heat transfer communication means in inverse proportion to increase in container temperature as affected by heat added by the heater line.

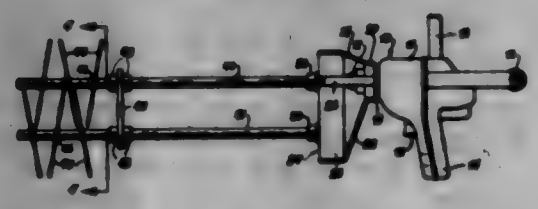
2,973,187
VACUUM SPATULATOR
Bruno F. Wehmer, 7 Imperial St., Park Ridge, Ill.
Filed Aug. 11, 1958, Ser. No. 754,455
3 Claims. (Cl. 259—108)



1. A device for mixing plastic materials comprising a mixing cup having an upper open end, a cover for the open end of said cup, paddle means insertable through

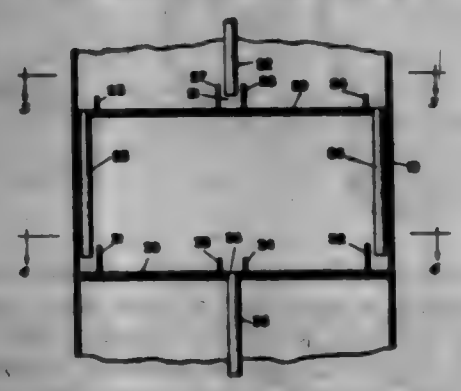
the open end of said cup and supported on said cover for rotation within the interior of said cup, an enclosed chamber formed entirely within the confines of said cover whereby said chamber is positioned outwardly of the opening in said cup, said chamber communicating with the interior of said cup, a vacuum connector on said cover communicating with said chamber therein, motor means for rotatably driving said paddle means, a vacuum pump having connection with said vacuum connector for evacuating the atmosphere of said chamber and cup, and trap means in the chamber of said cover opposite said vacuum connector for preventing the passage of plastic materials into the said connector.

2,973,188
MIXING APPARATUS
Russell Rex Howe, Tonawanda, N.Y., assignor, by mesne assignments, to The Keystone Mfg. Co., Buffalo, N.Y., a corporation of New York
Filed June 6, 1957, Ser. No. 664,089
1 Claim. (Cl. 259—131)



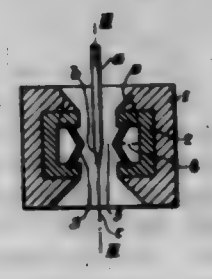
In mixing apparatus for flowable materials having a pair of generally parallel, spaced shafts rotated in opposite directions, the combination therewith of means for alternately exerting squeezing and suction forces in an axial direction on material between said shafts as well as conveying the material through the space between said shafts, comprising a series of generally circular metal plates fixed in spaced relation along each of said shafts generally concentric therewith and projecting laterally therefrom with the plates on one shaft having portions which interleave with the plates on the other shaft, alternate plates of each series being pitched at one acute angle with reference to the axis of their shaft and the remaining alternate plates of each series being pitched at an opposite acute angle with reference to their shaft whereby upon said rotation of said shafts the opposing interleaved portions of said plates on the two shafts alternately move toward and from each other parallel with their axes thereby to exert alternately squeezing and suction forces in an axial direction on the material and also to propel the material through the space between said shafts.

2,973,189
FRACTIONATING COLUMNS
Ju Chin Chu, 34 Linden St., Garden City, N.Y.
Filed Feb. 28, 1956, Ser. No. 568,338
5 Claims. (Cl. 261—114)



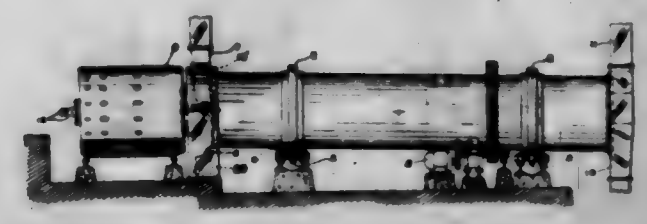
1. A fractionating column comprising a series of sieve plates adapted for upward flow of vapor through the perforations therein, and means for directing liquid flow across a perforated area of each plate with substantially no passage of liquid downwardly through the perforations, and for directing liquid flow from an outlet portion of each plate downwardly to the next plate, each of said plates having a plurality of perforations, each of fixed size, which vary from relatively small to relatively large size in the direction of liquid flow across the plate, whereby the size of each perforation remains constant throughout the range of flow rates of vapor within the capacity of the column.

2,973,190
HEATING DEVICE
Werner Schaller, 88 Lawton Road, Alsager, England
Filed May 12, 1955, Ser. No. 507,921
In Great Britain Apr. 24, 1948
Public Law 619, Aug. 23, 1954
Patent expires Apr. 24, 1968
4 Claims. (Cl. 263—2)



1. A heating device comprising a member formed with oppositely disposed walls to present an opening into which opening are continuously fed the ends of glass rods from which filaments are to be drawn, supports mounted at opposite positions in the walls of said member, each of said supports being provided with vertical parts and inwardly directed flanges at top and bottom of said vertical parts, strip metal heating members for radiating heat inwardly on to the ends of the rods, said heating members being mounted to extend between the top and bottom flanges in such manner as to leave a space between each strip metal member and the vertical part of the support.

2,973,191
DRYER FOR FERTILIZER AND THE LIKE
Augustus J. Sackett, Jr., Baltimore, Md., assignor to The A. J. Sackett & Sons Company, Baltimore, Md., a corporation of Maryland
Filed Mar. 6, 1956, Ser. No. 569,871
3 Claims. (Cl. 263—33)



1. In a substantially cylindrical rotary dryer with inlet and outlet ends for fertilizer and other material having flights therein to raise the material to near the top of the dryer and drop it therefrom upon the rotation of the dryer, the fall of material being concentrated at the side of the dryer vertical center where raised and dropped by the flights and having in line therewith a furnace with a fuel inlet end and an opposed restricted heat outlet end centrally of the furnace, a chamber between the dryer and furnace relative to which the dryer rotates and having a restricted passageway therethrough connecting the furnace restricted outlet end substantially adjacent the horizontal diameter of the dryer inlet end,

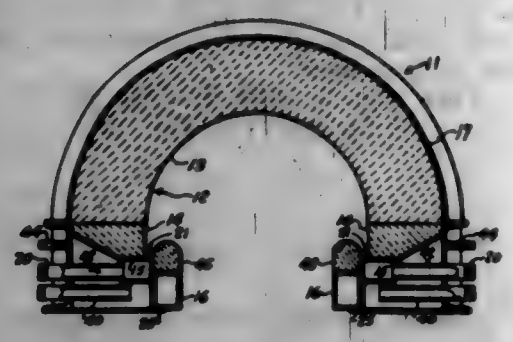
a feed chute passing through the chamber into the side of the dryer end substantially laterally removed from the outlet of said furnace restricted outlet end, the material being introduced to the dryer through the chute, the dryer being sloped downwardly from the inlet end thereof to progress the material therethrough upon the rotation of the dryer, the furnace admitting into the dryer a large volume of heated air without excessive heat to dry the raised and dropped material and comprising means to admit fluid fuel to the furnace and to project the flame thereof toward the furnace restricted outlet end and the dryer inlet end, the furnace having a plurality of groups of orifices in the walls thereof, each group being spaced from the other in the direction of the flame path and the orifices of each group being spaced peripherally around the furnace to admit air in large volume thereinto, means to direct air from the orifices centrally of the furnace and into the path of the flame at separate points along said path spaced toward the dryer from the fuel admitting means of the furnace, to heat the air and assure the continued connection of the flame with the fuel, the center of the furnace restricted outlet end and the path of the flame therefrom being laterally offset from the dryer inlet end toward the side of the dryer dropping the material downwardly from near the top of the dryer upon the rotation of the dryer and vertically in line with the center of concentration of the material fall, whereby the dropped material receives the full flow of the heat from the furnace and the outer surface of the particles of the material is substantially dried during the early stages of the material progress through the dryer, the material feed chute entering the dryer adjacent the dryer side opposite the offset of the furnace outlet end and means at the dryer outlet end to draw air in large volume through the furnace and its orifices and through the dryer.

2,973,192

APPARATUS FOR RAPID HEATING OF ONE SIDE ONLY OF WORK

Philip L. Knight and George W. Michel, Toledo, Ohio, assignors, by mesne assignments, to Midland-Ross Corporation, Cleveland, Ohio, a corporation of Ohio

Filed May 19, 1953, Ser. No. 355,982
3 Claims. (Cl. 263—43)



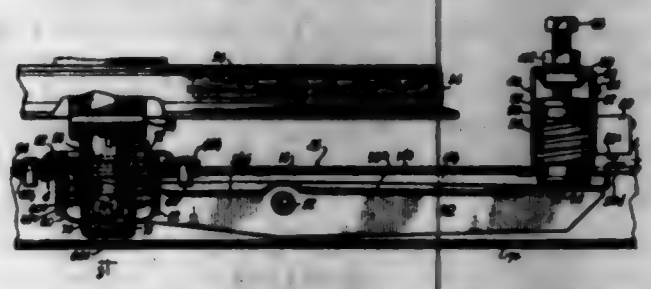
1. Heating apparatus for heating one side of a work piece, having a cylindrical refractory radiating member generally semi-circular in cross section and having at opposed sides of the member substantially flat refractory portions substantially tangential to the semi-circular portion, spaced manifold means parallel to the axis of said cylindrical member and having ports positioned to deliver a substantially continuous curtain of combustible mixture adjacent to and substantially parallel to said flat portions and directed towards said circular refractory whereby to burn against said refractory and constitute the same a source of radiant heat for supplying heat to work positioned generally between said manifold means.

2,973,193

WASHING MACHINE

John A. Castricone, Peoria, Ill., assignor, by mesne assignments, to American Motors Corporation, Detroit, Mich., a corporation of Maryland

Filed Apr. 18, 1958, Ser. No. 729,290
1 Claim. (Cl. 265—39)



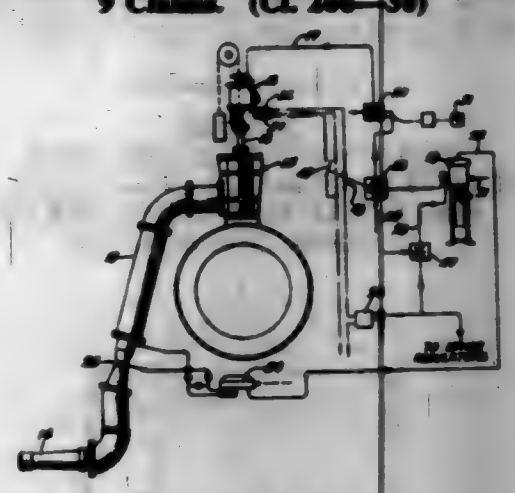
In a washing machine, the combination including a rotatable tub assembly, an inverted U-shaped channel disposed below said assembly and having an opening in its top side and a weight responsive mechanism for supporting said assembly, said mechanism including cup-like means vertically movable within said opening and upon which said assembly is mounted, lever means mounted upon the sidewalls of and beneath the top side of said channel, said cup-like means having a peripheral horizontal flange disposed above the top of the channel and engageable therewith to limit possible excessive downward movement thereof and said channel having a pair of diametrically oppositely located apertures in its top spaced from said opening, a pair of guide and thrust pins secured to said flange and extending through said apertures into engagement with said lever means for actuating the latter, the top of said channel having another pair of diametrically oppositely located openings located between said first mentioned pair of openings and said flange having a pair of guide pins secured to it and passing through said other pair of openings, and resilient means disposed between said channel and another portion of said lever means for resiliently loading said lever and tub assembly.

2,973,194

FLUID DISTRIBUTION CONTROL SYSTEM

Robert G. Bryan, Evergreen Park, and Charles J. Geiser, Chicago, Ill., assignor, by mesne assignments, to Republic Flow Meters Company, Chicago, Ill., a corporation of Delaware

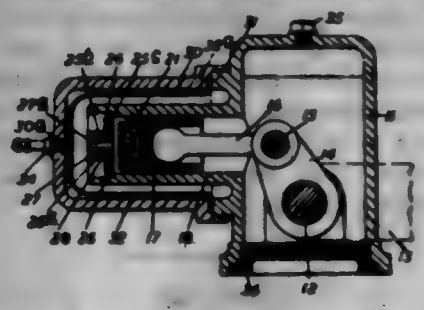
Filed May 28, 1956, Ser. No. 587,655
9 Claims. (Cl. 266—30)



1. A fluid distribution control system comprising a fluid manifold, a plurality of fluid flow conduits communicating with the manifold, a control valve controlling the flow through each of the conduits, a power operator for each of the valves, parallel connections from a source of power to all of the power operators, a control device simultaneously to control the supply of power from the source to all of the power operators, means responsive to the fluid flows through the conduits respectively to

modify the operation of the individual power operators whereby the valves tend to be adjusted to produce a desired proportional flow through the conduits, a control unit operated by each of the valves when it is opened beyond a predetermined position, the control units being connected in parallel in a control circuit to the control device to operate it in a direction to close all of the valves simultaneously when and only so long as any one of the control units is operated, and a second control unit operated by each of the valves when it is below a predetermined partially open position, the second control units being connected in series in a control circuit to the control device to operate it in a direction to open all of the valves when all of the second control units are operated simultaneously, and means operable upon actuation of said control device by said second control units for maintaining actuation of said control device in the valve opening direction until one of the valves is opened beyond said predetermined position.

2,973,195
ROAD VEHICLE SUSPENSION SYSTEMS
William Armstrong, Eastgate, Beverley, England, assignor to Armstrong Patents Co. Limited, Eastgate, Beverley, England
Filed Oct. 21, 1957, Ser. No. 691,396
Claims priority, application Great Britain Oct. 24, 1956
4 Claims. (Cl. 267—15)



1. A combined vehicle suspension spring and shock absorber unit comprising an at least partly hollow body, a hydraulic cylinder presented by said body, a shaft extending into the interior of said body and supported for turning movement in either of two directions with respect to said body, a crank attached to the shaft within the body, a piston displaceable in the cylinder, a connecting rod connecting the piston to the crank, a first flexible diaphragm secured to said body and in part defining by one of its faces adjacent the head end of said cylinder, a reservoir for hydraulic shock absorbing medium, a hydraulic shock absorbing medium flow restricting means placing said cylinder and reservoir in communication with one another, said means serving to restrict the flow of said shock absorbing medium between the cylinder and reservoir due to piston displacements, means defining with the other face of said flexible diaphragm, a pneumatic chamber containing a pneumatic medium and constituting a pneumatic suspension spring, a second flexible diaphragm secured to said body and located in the interior of said body behind said piston, and an end plate spaced from said second diaphragm and closing said body behind said piston, said end plate and said second diaphragm defining between them, a second pneumatic chamber containing pneumatic medium and constituting a pneumatic rebound spring.

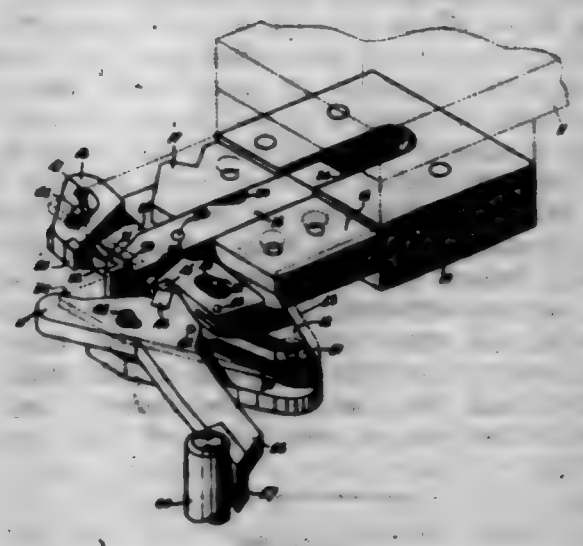
2,973,196
VEHICLE RIDE CONTROL SPRING
William A. Scheublein, Jr., St. Louis, and Edmund A. Check, Kirkwood, Mo., assignors to Moog Industries, Inc., St. Louis, Mo., a corporation of Missouri
Filed Apr. 1, 1957, Ser. No. 649,901
7 Claims. (Cl. 267—45)

1. In a vehicle with a main leaf spring fastened at its ends and at a medial portion to the vehicle axle, the improvement of a helper spring demountably seated against the vehicle axle adjacent the medial portion of the main spring, said helper spring extending in opposite directions from its seat with one portion extending farther from its seat than the opposite portion, and resilient attachment means connecting the end of said oppositely extending portions of said helper spring to the main leaf spring, the resilient attachment means for one end of said helper spring including an adjustable end



plate selectively positionable on the said one end of the helper spring to shorten or lengthen the effective length of said one end, a resilient member, and bolt means engaging the main spring through said resilient member of the attachment means to hold the helper spring, adjustment of said one end of the helper spring causing the helper spring to move relative to its seat and change the effect on the main spring of the attachment of the other end of the helper spring.

2,973,197
ARTICLE GRIPPING CHUCK
George E. Algott, Hobart T. Campbell, and Eric W. Nelson, Allentown, Pa., assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed May 31, 1957, Ser. No. 662,751
8 Claims. (Cl. 269—190)



1. A moving chuck for gripping during movement an article having different surface portions and fed to and temporarily held in a receiving area comprising a body moved in a path which extends through the receiving area, a locating element, means to hold the locating element for movement on the body between given limits, an article engaging member fixed to one end of the locating element and movable therewith between an open position away from the path when the locating element is at one limit and a locating position in the receiving area when the locating element is at the other limit, a clamping element, an article engaging member mounted thereon, means to mount the clamping element on the body for movement thereon relative to the locating element to move the article engaging member thereof between an open position away from the receiving area and a clamp-

ing position in the receiving area where the article engaging member of the clamping element is adapted to engage one surface portion of the article and firmly hold another surface portion of the article in engagement with the article engaging member of the locating element when in the locating position, means to cause movement of the elements to move their article engaging members to their open positions as the body and elements approach the receiving area, and means supported by the body and operatively connected to the elements to move the elements, when released, to move the article engaging members to their closed positions on the article as the chuck moves through the receiving area.

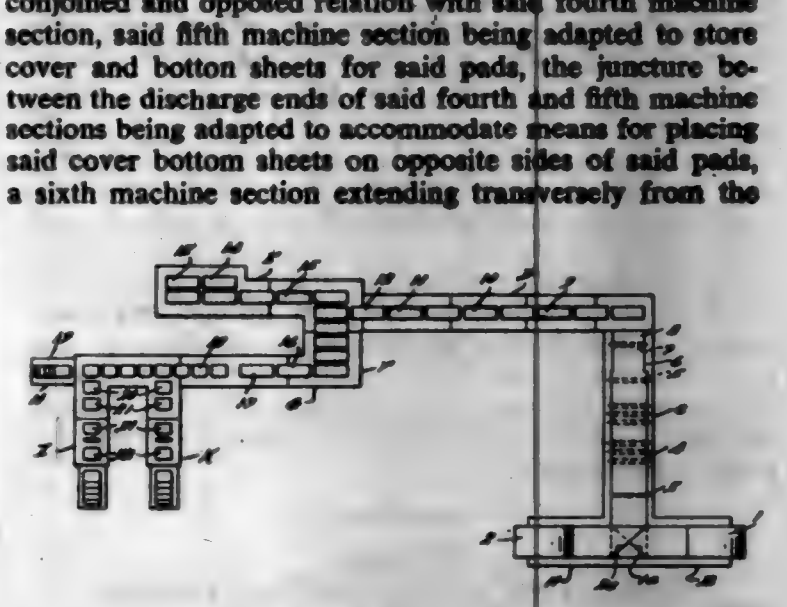
2,973,198
ADJUSTABLE WORK STAND
Fred J. Marks, Cape May Court House, N.J.
(277 101st St., Stone Harbor, N.J.)
Filed June 3, 1959, Ser. No. 817,864
2 Claims. (Cl. 269—191)



1. In an adjustable work stand, a horizontally disposed rectangular shaped base, a horizontally disposed tubular support member secured to said base and extending longitudinally thereof, a horizontally disposed tube movably mounted in said support member, a spring pressed latch connected to said support member, a vertically disposed circular flange secured to said tube and provided with a plurality of spaced apart notches for coaction with said latch, a brace affixed to an end of said support member in parallel relation to the flange on said tube and provided with a plurality of spaced apart notches for coaction with the notches in said flange and said latch, a clamp connected to said brace and engaging said flange, the outer end of said tube being provided with a slot, a plate projecting through said slot and provided with a plurality of spaced apart apertures, a pivot pin extending through said tube and plate, a removable securing element extending through said tube for engagement with said apertures, a sleeve secured below said plate, a mounting member arranged at right angles with respect to said plate and secured thereto, and body pieces arranged on opposite sides of said mounting member.

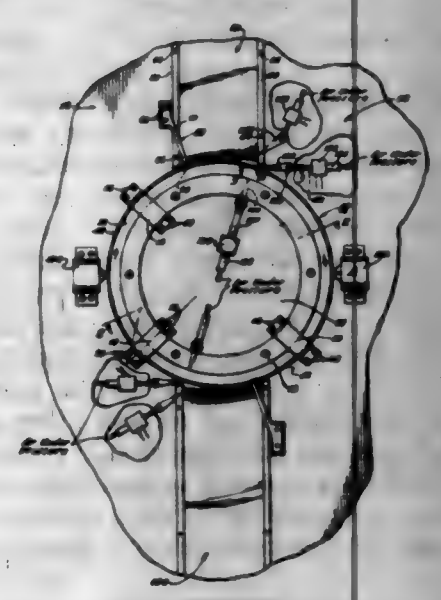
2,973,199
MACHINE FOR MANUFACTURING PADS BOUND WITH A SPIRAL WIRE
Hans Biel, Paulusstrasse 30, and Ernst Pfäffle, Schollostgasse 15, both of Neuffen, Wurttemberg, Germany
Filed May 19, 1958, Ser. No. 736,190
6 Claims. (Cl. 270—1)

1. In a machine for the manufacture of spiral wire bound pads made of endless paper webs, first and second machine sections in conjoined and opposed relation adapted to support and feed two endless paper webs toward each other, a third machine section extending transversely from the juncture of said first two sections and adapted to receive paper webs moving therealong from said juncture, said third section being further adapted to accommodate printing, longitudinal trimming, transverse cutting, piling and counting means, a fourth machine section extending transversely from the discharge end of said third machine section to one side thereof, said fourth machine section being adapted to accommodate longitudinal trimming means and perforating means for the pads received from said third section, a fifth machine section in conjoined and opposed relation with said fourth machine section, said fifth machine section being adapted to store cover and botton sheets for said pads, the juncture between the discharge ends of said fourth and fifth machine sections being adapted to accommodate means for placing said cover bottom sheets on opposite sides of said pads, a sixth machine section extending transversely from the



juncture of said fourth and fifth sections, a seventh machine section extending transversely from the discharge end of said sixth machine section to one side thereof, said seventh machine section being adapted to support means for aligning the pad perforations and for transversely dividing said pads in equal halves, and eighth and ninth machine sections extending transversely in spaced parallel relation from the discharge end of said seventh machine section to one side thereof, said eighth and ninth machine sections each being adapted to accommodate spiral wire binding means for said pads.

2,973,200
CARD PROCESSING APPARATUS
Jerome B. Wiener, Granada Hills, Hans M. Stern, Culver City, and Alfred M. Nelson, Torrance, Calif., assignors to Magnavox Company, Los Angeles, Calif., a corporation of Delaware
Filed Dec. 23, 1957, Ser. No. 704,788
27 Claims. (Cl. 271—5)



1. In a system for processing data on a plurality of information storage cards as represented by signal indications on the cards, the combination of: transport means for providing a movement of the cards; a first card holder disposed in coupled relationship to the transport means and including leading and trailing walls disposed in spaced relationship to hold cards in stacked relationship; a second card holder disposed in coupled relationship to the transport means and including leading and trailing walls

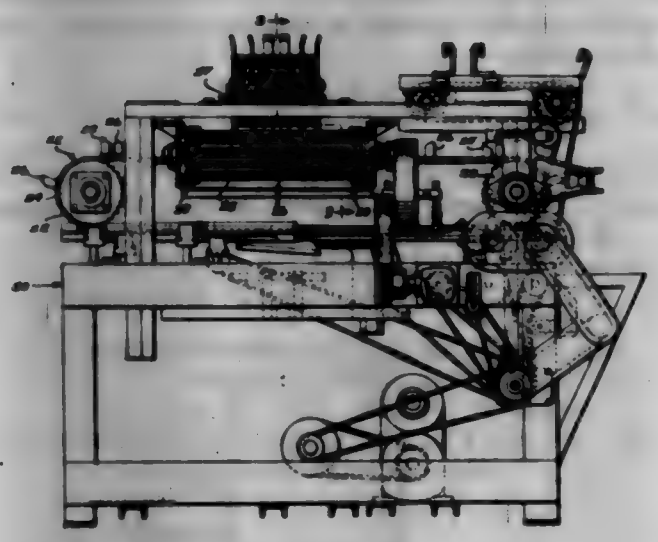
disposed in spaced relationship to hold cards in stacked relationship; means including first pneumatic means coupled to the cards in the first card holder for directing a first fluid force toward the trailing wall of the first card holder to provide a controlled transfer of cards to the transport means from the first card holder; means including second pneumatic means coupled to the cards on the transport means for directing a second fluid force toward the trailing wall of the second card holder to provide a controlled transfer of cards from the transport means into the second card holder; and means coupled to the first and second pneumatic means for obtaining the passage of fluid through the first and second pneumatic means to produce the first and second fluid forces.

2,973,201

MEANS FOR FEEDING PAPERBOARD BLANKS

Hermond G. Gentry, Atlanta, Ga., assignor, by mesne assignments, to The Mead Corporation, Dayton, Ohio, a corporation of Ohio

Filed Sept. 10, 1959, Ser. No. 839,204
9 Claims. (Cl. 271—12)



1. Means of the character described for separating successively from a stacked supply of paperboard blanks the succeeding lowermost blanks thereof, said means comprising a continuously moving endless chain structure, said chain structure having a width exceeding that of said blanks and being formed with regularly spaced transverse gaps therein at a spacing exceeding the length of said blanks, and gripping means operable in timed relation for extension successively through each gap in said chain structure to grip the side face of a blank adjacent an edge portion thereof at one face of a reach of said chain structure and pull the gripped blank edge portion to the other face of said chain structure at said reach for transfer of the entire blank through said gap as said chain structure continues to move.

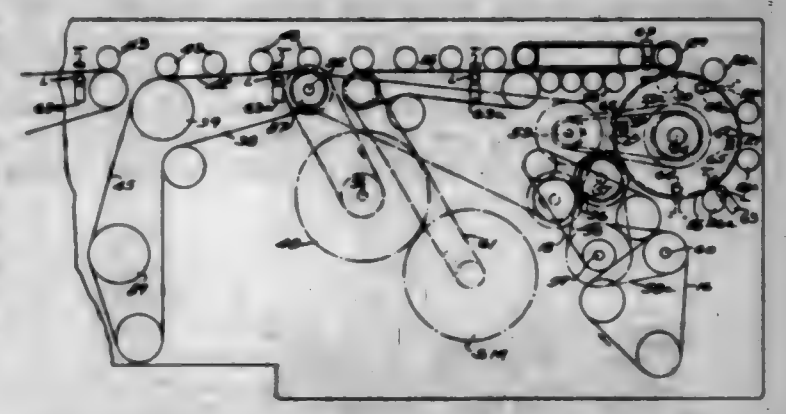
2,973,202

DOCUMENT FEEDING CONTROL MEANS

Robert E. Schmeck, Riverside, and Joseph P. Conklin, Fairfield, Conn., assignors to Pitney-Bowes, Inc., Stamford, Conn., a corporation of Delaware

Filed Sept. 29, 1958, Ser. No. 764,149
13 Claims. (Cl. 271—57)

1. In an apparatus wherein a multiple number of checks or like documents of varying size are simultaneously advanced in an end to end spaced relation in cyclical sequence between a starting position and a multiple number of operating positions, driven check advancing devices, sensing devices positioned in the check path for actively sensing the spacing between the advancing checks at a determined time during each cyclic interval, and means operable under control of the sensing devices for discontinuing the drive of the check advancing devices if a portion of any of



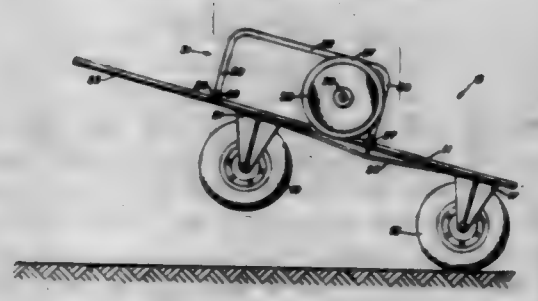
the advancing checks obstructs sensing at the determined time during any cyclic interval.

2,973,203

EXERCISING DEVICE

John R. Taylor, 221 E. Carolina Ave., Memphis, Tenn.

Filed Jan. 21, 1960, Ser. No. 3,915
4 Claims. (Cl. 272—81)



1. In exercising means, a barrow having a substantially flat bed including substantially parallel lateral sides, handles connected to the rear end of said bed, a front wheel adjacent the front end of said bed, a rear wheel rearward of said front wheel and forward of said handles, said wheels being turnably supported from said bed and alined substantially along the fore and aft axis of said barrow intermediate said sides, a weighted drum mounted on said bed and shiftable therealong, a guide frame comprising a pair of inverted substantially U-shaped members respectively overlying and parallel with the lateral sides of said bed detachably connected with said bed and extending upwardly therefrom, said frame positioned over said drum with said drum in the confines of the frame, said frame including front and rear legs spaced apart in excess of the diameter of said drum to permit and limit shift of said drum along said bed and bights interconnecting said front and rear legs spaced above said bed a distance substantially equal to the diameter of said drum, said drum including peripheral flanges extending below the upper surface of said bed and above the lower surface of said frame, said flanges being disposed outwardly of the opposite sides of said bed and frame and engaging said bed and frame during drum shift to limit lateral drum movement.

2,973,204

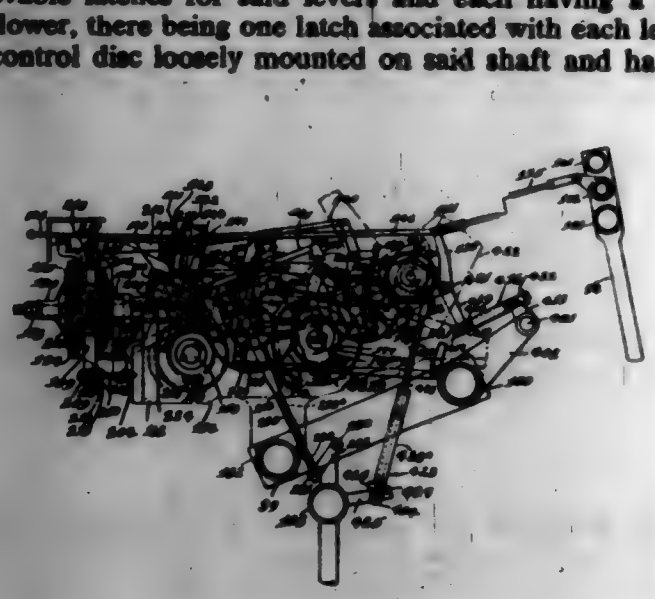
AUTOMATIC PINSETTER

William F. Huck, Forest Hills, N.Y., and Alexander J. Albrecht, Teaneck, and David P. Sanford, Union, N.J., assignors to Brunswick Automatic Pinsetter Corporation, a corporation of Delaware

Original application Nov. 25, 1955, Ser. No. 549,075. Divided and this application Jan. 27, 1958, Ser. No. 711,247
8 Claims. (Cl. 273—43)

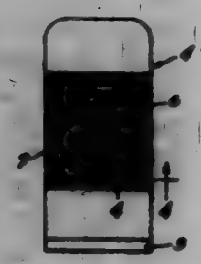
2. In an automatic pinsetter, in combination, a pin deck for setting and resetting pins, means for moving the

deck up and down, a rake for sweeping deadwood, a control center for controlling the operation of the pin-setter, including a shaft driven in timed relation with the deck moving means, a first new set control lever, a second two-ball frame control lever, an out-of-range pin control lever to prevent operation of the rake, a plurality of movable latches for said levers and each having a cam follower, there being one latch associated with each lever, a control disc loosely mounted on said shaft and having



notches for receiving said latches in certain positions thereof corresponding to certain levels of the deck, a link connecting the deck and disc, first and second detecting cams fixed to said shaft and operable with the cam followers on the latches associated with the first and second control levers and the out-of-range pin control lever, respectively, to permit movement of a latch into a notch at the appropriate interval in the machine cycle, and a cam for each control lever fixed to the shaft to reset said levers in engagement with their latches.

2,973,205
BOWLING BALL PAD WITH SPECIAL RIBS THEREIN
Charles F. Mitchell, 181 Crescent Drive, Akron, Ohio
Filed July 28, 1959, Ser. No. 828,892
3 Claims. (Cl. 273—63)



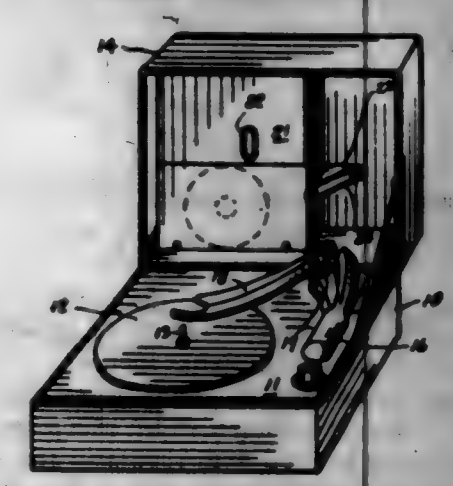
2. A bowling ball hole pad comprising a flexible backing sheet means for engaging a surface in a bowling ball hole, said backing sheet means having a pressure sensitive adhesive on both surfaces thereof, a flexible layer of resilient material secured to and extending the length of said backing layer, said layer having a plurality of closely spaced, parallel, longitudinally extending ribs and a plurality of closely spaced, parallel, transversely extending ribs formed thereon, said longitudinally extending ribs intersecting said transversely extending ribs and being of greater height to prevent lateral movement of a bowler's finger when operatively engaged therewith, said ribs extending over the width of said layer at a center section thereof, and a cover sheet secured to the other surfaces of said backing sheet means whereby a flexible easily handled pad is provided which can readily be secured in a hole in a bowling ball by the pressure sensitive adhesive on said backing sheet means when said cover sheet is removed.

2,973,206
BOWLING PIN
Milton Sanders, Stamford, Conn., assignor to American Machine & Foundry Company, a corporation of New Jersey
Filed Oct. 11, 1956, Ser. No. 615,736
8 Claims. (Cl. 273—82)



1. A bowling pin having a base insert made of electrically insulative material, a multi-turn metallic coil mounted on said base and a capacitor connected in series with said coil.

2,973,207
RECORD CHANGER AND CABINET THEREFOR
Robert L. Van Antwerp, Benton Harbor, Mich., assignor to V-M Corporation, Benton Harbor, Mich.
Filed Dec. 24, 1956, Ser. No. 630,138
2 Claims. (Cl. 274—2)



1. A compact, portable record changing phonograph having a cabinet and a phonograph base plate mounted therein, a record support arm pivotally mounted on the base plate, a turntable also mounted on said base plate having a spindle extending therefrom, a lid hinged to the cabinet for enclosing the cabinet when moved to its closed position, said support arm being adjustable to a position in the way of a portion of said lid in the closed position of said lid, and means for assuring that said record support arm is positioned out of the way of said lid portion when the lid is in closed position comprising a camming member mounted within said lid and engageable with said support arm to pivotally displace said support arm to a position out of the way of said lid portion as the lid moves to its closed position.

2,973,208
SELF-ADJUSTING THREADED BUSHING WITH LOCKING BAR
Theodore C. Gerner, P.O. Box 4305, Oklahoma City, Okla.
Filed Dec. 23, 1958, Ser. No. 782,580
7 Claims. (Cl. 286—95)

1. A replacement assembly for idler arm bearings of

an automobile steering linkage, said linkage having a mounting bracket, a bushing therein and an idler arm with a threaded extremity screw threadedly engaged in said bushing; a replacement bushing having an externally threaded portion threadedly engaged in said bracket and having an internally threaded bore in one end receiving the screw threaded extremity of an idler arm, said replacement bushing having a diametrically enlarged bore defined by a radially extending shoulder communicating



with said threaded bore, an internally threaded pressure sleeve removably received and axially slidable in said enlarged bore and threaded upon said extremity and applying thrust to the threaded engagement of the latter with said threaded bore, means preventing rotation of said pressure sleeve relative to said replacement bushing, and resilient means disposed between said shoulder and said pressure sleeve yieldably urging said pressure sleeve away from said shoulder.

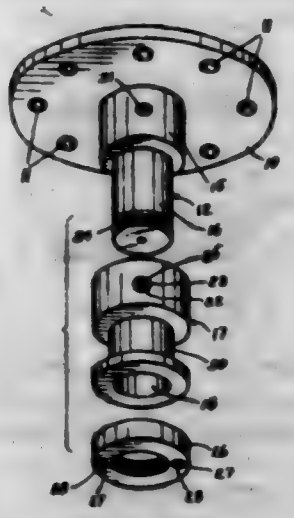
2,973,209
SAFETY MEANS TO ELIMINATE OVERTURNING OF TRACTORS AND LIKE MOTIVATED VEHICLES
John William Shaw, Fitzgerald Road, Laverton, Victoria, Australia
Filed July 24, 1958, Ser. No. 750,809
Claims priority, application Australia July 25, 1957
16 Claims. (Cl. 280—150)



1. For a tractor or the like power motivated vehicle including main transport wheels, a safety attachment to prevent sideward falling over of said vehicle comprising a stabilizing support, means to detachably connect one end of the stabilizing support to a main transport wheel of said vehicle so as to project laterally in coaxial relation with said wheel, and a ground engageable member carried upon the other end of said support above ground level, being located and adapted upon said vehicle assuming a critical lateral inclination to assume ground engagement to move with and stabilize said vehicle.

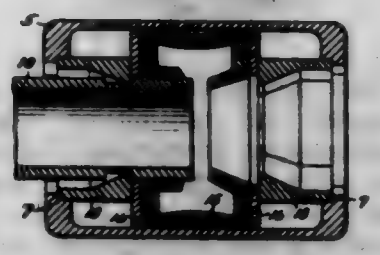
2,973,210
KINGPIN ASSEMBLY
George Sandefur, Indianapolis, Ind., assignor to Bill Anderson Spring Service, Inc., a corporation of Indiana
Filed May 15, 1959, Ser. No. 813,480
4 Claims. (Cl. 280—433)

1. A kingpin assembly for use in connecting a tractor and trailer which comprises a disc adapted to be connected to the trailer, a trunnion member fixed with relation to said disc and projecting coaxially thereof, a sleeve having an annular slot in its outer periphery, said sleeve received upon said trunnion member in close fit



therewith, and a screw threadedly received in the wall of said sleeve and extending into said trunnion member for locking said sleeve against movement with respect to said trunnion member.

2,973,211
PIPE JOINT
Alden E. Osborn, 25 Willard Ave., Mount Vernon, N.Y.
Filed Aug. 2, 1955, Ser. No. 525,874
4 Claims. (Cl. 285—104)

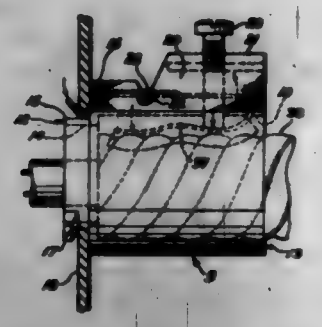


1. Means for connecting a circumferentially collared member to an internally channeled socket member adapted to surround an end portion of said collared member, comprising a lock means inside of said socket of said socket member, composed of separate segments, with each said segment having an end thereof held from outward radial movement by a shoulder inside of said socket and with the inner end of each said segment movable radially outward by the pivoting of said segment against said shoulder, an elastic means within said socket for contracting said lock means by resisting the longitudinal displacement of said inner end of said lock ring segments, with said lock means, when so contracted, bearing against said collared member at the back of the collar thereon, and a gasket means to prevent leakage between said collared member and said socket member.

2,973,212
ELECTRIC CONNECTORS FOR OUTLET BOXES
Leslie W. Rose, 77 Dunfield Ave., Toronto 7, Ontario, Canada
Filed Mar. 28, 1960, Ser. No. 17,925
9 Claims. (Cl. 285—159)

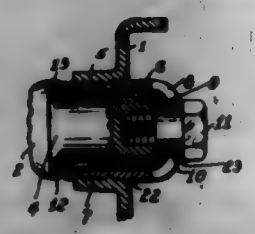
9. A lever clamp for an electric connector having a body with a slotted portion and a cross member fitted with a screw, said lever clamp comprising an elongated plate having a front end and a rear end, a pair of aligned intermediately disposed trunnions extending laterally from said plate and journalled in said slotted portion of said body, said plate having at its front end a lip for latching engagement with an edge portion of an opening

in an outlet box, and said plate having at its rear end an underlying return-bent cable-engaging section with a bight portion weakened by a cut-away section at the rear end of said plate which provides clearance for said screw



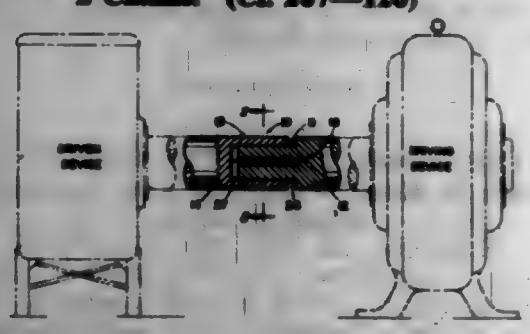
whereby said screw may extend through said cut-away section and into abutment with said cable-engaging section for exerting clamping and bending stresses when tightened.

2,973,213
AXIAL AND THRUST-ABSORBING RESILIENT PIVOT JOINTS
Milton A. Moskovitz, 8531 Antler Drive, Richmond Heights, Mo.
Filed June 22, 1959, Ser. No. 821,810
5 Claims. (Cl. 287—85)



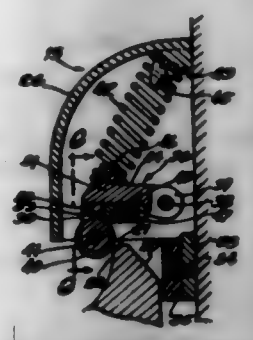
1. A pivot joint for interconnecting an arm member to a pivot member for transmitting longitudinal and radial load therebetween, comprising a cylindrical bearing substantially coaxial with said pivot member at one end of the latter, a joint housing having a longitudinal bore therein encircling said bearing and rotatable relative thereto, a low-friction bearing element engaging between said bearing and bore, and means engaging said end of the pivot member for holding the same and said housing in substantially predetermined position axially in either direction during said rotational movement.

2,973,214
FABRICATION AND DESIGN OF SHAFTS AND SPLINES
Richard L. Bates, Beverly, and Ralph G. Zaginailoff, Melrose, Mass., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Feb. 10, 1959, Ser. No. 792,452
2 Claims. (Cl. 287—126)



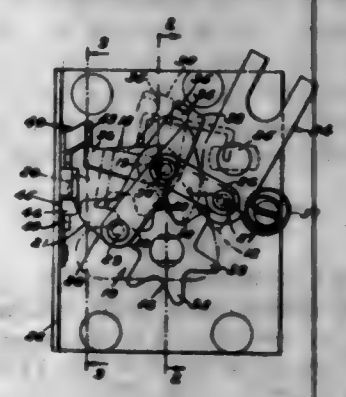
1. A rotatable flexible connection for joining two fixed shafts together comprising a shaft member having a socket with a recess, a rod member having a shank to be received in said socket recess so as to avoid backlash while permitting slight misalignment of said members, said socket recess and shank having similar non-circular cross-sectional configurations defined by a plurality of flats, the cross-section of said shank being slightly larger than that of said recess and the depth of said recess exceeding the length of said shank to permit some axial movement therebetween without disconnection, said shank having a longitudinal slit transversely penetrating said shank at joints between flats forming said shank into spring projections to permit radial compression of said shank for introduction into said socket recess the other joints between flats being chamfered forming minor flats therebetween, and a resilient member disposed in said slit for urging said spring projections outwardly.

2,973,215
DOOR LATCH
Loyd C. Johnson, 191 Dickens Road, Northfield, Ill.
Filed Oct. 31, 1957, Ser. No. 693,624
5 Claims. (Cl. 292—79)



1. A door latch for attachment to the exterior of a door, said latch comprising a housing having a plate in contact with the door and extending downwardly to contact a fixed abutment, spaced sides on the housing, a hinge pin supported by the sides, a latch member pivoted on said pin and comprising an arm extending outwardly from the pin, means on the arm adapted to be contacted by said fixed abutment, resilient means in the housing acting upon the arm to rotate said arm downward into engagement with the fixed abutment, means on the housing interposed in the path of movement of the arm toward the abutment and shiftable to a first position wherein the means on the arm can contact the fixed abutment and to a second position wherein the means on the arm cannot contact the fixed abutment, and interengaging cam surfaces on the shiftable means and arm arranged normal to the line of thrust from the resilient means when the shiftable means is in its said second position such that the position of said shiftable means is independent of the pressure of the resilient means.

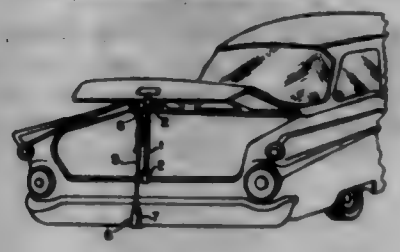
2,973,216
FREE WHEELING DOOR LOCK
William Georg Gilmore and Elmore L. Zibbell, Detroit, Mich., assignors to Ferro Stamping Company, Detroit, Mich., a corporation of Delaware
Filed June 16, 1958, Ser. No. 742,192
13 Claims. (Cl. 292—280)



11. A door lock comprising a support having a detent mounted thereon for movement to and from po-

sition in which it is adapted to hold a latching member of the lock against movement to release a door, means urging said detent toward said holding position, detent actuating means operatively connected to said detent including a control member pivoted on said support and a one-piece actuating member operatively engageable with said detent to selectively operate the latter and having means to mount the same on said control member to swing about different fulcrum points to operate or not operate said detent for movement out of said holding position, as determined by the fulcrum point of the actuating member, and locking means for said lock including means acting on said detent actuating means to selectively establish said fulcrum points.

2,973,217
AUTOMOBILE TRUNK LID HOLDER KIT
Arnold E. Gregoire, 7600 Secor Road, Rte. 1, Lambertville, Mich.
Filed July 23, 1959, Ser. No. 829,017
2 Claims. (Cl. 292—288)



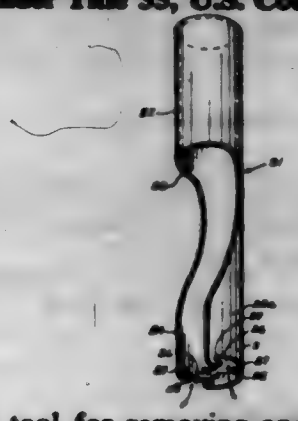
1. An automobile trunk lid holder kit comprising cooperative strut and tension portions, said strut portion consisting of a rigid shaft and a pair of terminal fittings, said fittings each having a socket adapted to snugly receive an end of said shaft, each fitting having a resiliently expandable end notch adapted to receive automobile trunk lid or wall edges of various shapes and having relatively soft surfaces to avoid marring finishes of automobile parts engaged by said notches, said tension portion consisting of a rope element and a pair of hooks having eyes through which ends of said rope element are threaded, said hooks being coated with rubber-like material to avoid marring the finish of automobile parts engaged by said hooks, said strut portion being adapted to be interposed between an automobile trunk lid and an edge of an automobile trunk wall to prevent such lid from closing, and said tension portion being adapted to have its hooks engaged with protuberances or edges of said automobile trunk lid and a fixed part of such automobile and to have a length of its rope element drawn taut and secured between such lid and a fixed part of such automobile, whereby said shaft acting in compression and said rope element acting in tension, mutually cooperate to hold such open lid firmly against bouncing and damage during transportation over rough terrain or during erratic movements.

2,973,218
LIFTER
Clyde F. Schaum, 40 S. Grand Ave., Pasadena, Calif.
Filed July 30, 1959, Ser. No. 830,527
1 Claim. (Cl. 294—1)



A fowl and roast lifter comprising: a rigid platform having substantial longitudinal and lateral dimensions; a peripheral bead around the top of said platform; a pair of parallel, spaced-apart flanges extending downwardly from and projecting beneath said platform to space the bottom of the platform from a surface on which the flanges can be rested, each of said flanges having a plurality of holes therein, the holes in the opposite flanges being opposed across the platform; a continuous length of flexible material passing through the opposed holes in opposite flanges so as to provide a plurality of flexible straps projecting from each side of the platform; a pair of rigid handles joined to the free ends of said straps on each side of the platform, the straps being joined to the handles at spaced-apart locations thereon, the handles having a hand-hole therein, whereby the projecting length of said straps from the platform can be adjusted by shifting the platform along the lengths of material, and whereby a fowl or roast can be laid on said platform, and the handles lifted and brought together with the straps on opposite sides of the fowl or roast, whereby the fowl or roast can be lifted by the handles with the platform supporting its bottom and the straps supporting its sides, and the platform may be stood on its flanges on the bottom of a pan so as to space the platform therefrom and prevent scorching of the bottom of the fowl or roast.

2,973,219
TOOL-MINIATURE CONNECTOR REMOVER
Sidney Zalk, 45547 Genoa St., Lancaster, Calif.
Filed Apr. 27, 1959, Ser. No. 809,325
6 Claims. (Cl. 294—92)
(Granted under Title 35, U.S. Code (1952), sec. 266)

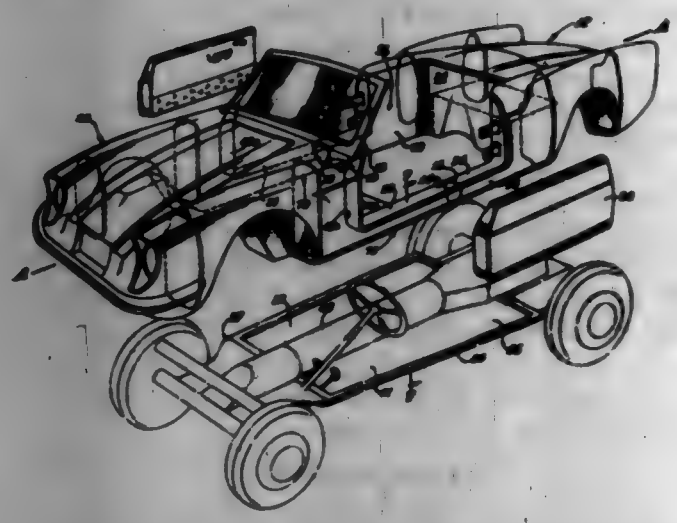


1. A hand tool for removing and replacing miniature connector plugs and the like from between closely spaced surrounding miniature connector plugs and electrical units in radio equipment comprising an elongated cylindrical hollow resilient body having a cutout portion intermediate its opposite ends, said body having a lower portion extending from said cutout portion having a longitudinal slit extending from said cutout portion to one end to provide a resilient encircling end sheath-like portion shaped to telescope over, snugly engage, and having sufficient length to protect a miniature radio connector plug to be removed, said slit having a width sufficient to freely receive an electrical connector from said miniature connector plug, means on the telescoping end of said tool disposed for locking engagement with said connector plug upon axial rotation of said tool, and a handle portion formed on said body beyond said cutaway and slit portion extending toward the other end of the body for axially rotating said body and said means for locking engagement with the connector plug into and out of locking engagement with said miniature connector plug upon rotation of said handle in opposite directions.

2,973,220
PLASTIC CAR BODY AND METHOD OF MANUFACTURING SAME
Alan M. White, 236 Tranquillo Road, Pacific Palisades, Calif.
Filed Apr. 2, 1959, Ser. No. 803,649
7 Claims. (Cl. 296—31)

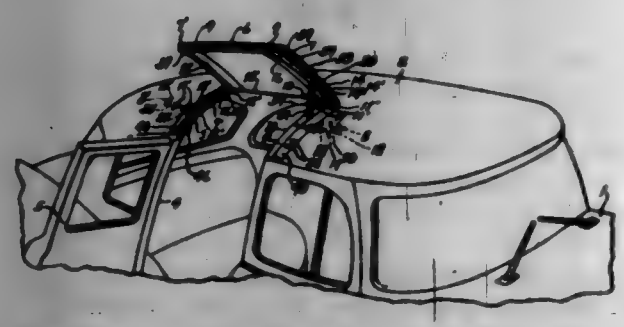
1. For use with an automobile chassis, said chassis including running gear, motive power connected to drive

said running gear, and a horizontal platform supported by said running gear; a plastic car body, said body comprising: a forward shell section and an after shell section, both of said sections being rigidly moulded of synthetic resin, and each of said sections being formed to seat on a portion of said platform; and having a pair of shell-like extensions, each of which extensions when adhesively



joined to an oppositely directed and complementary extension of the other section, defines with the latter a continuous rectilinear channel, and a closure wall adhesively secured to each thus joined pair of complementary extensions to cover said channel, thereby to form with said extensions a longitudinally extending tubular support element.

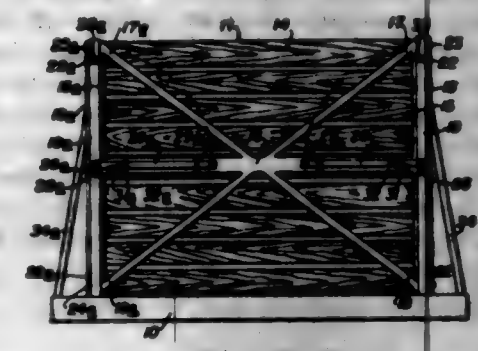
2,973,221
AUTOMOBILE PANEL-OPENING CONSTRUCTION
Edward L. Blackman, 15 Ellicott Place, Staten Island, N.Y.
Filed Dec. 24, 1957, Ser. No. 705,830
20 Claims. (Cl. 296—44)



1. In an automobile body having an access opening therein, a panel adapted to close said opening, attachment means between said panel and said body to movably attach the panel to the body, electromagnet means substantially adjacent said attachment means for moving said panel in cooperation with said attachment means to its fully open position with respect to said body, said electromagnet means applying magnetic force on said panel continuously during said movement, and electric circuit means for energizing said electromagnet means.

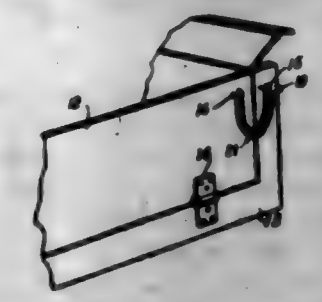
2,973,222
TAIL GATE
Dixie L. Elzey, Box 393, Forestburg, Tex., and William M. Gibson, South Star Rte., St. Jo, Tex.
Filed Feb. 4, 1960, Ser. No. 6,747
5 Claims. (Cl. 296—53)

1. In a hauling bed, a first corner box hingedly connected to one rear vertical edge of a side panel of said hauling bed, a second corner box hingedly connected to the rear vertical edge of the other side panel of said hauling bed, a tail gate having its lateral ends adapted to be received simultaneously in said corner boxes, a pair of hooks mounted on said tail gate, a pair of latch bars respectively pivotally mounted on said corner boxes



and adapted to be respectively received in said hooks, a pawl mounted on each latch bar, and check blocks mounted on said tail gate in interlocking engagement with said pawls on said latch bars.

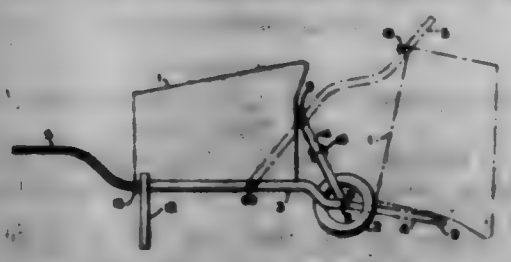
2,973,223
PROTECTOR FOR FLEXIBLE MEMBER LINKING TWO RELATIVELY MOVABLE MEMBERS
Garvin L. Whatley, 1903 Houghton St., Dallas, Tex.
Filed Oct. 28, 1957, Ser. No. 692,912
2 Claims. (Cl. 296—57)



1. In combination: a first member; a second member, said first member being movable relative to said second member; and a flexible member for limiting movement of said first member relative to said second member consisting of: a chain formed of a plurality of links having support means at opposite ends thereof connecting one of said opposite ends of said flexible member to said movable first member and the other of said ends of said flexible member to said second member, said chain being disposed in a depending curve with the portions thereof between said ends being disposed below said ends when said movable first member is disposed adjacent said second member; and a plastic resilient non-metallic, non-rattling, non-scarring protective member disposed about said chain, said protective member comprising a single continuous helically formed strip having a plurality of continuous coils, said coils having adjacent edges spaced from one another, the width of said strip forming said coils being substantially greater than the space between adjacent edges of adjacent coils when the protective member is disposed in a longitudinally extending straight position, the width of said strip forming said coils being substantially greater than the thickness thereof, said protective member having open ends; said chain and protective member when said first member is in position adjacent said second member extending below said support means and disposed in a curve and having the open ends of said protective member opening upwardly and exposed to falling extraneous fluid, said adjacent edges of said coils of said strip forming said protective member abutting one another along the upper concave portion of the curve to form a substantially continuous extraneous fluid shedding surface, and the adjacent edges of the coils of said strip along the lowermost convex portion of the curve being spread apart so as to be spaced from one another a greater distance than the distance between such adjacent edges when said pro-

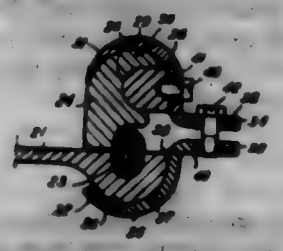
tective member is disposed in said straight position, such greater spacing providing means to insure drainage of extraneous fluid entering the open ends of the protective member from within said protective member to prevent trapping of the extraneous fluid therein and damaging of the chain, said coils of said protective member providing said greater spacing for drainage of extraneous fluid at such lowermost convex portion of said flexible member regardless of the relative positions of said support means when said first member is adjacent said second member; the internal diameter of said protective member being small enough to cause said protective member to fit snugly over said links to prevent rattling of said chain, said protective member preventing noise producing contact of said chain with said first member and said second member.

2,973,224
WHEELBARROW
Edward E. Wall, Sr., 5826 Robinson Ave., P.O. Box 806, Arlington, Calif.
Filed Mar. 21, 1960, Ser. No. 16,275
12 Claims. (Cl. 298—3)



1. A wheelbarrow which comprises a generally horizontal frame member, ground wheel means mounted in the forward portion of said frame member, a load holding body, means for releasably latching said body in resting position on said frame member, supporting means extending from the forward portion of said frame member upwardly and rearwardly to said body in said resting position, said supporting means being pivotally attached to said frame member and to said body, lever arm means pivotally attached at their forward portion to each side of said frame member, said lever arm means underlying their respective sides of said body in said resting position, said lever arm means extending rearwardly behind said body in said resting position, and means loosely attaching the rear portion of said body to said lever arm means to permit the dumping of a load from the body onto the ground in front of said ground wheel means by releasing said releasable latching means and raising the lever arm means.

2,973,225
BALANCING WEIGHT ARRANGEMENT FOR A MOTOR-VEHICLE WHEEL
Roger Antraigues, 202 Quai de Jemmapes, Paris 10, France
Filed Feb. 10, 1959, Ser. No. 792,424
Claims priority, application France Feb. 21, 1958
16 Claims. (Cl. 301—5)



1. An assembly for securing a balancing weight to an automotive vehicle wheel including a rim and rim flange and a rib at a junction between said rim and flange, which assembly comprises clamping means including a pair of clamping members, one of said clamping members engaging said rim flange and the other said rib for holding said weight between said clamping members, and means for forcing said clamping members toward each other.

2,973,226
WHEEL AND HUB CAP
Alan D. Elles, Columbus, Ohio, assignor to The O. M. Scott & Sons Company, Marysville, Ohio, a corporation of Ohio
Filed Oct. 11, 1956, Ser. No. 615,277
3 Claims. (Cl. 301—37)



1. A wheel combination comprising: an annular side platform of sheet material having a predetermined thickness surrounding the wheel hub and having a plurality of circumferentially spaced apertures formed in the platform; a wheel hub cover member comprising a resilient, semi-rigid, non-metallic cup-shaped member having a rim edge disposed in a plane substantially normal to the axis of the wheel with a plurality of circumferentially spaced structurally integral, radially deflectable resilient projections, provided with retaining heads, extending from the concave portion of said cup-shaped member; said retaining heads providing shoulder portions adjacent the body of said projections which, before assembly of the cover member on the side platform are spaced beyond the plane of the cover member rim edge a distance approximately equal to but less than the dimension of the predetermined thickness of said sheet material; said retaining heads being of a size enabling substantially free passage through associated apertures; said shoulder and said apertures and projections being radially disposed, from the centers of the wheel and the hub cover member respectively, at distances which locate each projection at a radial distance from the wheel center different from the radial distance at which its associated aperture is located, so that the shoulder portions of said projections are disposed under the edges of associated apertures and biased in such disposition by inherent resistance of said projections to radial deflection.

2,973,227
METHOD OF MAKING SELF-ALIGNING BEARINGS AND ARTICLES PRODUCED THEREBY
Richard Glavan, Joliet, Ill., assignor to Stephens-Adamson Mfg. Co., a corporation of Illinois
Filed Dec. 6, 1957, Ser. No. 701,168
8 Claims. (Cl. 308—72)



2. A self-aligning bearing comprising an outer race having a ball retaining aperture extending therethrough,

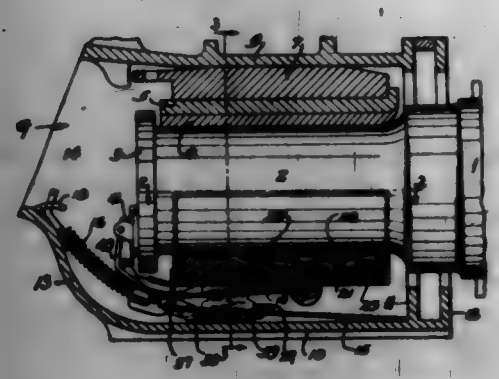
with a portion of the inner surface of the race defined as a portion of a sphere, said outer race consisting of a ductile hardenable metallic material having a hardened circumferential portion at each end thereof to retain the configuration of said ends, said portions each having a cross section with a narrow section proximate the inner surface and an enlarged section proximate the outer surface of said outer race, said outer race also including a ductile core portion located intermediate said hardened end portions to give an overall race the quality of toughness, and a hardened metallic ball rotatably retained within the ball retaining aperture of said outer race, the ball having an outer surface defining a portion of a sphere similar to the inner surface of the outer race.

2,973,228

RAILWAY JOURNAL LUBRICATOR

James J. Hennessy, Chambersburg, Pa., assignor to Hennessy Lubricator Company, Inc., Chambersburg, Pa., a corporation of Delaware

Filed Feb. 27, 1959, Ser. No. 796,136
5 Claims. (Cl. 308—88)



1. In a railway axle journal lubricator, a distributor pad of oil-absorbent material with its upper face curved for application to the lower portion of a journal, a plate-like platform beneath and mounting said paid, a pump including a vertically collapsible chamber secured at its upper end to one end portion of said pad and depending therefrom and having an intake opening at its lower end and a discharge opening at its upper end, a frame having a base member and an upwardly extending yielding member engaging the underside of said platform and supporting the same, said pad and depending pump chamber being removable from said platform and frame members by horizontal movement of the pad and chamber lengthwise of the frame.

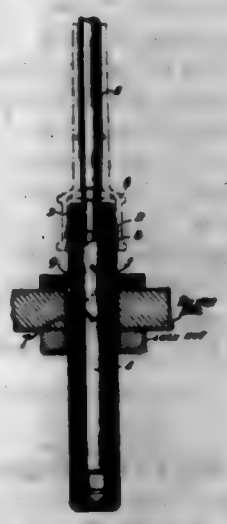
2,973,229

BEARING UNITS FOR SPINDLES OF SPINNING AND TWISTING FRAMES

Ernst Rogner, Stuttgart-Bad Cannstatt, Wurttemberg, Germany, assignor to SKF Kugellagerfabriken Gesellschaft mit beschrankter Haftung, Schweinfurt, Germany, a company of Germany

Filed Jan. 15, 1958, Ser. No. 709,104
Claims priority, application Germany Jan. 23, 1957
7 Claims. (Cl. 308—152)

1. Bearing unit for spindles of spinning and twisting frames, comprising a spindle bolster having an upper and a lower end and being secured in a bolster rail, a neck bearing of the roller bearing type, rigidly supported at least indirectly by the spindle bolster near the upper end of the latter, a centering sleeve lengthwise extending within the spindle bolster and being rigidly held near the neck bearing at least indirectly by the spindle bolster, the centering sleeve having a lower and an upper portion, damping means provided between the spindle bolster and the lower portion of the centering sleeve, the lower portion of the centering sleeve being of uniform wall thickness, the upper portion of the centering sleeve being slotted and having a wall thickness which is at least



partly greater than that of the lower portion of the centering sleeve.

2,973,230

VENT FITTING FOR BEARING STRUCTURES AND THE LIKE

Clifford L. Eastberg, Canton, Ohio, assignor to The Timken Roller Bearing Company, Canton, Ohio, a corporation of Ohio

Filed July 25, 1957, Ser. No. 674,109
6 Claims. (Cl. 308—187)



1. A sealed bearing structure having a housing with a passage therethrough, means positioned inside said passage to maintain the sealed condition and to allow the structure to breathe, said means including a fitting comprising a relatively unyielding tubular support member having a diameter smaller than the diameter of the passage in which it is positioned to form a space therebetween, and a resilient cup-shaped member having a flange formed on one open end thereof and a passage closing wall formed on the other end, said passage closing wall having a pair of lip members thereon and a normally-closed slit formed between said lip members, said lip members opening in response to predetermined pressure differences, said cup-shaped member being positioned in the support member such that the flange thereon sealably cooperates with one end of the support member and extends radially outwardly therefrom to embrace said one end, said fitting being slidably installed in the passage in said bearing structure such that the flange is sealably compressed in the space between the support member and the passage, and means deforming the passage to prevent removal of the fitting therefrom.

2,973,231

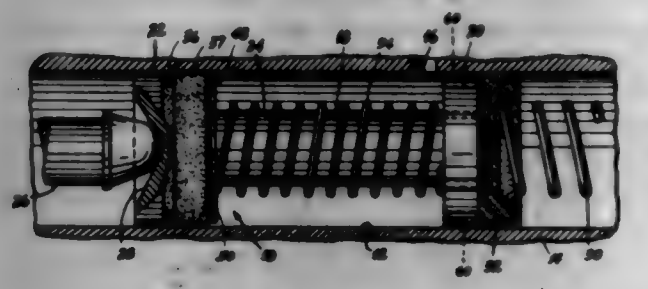
PISTON ASSEMBLY FOR HYDRAULIC BRAKE MASTER CYLINDER

Noel S. Reynolds, 636 Sherwood Drive, Webster Groves, Mo.

Filed May 26, 1958, Ser. No. 737,865
15 Claims. (Cl. 309—33)

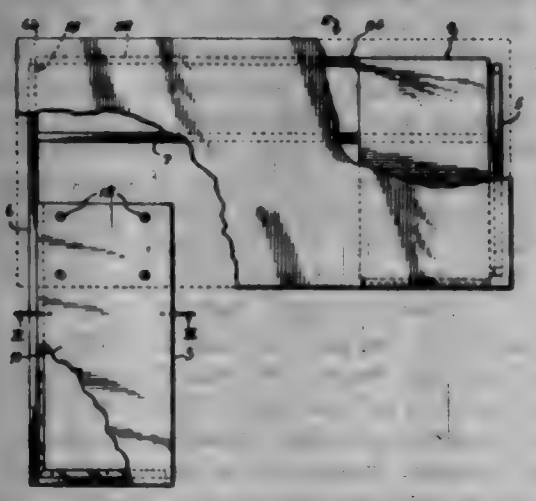
1. A piston assembly for a hydraulic brake master cylinder comprising, in combination, a spool having spaced

heads interconnected by an elongated stem, means for biasing said spool in a pressure applying direction and means for biasing said spool in a return direction, a circular sealing member of flexible rubber-like material dis-



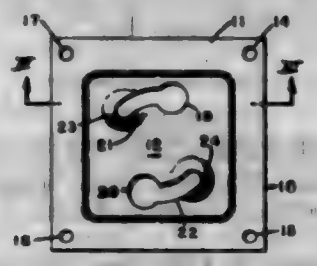
posed over a portion of said stem adjacent one of said heads, said sealing member having an expandable peripheral portion, and means including resilient spring means separate from either of said biasing means for biasing said portion toward an expanded position.

2,973,232
MULTIPLE DESK UNIT WITH COMBINED FRAME AND RETAINING RAIL
Florence S. Knoll, New York, N.Y., assignor, by mesne assignments, to Knoll Associates, Inc., a corporation of New York
Filed Jan. 29, 1958, Ser. No. 711,896
4 Claims. (Cl. 311—4)



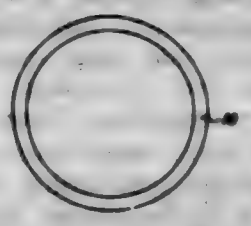
1. A desk structure comprising a main desk including an oblong top, a side desk including an oblong top, means supporting said tops in an L-shaped configuration with the end of said side desk top which is adjacent the corner of the L received under the main desk top in spaced relation thereto, said side desk top projecting substantially at right angles to said main desk top, said supporting means including a frame supporting the corner end of said main desk top and supporting said side desk top, said frame including leg means and an upper horizontal rectilinear support bar supported on said leg means, said bar extending at right angles to the length of said main desk top and having a portion of the rectilinear length thereof supporting said main desk top at the under side thereof and having another portion of said rectilinear length thereof disposed adjacent and above the upper side of said side desk top and extending along the length of said side desk top, said bar thereby being effective in cooperation with said leg means to provide said support for said corner end of said main desk top and simultaneously to serve as a retaining rail for said side desk top.

2,973,233
DISENGAGEABLE LEG ASSEMBLY
John E. McPhee, 537 Gladstone SE., Grand Rapids, Mich.
Filed Oct. 2, 1958, Ser. No. 764,831
5 Claims. (Cl. 311—114)



1. A disengageable leg assembly, comprising: a mounting plate having supporting portions for receiving fastenings and having a mounting surface, said mounting plate also having a portion offset from the plane of said supporting portions and paralleled thereto, and provided with a plurality of keyhole-shaped openings each having a large and a small end, the material adjacent each of said openings forming a ramp extending toward the plane of said mounting surface proceeding from the large end of said keyhole-shaped openings toward the small end thereof; and a leg member having the upper end thereof provided with screws each having a head engageable with the large end of said keyhole-shaped openings and with the underside of said screw heads disposed at a distance from said upper end of said leg member equal to or less than the distance from the side of said ramp adjacent the plane of said supporting portions and the lower surface of said portion offset from the plane of said supporting portions and parallel thereto, and said heads being receivable between said ramps and the plane of said mounting surface, said screws each also having a shank receivable in the small end of said openings whereby movement of said screws into engagement with their respective ramps results in pulling the upper ends of said leg member solidly into engagement with the lower surface of said portion offset from the plane of said supporting portions and parallel thereto to remove all lost motion in the mounting of the leg member on the mounting plate.

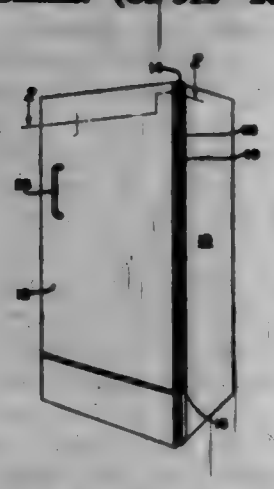
2,973,234
CLOSURE AND PACKAGE CLOSED THEREWITH
Ernest H. Tessmer, Arlington Heights, and Edward T. Wilhelm, Parkridge, Ill., assignors to The Glidden Company, Cleveland, Ohio, a corporation of Ohio
Original application May 12, 1955, Ser. No. 507,829, now Patent No. 2,915,404, dated Dec. 1, 1959. Divided and this application Mar. 14, 1958, Ser. No. 721,507
3 Claims. (Cl. 312—31.1)



1. In a closure for a container, a cup-shaped body adapted to be releasably applied to a container mouth to close the same, the side wall of said body being equipped with an inwardly-extending planar shoulder intermediate the height of said side wall, the side and top walls of said body upward of said shoulder providing a disc-shaped head space, a unitary disc of odor-adsorbent material substantially filling said head space, and an apertured resilient liner extending across said body to

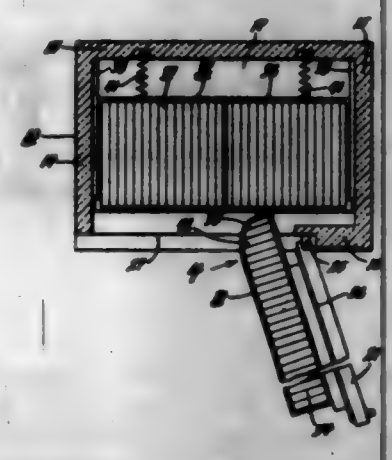
close said head space and frictionally held in place by the engagement of the liner periphery of the body side wall below said shoulder, and inwardly-extending integral projection means in said side wall below said shoulder and spaced from said disc for tightening said body on a container whereby the liner is compressed against the shoulder to provide a gasket-type seal and simultaneously substantially immobilize said disc.

2,973,235
REFRIGERATOR CABINET
Orson V. Saunders, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Aug. 10, 1959, Ser. No. 832,615
2 Claims. (Cl. 312—204)



1. In a refrigerator, a cabinet having insulated walls defining a food storage compartment therein provided with a front access opening, a door for closing the compartment opening, hinge means at the top and bottom of said door mounting same on said cabinet for swinging movement relative thereto, said hinge means having a single pivotal axis spaced a substantial distance in front of the cabinet front wall about which said door swings, a decorative moulding along opposite vertical sides of said door, said mouldings being provided with a surface disposed flush with the exterior surface of side walls of said cabinet forming forwardly directed continuations thereof concealing the juncture between the cabinet and said door as the refrigerator is viewed from one of its sides, said moulding at the hinged side of said door comprising sections aligned horizontally in back of one another with respect to said cabinet front wall and being complemental to each other, the back section of said sectional complemental moulding including a hollow one-piece trim strip extending continuously throughout the height of said door intermediate said hinge means, said trim strip of said back section being secured to said cabinet front wall in spaced relation to the pivotal axis of said hinge means, the front section of said sectional complemental moulding including a hollow one-piece trim strip extending continuously throughout the height of said door intermediate said hinge means so as to be coextensive with said back trim strip, said trim strip of said front section surrounding a portion of said single pivotal axis of said hinge means and projecting forwardly therefrom in parallel relationship with the peripheral edge of said door at its hinged side in the path of initial swinging movement thereof, said trim strips having portions thereof lying closely adjacent one another and cooperating while said door is shut to substantially close a space therebetween in said sectional forwardly directed cabinet side wall continuation, and said trim strip of the front section of said sectional complemental moulding being secured to said edge of said door and rotatable therewith about said single pivotal axis of the hinge means around the trim strip of said back section of the sectional moulding.

2,973,236
REFRIGERATOR SHELVING
Robert B. Hicks, Oak Park, and Edwin O. Grahn, Birmingham, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Aug. 18, 1958, Ser. No. 755,605
4 Claims. (Cl. 312—319)

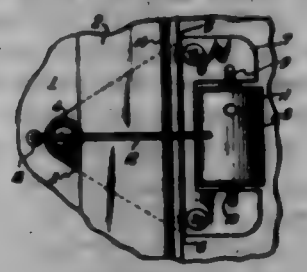


1. In combination, a cabinet having walls defining the top, bottom, back, opposed sides and a partial front wall of a compartment therein, said partial front wall projecting away from one side wall of said cabinet toward its opposite side wall and terminating in spaced relation thereto providing an access opening for said compartment, a door hinged to said cabinet at the terminated edge of its partial front wall for closing the compartment access opening, a sectional support device within said compartment for storing articles therein above its bottom wall, said support device comprising a first section and a second section disposed in the same horizontal plane with one another and co-operating so as to be complementary to each other for providing the device with supporting surfaces occupying substantially the entire cross sectional areas of said compartment, said first section of said sectional support device being mounted on and swingable with said door outwardly of said compartment through its access opening and having an integral part thereof located behind and immediately adjacent said partial compartment front wall while the door is closed, cam means on said integral part of said first section of said sectional support device adapted to engage said second section thereof by movement of said door, said second section of said device being in the rear portion of said compartment and mounted therein for sliding movement relative thereto in a straight line direction toward the forward portion thereof, means for biasing said slidable second section of the support device into abutment with said first section while said door is closed whereby to render the biasing means effective to automatically slide the slidable section of said device into said compartment forward portion in response to swinging said door open and shifting said part of the first section outwardly of the compartment, and said cam means on said integral part of said first section of the sectional support device serving to return said slidable section thereof against the action of said biasing means back into said compartment rear portion upon swinging said door closed.

2,973,237
GRAPHICAL RECORDER MARKING PEN
Glenn R. Whiteley, Pasadena, Calif., assignor to F. L. Moseley Co., a corporation of California
Filed Apr. 25, 1957, Ser. No. 655,145
1 Claim. (Cl. 346—29)

A graphical recorder marking element mechanism for use in a two axis recorder including the combination of a recorder bed for supporting a record medium, a movable carriage, a carrier plate positioned between the car-

riage and the recorder bed, a plurality of wheels attached to the carrier plate and engaging the carriage to allow the carrier plate to be moved along the length of the carriage, a cylindrical ink reservoir tank, a pair of axial trunnion pins attached to the ends of the cylindrical ink reservoir tank, a tank supporting plate attached to the carrier plate, a first and a second bearing support on the tank supporting plate engaging the trunnion pins to support the ink reservoir tank on one side of the carriage, at least one of the bearing supports being provided with first spring loading means, a capillary tube inserted in the top of the ink reservoir tank and extending over the carriage so



that ink drawn from the tank flows from one side of the carriage to the other, a pen point supported by the capillary tube on a side of the carriage opposite from the ink reservoir tank for engaging a record medium on the recorder bed to trace the movement of the carriage and the carrier plate, second spring loading means connected between the tank supporting plate and the cylindrical ink reservoir tank for urging the pen point into engagement with a record medium, and a lift bar positioned between the capillary tube and the carriage for raising the capillary tube and rotating the ink reservoir tank on the trunnion pins to disengage the pen point from the record medium.

2,973,238

MULTIPLE-RANGE RECORDER SWITCHING DEVICE

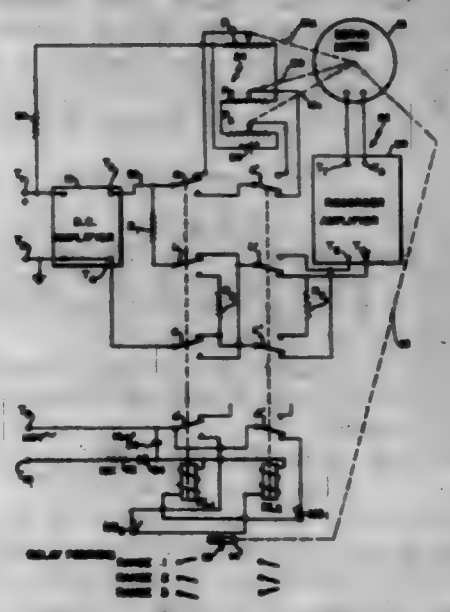
Richard F. K. Herzog, Lexington, Mass., assignor to the United States of America as represented by the Secretary of the Air Force

Filed June 6, 1958, Ser. No. 740,507

2 Claims. (Cl. 346—32)

(Granted under Title 35, U.S. Code (1952), sec. 266)

2. A multirange recording device which automatically reverses direction of the travel of a writing element as the signal to be recorded passes from one range to another preselected range, said device comprising in combination; amplifying means responsive to the signal to be recorded; a servo device responsive to the output of said amplifying means; a writing element driven by said servo device along a preselected travel path; feedback means disposed between the input and output of said amplifying means; sensing means located in the travel path of said writing element and providing signals when contacted by said writing element; switching means responsive to the signals developed by said sensing means to reverse the direction of travel of said writing element by reversing the direction of rotation of said servo drive device, said switching means including relay means having a pair of two position contact means and an additional two-position contact means, the energization of said relay means being controlled by the signals provided by said sensing means, which energization reverses the position of all of the two-position contact means associated with the relay means from a first position to a second position; means connecting said pair of two-position contact means of said relay means between the output of



said amplifying means and the input of said servo drive device whereby the energization of said relay means and the subsequent reversal of position of said pair of two-position contact means reverses the polarity of the interconnection of the output of said amplifying device to the input of said servo drive device thereby reversing the direction of drive of the servo device and said driven writing element; said feedback means including a plurality of variable impedance means controlled by said servo drive device and said additional two-position contact means, said additional two-position contact means connecting one of said plurality of variable impedance means for variable control of said feedback means and selecting a different one of said plurality of impedance means upon the energization of said relay means and the corresponding reversal of position of said additional contact means.

CHEMICAL

2,973,239

COLOR FIXING AGENTS

Alexander F. Gertvai, Utica, N.Y., assignor to United Merchants and Manufacturers, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Nov. 19, 1956, Ser. No. 622,790

11 Claims. (Cl. 8—74)

1. A process for the production of water soluble condensation products which includes the steps of reacting about 1 mole of dicyandiamide and from about 1 mole to about 5 moles of formaldehyde in alkaline aqueous solution by heating said solution to a temperature of from 60° C. to 75° C. and maintaining the temperature at that level until the reaction is complete, adjusting the pH of the solution to 7.2, and thereafter reacting the precondensate so formed with from about 1/20 mole to about 1/2 mole of diethyl sulfate by adding the diethyl sulfate to the precondensate and allowing the temperature of the mixture thus formed to reach a level of from 85° C. to 95° C. and keeping the temperature within these limits until the second reaction is complete as evidenced by cessation of gas evolution.

2,973,240

TANNING WITH ALKYLBENZENE SULFONATE IN COMBINATION WITH CHROME TANNING

Friedrich Schmitt, deceased, late of Duesseldorf, Germany, by Alice Schmitt, geb. Neukirchner, heir, Duesseldorf, Germany, assignor to Boehme Fettchemie G.m.b.H., Duesseldorf, Germany

No Drawing. Filed Dec. 5, 1956, Ser. No. 626,547
Claims priority, application Germany June 21, 1951
2 Claims. (Cl. 8—94.33)

1. A method of tanning unhaired, pickled animal skins having a pH of approximately 3.2 to 3.8 comprising kneading said skins with a 5 percent aqueous solution of an alkylbenzene sulfonate having from 12 to 18 carbon atoms in its alkyl radical for 3 to 4 hours at 20 to 30° C. and in the presence of water in an amount of approximately 2 to 3 times the volume of said solution, thereafter tanning the leather thus obtained from said skins with an alkaline water-soluble chromium salt tanning solution containing approximately 4 to 6 parts of said salt in 12 parts of water, and washing said leather to obtain a full soft surface having high tear resistance.

2,973,241

METHOD FOR PRODUCING HIGH CRYSTALLINE 1-OLEFIN POLYMERS OF DECREASED FLAMMABILITY BY TREATMENT WITH NITRIC ACID AND RESULTING PRODUCTS

John N. Scott, Jr., and Rufus V. Jones, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Oct. 26, 1956, Ser. No. 618,426
8 Claims. (Cl. 8—115.5)

5. An improved thermoplastic having low flammability comprising a normally flammable solid polymer selected from the group consisting of homopolymers of ethylene, propylene, 1-butene, 1-pentene, 1-hexene, 1-octene, 4-methyl-1-pentene, 4-methyl-1-hexene, 6-methyl-1-heptene, and 4-ethyl-1-hexene and a copolymer of one of said monomers with a small amount of a different monomer selected from said monomers and butadiene, said polymer having a crystallinity of at least 80 percent at room temperature as determined by nuclear magnetic resonance which has been contacted in its solid phase with nitric acid of 25 to 100 percent concentration at a temperature in the range of 210° F. to about 15° F. below the softening point of said polymer for a time of about 30 minutes to 2 hours.

2,973,242

PROCESS FOR PRESHRINKING HIGHLY ORIENTED, LOW-PRESSURE POLYOLEFINE FILAMENTS WITH CHEMICAL SHRINKING AGENTS

Wolfgang Jurgeleit, Davenport, Iowa, assignor to Vereinigte Glanzstoff-Fabriken, A.G., Wuppertal-Elberfeld, Germany

No Drawing. Filed Apr. 10, 1958, Ser. No. 727,548
Claims priority, application Germany Apr. 17, 1957
13 Claims. (Cl. 8—130.1)

1. An improved process for preshrinking a highly-oriented, low-pressure polyolefine filamentary material selected from the group consisting of polyethylene, polypropylene, polybutylene and polypentene wherein the molecular weight of said polyolefine is at least about 70,000, which process comprises immersing said filamentary material free from tension at a temperature of about 60° C. up to 90° C. in at least one normally liquid hydrocarbon selected from the group consisting of xylene, toluene, ethyl toluene, mesitylene, hemimellitine, pseudodocumene, butyl benzene, amyl benzene, cymene, cumene, pseudocumene, prehnitol, isodurene, sym-triethyl benzene, unsym-triethyl benzene, tetraethyl benzene, alpha-methyl naphthalene, 1.6-dimethyl naphthalene, 1.2-dimethyl naphthalene, ethyl naphthalene, cyclooctane, cyclononane, indene, decalin, tetralin, methyl tetralin and ethyl tetralin for a period of time of from about 5 seconds to 5 minutes and sufficient to reduce the shrinkage capacity of said filamentary material to zero as measured by subsequent boiling in water for one hour.

2,973,243

PROCESS FOR PRODUCING THREADS, FOILS, TUBES AND THE LIKE FROM AMYLOSE AND/OR STARCH CARBOHYDRATES CONTAINING AMYLOSE

Dieter Kudera, Quintusstrasse 126, Walsrode, Germany

No Drawing. Filed Aug. 26, 1958, Ser. No. 757,205
7 Claims. (Cl. 18—54)

1. A process for the production of threads, foils, tubes and the like from at least one of the substances selected from the group consisting of amylose and starch carbohydrates containing amylose, which comprises dissolving said substance in a mixture of water with formaldehyde, in quantities twice to six times the volume of said substance, at a temperature of approximately 120° C., allowing the viscosity of the solution to reach 50–100 poises by storing the same at room temperature until said viscosity has been attained, and adjusting the pH to 2.5–3.5, shaping the product thus obtained to the desired structure, introducing the shaped structure into a spinning bath, therein coagulating and solidifying the product, and washing, plasticizing and drying the same.

2,973,244

PROCESS OF SINTERING ALUMINUM CONTAINING MINERALS

Gerald M. Spence, Laramie, Wyo., assignor to Monolith Portland Midwest Company, Los Angeles, Calif., a corporation of Nevada

No Drawing. Filed Oct. 7, 1957, Ser. No. 688,404
8 Claims. (Cl. 23—52)

3. A process for producing a sinter containing soluble sodium aluminate and insoluble dicalcium silicate from a material in which alumina is chemically combined with silica, which process comprises: forming a finely ground mixture of an alkaline earth oxide, and alkali metal oxide, and a material in which alumina is chemically combined with silica; simultaneously heating said mixture at a temperature above the fusing point of said alkali metal oxide while agitating said mixture so as to react said alkali metal oxide within said mixture with said material at substantially the same rate at which said alkali metal oxide fuses in order to form lumps of intermediate alkali metal aluminum silicates as said alkali metal oxide fuses, said lumps being not greater than about one-half inch in diameter; and further heating said mixture at a temperature greater than the temperature of said initial heating so as to break down said intermediate silicates and form a sinter containing an alkali metal aluminate and an alkaline earth silicate.

2,973,245

METHOD OF PREPARING ALUMINA HYDRATE COMPOSITIONS CONTAINING TRIHYDRATE

John W. Teter, deceased, late of Clarendon Hills, Ill., by Ruth Young Teter, administratrix, Clarendon Hills, and John L. Gring, Homewood, Ill., and Carl D. Keith, Summit, N.J., assignors to Sinclair Refining Company, a corporation of Maine

No Drawing. Filed Apr. 27, 1956, Ser. No. 581,251
4 Claims. (Cl. 23—143)

1. In a method of preparing alumina hydrate catalyst base precursor compositions consisting essentially of a member selected from the group consisting of amorphous hydrous alumina, alumina-monohydrate and their mixture and about 10 to 95 weight percent of alumina-trihydrate, the sequence of steps comprising (1) neutralizing to a

pH between about 7 and 10 in an aqueous medium a salt of aluminum selected from the group consisting of the strong mineral acid aluminum salts and the strong basic aluminum salts said neutralization of the acid aluminum salt being effected with ammonium hydroxide and said neutralization of the basic aluminum salt being effected with a strong mineral acid to precipitate an alumina hydrate, (2) washing the hydrate with water at a pH less than about 10 to materially remove electrolyte formed during precipitation and present in the hydrate before substantial production of alumina trihydrate, (3) aging the washed hydrate in an essentially aqueous medium at a pH of about 8 to 10 and a temperature of about 70 to 170° F. until the hydrate composition contains about 10 to 95 percent of trihydrate, and (4) stopping the aging of the hydrate by drying when the said hydrate contains about 10 to 95 percent trihydrate.

2,973,246

METHOD OF MAKING POLISHING MATERIAL

Cameron G. Harman, Cleveland Heights, Ohio, and Ralph Rose, Ambler, Pa., assignors, by mesne assignments, to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut

No Drawing. Original application Sept. 8, 1950, Ser. No. 183,911, now Patent No. 2,744,001, dated May 1, 1956. Divided and this application Nov. 17, 1955, Ser. No. 547,563

5 Claims. (Cl. 23—182)

1. The method of making vitreous silica suitable for use as a glass polishing compound comprising heating amorphous silica to a temperature of 1800–2200° F. for a time sufficient to drive off its water of hydration and render the silica non-porous, rapidly cooling the heated silica and comminuting the cooled silica to a particle size such that about 75% is less than 5 microns and the remainder is no greater than 20 microns.

2. The method of making a glass polishing powder which comprises heating amorphous silica to a temperature of 1800–2200° F. for about one hour, thereby rendering the silica vitreous, cooling said silica, and comminuting said cooled material to a particle size below 20 microns.

2,973,247

TITANIUM BORIDE AND METHOD FOR MAKING SAME

Helmut Eppenschied, Metuchen, N.J., assignor to National Lead Company, New York, N.Y., a corporation of New Jersey

No Drawing. Original application Sept. 3, 1952, Ser. No. 307,721. Divided and this application Dec. 10, 1953, Ser. No. 397,470

4 Claims. (Cl. 23—204)

1. Method for the production of a titanium compound of boron which comprises slurrying a mixture of an uncalcined titania hydrate pulp, carbon and an oxidic compound of boron, and heating said slurry at a temperature of from 1350° C. to 1750° C. in an inert atmosphere to produce finely divided titanium boride having a particle size from about 1 micron to about 15 microns.

2,973,248

WITHDRAWN

2,973,249

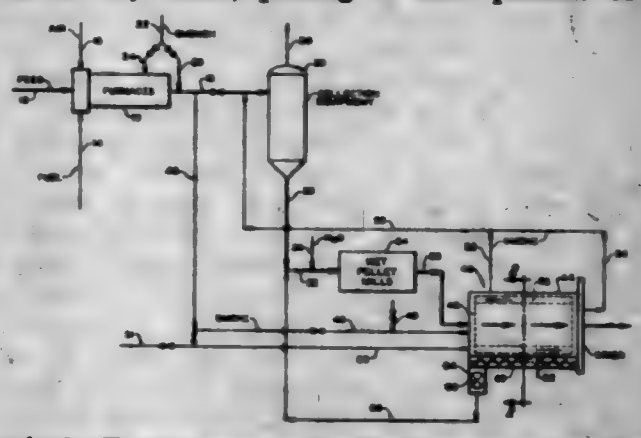
CARBON BLACK PROCESS AND APPARATUS

Harold W. Haas, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Oct. 15, 1958, Ser. No. 767,310

9 Claims. (Cl. 23—209.6)

6. A process for producing pelleted carbon black comprising subjecting a fluid carbonaceous fuel to partial combustion with air to produce hot gaseous effluent containing carbon black; water-quenching said hot gaseous effluent to a temperature in the range of 500 to 750° F.; passing a first portion of the quenched effluent thru a carbon black recovery system to recover carbon black therefrom; pelleting recovered black in admixture with water to produce wet pellets; passing said wet pellets thru a rotating drum dryer; passing a second portion of said quenched effluent thru said drum in contact with said wet pellets to dry same; passing a third portion of said



quenched effluent in contact with the exterior surface of said drum so as to heat same and dry said pellets and deposit part of the carbon black in said third portion on the outside of said drum; recovering deposited carbon black from the outside of said drum; passing effluent gas from within and from outside said drum thru said carbon black recovery system to recover residual carbon black therefrom; and passing the recovered carbon black to the wet pelleting step.

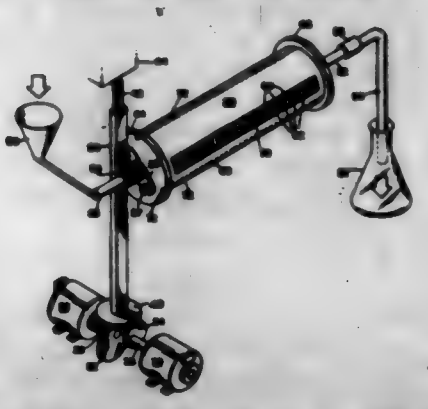
2,973,250

APPARATUS FOR COUNTER CURRENT DISTRIBUTION

Quintin P. Peniston, Bainbridge Island, Wash., assignor to Food, Chemical & Research Laboratories Inc., Seattle, Wash., a corporation of Washington

Filed Jan. 28, 1957, Ser. No. 636,587

6 Claims. (Cl. 23—270.5)



1. Apparatus for counter current discontinuous fractionation of a solute mixture dissolved in heavier and lighter immiscible solvents, comprising: a series of broad-faced, thin, cylindriform cells secured together in face-to-face juxtaposition; means for supporting the cells for conjoint cyclic oscillatory movement about a common horizontal axis; each cell including wall means forming a residuum chamber, a decantate chamber, and an equilibration compartment larger than and coplanar with said residuum chamber and decantate chamber; said cells being arranged in said series so that the chambers and compartments of the cells are uniformly arranged relative said horizontal axis; each said decantate chamber being opposite and normally above the equilibration compartment; each said residuum chamber being located adjacent one end of the related equilibration compartment and in communication therewith; means forming a decantate passage in each cell between each said equilibration compartment and each said decantate chamber; means forming a drain opening from each decantate

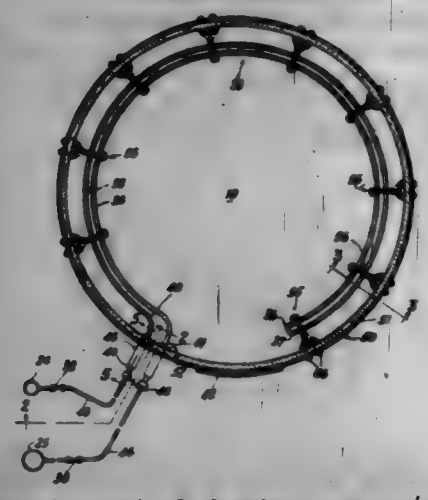
chamber and an inlet to the equilibration compartment of the next adjacent cell; each said decantate chamber being so proportioned and the discharge end of each decantate passage being so disposed and separated from each drain opening that, when the decantate chamber contains decantate, the decantate passage discharge end is above the decantate surface and said decantate surface is below the drain opening; said drain openings being located to unidirectionally drain said decantate chambers throughout the series of cells; whereby, with said equilibration compartment disposed lowermost, oscillation of the series of cells agitates the lighter and heavier solvent mixtures in intimate contact in the equilibration compartment; and discontinuation of said oscillation permits separation of the solvent phases; and subsequent relatively slow rotation of the series of cells, through an angle of about 180 degrees in such direction that each residuum chamber follows the related equilibration compartment, transfers each heavier solvent phase into a residuum chamber and decants each lighter solvent phase into a decantation chamber; and reverse rotation of the series of cells, through an angle of about 180 degrees, returns the heavier solvent phase in each residuum chamber to the equilibration compartment from which the same was transferred, and drains the light solvent phase in each decantation chamber through the related drain opening into the equilibration compartment of the next adjacent cell.

2,973,251

HEAT TRANSFER APPARATUS

Theodore S. Sprague, Hewlett, N.Y., and Marshall B. Leland, Canton, Ohio, assignors to The Babcock & Wilcox Company, New York, N.Y., a corporation of New Jersey

Filed Apr. 29, 1952, Ser. No. 284,892
7 Claims. (Cl. 23—284)



1. A closed vessel of circular cross-section, means for maintaining a fluidized bed of particle-form solid material within said vessel, means for regulating the temperature of said fluidized bed by indirect heat exchange with a heat exchange medium comprising pairs of reverse bend connected heat exchange tubular members annularly disposed in a substantially horizontal plane within said vessel, and bracket means for slidably supporting said tubular members from the wall of said vessel for movement in the direction of the longitudinal axes of said tubular members.

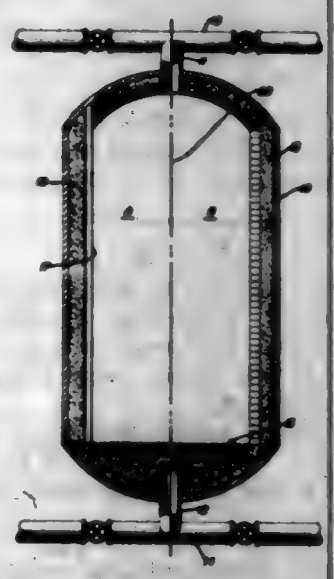
2,973,252

REACTOR APPARATUS FOR REGENERATIVE REFORMING OF HYDROCARBONS

Stanley E. Shields, Whiting, Ind., and James F. Wygant, Homewood, Ill., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana

Filed May 25, 1955, Ser. No. 510,986
1 Claim. (Cl. 23—288)

In a reactor apparatus adapted for the regenerative catalytic reforming of sulfur-containing hydrocarbons in the presence of hydrogen over a platinum-alumina type catalyst, wherein said hydrocarbons and hydrogen are passed through the catalyst under reforming conditions until said catalyst has been substantially inactivated by the formation of carbonaceous deposits thereon, and wherein said deposits are periodically removed by discontinuing reforming and passing an oxygen-containing gas through said catalyst under regeneration conditions, the improvement whereby the platinum alumina catalyst is protected from the effect of retention of sulfur and



release of sulfur oxides within the reaction system, which comprises a reactor apparatus comprising: an external metal shell; an internal lining for said shell comprising a composite of calcium aluminate cement and a synthetic mineral aggregate, said composite having an iron content of not more than about one percent by weight; a fixed bed of platinum alumina catalyst particles disposed within said internal lining and means for maintaining the bed within said lining; and means for alternatively passing said hydrocarbons-hydrogen and said oxygen-containing gas through said bed.

2,973,253

ETCHING OF SEMICONDUCTOR MATERIALS

Richard R. Stead, Richardson, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

No Drawing. Filed Dec. 9, 1957, Ser. No. 701,306
9 Claims. (Cl. 41—42)

1. A method of etching a surface of an electrical semiconductor which comprises etching said surface in a solution of nitric acid, hydrofluoric acid, and di-sodium phosphate.

2,973,254

FREEZE-PROOFING OF COKE

Lawrence D. Schmidt, New York, N.Y., assignor to Allied Chemical Corporation, a corporation of New York

No Drawing. Filed Jan. 27, 1958, Ser. No. 711,118
3 Claims. (Cl. 44—1)

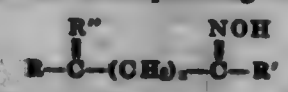
1. A method for freeze-proofing coke contained in an open-top railroad car having a lower discharge outlet, which comprises applying a wetting agent in amount of from about .05 to 2 pounds per one ton of coke to the top surface only of a bulk mass of considerable depth of normally free-flowing coke pieces in the railroad car whereby water contacting the treated top surface passes into the pores in the interior of coke pieces in the upper portion of the mass to freeze substantially harmlessly therein at a temperature below the freezing point of water, passage of a substantial quantity of water downwardly into the lower portion of the coke mass being thereby avoided, and agglomeration of coke pieces in the lower portion of the mass with resultant blocking of

egress of free-flowing coke pieces from the car lower outlet due to water freezing at the below-freezing temperature being thereby avoided.

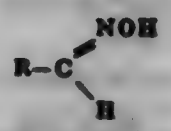
2,973,255
PROPELLANT

James R. Elsner, Park Forest, Ill., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana
No Drawing. Filed Nov. 30, 1954, Ser. No. 471,993
7 Claims. (Cl. 52—.5)

1. A gas-producing solid propellant consisting essentially of (1) (*a*) from about 10% to about 25% by weight of a binder consisting essentially of from about 15% to about 50% by weight of a synthetic polymeric base material selected from the class consisting of cellulose acetate, cellulose acetate butyrate, polyvinyl acetate, styrene-acrylonitrile copolymer, polyvinyl chloride, quaternized polyvinyl pyridine polymer and polyesters of polyhydric alcohols with polycarboxylic acids, and (*b*) between about 50% and 85% by weight of at least one oxygen containing plasticizer selected from the class consisting of glycol maleate, diethylene glycol oxalate, ethylene glycol diglycolates, acetins, ethylene glycol di-lower alkanoates, nitromethyl propanediol diacetate, tri-lower-alkyl citrates, di-lower-alkyl phthalates, acetyl triethyl citrate, dimethyl allyl diglycolate, nitrodiphenyl ethers, dinitrophenyl allyl ethers, nitrobenzenes, di-lower-alkoxy tetraglycol and poly-lower-alkylene glycols, (2) from about 1% to about 8% of an ammonium nitrate combustion catalyst selected from the class consisting of Prussian blue and ammonium dichromate, (3) from about 1% to about 5% by weight of an oxime selected from the class of ketoximes corresponding to the formula



wherein R and R′ are selected from the class consisting of oxygen and NOH and *x* is an integer from 0 to 2 and from the class of aldoximes corresponding to the formula



wherein R is selected from the class consisting of nitro substituted phenyl, amino substituted phenyl, hydroxy substituted phenyl, furyl and styryl, and (4) the remainder essentially ammonium nitrate.

2,973,256
AMMONIUM NITRATE SOLID COMPOSITE PROPELLANT COMPOSITION

Jack Linsk, Highland, Ind., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana
No Drawing. Filed Nov. 8, 1955, Ser. No. 545,789
12 Claims. (Cl. 52—.5)

1. A composition suitable for use as a solid propellant, which composition consists essentially of, on a weight basis (1) from about 15% to about 25% of binder material, which binder material consists, on a weight basis of (*a*) about 20 to about 40% of cellulose acetate containing from about 51% to about 57% of acetic acid, (*b*) about 10% to about 30% of dinitrotoluene, (*c*) about 25% to about 40% of ethylene glycol diglycolate, and (*d*) about 10% to about 30% of a member selected from the class consisting of dinitrophenoxyethanol and mixtures of dinitrophenoxyethanol and bis(dinitrophenoxy)ethane, which mixtures contain at least 50 weight percent dinitrophenoxyethanol, (2) a catalyst from the class consisting of Prussion blue, ammonium dichromate, sodium chromate, sodium dichromate and monosodium barbiturate, in an amount between about 1 and 10 percent by weight, and (3) the remainder essentially ammonium nitrate.

2,973,257
PROPELLENT POWDER

Don W. Ryker, Alton, Ill., and Gilbert R. Cox, Creve Coeur, Mo., assignors to Olin Mathieson Chemical Corporation, a corporation of Virginia
No Drawing. Filed June 14, 1951, Ser. No. 231,648
18 Claims. (Cl. 52—6)

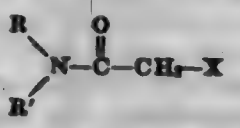
1. In the manufacture of powder grains by a process which involves dispersing globules of lacquer containing a smokeless powder base and a vehicle in an aqueous medium and thereafter solidifying the globules while dispersed, the method of shaping and solidifying lacquer globules into gelatinized droplets of smokeless powder base having lead therein which comprises dissolving the smokeless powder base in a vehicle having lead incorporated therein and containing methyl ethyl ketone and a volatile liquid non-solvent which is substantially miscible with methyl ethyl ketone and reduces the miscibility of water therewith, and thereafter solidifying the globules while suspended in the aqueous medium.

16. A substantially spherical smokeless powder base grain having a material dispersed therein selected from the group consisting of metallic lead, lead salts, and lead oxides.

2,973,258
UNSYMMETRICAL ALPHA-HALOACETAMIDE HERBICIDES

Philip C. Hamm, Webster Groves, and Angelo J. Speziale, Kirkwood, Mo., assignors to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed Dec. 30, 1957, Ser. No. 705,805
12 Claims. (Cl. 71—2.7)

1. The method of inhibiting the germination of grass seeds in contact with soil and the preemergence growth thereof, which comprises treating the said soil with a herbicidal amount of the compound of the structure:



wherein R is an alkyl radical having seven (7) to fourteen (14) carbon atoms, R′ is an aliphatic radical having from one (1) to four (4) carbon atoms selected from the group consisting of alkyl, alkenyl, alkynyl and the corresponding halogen substituted radicals, and wherein X is a halogen atom selected from the group consisting of chlorine, bromine and iodine.

2,973,259
METHOD FOR KILLING WEEDS AND WOODY BRUSH

Max T. Goebel, Chadds Ford, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Sept. 26, 1958, Ser. No. 763,469
4 Claims. (Cl. 71—2.7)

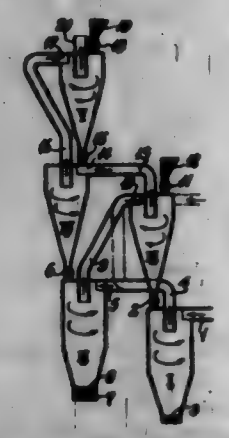
1. A method for killing weeds which comprises applying to a locus to be protected in an amount sufficient to exert herbicidal action at least one trialkylamine-sulfur trioxide adduct of the formula $R_1R_2R_3N \cdot SO_3$ wherein R_1, R_2, and R_3 are alkyl groups of from 1 to 4 carbons inclusive.

2,973,260
METHOD FOR THE TREATMENT OF IRON ORES

Yukio Negiwa, 121 1-Chome Narimune, Suginami-ku, Tokyo, Japan
Filed Oct. 30, 1958, Ser. No. 770,718
Claims priority, application Japan Nov. 4, 1957
2 Claims. (Cl. 75—40)

1. The process of treating iron ores in a plurality of furnaces including a reduction furnace, a gas temperature regulating furnace, an ore melting furnace, a reducing

gas generating furnace and a preheating furnace wherein all of the furnaces are of the cyclone type, comprising the steps of tangentially introducing a hot oxygen containing gas into said reducing gas generating furnace, simultaneously introducing a solid, high ash, reducing gas source material from said gas temperature regulating furnace into said reducing gas generating furnace thereby generating a reducing gas of a temperature sufficient to melt iron ore, centrally removing said reducing gas from said generating furnace and tangentially introducing said reducing gas into said melting furnace, introducing the heated and reduced iron ore powder and pulverized slag forming material from said reduction furnace into said melting furnace for the melting



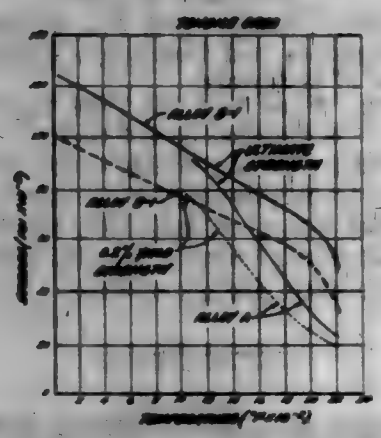
thereof, tangentially introducing the hot gas within said melting furnace into said gas temperature regulating furnace, introducing a controlled amount of solid high ash reducing gas source material into said gas temperature regulating furnace producing an endothermic reaction changing the CO_2 of the gas received from said melting furnace into CO thereby lowering the temperature of the resultant produced reducing gas to approximately 1000° C.–1100° C., centrally removing said last mentioned reducing gas from said gas temperature regulating furnace and tangentially introducing the same into said reduction furnace, introducing preheated iron ore powder and slag forming material from said preheating furnace into said reduction furnace and removing the molten iron and slag from said melting furnace.

2,973,261

COLUMBIUM BASE ALLOYS

Robert G. Frank, Cincinnati, Ohio, assignor to General Electric Company, a corporation of New York

Filed June 11, 1959, Ser. No. 819,776
7 Claims. (Cl. 75—174)



1. A columbium base alloy consisting essentially of by weight at least one element selected from the group consisting of tungsten and molybdenum, the molybdenum content being selected from the range 4–13.5% and the tungsten content being selected from the range 5.2–17%, about 0.1–1.8% zirconium, with the balance essentially columbium.

2,973,262

LIGHT-SENSITIVE PHOTOGRAPHIC PAPER

Albert Emiel Van Hoof, Antwerp-Berchem, Belgium, assignor to Gevaert Photo-Producten N.V., Mortsel-Antwerp, Belgium, a Belgian company

No Drawing. Filed June 18, 1957, Ser. No. 666,475
Claims priority, application Belgium June 22, 1956
4 Claims. (Cl. 96—85)

1. High gloss photographic light-sensitive paper comprising a paper support, a baryta coating on said support, a separate coating comprising essentially colloidal silica, an additive selected from the group consisting of water-soluble plasticizers and gelatin, said additive not exceeding the amount of said silica, superposed directly on said baryta coating, and a separate light-sensitive silver halide emulsion coating superposed directly on said silica coating, the silica coated paper having a higher gloss than a similarly coated paper without a silica coating, the final gloss being undiminished by moistening.

2,973,263

ANTISTATIC BACKING LAYERS FOR PHOTOGRAPHIC FILM

Frank J. Kazuba, June M. Matteson, and Russell P. Easton, Binghamton, N.Y., assignors to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Apr. 19, 1957, Ser. No. 653,755
4 Claims. (Cl. 96—87)

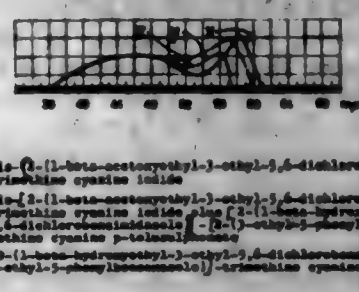
1. A light sensitive photographic element comprising a cellulose ester film support carrying a silver halide emulsion layer, said element having an antistatic backing layer comprising a wax having a melting point higher than 43° C. and a particle size ranging from 0.1 to 5 microns uniformly dispersed in an alkali metal salt of a terpolymer obtained by the copolymerization of one molar equivalent of a lower aliphatic vinyl ester selected from the group consisting of vinyl acetate, vinyl propionate and vinyl butyrate, two molar equivalents of acrylic acid and one molar equivalent of styrene, the amount of wax based on the amount of triple polymer being on the order of from 1 to 10 percent by weight.

2,973,264

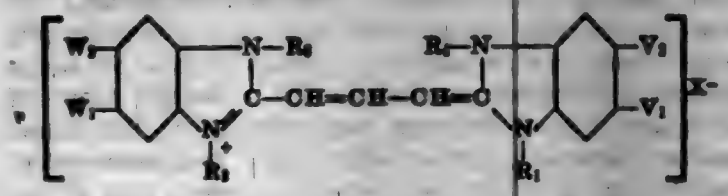
SENSITIZED PHOTOGRAPHIC EMULSIONS

Jean Marie Nys, Mortsel-Antwerp, and Theofiel Hubert Ghys, Edegem-Antwerp, Belgium, assignors to Gevaert Photo-Producten N.V., Mortsel, Belgium, a Belgian company

Filed Mar. 4, 1958, Ser. No. 719,849
Claims priority, application Great Britain Mar. 6, 1957
3 Claims. (Cl. 96—105)



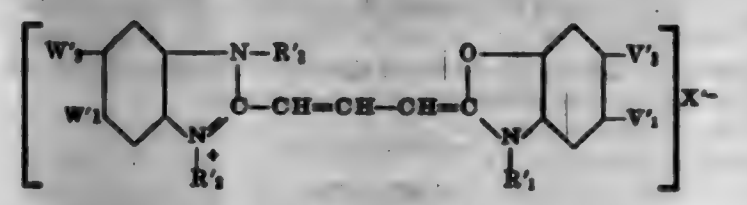
1. A photographic silver halide emulsion sensitized with a supersensitizing combination of at least one carbocyanine dye selected from those represented by the following general formula:



wherein:

W_1, W_2, V_1 and V_2 each represents a member selected

from the group consisting of a halogen atom and a hydrogen atom, at least one of W_1, W_2, V_1 and V_2 being a halogen atom; R_1, R_2, R_3 and R_4 each represents a member selected from the group consisting of an alkyl group and aryl group, and X represents an acid radical, and at least one carbocyanine dye selected from those represented by the following general formula:



wherein:

W'_1 and W'_2 each represents a member selected from the group consisting of a halogen atom, a carbalkoxy group, an acyl group and a hydrogen atom, at least one of W_1 and W_2 being a member selected from the group consisting of a halogen atom, a carbalkoxy group and an acyl group; V'_2 represents a member selected from the group consisting of a hydrogen atom and an alkyl group; V'_1 represents a member selected from the group consisting of a hydrogen atom, an alkyl group and an aryl group; R'_1, R'_2 and R'_3 each represents a member selected from the group consisting of an alkyl group and an aryl group, and X' represents an acid radical.

2,973,265

ANIMAL FEED SUPPLEMENT

Marvin B. Gillis, Glenview, Ill., assignor to International Minerals & Chemical Corporation, a corporation of New York

No Drawing. Filed Apr. 29, 1957, Ser. No. 655,542
6 Claims. (Cl. 99—2)

1. A method of preparing a calcium phosphate-containing livestock and poultry feed supplement which comprises the steps of reacting an aqueous phosphoric acid solution with compounds of cobalt, copper, iron, manganese and zinc, said acid containing less than about one part of fluorine per 100 parts of phosphorus, said cobalt compound being added in an amount to provide between about 10 and about 1,000 parts of cobalt, said copper compound being added in an amount to provide between about 1,000 and about 15,000 parts of copper, said iron compound being added in an amount to provide between about 1,000 and about 50,000 parts of iron, said manganese compound being added in an amount to provide between about 500 and about 30,000 parts of manganese, and said zinc compound being added in an amount to provide between about 1,000 and about 50,000 parts of zinc per million parts of phosphorus in said phosphoric acid solution, reacting a calcium compound with the free phosphoric acid remaining in solution after reaction with the compounds of cobalt, copper, iron, manganese and zinc, whereby a slurry is formed by the precipitation of a solid calcium orthophosphate material, said material having compounds of cobalt, copper, iron, manganese and zinc distributed throughout the solid, and recovering said solid orthophosphate material.

2,973,266

STABILIZATION OF FAT-SOLUBLE VITAMIN

Adolf Rosenberg, Forest Hills, N.Y.
(57 Commerce St., Brooklyn 31, N.Y.)

No Drawing. Filed Feb. 5, 1958, Ser. No. 713,312
11 Claims. (Cl. 99—2)

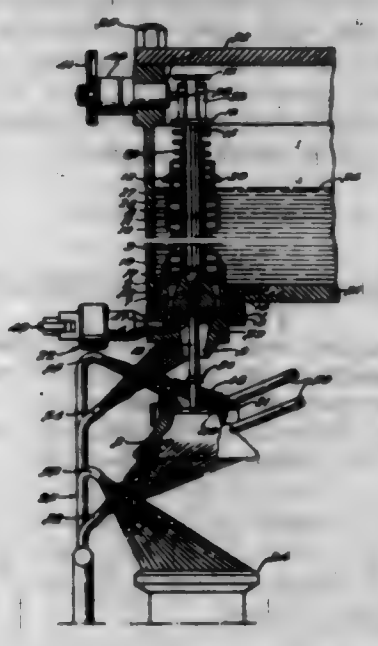
1. Process of making dry, discrete beads containing stabilized fat-soluble vitamin in a fatty core which is encased in an irreversibly heat-denatured, water-resistant proteinaceous digestible shell, said process comprising mixing a solution of fat-soluble vitamin in a fat having a melting point of about at least 35° C., at a temperature of about 10° C. above the melting point of the fat with an aqueous solution of a heat coagulable, proteinaceous material, heating the mixture to effect incipient denaturation of the protein, the time-temperature relationship for effecting incipient denaturation being determined by heating specimens of said mixture under correlated temperatures and time intervals which show the correlation of time-temperature at which the mixture changes from a flowable mass to a nonflowable mass, homogenizing said mixture to form an emulsion with the oil as the finely dispersed internal phase, and spray drying said heated emulsion to irreversibly denature the protein.

2,973,267

METHOD AND DEVICE FOR STERILE RACKING HOT BEVERAGES CONTAINING CARBON DIOXIDE, ESPECIALLY BEER

Richard Keller, Dortmund-Aplerbeck, and Karl Quest, Dortmund-Korne, Germany, assignors to Dr. Bruno Kaiser, Hamburg, and Dr. Emil Pauls, Hamburg-Eidelstedt, Germany

Filed Nov. 13, 1958, Ser. No. 773,684
Claims priority, application Germany Nov. 14, 1957
8 Claims. (Cl. 99—49)



1. A method of filling containers with hot carbon dioxide-containing beverages which have been heated to a pasteurizing temperature and pressurized to about the saturation pressure corresponding to said temperature, comprising the steps of conducting said pressurized carbon dioxide-containing beverage while still hot to a counter-pressure filling element, tightly connecting the opening of said container to the outlet opening of said filling element, filling said container by introducing said hot beverage while still pressurized from said filling element to said container, relieving the pressure from said container while still connected to said filling element, removing said container from said filling element, and closing said container.

2,973,268

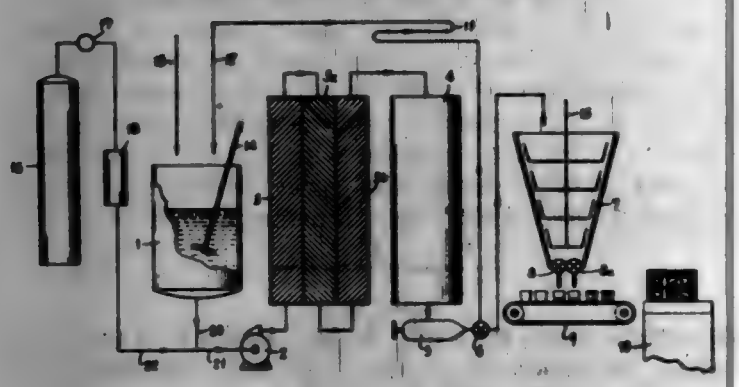
METHOD OF MAKING POTATO CHIPS

Chester M. Gooding, Westfield, and Daniel Melnick, Teaneck, N.J., assignors to Corn Products Company, a corporation of Delaware

No Drawing. Filed Aug. 22, 1958, Ser. No. 756,543
10 Claims. (Cl. 99—100)

1. A process which comprises frying potato slices continuously in a deodorized hydrogenated vegetable seed oil having an iodine value of from 75 to 94, a melting point of from 80° to 95° F., and a setting point of from 55° to 65° F.

2,973,269
METHOD OF MAKING MARGARINE
Daniel Melnick, Teaneck, N.J., assignor to Corn Products Company, a corporation of Delaware
Filed Mar. 16, 1959, Ser. No. 799,712
13 Claims. (Cl. 99—122)



1. A process for producing a margarine product substantially free from occluded gas which comprises superchilling a liquid margarine to a temperature of about 15° to 40° F. below the setting point of the fat ingredient thereof, working the superchilled liquid margarine to dissipate at least about 20% of the potential titer heat due to fat crystallization but maintaining the margarine as a flowable mass, and packaging the margarine, the fat ingredient having a Wiley melting point of about 90° to 100° F., a setting point of about 70° to 80° F. and an iodine value of about 70 to 90, and said process being operated such that no work is imparted to the solidified margarine.

2,973,270
CAKE MIXES AND IMPROVED SHORTENINGS THEREFOR
Jerome B. Thompson and Bruce D. Buddemeyer, Kansas City, Mo., assignors to The Pamplus Company, Rye, N.Y., a corporation of Delaware
No Drawing. Filed Dec. 19, 1958, Ser. No. 781,451
15 Claims. (Cl. 99—123)

1. A cake mix comprising flour, baking powder and sugar intimately blended with a shortening composition comprising a triglyceride based fatty shortening material having dissolved therein at least 0.5% of an acyl lactylic acid product of the formula

$$RCO(OCHCO)_nOH$$
$$\quad\quad\quad

2,973,275

WITHDRAWN

2,973,276

PROCESS OF DEHYDRATING POTATOES

Joseph W. Cyr, Pittsfield, Maine, assignor to Snow Flake Canning Co., Brunswick, Maine, a corporation of Maine

No Drawing. Filed Dec. 19, 1956, Ser. No. 629,252
3 Claims. (Cl. 99—207)

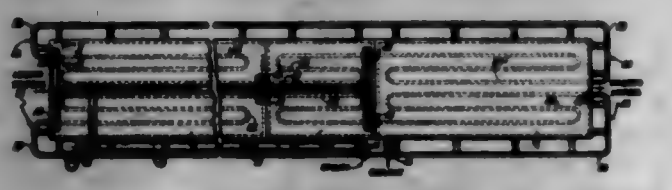
1. The process of dehydrating potatoes to substantially reduce the breakage thereof in packing and shipping which consists in cutting the potatoes into small units, immersing the freshly-cut units in an aqueous solution of a reagent taken from the class consisting of sodium chloride, ammonium chloride, and sodium nitrate of a concentration of the order of 3 percent for a period in the order of five minutes to partially dissolve the pectic substances surrounding the starch cells, the temperature of said aqueous solution being not substantially less than approximately 100° F., and thereafter drying the units while still wet with the salt solution to a water content not exceeding 12 percent.

2,973,277

PROCESS FOR THE PRODUCTION OF SMOKED MEAT PRODUCTS

Hugh W. Barnett, Clarkson, Ontario, Leroy White, Toronto, Ontario, and Henry R. Nordin, Concord, Ontario, Canada, assignors to Canada Packers, Limited, Toronto, Ontario, Canada

Filed Jan. 14, 1957, Ser. No. 634,006
7 Claims. (Cl. 99—229)



1. A continuous process for the production of smoked sausage products, comprising: moving small, unsmoked sausage products along a continuous path through a smoking zone while subjecting them to an atmosphere of dense smoke at a temperature between about 200° F. and about 260° F., maintaining said meat products in contact with said atmosphere of dense smoke for a period of time less than about one-half hour and raising the internal temperature of said products to at least about 150° F., and then moving said meat products along said continuous path through a chilling zone to cool said meat products to packaging temperature.

2,973,278

MANUFACTURE OF SINTERED VITREOUS SILICA

Gerhard E. Kadloch, 737 Valley Road, Plainfield, N.J., and Arthur Jakubczak, 57 Moffett St., Fords, N.J.

No Drawing. Filed May 15, 1958, Ser. No. 735,375
10 Claims. (Cl. 106—69)

1. The method of making solid siliceous articles consisting essentially of sintered vitreous silica, comprising forming a mixture consisting essentially of finely divided substantially pure vitreous silica and finely divided boric oxide in a minor amount effective to prevent devitrification of the silica, placing the mixture within a heating zone, and heating the mixture in a protective atmosphere to prevent devitrification without melting it to a temperature between about 1900° F. and 2500° F. until the mixture is sintered to a compact vireous solid body.

2,973,279

SEALING COMPOSITIONS

William A. Weidenbenner, East St. Louis, Ill., and Lawrence A. Balling, St. Louis, Mo., assignors, by mesne assignments, to American-Marietta Company, Chicago, Ill., a corporation of Illinois

No Drawing. Filed Dec. 27, 1954, Ser. No. 477,954
5 Claims. (Cl. 106—269)

1. A sealing composition comprising between approximately 25% by weight and 50% by weight of a gilsonite having a melting point greater than approximately 325° F., between approximately 25% by weight and 50% by weight of a naphthenic oil having the following properties:

Specific gravity (60/60° F.)	9.2 to 9.4.
Viscosity	100 to 2600 (S.U. at 100° F.), 35 to 105 (S.U. at 210° F.).
Pour point	—30 to +5° F.

and between 5% by weight and 20% by weight of a grease resistant to flow at temperatures above approximately 240° F.

2,973,280

PIPE ENAMEL

Arnold J. Helberg, Morristown, N.J., and Charles E. Cowger, El Dorado, Ark., assignors to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Mar. 24, 1958, Ser. No. 723,109
3 Claims. (Cl. 106—281)

1. An improved asphaltic protective coating composition having incorporated therein from 17% to 25% by weight of an inert mineral filler of a fineness permitting 90% of the filler to pass through a 325 mesh screen characterized by a maximum viscosity of 1,000 seconds (Saybolt Furol) at 375° F., a flash point of at least 125° F. above the temperature at which the coating composition has a viscosity of 1,000 seconds (Saybolt Furol), a maximum penetration at 150° F. (50 g., 5 secs.) of 45, a maximum settlement ratio at 450° F. of 1.3, a water absorption of less than 1.0% after 35 weeks' immersions of a 90–100 mil film, a stain index of less than 15, a maximum sag of $\frac{1}{16}$" at 160° F. after 24 hours, no cracking and disbonding at —20° F., no visible cracking under bend test at 77° F., no cracking under impact test at 32° F., a maximum of 9 mils penetration at 85° F. for 100 hours as determined by rod deformation test, an initial electrical resistivity of at least 1×10^{15} ohm-cm. and an electrical resistivity greater than 1×10^{13} ohm-cm. after 35 weeks' immersion on a film of said composition in water.

2,973,281

BITUMINOUS ROAD-SURFACING MATERIALS

Alfred Robert Lee, Road Research Laboratory, Harmondsworth, West Drayton, England, and Edward J. Dickinson, P.O. Box 395, 140 Struben St., Pretoria, Union of South Africa

No Drawing. Filed Sept. 16, 1953, Ser. No. 380,621
4 Claims. (Cl. 106—284)

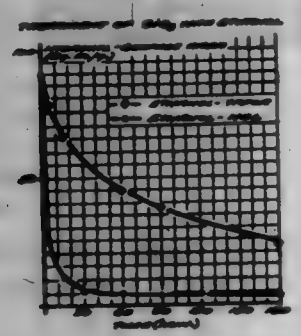
1. A bituminous road-surfacing composition for hot rolled application as a road surface in the form of a relatively non-polishing impervious layer of low void content, comprising an intimate mixture consisting substantially wholly of a major proportion of a finely divided mineral aggregate at least of the coarseness of sand, a bitumen binder derived from mineral oil and resistant to atmospheric oxidation, and 5 to 10 parts by weight per 100 of the bitumen binder of a phenolic coal tar pitch obtained from a tar produced by the low temperature carbonizatiton of coal for increasing the rate of hardening by atmospheric oxidation of the bitumen.

2,973,282

PROCESS FOR THE SURFACE TREATMENT OF FINELY-DIVIDED OXIDES OR OXIDE MIXTURES

Albert Gross, Rheinfelden, Germany, assignor to Deutsche Gold- und Silber-Scheideanstalt vormals Roessler, Frankfurt am Main, Germany, a corporation of Germany

Filed July 20, 1956, Ser. No. 599,252
Claims priority, application Germany July 23, 1955
3 Claims. (Cl. 106—308)



1. A process for improving the surface characteristics of finely divided pyrogenic silica which comprises contacting such silica in the form of a dry powder with a substantially anhydrous gas consisting of a minor proportion of a strong acid vapor and vapors of alcohols containing not over 20 carbon atoms in a straight or branched chain, the time of contact being sufficient to effect reaction of at least the majority of hydroxyl groups on the surface of said silica.

2,973,283

SURFACE TREATMENT

James S. Hill, Cranford, N.J., assignor, by mesne assignments, to Engelhard Industries, Inc., Newark, N.J., a corporation of Delaware

No Drawing. Filed Oct. 25, 1957, Ser. No. 692,257
5 Claims. (Cl. 117—71)

1. A surface treatment for articles made from platinum-rhodium alloys which comprises coating the surface with platinum, subsequently applying a coating of gold upon the platinum layer, each of the coatings being sufficiently thick to allow the formation of boundary zones of solid solutions, and heating to diffusion temperature to harden the outer surface of the article to a hardness at least equal to that of the platinum-rhodium alloy by the formation of said solid solutions.

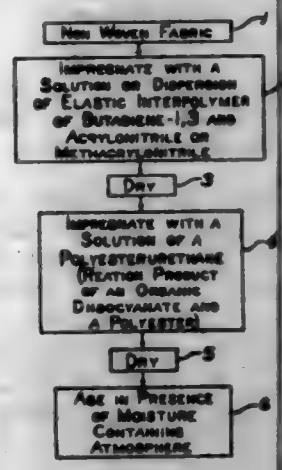
2,973,284

LEATHER-LIKE MATERIAL

Stephen T. Semegen, Cuyahoga Falls, Ohio, assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York

Filed Apr. 30, 1957, Ser. No. 655,957
7 Claims. (Cl. 117—76)

2. A permeable leather-like material comprising a nonwoven fabric of textile fibers with the fibers impregnated with successive layers of (*a*) a rubbery interpolymer of a major proportion of butadiene-1,3 and a minor proportion of a nitrile selected from the group consisting of acrylonitrile and methacrylonitrile, said interpolymer being present in a quantity of about 5 to about 150% by weight of interpolymer based on the original fibers, and (*b*) a polyesterurethane derived from the reaction in the presence of moisture of about 1.2 to 2.0 mol equivalents of an organic diisocyanate with one mol equivalent of a polyester of an aliphatic dicarboxylic acid and a glycol of the formula HO—R—OH wherein R is an alkylene radical containing 2 to 10 carbon atoms, said polyester being essentially hydroxyl terminated and having a molecular weight from about 4000 to about 9000, said polyesterurethane being present in a quantity of about 10 to 200% by weight of polyesterurethane based on the original fibers, and the total quantity of both layers (*a*)



and (*b*) being from about 50 to about 300% by weight based on the original fibers.

2,973,285

PREPARATION OF COATED ARTICLES USING GELLABLE AQUEOUS CATIONIC POLYMER COATING COMPOSITIONS AND PRINTING INKS

Eugene A. Berke, Midland, and Robert G. Jahn, Saginaw, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Dec. 31, 1958, Ser. No. 784,829
4 Claims. (Cl. 117—136)

1. In a process for preparing coated articles by applying to a surface thereof a layer of a composition which is an aqueous dispersion of a finely divided solid pigment and a film-forming pigment-binding polymer and subsequently drying the coating by evaporation of water, the improvement which comprises applying to the article surface a layer of a non-alkaline, fluid, aqueous dispersion containing from 10 to 65 percent by weight of dispersed solid matter including finely divided pigmentary material and film-forming polymer in amounts corresponding to from 10 to 150 parts by weight of the film-forming polymer per 100 parts by weight of the pigmentary material, wherein the polymer is an addition polymer of ethylenically unsaturated monomers and the dispersion is stabilized solely by a cationic non-quaternary salt of an ammonium compound having surfactant properties and selected from the group consisting of amines, tertiary amine oxides, carboxylic acid esters of hydroxy aliphatic amines, carboxylic acid esters of hydroxy aliphatic tertiary amine oxides, and heterocyclic nitrogenous bases, in which dispersion the cationic ammonium compound stabilizer is from 0.5 to 3 percent by weight of the colloidally dispersed polymer, and contacting the fluid coating layer with an alkali in amount to effect gelling of the dispersion, whereby the gelled wet coating layer is resistant to derangement and offset.

2,973,286

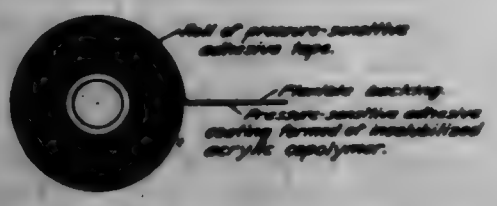
SOLVENT-RESISTANT PRESSURE-SENSITIVE POLYACRYLIC ADHESIVE TAPE AND METHOD OF PREPARING SAME

Erwin W. Ulrich, Rosemount, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

Filed Mar. 30, 1956, Ser. No. 575,199
6 Claims. (Cl. 117—122)

1. A solvent-resistant flexible backing member having a normally tacky and pressure-sensitive adhesive coating comprising the solvent-resistant heat-reaction product of (1) a copolymer of monomers comprising (*a*) monomeric acrylic acid ester of non-tertiary alkyl alcohol, the mole-

cules of which have from 1 to 14 carbon atoms, the average being about 4–12 carbon atoms, at least a major proportion of said molecules having a carbon-to-carbon chain of at least four carbon atoms terminating at the hydroxyl oxygen atom, said chain containing at least about one-half the total number of carbon atoms in the molecule, said acrylic acid ester being further characterized as being per se polymerizable to a sticky stretchable



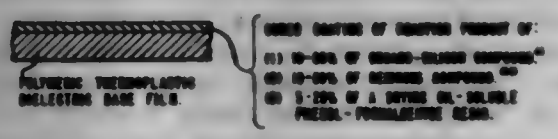
and elastic adhesive polymer mass, and (*b*) at least one copolymerizable monoethylenic monomer containing, bonded to an ethylenic carbon, at least one strongly polar group attached through a carbonyl radical, the total copolymerizable monomer (*b*) comprising about 2–12 percent by weight of the total of said monomers (*a*) and (*b*); and (2) an organic peroxide soluble in the said copolymer and in amount within the range of about 1–6 percent by weight of said copolymer.

2,973,287

PROCESS OF COATING A POLYMERIC THERMOPLASTIC DIELECTRIC FILM AND RESULTING ARTICLE

Richard Thomas McBride, Buffalo, N.Y., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Sept. 12, 1957, Ser. No. 683,474
8 Claims. (Cl. 117—138.8)



1. A polymeric thermoplastic dielectric base film having an adherent, continuous, cured coating consisting essentially of the reaction product of (A) 10–80% by weight, based on the total weight of the coating, of an organo-silicon compound of the formula

$$R_mSiX_nO_{\frac{4-m-n}{2}}$$

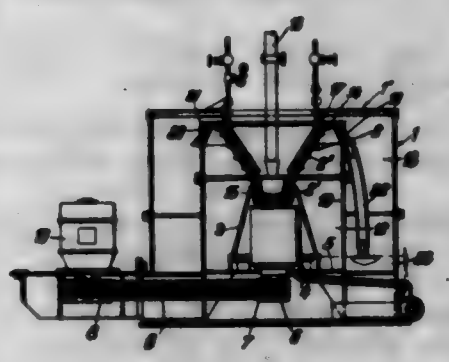
where R is selected from the group consisting of monovalent hydrocarbon radicals; X is selected from the group consisting of alkoxy radicals and hydroxyl radicals, and *n* has an average value of from 1–2, inclusive; *m* has an average value from .05–3, inclusive; *m*+*n* being not greater than 4, (B) 10–80% of at least one resinous compound selected from the group consisting of (1) alkyd resins prepared from inter-reaction of an acidic compound selected from the group consisting of polycarboxylic acids and anhydrides having from 2–3 carboxyl radicals per molecule, and polyhydric alcohols having 3–4 hydroxy radicals per molecule, (2) alkyd resins of the type described in (1) modified with 10–70% of a drying oil acid containing at least 8 carbon atoms, and (3) resins prepared from the inter-reaction of polyhydric alcohols having 3–4 hydroxy radicals per molecule and drying oil acids containing at least 8 carbon atoms, and (C) 5–25% by weight of a drying oil-soluble phenol-formaldehyde resin.

2,973,288

PROCESS AND APPARATUS FOR CONTINUOUS CENTRIFUGING OF VISCOUS SUGAR COMPOUNDS

Erich Oskar Riedel, Grulich, Germany, assignor to Hein, Lehmann & Co. Aktiengesellschaft, Duesseldorf, Germany

Filed July 9, 1958, Ser. No. 747,401
Claims priority, application Germany Jan. 4, 1958
5 Claims. (Cl. 127—19)



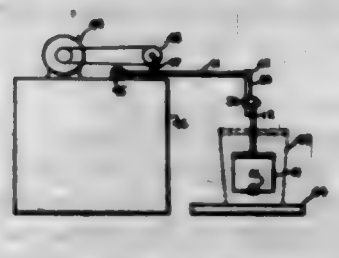
1. Apparatus for continuous centrifuging of viscous sugar, comprising an outer housing, an inner housing spaced from said outer housing and provided with a bottom portion, both said housings forming a first chamber therebetween for centrifuged sugar, said outer housing provided with a top portion having a central circular opening, a base mounted on said inner housing's bottom portion, a substantially frusto-conical centrifuge bucket mounted for vertical axial rotation on said base, said bucket having an upper edge portion aligned with said opening and wider than said bucket's bottom portion and a separating wall portion provided with a plurality of openings, variable speed means for rotating said bucket at high rotational speed, said base and said bucket forming a second chamber with said inner housing for collecting molasses spun through the openings in said bucket, an accelerator pot in the bottom portion of said bucket for receiving and accelerating the material to be centrifuged, a fishing ring secured in the opening in the top of said outer housing and extending downward toward the upper edge portion of said bucket for preventing sugar from rebounding into the bucket, said fishing ring corresponding substantially to the diameter of said bucket's upper edge portion, means for supplying material to said pot, a channel extending about the upper edge portion of said bucket for draining molasses from said second chamber, a molasses drain mounted in said apparatus, and a pipe connecting said channel with said molasses drain.

2,973,289

METHOD FOR CLEANING ARTICLES OF MANUFACTURE

David I. Cropp, R.D. 2, Meadville, Pa.; Chalmer C. Jordan, Box 188, Saegertown, Pa.; and Robert W. Lingo, R.D. 6, Meadville, Pa.

Filed Jan. 26, 1959, Ser. No. 788,842
11 Claims. (Cl. 134—23)



1. A process for cleaning articles of manufacture comprising disposing said articles in a holder containing an aqueous solution of hydrochloric acid and ammonium chloride, sealing said holder, agitating said articles in said solution, emptying said solution from said holder, dis-

posing said holder with said articles therein in clear water with said clear water in engagemnet with said articles, agitating said holder, drying said articles, disposing said holder in de-ionized water, agitating said articles and said holder, and drying said articles.

2,973,290

PRODUCTION OF SEMI-CONDUCTOR BODIES BY IMPURITY DIFFUSION THROUGH STATIONARY INTERFACE

Abraham Isaac Mlavsky, Wakefield, Mass., assignor to The General Electric Company Limited, Kingsway, London, England

Filed July 2, 1957, Ser. No. 669,482
Claims priority, application Great Britain July 5, 1956
5 Claims. (Cl. 148—1.5)

1. A method of producing a semiconductor body including the steps of establishing a system comprising a solid body of a semiconductor in contact with a molten mass of the semiconductor, the molten mass containing a significant impurity at a concentration which is appreciably greater than $1/K$ times the concentration of said impurity in at least part of the region of the solid body which is in contact with the molten mass, where K is the partition coefficient of the impurity between the solid and liquid phases of the semiconductor, maintaining the temperature and pressure conditions in the system at the interface between the solid body and the molten mass constant so as to maintain said interface stationary for a time sufficient for appreciable diffusion of said impurity to occur from the molten mass into the solid body, subsequently solidifying at least part of the molten mass so that the solidified material and the original solid body form an integral resultant solid body, and evaporating said impurity substantially completely from the molten mass after the diffusion and before the completion of the solidification.

2,973,291

MANUFACTURE OF POINT BEARINGS IN INSTRUMENTS

Reinhard Straumann, Waldenburg, Switzerland, assignor to Institut Dr. Ing. Reinhard Straumann A.G., Basel-Campagne, Switzerland

Filed Jan. 22, 1957, Ser. No. 635,430
Claims priority, application Switzerland Jan. 28, 1956
3 Claims. (Cl. 148—12.7)



1. A process for the production of bearings from a wire of a heat hardenable cobalt-chromium-nickel alloy having a composition:

Co	40–50%.
Cr	10–20%.
Mo	About 5%.
W	About 5%.
Be	0.2–0.4%.
Ti	0.8–1.2%.
Mn+Si	About 2%.
Fe	0–10%.
Ni	Remainder.

comprising the steps of homogenizing the wire at a temperature of 1100° C., quenching the wire to atmospheric temperature to the unhardened condition, cold drawing the quenched wire to a strength of at least 200 kg./mm.^{2} and a hardness of 600 Vickers, and heat hardening the drawn wire at a temperature of from 400 to 500° C. and cutting it into short lengths in the form of bearings having pointed ends.

2,973,292

ORGANIC PLASTIC DESTATICIZED WITH STRONTIUM-90, METHOD OF MAKING AND LAMINATE CONTAINING SAME

William H. Yanko, Samuel Steingiser, and Ival O. Salyer, Dayton, Ohio, assignors to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed May 27, 1953, Ser. No. 357,883
12 Claims. (Cl. 154—43)

1. An organic plastic material that would normally be subject to accumulation of static electrical charge on the surface, containing strontium-90 in a destaticizing quantity of more than about 0.01 and not more than about 10 microcuries per gram of plastic material.

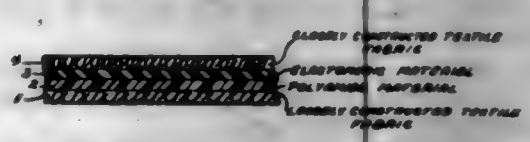
10. A laminate made up of a plurality of thin layers of solid materials bonded together, at least the outer layer of which is composed of an organic plastic material that would normally be subject to accumulation of static electrical charge on the surface and containing strontium-90 in a destaticizing quantity of more than about 0.01 and not more than about 10 microcuries per gram of plastic material.

2,973,293

LIQUID FUEL CONTAINERS

Philip John Schofield, Wolverhampton, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

Filed Nov. 9, 1956, Ser. No. 621,218
Claims priority, application Great Britain Nov. 16, 1955
7 Claims. (Cl. 154—43.5)



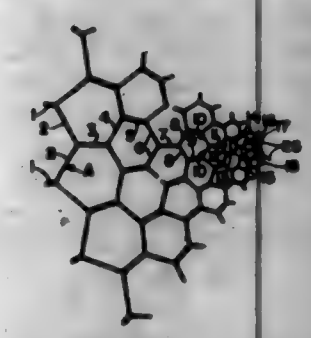
5. A liquid container comprising a closely constructed textile fabric layer, a layer of fuel resistant elastomeric material bonded to the inside of said fabric layer, a layer of fuel resistant polyamide material bonded to the inside of said elastomeric material layer, and a reinforcing layer of loosely constructed textile fabric bonded to the inside of said polyamide material layer, said reinforcing layer constituting the innermost layer of said container.

2,973,294

FAN-SHAPED HONEYCOMB AND METHOD OF MAKING SAME

Joseph S. McClelland, Jr., Hayward, Calif., assignor to Hexcel Products Inc., Berkeley, Calif., a corporation of California

Filed Sept. 9, 1957, Ser. No. 682,770
2 Claims. (Cl. 154—45.9)



1. A honeycomb structure comprising a plurality of rectangular sheets of web material of equal dimensions superposed one to the other in a stack; spaced parallel adhesive lines adhering each pair of adjacent juxtaposed surfaces of said sheets together; all of said adhesive lines extending between and parallel to two opposite side margins of said stack; the spacing between all said adhesive lines progressively increasing from adjacent one

side margin toward the opposite side margin of the stack; the adhesive lines joining each pair of juxtaposed surfaces in said stack disposed in staggered relation to the adhesive lines adhering each adjacent pair of juxtaposed surfaces in said stack; said stack expandable into open approximately hexagonal shaped cell configuration and in a fan-shaped pattern with the relatively closer spaced adhesive lines located adjacent the base of the fan defining progressively smaller cell openings than the cell openings located at the outer extremities of the fan defined by the progressively farther apart spaced adhesive lines adhering said sheets together.

2,973,295

PROCESS OF INCORPORATING FOAMABLE MATERIALS IN CORRUGATED PAPERBOARD AND THE ARTICLE DERIVED THEREFROM

Ellis J. Rodgers, Jr., Oakland, Calif., assignor to Crown Zellerbach Corporation, San Francisco, Calif., a corporation of Nevada

Filed May 8, 1957, Ser. No. 657,788
2 Claims. (Cl. 154—100)



1. The process of making foam filled corrugated paperboard which is comprised of two spaced substantially parallel outer sheets, a corrugated inner sheet between said outer sheets, which comprises forming an adhesive foaming mixture comprising 100 parts by weight of a castor oil based urethane polymer containing by weight 85 parts of castor oil, 15 parts of polyethylene glycol and 100 parts of tolylene-diisocyanate containing 80% 2,4-isomer and 20% 2,6-isomer having a viscosity of approximately 1 M poises, heating the urethane polymer to 70° C. and thereafter cooling the same to 25°–30° C., adding to the said urethane polymer 6.8 parts by weight of a buffered catalyst comprising by weight 24 parts of 35% hydrochloric acid, 42 parts of diethyl ethanolamine and 34 parts of water, thoroughly mixing the components for 30 to 40 seconds until the mixture is about the consistency of whipped cream, coating the mixture on the inner face of at least one liner sheet, applying the coated inner face of the said one liner sheet to the peaks of corrugations on one face of the corrugated sheet with said coating being adhesively secured to the peaks and spacing the same from the inner face of said one sheet, permanently adhering the other liner sheet to the other face of the corrugated sheet, and foaming the said mixture in situ with sufficient pressure on the liners to also fill at least the voids between adjacent flutes on said one face of the corrugated sheet with the foamed mixture.

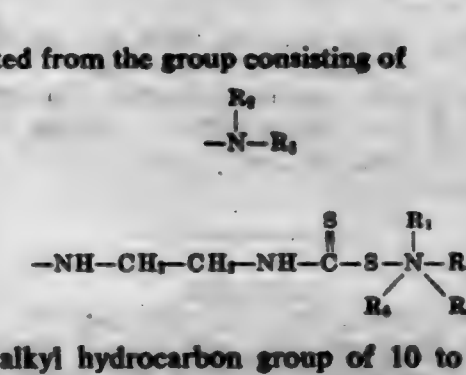
2,973,296

METHOD OF ATTACHING A PLASTIC FITTING TO A PLASTIC MAIN

Claude H. Webber, South Laguna, Calif., and Frank H. Mueller, Decatur, Ill., assignors to Mueller Co., Decatur, Ill., a corporation of Illinois

Continuation of application Ser. No. 538,704, Oct. 5, 1955, now Patent No. 2,933,126, dated Apr. 19, 1960. This application Jan. 8, 1960, Ser. No. 1,287
3 Claims. (Cl. 154—116)

1. A method of securing a plastic fitting having a flanged saddle to a plastic main having a pressurized fluid therein which comprises: applying a solvent to a portion of said main and to the flanged saddle of said fitting; applying an external circumferential pressure to said main around substantially the entire periphery thereof adjacent said portion to shape the same and bring it into perfect roundness; positioning the fitting on the main with their solvent applied surfaces in conformed engagement; maintaining said circumferential pressure



until the solvent has set to weld the fitting and main together; and then removing said circumferential pressure.

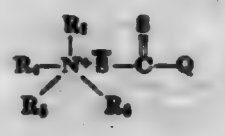
2,973,297

FUNGICIDAL QUATERNARY AMMONIUM SALTS OF DITHIOCARBAMIC ACIDS

Matthens H. C. M. Bakkeren and Jurrien J. Schuur, Groningen, Netherlands, assignors to N.V. Argunol Chemical Works, Groningen, Netherlands, a limited-liability company of the Netherlands

No Drawing. Filed May 20, 1959, Ser. No. 814,407
6 Claims. (Cl. 167—22)

1. A method for controlling plant pathogenic fungi comprising applying to a plant a fungicidally effective amount of:



in which:

Q is selected from the group consisting of

and

R_1 is an alkyl hydrocarbon group of 10 to 18 carbons
R_2 is selected from the group consisting of hydrogen and an alkyl hydrocarbon group of less than 5 carbons,
R_3 is an alkyl hydrocarbon group of less than 5 carbons,
R_4 is selected from the group consisting of an alkyl and aralkyl hydrocarbon group of less than 13 carbons, and, when R_5, N and R_3 taken together comprise a pyridinium group, a merged constituent of such pyridinium group,
R_5 is selected from the group consisting of methyl and ethyl,
R_6 is selected from the group consisting of methyl, ethyl, and, when R_4, N, and R_3 taken together comprise a pyridinium group, a merged constituent of such pyridinium group.

2,973,298

SULFONAMIDE DRUG AND TEREPHTHALIC ACID COMPOSITION

Tevis M. Goldhaft and Charles Kaitz, Vineland, N.J., assignors to Vineland Poultry Laboratories, Vineland, N.J., a partnership

No Drawing. Filed Dec. 29, 1958, Ser. No. 783,140
9 Claims. (Cl. 167—51.5)

1. A composition which comprises a sulfonamide drug and an essential active ingredient selected from the group consisting of terephthalic acid and the salts thereof.

2,973,299

TREATING INFECTIOUS SYNOVITIS WITH BRILLIANT GREEN

John M. Coffin, % State Board of Agriculture, Seaford, Del.

No Drawing. Filed July 22, 1957, Ser. No. 673,120
1 Claim. (Cl. 167—53.1)

A process for treating infectious synovitis in poultry which comprises feeding the same a composition containing from .002% to .02% by weight of brilliant green as the sole active ingredient.

2,973,300

PROCESS FOR MAKING ANTIBIOTIC-ENZYME TOPICAL FILM-FORMING COMPOSITIONS

George E. Farrar, Jr., Gladwyne, and Marvin I. Hersh and John O. Barnett, Philadelphia, Pa., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed May 7, 1956, Ser. No. 582,942
2 Claims. (Cl. 167—65)

1. A process for preparing a substantially dry therapeutic composition containing an antibiotic component, a proteolytic enzyme, hyaluronidase, and a diluent film-forming carrier comprising first drying all the components of the composition to a moisture content under about 2% by weight, and then admixing the antibiotic component, the proteolytic enzyme, the hyaluronidase and the diluent, film-forming carrier, the mixing being carried out in a zone held at less than about 30% relative humidity.

2,973,301

SOFT GELATIN CAPSULE

Lyell J. Klotz, Cincinnati, Ohio, assignor to Lloyd Brothers, Inc., Cincinnati, Ohio, a corporation of Ohio

No Drawing. Filed Mar. 12, 1959, Ser. No. 798,817
4 Claims. (Cl. 167—83)

1. A soft gelatin capsule adaptable for use in the pharmaceutical field characterized by having the gelatin of said capsule plasticized with about 10–30% by weight of 1,2,6-hexanetriol.

2,973,302

PURIFICATION OF COLLAGEN

Alfred Bloch, Highland Park, and Irving B. Oneson, Somerville, N.J., assignors to Ethicon, Inc., a corporation of New Jersey

No Drawing. Filed Feb. 5, 1958, Ser. No. 713,313
10 Claims. (Cl. 195—6)

1. In a process for preparing a dispersion of swollen collagen fibers in a aqueous acid solvent, the improvement comprising: treating finely divided connective tissue which is substantially free from fat and muscle tissue with a solution of an elastase at a temperature within the range of from about 5° C. to about 45° C., the pH of the treating solution being within the range of from about 5 to about 9, whereby all elastin is removed without altering the collagen present in said connective tissue and removing the elastase adsorbed on the residual collagen fibers to avoid destruction of said collagen fibers.

2,973,303

PROCESS FOR THE PRODUCTION OF CITRIC ACID BY THE FERMENTATION PROCESS

Shukuo Kinoshita, Katsunobu Tanaka, and Sadao Akita, Tokyo, Japan, assignors to Kyowa Hakko Kogyo Kabushiki Kaisha, Tokyo, Japan, a corporation of Japan

No Drawing. Filed July 23, 1958, Ser. No. 750,290
6 Claims. (Cl. 195—36)

1. A process for the production of citric acid by fermentation which comprises culturing a microorganism of the class consisting of *Penicillium janthinellum* Biourge var. *kuensanii* Kinoshita, Tanaka and Akita and *Penicillium restrictum* Gilman and Abbott var. *kuensanii* Kinoshita, Tanaka and Akita in an aqueous medium containing untreated sugar material, nitrogen source and inorganic salt under submerged conditions, whereby citric acid is produced in the medium, and recovering the same.

2,973,304

FERMENTATION PROCESS

Hsing T. Huang, Fresh Meadows, N.Y., assignor to Chas. Pfizer & Co., Inc., Brooklyn, N.Y., a corporation of Delaware

No Drawing. Filed Oct. 2, 1958, Ser. No. 764,748
5 Claims. (Cl. 195—47)

1. A process for the production of L-phenylalanine which process comprises cultivating under submerged aerobic conditions at a pH from about 6.0 to about 8.0 *E. coli*, ATCC 13281, in an aqueous nutrient medium comprising a carbon source selected from the group consisting of glycerol, sorbitol, mannitol, sucrose and mixtures thereof, a source of nitrogen, a source of magnesium, potassium, and trace metals in the presence of from about 10 to about 200 milligrams of L-tyrosine per liter of nutrient medium.

2,973,305

PROCESS FOR PREPARING FLAVINADENINE DINUCLEOTIDE AND REDUCED-FORM THEREOF

Toru Maeda, Narao-cho, Nishinomiya, Hyogo, Yoshio Yamamoto, Amagasaki, Hyogo, and Juzo Kaneko, Mishima-gun, Osaka, Japan, assignors to Takeda Pharmaceutical Industries, Ltd., Higashi-ku, Osaka, Japan

No Drawing. Filed June 28, 1955, Ser. No. 518,676
Claims priority, application Japan July 8, 1954
4 Claims. (Cl. 195—77)

1. A process for the production of flavinadenine dinucleotide, which comprises cultivating *Eremothecium ashbyii* in an aqueous medium, separating the resulting mycelia as soon as propagation of the fungus has stopped, extracting said mycelia with an aqueous solvent, reducing the resulting aqueous extract with a chemical reducing agent, separating the resultant precipitated crystalline substance containing reduced-form flavinadenine dinucleotide, and oxidizing the precipitated reduced-form flavinadenine dinucleotide in a solvent therefor to obtain a solution of flavinadenine dinucleotide.

2,973,306

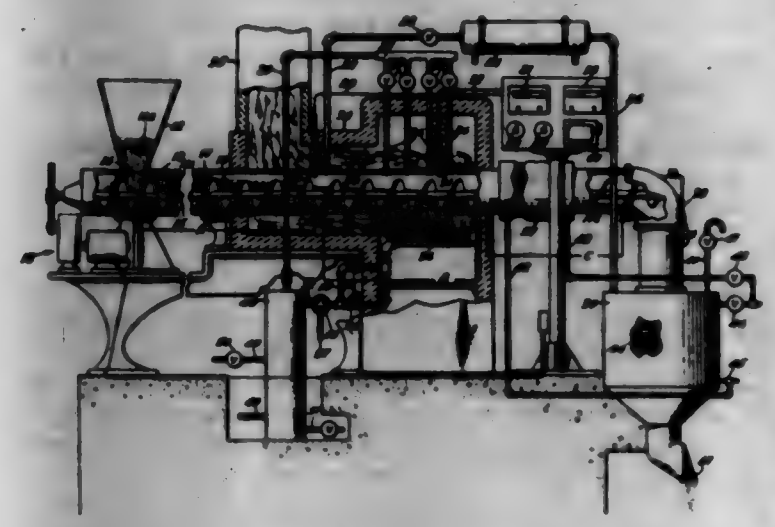
PROCESS FOR PRODUCING CHARCOAL AND APPARATUS THEREFOR

Russell W. Chick, 9 Nelson Ave., Beverly, Mass., and George F. Ropes, 36 Highland St., Hamilton, Mass., assignors of one-third to Charles F. Stromeyer, Marblehead, Mass.

Filed Feb. 18, 1957, Ser. No. 640,851
2 Claims. (Cl. 202—21)

2. In the manufacture of charcoal by the destructive distillation of wood wherein wood particles are first dried and then heated to a temperature sufficient to initiate an exothermic destructive distillation reaction, the continuous method comprising first heating an elongated retort having a drying zone followed by a distilling zone while the wood is stationary in said zones until the wood adjacent to the outlet end of said distilling zone is at a first predetermined temperature above that attained by the exothermic reaction alone, then agitating and advancing the wood particles continuously through both of said zones at a rate controlled to maintain the temperature of the wood particles adjacent to the juncture of said zones at a second predetermined temperature which is above that at which exothermic destructive distillation is initiated and continuing the heating of said retort at an

amount less than the first heating step to a temperaure sufficient to maintain the wood particles adjacent to the



outlet of said distilling zone at at least said first predetermined temperature.

2,973,307

METHOD OF TREATING STAINLESS STEEL

Edgar A. Hahn, Grosse Pointe Park, Mich., assignor to Lyon Incorporated, Detroit, Mich., a corporation of Delaware

Filed Nov. 16, 1956, Ser. No. 622,522
9 Claims. (Cl. 204—34)

1. The method of preparing austenitic stainless steel for receiving a chromium plate, which consists essentially in subjecting said stainless steel to anodic cleaning in an alkaline bath containing an alkali metal salt selected from the group consisting of silicates and phosphates and having an alkalinity equivalent to from 10 to 16 oz./gal. of NaOH to remove grease and surface oxides, with drawing said steel after a short period of time in the neighborhood of ½ to 2½ minutes, rinsing, dipping the steel in a dilute sulphuric acid bath and again rinsing before chromium plating said steel and without further processing said steel bright chromium plating the same.

2,973,308

COMPLEXED PLATING ELECTROLYTE AND METHOD OF PLATING THEREWITH

Kurt E. Schinske, Chicago, Ill., assignor to Acme Steel Company, Chicago, Ill., a corporation of Illinois

No Drawing. Filed Aug. 25, 1958, Ser. No. 757,106
54 Claims. (Cl. 204—43)

1. An electrolytic bath for forming coatings of metals on a base metal comprising a solution containing cations of a coating metal selected from the group consisting of copper, zinc, tin, nickel, cobalt, cadmium, tungsten, manganese and lead and alloys predominately of said metals, and complexing anions of a phosphoric acid ester of a cyclohexanol, said complexing anions being present in an amount sufficient to form a complex with a substantial amount of the coating metal cations present in the solution.

2,973,309

STABLE BUTYL LATICES

Robert S. Brodkey, Roselle, and John Rehmer, Jr., Westfield, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Aug. 14, 1956, Ser. No. 603,858
6 Claims. (Cl. 204—154)

1. A process for stabilizing an aqueous butyl latex which comprises admixing a butyl latex containing in the range of 20 to 60 wt. percent solids and consisting essentially of a butyl rubber and water, within the range of 3 to 10 wt. percent of a polymerizable monomer selected from the group consisting of vinyl acetate and acylonitrile, irradiating the admixture so formed within the range of 0.75 to 50 megaroentgens of high intensity ionizing radiation at a dose rate of at least 50,000 roentgens per hour and recovering a stable butyl latex.

2,973,310

PROCESS FOR THE OXIDATION OF ORGANIC COMPOUNDS

Gordon Howard Whitfield, Norton-on-Tees, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed Oct. 25, 1957, Ser. No. 692,283
Claims priority, application Great Britain Nov. 16, 1956
11 Claims. (Cl. 204—158)

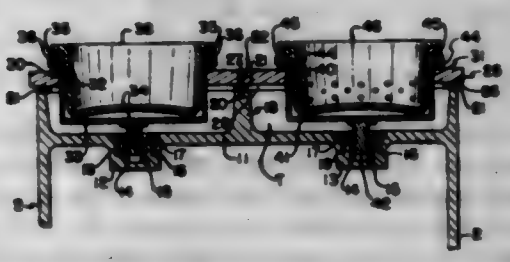
1. A process for the production of aromatic hyroperoxides from an aromatic hydrocarbon selected from the group consisting of cumene, diisopropyl benzene, tetralin, sec.-butyl-benzene, ethylbenzene, cyclohexylbenzene, dicyclohexylbenzene, and triphenylmethane, which comprises contacting said aromatic hydrocarbon in the liquid phase at a temperature of 50° to 150° C. and a pressure from atmospheric up to 50 atmospheres with an oxygen-containing gas in the presence of at most about 5% by weight of free hydrobromic acid and a weakly alkaline stabilizer to maintain the pH at at least 4, said alkaline stabilizer comprising the salt of a strong base and a weak acid.

2,973,311

ELECTROLYTIC POLISHING APPARATUS

Thayer R. Brunson and Harold G. Davis, Denver, Colo., assignors to Rocky Mountain Metal Products Co., Denver, Colo., a corporation of Colorado

Filed Mar. 6, 1958, Ser. No. 719,609
4 Claims. (Cl. 204—194)



1. An electrolytic polishing instrument of the type described comprising a substantially closed hollow housing having spaced top and lower walls with side wall means extending therebetween, a liquid impervious shallow trough extending between the side wall means adjacent but spaced from the upper end thereof, said trough being substantially coextensive with the top wall and comprising a solid base substantially parallel with the top wall but spaced therebeneath the substantial depth of the trough, at least one opening in said top wall, and a removably positioned cup for liquid supported by said base at said opening to extend from said trough through the opening, the cup being provided with a portion depending from the cup base, said trough base having a projection provided with a sleeve within which said portion is detachably secured.

2,973,312

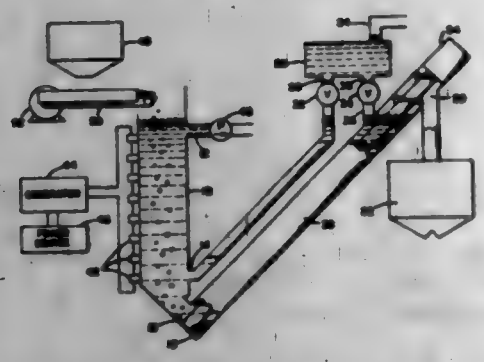
METHOD AND MEANS FOR ULTRASONIC ACTIVATING OF SOLVENT AND SAND SOLUTION

James R. Logan, Rock Island, Ill., assignor to The Bendix Corporation, a corporation of Delaware

Filed Feb. 4, 1958, Ser. No. 713,251
4 Claims. (Cl. 208—11)

1. The method of removing oil from oil bearing elements which comprises dropping said elements into a

solvent for oil, permitting said elements to fall free through said solvent, and ultrasonically activating said solvent to the degree necessary to cause cavitation in the solvent as the elements so fall through it.

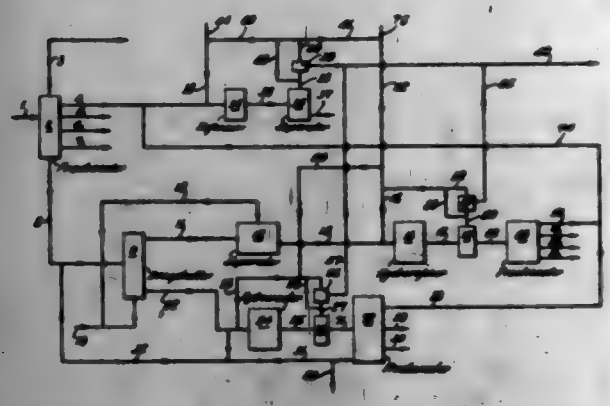


2,973,313

TREATMENT OF DEASPHALTED OIL AND ASPHALT TO MAKE REFORMED GASOLINE

Ernest F. Pevere, Beacon, and Michael D. Riordan, Fishkill, N.Y., and Norman D. Carter, Whittier, Calif., assignors to Texaco Inc., a corporation of Delaware

Filed May 13, 1957, Ser. No. 658,741
5 Claims. (Cl. 208—86)



1. A process for upgrading a residuum obtained from the fractional distillation of a crude petroleum oil which comprises separating said residuum into an oil portion and an asphaltic portion, contacting the asphaltic portion with a nickel tungsten sulfide catalyst at a temperature between about 800 and 1000° F., a pressure between about 5000 and 10,000 p.s.i.g. and a hydrogen feed rate within the range of from about 8000 to 50,000 cubic feet per barrel of said asphaltic portion, recovering at least a naphtha fraction from the hydrogenated asphaltic fraction, and contacting the oil portion with a nickel tungsten sulfide catalyst at a temperature between 600° and 800° F., a pressure between 750 and 4000 p.s.i.g. and a hydrogen feed rate between about 5000 and 10,000 cubic feet per barrel of oil, recovering at least a naphtha fraction from the hydrogenated oil portion, combining said recovered naphtha fractions and reforming the combined fractions to produce a reformed gasoline.

2,973,314

PROCESS FOR DEHAZING PETROLEUM HYDROCARBONS WITH SOLID SODIUM SILICATE

Olen D. Hunn, Pasadena, Tex., assignor to Sinclair Refining Company, New York, N.Y., a corporation of Maine

No Drawing. Filed May 21, 1958, Ser. No. 736,676
4 Claims. (Cl. 208—188)

1. In a method for removing undissolved water from light liquid petroleum hydrocarbon, the step comprising contacting at a temperature from about 80 to 105° F. said hydrocarbon with sodium silicate disposed on a solid, water- and hydrocarbon oil-insoluble adsorptive carrier to remove undissolved water from the hydrocarbon feedstock.

2,973,315

TWO STEP PROCESS FOR REFINING RAW PETROLEUM LUBRICATING OILS WITH SULFURIC ACID AND HYDROGEN

William B. Watson, Park Forest, Ill., assignor to Sinclair Refining Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Jan. 15, 1958, Ser. No. 708,977
2 Claims. (Cl. 208—211)

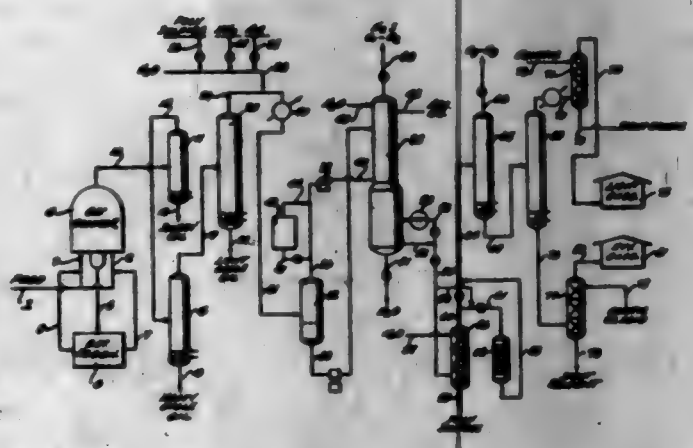
1. In the refining of a raw petroleum lubricating oil, the steps consisting essentially of treating the lubricating oil with sulfuric acid to furnish an oil containing acidic components and sludge, separating the sludge from the oil and then passing hydrogen and the separated oil containing acidic components into contact with a hydrogenation catalyst at a temperature within the range from 400° F. to 800° F. and at a pressure within the range from 400 p.s.i.g. to 1000 p.s.i.g., whereby a lubricating oil of reduced acidity is obtained, said raw petroleum lubricating oil being derived from a crude selected from the group consisting of naphthenic crudes and Mid-Continent crudes.

2,973,316

PROCESS FOR PREVENTING CORROSION IN FERROUS SYSTEMS

Ward W. Howland, Anaheim, Calif., assignor to Union Oil Company of California, Los Angeles, Calif., a corporation of California

Filed July 12, 1957, Ser. No. 671,487
10 Claims. (Cl. 208—228)



1. In a fractionation system for recovering cracked gasoline from the total products of cracking, said fractionation system including a ferrous treating vessel normally subject to corrosion by hydrogen attack wherein said gasoline is treated in the presence of hydrogen sulfide and liquid water, and wherein subsequent fractionation steps are performed at a temperature above about 325° F., the improved method for preventing hydrogen attack on said ferrous vessel while at the same time avoiding the formation of mercaptans during said subsequent fractionation, which comprises adding sufficient of an inorganic polysulfide to said gasoline prior to treatment in said ferrous vessel to provide a free excess thereof of between about 0.00001% and 0.01% by weight, and after treatment in said ferrous vessel but prior to any subsequent treatment at a temperature above about 325° F., substantially completely removing elemental sulfur and inorganic polysulfide from said gasoline, said removal of elemental sulfur being effected by contacting said gasoline with a reagent selected from the group consisting of lead mercaptide, lead oxide, and sodium polysulfide.

2,973,317

REFINING RAW LUBE OIL STOCK WITH A MILD HYDROGEN TREATMENT FOLLOWED BY SULFURIC ACID

William B. Watson, Park Forest, Ill., assignor to Sinclair Refining Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Feb. 6, 1958, Ser. No. 713,539
2 Claims. (Cl. 208—264)

1. In the refining of a raw petroleum lubricating oil, the steps consisting essentially of passing the lubricating oil and hydrogen into contact with a hydrogenation catalyst at a temperature within the range from 550° F. to 750° F. and at a pressure within the range 400 to 1500 p.s.i.g. to provide a hydrogenated oil and then treating the hydrogenated oil with sulfuric acid to provide an acid oil, said raw lubricating oil being derived from a naphthenic base crude selected from the group consisting of Gulf Coast and California crudes.

2,973,318

STABILIZATION OF LUBRICATING OILS WITH A KETENE

James L. Jezl, Swarthmore, Habet M. Khelghatian, Springfield, and Archibald P. Stuart, Media, Pa., assignors to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

No Drawing. Filed Nov. 25, 1959, Ser. No. 855,252
4 Claims. (Cl. 208—291)

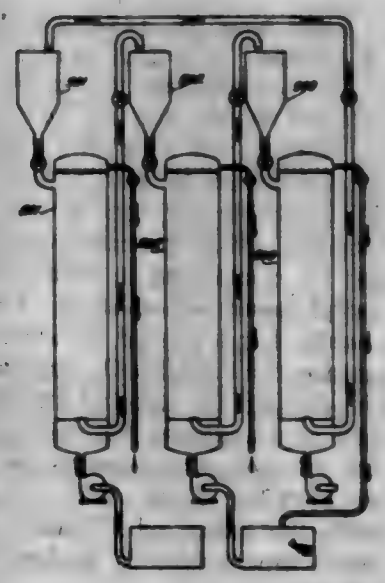
1. Process for improving stability of hydrocarbon lubricating oil which comprises: contacting hydrocarbon lubricating oil having 20% point at atmospheric pressure of at least 700° F., with a ketene, thereby to react said ketene with unstable constituents of said oil.

2,973,319

PROCESS OF CONTACTING LIQUIDS WITH SOLIDS

Robert R. Porter, Salt Lake City, Utah, assignor of one-half to Transvaal & Orange Free State Chamber of Mines, Johannesburg, Union of South Africa

Continuation of application Ser. No. 480,620, Jan. 5, 1955. This application Apr. 21, 1959, Ser. No. 807,951
12 Claims. (Cl. 210—33)



1. A method of operating a liquids-solids contact column in which a mass of discrete solid particles is maintained as a fixed standing column for permeation by a liquid, comprising flowing the liquid under pressure upwardly through the standing column of solid particles, from a low level thereof, for contact purposes until the lowermost portion of said mass has gone through sufficient liquid contact; maintaining the hydrostatic pressure of the liquid on said standing column to prevent descent thereof, while diverting flow of liquid from said standing column in the vicinity of said low level so as to undercut and remove said lowermost portion of the mass of discrete solid particles; stopping the said flowing of the liquid; adding fresh discrete solid particles to the standing column at an upper level thereof, while permitting liquid to drain therefrom at said lowermost portion so as to effect descent of said mass; again flowing the liquid under pressure upwardly through the standing column; and continually repeating the above procedure.

2,973,320

DRILLING FLUID

John S. Brukner, Houston, Tex., assignor to Texaco Inc., a corporation of Delaware

No Drawing. Filed Dec. 6, 1957, Ser. No. 700,941
11 Claims. (Cl. 252—8.5)

1. An aqueous drilling fluid comprising clayey material dispersed in an alkaline aqueous phase, said aqueous phase containing dissolved therein calcium hydroxide in an amount sufficient to saturate said aqueous phase and an effective minor amount in the range 0.1–10 lbs. per bbl. of drilling fluid of lithium citrate.

2,973,321

PROCESS OF MAKING AN IMPROVED CARBOXYLIC ACID SALT COMPLEX THICKENED LUBRICANT

Arnold J. Morway, Clark, N.J., and Cloyce R. Daniels, Bridgeville, and Robert P. Spray, Pittsburgh, Pa., assignors to Esso Research and Engineering Company, a corporation of Delaware

Filed Jan. 16, 1957, Ser. No. 634,450
3 Claims. (Cl. 252—39)

1. In a process wherein a substantially anhydrous fluid lubricating composition is formed at a temperature in the range of 250 to 340° F. by dispersing in a mineral lubricating oil having an initial viscosity in the range of 55 to 100 SSU at 210° F. and a viscosity index in the range of 40 to 100, the metal salts of acetic acid and of an intermediate molecular weight monocarboxylic acid having from 7 to 12 carbon atoms, the molecular ratio of low molecular weight acid to intermediate molecular weight acid being in the range of 10:1 to 25:1, the improvement which comprises maintaining the wt. percent of said metal salts in said composition in the range of 20 to 50, homogenizing the composition at least twice at a temperature in the range of 80 to 150° F. and at a shearing force in the range of 100,000 to 500,000 reciprocal seconds, diluting the composition so homogenized with further amounts of said lubricating oil until the weight percentage of said metal salts is in the range of 4 to 10 and then further homogenizing the diluted composition at a shearing force in the range of 100,000 to 750,000 reciprocal seconds and a temperature in the range of 80 to 150° F. to obtain a fluid product of improved stability having a viscosity in the range of 80 to 200 SSU at 210° F.

2,973,322

LUMINESCENT MATERIALS

Robert Stirling Wells and James Thomson Anderson, Rugby, England, assignors to The British Thomson-Houston Company Limited, London, England, a British company

No Drawing. Filed Oct. 11, 1956, Ser. No. 615,247
Claims priority, application Great Britain Nov. 17, 1955
4 Claims. (Cl. 252—301.6)

2. A luminescent material consisting of zinc silicate having between 5% and 50%, inclusive, in molecular proportion of the zinc oxide replaced by strontium oxide, said material containing 0.6 mol silica for every mol zinc oxide, and 1.1 mols silica for each mol of strontium

oxide, said manganese being in an amount which lies between 0.0125 and 0.05 atom manganese for each molecule of oxide of zinc and strontium.

2,973,323

LUBRICATING OIL COMPOSITION CONTAINING HETEROCYCLIC POLYAMINE SALTS OF PARTIAL ESTER OF PHOSPHORODITHIOIC ACID AS ANTIWEAR AGENT

Allen F. Millikan, Crystal Lake, and Gifford W. Crosby, River Forest, Ill., assignors to The Pure Oil Company, Chicago, Ill., a corporation of Ohio

No Drawing. Filed Dec. 31, 1956, Ser. No. 631,516
10 Claims. (Cl. 252—32.7)

1. A lubricant composition comprising a major portion of a mineral lubricating oil and a minor portion, sufficient to enhance substantially the load-carrying properties of the oil, of at least one heterocyclic polyamine salt of a phosphorodithiotic acid ester of the formula

$$(RO)_2P(S)SH$$

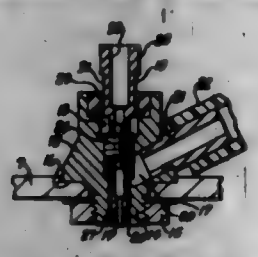
where R is a C_4–C_{20} radical selected from the group consisting of alkyl, phenyl, alkylphenyl, and phenylakyl radicals, and where the heterocyclic polyamine is selected from the group consisting of hexamethylenetetramine, trilower alkyl cyclotrimethylene triamines, piperazine, lower alkyl-substituted piperazines, and lower alkyl isomelamines.

2,973,324

AIR AND WATER INLET FOR LATHER MAKING MACHINE

Howard E. Barrows, Racine, Wis., assignor to John Oster Manufacturing Co., Milwaukee, Wis., a corporation of Wisconsin

Filed June 6, 1957, Ser. No. 663,973
6 Claims. (Cl. 252—359)



1. In a lather making machine of the type which uses cake soap: means defining a compartment having a top wall; a cup shaped soap holder rotatably mounted in said compartment, under the top wall thereof; and means in the top wall of the compartment, over the soap holder, defining an outer annular water inlet passage through which water may be introduced onto soap in the soap holder to generate soap solution therefrom, and a concentric inner air inlet passage through which air may enter the compartment to be whipped into a lather with soap solution, said water and air inlet passages having their concentric mouths adjacent to one another so that water issuing from the mouth of the annular water inlet passage when the machine is started will wash away any accumulation of lather which may be blocking the mouth of the air inlet passage.

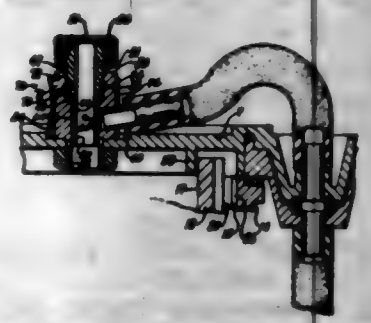
2,973,325

AIR AND WATER INLET FOR LATHER MAKING MACHINE

Howard E. Barrows, Racine, Wis., assignor to John Oster Manufacturing Co., Milwaukee, Wis., a corporation of Wisconsin

Filed Sept. 4, 1959, Ser. No. 838,349
3 Claims. (Cl. 252—359)

1. In a lather making machine having a closed compartment adapted to hold a quantity of soap and into which water is introduced to combine with the soap and form a soap solution, and having means for agitating the soap solution in the presence of air to form lather, means for introducing a metered flow of water and air into said compartment comprising: a valve body having a bore extending longitudinally therethrough with one end thereof opening into said compartment and a lateral bore through the side of the body providing a water inlet into its longitudinal bore; means for connecting the lateral bore with a source of water under pressure; a tubular valve plug axially removably and rotationally adjustably mounted in the longitudinal bore of the valve body with its inner end opening unrestrictedly into said compartment, the outer end of the tubular plug being closed except for a small air inlet orifice through which a metered flow of air is admitted for entry into said compartment,



the tubular valve plug having a plurality of different sized angularly spaced water flow metering orifices through its side wall and opening into its interior at points spaced axially of its air inlet orifice; said water flow metering orifices being selectively brought into registry with the water inlet by rotation of the plug; means on the plug exteriorly of the valve body by which the plug may be turned to bring a selected one of its metering orifices into registry with the water inlet, and by which the plug may be withdrawn from the valve body; and common detent means acting between the valve body and the plug to removably hold the plug in the valve body and to identify the positions of rotation of the plug at which its metering orifices are in registry with the water inlet.

2,973,326

PROCESS FOR REGENERATING AN IRON-MOLYBDENUM CONTAINING OXIDATION CATALYST

Theodore S. Hodgins and Frederic J. Shelton, Seattle, Wash., assignors to Reichhold Chemicals, Inc., Detroit, Mich.

No Drawing. Filed Nov. 26, 1954, Ser. No. 471,504
4 Claims. (Cl. 252—412)

1. A process for regenerating an iron oxide-molybdenum oxide catalyst whose activity has been reduced by loss of MoO_3, wherein the catalyst comprises a major portion of molybdenum oxide and a minor portion of iron oxide, and is suitable for use in the oxidation of alcohols to aldehydes; which process comprises treating the spent catalyst by contacting it with a non-oxidizing compound of molybdenum in solution, which does not affect the iron oxide, for a period of about 20 minutes to 1 hour to restore the lost MoO_3 substantially to its original strength, drying the treated spent catalyst by contact with warm air to remove the solvent, and further heating said spent catalyst at a temperature substantially within the range of 220° F. to 495° F. for a period substantially within the range of 10 hours to 16 hours, depending on the temperature, to restore the catalytic activity at least in part.

2,973,327

BONDED MOLECULAR SIEVES

William J. Mitchell, Kenmore, and Ward F. Moore, Tonawanda, N.Y., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Nov. 5, 1956, Ser. No. 620,177
29 Claims. (Cl. 252—449)

1. An agglomerate comprising a crystalline zeolitic molecular sieve and a clay mineral binder, said agglom-

erate having been formed from a mixture into a mass and fired at a temperature sufficiently high to dry said clay mineral binder, provide a bound product, and activate said crystalline zeolitic molecular sieve, the firing temperature being below that temperature at which said crystalline zeolitic molecular sieve is structurally unstable.

2,973,328

DENNING SULFATED KAOLIN IN STREAM OF GAS COMPRISING STEAM

Gerhardt Talvenheimo, Chester, Pa., assignor to Houdry Process Corporation, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Jan. 30, 1956, Ser. No. 561,996
2 Claims. (Cl. 252—450)

1. The method of preparing pellets of active cracking catalyst from kaolin clay which method consists essentially of: impregnating kaolin clay with sulfuric acid amounting to from about 20% to about 80% by weight of the dry clay to prepare a plastic mixture; forming the plastic mixture of kaolin clay and sulfuric acid into pellets; denning the pellets of kaolin clay and sulfuric acid in a gas containing an amount of steam corresponding to saturation with steam at a temperature not lower than 190° F., said denning being conducted at a temperature between about 250° F. and 350° F. for a period of from about 2 to about 12 hours to bring about the reaction between the sulfuric acid and the kaolin clay to modify the pellets; and desulfating the denned pellets by treatment with a mixture of reducing gas and steam at a temperature in the range from about 750° F. to 1600° F. to volatilize the oxides of sulfur therein.

2,973,329

ALUMINA TRIHYDRATE PREPARATION

John H. Koch, Jr., Nutley, N.J., assignor, by mesne assignments, to Engelhard Industries, Inc., Newark, N.J., a corporation of Delaware

No Drawing. Filed Mar. 12, 1959, Ser. No. 798,816
9 Claims. (Cl. 252—463)

1. In the production of alumina trihydrate compositions by a process comprising the formation of an alumina hydrogel, predominating in material selected from the group consisting of amorphous hydrous alumina, alumina monohydrate and their mixtures, washing the hydrogel with water until substantially free of contaminating ions, and converting the hydrogel to an alumina hydrate composition predominating in alumina trihydrate of which the major proportion is randomite, the method of hydrate conversion which comprises contacting the hydrogel with hydrazine in an amount and for a period of time sufficient to accelerate the formation of said alumina trihydrate composition.

2,973,330

HYDROFORMING CATALYST

John A. Hinlicky, Irvington, and Fred H. Kant, Elizabeth, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

Filed Dec. 23, 1957, Ser. No. 704,652
20 Claims. (Cl. 252—466)

1. The method of preparing an improved extruded platinum group metal on alumina hydroforming catalyst which comprises the steps of: impregnating particles of hydrated alumina which is more than 50% in the beta alumina trihydrate form with 3.5–25%, based on alumina, of an aqueous solution of a compound selected from the group consisting of nitric acid, hydrochloric acid, mixtures of hydrochloric and nitric acids, mixtures of acetic acid and nitric acid, aluminum nitrate, and aluminum chloride; mixing the aqueous solution with the hydrated alumina for from 2 to 10 minutes ;immediately thereafter subjecting the impregnated hydrated alumina to mechanical pressure to extrude 1/16–1/8" diameter rods; slicing these rods into separate extrudates in pellet form; drying at a temperature below 212° F. for a sufficient time to remove about 90% of the free water present within the extrudates; continuing drying at 250–600° F. for 1–24 hours; calcining at 1000–1450° F. for 1–24 hours to produce more than 5% eta alumina having preserved macropores; impregnating the high eta alumina extrudates with 0.01–4.0% of a compound of a platinum group metal; drying and calcining to produce a highly active and selective catalyst of side crushing strength resistance to 10 to 25 pounds on a single pellet.

2,973,331

FORMING ALKYD RESINS BY THE INCREMENTAL ADDITION OF THE MONOBASIC ACID

William M. Kraft, Verona, N.J., assignor to Heyden Newport Chemical Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Feb. 1, 1957, Ser. No. 637,625
20 Claims. (Cl. 260—22)

1. The process of producing alkyd resins comprising the steps of heating a polyhydric alcohol, a polybasic acid, and from 20% to 90% of the monobasic acid component of the resin at a temperature between 150° C. and 290° C. until the reaction product has an acid number below 20, adding to the reaction product the remainder of the monobasic acid component of the resin as monobasic acid containing from 4 to 22 carbon atoms, and heating the resulting mixture at a temperature between 190° C. and 300° C. until the resulting alkyd resin has an acid number below 15.

2,973,332

PRODUCTION OF UNSATURATED POLYESTER RESINS AND OF COPOLYMERS THEREFROM

Hans Fikentscher, Hans Wilhelm, and Herbert Willersinn, Ludwigshafen (Rhine), Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

No Drawing. Filed Dec. 18, 1956, Ser. No. 628,993
Claims priority, application Germany Dec. 21, 1955
15 Claims. (Cl. 260—26)

1. In the production of unsaturated polyesters by polycondensation of alpha.beta-ethylenically unsaturated polycarboxylic acids with polyhydric alcohols, the improvement which comprises polycondensing together with said polycarboxylic acids and said polyhydric alcohols between 30% and 85% by weight, with respect to the total weight of initial reactants, of a reaction product consisting of a diene adduct of a compound selected from the group consisting of colophony and abietic acid with an alpha.beta-ethylenically unsaturated monocarboxylic acid at an elevated temperature of about 75° C. to 300° C.

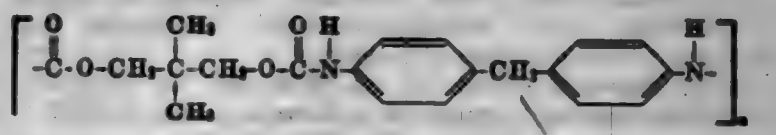
2,973,333

POLYURETHANE POLYMER

Manfred Katz, Stillwater, Okla., and Emerson L. Wittbecker, West Chester, Pa., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Sept. 1, 1954, Ser. No. 453,672
5 Claims. (Cl. 260—32.6)

1. A polyurethane with a polymer melt temperature of at least about 200° F. containing recurring units of the formula



wherein *n* is a large number of such magnitude that the resulting polymer has an inherent viscosity of at least about 0.2.

2,973,334

COMPOSITION COMPRISING AN ORGANOPOLYSILOXANE RESIN AND A CARBODIIMIDE

James Jack, Elderslie, Scotland, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed Oct. 11, 1957, Ser. No. 689,485
Claims priority, application Great Britain Oct. 17, 1956
10 Claims. (Cl. 260—33.6)

1. A composition comprising resinous organopolysiloxanes capable of being cured by heat to an infusible, insoluble mass and as a curing agent therefor up to about 10% by weight of a monocarbodiimide selected from the group consisting of alkyl, aryl, alkaryl, cycloaliphatic and saturated heterocyclic monocarbodiimides wherein the ratio of organo groups to silicon atoms in the organopolysiloxane is from 1:1 to 1.8:1.

9. A composition as claimed in claim 1 wherein an organic solvent is included in amount from about 30 to about 65% by weight thereof.

2,973,335

VULCANIZING SILICONE RUBBER IN PRESENCE OF ANTIOXIDANTS

Keistutis J. Stasiunas, New Haven, Conn., assignor to The Connecticut Hard Rubber Company, New Haven, Conn., a corporation of Connecticut

No Drawing. Filed Sept. 26, 1956, Ser. No. 612,098
9 Claims. (Cl. 260—37)

1. A composition comprising 100 parts by weight of a rubbery, polymeric dimethylsiloxane having dispersed therein an antioxidant and an organic pulverulent solid consisting essentially of substrate particles of inorganic siliceous material in a supercolloidal state of subdivision having chemically bound thereto per 100 square millimicrons of substrate surface at least 100 —OR groups, wherein R is a hydrocarbon radical containing 2 to 18 carbon atoms and the carbon atom attached to oxygen is also attached to at least one hydrogen, the substrate particles having an average specific area of from 25 to 900 square meters/gram.

2,973,336

FRICTION ELEMENT CONTAINING CUPRIC OXIDE AND RESIN BINDER

René Paul Delaplace, 29 Rue Ouled Ziane, and Marcel Antoine Gustave Kochler, 38 Rue Galliéni, both of Casablanca, Morocco

No Drawing. Filed Jan. 21, 1958, Ser. No. 710,172
Claims priority, application Morocco Dec. 2, 1953
7 Claims. (Cl. 260—38)

1. An article of manufacture consisting of a brake lining having a coefficient of friction stabilized at a high value even at high temperatures and formed of from about 6% to about 80% by weight of anhydrous cupric oxide based on the weight of the brake lining, the balance of said brake lining being substantially thermosetting resin binder, asbestos fiber and inorganic filler material.

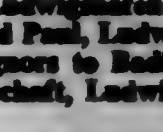
2,973,337

PROCESS FOR THE POLYMERIZATION OF UNSATURATED COMPOUNDS, USING A BORAZANE CATALYST

Rudolf Stroh, Leverkusen-Bayerwerk, Wilhelm Sutter and Anton Robert Heinz, Leverkusen, and Hans Haberland, Leverkusen-Bayerwerk, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed July 29, 1958, Ser. No. 751,626
Claims priority, application Germany Aug. 2, 1957
7 Claims. (Cl. 260—45.4)

1. A process for the polymerization of an ethylenically unsaturated compound which is polymerisable in the presence of a free radical forming catalyst which comprises polymerising the compound in the presence of an initiator comprising a borazane of the formula



wherein R, R′ and R″ each represent a radical selected from the group consisting of alkyl, cycloalkyl, and aralkyl radicals.

2,973,338

LOW VAPOR PERMEABLE COMPOSITION OF A POLYSTYRENE AND NAPHTHALENE-FORMALDEHYDE RESIN AND METHOD OF PREPARATION

Herbert A. Gottschall, 30 S. Spring Garden Ave., Nutley, N.J.

No Drawing. Filed Dec. 2, 1958, Ser. No. 777,597
4 Claims. (Cl. 260—45.5)

1. A molding composition from which articles characterized by a low vapor permeability may be produced by molding, comprising material selected from the group consisting of polystyrene, copolymers of acrylonitrile and styrene, and mechanical blends of polybutadiene and polystyrene; and containing between 2% and 20% by weight of the composition of a resinous condensation product resulting from the condensation of formaldehyde and an aromatic petroleum stock composed primarily of a naphthalene selected from the group consisting of monomethylnaphthalene and dimethylnaphthalene.

2,973,339

LINEAR TEREPHTHALATE POLYESTERS OF ALIPHATIC AND AROMATIC GLYCOLS

Wilhelm Muenster, Ludwigshafen (Rhine), and Erich Dreher and Manfried Paul, Ludwigshafen (Rhine), Oppau, Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

No Drawing. Filed July 3, 1956, Ser. No. 595,606
5 Claims. (Cl. 260—47)

1. A resinous, fusible, fiber-forming linear terephthalate polyester consisting essentially of a terephthalate polyester of 5–30 mol percent, based on the terephthalic acid component of said polyester, of a dihydroxy compound selected from the group consisting of para-di-(β-hydroxy ethoxy) benzene, para,para′-di-(β-hydroxy ethoxy) diphenyl dimethyl methane, and para,para′-di-(β-hydroxy ethoxy) diphenyl sulfone plus 95–70 mol percent, based on the terephthalic acid component of said polyester, of ethylene glycol, said mol percents of said dihydroxy compound and ethylene glycol totaling 100%.

2,973,340

OXYALKYLATED PHENOL-ALDEHYDE RESIN

Everett N. Case, Homewood, Ill., assignor to Sinclair Refining Company, New York, N.Y., a corporation of Maine

No Drawing. Original application Dec. 30, 1954, Ser. No. 478,921. Divided and this application Oct. 16, 1956, Ser. No. 616,148
3 Claims. (Cl. 260—53)

1. A composition consisting essentially of an oxyalkylated phenol-aldehyde resin, said resin being the condensation product of (1) a phenol of the formula:



wherein R is an alkyl radical of about 3 to 5 carbon atoms, (2) about 0.70 to 1.5 moles of formaldehyde

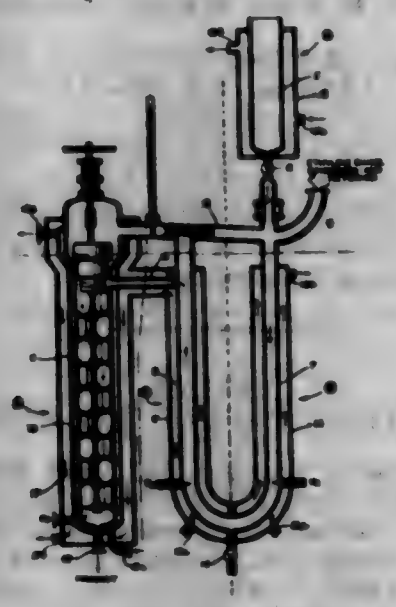
per mole of said phenol, (3) about 0.75 to 1.75 moles per mole of said phenol of an alpha-beta alkylene oxide of 2 to 4 carbon atoms, the phenol-aldehyde resin which is oxyalkylated being oxyalkylation susceptible, fusible and soluble in acetone but substantially insoluble in hydrocarbons and water, said oxyalkylated phenol-aldehyde resin containing about 40 to 100 phenolic nuclei per molecule and 1 part of said oxyalkylated phenol-aldehyde resin being incapable of dispersing or producing an oil-in-water emulsion when shaken vigorously with 50 parts of water and 50 parts of xylene.

2,973,341

CONTINUOUS PROCESS FOR PRODUCTION OF A POLYETHYLENE TEREPHTHALATE CONDENSATE

Werner Hippe, Erlenbach (Main), Anton Watzl, Kleinwallstadt (Main), and Walter Hagen, Aschaffenburg, Germany, assignors to Vereinigte Glanzstoff-Fabriken A.G., Wuppertal-Elberfeld, Germany

Filed Jan. 28, 1957, Ser. No. 636,762
6 Claims. (Cl. 260—75)



1. A continuous four-stage process for production of a polyethylene terephthalate condensate from dimethyl terephthalate and ethylene glycol by transesterification and polycondensation which comprises: liquefying dimethyl terephalate and mixing excess ethylene glycol therewith in a molar ratio of said ethylene glycol to said dimethyl terephthalate of less than about 1.5:1 to form a liquid reaction mixture in a first stage at a temperature below that at which transesterification occurs; conducting said liquid reaction mixture in continuous liquid flow from said first stage through three succeeding stages which are spatially separated for separate temperature control and which are in liquid communication to form a continuous liquid phase reaction system, such that the liquid reaction mixture is (*a*) transesterified in the second stage at a temperature of not more than 197° C. in the presence of a transesterification catalyst, (*b*) heated in the third stage to a temperature of from 197° C. to not more than 230° C. while removing vaporous reaction products directly from the third stage by passing an inert gas through the liquid reaction mixture in said third stage separately from the other stages, and (*c*) polycondensed in the fourth stage at a temperature of from 230° C. to 270° C. for a period of time sufficient to produce a filament-forming polyethylene terephthalate condensate while removing vaporous reaction products from the fourth stage by passing an inert gas through the liquid reaction mixture; and recovering said polyethylene terephthalate condensate product from said fourth stage at a rate approximately equal to the rate at which reactant materials are added to the first stage.

2,973,342

PROCESS FOR PREPARING LINEAR POLYUREAS

Yamosuke Inaba and Koji Kimoto, Fujisawa City, Japan, assignors to Toyo Koatsu Industries, Incorporated, Chuo-ku, Tokyo, Japan, a corporation of Japan

No Drawing. Filed Oct. 6, 1958, Ser. No. 765,306
Claims priority, application Japan Oct. 9, 1957
20 Claims. (Cl. 260—77.5)

1. A process for producing improved linear polyureas suitable for being spun into fibers, comprising reacting urea and alkylene diamine having from 6 to 12 carbon atoms in the alkylene moiety in aqueous solution at a temperature below about 130° C. to form omega-amino-alkylene urea which is substantially free of undesirable amounts of unreacted urea and diurea by-products, and thereafter raising the temperature of said omega-amino-alkylene urea above about 130° C. to form a spinnable, fiber-forming polyurea.

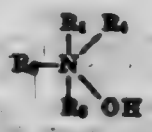
2,973,343

PYRROLIDONE POLYMERIZATION

William O. Ney, Jr., Lincoln Township, Washington County, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

No Drawing. Filed Mar. 3, 1958, Ser. No. 718,393
6 Claims. (Cl. 260—78)

1. The process for the polymerization of 2-pyrrolidone which comprises polymerizing pyrrolidone under substantially anhydrous conditions in the presence of a catalytic amount of a quaternary ammonium base represented by the formula:



wherein R_1, R_2 and R_3 are members of the group consisting of lower alkyl radicals and R_4 is a member of the group consisting of alkyl, aryl and aralkyl radicals.

2,973,344

MODIFIED POLYMERS

Egi V. Fasce, Baton Rouge, La., assignor to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Dec. 11, 1957, Ser. No. 701,982
9 Claims. (Cl. 260—78.4)

1. The process for preparing solid modified polyalkene polymers consisting of reacting together at a temperature in the range of 250° to 500° F. and at a pressure of 0 to 500 p.s.i.g. (*a*) 20 to 99 wt. % of a solid low-pressure alpha olefin polyalkene polymer selected from the group consisting of polyethylene, polypropylene, polybutene, polyheptene, ethylene-propylene copolymer and ethylene-butene copolymer and formed by a low-pressure process at a temperature in the range of 0 to 100° C. and at a pressure in the range of 0 to 500 p.s.i.g. using as catalyst the reaction product obtained by reducing a reducible heavy transition metal compound of groups IVB, VIB and VIII with a reducing organo-metallic compound, the metal component of which is selected from the group consisting of alkali metals, alkaline earth metals, rare earth metals and zinc, and (*b*) from 80 to 1 wt. % of an unsaturated alpha-beta dicarboxylic acid cyclic anhydride, said unsaturation being olefinic unsaturation; and isolating a solid modified polyalkene polymer from the resulting reaction mixture.

2,973,345

VINYLCYCLOHEXANETHIOL MODIFIED POLYMERS

Fredrick M. Smith, Rossmoor, Calif., and James E. Pritchard, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Original application Sept. 8, 1952, Ser. No. 308,715, now Patent No. 2,842,526, dated July 8, 1958. Divided and this application July 30, 1957, Ser. No. 675,021

11 Claims. (Cl. 260—79)

1. A synthetic rubber selected from the group consisting of polybutadiene and a butadiene-styrene-copolymer rubber which is chemically modified by the incorporation therein of a small modifying amount of monovinylcyclohexanethiol.

2,973,346

RECOVERING HALOGENATED COPOLYMERS

Werner Albert Baasch and Merlan Meredith Lambert, Baton Rouge, La., and George Oliver Hillard, Jr., Westfield, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed May 16, 1957, Ser. No. 659,465

9 Claims. (Cl. 260—85.3)

1. In a process for manufacturing a halogenated rubbery copolymer of 85 to 99.5 weight percent of a C_4 to C_8 isoolefin and 0.5 to 15 weight percent of a C_4 to C_{14} multiolefin in which the halogenated copolymer is subsequent to halogenation slurried with an aqueous medium of steam and water and an inorganic alkaline material to neutralize the slurry, the improvement which comprises utilizing the inorganic alkaline material in an amount controlled to fall in the range of from 0.005 to 0.5 part by weight per 100 parts of copolymer so as to regulate the slurry formed to a pH of between about 6.5 and 7.5.

2,973,347

PROCESS FOR PRODUCING STABLE HALOETHYLENE POLYMERS

Carl B. Havens, Hope, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Dec. 24, 1956, Ser. No. 630,974

4 Claims. (Cl. 260—87.7)

1. In a non-emulsified aqueous suspension polymerization process wherein a monomeric material comprising a chloroethylenic monomer composed predominantly of vinylidene chloride with any remainder being of a copolymerizable monoethylenically unsaturated monomer is dispersed into from 1 to 2.5 parts of an aqueous phase for each part of said monomeric material, and wherein the so-formed dispersion is subjected to thermal and catalytic conditions known to induce polymerization until polymerization is substantially complete, the improvement consisting of conducting said polymerization in the presence of from 0.5 to 10 percent of the weight of said monomeric material of a tertiary alcohol containing up to 12 carbon atoms.

2,973,348

THREE-COMPONENT CATALYST FOR OLEFIN POLYMERIZATION CONTAINING ALKALI METAL-ALUMINUM TETRAALKYL, TRANSITION METAL HALIDE, AND ORGANOPHOSPHORUS COMPOUND, AND POLYMERIZATION PROCESS THEREWITH

Harry W. Coover, Jr., and Frederick B. Joyner, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Mar. 31, 1958, Ser. No. 724,921

15 Claims. (Cl. 260—93.7)

1. In the polymerization of α-monoolefinic hydrocarbons containing from 2 to 10 carbon atoms to form solid, crystalline polymer, the improvement which comprises catalyzing the polymerization with a catalytic mixture consisting essentially of an alkali metal-aluminum tetraalkyl, the alkali metal being selected from the group consisting of sodium, potassium and lithium and the alkyl radicals containing from 1 to 12 carbon atoms, a chloride of a metal selected from the group consisting of titanium, zirconium, vanadium, chromium and molybdenum and an organophosphorus compound selected from the group consisting of trialkyl phosphites, trialkyl phosphates and hexaalkyl phosphoric triamides, the alkyl radicals in said organophosphorus compound containing from 1 to 4 carbon atoms, the molar ratio of alkali metal-aluminum tetraalkyl to metal chloride being within the range of 1:0.5 to 1:2 and the molar ratio of metal chloride to organophosphorus compound being within the range of 1:1 to 1:0.1.

2,973,349

POLYMERIZATION PROCESS USING A TITANIUM NITRIDE CATALYST

Frank X. Werber, Kensington, Donald F. Hoeg, Rockville, and Walter R. Wszolek, Ellicott City, Md., assignors to W. R. Grace & Co., a corporation of Connecticut

No Drawing. Filed Dec. 12, 1958, Ser. No. 779,845

21 Claims. (Cl. 260—93.7)

1. The method of polymerizing a monomer of the group consisting of ethylene and propylene to a normally solid polymer that comprises subjecting the respective monomer in a liquid hydrocarbon reaction medium under superatmospheric pressure to the action of a catalyst consisting essentially of titanium nitride.

2,973,350

POLYETHYLENE PRODUCTION WITH SOLID CATALYST

William E. Kennel, Munster, Ind., and Edmund Field and Charles A. Spiller, Jr., Chicago, Ill., and Gert H. Weisemann, Hobart, Ind., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana

Filed Mar. 11, 1954, Ser. No. 415,564

4 Claims. (Cl. 260—94.9)

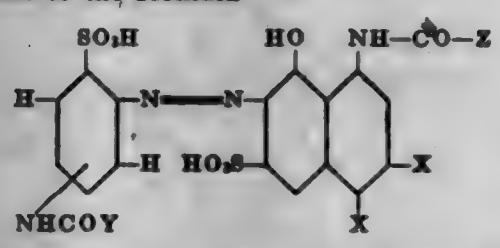
1. In a process for polymerizing ethylene to a normally solid polymer from a solution of ethylene in benzene by means of a solid metal oxide polymerization catalyst and a promoter, the method of operation which comprises stripping about 99 percent of the ethylene and about one-third to two-thirds of the benzene from the reactor effluent at a pressure in the range of about 100 to 500 p.s.i.g. which is sufficiently high to permit recycle of benzene to an absorption step without necessity of compression, filtering residual solids from the remaining concentrated benzene solution which contains residual dissolved ethylene, adding sufficient hot water to the concentrated benzene solution while it is at a pressure in the range of 100 to 500 p.s.i.g. to supply heat of vaporization of the benzene and to provide a carrier for solid polyethylene, depressuring the mixture to substantially atmospheric pressure and stripping the liquid slurry resulting from the depressuring step, cooling the overhead from the stripping operation to a temperature obtainable by condenser water, separating uncondensed vapors from condensate thus produced and cooling the uncondensed vapors to a low temperature by a refrigerated condenser, and adsorbing benzene from uncondensed vapors separated from condensate produced by the refrigerated condenser whereby the low temperature produced by low temperature of the last named uncondensed vapors maintains the adsorbing agent at a sufficiently low temperature to provide retention of benzene without the necessity of abstracting heat from the adsorbent by indirect heat exchange.

2,973,351
NEW MONOAZO-DYESTUFFS

Rene de Montmollin, Neuallschwil, and Henri Rist, Arlesheim, Switzerland, assignors to Ciba Limited, Basel, Switzerland

No Drawing. Filed Mar. 3, 1958, Ser. No. 718,433
Claims priority, application Switzerland Mar. 8, 1957
6 Claims. (Cl. 260—199)

1. A monoazo dyestuff which in its free acid state corresponds to the formula



wherein Y represents an ethyl group bearing a member selected from the group consisting of a chlorine and a bromine atom in β-position and bound in a α-position to the —CO-group, one X represents a hydrogen atom, the other X a sulfonic acid group and Z a member selected from the class consisting of a benzene radical and a β-chloroethyl group bound to the —CO-group in α-position.

2,973,352
METHOD OF SHREDDING AND AGING ALKALI-CELLULOSE

Friedrich Hildebrandt, Kassel-Bettenhausen, Germany, assignor to Spinnfaser Aktiengesellschaft, Kassel-Bettenhausen, Germany

No Drawing. Filed June 26, 1956, Ser. No. 593,815
Claims priority, application Germany June 29, 1955
4 Claims. (Cl. 260—233)

1. An improved method of shredding and aging alkali-cellulose after steeping and pressing and prior to sulfidization in the production of regenerated cellulose by the viscose process which comprises: initially shredding the steeped and pressed alkali-cellulose at an elevated temperature of about 30° C. to 35° C. for from about one half to three hours; cooling said initially shredded alkali-cellulose to room temperature for aging; and then aging said alkali-cellulose while maintaining said room temperature and concurrently further shredding said alkali-cellulose for at least seven to about ten hours.

2,973,353
CARBOHYDRATE MONO-ESTERS

Van R. Gaertner, Dayton, Ohio, assignor to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed June 29, 1956, Ser. No. 594,697
8 Claims. (Cl. 260—234)

1. As new compounds, the water soluble carboxy carboxylic acid mono-esters of carbohydrates, said carboxylic acids having 10 to 25 carbon atoms, and there being no more than 3 carbon atoms between said carboxy group, and said carboxylic acid ester group, the carbohydrates being saccharides containing no more than two saccharide units.

2,973,354
N-SUBSTITUTED MORPHANTHRIDINE COMPOUNDS

Lincoln Harvey Werner, Summit, N.J., assignor to Ciba Pharmaceutical Products, Inc., Summit, N.J., a corporation of New Jersey

No Drawing. Filed Oct. 29, 1958, Ser. No. 770,273
11 Claims. (Cl. 260—239)

1. A member of the group consisting of 5-tertiary amino-lower alkyl-morphanthridine-6,11-dione, 5-tertiary amino-lower alkyl-morphanthridine-6-one and these compounds substituted in one of the benzene rings condensed to the b-bond and the e-bond of the seven membered nucleus of the morphanthridine molecule by a member of the group consisting of lower alkyl, halogen, halogeno-lower alkyl, lower alkoxy, methylenedioxy, nitro, amino and dimethylamino, and tertiary amino stands for a member of the group consisting of N,N-di-lower alkyl-amino, pyrrolidino, hexamethyleneimino, morpholino, thiamorpholino and piperazino, therapeutically useful acid addition salts and lower alkyl quaternary ammonium compounds.

2,973,355
PROCESS FOR THE PRODUCTION OF PURE ε-CAPROLACTAM FROM BECKMANN REACTION MIXTURE

Kurt Bauer, Holzminden, Germany, assignor to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

Filed Nov. 5, 1957, Ser. No. 694,675
Claims priority, application Germany Nov. 10, 1956
2 Claims. (Cl. 260—239.3)

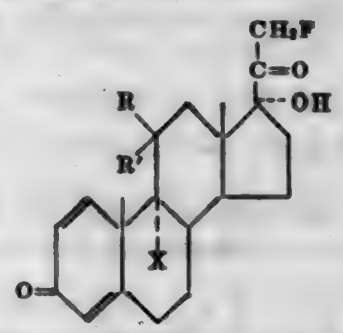
1. The process for the recovery of ε-caprolactam from the neutralized reaction mixture from the Beckmann rearrangement which comprises mixing in a continous manner the two-phase mixture with about 2 to 10 parts by weight of a diluted solution of lactam in benzene, calculated on one part by weight of lactam in the mixture, separating the thus obtained new two-phase mixture, washing the concentrated solution of lactam in benzene with about 0.1 to 10 percent water, calculated on the benzene solution, distilling off the benzene and the trace of water from the organic phase and distilling the remaining lactam, simultaneously washing the separated concentrated aqueous underlye with fresh benzene mixing the obtained diluted solution of lactam in benzene with the original two-phase mixture, and also adding the wash water of the benzene extract to the original two-phase mixture.

2,973,356
21-FLUORO-9α-HALO-STEROIDS OF THE PREGNANE SERIES

Josef E. Herz and Josef Fried, New Brunswick, N.J., assignors to Olin Mathieson Chemical Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed May 16, 1956, Ser. No. 585,155
8 Claims. (Cl. 260—239.55)

1. A steroid of the general formula



wherein R is hydrogen, R′ is beta-hydroxy, and together R and R′ is keto, and X is halogen.

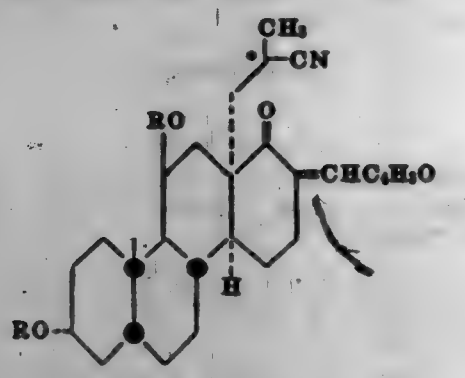
5. A steroid selected from the group consisting of 21-fluoro-9β,11β-epoxy-Δ⁴-pregnene-17α-ol - 3,20 - dione and 21-fluoro - 9β,11β - epoxy - Δ¹,⁴ - pregnadiene - 17α - ol-3,20-dione.

2,973,357
TOTAL SYNTHESIS OF ALDOSTERONE AND INTERMEDIATES THEREIN

William S. Johnson, Madison, Wis., Joseph C. Collins, North Greenbush, N.Y., Raphael Pappo, Skokie, Ill., and Mordecai B. Rubin, Pittsburgh, Pa., assignors to Wisconsin Alumni Research Foundation, Madison, Wis., a corporation of Wisconsin

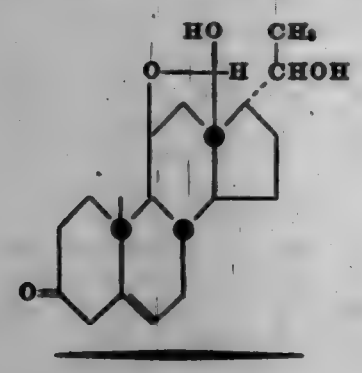
No Drawing. Filed Nov. 28, 1958, Ser. No. 776,715
34 Claims. (Cl. 260—239.55)

1. A compound having the formula:



wherein R represents a member of the group consisting of hydrogen and hydrocarbon carboxylic acyl radicals having one to eight carbon atoms and CHC_4H_3O represents the furfurylidene radical.

23. A 3-cyclic ketal derivative of a compound having the formula:

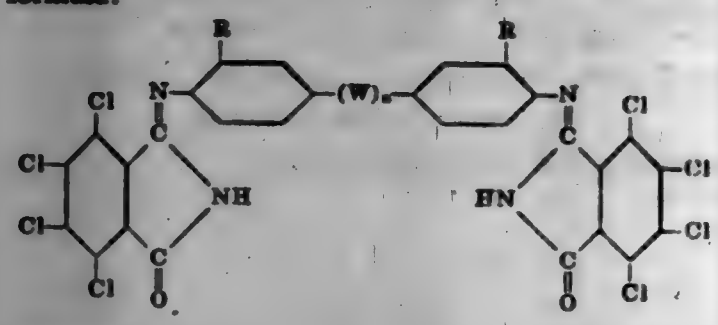


2,973,358
4,5,6,7-TETRACHLORO-3-IMINO-ISOINDOLINE-1-ONE DERIVATIVES

André Pugin, Basel, Switzerland, assignor to J. R. Geigy A.-G., Basel, Switzerland

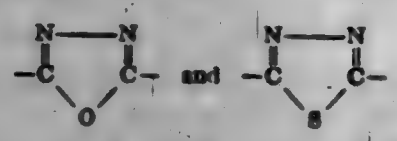
No Drawing. Filed Dec. 24, 1957, Ser. No. 704,907
Claims priority, application Switzerland July 13, 1956
13 Claims. (Cl. 260—240)

5. A compound which corresponds to the general formula:



wherein

W represents a radical selected from the group consisting of —CH=CH—, —N=N—,



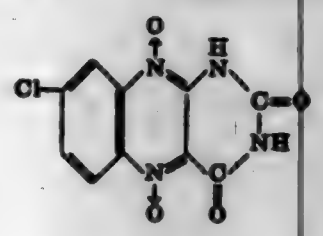
R represents a radical selected from the group consisting of H, Cl, CH_3 and OCH_3, and
n is one of the numerals 0 and 1.

2,973,359
8-CHLOROLLOXAZINE-5,10-DIOXIDE

Harold G. Petering, Kalamazoo, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Filed Sept. 10, 1959, Ser. No. 839,872
1 Claim. (Cl. 260—251.5)

8-chloroalloxazine-5,10-dioxide having the following structural formula:

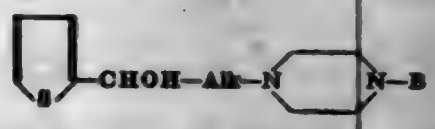


2,973,360
CERTAIN 1-(2-THEONYL LOWER ALKYL)-4-(HETEROCYCLIC SUBSTITUTED)-PIPERAZINES

Paul A. J. Janssen, Antwerpse Steenweg 16', Vosselaar, near Turnhout, Belgium

No Drawing. Filed Oct. 12, 1959, Ser. No. 845,627
5 Claims. (Cl. 260—256.5)

1. A compound of the structural formula



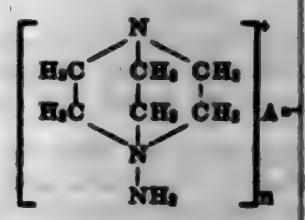
wherein B is a member of the class consisting of pyridyl, pyrimidyl, and methylpyridyl and Alk is a lower alkylene radical.

2,973,361
TRIETHYLENEDIAMINE HYDRAZINIUM COMPOUNDS

Bernard Rudner, Pittsburgh, Pa., assignor to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut

No Drawing. Filed Feb. 4, 1959, Ser. No. 791,985
5 Claims. (Cl. 260—268)

1. Compounds having the formula:



wherein A is an inorganic anion from the group consisting of chloride, nitrate, hydroxide and sulfate and *n* is the valence of said anion.

2,973,362
METHOD OF PREPARING MONOSUBSTITUTED PIPERAZINES

Gerald Schorsch, 200 East End Ave., New York, N.Y.

No Drawing. Filed July 24, 1959, Ser. No. 829,226
7 Claims. (Cl. 260—268)

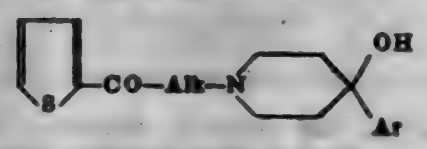
1. The method which comprises refluxing stoichiometric amounts of piperazine and acetamide in an inert solvent containing a catalytic amount of a halogen and recovering the monoacetylpiperazine thus produced by vacuum distillation at 156 to 165° C.

2,973,363
1-(2-THENOYL)ALKYL-4-ARYLPIPERIDIN-4-OLS

Paul Adriaan J. Janssen, Antwerpse Steenweg 16', Vosselaar, near Turnhout, Belgium

No Drawing. Filed Mar. 26, 1959, Ser. No. 801,991
6 Claims. (Cl. 260—293.4)

1. A compound of the formula



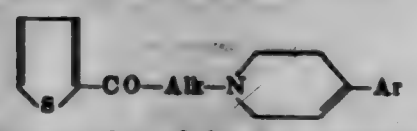
wherein Ar is a member of the class consisting of phenyl, halophenyl, tolyl and xylyl and wherein Alk is a lower alkylene radical.

2,973,364
1-(2-THENOYL)ALKYL-4-ARYL-1,2,3,6-TETRAHYDROPYRIDINES

Paul Adriaan J. Janssen, Antwerpse Steenweg 16', Vosselaar, near Turnhout, Belgium

No Drawing. Filed Mar. 26, 1959, Ser. No. 801,992
5 Claims. (Cl. 260—294.8)

1. A compound of the formula



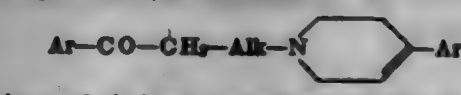
wherein Ar is a member of the class consisting of phenyl, halophenyl, tolyl, and xylyl, and wherein Alk is lower alkylene.

2,973,365
1-AROYLALKYL-4-ARYL-1,2,3,6-TETRAHYDROPYRIDINES

Paul A. J. Janssen, Antwerpse Steenweg 16', Vosselaar, near Turnhout, Belgium

No Drawing. Filed Apr. 9, 1959, Ser. No. 805,153
8 Claims. (Cl. 260—297)

1. A compound of the formula



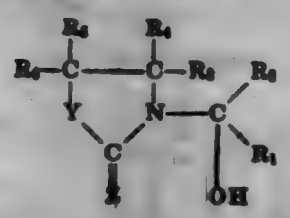
wherein Ar and Ar' are members of the class consisting of halophenyl, methoxyphenyl, ethoxyphenyl, dimethoxyphenyl and phenyl, lower alkylphenyl and xylyl, and wherein Alk is lower alkylene containing 2–4 carbon atoms.

2,973,366
DERIVATIVES OF THIAZOLIDINONES AND OXAZOLIDINONES AND CORRESPONDING THIONES WITH ALPHA-HALO OXO COMPOUNDS AND PROCESS

Russell M. Bleiler, Painesville, Ohio, assignor to Diamond Alkali Company, Cleveland, Ohio, a corporation of Delaware

No Drawing. Filed Oct. 17, 1957, Ser. No. 690,620
12 Claims. (Cl. 260—306.7)

1. A compound of the formula:



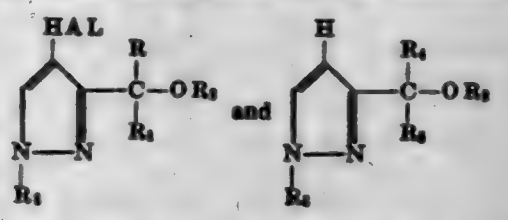
wherein Y and Z are selected from the group consisting of sulphur and oxygen; R_1 is selected from the group consisting of hydrogen and alkyl of no more than 4 carbon atoms; and R_2 is haloalkyl as derived from an alpha haloaldehyde and containing no more than 6 carbon atoms; R_3, R_4, R_5 and R_6 are selected from the group consisting of hydrogen, alkyl of no more than 10 carbon atoms, phenyl, benzyl, thienyl, tolyl, and xylyl.

2,973,367
NOVEL PYRAZOLE CARBINOLS

Nelson Easton, Indianapolis, Ind., assignor to Eli Lilly and Company, Indianapolis, Ind., a corporation of Indiana

No Drawing. Filed June 8, 1959, Ser. No. 818,555
6 Claims. (Cl. 260—310)

1. A compound selected from the class consisting of nitrogenous bases represented by the formulas:



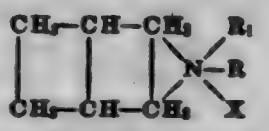
wherein HAL is chosen from the group consisting of chlorine and bromine, R_2 is chosen from the group consisting of hydrogen and methyl, R_3 is chosen from the group consisting of hydrogen, benzyl and alkyl having from 1 to 3 carbon atoms, R and R_4 are chosen from the group consisting of phenyl, chlorophenyl and alkyl having from 1 to 6 carbon atoms, and R_1 and R_5 are alkyl groups having from 1 to 6 carbon atoms, the sum of the carbon atoms in R and R_1 lying between 2 and 8 and the sum of the carbon atoms in R_4 and R_5 lying between 3 and 8.

2,973,368
3-AZABICYCLO [3:2:0] HEPTANE AND DERIVATIVES THEREOF

Leonard M. Rice, Baltimore, Md., and Charles H. Gregan, Falls Church, Va., assignors to The Geschickter Fund for Medical Research Inc., Washington, D.C., a corporation of New York

No Drawing. Filed Jan. 28, 1957, Ser. No. 636,512
10 Claims. (Cl. 260—313)

9. The non-toxic quaternary salts of the composition of the formula



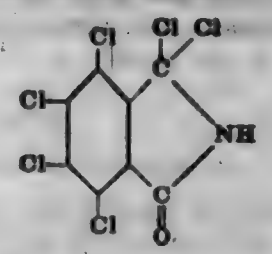
where X is a non-toxic anion; R is alkyl of 1–18 carbon atoms; and R_1 is selected from the group consisting of alkyl of 1–18 carbon atoms and alkenyl of 3–18 carbon atoms.

2,973,369
3,3-DICHLORO-ISOINDOLINONES

Andre Pugin, Basel, Switzerland, assignor to J. R. Geigy A.-G., Basel, Switzerland

No Drawing. Filed Oct. 24, 1958, Ser. No. 769,310
Claims priority, application Switzerland Dec. 10, 1957
7 Claims. (Cl. 260—325)

2. The compound of the formula



2,973,370

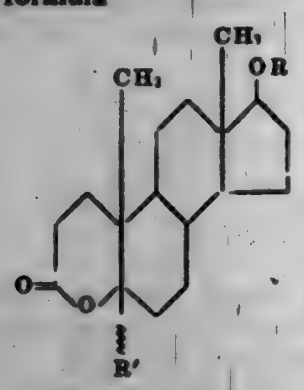
17β-HYDROXY-4-OXAANDROSTAN-3-ONES AND DERIVATIVES THEREOF

Norman W. Atwater, Arlington Heights, Ill., assignor to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware

No Drawing. Filed May 22, 1959, Ser. No. 814,964

7 Claims. (Cl. 260—343.2)

1. A member of the class consisting of the compounds of the structural formula



wherein R is lower alkanoyl, and R′ is a member of the class consisting of hydrogen, halogen of atomic weight less than 100, lower alkyloxy, allyloxy and benzyloxy.

2,973,371

PHTHALIC ANHYDRIDE CATALYSTS OF HIGH SURFACE AREA

Nicholas Chomitz, Yonkers, and William R. Rathjens, Hollis, N.Y., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine

Filed Nov. 20, 1957, Ser. No. 697,739

10 Claims. (Cl. 260—346.4)

1. A catalyst for the vapor phase fluid bed catalytic oxidation of naphthalene to phthalic anhydride comprising about 5–20% by weight of vanadium oxide and 20–50% of a potassium sulfate supported on about 40–75% of a silica gel carrier having a surface area within the range of about 200–700 square meters per gram and a pore diameter of from 50 to about 350 Angstroms, said catalyst having a surface area of from 20 to about 75 square meters per gram.

7. A method of producing phthalic anhydride which comprises passing a mixture of naphthalene vapor and air in contact with a fluidized catalyst bed maintained at a temperature within the range of about 325°–425° C. and containing a catalyst comprising about 5–20% by weight of vanadium oxide and 20–50% of potassium pyrosulfate supported on about 40–75% of a silica gel carrier having a surface area within the range of about 200–700 square meters per gram and a pore diameter of from 50 to about 350 Angstroms, said catalyst having a surface area of from 20 to about 75 square meters per gram.

2,973,372

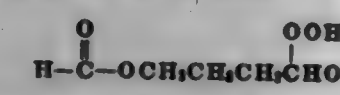
DIHYDROPYRAN OZONIDES AND THE METHOD OF MAKING THE SAME

Quentin E. Thompson, Belleville, Ill., assignor to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Feb. 24, 1959, Ser. No. 794,814

12 Claims. (Cl. 260—347.4)

1. A compound of the structure



where R is a member selected from the group consisting of benzyl, tetrahydrofurfuryl, alkyl radicals having from 1 to 13 carbon atoms, and cycloalkyl radicals having from 5 to 6 carbon atoms.

8. Δ-formoxy-α-hydroperoxy-butyl-tetrahydrofurfuryl ether.

2,973,373

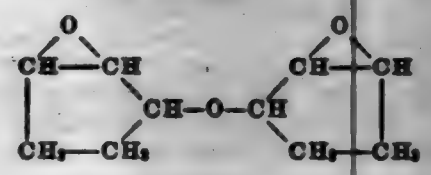
BIS-(2,3-EPOXYCYCLOPENTYL) ETHER

Benjamin Phillips and Paul S. Starcher, Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed July 27, 1956, Ser. No. 600,386

1 Claim. (Cl. 260—348)

A compound represented by the formula:



2,973,374

PROCESS FOR THE PRODUCTION OF Δ⁴-19-NOR-PREGNENE-21-OL-3,11,20-TRIONES

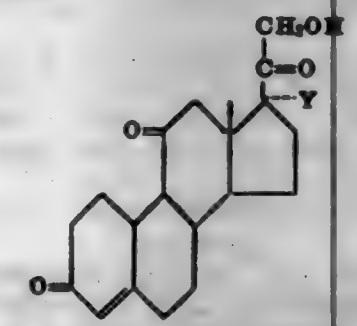
Alejandro Zaffaroni and George Rosenkranz, Mexico City, Mexico, assignors to Syntex S.A., Mexico City, Mexico, a corporation of Mexico

No Drawing. Filed Apr. 23, 1954, Ser. No. 425,306

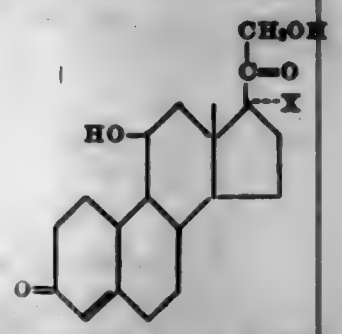
Claims priority, application Mexico Apr. 25, 1953

1 Claim. (Cl. 260—397.45)

A process for the production of compounds of the following formula:



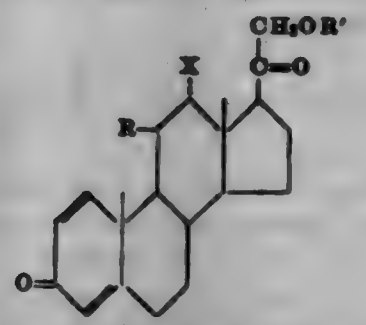
wherein Y is selected from the group consisting of hydrogen and hydroxy which comprises selectively oxidizing a compound of the following formula:



wherein X is selected from the group consisting of hydrogen and hydroxy with chromic acid in approximately the stoichiometric amount corresponding to one equivalent of active oxygen in the presence of acetic acid as a solvent, at a temperature of approximately the freezing point of the acetic acid and for a short reaction time.

2,973,375
12α-HALO-11,21-BIS-OXYGENATED-1,4-PREGNADIENE-3,20-DIONES
Norman L. Wendler, Summit, and David Taub, Metuchen, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey
No Drawing. Filed Dec. 13, 1955, Ser. No. 552,730
10 Claims. (Cl. 260—397.45)

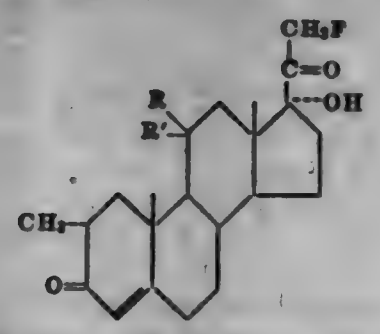
10. A compound represented by the formula:



wherein R is selected from group consisting of keto and B-hydroxy, X is selected from the group consisting of fluorine and chlorine and R′ is selected from the group consisting of hydrogen and hydrocarbon carbonyloxy radicals.

2,973,376
11-OXYGENATED-2-METHYL-21-FLUORO PROGESTERONE DERIVATIVES
Josef Fried and Josef E. Herz, New Brunswick, N.J., assignors to Olin Mathieson Chemical Corporation, New York, N.Y., a corporation of Virginia
No Drawing. Filed May 10, 1956, Ser. No. 583,934
3 Claims. (Cl. 260—397.45)

2. A steroid of the general formula



wherein R is hydrogen, R′ is β-hydroxy and together R and R′ is oxygen.

2,973,377
11β,12β-EPOXY AND 12α-BROMO STEROIDS OF THE PREGNANE SERIES AND THEIR METHOD OF PREPARATION
Josef Fried, New Brunswick, and Patrick A. Dinni, Westfield, N.J., assignors to Olin Mathieson Chemical Corporation, New York, N.Y., a corporation of Virginia
No Drawing. Filed June 21, 1957, Ser. No. 667,289
13 Claims. (Cl. 260—397.45)

2. 4β,12α-dibromopregnane-11β-ol-3,20-dione.

2,973,378
ALLOPREGNAN-3β,11α-DIOL DERIVATIVES AND PROCESS
George Rosenkranz, Mexico City, Mexico, and Carl Djerassi, Birmingham, Mich., assignors to Syntex S.A., Mexico City, Mexico, a corporation of Mexico
No Drawing. Original application Feb. 6, 1953, Ser. No. 335,585, now Patent No. 2,825,735, dated Mar. 4, 1958. Divided and this application June 17, 1957, Ser. No. 669,480
Claims priority, application Mexico Feb. 13, 1952
12 Claims. (Cl. 260—397.45)

11. A new compound consisting of 21-bromo-allopregnan-3β,11α-diol-20-one diacetate.

2,973,379
OMEGA-ALKYLMERCURYTHIO FATTY ACIDS, DERIVATIVES THEREOF AND PROCESS OF PREPARING THE SAME
Kanjiro Kobayashi, Nishinomiya City, and Hideo Suzuki, Akashi City, Japan, assignors to Fujinawa Pharmaceutical Co., Ltd., Osaka, Japan
No Drawing. Filed Jan. 19, 1959, Ser. No. 787,390
14 Claims. (Cl. 260—399)

1. Compounds having the general formula

$$RHgS(CH_2)_nR'$$

in which R is a lower alkyl radical, *n* is a whole number from 4 to 12, R′ is selected from the group consisting of the carboxyl acid group (COOH) and the group COOY, wherein Y is a member selected from the group consisting of an alkali metal and a lower alkyl radical.

12. In a process of preparing compounds of the formula

$$RHgS(CH_2)_nR'$$

wherein

R is a lower alkyl radical, *n* is a whole number from 4 to 12, and
R′ is a member selected from the group consisting of the carboxyl group and the group COOY, wherein Y is a member selected from the group consisting of an alkali metal and a lower alkyl radical,

which process comprises reacting an omega-mercapto fatty acid of the formula

$$HS(CH_2)_nR'$$

wherein R′ and *n* are the same as indicated hereinabove, with an alkyl mercury compound of the formula

$$RHgX$$

wherein

X is a member selected from the group consisting of a halogen atom, the hydroxyl group, the lower alkanoyloxy group, and the equivalent of the phosphoric acid and the sulfuric acid radicals and
R is the same as indicated hereinabove.

2,973,380
PHOSPHONATES
Daniel Swern, Philadelphia, Pa., assignor to the United States of America as represented by the Secretary of Agriculture
No Drawing. Original application Jan. 14, 1958, Ser. No. 708,957. Divided and this application Nov. 21, 1958, Ser. No. 779,804
2 Claims. (Cl. 260—403)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. α-Phosphonolauric acid.

2,973,381
METHOD OF STABILIZING GRANULAR PHOSPHATIDES
Ernest H. Teenmer, Jr., Niles, and Herbert T. Iveson, Elmhurst, Ill., assignors to Central Soya Company, Inc., Fort Wayne, Ind., a corporation of Indiana
No Drawing. Filed May 18, 1959, Ser. No. 813,700
4 Claims. (Cl. 260—403)

1. In a process for enhancing the stability of an oil-free phosphatide, the steps of adding an acetone solution of tocopherol to the phosphatide and subsequently removing the acetone.

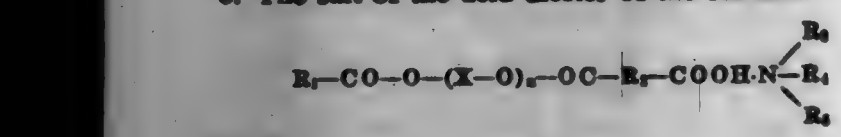
2,973,362

SALTS OF ACID DIESTERS OF POLYGLYCOLS WITH ORGANIC BASES, AND PROCESS OF MAKING AND USING SAME

Emil Dreher, Stockach, Baden, Germany, assignor to Byk-Gulden Lomberg Chemische Fabrik G.m.b.H., Konstanz (Bodensee), Germany, a corporation of Germany

No Drawing. Filed July 24, 1958, Ser. No. 750,597
Claims priority, application Germany July 26, 1957
7 Claims. (Cl. 260—404)

6. The salt of the acid diester of the formula



wherein

X represents an alkylene radical with 2 to 3 carbon atoms;

R_1 represents a member selected from the group consisting of a saturated acyclic hydrocarbon radical having 11 to 23 carbon atoms, a saturated acyclic hydrocarbon radical having 11 to 23 carbon atoms and being substituted by a hydroxyl group, an olefinic acyclic hydrocarbon radical having 11 to 23 carbon atoms; and an olefinic acyclic hydrocarbon radical having 11 to 23 carbon atoms and being substituted by a hydroxyl group;

R_2 represents a member selected from the group consisting of a phenylene radical, a divalent saturated acyclic hydrocarbon radical, a divalent saturated acyclic hydrocarbon radical being substituted by a hydroxyl group, a divalent saturated acyclic hydrocarbon radical being substituted by a carboxyl group, a divalent olefinic acyclic hydrocarbon radical, a divalent olefinic acyclic hydrocarbon radical being substituted by a hydroxyl group, and a divalent olefinic acyclic hydrocarbon radical being substituted by a carboxyl group, said divalent saturated and olefinic acyclic hydrocarbon radicals having 2 to 3 carbon atoms;

R_3 and R_4 represent members selected from the group consisting of hydrogen, a lower alkyl radical, a lower alkyl radical being substituted by a hydroxyl group, and a cyclohexyl radical;

R_5 represents a member selected from the group consisting of a lower alkyl radical, a lower alkyl radical substituted by a hydroxyl group, and a cyclohexyl radical, and

n is an integer ranging from 4 to 25;

said salt being slightly soluble in water and substantially soluble in organic lacquer solvents.

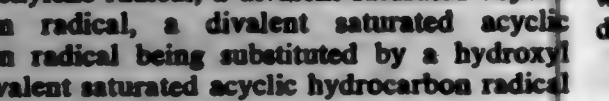
2,973,383

ORGANOSILICON CARBAMYL COMPOUNDS AND PROCESS FOR PRODUCING THE SAME

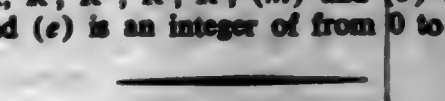
William T. Black, White Plains, N.Y., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Dec. 26, 1957, Ser. No. 705,117
20 Claims. (Cl. 260—448.2)

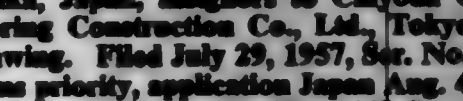
1. As a new composition of matter carbamylalkylsilicon compounds selected from the class consisting of (1) carbamylalkylsilanes of the formula:



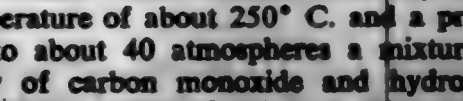
wherein R is a member selected from the group consisting of hydrogen atoms, alkyl groups and aryl groups, R′ is a member selected from the group consisting of alkyl groups, aryl groups and alkyl and aryl groups substituted with a member of the class consisting of hydroxy groups, nitro groups, alkoxy groups, carboxyl groups, carbalkoxy groups, carbaryloxy groups and halogen atoms, R″ is a member selected from the group consisting of alkyl groups and aryl groups, R^1 and R^2 are members selected from the group consisting of the hydrogen atom and alkyl groups, X is an alkoxy group, (m) is an integer having a value of at least 1 and (b) is an integer having a value of from 0 to 2, (2) carbamylalkylsilanes of the formula:



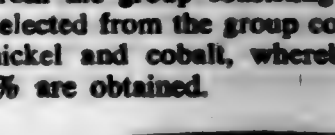
wherein R″, R^1, R^2, X, (b) and (m) are as above defined, (3) carbamylalkylsiloxane polymers containing units of the formula:



wherein R, R′, R″, R^1, R^2, (m) and (b) are as above defined, and (4) carbamylalkylsiloxane copolymers containing at least one unit of the formula:



and at least one unit of the formula:



wherein R, R′, R″, R^1, R^2, (m) and (b) are as above defined and (e) is an integer of from 0 to 2.

2,973,384

PROCESS FOR SYNTHESIZING ETHYLENE

Tateki Hayashi, Tokyo, and Shigeru Tsutsumi, Hirakata-shi, Osaka, Japan, assignors to Chiyoda Chemical & Engineering Construction Co., Ltd., Tokyo, Japan

No Drawing. Filed July 29, 1957, Ser. No. 674,614
Claims priority, application Japan Aug. 4, 1956
3 Claims. (Cl. 260—449.6)

1. A process for catalytically synthesizing ethylene which consists of contacting a mixture consisting essentially of carbon monoxide and hydrogen at a temperature from 200° to 450° C. and at a pressure from about 1 to about 40 atmospheres with a catalyst which consists essentially of a member selected from the group consisting of alumina gel, silica gel and mixtures of alumina gel and silica gel.

2. In a process for synthesizing ethylene catalytically, the improvement which consists essentially of contacting at a temperature of about 250° C. and a pressure from about 1 to about 40 atmospheres a mixture consisting essentially of carbon monoxide and hydrogen with a catalyst which consists of (a) a member selected from the group consisting of alumina gel, silica gel and mixtures of alumina gel and silica gel, and (b) a member selected from the group consisting of a compound of a member selected from the group consisting of chromium, copper, nickel and cobalt, whereby ethylene yields of about 90% are obtained.

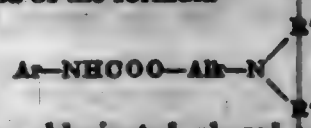
2,973,385

DIALKYLAMINOALKYL CHLOROCARBANILATES AND PROCESS

Kurt J. Rorig, Glenview, Ill., assignor to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware

No Drawing. Filed Mar. 10, 1958, Ser. No. 720,018
12 Claims. (Cl. 260—472)

1. A compound of the formula



wherein Ar is a chlorinated phenyl radical containing fewer than 3 chlorine atoms, Alk is a lower alkylene

radical containing more than 1 carbon atom, and R' and R'' are lower alkyl radicals each comprising more than 1 carbon atom.

2,973,386
PURIFICATION OF SYM DICHLORO-BIS(2,4,6-TRICHLOROPHENYL)UREA
Harry A. Weldon, Edgewood, Md., assignor to the United States of America as represented by the Secretary of War
No Drawing. Filed Jan. 5, 1943, Ser. No. 471,371
11 Claims. (Cl. 260—553)
(Granted under Title 35, U.S. Code (1952), sec. 266)

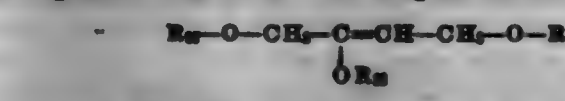
1. The method of purifying and removing chloroform insolubles from sym dichlor-bis(2,4,6 trichlorphenyl)urea which comprises treatment with strong sulfuric acid.

2,973,387
PRODUCTION OF ERYTHROSE AND GLYOXAL FROM DIALDEHYDE STARCH
John W. Van Cleve and Charles L. Mehltretter, Peoria, Ill., assignors to the United States of America as represented by the Secretary of Agriculture
No Drawing. Filed Dec. 8, 1958, Ser. No. 779,034
2 Claims. (Cl. 260—601)
(Granted under Title 35, U.S. Code (1952), sec. 266)

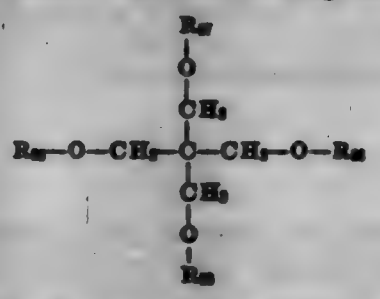
1. The method of producing a mixture consisting essentially of erythrose and glyoxal in high yields which comprises subjecting an aqueous reaction mixture comprising dialdehyde starch to hydrolysis under superatmospheric pressure at an elevated temperature in the presence of sulfurous acid for a period of from 1 to 9 hours.

2,973,388
ALIPHATIC POLYETHERS
Randolph Riemschneider, Berlin-Charlottenburg, Germany, assignor to Ethyl Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed July 31, 1957, Ser. No. 675,254
3 Claims. (Cl. 260—615)

1. As synthetic lubricants, ethers having a total of 10 to 27 carbon atoms in the molecule and a boiling point at atmospheric pressure of at least 180° C., the ethers being selected from those having the formula



wherein R_{22}, R_{23} and R_{24} are alkyl groups containing 1 to 4 carbon atoms, and those having the formula



wherein R_{25}, R_{26}, R_{27} and R_{28} are alkyl groups containing 1 to 4 carbon atoms.

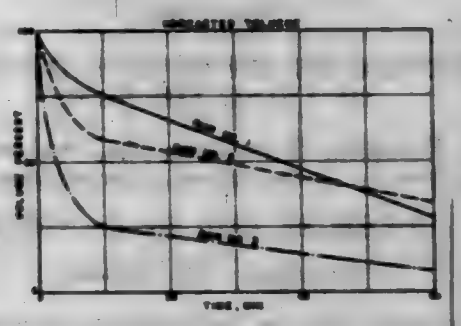
2,973,389
FLUORINATED ORGANIC ETHERS
Klaus Weissermel, Frankfurt am Main, and Werner Starck, Hofheim, Taunus, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany
No Drawing. Filed July 22, 1958, Ser. No. 750,105
Claims priority, application Germany July 24, 1957
8 Claims. (Cl. 260—615)

7. The mixtures of addition compounds of one molar part of a polyhydric alcohol selected from the group consisting of sorbitol and mannitol with between about two molar parts of trifluorochloroethylene and up to as many molar parts of trifluorochloroethylene as there are hydroxy groups in said polyhydric alcohol, said polyhydric alcohol and trifluorochloroethylene being reacted in liquid anhydrous ammonia at a temperature between about −70° C. to about 100° C. in the presence of at least one basic catalyst selected from the group consisting of an alkali metal alkoxide, an alkaline earth metal, an alkali metal, an alkaline phenolate, an alkline acetylide, an alkaline amide, and mixtures thereof, said alkali metal having an atomic weight between 6.9 and 133 and said alkaline earth metal having an atomic weight between 40 and 138.

2,973,390
PROCESS FOR PREPARING 1-ETHYNYLCYCLOHEXANOL AND HOMOLOGUES
John J. Nedwick and Warren H. Watanabe, Philadelphia, Pa., assignors to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware
No Drawing. Filed Sept. 13, 1957, Ser. No. 683,680
12 Claims. (Cl. 260—631)

1. A process for the production of 1-ethynyl-cyclohexanol and homologues thereof which comprises dissolving acetylene under a pressure of at least about 100 pounds per square inch and at a temperature up to about 30° C. in a liquid phase comprised of a mixture of (1) a ketone from the class consisting of cyclohexanone and alkyl-substituted cyclohexanones in which the alkyl group is in the range of C_1 to about C_3, (2) an alcohol from the group consisting of methanol, ethanol, and isopropanol, and (3) an ethynylation catalyst from the group consisting of sodium and potassium alkoxides in an amount which constitutes from about 0.5 to about 5.0 weight percent of the total charge, the amount of acetylene present being in the ratio of at least one mole per mole of the ketone, passing this reaction mixture through a reaction zone where the mixture is heated to at least about 100° C. under a pressure of at least 1,000 p.s.i.g. so as to prevent the formation of a vapor phase, and thereafter separating the ethynyl carbinol formed thereby from the effluent from the reaction zone.

2,973,391
METHOD FOR CHLOROMETHYLATING AROMATIC HYDROCARBONS
Harold W. Earhart and William G. De Pierri, Jr., Baytown, Tex., assignors, by mesne assignments, to Esso Research and Engineering Company, Elizabeth, N.J., a corporation of Delaware
Filed July 14, 1959, Ser. No. 826,994
9 Claims. (Cl. 260—651)



1. A method for chloromethylating an aromatic hydrocarbon which comprises contacting said aromatic hydrocarbon with formaldehyde and hydrochloric acid in the presence of at least about 0.5 mol of a chloride salt per mol of hydrochloric acid, said chloride salt being selected from the group consisting of water soluble chlorides of alkali metals and alkaline earth metals.

2,973,392

STABILIZATION OF HALOHYDROCARBONS

George Whitlock Graham, Beloeil Station, Quebec, Canada, assignor to Canadian Industries Limited, Montreal, Quebec, Canada, a corporation of Canada

No Drawing. Filed July 28, 1959, Ser. No. 828,010
Claims priority, application Great Britain Aug. 15, 1958
2 Claims. (Cl. 260—652.5)

1. A composition of matter comprising trichloroethylene containing from about 0.001% to 0.2% by weight of triethylamine, from about 0.01% to 1.0% by weight of a compound selected from the group consisting of propylene oxide and butylene oxide, from about 0.01% to 1.0% by weight of styrene oxide and a minor amount of N-methyl pyrrole.

2,973,393

CHLORINATION OF ACETYLENES

Roger F. Monroe, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Oct. 2, 1958, Ser. No. 764,782
3 Claims. (Cl. 260—654)

1. A process which comprises reacting by contacting, in the absence of a catalyst, an alkylacetylene having from 1 to 4 carbon atoms in the alkyl substituent with at least 2 moles of chlorine per mole of acetylene in a reaction zone maintained at a temperature between about 20° and 100° C., and, withdrawing from said reaction zone at least 1 of the following products, 1,2,3-trichloro-1-alkene, 1,1,2,2-tetrachloroalkane, and 1,2,2,3-tetrachloroalkane.

2,973,394

METHOD OF PURIFYING STYRENE

Edward R. Atkinson, Wellesley, and Jacob G. Mark and David Rubinstein, Brookline, Mass., assignors to W. R. Grace & Co., Cambridge, Mass., a corporation of Connecticut

No Drawing. Filed Jan. 30, 1958, Ser. No. 712,691
9 Claims. (Cl. 260—669)

1. A process for the separation of a vinyl-substituted aromatic compound from a mixed hydrocarbon stream which includes the steps of mixing the hydrocarbon stream with a solid, undissolved monovalent salt of a metal selected from the group consisting of copper and silver under conditions such as to form a solid coordination compound of the said vinyl-substituted aromatic compound and the said monovalent salt, removing the unreacted hydrocarbon from the mixture and thereafter heating the solid coordination compound in order to cause decomposition thereof and to recover the vinyl-substituted aromatic compound.

2,973,395

PROCESS OF PRODUCING C_3H_4 ALIPHATIC HYDROCARBONS AND ETHYLENE FROM PROPYLENE

Willis C. Keith, Lansing, Robert H. Elkins, Flossmoor, and Robert R. Chambers, Park Forest, Ill., assignors to Sinclair Refining Company, New York, N.Y., a corporation of Maine

No Drawing. Filed June 21, 1954, Ser. No. 438,300
9 Claims. (Cl. 260—678)

1. The method of producing C_3H_4 aliphatic hydrocarbons and ethylene which comprises subjecting propylene to a temperature from about 1300° F. to the decomposition temperature of the C_3H_4 product under the reaction conditions, at a partial pressure of propylene not greater than about one atmosphere in the pressure of at least an equal molar quantity of an inert gas and recovering C_3H_4 aliphatic hydrocarbons and ethylene from the reaction products.

2,973,396

METHOD OF PURIFYING DIOLEFINS

Edward R. Atkinson, Wellesley, and Jacob G. Mark and David Rubinstein, Brookline, Mass., assignors to W. R. Grace & Co., Cambridge, Mass., a corporation of Connecticut

No Drawing. Filed Jan. 30, 1958, Ser. No. 712,692
9 Claims. (Cl. 260—681.5)

1. In a process for separating a diolefin from a mixed hydrocarbon stream which includes the steps of mixing the hydrocarbon stream with a diolefin-absorbing material consisting primarily of solid cuprous chloride, subjecting the mixture to conditions which promote the absorption reaction between the diolefin and the cuprous chloride, removing the unabsorbed hydrocarbon from the absorption mixture and thereafter treating the absorption product in such a manner as to recover the diolefin therefrom, the step of adding to the absorption mixture, as a catalyst for the absorption reaction, an aliphatic straight chain monohydric alcohol having from one to three carbon atoms in the chain, in an amount effective to catalyze the absorption reaction, said effective amount being between about one percent and two percent by weight of the said hydrocarbon stream.

ELECTRICAL

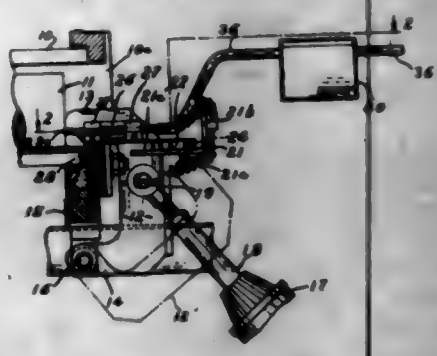
2,973,397

THERMOCOUPLE APPARATUS AND METHOD OF USING THE SAME

Fred E. Halstead, Zelienople, Pa., assignor to Ajax Magnethermic Corporation, a corporation of Ohio

Filed Oct. 17, 1957, Ser. No. 690,823
4 Claims. (Cl. 136—4)

1. A thermocouple for determining the temperature of a heated billet comprising a holder, a pair of thermocouple prods resiliently mounted in said holder, said prods having contact points, a nozzle mounted in said holder having its open end adjacent said contact points, a gas line connected to said nozzle, means for entraining a flux into gas carried by said line, said nozzle delivering a gaseous medium having a flux entrained therein, said medium being burned in the area of said contact points and preventing scale formation on said points,



and means moving said holder whereby said prods contact a billet.

2,973,398
METHOD AND APPARATUS FOR MANUFACTURING BATTERY SEPARATORS
Noel Kirkpatrick Hubbard, Oakville, Ontario, Canada, and Donald Morey Taylor, Erindale, Ontario, Canada, assignors to Ohmics Limited, Toronto, Ontario, Canada, a company of Ontario
Filed Dec. 23, 1957, Ser. No. 704,551
6 Claims. (Cl. 136—145)

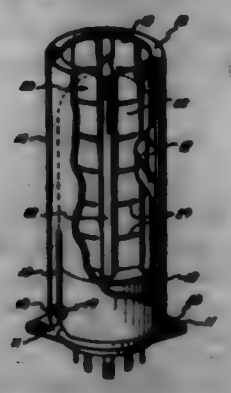


1. A battery separator which comprises a self-supporting porous sheet formed of self-bonded particles of a compound selected from the group consisting of polymers and co-polymers of an unsaturated hydrocarbon, polyamides, acrylic esters and mixtures thereof which are chemically stable at temperatures below about 212° F., said sheet being in the form of individual particles of random sizes less than about 0.02 inch in any direction, each particle being self-bonded to contacting surfaces of adjacent particles without deformation of their original, individual shapes and being permeable to the passage of ions therethrough and having an ohmic resistance less than about 0.06 ohm per square inch.

2,973,399
COUNTER CELL ELECTROLYTE
Eric F. Kuijas, Philadelphia, Pa., assignor to The Electric Storage Battery Company, a corporation of New Jersey
No Drawing. Filed Oct. 13, 1958, Ser. No. 766,717
7 Claims. (Cl. 136—155)

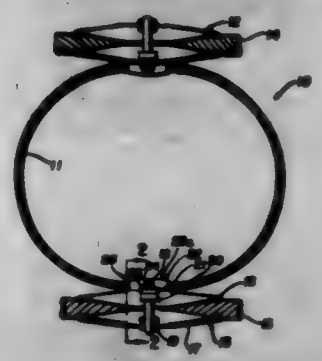
6. A sealed alkaline counter cell containing an electrolyte of the alkali hydroxide group containing an iodine salt in an amount ranging from about 1 to 10 molar percent.

2,973,400
HEAT TRANSFER LINER AND TUBE SHIELD
John C. McAdam, Burbank, Calif., assignor to International Electronic Research Corporation, Burbank, Calif., a corporation of California
Filed Aug. 1, 1958, Ser. No. 752,457
3 Claims. (Cl. 174—35)



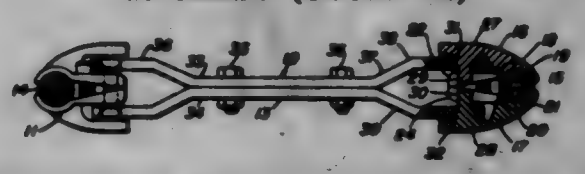
3. A heat dissipating and vibration resistant shield for use in holding a circumferentially arcuate electronic component comprising a substantially cylindrical sleeve and a liner therein of homogeneous inherently resilient metallic material, said liner comprising pairs of clearly defined outwardly extending corners defining a series of spaced ribs each being of predetermined breadth between the corners and presenting outwardly facing areas adapted to engage the surrounding sleeve, said liner including intermediate portions of said metallic material between corners of adjacent ribs having a breadth greater than the breadth of the ribs, each said portion prior to application to the component having side sections of arcuate form curving towards each other and joining a mid-section therebetween with a tangential junction, each said mid-section subsequent to insertion of a component having an outwardly arcuate shape and tangential junctions with the adjacent arcuate sections, the span of said outwardly arcuate shape and the lengths of the arcuate sections being determined throughout the length of the component by the perimeter of the component whereby when the shield is applied to the component the area of engagement of the liner with the component exceeds the area of engagement of the liner with the sleeve.

2,973,401
CONDUCTOR SPACERS
John J. Taylor, Medina, Ohio, assignor to The Ohio Brass Company, Mansfield, Ohio, a corporation of New Jersey
Filed June 11, 1956, Ser. No. 590,662
7 Claims. (Cl. 174—40)



1. A conductor spacer for use with two conductor cables comprising two conductor clamps and an interposed spacer member for holding the clamps in spaced apart relationship, the said conductor clamps each comprising two opposed elongated clamp members and each clamp member comprising a unitary piece having a longitudinally directed, transversely arcuate, cable receiving groove with the longitudinal section thereof tapering from the middle part of the clamp outward toward each end thereof for resisting vertical movement of the cable according to the distance from the center of the clamp, and a downwardly arcuate configuration longitudinally along the groove for deformation into a substantially straight line configuration upon engagement with a cable, means for securing the clamp members in clamping relation with the cable, and means for securing the spacer member to the conducting clamps.

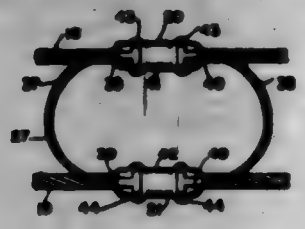
2,973,402
CONDUCTOR SPACERS
John J. Taylor, Medina, Ohio, assignor to The Ohio Brass Company, Mansfield, Ohio, a corporation of New Jersey
Filed Sept. 8, 1958, Ser. No. 759,792
13 Claims. (Cl. 174—40)



1. A spacer for holding two conductor cables in spaced lateral disposition, comprising a spacer bar and two conductor clamps, one at each end of the bar, each conductor clamp including two unitary body parts with opposed longitudinally directed cable receiving grooves adjacent the outer extremity thereof, inwardly extending central parts spaced apart in a direction perpendicular to

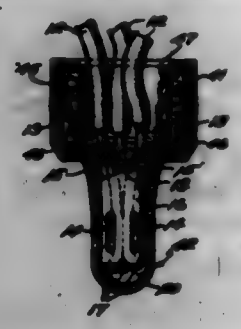
the cable grooves, pivot means carried by the said central parts and extending in the longitudinal direction thereof perpendicular to the cable grooves, and screw means extending through the body parts for clamping the parts together and upon the cable, and the spacer bar having bipartite end parts received over the pivot means and spaced apart in the longitudinal direction of the pivot means for two point bearing against the pivot means, all for permitting relative longitudinal movement of the conductor clamps with respect to each other in the plane of the spacer bar and cables while preventing separate torsional movement thereof.

2,973,403
TRANSMISSION LINE SPACER
John J. Taylor, Medina, Ohio, assignor to The Ohio Brass Company, Mansfield, Ohio, a corporation of New Jersey
Continuation of application Ser. No. 590,661, June 11, 1956. This application Sept. 8, 1958, Ser. No. 759,823
2 Claims. (Cl. 174—40)



1. A combined conductor suspension means and flexible spacer for use with two conductor cables including two conductor clamps each comprising a clamp body having a longitudinal cable receiving groove and an open top, vertical openings at each side of the groove, a keeper disposed in the open part of the groove, clamping means passing over the keeper and downwardly through the openings, a flexible spacer comprising an elastically deformable member with a terminal member at each end thereof received over the clamping means of each conductor means and screw means on the clamping means for holding the clamp body, the keeper, and the spacer in compressive relation with each other and with the cables.

2,973,404
ELECTRIC WIRE CONNECTOR
John Wiley Andersen, Newtown, Conn.
(% The Plastic Molding Corporation, Sandy Hook, Conn.)
Original application Oct. 29, 1953, Ser. No. 388,962, now Patent No. 2,925,461, dated Feb. 16, 1960. Divided and this application Jan. 26, 1960, Ser. No. 4,698
5 Claims. (Cl. 174—87)



1. A compound connector for holding together in electrical contact and insulated from their surroundings side-by-side wire terminals of electrical conductors, comprising in combination with electrical conductors having bared wire terminals, a metallic binder having a tubular wall sleeved over said wire terminals in a manner to hold them fixedly together and having an outwardly extending rim portion, an elongate boot of insulative material housing said binder and said wire terminals having an open end encompassing said conductors castellated to form more than two axially extending locking prongs flexible and springable in angularly divergent directions, and a collar encompassing said conductors having detentive shoulders at least one of which is interlockably engaged by at least one of said prongs in a releasable manner while said binder occupies said boot, said boot presenting internally a thrust receiving stop lug encountering said outwardly extended rim portion of said binder in a manner positively to prevent withdrawal of said binder and said wire terminals from within said boot when said members are locked together by said prongs.

2,973,405
ELECTRICAL DISTRIBUTION BUS DUCTS
Helmuth W. Zach and Howard W. Zach, both % H. W. Zach Co., P.O. Box 122, Austin 62, Tex.
Filed Feb. 21, 1958, Ser. No. 716,622
5 Claims. (Cl. 174—99)

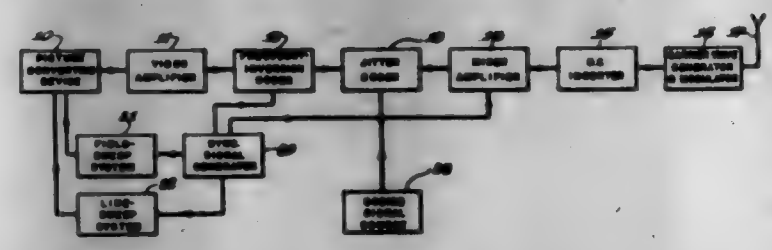


1. In an electrical distribution bus duct, a bus bar assembly including four conductors, a tubular neutral conductor triangular in transverse cross section, three tubular current carrying conductors rectangular in transverse cross section, said current carrying conductors being circumferentially equally spaced about said neutral conductor in an equilateral triangle formation, insulators spaced longitudinally along the run of the four conductors for holding the three current carrying conductors at predetermined distances from the neutral conductor, said insulators being positioned between the neutral conductor and the current carrying conductors with each insulator engaging the neutral conductor and one of the current carrying conductors; and means for holding said insulators and said conductors clamped together including a two-piece member encircling said conductors and carrying a plurality of insulators each positioned to engage and support one of the three current carrying conductors, the construction and arrangement being such that the bus bar assembly will be clamped together to maintain the conductors and insulators in compression thereby providing maximum resistance to short circuits and ground stresses.

2,973,406
SUBSCRIPTION TELEVISION SYSTEMS AND METHOD OF OPERATING THE SAME
Walter S. Druz, Beaconville, Ill., assignor to Zenith Radio Corporation, a corporation of Delaware
Filed Aug. 1, 1957, Ser. No. 675,765
7 Claims. (Cl. 178—5.1)

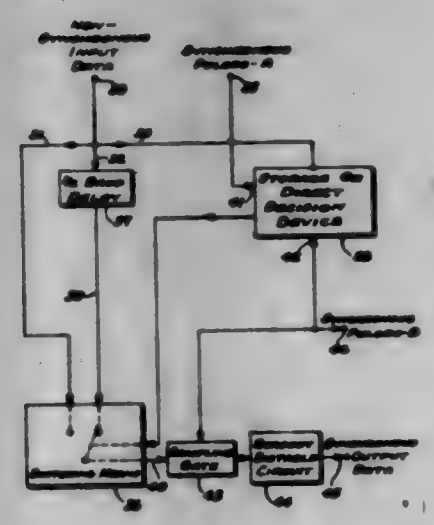
1. A subscription television receiver for decoding a received coded television signal representing an uncoded television signal which has been previously subjected to successive and non-commutative first and second coding functions in the order named whereby two different characteristics of said uncoded television signal have been coded, said receiver comprising: means for developing said coded television signal; decoding apparatus coupled to said means for subjecting said coded television signal to a decoding function complementary to said second coding

function to produce an intermediate signal with one of said characteristics decoded; additional decoding apparatus cascade-coupled to the output of said first-mentioned decoding apparatus for subjecting said intermediate signal to a decoding function complementary to said first coding



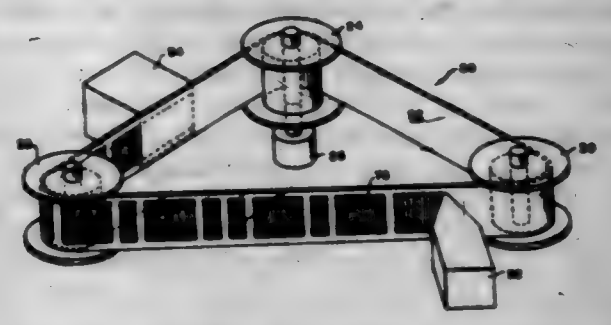
function to produce an output signal with the other as well as said one characteristic decoded and which is a simulation of said uncoded television signal; and means coupled to said additional decoding apparatus for utilizing said output signal.

2,973,407
BINARY CODE SYNCHRONIZER
George F. Grondin, Van Nuys, Calif., assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa
Filed May 5, 1958, Ser. No. 733,086
19 Claims. (Cl. 178—26)



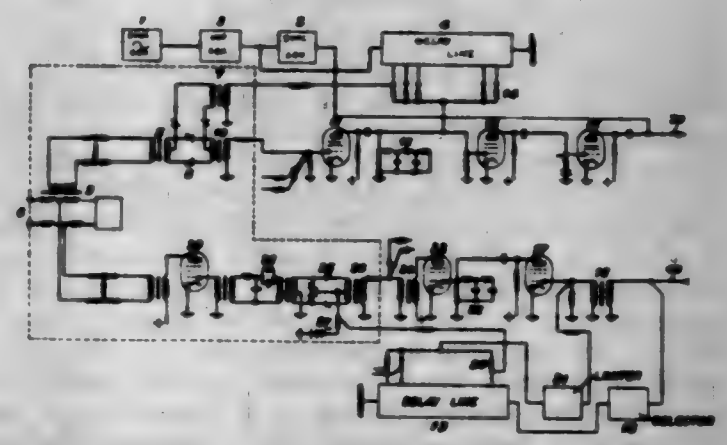
1. Means for converting nonsynchronous binary data to synchronous data, comprising a bistable-storage device enabled by said nonsynchronous data, a source of synchronous A-pulses connected to said storage device to sample said input data at the synchronous rate of said A-pulses, a decision device connected to receive the nonsynchronous input and being also connected to said A-pulse source, a synchronous source of B-pulses phased 90 degrees with said A-pulses and connected to said decision device, said decision device measuring the phasing of the A-pulses and B-pulses relative to the mid-portions of the received binary data, switching means having inputs connected to the nonsynchronous input and to the synchronous output of the storage device, said switching means selecting one of its inputs at one time for its output, said decision device connected to said switching means to control its output selection, said switching means selecting its storage-device input when said decision device measures the phase of said A-pulse occurrence during the general mid-portions of said nonsynchronous binary data, and said switching means selecting its nonsynchronous input when said decision device measures the phase of said B-pulse occurrence during the general mid-portions of said nonsynchronous binary data, a read-out sampling gate being connected to the output of said switching means and to synchronously sample the selected data.

2,973,408
PHOSPHOR-BELT RECORDER-REPRODUCER
Ralph M. Hirsch, 205 Sussex Road, Washington Township, Westwood, N.J.
Filed Nov. 24, 1958, Ser. No. 776,152
13 Claims. (Cl. 178—89)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A system for visually recording telegraphic signals comprising, a telegraph receiver, an ultra-violet light source connected to said receiver said light source being of fixed intensity when energized, a phosphor belt exposed to said ultra-violet light source and movable relative thereto, means connected to said receiver and said light source adapted to selectively turn on and turn off said ultra-violet light source in response to the receipt of a telegraphic signal by the receiver, and an infra-red light source mounted adjacent to said phosphor belt and having the light thereof selectively projectable thereunto, whereby images produced on said belt by said ultra-violet lamp are adapted to be erased therefrom.

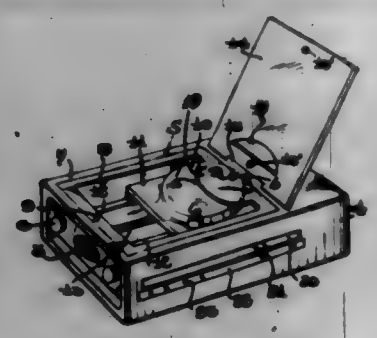
2,973,409
TELECOMMUNICATION SYSTEM
Jacques Regis Victor Oswald, Paris, France, assignor to Compagnie Industrielle des Telephones, Paris, France, a corporation of France
Original application Mar. 1, 1952, Ser. No. 274,373, now Patent No. 2,785,227, dated Mar. 12, 1957. Divided and this application May 10, 1955, Ser. No. 507,454
1 Claim. (Cl. 179—15)



A pulse-type telecommunication system involving a plurality of transmitting and receiving channels, comprising, in comibnation, an electrical current impulse generator for generating, at predetermined time intervals, electrical current impulses capable of being represented by a continuous function of time, which has a differential coefficient for all values of time; a modulator arranged in each transmitter channel and having first, second, and output terminal means, said modulator being electrically connected at said first terminal means thereof to the output of said electrical current impulse generator, and adapted to be connected at said second terminal means thereof to a source of voice currents so that said current impulses generated by said current impulse generator may be amplitude modulated by said voice currents; a differentiator circuit common to all transmitting channels

and electrically connected to said output terminal means of said modulator for differentiating the amplitude modulated current impulses; a mixer circuit common to all transmitting channels, said mixer having input and output terminals and being electrically connected at its input terminals to the output of said current impulse generator and to the output of said differentiator circuit for superimposing the two outputs whereby a series of position modulated electrical current impulses are obtained for transmission to a suitable receiving device; a generator in each of said transmission channels and being electrically connected to the output of said electrical current impulse generator for generating electrical current pilot synchronizing pulses, the latter pulses being transmitted together with said position modulated electrical current impulses; means for transmitting said position modulated electrical current impulses together with said electrical current pilot synchronizing pulses; and a receiver for demodulating said transmitted pulses to obtain the desired voice frequencies.

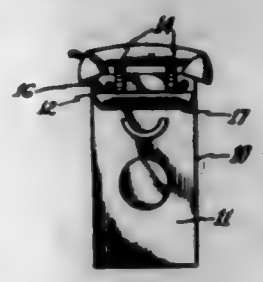
2,973,410
PRESSING PLATE OF A MAGNETIC SOUND RECORD READING MACHINE
Yasushi Hoshino, 462 1-chome, Tamagawa-Okusawacho, Setagaya-ku, and Minoru Sato, 635 Ishikawacho Apt., 168 Ishikawa-cho, Ota-ku, both of Tokyo, Japan
Filed Apr. 29, 1959, Ser. No. 809,656
Claims priority, application Japan May 2, 1958
3 Claims. (Cl. 179—100.2)



1. A magnetic sound recording and reproducing apparatus for use with a magnetic sound record sheet having on one surface a magnetic coating film and on the other surface visible marks, said apparatus comprising a panel plate provided with a window opening for exposing the magnetic coating film of the magnetic sound record sheet, a transparent pressing plate adapted to sandwich the magnetic sound record sheet against the panel plate and to enable the visible marks to be seen, a turntable rotatably and longitudinally movable below the panel plate to effect scanning of the magnetic coating layer of the magnetic sound record sheet, a plurality of sound transducing heads mounted on the turntable to scan said sheet along a determinable range thereof, said pressing plate being provided with a window hole outside of said range, the panel plate including a projection corresponding to said window hole to facilitate writing on the sheet through said window hole.

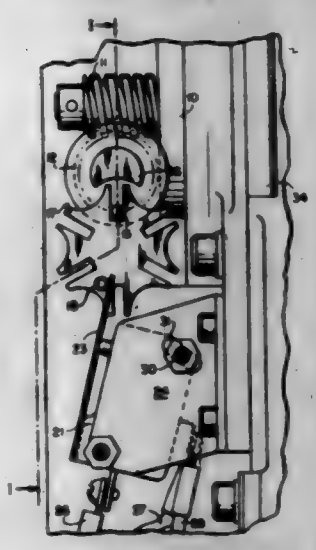
2,973,411
SUPPORTS FOR TELEPHONE HAND SETS
Benedict Ingrao, 2435 N. 73rd Ave., Elmwood Park, Ill.
Original application Feb. 25, 1955, Ser. No. 490,641. Divided and this application Dec. 9, 1957, Ser. No. 701,374
6 Claims. (Cl. 179—146)

1. A support for telephone hand sets adopted to be attached to a telephone wall box and comprising a mounting plate having integral spaced apart depending lugs at the edges of said plate; a pair of horizontally spaced upwardly extending bifurcated brackets connected at their lower ends to said mounting plate and having portions thereof extending outwardly of said mounting plate; said upwardly extending bifurcated brackets being adapted to



receive a telephone hand set, said lugs being adapted to releasably engage the upper end portion of a telephone wall box to thereby hold said support upon said telephone wall box.

2,973,412
LIMIT CONTROL MECHANISM
Francis M. Joseph, Bogota, and Edgar R. Herrmann, Maplewood, N.J., assignors to Breeze Corporations, Inc., Union, N.J., a corporation of New Jersey
Filed Feb. 28, 1957, Ser. No. 642,988
2 Claims. (Cl. 200—47)

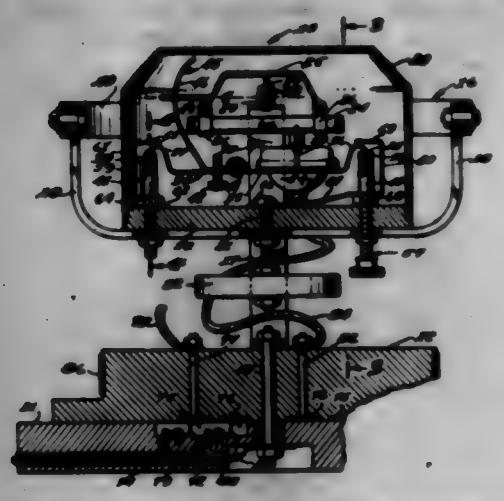


1. A quick reset limit control operating mechanism for a reversible power source comprising a gear reduction train driven by the power source, a pin extending from the gear train, a Geneva wheel having a plurality of radial slots therein for driven engagement by the pin, a control arm carried by the Geneva wheel and extending outwardly thereof and power control means disposed in the path of the Geneva control arm so that the pin will enter one of the slots as the control arm reaches the power control means whereby the ratio of movement of the Geneva wheel rotating is increased as the control arm reaches the power control means.

2,973,413
COMPASS SUSPENSION FOR AUTOMATIC PILOT
Arthur D. Hill, 222 20th St., Newport Beach, Calif.
Filed Nov. 13, 1959, Ser. No. 852,774
4 Claims. (Cl. 200—52)

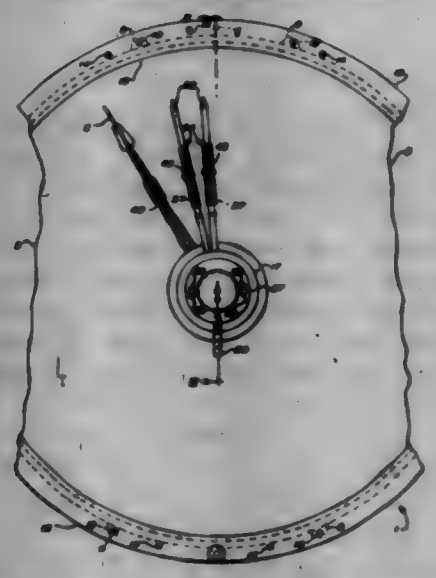
1. In a compass suspension for an automatic pilot in which electrical circuits are closed and opened to effect steering, a magnetic bar, a pivot point on which said bar is suspended for horizontal swinging motion, a finger connected to said bar and aligned therewith, said finger swinging in the horizontal plane which contains said pivot point, a gimbal bar pivoted at two points for tilting movement responsive to swinging movement of said finger, switch means on said gimbal bar for open-

ing and closing said circuits when said gimbal bar is tilted, and means connected with one of said last-men-



tioned two pivot points for adjusting the height of said pivot point.

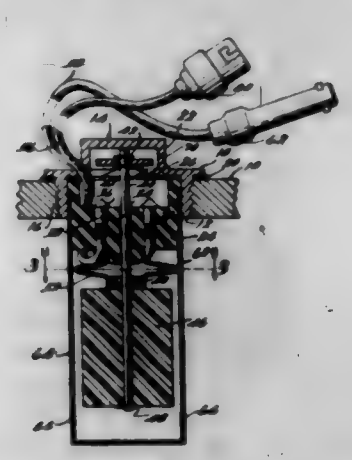
2,973,414
CUTOFF DEVICE FOR WEIGHING SCALES
Robert W. Bonnemeyer, Toledo, Ohio, assignor, by mesne assignments, to Toledo Scale Corporation, Toledo, Ohio, a corporation of Ohio
Filed July 6, 1956, Ser. No. 596,267
10 Claims. (Cl. 200—56)



1. A weighing scale comprising, in combination, a dial housing, a chart within the dial housing, a weight responsive indicator movable with respect to the chart, an actuating magnet carried by the indicator, a manually operable pointer movable with respect to the chart, a first transparent cover plate that is mounted on the dial housing and that is located between the indicator and the pointer, a second transparent cover plate that is mounted on the dial housing and that is spaced apart from the first cover plate, the pointer being located in the space between the cover plates, mounting means for the pointer that is carried by the second cover plate and that extends through the second cover plate into the space between the cover plates, and a switch that is carried by the pointer and that includes a pair of reeds which are sealed in a receptacle and which are actuated by the magnetic field of the magnet when the magnet is moved near to the switch by the weight responsive indicator.

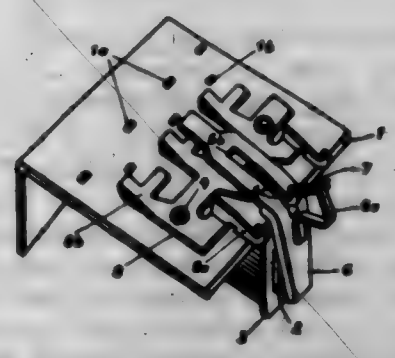
2,973,415
BRAKE FLUID INDICATOR
Gibson S. Bryan, 184 E. Huron St., Pontiac, Mich.
Filed May 29, 1959, Ser. No. 816,886
6 Claims. (Cl. 200—84)

1. In an indicator for indicating a predetermined change in the level of a liquid in a container having an opening therein, a closure member adapted to be mounted in said opening, a second member supported on said closure member and co-operating with said closure member to define a contact chamber, contact means mounted on one of said members, a float support element extending through one of said members having a loosely fitting aperture receiving said support element, said support element being movable relative to said one of said members, through which it extends, to and from a closed circuit position and having one end disposed in said contact chamber and the other end adapted to be disposed in said container when said closure member is mounted in said



opening, a contact element disposed within said contact chamber and carried by said one end of said float support element, said contact means being disposed for engagement by said contact element when said float support element is in said closed circuit position, a float mounted on said float support element adjacent said other end thereof, and sealing means disposed externally of said contact chamber and substantially sealing said contact chamber from the liquid and vapor within said container when said closure member is mounted within said opening while permitting free movement of said support element relative to said one of said members through which it extends.

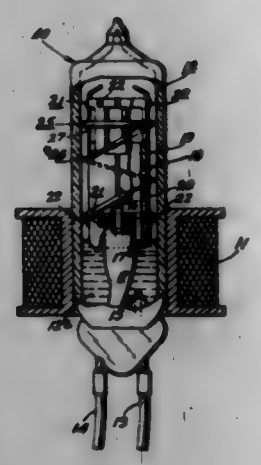
2,973,416
MULTI-UNIT RELAY ASSEMBLY
Nils Erik Osterberg, deceased, late of Enskede, Stockholm, Sweden, by Dagn Enfemia Osterberg, heir and guardian of minor heir, Enskede, Sweden, assignor to Telefonaktiebolaget L M Ericsson, Stockholm, Sweden, a corporation of Sweden
Filed Sept. 25, 1956, Ser. No. 653,507
Claims priority, application Sweden Sept. 27, 1955
12 Claims. (Cl. 200—104)



1. A multi-unit relay assembly comprising a common ferrous yoke having a plane front part and a plane back part forming a right angle with each other, a plurality of cores secured to said back part parallel to each other and said front part beneath the latter, a relay coil removably fitted upon each of said cores, a mounting flange secured to one end of each coil, each of said flanges abutting with one side against the back part of the yoke, and a sheet metal fastening piece common to all

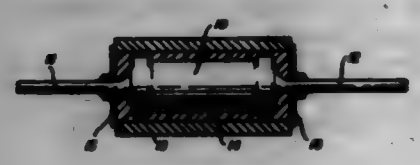
said cores and having protrusions engaging with said yoke for fastening the piece to the yoke, said piece having springy tongues bent out of the material of said piece, said tongues abutting against the opposite side of each of said mounting flanges for holding the respective coil on the core and in a fixed position relative to the yoke.

2,973,417
RELAY SWITCH
John R. McKinney, 111 Brittany Drive, Chalfont, Pa.
Filed Nov. 25, 1958, Ser. No. 776,244
7 Claims. (Cl. 200—112)



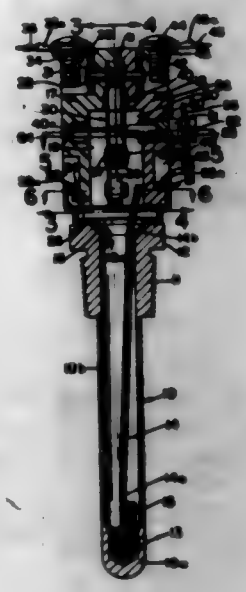
1. In a plunger assembly for a mercury relay or the like adapted to be mounted within an enclosed tubular envelope having mercury therein, a cylindrical plunger sleeve of magnetic material, and means in the form of a guide member operatively associated with the outer periphery of said sleeve, said means comprising a fluoroethylene polymer and preventing engagement of said sleeve and the interior of said tubular envelope.

2,973,418
FUSE-RESISTOR
Lawrence H. Whitmam, West Newbury, Mass., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Oct. 7, 1958, Ser. No. 765,831
8 Claims. (Cl. 200—123)



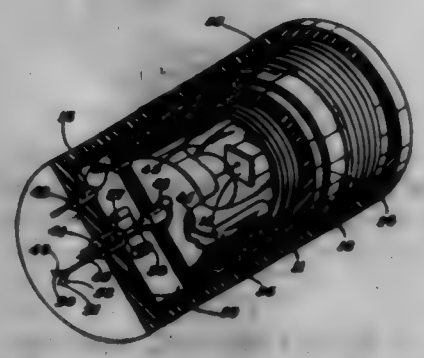
1. A fuse-resistor comprising a resistor, axial lead wires extending from the respective ends of said resistor for connecting said resistor to an electric circuit, a glass tube encasing said resistor, an epoxy resin surrounding substantially the entire surface of said resistor and suspending said resistor within said glass tube, said epoxy resin being substantially coextensive with said glass tube and adhering to both said resistor and said glass tube, discs placed in contact with and covering the respective ends of said cylinder, said lead wires extending through and securely attached to said discs whereby an above normal load for a predetermined length of time creates a concentration of heat around the center portion of said resistor which causes said epoxy resin surrounding said center portion to soften and expand, moving said epoxy resin surrounding the end portions of said resistor axially outward against said discs, thereby producing a longitudinal tension on said resistor and said lead wires which causes the failure of either said resistor or one of said lead wires and breaks the circuit.

2,973,419
THERMOSTATIC CONTROLS
John D. Bolesky and Rexford M. Morris, Mansfield, Ohio, assignors, by direct and mesne assignments, to Therm-O-Disc, Incorporated, Mansfield, Ohio, a corporation of Ohio
Filed Feb. 24, 1959, Ser. No. 794,967
4 Claims. (Cl. 200—138)



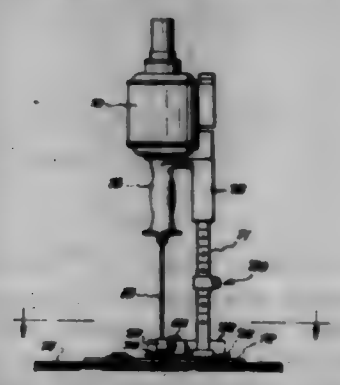
3. A thermostat comprising a switch housing having a chamber therein; a switch assembly mounted in said chamber and including an elongated movable contact-carrying arm which is cantilever mounted at one end in said switch housing and extends lengthwise in said chamber, said movable contact-carrying arm having an opposite free end which is movable, a bumper on said free end of the movable contact-carrying arm, a mobile switch contact on said movable contact-carrying arm between the latter's cantilever mounted end and said bumper, a fixed contact-carrying arm which is cantilever mounted at one end opposite said movable contact-carrying arm and which extends lengthwise in said chamber opposite said movable contact-carrying arm, said fixed contact-carrying arm having a contiguous back-up spring member which terminates short of said bumper on the movable contact-carrying arm, a fixed switch contact on said free end of the fixed contact arm opposite said mobile contact on said movable contact-carrying arm for engagement therewith; an elongated probe housing which extends lengthwise substantially in line with the contact-carrying arms of said switch assembly, said probe housing having an elongated chamber therein which opens into said chamber in the switch housing, the probe housing chamber extending away from said free ends of the contact-carrying arms in a direction substantially directly away from the cantilever mounted ends of the contact-carrying arms, said probe housing being closed at its end remote from the switch housing; and an elongated bimetal strip mounted in cantilever fashion at said closed end of the probe housing and extending lengthwise therein toward the chamber in the switch housing, said bimetal strip being loosely received in said probe housing chamber and being movable transversely therein, said bimetal strip terminating in a movable free end disposed in said chamber in the switch housing opposite said bumper at the side of the bumper where said fixed contact-carrying arm is located, and means for laterally shifting the switch assembly within said chamber relative to the movable free end of the bimetal strip to vary the temperature at which the bimetal strip is effective upon the switch assembly.

2,973,420
OVEN
Robert L. Craiglow and Lloyd A. Keyser, Cedar Rapids, Iowa, assignors to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa
Filed Jan. 2, 1959, Ser. No. 784,578
15 Claims. (Cl. 219—19)



1. A multistage oven comprising an inner oven, an outer oven enclosing said inner oven, first heating means for said inner oven, second heating means for said outer oven, power control means constructed and arranged to supply energy to said first and second heater means in a constant ratio, and temperature sensing means responsive to the inner oven temperature to control the amount of energy supplied to said first heating means from said power control means.

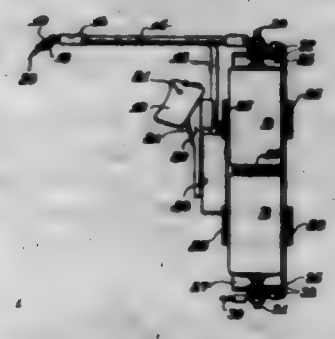
2,973,421
HEATING MEANS FOR CLOTH DRILLS
Frederick G. Clark, Buffalo, N.Y., assignor to Eastman Machine Company, Buffalo, N.Y.
Filed May 6, 1959, Ser. No. 811,442
4 Claims. (Cl. 219—19)



1. A heating device for a cloth drill having a rotary cloth penetrating needle and a base through and below which the needle passes, said heating device including a heating element mounted on said base in spaced relation to said needle, and an arm of heat conducting material having one end portion thereof arranged in position to be heated by said heating element and having the other end thereof provided with an aperture through which the needle extends to conduct heat from said heating element to said needle when the needle is in retarded non-operating position.

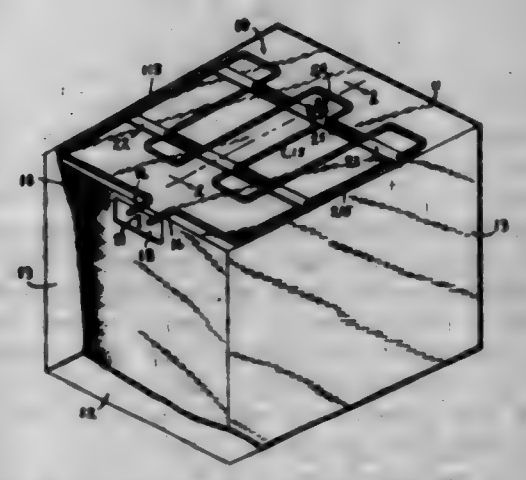
2,973,422
PORTABLE SOLDERING IRON
Arvel C. Smith, 42 Sycamore Drive, New Middletown, Ohio
Filed Oct. 1, 1958, Ser. No. 764,562
1 Claim. (Cl. 219—26)

A portable soldering iron having a body structure for holding a plurality of dry cell batteries and mounting a switch and a pair of structural supports for a heated element; said body structure comprising two superimposed pairs of vertically positioned brackets having oppositely disposed outturned ends, each pair of brackets being arranged in back to back relation, the lower outturned ends of the uppermost pair of brackets being riveted to the upper outturned ends of the lowermost pair of brackets, two pairs of U-shaped clamping arms, each pair being arranged in back to back relation, one of said pairs of U-shaped clamping arms being attached to the backs of the uppermost pair of said brackets and the other pair of U-shaped clamping arms being attached to the backs of the lowermost pair of said brackets, said switch mounted on the adjacent sides of one of said pairs of U-shaped clamping arms and electrically connected therethrough to said superimposed pairs of brackets, terminals posi-



tioned through the uppermost outturned ends of said uppermost pair of brackets and insulated with respect thereto and secondary terminals positioned through the lowermost outturned ends of said lowermost pair of brackets and insulated with respect thereto, conductors electrically connecting said terminals and a secondary conductor electrically connecting one of said structural supports with said switch whereby dry cell batteries positioned between the outturned ends of each of said brackets complete circuits through said terminals, switch, structural supports and said heated element.

2,973,423
MAGNETICALLY SUPPORTED HEATER ASSEMBLY
George Edward Ammerman, Oakmont, and David Errol Walling, Pittsburgh, Pa., assignors to Edwin L. Wiegand Company
Filed May 7, 1959, Ser. No. 811,640
3 Claims. (Cl. 219—37)



1. An electric heater assembly for use with ovens and the like having generally horizontal walls and an adjoining, apertured, generally vertical wall whose aperture may be spaced varying distances from respective adjoining horizontal walls, comprising an electric resistance heating element having a heat-generating portion adjacent to and underlying said horizontal wall and a terminal portion extending through the vertical wall aperture for conducting electrical energy to said heat-generating element portion, means supporting said element terminal portion in position within said vertical wall aperture for in turn supporting an adjoining heat-generating element portion in position adjacent said horizontal wall, a permanent magnet carried by a heat-generating portion of said element

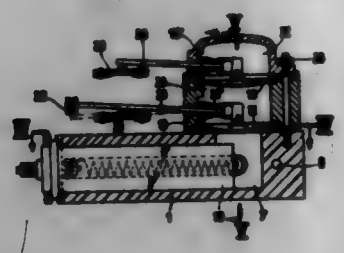
spaced from said element terminal portion and adapted to grip said horizontal wall by magnetic attraction to support such spaced, heat-generating element portion in position therebeneath, and means for adjusting the vertical relationship between said magnet and said element to vary the supported position of said spaced, heat-generating element portion in accordance with the supported position of said element terminal portion and its adjoining, heat-generating element portion.

2,973,424

ELECTRIC CONTINUOUS-FLOW HEATER WITH WATER DEFICIENCY PROTECTION AND SAFETY SWITCH

Leonid Schomann, Langenberg, Rhineland, Germany, assignor to Alfred Eckerfeld, Essen, Ruhr, Germany

Filed Dec. 15, 1958, Ser. No. 780,436
Claims priority, application Germany Dec. 14, 1957
6 Claims. (Cl. 219—39)



1. An electric continuous-flow heater comprising in combination a housing having liquid inlet and outlet; a liquid flow passage connecting said inlet with said outlet comprising an inlet channel, a heating channel, an over-pressure chamber, and an outlet channel; an adjustable throttle connected in one of said channels; a heater element mounted in said heating channel having a portion thereof extending into said over-pressure chamber, said heating channel being connected with said over-pressure chamber; a first diaphragm switch mounted in said housing comprising a diaphragm, a pair of normally open electrical contacts, and coupling means between said diaphragm and said contacts, said diaphragm being responsive to a pressure differential in said flow passage between two points one at each side of said throttle for closing said contacts upon the formation of said pressure differential; a second diaphragm switch mounted in said housing comprising a diaphragm mounted in a wall of said over-pressure chamber, a pair of normally closed electrical contacts, and means for coupling said diaphragm with said electrical contacts, said second diaphragm switch being arranged to become open upon an excessive pressure increase in said over-pressure chamber; said first diaphragm switch, said second diaphragm switch and said heater element being series-connected electrically; whereby the flow of liquid in said liquid flow passage causes said first diaphragm switch to be closed, and whereby the pressure of vapor formed in said over-pressure chamber caused by a liquid deficiency in said liquid flow passage causes the instantaneous opening of said second diaphragm switch.

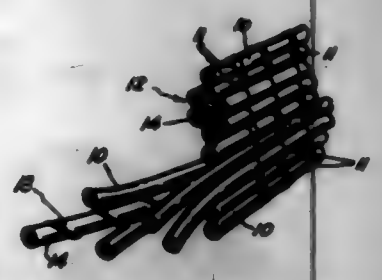
2,973,425

ELECTRICALLY WARMED MATS OR MATTING

Leslie Andrew Kelemen, 19 Carlotta Road, Double Bay, near Sydney, New South Wales, Australia

Filed May 20, 1959, Ser. No. 814,442
Claims priority, application Australia May 21, 1958
5 Claims. (Cl. 219—46)

1. An electric warming mat of woven construction comprising a plurality of weft threads arranged in clusters at intervals throughout the length of said mat and spaced by at least one weft thread, the weft threads of each cluster together being sufficiently stout to prevent formation of creases across them, and a flexible electrical conductor longitudinally enclosed within said clusters and woven



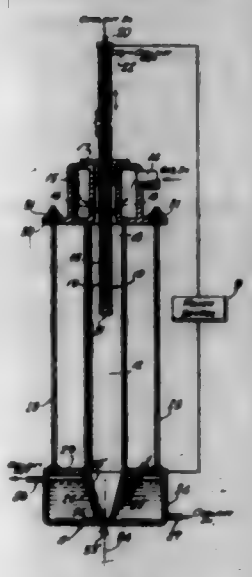
into said mat, said conductor electrically insulated by the several weft threads constituting said clusters.

2,973,426

ELECTRIC-ARC TORCH

Joseph J. Casey, Bethel, Conn. (% Amalgamated Growth Industries, Inc., 11 W. 42nd St., New York, N.Y.)

Filed June 5, 1956, Ser. No. 596,376
(Filed under Rule 47(b) and 35 U.S.C. 118)
11 Claims. (Cl. 219—75)



1. In an electric-arc torch, an upstream electrode, a hollow downstream electrode, an arc chamber defining a passage extending axially between said electrodes and electrically insulated therefrom, said chamber axially spacing all parts of said upstream electrode from all parts of said downstream electrode, inlet gas-supply means surrounding said upstream electrode and continuously feeding gas within said arc chamber in the vicinity of said upstream electrode, said downstream electrode having formed therein an injection passage communicating between an inlet external to said chamber and an outlet within the central opening of and near the downstream end of said downstream electrode, and means for continuously connecting an arc potential across said electrodes.

2,973,427

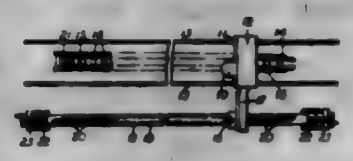
MACHINE TOOL CONTROL

Peter Shaw, Gosforth, Newcastle-upon-Tyne, England, assignor to The British Oxygen Company Limited, a British company

Filed Dec. 29, 1959, Ser. No. 24,863
Claims priority, application Great Britain Jan. 1, 1959
5 Claims. (Cl. 219—125)

2. In a machine for performing a sequence of identical operations along the length of an elongated workpiece, having a machine tool movable along said workpiece, a pattern representative of said workpiece and a sensing device responsive to said pattern for controlling operation of said machine tool, the combination of a strip of resiliently extensible material of unextended

length slightly less than the length of said workpiece, indicia printed on said strip in contrast therewith to provide pattern markings representative of selected areas of said workpiece for sensing by said sensing device, means



for retaining said pattern in a location for sensing by said sensing device, and means for temporarily stretching said strip endwise to make said pattern markings agree exactly with said workpiece as regards lateral alignment.

2,973,428

ARC WELDING OF UNALLOYED STRUCTURAL STEEL WORKPIECES SUCH AS HULL-PLATES, AND ARC WELDING ELECTRODES THEREFOR

Claes Fredrik Hakan Pfeiffer, Goteborg, Sweden, and Veikko Olavi Valanti, Helsinki, Finland, assignors to Elektriska Svetsningsaktiebolaget, Goteborg, Sweden, a corporation of Sweden

No Drawing. Filed Dec. 1, 1958, Ser. No. 777,287
3 Claims. (Cl. 219—137)

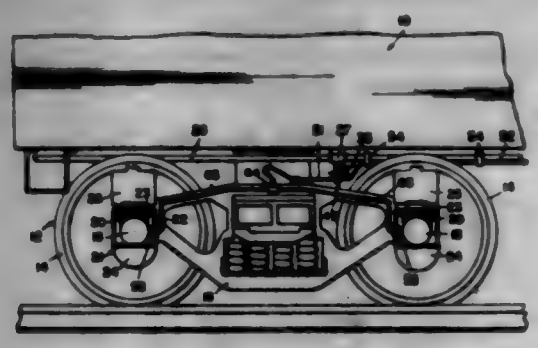
1. An arc welding electrode comprising a core of low-carbon unalloyed steel and a coating of the lime-fluoride type, characterized by a content of metal from the group comprising copper, nickel, and cobalt, the total weight of metal from said group not exceeding 1.25% of the weight of all of the metallic constituents of the electrode, and the weight of copper plus twice the combined weight of nickel and cobalt amounting to not less than 0.4% by weight of all of the metallic constituents of the electrode.

2,973,429

RAILWAY CAR JOURNAL FAILURE DETECTOR AND WARNING DEVICE

Athol B. Clark, 521 W. 8th Ave., Amarillo, Tex., and Richard K. Delaney, 401 Ave. F SE., Childress, Tex.

Filed Aug. 4, 1958, Ser. No. 753,054
7 Claims. (Cl. 246—169)



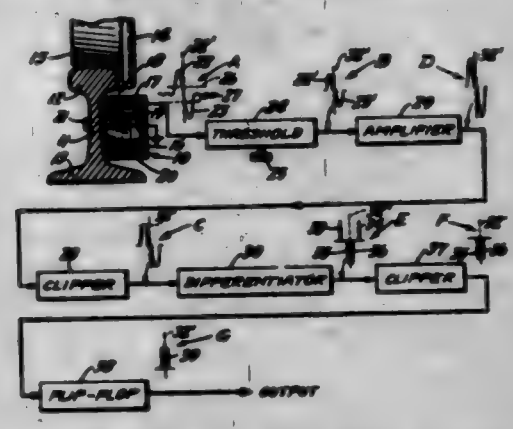
2. A car journal failure detector and warning device comprising the combination with an air brake line, of a diaphragm valve comprising opposite casing halves and a diaphragm between the same, an air admission pipe connected with said air brake line and opening into one of said casing halves, a seat for the diaphragm whereby the diaphragm shuts off flow of air from the air brake line through said air admission pipe, the diaphragm being biased to constantly tend to move to seat engaging shut off position, means for conveying air from the air brake line into the other valve casing half at a slower rate than its admission into said one half, whereby pressures are equalized on both sides of the diaphragm, a conduit of smaller diameter than said air admission pipe connected with and receiving air from said other casing half, and a fusible element closing the said smaller diameter conduit against escape of compressed air therefrom.

2,973,430

RAILROAD-CAR WHEEL LOCATOR

William M. Pelino, Garden City, N.Y., assignor to Servo Corporation of America, New Hyde Park, N.Y., a corporation of New York

Filed Mar. 25, 1957, Ser. No. 648,828
2 Claims. (Cl. 246—249)



1. In combination, a rail section of magnetic flux-conducting material and including a head and a base portion integrally formed at opposite ends of an upstanding web portion, said rail head being adapted to accommodate a railroad wheel having a flange on one side of said head, elongated magnetically polarized core means of magnetic flux-conducting material and mounted on said one side of said rail section with one end of said core means in substantial adjacency with one of said portions and orienting the other end of said core means to face generally upwardly at a location spaced laterally from the adjacent portion of said head to such an extent that a magnetic flux gap is defined between said other end and said rail head, an electrical winding coupled to said core means, a threshold circuit connected to said winding and passing to the output thereof only substantially those signals which exceed a given preselected minimum threshold level, clipper means responsive to the output of said threshold circuit and developing a square wave for each voltage pulse in said output, differentiating means responsive to the output of said clipper means, second clipper means responsive to the differentiated signals and passing substantially only differentiated signals of one polarity, whereby for each passage of a car wheel through said gap, said second clipper means develops two control pulses symmetrically positioned on opposite sides of the center line of said gap.

2,973,431

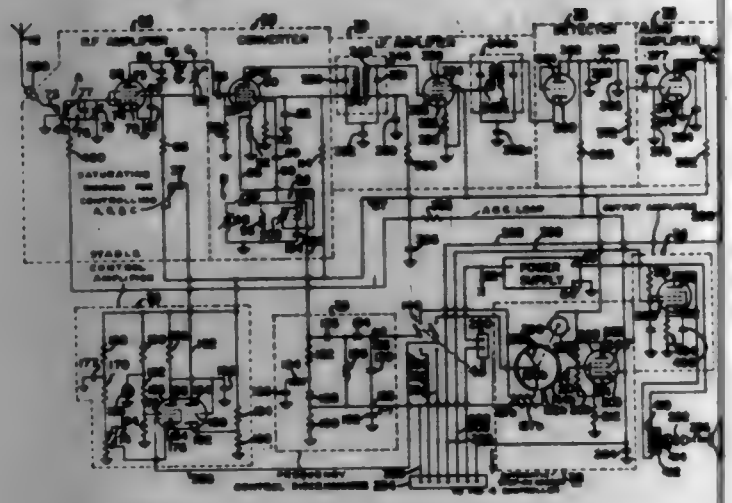
AUTOMOBILE RADIO RECEIVER SYSTEM

Carl G. Southeimer, Riverside, Conn., assignor to C.G.S. Laboratories, Inc., Stamford, Conn., a corporation of Connecticut

Filed July 22, 1954, Ser. No. 445,146
10 Claims. (Cl. 250—20)

1. A remotely-controllable automobile radio reciever assembly comprising a radio receiver and control means remote therefrom located adjacent the driver's location, said control means including an on-off switch for turning the radio receiver on and off, a station-selection control for selecting the radio station to which said radio receiver is to be tuned, and a volume control, a loud speaker connected to said radio receiver, said radio receiver comprising a chassis including a frequency-determining circuit for determining the frequency to which the said receiver is tuned, an inductance tuning element in said frequency-determining circuit, control winding means associated with said inductance tuning element for varying its inductance in accordance with the current in said control winding, a frequency-responsive control circuit directly coupled to said frequency-determining circuit for sensing directly the frequency to which said frequency-determining circuit is tuned, and being respon-

sive to said frequency to control the current through said control winding, said station-selection control being coupled to said frequency-responsive control circuit



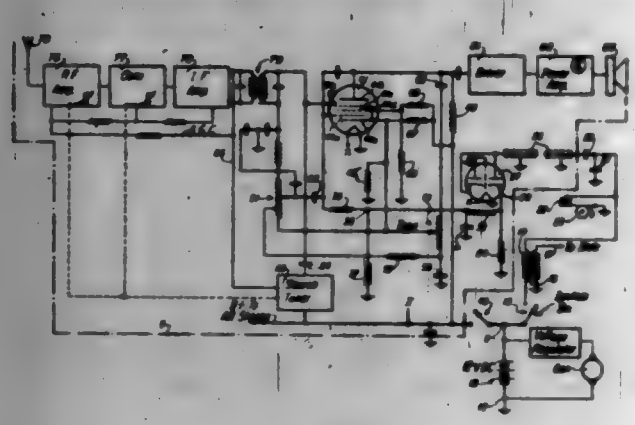
and adjusting the frequency-response characteristics thereof for tuning said receiver, and electrical connection means between said on-off switch, station-selection control, volume control, and radio chassis.

2,973,432

SPEED COMPENSATED VOLUME CONTROL

Frederick P. Hill, Elgin, Ill., assignor to Motorola, Inc., Chicago, Ill., a corporation of Illinois

Filed Nov. 20, 1956, Ser. No. 623,474
2 Claims. (Cl. 250—20)



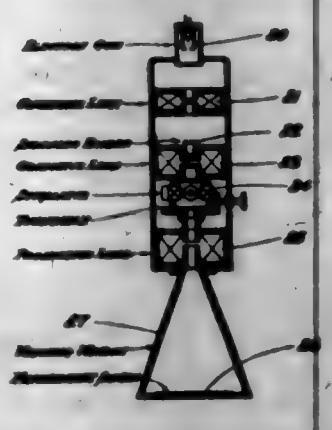
1. In an automobile system having a motor, a battery-generator power source provided with a positive side and a grounded side, breaker points controlled by the motor and operating at a rate related to the speed of the motor; an ignition coil having a primary winding connecting the positive side of the source to the breaker points, and a capacitor shunting the breaker points to ground, the combination therewith of a voltage-responsive device, voltage-doubler circuit means including first and second rectifier elements and having input and output terminals, a second capacitor connecting the juncture of the breaker points and the primary winding to said input terminal, a first resistor connecting said output terminal of said voltage-doubler means to ground, a second resistor having one end connected to said output terminal and a second end connected to said voltage-responsive device to apply thereto a voltage which has a value proportional to the speed of the motor, and a third capacitor coupling said second end of said second resistor to ground to form a filter therewith, said first and second resistors and said third capacitor having values selected so that the voltage across said third capacitor does not vary substantially with rapid variations in the speed of the motor.

2,973,433

METHOD AND DEVICE FOR ADJUSTING THE EXCITATION OF A STIGMATOR IN ELECTRON-MICROSCOPES

Johannes Kramer, Delft, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Nov. 25, 1957, Ser. No. 698,702
Claims priority, application Netherlands Jan. 3, 1957
3 Claims. (Cl. 250—49.5)



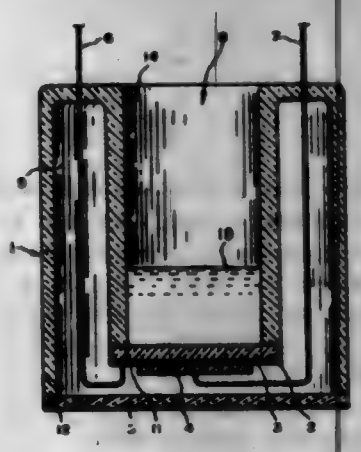
1. A device for correcting astigmatism in an electron beam passing through an electron lens system of an electron microscope comprising in combination, an astigmatism-correcting element in the path of the electron beam and including four series-connected electrically-excited field-producing members, three series-connected variable impedance elements, means to connect one terminal of said astigmatism-correcting element to one of said variable impedance elements, means to selectively connect the other terminal of said astigmatism-correcting element to one of the other impedance elements and to the junction of said latter impedance elements, and means to apply a potential between the junctions of said latter impedance elements and said first mentioned impedance element to thereby form an electrical bridge network for energizing the astigmatism correcting element to correct astigmatism in the electron beam.

2,973,434

INFRARED DETECTING CELL AND A MOUNTING THEREFOR

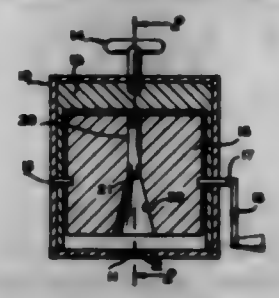
John A. Roberts, Dallas, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Dec. 26, 1957, Ser. No. 705,364
8 Claims. (Cl. 250—83)



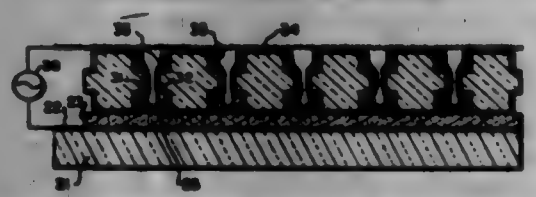
1. In a heat detecting device, the combination comprising a Dewar flask type holder wherein the bottom of the internal container is of high purity silicon and the bottom of the external container is of a material transparent to infrared radiations and an infrared detector cell mounted on the silicon bottom of the internal container between said internal and said external containers.

2,973,435
PORTABLE RADIOGRAPHIC UNIT
Seth D. Reeder, Idaho Falls, Idaho, assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Feb. 9, 1959, Ser. No. 792,039
1 Claim. (Cl. 250—105)



A portable radiographic unit comprising a hollow rectangular parallelepiped formed of a material which serves as a radiation shield, said parallelepiped having a circular opening in the center of the base thereof, a carrying handle secured to and extending from the upper face of said parallelepiped which is opposite the base thereof, a block formed of a material which serves as a radiation shield, a source of radioactive radiation positioned at the center of said block, said block having a conical opening therein which diverges outwardly from said source, first and second pins secured to said block on opposite sides thereof and extending outwardly from said block into respective openings in side walls of said parallelepiped so that said pins are free to rotate in said side walls so that said block automatically assumes a first fail-safe position within said parallelepiped whereby said conical opening points upwardly from said base because the center of gravity of said block is below said pins and above said base when said block is in said first position, said upper face of said parallelepiped shielding said source when said block is in said first position, and a second handle secured to one of said pins and extending outside said parallelepiped so that rotation of said second handle can rotate said block 180° to a second position inside said parallelepiped whereby said conical opening is in alignment with said circular opening.

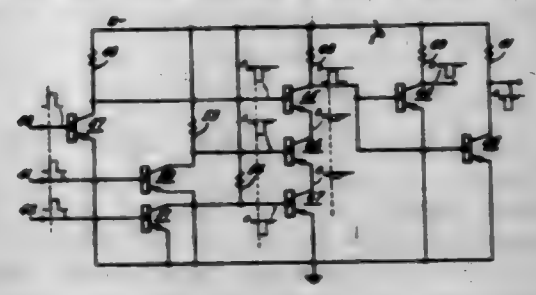
2,973,436
LIGHT AMPLIFIER AND STORAGE DEVICE
Frederic Koury, Lexington, Mass., assignor, by mesne assignments, to Sylvania Electric Products Inc., Wilmington, Del., a corporation of Delaware
Filed Apr. 9, 1957, Ser. No. 651,791
11 Claims. (Cl. 250—213)



1. A light amplifier and storage device comprising an electroluminescent layer, a photoconductive layer in series with said electroluminescent layer, a plurality of transparent members symmetrically disposed in said photoconductive layer, means for applying a voltage to said series layers, and means on said transparent members for limiting current flow through said photoconductive layer to predetermined portions thereof.

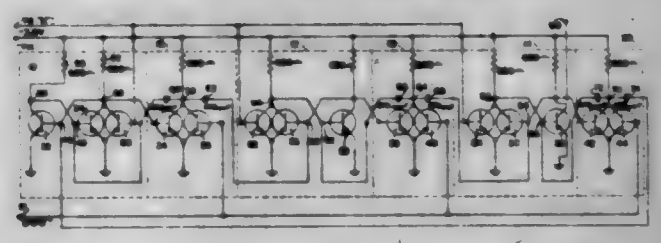
2,973,437
TRANSISTOR CIRCUIT
William E. Bradley, Clifton Heights, and Morris Rubinoff, Sharon Hill, Pa., assignors to Philco Corporation, Philadelphia, Pa., a corporation of Pennsylvania
Filed Feb. 2, 1955, Ser. No. 485,661
12 Claims. (Cl. 307—88.5)

1. A gate circuit comprising at least a first transistor and a second transistor of the same conductivity-type as said first transistor, each of said transistors having at least emitter, collector and base electrodes, means for interconnecting said transistors to provide a series current path through said emitter and collector electrodes thereof, means for applying a potential difference between opposite ends of said series current path, means for intermittently applying to said base electrode of said first transistor a potential of the same polarity, and at least as great as,



the contemporaneous potential of said collector electrode of said first transistor with respect to said emitter electrode thereof, and means for applying to said base electrode of said second transistor a potential with respect to that of said emitter electrode of said first transistor which is of the same polarity as said potential of said base electrode of said first transistor and at least as great as said potential of said base electrode of said first transistor but less than twice said last-named potential.

2,973,438
RING COUNTER
Edward Gary Clark, Oreland, Pa., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Dec. 28, 1956, Ser. No. 629,737
3 Claims. (Cl. 307—88.5)



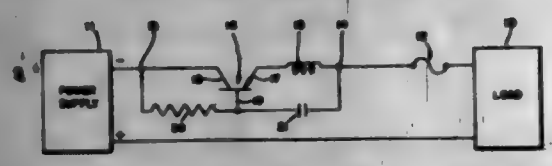
1. A ring counter comprising *n* transistor bistable devices; each of said devices having two states denoted 0 and 1; *n* transistor steering gates; where *n* is an integer greater than 1; each of said gates having two conditions, an enabled condition and a disabled condition; an advance terminal adapted to receive advance pulses applied thereto; said advance pulses being sequentially spaced in time; first circuit means connecting the advance terminal to each of said gates; a second circuit means connecting each of said gates between different pairs of said transistor bistable devices; means for setting said transistor bistable devices so that the first transistor bistable device is in the 1 state and the remainder are in the 0 state; each transistor gate being enabled when the bistable device preceding it is in the 1 state and being disabled when the bistable device preceding it is in the 0 state; each of said transistor gates when enabled and when an advance pulse is applied thereto producing an output signal; the output signal produced by an enabled gate causing the preceding transistor bistable device to shift to the 0 state and the succeeding transistor bistable device to shift to the 1 state; means responsive to each advance pulse for disabling all said transistor steering gates during the period of time an advance pulse is applied to the advance input terminal, and output means electrically connected with the *n*'th transistor bistable device for obtaining an output signal from the *n*'th transistor bistable device, whereby said ring counter produces an output signal for every *n*'th advance pulse applied to the advance terminal.

2,973,439

CURRENT-TRANSIENT DAMPER NETWORK

James B. Wright, Warren, Pa., assignor to Cersoleum Research Corporation, Warren, Pa., a corporation of Delaware

Filed July 25, 1958, Ser. No. 751,080
6 Claims. (Cl. 307—88.5)



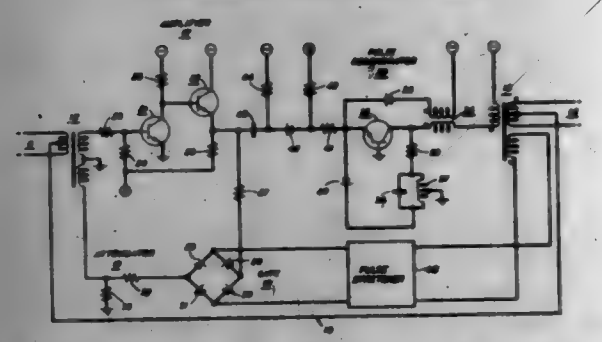
2. A transient-current damper network as complementer for fuse means used to protect a load comprising a transistor application operating at a given frequency range, the fuse means being in series with the load, the complementer comprising a two-terminal network in series with the fuse means and the load, said network comprising a transistor having an emitter electrode, a base electrode and a collector electrode, the terminals of said network being connected in a path through said emitter electrode and said collector electrode, a resistor connected between said collector electrode and said base electrode and normally biasing said base electrode and means for temporarily developing a voltage in response to relatively abrupt decreases in load impedance and for applying such developed voltage to temporarily counteract normal base-bias.

2,973,440

DIRECT-CURRENT LEVEL CONTROL IN PULSE TRANSMISSION

Robert L. Trent, Plackensin, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Mar. 18, 1957, Ser. No. 646,649
14 Claims. (Cl. 307—88.5)



1. In combination, an amplifier, an input circuit for said amplifier having a direct-current discontinuity, means for applying signals which may have a variable average value to said input circuit, means for reducing direct-current variation in the input of said amplifier which comprise threshold means responsive to output waves from said amplifier for producing an output only when said amplifier output waves exceed a predetermined threshold value, means responsive to said threshold means output for feeding back to the said input of said amplifier a portion of said amplifier output waves to provide sufficient energy to cancel substantially said direct-current variations, and an output means connected to the output of said threshold means.

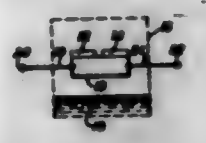
2,973,441

DEVICES EMPLOYING SUPERCONDUCTIVE MATERIAL

Jeafry S. Courtney-Pratt, Springfield, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Sept. 18, 1959, Ser. No. 840,927
12 Claims. (Cl. 307—88.5)

1. In combination, a first member conductive to both heat and electricity, the first member being of a material which does not become superconductive, a plurality of other members, the other members being of a material which is superconductive at and below a predetermined transition temperature, the plurality of other members being spaced along the first member in intimate electrical



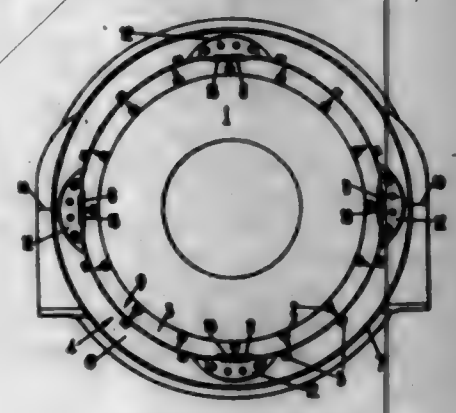
and heat transfer contact with the first member and electrically interconnected with each other through the first member only, means for cooling the combination to a temperature of at least the predetermined transition temperature, and means for electrically connecting to the ends of the first member.

2,973,442

STATOR CORE MOUNTING FOR DYNAMO ELECTRIC MACHINE

Robert Wilson, Sutton, Coldfield, England, assignor to The General Electric Company Limited, London, England

Filed Sept. 11, 1958, Ser. No. 760,423
Claims priority, application Great Britain Sept. 11, 1957
1 Claim. (Cl. 310—258)



In a dynamoelectric machine, of a type having a stator core in which electromagnetic distortions due to the rotating machine field may occur, a stator mounting arrangement comprising an inner frame housing said stator core, said inner frame comprising longitudinal support bars disposed around the axis of the machine and longitudinally spaced ribs projecting outwardly from said support bars, a fixed outer frame disposed around said inner frame, said outer frame comprising longitudinal bars disposed around the axis of the machine and longitudinally spaced ribs projecting inwardly from said bars, and a plurality of laminated beam springs extending axially along the whole length of the machine between said frames and spaced apart around the axis thereof, said inwardly projecting ribs and outwardly projecting ribs being respectively connected to said beam springs at alternately spaced positions along the length of the machine, and said beam springs being substantially rigid in the longitudinal and tangential directions but flexible in the radial direction so as to permit relative radial movement between said frames.

2,973,443

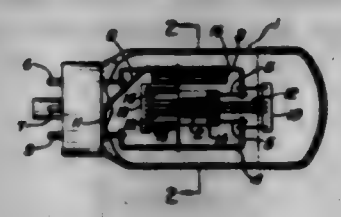
ELECTRIC INCANDESCENT LAMP

Emmett H. Wiley, Willowick, Ohio, assignor to General Electric Company, a corporation of New York

Filed June 10, 1959, Ser. No. 819,434
3 Claims. (Cl. 313—42)

1. An electric incandescent lamp comprising a gas-filled glass bulb, a filament supported in said bulb, a reflector within said bulb adjacent to and at one side

of said filament, and a heat deflector member in said bulb above said filament, said heat deflector member

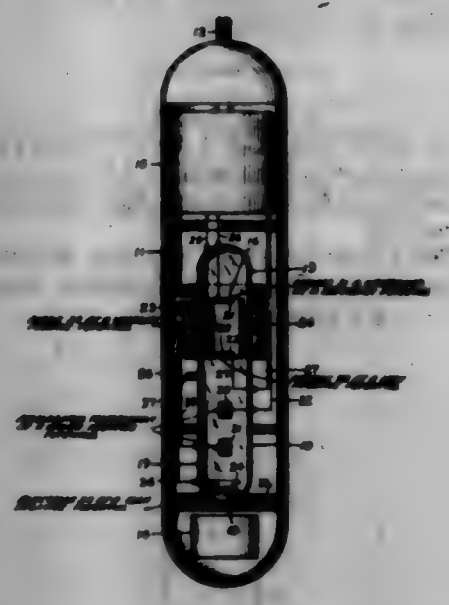


being inclined in a direction to deflect convection currents arising from said filament toward the bulb wall behind said reflector.

2,973,444
NEUTRON SOURCE FOR WELL LOGGING APPARATUS

John T. Dewan, Houston, Tex., assignor, by mesne assignments, to Schlumberger Well Surveying Corporation, Houston, Tex., a corporation of Texas

Filed Apr. 9, 1952, Ser. No. 281,378
8 Claims. (Cl. 313—61)



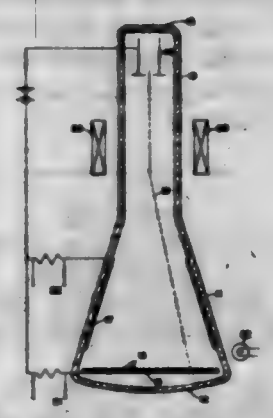
1. A neutron source suitable for well logging comprising an ion source including cathode means and anode means, means for lengthening the path of the electrons passing between said cathode means and said anode means, an ion accelerator, a target including a substance adapted to react with impinging ions to produce neutrons, and a sealed envelope containing said ion source, said accelerator and said target and filled with ionizable gas at a pressure such that the mean free path of the ions is of the order of the spacing between said ion source and said ion target.

2,973,445
DEVICE FOR DETECTION, CONVERSION, AND AMPLIFICATION OF X-RAY IMAGES

Thomas H. Rogers, New Canaan, Conn., assignor, by mesne assignments, to The Machlett Laboratories, Incorporated, Springdale, Conn., a corporation of Connecticut

Filed Mar. 9, 1951, Ser. No. 214,740
16 Claims. (Cl. 313—67)

5. A vacuum tube comprising in combination a screen disposed within said tube and comprising a layer of material which converts an invisible radiation image into electrical conductivity changes corresponding to said invisible image, and means for producing a beam of electrons modulated with said electrical conductivity changes on said screen, said means being separated from said



screen, said layer furthermore having an uncovered surface presented to said means.

2,973,446
ELECTRIC DISCHARGE TUBE

Frederik Coeterier, Eindhoven, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Oct. 29, 1959, Ser. No. 849,555
Claims priority, application Netherlands Dec. 20, 1958
1 Claim. (Cl. 313—70)



An electron discharge tube comprising an anode, a generally cylindrical cathode surrounding and spaced from the anode, and at least one control electrode between the cathode and the anode, the cross-section of said cathode cylinder being a sixteen-sided figure, alternate inner surfaces of the cathode cylinder being provided with electron-emissive material, the control electrode being positioned between a non-emissive surface and the anode to control adjacent electron beams without being struck by electrons.

2,973,447
GROOVED LAMP VAPOR PRESSURE CONTROL

John O. Aicher and Eugene Lemmers, Cleveland Heights, Ohio, assignors to General Electric Company, a corporation of New York

Filed May 12, 1958, Ser. No. 734,569
5 Claims. (Cl. 313—109)



1. A low pressure electric discharge lamp comprising an elongated vitreous light transmitting envelope having electrodes sealed into opposite ends and containing an ionizable medium including an inert starting gas and a metal vapor in equilibrium with an excess of non-vaporized metal, said envelope having an outer wall of generally circular section and a plurality of relatively short longitudinally extending grooves alternating on opposite sides of the envelope, most of said grooves being symmetrically located on a diametral plane through the longi-

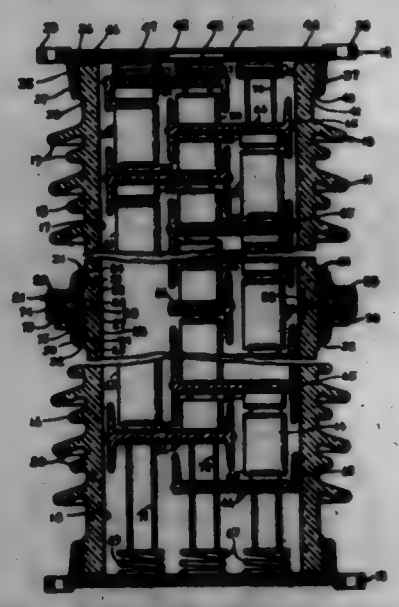
tudinal axis of the envelope, and at least one of said grooves being asymmetrically located to one side of said diametral plane in order to provide a wider rail portion on one side and a narrower rail portion on the other and cause substantial displacement of the discharge plasma toward said wider rail portion and away from said narrower rail portion.

2,973,448

LIGHTNING ARRESTER AND HOUSING THEREFOR

Arnold G. Yost, Barberton, Ohio, assignor to The Ohio Brass Company, Mansfield, Ohio, a corporation of New Jersey

Filed Sept. 23, 1957, Ser. No. 685,702
14 Claims. (Cl. 313—243)



1. A lightning arrester of the type having a plurality of serially connected arc gaps comprising an elongated ceramic housing having a central opening therein extending longitudinally through the housing and a metallic end fitting at each end of the housing, the said end fittings enclosing the interior of the housing and constituting base members for supporting the housing, a plurality of lightning arrester elements within the housing between the end fittings, electrical connecting means for the said arrester elements and spring means for maintaining the said arrester elements in the said stack and means connecting only the end elements of the said stack of arrester elements to the said end fittings, the said housing comprising at least two tubular ceramic porcelain members with adjacent ends thereof in opposed aligned relationship, a radially enlarged portion at the adjacent end of each of the ceramic members to provide a radially enlarged area of end surface and a radially projecting shoulder on the exterior of the member, metallic flange means for each of the ceramic members, means for transmitting longitudinal forces between the flange means and the ceramic members, means compressively connecting the two flange means, and a hardened body of resin adhesive between the members bonded to the end surfaces thereof for sealing the interior of the housing and maintaining the electrical insulating strength of the housing within the two flange means.

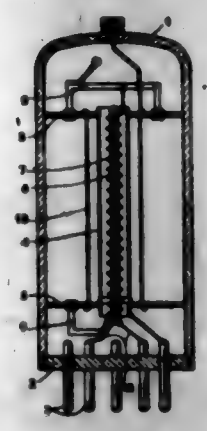
2,973,449

ELECTRIC DISCHARGE TUBE

Minne Kuipers and Jan van der Peel, Eindhoven, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Oct. 20, 1958, Ser. No. 768,448
Claims priority, application Netherlands Oct. 23, 1957
5 Claims. (Cl. 313—271)

1. An electric discharge device comprising an envelope and within the envelope an indirectly heated cathode assembly capable of withstanding high cathode-filament voltages, said cathode assembly comprising a cathode cylinder, an insulated heating filament within the cathode cylinder, and a bare metal member within said cathode cylinder but completely spaced therefrom and surrounding and engaging and supporting said heating filament



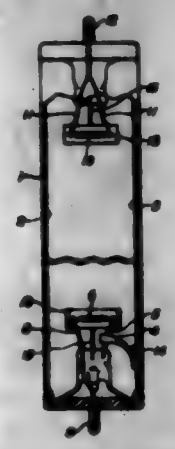
substantially along its entire length within the cathode cylinder, said bare metal member comprising a wire of a substance selected from the group consisting of tungsten and molybdenum and helically wound about the filament, and means free of contact with said cathode cylinder and supporting opposite end portions of said metal member within the envelope.

2,973,450

ELECTRIC DISCHARGE LAMP STARTING STRIP

Käthe Ristau, Berlin-Zehlendorf, Germany, assignor to Patent-Treuhand-Gesellschaft für elektrische Glühlampen m.b.H.

Filed July 19, 1957, Ser. No. 672,927
Claims priority, application Germany Aug. 1, 1956
6 Claims. (Cl. 313—291)



1. An electric discharge lamp comprising an elongated vitreous envelope provided on its inside surface with a longitudinally extending conductive starting strip formed of non-amalgamating metal from the group consisting of carbonyl iron powder, carbonyl nickel powder and mixtures thereof and having a resistance in the range of from 10 to 100 ohms per centimeter of length.

2,973,451

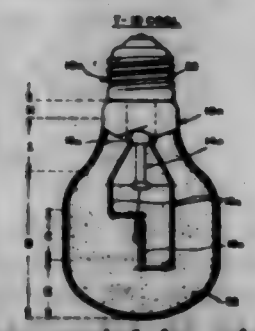
ELECTRIC LAMP

Herbert E. Plikker, Morristown, N.J., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Sept. 3, 1959, Ser. No. 837,869
11 Claims. (Cl. 313—317)

1. An electric lamp comprising a sealed light-transmitting envelope having a neck portion at one end and a bulbous portion at the other end that is joined to said neck portion by a tapered intermediate portion,

said bulbous portion being of maximum lateral dimension in a region intermediate of its ends and having straight sides thereat which define a cylindrical section of predetermined length and diameter the axis whereof is substantially coincident with the longitudinal axis of said lamp, an elongated light source in said envelope substantially coaxial with and located within said cylindrical



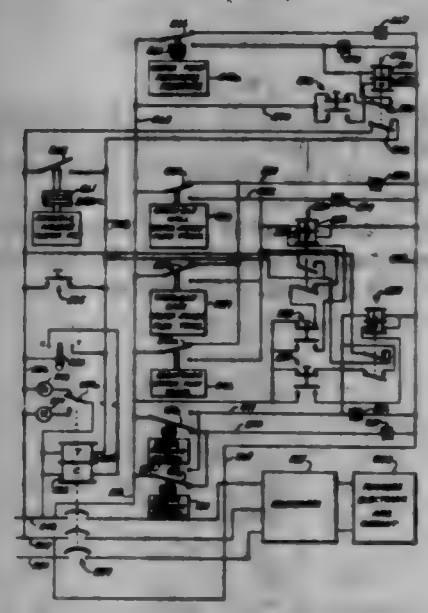
section, and means carried by said neck portion for connecting said light source to an electrical power supply, the ratio of the overall length of said lamp to the length of said cylindrical section being within the range of about 4 to 6, and the ratio of the diameter of said cylindrical section to the length thereof being within the range of about 1.5 to 3.5.

2,973,452

ELECTRIC FURNACE UTILIZING CONSUMABLE ELECTRODES AND METHOD OF OPERATING SAME

Robert J. Garney, Canton, Ohio, assignor to Republic Steel Corporation, Cleveland, Ohio, a corporation of New Jersey

Filed Nov. 22, 1957, Ser. No. 698,256
6 Claims. (Cl. 314—69)



1. An electric furnace comprising a crucible, means including a consumable electrode of material to be treated in said crucible for producing an electric are therein, means for supplying electric current to said arc producing means, means for feeding said electrode continuously toward said arc to supply said crucible with material to be melted, and means for controlling said feeding means at a constant rate of advance of said electrode.

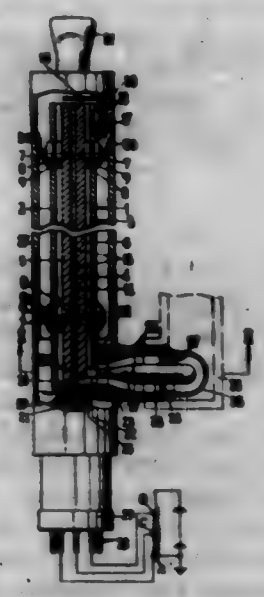
2,973,453

TRAVELLING WAVE TUBES

Harold Alexander Cecil Hogg, Frinton-on-Sea, England, assignor to The M-O Valve Company Limited, Hammersmith, London, England

Filed Apr. 22, 1959, Ser. No. 808,206
Claims priority, application Great Britain Apr. 24, 1958
5 Claims. (Cl. 315—3.5)

1. A travelling wave tube including a delay device which is at least partly in the form of a periodic metal structure, two further metal structures respectively extending on either side of the periodic metal structure, said further metal structures being electrically insulated from each other and from the periodic metal structure, a first one of the further metal structures being disposed appreciably nearer to the periodic metal structure than the other further metal structure, and an electron gun having an electron source which is electrically insulated from the periodic metal structure, the gun being disposed adjacent one end of the periodic metal structure and being arranged to project an electron beam into the space between the periodic structure and said other further metal structure so as to travel along the length of said space, the arrangement being such that, in operation, upon ap-



plying suitable potentials to the periodic structure and to the further metal structures such that the periodic structure is at a positive potential with respect to the electron source, said other further metal structure is at a negative potential with respect to the periodic structure and said first further metal structure is at a negative potential with respect to said other further metal structure, the electron beam will be focussed electrostatically, the beam travelling through said space generally in a direction parallel to the length of the periodic structure and with an undulatory motion such that it alternately approaches and recedes from the periodic structure with those peaks of the beam forming that set of alternate peaks disposed adjacent the periodic structure being respectively disposed in the vicinities of the gaps in the periodic structure.

2,973,454

COLOR CATHODE RAY IMAGE REPRODUCING TUBE

Hans Heil, Syracuse, N.Y., assignor to General Electric Company, a corporation of New York

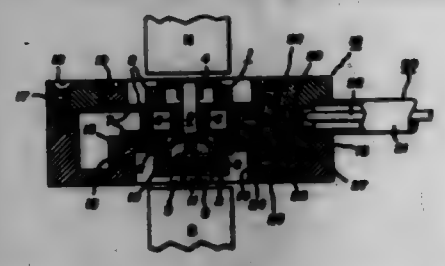
Filed June 7, 1955, Ser. No. 513,723
23 Claims. (Cl. 315—21)



1. An image reproducing structure for a cathode ray tube comprising; a pair of spaced electrodes including one adapted for being impinged by charged particles, said electrodes being adapted for maintaining an electric field therebetween to affect the travel of charged particles impinging upon said one electrode, and means

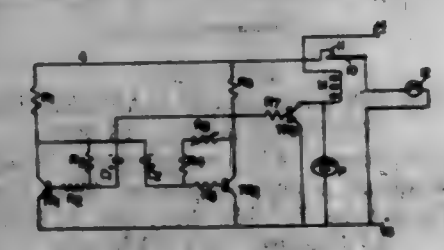
between the electrodes effective for altering non-uniform portions of said field to adapt said non-uniform portions for having substantially the same ultimate effect on the travel of said charged particles therethrough as a uniform portion of said field.

2,973,455
RADIO FREQUENCY APPARATUS
Richard H. Marlowe, Clinton, N.Y., assignor to General Electric Company, a corporation of New York
Filed Jan. 25, 1960, Ser. No. 4,341
4 Claims. (Cl. 315—39)



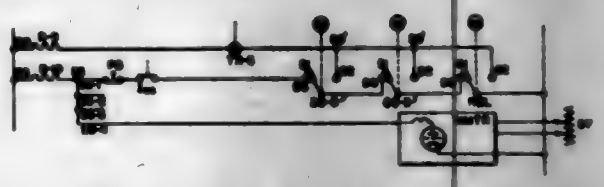
1. In combination, an interdigital magnetron including an evacuated envelope having a longitudinally spaced pair of anode rings sealed through the wall of said envelope and separated by an insulated section of said wall, a reentrant resonator cavity having said magnetron mounted therein and including a cylindrical inner side wall, a radially spaced, relatively longer cylindrical outer side wall and longitudinally spaced apertured transverse end walls, said end walls including coaxial contact surfaces each making circumferential electrical contact with one of said anode rings, a coaxial line including outer and inner conductors, said outer conductor extending radially from the outer side wall of said cavity, and said inner conductor including an inductive loop portion disposed externally of said envelope of said magnetron and extending inwardly in said cavity and between radially protruding portions of said anode rings.

2,973,456
LAMP FLASHER WITH DAYLIGHT-RESPONSIVE INHIBITING MEANS
Henry Lyall Rose Smyth, Ottawa, Ontario, Canada, assignor to National Research Council, Ottawa, Ontario, Canada, a body corporate of Canada
Filed May 6, 1957, Ser. No. 657,365
2 Claims. (Cl. 315—159)



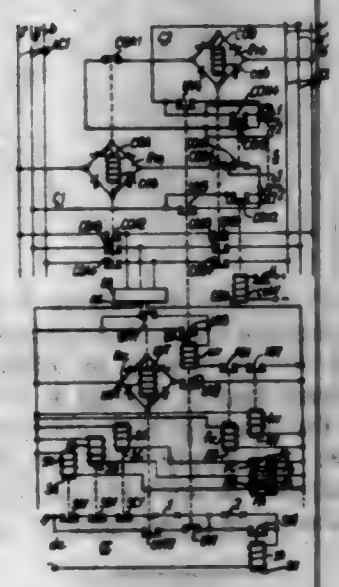
1. A daylight responsive control for a lamp energizing circuit comprising a circuit closing means and a source of electrical supply for energizing said lamp, a load, a switching device comprising a junction transistor having base, emitter and collector elements, an emitter-to-collector output path connected in series with said load and a voltage source and a base input circuit adapted to be fed by switching voltage pulses, said circuit closing means being responsive to energization of said load to open said lamp energizing circuit and to close said lamp energizing circuit when said load is de-energized, and a photosensitive resistor exposed to ambient light connected in shunt with said emitter-to-collector path having a resistance value decreasing with intensity of incident illumination and effective to disable said lamp circuit when said illumination exceeds a predetermined intensity.

2,973,457
CARRIER RELAYING SYSTEM
Herbert W. Lemmer, East Orange, N.J., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Aug. 27, 1958, Ser. No. 757,517
6 Claims. (Cl. 317—37)



1. In a protective-relaying combination for responding to certain faults on an electrical system, carrier-generation means controllable for generating and terminating the generation of an alternating carrier quantity, timing means controllable for measuring a timing interval, first circuit-controlling means operable in response to predetermined conditions between a circuit-completing condition and a circuit-interrupting condition, second circuit-controlling means operable between a circuit-completing condition and a circuit interrupting condition, first circuit means responsive to operation of the first circuit-controlling means from a circuit-completing condition to a circuit-interrupting condition for controlling the carrier-generation means from a non-generating condition to a generating condition and for controlling the timing means to initiate measurement of a timing interval, and a second circuit means responsive to operation of the second circuit-controlling means for controlling the carrier-generation means from a non-generating condition to a generating condition, said second circuit means being ineffective for controlling the timing means.

2,973,458
SAFETY SYSTEMS FOR NUCLEAR REACTORS
Anthony Edward Thomas Nye, Clifton, near Rugby, England, assignor to The British Thomson-Houston Company Limited, London, England, a British company
Filed Nov. 8, 1957, Ser. No. 695,438
Claims priority, application Great Britain Nov. 9, 1956
4 Claims. (Cl. 317—31)



1. A safety system for a nuclear reactor or the like comprising: a shut-down relay having an energizing winding arranged to be normally energized from a first source of supply and on de-energization to initiate shut-down of the reactor; at least one control relay arranged to be normally energized from one of two interchangeable further sources of supply and to be de-energized on the occurrence of abnormal operating conditions necessitating shut-down, said control relay having a nor-

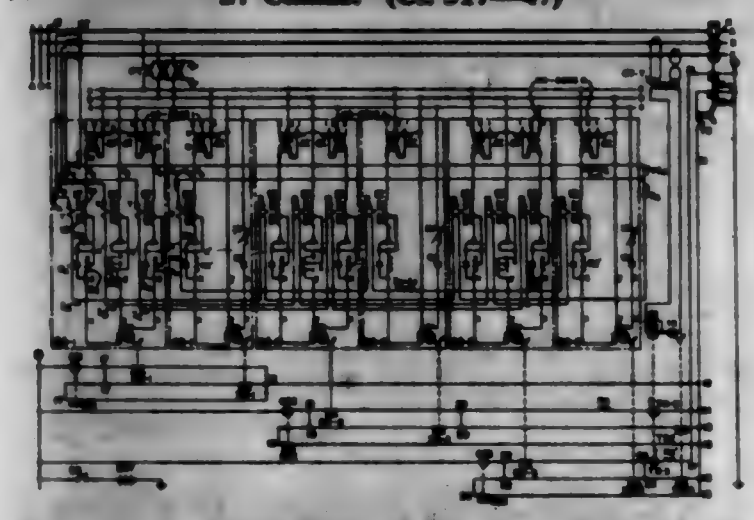
mally open contact connected in series with said energizing winding of said shut-down relay; and a pair of normally energized relays arranged for de-energization in consequence of abnormal conditions in the energizing supply for the control relay and respectively having a normally open contact and a normally closed contact connected in series in a circuit which shunts said control relay contact connected in series with said shut-down relay winding, that one of said pair of relays whose said contact is normally open having a delayed release time at least as great as the time taken to change over said sources supplying the control relay whereby during such change-over to maintain energization of the shut-down relay through said shunt circuit irrespective of de-energization of the control relay.

2,973,459

COMPENSATOR RELAYING ASSEMBLY

William K. Sonnemann, Roselle Park, N.J., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Sept. 20, 1957, Ser. No. 685,155
27 Claims. (Cl. 317—47)



3. A protective-relaying combination for responding to certain faults on a three-phase transmission-line including: a means, energized from the line-voltage at the relaying station, for producing a derived polyphase voltage for relaying purposes; a line-drop compensating-means, connected in series-circuit relation to said derived polyphase voltage, for reproducing some aspect of the three-phase line-voltage at some predetermined fault-location in the transmission-line, whereby to produce a polyphase compensated relaying voltage, which collapses to a single phase when a predetermined type of fault occurs at said predetermined fault-location, which has the same positive sequence of phases as the transmission-line when said predetermined type of fault occurs at a point beyond said predetermined fault-location, and which has a negative sequence of phases when said predetermined type of fault occurs at a point nearer than said predetermined fault-location; and a polyphase-responsive relaying element, energized from said polyphase compensated relaying voltage, for controlling an electrical circuit when the polyphase compensated relaying voltage has a negative sequence of phases.

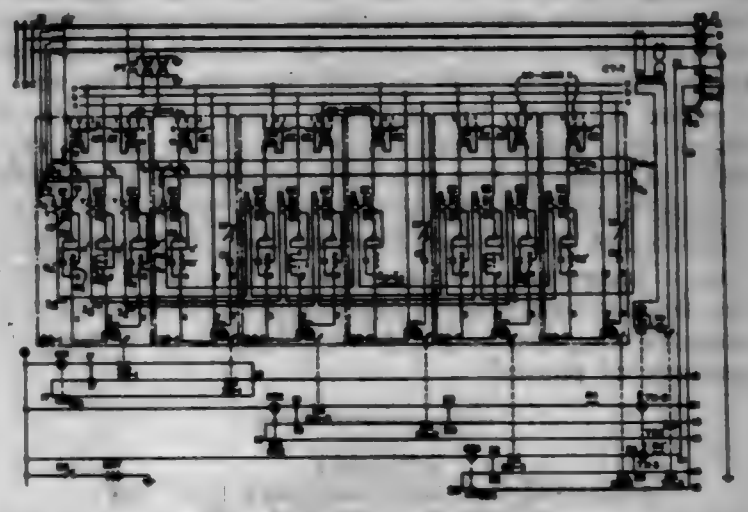
2,973,460

ADJUSTMENTS FOR COMPENSATOR RELAYING EQUIPMENTS

Howard J. Calhoun, Sayreville, N.J., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Sept. 20, 1957, Ser. No. 685,167
16 Claims. (Cl. 317—47)

3. A compensator relaying assembly, adapted for use in protecting diverse three-phase transmission-lines against certain kinds and diverse locations of faults, comprising: a voltage-deriving means, adapted to be energized from the line-voltage at the relaying station, for producing a set of derived polyphase voltages having three circuits having a phase-sequence corresponding to the line-voltages; a compensating-means, including a compensator connected in series with a phase of said derived polyphase voltages for producing a set of compensated polyphase voltages; an energizing means, for energizing said compensator proportionately to the line-current which flows in a line-conductor of the three-phase transmission-line; and a polyphase-responsive relaying element, energized from the three circuits of said compensated polyphase voltages, for controlling an electrical circuit when the compensated polyphase voltages have a negative sequence of phases; said assembly being characterized by: said compensator being an inductive reactance device, having a primary winding energized from the aforesaid energizing-means,



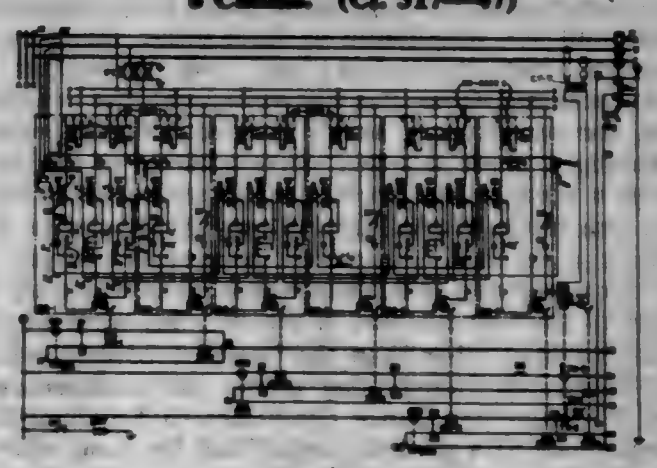
and having a secondary winding of many turns, connected in series-circuit relation between said voltage-deriving means and said relaying-element; and an adjustable resistance connected as an adjustable shunt around a very small portion only of the secondary turns, whereby the effective phase-angle of the compensator-impedance may be adjusted to match the phase-angle of the line-impedance, without substantially changing the effective magnitude of the compensator-impedance as a result of said phase-angle adjustment; said voltage-deriving means including a means for changing the magnitude of the derived voltage in the phase in which said compensator is connected, for changing the effective magnitude of the compensator-impedance, without substantially changing the effective phase-angle of the compensator-impedance as a result of said magnitude-adjustment.

2,973,461

SINGLE-COMPENSATOR THREE-PHASE RELAYS

Shirley L. Goldsborough, East Orange, N.J., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Sept. 20, 1957, Ser. No. 685,168
8 Claims. (Cl. 317—47)



3. A compensated-voltage three-phase fault-responsive relaying unit for responding to three-phase faults on a

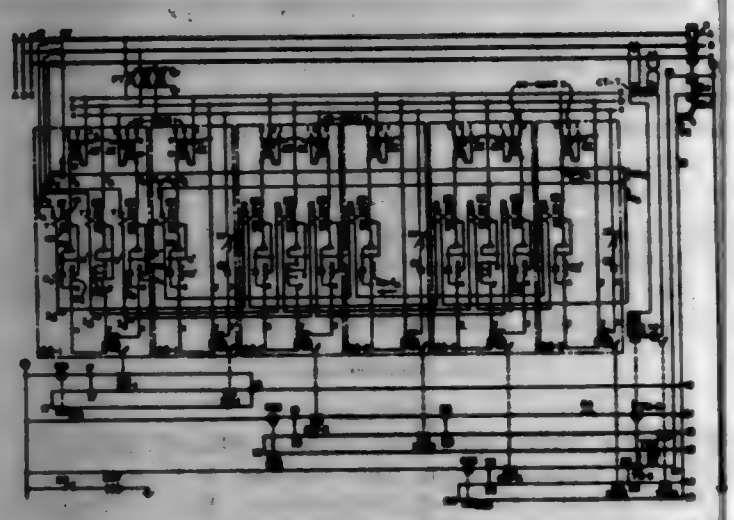
three-phase transmission-line said unt including: a means energized from the line-voltage at the relaying station, for producing a set of derived polyphase voltages having a phase-sequence corresponding to the line-voltages; a compensator, connected in series-circuit relation to one phase of said derived polyphase voltages for producing a set of compensated polyphase voltages; a means for energizing said compensator proportionately to the line-current in the corresponding line-wire of the transmission-line; said compensator having an impedance equivalent to 1.5 times the line-impedance to a predetermined fault-location, whereby the compensated polyphase voltages collapse to a single phase upon the occurrence of a three-phase fault at said predetermined fault-location, and also upon the occurrence of a three-phase fault at the relaying station, whereby the compensated polyphase voltages have a negative sequence of phases upon the occurrence of a three-phase fault between the relaying station and said predetermined fault-location, and whereby the cmopensated polyphase voltages have a positive sequence of phases upon the occurrence of a three-phase fault at any other location; and a two-circuit polyphase responsive relaying element, energized respectively from a compensated-voltage phase which contains said compensator and from a compensated-voltage phase which does not contain said compensator, for controlling an electrical circuit when the compensated polyphase voltages have a negative sequence of phases.

2,973,462

MODIFIED SINGLE-COMPENSATOR THREE-PHASE RELAYS

Jean G. Chevalier, Parsippany, N.J., assignor to Westinghouse Electric Corperation, East Pittsburgh, Pa., a corperation of Pennsylvania

Filed Sept. 20, 1957, Ser. No. 685,277
16 Claims. (Cl. 317—47)



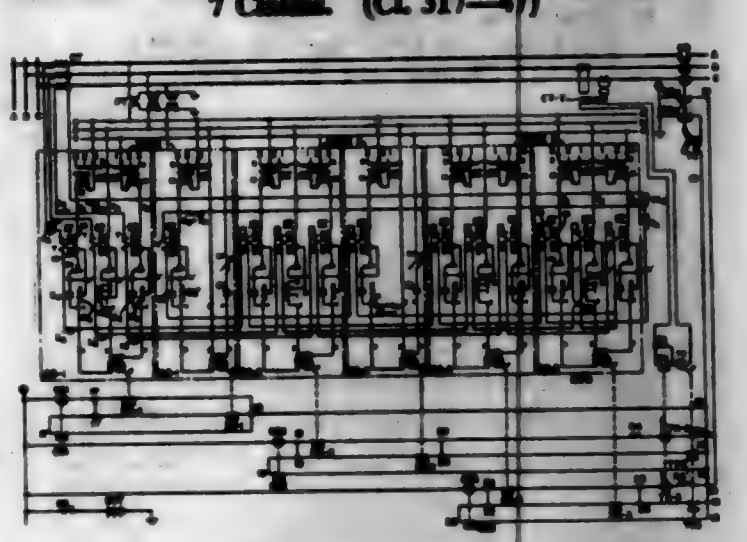
3. A compensated-voltage three-phase fault-responsive relaying unit for responding to three-phase faults on a three-phase transmission-line, said unit including: a means, energized from the line-voltage at the relaying station, for producing a set of derived polyphase voltages having a phase-sequence corresponding to the line-voltages; a compensator, connected in series-circuit relation to one phase of said derived polyphase voltages for producing a set of compensated polyphase voltages; a means for energizing said compensator proportionately to the sum of the line-currents in the two line-wires of the transmission-line, other than the line-wire corresponding to the compensator-containing phase, said compensator having a mutual impedance equivalent to 1.5 times the line-impedance to a predetermined fault-location, whereby the compensated polyphase voltages collapse to a single phase upon the occurrence of a three-phase fault at said predetermined fault-location, and also upon the occurrence of a three-phase fault at the relaying station, whereby the compensated polyphase voltages have a negative sequence of phases upon the occurrence of a three-phase fault between the relaying station and said predetermined fault-location, and whereby the compensated polyphase voltages have a positive sequence of phases upon the occurrence of a three-phase fault at any other location; and a polyphase-responsive relaying element, energized from the compensated polyphase voltages, for controlling an electrical circuit when the compensated polyphase voltages have a negative sequence of phases.

2,973,463

THREE-COMPENSATOR THREE-PHASE RELAYS

Shirley L. Goldsborough, East Orange, and Jean G. Chevalier, Parsippany, N.J., assignors to Westinghouse Electric Corperation, East Pittsburgh, Pa., a corperation of Pennsylvania

Filed Sept. 20, 1957, Ser. No. 685,278
7 Claims. (Cl. 317—47)



3. A protective-relaying combination, for protecting a three-phase transmission-line against all faults, involving more than one line-phase, which occur on the transmission-line between the relaying station and a predetermined fault-location on the line; said combination including a compensated-voltage three-phase relaying unit, a compensated-voltage phase-fault relaying unit, and a relay-controlled circuit-means for performing a fault-protective function for the transmission-line, in response to either of said units; said units including a means, energized from the line-voltage at the relaying station, for producing a set of derived polyphase voltages having a phase-sequence corresponding to the line-voltages; said three-phase relaying unit further including: a set of three line-drop compensators, connected in series-circuit relation to the respective phases of said derived polyphase voltages, and energized proportionately to the respective line-currents in the corresponding line-wires of transmission-line; two of said compensators having an impedance equivalent to the line-impedance to a predetermined fault-location, whereby the compensated polyphase voltages collapse to a single phase upon the occurrence of a three-phase fault at said predetermined fault-location, whereby the compensated polyphase voltages have the same positive sequence of phases as the transmission-line upon the occurrence of a more remote three-phase fault, and whereby the compensated polyphase voltages have a negative sequence of phases upon the occurrence of nearer three-phase faults; the remaining compensator being reversed and having an impedance equivalent to at least one-half of the line-impedance to said predetermined fault-location, whereby the compensated polyphase voltages have a negative sequence of phases upon the occurrence of a three-phase fault in the vicinity of the relaying station, and also upon the occurrence of a three-phase fault at a certain distance on the other side of the relaying station,

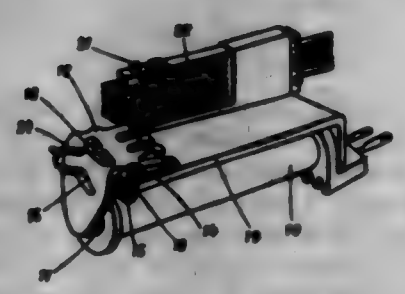
opposite to said predetermined fault-location, depending upon the excess of the reversed-compensator impedance over a ratio of exactly one-half of the line-impedance to said predetermined fault-location; and a polyphase-responsive relaying element, energized from the compensated polyphase voltages of said three-phase unit, for controlling an electrical circuit when said compensated polyphase voltages have a negative sequence of phases; and said phase-fault relaying unit further including: a set of three line-drop compensators, connected in series-circuit relation to the respective phases of said derived polyphase voltages, and energized proportionately to the respective line-currents in the corresponding line-wires of the transmission-line; each of said three line-drop compensators having an impedance equivalent to the line-impedance to a predetermined fault-location, whereby the compensated polyphase voltages collapse to a single phase upon the occurrence of a line-to-line fault across any pair of line-phases at said predetermined fault-location, whereby the compensated polyphase voltages have a negative sequence of phases upon the occurrence of a line-to-line fault across any pair of line-phases between the relaying station and said predetermined fault-location, and whereby the compensated polyphase voltages have a positive sequence of phases upon the occurrence of a line-to-line fault across any pair of line-phases at any other fault-location; and a polyphase-responsive relaying element, energized from the compensated voltages of said phase-fault unit, for controlling an electrical circuit when said compensated polyphase voltages have a negative sequence of phases.

2,973,464

ELECTROMAGNETIC RELAY

Eric Axel Wiberg, Stockholm, Sweden, assignor to Telefonaktiebolaget L M Ericsson, Stockholm, Sweden, a corporation of Sweden

Filed Nov. 3, 1958, Ser. No. 771,260
Claims priority, application Sweden Nov. 14, 1957
10 Claims. (Cl. 317—176)



1. A relay device comprising, in combination, an energizable magnetic core, an armature responsive to said core during periods said core is energized, an adjustable fulcrum for carrying said armature thereon with one end thereof in spaced relation with respect to one end of said core, and means for fixedly holding said armature in place on said fulcrum, said fulcrum being positioned for preselecting the travel time of said one end of said armature to said one end of said core.

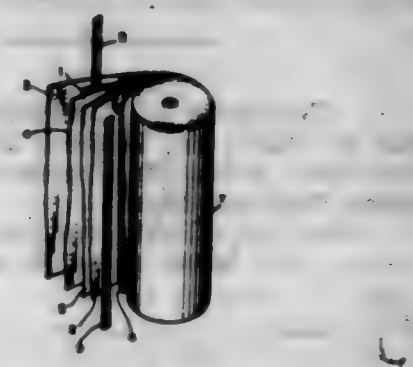
2,973,465

ELECTROLYTIC CAPACITOR

Norman W. Cronquist, Hudson Falls, and Donald Mohler, Saratoga Springs, N.Y., assignors to the United States of America as represented by the Secretary of the Army

Filed Dec. 1, 1959, Ser. No. 856,631
3 Claims. (Cl. 317—230)

2. An electrolytic capacitor comprising a plurality of electrodes at least one of which is composed of a film-forming metal, dielectric spacer means between said electrodes, and an electrolyte impregnating said dielectric spacer means, said electrolyte being composed of a solu-



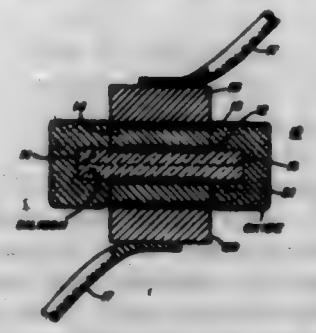
tion of .01–3% by weight of potassium thiocyanate in a solvent composed of diallylcyanamide.

2,973,466

SEMICONDUCTOR CONTACT

Martin M. Atalla, Mountainside, and Ernest E. La Bate, South Plainfield, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Sept. 9, 1959, Ser. No. 838,954
4 Claims. (Cl. 317—240)



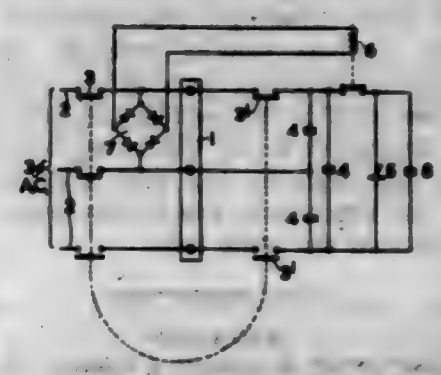
1. A laminate contact to a semiconductive wafer comprising an oxidation resistant layer, a first sintered region formed in situ, a substantially impenetrable refractory layer and a second sintered region formed in situ respectively which second sintered region forms an intimate attachment to said wafer.

2,973,467

DYNAMIC BRAKING OF INDUCTION MOTORS

Shafi-Uddin Ahmed Chowdhury, Rugby, and John Whitcroft, Lilbourne, Rugby, England, assignors to Associated Electrical Industries Limited, London, England, a British company

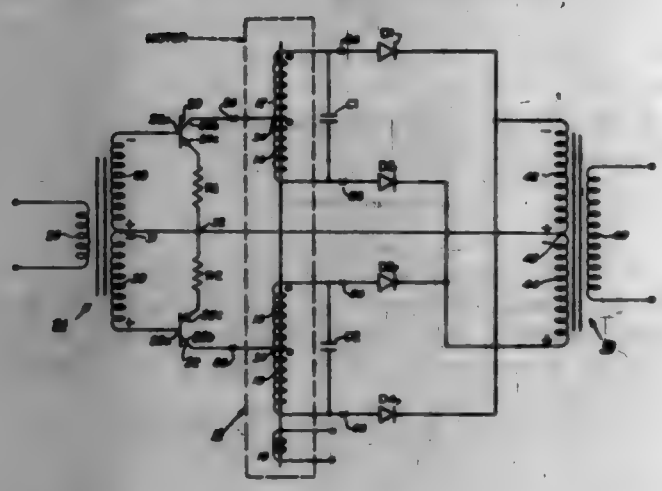
Filed Apr. 6, 1960, Ser. No. 20,331
Claims priority, application Great Britain Apr. 10, 1959
5 Claims. (Cl. 318—211)



1. A system for effecting the dynamic braking of an induction motor, comprising means for connecting at least one capacitor across the terminals of the primary winding of the motor after the supply has been disconnected therefrom, and relay means responsive to the self-excitation voltage developed across at least a portion of the primary winding for connecting, in shunt with said

capacitor, additional means for increasing the dynamic braking of the motor when the self-excitation voltage of the motor has diminished to a predetermined value.

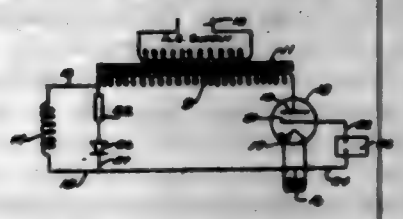
2,973,468
CARRIER TYPE AMPLIFIER
Raymond E. Claflin, Jr., Bedford, and Roderic J. Procaccino, West Acton, Mass., assignors to The Oilgear Company, Waltham, Mass.
Filed Oct. 11, 1957, Ser. No. 689,648
18 Claims. (Cl. 318—257)



1. In an electrical amplifier in which the input signal is in the form of amplitude-modulated carrier, the combination of a pair of control elements, each of said control elements having a pair of control terminals and first and second output terminals, the signals applied to said control terminals determining the electrical resistances of said elements between their respective output terminals, input means for applying said input signal to said control terminals in such manner that the resistance between one pair of output terminals is at a minimum when the resistance between the other pair thereof is substantially at a maximum upon the application of a finite input signal, two pairs of electrical windings, means connecting a first terminal of each of said windings in one pair thereof to said first output terminal of one of said output elements, means connecting a first terminal of each of said windings in the other pair thereof to said first output terminal of said other control element, a reference signal source connected in series with said output terminals of each of said control elements and the windings connected thereto, said source being adapted to apply electrical pulses across said output terminals through said windings with one pulse occurring for each half cycle of the carrier, said source including gating means adapted to pass alternate pulses through one of said windings in each pair thereof and the other pulses through the other windings, and summing means for summing the currents passing through said windings, said summing means being responsive to the difference between the currents in the windings in each pair thereof and further responsive to the difference between the currents in the windings in one pair and the respective windings in the other pair which pass pulses from said reference source at the same time.

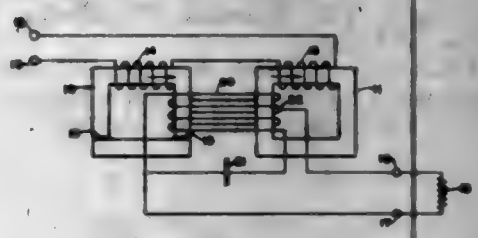
2,973,469
FAST RESPONSE DIRECT CURRENT POWER SUPPLY FOR INDUCTIVE LOADS
Lester A. Price, Milwaukee, Wis., assignor to Harnischfeger Corporation, Milwaukee, Wis., a corporation of Wisconsin
Filed June 13, 1955, Ser. No. 514,831
2 Claims. (Cl. 321—32)

1. In a direct current power supply for an inductive load including an alternating current source, a fractional wave rectifier in circuit with said load and source, and a load current sustaining circuit including a back rectifier for sustaining inductive load decay current during inaction of the fractional wave rectifier, the improvement to decrease the time response of the circuit to transient changes in load current requirements and to permit application of forcing instantaneous peak overvoltages to the load without increasing the average load voltage com-



prising a ballast resistor in series with said back rectifier and in parallel with the load, said ballast resistor having an ohmic value sufficiently great to increase the proportion of resistance to inductance in said current sustaining circuit enough to materially reduce the time constant of the circuit and to produce an IR drop in the current sustaining circuit high enough to permit such forcing instantaneous peak overvoltages without increase in the average load voltage.

2,973,470
VOLTAGE REGULATOR
Samuel T. Kohn, South Norwalk, Conn., assignor, by mesne assignments, to Sorensen & Company, Incorporated, South Norwalk, Conn., a corporation of Delaware
Filed Jan. 30, 1959, Ser. No. 790,125
5 Claims. (Cl. 323—60)

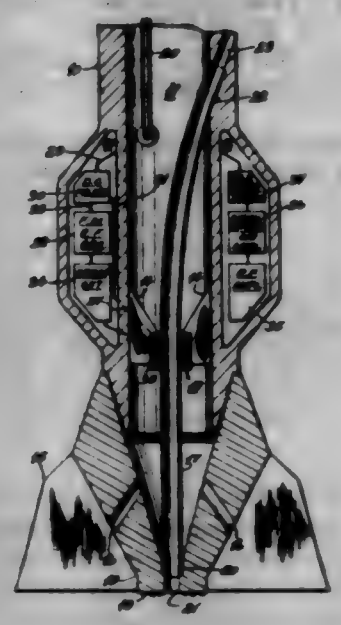


1. An alternating current voltage regulator comprising; a pair of input terminals which are to be connected to a source of alternating current power which may vary in applied voltage; a pair of output terminals which are to be connected to a load, the voltage of which is maintained within a narrow range of values; a first magnetic core which is designed to carry non-saturating flux at zero load currents and saturating flux at full load current; a second magnetic core which is designed to carry a saturating flux at all load currents, a primary circuit which includes the input terminals, a winding on the first core, and a winding on the second core; and a secondary circuit which includes a secondary winding which surrounds both of said cores, a capacitor connected across said secondary winding, one of said output terminals connected to one end of the secondary winding, and the other of said output terminals connected to said secondary winding at a point intermediate the two ends.

2,973,471
ANALYSIS TECHNIQUES BASED ON NUCLEAR MAGNETIC RESONANCE
Fontaine C. Armistead, Marblehead, Mass., and Arthur L. Tirico, Glen Ridge, N.J., assignors to Texaco Development Corporation, New York, N.Y., a corporation of Delaware
Filed May 8, 1953, Ser. No. 353,746
19 Claims. (Cl. 324—.5)

15. An improved method of nuclear magnetic resonance testing comprising the steps: of repetitively uni-

directionally magnetizing the sample during spaced-apart, equal time-intervals, permitting the magnetization to subside during equal periods by which successive intervals are spaced apart; during a terminal portion of each interval, permeating the sample with a transverse magnetic



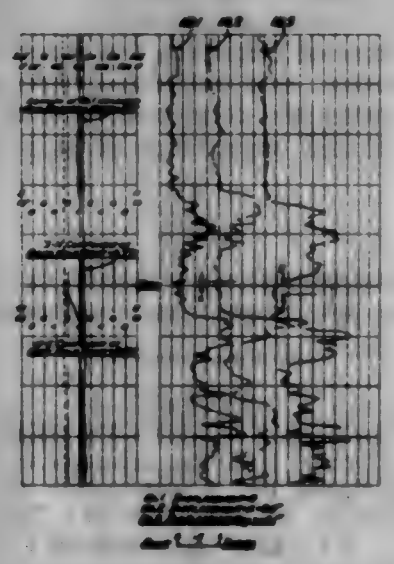
field which periodically reverses in direction at a rate which varies during said portion of the interval over a range including that at which nuclear magnetic resonance of certain nuclei will occur if they are contained in the sample; and, detecting the nuclear magnetic resonance condition of said sample.

2,973,472

GRAPHICAL METHODS FOR THE INTERPRETATION OF DIPMETER LOGS

Edmond F. Egan, New Orleans, La., Thomas L. Kister, Houston, Tex., and Merrill R. Scott, Chicago, Ill., assignors to Texaco Inc., a corporation of Delaware

Filed Oct. 6, 1954, Ser. No. 460,674
4 Claims. (Cl. 324—1)



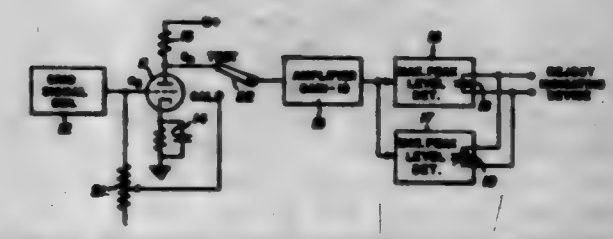
1. In the dip meter logging of a well bore wherein representative traces coordinated with depth are obtained, including (1) three traces of characteristics of the formation surrounding the well bore at three points spaced 120° apart in the same plane normal to the bore hole axis, (2) a trace of the orientation of one of said points termed the datum point, and (3) a trace of the bore hole inclination at said datum point, and wherein correlative points from the three traces obtained in (1) above are selected and the correlated points are compared to determine the values of X/D and Y/D, where X is the vertical displacement of a correlated point on the second of said three traces from a datum line for said datum point on the first trace, Y is the vertical displacement of a correlated point of the third of said three traces from said datum line, and D is the bore hole diameter, the method of rapidly and easily obtaining the values of the true dip and the true azimuth of dip of a subsurface strata traversed by said well bore by physical manipulation without the use of a mechanical model and without complicated calculations, which comprises plotting the values of X/D and Y/D on the coordinate axes of a first chart which is a graphic chart having abscissae and ordinates depicted as intersecting at an angle selected from the group consisting of 90° and 120° and representing respectively increments of value of X/D and Y/D, said graphic chart also containing lines radiating from the origin thereof and representing increments in degrees of the apparent azimuth of dip of said strata relative to said datum point, and also a series of concentric closed lines about said origin in the form of a geometrical figure selected from the group consisting of ellipses and circles and representing increments in degrees of the apparent dip of said strata, drawing parallel to said coordinate axes intersecting lines from the plotted values of X/D and Y/D on said first chart to obtain at the intersection point directly from said first chart without calculations the values in degrees of the apparent dip of said strata and the apparent azimuth of dip of said strata with reference to said datum point, transferring said values for the apparent dip and the apparent azimuth of dip (which latter may be corrected for the value of the azimuth of said datum point from the orientation trace of (2) above) to a second chart which is a polar chart having abscissae and ordinates representing units of bore hole drift to determine a point thereon, said polar chart having a series of concentric circles about the origin thereof representing increments of values in degrees of the dip of the strata, and also lines radiating from said origin representing increments of values in degrees of azimuth of dip of the strata, drawing connected vertical and horizontal lines from the thus determined point on said second chart to apply corrections for the bore hole drift (from the bore hole inclination trace of (3) above), and thereby obtaining directly from the point of termination of said connected lines on said second chart values of true dip and true azimuth of dip of said strata.

2,973,473

TRANSCONDUCTANCE TEST CIRCUIT

William S. Oakes, Pattersonville, N.Y., and Samuel C. Bristow, Owensboro, Ky., assignors to General Electric Company, a corporation of New York

Filed Aug. 12, 1957, Ser. No. 677,456
8 Claims. (Cl. 324—26)



1. An electron tube transconductance testing circuit comprising a source of constant peak amplitude alternating current control grid signals adapted to be operatively coupled to the control grid of an electron tube under test, means providing constant bias voltages adapted to be supplied to the other electrodes thereof, said control grid signal source providing a low impedance to negative grid currents in the tube under test, a plate load resistor adapted to be connected to the plate electrode of the tube under test which is small in resistance value in comparison to the plate resistance of the tube

under test, at least one peak level detecting trigger circuit operatively adapted to be coupled to the plate electrode of the electron tube under test, said trigger circuit being operative to provide an output trigger signal when the peak amplitude of the alternating current signal developed in the plate electrode of the electron tube under test falls below some preselected value, means for manually adjusting said pre-selected value and a reject relay operatively coupled in the output circuit of said trigger circuit.

2,973,474

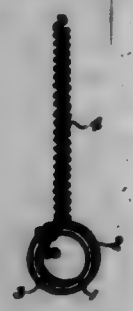
METHOD AND MEANS FOR TESTING MAGNETIC PROPERTIES OF TOROID CORES

Raymond A. MacMillan, Greenwood, Mass., assignor to the United States of America as represented by the Secretary of the Air Force

Original application Aug. 2, 1956, Ser. No. 601,851. Divided and this application Sept. 12, 1957, Ser. No. 683,672

1 Claim. (Cl. 324—34)

(Granted under Title 35, U.S. Code (1952), sec. 266)



A magnetic structure including in combination, a rigid, one-piece annular core of magnetic material, and an electrical conductor having a helical contour to facilitate its rapid application to, and removal from, said one-piece core by successive threading and unthreading operations.

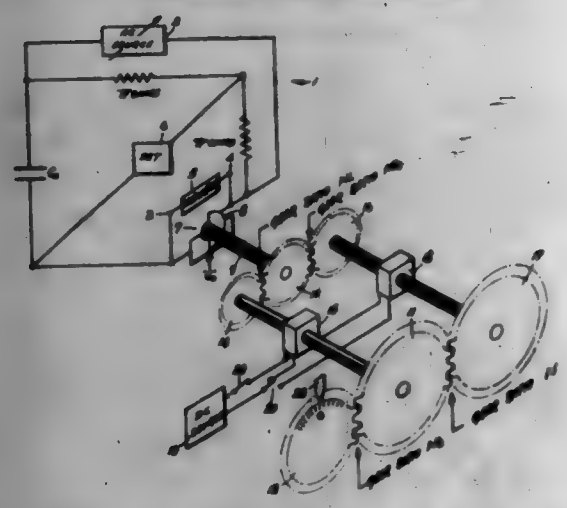
2,973,475

COMPUTER SYSTEM

Silas B. Tobey, Westfield, N.J., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Filed Apr. 9, 1958, Ser. No. 727,435

3 Claims. (Cl. 324—60)



1. A system for determining the distributed capacitance of electrical components comprising an alternating current bridge having a linearly variable nulling capacitor, means for connecting a component to be tested in parallel with the capacitor, a rotatable element, means for rotating the element an amount proportional to a displacement in the adjustable capacitor, an output dial having calibrations thereon and indicating means for the dial, a rotatable output member for rotating the dial a constant K_2 times its own rotation, a first transmission train for rotating the output member a constant K_1 times the rotation of the rotatable element, a second transmission train for rotating the output member a constant K_3 times the rotation of the rotatable element, and means for selectively rendering the transmission trains operable.

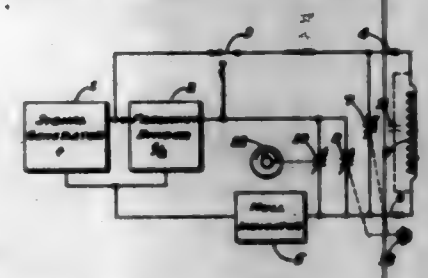
2,973,476

TEST CIRCUIT FOR DISTRIBUTED CAPACITY OF INDUCTANCES

John F. Graham, Raytown, Mo., assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa

Filed July 1, 1959, Ser. No. 824,259

3 Claims. (Cl. 324—60)



1. Equipment for measuring the distributed capacitance of inductors comprising, means for connecting an inductor that is to be tested to said equipment, first and second circuit arrangements, switching means operable for selectively connecting said first and second circuit arrangements successively across said connected inductor, said first selected circuit arrangement including means for applying signal of frequency f across said connected inductor and including capacitive means adjustable for applying a first required capacitance across said inductor to provide resonance of said inductor at frequency f, means in said first circuit arrangement to indicate said resonance, said capacitive means in response to being adjusted for providing said first required capacitance also being adjusted for applying a second capacitance that is equal to n^2 times said first required capacitance, said capacitive means applying said second capacitance across said inductor in response to selection of said second circuit arrangement by said switching means, said second circuit arrangement including a calibrated variable capacitor connected in parallel with said capacitance means and said inductor and also including means for applying a signal of frequency f/n across said capacitor and said inductor, said calibrated capacitor being adjusted to resonate said connected inductor at frequency f/n, the distributed capacitance of said inductor being

$$\frac{1}{n^2-1}$$

times the actual capacitance required by said calibrated capacitance to provide resonance at frequency f/n.

2,973,477

INTERFACE DETECTION IN DEEP HOLES

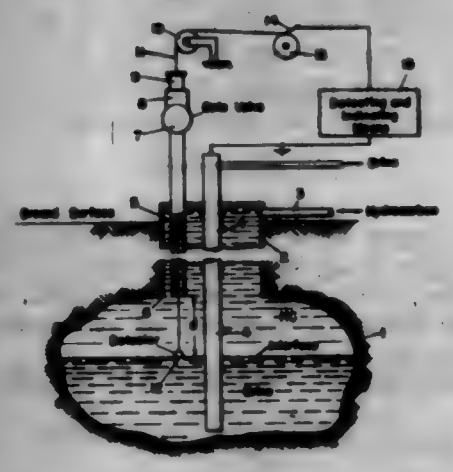
Julius Lerner, Drexel Hill, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

Filed Oct. 27, 1958, Ser. No. 769,679

8 Claims. (Cl. 324—61)

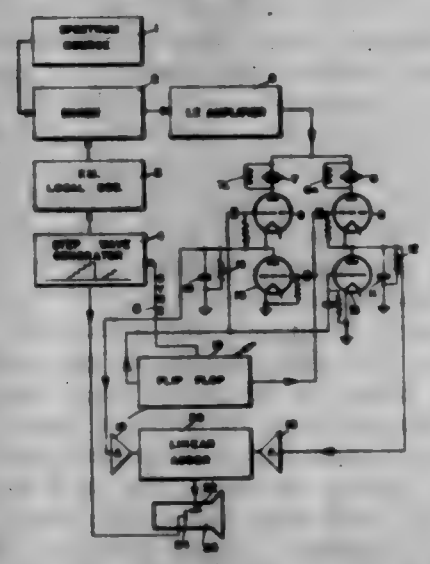
1. In an underground storage cavern for storing a layer of one liquid above a layer of a different liquid, said liquids being immiscible and having different densities, thereby to provide an interface therebetween, said liquids also having different electrical impedances, thereby to provide an impedance change at said interface: apparatus for detecting the interface level in said cavern comprising a tube having an open lower end and extending from the surface to the top of said cavern, the total length of said tube being much greater than the distance from the top of the cavern to said interface, said tube being filled at all times with the lower-density liquid, and the cross-sectional area of said tube being

small as compared to the cross-sectional area of said cavern, thereby to provide, at the lower end of said tube, a substantial change in the electrical impedance presented to an impedance sensing element; a sensing element for sensing the electrical impedance presented



thereto, means mechanically connected to said element for lowering the same downwardly through said tube and out the lower end thereof to said interface, and means electrically connected to said element for indicating at the surface the electrical impedance sensed by said element.

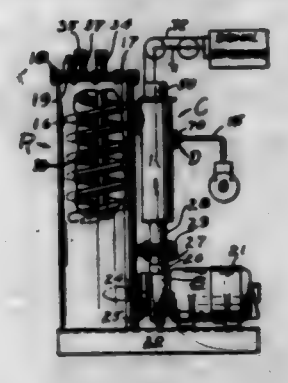
2,973,478
FREQUENCY SCANNING SPECTRUM ANALYZERS
Hyman Hurvitz, 1313 Juniper St. NW., Washington, D.C.
Filed Mar. 29, 1957, Ser. No. 649,455
23 Claims. (Cl. 324—77)



23. In a spectrum analyzer, a first filter having a predetermined center frequency and a predetermined time constant, a second filter having substantially said center frequency and substantially said time constant, a source of signal having a frequency, means for sweeping said frequency across the pass band of said filters in a time shorter than said time constant, and means for gating said first filter on and said second filter off, and thereafter said first filter off and said second filter on, at least once, during said time shorter than said time constant.

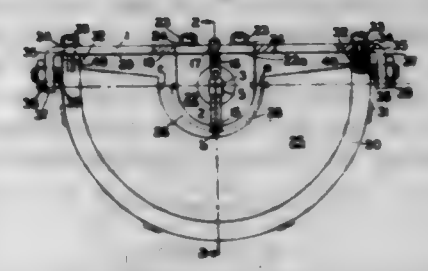
2,973,479
BRANCHED CONDUCTOR STRUCTURE
James R. Bird, Chagrin Falls, and Harold E. Stevens, Lyndhurst, Ohio, assignors to Bird Electronic Corporation, Cleveland, Ohio, a corporation of Ohio
Original application Feb. 4, 1953, Ser. No. 335,118, now Patent No. 2,884,603, dated Apr. 28, 1959. Divided and this application Mar. 11, 1959, Ser. No. 798,777
18 Claims. (Cl. 324—95)

1. In a high frequency electrical device of the character described, a casing, an inner conductor and an outer conductor arranged as a coaxial line and disposed within the casing, the outer conductor having a sliding fit in the casing for relative axial movement, and a pickup assembly mounted on the casing, said assembly compris-



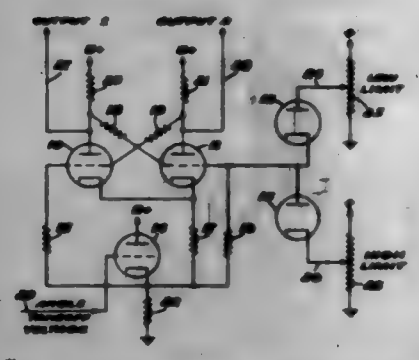
ing a body disposed generally on the outside of the casing and having an extension projected through and closely fitted in both the casing and the outer conductor to locate the casing and the conductor in predetermined relation.

2,973,480
NON-LINEAR SCALE ELECTRICAL MEASURING INSTRUMENT
Earl W. Clark, Saugus, Mass., assignor to General Electric Company, a corporation of New York
Filed Apr. 25, 1958, Ser. No. 730,935
5 Claims. (Cl. 324—150)



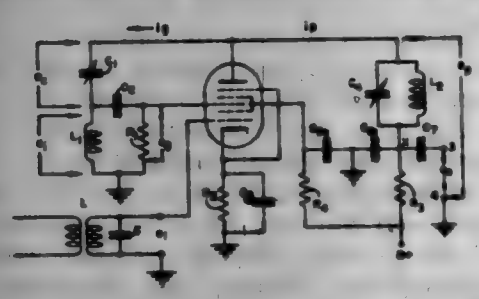
1. In an electrical measuring instrument, a support frame having a substantially planar portion, a first magnetic core member, a coil mounted on said frame, said coil being mounted for rotation about said first magnetic member, the axis of rotation of said coil being substantially parallel to said planar portion, an indicating member attached to said coil, a scale cooperating with said indicating member, and a second magnetic member of arcuate configuration radially spaced about the path of rotational movement of said coil so as to form an arcuate gap in which said coil may move between said magnetic members, one of said magnetic members establishing a radial magnetic field between said magnetic members, said second magnetic member being adjustably mounted on said frame by adjustable mounting means, said second magnetic member arranged for selective rectilinear movement relative to said first magnetic member in a plane perpendicular to said axis of rotation of said coil, said adjustable mounting means including a surface which cooperates with said planar portion to guide said second member in a direction parallel to said planar portion during the movement thereof, said movement varying the radial dimension of said gap substantially more in a direction parallel to said planar portion than perpendicular thereto, whereby the geometrical form of a portion of said gap may be substantially varied in order to vary the deflection characteristics of said coil along at least a portion of said path in response to a given change of current therein.

2,973,481
ELECTRONIC LIMIT DETECTOR
Eugene O. Frye, Marion, Iowa, assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa
Filed Feb. 26, 1958, Ser. No. 717,784
2 Claims. (Cl. 328—196)



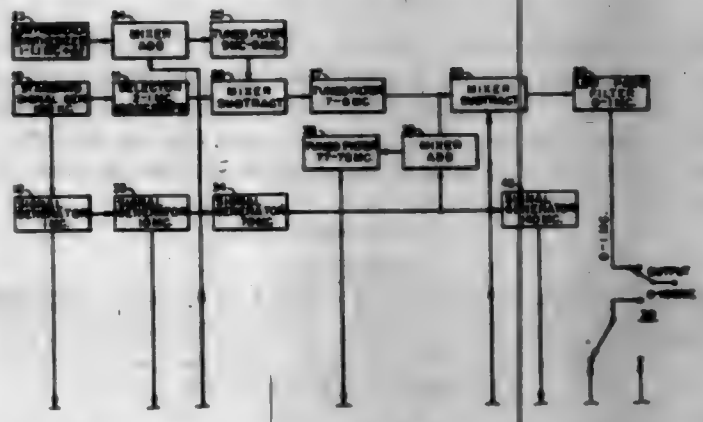
1. In a switch tube circuit of the type including a pair of electron tubes each having at least a plate, grid and cathode with each plate connected to a supply voltage and each grid cross connected to the plate of the other tube such that the arrangement exhibits two states of equilibrium in which a conductive state may be alternately transferred from one tube to the other; bias control means for switching the equilibrium states comprising means for returning the grids of said pair of tubes individually and the cathodes thereof in common to a junction, means for applying a variable positive D.C. input control signal between said junction and the ground return of said supply voltage, voltage clamping means cooperating with the grid of a first one of said electron tubes to prevent the potential on said grid from falling outside preselected high and low limits, whereby the grid-to-cathode bias potential of said first electron tube is zero when the input signal level is between said preselected high and low limits and becomes positive and negative as the input signal level falls respectively below and above said preselected high and low limits.

2,973,482
SYNCHRONIZED OSCILLATOR FOR FM LIMITER AND DISCRIMINATOR
Rex E. Lovejoy, 525 40th St., Richmond, Calif.
Filed Jan. 7, 1949, Ser. No. 69,766
2 Claims. (Cl. 329—123)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A frequency modulation receiver system comprising a multigrid tube having two input grids, a cathode and an anode, a source of plate voltage having its negative terminal connected to a common ground, a cathode resistor connecting the cathode with the common ground, a bypass condenser connected in shunt of the resistor, a parallel-tuned circuit connected in the anode circuit of the tube in series with a load resistance and said source of plate voltage with the tuned circuit nearest the anode and the load resistance between the tuned circuit and the positive terminal of the said source, a bypass condenser connecting the junction between the tuned circuit and the load resistance to the common ground, a grid coil having one terminal connected through a grid condenser to one of said input grids and the other terminal connected to the common ground, a grid resistance connecting said one grid to the common ground, a variable feedback condenser connecting the anode with said one terminal of the grid coil, said feedback condenser and grid coil constituting a phase-shift network, a pair of signal input terminals, one connected to the other said input grid and the other to the common ground, and a pair of output terminals one connected through a blocking condenser to the junction of the load resistance with the tuned circuit and the other connected to ground.

2,973,483
FREQUENCY SYNTHESIZER EMPLOYING CARRIER AND SIDEBAND SELECTION
Robert R. Stone, Jr., Rosecroft Park, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed Jan. 27, 1959, Ser. No. 789,469
2 Claims. (Cl. 331—38)
(Granted under Title 35, U.S. Code (1952), sec. 266)

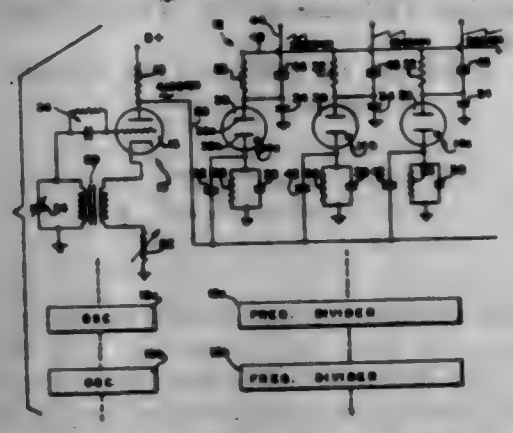


1. A frequency synthesizer for generating a selected signal by the addition of a plurality of frequencies each indicating a respective one of a plurality of digits in a number representing the selected signal comprising a plurality of stages connected in cascade, each stage including a mixer and a tuned filter, each tuned filter having a bandpass with a selected center frequency, means for generating and applying to the mixer in the first of said plurality of stages a signal having a frequency that comprises a carrier frequency and a frequency indicating at least one of said digits, means for generating and applying to the mixer in the second stage and to the mixer in each alternate stage thereafter a signal having a frequency that is combined with the frequency of the carrier frequency, means for generating and applying to the mixer in the third stage and to the mixer in each alternate stage thereafter a signal indicative of a respective one of said digits, the relationship between the frequencies applied to each mixer being such that the frequency difference between the sidebands of the fifth order or less in the output of the mixer and the center frequency of the associated tuned filter is at least approximately 5% of the center frequency.

2,973,484
FREQUENCY DIVISION SYSTEM FOR ELECTRONIC ORGAN OR THE LIKE
Ross F. De Roy, 1500 N. Patrick Henry Drive, Apt. 149, Arlington, Va.
Filed Sept. 16, 1958, Ser. No. 761,430
5 Claims. (Cl. 331—51)

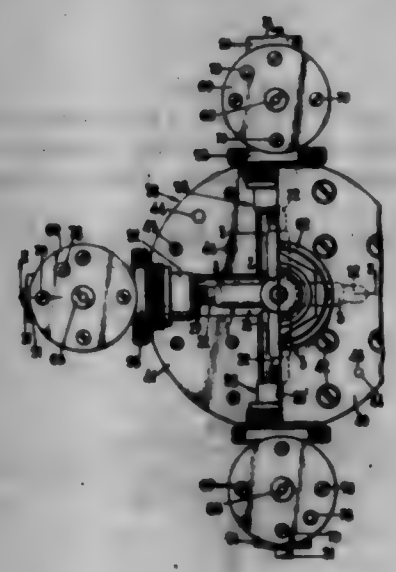
1. A relaxation oscillator comprising a single gaseous discharge tube having only two electrodes, a source of supply potential for said tube, a resistor connected from one terminal of said source to one of said electrodes, a condenser connected from said one electrode to the other terminal of said source, a second resistor connected from the other of said electrodes to said other terminal, a second condenser connected across said second resistor,

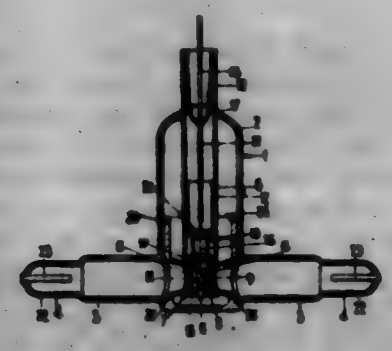
means for applying a triggering potential to the circuit connected to one of said electrodes, and means for deriv-



ing an output from the circuit connected to the other of said electrodes.

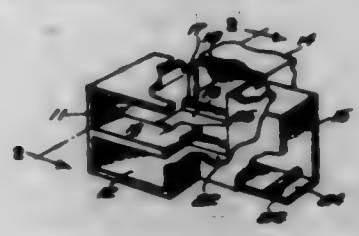
2,973,485
ELECTRICAL SWITCHING SYSTEMS
Sydney Maxwell Hamberger, Chilton, England, assignor to The General Electric Company Limited, London, England
Filed Mar. 24, 1959, Ser. No. 801,560
Claims priority, application Great Britain Mar. 31, 1958
6 Claims. (Cl. 333—7)





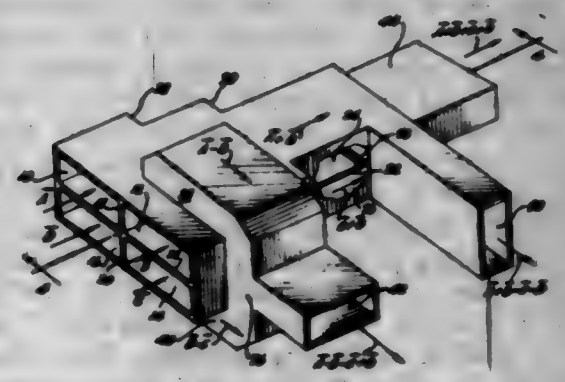
1. An electrical switching system comprising: a first coaxial conductor transmission line having an inner conductor and an outer conductor; a plurality of further coaxial conductor transmission lines each having an inner conductor and an outer conductor, the outer conductor of each of said further lines being connected to the outer conductor of said first line; and an electric discharge device having a gas-filled envelope, the device having its interior formed so as to provide a plurality of discrete regions in each of which a gas discharge plasma may be established and being provided with means to inhibit movement of a gas discharge plasma from any one of said regions to any other of said regions, the device being mounted so that said regions are respectively disposed between an end of the inner conductor of said first line and ends of the inner conductors of said further lines.

2,973,486
MICROWAVE HYBRID JUNCTIONS
Edward Salzberg, Framingham, Mass., assignor to Microwave Development Laboratories, Inc., Wellesley, Mass., a corporation of Massachusetts
Filed Oct. 23, 1958, Ser. No. 769,155
1 Claim. (Cl. 333—9)



An improved folded waveguide T hybrid junction comprising, first and second rectangular waveguide sections having a common wide wall, a third rectangular waveguide section having its wide walls generally parallel to the plane of said common wall, a fourth rectangular waveguide section having its wide walls generally perpendicular to said common wide wall plane, the axis of said fourth waveguide section being normal to the parallel axes of said first, second and third sections, means defining a common region for transferring microwave energy between said sections, said common wide wall being confined wholly between said first and second waveguide sections and terminating immediately adjacent to an outside of said common region, means coupling said third waveguide to said common region, said fourth waveguide section exchanging energy with said common region through a rectangular opening, and a matching tab extending into said common region from a relatively small portion of said common wide wall outside of and adjacent to said rectangular opening for lessening the standing wave ratio in said fourth section without affecting the impedance match of said third section, said means coupling said third section to said common region being a matching section of rectangular waveguide dimensioned to provide an impedance match between said common region and said third waveguide section, and connected therebetween.

2,973,487
WAVEGUIDE HYBRID STRUCTURE
Allan W. Hanson and Donald E. Kreinheder, Los Angeles, Calif., assignors to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed June 3, 1957, Ser. No. 664,877
9 Claims. (Cl. 333—11)



4. A seven terminal microwave hybrid structure having four input terminals and three output terminals and

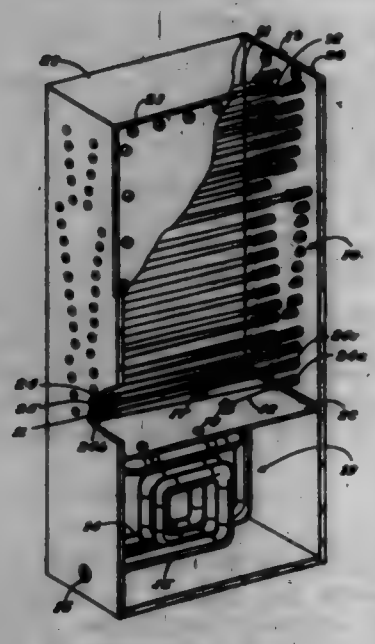
comprising: a first, second, third and fourth rectangular waveguide, each having broad and narrow walls and providing said four input terminals, said first and second waveguides having a common narrow wall and defining a first pair of waveguides, said third and fourth waveguides having a common narrow wall and defining a second pair of waveguides, said common narrow walls terminating in a first plane extending at right angles to said narrow walls, the width of said first pair and said second pair of waveguides progressively narrowing to respectively define a fifth and a sixth rectangular waveguide commencing at a second plane parallel to said first plane and respectively providing a first and a second one of said output terminals; seventh and eighth rectangular waveguides centrally coupled to and extending perpendicularly from opposite broad wall portions lying between said first and said second plane of said first pair and said second pair of waveguides respectively and having narrow walls substantially parallel to said first plane; and an E-plane, T-junction including two symmetry branch arms, and an output branch arm providing the third of said output terminals, said symmetry branch arms being coupled respectively to said seventh and said eighth waveguide.

2,973,488

IMPEDANCE MATCHING DEVICE HAVING A FOLDED TAPERED LINE

Vincent R. De Long, Cedar Rapids, Iowa, assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa

Filed Nov. 3, 1958, Ser. No. 771,300
1 Claim. (Cl. 333—34)



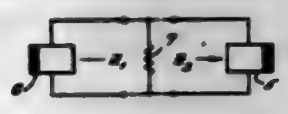
A folded tapered two-conductor line assembly for impedance matching in communication equipments operating at high power over a wide range of frequencies comprising, an electrically conductive box for enclosing said conductors, a plurality of insulators arranged in two similarly inclined and oriented rows on each of two opposite sides of said box, said insulators being mounted to extend inwardly from the sides of said box to support said conductors such as to provide circuitous high-impedance leakage paths between said conductors, each of said conductors extending progressively back and forth between respective ones of said opposite rows so that adjacent transverse portions of the two conductors gradually change in spacing as the line progresses from one end of the box to the other to form said folded tapered line, and said line being symmetrically placed relative to the sides of said box to equalize the capacitance between the individual conductors of said line and the sides of the box.

2,973,489

FREQUENCY SELECTIVE CIRCUIT

William E. Bradley, New Hope, Pa., assignor to Philco Corporation, Philadelphia, Pa., a corporation of Pennsylvania

Filed Jan. 10, 1956, Ser. No. 558,295
7 Claims. (Cl. 333—76)



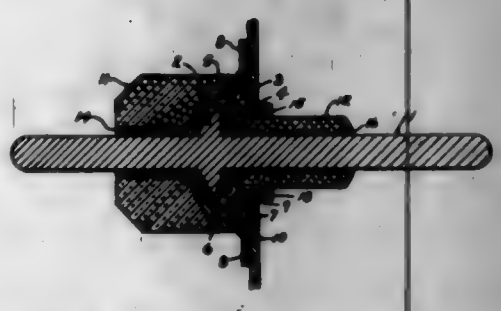
2. A signal transfer circuit having an undamped mode of resonance at only one frequency, said circuit comprising a first two terminal portion so constructed as to have zero values of impedance across the terminals thereof only at a first set of frequencies, a second two terminal portion so constructed as to have zero values of impedance across the terminals thereof only at a second set of frequencies, only one frequency of said first set corresponding to a frequency of said second set, the first and second terminals of said first portion being connected to the first and second terminals, respectively, of said second portion, a resistive network connected from said first terminals to said second terminals, means for supplying a signal to said circuit at a point remote from said first and second terminals, and means for extracting a signal from said circuit at a point remote from said first and second terminals.

2,973,490

ELECTRICAL WAVE FILTER APPARATUS

Heinz M. Schlicke, Fox Point, Wis., assignor to Allen-Bradley Company, Milwaukee, Wis., a corporation of Wisconsin

Filed Mar. 17, 1955, Ser. No. 494,857
11 Claims. (Cl. 333—79)



1. In a broad-band low-pass filter for diverting alternating electric currents of higher frequency while furnishing an electric path of low impedance to lower frequency currents including direct currents, the combination of means comprising electrically conductive material for attaching the filter to an electrically conductive shielding enclosure adjacent an aperture in the latter; a feed-through conductor adapted to extend through such aperture and having metallic conductive properties providing a relatively low impedance path for lower frequency alternating current; a capacitor having an axial opening through which said conductor passes and comprising a dielectric body having electrodes on opposed faces thereof and in capacitive relation thereto, at least one of said electrodes being electrically connected to said feed-through conductor intermediate the ends thereof, and one other of said electrodes being provided with a connection to said attaching means for carrying diverted higher frequency currents; and a magnetically responsive member closely adjacent said capacitor comprising a closed ring of a ferrite substance having high specific electrical resistivity and substantial permeability, said ring being disposed to surround a portion of said feed-through conductor which is adjacent said aperture in the shielding enclosure when the filter is attached to the latter,

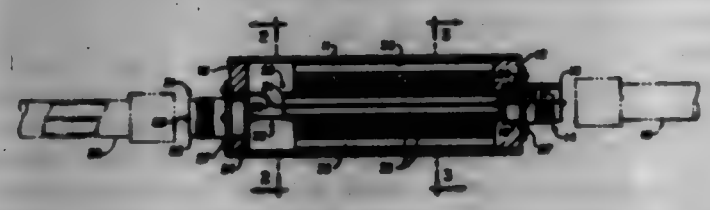
said ferrite ring and said mounting means co-operating to provide a substantially windowless shield for the aforesaid portion of the conductor.

2,973,491
ATTENUATOR
Arthur H. Maciszewski, Julius J. Hupert, Richard Goldstein, and Tadeusz Szubski, all of River Forest, Ill., assignors to A.R.F. Products, Inc., River Forest, Ill., a corporation of Illinois
Original application May 13, 1954, Ser. No. 429,547, now Patent No. 2,881,315, dated Apr. 7, 1959. Divided and this application Apr. 21, 1958, Ser. No. 729,825
5 Claims. (Cl. 333—81)



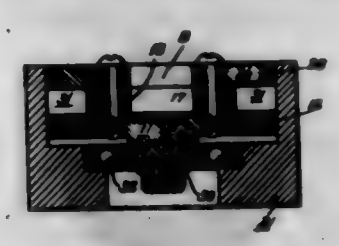
1. A radio frequency attenuator for operation with an associated source of radio frequency radiation on the inductive-coupling mode as a wave guide below cutoff, comprising a first tube adapted to have one of the open ends thereof disposed toward and fixedly positioned with respect to the radiation source, said first tube having a longitudinal slot therein, a second tube positioned within said first tube and being slidably adjustable therein, a monitor member mounted on and carried by said second tube within said first tube and extending outwardly through said slot a distance that is small compared to the transverse dimension of said first tube whereby said monitor member is inductively coupled to the radiation source, means positioned in said one end of said first tube forming an electrostatic shield suppressing the capacitive-coupling mode between said monitor member and the radiation source, a pickup member positioned within said second tube and being slidably adjustable therein to receive radiation from said monitor member, first adjustment means to move said second tube including said monitor member and said pickup member simultaneously with respect to said first tube to adjust the amount of radiation injected into said attenuator without changing the attenuation between said monitor member and said pickup member, and second adjustment means to move said pickup member with respect to said monitor member without moving said monitor member with respect to said first tube whereby to adjust the attenuation between said monitor member and said pickup member without changing the amount of radiation injected into said attenuator.

2,973,492
PULSE INVERTING TRANSFORMER
Dick A. Mack, Berkeley, Calif., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed Feb. 20, 1959, Ser. No. 794,788
5 Claims. (Cl. 333—97)



1. In an inverter transformer, the combination comprising a pair of coaxial conductor sections having a gap between the ends thereof and each having an inner conductor and an outer shield conductor, said inner conductor of a first one of said coaxial conductor sections being electrically connected with the outer shield conductor of the second one of said coaxial conductor sections and the inner conductor of said second one of said coaxial conductor sections being electrically connected with the outer shield conductor of said first coaxial conductor section, a quantity of high permeability magnetic core material disposed adjacent one of said pair of coaxial conductor sections, and an electrically conductive element connecting said outer shield conductor of said first coaxial conductor section with said outer shield conductor of said second coaxial conductor section, said electrically conductive element extending around and enclosing said quantity of high permeability magnetic material.

2,973,493
WAVEGUIDE ROTARY JOINT
Frank E. Hasseld, Jr., 263 S. Emerson Ave., Indianapolis, Ind.
Filed Nov. 30, 1959, Ser. No. 856,310
6 Claims. (Cl. 333—98)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. Apparatus for transmission of microwave energy from one microwave means to another microwave means rotatably related to said one microwave means, said apparatus comprising: a housing having a wall of cylindrical shape and at least one open end, said housing being adapted to receive bearing means and said wall having a waveguide opening to accommodate passage of microwave energy through said apparatus; a first chamber defining means having a substantially flat face extending radially equidistantly from an axis perpendicular to said face, said face having a diameter approximately equal to the inside diameter of said housing and said first chamber defining means having bearing means thereon to provide a bearing of said first chamber defining means in said housing; a separating block having, a principal axis, two parallel faces perpendicular to said axis and having a periphery at a radius less than the radius of said first chamber defining means and interrupted at two points, the first of which defines the intersection of the periphery with a first edge of a slot extending inwardly from the periphery which slot has a second edge extending parallel to said first edge and outwardly and changing to a curve and continuing to a terminal edge at a radius equal to the radius of said first chamber defining means, the continuation forming one side of a peninsular extension of said block, the second point defines the intersection of the said periphery with another side of said extension, said another side extending outwardly to a distance at a radius from said axis equal to that of said first chamber defining means and said extension having a third side outward from said axis at a radius equal to that of said first chamber defining means and flush with the periphery thereof; a second chamber defining means having a substantially flat face extending radially equidistantly from an axis perpendicular to said face, said face having a diameter approximately equal to the inside diameter of said housing and said second chamber defining means having a slot therethrough for communication with the slot in said separating block, said separating block and said first and

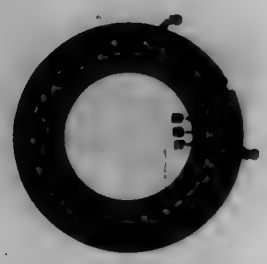
second chamber defining means being affixed together coaxially within said housing, and a finger fixable to said housing adjacent to said waveguide opening and extending into the annular chamber defined by said first and second chamber defining means, said separating block and said wall to provide a transition for wave energy passing through said apparatus when said housing, said finger, said first and second chamber defining means, and said separating block and extension are in assembly, whereby microwave energy may be transmitted from one waveguide to another having a rotary motion with respect to said one waveguide and without changing the voltage standing wave ratio in the transmission.

2,973,494
STEPPED-LAP CORE FOR INDUCTIVE APPARATUS

Belvin B. Ellis, Lackawannock Township, Mercer County, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Original application Dec. 29, 1955, Ser. No. 556,152. Divided and this application July 26, 1957, Ser. No. 674,486

8 Claims. (Cl. 336—217)

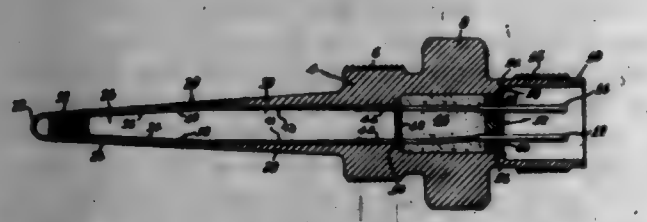


8. In a wound type core, in combination, a predetermined number of turns of oriented magnetic strip material, said strips of magnetic material being electrically insulated from each other, the turns of magnetic strip material being cut at a predetermined place and arranged in groups, each group comprising more than three turns having the cut ends of each turn substantially aligned with each other, the joint of one turn being offset from the joint of the next adjacent turn by an amount approximately six times the thickness of an individual turn to form a stepped joint in each group of turns, the stepped joint in each group of turns being of a recurring pattern, the length of the stepped joint formed by the aligned ends of each group of turns being substantial compared to the thickness of the core, and the combined stepped joints of said groups of turns providing a single openable joint completely across said core whereby the turns may be assembled into said core in a group comprising more than three turns and the joint closed.

2,973,495
TEMPERATURE MEASURING DEVICE

Herbert J. Greenberg, Livingston, N.J., assignor, by mesne assignments, to Engelhard Industries, Inc., Newark, N.J., a corporation of Delaware

Filed June 20, 1958, Ser. No. 743,397
13 Claims. (Cl. 338—28)

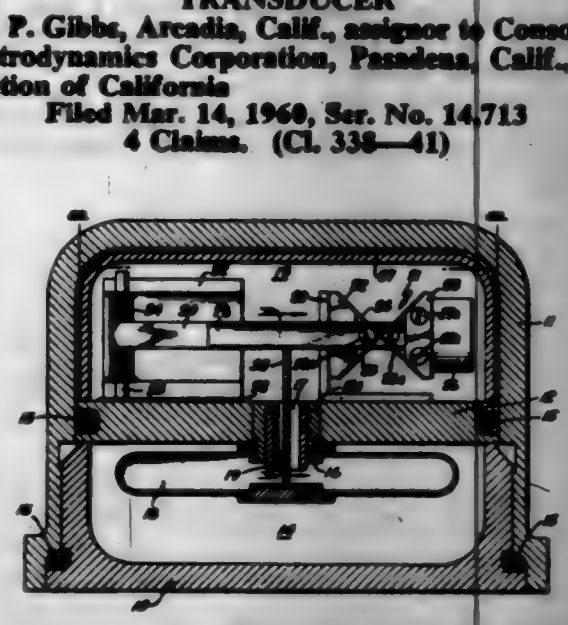


1. In a device of the character described, a metallic, integral, hollow stem in the shape of a cone having a closed tip portion and forming a conical cavity therein, both the thickness of the wall of the stem and the width of the cavity decreasing continuously toward the tip of the cone along at least a portion of the length of the stem, and electrical sensing means secured to the internal wall of the tip portion but insulated therefrom.

2,973,496
TRANSDUCER

Joseph P. Gibbs, Arcadia, Calif., assignor to Consolidated Electrodynamics Corporation, Pasadena, Calif., a corporation of California

Filed Mar. 14, 1960, Ser. No. 14,713
4 Claims. (Cl. 338—41)

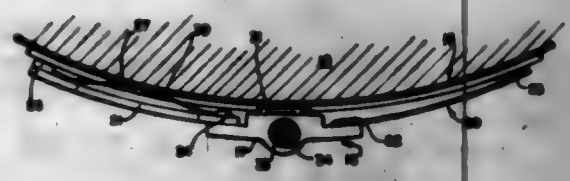


1. A pressure sensing transducer comprising a housing, pressure responsive means mounted in the housing for displacement in response to pressure changes, displacement sensing means, a lever arm in displaceable relationship relative to the displacement sensing means, means operable to transmit a force to the lever arm responsive to displacement of the pressure responsive means, a first pair of crossing springs connected at one end to rigid support means and at their opposite end to one side of the lever arm to suspend the arm for movement about a pivot axis in opposition to the first pair of supporting springs, a second pair of crossing springs connected at one end to rigid support means and at their opposite end to the other side of the lever arm to suspend the arm for movement about the pivot axis in opposition to the second pair of supporting springs and cooperate with the first pair of springs to resist lateral movement of the arm from its pivot axis, and a balancing mass respectively being on opposite sides of the crossing point of the springs.

2,973,497
CIRCUIT COMPONENTS

John S. Wilkerson, Clearwater, Fla., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware

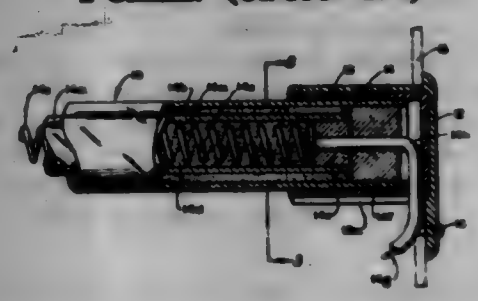
Filed July 1, 1959, Ser. No. 824,331
4 Claims. (Cl. 338—143)



1. In combination: a cylindrical form; first and second mutually spaced helices on said form, the first helix comprising a plurality of turns of relatively large diameter wire having relatively low resistivity and the second helix comprising a plurality of turns of relatively small diameter wire having relatively high resistivity, said helices having the same helix angle so that the turns of one helix lie between the turns of the other helix; means making electrical connection to said helices; a resilient, electrically conductive slider assembly comprising a central drive portion, a pair of end bearing portions, and

intermediate wiper means, said slider assembly being generally arcuate to conform to the shape of said cylinder; and means mounting said assembly for movement parallel to the axis of said form and spaced therefrom, said drive portion comprising a shoe engaging a turn of said first helix without engaging either of the adjacent turns of said second helix so that said assembly is moved axially of said form upon relative rotation between said form and the mounting means, said bearing portions each comprising a pad proportioned to contact a pair of adjacent turns of said first helix, and said wiper means comprising a pair of resilient contacts engaging a turn of said second helix at closely spaced points therealong, so that regardless of the sense of said relative rotation one of said contacts can remove unwanted material from said second helix to insure good electric contact thereof with the other contact.

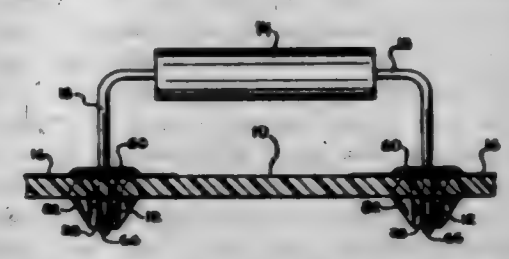
2,973,498
SUPPORT FOR HEATING ELEMENTS
Gresham H. Calvert, 4105 Soquel, Soquel, Calif.
Substituted for abandoned application Ser. No. 632,385, Jan. 3, 1957. This application June 7, 1960, Ser. No. 34,595
2 Claims. (Cl. 338—296)



1. An electrical heating element comprising a frame member, tube means of vitreous material, a heating element made of a plurality of convolutions of an elongated electrical conductor positioned in said tube means, granular material surrounding said heating element for spacing said element from an inner wall of said tube means, electrical connection means connected to said heating element for supplying an electric current thereto, means for sealing the ends of said tube means to confine said heating element and said granular material therein, cup-shaped members of resilient electrical insulating and heat resistant material positioned one over each end of said tube means, opposing rigid caps positioned one over each of said resilient cup-shaped members at opposite ends of said tube means said cup-shaped members snugly engaging the outer surfaces of said cup-shaped members, and means for attaching said rigid caps to said frame member whereby said tube means is clamped between said opposing rigid cap members and supported thereby.

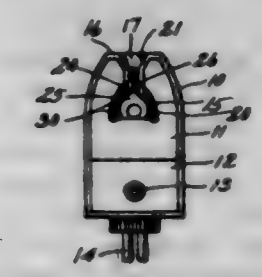
2,973,499
SOCKET CONNECTOR MEANS FOR CIRCUIT BOARD
Kemper M. Hammell, Harrisburg, Pa., assignor to AMP Incorporated, Harrisburg, Pa.
Filed Mar. 12, 1958, Ser. No. 720,993
6 Claims. (Cl. 339—17)

1. In a printed circuit panel board of insulating material, a socket opening formed therein defined by a plurality of fingers extending transversely from one surface of said board and circumferentially spaced around the axis of said socket opening, hinge means integral with said board and fingers and extending outwardly from the other surface of the board and then in continuity with one end of the fingers and operable to permit lateral movement of said fingers relative to each other and the axis of said socket opening, and circuit means extending along said board and into said socket, whereby when a prong-like member of greater cross-sectional dimension than the interior of said socket is inserted within said socket for connection to said circuit means the elastic nature of said hinge means permits movement of said



fingers radially away from each other to receive said prong-like member between said fingers and tightly engage said member to establish firm contact between said member and the circuit means within said socket.

2,973,500
BI-PIN FLUORESCENT LAMPHOLDER WITH NEW INSERTION MEANS
John M. Pistey, Fairfield, Conn., assignor to General Electric Company, a corporation of New York
Filed Oct. 2, 1958, Ser. No. 764,907
4 Claims. (Cl. 339—53)

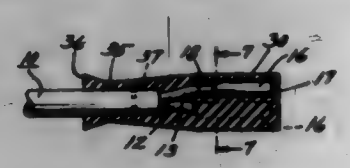


1. A bi-pin fluorescent lampholder comprising a hollow housing that supports a pair of spring contact blades in edgewise fashion with respect to the back wall of the housing, the contact blades having portions which are symmetrically arranged within an opening in the front face of said housing, the opening comprising a pair of arcuate grooves, the grooves being connected together adjacent the top portion of the housing and communicating with an entrance slot that is open in both the front and top walls of the housing, the lower ends of the grooves being curved toward each other and spaced apart, each contact blade having a pin seat for receiving a contact pin of the lamp, the pin seats being located on a line that coincides with the line drawn on the widest spacing between the grooves, and curved edge means formed in the grooves in the area adjacent the entrance slot so that once the lamp pins are positioned in the pin seats, a loosened pin engages said curved edge means to cam the seated pin to a semi-locked position, whereby said loosened pin may not be moved into the entrance slot until the other pin is shifted out of its seat and toward the innermost end of its groove to a semi-locked position, and when manual pressure is released from the lamp, the pin that is at the lower end of the groove will be in a semi-locked position to thereby hold the lamp from dropping out of the lampholder due to its own weight.

2,973,501
FLEXIBLE ELECTRICAL CONNECTOR
George C. Mapeladen, Easton, and Wallace R. Francis, Milford, Conn., assignors to General Electric Company, a corporation of New York
Filed Sept. 3, 1957, Ser. No. 681,605
4 Claims. (Cl. 339—59)

4. In an electrical connector attached to one end of a cord having at least three separately insulated stranded conductors twisted together in a spiral and covered by

an outer jacket, an elongated connector body of resilient insulating material attached to one end of the cord, a contact member fastened lengthwise to the end of each conductor, each contact member having a tubular pin-receiving portion and a terminal portion, the terminal portion of each contact having bendable tabs, the jacket of the cord terminating within the connector body and spaced from the ends of the conductors, the free ends of the conductors thus exposed within the body being twisted together in the same direction as the spiralling of the cord, each stranded conductor having a bare end section in the configuration of a small loop, said loop being formed by doubling the end of the bare conductor back upon a second portion thereof, said end being attached directly to said terminal portion by folding and crimping the bendable tabs thereof together over the end of the conductor, the second portion being flexibly disposed opposite said end, the second sections of the conductors being clustered together radially inwardly of the terminal portions of the contact members toward the



longitudinal axis of the connector and being disposed closely adjacent to said axis thereby to increase the flex life of the connector where each of the contact members has been fastened to its respective conductor, an insulating sleeve telescoped over each contact and disposed within said body thereby to completely enclose said contact and the loop of conductor attached thereto, the elongated connector body being at least twice as long as the contact members, the inner end of the connector body being gradually tapered to a reduced size toward the end thereof overlying the jacketed cord to limit the radius of bending of the cord where it merges with the connector, and a plurality of radial slots formed around the outer periphery of the connector body over the jacketed cord, said slots each extending inwardly to the outer surface of the jacket of the cord and being disposed in and forming at least one transverse weakened plane thereby to increase the flexibility of the connector in that plane and concentrate the bending stresses away from the terminal portions of the contacts.

2,973,502
INTEGRAL CABLE AND CONNECTOR
Sidney K. Tally, Nashua, N.H., assignor to Sanders Associates, Inc., Nashua, N.H., a corporation of Delaware

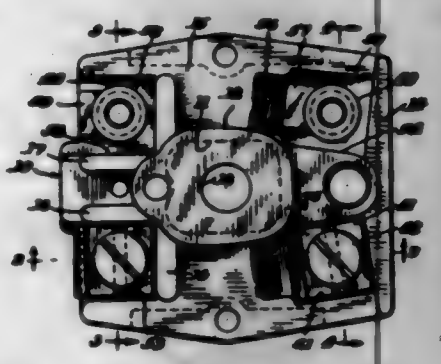
Filed May 6, 1958, Ser. No. 733,316
2 Claims. (Cl. 339—61)



2. An electrical circuit connection, comprising: a flat, flexible sheet of thermoplastic organic plastic insulating material; a pair of congruent, flexible, elongated, planar conductors superimposed upon one another and encapsulated within said sheet of plastic insulating material, said conductors extending to an edge of said flat sheet; and an electrical jack inserted between said conductors along the longitudinal direction thereof to form said electrical circuit connection.

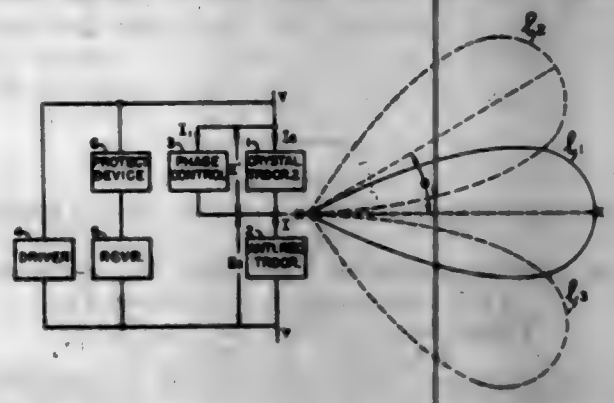
2,973,503
TERMINAL ASSEMBLY
Gilbert H. Hansen, deceased, late of Batavia, Ill., by Helen R. Hansen, administratrix, Batavia, Ill., assignor to Furnas Electric Company, a corporation of Delaware

Filed May 9, 1958, Ser. No. 734,368
3 Claims. (Cl. 339—198)



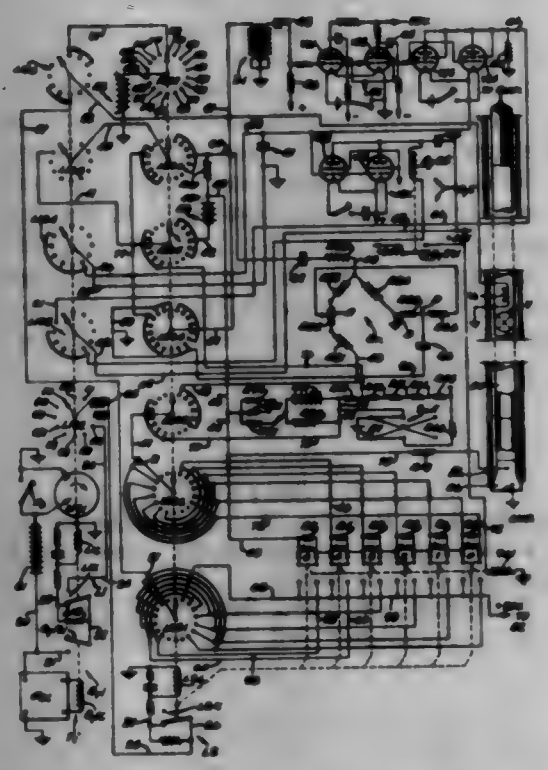
1. In a device of the character described, a member of insulating material having an approximately rectangular recess in the top surface thereof, a terminal insert molded in the member and having a head portion located within the recess centrally thereof, the height of the head portion being less than the depth of the recess and said terminal insert having a threaded bore extending from the head portion for the major length of the insert, a pressure plate substantially saddle-shaped in transverse section to provide depending side skirts for location in the recess, said depending side skirts being spaced from each other a greater distance than the diameter of the head portion of the insert but less than the width of the recess, a holding screw adapted to pass through an opening in the top wall of the pressure plate for threaded relation with the threaded bore of the terminal insert to secure the pressure plate to the head portion, and said member having a pad formed at the entrance end of the recess providing a top surface aligned with that of the head portion and having contact with the head portion, said pad having a width which does not exceed the diameter of the head portion of the terminal insert.

2,973,504
SONIC ECHO SYSTEM
Robert J. Bobber and Charles L. Darner, both of P.O. Box 3629, Orlando, Fla.
Filed Mar. 26, 1951, Ser. No. 217,648
10 Claims. (Cl. 340—1)
(Granted under Title 35, U.S. Code (1952), sec. 266)



5. A directive beam energy propagating and detecting system comprising the combination of a first capacitive sound transducer element capable of propagating sound energy in a given space segment, a second inductive sound transducer element capable of propagating sound within said given segment, means coupled to said transducers for simultaneously feeding a sinusoidal driving voltage thereto, and output means coupled to said transducers for combining the voltages produced by said transducers during reception of energy thereby.

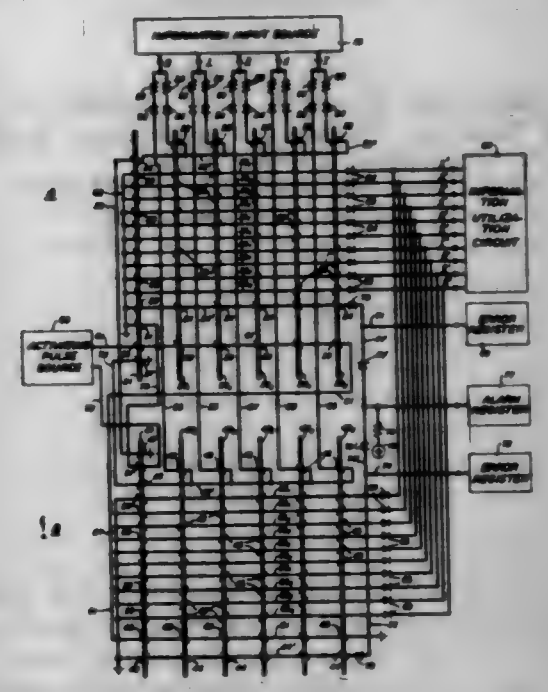
2,973,505
METHOD AND APPARATUS FOR EARTH BOREHOLE INVESTIGATING AND SIGNALING
Oddvar M. Johannesen, Arcadia, Calif., assignor, by mesne assignments, to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware
Filed Oct. 18, 1954, Ser. No. 462,718
6 Claims. (Cl. 340—18)



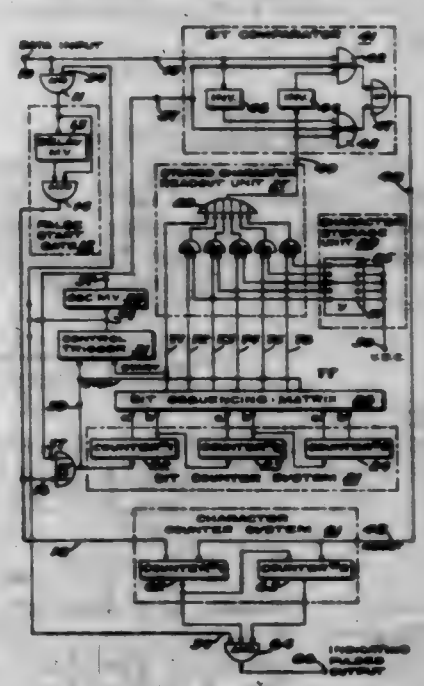
1. Means for producing and transmitting a signal indicative of the value of a physical quantity, comprising: an electrical bridge network having an input connection, and output connection, and two arms, the first of which arms is connectable across an electrical circuit having an electrical characteristic representative of said value; a plurality of separate circuit elements, each of fixed different electrical characteristics; means to introduce each of said separate circuit elements sequentially in series into said second arm; means responsive to the output from the said output connection as effected by overbalance and underbalance of said bridge network, when energized through said input connection, to maintain such of the thus introduced circuit elements in series in said second arm as results in underbalance of said bridge network and to reject and remove such of the thus introduced elements from said series connection in said second arm as result in overbalance of said bridge network; and means responsive to the action of said last mentioned means to produce and transmit a signal pulse each time a circuit element which is thus introduced in series into said second arm is not rejected and withdrawn therefrom and prior to the next sequential introduction of a circuit element into said second arm.

2,973,506
MAGNETIC TRANSLATION CIRCUITS
Neal D. Newby, Leonia, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed June 10, 1958, Ser. No. 741,122
13 Claims. (Cl. 340—147)

11. An electrical circuit comprising a first and a second translating means, means for simultaneously introducing input information in said first and said second translating means in elements of a first and a reciprocal code, respectively, means for activating said first and said second translating means, information output circuit means for each of said translating means energized responsive to the activation of the associated translating means for generating an information signal only when all of the elements of the respective code are present in the associated translating means, a first error output circuit means for each of said translating means energized responsive to the activation of the associated translating means for generating a first error output signal only when less than all of the elements of the respective code are present in the associated translating means, a second error output circuit means energized responsive to the activation of said translating means for generating a second error output signal only when less than all of the elements of said codes are present in both of said translating means, and means for generating an output signal representative of said input information in a third code responsive to an information signal from each of said first or second translating means.



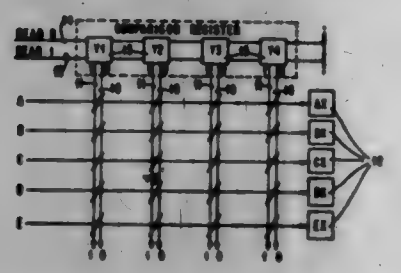
2,973,507
CALL RECOGNITION SYSTEM
George F. Grondin, Van Nuys, Calif., assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa
Filed Sept. 2, 1958, Ser. No. 758,411
10 Claims. (Cl. 340—155)



1. A pulse-code-modulation selective-calling recognition circuit, comprising bit-comparing means for providing an output pulse when dissimilar character bits are received at a pair of inputs, means for providing received

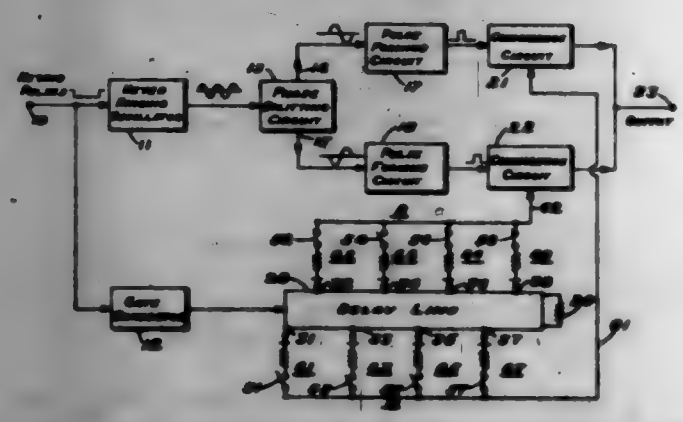
pulse-code characters to one of said inputs, means for providing storage pulse-code characters to the other input in bit synchronism with said received characters, means for counting received characters, reset means provided with said counting system for being reset by output pulses of said bit comparator, and means for indicating a particular count reached by said counter system to indicate the reception of an assigned selective-calling code.

2,973,508
COMPARATOR
Frank Chadurjian, Peekskill, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Nov. 19, 1958, Ser. No. 774,859
8 Claims. (Cl. 340—174)



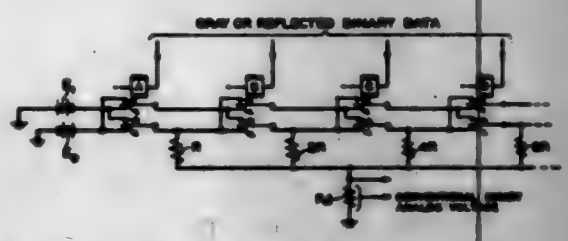
1. In an electronic comparing device for simultaneously comparing a plurality of memory words with a test word, a magnetic core matrix memory made up of bit columns and word rows of bit storage elements, each of which exhibits plural states of magnetic stability; means to set said rows of bit storage elements to magnetic states representing respective words of data; a plurality of equality signalling devices, each associated with a memory word to be compared; a plurality of word sense lines each traversing the bit storage elements for a particular word and terminating in the associated equality signalling device; a comparison register having a plurality of stages for accepting respective bits of the test word; each stage associated with a column of bit storage elements, and means for generating interrogation pulses in accordance with data in the various positions of the comparison register, along associated columns of bit storage elements, whereby each bit storage element containing a mismatch with the related comparison register stage is conditioned to emit a pulse along the associated word sense line to inhibit the associated equality signalling device, equality being determined by eliminating unequals.

2,973,509
PULSE CODING SYSTEM
John Bruce Majerus and Arthur H. Wulfsberg, Cedar Rapids, Iowa, assignors to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa
Filed Jan. 11, 1957, Ser. No. 633,575
6 Claims. (Cl. 340—345)



1. A pulse-coding circuit having an input terminal connected to a source of keying pulses, comprising a keyed-ringing oscillator, and a gate generator, each having their inputs connected to said input terminal, phase-splitting means connected to the output of said ringing circuit to provide opposite-phased outputs at the frequency of said ringing circuit, first and second pulse forming devices respectively connected to the outputs of said phase-splitting means, first and second coincidence circuits, each having first and second inputs, the first input of each coincidence circuit connected respectively to the outputs of said pulse forming devices, a delay line having its input connected to the output of said gate generator, a plurality of series circuits, each including an asymmetric conductor, and switching means, said series circuits having ends connected consecutively to points along said delay line spaced by given delay intervals, the other ends of alternate ones of said series circuits being connected to the second inputs of one of said coincidence circuits, and the other ends of the remaining series circuits being connected to the second input of the other of said coincidence circuits, and an output terminal connected to the outputs of both of said coincidence circuits.

2,973,510
CODE CONVERTER
William S. Hazlett, Bellaire, Tex., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Sept. 30, 1955, Ser. No. 537,697
5 Claims. (Cl. 340—347)

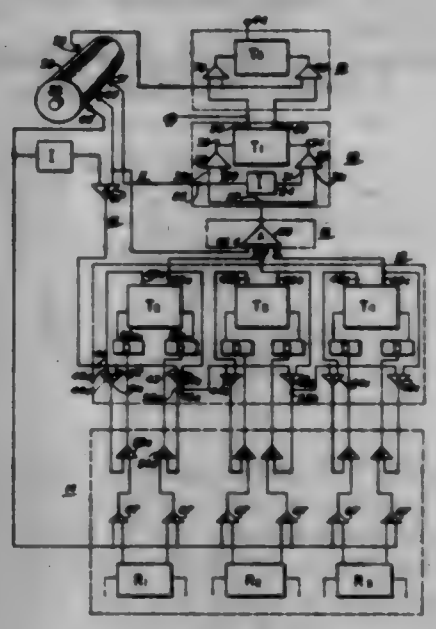


1. A code signal converter having a source of multi-element, two-condition binary code signal combinations in accordance with the Gray code, a total of one relay in said converter individual to each of said elements, a single individual winding on each of said relays, a first and a second set of tranfer contacts only on each of said relays, each of said sets consisting of a break contact, a make contact and an individual armature arranged to engage said break and make contacts alternately, a total of one lumped resistor individul to each of said relays, each of said resistors connected directly to one of said sets of contacts on its individual relay, said resistors directly interconnectable by paths extending directly through said contacts to form a variable potentiometer having a first and a second potential source connectable to outer terminals thereof, means for impressing Gray code signal combinations, from said signal source, on said windings, means responsive to said impressing of combinations in said Gray code for controlling said two sets of transfer contacts so as to set up corresponding combinations in accordance with the conventional binary code thereon, and directly interconnecting said resistors in said paths between said first and said second potential sources to produce linearly varying potentials for code combinations defining linearly varying numbers.

2,973,511
CODE CONVERTER
John A. McLaughlin, Los Gatos, Calif., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Aug. 28, 1957, Ser. No. 680,736
4 Claims. (Cl. 340—347)

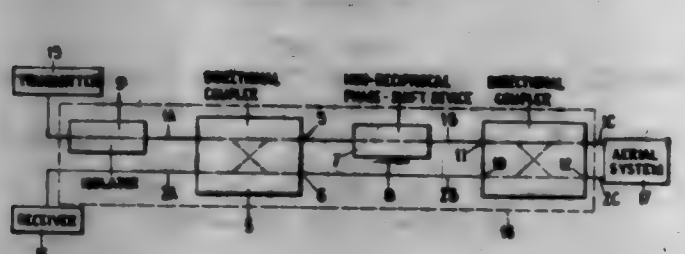
2. A system for converting a character from one code wherein the characters are defined by a fixed number of

bits to a second code wherein the characters are defined by a larger number of bits, said system comprising means operable to generate a master signal containing all the bits of the characters of said second code arranged serially by bit positions and character sequence so that the bits associated with respective characters in said second code are spaced equally in said master signal controllable means for sampling said master signal, counting means,



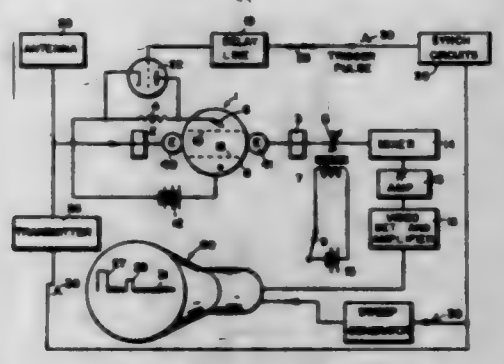
means for establishing a count condition in said counting means corresponding to a character to be converted, means for changing said count condition in timed relation with said master signal, and means operable in response to a preselected count condition for generating a control signal to cause operation of said sampling means resulting in the output signal thereof assuming the current valve of the sampled signal.

2,973,512
ELECTROMAGNETIC WAVE SWITCHING ARRANGEMENTS
Arthur Stephen Walsh, Watford, England, assignor to The General Electric Company Limited, London, England
Filed Aug. 18, 1958, Ser. No. 755,772
Claims priority, application Great Britain Aug. 20, 1957
5 Claims. (Cl. 343—16)



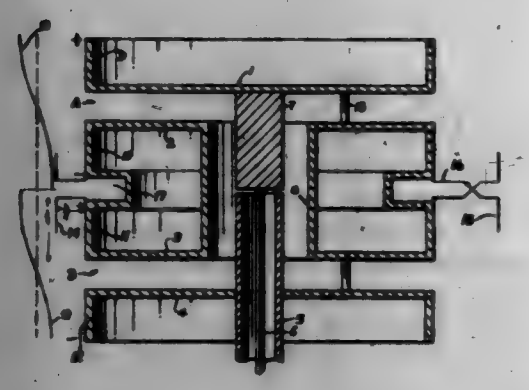
3. A radar system comprising a non-resonant aerial system which comprises a first transmisison path having two ends and a plurality of radiating elements coupled to the first transmission path, a radar transmitter, a radar receiver, a second transmission path having first and second end portions and a center portion between the two end portions, a third transmission path having first and second end portions and a center portion between the two end portions, means to connect the first end portions of the second and third transmission paths, one to the radar transmitter and one to the radar receiver, means to connect the second end portions of the second and third transmission paths to the two ends respectively of the first transmission path, first and second directional couplers which are connected between the center portions of the second and third transmisison lines, each of these directional couplers dividing substantially equally between the second and third transmission paths the energy of an electromagnetic wave fed to the coupler in either direction along either of those paths while the wave coupled from either of these paths to the other is effectively subjected to a phase-shift of substantially 90°, and a non-reciprocal phase-shift device which is provided in the center portion of the second transmission path between the two directional couplers and which has associated control means to cause the device selectively to have, at the frequency of operation, one of two different phase-shift conditions in one of which the device introduces substantially zero phase-shift to an electromagnetic wave travelling in one direction through the device and substantially 180° phase-shift to a wave traveling in the opposite direction while in the other condition these phase-shifts are interchanged, the arrangement being such that, during operation, when said device is operated in a first of said two phase-shift conditions, substantially all the energy of an electromagnetic wave fed to the first directional coupler by the radar transmitter is passed to the aerial system by way of the second end portion of the second transmission path, substantially all the energy of an electromagnetic wave fed to the second directional coupler from the aerial system over the second end portion of the second transmission path is passed to the radar receiver, and substantially all the energy of an electromagnetic wave fed to the second directional coupler over the second end portion of the third transmission path is passed to the first end portion of the second transmission path, while when said device is operated in a second of said two phase-shift conditions energy is transferred in the manner stated in connection with the first condition with the references to the second end portions of the second and third transmission paths interchanged.

2,973,513
GAS DISCHARGE VALVE NOISE GENERATOR
Robert E. Hovda, Buena Park, Calif., assignor to North American Aviation, Inc.
Filed Apr. 5, 1957, Ser. No. 650,994
11 Claims. (Cl. 343—17.7)



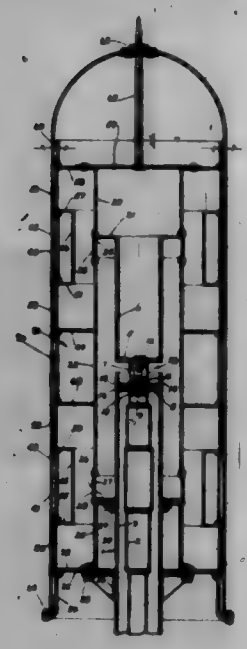
1. A method for checking the sensitivity of a radio frequency receiver in a transmitting-receiving system utilizing a gas discharge duplexing valve to accomplish duplex operation of the transmitter and receiver on a single antenna, said discharge valve having a direct current source in series with an impedance connected between its igniter anode and cathode, comprising the steps of setting said receiver in normal operating condition, exciting said duplexing valve to raise its discharge current density thereby generating noise signals, measuring the amplitude of said noise signals at the output of said receiver, and comparing said amplitude with a predetermined sensitivity standard.

2,973,514
PARALLEL PLATE TRANSMISSION LINE ANTENNA
Robert M. Sprague, Wakan, Mass., assignor to Andrew Alford, 299 Atlantic Ave., Boston, Mass.
Filed Nov. 4, 1955, Ser. No. 544,924
13 Claims. (Cl. 343—727)



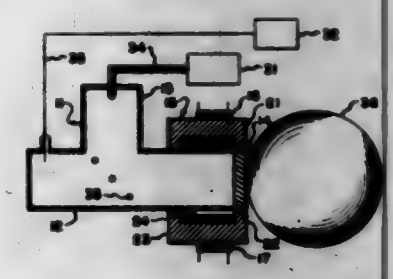
7. Means for propagating a directed radiation of high frequency radio waves comprising at least two pair of parallel circular disc transmission lines spaced substantially in planes one-half wavelength apart at the frequency of the carrier wave applied to the disc lines, means for distorting energy propagated in each of said lines to form a radiation pattern of a limacon, a choke gap positioned half way between the disc lines and a plurality of dipoles connected at spaced positions around the choke gap with the dipoles alternately connected in phase reversal across the gap.

2,973,515
OMNIDIRECTIONAL VERTICALLY POLARIZED ANTENNA
Gerald J. Adams, Cambridge, Mass., assignor to Andrew Alford, Winchester, Mass.
Filed Apr. 5, 1957, Ser. No. 650,920
7 Claims. (Cl. 343—770)



6. An antenna comprising, a plurality of insulatedly separated annular conducting surfaces defining a plurality of annular radiating slots spaced along a common axis, an input waveguide terminating on said axis midway between the extreme slots, and means defining a plurality of channels symmetrical about a plane perpendicular to said axis and passing through the point midway between said extreme slots for coupling said input waveguide to said slots and defining respective wave transmission paths from said input waveguide to each of said slots, the electrical lengths of said paths being substantially equal.

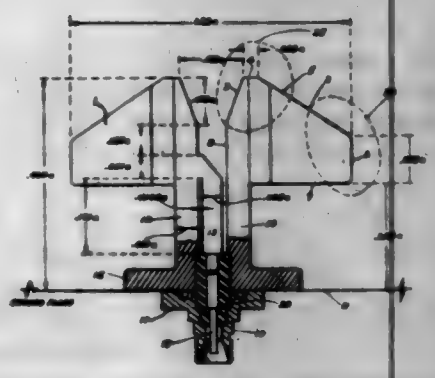
2,973,516
SCANNING ANTENNA USING MAGNETICALLY-CONTROLLED INTERNAL FERRITE WAVE REFRACTION
David B. Medved, San Diego, Calif., assignor to General Dynamics Corporation, San Diego, Calif., a corporation of Delaware
Filed Oct. 17, 1957, Ser. No. 690,761
7 Claims. (Cl. 343—783)



4. A directive microwave antenna comprising a hollow waveguide having a square cross section and an aperture at one end perpendicular to the longitudinal axis of said waveguide, magnetic field responsive phase front deflecting means comprising a plurality of ferrite strips in a lattice array inserted in said aperture, an electromagnet for applying a magnetic field to said ferrite strips perpendicular to said longitudinal axis of said waveguide, and means for varying the intensity and direction of said magnetic field for enabling selective phase front deflection by said lattice array of ferrite strips.

7. A directive microwave antenna comprising a hollow waveguide having an aperture at one end perpendicular to the longitudinal axis of said waveguide, magnetic field responsive phase front deflecting means comprising a ferrite wafer inserted in said aperture, means for applying a magnetic field rotating about an axis parallel to the longitudinal axis of said waveguide to said ferrite wafer, said means comprising an electromagnet with a core having a plurality of pole pieces adjacent the circumference of said ferrite wafer, a polyphase winding on said core, and means for applying a polyphase electric current to said polyphase winding, thereby producing a rotating magnetic field and enabling a rotating phase front deflection by said ferrite wafer.

2,973,517
WING TYPE DIPOLE ANTENNA WITH RADIATORS OF PARTICULAR SHAPE
Chester B. Watts, Jr., Winchester, Mass., assignor to Andrew Alford, Boston, Mass.
Filed Dec. 23, 1957, Ser. No. 704,628
8 Claims. (Cl. 343—795)



8. A dipole antenna comprising, a pair of wing structures, each wing structure having six edges, a first pair

of opposing faces, a second pair of opposed faces extending from one of said edges toward another in parallel relationship, and a third pair of opposing faces connecting said first and second faces and converging from said first faces toward said second faces.

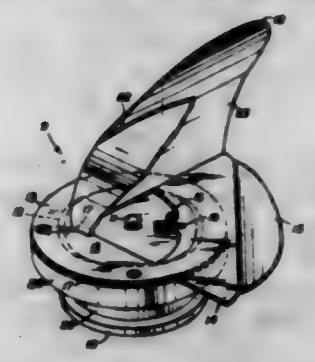
2,973,518

CORNER REFLECTOR ANTENNA

Jack H. Jensen, 333 Westwind Drive, San Diego, Calif.

Filed Sept. 25, 1957, Ser. No. 686,266
6 Claims. (Cl. 343—837)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. In an antenna, reflector means for transmitting or receiving directional high frequency waves including two parabolic members aligned in substantially a V-shape and finite ground plane means positioned between said members at their bottom edges for radiating and receiving said waves in coordination with said parabolic members, other ground plane means positioned in reactive



relationship with said finite ground plane means for opposing radiation leakage below the bottom of said parabolic members.

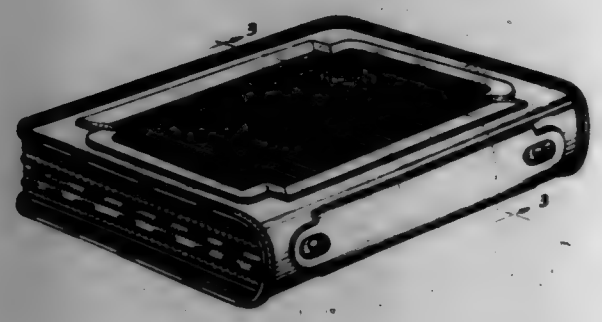
DESIGNS

FEBRUARY 28, 1961

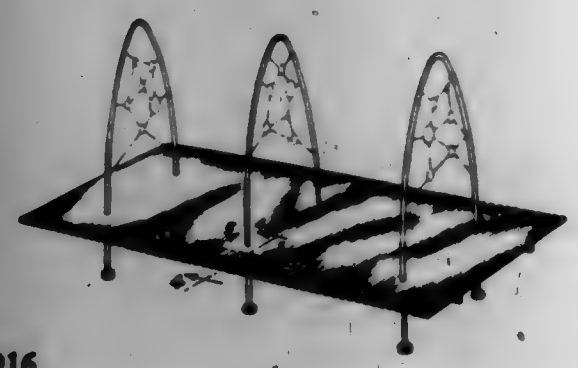
189,808
BRAID OR SIMILAR ARTICLE
Nathan Berlin, Great Neck, N.Y., assignor to Hamilton Web Company, Inc., New York, N.Y., a corporation of Rhode Island
Filed Aug. 29, 1960, Ser. No. 61,911
Term of patent 7 years
(Cl. D3—32)



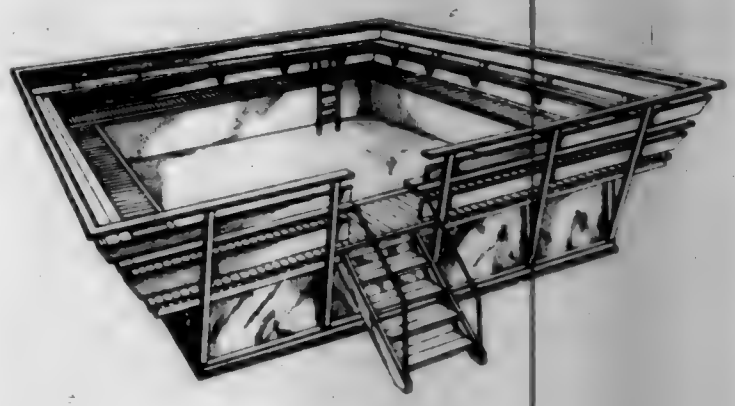
189,809
ZIPPERED RING BINDER
Seymour Mace Cole, Glencoe, and Paul I. Dale, Wilmette, Ill., assignors to Feldco, Inc., Chicago, Ill., a corporation of Illinois
Filed Mar. 21, 1960, Ser. No. 59,808
Term of patent 14 years
(Cl. D6—2)



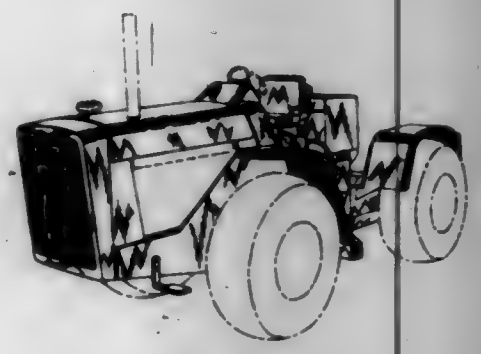
189,810
PARKING CANOPY
John Selby, 1350 Ghent Hill Road, Akron, Ohio
Filed Mar. 17, 1960, Ser. No. 59,778
Term of patent 14 years
(Cl. D13—1)



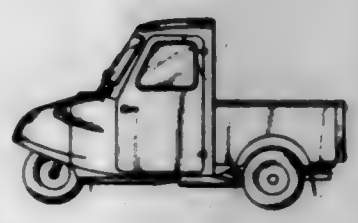
189,811
SWIMMING POOL
Donald E. Pruess, 5 Timber Trail, Rye, N.Y.
Filed Apr. 29, 1960, Ser. No. 60,369
Term of patent 14 years
(Cl. D13—1)



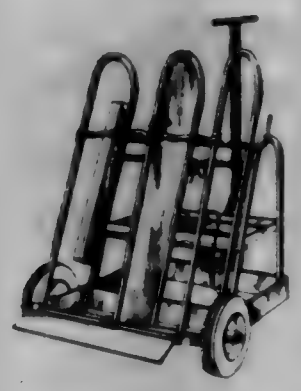
189,812
TRACTOR
William F. H. Purcell, Pasadena, and James M. Conner, Glendale, Calif., assignors to Deere & Company, Moline, Ill., a corporation of Delaware
Filed July 13, 1960, Ser. No. 61,351
Term of patent 14 years
(Cl. D14—3)



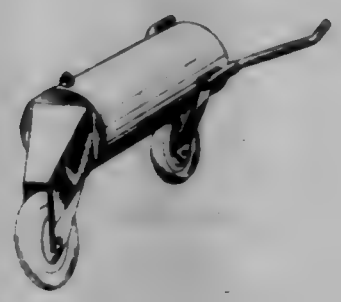
189,813
MOTOR TRUCK
Kenichi Yabu, Mino City, Osaka-fu, Japan, assignor to Daihatsu Kogyo Kabushiki Kaisha, Osaka City, Japan
Filed Mar. 28, 1959, Ser. No. 55,083
Term of patent 7 years
(Cl. D14—3)



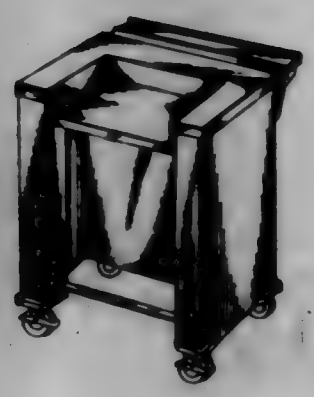
189,814
HAND TRUCK
John B. Smith, Atlanta, Ga., assignor to The Smith-Byrd Company, Inc., Atlanta, Ga., a corporation of Georgia
Filed Oct. 6, 1960, Ser. No. 62,402
Term of patent 14 years
(Cl. D14—3)



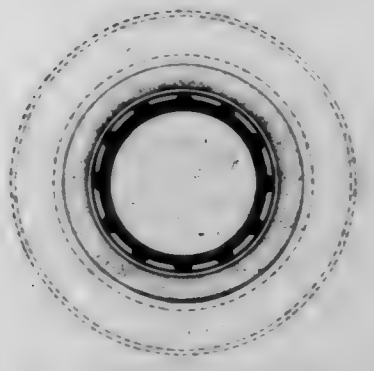
189,815
BARROW-TYPE EXERCISER FOR ATHLETES OR THE LIKE
John R. Taylor, 221 E. Carolina Ave., Memphis, Tenn.
Filed Apr. 8, 1960, Ser. No. 60,107
Term of patent 14 years
(Cl. D14—3)



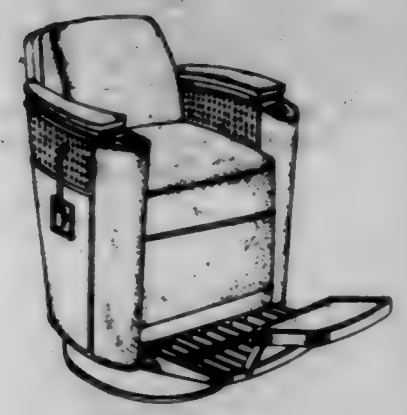
189,816
PORTABLE CASHIER UNIT
Delmare D. Rhoads, 3230 South Carolina St., Fort Wayne, Ind.
Filed June 9, 1958, Ser. No. 51,239
Term of patent 14 years
(Cl. D14—3)



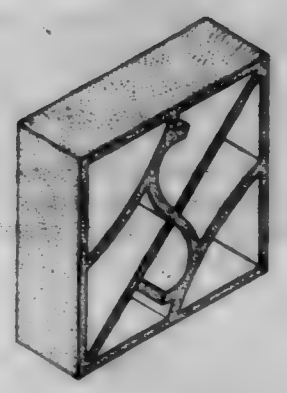
189,817
WHEEL TRIM UNIT OR SIMILAR ARTICLE
George Albert Lyon, 13881 W. Chicago Blvd., Detroit, Mich.
Filed Nov. 12, 1959, Ser. No. 58,327
Term of patent 14 years
(Cl. D14—30)



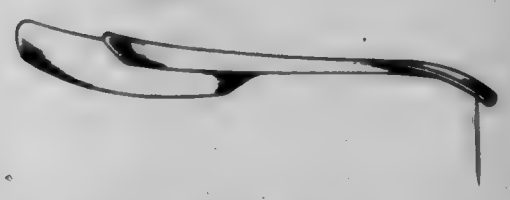
189,818
CHAIR FOR BARBER OR BEAUTY SHOP
Fred J. Piotraschke, 8052 Carondelet Ave., Clayton, Mo.
Filed May 16, 1960, Ser. No. 60,614
Term of patent 14 years
(Cl. D15—3)



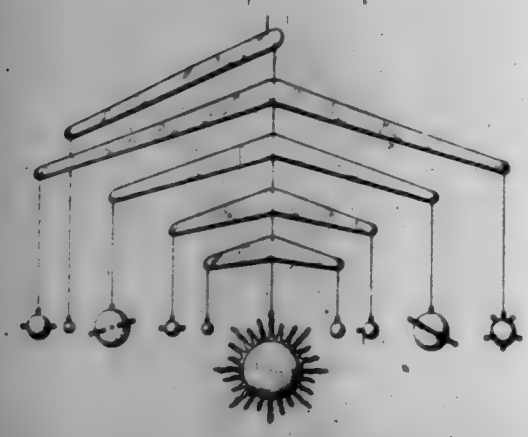
189,819
BUILDING BLOCK
Joseph A. DeMarco, 501 1st Ave. N., Birmingham, Ala.
Filed Aug. 15, 1960, Ser. No. 61,739
Term of patent 14 years
(Cl. D18—2)



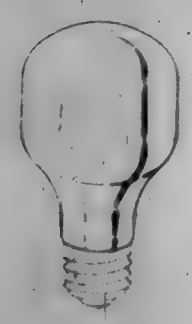
189,820
KNIFE
Earl C. Barr, P.O. Box 445, Waxahachie, Tex.
Filed Mar. 23, 1960, Ser. No. 59,841
Term of patent 14 years
(Cl. D22—3)



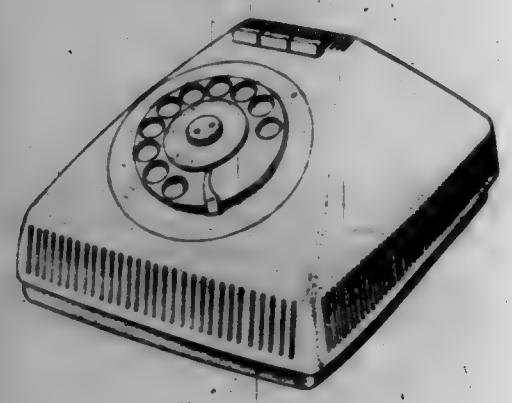
189,821
MOBILE
Melvin Lyon, 57 5th St., Hoboken, N.J., and Oscar M. Gossett, R.F.D. 1, South Salem, N.Y.
Filed Aug. 28, 1959, Ser. No. 57,363
Term of patent 14 years
(Cl. D25—1)



189,822
ELECTRIC LAMP
Herbert E. Plishker, Morristown, N.J., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed July 17, 1959, Ser. No. 56,824
Term of patent 14 years
(Cl. D26—8)



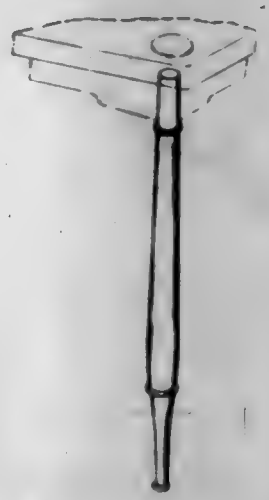
189,823
HAND-FREE TELEPHONE SET
Karl Axel Torbjörn Olsson, Stockholm, and Lewell Dean Smith, Stockholm-Bromma, Sweden, assignor to Telefonaktiebolaget L M Ericsson, Stockholm, Sweden, a corporation of Sweden
Filed Jan. 29, 1959, Ser. No. 54,381
Claims priority, application Germany Oct. 29, 1958
Term of patent 14 years
(Cl. D26—14)



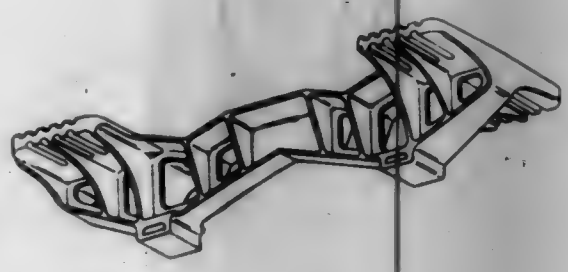
189,824
SHOE RACK
David Harper, 2122 Webster Ave., Pittsburgh, Pa.
Filed Sept. 18, 1959, Ser. No. 57,607
Term of patent 14 years
(Cl. D33—3)



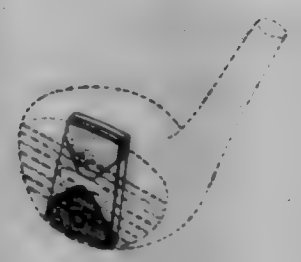
189,825
FURNITURE LEG
Robert E. Kjer Jakobsen, Manhattan Beach, Calif., assignor to Virtue Bros. Mfg. Co., Los Angeles, Calif., a corporation of California
Filed Feb. 12, 1960, Ser. No. 59,367
Term of patent 14 years
(Cl. D33—14)



189,826
TOY FOR BALANCING AND WALKING
Harold Katz, University City, Mo., assignor to Harry Shear, St. Louis, Mo.
Filed June 27, 1960, Ser. No. 61,120
Term of patent 14 years
(Cl. D34—5)



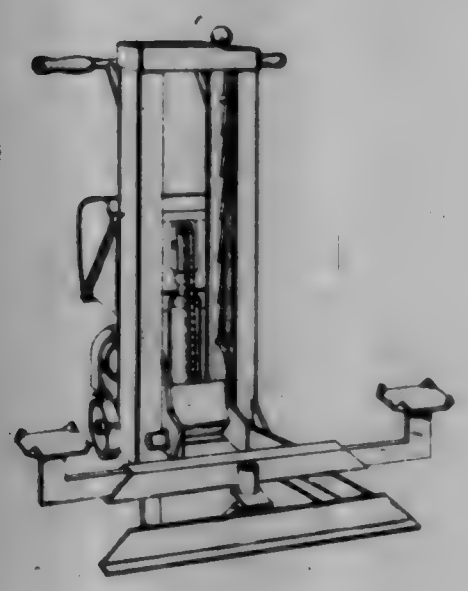
189,827
FACE PLATE FOR GOLF CLUBS
Lynn A. Davis, Jr., Springfield, Mass., assignor to A. G. Spalding & Bros., Inc., Chicopee, Mass., a corporation of Delaware
Filed July 15, 1960, Ser. No. 61,369
Term of patent 14 years
(Cl. D34—5)



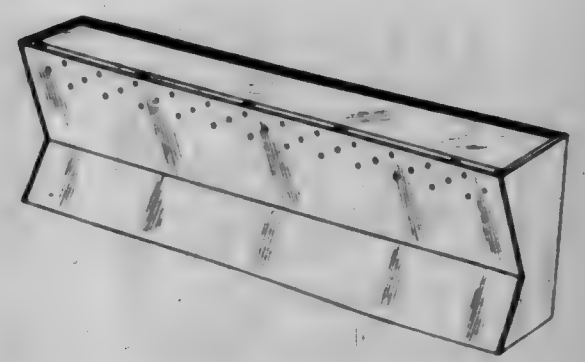
189,828
AMUSEMENT RIDE CAR
Karl W. Bacon, Mountain View, and Edgar O. Morgan, Palo Alto, Calif., assignors to Disneyland, Inc., Anaheim, Calif., a corporation of California
Filed Apr. 4, 1960, Ser. No. 60,038
Term of patent 14 years
(Cl. D34—15)



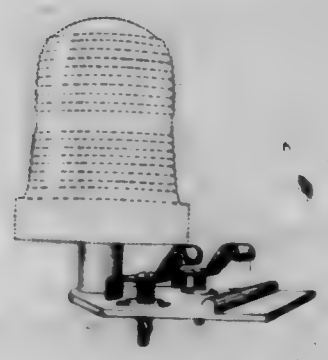
189,829
VEHICLE JACK
Fred H. Kollmeyer, Sheboygan, Wis., assignor to Blackhawk Mfg. Co., Milwaukee, Wis., a corporation of Wisconsin
Filed Sept. 21, 1959, Ser. No. 57,622
Term of patent 3½ years
(Cl. D41—1)



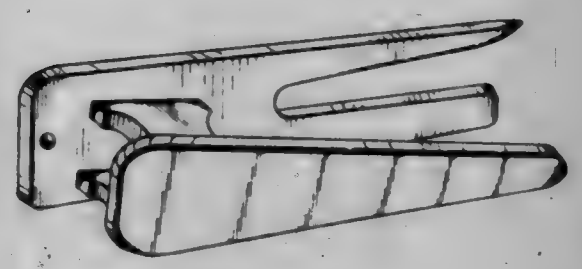
189,830
TWO-WAY WALL LIGHT FIXTURE
Warren D. Anderson, 4041 Raleigh Ave., Minneapolis, Minn.
Filed May 22, 1958, Ser. No. 51,919
Term of patent 14 years
(Cl. D48—4)



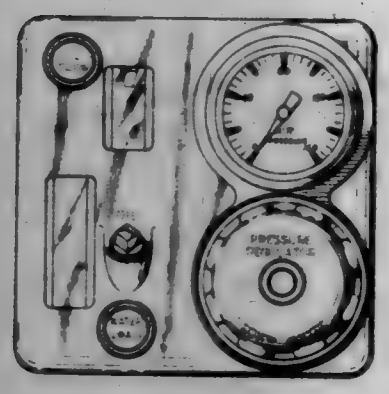
189,831
VEHICULAR EMERGENCY LIGHT
Ivan W. Conrad, Alexandria, Va.
Filed May 20, 1958, Ser. No. 50,983
Term of patent 14 years
(Cl. D48—32)



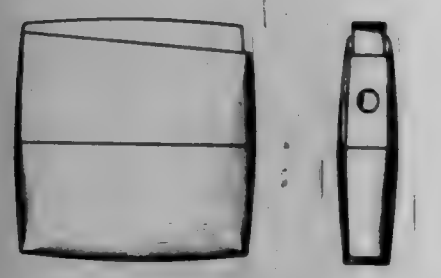
189,832
TAILORING BOARD
Eunice W. Farmer, Webster Groves, Mo.
Filed Sept. 17, 1959, Ser. No. 57,581
Term of patent 14 years
(Cl. D49—1)



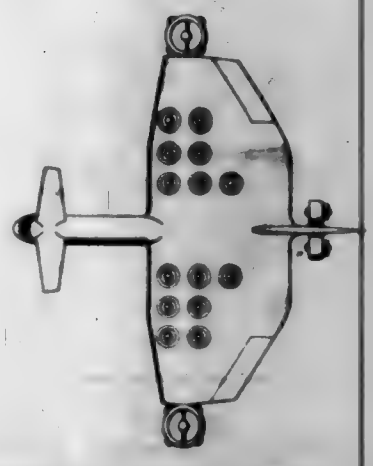
189,833
LUBRICATOR, FILTER, AND REGULATOR UNIT
Robert E. Becker, Logansport, Ind., assignor to Logansport Machine Co., Inc., Logansport, Ind., a corporation of Indiana
Filed Aug. 7, 1958, Ser. No. 52,086
Term of patent 14 years
(Cl. D52—6)



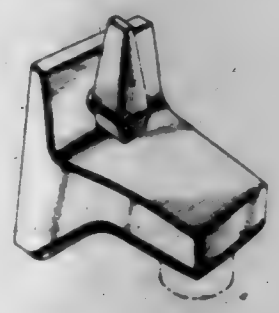
189,834
BOX FOR TABLETS OR THE LIKE
Noboru Yoshimoto, Higashisumiyoshi-ku, Osaka, Japan, assignor to Marishita Jintan Co., Ltd., Osaka, Japan
Filed Feb. 23, 1960, Ser. No. 59,485
Term of patent 14 years
(Cl. D58—12)



189,835
VERTICAL LIFT CARGO PLANE
Lincoln B. Wiley, Hawthorne, Calif., assignor to Doak Aircraft Co., Terrance, Calif., a corporation of California
Filed Sept. 14, 1959, Ser. No. 57,539
Term of patent 14 years
(Cl. D71—1)



189,836
FAUCET FITTING
Frederick David Chapman, Chicago, Ill., assignor to The Murray Corporation of America, Pittsburgh, Pa., a corporation of Delaware
Filed Jan. 15, 1960, Ser. No. 59,065
Term of patent 14 years
(Cl. D91—3)



LIST OF REISSUE PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 28TH DAY OF FEBRUARY, 1961

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

Allard Instrument Corp.: *See*—
Skrobisch, Alfred. Re. 24,943.

Chrysler Corp.: *See*—
Latham, Raymond L. Re. 24,941.

Howard, George C., and P. P. Scott, Jr., to Pan American Petroleum Corp. Recovery of lost circulation in a drilling well. Re. 24,942, 2–28–61, Cl. 166—32.

Latham, Raymond L., to Chrysler Corp. Rocker arm. Re. 24,941, 2–28–61, Cl. 123—90.

National Steel Corp.: *See*—
Strassburger, Julius H. Re. 24,944.

Pan American Petroleum Corp.: *See*—
Howard, George C., and Scott. Re. 24,942.

Scott, Platho P., Jr.: *See*—
Howard, George C., and Scott. Re. 24,942.

Skrobisch, Alfred, to Allard Instrument Corp. Electrically controlled magnetic movement. Re. 24,943, 2–28–61, Cl. 317—171.

Stephens, Allen J. Hub sealing means. Re. 24,940, 2–28–61, Cl. 286—11.

Strassburger, Julius H., to National Steel Corp. Apparatus for operating metallurgical furnaces. Re. 24,944, 2–28–61, Cl. 266—30.

LIST OF PLANT PATENTEES

Bristol Nurseries, Inc.: *See*—
Mack, Grace H. 2,030.

Conard-Pyle Co., The: *See*—
Meilland, Francis. 2,031.

Mack, Grace H., to Bristol Nurseries, Inc. Chrysanthemum plant. 2,030, 2–28–61, Cl. 47—60.

Meilland, Francis, deceased, by M. L. Meilland, nee Paolino, legal representative, to The Conard-Pyle Co. Rose plant. 2,031, 2–28–61, Cl. 47—61.

Meilland, Marie L.: *See*—
Meilland, Francis. 2,031.

Paolino, Marie L.: *See*—
Meilland, Francis. 2,031.

LIST OF DESIGN PATENTEES

Anderson, Warren D. Two-way wall light fixture. 189,830, 2–28–61, Cl. D48—4.

Bacon, Karl W., and E. O. Morgan, to Disneyland, Inc. Amusement ride car. 189,828, 2–28–61, Cl. D34—15.

Barr, Earl C. Knife. 189,820, 2–28–61, Cl. D22—3.

Becker, Robert E., to Logansport Machine Co., Inc. Lubricator, filter and regulator unit. 189,833, 2–28–61, D52—6.

Berlin, Nathan, to Hamilton Web Co., Inc. Braid or similar article. 189,808, 2–28–61, Cl. D8—32.

Blackhawk Mfg. Co.: *See*—
Kollmeyer, Fred H. 189,829.

Chapman, Frederick D., to The Murray Corp. of America. Faucet fitting. 189,836, 2–28–61, Cl. D91—3.

Cole, Seymour M., and P. I. Dale, to Feldco, Inc. Zippered ring binder. 189,809, 2–28–61, Cl. D6—2.

Conner, James M.: *See*—
Purcell, William F. H., and Conner. 189,812.

Conrad, Ivan W. Vehicular emergency light. 189,831, 2–28–61, Cl. D48—32.

Daihatsu Kogyo Kabushiki Kaisha: *See*—
Yabu, Kenichi. 189,813.

Dale, Paul I.: *See*—
Cole, Seymour M., and Dale. 189,809.

Davis, Lynn A., Jr., to A. G. Spalding & Bros., Inc. Face plate for golf clubs. 189,827, 2–28–61, Cl. D34—6.

Deere & Co.: *See*—
Purcell, William F. H., and Conner. 189,812.

De Marco, Joseph A. Building block. 189,819, 2–28–61, Cl. D18—2.

Disneyland, Inc.: *See*—
Bacon, Karl W., and Morgan. 189,828.

Doak Aircraft Co., Inc.: *See*—
Wiley, Lincoln B. 189,835.

Farmer, Eunice W. Tailoring board. 189,832, 2–28–61, Cl. D49—1.

Feldco, Inc.: *See*—
Cole, Seymour M., and Dale. 189,809.

Gossett, Oscar M.: *See*—
Lyon, Melvin, and Gossett. 189,821.

Hamilton Web Co., Inc.: *See*—
Berlin, Nathan. 189,808.

Harper, David. Shoe rack. 189,824, 2–28–61, Cl. D33—3.

Jakobsen, Robert E. K., to Virtue Bros. Mfg. Co. Furniture leg. 189,825, 2–28–61, Cl. D33—14.

Katz, Harold, to H. Shear. Toy for balancing and walking. 189,826, 2–28–61, Cl. D34—5.

Kollmeyer, Fred H., to Blackhawk Mfg. Co. Vehicle jack. 189,829, 2–28–61, Cl. D91—1.

Logansport Machine Co., Inc.: *See*—
Becker, Robert E. 189,833.

Lyon, George A. Wheel trim unit or similar article. 189,817, 2–28–61, Cl. D14—30.

Lyon, Melvin, and O. M. Gossett. Mobile. 189,821, 2–28–61, Cl. D25—1.

Morgan, Edgar O.: *See*—
Bacon, Karl W., and Morgan. 189,828.

Morishita Jintan Co., Ltd.: *See*—
Yoshimoto, Noboru. 189,834.

Murray Corp. of America, The: *See*—
Chapman, Frederick D. 189,836.

Olsson, Karl A. T., and L. D. Smith, to Telefonaktiebolaget L M Ericsson. Hand-free telephone set. 189,823, 2–28–61, Cl. D26—14.

Piotraschke, Fred J. Chair for barber or beauty shop. 189,818, 2–28–61, Cl. D15—3.

Plishker, Herbert E., to Westinghouse Electric Corp. Electric lamp. 189,822, 2–28–61, Cl. D26—3.

Pruess, Donald E. Swimming pool. 189,811, 2–28–61, Cl. D13—1.

Purcell, William F. H., and J. M. Conner, to Deere & Co. Tractor. 189,812, 2–28–61, Cl. D14—3.

Rhoads, Delmar D. Portable cashier unit. 189,816, 2–28–61, Cl. D14—3.

Selby, John. Parking canopy. 189,810, 2–28–61, Cl. D13—1.

Shear, Harry: *See*—
Katz, Harold. 189,826.

Smith-Byrd Co., Inc., The: *See*—
Smith, John B. 189,814.

Smith, John B., to The Smith-Byrd Co., Inc. Hand truck. 189,814, 2–28–61, Cl. D14—3.

Smith, Lewell D.: *See*—
Olsson, Karl A. T., and Smith. 189,823.

Spalding, A. G., & Bros., Inc.: *See*—
Davis, Lynn A., Jr. 189,827.

Taylor, John B. Barrow-type exerciser for athletes or the like. 189,815, 2–28–61, Cl. D14—3.

Telefonaktiebolaget L M Ericsson: *See*—
Olsson, Karl A. T., and Smith. 189,823.

Virtue Bros. Mfg. Co.: *See*—
Jakobsen, Robert E. K. 189,825.

Westinghouse Electric Corp.: *See*—
Plishker, Herbert E. 189,822.

Wiley, Lincoln B., to Doak Aircraft Co., Inc. Vertical lift cargo plane. 189,835, 2–28–61, Cl. D71—1.

Yabu, Kenichi, to Daihatsu Kogyo Kabushiki Kaisha. Motor truck. 189,813, 2–28–61, Cl. D14—3.

Yoshimoto, Noboru, to Morishita Jintan Co., Ltd. Box for tablets or the like. 189,834, 2–28–61, Cl. D58—12.

LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 28TH DAY OF FEBRUARY, 1961

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

AMP Inc.: *See*—
Hammell, Kemper M. 2,973,499.
Klingler, Martin L. 2,972,867.

A.R.F. Products, Inc.: *See*—
Maciszewski, Arthur H., Hupert, Goldstein, and Szubski. 2,973,491.

Abel, Albert W. Stretcher. 2,972,755, 2–28–61, Cl. 5—82.

Acme Steel Co.: *See*—
Schimkus, Kurt E. 2,973,308.

Adams, Gerald J., to A. Alford. Omnidirectional vertically polarized antenna. 2,973,515, 2–28–61, Cl. 343—770.

Adrian, Janet G. Sleeping bag. 2,972,757, 2–28–61, Cl. 5—343.

Aeroquip Corp.: *See*—
Merriman, Henry H. 2,973,024.

Aicher, John O., and E. Lemmers, to General Electric Co. Grooved lamp vapor pressure control. 2,973,447, 2–28–61, Cl. 313—109.

Aitkenhead, Paul W., to Electro-Air Cleaner Co., Inc. Electronic air cleaner. 2,973,055, 2–28–61, Cl. 183—7.

Ajax Magnethermic Corp.: *See*—
Halstead, Fred E. 2,973,397.

Ajem Laboratories: *See*—
Umbrucht, Emil, and Evans. 2,972,995.

Akita, Sadao: *See*—
Kinoshita, Shukuo, Tanaka, and Akita. 2,973,308.

Aktiebolaget Electrolux: *See*—
Cronhage, Nils G. 2,972,770.

Albrecht, Alexander J.: *See*—
Huck, William F., Albrecht, and Sanford. 2,973,204.

Alford, Andrew: *See*—
Adams, Gerald J. 2,973,515.
Sprague, Robert M. 2,973,514.
Watts, Chester B., Jr. 2,973,517.

Algatt, George E., H. T. Campbell, and E. W. Nelson, to Western Electric Co., Inc. Article gripping chuck. 2,973,197, 2–28–61, Cl. 269—190.

Alger, Martin J., Jr., to The New York Air Brake Co. Low friction sliding valve with edge-sealed ports. 2,973,183, 2–28–61, Cl. 251—183.

Allemann, Paul, to Materiel Industriel S.A., and Constructions Mecaniques S.A. Renens. Machine for ramming the ballast of railway lines. 2,972,964, 2–28–61, Cl. 104—12.

Allen-Bradley Co.: *See*—
Schlicke, Heinz M. 2,973,490.

Allen, Thomas E., to United States of America, Navy. Automatic hovering control system for submarines. 2,972,972, 2–28–61, Cl. 114—16.

Allen, William H. Boiler. 2,972,965, 2–28–61, Cl. 122—183.

Allied Chemical Corp.: *See*—
Schmidt, Lawrence D. 2,973,254.

Alperovitch, Lisette: *See*—
Monier, Albert and L. 2,972,756.

Altenweger, Alois, to Zellweger Ltd., Uster Factories for Apparatus and Machines. Mounting frame for warp tying machine. 2,972,797, 2–28–61, Cl. 28—41.

Am Dyne Trust: *See*—
Fisher, John C. 2,972,957.

American Can Co.: *See*—
Roberge, Howard. 2,973,116.

American Cyanamid Co.: *See*—
Chomitz, Nicholas, and Rathjens. 2,973,371.

American Home Products Corp.: *See*—
Farrar, George E., Jr., Herah, and Barnett. 2,973,300.

American Machine & Foundry Co.: *See*—
Sanders, Milton. 2,973,206.

American-Marietta Co.: *See*—
Weidenbenner, William A., and Balling. 2,973,279.

American Motors Corp.: *See*—
Castricone, John A. 2,973,193.

American Oil Co., The: *See*—
Conklin, Raymond O. 2,973,117.

American Steel Foundries: *See*—
Bachman, Fred E., Baker, and Cottrell. 2,972,967.
Tack, Carl E. 2,973,103.

American Window Glass Co.: *See*—
Mowry, Fred W., and Tench. 2,972,836.

Ammerman, George E., and D. E. Walling, to Edwin L. Wiegand Co. Magnetically supported heater assembly. 2,973,423, 2–28–61, Cl. 219—37.

Anderson, Bill, Spring Service, Inc.: *See*—
Sandefur, George. 2,973,210.

Anderson, Charles M., and M. J. Sayers, to The Gallagher Co. Impeller-stator combination for aeration machines. 2,973,095, 2–28–61, Cl. 209—169.

Anderson, James T.: *See*—
Wells, Robert S., and Anderson. 2,973,322.

Anderson, John W. Electric wire connector. 2,973,404, 2–28–61, Cl. 174—87.

Anderson, Warren D., to Norma-Hoffman Bearings Corp. Method of universal preload grinding of duplex ball bearings. 2,972,841, 2–28–61, Cl. 51—291.

Anselmi, James V. Live bait holder and harness. 2,972,831, 2–28–61, Cl. 43—44.4.

Anselmi, James V. Live bait holder. 2,972,832, 2–28–61, Cl. 43—44.4.

Antell, Joseph C., to Prime Mfg. Co. Heat sealing process for rib stripping. 2,972,761, 2–28–61, Cl. 12—146.

Antraigue, Roger. Balancing weight arrangement for a motor-vehicle wheel. 2,973,225, 2–28–61, Cl. 301—5.

Appleton, Arthur I. Electrical box bracket. 2,973,175, 2–28–61, Cl. 248—216.

Archibald, Paul B., 25% to D. Nardelli. Process for the manufacture of reflector backings. 2,972,782, 2–28–61, Cl. 18—58.8.

Ariens Co.: *See*—
Ariens, Mando S., and Tschantz. 2,972,850.

Ariens, Mando S., and W. O. Tschantz, to Ariens Co. Ridable powered implement. 2,972,850, 2–28–61, Cl. 56—25.4.

Armbrecht, Bernard H., and J. E. Malloy; said J. E. Malloy, assor to E. D. Armbrecht. Densitometer with oscilloscope display. 2,972,925, 2–28–61, Cl. 88—14.

Armbrecht, Ethel D.: *See*—
Armbrecht, Bernard H., and Malloy. 2,972,925.

Armistead, Fontaine C., and A. L. Tirico, to Texaco Development Corp. Analysis techniques based on nuclear magnetic resonance. 2,973,471, 2–28–61, Cl. 324—5.

Armstrong Patents Co. Ltd.: *See*—
Armstrong, William. 2,973,195.

Armstrong, William, to Armstrong Patents Co. Ltd. Road vehicle suspension systems. 2,973,195, 2–28–61, Cl. 267—15.

Arnes, Lyle L.: *See*—
Trautman, Walter C., Arnes, and Zimmerman. 2,973,184.

Associated Electrical Industries Ltd.: *See*—
Choudhury, Shafi-Uddin A., and Whitcroft. 2,973,467.

Atalla, Martin M., and E. E. La Bate, to Bell Telephone Laboratories, Inc. Semiconductor contact. 2,973,466, 2–28–61, Cl. 317—240.

Ateliers Roannais De Constructions Textiles: *See*—
Rochegude, Louis V. M. 2,973,155.

Atkinson, Edward R., J. G. Mark, and D. Rubinstein, to W. R. Grace & Co. Method of purifying styrene. 2,973,394, 2–28–61, Cl. 260—669.

Atkinson, Edward R., J. G. Mark, and D. Rubinstein, to W. R. Grace & Co. Method of purifying diolefins. 2,973,396, 2–28–61, Cl. 260—681.5.

Atwater, Norman W., to G. D. Searle & Co. 17 β-hydroxy-4-oxaandrostan-3-ones and derivatives thereof. 2,973,370, 2–28–61, Cl. 260—343.2.

Aurora Equipment Co.: *See*—
Dunham, John C. 2,973,101.

Ayers, David T., Jr., to Kelsey-Hayes Co. Booster mechanism. 2,972,983, 2–28–61, Cl. 121—41.

Babcock & Wilcox Co., The: *See*—
Bagley, Roy. 2,972,986.
Sprague, Theodore S., and Leland. 2,973,251.

Bachman, Fred E., A. F. Baker, and R. B. Cottrell, to American Steel Foundries. Snubbed truck. 2,972,967, 2–28–61, Cl. 105—197.

Backer, Stanley, and P. G. Nordhammer, to Crompton & Knowles Corp. Process for treating textile materials. 2,972,795, 2–28–61, Cl. 26—54.

Backhaus, Hermann J.: *See*—
Bergmann, Herbert, and Backhaus. 2,972,890.

Bacon, John H., deceased; R. C. Bacon, administrator. Animated bird whistle. 2,972,834, 2–28–61, Cl. 46—118.

Bacon, Robert C.: *See*—
Bacon, John H. 2,972,834.

Badische Anilin- & Soda-Fabrik Aktiengesellschaft: *See*—
Fikentscher, Hans, Wilhelm, and Wiltersinn. 2,973,332.
Muenster, Wilhelm, Dreher, and Paul. 2,973,339.

Bagley, Roy, to The Babcock & Wilcox Co. Vapor generating unit with sequential blowdown. 2,972,986, 2–28–61, Cl. 122—379.

Bailey, Albert R. Ice gripper. 2,972,823, 2–28–61, Cl. 36—62.

Bailey, Emmett C., and W. Spangenberg, to United States of America, Navy. Motor-transmission system. 2,972,900, 2–28–61, Cl. 74—354.

Baillie, Richard P., and W. H. Smith, to Demmler and Schenck Co. Apparatus for forming sheet material. 2,972,775, 2–28–61, Cl. 18—19.

Baillie, Richard P., and W. H. Smith, to Demmler and Schenck Co. Apparatus for making surface shapes covered with formed sheet material. 2,973,025, 2–28–61, Cl. 154—1.

Baker, Arthur F.: *See*—
Bachman, Fred E., Baker, and Cottrell. 2,972,967.

Bakkeren, Matthetus H. C. M., and J. J. Schuur, to N.V. Aagrunol Chemical Works. Fungicidal quaternary ammonium salts of dithiocarbamic acids. 2,973,297, 2–28–61, Cl. 167—22.

Baldwin, Robert R., and W. J. Ohan, Jr., to General Foods Corp. Process for irradiating frozen coconut meat. 2,973,271, 2–28–61, Cl. 99—125.

Balling, Lawrence A.: *See*—
Weidenbenner, William A., and Balling. 2,973,279.

Banker, Oscar H., to Fawick Corp. Continuous fuel supply means from one or more tiltable tanks. 2,973,121, 2–28–61, Cl. 222—135.

Barancik, Charles: *See*—
Du Broff, Warren. 2,972,843.

Barnett, Hugh W., L. White, and H. R. Nordin, to Canada Packers, Ltd. Process for the production of smoked meat products. 2,973,277, 2–28–61, Cl. 99—229.

Barnett, John O.: *See*—
Farrar, George E., Jr., Hersh, and Barnett. 2,973,800.

Barrows, Howard E., to John Oster Mfg. Co. Air and water inlet for lather making machine. 2,973,324, 2–28–61, Cl. 252—359.

Barrows, Howard E., to John Oster Mfg. Co. Air and water inlet for lather making machine. 2,973,325, 2–28–61, Cl. 252—359.

Bartlett, Curry M., to H. F. Livermore Corp. Weft end parting and holding devices. 2,973,017, 2–28–61, Cl. 139—263.

Bassoff, Arthur B., to National Broach & Machine Co. Fluid pressure-operated control and adjusting mechanism therefor. 2,972,982, 2–28–61, Cl. 121—38.

Bates, Richard L, and R. G. Zaginailoff, to United States of America, Navy. Fabrication and design of shafts and splines. 2,973,214, 2–28–61, Cl. 287—126.

Bauch, Werner A., M. M. Lambert, and G. O. Hilliard, Jr., to Esso Research and Engineering Co. Recovering halogenated copolymers. 2,973,346, 2–28–61, Cl. 260—85.3.

Bauer, Kurt, to Farbenfabriken Bayer Aktiengesellschaft. Process for the production of pure ε-caprolactam from Beckmann reaction mixture. 2,973,355, 2–28–61, Cl. 260—230.3.

Baxter, Don, Inc.: *See*—
Cowley, Calvin C. 2,972,779.

Beaty, Clarence E., to Harrison Cropsaver Co. Trestle leg connecting unit. 2,973,053, 2–28–61, Cl. 182—155.

Beautiful Bryans, Inc.: *See*—
Cobert, Arthur J. 2,972,874.

Becher, Ernest F.: *See*—
Navelle, Ward J., De Vriers, and Becher. 2,973,027.

Belanger, Walter J., Jr.: *See*—
Huff, O. C., Belanger, and Burnett. 2,972,918.

Belin, Marcel A. Life rafts. 2,972,758, 2–28–61, Cl. 9—11.

Bell Telephone Laboratories, Inc.: *See*—
Atalla, Martin M., and Le Bate. 2,973,466.
Courtney-Pratt, Jeofry S. 2,973,441.
Haslett, William S. 2,973,510.
Newby, Neal D. 2,973,506.
Trent, Robert L. 2,973,440.
Whitman, Lawrence H. 2,973,418.

Bendix Corp., The: *See*—
Hood, Edwin E., and Gleasman. 2,972,908.
Pavlick, George R. 2,972,858.
Volk, Emil A., Jr., and Troeger. 2,972,911.
Westrom, Alfred, and Falk. 2,972,935.

Bennett, Lucius L. Motor vehicle throttle lock. 2,973,050, 2–28–61, Cl. 180—82.

Bennett Michael W., to Boostair Corp. Air distribution systems and apparatus. 2,972,941, 2–28–61, Cl. 98—101.

Bennett, Richard A., to Milton Roy Co. Variable stroke adjustment mechanism. 2,972,894, 2–28–61, Cl. 74—40.

Bennett, Richard C. Apparatus for sawing wide boards. 2,973,020, 2–28–61, Cl. 143—47.

Benteler-Werke Aktiengesellschaft: *See*—
Korsch, Alfred, and Schlicht. 2,973,157.

Beresin, Evelyn, to Curtiss-Wright Corp. Control means with record sensing for an electronic calculator. 2,973,141, 2–28–61, Cl. 235—61.9.

Bergmann, Herbert, and H. J. Backhaus, to Firma Losenhausenwerk, Dusseldorfer Machinenbau A.G. Balancing machine with electrical indicating device. 2,972,890, 2–28–61, Cl. 73—462.

Berke, Eugene A., and R. G. Jahn, to The Dow Chemical Co. Preparation of coated articles using gellable aqueous cationic polymer coating compositions and printing inks. 2,973,285, 2–28–61, Cl. 117—106.

Berns, Otto Co., Inc.: *See*—
Kachergis, Henry J. 2,973,149.

Berry, Elmer H., to The New Haven Board & Carton Co. Holster carton. 2,973,091, 2–28–61, Cl. 206—79.

Bessiere, Pierre E. Reciprocating liquid pumps, and in particular fuel injection pumps. 2,972,954, 2–28–61, Cl. 103—41.

Bettendorf Distributing Co.: *See*—
Danieleen, Alfred J., Jr., and Schneckloth. 2,973,022.

Biel, Hans, and E. Pfaffle. Machine for manufacturing pads bound with a spiral wire. 2,973,199, 2–28–61, Cl. 270—1.

Bimber, Russell M., to Diamond Alkali Co. Derivatives of thiazolidinones and oxazolidinones and corresponding thiones with alpha-halo exo compounds and process. 2,973,366, 2–28–61, Cl. 260—306.7.

Bird Electronic Corp.: *See*—
Bird, James R., and Stevens. 2,973,479.

Bird, James R., and H. E. Stevens, to Bird Electronic Corp. Branched conductor structure. 2,973,479, 2–28–61, Cl. 324—95.

Bird Machine Co.: *See*—
Smith, Richmond W. 2,972,767.

Bituminous Coal Research, Inc.: *See*—
Yellott, John I., and Broadley. 2,973,057.

Bixby, Harold W., to Northrop Corp. Radial cell decelerator. 2,973,172. 2–28–61, Cl. 244—138.

Black-Clawson Co., The: *See*—
White, William A., Jr. 2,973,034.

Black, William T., to Union Carbide Corp. Organosilicon carbamyl compounds and process for producing the same. 2,973,383, 2–28–61, Cl. 260—448.2.

Blackburn, William L., to Burroughs Corp. Machine for winding strand material. 2,973,154, 2–28–61, Cl. 242—4.

Blackman, Edward L. Automobile panel-opening construction. 2,973,2221. 2–28–61, Cl. 296—44.

Bloch, Alfred: *See*—
Parry, Robert D. 2,973,125.

Bloch, Alfred and I. B. Oneson, to Ethicon, Inc. Purification of collagen. 2,973,302, 2–28–61, Cl. 195—8.

Block, LeRoy P., to E. I. du Pont de Nemours and Co. Process and apparatus for handling yarns. 2,972,796, 2–28–61, Cl. 28—37.

Bobber, Robert J., and C. L. Darner. Sonic echo system. 2,973,504. 2–28–61, Cl. 340—1.

Bodman, Ralph H., to United States of America, Navy. Box type tension chain for protecting electric cable. 2,972,857, 2–28–61, Cl. 59—78.1.

Boehme Fettchemie G.m.b.H.: *See*—
Schmitt, Friedrich. 2,973,240.

Bolesky, John D., and R. M. Morris, to Therm-O-Disc, Inc. Thermostatic controls. 2,973,419, 2–28–61, Cl. 200—138.

Bond, Leona E. Kinesthetic visual teaching aid. 2,972,821, 2–28–61, Cl. 35—60.

Boonstra, Bram B. S. T., to Cabot Corp. Process for extrusion and continuous cure of polymeric compositions. 2,972,780, 2–28–61, Cl. 18—55.

Boostair Corp.: *See*—
Bennett, Michael W. 2,972,941.

Booth, Edmond P. O. Belt conveyor supporting means. 2,973,083, 2–28–61, Cl. 198—184.

Borg-Warner Corp.: *See*—
Ferris, Ernest A. 2,973,072.

Bossemeyer, Robert W., to Toledo Scale Corp. Cutoff device for weighing scales. 2,973,414, 2–28–61, Cl. 200—56.

Bouchard, Blanche E.: *See*—
Du Grenier, Francis C., and Perri. 2,973,075.

Bourdon, Pierre M., to Compagnie Generale des Etablissements Michelin (Puiseux, Robert & Cie). Apparatus for automatically controlling the position of a vehicle movable member with relation to track means therefor. 2,972,966, 2–28–61, Cl. 104—247.

Bowen Itco, Inc.: *See*—
Segelhorst, August V. 2,973,038.

Bradley, William E., and M. Rubinoff, to Philco Corp. Transistor circuit. 2,973,437, 2–28–61, Cl. 307—88.5.

Bradley, William E., to Philco Corp. Frequency selective circuit. 2,973,489, 2–28–61, Cl. 333—76.

Brady, Charles E.: *See*—
Heyn, William O., and Brady. 2,972,984.

Brakeshoe International, S.A.: *See*—
Prendergast, Charles S. 2,972,953.

Braskamp, Willem H., to N.V. Industriele Onderneming W. H. Braskamp. Ceiling ventilator. 2,972,896, 2–28–61, Cl. 74—86.

Breeze Corps., Inc.: *See*—
Joseph, Francis M., and Herrmann. 2,973,412.

Brettnacher, Joseph H.: *See*—
Wilson, Robert W., and Brettnacher. 2,972,959.

Brichard, Edgard, E. Plumat, and L. Leger, to Union des Verreries Mecaniques Belges, Societe Anonyme. Process for the protection of glass against iridescence and package for carrying this process into effect. 2,973,089, 2–28–61, Cl. 206—62.

Bricout Henri, to Etablissements Georges Martin. Metering distributors of two-line central lubrication systems. 2,973,058, 2–28–61, Cl. 184—7.

Bristow, Samuel C.: *See*—
Oakes, William S., and Bristow. 2,973,473.

British Celanese Ltd.: *See*—
Finlayson, Donald, Krzesinski, and Cooke. 2,973,018.

British Oxygen Co. Ltd. The: *See*—
Shaw, Peter 2,973,427.

British Thomson-Houston Co. Ltd., The: *See*—
Nye, Anthony E. T. 2,973,458.
Wells, Robert S., and Anderson. 2,973,822.

Brixner, Rudolf J. G. Barbed wire. 2,973,185, 2–28–61, Cl. 256—6.

Broadley, Peter R.: *See*—
Yellott, John I., and Broadley. 2,973,057.

Brodkey, Robert S., and J. Behner, Jr., to Esso Research and Engineering Co. Stable butyl latices. 2,973,309, 2–28–61, Cl. 204—154.

Brown, Cicero C. Methods and apparatus for the treatment of wells having multiple formations. 2,973,035, 2–28–61, Cl. 166—46.

Brown, Cicero C. Method of and means for providing well fluids from multiple zones. 2,973,036, 2–28–61, Cl. 166—46.

Brown, H. H., Shoe Co., Inc.: *See*—
Schlecht, Frederick H. 2,972,824.

Brown & Sharpe Mfg. Co.: *See*—
Hirsch, George B. 2,972,936.

Bruestle, Carl O., to Syncro Machine Co. Cradle assembly for stranding machine. 2,972,854, 2–28–61, Cl. 57—65.

Bruk Arnestad: *See*—
Haaland Roald. 2,973,026.

Brukner, John S., to Texaco Inc. Drilling fluid. 2,973,320. 2–28–61, Cl. 252—8.5.

Brunson, Thaver R., and H. G. Davis, to Rocky Mountain Metal Products Co. Electrolytic polishing apparatus. 2,973,311, 2–28–61, Cl. 204—194.

Brunswick Automatic Pinsetter Corp.: *See*—
Huck, William F., Albrecht, and Sanford. 2,973,204.

Bryan, Gibson S. Brake fluid indicator. 2,973,415, 2–28–61, Cl. 200—84.

Bryan, Robert G., and C. J. Geiser, to Republic Flow Meters Co. Fluid distribution control system. 2,973,194. 2–28–61, Cl. 266—30.

Bryan, Samuel: *See*—
Kramer, Amihud, Nielsen, and Bryan. 2,972,884.

Buddemeyer, Bruce D.: *See*—
Thompson, Jerome B., and Buddemeyer. 2,973,270.

Bullard, Edward P., III. Variable speed transmission. 2,972,905. 2–28–61, Cl. 74—681.

Bullard, Edward P., III. Machine tool feedworks. 2,972,907, 2–28–61, Cl. 74—750.

Burbank, John E., to Cue Fastener, Inc. Slider for slide fasteners. 2,972,793, 2–28–61, Cl. 24—205.14.

Burke, George K., to Burron Medical Products, Inc. Disposable syringe. 2,972,991, 2–28–61, Cl. 128—218.
Burnett, Donald F.: *See*—
Huff, O. C., Belanger, and Burnett. 2,972,918.
Burron Medical Products, Inc.: *See*—
Burke, George K. 2,972,991.
Burroughs Corp.: *See*—
Blackburn, William L. 2,973,154.
Clark, Edward G. 2,973,438.
Maidment, Earl P., and Runde. 2,973,081.
Templeton, William B., Siegel, and Lockey. 2,973,078.
Burton-Dixie Corp.: *See*—
Weidner, Urban A. 2,972,754.
Byk-Gulden Lomberg Chemische Fabrik G.m.b.H.: *See*—
Dreher, Emil. 2,973,382.
C.G.S. Laboratories, Inc.: *See*—
Sontheimer, Carl G. 2,973,431.
Cabot Corp.: *See*—
Boonstra, Bram B. S. T. 2,972,780.
Caldwell, Robert H., to Tennessee Stove Works. Built-in cooking unit. 2,972,990, 2–28–61, Cl. 126—214.
Calhoun, Howard J., to Westinghouse Electric Corp. Adjustments for compensator relaying equipments. 2,973,460, 2–28–61, Cl. 317—47.
Calvert, Gresham H. Support for heating elements. 2,973,498, 2–28–61, Cl. 338—296.
Camilco Inc.: *See*—
Macy, James C., Camillo, and Smith. 2,972,765.
Camillo, Frank J.: *See*—
Macy, James C., Camillo, and Smith. 2,972,765.
Campbell, Hobart T.: *See*—
Algatt, George E., Campbell, and Nelson. 2,973,197.
Campbell, Laurie H.: *See*—
Stone, Orison W., and Campbell. 2,973,129.
Canada Packers, Ltd.: *See*—
Barnett, Hugh W., White, and Nordin. 2,973,277.
Canadian Industries Ltd.: *See*—
Graham, George W. 2,973,392.
Cano, Mary A. Educational training device. 2,972,820, 2–28–61, Cl. 35—56.
Canterino, Peter J., to Phillips Petroleum Co. Self-bonding material. 2,973,088, 2–28–61, Cl. 206—59.
Carlsen, Leonard O., to The Gleason Works. Gear cutting machine with work spindle positioning means. 2,972,912, 2–28–61, Cl. 74—813.
Carlson, John A. Building construction. 2,972,838, 2–28–61, Cl. 50—300.
Carter, Norman D.: *See*—
Pevere, Ernest F., Riordan, and Carter. 2,973,313.
Case, Everett N., to Sinclair Refining Co. Oxyalkylated phenol-aldehyde resin. 2,973,340, 2–28–61, Cl. 260—53.
Casey, Joseph J. Electric-arc torch. 2,973,426, 2–28–61, Cl. 219—75.
Castricone, John A., to American Motors Corp. Washing machine. 2,973,193, 2–28–61, Cl. 265—49.
Celeste, Carmine S. Desk or table attachment for folding chairs. 2,973,028, 2–28–61, Cl. 155—123.
Cendrick, George T., Jr.: *See*—
Lowrey, Wallace W., Cendrick, McQuilkin, and Klopp. 2,973,042.
Central Soya Co., Inc.: *See*—
Tessmer, Ernest H., Jr., and Iveson. 2,973,381.
Ceppi, Georges: *See*—
Siegrist, John C. 2,972,776.
Ceragraphic, Inc.: *See*—
Velonis, Anthony. 2,972,943.
Cersolsun Research Corp.: *See*—
Wright, James B. 2,973,439.
Chadurjian, Frank, to International Business Machines Corp. Comparator. 2,973,508, 2–28–61, Cl. 340—174.
Chambers, Robert R.: *See*—
Keith, Willis C., Elkins, and Chambers. 2,973,395.
Check, Edmund A.: *See*—
Scheublein, William A., Jr., and Check. 2,973,196.
Chemical Construction Corp.: *See*—
Nebgen, William H. 2,972,818.
Chérel, Guy, to Commissariat a l'Energie Atomique. Remote-controlled manipulating apparatus for manipulating objects inside sealed chambers. 2,973,107. 2–28–61, Cl. 214—1.
Chevalier, Jean G.: *See*—
Goldsborough, Shirley L., and Chevalier. 2,973,463.
Chevalier, Jean G., to Westinghouse Electric Corp. Modified single-compensator three-phase relays. 2,973,462, 2–28–61, Cl. 317—47.
Chicago Railway Equipment Co.: *See*—
Orshansky, Elias, Jr. 2,972,865.
Spaeth, Irvin J. 2,973,063.
Chicago Rawhide Mfg. Co.: *See*—
Koch, Theodore F. 2,972,881.
Chick, Russell W., and G. F. Ropes, ½ to C. F. Stromeyer. Process for producing charcoal and apparatus therefor. 2,973,306, 2–28–61, Cl. 202—21.
Chiyoda Chemical & Engineering Construction Co., Ltd.: *See*—
Hayashi, Tateki, and Tsutsumi. 2,973,384.
Chomitz, Nicholas, and W. R. Rathjens, to American Cyanamid Co. Phthalic anhydride catalysts of high surface area. 2,973,371, 2–28–61, Cl. 260—346.4.
Choudhury, Shafi-Uddin A., and J. Whitcroft, to Associated Electrical Industries Ltd. Dynamic braking of induction motors. 2,973,467, 2–28–61, Cl. 318—211.
Chrysler Corp.: *See*—
Golec, Thomas, Jr. 2,973,150.
Heyn, William O., and Brady. 2,972,984.
Chu, Ju C. Fractionating columns. 2,973,189, 2–28–61, Cl. 261—114.
Ciba Ltd.: *See*—
De Montmollin, Rene, and Riat. 2,973,351.
Ciba Pharmaceutical Products, Inc.: *See*—
Werner, Lincoln H. 2,973,354.
Claflin, Raymond E., Jr., and R. J. Procaccino, to The Oilgear Co. Carrier type amplifier. 2,973,485, 2–28–61, Cl. 318—257.
Clark, Albert P., to United States of America, Navy. Hydrostatic lubricating apparatus. 2,972,961, 2–28–61, Cl. 103—161.
Clark, Athol B., and R. K. Delaney. Railway car journal failure detector and warning device. 2,973,429, 2–28–61, Cl. 246—169.
Clark, Earl W., to General Electric Co. Non-linear scale electrical measuring instrument. 2,973,480, 2–28–61, Cl. 324—150.
Clark, Edward G., to Burroughs Corp. Ring counter. 2,973,438, 2–28–61, Cl. 307—88.5.
Clark, Frederick G., to Eastman Machine Co. Heating means for cloth drills. 2,973,421, 2–28–61, Cl. 219—19.
Claypole, George: *See*—
Peet, John R., Claypole, Fink, and Loser. 2,972,873.
Clemens, John E., to United States of America, Air Force. Optical comparator and range finder. 2,972,924, 2–28–61, Cl. 88—1.
Cleveland Pneumatic Industries, Inc.: *See*—
Hartel, Erwin H. 2,972,898.
Hartel, Erwin H. 2,973,168.
Stanwick, Tad, Hamilton, and Hannigan. 2,973,174.
Clyde, Lancelot H. R., W. F. Hodge, and H. H. Longman, to Unilever Ltd. Summarizing or totalising machines. 2,973,144, 2–28–61, Cl. 235—61.
Coates Board & Carton Co., Inc.: *See*—
Thompson, Joseph. 2,973,086.
Cobert, Arthur J., to Beautiful Bryans, Inc. Positive needle cam motion. 2,972,874, 2–28–61, Cl. 66—82.
Coeterier, Frederik, to North American Philips Co., Inc. Electric discharge tube. 2,973,446, 2–28–61, Cl. 313—70.
Coffin, John M. Treating infectious synovitis with brilliant green. 2,973,299, 2–28–61, Cl. 167—53.1.
Colberg, Walter C.: *See*—
Malm, Richard F., and Colberg. 2,972,708.
Coleman Co., Inc., The: *See*—
Phillips, Arthur E. 2,972,996.
Collins, Joseph C.: *See*—
Johnson, William S., Collins, Paeppo, and Rubin. 2,973,357.
Collins Radio Co.: *See*—
Craiglow, Robert L., and Keyser. 2,973,420.
De Long, Vincent R. 2,973,488.
Frye, Eugene O. 2,973,481.
Graham, John F. 2,973,476.
Grondin, George F. 2,973,407.
Grondin, George F. 2,973,507.
Majerus, John B., and Wulfsberg. 2,973,500.
Collison, William F., to Non-Linear Systems, Inc. Shaft position indicator. 2,972,976, 2–28–61, Cl. 116—115.
Columbia Ribbon & Carbon Mfg. Co., Inc.: *See*—
Newman, Douglas A., and Vaccaro. 2,973,082.
Commissariat a l'Energie Atomique: *See*—
Chérel, Guy. 2,973,107.
Compagnie Generale des Etablissements Michelin (Puiseux, Robert & Cie): *See*—
Bourdon, Pierre M. 2,972,966.
Compagnie Industrielle des Telephones: *See*—
Oswald, Jacques R. V. 2,973,409.
Conklin, Joseph P.: *See*—
Schmock, Robert E., and Conklin. 2,973,202.
Conklin, Raymond O., to The American Oil Co. Measuring and charging valve. 2,973,117, 2–28–61, Cl. 222—3.
Connecticut Hard Rubber Co., The: *See*—
Stasiunas, Keistutis J. 2,973,835.
Consolidated Electrodynamics Corp.: *See*—
Gibbs, Joseph P. 2,973,496.
Constant, Irving: *See*—
Leonard, William T., and Diehm. 2,972,751.
Constructions Mecaniques S.A. Remens: *See*—
Allemann, Paul. 2,972,964.
Continental Can Co., Inc.: *See*—
Royce, Mark B. 2,973,127.
Stone, Orison W., and Campbell. 2,973,129.
Cooke, Albert W. M.: *See*—
Finlayson, Donald, Krzesinski, and Cooke. 2,973,018.
Cooper, Albert S., Jr.: *See*—
Keating, Esmond J., Cooper, and Walker. 2,972,760.
Cooper, Alva N., deceased; H. Potter, administrator, ¼ to H. Rose, and ¼ to Harmon Enterprises, Inc. Cribbing wall. 2,972,870, 2–28–61, Cl. 61—47.
Coover, Harry W., Jr., and F. B. Joyner, to Eastman Kodak Co. Three-component catalyst for olefin polymerization containing alkali metal-aluminum tetraalkyl, transition metal halide, and organophosphorus compound, and polymerization process therewith. 2,973,348, 2–28–61, Cl. 260—93.7.
Cordes, William J. Earth anchor. 2,973,065, 2–28–61, Cl. 189—90.
Corn Products Co.: *See*—
Gooding, Chester M., and Melnick. 2,973,268.
Melnick, Daniel. 2,973,269.
Cortéz, José B., to Fequilite S.R.L. Waxless member for floor polishing machines. 2,972,772, 2–28–61, Cl. 15—501.
Cottrell, Robert B.: *See*—
Bachman, Fred E., Baker, and Cottrell. 2,972,967.
Cottrill, Charles E., to Standard Packaging Corp. Separable plural carton and blank therefor. 2,973,130, 2–28–61, Cl. 229—51.
Courtney-Pratt, Jeofrey S., to Bell Telephone Laboratories, Inc. Devices employing superconductive material. 2,973,441, 2–28–61, Cl. 307—88.5.
Covert, Kenneth B., to Safe, Inc. Fire extinguisher. 2,973,040, 2–28–61, Cl. 169—31.
Coviello, Anthony R. Reversible disc plow. 2,973,045, 2–28–61, Cl. 172—222.
Cowger, Charles E.: *See*—
Holberg, Arnold J., and Cowger. 2,973,230.

Cowley, Calvin C., to Don Baxter, Inc. Plastic tubing process. 2,972,779, 2–28–61, Cl. 18—48.
Cox, Gilbert R.: *See*—
Ryker, Don W., and Cox. 2,973,257.
Craiglow, Robert L., and L. A. Keyser, to Collins Radio Co. Oven. 2,973,420, 2–28–61, Cl. 219—19.
Cramer Posture Chair Co., Inc.: *See*—
Cramer, Roy A., Jr. 2,973,031.
Cramer, Roy A., Jr., to Cramer Posture Chair Co., Inc. Cast base for chair seats. 2,973,031, 2–28–61, Cl. 155—194.
Crane Co.: *See*—
Sterba, Donald R., and Olsen. 2,972,800.
Crane Packing Co.: *See*—
Jones, David W. 2,973,004.
Cranston Print Works Co.: *See*—
Saul, Robert J., Kahler, and Moran. 2,972,794.
Crockett, Joseph W. Control mechanism for automatic appliances. 2,973,077, 2–28–61, Cl. 194—84.
Crompton & Knowles Corp.: *See*—
Backer, Stanley, and Nordhammer. 2,972,795.
Cronhage, Nils G., to Aktiebolaget Electrolux. Surface treating apparatus. 2,972,770, 2–28–61, Cl. 15—354.
Cronquist, Norman W., and D. Mohler, to United States of America, Army. Electrolytic capacitor. 2,973,485, 2–28–61, Cl. 317—230.
Cropp, David I., C. C. Jordan, and R. W. Lingo. Method for cleaning articles of manufacture. 2,973,289, 2–28–61, Cl. 134—23.
Crosby, Gifford W.: *See*—
Millikan, Allen F., and Crosby. 2,973,323.
Crossen, William P., to United Shoe Machinery Corp. Power operated fastener feeding and applying devices. 2,973,021, 2–28–61, Cl. 144—32.
Crown Zellerbach Corp.: *See*—
Rodgers, Ellis J., Jr. 2,973,295.
Cue Fastener, Inc.: *See*—
Burbank, John E. 2,972,793.
Cummings, Robert A., Jr.: *See*—
Greaves, Melvin J. 2,973,096.
Curtiss, George C., 12¼% to S. G. Militam. Sponge chewing gum and method of making the same. 2,973,273, 2–28–61, Cl. 99—135.
Curtiss-Wright Corp.: *See*—
Beresin, Evelyn. 2,973,141.
Cyr, Joseph W., to Snow Flake Canning Co. Process of dehydrating potatoes. 2,973,276, 2–28–61, Cl. 99—207.
Daddario, Francis E. Pumping unit. 2,972,958, 2–28–61, Cl. 103—113.
Dahlgren, Harold P. Dampening device and method for lithographic offset printing plate. 2,972,944, 2–28–61, Cl. 101—148.
Daniels, Cloyce R.: *See*—
Morway, Arnold J., Daniels, and Spray. 2,973,321.
Daniels, Howard L., and V. E. Herzog to Sperry Rand Corp. Counter. 2,973,145, 2–28–61, Cl. 235—132.
Danielsen, Alfred J., Jr., and R. C. Schneckloth, to Bettendorf Distributing Co. Roof truss assembling apparatus. 2,973,022, 2–28–61, Cl. 144—288.
Darner, Charles L.: *See*—
Bobber, Robert J., and Darner. 2,973,504.
Davidson, Ivor M., to Power Jets (Research and Development) Ltd. Aircraft with jet engines in wings. 2,973,165, 2–28–61, Cl. 244—15.
Davidson Thomas E., to General Motors Corp. Laundry apparatus. 2,972,817, 2–28–61, Cl. 34—45.
Davies, Edward B., to The Midland Tar Distillers Ltd. Method of reducing the corrosive attack of combustion gases on metal. 2,972,861, 2–28–61, Cl. 60—39.2.
Davis, Franklin L. Device for computing areas and volumes. 2,972,810, 2–28–61, Cl. 33—1.
Davis, Harold G.: *See*—
Brunson, Thayer R., and Davis. 2,973,311.
Deering Milliken Research Corp.: *See*—
Harmon, Albert D. 2,973,161.
Delaney, Richard K.: *See*—
Clark, Athol B., and Delaney. 2,973,429.
Delaplace, Rene P., and M. A. G. Koehler. Friction element containing cupric oxide and resin binder. 2,973,336, 2–28–61, Cl. 260—38.
De Long, Vincent R., to Collins Radio Co. Impedance matching device having a folded tapered line. 2,973,488, 2–28–61, Cl. 333—34.
Demmler and Schenck Co.: *See*—
Baillie, Richard P., and Smith. 2,972,775.
Baillie, Richard P., and Smith. 2,973,025.
De Montmollin, Rene, and H. Rist, to Ciba Ltd. New monoazo-dyestuffs. 2,973,351, 2–28–61, Cl. 260—199.
Dempster Brothers, Inc.: *See*—
Dempster, George R., and Herpich. 2,973,111.
Dempster, George R., and W. A. Herpich; said Herpich assor. to Dempster Brothers, Inc. Compaction bodies. 2,973,111, 2–28–61, Cl. 214—82.
De Pierri, William G., Jr.: *See*—
Earhart, Harold W., and De Pierri. 2,973,391.
De Roy, Ross F. Frequency division system for electronic organ or the like. 2,973,484, 2–28–61, Cl. 331—61.
Detwiler, Robert L., to United States of America, Navy. Explosive operated valve. 2,972,998, 2–28–61, Cl. 137—68.
Deutsche Gold-und Silber-Scheideanstalt vormals Roessler: *See*—
Gross, Albert. 2,973,282.
De Vries, Nicholas: *See*—
Navelle, Ward J., De Vries, and Becher. 2,973,027.
Dewan, John T., to Schlumberger Well Surveying Corp. Neutron source for well logging apparatus. 2,973,444, 2–28–61, Cl. 313—61.
Diamond Alkali Co.: *See*—
Bimber, Russell M. 2,973,366.
Diassi, Patrick A.: *See*—
Fried, Josef, and Diassi. 2,973,377.
Dickey, David F. Portable washer for diapers. 2,972,878, 2–28–61, Cl. 68—181.
Dickinson, Edward J.: *See*—
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Diehm, Kenneth F.: *See*—
Leonard, William T., and Diehm. 2,972,751.
Distillers Co. Ltd., The: *See*—
Philip, Thomas B. 2,972,960.
Dixon Corp.: *See*—
Tabor, Warner H. 2,972,786.
Djerassi, Carl: *See*—
Rosenkranz, George, and Djerassi. 2,973,378.
Dole Valve Co., The: *See*—
Reddi, Mullapudi M. 2,972,897.
Dollison, William W., and P. S. Siser, to Otis Engineering Corp. Ball-type surface safety valve. 2,973,005, 2–28–61, Cl. 137—458.
Douglas, James K., to The Oilgear Co. Hydraulic thrust bearing. 2,972,962, 2–28–61, Cl. 103—162.
Dow Chemical Co., The: *See*—
Berke, Eugene A., and John. 2,973,285.
Havens, Carl B. 2,973,347.
Monroe, Roger F. 2,973,393.
Draheim, Willi, to Rhein-Handel, Gesellschaft fur Import, Export und Transit, Etablissement. Tape recorder. 2,973,156, 2–28–61, Cl. 242—55.12.
Dravo Corp.: *See*—
Reilly, Bertram B., Mehler, and Kells. 2,973,032.
Dreher, Emil, to Byk-Guilden Lomberg Chemische Fabrik G.m.b.H. Salts of acid diesters of polyglycols with organic bases, and process of making and using same. 2,973,382, 2–28–61, Cl. 260—404.
Dreher, Erich: *See*—
Muenster, Wilhelm, Dreher, and Paul. 2,973,339.
Dresser Industries, Inc.: *See*—
Johannesen, Oddvar M. 2,973,505.
Drux, Walter S., to Zenith Radio Corp. Subscription television systems and method of operating the same. 2,973,406, 2–28–61, Cl. 178—5.1.
Du Broff, Warren, to C. Barancik. Apparatus for perimetric taping. 2,972,843, 2–28–61, Cl. 53—74.
Dudley, Edward F., to Miehle-Goss-Dexter, Inc. Cylinder drive control and safety means. 2,972,945, 2–28–61, Cl. 101—282.
Du Grenier, Francis C., and F. B. Perri; said Perri assor. to B. E. Bouchard. Electric vending machines. 2,973,075, 2–28–61, Cl. 194—10.
Dumbrell, Kenneth G. Construction of ear tag for use in the marking of sheep, cattle, and other animals. 2,972,828, 2–28–61, Cl. 40—302.
Dunham, John C., to Aurora Equipment Co. Shelf divider structure. 2,973,101, 2–28–61, Cl. 211—184.
Dunlap, Charles M. Reusable bedspring crate. 2,973,090, 2–28–61, Cl. 206—65.
Du Pont de Nemours, E. I., and Co.: *See*—
Block, Le Roy P. 2,972,796.
Goebel, Max T. 2,973,259.
Katz, Manfred, and Wittbecker. 2,973,333.
McBride, Richard T. 2,973,287.
Egan, Edmond F., T. L. Kister, and M. B. Scott, to Texaco Inc. Graphical methods for the interpretation of dipmeter logs. 2,973,472, 2–28–61, Cl. 324—1.
Earhart, Harold W., and W. G. De Pierri, Jr., to Esso Research and Engineering Co. Method for chloromethylating aromatic hydrocarbons. 2,973,391, 2–28–61, Cl. 260—651.
Eastburg, Clifford L., to The Timken Roller Bearing Co. Vent fitting for bearing structures and the like. 2,973,230, 2–28–61 Cl. 308—187.
Eastman Kodak Co.: *See*—
Coover, Harry W., Jr., and Joyner. 2,973,348.
Eastman Machine Co.: *See*—
Clark, Frederick G. 2,973,421.
Easton, Nelson, to Eli Lilly and Co. Novel pyrazole carbinols. 2,973,367, 2–28–61, Cl. 260—310.
Easton, Russell P.: *See*—
Kazuba, Frank J., Matteson, and Easton. 2,973,263.
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Schomann, Leonid. 2,973,424.
Eddy, William C., Jr., to Television Associates, Inc. Torque responsive control device. 2,973,066, 2–28–61, Cl. 192—.02.
Eddy, William C., Jr., to Television Associates, Inc. Torque responsive control device. 2,973,067, 2–28–61, Cl. 192—.084.
Edgar, John S., and J. A. King, to Thompson Products, Ltd. Rock drill bit and method of manufacture thereof. 2,973,047, 2–28–61, Cl. 175—410.
Eisgner, James R., to Standard Oil Co. Propellant. 2,973,255, 2–28–61, Cl. 52—.5.
Electric Storage Battery Co., The: *See*—
Kajas, Eric F. 2,973,399.
Electro-Air Cleaner Co., Inc.: *See*—
Aitkenhead, Paul W. 2,973,055.
Elektriska Svetsningsaktiebolaget: *See*—
Pfeiffer, Claes F. H., and Valanti. 2,973,428.
Elfes, Lee E., to Massey-Ferguson Inc. Control mechanism for tractor hydraulic systems. 2,973,043, 2–28–61, Cl. 172—9.
Elkins, Robert H.: *See*—
Keith, Willis C., Elkins, and Chambers. 2,973,395.
Ellies, Alan D., to The O. M. Scott & Sons Co. Wheel and hub cap. 2,973,226, 2–28–61, Cl. 301—37.
Elliott, Carl E., to Northrop Corp. Roller-bolster cargo handling system. 2,973,073, 2–28–61, Cl. 193—38.
Elliott, Darius W., to Elliott Mfg. Co. Remotely-controllable supporting means for directional control of apparatus. 2,972,891, 2–28–61, Cl. 74—1.
Elliott Mfg. Co.: *See*—
Elliott, Darius W. 2,972,891.

Ellis, Belvin B., to Westinghouse Electric Corp. Method of making stepped-lap core for inductive apparatus. 2,972,804, 2–28–61, Cl. 29—155.57.

Ellis, Belvin B., to Westinghouse Electric Corp. Stepped-lap core for inductive apparatus. 2,973,494, 2–28–61, Cl. 336—217.

Elisey, Dixie L., and W. M. Gibson. Tail gate. 2,973,222, 2–28–61, Cl. 296—53.

Engelhard Industries, Inc.: *See*—
Greenberg, Herbert J. 2,973,495.
Hill, James S. 2,973,283.
Koch, John H., Jr. 2,973,329.

Epstein, Louis L. Coin receiver. 2,973,138, 2–28–61, Cl. 232—1.

Epstein, Louis L.: *See*—
Leone, Adolph A., and Polese. 2,973,139.

Erdelyi, Ferenc. Method and a device for grinding twist drills. 2,972,839, 2–28–61, Cl. 51—124.

Erickson, Lewis C. Roller device with removable rolls. 2,973,093, 2–28–61, Cl. 209—106.

Erwin, Kathrine S.: *See*—
Erwin, Wesley S. 2,972,882.

Erwin, Wesley S., deceased; K. S. Erwin, administratrix, to General Motors Corp. Apparatus for measuring coating thicknesses. 2,972,882, 2–28–61, Cl. 73—15.

Espenschied, Helmut, to National Lead Co. Titanium boride and method for making same. 2,973,247, 2–28–61, Cl. 23—204.

Esso Research and Engineering Co.: *See*—
Bauch, Werner A., Lambert, and Hillard. 2,973,346.
Brodkey, Robert S., and Rehner. 2,973,309.
Earhart, Harold W., and De Pierri. 2,973,391.
Fasce, Egi V. 2,973,344.
Hinlicky, John A., and Kant. 2,973,330.
Morway, Arnold J., Daniels, and Spray. 2,973,321.
Peet, John R., Claypole, Fink, and Loeser. 2,972,873.

Etablissements Georges Martin: *See*—
Bricout, Henri. 2,973,058.

Ethicon, Inc.: *See*—
Bloch, Alfred, and Oneson. 2,973,302.

Ethyl Corp.: *See*—
Riemschneider, Randolph. 2,973,388.

Evans, Dewey: *See*—
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Falk, Kasper K.: *See*—
Westrom, Alfred, and Falk. 2,972,935.

Farbenfabriken Bayer Aktiengesellschaft: *See*—
Bauer, Kurt. 2,973,355.
Stroh, Rudolf, Sutter, Heinz, and Haberland. 2,973,337.

Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning: *See*—
Weissermel, Klaus, and Starck. 2,973,389.

Farrar, George E., Jr., M. I. Hersh, and J. O. Barnett, to American Home Products Corp. Process for making antibiotic-enzyme topical film-forming compositions. 2,973,300, 2–28–61, Cl. 167—65.

Farrel-Birmingham Co., Inc.: *See*—
MacLeod, Douglas W. 2,972,774.

Fasce, Egi V., to Esso Research and Engineering Co. Modified polymers. 2,973,344, 2–28–61, Cl. 260—78.4.

Fawick Corp.: *See*—
Banker, Oscar H. 2,973,121.

Fender, Clarence L. Floating tremolo and bridge construction for lute-type musical instruments. 2,972,923, 2–28–61, Cl. 84—313.

Fequilite S.R.L.: *See*—
Cortés, José B. 2,972,772.

Ferena, Marcella. Hair curlers. 2,972,994, 2–28–61, Cl. 132—40.

Ferris, Ernest A., to Borg-Warner Corp. One-way clutch. 2,973,072, 2–28–61, Cl. 192—45.1.

Ferro Stamping Co.: *See*—
Gilmore, William G., and Zibbell. 2,973,216.

Field, Edmund: *See*—
Kennel, William E., Field, Spiller, and Weisemann. 2,973,350.

Fikentscher, Hans, H. Wilhelm, and H. Willersinn, to Badische Anilin- & Soda-Fabrik Aktiengesellschaft. Production of unsaturated polyester resins and of copolymers therefrom. 2,973,332, 2–28–61, Cl. 260—26.

Fink, Arnold: *See*—
Peet, John R., Claypole, Fink, and Loeser. 2,972,873.

Finlayson, Donald, B. Krzesinski, and A. W. Cooke, to British Celanese Ltd. Cellulose triacetate pile fabric and method of making same. 2,973,018, 2–28–61, Cl. 139—391.

Fino, Alexander F., to Pittsburgh-Des Moines Steel Co. Weather seal. 2,973,113, 2–28–61, Cl. 220—26.

Firma Loesenhausenwerk, Duesseldorfer Machinenbau A.G. *See*—
Bergmann, Herbert, and Backhaus. 2,972,890.

Firth, Edward P., and P. B. O'Reilly, to U.S. Electrical Motors Inc. Anti-creep device. 2,973,070, 2–28–61, Cl. 192—8.

Fisher, John C., to Am Dyne Trust. Pump. 2,972,957, 2–28–61, Cl. 103—76.

FitzSimmons, Vincent G., and W. A. Zisman, to United States of America, Navy. Ammunition cartridge cases. 2,972,947, 2–28–61, Cl. 102—43.

Flight Refueling Inc.: *See*—
Goodliffe, Arthur W., Macgregor, and Procter. 2,973,163.
Ward, Leonard G., White, and Iwanowski. 2,973,171.

Foley, Edward W., Jr. Apparatus for driving a pile shell. 2,972,871, 2–28–61, Cl. 61—53.7.

Follett, Harold B. Hydrofoil craft. 2,972,974, 2–28–61, Cl. 114—66.5.

Food, Chemical & Research Laboratories Inc.: *See*—
Peniston, Quintin P. 2,973,250.

France Neckwear Co., Inc.: *See*—
Kanter, Harry. 2,972,750.

Francis, Wallace R.: *See*—
Mapelsden, George C., and Francis. 2,973,501.

Frank, Robert G., to General Electric Co. Columbium base alloys. 2,973,261, 2–28–61, Cl. 75—174.

Franz, Robert A. Crop guard for sprinklers. 2,973,148, 2–28–61, Cl. 239—230.

Fraser, Walter A.: *See*—
Marcus, Norman, and Fraser. 2,972,932.

Fried, Josef: *See*—
Herz, Josef E., and Fried. 2,973,356.

Fried, Josef, and J. E. Herz, to Olin Mathieson Chemical Corp. 11-oxygenated-2-methyl-21-fluoro progesterone derivatives. 2,973,376, 2–28–61, Cl. 260—397.45.

Fried, Josef, and P. A. Diassi, to Olin Mathieson Chemical Corp. 11β,12β-epoxy and 12α-bromo steriods of the pregnane series and their method of preparation. 2,973,377, 2–28–61, Cl. 260—397.45.

Fry, Carroll B. Lock. 2,972,879, 2–28–61, Cl. 70—276.

Frye, Eugene O., to Collins Radio Co. Electronic limit detector. 2,973,481, 2–28–61, Cl. 328—196.

Fujisawa Pharmaceutical Co., Ltd.: *See*—
Kobayashi, Kanjiro, and Suzuki. 2,973,379.

Furnas Electric Co.: *See*—
Hansen, Gilbert H. 2,973,503.

Gable, Edward O., to United States of America, Navy. Device for dispensing apertured plates. 2,973,108, 2–28–61, Cl. 214—8.

Gable, Edward O., to United States of America, Navy. Apparatus for stacking apertured plates. 2,973,109, 2–28–61, Cl. 214—8.

Gabriel, Edwin Z. Computer for multiplication or division of variable quantities. 2,973,147, 2–28–61, Cl. 235—195.

Gadget-Of-The-Month Club, Inc.: *See*—
Zrolka, Nicholas. 2,973,151.

Gaertner, Van R., to Monsanto Chemical Co. Carbohydrate mono-esters. 2,973,358, 2–28–61, Cl. 260—234.

Galigher Co., The: *See*—
Anderson, Charles M., and Sayers. 2,973,095.

Garmy, Robert J., to Republic Steel Corp. Electric furnace utilizing consumable electrodes and method of operating same. 2,973,452, 2–28–61, Cl. 314—69.

Garrett Corp., The: *See*—
Greenwald, Harold A. 2,973,135.
Greenwald, Harold A. 2,973,136.
Jensen, Raymond W. 2,972,869.
Jensen, Raymond W. 2,973,137.

Geigy, J. R., A.-G.: *See*—
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Pugin, Andre. 2,973,369.

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General Aniline & Film Corp.: *See*—
Kazuba, Frank J., Matteson, and Easton. 2,973,263.

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Guthrie, John M., Harkey, and Smith. 2,972,933.
Medved, David B. 2,973,516.

General Electric Co.: *See*—
Alcher, John O., and Lemmers. 2,973,447.
Clark, Earl W. 2,973,480.
Frank, Robert G. 2,973,261.
Heil, Hans. 2,973,454.
Mapelsden, George C., and Francis. 2,973,501.
Marlowe, Richard H. 2,973,455.
Oakes, William S., and Bristow. 2,973,473.
Pistey, John M. 2,973,500.
Suits, Chauncey G. 2,972,937.
Wiley, Emmett H. 2,973,443.

General Electric Co. Ltd., The: *See*—
Hamberger, Sydney M. 2,973,485.
Mlavsky, Abraham I. 2,973,290.
Walsh, Arthur S. 2,973,512.
Wilson, Robert. 2,973,442.

General Foods Corp.: *See*—
Baldwin, Robert R., and Ohan, Jr. 2,973,271.
Winston, Adolph A., and Kelley. 2,973,272.

General Motors Corp.: *See*—
Davidson, Thomas E. 2,972,817.
Erwin, Wesley S. 2,972,882.
Hicks, Robert D., and Grahn. 2,973,236.
Mathues, Thomas O. 2,972,789.
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General Precision, Inc.: *See*—
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General Strapping Corp.: *See*—
Ripley, Mills N. 2,972,844.

Gentle, Golden T. Pouring spouts for concrete. 2,973,110, 2–28–61, Cl. 214—17.

Gentry, Hermond G., to The Mead Corp. Means for feeding paperboard blanks. 2,973,201, 2–28–61, Cl. 271—12.

Germany, James H., to Therm-O-Disc, Inc. Thermostat mounting assembly for hot water heaters. 2,972,887, 2–28–61, Cl. 73—339.

Gerner, Tifeodore C. Self-adjusting threaded bushing with locking bar. 2,973,207, 2–28–61, Cl. 274—2.

Gerner, Theodore C. Self-adjusting threaded bushing with locking bar. 2,973,208, 2–28–61, Cl. 280—95.

Gerst, Chris. Forward and reverse reduction transmission. 2,972,901, 2–28–61, Cl. 74—360.

Geschickter Fund for Medical Research Inc., The: *See*—
Rice, Leonard M., and Grogan. 2,973,368.

Gevaert Photo-Producten N.V.: *See*—
Nys, Jean M., and Ghys. 2,973,264.
Van Hoof, Albert E. 2,973,262.

Ghignatti, Sergio, to Umberto Ghignatti. Mould for vulcanizing soles of rubber, plastics or the like to shoe uppers. 2,972,777, 2–28–61, Cl. 18—34.

Ghignatti, Umberto: *See*—
Ghignatti, Sergio. 2,972,777.

Ghys, Theofiel H.: *See*—
Nys, Jean M., and Ghys. 2,973,264.
Gibbs, Joseph P., to Consolidated Electrodynamics Corp. Transducer. 2,973,496, 2–28–61, Cl. 338—41.
Gibson, William M.: *See*—
Ellzey, Dixie L., and Gibson. 2,973,222.
Gies, Paul E., to Houdaille Industries, Inc. Flutter damper. 2,973,060, 2–28–61, Cl. 188—93.
Gilbert & Barker Mfg. Co.: *See*—
Grise, Alfred L. 2,973,118.
Gill, Vincent A. Valve structure. 2,973,182, 2–28–61, Cl. 251—174.
Gillis, Marvin B., to International Minerals & Chemical Corp. Animal feed supplement. 2,973,265, 2–28–61, Cl. 99—2.
Gilmore, William G., and E. L. Zibbell, to Ferro Stamping Co. Free wheeling door lock. 2,973,216, 2–28–61, Cl. 292—280.
Glavan, Richard, to Stephens-Adamson Mfg. Co. Method of making self-aligning bearings and articles produced thereby. 2,973,227, 2–28–61, Cl. 308—72.
Gleasman, Hollis K.: *See*—
Hood, Edwin E., and Gleasman. 2,972,906.
Gleason Reel Corp.: *See*—
Lee, Bert E. 2,973,064.
Gleason Works, The: *See*—
Carlsen, Leonard O. 2,972,912.
Glidden Co., The: *See*—
Tessmer, Ernest H., and Wilhelm. 2,973,234.
Goebel, Max T., to E. I. du Pont de Nemours and Co. Method for killing weeds and woody brush. 2,973,259, 2–28–61, Cl. 71—2.7.
Goehring, Frederick M. Pecan gatherer. 2,972,851, 2–28–61, Cl. 56—328.
Goldberg, Chester J. Collapsible broiler. 2,972,942, 2–28–61, Cl. 99—421.
Goldberg, Emanuel, and H. Refractometers. 2,972,926, 2–28–61, Cl. 88—14.
Goldberg, Herbert: *See*—
Goldberg, Emanuel, and H. 2,972,926.
Goldhaft, Tevis M., and C. Kaitz, to Vineland Poultry Laboratories. Sulfonamide drug and terephthalic acid composition. 2,973,298, 2–28–61, Cl. 167—51.5.
Goldsborough, Shirley L., to Westinghouse Electric Corp. Single-compensator three-phase relays. 2,973,461, 2–28–61, Cl. 317—47.
Goldsborough, Shirley L., and J. G. Chevalier, to Westinghouse Electric Corp. Three-compensator three-phase relays. 2,973,463, 2–28–61, Cl. 317—47.
Goldstein, Richard: *See*—
Maciszewski, Arthur H., Hupert, Goldstein, and Szubski. 2,973,491.
Golec, Thomas, Jr., to Chrysler Corp. Fuel nozzle for gas turbine engine. 2,973,150, 2–28–61, Cl. 239—425.
Gooding, Chester M., and D. Melnick, to Corn Products Co. Method of making potato chips. 2,973,268, 2–28–61, Cl. 99—100.
Goodliffe, Arthur W., P. S. Macgregor, and P. G. Procter, to Flight Refueling Inc. Apparatus for trailing a fluid-transmitting hose or tow-line from an aircraft. 2,973,163, 2–28–61, Cl. 244—3.
Goodrich, B. F., Co., The: *See*—
Oswalt, Burlin W. 2,972,866.
Semegen, Stephen T. 2,973,284.
Gortval, Alexander F., to United Merchants and Manufacturers, Inc. Color fixing agents. 2,973,239, 2–28–61, Cl. 8—74.
Gottschall, Herbert A. Low vapor permeable composition of a polystyrene and naphthalene-formaldehyde resin and method of preparation. 2,973,338, 2–28–61, Cl. 260—45.5.
Grace, W. R. & Co.: *See*—
Atkinson, Edward R., Mark, and Rubinstein. 2,973,394.
Atkinson, Edward R., Mark, and Rubinstein. 2,973,396.
Harman, Cameron G., and Rose. 2,973,246.
Rudner, Bernard. 2,973,361.
Werber, Frank X., Hoeg, and Wszolek. 2,973,349.
Grad, Adolf R., to The Oilgear Co. Surge valve. 2,973,012, 2–28–61, Cl. 137—620.
Graham, Alexander B., to The International Nickel Co., Inc. Production of metal articles by extrusion. 2,973,092, 2–28–61, Cl. 207—17.
Graham, Elizabeth N. Closure for handbags and the like. 2,973,023, 2–28–61, Cl. 150—42.
Graham, George W., to Canadian Industries Ltd. Stabilization of halohydrocarbons. 2,973,392, 2–28–61, Cl. 260—652.5.
Graham, John F., to Collins Radio Co. Test circuit for distributed capacity of inductances. 2,973,476, 2–28–61, Cl. 324—60.
Graham, Zita F., to St. Simon's Church, Most Reverend Henry J. Grimmelsman, Bishop of the Roman Catholic Diocese. Devotional prayer counting device. 2,972,819, 2–28–61, Cl. 35—23.
Grahn, Arne Y., to The Poly Choke Co., Inc. Automatically adjustable choke for shotguns. 2,972,829, 2–28–61, Cl. 42—79.
Grahn, Edwin O.: *See*—
Hicks, Robert B., and Grahn. 2,973,236.
Graphic Arts Research Foundation, Inc.: *See*—
Higonnet, Rene A., and Moyroud. 2,973,080.
Greaves, Melvin J., to R. A. Cummings, Jr. Magnetic separation apparatus and treating methods involving magnetic separation. 2,973,096, 2–28–61, Cl. 210—63.
Greenberg, Herbert J., to Engelhard Industries, Inc. Temperature measuring device. 2,973,495, 2–28–61, Cl. 338—28.
Greenwald, Harold A., to The Garrett Corp. Seal for refrigerant compressor. 2,973,135, 2–28–61, Cl. 230—114.
Greenwald, Harold A., to The Garrett Corp. Compressor. 2,973,136, 2–28–61, Cl. 230—116.
Gregoire, Arnold E. Automobile trunk lid holder kit. 2,973,217, 2–28–61, Cl. 292—288.
Grill, Raymond E., to Northrop Corp. Wing severing device. 2,973,164, 2–28–61, Cl. 244—14.
Gring, John L.: *See*—
Teter, John W., Gring, and Keith. 2,973,245.
Grise, Alfred L., to Gilbert & Barker Mfg. Co. Proportioning type liquid dispensing apparatus. 2,973,118, 2–28–61, Cl. 222—26.
Grogan, Charles H.: *See*—
Rice, Leonard M., and Grogan. 2,973,368.
Grondin, George F., to Collins Radio Co. Binary code synchronizer. 2,973,407, 2–28–61, Cl. 178—26.
Grondin, George F., to Collins Radio Co. Call recognition system. 2,973,507, 2–28–61, Cl. 340—155.
Gross, Albert, to Deutsche Gold- und Silber-Scheideanstalt vormals Roessler. Process for the surface treatment of finely-divided oxides or oxide mixtures. 2,973,282, 2–28–61, Cl. 106—308.
Gruber, Henry. Necktie knot support. 2,972,749, 2–28–61. Cl. 2—153.
Guthrie, John M., G. D. Harkey, Jr., and D. I. Smith, to General Dynamics Corp. Missile hand launching system. 2,972,933, 2–28–61, Cl. 89—1.7.
Gyurko, Balint, Jr., to Pratt & Whitney Co. Inc. Adjustable pneumatic gage. 2,972,883, 2–28–61, Cl. 73—37.8.
Haaland, Roald, to A. Bruk. Armchair. 2,973,026, 2–28–61, Cl. 155—77.
Haas, Harold W., to Phillips Petroleum Co. Carbon black process and apparatus. 2,973,249, 2–28–61, Cl. 23—209.6.
Haberland, Hans: *See*—
Stroh, Rudolf, Sutter, Heinz, and Haberland. 2,973,337.
Haeussermann, Walter. Attitude control system for space vehicles. 2,973,162, 2–28–61, Cl. 244—1.
Hagen, Walter: *See*—
Hippe, Werner, Watzl, and Hagen. 2,973,341.
Hahn, Edgar A., to Lyon Inc. Method of treating stainless steel. 2,973,307, 2–28–61, Cl. 204—34.
Halstead, Fred E., to Ajax Magnethermic Corp. Thermocouple apparatus and method of using the same. 2,973,397, 2–28–61, Cl. 136—4.
Hamberger, Sydney M., to The General Electric Co. Ltd. Electrical switching systems. 2,973,485, 2–28–61, Cl. 333—7.
Hamel, Edmund, to Hamel Projektierungs-und Verwaltungs-A.G. Process and apparatus for twining threads. 2,972,856, 2–28–61, Cl. 57—156.
Hamel Projektierungs-und Verwaltungs-A.G.: *See*—
Hamel, Edmund. 2,972,856.
Hamilton, Wallace: *See*—
Stanwick, Tad, Hamilton, and Hannigan. 2,973,174.
Hamilton, William H., to Motor Products Corp. Combination pump housing and mounting means. 2,972,963, 2–28–61, Cl. 103—219.
Hamm, Philip C., and A. J. Speziale, to Monsanto Chemical Co. Herbicides. 2,973,258, 2–28–61, Cl. 71—2.7.
Hammell, Kemper M., to AMP Inc. Socket connector means for circuit board. 2,973,499, 2–28–61, Cl. 339—17.
Handler, Eugene H., to United States of America, Navy. Tilt float helicopter. 2,973,169, 2–28–61, Cl. 244—105.
Hanks, Frederick W. Fluid meters. 2,972,886, 2–28–61, Cl. 73—258.
Hannigan, Joseph E.: *See*—
Stanwick, Tad, Hamilton, and Hannigan. 2,973,174.
Hansen, Gilbert H., deceased, by H. R. Hansen, administratrix, to Furnas Electric Co. Terminal assembly. 2,973,503, 2–28–61, Cl. 339—198.
Hansen, Helen R.: *See*—
Hansen, Gilbert H. 2,973,503.
Hanson, Allan W., and D. E. Kreinheder, to Hughes Aircraft Co. Waveguide hybrid structure. 2,973,487, 2–28–61, Cl. 333—11.
Harlan, Kent, to La France Carpets, Inc. Applicators for adhesives. 2,972,773, 2–28–61, Cl. 15—560.
Harkey, George D., Jr.: *See*—
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Harman, Cameron G., and R. Rose, to W. R. Grace & Co. Method of making polishing material. 2,973,246, 2–28–61, Cl. 23—182.
Harmon, Albert D., to Deering Milliken Research Corp. Cone adapter. 2,973,161, 2–28–61, Cl. 242—130.
Harmon Enterprises, Inc.: *See*—
Cooper, Alva N., and Potter. 2,972,870.
Harnischfeger Corp.: *See*—
Price, Lester A. 2,973,469.
Harrison Cropsaver Co.: *See*—
Beaty, Clarence E. 2,973,053.
Hartel, Erwin H., to Cleveland Pneumatic Industries, Inc. Actuation mechanism. 2,972,896, 2–28–61, Cl. 74—105.
Hartel, Erwin H., to Cleveland Pneumatic Industries, Inc. Landing gear. 2,973,168, 2–28–61, Cl. 244—104.
Hasseld, Frank E., Jr. Waveguide rotary joint. 2,973,493, 2–28–61, Cl. 333—98.
Hatcher, Creel W. Coin controlled apparatus. 2,973,076, 2–28–61, Cl. 194—10.
Hausmann, Edgar C. Outboard motor attachment. 2,972,977, 2–28–61, Cl. 115—42.
Havens, Carl B., to The Dow Chemical Co. Process for producing stable haloethylene polymers. 2,973,347, 2–28–61, Cl. 260—87.7.
Haverstick, Merral P., to National Rejectors, Inc. Coin separators. 2,973,074, 2–28–61, Cl. 194—9.
Hayashi, Tateki, and S. Tsutsumi, to Chiyoda Chemical & Engineering Construction Co., Ltd. Process for synthesizing ethylene. 2,973,384, 2–28–61, Cl. 260—449.6.
Hayner, Paul F., to Sanders Associates, Inc. Two-stage, differential, hydraulic servo valve. 2,972,999, 2–28–61, Cl. 137—85.
Haynes, Billie R. Woman's overglove or the like. 2,972,748, 2–28–61, Cl. 2—46.
Hazard, Frederick E. Temperature-controlled system for transport containers. 2,973,186, 2–28–61, Cl. 257—291.

Haslett, William S., to Bell Telephone Laboratories, Inc. Code converter. 2,973,510, 2–28–61, Cl. 340—347.

Hearth Craft, Inc.: *See*—
Malafouris, Dannie O. 2,973,176.

Heil, Hans, to General Electric Co. Color cathode ray image reproducing tube. 2,973,454, 2–28–61, Cl. 315—21.

Hein, Lehmann & Co. Akt.: *See*—
Riedel, Erich O. 2,973,288.

Heinz, Anton R.: *See*—
Stroh, Rudolf, Sutter, Heinz, and Haberland. 2,973,337.

Heinz, Gerald O., to Streator Dependable Mfg. Co. Material handling apparatus. 2,973,122, 2–28–61, Cl. 222—185.

Hemphill Co.: *See*—
St. Pierre, Paul L. 2,972,875.

Hematsch, Reynold. Typewriters. 2,973,079, 2–28–61, Cl. 197—19.

Hennessy, James J., to Hennessy Lubricator Co., Inc. Railway journal lubricator. 2,973,228, 2–28–61, Cl. 308—88.

Hennessy Lubricator Co., Inc.: *See*—
Hennessy, James J. 2,973,228.

Herpich, William A.: *See*—
Dempster, George R., and Herpich. 2,973,111.

Herrmann, Edgar R.: *See*—
Joseph, Francis M., and Herrmann. 2,973,412.

Hersh, Marvin I.: *See*—
Farrar, George E., Jr., Hersh, and Barnett. 2,973,390.

Herz, Josef E.: *See*—
Fried, Josef, and Herz. 2,973,376.

Herz, Josef E., and J. Fried, to Olin Mathieson Chemical Corp. 21-fluro-9α-halo-steroids of the pregnane series. 2,973,356, 2–28–61, Cl. 260—239.55.

Herzfeld, Valerius E.: *See*—
Daniels, Howard L., and Herzfeld. 2,973,145.

Herzog, Richard F. K., to United States of America, Air Force. Multiple-range recorder switching device. 2,973,238, 2–28–61, Cl. 346—32.

Heusner, Wilhelm L. G., to Hermann Schwarz, K.G. Two-part metallic mine prop. 2,973,178, 2–28–61, Cl. 248—354.

Hewitt-Robins Inc.: *See*—
Wilson, Albert. 2,972,895.

Hexcel Products Inc.: *See*—
McClelland, Joseph S., Jr. 2,973,294.

Heyden Newport Chemical Corp.: *See*—
Kraft, William M. 2,973,331.

Heyn, William O., and C. E. Brady, to Chrysler Corp. Staggered land spool valve. 2,972,984, 2–28–61, Cl. 121—46.5.

Hicks, Robert B., and E. O. Grahn, to General Motors Corp. Refrigerator shelving. 2,973,236, 2–28–61, Cl. 312—319.

Hignett, Harold W. G., and P. G. Turner, to The International Nickel Co., Inc. Production of hollow metal articles. 2,972,805, 2–28–61, Cl. 29—156.8.

Hignett, Harold W. G., P. G. Turner, and C. C. Horne, to The International Nickel Co., Inc. Production of turbine or compressor blades. 2,972,806, 2–28–61, Cl. 29—156.8.

Higonnet, Rene A., and L. M. Moyroud, to Graphic Arts Research Foundation, Inc. Character space controls for type composition. 2,973,080, 2–28–61, Cl. 197—84.

Hildebrandt, Friedrich, to Spinnfaser Aktiengellschaft. Method of shredding and aging alkali-cellulose. 2,973,352, 2–28–61, Cl. 260—233.

Hill, Arthur D. Compass suspension for automatic pilot. 2,973,413, 2–28–61, Cl. 200—52.

Hill, Frederick P., to Motorola, Inc. Speed compensated volume control. 2,973,432, 2–28–61, Cl. 250—20.

Hill, James S., to Engelhard Industries, Inc. Surface treatment. 2,973,283, 2–28–61, Cl. 117—71.

Hillard, George O., Jr.: *See*—
Bauch, Werner A., Lambert, and Hillard. 2,973,346.

Hillgren, Carl C., to Hillgren Mfg. Co. Method of drawing door knobs. 2,972,971, 2–28–61, Cl. 113—51.

Hillgren Mfg. Co.: *See*—
Hillgren, Carl C. 2,972,971.

Hillman, Swan. Automatic nut tapping machine having tools andwork holders movable in a circular path with improved nut feeding and pick off means. 2,972,759, 2–28–61, Cl. 10—139.

Hinlicky, John A., and F. H. Kant, to Esso Research and Engineering Co. Hydroforming catalyst. 2,973,330, 2–28–61, Cl. 252—466.

Hippe, Werner, A. Watzl, and W. Hagen, to Vereinigte Glanzstoff-Fabriken A.G. Continuous process for production of a polyethylene terephthalate condensate. 2,973,341, 2–28–61, Cl. 260—75.

Hirsch, George B., to Brown & Sharpe Mfg. Co. Milling machine knee with drive shaft and screw in saddle. 2,972,936, 2–28–61, Cl. 90—21.

Hirsch, Ralph M. Phosphor-belt recorder-reproducer. 2,973,408, 2–28–61, Cl. 178—89.

Hirsch, Sylvan R., to Worthington Corp. Unloading means for reciprocating compressor. 2,973,132, 2–28–61, Cl. 230—30.

Hitchcock, Eugene B. Can packaging method and machine. 2,972,842, 2–28–61, Cl. 53—55.

Hodge, William F.: *See*—
Clyde, Lancelot H. R., Hodge, and Longman. 2,973,144.

Hodgins, Theodore S., and F. J. Shelton, to Reichhold Chemicals, Inc. Process for regenerating an iron-molybdenum containing oxidation catalyst. 2,973,326, 2–28–61, Cl. 252—412.

Hoeg, Donald F.: *See*—
Werber, Frank X., Hoeg, and Wszolek. 2,973,349.

Hogg, Harold A. C., to The M-O Valve Co. Ltd. Travelling wave tubes. 2,973,453, 2–28–61, Cl. 315—3.5.

Hoiberg, Arnold J., and C. E. Cowger, to Monsanto Chemical Co. 2,973,280, 2–28–61, Cl. 106—281.

Holm, Carl J. Device for winding line. 2,972,855, 2–28–61, Cl. 57—66.5.

Holtsford, Ernest L. Means for securing insulating material about a duct. 2,973,016, 2–28–61, Cl. 138—64.

Hood, Edwin R., and H. K. Gleasman, to The Bendix Corp. Semi-automatic two-speed hub and coaster brake for velocipedes and the like. 2,972,908, 2–28–61, Cl. 74—750.

Horne, Campbell C.: *See*—
Hignett, Harold W. G., Turner, and Horne. 2,972,806.

Hornung, Stephen A., to Otis Elevator Co. Elevator selection system. 2,973,059, 2–28–61, Cl. 187—29.

Hoshino, Yasushi, and M. Sato. Pressing plate of a magnetic sound record reading machine. 2,973,410, 2–28–61, Cl. 179—100.2.

Houdaille Industries, Inc.: *See*—
Gies, Paul E. 2,973,060.
Ramsey, Rollin D. 2,973,061.

Houdry Process Corp.: *See*—
Talvenheimo, Gerhardt. 2,973,328.

Houlsby, George W., Jr.: *See*—
Shean, Bertram M. 2,972,788.
Wikkerink, Lance. 2,972,778.

Hovda, Robert E., to North American Aviation, Inc. Gas discharge valve noise generator. 2,973,513, 2–28–61, Cl. 343—17.7.

Howe, Russell R., to The Keystone Mfg. Co. Mixing apparatus. 2,973,188, 2–28–61, Cl. 259—131.

Howland, Ward W., to Union Oil Co. of California. Process for preventing corrosion in ferrous systems. 2,973,316, 2–28–61, Cl. 208—228.

Huang, Hsing T., to Chas. Pfizer & Co., Inc. Fermentation process. 2,973,304, 2–28–61, Cl. 195—47.

Hubbard, Noel K., and D. M. Taylor, to Ohmics Ltd. Method and apparatus for manufacturing battery separators. 2,973,398, 2–28–61, Cl. 136—145.

Huck, William F., A. J. Albrecht, and D. P. Sanford, to Brunswick Automatic Pinsetter Corp. Automatic pinsetter. 2,973,204, 2–28–61, Cl. 273—43.

Huff, O. C., W. J. Belanger, Jr., and D. F. Burnett, to Texaco Inc. Device for use with a fluid pressure actuated wrench. 2,972,918, 2–28–61, Cl. 81—53.

Hughes Aircraft Co.: *See*—
Hanson, Allan W., and Kreinheder. 2,973,487.

Hunn, Olen D., to Sinclair Refining Co. Process for dehazing petroleum hydrocarbons with solid sodium silicate. 2,973,314, 2–28–61, Cl. 208—188.

Hupert, Julius J.: *See*—
Maciszewski, Arthur H., Hupert, Goldstein, and Szubski. 2,973,491.

Hupp Corp.: *See*—
Patrick, Malcolm W. 2,973,033.

Hurvitz, Hyman. Frequency scanning spectrum analyzers. 2,973,478, 2–28–61, Cl. 324—77.

Hyde, Floyd D., to Inventors Development Co. Hydropneumatic working head for plunger pumps. 2,972,863, 2–28–61, Cl. 60—51.

Illinois Metal Products: *See*—
Rix, Edward G. 2,972,814.

Imperial Chemical Industries Ltd.: *See*—
Jack, James. 2,973,334.
Porcher, Frederick J. 2,972,859.
Schofield, Philip J. 2,973,293.
Whitfield, Gordon H. 2,973,310.

Improved Machinery Inc.: *See*—
Rich, John P. 2,973,153.

Inaba, Yanosuke, and K. Kimoto, to Toyo Koatsu Industries, Inc. Process for preparing linear polyureas. 2,973,342, 2–28–61, Cl. 260—77.5.

Ingersoll-Rand Co.: *See*—
Worman, Martin. 2,972,981.

Ingrao, Benedict. Supports for telephone hand sets. 2,973,411, 2–28–61, Cl. 179—146.

Innocenti, Scipione. Device for picking up by suction the cigarettes advancing in rows on conveyor tapes, for discharging same into boxes, and for carrying away the filled boxes. 2,972,845, 2–28–61, Cl. 53—236.

Institut Dr. Ing. Reinhard Straumann A.G.: *See*—
Straumann, Reinhard. 2,973,291.

International Business Machines Corp.: *See*—
Chadurjian, Frank. 2,973,506.
McLaughlin, John A. 2,973,511.

International Electronic Research Corp.: *See*—
McAdam, John C. 2,973,400.

International Harvester Co.: *See*—
Kolinger, Kenneth J., Moreno, and Solimine. 2,973,049.

International Minerals & Chemical Corp.: *See*—
Gillis, Marvin B. 2,973,265.

International Nickel Co., Inc., The: *See*—
Graham, Alexander B. 2,973,092.
Hignett, Harold W. G., and Turner. 2,972,805.
Hignett, Harold W. G., Turner, and Horne. 2,972,806.
Turner, Philip G., and Stuart. 2,972,807.

International Steel Co.: *See*—
Nystrom, Karl F. 2,973,102.

Inventors Development Co.: *See*—
Hyde, Floyd D. 2,972,863.

Irwin, Francis D.: *See*—
Ridenour, Charles A., Irwin, and Little. 2,972,849.

Iveson, Herbert T.: *See*—
Tessmer, Ernest H., Jr., and Iveson. 2,973,381.

Iwanowski, Walter M.: *See*—
Ward, Leonard G., White, and Iwanowski. 2,973,171.

Jack, James, to Imperial Chemical Industries Ltd. Composition comprising an organopolysiloxane resin and a carbodiimide. 2,973,334, 2–28–61, Cl. 260—33.6.

Jackson, Thurston H., Jr., to Northrop Corp. Light chopper. 2,972,812, 2–28–61, Cl. 33—61.

Jahn, Robert G.: *See*—
Berke, Eugene A., and Jahn. 2,973,285.

Jakubczak, Arthur: *See*—
Kadisch, Gerhard E., and Jakubczak. 2,973,278.

Janssen, Paul A. J. Certain 1-(2-thenoyl lower alkyl)-4-(heterocyclic substituted)-piperazines. 2,973,360, 2–28–61, Cl. 260—256.5.

Janssen, Paul A. J. 1-aroylalkyl-4-aryl-1,2,3,6-tetrahydropyridines. 2,973,365, 2–28–61, Cl. 260—297.
Janssen, Paul A. J. 1-(2-thenoyl)alkyl-4-arylpiperidin-4-ols. 2,973,363, 2–28–61, Cl. 260—293.4.
Janssen, Paul A. J. 1-(2-thenoyl)alkyl-4-aryl-1,2,3,6-tetrahydropyridines. 2,973,364, 2–28–61, Cl. 260—294.8.
Jenner, Robert K., Jr., to A. Kimball Co. Record analysing apparatus. 2,973,142, 2–28–61, Cl. 235—61.11.
Jensen, Jack H. Corner reflector antenna. 2,973,518, 2–28–61, Cl. 343—837.
Jensen, Raymond W., to The Garrett Corp. Means for synchronising a plurality of pneumatic motors. 2,972,869, 2–28–61, Cl. 60—97.
Jensen, Raymond W., to The Garrett Corp. Cam piston two-stage compressor. 2,973,137, 2–28–61, Cl. 230—200.
Jensen, William A. Three wheeled motorized golf vehicle. 2,973,048, 2–28–61, Cl. 180—27.
Jesl, James L., H. M. Kheighatian, and A. P. Stuart, to Sun Oil Co. Stabilization of lubricating oils with a ketene. 2,973,318, 2–28–61, Cl. 208—291.
Johannesen, Oddvar M., to Dresser Industries, Inc. Method and apparatus for earth borehole investigating and signaling. 2,973,505, 2–28–61, Cl. 340—18.
Johnson, Jesse R. Valve. 2,973,181, 2–28–61, Cl. 251—172.
Johnson, Loyd C. Door latch. 2,973,215, 2–28–61, Cl. 292—79.
Johnson, Valdimar C. Resilient rib and groove slide fasteners. 2,972,792, 2–28–61, Cl. 24—201.
Johnson, William S., J. C. Collins, R. Pappo, and M. B. Rubin, to Wisconsin Alumni Research Foundation. Total synthesis of aldosterone and intermediates therein. 2,973,357, 2–28–61, Cl. 260—239.55.
Jones, David W., to Crane Packing Co. Orifice plate and solenoid valve for gritty liquids. 2,973,004, 2–28–61, Cl. 137—242.
Jones, Rufus V.: *See*—
Scott, John N., Jr., and Jones. 2,973,241.
Jordan, Chalmer C.: *See*—
Cropp, David L., Jordan, and Lingo. 2,973,289.
Joseph, Francis M., and E. R. Herrmann, to Breeze Corps., Inc. Limit control mechanism. 2,973,412, 2–28–61, Cl 200—47.
Joyner, Frederick B.: *See*—
Coover, Harry W., Jr., and Joyner. 2,973,348.
Jurgeleit, Wolfgang, to Vereinigte Glanzstoff-Fabriken, A.G. Process for preshrinking highly oriented, low-pressure polyolefine filaments with chemical shrinking agents. 2,973,242, 2–28–61, Cl. 8—130.1.
Kabaci, John. Coffee can opener. 2,973,115, 2–28–61, Cl. 220—52.
Kachergis, Henry J., to Otto Berns Co., Inc. Lawn sprinklers. 2,973,149, 2–28–61, Cl. 239—273.
Kadisch, Gerhard E., and A. Jakubczak. Manufacture of sintered vitreous silica. 2,973,278, 2–28–61, Cl. 106—69.
Kahler, Royce C.: *See*—
Saul, Robert J., Kahler, and Moran. 2,972,794.
Kahn, David, Inc.: *See*—
Levy, Morris. 2,972,781.
Kaiser, Dr. Bruno: *See*—
Keller, Richard, and Quest. 2,973,267.
Kaitz, Charles: *See*—
Goldhaft, Tevis M., and Kaitz. 2,973,298.
Kaneko, Juso: *See*—
Masuda, Toru, Yamamoto, and Kaneko. 2,973,305.
Kant, Fred H.: *See*—
Hinlicky, John A., and Kant. 2,973,330.
Kanter, Harry, to France Neckwear Co., Inc. Necktie form. 2,972,750, 2–28–61, Cl. 2—153.
Kassuba, Frank J., J. M. Matteson, and R. P. Easton, to General Aniline & Film Corp. Antistatic backing layers for photographic film. 2,973,263, 2–28–61, Cl. 96—87.
Katz, David. Automatic graph computer. 2,973,140, 2–28–61, Cl. 235—61.6.
Katz, Manfred, and R. L. Wittbecker, to E. I. du Pont de Nemours & Co. Polyurethane polymer. 2,973,333, 2–28–61, Cl. 260—32.6.
Kazyaka, Raymond J., to United States of America, Army. Fuel control valve of a missile system. 2,973,009, 2–28–61, Cl. 137—554.
Keating, Esmond J., A. S. Cooper, Jr., and A. M. Walker, to United States of America, Agriculture. Scrubbing machine for on-location cleaning of pile-type floor covering. 2,972,769, 2–28–61, Cl. 15—321.
Keith, Carl D.: *See*—
Teter, John W., Gring, and Keith. 2,973,245.
Keith, Willis C., R. H. Elkins, and R. R. Chambers, to Sinclair Refining Co. Process of producing C_4H_8 aliphatic hydrocarbons and ethylene from propylene. 2,973,395, 2–28–61, Cl. 260—678.
Kelem, Howard. Machine for tying casings. 2,972,747, 2–28–61, Cl. 1—95.
Kelem, Howard. Casing tie and making same. 2,972,791, 2–28–61, Cl. 24—30.5.
Kelemen, Leslie A. Electrically warmed mats or matting. 2,973,425, 2–28–61, Cl. 219—46.
Keller, Richard, and K. Quest, to Dr. B. Kaiser, and Dr. E. Paula. Method and device for sterile racking hot beverages containing carbon dioxide, especially beer. 2,973,267, 2–28–61, Cl. 99—49.
Kelley, Daniel J.: *See*—
Winston, Adolph A., and Kelley. 2,973,272.
Kells, Edward L.: *See*—
Reilly, Bertram B., Mehler, and Kells. 2,973,032.
Kelsey-Hayes Co.: *See*—
Ayers, David T., Jr. 2,972,963.
Kemper, John A., to The Scott & Fetzer Co. Vacuum cleaner nozzle with resiliently mounted brush. 2,972,771, 2–28–61, Cl. 15—371.
Kennard, Thomas A. Retrieving tool. 2,973,037, 2–28–61, Cl. 166—55.1.
Kennel, William E., B. Field, C. A. Spiller, and G. H. Weisemann, to Standard Oil Co. Polyethylene production with solid catalyst. 2,973,350, 2–28–61, Cl. 260—94.9.
Kern, Dale W., and C. Taggart, to Riegel Textile Corp. Tubular woven cotton pick sack and method of forming same. 2,972,799, 2–28–61, Cl. 28—74.
Keyser, Lloyd A.: *See*—
Craiglow, Robert L., and Keyser. 2,973,420.
Keystone Mfg. Co., The: *See*—
Howe, Russell R. 2,973,188.
Kheighatian, Habet M.: *See*—
Jesl, James L., Kheighatian, and Stuart. 2,973,318.
Kimball, A., Co.: *See*—
Jenner, Robert K., Jr. 2,973,142.
Kimble Glass Co.: *See*—
Pinotti, Alfred D. 2,972,837.
Russell, Richard G., Theisen, and Stark. 2,972,783.
Kimoto, Koji: *See*—
Inaba, Yanosuke, and Kimoto. 2,973,342.
King, John A.: *See*—
Edgar, John S., and King. 2,973,047.
Kinoshita, Shukuo, K. Tanaka, and S. Akita, to Kyowa Hakko Kogyo Kabushiki Kaisha. Process for the production of citric acid by the fermentation process. 2,973,303, 2–28–61, Cl. 195—36.
Kister, Thomas L.: *See*—
Egan, Edmond F., Kister, and Scott. 2,973,472.
Klare, Manfred, to G. Kromschroder Aktiengesellschaft. Means for connecting a fluid-handling device to a pipeline. 2,973,011, 2–28–61, Cl. 137—590.
Kleinschmidt, Harry, and H. A. Stoffel. Ball faucet valve. 2,973,179, 2–28–61, Cl. 251—86.
Klingler, Martin L., to AMP Inc. Pressure intensification device. 2,972,867, 2–28–61, Cl. 60—54.6.
Klopp, Friedrich, F. Klopp, Jr., and F. Lessenich, to Klopp-Werke G.m.b.H. Hydraulic drives for rectilinear alternating motions for reciprocating machines. 2,972,864, 2–28–61, Cl. 60—52.
Klopp, Friedrich, Jr.: *See*—
Klopp, Friedrich, F. Klopp, Jr., and Lessenich. 2,972,864.
Klopp, John H.: *See*—
Lowrey, Wallace W., Cendrick, McQuilkin, and Klopp. 2,973,042.
Klopp-Werke G.m.b.H.: *See*—
Klopp, Friedrich, F. Klopp, Jr., and Lessenich. 2,972,864.
Klose, Alfred J., to Wallace O. Leonard, Inc. Valve. 2,973,008, 2–28–61, Cl. 137—516.29.
Klotz, Lyell J., to Lloyd Brothers, Inc. Soft gelatin capsule. 2,973,301, 2–28–61, Cl. 167—83.
Knapsack-Griesheim Aktiengesellschaft: *See*—
Nissen, Oskar K., Maier, and Weiler. 2,973,085.
Knight, Philip L., and G. W. Michel, to Midland-Ross Corp. Apparatus for rapid heating of one side only of work. 2,973,192, 2–28–61, Cl. 263—43.
Knoll Associates, Inc.: *See*—
Knoll, Florence S. 2,973,232.
Knoll, Florence S., to Knoll Associates, Inc. Multiple desk unit with combined frame and retaining rail. 2,973,232, 2–28–61, Cl. 311—4.
Kobayashi, Kanjiro, and H. Suzuki, to Fujisawa Pharmaceutical Co., Ltd. Omega-alkylmercurythio fatty acids, derivatives thereof and process of preparing the same. 2,973,379, 2–28–61, Cl. 260—399.
Koch, John H., Jr., to Engelhard Industries, Inc. Alumina trihydrate preparation. 2,973,320, 2–28–61, Cl. 252—463.
Koch, Theodore F., to Chicago Rawhide Mfg. Co. Sealing friction testing apparatus. 2,972,881, 2–28–61, Cl. 73—9.
Koehler, Marcel A. G.: *See*—
Delaplace, Rene P., and Koehler. 2,973,836.
Koehring Co.: *See*—
Nelson, Wayne F. 2,973,006.
Kohn, Samuel T., to Sorensen & Co., Inc. Voltage regulator. 2,973,470, 2–28–61, Cl. 323—60.
Kollinger, Kenneth J., E. F. Moreno, and A. F. Solimine, to International Harvester Co. Transmission mounting means for vehicles. 2,973,049, 2–28–61, Cl. 180—70.
Korsch, Alfred, and W. Schlicht, to Benteler-Werke Aktiengesellschaft. Reeling web material. 2,973,157, 2–28–61, Cl. 242—55.16.
Koury, Frederic, and F. A. Loughridge, to Sylvania Electric Products Inc. Method of making a light amplifier and storage device. 2,972,803, 2–28–61, Cl. 29—155.5.
Koury, Frederic, to Sylvania Electric Products Inc. Light amplifier and storage device. 2,973,436, 2–28–61, Cl. 250—213.
Kraft, William M., to Heyden Newport Chemical Corp. Forming alkyd resins by the incremental addition of the monobasic acid. 2,973,331, 2–28–61, Cl. 260—22.
Kramer, Amihud, G. Nielsen, and S. Bryan, to L.E.E., Inc. Tenderness testing apparatus for food products. 2,972,884, 2–28–61, Cl. 73—101.
Kramer, Johannes, to North American Philips Co., Inc. Method and device for adjusting the excitation of a stigmator in electron-microscopes. 2,973,433, 2–28–61, Cl. 250—49.5.
Kray, Raymond H. Shaped charge projectile. 2,972,948, 2–28–61, Cl. 102—56.
Kreinheder, Donald E.: *See*—
Hanson, Allan W., and Kreinheder. 2,973,487.
Kresslein, Albert, to Vereinigte Glanzstoff-Fabriken A.G. Thread holding means for laying-on a thread to a spool. 2,973,126, 2–28–61, Cl. 225—63.
Kromschroder, G., Aktiengesellschaft: *See*—
Klare, Manfred. 2,973,011.
Krzesinski, Boleslaw: *See*—
Finlayson, Donald, Krzesinski, and Cooke. 2,973,018.
Kudera, Dieter. Process for producing threads, foils, tubes and the like from amylose and/or starch carbohydrates containing amylose. 2,973,243, 2–28–61, Cl. 18—54.

Kuipers, Minne, and J. van der Pool, to North American Philips Co., Inc. Electric discharge tube. 2,973,449, 2–28–61, Cl. 313—271.
Kujas, Eric F., to The Electric Storage Battery Co. Counter cell electrolyte. 2,973,399, 2–28–61, Cl. 136—155.
Kulka, Thomas S. Friction reducing tape reel. 2,973,159, 2–28–61, Cl. 242—71.8.
Kupka, John J., to McKiernan-Terry Corp. Concrete pile form. 2,972,872, 2–28–61, Cl. 61—53.52.
Kurtz, Carlo: *See*—
Richter, Harald, and Kurtz. 2,972,955.
Kurtz, Robert G., to Philco Corp. Gas cleaning unit. 2,973,054, 2–28–61, Cl. 183—7.
Kurzman, Harold P., to Lily of France, Inc. Girdle. 2,972,992, 2–28–61, Cl. 128—547.
Kyowa Hakko Kogyo Kabushiki Kaisha: *See*—
Kinoshita, Shukuo, Tanaka, and Akita. 2,973,303.
L.E.E., Inc.: *See*—
Kramer, Amihud, Nielsen, and Bryan. 2,972,884.
L. M and L Corp.: *See*—
Lemieux, Joseph F., Jr. 2,972,853.
La Bate, Ernest E.: *See*—
Atalla, Martin M., and La Bate. 2,973,466.
Labbé, Francis A. M., to Molins Machine Co. Ltd. Apparatus for forming a continuous tobacco filler. 2,972,993, 2–28–61, Cl. 131—84.
La France Carpets, Inc.: *See*—
Harian, Kent. 2,972,773.
La Grutta, Pascal, to Lapin Products, Inc. Plastic block assembly. 2,972,833, 2–28–61, Cl. 46—25.
Lake, Harry F. Airfoil and boundary-layer control rotor. 2,973,167, 2–28–61, Cl. 244—42.
Lambert, Merian M.: *See*—
Bauch, Werner A., Lambert, and Hilliard. 2,973,346.
Lamkin, John C., to Standard Oil Co. Fluid sampling and injection valve. 2,972,888, 2–28–61, Cl. 73—422.
Langmaack, Lothar, to Wolff & Co. Kommanditgesellschaft auf Aktien. Method of producing synthetic sausage casings. 2,973,274, 2–28–61, Cl. 99—176.
Lanier, Reginald S., to Washington Machine & Tool Works, Inc. Multiple spindle boring machine. 2,972,914, 2–28–61, Cl. 77—22.
Lanigan, Donald E.: *See*—
Weller, Arthur W., and Lanigan. 2,972,846.
Lapin Products, Inc.: *See*—
La Grutta, Pascal. 2,972,833.
La Pine, Arthur S., & Co.: *See*—
Shonka, Francis R., and Solecki. 2,972,784.
Laub, John H. Flow meter. 2,972,885, 2–28–61, Cl. 73—204.
Lauterer, Geo., Corp.: *See*—
Newell, Bernard L. 2,972,826.
Lawhon, John J., ¼ to L. R. Lawhon, ¼ to E. L. Saur, and ¼ to J. I. Skiver. Precision indexing device. 2,972,913, 2–28–61, Cl. 74—815.
Lawhon, Lillian R.: *See*—
Lawhon, John J. 2,972,913.
Lee, Alfred R., and E. J. Dickinson. Bituminous road-surfacing materials. 2,973,281, 2–28–61, Cl. 106—284.
Lee, Bert E., to Gleason Reel Corp. Portable tower. 2,973,064, 2–28–61, Cl. 189—26.
Lee, Henry Y. Sectional gearing with lubricating means therefor. 2,972,908, 2–28–61, Cl. 74—468.
Leger, Lucien: *See*—
Brichard, Edgard, Piumat, and Leger. 2,973,089.
Leland, Marshall B.: *See*—
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Leonard, William T., and K. F. Diehm, to I. Constant. Process for inserting concealed slide fastener in cloth article. 2,972,751, 2–28–61, Cl. 2—265.
Leone, Adolph A., and J. T. Polese, to L. L. Epstein. Locking coin box. 2,973,139, 2–28–61, Cl. 232—15.
Leon, Salvatore J., to The New Haven Board & Carton Co. Carton connector. 2,973,128, 2–28–61, Cl. 229—15.
Lerner, Julius, to Sun Oil Co. Interface detection in deep holes. 2,973,477, 2–28–61, Cl. 324—61.
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Lewis, James E. Perpetual calendars. 2,972,827, 2–28–61, Cl. 40—114.
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Linenfelser, Robert W. Rug cleaning device. 2,972,764, 2–28–61, Cl. 15—114.
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Lipp, Donald. Apparatus for covering shoe heels. 2,972,760, 2–28–61, Cl. 12—49.1.
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Litton Engineering Laboratories: *See*—
Litton, Charles V. 2,972,808.
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Lovejoy, Rex E. Synchronized oscillator for F. M. limiter and discriminator. 2,973,482, 2–28–61, Cl. 329—123.
Lowrey, Wallace W., G. T. Cendrick, Jr., R. J. McQuilkin, and J. H. Klopp; said McQuilkin assor. to said Lowrey, said Cendrick, and said Klopp. Multi-engine aircraft feather indicating system. 2,973,042, 2–28–61, Cl. 170—135.24.
Ludwig, Clarence H. Blade sharpening apparatus. 2,972,840, 2–28–61, Cl. 51—248.
Lundy, Alvin S., to Claude B. Schneible Co. Separating apparatus and method. 2,973,094, 2–28–61, Cl. 209—144.
Lyle, John M., to Ruud Mfg. Co. Hot water supply systems and components. 2,973,010, 2–28–61, Cl. 137—564.
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Milanovits, William T., and Thomas. 2,972,915.
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Maciszewski, Arthur H., J. J. Hupert, R. Goldstein, and T. Szubski, to A. R. F. Products, Inc. Attenuator. 2,973,491, 2–28–61, Cl. 333—81.
Mack, Dick A., to United States of America, Atomic Energy Commission. Pulse inverting transformer. 2,973,492, 2–28–61, Cl. 333—97.
MacLeod, Douglas W., to Farrel-Birmingham Co., Inc. Mixers for plastic materials with liquid discharge means. 2,972,774, 2–28–61, Cl. 18—2.
MacLeod, Norman A. Anti-personnel fragmentation weapon. 2,972,949, 2–28–61, Cl. 102—67.
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Macy, James C., F. J. Camillo, and A. L. Smith, to Camilco Inc. Paint tray assembly. 2,972,765, 2–28–61, Cl. 15—121.3.
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Majerus, John B., and A. H. Wulfsberg, to Collins Radio Co. Pulse coding system. 2,973,509, 2–28–61, Cl. 340—345.
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Marcus, Norman, and W. A. Fraser, to Servo Corp. of America. Infrared transmitting achromatic lens system. 2,972,932, 2–28–61, Cl. 88—57.
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Atkinson, Edward R., Mark, and Rubinstein. 2,973,396.
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McBride, Richard T., to E. I. du Pont de Nemours and Co. Process of coating a polymeric thermoplastic dielectric film and resulting article. 2,973,287, 2–28–61, Cl. 117—138.8.
McClelland, Joseph S., Jr., to Hexcel Products Inc. Fan-shaped honeycomb and method of making same. 2,973,294, 2–28–61, Cl. 154—45.9.
McConica, Thomas H., to Loomis Machine Co. Adjustable loading ramp. 2,972,762, 2–28–61, Cl. 14—71.
McCown, William E., and J. W. McAuley, to Libbey-Owens-Ford Glass Co. Apparatus for cleaning surfaces. 2,972,997, 2–28–61, Cl. 134—128.
McGahan, James F. Cooling apparatus for a stereotype plate casting cylinder. 2,972,790, 2–28–61, Cl. 22—5.
McKee, Russell C. Corn harvesting machine. 2,972,848, 2–28–61, Cl. 56—16.
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McKinney, John R. Relay switch. 2,973,417, 2–28–61, Cl. 200—112.
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McLean, Malcom P., and R. H. Macy, to McLean Industries Inc. Apparatus for offshore recovery and storage of oil and the like. 2,973,046, 2–28–61, Cl. 175—8.
McPhee, John E. Disengageable leg assembly. 2,973,233, 2–28–61, Cl. 311—114.
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Metzger, William J., to National Malleable and Steel Castings Co. Draft rigging for railway vehicles. 2,973,105, 2–28–61, Cl. 213—71.
Meyer, Kurt M., to Metallgesellschaft Aktiengesellschaft. Iron oxide grate bars. 2,972,989, 2–28–61, Cl. 126—152.
Mesger, Eduard. Apparatus for lifting and setting down of moulding boxes. 2,973,106, 2–28–61, Cl. 214—1.
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Milanovits, Thomas and W. T. 2,972,920.
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Miller, John M. Mechanic's portable step. 2,973,052, 2–28–61, Cl. 182—130.
Miller, Lloyd G., to United Shoe Machinery Corp. Shoe sewing machines. 2,972,969, 2–28–61, Cl. 112—32.
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Mitchell, William J., and W. F. Moore, to Union Carbide Corp. Bonded molecular sieves. 2,973,327, 2–28–61, Cl. 252—449.
Mlavsky, Abraham I., to The General Electric Co. Ltd. Production of semi-conductor bodies by impurity diffusion through stationary interface. 2,973,290, 2–28–61, Cl. 148—1.5.
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Mondy, Thomas S., Jr. Magazine shredding machine. 2,972,921, 2–28–61, Cl. 83—155.
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Monier, Albert, and L. 2,972,756.
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Morgan, Myles, to Morgan Construction Co. Rolling mill drive. 2,972,916, 2–28–61, Cl. 80—54.
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Morse, John F. Neutral throttle stop for single lever engine control. 2,973,069, 2–28–61, Cl. 192—.096.
Morway, Arnold J., C. R. Daniels, and R. P. Spray, to Esso Research and Engineering Co. Process of making an improved carboxylic acid salt complex thickened lubricant. 2,973,321, 2–28–61, Cl. 252—39.
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Mowry, Fred W., and D. A. Tench, to American Window Glass Co. Glass drawing apparatus. 2,972,836, 2–28–61, Cl. 49—17.
Moxon, Earl R., to Texaco Inc. Hand tool for straightening bent drum heads. 2,972,917, 2–28–61, Cl. 81—15.
Moy, Tsoy K., to Westinghouse Electric Corp. Jet propulsion apparatus. 2,972,860, 2–28–61, Cl. 60—35.54.
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Webber, Claude H., and Mueller. 2,973,296.
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Murray, John F., to Thompson Ramo Wooldridge Inc. Combination main burner and after burner fuel pump. 2,972,952, 2–28–61, Cl. 103—4.
Myers, Samuel A., to Northrop Corp. Hydraulic valve. 2,973,013, 2–28–61, Cl. 137—622.
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Nebgen, William H., to Chemical Construction Corp. Self-sealing rotary kiln. 2,972,818, 2-28-61, Cl. 34—137.
Nedwick, John J., and W. H. Watanabe, to Rohm & Haas Co. Process for preparing 1-ethynylcyclohexanol and homologues. 2,973,390, 2-28-61, Cl. 260—631.
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Newby, Neal D., to Bell Telephone Laboratories, Inc. Magnetic translation circuits. 2,973,506, 2-28-61, Cl. 340—147.
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Newman, Douglas A., and A. Vaccaro, to Columbia Ribbon & Carbon Mfg. Co., Inc. Typewriter ribbon control. 2,973,082, 2-28-61, Cl. 197—170.
Newton, Alwin B. Compressor unloader. 2,973,133, 2-28-61, Cl. 230—31.
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Jackson, Thirston H., Jr. 2,972,812.
Myers, Samuel A. 2,973,013.
Painchaud, Phillip A. 2,972,929.
Norwood, Donald W. Light meter device. 2,972,930, 2-28-61, Cl. 88—23.
Nye, Anthony E. T., to The British Thomson-Houston Co. Ltd. Safety systems for nuclear reactors. 2,973,458, 2-28-61, Cl. 317—31.
Nys, Jean M., and T. H. Ghys, to Gevaert Photo-Producten N.V. Sensitized photographic emulsions. 2,973,264, 2-28-61, Cl. 96—104.
Nystrom, Karl F., to International Steel Co. Underframe with recoiling center sill. 2,973,102, 2-28-61, Cl. 213—8.
Oakes, William S., and S. C. Bristow, to General Electric Co. Transconductance test circuit. 2,973,473, 2-28-61, Cl. 324—26.
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Olsen, Arthur M.: *See*—
Sterba, Donald R., and Olsen. 2,972,800.
Oneson, Irving B.: *See*—
Bloch, Alfred, and Oneson. 2,973,302.
O'Reilly, Paul B.: *See*—
Firth, Edward P., and O'Reilly. 2,973,070.
Orshansky, Elias, Jr., to Chicago Railway Equipment Co. Fluid pressure take-up. 2,972,865, 2-28-61, Cl. 60—54.5.
Osborn, Alden E. Pipe joint. 2,973,211, 2-28-61, Cl. 285—104.
Oster, John, Mfg. Co.: *See*—
Barrows, Howard E. 2,973,324.
Barrows, Howard E. 2,973,325.
Osterberg, Dagn E.: *See*—
Osterberg, Nils E. 2,973,416.
Osterberg, Nils E., deceased, by D. E. Osterberg, heir and guardian of minor heir, to Telefonaktiebolaget L M. Ericsson. Multi-unit relay assembly. 2,973,416, 2-28-61, Cl. 200—104.
Oswald, Jacques R. V., to Compagnie Industrielle des Telephones. Telecommunication system. 2,973,409, 2-28-61, Cl. 179—15.
Oswalt, Burlin W., to The B. F. Goodrich Co. Brake system. 2,972,866, 2-28-61, Cl. 60—54.6.
Otis Elevator Co.: *See*—
Hornung, Stephen A. 2,973,059.
Otis Engineering Corp.: *See*—
Dollison, William W., and Siser. 2,973,005.
Owens, Robert S. Method of recovering cork-like material from birch tree bark. 2,973,152, 2-28-61, Cl. 241—28.
Painchaud, Phillip A., to Northrop Corp. Automatic recording photometer. 2,972,929, 2-28-61, Cl. 88—23.
Panhandle Eastern Pipe Line Co., Inc.: *See*—
Ranck, Jack M. 2,972,988.
Paniplus Co., The: *See*—
Thompson, Jerome B., and Buddemeyer. 2,973,270.
Pappo, Raphael: *See*—
Johnson, William S., Collins, Pappo, and Rubin. 2,973,357.
Parker, Brooks O'C. Portable container for liquids. 2,973,119, 2-28-61, Cl. 222—131.
Parry, Robert D., ¼ to A. Bloch. Fishing rod support. 2,973,125, 2-28-61, Cl. 224—5.
Patent-Treuhand-Gesellschaft fur elektrische Gluhlampen m.b.H.: *See*—
Ristau, Kathe, 2,973,450.
Patrick, Malcolm W., to Hupp Corp. Fluid burning heaters. 2,973,033, 2-28-61, Cl. 158—28.
Patton, Franklin S. Container cover. 2,973,114, 2-28-61, Cl. 220—42.
Paul, Manfried: *See*—
Muenster, Wilhelm, Dreher, and Paul. 2,973,339.
Pauli, Charles D., Jr. Dispensing applicators. 2,972,766, 2-28-61, Cl. 15—136.
Pauls, Dr. E.: *See*—
Keller, Richard, and Quest. 2,973,267.
Pavlick, George R., to The Bendix Corp. Exhaust area control for gas turbine engines. 2,972,858, 2-28-61, Cl. 60—35.6.
Payne, James T. Material handling device. 2,972,763, 2-28-61, Cl. 15—1.5.
Payne, Winfield S., Jr., to Richfield Oil Corp. Multiple zone fluid circulating apparatus. 2,973,039, 2-28-61, Cl. 166—224.
Pearson, Robert L., to Riegel Paper Corp. Consistency responsive device. 2,973,000, 2-28-61, Cl. 137—91.
Peet, John R., G. Claypole, A. Fink, and C. E. Loeser, to Esso Research and Engineering Co. System for loading and unloading liquefied gases from tankers. 2,972,873, 2-28-61, Cl. 62—51.
Pelino, William M., to Servo Corp. of America. Railroad-car wheel locator. 2,973,430, 2-28-61, Cl. 246—249.
Peniston, Quintin P., to Food, Chemical & Research Laboratories Inc. Apparatus for counter current distribution. 2,973,250, 2-28-61, Cl. 23—270.5.
Penn Controls, Inc.: *See*—
Schutmaat, Wayne H. 2,973,007.
Perfect Circle Corp.: *See*—
Teetor, Ralph R. 2,973,051.
Perri, Frank B.: *See*—
Du Grenier, Francis C., and Perri. 2,973,075.
Petering, Harold G., to The Upjohn Co. 8-chlorollexazine-5, 10-dioxide. 2,973,359, 2-28-61, Cl. 260—251.5.
Petion, Louis J. Shoe polishing brushes. 2,972,768, 2-28-61, Cl. 15—259.
Pevere, Ernest F., M. D. Riordan, and N. D. Carter, to Texaco Inc. Treatment of deasphalted oil and asphalt to make reformed gasoline. 2,973,313, 2-28-61, Cl. 208—86.
Pfaffle, Ernst: *See*—
Biel, Hans, and Pfaffle. 2,973,199.
Pfeiffer, Claes F. H., and V. O. Valanti, to Elektriska Svetsningsaktiebolaget. Arc welding of unalloyed structural steel workpieces such as hull-plates, and arc welding electrodes therefor. 2,973,428, 2-28-61, Cl. 219—137.
Pfizer, Chas., & Co., Inc.: *See*—
Huang, Hsing T. 2,973,304.
Philco Corp: *See*—
Bradley, William E. 2,973,489.
Bradley, William E., and Rubinoff. 2,973,437.
Kurtz, Robert G. 2,973,054.
Philip, Thomas B., to The Distillers Co. Ltd. Liquid pumping apparatus. 2,972,960, 2-28-61, Cl. 103—153.
Phillips, Arthur E., to The Coleman Co., Inc. Tank spraying apparatus. 2,972,996, 2-28-61, Cl. 134—102.
Phillips, Benjamin, and P. S. Starcher, to Union Carbide Corp. Bis-(2,3-epoxycyclopentyl) ether. 2,973,373, 2-28-61, Cl. 260—348.
Phillips Petroleum Co.: *See*—
Canterino, Peter J. 2,973,088.
Haas, Harold W. 2,973,249.
Reeder, Seth D. 2,973,435.
Scott, John N., Jr., and Jones. 2,973,241.
Smith, Fredrick M., and Pritchard. 2,973,345.
Pinotti, Alfred D., to Kimble Glass Co. Apparatus for continuously forming tubing and rods from viscous materials. 2,972,837, 2-28-61, Cl. 49—17.1.
Pistey, John M., to General Electric Co. Bi-pin fluorescent lampholder with new insertion means. 2,973,500, 2-28-61, Cl. 339—53.
Pitney-Bowes, Inc.: *See*—
Schmeck, Robert E., and Conklin. 2,973,202.

Pittsburgh-Des Moines Steel Co.: *See*—
Fino, Alexander F. 2,973,113.
Pittsburgh Reflector Co.: *See*—
Stubbs, Walter W. 2,973,177.
Platt, Clark I., to Whirlpool Corp. Laundry machine. 2,972,877, 2–28–61, Cl. 68—18.
Platt, Haviland H., and L. Mayon, to United States of America, Navy. Continuous hoist for ammunition. 2,972,934, 2–28–61, Cl. 89—46.
Plishker, Herbert E., to Westinghouse Electric Corp. Electric lamp. 2,973,451, 2–28–61, Cl. 313—317.
Plumat, Emile: *See*—
Brichard, Edgard, Plumat, and Leger. 2,973,089.
Polese, Joseph T.: *See*—
Leone, Adolph A., and Polese. 2,973,139.
Pollak, Heinz: *See*—
Majendie, Alastair M. A., and Pollak. 2,972,893.
Poly Choke Co., Inc., The: *See*—
Grahn, Arne Y. 2,972,829.
Porcher, Frederick J., to Imperial Chemical Industries Ltd. Rocket motors. 2,972,859, 2–28–61, Cl. 60—35.6.
Porter, Robert R., ½ to Transvaal & Orange Free State Chamber of Mines. Process of contacting liquids with solids. 2,973,319, 2–28–61, Cl. 210—33.
Potter, Herbert: *See*—
Cooper, Alva N. 2,972,870.
Poulter, Thomas C., to United States of America, Navy. Bomb cluster. 2,972,946, 2–28–61, Cl. 102—7.2.
Power Jets (Research and Development) Ltd.: *See*—
Davidson, Ivor M. 2,973,165.
Pratt & Whitney Co. Inc.: *See*—
Gyurko, Balint, Jr. 2,972,883.
Prendergast, Charles S., to Brakeshoe International, S.A. Rotary pumps and motors. 2,972,953, 2–28–61, Cl. 103—4.
Price, Lester A., to Haralschfeger Corp. Fast response direct current power supply for inductive loads. 2,973,469, 2–28–61, Cl. 321—32.
Prime Mfg. Co.: *See*—
Antell, Joseph C. 2,972,761.
Pritchard, James E.: *See*—
Smith, Frederick M., and Pritchard. 2,973,345.
Procaccino, Roderic J.: *See*—
Claflin, Raymond E., Jr., and Procaccino. 2,973,468.
Procter, Peter G.: *See*—
Goodliffe, Arthur W., Macgregor, and Procter. 2,973,168.
Pugin, Andre, to J. R. Geigy, A.-G. 4,5,6,7-tetrachloro-3-imino-isoindoline-1-one derivatives. 2,973,358, 2–28–61, Cl. 260—240.
Pugin, Andre, to J. R. Geigy, A.-G. 3,3-dichloro-isoindolinones. 2,973,369, 2–28–61, Cl. 260—325.
Pure Oil Co., The: *See*—
Millikan, Allen F., and Crosby. 2,973,323.
Quest, Karl: *See*—
Keller, Richard, and Quest. 2,973,267.
Rabinow, Jacob, to United States of America, Navy. Variable pitch windmill. 2,973,041, 2–28–61, Cl. 170—68.
Ranck, Jack M., to Panhandle Eastern Pipe Line Co., Inc. Automatic control for engine mixtures and speed. 2,972,968, 2–28–61, Cl. 123—120.
Randall, Madeline M. Miniature animal forms. 2,972,835, 2–28–61, Cl. 46—162.
Randolph, William C.: *See*—
Menge, Theodore L., Sr. 2,973,910.
Rathjens, William R.: *See*—
Chomitz, Nicholas, and Rathjens. 2,973,371.
Reddi, Muliapudi M., to The Dole Valve Co. Varying torque heat motor. 2,972,897, 2–28–61, Cl. 74—89.
Reeder, Seth D., to Phillips Petroleum Co. Portable radiographic unit. 2,973,435, 2–28–61, Cl. 250—105.
Reese, Lee. Dispenser for granular material. 2,973,124, 2–28–61, Cl. 222—518.
Rehner, John, Jr.: *See*—
Brodkey, Robert S., and Rehner. 2,973,309.
Reichhold Chemicals, Inc.: *See*—
Hodgins, Theodore S., and Shelton. 2,973,326.
Reilly, Bertram B., J. J. Mehler, and E. L. Kells, to Dravo Corp. Gas or oil burner. 2,973,032, 2–28–61, Cl. 158—11.
Reinera, Walter: *See*—
Wiggerman, Georg. 2,972,899.
Republic Flow Meters Co.: *See*—
Bryan, Robert G., and Geiser. 2,973,194.
Republic Steel Corp.: *See*—
Garmy, Robert J. 2,973,452.
Resina Automatic Machinery Co., Inc.: *See*—
Weller, Arthur W., and Lanigan. 2,972,846.
Reynolds, Noel S. Piston assembly for hydraulic brake master cylinder. 2,973,231, 2–28–61, Cl. 309—33.
Rhein-Handel, Gesellschaft fur Import, Export und Transit, Etablissement: *See*—
Draheim, Willi. 2,973,156.
Rhodes, Harold B. Electrical musical instrument in the nature of a piano. 2,972,922, 2–28–61, Cl. 84—1.15.
Riat, Henri: *See*—
De Montmollin, Rene, and Riat. 2,973,351.
Rice, Leonard M., and C. H. Grogan, to The Geschickter Fund for Medical Research Inc. 3-azabicyclo [3:2:0] heptane and derivatives thereof. 2,973,368, 2–28–61, Cl. 260—313.
Rich, John P., to Improved Machinery Inc. Pulper. 2,973,153, 2–28–61, Cl. 241—46.
Richardson, Karl M. Aligning and leveling device. 2,972,816, 2–28–61, Cl. 33—169.
Richfield Oil Corp.: *See*—
Payne, Winfield S., Jr. 2,973,039.
Richter, Harald, and C. Kurta. Submersible pump. 2,972,955, 2–28–61, Cl. 103—46.
Ridenour, Charles A., F. D. Irwin, and E. R. Little. Power lawn mower with guard attachment. 2,972,849, 2–28–61, Cl. 56—25.4.
Riedel, Erich O., to Lehmann Hein & Co. Aktiengesellschaft. Process and apparatus for continuous centrifuging of viscous sugar compounds. 2,973,288, 2–28–61, Cl. 127—19.
Riegel Paper Corp.: *See*—
Pearson, Robert L. 2,973,000.
Riegel Textile Corp.: *See*—
Kern, Dale W., and Taggart. 2,972,790.
Riemschneider, Randolph, to Ethyl Corp. Aliphatic polyethers. 2,973,388, 2–28–61, Cl. 260—615.
Riordan, Michael D.: *See*—
Pevere, Ernest F., Riordan, and Carter. 2,973,313.
Ripley, Mills N., to General Strapping Corp. Band-forming strapping machine. 2,972,844, 2–28–61, Cl. 53—198.
Ristau, Kathe, to Patent-Treuhand-Gesellschaft fur elektrische Gluhlampen m.b.H. Electric discharge lamp starting strip. 2,973,450, 2–28–61, Cl. 313—291.
Rix, Edward G., to Stanley J. Shelter, and E. G. Rix, a copartnership d.b.a. Illinois Metal Products. Measuring instrument. 2,972,814, 2–28–61, Cl. 33—165.
Robb, Gerald D. Dispensing device. 2,973,019, 2–28–61, Cl. 141—24.
Roberge, Howard, to American Can Co. Container closure. 2,973,116, 2–28–61, Cl. 220—61.
Roberts, John A., to Texas Instruments Inc. Infrared detecting cell and a mounting therefor. 2,973,434, 2–28–61, Cl. 250—83.
Robinson, David. Key holder. 2,972,880, 2–28–61, Cl. 70—456.
Robra, Helmut, to Schloemann Aktiengesellschaft. Forging of multi-throw crank-shaft. 2,972,801, 2–28–61, Cl. 29—6.
Rochegude, Louis V. M., to Ateliers Roannais De Constructions Textiles. Guide for yarn winding spool. 2,973,155, 2–28–61, Cl. 242—18.
Rockwell, Edward A. Power booster mechanism. 2,972,902, 2–28–61, Cl. 74—388.
Rocky Mountain Metal Products Co.: *See*—
Brunson, Thayer R., and Davis. 2,973,311.
Rodgers, Ellis J., Jr., to Crown Zellerbach Corp. Process of incorporating foamable materials in corrugated paperboard and the article derived therefrom. 2,973,295, 2–28–61, Cl. 154—100.
Rodman, Clarence J. Wing structure. 2,973,170, 2–28–61, Cl. 244—123.
Rogers, Thomas H., to The Machlett Laboratories, Inc. Device for detection, conversion, and amplification of X-ray images. 2,973,445, 2–28–61, Cl. 313—67.
Rogner, Ernst, to SKF Kugellagerfabriken Gesellschaft mit beschrankter Haftung. Bearing units for spindles of spinning and twisting frames. 2,973,229, 2–28–61, Cl. 308—152.
Robdin, Howard A. Easy opening blister pack. 2,973,067, 2–28–61, Cl. 206—56.
Rohm & Haas Co.: *See*—
Nedwick, John J., and Watanabe. 2,973,390.
Roob, Walter J. Vignetting apparatus. 2,972,931, 2–28–61, Cl. 88—24.
Ropes, George F.: *See*—
Chick, Russell W., and Ropes. 2,973,306.
Rorig, Kurt J., to G. D. Searle & Co. Dialkylaminoalkyl chlorocarbanilates and process. 2,973,385, 2–28–61, Cl. 260—472.
Rose, Herbert: *See*—
Cooper, Alva N. 2,972,870.
Rose, Leslie W. Electric connectors for outlet boxes. 2,973,212, 2–28–61, Cl. 285—150.
Rose, Ralph: *See*—
Harman, Cameron G., and Rose. 2,973,246.
Rosenberg, Adolf. Stabilization of fat-soluble vitamin. 2,973,264, 2–28–61, Cl. 99—2.
Rosenkranz, George: *See*—
Zaffaroni, Alejandro, and Rosenkranz. 2,973,374.
Rosenkranz, George, and C. Djerassi, to Syntex S. A. Allopregnan-3β,11α-diol derivatives and process. 2,973,378, 2–28–61, Cl. 260—397.45.
Rousset, Rene P., to Sparklets Ltd. Fluid dispensing means. 2,973,123, 2–28–61, Cl. 222—394.
Roy, Milton, Co.: *See*—
Bennett, Richard A. 2,972,894.
Royce, Mark B., to Continental Can Co., Inc. Container for packaging apples. 2,973,127, 2–28–61, Cl. 229—6.
Rubin, Mordecai B.: *See*—
Johnson, William S., Collins, Pappo, and Rubin. 2,973,357.
Rubinoff, Morris: *See*—
Bradley, William E., and Rubinoff. 2,973,487.
Rubinstein, David: *See*—
Atkinson, Edward R., Mark, and Rubinstein. 2,973,394.
Atkinson, Edward R., Mark, and Rubinstein. 2,973,396.
Rudner, Bernard, to W. R. Grace & Co. Triethylenediamine hydrazinium compounds. 2,973,361, 2–28–61, Cl. 260—268.
Rudolf, Leslie E. Portable bath. 2,972,752, 2–28–61, Cl. 4—177.
Rumsey, Rollin D., to Houdaille Industries, Inc. Direct acting damper structure. 2,973,061, 2–28–61, Cl. 188—96.
Runde, Byron A.: *See*—
Maidment, Earl P., and Runde. 2,973,061.
Russell, Richard G., J. P. Theisen, and C. H. Stark, to Kimble Glass Co. Method for fabricating glass block panels. 2,972,783, 2–28–61, Cl. 18—59.
Ruud Mfg. Co.: *See*—
Lyle, John M. 2,973,010.
Ryker, Don W., and G. R. Cox, to Olin Mathieson Chemical Corp. Propellent powder. 2,973,257, 2–28–61, Cl. 52—6.
SKF Kugellagerfabriken Gesellschaft mit beschrankter Haftung: *See*—
Rogner, Ernst. 2,973,229.
Sommer, Walter, and Schmidt. 2,972,787.
Sabre Research Corp.: *See*—
Thompson, Tom H. 2,973,015.
Sackett, A. J., & Sons Co., The: *See*—
Sackett, Augustus J., Jr. 2,973,191.

Sackett, Augustus J., Jr., to The A. J. Sackett & Sons Co. Dryer for fertiliser and the like. 2,973,191, 2-28-61, Cl. 263—33.

Safe, Inc.: *See*—
Covert, Kenneth B. 2,973,040.

St. Pierre, Paul L., to Hemphill Co. Fabric draw-off mechanism. 2,972,875, 2-28-61, Cl. 66—150.

St. Simon's Church, Most Reverend Henry J. Grimmelsman, Bishop of the Roman Catholic Diocese: *See*—
Graham, Zibe F. 2,972,819.

Salem-Brosius, Inc.: *See*—
Morgan, Sidney T. 2,973,180.

Salyer, Ival O.: *See*—
Yanko, William H., Steingiser, and Salyer. 2,973,292.

Salzberg, Edward, to Microwave Development Laboratories, Inc. Microwave hybrid junctions. 2,973,486, 2-28-61, Cl. 333—9.

Sandefur, George, to Bill Anderson Spring Service, Inc. Kingpin assembly. 2,973,210, 2-28-61, Cl. 280—433.

Sanders Associates, Inc.: *See*—
Hayner, Paul F. 2,972,999.
Tally, Sidney K. 2,973,502.

Sanders, Milton, to American Machine & Foundry Co. Bowling pin. 2,973,206, 2-28-61, Cl. 273—82.

Sanford, David P.: *See*—
Huck, William F., Albrecht, and Sanford. 2,973,204.

Sarnow, Carl R. Spoon having concealed gripping hooks. 2,972,830, 2-28-61, Cl. 43—35.

Sassen, Bernard, to The Monarch Machine Tool Co. Machine tool slide control. 2,972,868, 2-28-61, Cl. 60—97.

Sato, George M. Hedge trimmer. 2,972,809, 2-28-61, Cl. 30—209.

Sato, Minoru: *See*—
Hoshino, Yasushi, and Sato. 2,973,410.

Saul, Robert J., R. C. Kahler, and J. M. Moran, to Cranston Print Works Co. Weft straightener. 2,972,794, 2-28-61, Cl. 26—51.5.

Saunders, Orson V., to General Motors Corp. Regrigerator cabinet. 2,973,235, 2-28-61, Cl. 312—204.

Saur, E. L.: *See*—
Lawhon, John J. 2,972,913.

Sausele, George J. H., to Whitin-ATF Corp. Display photocomposing. 2,972,938, 2-28-61, Cl. 95—85.

Sayers, Marshall J.: *See*—
Anderson, Charles M., and Sayers. 2,973,095.

Schaeffer, Robert O.: *See*—
Sinden, Alfred D., and Schaeffer. 2,973,084.

Schaum, Clyde F. Lifter. 2,973,218, 2-28-61, Cl. 294—1.

Scheublein, William A., Jr., and E. A. Check, to Moog Industries, Inc. Vehicle ride control spring. 2,973,196, 2-28-61, Cl. 267—45.

Schimkus, Kurt E., to Acme Steel Co. Complexed plating electrolyte and method of plating therewith. 2,973,308, 2-28-61, Cl. 204—43.

Schlecht, Frederick H., to H. H. Brown Shoe Co., Inc. Safety shoe with instep guard. 2,972,824, 2-28-61, Cl. 36—72.

Schlicke, Heinz M., to Allen-Bradley Co. Electrical wave filter apparatus. 2,973,490, 2-28-61, Cl. 333—79.

Schlicht, Waldemar: *See*—
Korsch, Alfred, and Schlicht. 2,973,157.

Schloemann Aktiengesellschaft: *See*—
Robra, Helmut. 2,972,801.

Schlosstein, Clifford F. Passenger safety equipment for automobile. 2,973,029, 2-28-61, Cl. 155—173.

Schlumberger Well Surveying Corp.: *See*—
Dewan, John T. 2,973,444.

Schmeck, Robert E., and J. P. Conklin, to Pitney-Bowes, Inc. Document feeding control means. 2,973,202, 2-28-61, Cl. 271—57.

Schmid, Herman, to General Precision, Inc. Computer multiplier. 2,973,146, 2-28-61, Cl. 235—194.

Schmidt, Friedrich: *See*—
Sommer, Walter, and Schmidt. 2,972,787.

Schmidt, Lawrence D., to Allied Chemical Corp. Freeze-proofing of coke. 2,973,254, 2-28-61, Cl. 44—1.

Schmitt, Alice: *See*—
Schmitt, Friedrich. 2,973,240.

Schmitt, Friedrich, deceased, by A. Schmitt, geb Neukirchner, heir, to Boehme Fettchemie G.m.b.H. Tanning with alkylbenzene sulfonate in combination with chrome tanning. 2,973,240, 2-28-61, Cl. 8—94.33.

Schneckloth, Raymond C.: *See*—
Danielsen, Alfred J., Jr., and Schneckloth. 2,973,022.

Schneible, Claude B., Co.: *See*—
Lundy, Alvin S. 2,973,094.

Schofield, Philip J., to Imperial Chemical Industries Ltd. Liquid fuel containers. 2,973,293, 2-28-61, Cl. 154—43.5.

Schomann, Leonid, to A. Eckerfeld. Electric continuous-flow heater with water deficiency protection and safety switch. 2,973,424, 2-28-61, Cl. 219—39.

Schorsch, Gerald. Method of preparing monosubstituted piperazines. 2,973,362, 2-28-61, Cl. 260—268.

Schroeder, Charles S., to The Yale and Towne Mfg. Co. Inching control for industrial truck. 2,972,906, 2-28-61, Cl. 74—732.

Schuller, Werner. Heating device. 2,973,190, 2-28-61, Cl. 263—2.

Schutmaat, Wayne H., to Penn Controls, Inc. Pressure regulator. 2,973,007, 2-28-61, Cl. 137—505.41.

Schuur, Jurrien J.: *See*—
Bakkeren, Matthews H. C. M., and Schuur. 2,973,297.

Schwartz, Ira: *See*—
Stanley, Robert K., and Schwartz. 2,972,798.

Schwarz, Herman K. G.: *See*—
Heusner, Wilhelm L. G. 2,973,178.

Schwitzer Corp.: *See*—
Troyer, William J. 2,972,904.

Scott & Fetzer Co., The: *See*—
Kemper, John A. 2,972,771.

Scott, John N., Jr., and R. V. Jones, to Phillips Petroleum Co. Method for producing high crystalline 1-olefin polymers of decreased flammability by treatment with nitric acid and resulting products. 2,973,241, 2-28-61, Cl. 8—115.5.

Scott, Merrill B.: *See*—
Egan, Edmond F., Kister, and Scott. 2,973,472.

Scott, O. M., & Sons, Co., The: *See*—
Ellies, Alan D. 2,973,226.

Scovill Mfg. Co.: *See*—
MacDonald, James V. 2,972,980.

Searle, G. D., & Co.: *See*—
Atwater, Norman W. 2,973,370.
Rorig, Kurt J. 2,973,385.

Segelhorst, August V., to Bowen Itco, Inc. Hydraulic pulling tool. 2,973,038, 2-28-61, Cl. 166—98.

Self Changing Gears Ltd.: *See*—
Miller, Albert A. 2,972,909.

Sellers, William D.: *See*—
McAuley, James E. 2,973,001.

Selwood, George, and J. Wesley, to Wilmot-Breeden Ltd. Fluid control valves having angularly movable parts within ported hollow bodies. 2,973,014, 2-28-61, Cl. 137—624.

Semegen, Stephen T., to The B. F. Goodrich Co. Leather-like material. 2,973,284, 2-28-61, Cl. 117—76.

Servanty, Pierre, to Societe Nationale d'Etude et de Construction de Moteurs d-Aviation. Pulse reactor. 2,972,862, 2-28-61, Cl. 60—39.34.

Servo Corp. of America: *See*—
Marcus, Norman, and Fraser. 2,972,932.
Pelino, William M. 2,973,430.

Shaw, John W. Safety means to eliminate overturning of tractors and like motivated vehicles. 2,973,209, 2-28-61, Cl. 280—150.

Shaw, Laurance D.: *See*—
Moore, Luther E., and Shaw. 2,972,940.

Shaw, Peter, to The British Oxygen Co. Ltd. Machine tool control. 2,973,427, 2-28-61, Cl. 219—125.

Shean, Bertram M., to G. W. Houlsby, Jr. Swinging door support. 2,972,788, 2-28-61, Cl. 20—16.

Shelton, Frederic J.: *See*—
Hodgins, Theodore S., and Shelton. 2,973,326.

Shetler, Stanley L.: *See*—
Rix, Edward G. 2,972,814.

Shields, Stanley E., and J. F. Wygant, to Standard Oil Co. Reactor apparatus for regenerative reforming of hydrocarbons. 2,973,252, 2-28-61, Cl. 23—288.

Shonka, Francis R., and E. G. Solecki, to Arthur S. La Pine & Co. Method of encapsulating a magnet with polytetrafluoroethylene. 2,972,784, 2-28-61, Cl. 18—59.

Siegel, Martin: *See*—
Templeton, William B., Siegel, and Lockey. 2,973,078.

Siegrist, John C., ½ to G. Ceppi. Moulding apparatus. 2,972,776, 2-28-61, Cl. 18—30.

Sillers, Donald A., Jr. Gas cleaning apparatus. 2,973,054, 2-28-61, Cl. 183—10.

Sinclair Refining Co.: *See*—
Case, Everett N. 2,973,340.
Hunn, Olen D. 2,973,314.
Keith, Willis C., Elkins, and Chambers. 2,973,395.
Teter, John W., Gring, and Keith. 2,973,245.
Watson, William B. 2,973,315.
Watson, William B. 2,973,317.

Sinden, Alfred D., and R. O. Schaeffer, to Stephens-Adamson Mfg. Co. Reversible drive for moving sidewalks and the like. 2,973,084, 2-28-61, Cl. 198—203.

Siner, Phillip S.: *See*—
Dollison, William W. 2,973,005.

Sjostrom, Robert L. Supporting beam. 2,972,965, 2-28-61, 104—89.

Skiver, James I.: *See*—
Lawhon, John J. 2,972,913.

Skumawitz, Max, to Tornado Ramset G.m.b.H. & Co. Bolt guns. 2,972,746, 2-28-61, Cl. 1—44.5.

Slagel, Lamont: *See*—
Mead, Harry A., and Slagel. 2,973,131.

Smith, Alfred L.: *See*—
Macy, James C., Camillo, and Smith. 2,972,765.

Smith, Arvel C. Portable soldering iron. 2,973,422, 2-28-61, 219—26.

Smith, Blakely. Steering control. 2,972,976, 2-28-61, Cl. 115—35.

Smith, Donald I.: *See*—
Guthrie, John M., Harkey, and Smith. 2,972,933.

Smith, Frederick M., and J. E. Pritchard, to Phillips Petroleum Co. Vinylcyclohexanethiol modified polymers. 2,973,345, 2-28-61, Cl. 260—79.

Smith, Richmond W., to Bird Machine Co. Doctor assembly and front removable blade and holder therefor with capacity for oscillation. 2,972,767, 2-28-61, Cl. 15—256.5

Smith, William H.: *See*—
Baillie, Richard P., and Smith. 2,972,775.
Baillie, Richard P., and Smith. 2,973,025.

Smiths America Corp.: *See*—
Majendie, Alastair M. A., and Pollak. 2,972,893.

Smyth, Henry L. R., to National Research Council. Lamp flasher with daylight-responsive inhibiting means. 2,973,456, 2-28-61, Cl. 315—159.

Snider, Kenneth M., to Water Purification, Inc. Apparatus for the purification, neutralization, clarification and softening of liquids. 2,973,097, 2-28-61, Cl. 210—279.

Snow Flake Canning Co.: *See*—
Cyr, Joseph W. 2,973,276.

Societe Nationale d'Etude et de Construction de Moteurs d-Aviation: *See*—
Servanty, Pierre. 2,972,862.

Solecki, Edward G.: *See*—
Shonka, Francis R., and Solecki. 2,972,784.

Solimine, Albert F.: *See*—
Kolinger, Kenneth J., Moreno, and Solimine. 2,973,049.

Sommer, Walter, and F. Schmidt, to SKF Kugellagerfabriken Gesellschaft mit beschrankter Haftung. Top roller for spinning machines. 2,972,787, 2–28–61, Cl. 19—142.
Sonnemann, William K., to Westinghouse Electric Corp. Compensator relaying assembly. 2,973,459, 2–28–61, Cl. 317—47.
Sontheimer, Carl G., to C.G.S. Laboratories, Inc. Automobile radio receiver system. 2,973,431, 2–28–61, Cl. 250—20.
Sorensen & Co., Inc.: *See*—
Kohn, Samuel T. 2,973,470.
Sova, Clarence. Multiple article holder. 2,973,099, 2–28–61, Cl. 211—89.
Spaeth, Irvin J., to Chicago Railway Equipment Co. Railway brake beam structure. 2,973,063, 2–28–61, Cl. 188—229.6.
Spangenberg, Wesley: *See*—
Bailey, Emmett C., and Spangenberg. 2,972,900.
Sparklets Ltd.: *See*—
Rousset, Rene P. 2,973,123.
Spence, Gerald M., to Monolith Portland Midwest Co. Process of sintering aluminum containing minerals. 2,973,244, 2–28–61, Cl. 23—52.
Sperry Rand Corp.: *See*—
Daniels, Howard L., and Hersfeld. 2,973,145.
Speziale, Angelo J.: *See*—
Hamm, Philip C., and Speziale. 2,973,258.
Spiller, Charles A.: *See*—
Kennel, William E., Field, Spiller, and Weisemann. 2,973,350.
Spinnfaser Aktiengesellschaft: *See*—
Hildebrandt, Friedrich. 2,973,352.
Sprague, Robert M., to A. Alford. Parallel plate transmission line antenna. 2,973,514, 2–28–61, Cl. 343—727.
Sprague, Theodore S., and M. B. Leland, to The Babcock & Wilcox Co. Heat transfer apparatus. 2,973,251, 2–28–61, Cl. 23—284.
Spray, Robert P.: *See*—
Morway, Arnold J., Daniels, and Spray. 2,973,321.
Stafford, Thomas D. Method of insulating and protecting pipe. 2,972,968, 2–28–61, Cl. 111—5.
Stahmer, Bernhardt. Turbine principle helicopter-type blade for aircraft. 2,973,166, 2–28–61, Cl. 244—23.
Stalkup, Alfred R. Reversible ratchet wrench. 2,972,919, 2–28–61, Cl. 81—63.
Standard Oil Co. (Indiana): *See*—
Eisner, James R. 2,973,255.
Kennel, William E., Field, Spiller, and Weisemann. 2,973,350.
Lamkin, John C. 2,972,888.
Linak, Jack. 2,973,256.
Offutt, Elmer B. 2,972,889.
Shields, Stanley E., and Wygant. 2,973,252.
Standard Packaging Corp.: *See*—
Cottrill, Charles E. 2,973,130.
Stanley, Robert K., and I. Schwartz. Crimping. 2,972,798, 2–28–61, Cl. 28—72.
Stanwick, Tad, W. Hamilton, and J. E. Hannigan, to Cleveland Pneumatic Industries, Inc. Vehicle load shock absorbing unit. 2,973,174, 2–28–61, Cl. 248—119.
Starcher, Paul S.: *See*—
Phillips, Benjamin, and Starcher. 2,973,373.
Starck, Werner: *See*—
Weissermel, Klaus, and Starck. 2,973,389.
Stark, Charles H.: *See*—
Russell, Richard G., Theisen, and Stark. 2,972,783.
Staniunas, Keistutis J., to The Connecticut Hard Rubber Co. Vulcanizing silicone rubber in presence of antioxidants. 2,973,335, 2–28–61, Cl. 260—37.
Stead, Richard R., to Texas Instruments Inc. Etching of semiconductor materials. 2,973,253, 2–28–61, Cl. 41—42.
Steele, Vernon P. Fluid dispersion valve. 2,973,003, 2–28–61, Cl. 137—170.1.
Steidler, Walter. Internal combustion engines. 2,972,987, 2–28–61, Cl. 123—32.
Stein, William B. Milling cutter with adjustable radial rake. 2,972,802, 2–28–61, Cl. 29—105.
Steingiser, Samuel: *See*—
Yanko, William H., Steingiser, and Salyer. 2,973,292.
Stephens-Adamson Mfg. Co.: *See*—
Glavan, Richard. 2,973,227.
Sinden, Alfred D., and Schaeffer. 2,973,084.
Sterba, Donald R., and A. M. Olsen, to Crane Co. Gun barrel liner. 2,972,800, 2–28–61, Cl. 29—1.1.
Stern, Hans M.: *See*—
Wiener, Jerome B., Stern, and Nelson. 2,973,200.
Stevens, Harold E.: *See*—
Bird, James R., and Stevens. 2,973,479.
Stevenson, Wilbur E., and L. Thiergartner. Dispenser for animal feed materials. 2,973,120, 2–28–61, Cl. 222—134.
Stillwell, Charlotte B.: *See*—
Stillwell, Orval W. and C. B. 2,972,825.
Stillwell, Orval W. and C. B. Farm gate. 2,972,825, 2–28–61, Cl. 39—75.
Stinton, Frederick M. Flight time computer. 2,972,813, 2–28–61, Cl. 33—142.
Stoffel, Herman A.: *See*—
Kleinschmidt, Harry, and Stoffel. 2,973,179.
Stone, Orison W., and L. H. Campbell, to Continental Can Co., Inc. Dual locking construction for paperboard wrappers. 2,973,129, 2–28–61, Cl. 229—16.
Stone, Robert R., Jr., to United States of America, Navy. Frequency synthesiser employing carrier and sideband selection. 2,973,483, 2–28–61, Cl. 331—38.
Straumann, Reinhard, to Institut Dr. Ing. Reinhard Straumann A.G. Manufacture of point bearings in instruments. 2,973,291, 2–28–61, Cl. 148—12.7.
Streator Dependable Mfg. Co.: *See*—
Heinz, Gerald O. 2,973,122.
Streeau, Richard H., to United States of America, Navy. Electric initiator for fuse. 2,972,951, 2–28–61, Cl. 102—70.2.
Stroh, Rudolf, W. Sutter, A. R. Heinz, and H. Haberland, to Farbenfabriken Bayer Aktiengesellschaft. Process for the polymerisation of unsaturated compounds, using a boraxane catalyst. 2,973,337, 2–28–61, Cl. 260—45.4.
Stromeyer, Charles F.: *See*—
Chick, Russell W., and Ropes. 2,973,806.
Struck, Horace. Combination hog farrowing feeder and waterer. 2,972,979, 2–28–61, Cl. 119—51.5.
Stuart, Archibald P.: *See*—
Jeal, James L., Khelghatian, and Stuart. 2,973,318.
Stuart, George R.: *See*—
Turner, Philip G., and Stuart. 2,972,807.
Stubbs, Walter W., to Pittsburgh Reflector Co. Troffer side support. 2,973,177, 2–28–61, Cl. 248—343.
Sturrock, James, to Master Power Corp. Impact tool torque control. 2,973,068, 2–28–61, Cl. 192—.096.
Sturrock, James, to Master Power Corp. Impact tool. 2,973,071, 2–28–61, Cl. 192—30.5.
Suits, Chauncey G., to General Electric Co. Flash apparatus. 2,972,937, 2–28–61, Cl. 95—11.5.
Sun Oil Co.: *See*—
Jeal, James L., Khelghatian, and Stuart. 2,973,318.
Lerner, Julius. 2,973,477.
Surbeck, Leighton H. Self-threading sewing machine needle. 2,972,970, 2–28–61, Cl. 112—224.
Sutter, Wilhelm: *See*—
Stroh, Rudolph, Sutter, Heinz, and Haberland. 2,973,337.
Suzuki, Hideo: *See*—
Kobayashi, Kanjiro, and Suzuki. 2,973,379.
Swayze, Kenneth W. Trigonometric aid. 2,972,811, 2–28–61, Cl. 33—1.
Swern, Daniel, to United States of America, Agriculture. Phosphonates. 2,973,380, 2–28–61, Cl. 260—403.
Sylvania Electric Products Inc.: *See*—
Koury, Frederic. 2,973,436.
Koury, Frederic, and Loughridge. 2,972,803.
Syncro Machine Co.: *See*—
Bruestle, Carl O. 2,972,854.
Syntex S.A.: *See*—
Rosenkranz, George, and Djerassi. 2,973,378.
Zaffaroni, Alejandro, and Rosenkranz. 2,973,374.
Szubski, Tadeusz: *See*—
Maciszewski, Arthur H., Hupert, Goldstein, and Szubski. 2,973,491.
Tabor, Warner H., to Dixon Corp. Drafting drive assembly. 2,972,786, 2–28–61, Cl. 19—130.
Tack, Carl E., to American Steel Foundries. Coupler bearing block assembly. 2,973,103, 2–28–61, Cl. 213—64.
Taggart, Clarence: *See*—
Kern, Dale W., and Taggart. 2,972,799.
Takeda Pharmaceutical Industries, Ltd.: *See*—
Masuda Toru, Yamamoto, and Kaneko. 2,973,305.
Tally, Sidney K., to Sanders Associates, Inc. Integral cable and connector. 2,973,502, 2–28–61, Cl. 339—61.
Talvenheimo, Gerhardt, to Houdry Process Corp. Denning sulfated kaolin in stream of gas comprising steam. 2,973,328, 2–28–61, Cl. 252—450.
Tanaka, Katsunobu: *See*—
Kinoshita, Shukuo, Tanaka, and Akita. 2,973,303.
Tanner, John V., 55% to W. L. Wright. Ankle support device. 2,972,822, 2–28–61, Cl. 36—8.5.
Taub, David: *See*—
Wendler, Norman L., and Taub. 2,973,375.
Taylor, Donald M.: *See*—
Hubbard, Noel K., and Taylor. 2,973,398.
Taylor, John J., to The Ohio Brass Co. Conductor spacers. 2,973,401, 2–28–61, Cl. 174—40.
Taylor, John J., to The Ohio Brass Co. Conductor spacers. 2,973,402, 2–28–61, Cl. 174—40.
Taylor, John J., to The Ohio Brass Co. Transmission line spacer. 2,973,403, 2–28–61, Cl. 174—40.
Taylor, John R. Exercising device. 2,973,203, 2–28–61, Cl. 272—61.
Teetor, Ralph R., to Perfect Circle Corp. Speed control device for an automotive vehicle. 2,973,051, 2–28–61, Cl. 180—82.1.
Telefonaktiebolaget LM Ericsson: *See*—
Osterberg, Nils E. 2,973,416.
Wiberg, Eric A. 2,973,464.
Television Associates, Inc.: *See*—
Eddy, William C., Jr. 2,973,066.
Eddy, William C., Jr. 2,973,067.
Temple, Abury H.: *See*—
Menge, Theodore L., Sr. 2,972,910.
Temple Iron Works, Inc.: *See*—
Menge, Theodore L., Sr. 2,972,910.
Templeton, William B., M. Siegel, and K. L. Lockey, to Burroughs Corp. Electric typewriter operating mechanism. 2,973,078, 2–28–61, Cl. 197—17.
Tench, Donald A.: *See*—
Mowry, Fred W., and Tench. 2,972,836.
Tennessee Stove Works: *See*—
Caldwell, Robert H. 2,972,990.
Tessmer, Ernest H., and E. T. Wilhelm, to The Glidden Co. Closure and package closed therewith. 2,973,234, 2–28–61, Cl. 312—31.1.
Tessmer, Ernest H., Jr., and H. T. Iveson, to Central Soya Co., Inc. Method of stabilising granular phosphatides. 2,973,381, 2–28–61, Cl. 260—403.
Teter, John W., deceased (by R. Y. Teter, administratrix), J. L. Gring, and C. D. Keith, to Sinclair Refining Co. Method of preparing alumina hydrate compositions containing trihydrate. 2,973,245, 2–28–61, Cl. 23—143.
Teter, Ruth Y.: *See*—
Teter, John W., Gring, and Keith. 2,973,245.

Texaco Development Corp.: *See*—
Armistead, Fontaine C., and Tirico. 2,973,471.
Texaco Inc.: *See*—
Brukner, John S. 2,973,320.
Egan, Edmond F., Kister, and Scott. 2,973,472.
Huff, O C., Belanger, and Burnett. 2,972,918.
Moxon, Earl R. 2,972,917.
Pevere, Ernest F., Riordan, and Carter. 2,973,313.
Texas Instruments Inc.: *See*—
Roberts, John A. 2,973,434.
Stead, Richard R. 2,973,253.
Thearle, Ernest L. Offshore platform. 2,972,973, 2–28–61, Cl. 114—43.5.
Theisen, Jean P.: *See*—
Russell, Richard G., Theisen, and Stark. 2,972,783.
Therm-O-Disc, Inc.: *See*—
Bolesky, John D., and Morris. 2,973,419.
Germany, James H. 2,972,887.
Thiergartner, Lee: *See*—
Stevenson, Wilbur E., and Thiergartner. 2,973,120.
Thomas, Joseph R. Motor operated bed davenport. 2,972,753. 2–28–61, Cl. 5—13.
Thompson, Jerome B., and B. D. Buddemeyer, to The Pamplus Co. Cake mixes and improved shortenings therefor. 2,973,270, 2–28–61, Cl. 99—123.
Thompson, John W. Calculator. 2,973,143, 2–28–61, Cl. 235—78.
Thompson, Joseph, to Coates Board & Carton Co., Inc. Cartons. 2,973,086, 2–28–61, Cl. 206—45.31.
Thompson Products, Ltd.: *See*—
Edgar, John S., and King. 2,973,047.
Thompson Ramo Wooldridge Inc.: *See*—
Murray, John F. 2,972,952.
Wilson, Robert W., and Brettnacher. 2,972,950.
Thompson, Quentin E., to Monsanto Chemical Co. Dihydropyran ozonides and the method of making the same. 2,973,372, 2–28–61, Cl. 260—347.4.
Thompson, Tom H., to Sabre Research Corp. Bellows structure. 2,973,015, 2–28–61, Cl. 137—796.
Tiffany Associates: *See*—
Tiffany, Carter. 2,972,892.
Tiffany, Carter, to Tiffany Associates. Stable element. 2,972,892, 2–28–61, Cl. 74—5.37.
Timken Roller Bearing Co., The: *See*—
Eastburg, Clifford L. 2,973,230.
Tirico, Arthur L.: *See*—
Armistead, Fontaine C., and Tirico. 2,973,471.
Tobey, Silas B., to Western Electric Co., Inc. Computer system. 2,973,475, 2–28–61, Cl. 324—60.
Toledo Scale Corp.: *See*—
Bossemeyer, Robert W. 2,973,414.
Tomlinson, Clinton. Vehicle roof exhaust ventilator. 2,972,939, 2–28–61, Cl. 98—2.
Tornado Ramset G.m b.H. & Co.: *See*—
Skumawitz, Max. 2,972,746.
Touceda, Enrique G. Mechanical elements formed from alumina-filled polyester resins. 2,972,785, 2–28–61, Cl. 18—59.3.
Toyo Koatsu Industries, Inc.: *See*—
Inaba, Yanosuke, and Kimoto. 2,973,342.
Transvaal & Orange Free State Chamber of Mines: *See*—
Porter, Robert R 2,973,319.
Trautman, Walter C., L. L. Arnes, and B. J. Zimmerman, to Walker Mfg. Co. Hydraulic jack. 2,973,184, 2–28–61, Cl. 254—2
Trent, Robert L., to Bell Telephone Laboratories, Inc. Direct-current level control in pulse transmission. 2,973,440, 2–28–61, Cl. 307—88.5.
Troeger, Henry: *See*—
Volk, Emil A., Jr., and Troeger. 2,972,911.
Troyer, William J., to Schwitzer Corp. Torsional vibration damper. 2,972,904, 2–28–61, Cl. 74—574.
Tschantz, Willard O.: *See*—
Ariens, Mando S., and Tschantz. 2,972,850.
Tsutsumi, Shigeru: *See*—
Hayashi, Tateki, and Tsutsumi. 2,973,384.
Tucker, Maurice L., 50% to D. S. Wade. Braking system. 2,973,062, 2–28–61, Cl. 188—112.
Turner, Philip G.: *See*—
Hignett, Harold W. G., and Turner. 2,972,805.
Hignett, Harold W. G., Turner and Horne. 2,972,806.
Turner, Philip G., and G. R. Stuart, to The International Nickel Co., Inc. Method of making hollow turbine or compressor blades. 2,972,807, 2–28–61, Cl. 29—156.8.
Ulrich, Erwin W., to Minnesota Mining and Mfg. Co. Solvent-resistant pressure-sensitive polyacrylic adhesive tape and method of preparing same. 2,973,286, 2–28–61, Cl. 117—122.
Umbrucht, Emil, and D. Evans, to Ajem Laboratories. Washing apparatus. 2,972,995, 2–28–61, Cl. 134—72.
Unilever Ltd.: *See*—
Clyde, Lancelot H. R., Hodge, and Longman. 2,973,144.
Union Carbide Corp.: *See*—
Black, William T. 2,973,383.
Mitchell, William J., and Moore. 2,973,327.
Phillips, Benjamin, and Starcher. 2,973,373.
Union des Verreries Mecaniques Belges, Societe Anonyme: *See*—
Brichard, Edgard, Piumat, and Leger. 2,973,089.
Union Oil Co. of California: *See*—
Howland, Ward W. 2,973,316.
United Merchants and Manufacturers, Inc.: *See*—
Gortvai, Alexander F. 2,973,239.
United Shoe Machinery Corp.: *See*—
Crossen, William P. 2,973,021.
Miller, Lloyd G. 2,972,969.
U.S. Electrical Motors Inc.: *See*—
Firth, Edward P., and O'Reilly. 2,973,070.

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Agriculture: *See*—
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Swern, Daniel. 2,973,380.
Air Force: *See*—
Clemens, John E. 2,972,924.
Herzog, Richard F. K. 2,973,238.
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Army: *See*—
Cronquist, Norman W., and Mohler. 2,973,465.
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Allen, Thomas E. 2,972,972.
Bailey, Emmett C., and Spangenberg. 2,972,900.
Bates, Richard L., and Zaginailoff. 2,973,214.
Bodman, Ralph H. 2,972,857.
Clark, Albert P. 2,972,961.
Detwiler, Robert L. 2,972,998.
FitzSimmons, Vincent G., and Zisman. 2,972,947.
Gable, Edward O. 2,973,108.
Gable, Edward O. 2,973,109.
Handler, Eugene H. 2,973,169.
Platt, Haviland H., and Mayon. 2,972,934.
Poulter, Thomas C. 2,972,946.
Rabinow, Jacob. 2,973,041.
Stone, Robert R., Jr. 2,973,483.
Stresau, Richard H. 2,972,951.
Welanetz, Ludolph F. 2,972,950.
Treasury: *See*—
Malm, Richard F., and Colberg. 2,972,706.
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Upjohn Co., The: *See*—
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Von Ardenne, Manfred. 2,973,134.
Vaccaro, Angelo: *See*—
Newman, Douglas A., and Vaccaro. 2,972,062.
Valanti, Veikko O.: *See*—
Pfeiffer, Claes F. H., and Valanti. 2,973,428.
Van Cleve, John W., and C. L. Mehltretter, to United States of America, Agriculture. Production of erythrose and glyoxal from dialdehyde starch. 2,973,387, 2–28–61, Cl. 260—601.
Van der Lely, Ary: *See*—
Van der Lely, Cornelis, and A. 2,972,852.
Van der Lely, C., N.V.: *See*—
Van der Lely, Cornelis, and A. 2,972,852.
Van der Lely, Cornelis, and A., to C. van der Lely, N.V. Device for laterally displacing grass, hay or other material lying on the ground. 2,972,852, 2–28–61, Cl. 56—377.
Van der Poel, Jan: *See*—
Kuipers, Minne, and Van der Poel. 2,973,449.
Van Hoof, Albert E., to Gevaert Photo-Producten N.V. Light-sensitive photographic paper. 2,973,262, 2–28–61, Cl. 96—85.
Velonis, Anthony, to Ceragraphic, Inc. Special article stencilling device. 2,972,943, 2–28–61, Cl. 101—124.
Vereinigte Glanzstoff-Fabriken A.G.: *See*—
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OFFICIAL GAZETTE • UNITED STATES PATENT OFFICE

February 28, 1961 Volume 763 Number 4

TRADEMARKS

NOTICES

Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 22,406 (COCA-COLA), The Coca-Cola Company, Beverage; **Reg. No. 47,189**, same, Nonalcoholic maltless beverages and the syrups for making such beverages; **Reg. No. 238,145**, same, Beverages and syrups for the manufacture of such beverages; **Reg. No. 238,146**, same; **Reg. No. 415,755** (COKE), same, Nonalcoholic maltless beverages and the syrups for making such beverages, filed Dec. 29, 1960, D.C., S.D.N.Y., Doc. 60/5090, *The Coca-Cola Company* v. *Stuyvesant Restaurant Inc., doing business as Garden Bar et al.* Same, filed Jan. 3, 1961, D.C., N.D. Calif. (San Francisco), Doc. 39646, *Coca-Cola Company* v. *Synfy Enterprises, Inc. et al.* Trademark held valid and infringed; injunction granted (notice Jan. 27, 1961).

Reg. No. 47,189. (See Reg. No. 22,406.)

Reg. No. 102,061 (CANADIAN CLUB), Hiram Walker & Sons, Inc., Whisky; **Reg. No. 279,082** (CANADIAN CLUB ETC. AND DESIGN), same, filed Dec. 16, 1960, D.C. Md. (Baltimore), Doc. 12/712, *Hiram Walker & Sons, Inc.* v. *Barney's Cut Rate Liquors, Inc. et al.*

Reg. No. 238,145. (See Reg. No. 22,406.)

Reg. No. 238,146. (See Reg. No. 22,406.)

Reg. No. 279,082. (See Reg. No. 102,061.)

Reg. No. 415,755. (See Reg. No. 22,406.)

Reg. No. 560,098 (THERMO-FAX AND DESIGN), Minnesota Mining & Manufacturing Company, Sensitized sheet material for making duplicate copies of typed or printed matter; **Reg. No. 577,845** (THERMO-FAX), same, Machine for making duplicate copies of printed or pictorial matter; **Reg. No. 601,804**, same, Sheet to be adhered to back side of printed or pictorial matter to reinforce the same; **Reg. No. 605,262**, same, Liquid chemical composition useful in connection with coated sheet material which has been adapted to produce copies of information contained on microfilm; **Reg. No. 606,868**, same, Electrically operated machine for reading microfilm and producing copies of the information contained on microfilm, filed Dec. 30, 1960, D.C., S.D.N.Y., Doc. 60/5111, *Minnesota Mining & Manufacturing Company* v. *Paul B. Williams, Inc. et al.*

Reg. No. 561,430 (BOBS ETC. AND DESIGN), Robert C. Wian Enterprises, Inc., Hamburger sandwich; **Reg. No. 574,742** (BIG BOY), same, filed Dec. 22, 1960, D.C., E.D.S.C. (Columbia), Doc. AC-645, *Robert C. Wian Enterprises, Inc.* v. *Douglas B. Broome.*

Reg. No. 574,742. (See Reg. No. 561,430.)

Reg. No. 577,845. (See Reg. No. 560,098.)

Reg. No. 601,804. (See Reg. No. 560,098.)

Reg. No. 649,291 (SEISMOLOG), Jules E. Jenkins, Vibration Measurement Engineers, Earth vibration measuring and recording device, filed Jan. 14, 1959, D.C., M.D. Pa. (Scranton), Doc. 6522, *Vibration Measurement Engineers, Inc.* v. *The Vibration Engineering Company, Inc.* Stipulation and order of dismissal with prejudice Nov. 25, 1960.

Reg. No. 605,262. (See Reg. No. 560,098.)

Reg. No. 606,868. (See Reg. No. 560,098.)

CONDITION OF TRADEMARK APPLICATIONS AS OF DECEMBER 31, 1960

Total number of applications awaiting action [excluding renewals and Sec. 12 (c)]	11,354
Date of oldest new application	June 13, 1960
Date of oldest amended application	July 1, 1960

J. H. MERCHANT, Director, Trademark Examining Operation

TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application: New	Oldest Application: Amended
(I) C. M. WENDT, Classes 2, 3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 39, 40, 41, 42, 43, 44, 50	7-1-60	7-29-60
(II) H. E. KASCHUB, Classes 1, 6, 18, 22, 37, 38, 45, 46, 47, 48, 49, 51, 52; Service Mark Classes 100, 101, 102, 103, 104, 105, 106, 107; Collective Membership Marks, Class 200; Certification Marks, Classes A and B	6-13-60	7-1-60
Renewals (All Classes)	11-19-60	11-29-60
Sec. 12 (c) Publications (All Classes)	11-1-60	11-29-60

Applications filed during the month of December 1960—1764

Registrations Issued	304—No. 711,667 to No. 711,970
Renewals Issued	60

The TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington 25, D. C., to whom all subscriptions should be made payable and all communications addressed; subscription price, $10.00 per annum, foreign mailing $3.75 additional; single copies, 20 cents each.

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 10 cents each. Address orders to the Commissioner of Patents, Washington 25, D.C.

MARKS PUBLISHED FOR OPPOSITION

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Notice of opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.
As provided by section 31 of said act, a fee of twenty-five dollars must accompany each notice of opposition.

Class 1—Raw or Partly Prepared Materials

SN 91,276. Wallace C. Reber, Toledo, Ohio. Filed Feb. 19, 1960.



The drawing is lined for red.
For Cut Christmas Trees.
First use Nov. 1, 1959.

SN 97,795. West Virginia Pulp and Paper Company, New York, N.Y. Filed May 24, 1960.

WESTVACO

Owner of Reg. Nos. 119,848, 540,666, and others.
For Wood Pulp.
First use Apr. 3, 1960.

SN 99,631. Alfred Klugmann, Inc., New York, N.Y. Filed June 24, 1960.

FITCHETTE

Owner of Reg. No. 604,595.
For Natural Bristles and Hair Tufts.
First use Oct. 10, 1945.

SN 104,064. Breham Tree & Land, Incorporated, Cadillac, Mich. Filed Sept. 8, 1960.

Cadillac

For Christmas Trees.
First use May 1, 1960.

Class 2—Receptacles

SN 98,801. Joe Lowe Corporation, New York, N.Y. Filed June 10, 1960.

SICLE

Owner of Reg. Nos. 528,830, 706,062, and others.
For Gaily Colored Plastic Picnic Sets Consisting of Plates, Cups, Knives, Forks, Spoons, and Salt and Pepper Shakers.
First use during the month of January 1957.

TM 110

Class 4—Abrasives and Polishing Materials

SN 93,195. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed Mar. 18, 1960.

SCOTCH-BRITE

Owner of Reg. No. 677,849.
For Non-Woven Web Material in Sheet Form for Cleaning and Finishing All Types of Surfaces.
First use June 26, 1958.

SN 100,076. Turtle Wax, Inc., Chicago, Ill. Filed June 30, 1960.

SUN-STOP

For Ingredient—Namely, an Ultra Violet Radiation Absorber, in Washing, Cleaning and Polishing Preparations for Automobile Finishes and the Like.
First use Apr. 23, 1959.

SN 105,181. Madison Chemical Corporation, d.b.a. Madison Supply and Equipment Co., Maywood, Ill. Filed Sept. 26, 1960.

FABULOID

For Cleaning, Deodorizing and Polishing Floors Composition.
First use April 1951.

SN 105,333. Atlantic Abrasive Corporation, South Braintree, Mass. Filed Sept. 28, 1960.

ALPHA

For Abrasive Grinding Disc Wheels.
First use March 1960.

SN 105,376. Rayco Mfg. Co., Paramus, N.J. Filed Sept. 28, 1960.

RAYCO

For Automobile Polish and Cleaning Preparation To Be Applied to and Used on the Paint and/or Metal Finish of Automobiles.
First use Feb. 26, 1959.

SN 105,418. Brillo Manufacturing Company, Inc., Brooklyn, N.Y. Filed Sept. 29, 1960.

SYNDISC

For Floor Scrubbing and Polishing Pads.
First use Nov. 2, 1959.

Class 5—Adhesives

102,361. The Woodhill Chemical Co., Cleveland, Ohio. Filed Aug. 9, 1960.

Darn

For Air Drying Adhesive Mender for Textiles and Leather, Containing Natural Latex, Hydrocarbon, Alkyl Aryl Sulfonate, Acrylic Emulsion Copolymer, and Hindered Phenol Antioxidant.
First use July 11, 1960.

Class 6—Chemicals and Chemical Compositions

SN 65,397. Armour and Company, Chicago, Ill. Filed Jan. 7, 1959.

FRESH 'N' BRITE

For Additive to Starch Which Enhances the Appearance of the Laundered Fabric.
First use Dec. 15, 1956.

SN 91,260. Kane Import Corporation, New York, N.Y. Filed Feb. 19, 1960.

POLAR BEAR BRAND

The word "Brand" is disclaimed apart from the mark as shown.
For Menthol Crystals.
First use Jan. 6, 1960.

SN 92,466. Hycel, Inc., Houston, Tex. Filed Mar. 9, 1960.

KETOSET

For Chemical Reagents for Medical Laboratory Tests To Determine the Presence of Ketosteroids in Estimating the Functioning of the Adrenal Cortex.
First use Mar. 20, 1958.

SN 92,467. Hycel, Inc., Houston, Tex. Filed Mar. 9, 1960.

PHEOSET

For Chemical Reagents for Medical Laboratory Tests.
First use Feb. 1, 1960.

SN 92,528. Cities Service Oil Company, New York, N.Y. Filed Mar. 10, 1960.

CITIES SERVICE LP GAS

The letters "LP" and the word "Gas" are disclaimed. The drawing is lined for green. Owner of Reg. Nos. 633,871 and 635,421.
For Liquefied Petroleum Gas.
First use in or about November 1959.

SN 93,080. MacDermid Incorporated, Waterbury, Con. Filed Mar. 17, 1960.

MacDermid ...right to the Finish!

For Copper Plating Bath Additives, Dry Acid Replacement Salts, Macromate Conversion Coatings, Electro and Chemical Polishes, Burnishing and Other Metal Finishing Compounds.
First use Aug. 1, 1957.

SN 94,211. L. Teweles Seed Co., Milwaukee, Wis. Filed Apr. 1, 1960.

BLAST

For Crabgrass Killer.
First use Nov. 14, 1959.

SN 96,904. West Virginia Pulp and Paper Company, New York, N.Y. Filed May 11, 1960.

WESTVACO POLYFON

Owner of Reg. Nos. 607,511, 532,655, and others.
For Lignosulfonates Having Surface Active Properties and Suitable as General Purpose Dispersants.
First use Mar. 25, 1960.

SN 97,640. The Echlin Manufacturing Company, d.b.a. United Parts Division, Chicago, Ill. Filed May 23, 1960.

UNITED

For Hydraulic Brake Fluid.
First use May 11, 1960.

SN 98,409. West Virginia Pulp and Paper Company, New York, N.Y. Filed June 3, 1960.

WESTVACO

Owner of Reg. Nos. 119,848, 540,666, and others.
For Tall Oil.
First use Mar. 14, 1960.

SN 99,760. Lien Chemical Company, Franklin Park, Ill. Filed June 27, 1960.

FLO

For Septic Bacteria Activator for Use in Septic Tanks.
First use June 13, 1960.

SN 100,272. Edw. Livingston & Sons, Inc., Kansas City, Mo. Filed July 5, 1960.



No claim is made to the word "Bleach" apart from the mark as shown.
For Powdered Bleach for Use in Laundering.
First use on or about July 15, 1958.

SN 100,588. Effective Products, Chicago, Ill. Filed July 11, 1960.

hg-16

For Insecticide for House and Garden.
First use Feb. 24, 1960.

SN 101,023. Monsanto Chemical Company, St. Louis, Mo. Filed July 18, 1960.



Consent of Harry Smith to use and register his picture as a trademark is of record. Owner of Reg. No. 697,952.
For Herbicides and Pesticides.
First use Mar. 29, 1960.

SN 101,115. August U. Mangifest, d.b.a. Magna-Krom Mfg. Co., Vandergrift, Pa. Filed July 19, 1960.

MAGNA KROM

Owner of Reg. No. 608,861.
For Rust, Scale, and Leak Inhibitor and Resistor Usable in Automobile Radiators.
First use April 1954.

Class 10 — Fertilizers

SN 93,232. Utah Cooperative Association, d.b.a. Pax Company, Salt Lake City, Utah. Filed Mar. 18, 1960.

PAX PRIDE

Owner of Reg. Nos. 232,417, 417,314, and others.
For Fertilizers.
First use Dec. 7, 1959; in November 1937 as to "Pax."

SN 101,702. Robertson Chemical Corporation, Norfolk, Va. Filed July 29, 1960.

ROBERTSONS
OLD Reliable

The drawing is lined for the color red.
For Tobacco Fertilizer.
First use spring of 1929.

SN 103,185. Norsk Hydro-Elektrisk Kvaelstofaktieselskab, Oslo, Norway. Filed Aug. 22, 1960.

DOLMON

Priority claimed under Sec. 44(d) on Norwegian application filed Feb. 25, 1960; Reg. No. 55,168, dated Mar. 31, 1960.
For Natural and Artificial Fertilizers.

SN 103,569. Hoff Chemical Corporation, Flat Rock, Mich. Filed Aug. 29, 1960.

GRO-BEST

For Concentrated Plant Food.
First use May 24, 1960.

Class 12 — Construction Materials

SN 50,733. Roseburg Lumber Co., Roseburg, Oreg. Filed Apr. 30, 1958.

Resin-TITE

For All Grades of Plywood, Including Sheathing.
First use Mar. 17, 1958.

SN 80,926. Shower Door Company of America, Atlanta, Ga. Filed Sept. 4, 1959.

CAMEO

For Aluminum Framed Glass Panels for Use as Shower Enclosures.
First use June 26, 1959.

SN 91,388. Kaiser Aluminum & Chemical Corporation, Oakland, Calif. Filed Feb. 23, 1960.

TWIN-RIB

For Corrugated Aluminum Roofing and Siding Sheets.
First use on or about Jan. 29, 1960.
Subj. to Intf. with SN 91,883.

SN 91,883. Twin-Side Aluminum Corp., Jersey City, N.J. Filed Feb. 29, 1960.

TWIN-SIDE

For Aluminum Siding Materials.
First use Sept. 11, 1959.
Subj. to Intf. with SN 91,388.

SN 102,107. Electrovert Limited, Montreal, Quebec, Canada. Filed Aug. 5, 1960.

CANTROUGH

Owner of Canadian Reg. No. 102,078, dated Dec. 2, 1955.
For Cable Troughs and Wiring Troughs, Parts Thereof and Fittings Therefor; and Supporting Structures Comprising an Interlocking System of Metal Parts for Supporting Troughs, Shelvings, Pipes, Conduits, and the Like.

SN 103,771. Econolite Corporation, New York, N.Y. Filed Sept. 1, 1960.

ECONOLITE

For Masonry Units, Building Blocks and Partition Blocks.
First use February 1958.

SN 104,354. Wood Fibreboard Company, Portland, Oreg. Filed Sept. 12, 1960.

DURAFLAKE

For Particle Board.
First use on or about June 30, 1960.

SN 104,429. Butler Manufacturing Company, Kansas City, Mo. Filed Sept. 14, 1960.

MONOPANL

Owner of Reg. No. 605,656.
For Preformed Metal Panels for Buildings and the Like.
First use Mar. 31, 1953.

SN 104,743. National Gypsum Company, Buffalo, N.Y. Filed Sept. 19, 1960.

SOLITUDE

For Acoustical Tile.
First use Mar. 25, 1960.

SN 105,025. Shower Door Company of America, Atlanta, Ga. Filed Sept. 22, 1960.

SHOLUME

For Sliding Glass Patio Doors.
First use on or about June 20, 1960.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

SN 100,137. MacLean-Fogg Lock Nut Co. (Delaware corporation), Chicago, Ill., assignee of MacLean-Fogg Lock Nut Company (Illinois corporation), Chicago, Ill. Filed July 1, 1960.

GT

For Special Fastening Devices for Railway Car Grab Irons and Ladders.
First use in August 1946.

SN 102,046. The Ohio Corrugating Company, Warren, Ohio. Filed Aug. 4, 1960.

TRU-LOC

Owner of Reg. No. 556,899.
For Metallic Closure Rings for Barrels, Kegs, Buckets, and Similar Receptacles.
First use on or about Jan. 7, 1936.

SN 102,546. Crane Co., Chicago, Ill. Filed Aug. 12, 1960.

CRANE

For Composition Pipe, Tubular Products, Fittings, and Couplings Therefor.
First use January 1960.

Class 14—Metals and Metal Castings and Forgings

SN 93,290. J. N. Eberle & Cie. G.m.b.H., Augsburg, Germany. Filed Mar. 21, 1960.

INEA

Owner of German Reg. Nos. 654,706 and 691,273, dated Mar. 10, 1954 and May 30, 1956, respectively.
For High-Grade Strip Steel; Blocks, Sheets, Bars, Strips, Wires, and Formed Pieces Made of High-Grade Steel.

SN 93,293. J. N. Eberle & Cie. G.m.b.H., Augsburg, Germany. Filed Mar. 21, 1960.

INECO

Owner of German Reg. Nos. 654,707 and 691,272, dated Mar. 10, 1954 and May 30, 1956, respectively.
For High-Grade Strip Steel; Blocks, Sheets, Bars, Strips, Wires, and Formed Pieces Made of High-Grade Steel, All Goods Made of Steel Alloys Free of Nickel.

SN 100,835. Crucible Steel Company of America, Pittsburgh, Pa. Filed July 14, 1960.

MAXEL

Owner of Reg. Nos. 129,142 and 678,739.
For Metals Including Alloy and Carbon Steels, Free Machining Steels, Case-Hardenable Steels and Constructional Steels in the Form of Blooms, Billets, Slabs, Plates, Bars, Castings, Forgings, Blocks, Wire, Sheet and Strip.
First use June 25, 1914.

SN 100,836. Crucible Steel Company of America, Pittsburgh, Pa. Filed July 14, 1960.

THRIFT FINISH

For Metals Including Tool Steels, High Speed Steels, Metal Bars, Rods and Wire.
First use Oct. 1, 1957.

SN 100,898. Eutectic Welding Alloys Corporation, Flushing, N.Y. Filed July 15, 1960.

EUTECSIL

Owner of Reg. No. 605,671.
For Metal Alloys Both Bare and Flux Coated for Metal-Joining Operations.
First use prior to July 13, 1960.

Class 15—Oils and Greases

SN 95,136. Ashland Oil & Refining Company, Ashland, Ky. Filed Apr. 15, 1960.

CHEMALOY

For Oil Additive.
First use Mar. 16, 1960.

SN 103,597. Petroleum Marketing Company, Inc., Tulsa, Okla. Filed Aug. 29, 1960.

PEMCO

In the drawing the letters "PEMCO" appear in red, but color is not a part of the mark.
For Gasoline, Oils and Greases.
First use in or about March 1955.

SN 104,706. Everlube Corporation of America, d.b.a. Everlube Corporation, North Hollywood, Calif. Filed Sept. 19, 1960.

PERMA-SLIK

For Solid Lubricant Composition in Pressurized Containers for Spray Application on Surfaces of Metal, Wood, Plastic, and the Like To Provide Dry Film Lubrication Thereon.
First use March 1960.

Class 16—Protective and Decorative Coatings

SN 87,745. Troy Chemical Co., Newark, N.J. Filed Dec. 21, 1959.

TROYOLIN

For Paint Additives, Driers, Stabilizers and Inhibitors.
First use July 15, 1955.

SN 87,746. Troy Chemical Co., Newark, N.J. Filed Dec. 21, 1959.

TROYKYD

For Paint Additives, Driers, Stabilizers and Inhibitors.
First use Feb. 8, 1946.

SN 93,045. Armstrong Resins, Inc., Warsaw, Ind., assignee of Armstrong Products Company, Warsaw, Ind. Filed Mar. 17, 1960.

VIBRO-FLO

For Powdered Coating Material of Both Thermoplastic and Thermosetting Types.
First use July 7, 1959.

SN 100,317. Tropical Paint Company, Cleveland, Ohio. Filed July 5, 1960.

TROPILUME

Owner of Reg. No. 524,523.
For Semi-Liquid Aluminum Coating for Outdoor Use on Concrete or Brick Walls, Grain Elevators, Storage Bins, Silos, or the Like.
First use May 18, 1960.

SN 101,909. Western Chemical Company, St. Joseph, Mo. Filed Aug. 2, 1960.

RESILITEX

For Liquid Protective Floor Coating.
First use Mar. 28, 1957.

SN 102,059. Saran Protective Coating Co., Ferndale, Mich. Filed Aug. 4, 1960.

ACTI-THANE

For Urethane Coatings.
First use Feb. 9, 1959.

SN 102,087. American-Marietta Company, Chicago, Ill. Filed Aug. 5, 1960.

ROLL-COR

For Coating Materials Particularly Adapted for Finishing Concrete Staves in Silos.
First use on or about May 17, 1960.

SN 102,115. International Chemical Company, Philadelphia, Pa. Filed Aug. 5, 1960.

COMCRETE

For Resinous Protective Coating for Floors and Other Surfaces.
First use Aug. 20, 1959.

Class 18—Medicines and Pharmaceutical Preparations

SN 83,238. Ortho Pharmaceutical Corporation, Raritan, N.J. Filed Oct. 14, 1959.

Massé-creme

Owner of Reg. Nos. 570,905 and 642,001.
For Nipple Cream and a Preparation for the Treatment of Diaper Rash.
First use Aug. 11, 1959.

SN 93,647. Luscoe Products Limited, Toronto, Ontario, Canada. Filed Mar. 24, 1960.

DIANA

Owner of Canadian Reg. No. 104,755, dated Oct. 19, 1956.
For Coughs and Colds Medicine and an Alcoholic Base Liniment for Minor Muscular Aches and Pains.

SN 93,760. Carter Products, Inc., New York, N.Y. Filed Mar. 28, 1960.

COLDSERTS

For Pharmaceutical Nasal Suppositories for Treatment of Head Colds.
First use Jan. 15, 1960.

SN 94,715. Zyme-Aid Corporation, Fort Lauderdale, Fla. Filed Apr. 8, 1960.

ZYME-AID

For Tablets Containing Aluminum and Potassium Sulfate for Use as an Astringent.
First use Jan. 23, 1960.

SN 98,650. Gides, Incorporated, Beverly Hills, Calif. Filed June 8, 1960.

I-HELP

For Dietary Vitamin Food Supplements.
First use May 23, 1960.

SN 101,944. H. Norman Hasel, d.b.a. Good Samaritan Laboratories, Norristown, Pa. Filed Aug. 3, 1960.



The use of the slogan "As Good as Its Name," and the term "Ointment" apart from the mark shown, is disclaimed.
For Pharmaceutical Ointments.
First use June 20, 1960.

SN 103,531. Bristol-Myers Company, New York, N.Y. Filed Aug. 29, 1960.

PENSTAPHO

For Antibiotic Pharmaceutical Preparation.
First use July 27, 1960.

SN 103,710. Dubblarr Labs, Inc., St. Simons Island, Ga. Filed Aug. 31, 1960.

3-ALARM

For Preparation for the Treatment of Burns, Sunburn, Scalds, Contact Dermatitis and Other Skin Irritations.
First use May 17, 1960.

SN 103,737. Organisation de Synthese Mondiale, en Abrégé Orsymonde, Société Anonyme, Paris, France. Filed Aug. 31, 1960.

LIBRINFON

Priority claimed under Sec. 44(d) on French Reg. No. 489,322, dated July 7, 1960 (Paris); Natl. Inst. No. 147,574.
For Laxatives.

SN 103,803. The Pillsbury Company, Minneapolis, Minn. Filed Sept. 1, 1960.

CHAMPION

For Veterinary Pharmaceuticals.
First use May 27, 1960.

SN 103,903. The Central Pharmacal Company, Seymour, Ind. Filed Sept. 6, 1960.

CENALENE

For Medicinal Preparation for the Treatment of Mild Degenerative Changes Such as Mental Confusion, Memory Defects, Apathy, and Mild Depression.
First use Aug. 2, 1960.

SN 104,082. Jan Marcel Didier Aron-Samuel, Suresnes (Seine), France. Filed Sept. 8, 1960.

GLUCOPHAGE

Owner of French Reg. No. 115,072, dated Oct. 30, 1958 (Seine); Natl. Inst. No. 115,072.
For Pharmaceutical Preparations Used in the Treatment of Diabetes.

SN 104,558. Smith, Miller & Patch, Inc., New York, N.Y. Filed Sept. 15, 1960.

INFLAMASE

For Anti-Inflammatory and Anti-Edemitous Enzyme Preparation.
First use July 1960.

SN 104,578. C. H. Boehringer Sohn, Ingelheim (Rhine), Germany. Filed Sept. 16, 1960.

BIVAN

Owner of German Reg. No. 839,482, dated Sept. 20, 1925.
For Cardiac and Circulatory Preparations.

SN 104,579. C. H. Boehringer Sohn, Ingelheim (Rhine), Germany. Filed Sept. 16, 1960.

DOVECORTAN

Owner of German Reg. No. 725,262, dated May 26, 1959.
For Steroid Preparation.

SN 104,653. The Upjohn Company, Kalamazoo, Mich. Filed Sept. 16, 1960.

NEOMIX

For Veterinary Feed Supplement for Use in the Prevention and Treatment of Arthritic Diseases in Turkeys.
First use Feb. 9, 1960.

SN 104,762. Schering Corporation, Bloomfield, N.J. Filed Sept. 19, 1960.

CORICILLIN

Owner of Reg. No. 533,777.
For Antibiotic Cold Preparation.
First use July 6, 1960.

SN 104,844. N.V. Philips-Duphar, Amsterdam, Netherlands. Filed Sept. 20, 1960.

DUFASTON

Owner of Dutch Reg. No. 137,754, dated June 27, 1960.
For Hormone Preparations.

SN 105,550. Rougier Inc., Montreal, Quebec, Canada. Filed Sept. 30, 1960.

PROCORATE

Owner of Canadian Reg. No. 114,770, dated July 24, 1959.
For Pharmaceutical Preparation for the Treatment of Coronary Insufficiencies.

SN 105,595. Armour and Company, Chicago, Ill. Filed Oct. 3, 1960.

ARLIVITE

Owner of Reg. No. 559,113.
For Parenteral, Nutrient Product for Veterinary Use.
First use Aug. 30, 1960.

SN 107,612. Uni-Tech Chemical Manufacturing Company, Panorama City, Calif. Filed Nov. 1, 1960.

PAL-A-DEX

For Palatable Dextrose Solution for Use by Medical Laboratories for a Glucose Tolerance Test.
First use June 10, 1959.

SN 107,829. Chemie Grünenthal G.m.b.H., Stolberg, Rhineland, Germany. Filed Nov. 4, 1960.

FELVITEN

Owner of German Reg. No. 717,420, dated Sept. 8, 1938.
For Medicines—Namely, Preparations for Bile and the Liver.

SN 107,830. Chemie Grünenthal G.m.b.H., Stolberg, Rhineland, Germany. Filed Nov. 4, 1960.

SILUBIN

Owner of German Reg. No. 345,280, dated Dec. 17, 1925.
For Medicines—Namely, Anti-Diabetics.

SN 107,831. Chemie Grünenthal G.m.b.H., Stolberg, Rhineland, Germany. Filed Nov. 4, 1960.

SOFTENON

Owner of German Reg. No. 658,114, dated May 28, 1954.
For Sedatives and Soporifics.

SN 107,976. Sandoz, Inc., Hanover, N.J. Filed Nov. 7, 1960.

LSD

For Medicinal Preparation Recommended for the Treatment of Mental Disorders.
First use Oct. 26, 1960.

SN 108,079. Chas. Pfizer & Co., Inc., Brooklyn, N.Y. Filed Nov. 8, 1960.

DILUSAN

For Hypotensive-Cardiovascular Preparation.
First use Oct. 27, 1960.

SN 108,082. The Purdue Frederick Company, New York, N.Y. Filed Nov. 8, 1960.

ANTAGULIN

For Anticoagulant.
First use Nov. 1, 1960.

SN 108,197. National Remedy Products Company, Inc., Springfield, Mo. Filed Nov. 10, 1960.

MEDI-MATIC

For Vitamin-Fortified, Soft Foods Product for Use as an Animal Feed and Animal Feed Supplement.
First use Aug. 26, 1958.

SN 108,206. Parke, Davis & Company, Detroit, Mich. Filed Nov. 10, 1960.

IMMU-G

For Preparation for the Treatment of Rubeola, Poliomyelitis and Infectious Hepatitis.
First use Sept. 21, 1960.

SN 108,250. B. F. Ascher & Company, Inc., Kansas City, Mo. Filed Nov. 14, 1960.

DALCA

For Cold Tablet.
First use Nov. 1, 1960.

SN 108,371. Chas. Pfizer & Co., Inc., Brooklyn, N.Y. Filed Nov. 14, 1960.

DAXID

For Psycho Therapeutic Agent.
First use Sept. 11, 1956.

SN 108,455. Colgate-Palmolive Company, New York, N.Y. Filed Nov. 15, 1960.

EXTERN

For Topical Skin Medication.
First use Oct. 11, 1960.

SN 108,510. Professional Pharmacal Co., Inc., San Antonio, Tex. Filed Nov. 15, 1960.

MYTRATE

For Ophthalmic Preparation.
First use Nov. 4, 1960.

SN 108,529. Winn-Michaels Pharmaceuticals, Inc., Evansville, Ind. Filed Nov. 15, 1960.

CARITRŌL

For Pharmaceutical Preparation Used for the Prevention of Dental Caries.
First use on or about Oct. 15, 1960.

SN 108,530. Wynlit Pharmaceuticals, Inc., Madison, N.J. Filed Nov. 15, 1960.

ECZATEX

For Preparation for Use in the Treatment of Dermatitis.
First use Sept. 1, 1960.

SN 108,654. Musher & Company, Inc., New York, N.Y. Filed Nov. 17, 1960.

BARAVEEN

For X-Ray Determination Materials Including Barium Sulfate.
First use Oct. 15, 1960.

SN 108,794. William A. Kuhlman, d.b.a. Tunxite Laboratories, Los Angeles, Calif. Filed Nov. 21, 1960.

TUNXENE

For Pharmaceutical Preparation for Treatment of the Feet.
First use July 5, 1959.

SN 108,864. American Home Products Corporation, d.b.a. Wyeth Laboratories, New York, N.Y. Filed Nov. 22, 1960.

SPARTASE

For Anti-Fatigue Preparation.
First use Sept. 7, 1960.

SN 111,041. A. H. Robins Company, Inc., Richmond, Va. Filed Dec. 29, 1960.

RESERCLEX

For Antihypertensive-Diuretic Medicinal Preparation.
First use Dec. 28, 1960.

SN 111,056. A. H. Robins Company, Inc., Richmond, Va. Filed Dec. 30, 1960.

TAXALON

For Skeletal Muscle Relaxant Medicinal Preparation.
First use Dec. 28, 1960.

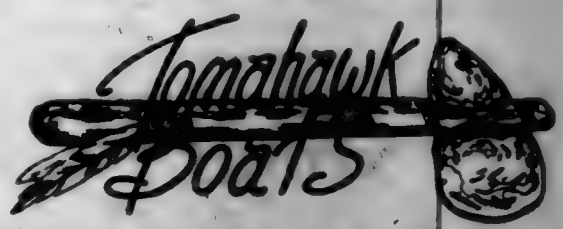
SN 111,057. A. H. Robins Company, Inc., Richmond, Va. Filed Dec. 30, 1960.

SKELAXIN

For Skeletal Muscle Relaxant Medicinal Preparation.
First use Dec. 28, 1960.

Class 19—Vehicles

SN 92,665. Tomahawk Boat Manufacturing Corporation, Tomahawk, Wis. Filed Mar. 11, 1960.



Applicant makes no claim to the word "Boats."
For Wooden, Metal and Fiberglass Boats.
First use Dec. 1, 1952.

SN 93,625. Frank Ogden and Robert Bradley Bell, d.b.a. Dixie Manufacturing Company, Potenu, Okla. Filed Mar. 24, 1960.

DIXIE Bobbe

For Boats.
First use Apr. 1, 1959.

SN 93,757. Beistegui Hermanos, S.A., Eibar, Guipuzcoa, Spain. Filed Mar. 28, 1960.



The exclusive use of the word "Super" is disclaimed apart from the mark as shown. Owner of Spanish Reg. No. 125,404, dated Mar. 3, 1942.

For Bicycles and Motorcycles, and Their Parts and Accessories—Namely, Handlebars, Frames, Forks, Wheels, Brakes, Saddles, Pedals, Shafts, Spokes, Mudguards, Crank-Brackets, Handgrips, Saddle-Pins, Chain-Covers, Wheel Hubs, Saddle Clamps, Drives With Cardan Shafts.

SN 96,516. "Motom" Aktiengesellschaft, Zurich, Zurich, Switzerland. Filed May 5, 1960.



The drawing is lined for red. Owner of Swiss Reg. No. 179,093, dated Jan. 8, 1960; and U.S. Reg. Nos. 444,200, 443,723, and 569,965.

For Vehicles of All Kinds—Namely, Bicycles, Motor Bicycles, Tricycles, Parts and Accessories to the Said Vehicles.

SN 99,992. Alfa Romeo S.p.A., Milan, Italy. Filed June 30, 1960.

GIULIETTA T.I.

Owner of Italian Reg. No. 144,260, dated June 19, 1959.
For Automobiles.

SN 103,234. Vought Industries, Inc., Dallas, Tex. Filed Aug. 22, 1960.

CORSAIR

For Mobile Homes and Travel Trailers.
First use Feb. 22, 1960, on travel trailers.

SN 105,378. Rayco Mfg. Co., Paramus, N.J. Filed Sept. 28, 1960.

RAYCO

Owner of Reg. Nos. 506,311, 562,258, and 576,999.
For Automobile Replacement Rubber Mats, Safety Belts, Carpets, Rugs; Foam Rubber for Auto Seats and Cushions, and Automobile Air-Conditioning Units.
First use Sept. 10, 1958.

SN 105,529. Micro-Precision Engineering Co., Richmond Heights, Mo. Filed Sept. 30, 1960.

LUBRO-GLIDE

For Bearings for Ball Joints for Motor Vehicles.
First use Sept. 23, 1960.

SN 105,530. Micro-Precision Engineering Co., Richmond Heights, Mo. Filed Sept. 30, 1960.

SILENT-GLIDE

For Ball Joint Assemblies for Motor Vehicles.
First use Sept. 23, 1960.

Class 20—Linoleum and Oiled Cloth

SN 104,952. The Ruberoid Co., South Bound Brook, N.J. Filed Sept. 21, 1960.

ANTIQUA

For Vinyl Floor Tile.
First use Mar. 7, 1960.

Class 21—Electrical Apparatus, Machines, and Supplies

SN 61,298. Doyt R. Hoverman, d.b.a. Hoverman Antenna Co., Van Wert, Ohio. Filed Oct. 24, 1958.

Tee Wee Tenna

For Television Antenna.
First use June 28, 1958.

SN 74,515. Enfo Corporation, Maple Shade, N.J., by merger from Enfo Corp., Pennsauken, N.J. Filed May 26, 1959.

ENRAD

For Insulating Materials and for Electrical Insulating Materials, Alone or in Conjunction With Metal Parts and/or Other Plastics—Namely, in the Form of Sheet, Tape, Cylinders, Molded and Machined Parts, Gaskets and Similar Products.
First use Apr. 25, 1958.

SN 81,190. Insulation and Wires, Incorporated, St. Paul, Minn. Filed Sept. 11, 1959.

U-WEDJ

For Electrical Insulating Material.
First use at least as early as Jan. 1, 1942.

SN 92,753. General Equipment and Manufacturing Company, Inc., Louisville, Ky. Filed Mar. 14, 1960.

GO

For Magnetic Sensing Proximity Limit Switch.
First use Jan. 11, 1960.

SN 93,637. U.S. Communications, Inc., Atlantic Beach, N.Y. Filed Mar. 24, 1960.

ELECTROPAGE

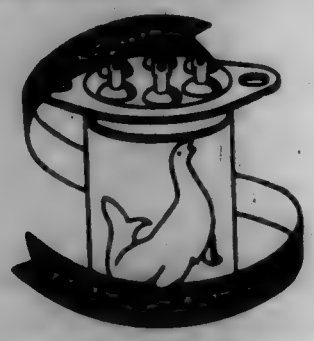
For Electronic Intercommunication System of the "Walkie-Talkie" Type by Which a Person in One Part of a Building May Talk to a Person in a Different Part of the Building, and Equipment Used in Connection With the Same.
First use Aug. 6, 1959.

SN 93,956. Toelco, Inc., Toledo, Ohio. Filed Mar. 29, 1960.

DINE-A-MIKE

For Electrical Ordering Systems for Drive-In Restaurants and Similar Establishments.
First use on or about Aug. 30, 1957.

SN 99,329. Hermetic Seal Corporation, North Arlington, N.J. Filed June 20, 1960.



For Electrical Terminals, Terminal Plates, Terminal Plate Assemblies, Multiterminal Blocks and Headers.
First use 1946.

SN 100,164. P. Sorensen Mfg. Co., Inc., Woodside, N.Y. Filed July 1, 1960.

CROSS⊗CUT

For Contact Sets for Automotive Ignition Systems.
First use May 23, 1960.

SN 100,167. Speer Carbon Company, St. Marys, Pa. Filed July 1, 1960.

res⊙cap

For Printed Circuit Assemblies and Electronic Circuit Components.
First use June 20, 1960.

SN 100,534. Packard-Bell Electronics Corporation, Los Angeles, Calif. Filed July 8, 1960.

CART-TENNA

For Combination of a Cart for Holding and Moving a Television Receiver and for Providing an Antenna for the Television Receiver.
First use June 10, 1960.

SN 100,557. Voycall Sales, Oakland, Calif. Filed July 8, 1960.

VOYCALL

For Intercommunication Equipment and Audio Amplifiers.
First use Aug. 15, 1936.

SN 101,327. International Business Machines Corporation, New York, N.Y. Filed July 22, 1960.

IBM

Owner of Reg. Nos. 567,008, 616,548, and others.
For Dictation Equipment.
First use July 11, 1960.

SN 103,155. Israel Levy, d.b.a. Sunlite Electric Company, New York, N.Y. Filed Aug. 22, 1960.

COSMO-LITES

For Christmas Light Sets.
First use Jan. 4, 1960.

SN 103,612. Sorensen & Company, Incorporated, South Norwalk, Conn. Filed Aug. 29, 1960.

VARIVOLT

For Variable Voltage Transformers.
First use May 17, 1960.

SN 103,751. Bulova Watch Company, Inc., Flushing, N.Y. Filed Aug. 31, 1960.

PARTY-MAKER

For Radios and Phonographs.
First use June 27, 1960.

SN 103,779. Gould-National Batteries, Inc., St. Paul, Minn. Filed Sept. 1, 1960.

GN

For Storage Batteries and Electrolyte Therefor.
First use Aug. 5, 1958.

SN 103,834. Joseph Raymond Butts, d.b.a. Ray Butts Music Company, Cairo, Ill. Filed Sept. 2, 1960.

EchoSonic

For Controllable Reverberation Effect Electronic Amplifying Apparatus.
First use May 10, 1954.

SN 103,870. Pittsburgh Outdoor Adv. Co., Pittsburgh, Pa. Filed Sept. 2, 1960.

TRONZEN

For Fluorescent Lighting Tubes.
First use Aug. 1, 1960.

SN 104,103. Polytran Industries, Inc., San Mateo, Calif. Filed Sept. 8, 1960.

STARBLAZER

For Portable Radio Receiving Sets.
First use July 20, 1960.

SN 104,315. Royal Master Corporation, Glendale, Calif. Filed Sept. 12, 1960.

ROYAL SHOE-MASTER

For Electric Shoe Shiner.
First use Aug. 11, 1960.

SN 104,569. White-Rodgers Company, St. Louis, Mo. Filed Sept. 15, 1960.

Silent Knight

For Electromagnetic Gas Valves.
First use in January 1959.

SN 104,791. Osborne Electronic Sales Corp., Hawthorne, Calif. Filed Sept. 19, 1960.

DUO-COM

For Radio Transmitting and Receiving Apparatus.
First use Dec. 17, 1959.

SN 105,004. International Crystal Manufacturing Co., Inc., Oklahoma City, Okla. Filed Sept. 22, 1960.

MOBILETTE

For Transistor, Crystal Controlled Converters.
First use July 7, 1960.

SN 105,102. Ronson Corporation, Woodbridge, N.J. Filed Sept. 23, 1960.

RONSON

Owner of Reg. Nos. 160,372, 677,468, and others.
For Electrically Powered Shoe Polishers.
First use September 1958.

SN 105,252. Anderson Electric Corporation, Birmingham, Ala. Filed Sept. 27, 1960.

ANDER-CRIMPS

For Electrical Compression Connectors.
First use Aug. 26, 1960.

SN 105,288. Kay Electric Company, Pine Brook, N.J. Filed Sept. 27, 1960.

PINLITE

For Miniature Incandescent Lamps.
First use Mar. 7, 1960.

Class 22—Games, Toys, and Sporting Goods

SN 97,519. Richard A. Purser, New York, N.Y. Filed May 19, 1960.

NAME-AGRAM

For Name-Identifying Puzzles Comprising Rearrangement of Key Letters Printed in Words of a Sentence or Question Pertaining to the Person To Be Identified.
First use May 10, 1960.

SN 98,574. Deb Manufacturing Company, Farmington, N. Mex. Filed June 7, 1960.



For Fishing Equipment—Namely, Fishing Reels, and Fishing Reel Covers.
First use June 5, 1959.

SN 102,476. Roger A. Hansen, St. Paul, Minn. Filed Aug. 11, 1960.

THE ROAR-ER

For Toy Adapted To Be Twirled To Produce Humming Sound.
First use July 28, 1960.

SN 102,949. Soo Valley Company, Columbia, S.C. Filed Aug. 18, 1960.

2D

For Fishing Lines.
First use June 24, 1960.

SN 103,237. Whirlo, Inc., Los Angeles, Calif. Filed Aug. 22, 1960.

SPACE MAGIC

For Bubble Making Toys and Supplies Therefor.
First use on or about May 15, 1960.

SN 103,371. Sunset Line & Twine Co., Petaluma, Calif. Filed Aug. 24, 1960.

707

For Fishing Lines.
First use Mar. 29, 1960.

SN 103,756. Arrco Playing Card Company, Chicago, Ill. Filed Sept. 1, 1960.

MATCH PATCH

For Playing Cards Adapted for Use by Children in Playing Games.
First use Aug 12, 1960.

SN 103,757. Arrco Playing Card Company, Chicago, Ill. Filed Sept. 1, 1960.

TRAIL DRIVE

For Playing Cards Adapted for Use by Children in Playing Games.
First use Aug 12, 1960.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

SN 70,326. Textron, Inc., Providence, R.I. Filed Mar. 26, 1959.

Mower Car

The drawing is lined for red.
For Lawn Mowers.
First use Jan. 13, 1959.

SN 70,634. ACF Industries, Incorporated, St. Louis, Mo. Filed Apr. 1, 1959.

Zip-Kit

The shading on the drawing represents black.
For Carburetor Clean-Out Kits Comprising a Needle and Seat, Pump Plunger and Gasket Set.
First use Dec. 8, 1958.

SN 76,407. Kettma Hamburger Kettelmaschinenfabrik Erich Hahn K.G., Hamburg, Germany. Filed June 24, 1959.

CARROUSEL

Owner of German Reg. No. 739,947, dated Sept. 7, 1960.
For Circular Loopers.

SN 87,518. Swiss Metallurgical Corporation, d.b.a. Schweizerische Metallurgische Gesellschaft, Basel, Switzerland. Filed Dec. 17, 1959.

MULTIROTOR

Owner of Swiss Reg. No. 176,081, dated May 20, 1959.
For High Speed Disintegrating Machines for Refuse and Other Products Which Are Difficult to Grind.

SN 89,622. Wedgelock Corporation of California, North Hollywood, Calif. Filed Jan. 25, 1960.

WEDGELOCK

Owner of Reg. No. 403,561.
For Fastener Devices, Attached Either From the Edge or Through Holes in Metal Parts To Hold the Parts During Riveting, Fabrication and Assembly Operations; Pliers for Applying Such Fastener Devices; and Jig Pins.
First use Feb. 7, 1955, on jig pins.

SN 92,089. Deluxe Service Tool Corporation, North Bergen, N.J. Filed Mar. 3, 1960.

A LUXITE DESIGN
WEDGE TIP
LIFE LINE

Applicant disclaims "Wedge Tip" apart from the mark as shown. Owner of Reg. No. 670,909.
For Circular Saw Blades.
First use Sept. 14, 1959.

SN 93,038. Aktieselskabet Burmeister & Wain's Maskin- og Skibsbyggeri, Copenhagen, Denmark. Filed Feb. 23, 1960.

BURMEISTER & WAIN

Owner of Danish Reg. No. 1488–1957, dated Sept. 14, 1957.
For Diesel Engines, Reduction Gears, Reversing Gears, Couplings, Clutches and Other Accessories for Diesel Engines, Accessories for Ships Comprising Tools, Propeller Shafting, Containers for Air and Oil, Starting Air Compressors, Pumps for Oil and Water.

SN 93,046. Armstrong Resins, Inc., Warsaw, Ind., assignee of Armstrong Products Company, Warsaw, Ind. Filed Mar. 17, 1960.

VIBRO-FLUIDIZER

For Device Containing a Fluent Bed of Powdered Coating Material of Thermoplastic or Thermosetting Character Into Which Heated Parts Are Inserted To Be Coated.
First use May 14, 1959.

SN 93,291. J. N. Eberle & Cie. G.m.b.H., Augsburg, Germany. Filed Mar. 21, 1960.

INEA

Owner of German Reg. No. 691,273, dated May 30, 1956.
For Hand and Power Saws and Saw Blades.

SN 93,292. J. N. Eberle & Cie. G.m.b.H., Augsburg, Germany. Filed Mar. 21, 1960.

INECO

Owner of German Reg. No. 691,272, dated May 30, 1956.
For Hand and Power Saws, Saw Blades Made of Steel Alloys Free of Nickel.

SN 94,050. Chrysler Corporation, Highland Park, Mich. Filed Mar. 31, 1960.

AMPLEX

For Bearings, Friction Discs, and Finished Machine Parts Made of Powdered Metal Such as Gears, Cams, Ball Bearing Retainers, Auto Body Hardware and the Like.
First use Feb. 26, 1950.

SN 96,515. "Motom" Aktiengesellschaft, Zurich, Zurich, Switzerland. Filed May 5, 1960.



The drawing is lined for red. Owner of Swiss Reg. No. 179,093, dated Jan. 8, 1960; and U.S. Reg. Nos. 444,200, 443,723, and 569,965.

For Stationary Motors, Diesel Motors, Ships' Motors, Aeroplane Motors, Agricultural Machines, Parts of the Said Machines and Motors.

SN 97,331. The O. M. Scott & Sons Company, Marysville, Ohio. Filed May 17, 1960.

ZEPHYR

For Dust Guns.
First use Apr. 25, 1960.

SN 101,020. Milwaukee Electric Tool Corporation, Milwaukee, Wis. Filed July 18, 1960.

VAC-U-RIG

For Portable Core Drill Units for Drilling in Concrete, Tile, and the Like.
First use on or about July 1, 1960.

SN 101,289. United States Steel Corporation, Pittsburgh, Pa. Filed July 21, 1960.

FURY FENCER

For Fence Erecting Machines.
First use July 7, 1960.

SN 101,469. Borg-Warner Corporation, Chicago, Ill. Filed July 26, 1960.



The words "A Product of" appearing in the upper panel of the emblem are disclaimed apart from the mark as shown and described. Owner of Reg. Nos. 513,546, 652,700, and others.

For Mechanical Seals; and Lapping Machines and Parts Thereof for Replacement and Repair.
First use on or prior to Dec. 3, 1958, on mechanical seals.

SN 101,503. Metocraft Alloy Corporation, West Springfield, Mass. Filed July 26, 1960.

VINYLON

For Mallet and/or Hammer Tips.
First use July 21, 1960.

SN 102,056. Remaco, Inc., New York, N.Y. Filed Aug. 4, 1960.

REMA-MATIC

Owner of Reg. No. 590,298.
For Tire Removing Tools.
First use Mar. 31, 1960.

SN 103,195. The Porter-Cable Machine Company, Syracuse, N.Y. Filed Aug. 22, 1960.

MULTI-SAW

For Portable Power-Operated Hand Saws.
First use June 13, 1957.

SN 103,215. The Stewart Company, Dallas, Tex. Filed Aug. 22, 1960.

COTTONMASTER

For Cotton Harvester.
First use June 27, 1960.

SN 103,288. Morgan & Co. Inc., Boston, Mass. Filed Aug. 23, 1960.

LOLLIPOPS

For Hollow-Stemmed Swizzle Sticks Which May Be Filled With Water and Frozen for Stirring and Chilling Beverages.
First use July 29, 1960.

SN 103,362. Schick Incorporated, Lancaster, Pa. Filed Aug. 24, 1960.

10-66

For Electric Razors.
First use on or about July 18, 1960.

SN 103,418. Simplicity Manufacturing Company, Port Washington, Wis. Filed Aug. 25, 1960.

ROTICUL

For Garden Cultivators.
First use Oct. 11, 1956.

SN 103,422. Stocko Metallwarenfabriken Hugo und Kurt Henkels, Wuppertal-Elberfeld, Germany. Filed Aug. 25, 1960.

STOCKOMAT

Owner of German Reg. No. 734,748, dated Mar. 15, 1960.
For Machines for Attaching Cable Shoes, Soldering Eyes, Rivets, and Similar Small Metal Parts.

SN 103,774. Emsco Screen Pipe Company of Texas, Houston, Tex. Filed Sept. 1, 1960.

EMSCO

For Lawn Edger-Trimmers.
First use on or about Nov. 4, 1959.

SN 103,814. Spir-It, Inc., Malden, Mass. Filed Sept. 1, 1960.

STIRSTIC

For Drink Stirrers and Muddlers.
First use in July 1939.

SN 103,939. M-B Products, Inc., Highland Park, Mich. Filed Sept. 6, 1960.

"M-B"

For Automatic Air Line Lubricators, Hand Operated Pneumatic Grinders, Pneumatic Bench Grinders, Hand Operated Pneumatic Polishers and Pneumatic Roll Pickers for Cotton Cording.
First use Feb. 25, 1936.

SN 104,201. Lawrence J. Timbers, d.b.a. Timbers & Associates, Cleveland, Ohio. Filed Sept. 9, 1960.

T

For Wheel Chocks.
First use Aug. 12, 1960.

SN 104,489. The Steam-O-Matic Corporation, Sedalia, Mo. Filed Sept. 14, 1960.

SWEEPMOWR

For Lawn Sweepers.
First use in August 1958.

SN 104,490. Stowe-Woodard, Inc., Newton Upper Falls, Mass. Filed Sept. 14, 1960.

DYNALAST

For New and Rebuilt Rolls for Machinery, Such Rolls Having a Metal Core and a Non-Metallic Outer Covering of the Class Comprising Elastomeric and Plastic Compositions.
First use Mar. 26, 1960.

SN 104,596. Drilco Oil Tools, Inc., Midland, Tex. Filed Sept. 16, 1960.

KNOBBY

For Cutters for Rotary Reamers Used in Oil Well Drilling, Particularly Reamers of the Type Using Rollers Having Tungsten Carbide Pellets Protruding Like Teeth From the Rollers.
First use February 1959.

SN 104,694. Crane Co., Chicago, Ill. Filed Sept. 19, 1960.

CONVERTO-GEAR

No claim is made to the word "Gear" apart from the mark as shown.
For Valve Actuating Mechanisms.
First use Aug. 26, 1960.

SN 104,992. Deutsch Molding Corporation, Long Beach, Calif. Filed Sept. 22, 1960.

DEMCO

For Installation Tools for Retaining Rings and Fasteners.
First use Jan. 12, 1959.

SN 105,117. Wagner Tractor, Inc., Portland, Oreg. Filed Sept. 23, 1960.

LUMBER JACK

For Log Handling Machines.
First use Jan. 28, 1958.

SN 105,277. Faustel, Inc., Butler, Wis. Filed Sept. 27, 1960.

FAUSTEL

For Paper Converting Equipment, Carton and Flexible Wrapping Machines, Laminators and Printing Presses.
First use on or about Nov. 15, 1958.

SN 105,308. The A. J. Sackett and Sons Company, Baltimore, Md. Filed Sept. 27, 1960.

SACKETT HAMMERHEAD

For Mills for Liquid and/or Bulk Fertilizer Processing Plants.
First use Aug. 22, 1960.

Class 24 — Laundry Appliances and Machines

SN 101,284. Textile Marking Machine Co., Inc., Syracuse, N.Y. Filed July 21, 1960.

TAG-O-LECTRIC

For Machines for Attaching Identification Tags to Garments and the Like.
First use Sept. 7, 1951.

SN 101,285. Textile Marking Machine Co., Inc., Syracuse, N.Y. Filed July 21, 1960.

STRIP-O-LECTRIC

For Machines for Severing Identification Tags From a Tape and Attaching the Tags to Garments and the Like.
First use Mar. 9, 1960.

SN 101,412. The Maytag Company, Newton, Iowa. Filed July 25, 1960.

GPA

For Reconditioned Laundry Appliances and Machines—Namely, Clothes Washers, Ironers, Dryers, Wringers, and Parts Therefor.
First use Apr. 12, 1960.

Class 29 — Brooms, Brushes, and Dusters

SN 63,472. Minifoam Manufacturing Co., Inc., East Northport, N.Y. Filed Dec. 1, 1958.

HOMEFOAM

For Polyurethane Replacement Heads for Brooms.
First use Nov. 7, 1958.

SN 89,205. Societe Anonyme Novacel (Nouvelles Applications Chimiques et Cellulosiques), Paris, France. Filed Jan. 18, 1960.

SPONTEX

Owner of French Reg. No. 381,128, dated Oct. 24, 1947 (Seine); Natl. Inst. No. 418,612.

For Artificial and Natural Sponges for Cleaning and Toilet Purposes, and Sponges Made From Products Derived From Cellulose.

SN 91,908. Bissell Inc., Grand Rapids, Mich. Filed Mar. 1, 1960.

BISSELL

Owner of Reg. Nos. 87,595 and 668,491.
For Floor Mops.
First use Feb. 4, 1960.

SN 101,059. Valu-Rack Services, Inc., d.b.a. Standard Merchandise Co., Los Angeles, Calif. Filed July 18, 1960.

THE IMPERIAL LINE

For Brooms.
First use June 21, 1960.

SN 101,453. Messina Bros. Manufacturing Co., Inc., Brooklyn, N.Y. Filed July 25, 1960.

MOP-PET

For Mops.
First use June 23, 1960.

Class 31 — Filters and Refrigerators

SN 57,093. Permanent Filter Corporation, Los Angeles, Calif. Filed Aug. 12, 1958.



The trademark comprises a design of a circle enclosing a picture of a starry sky having thereon a fiery exhaust of a rocket.

For Ground-Supported Filters for Hydrocarbons Used by Aircraft for Removing Therefrom Contaminants Including Water.
First use June 10, 1958.

SN 95,976. Chrysler Corporation, Highland Park, Mich. Filed Apr. 28, 1960.

AMPLEX

For Porous Metal Filter Elements.
First use Apr. 14, 1960.

SN 99,952. Mueller Brass Co., Port Huron, Mich. Filed June 29, 1960.



For Refrigeration Equipment—Namely, Driers, Refrigeration Valves and Refrigerant Liquid Level Indicators.
First use Jan. 8, 1960.

SN 102,041. Nalco Chemical Company, Chicago, Ill. Filed Aug. 4, 1960.

SBR-P

Owner of Reg. No. 619,494.
For Anion Exchange Resins.
First use Apr. 8, 1957.

SN 102,042. Nalco Chemical Company, Chicago, Ill. Filed Aug. 4, 1960.

HDR-W

Owner of Reg. No. 646,827.
For Cation Exchange Resins.
First use Dec. 18, 1958.

SN 102,043. Nalco Chemical Company, Chicago, Ill. Filed Aug. 4, 1960.

SBR-M

Owner of Reg. No. 619,494.
For Anion Exchange Resins.
First use May 12, 1958.

SN 102,044. Nalco Chemical Company, Chicago, Ill. Filed Aug. 4, 1960.

HGR-W

Owner of Reg. No. 646,826.
For Cation Exchange Resins.
First use Apr. 24, 1958.

SN 102,054. Rainsoft Water Conditioning Co., Bensenville, Ill. Filed Aug. 4, 1960.

RAINSOFT

For Water Softeners and Water Filters.
First use Aug. 6, 1953.

SN 102,083. American Hospital Supply Corporation, Evanston, Ill. Filed Aug. 5, 1960.

PARTI CEL

For Membrane Filters.
First use July 7, 1960.

Class 32 — Furniture and Upholstery

SN 93,559. Edith C. Simmons, Lubbock, Tex. Filed Mar. 23, 1960.



For Musical Nursery Training Chair.
First use Aug. 5, 1959.

SN 101,268. J. G. Furniture Company, Inc., New York, N.Y. Filed July 21, 1960.

jg

For Office Furniture, Restaurant Furniture, Hotel Furniture, Airport Furniture, Furniture for Other Commercial Uses, Upholstered Furniture, Occasional Furniture, Upholstery for Office, Restaurant, Airport, Hotel, Occasional and Other Commercial Furniture.
First use Jan. 20, 1930.

SN 108,353. Nachman Corporation, Chicago, Ill. Filed Nov. 14, 1960.

PERMASIDE

For Innerspring Mattresses.
First use Oct. 21, 1960.

Class 34—Heating, Lighting, and Ventilating Apparatus

SN 88,038. C. I. Hayes, Inc., Cranston, R.I. Filed Dec. 28, 1959.

FLEXOTEMP

For Industrial Heat Treatment Furnaces.
First use on or about July 7, 1958.

SN 88,041. C. I. Hayes, Inc., Cranston, R.I. Filed Dec. 28, 1959.

NITRO-FORM

For Apparatus for Generating Protective Atmospheres.
First use on or about Oct. 17, 1958.

SN 93,327. H. C. Little Burner Company, Inc., San Rafael, Calif. Filed Mar. 21, 1960.

DESERT SUN

For Gas Fired Heaters and Furnaces.
First use Feb. 11, 1960.

SN 93,655. American Metal Manufacturing Co., Farmersville, Tex. Filed Mar. 23, 1960.

AMMCO

The drawing is lined for the color red.
For Pipes for Use in Heating, Air Conditioning, and Dust Collecting Systems; Fittings for Use in Air Conditioning Systems; and Sound Absorbers in the Nature of Pipes for Use in the Attenuation of Industrial and Commercial Fan Noises.
First use Aug. 6, 1959.

SN 93,804. Hugert Manufacturing Co., Medina, Ohio. Filed Mar. 28, 1960.

KWIKEE

For Air Conditioning and Furnace Pipe and Fittings Therefor.
First use Oct. 15, 1957.

SN 101,468. Borg-Warner Corporation, Chicago, Ill. Filed July 26, 1960.

A PRODUCT OF
B-W
BORG WARNER

The words "A Product of" appearing in the upper panel of the emblem are disclaimed apart from the mark as shown and described. Owner of Reg. Nos. 513,546, 652,700, and others.
For Heat Exchangers and Parts Thereof for Replacement and Repair.
First use prior to Jan. 22, 1959.

SN 101,992. Aerovent Fan Co., Inc., Piqua, Ohio. Filed Aug. 4, 1960.

sil-low-et

For Roof Ventilators.
First use June 26, 1959.

SN 103,410. Pennsylvania-Bradford Appliance Corporation, Philadelphia, Pa. Filed Aug. 25, 1960.

PB

For Water Heaters.
First use July 15, 1960.

Class 35—Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 95,399. United States Rubber Company, New York, N.Y. Filed Apr. 19, 1960.

GILLETTE EXECUTIVE

Owner of Reg. Nos. 155,428, 598,202, and others.
For Pneumatic Tires.
First use Mar. 21, 1960.

SN 103,790. Janney, Semple, Hill & Company, Hopkins, Minn. Filed Sept. 1, 1960.



The drawing is lined for red and gold.
For Lawn Hose.
First use Sept. 16, 1957.

Class 36 — Musical Instruments and Supplies

SN 73,135. Ottenheimer Publishers, Inc., Baltimore, Md., assignee of Ottenheimer: Publishers, Baltimore, Md. Filed May 7, 1959.



The words "Learn for Pleasure" are disclaimed apart from the mark as shown.
For Kit Consisting of Records and an Illustrated Manual for the Teaching of Foreign Languages and Other Cultural Activities to Children.
First use May 4, 1959.

SN 77,724. Chicago Accordion Center, Inc., Chicago, Ill. Filed July 15, 1959.

PHILHARMONIC

For Accordions and Organs.
First use Mar. 22, 1949.

SN 84,522. Discos R.G.E. Ltda., Sao Paulo, Brazil. Filed Jan. 9, 1961.

RGE

Owner of Brazilian Reg. No. 232,511, dated July 8, 1960.
For Phonograph Records.

SN 101,953. Julia Records, Union, N.J. Filed Aug. 3, 1960.

JULIA RECORDS

The word "Records" is disclaimed.
For Phonograph Records.
First use July 8, 1960.

SN 104,645. H. & A. Selmer, Inc., Elkhart, Ind. Filed Sept. 16, 1960.

VANGUARD

For Musical Instrument Cases.
First use Jan. 4, 1959.

SN 105,018. Organ Corporation of America, West Hempstead, N.Y. Filed Sept. 22, 1960.

ORCOA

For Concert Organs.
First use Aug. 18, 1960.

Class 37 — Paper and Stationery

SN 101,424. Paramount Paper Products Co., Omaha, Nebr. Filed July 25, 1960.

HANDI-STIK

For Non-Printed Labels With Adhesive Backing.
First use July 7, 1960.

SN 102,027. Keuffel & Esser Company, Hoboken, N.J. Filed Aug. 4, 1960.

TYPE-MASTER

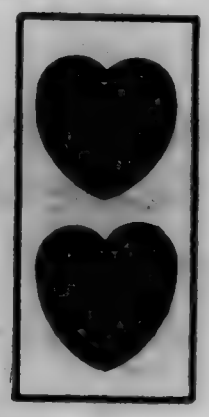
For Tracing Paper.
First use May 25, 1960.

SN 103,354. The Parker Pen Company, Janesville, Wis. Filed Aug. 24, 1960.

45

For Fountain Pens and Parts Therefor, Ballpoint Pens and Parts Therefor, Mechanical Pencils, Writing Fluid Cartridges, Pencil Leads, Erasers, and Desk Sets.
First use May 27, 1960.

SN 103,678. Paper Mate Manufacturing Company, Santa Monica, Calif. Filed Aug. 30, 1960.



Owner of Reg. No. 612,579.
For Ball Point Pen Refills.
First use May 25, 1960.

SN 103,795. Kimberly-Clark Corporation, Neenah, Wis. Filed Sept. 1, 1960.

TAMMY

For Toilet Paper.
First use June 14, 1960.

SN 103,931. Keuffel & Esser Company, Hoboken, N.J. Filed Sept. 6, 1960.

PARAMOUNT

For Self-Adhering Drawing Board Cover Consisting of a Vinyl-Polyethylene Terephthalate Laminate.
First use Feb. 5, 1960.

Class 38 — Prints and Publications

SN 74,053. The Miller Publishing Company (Minnesota corporation), Minneapolis, Minn., assignee of The Miller Publishing Company (West Virginia corporation), Minneapolis, Minn. Filed May 19, 1959.

FEEDLOT

For Monthly Trade Magazine.
First use Mar. 1, 1959.

SN 88,899. The Demp-Nock Company, Warren, Mich. Filed Jan. 13, 1960.

LET-R-SET

For Letters, Numerals and Designs With Pressure Sensitive Backing, Sold Individually, in Kits (Including Assembly Fixtures, Templates and Application Carriers), and as Preformed Signs.
First use Mar. 26, 1954.

SN 97,207. John F. Holmes, d.b.a. John Holmes Publishing Company, Whiting, Iowa. Filed May 16, 1960.

The Salvage Locator

For Publication Issued Periodically Listing Used Automobile and Truck Parts.
First use Apr. 1, 1957.

SN 100,097. Court & Oppenheim, Inc., San Francisco, Calif. Filed July 1, 1960.

western advertising week

Owner of Reg. Nos. 505,065 and 672,514.
For Weekly Publication.
First use June 20, 1960; February 1919 as to "Western Advertising."

SN 100,705. Hobby Publications Inc., New York, N.Y. Filed July 12, 1960.

HOBBY

For Monthly Publication.
First use Dec. 1, 1958.

SN 100,706. Hobby Publications Inc., New York, N.Y. Filed July 12, 1960.

For Monthly Publication.
First use Dec. 1, 1958.

SN 101,765. Electronic Publishing Co., Inc., Chicago, Ill. Filed Aug. 1, 1960.

Electronic

Owner of Reg. No. 653,228.
For Order Books, Pricing Digests Published Periodically, and Catalogs, All Pertaining to Electronic Components.
First use on or about May 1, 1955.

SN 101,974. Powell Magazines, Inc., New York, N.Y. Filed Aug. 3, 1960.

PVP PAINT and VARNISH PRODUCTION

Owner of Reg. Nos. 536,330 and 653,794.
For Monthly Publication Covering All Phases of Paint, Varnish, Lacquer and Other Surface Coating Production.
First use January 1960; on or about Oct. 1, 1949, as to words "Paint and Varnish Production."

SN 101,975. Powell Magazines, Inc., New York, N.Y. Filed Aug. 3, 1960.

PVP

Owner of Reg. Nos. 536,330 and 653,794.
For Monthly Publication Covering All Phases of Paint, Varnish, Lacquer and Other Surface Coating Production.
First use January 1960.

SN 101,990. Russell C. Wiley, Cedar Rapids, Iowa. Filed Aug. 3, 1960.

TAKING STOCK

For Periodical for Investors and Investment Clubs.
First use June 1959.

SN 102,039. Meteor Publications, Inc., New York, N.Y. Filed Aug. 4, 1960.

UNTOLD STORY

For Monthly Magazine.
First use Mar. 7, 1960.

SN 102,142. Scripture Press Foundation, Wheaton, Ill. Filed Aug. 5, 1960.

PATTIBOOK

For Series of Children's Christian Guidance Books.
First use in or about the year 1950.

SN 102,264. Research Publishing Corporation, Miami, Fla. Filed Aug. 8, 1960.

Florida BUSINESS LETTER

Owner of Reg. No. 601,974.
For Semi-Monthly Business Information Bulletin.
First use Sept. 15, 1952.

SN 102,394. Humble Oil & Refining Company, Houston, Tex. Filed Aug. 10, 1960.

LUBETEXT

For Technical Bulletins Published From Time to Time, Distributed Individually, or Compiled Into Units Revised Periodically as Current Bulletins Are Published.
First use at least as early as Apr. 1, 1932.

SN 102,509. The Professional Press, Inc., Chicago, Ill. Filed Aug. 11, 1960.

THE EYE, EAR, NOSE AND THROAT MONTHLY

For Monthly Trade Magazine.
First use in or about February 1922.

SN 102,535. American Can Company, New York, N.Y. Filed Aug. 12, 1960.

MARABOND

Owner of Reg. No. 406,052.
For Heat-Sealable Printed Paper Labels.
First use June 10, 1960.

Class 39 — Clothing

SN 67,370. Miss Tall America, Inc., Miami, Fla., assignee of Wayne Mark, Miami, Fla. Filed Feb. 9, 1959.

Miss Tall America

Owner of Reg. No. 697,260.
For Women's Dresses, Coats, Suits, Skirts, Slacks, Shorts and Shirts.
First use Jan. 15, 1959.

SN 78,776. Harry Frankel, d.b.a. Harry Frankel Organization, New York, N.Y. Filed July 31, 1959.

Avenza

For Women's Footwear—Namely, Women's Shoes, Sandals, Slippers, and Dancing Shoes.
First use December 1958.

SN 79,412. The Joseph & Feiss Company, Cleveland, Ohio. Filed Aug. 12, 1959.

PREDICTA

For Men's Clothing—Namely, Suits, Coats, and Slacks.
First use Aug. 4, 1959.

SN 79,413. The Joseph & Feiss Company, Cleveland, Ohio. Filed Aug. 12, 1959.

PALAZZO

"Palazzo," as an Italian word, means a palace or mansion (the latter in the limited sense of being the official residence of a high official of the church or state).
For Men's Clothing—Namely, Suits, Coats, and Slacks.
First use Aug. 4, 1959.

SN 85,922. Shoe Corporation of America, Columbus, Ohio. Filed Nov. 23, 1959.

NOCTURNE

For House Slippers for Men, Women, and Children.
First use Oct. 5, 1959.

SN 91,472. Tricosa, Paris, France. Filed Feb. 23, 1960.

HIGH FIL

The word "Fil" is the French word for thread or yarn.
For Acetate Yarn Sold in Knitted Outer Wear of All Kinds.
First use Oct. 27, 1955; in commerce February 1956.

SN 93,140. J. C. Bonsong & Co., Inc., New York, N.Y. Filed Mar. 18, 1960.

PATRICIA

For Ladies' Hosiery.
First use in or about January 1929.

SN 94,702. Henry I. Siegel Co., Inc., New York, N.Y. Filed Apr. 8, 1960.

naturals by h·i·s

Owner of Reg. Nos. 649,951, 685,206, and 689,539.
For Boys' and Men's Slacks, Pants and Trousers.
First use Dec. 1, 1959.

SN 96,126. Marx & Newman Company Inc., New York, N.Y. Filed Apr. 29, 1960.

Bandolinos

For Ladies' Shoes.
First use Mar. 1, 1960.

SN 97,771. Lucky Sales Co., Inc., Los Angeles, Calif. Filed May 24, 1960.

HARDITE

For Overshoes.
First use on or about Feb. 2, 1959.

SN 98,351. Field Bros. Inc., Brooklyn, N.Y. Filed June 3, 1960.

DEAN PETERSON

For Men's Suits, Sport Jackets, Coats, Slacks, Jackets, Bathrobes and Shirts.
First use Feb. 3, 1959.

SN 98,858. Jay Bucknell, Inc., New York, N.Y. Filed June 13, 1960.

Mario Fiari

For Men's Sport Coats and Knitted Shirts; Women's Outer Pants, Blouses and Knitted Shirts.
First use Jan. 27, 1960.

SN 100,033. Marshall Ray Corporation, Troy, N.Y. Filed June 30, 1960.

HAGUE SUEDE

No claim is made to the word "Suede" apart from the mark as shown.
For Women's, Men's, Girls', and Boys' Outer Wear Clothing—Namely, Sport Coats and Jackets.
First use Mar. 5, 1957.

SN 100,194. Triumph Hosiery Mills, Inc., New York, N.Y. Filed July 1, 1960.

SLIM-LIMS

For Women's and Children's Hosiery.
First use November 1956.

SN 101,196. Pennington & Co., Inc., Columbia, S.C. Filed July 20, 1960.



"Aileen Pennington" is the name of a living individual whose signature appears on behalf of applicant and in consent to the use of her name.
For Shirts, Blouses, Shorts, Skirts and Slacks for Girls, Misses, and Women.
First use July 1, 1960; Apr. 5, 1960, as to "Aileen Pennington."

SN 101,797. Munsingwear, Inc., d.b.a. Hollywood Vassarette Division, Minneapolis, Minn. Filed Aug. 1, 1960.

UNDERNEATH IT ALL

Hollywood Vassarette

Owner of Reg. Nos. 151,990, 688,365, and others.
For Brassieres and Girdles.
First use Nov. 16, 1959.

SN 106,089. Genesco Inc., Nashville, Tenn. Filed Oct. 10, 1960.

Bellwood SHOEMAKERS

Applicant disclaims the word "Shoemakers" apart from the mark as shown.
For Boots, Shoes, and Slippers of Leather, Rubber, Fabric, or a Combination of Those Materials, for Men, Women, and Children.
First use Aug. 11, 1960.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 58,139. American Enka Corporation, Enka, N.C. Filed Sept. 2, 1958.

BLENDURA

For Fabrics for Ladies' Dresses, and for Piece Goods and Print Cloth Both for Wearing Apparel.
First use Aug. 27, 1958.

SN 81,886. Durelle Fabrics Corp., New York, N.Y. Filed Sept. 23, 1959.



The word "Finish" is disclaimed apart from the mark as shown.
For Wash and Wear Finish With Which Applicant Has Treated Its Fabrics.
First use Mar. 30, 1959.

SN 84,481. Textile Corporation of America, Los Angeles, Calif. Filed Nov. 2, 1959.

Texcel FABRIC ORIGINALS

The phrase "Fabric Originals" is hereby disclaimed, except in connection with the mark as shown. Owner of Reg. No. 518,123.
For Textile Fabrics of Wool, Cotton, Synthetic Fibers and Mixtures Thereof.
First use Oct. 3, 1947.

SN 104,647. Samuel Smith, d.b.a. SMS Textile Mills, Allentown, Pa. Filed Sept. 15, 1960.

Louisana

Owner of Reg. No. 576,844.
For Textile Fabrics Made of Cotton, Rayon or Nylon, or Other Type Natural or Synthetic Fibers or Yarns, or Combinations Thereof, and/or in Combination With Rubber and/or Elastic Yarn, and/or Other Types of Natural or Synthetic Stretch Yarns, or Combinations Thereof.
First use May 5, 1960.

SN 106,198. J. P. Frank Chemical & Plastic Corp., New York, N.Y. Filed Oct. 11, 1960.

VEROSEAL

For Vinyl Film Sold as Piece Goods for Making Into Shower Curtains, Raincoats, Rugs, Draperies, Baby Pants, Aprons, Bibs, Cottage Sets, Garment Bags, Closet Accessories and Quilting Materials, and for Plastic Sheeting Sold as Piece Goods for Making Into Dinette Upholstery, Hassocks, Shoes, Shoe Bags, Wall Coverings, Slippers, Belts, Wallets and the Like.
First use Aug. 26, 1960.

Class 43—Thread and Yarn

SN 105,714. American Thread Company, New York, N.Y. Filed Oct. 4, 1960.

SATEENA

For Thread.
First use Sept. 3, 1939.

Class 45—Soft Drinks and Carbonated Waters

SN 102,280. Sun Dew Corp., Jamaica, N.Y. Filed Aug. 8, 1960.

SUN DEW

For Non-Carbonated Soft Drinks.
First use Mar. 1, 1949.

Class 46—Foods and Ingredients of Foods

SN 68,740. Mary Stone Seville, d.b.a. Sevilla Italian Meat Sauce Co., Macon, Ga. Filed Mar. 2, 1959.

SEVILLA

For Frozen Meat With Sauce for Spaghetti.
First use Aug. 7, 1958.

SN 75,110. The Pillsbury Company, Minneapolis, Minn. Filed June 4, 1959.

KEPALA KOEDA HORSE HEAD BRAND

No claim is made to the term "Brand" apart from the mark as shown. "Kepala Koeda" is an Indonesian term meaning "horse head."
For Wheat Flour.
First use Oct. 7, 1934; 1932 as to the horse head design.

SN 78,844. Armour and Company, Chicago, Ill. Filed Aug. 3, 1959.

AR-COTE

For Coating Fat Derived From Vegetable Oils.
First use May 20, 1959.

SN 83,449. The Borden Company, New York, N.Y. Filed Oct. 19, 1959.

BORDEN'S

Owner of Reg. Nos. 55,233 and 653,163.
For Prepared Horseradish.
First use Nov. 12, 1957.

SN 84,202. Barg & Foster Candy Company, Milwaukee, Wis. Filed Oct. 29, 1959.

barg & foster's
it's the nuts... that make the difference

No claim is made to the wording "it's the nuts . . . that make the difference" apart from the mark as shown.
For Chipped Shelled Nuts.
First use Dec. 11, 1953.

SN 85,320. Elm Tree Baking Company, d.b.a. Elm Tree Bakery, and Elm Tree Bakeries, Appleton, Wis. Filed Nov. 16, 1959.

ELM TREE

For Bakery Goods—Namely, Breads, Rolls, Muffins, Pastries, Pies, Cakes, and Cookies.
First use about 1890.

SN 87,373. S. B. Penick & Company, New York, N.Y. Filed Dec. 15, 1959.

SCANE

For Processed Cane Juice Used as a Poultry, Livestock and Wildlife Food Attractant.
First use Oct. 27, 1959.

SN 88,098. Rowse Company of N.H., Inc., Greenville, N.H. Filed Dec. 28, 1959.

WINTER HILL

For Bottled Vinegar and Canned and Bottled Apple Juice, Apple-Prune Juice, Apple-Grape Juice, Prune Juice, Apricot Nectar and Orange Juice Food Beverage.
First use Apr. 30, 1951.

SN 88,278. Althea S.p.A., Parma, Italy. Filed Dec. 30, 1959.

SUGORO

For Sauce for Macaroni and Spaghetti.
First use 1935; in commerce February 1937.

SN 89,462. The Rath Packing Company, Waterloo, Iowa. Filed Jan. 21, 1960.

MAÎTRE D'

For Canned Meats, and Shortening Made From Meat and Vegetable Fats.
First use Sept. 19, 1959, on canned meats.
Subj. to Intf. with SN 91,934.

SN 89,552. Certified Grocers of California, Ltd., Los Angeles, Calif. Filed Jan. 25, 1960.

SPRINGFIELD

Owner of Reg. No. 654,226.
For Catsup; Frozen Fruits and Vegetables; Salad and Cooking Oil of Vegetable Origin; Canned Tomato Paste; Flour; Oleomargarine; Evaporated Canned Milk; Frozen Fruit Pies, Frozen Beef Pies, Frozen Chicken Pies, Frozen Turkey Pies; Cheese; Frozen Fish Sticks; and Concentrated Frozen Orange Juice.
First use Dec. 15, 1957, on catsup.

SN 90,553. National Tea Co., d.b.a. National Food Stores, Chicago, Ill. Filed Feb. 8, 1960.

SO FRESH

Owner of Reg. No. 605,231.
For Prepared and Prebaked Potato Chips, Chip Dips for Use With a Dip Preparation, Shoestring Potatoes, Pretzel Twists and Pretzel Sticks, and Salted Crackers.
First use Mar. 5, 1958, on potato chips.

SN 90,567. C. Pappas Company, Inc., Boston, Mass. Filed Feb. 8, 1960.

GLORIA

For Olive Oil for Culinary Use.
First use in or about September 1924.

SN 91,004. Foremost Dairies, Inc., d.b.a. Tuttle Cheese Company, New York, N.Y. Filed Feb. 16, 1960.

TUTTLE

For Cottage Cheese and Hard Cheese.
First use about 1939.

SN 91,533. Excelsior Food Products, Inc., New York, N.Y. Filed Feb. 24, 1960.

CHIN CHIN

For Frozen Spareribs.
First use Feb. 19, 1960.

SN 91,934. Food Service Institute, Inc., Easton, Md. Filed Mar. 1, 1960.

MAITRE DEE

For Ravioli; Spaghetti; Meat in Ball, Chunk and Slice Form; and Chile Con Carne, All Packed and Sold in Cans.
First use Oct. 30, 1959.
Subj. to Intf. with SN 89,462.

SN 92,116. Ralston Purina Company, St. Louis, Mo. Filed Mar. 3, 1960.

CHECKERS

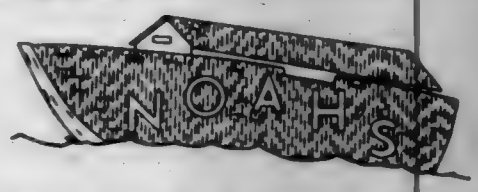
Owner of Reg. Nos. 256,658, 645,816, and others.
For Feeds for Poultry, Birds, Dogs, Rabbits, Livestock, Hogs, Laboratory Animals, and Fish.
First use in 1930.

SN 92,784. The Low Calorie Candy Co., Inc., Yonkers, N.Y. Filed Mar. 14, 1960.

WEIGHT WATCHER

For Dessert and Pie Mixes Sold in Combination Packages Containing Ingredients for Making Chiffon Desserts, Whipped Topping of a Vegetable Nature, and Pie Crust.
First use Feb. 1, 1960.

SN 93,338. George Kendall Noah, d.b.a. Noah's Health Food and Sales and Noah's Health Food, College Place, Wash. Filed Mar. 21, 1960.



The drawing is lined for the color purple, but no claim is made to color.
For Beverages, Specifically Bottled Apple Juice and Bottled or Canned Grape Juice.
First use Feb. 16, 1958.

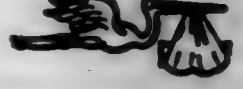
SN 93,339. George Kendall Noah, d.b.a. Noah's Health Food and Sales and Noah's Health Food, College Place, Wash. Filed Mar. 21, 1960.



The drawing is lined for red, but no claim is made for color.
For Health Foods and Food Ingredients—Namely, Teas of Alfalfa and Mint Nature, Shelled or Unshelled Nuts, Dried Vegetables, Yeast in Flaked Instant or Powdered Form, Sugars, Coconut in Flaked or Shredded Form With or Without Added Flavor and Color, Dried Fruits, Flours, Honeys, Whole Wheat Macaroni, Soy Bean Macaroni, Mayonnaise Made From Soybeans, Dry Skim Milk, Safflower Oil, Soy Bean Oil, Peanut Butter, Rices, Soy Bean Spaghetti, Whole Wheat Spaghetti, Powdered Whey, Yogert, Fruit Preserves in Honey or in Sucaryl, Preserved Fruits in a Water Pack, Date Nut Rolls, Breads, Dried Seeds, Dried Garlic, Powdered Okra, and Powdered Russian Black Radish.
First use Dec. 30, 1955.

SN 94,726. Joseph Raymond Beaudoin, d.b.a. Ray-B & Company, New Britain, Conn. Filed Apr. 11, 1960.

IT'S A
BOY



For Candy.
First use Mar. 22, 1960.

SN 97,538. Winter Garden Freezer Co., Inc., Bells, Tenn. Filed May 19, 1960.

CROCKETT FARMS

For Frozen Vegetables.
First use in the year 1952.

SN 99,973. Town Square Foods, Inc., Lake City, Pa. Filed June 29, 1960.

lake orchard

For Apple, Blueberry, Cherry and Peach Frozen Pies.
First use June 22, 1960; Mar. 19, 1959, as to "Lake Orchard" in a different display.

SN 100,573. W. J. Baumbach & Sons, Acampo, Calif. Filed July 11, 1960.

CHEROKEE

For Fresh Grapes.
First use Mar. 16, 1925.

SN 100,655. The Sweets Company of America, Incorporated, Hoboken, N.J. Filed July 11, 1960.

Tootsie Roll

Owner of Reg. Nos. 112,327, 623,182, and others.
For Syrup for Flavoring Ice Cream, Chocolate for Coating Ice Cream, and Ice Cream Bars.
First use on or about May 26, 1960.

SN 100,699. General Foods Corporation, White Plains, N.Y. Filed July 12, 1960.

BAKER'S FEATHER FLAKE

Owner of Reg. Nos. 55,841, 277,604, and 378,713.
For Prepared Coconut.
First use on or about May 19, 1960; in 1894 as to "Baker's."

SN 100,701. Golden Dawn Foods, Sharon, Pa. Filed July 12, 1960.

GOLDEN DAWN

Owner of Reg. Nos. 342,519, 446,293, and 696,849.
For Canned Fruits and Vegetables, Salad Dressing and Salt, Frozen Fruits and Vegetables.
First use in August 1935.

SN 100,819. Morris Swerdloff, d.b.a. Swerdloff & Company, Boston, Mass. Filed July 13, 1960.

PARTI-PAK

For Pickles.
First use Mar. 8, 1960.

SN 100,864. Rockwood Chocolate Co., Inc., Brooklyn, N.Y. Filed July 14, 1960.

BAG-O-GOLD

Owner of Reg. No. 694,327.
For Candy.
First use on or about Sept. 11, 1957.

SN 100,932. Roberts Dairy Company, Omaha, Nebr. Filed July 15, 1960.

ROBERTS

Owner of Reg. Nos. 529,761 and 643,026.
For Dairy Products—Namely, Fluid Milk.
First use Apr. 15, 1960; in 1910 as to "Roberts."

SN 100,963. Wilson & Co., Inc., Chicago, Ill. Filed July 15, 1960.

MOR

For Canned Comminuted Pork Meat.
First use Jan. 4, 1940.

SN 101,346. Sunshine Biscuits, Inc., Long Island City, N.Y. Filed July 22, 1960.

NOBILITY

Owner of Reg. No. 308,196.
For English Style Biscuits, Cakes and Cookies.
First use Dec. 23, 1930.

SN 101,952. S. T. Jerrell Company, Birmingham, Ala. Filed Aug. 3, 1960.

JERRELL'S

For Non-Fat Dry Milk Solids.
First use on or about Jan. 1, 1932.

SN 102,117. Kal Kan Foods, Inc., Los Angeles, Calif. Filed Aug. 5, 1960.

A KAL KAN QUALITY FOOD

Applicant disclaims the words "Quality Food" apart from the mark as shown. Owner of Reg. Nos. 430,306 and 645,835.
For Canned Pet Food for Dogs and Cats.
First use June 1957; May 16, 1946, as to "Kal Kan."

SN 102,118. Kal Kan Foods, Inc., Los Angeles, Calif. Filed Aug. 5, 1960.

KAL KAN

Owner of Reg. Nos. 430,306 and 645,835.
For Canned Pet Food for Dogs and Cats.
First use May 16, 1946.

SN 102,119. Kal Kan Foods, Inc., Los Angeles, Calif. Filed Aug. 5, 1960.

KAL KAN
ALL YEAR
ROUNDS

Applicant disclaims the word "Rounds" apart from the mark as shown. Owner of Reg. Nos. 430,306 and 645,835.
For Canned Pet Food for Dogs and Cats.
First use June 1960; May 16, 1946, as to "Kal Kan."

SN 102,295. Armour and Company, Chicago, Ill. Filed Aug. 9, 1960.

SLIDE-A-PAK

For Packaged Bacon.
First use July 7, 1960.

Class 48—Malt Beverages and Liquors

SN 50,630. Lone Star Brewing Co., San Antonio, Tex. Filed Apr. 29, 1958.

CERTIFIED LONE STAR BEER QUALITY

Owner of Reg. No. 676,429.
For Beer.
First use Apr. 20, 1958; Feb. 1, 1940, as to "Lone Star"; Jan. 1, 1958, as to "Certified Quality."

SN 56,437. Lone Star Brewing Co., San Antonio, Tex. Filed July 30, 1958.

CERTIFIED LONE STAR BEER QUALITY

Applicant claims no exclusive rights in "Beer" as the name of the goods identified herein. Owner of Reg. No. 676,429.
For Beer.
First use July 11, 1958; Jan. 1, 1958, as to "Certified Quality"; Feb. 1, 1940, as to "Lone Star."

SN 102,047. Pabst Brewing Company, Chicago, Ill. Filed Aug. 4, 1960.

ORIGINAL Pabst Blue Ribbon

Owner of Reg. Nos. 684,888, 667,861, and 542,096.
For Beer.
First use Jan. 5, 1959; June 1889 as to "Pabst"; January 1896 as to "Blue Ribbon."

SN 102,141. Jacob Ruppert, New York, N.Y. Filed Aug. 5, 1960.

RUPPERT Knickerbocker

Owner of Reg. Nos. 55,161, 572,525, and others.
For Beer.
First use Mar. 17, 1960.

Class 49—Distilled Alcoholic Liquors

SN 94,178. Mr. Boston Distiller Inc., Boston, Mass. Filed Apr. 1, 1960.

PIRATE & PARROT

Owner of Reg. No. 417,073.
For Rum.
First use Apr. 3, 1944.

SN 97,931. The Distillers Company, Limited, d.b.a. The Boord's Distillery (U.S.A.), Linden, N.J. Filed May 26, 1960.



No right is claimed to register the words "Dry Gin" apart from the mark as shown. Owner of Reg. Nos. 133,103, 509,396, and others.
For Gin.
First use Sept. 28, 1849.

Class 50—Merchandise Not Otherwise Classified

SN 77,967. Suntan Cabana Corporation, Clayton, Mo. Filed July 17, 1959.

SUNTAN CABANA

For Enclosure Having Walls With Polished Inner Surfaces for Use in Reflecting Sunlight on a Person Within the Walls.
First use on about May 22, 1959.

SN 85,657. Coggins Granite Industries, Inc., Elberton, Ga. Filed Nov. 19, 1959.

SALISBURY PINK

For Stone Monuments, Stone Memorials, Stone Tablets, and Tombstones.
First use 1929.

SN 91,631. Sun Industries, Inc., Cleveland, Ohio. Filed Feb. 25, 1960.

FLO-TOP

For One-Piece Cap of Plasto-Meric Material for Containers.
First use Feb. 4, 1960.

SN 92,229. Susan Duckworth, South San Francisco, Calif. Filed Mar. 7, 1960.

MACRO-MODELS

For Devices Used in the Teaching of Chemistry and Other Scientific Subjects To Illustrate the Structure of Atoms, Molecules and Chemical Compositions.
First use Jan. 29, 1960.

SN 97,571. Peerless Plastics Co., Inc., Butler, Wis. Filed May 20, 1960.

CRYSTAL PINE

Owner of Reg. No. 596,542.
For Artificial Christmas Trees, Candle Holders, and Centerpieces Consisting of Tree and Candle Holders.
First use November 1951.

SN 103,964. Rock of Ages Corporation, Barre, Vt. Filed Sept. 6, 1960.



For Granite Monuments and Memorials.
First use Nov. 23, 1959.

SN 103,965. Rock of Ages Corporation, Barre, Vt. Filed Sept. 6, 1960.

REGAL

For Granite Monuments and Memorials.
First use Nov. 23, 1959.

SN 104,076. Diversa Manufacturing Co., Cleveland, Ohio. Filed Sept. 8, 1960.

DIVERSA

For Changeable Letter Signs.
First use on or about June 1, 1955.

SN 104,487. John R. Schoen, Oakford, Pa. Filed Sept. 14, 1960.

PERM-A-STAND

For Multi-Purpose Stands for Supporting Christmas Trees, Flagpoles, Umbrellas, Etc.
First use on or about Aug. 10, 1960.

SN 104,961. Tier-Rack Corporation, St. Louis, Mo. Filed Sept. 21, 1960.

TIER-RACK

Owner of Reg. No. 674,358.
For Pallet Stacking Frames and Pallet Guards.
First use in August 1954.

Class 51 — Cosmetics and Toilet Preparations

SN 100,669. Vasenol-Werke Dr. Arthur Kopp, K.G., Oberndorf-Neckar, Germany. Filed July 11, 1960.

VUSENOL

Owner of German Reg. No. 717,887, dated Sept. 23, 1958.
For Perfumes, Perfumed Powder, Skin and Suntan Oils, Skin Creme, and Body, Massage, and Foot Powders.

SN 101,644. Roux Laboratories, Inc., New York, N.Y. Filed July 28, 1960.

ROULITE

Owner of Reg. Nos. 384,608 and 500,278.
For Hair Colorings; Hair Bleaches, Including Hydrogen Peroxide; Color Removers for the Hair and Scalp; Preparation for Dressing the Hair.
First use Sept. 21, 1940.

SN 102,010. Easydo, Inc., Wilmette, Ill. Filed Aug. 4, 1960.

EASY-DO

For Hair Waving Preparations.
First use May 18, 1952.

SN 103,647. Bristol-Myers Company, New York, N.Y. Filed Aug. 30, 1960.

CLEARCREEM

For Hair Tonic.
First use July 26, 1960.

SN 103,705. Colgate-Palmolive Company, New York, N.Y. Filed Aug. 31, 1960.

APPEAL

For Tooth Paste.
First use July 12, 1960.

Class 52 — Detergents and Soaps

SN 97,902. Harry V. Mathews, d.b.a. Harry V. Mathews Manufacturer, Levelland, Tex. Filed May 25, 1960.

KLEENZUM-2

For Chemical Cleanser for Removing Paraffins, Waxes and Oils From Oil Wells and Oil Well Equipment.
First use Sept. 2, 1958.

SN 100,765. Dumas Milner Corporation, Jackson, Miss. Filed July 13, 1960.

SANIDRIL

For Detergent-Disinfectant.
First use May 30, 1960.

SN 101,116. August U. Mangifest, d.b.a. Magna-Krom Mfg. Co., Vandergrift, Pa. Filed July 19, 1960.

MAGNA KROM

Owner of Reg. No. 608,861.
For Cleaners—Namely, a Liquid All-Purpose Cleaner, Powdered Hand Soap, Waterless Hand Cleaner, White Tire Cleaner, Car-Wash Cleaner, and Rug and Automobile Upholstery Cleaner.
First use in April 1954.

SN 102,763. The Hausman Steel Company, Toledo, Ohio. Filed Aug. 16, 1960.

DEM-A-CLEEN

For Masonry and Metal Cleaning Compositions.
First use June 21, 1960.

SN 103,238. Wilbert Products Co., Inc., New York, N.Y. Filed Aug. 22, 1960.

No-work

For Gas Evolving Oven Cleaner.
First use Sept. 30, 1959.

SN 103,310. Turco Products, Inc., Wilmington, Calif. Filed Aug. 23, 1960.

LACTOP

Owner of Reg. No. 381,229.
For Cleaning Compound for General Household and Industrial Purposes.
First use on or about Aug. 2, 1938.

SN 103,311. Turco Products, Inc., Wilmington, Calif. Filed Aug. 23, 1960.

STEAMEZE

Owner of Reg. No. 381,230.
For Detergent Cleaning Compound Intended Primarily for Use in the Steam Cleaning of Automotive Equipment and the Like.
First use on or about Sept. 5, 1939.

SN 103,502. Wyandotte Chemicals Corporation, Wyandotte, Mich. Filed Aug. 26, 1960.

ALDET

For Aluminum Cleaner.
First use June 1, 1960.

SN 103,634. Wright Chemical Corporation, Chicago, Ill. Filed Aug. 29, 1960.

WASHEEN

For Detergent—Namely, a Detergent for Use in Washing Motor Vehicles.
First use Aug. 18, 1960.

SN 103,682. Purex Corporation, Ltd., South Gate, Calif. Filed Aug. 30, 1960.

PREMIER

Owner of Reg. No. 639,834.
For Liquid Handsoap.
First use Apr. 25, 1960.

SN 105,377. Rayco Mfg. Co., Paramus, N.J. Filed Sept. 28, 1960.

RAYCO

For Automobile Cleaner and Compounds for Cleaning the Interiors and Exteriors of Automobiles.
First use Feb. 26, 1959.

SN 106,655. Sterling Drug Inc., New York, N.Y. Filed Oct. 18, 1960.

LOTHIOL

Owner of Reg. No. 584,679.
For Medicated Shampoo for Use on Animals.
First use Aug. 11, 1960.

SERVICE MARKS

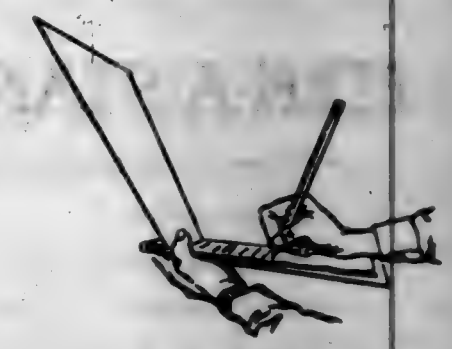
Class 101—Advertising and Business

SN 89,502. Chicago and Illinois Hairdressers Association, Chicago, Ill. Filed Jan. 22, 1960.

MIDWEST BEAUTY TRADE SHOW

The words "Beauty Trade Show" are disclaimed apart from the mark as shown.
For Advertising and Promoting the Sale of Goods of Manufacturers and Distributors of Supplies and Equipment for the Beauty Salon Industry Through the Medium of an Annual Trade Show and Furnishing Services Through the Dissemination of Information and Promotional Material in Connection With the Planning of, Arrangements for and Display of Such Manufacturers' and Distributors' Goods at Said Annual Trade Show.
First use April 1924.

SN 100,488. Automotive Appraisal Company, Canfield, Ohio. Filed July 8, 1960.



For Inspection and Appraisals of All Types of Automotive, Mercantile, and Marine Physical Damage.
First use Apr. 15, 1959.

Class 103 — Construction and Repair

SN 99,447. Orkin Exterminating Company, Inc., Atlanta, Ga. Filed June 21, 1960.



Owner of Reg. Nos. 568,404, 647,232, and others.

For Pest Control Services—Namely, Ridding Property and Structures of Termites, Pests, and Rodents, and Controlling and Protecting Such Property and Structures Against Infestation and Reinfestation by Termites, Pests, and Rodents by the Use of Various Chemicals, Gases, Traps, and Other Devices; Fumigating; and Spraying.

First use Feb. 23, 1960; 1901 as to "Orkin."

Class 104 — Communication

SN 100,333. World Wide Medical News Service, Inc., New York, N.Y. Filed July 5, 1960.

TELEMEDICOM

For Teletype Medical News Service.
First use June 13, 1960.

Class 105 — Transportation and Storage

SN 99,916. Central Gulf Steamship Corporation, New Orleans, La. Filed June 29, 1960.



For Water Transportation of Cargo.
First use on or about May 1, 1959.

Class 106 — Material Treatment

SN 94,686. Palatine Dyeing Company, Inc., St. Johnsville N.Y. Filed Apr. 8, 1960.

RESTALURE

Owner of Reg. No. 365,102.
For Textile Finishing Treatments.
First use Mar. 30, 1960.

COLLECTIVE MEMBERSHIP MARKS

Class 200

SN 103,838. Country Music Association, Inc., Nashville, Tenn. Filed Sept. 2, 1960.



For Indicating Membership in Applicant.
First use Oct. 7, 1959.

TRADEMARK REGISTRATIONS ISSUED

PRINCIPAL REGISTER

Class 1—Raw or Partly Prepared Materials

711,667. MOPLEN. Montecatini, Societa Generale per l'Industria Mineraria e Chimica. SN 53,897. Pub. 12–13–60. Filed 6–19–58.

711,668. CARBOSET. The B. F. Goodrich Company. SN 97,483. Pub. 12–13–60. Filed 5–19–60.

711,669. CELLOGARD. Guardian Paper Company. SN 97,762. Pub. 12–13–60. Filed 5–24–60.

711,670. ALL WARM. Lobsitz Mills Company. SN 98,006. Pub. 12–13–60. Filed 5–27–60.

711,671. FELCO. Farmers Elevator Service Company. SN 98,644. Pub. 12–13–60. Filed 6–8–60.

Class 2—Receptacles

711,672. DUR-A-LUG. International Paper Company. SN 86,663. Pub. 12–13–60. Filed 12–4–59.

711,673. CHRISTY VAULTS AND DESIGN. Christy Vault Company. SN 95,562. Pub. 12–13–60. Filed 4–22–60.

711,674. WATER BUFF AND HEAD OF WATER BUFFALO. Olin Mathieson Chemical Corporation. SN 97,862. Pub. 12–13–60. Filed 5–25–60.

711,675. KITCO. Kirch-Trumbull Corporation. SN 98,103. Pub. 12–13–60. Filed 5–31–60.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

711,676. PHOENIX AND DESIGN. Union Tank Car Company. SN 81,354. Pub. 12–13–60. Filed 9–14–59.

711,677. LAVAMER. Nash Inc. SN 97,856. Pub. 12–13–60. Filed 5–25–60.

711,678. SOFT TOUCH. A. J. Siris Products Corp. SN 98,030. Pub. 12–13–60. Filed 5–27–60.

Class 4—Abrasives and Polishing Materials

711,679. US RUBBER AND DESIGN. United States Rubber Company. SN 90,871. Pub. 12–13–60. Filed 2–12–60.

711,680. FREEWAX. Chemical Corporation of America. SN 96,828. Pub. 12–13–60. Filed 5–11–60.

711,681. WAX-O. Simonis Company. SN 96,542. Pub. 12–13–60. Filed 6–6–60.

Class 5—Adhesives

711,682. CURASEAL. Testworth Laboratories, Inc. SN 96,998. Pub. 12–13–60. Filed 5–12–60.

711,683. GLASSHESIVE. Hiller Aircraft Corporation. SN 98,479. Pub. 12–13–60. Filed 6–6–60.

711,684. PRES-IT-ON AND DESIGN. Paramount Paper Products Co. SN 100,632. Pub. 12–13–60. Filed 7–11–60.

Class 6—Chemicals and Chemical Compositions

711,685. DI-ETCH. The Dow Chemical Company, assignee of Angel Research, Inc. SN 82,186. Pub. 3–15–60. Filed 9–28–59.

711,686. ARETIT. Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning. SN 96,747. Pub. 12–13–60. Filed 12–7–59.

711,687. RUTEX. A. E. Staley Manufacturing Company. SN 87,455. Pub. 12–13–60. Filed 12–16–59.

711,688. BROM-O-GAS. Great Lakes Chemical Corporation. SN 88,857. Pub. 12–13–60. Filed 1–12–60.

711,689. BZO 50. U.S. Peroxygen Corp. SN 89,219. Pub. 12–13–60. Filed 1–18–60.

711,690. BU AND DESIGN. Blackman-Uhler Chemical Company. SN 97,449. Pub. 12–13–60. Filed 5–19–60.

711,691. REDIFLOC. Armour and Company. SN 96,565. Pub. 12–13–60. Filed 6–7–60.

711,692. CUPROX. Coleman Instruments, Inc. SN 98,866. Pub. 12–13–60. Filed 6–13–60.

711,693. CUPRIN. Coleman Instruments, Inc. SN 98,867. Pub. 12–13–60. Filed 6–13–60.

711,694. CAUSTICON. Coleman Instruments, Inc. SN 98,868. Pub. 12–13–60. Filed 6–13–60.

711,695. ALASKA AND DESIGN. Acme Refining Corporation. SN 99,401. Pub. 12–13–60. Filed 6–21–60.

Class 7—Cordage

711,696. PENGO-PROPE. Petersen Engineering Co., Inc. SN 88,421. Pub. 12–13–60. Filed 1–4–60.

711,697. SEA HAWK AND DESIGN. Ashimori Industry Co., Ltd. SN 88,638. Pub. 12–13–60. Filed 1–8–60.

711,698. FLEX-LAID. Rochester Ropes, Inc. SN 94,422. Pub. 12–13–60. Filed 4–5–60.

Class 8—Smokers' Articles, Not Including Tobacco Products

711,699. BUTT BUTLER NO BUTTS ABOUT IT! A. Wangerin Hardware Corp. SN 94,534. Pub. 12–13–60. Filed 4–6–60.

711,700. WORLD WIDE LINE AND DESIGN. Atlas Crystal Works, d.b.a. Worldwide Art Studios. SN 97,976. Pub. 12–13–60. Filed 5–27–60.

Class 10—Fertilizers

711,701. SHUR-GAIN AND DESIGN. Canada Packers Limited. SN 91,062. Pub. 12–13–60. Filed 2–17–60.

711,702. R BRAND. Lindauer and Company. SN 94,675. Pub. 12–13–60. Filed 4–8–60.

711,703. FELCO. Farmers Elevator Service Company. SN 98,645. Pub. 12–13–60. Filed 6–8–60.

Class 11—Inks and Inking Materials

711,704. HARD-TEX. Sun Chemical Corporation. SN 105,468. Pub. 12–13–60. Filed 9–29–60.

Class 12—Construction Materials

711,705. AIR-TITE AND DESIGN. Air-Tite Products, Inc. SN 77,888. Pub. 12–13–60. Filed 7–17–59.

711,706. AIRKROM. H. K. Porter Company, Inc. SN 95,619. Pub. 12–13–60. Filed 4–22–60.

711,707. KROMTITE. H. K. Porter Company, Inc. SN 95,620. Pub. 12–13–60. Filed 4–22–60.

711,708. AIRMAG. H. K. Porter Company, Inc. SN 95,623. Pub. 12–13–60. Filed 4–22–60.

711,709. PRESTIGE. Evans Products Company, assignee of General Plywood Corporation. SN 95,892. Pub. 7–26–60. Filed 4–27–60.

711,710. KILMAG. H. K. Porter Company, Inc. SN 101,202. Pub. 12–13–60. Filed 7–20–60.

711,711. AMBRIDGE. United States Steel Corporation. SN 101,220. Pub. 12–13–60. Filed 7–20–60.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

711,712. AGA. Svenska Aktiebolaget Gasaccumulator. SN 11,712. Pub. 2–3–59. Filed 7–6–56.

711,713. TEE VALVE. Spraying Systems Co. SN 89,209. Pub. 12–13–60. Filed 1–18–60.

711,714. JOHNNY HUSH. Chicago Specialty Manufacturing Co, SN 90,395. Pub. 12–13–60. Filed 2–5–60.

711,715. BULLSEYE BOTTOM. Legion Utensils Company, Inc. SN 90,848. Pub. 12–13–60. Filed 2–12–60.

711,716. MOORING MAGIC. Peters & Russell, Inc. SN 91,208. Pub. 12–13–60. Filed 2–18–60.

711,717. WEHAG AND DESIGN. Fa. Wilh. Engstfeld. SN 93,911. Pub. 12–13–60. Filed 3–29–60.

711,718. CHAMPION AND DESIGN. The Safe Padlock and Hardware Company. SN 97,522. Pub. 12–13–60. Filed 5–19–60.

711,719. EDINGS. Thomas C. Edwards. SN 98,782. Pub. 12–13–60. Filed 6–10–60.

711,720. FORECAST. Dare Products, Incorporated. SN 98,874. Pub. 12–13–60. Filed 6–13–60.

711,721. TIDY RAK. Lollmar Corporation. SN 98,909. Pub. 12–13–60. Filed 6–13–60.

711,722. ACIPCOLOY. American Cast Iron Pipe Company. SN 98,964. Pub. 12–13–60. Filed 6–14–60.

711,723. AMBRIDGE. United States Steel Corporation. SN 101,219. Pub. 12–13–60. Filed 7–20–60.

Class 14—Metals and Metal Castings and Forgings

711,724. NE AND DESIGN. New England Alloy Casting Corporation. SN 96,123. Pub. 12–13–60. Filed 5–31–60.

Class 15—Oils and Greases

711,725. AQUALUBE. Anderson Oil and Chemical Company, Inc. SN 87,323. Pub. 12–13–60. Filed 12–15–59.

711,726. PARADE. Hunt Oil Company. SN 95,085. Pub. 12–13–60. Filed 4–14–60.

711,727. SUPER FLASH AND DESIGN. The Somerset Refinery, Inc. SN 101,901. Pub. 12–13–60. Filed 8–2–60.

711,728. POW=ROL AND DESIGN. Frictioneese Corporation. SN 103,140. Pub. 12–13–60. Filed 8–22–60.

Class 16—Protective and Decorative Coatings

711,729. DURABASE. Snyder Brothers Company. SN 70,116. Pub. 12–13–60. Filed 3–23–59.

711,730. M AND DESIGN. Midland Industrial Finishes Company. SN 73,031. Pub. 12–13–60. Filed 5–6–59.

711,731. McNAMARA. Mac-O-Lac Paints, Inc. SN 92,385. Pub. 12–13–60. Filed 3–8–60.

711,732. LAVAN. Olson Company of Sarasota, Inc. SN 92,635. Pub. 12–13–60. Filed 3–11–60.

711,733. LITTLE SHIP. British Paints Limited. SN 93,588. Pub. 12–13–60. Filed 3–24–60.

711,734. BREICRAFT. Breinig Brothers, Inc. SN 97,983. Pub. 12–13–60. Filed 5–27–60.

711,735. DU-LITE. E. I. du Pont de Nemours and Company. SN 99,579. Pub. 12–13–60. Filed 6–23–60.

711,736. COLOR GEMS AND DESIGN. Ampruf Paint Co., Inc. of California, d.b.a. Ampruf Paint Company. SN 99,610. Pub. 12–13–60. Filed 6–24–60.

711,737. KAYBAR. Kaybar, Inc. SN 99,630. Pub. 12–13–60. Filed 6–24–60.

Class 17—Tobacco Products

711,738. MARCONI. Continental Cigar Company. SN 93,907. Pub. 12–13–60. Filed 3–29–60.

711,739. DEEP WEAVE. Brown & Williamson Tobacco Corporation. SN 101,470. Pub. 12–13–60. Filed 7–26–60.

Class 18—Medicines and Pharmaceutical Preparations

711,740. ZONIUM CHLORIDE. The Lannett Company, Inc. SN 77,755. Pub. 12–13–60. Filed 7–15–59.

711,741. BETADINE. Tailby-Nason Company, Inc., assignee of International Latex Corporation. SN 83,630. Pub. 12–13–60. Filed 10–20–59.

711,742. MEDULES. The Upjohn Company. SN 85,435. Pub. 12–13–60. Filed 11–16–59.

711,743. AMPROL. Merck & Co., Inc. SN 92,387. Pub. 12–13–60. Filed 3–8–60.

711,744. PAINQUELLIZER. American Home Products Corporation, d.b.a. Whitehall Laboratories. SN 93,654. Pub. 12–13–60. Filed 3–25–60.

711,745. ZYPLEX. Swedish Pharmaceuticals Limited. SN 97,788. Pub. 12–13–60. Filed 5–24–60.

711,746. LAXITONE. Delta Pharmaceuticals, Inc. SN 98,345. Pub. 12–13–60. Filed 6–3–60.

711,747. TACARYL. Mead Johnson & Company. SN 98,379. Pub. 12–13–60. Filed 6–3–60.

711,748. DERMA-FILM. Pharmaceutical Specialties, Inc., d.b.a. Dermatological Prescription Laboratories. SN 99,084. Pub. 12–13–60. Filed 6–15–60.

711,749. PSORALAN. Frommes Method, Inc. SN 99,200. Pub. 12–13–60. Filed 6–17–60.

711,750. PEPTRON. Savage Laboratories, Inc. SN 99,541. Pub. 12–13–60. Filed 6–22–60.

711,751. DELESTREC. Olin Mathieson Chemical Corporation. SN 100,038. Pub. 12–13–60. Filed 6–30–60.

711,752. NICAPLEX. Walker Laboratories, Inc. SN 100,483. Pub. 12–13–60. Filed 7–7–60.

711,753. POULTRY SWIG. Dr. Le Gear, Inc. SN 100,915. Pub. 12–13–60. Filed 7–13–60.

711,754. ELAVIL. Merck & Co., Inc. SN 101,019. Pub. 12–13–60. Filed 7–18–60.

711,755. ZYPAC. Direct Laboratories, Inc. SN 101,251. Pub. 12–13–60. Filed 7–21–60.

711,756. EXATEX. Wynlit Pharmaceuticals, Inc. SN 101,722. Pub. 12–13–60. Filed 7–29–60.

711,757. DETHYRON. Baxter Laboratories, Inc. SN 101,737. Pub. 12–13–60. Filed 8–1–60.

711,758. OSSEOFAC. Olin Mathieson Chemical Corporation. SN 103,043. Pub. 12–13–60. Filed 8–19–60.

711,759. DRYVAX. American Home Products Corporation, d.b.a. Wyeth Laboratories. SN 103,076. Pub. 12–13–60. Filed 8–22–60.

711,760. MESULFIN. American Home Products Corporation, d.b.a. Ayerst Laboratories. SN 103,077. Pub. 12–13–60. Filed 8–22–60.

711,761. BRIDAMOL. Calmic Limited. SN 103,259. Pub. 12–13–60. Filed 8–23–60.

711,762. MEDISCRATCH. Abbott Laboratories. SN 103,508. Pub. 12–13–60. Filed 8–29–60.

711,763. HEATEX. Dumas Milner Corporation. SN 103,660. Pub. 12–13–60. Filed 8–30–60.

Class 19—Vehicles

711,764. TILT-TOP. Miller Tilt-Top Trailer Inc. SN 44,637. Pub. 12–13–60. Filed 1–24–58.

711,765. APARTMTS FOR PICKUPS. Donald F. Sloat, d.b.a. Sloat Manufacturing Co. SN 68,847. Pub. 12–13–60. Filed 3–3–59.

711,766. ACLO AND DESIGN. A.E.C. Limited. SN 87,468. Pub. 12–13–60. Filed 12–17–59.

711,767. LINENMOBILE. Atlantic Alloy Industries, Inc. SN 98,616. Pub. 12–13–60. Filed 6–8–60.

711,768. VALIANT. Chrysler Corporation. SN 100,352. Pub. 12–13–60. Filed 7–6–60.

711,769. CUSHION-RIDE. The Buckeye Steel Castings Company. SN 100,401. Pub. 12–13–60. Filed 7–6–60.

711,770. PALOMAR. Douglas Aircraft Company, Inc. SN 100,895. Pub. 12–20–60. Filed 7–15–60.

711,771. AIRBEAM. A.J. Industries, Inc. SN 100,745. Pub. 12–13–60. Filed 7–13–60.

Class 21—Electrical Apparatus, Machines, and Supplies

711,772. ZELL. The Zell Products Corporation. SN 30,540. Pub. 11–12–57. Filed 5–22–57.

711,773. PANDUCT. Panduit Corp. SN 74,248. Pub. 12–13–60. Filed 5–21–59.

711,774. BACKGROUND DESIGN. Warner Electric Brake & Clutch Company. SN 85,188. Pub. 12–13–60. Filed 11–12–59.

711,775. AUDI. Auto Union G.m.b.H. SN 85,459. Pub. 12–13–60. Filed 11–17–59.

711,776. ELECTRA. Electra Manufacturing Co. SN 89,145. Pub. 12–13–60. Filed 1–18–60.

711,777. ARGUS. Sylvania Electric Products Inc. SN 89,388. Pub. 12–13–60. Filed 1–20–60.

711,778. BETA. Critchley Bros. Ltd. SN 90,998. Pub. 8–30–60. Filed 2–16–60.

711,779. SPIRALAMP. Certified Electric Corporation. SN 91,339. Pub. 5–17–60. Filed 2–23–60.

711,780. WILRITE. Wilrite Products, Inc. SN 98,253. Pub. 12–13–60. Filed 6–1–60.

711,781. CLINICAIRE. Waring Products Corporation. SN 98,315. Pub. 12–13–60. Filed 6–2–60.

711,782. GUARDAIRE. Waring Products Corporation. SN 98,316. Pub. 12–13–60. Filed 6–2–60.

711,783. PROTECTAIRE. Waring Products Corporation. SN 98,317. Pub. 12–13–60. Filed 6–2–60.

Class 22—Games, Toys, and Sporting Goods

711,784. HYDE. A. R. Hyde & Sons Company. SN 87,232. Pub. 12–13–60. Filed 12–14–59.

711,785. KORRIS KARS. Korris Products, Inc. SN 87,358. Pub. 12–13–60. Filed 12–15–59.

711,786. LITTLE MISS MAKIT. Mary M. Goff. SN 87,870. Pub. 12–13–60. Filed 12–23–59.

711,787. ALL SPORTING GOODS ETC. AND DESIGN. Kabushiki-kaisha Mitsuwa Undoyohin-ten (F. H. Mitsuwa Co., Ltd.). SN 92,193. Pub. 12–13–60. Filed 12–16–59.

711,788. TAKE-A-TOG. Eli Reiskin, d.b.a. The Ardee Co. SN 97,245. Pub. 12–13–60. Filed 5–16–60.

711,789. DOFUNER. Milton D. Youngren. SN 97,323. Pub. 12–13–60. Filed 5–17–60.

711,790. WARWICK. Dunlop Tire and Rubber Corporation. SN 98,883. Pub. 12–13–60. Filed 6–13–60.

711,791. LOCKSLEY. Ben Pearson, Inc. SN 99,082. Pub. 12–13–60. Filed 6–15–60.

711,792. CREE-DUK. William B. Szabo, d.b.a. Bill Szabo. SN 99,253. Pub. 12–13–60. Filed 6–17–60.

711,793. Z-RAY. Joseph J. Wittmann, Jr., d.b.a. Wittmann Lures. SN 99,686. Pub. 12–13–60. Filed 6–24–60.

711,794. RACE A WAY. Race-A-Way Games. SN 99,872. Pub. 12–13–60. Filed 6–28–60.

711,795. HOOT-NANNY. Northern Signal Company, Inc. SN 105,478. Pub. 12–13–60. Filed 9–30–60.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

711,796. AGA. Svenska Aktiebolaget Gasaccumulator. SN 11,719. Pub. 2–3–59. Filed 7–6–56.

711,797. VERTOMAX. F. B. Redington Co. SN 87,983. Pub. 12–13–60. Filed 12–24–59.

711,798. G AND DESIGN. Glyco-Metall-Werke Daelen & Loos GmbH. SN 89,059. Pub. 12–13–60. Filed 1–15–60.

711,799. McC AND DESIGN. McCulloch Corporation. SN 89,693. Pub. 12–13–60. Filed 1–26–60.

711,800. INSTA-MATIC. Package Containers, Inc. SN 93,202. Pub. 12–13–60. Filed 3–18–60.

711,801. WALSH. Walsh Manufacturing Company. SN 96,645. Pub. 12–13–60. Filed 5–6–60.

711,802. BIG STICK. T. E. Brown, d.b.a. Brown Machinery Service. SN 97,378. Pub. 12–13–60. Filed 5–18–60.

711,803. B-W UNISPRAG. Borg-Warner Corporation. SN 99,038. Pub. 12–13–60. Filed 6–15–60.

711,804. TORQAM. Cullen-Friestedt Company. SN 99,131. Pub. 12–13–60. Filed 6–16–60.

711,805. SUPER DEMON ETC. AND DESIGN. The DoAll Company. SN 100,503. Pub. 12–13–60. Filed 7–8–60.

711,806. ZINC-MATIC. Chemco Photoproducts Company, Inc. SN 103,543. Pub. 12–20–60. Filed 8–29–60.

711,807. EXPRESS. Blaw-Knox Company. SN 102,090. Pub. 12–13–60. Filed 8–5–60.

711,808. SUBURBAN. Blaw-Knox Company. SN 102,091. Pub. 12–13–60. Filed 8–5–60.

711,809. MUSVAC. Musgrave Mfg. Co. SN 102,256. Pub. 12–13–60. Filed 8–8–60.

711,810. BIOZON. Dresser Industries, Inc., assignee of Podbielniak, Inc. SN 102,261. Pub. 12–13–60. Filed 8–8–60.

711,811. ROTOJET. Laroche Frères, Société à Responsabilité Limitée. SN 102,400. Pub. 12–13–60. Filed 8–10–60.

711,812. MASTERCUT. Aircapitol Manufacturers, Inc. SN 102,528. Pub. 12–13–60. Filed 8–12–60.

711,813. GOLD DOT. Heinemann Saw Corporation. SN 102,560. Pub. 12–13–60. Filed 8–12–60.

711,814. CERAMAX. O. S. Walker Company, Inc. SN 102,711. Pub. 12–13–60. Filed 8–15–60.

711,815. TRANSECO. Howard W. Benjamin, d.b.a. Transeco Engineering Company. SN 102,728. Pub. 12–13–60. Filed 8–16–60.

711,816. ECON-O-MIST. Bell & Gossett Company. SN 102,887. Pub. 12–13–60. Filed 8–18–60.

711,817. CLEAN-O-MATIC. Cassidy Products, Inc. SN 103,096. Pub. 12–13–60. Filed 8–22–60.

711,818. DOLE. James Dole Engineering Co. SN 103,109. Pub. 12–13–60. Filed 8–22–60.

711,819. CENTRAL. Robert Dunham, d.b.a. Central Sewing Supply Co. SN 103,116. Pub. 12–13–60. Filed 8–22–60.

711,820. FSI. Food Systems, Inc. SN 103,272. Pub. 12–13–60. Filed 8–23–60.

Class 26 — Measuring and Scientific Appliances

711,821. AGA. Svenska Aktiebolaget Gasaccumulator. SN 11,714. Pub. 2–10–59. Filed 7–6–56.

711,822. SHOLD-O-POD. Arthur L. Fernelius, d.b.a. Shold-O-Pod Co. SN 69,801. Pub. 12–13–60. Filed 3–18–59.

711,823. EMPOWER. Empire Devices Products Corp. SN 77,276. Pub. 12–13–60. Filed 7–8–59.

711,824. APC AND DESIGN. Automatic Process Control, Inc. SN 89,119. Pub. 12–13–60. Filed 1–18–60.

711,825. Q-CON. Century Contact Lens Co., Inc. SN 89,408. Pub. 12–13–60. Filed 1–21–60.

711,826. HYDROSPENSER. Automatic Process Control, Inc. SN 89,891. Pub. 12–13–60. Filed 1–29–60.

711,827. UNI-FEEDER. Wyandotte Chemicals Corporation. SN 90,126. Pub. 12–13–60. Filed 2–1–60.

711,828. CATSEYE. Kono Manufacturing Co. Inc. SN 90,846. Pub. 12–13–60. Filed 2–12–60.

711,829. IRIDIA. Ferrania S.p.A. SN 94,977. Pub. 12–13–60. Filed 4–13–60.

711,830. ZAFFIRO. Ferrania S.p.A. SN 94,978. Pub. 12–13–60. Filed 4–13–60.

711,831. PORTA SCREEN. Gilson Screen Co. SN 96,853. Pub. 12–13–60. Filed 5–11–60.

711,832. PHOTOPOT AND DESIGN. Giannini Controls Corporation. SN 98,892. Pub. 12–13–60. Filed 6–13–60.

711,833. RADIPOL. Marion Laboratories, Inc. SN 98,914. Pub. 12–13–60. Filed 6–13–60.

711,834. LUMINAR AND DESIGN. Firearms International Corporation. SN 99,580. Pub. 12–13–60. Filed 6–23–60.

711,835. CLINITRON. Clay Adams, Inc. SN 102,544. Pub. 12–13–60. Filed 8–12–60.

711,836. AUTO THERM. American Gage & Machine Company. SN 102,603. Pub. 12–13–60. Filed 8–15–60.

711,837. MICRO SYSTEM. Engineered Electronics Company. SN 102,632. Pub. 12–13–60. Filed 8–15–60.

711,838. THAYER. Thayer Scale Corp. SN 102,706. Pub. 12–13–60. Filed 8–15–60.

711,839. TRIPOD INSIGNIA. Quick-Set, Inc. SN 102,782. Pub. 12–13–60. Filed 8–16–60.

711,840. LOK-SKOPE. Engelhard Hanovia, Inc. SN 102,835. Pub. 12–13–60. Filed 8–17–60.

Class 27 — Horological Instruments

711,841. FM. Etablissements Francois Misserez. SN 90,455. Pub. 12–13–60. Filed 2–5–60.

Class 28 — Jewelry and Precious-Metal Ware

711,842. GAZELLE AND DESIGN. Erich Schewe o.H.G. SN 29,958. Pub. 11–11–58. Filed 5–13–57.

711,843. MARCHAL JEWELERS. Marchal, Inc. SN 97,222. Pub. 12–13–60. Filed 5–16–60.

711,844. IBSEN. J. P. Ibsen & Co. SN 97,940. Pub. 12–13–60. Filed 5–26–60.

Class 31 — Filters and Refrigerators

711,845. DUST-BAN. Skuttle Manufacturing Co. SN 85,167. Pub. 12–13–60. Filed 11–12–59.

711,846. FILTER-MATIC. Indiana Commercial Filters Corporation. SN 89,853. Pub. 12–13–60. Filed 1–28–60.

711,847. DIAQUA. General Filter Company. SN 96,327. Pub. 12–13–60. Filed 5–3–60.

Class 32 — Furniture and Upholstery

711,848. ERINCO. E. Wiley Clark, d.b.a. Erinco Products. SN 87,637. Pub. 12–13–60. Filed 12–21–59.

711,849. CLASSIC. Shelbar, Inc. SN 92,313. Pub. 12–13–60. Filed 3–7–60.

711,850. NARCO. The National Rose Company, Inc. SN 99,076. Pub. 12–13–60. Filed 6–15–60.

711,851. UNIFRONTS. Belwood Industries, Inc. SN 99,280. Pub. 12–13–60. Filed 6–20–60.

Class 33 — Glassware

711,852. DON DUVAL. United Wire Craft Inc. SN 82,861. Pub. 12–13–60. Filed 10–7–59.

711,853. TRANSPAN. Virginia Glass Products Corporation. SN 96,377. Pub. 12–13–60. Filed 5–3–60.

Class 34 — Heating, Lighting, and Ventilating Apparatus

711,854. AGA. Svenska Aktiebolaget Gasaccumulator. SN 11,708. Pub. 2–3–59. Filed 7–6–56.

711,855. TELE-VENT. H. C. Little Burner Company, Inc. SN 88,677. Pub. 12–13–60. Filed 1–8–60.

711,856. ROY TRAY. Roy Sapp. SN 96,811. Pub. 12–13–60. Filed 5–10–60.

711,857. THRIFTCHANGER. Sturges Heat Recovery, Inc. SN 97,886. Pub. 12–13–60. Filed 5–25–60.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

711,858. FEL-COPRENE. Felt Products Manufacturing Company. SN 100,357. Pub. 12–13–60. Filed 7–6–60.

711,859. PERMA-TRAC. Atlas Supply Company. SN 100,681. Pub. 12–13–60. Filed 7–12–60.

Class 36 — Musical Instruments and Supplies

711,860. HI-PEDAL. Hi-Pedal Manufacturing Company. SN 70,476. Pub. 12–13–60. Filed 3–30–59.

711,861. CAPRICORN AND DESIGN. Margaret L. McClean, d.b.a. Capricorn Records. SN 84,441. Pub. 12–13–60. Filed 11–2–59.

711,862. ADD-A-TRACK. V-M Corporation. SN 98,752. Pub. 12–13–60. Filed 6–6–60.

711,863. CEMBALET. M. Hohner Inc. SN 98,795. Pub. 12–13–60. Filed 6–10–60.

Class 37 — Paper and Stationery

711,864. TEL-A-CALL. Charles W. Browning, d.b.a. Tel-A-Call Co. SN 90,145. Pub. 12–13–60. Filed 2–2–60.

711,865. ENVEL-MATIC ETC. AND DESIGN. The Parish Service Company. SN 93,086. Pub. 12–13–60. Filed 3–17–60.

711,866. KITCO. Kirch-Trumbull Corporation. SN 96,104. Pub. 12–13–60. Filed 5–31–60.

711,867. HANDYWAY. Originalities of New York, Inc. SN 99,230. Pub. 12–13–60. Filed 6–17–60.

711,868. WRAPSEAL. Reynolds Metals Company. SN 99,243. Pub. 12–13–60. Filed 6–17–60.

711,869. FIBREFORCE. Crown Zellerbach Corporation. SN 99,300. Pub. 12–13–60. Filed 6–20–60.

711,870. CROWNWHITE. Crown Zellerbach Corporation. SN 99,301. Pub. 12–13–60. Filed 6–20–60.

711,871. LEAF-O-LETS. Leafsaver Company. SN 100,269. Pub. 12–13–60. Filed 7–5–60.

711,872. SECO AND DESIGN. Seaboard Envelope Co. SN 100,300. Pub. 12–13–60. Filed 7–5–60.

711,873. ALCOA ALWRAP AND DESIGN. Aluminum Company of America. SN 100,485. Pub. 12–13–60. Filed 7–8–60.

711,874. ALUPRINT. Vaculite Corporation. SN 100,667. Pub. 12–13–60. Filed 7–11–60.

711,875. DUPLI-SNAP. Eureka Specialty Printing Company. SN 100,840. Pub. 12–13–60. Filed 7–14–60.

711,876. DUPLI-STICKERS. Eureka Specialty Printing Company. SN 100,841. Pub. 12–13–60. Filed 7–14–60.

711,877. TWIN-C. Crown Zellerbach Corporation. SN 100,977. Pub. 12–13–60. Filed 7–18–60.

711,878. BONDALURE. Champion Paper Specialties, Inc. SN 101,658. Pub. 12–13–60. Filed 7–29–60.

711,879. ASTRO-VAC. Champion Paper Specialties, Inc. SN 101,659. Pub. 12–13–60. Filed 7–29–60.

711,880. CHARM-PAK. Champion Paper Specialties, Inc. SN 101,660. Pub. 12–13–60. Filed 7–29–60.

711,881. LOCKEDGE. Champion Paper Specialties, Inc. SN 101,661. Pub. 12–13–60. Filed 7–29–60.

711,882. MACE. Champion Paper Specialties, Inc. SN 101,662. Pub. 12–13–60. Filed 7–29–60.

711,883. PARADE. Champion Paper Specialties, Inc. SN 101,663. Pub. 12–13–60. Filed 7–29–60.

711,884. REACT. Gilbert Paper Company. SN 101,773. Pub. 12–13–60. Filed 8–1–60.

Class 38 — Prints and Publications

711,885. TESTS. Tests, Inc. SN 62,431. Pub. 12–13–60. Filed 11–13–58.

711,886. BEAUTY AND THE BEAST BY COUNT MARCO AND DESIGN. Marc Henry Spinelli. SN 83,141. Pub. 12–13–60. Filed 10–12–59.

711,887. CHRISTMAS HOLIDAYS. H. S. Crocker Co., Inc., d.b.a. California Artists. SN 87,207. Pub. 12–13–60. Filed 12–14–59.

711,888. KNOW YOUR NAVY. Stokes Walesby. SN 87,517. Pub. 12–13–60. Filed 12–17–59.

711,889. ITT. International Telephone and Telegraph Corporation. SN 88,766. Pub. 12–13–60. Filed 1–11–60.

711,890. THE PARK AVENUE LINE AND DESIGN. Park Avenue Company. SN 97,326. Pub. 12–13–60. Filed 5–17–60.

711,891. MY SON JOHN. Chicago Tribune-New York News Syndicate, Inc. SN 97,925. Pub. 12–13–60. Filed 5–26–60.

Class 39 — Clothing

711,892. IMPERIAL WEAR. Imperial Outfitters to Large Men, Inc. SN 44,901. Pub. 12–13–60. Filed 1–29–59.

711,893. FIT/EASE. The Frank H. Lee Company. SN 74,142. Pub. 12–13–60. Filed 5–20–59.

711,894. PRM AND DESIGN. PRM S.p.A. SN 74,784. Pub. 12–13–60. Filed 5–29–59.

711,895. STEFAN FOR BRIARBROOK. Leslie Fay Inc., assignee of Leslie Fay Fashions, Inc. SN 76,229. Pub. 12–13–60. Filed 6–22–59.

711,896. MISS ARKANSAW. W. H. Goodin, d.b.a. W. H. Goodin Distributing Company. SN 82,575. Pub. 12–13–60. Filed 10–2–59.

711,897. PANTERNITIES. Mister Pants, Inc. SN 83,533. Pub. 12–13–60. Filed 10–19–59.

711,898. GIRLTOWN. Giritown, Inc. SN 85,485. Pub. 12–13–60. Filed 11–17–59.

711,899. TEMPO ETC. AND DESIGN. Pioneer Shirt Manufacturing Co. SN 85,903. Pub. 12–13–60. Filed 11–23–59.

711,900. NORRIS CASUALS. Norris Manufacturing Company. SN 86,681. Pub. 12–13–60. Filed 1–8–60.

711,901. TOOFERS. Pant-O-Mines Inc. SN 88,796. Pub. 12–13–60. Filed 1–11–60.

711,902. STUDDS BY H.I.S. Henry I. Siegel Co., Inc. SN 91,862. Pub. 12–13–60. Filed 2–29–60.

711,903. TURNER TOGS. N & W Industries, Inc. SN 92,389. Pub. 12–13–60. Filed 3–8–60.

711,904. SANTA'S HELPER. Santa's Village. SN 95,939. Pub. 12–13–60. Filed 4–27–60.

711,905. SUSAN LAURIE. Susan Laurie, Inc. SN 95,948. Pub. 12–13–60. Filed 4–27–60.

711,906. NEWPORT'S CAPRI. Newport Knitting Co., Inc. SN 96,025. Pub. 12–13–60. Filed 4–28–60.

711,907. CONTESSA DI ROMA. Contessa di Roma, Inc. SN 96,098. Pub. 12–13–60. Filed 4–29–60.

711,908. CHEVRON SHIELD DESIGN. Seattle Knitting Mills, Inc. SN 96,271. Pub. 12–13–60. Filed 5–3–60.

711,909. VELVEDEER. Leon F. Swears, Inc. SN 96,638. Pub. 12–13–60. Filed 5–6–60.

711,910. LADY LEE RIDERS. The H. D. Lee Company, Incorporated. SN 97,218. Pub. 12–13–60. Filed 5–16–60.

711,911. TROWSIR AND REPRESENTATION OF MALE FIGURE. Ph. Horowitz, Inc. SN 97,938. Pub. 12–13–60. Filed 5–26–60.

711,912. KASANOVA. Aris Gloves, Inc. SN 97,975. Pub. 12–13–60. Filed 5–27–60.

711,913. EAGLE AND DESIGN. Eagle Clothes, Inc. SN 101,224. Pub. 12–13–60. Filed 7–20–60.

Class 40 — Fancy Goods, Furnishings, and Notions

711,914. ATCO. American Thread Company. SN 93,406. Pub. 12–13–60. Filed 3–22–60.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

711,915. ASTRA. Duraloom Carpet Mills, Inc. SN 93,895. Pub. 12–13–60. Filed 3–7–60.

711,916. UNITED STATES MILLS ETC. AND DESIGN. L. W. Wirth, Inc. SN 98,907. Pub. 12–13–60. Filed 5–11–60.

711,917. FRAPPE. Morgan-Jones, Inc. SN 99,640. Pub. 12–13–60. Filed 6–24–60.

711,918. THERMO-SPLICE. Hess, Goldsmith & Co., Inc. SN 101,101. Pub. 12–13–60. Filed 7–19–60.

711,919. EAGLE AND DESIGN. Eagle Clothes, Inc. SN 101,225. Pub. 12–13–60. Filed 7–20–60.

711,920. STARCORD. Dan River Mills, Incorporated. SN 101,243. Pub. 12–13–60. Filed 7–21–60.

711,921. SURFBONE. Dan River Mills, Incorporated. SN 101,244. Pub. 12–13–60. Filed 7–21–60.

711,922. TAWN. Dan River Mills, Incorporated. SN 101,245. Pub. 12–13–60. Filed 7–21–60.

711,923. SHADODAN. Dan River Mills, Incorporated. SN 101,247. Pub. 12–13–60. Filed 7–21–60.

711,924. RANDINO. Dan River Mills, Incorporated. SN 101,248. Pub. 12–13–60. Filed 7–21–60.

Class 43 — Thread and Yarn

711,925. POLYTONE. Northern Yarn Mills. SN 95,518. Pub. 12–13–60. Filed 4–21–60.

711,926. ACRILAN-SPECTRAN. The Chemstrand Corporation. SN 101,239. Pub. 12–13–60. Filed 7–21–60.

Class 44 — Dental, Medical, and Surgical Appliances

711,927. FUSO-FLO. Baxter Laboratories, Inc. SN 83,038. Pub. 4–5–60. Filed 10–12–59.

711,928. MALETEX. W. V. Matheny, d.b.a. Maletex Products. SN 84,547. Pub. 12–13–60. Filed 11–3–59.

711,929. THERASONE. Fritz Niesemann, d.b.a. F. Niesemann Company. SN 84,935. Pub. 12–13–60. Filed 11–9–59.

711,930. REMINDERS! Thomas A. Hazelton, d.b.a. "Reminders." SN 86,030. Pub. 12–13–60. Filed 11–25–59.

711,931. STANDARD. Simmons Company. SN 97,581. Pub. 12–13–60. Filed 5–20–60.

711,932. PORTO-CATH. Eleanor Ragon. SN 97,782. Pub. 12–13–60. Filed 5–24–60.

711,933. CELL-O-PICKS. Harry E. Davis, d.b.a. Cell-O-Core Company. SN 98,208. Pub. 12–13–60. Filed 6–1–60.

711,934. REDI DRYER. Knapp-Monarch Company. SN 98,904. Pub. 12–13–60. Filed 6–13–60.

711,935. PONTIFAB. The Dentists' Supply Company of New York. SN 99,807. Pub. 12–13–60. Filed 6–27–60.

711,936. VIDEO SPRAY. Farmila Farmaceutici S.a.r.l. Milano. SN 99,926. Pub. 12–13–60. Filed 6–29–60.

711,937. PLAYTEX. International Latex Corporation. SN 101,004. Pub. 12–13–60. Filed 7–18–60.

711,938. ACRYLINE. Home Dental Aids Company. SN 102,318. Pub. 12–13–60. Filed 8–9–60.

711,939. PELLATRON. The Mitchum Company. SN 102,332. Pub. 12–13–60. Filed 8–9–60.

Class 46 — Foods and Ingredients of Foods

711,940. RAPPAHANNOCK RIVER. J. W. Ferguson Sea Food Co. Inc. SN 79,477. Pub. 12–13–60. Filed 8–13–59.

711,941. MELODY. Melody Syrup Company. SN 90,171. Pub. 12–13–60. Filed 2–2–60.

711,942. BURNS. Burns-Alton Corporation, by change of name from Alton Canning Co., Inc. SN 93,579. Pub. 12–13–60. Filed 3–24–60.

711,943. JAVA JIM AND DESIGN. Lunchwagons, Inc. SN 94,785. Pub. 12–13–60. Filed 4–11–60.

711,944. GOUDAMAR. N.V. Koninklijke Stearine Kaarsenfabrieken "Gouda-Apollo." SN 96,610. Pub. 12–13–60. Filed 5–6–60.

711,945. GENZIANA. Locatelli S.p.A., d.b.a. Locatelli. SN 97,676. Pub. 12–13–60. Filed 5–23–60.

711,946. TRIMULSION. National Dairy Products Corporation. SN 98,121. Pub. 12–13–60. Filed 5–31–60.

711,947. JAYS. Jays Foods, Inc. SN 98,289. Pub. 12–13–60. Filed 6–2–60.

711,948. JAYS AND DESIGN. Jays Foods, Inc. SN 98,290. Pub. 12–13–60. Filed 6–2–60.

711,949. OLD ORIGINAL. San Giorgio Macaroni, Inc. SN 100,808. Pub. 12–13–60. Filed 7–13–60.

711,950. LOUETTE. Frank Brunette, d.b.a. Louette Food Products. SN 100,884. Pub. 12–13–60. Filed 7–15–60.

711,951. MISSOURI DANDY AND DESIGN. Hammons Products Company. SN 101,097. Pub. 12–13–60. Filed 7–19–60.

Class 49 — Distilled Alcoholic Liquors

711,952. KAHLUA AND DESIGN. Jules Berman & Associates, Inc., assignee of Jules Berman and Manuel Felix. SN 80,029. Pub. 12–13–60. Filed 8–10–59.

Class 50 — Merchandise Not Otherwise Classified

711,953. WORLD WIDE AND DESIGN. Atlas Crystal Works, d.b.a. Worldwide Art Studios. SN 97,977. Pub. 12–13–60. Filed 5–27–60.

711,954. VERSATILE IMPULSE SALESMAN. Schenley Industries, Inc. SN 98,154. Pub. 12–13–60. Filed 5–31–60.

Class 51 — Cosmetics and Toilet Preparations

711,955. CELL-O-ZYME. Sanford Laboratories, Inc., assignee of Medical Arts Laboratories, Inc. SN 79,262. Pub. 12–13–60. Filed 8–10–59.

711,956. LUSTRE-LIFE. Richard Hudnut. SN 101,175. Pub. 12–13–60. Filed 7–20–60.

Class 52 — Detergents and Soaps

711,957. ALL-OFF. Hertron Chemical Corporation. SN 64,413. Pub. 11–24–59. Filed 12–16–58.

711,958. KER-CELL. Wyandotte Chemicals Corporation. SN 98,562. Pub. 12–13–60. Filed 6–6–60.

Service Marks

Class 101 — Advertising and Business

711,959. AUTORAMA. Autorama Corporation. SN 83,036. Pub. 12–13–60. Filed 10–12–59.

711,960. WINGTEL. Walter E. Jensen. SN 90,519. Pub. 12–13–60. Filed 2–8–60.

Class 102 — Insurance and Financial

711,961. STRONG & COMPANY ETC. AND DESIGN. Strong and Company, Inc. SN 90,589. Pub. 12–13–60. Filed 2–8–60.

Class 103 — Construction and Repair

711,962. A.I.D. Pittsburgh Plate Glass Company. SN 51,142. Pub. 12–13–60. Filed 5–6–58.

Class 106 — Material Treatment

711,963. SPACEDYE. Fred Whitaker Company. SN 90,970. Pub. 12–13–60. Filed 2–15–60.

711,964. THERMIZING. Thermomet. SN 93,222. Pub. 12–13–60. Filed 3–18–60.

Class 107 — Education and Entertainment

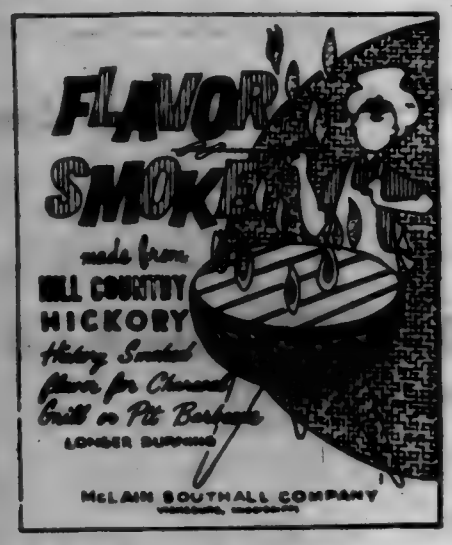
711,965. TELETAPE. National Telefilm Associates, Inc. SN 67,953. Pub. 12–13–60. Filed 2–18–59.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

Class 1 — Raw or Partly Prepared Materials

711,966. McLain-Southall Company, Vicksburg, Miss. SN 92,278. Filed P.R. 3–7–60; Am. S.R. 12–12–60.



The drawing is lined for red and yellow.
For Hickory Cubes for Outdoor Cooking.
First use Nov. 30, 1959.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

711,967. Wm. Steinen Mfg. Company, Newark, N.J. SN 75,887. Filed P.R. 6–16–59; Am. S.R. 12–19–60.

SOLID-JET

For Industrial Spraying Nozzles.
First use Oct. 15, 1958.

Class 37 — Paper and Stationery

711,968. Arvey Corporation, Chicago, Ill. SN 97,368. Filed P.R. 5–18–60; Am. S.R. 12–23–60.

e-z SEAL

For Mailing Envelopes.
First use Oct. 15, 1958.

Class 38 — Prints and Publications

711,969. The Washington Post Company, Washington, D.C. SN 92,060. Filed 3–2–60.

ANNE'S READER EXCHANGE

For Column in a Newspaper.
First use Oct. 27, 1957.

Class 45 — Soft Drinks and Carbonated Waters

711,970. Lotta Cola Company, Pittsburgh, Pa. SN 99,638. Filed P.R. 6–24–60; Am. S.R. 11–28–60.



For Carbonated Beverages Sold as Soft Drinks and for Use as Mixers.
First use Nov. 28, 1956.

TRADEMARK REGISTRATIONS RENEWED

18,602. BANKERS LINEN. Cl. 37. 11-4-1890.
18,792. THE STANLEY. Cl. 23. 1-6-1891.
19,494. INTERSTICE WRIGHT'S AND DESIGN. Cl. 39. 5-12-1891.
133,809. THE SCHAEFFER LACE. Cl. 40. 8-3-20.
136,890. SUNSEAL AND DESIGN. Cl. 46. 11-9-20.
138,506. TIFFANY & CO. Cl. 36. 12-28-20.
138,602. CROMAR. Cl. 12. 1-4-21.
138,940. ARIMAL. Cl. 51. 1-18-21.
138,941. LA BELLE COQUETTE. Cl. 51. 1-18-21.
140,937. MOTH-NO. Cl. 6. 3-29-21.
141,244. BUBBLE UP. Cl. 45. 4-12-21.
142,165. LIBERTY. Cl. 40. 5-3-21.
142,426. TUXEDO. Cl. 17. 5-17-21.
142,428. LIBERTY. Cl. 17. 5-17-21.
143,021. PROTEXALL. Cl. 39. 5-24-21.
143,383. LANMAN & KEMP'S ETC. AND DESIGN. Cl. 18. 5-31-21.
143,473. TIREX. Cl. 21. 5-31-21.
381,291. CODEL. Cl. 50. 9-17-40.
381,292. CODUR. Cl. 50. 9-17-40.
381,512. PARAMIX. Cl. 46. 9-24-40.
383,667. DENTEX. Cl. 44. 12-17-40.
383,747. CHOPLETS. Cl. 46. 12-24-40.
383,998. NUTREGEN. Cl. 46. 12-31-40.
384,065. LOV-E. Cl. 39. 1-7-41.
384,119. SELMER. Cl. 36. 1-7-41.
384,229. LOAFER. Cl. 42. 1-7-41.
384,373. FAIRCREST. Cl. 42. 1-14-41.
384,375. TELOZORBANT FINISH. Cl. 42. 1-14-41.
384,446. THE BORROWED TIMERS. Cl. 38. 1-21-41.
384,448. THE VOGUES OF 1890. Cl. 51. 1-21-41.
384,670. PANIX. Cl. 39. 1-28-41.
384,878. TICONAL. Cl. 21. 2-4-41.
385,195. URESTRIN. Cl. 18. 2-18-41.
385,201. LEXON. Cl. 42. 2-18-41.
385,281. KING OLAV AND DESIGN. Cl. 46. 2-25-41.
385,289. KING OF BRISLING AND DESIGN. Cl. 46. 2-25-41.
385,877. RIVERIZED. Cl. 42. 3-18-41.
385,878. RIVERSET. Cl. 42. 3-18-41.
385,976. DIA-PAPE-SEN. Cl. 18. 3-25-41.
385,996. VITA-VURV. Cl. 18. 3-25-41.
386,062. VAK. Cl. 18. 3-25-41.
386,332. BEXEL. Cl. 18. 4-1-41.
386,425. SOL-AIRE AND DESIGN. Cl. 32. 4-8-41.
386,435. DARK SECRET. Cl. 51. 4-8-41.
386,528. PEN-CHROME. Cl. 16. 4-15-41.
386,535. INVINCIBLE. Cl. 22. 4-15-41.
386,692. MONO-BLOCK. Cl. 12. 4-22-41.
386,711. WINDTAMER. Cl. 39. 4-22-41.
386,827. POWER-FLOW. Cl. 23. 4-22-41.
387,018. CASYLLIUM. Cl. 18. 4-29-41.
387,034. PETE HAGEN'S ETC. AND DESIGN. Cl. 49. 4-29-41.
387,045. W. B. CALDWELL MD. Cl. 18. 4-29-41.
387,145. FUDG-IN. Cl. 46. 5-6-41.
387,198. HY-LINE. Cl. 46. 5-6-41.
387,226. NIARD. Cl. 23. 5-6-41.
387,529. GEMMA AND DESIGN. Cl. 46. 5-20-41.
387,772. DOMOLENE. Cl. 18. 5-27-41.
387,840. DOUBLE RINGER AND DESIGN. Cl. 39. 6-3-41.
388,069. ARCHER-DANIELS-MIDLAND. Cl. 16. 6-10-41.
388,093. 33. Cl. 6. 6-10-41.

TRADEMARK REGISTRATIONS CANCELED

Section 7(d)

690,623. DUTCH MAID TEM-TEE AND DESIGN. Cl. 46. 12-29-59.
697,911. PILOT. Cl. 102. 5-17-60.
698,736. REPRESENTATION OF A PILOT. Cl. 102. 5-31-60.

Section 8

309,414. BUG-A-BOO. Cl. 6. 1-9-34.

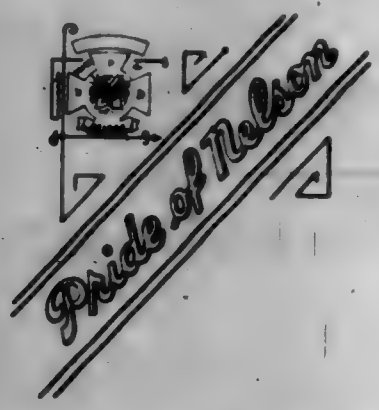
The following registrations issued Jan. 11, 1935

600,561. CALIPEL. Cl. 1.
600,562. CAMBRIDGE. Cl. 1.
600,564. OTARIE. Cl. 1.
600,566. PITH-O-CANE. Cl. 1.
600,571. WAXIES. Cl. 4.
600,575. OFF-F. Cl. 4.
600,576. FLO-CUT. Cl. 4.
600,585. DIAMOND BACK. Cl. 5.
600,586. REB-U-SOL. Cl. 5.
600,587. HUBBSEAL. Cl. 5.
600,592. HTS. Cl. 6.
600,596. VITA TONE. Cl. 6.
600,597. REPRESENTATION OF GIRL ICE SKATER. Cl. 6.
600,598. LEVAZET. Cl. 6.
600,601. "LANA BEAU." Cl. 6.
600,604. IT AND DESIGN. Cl. 6.
600,608. NICKEL-SAVER. Cl. 9.
600,609. NITRA-FLO. Cl. 10.
600,610. MASTI-DEK. Cl. 12.
600,611. EONITE. Cl. 12.
600,621. ALUMINUM SKILLCRAFT AND DESIGN. Cl. 12.
600,623. SHADOW TILE. Cl. 12.
600,626. "DEPENDON SEAL." Cl. 12.
600,627. TRANSCO. Cl. 13.
600,629. KAY-TEN. Cl. 13.
600,632. PERMASTEEL. Cl. 14.
600,633. "ALHARD." Cl. 14.
600,638. MOTOR CURE AND DESIGN. Cl. 15.
600,639. AD REFORMATIVE AND DESIGN. Cl. 15.
600,648. ZONE FIREPLATE. Cl. 16.
600,650. R ALDIP. Cl. 16.
600,652. GOB SHOPS. Cl. 16.
600,653. OMNITILE. Cl. 16.
600,654. H AND DESIGN. Cl. 18.
600,656. APROMAL-VES. Cl. 18.
600,659. PLIADS. Cl. 18.
600,660. SHARZID. Cl. 18.
600,664. MINAQUA. Cl. 18.
600,665. Q-TON. Cl. 18.
600,671. CIG-A-RID. Cl. 18.
600,675. ANN-WAY. Cl. 18.
600,676. GESTACAPS. Cl. 18.
600,677. SPIROVAC. Cl. 18.
600,678. DIMEZATHINE. Cl. 18.
600,683. SOL-HEP. Cl. 18.
600,686. FILTROCAINE. Cl. 18.
600,687. ORBICAINE. Cl. 18.
600,695. LINCOLN. Cl. 21.
600,696. ARCO AND DESIGN. Cl. 21.
600,707. CONTROLA-TONE. Cl. 21.
600,709. ETC AND DESIGN. Cl. 21.
600,710. KEARNALENE. Cl. 21.
600,713. WISHBONE. Cl. 21.
600,714. CHROMAGATE. Cl. 21.
600,715. DOODLES. Cl. 22.
600,716. KIDDY KOOK-BOOK. Cl. 22.
600,718. TRIPLEX. Cl. 22.
600,719. DAFFY DISC AND DESIGN. Cl. 22.
600,720. MISS SNOOTY SUZY. Cl. 22.
600,721. FASCINATOR. Cl. 22.
600,724. DE-GEE. Cl. 22.
600,725. SPEC-TOY. Cl. 22.

600,726. GOODEE-TOYS. Cl. 22.
600,728. KAYCON. Cl. 22.
600,731. TRACTOMOTIVE. Cl. 23.
600,735. FLAVO-JET. Cl. 23.
600,737. STONEMIZER. Cl. 23.
600,738. CINERAMA. Cl. 23.
600,739. TEGCO AND DESIGN. Cl. 25.
600,742. SCANOSCOPE. Cl. 26.
600,744. KINEMINS. Cl. 26.
600,746. VAU CANSON. Cl. 27.
600,748. CHASTELL. Cl. 27.
600,750. DEMI FIN. Cl. 28.
600,764. TISSUE CADDY. Cl. 31.
600,769. D AND DESIGN. Cl. 34.
600,773. MEE SHING RECORD AND DESIGN. Cl. 36.
600,778. MINKSHORT. Cl. 39.
600,784. CHARRED BARK. Cl. 39.
600,785. PETISHIRT. Cl. 39.
600,787. GOLD PAREE. Cl. 40.
600,788. PECHE PAREE. Cl. 40.
600,791. KENVER. Cl. 42.
600,793. NANCY LEE. Cl. 42.
600,794. FIDEX. Cl. 42.
600,797. THERMOLOK. Cl. 43.
600,804. MEXICAN VILLAGE. Cl. 46.
600,807. ROYAL AND DESIGN. Cl. 46.
600,810. QUALITY LIVING. Cl. 46.
600,815. ZSA ZSA. Cl. 51.
600,816. FABULAN. Cl. 51.
600,818. ORACAIR. Cl. 51.
600,819. DOLL FACE. Cl. 51.
600,822. WAKE UP AND LIVE. Cl. 102.
600,828. NIL-O-SPOT. Cl. 106.
600,829. ZUENDEL WIREBOUND. Cl. 2.
600,832. NO MESS. Cl. 12.
600,836. SURE FLAME AND DESIGN. Cl. 21.
600,837. FRINGE BEAM AND DESIGN. Cl. 21.
600,839. THE TOUGHEST STEEL KNOWN. Cl. 23.
600,840. WEDG-HEAD. Cl. 23.
600,842. DEERTALLY AND DESIGN. Cl. 28.
600,843. ARNSTEIN CONVERTIBLE. Cl. 28.
600,848. CUT 'N' SEW. Cl. 39.
600,850. ORLEANS SPORT-SLAX. Cl. 39.
600,853. KIDDIE KOFFEE. Cl. 46.
600,854. HERRING BONE ZIG ZAG AND DESIGN. Cl. 46.
600,857. DIGMAN'S. Cl. 46.
600,858. HICKORY SMOKED SHRIMP AND REPRESENTATION OF A SHRIMP AND DESIGN. Cl. 46.
600,859. REPRESENTATION OF BOTTLE. Cl. 47.
600,862. "THE CITY HALL REPORTER." Cl. 104.

TRADEMARK REGISTRATIONS AMENDED, DISCLAIMED, CORRECTED, ETC.

320,877. PRIDE OF NELSON AND DESIGN. Cl. 49. 1–15–35. Fairfield Distilling Company, Incorporated. Schenley Distillers, Inc., New York, N.Y. Amended to appear:



380,585. KIDSTUFF. Cl. 39. 8–27–40. Skyline Manufacturing Company, Inc., Kingston, N.Y. Amended: In the statement, column 1, lines 6, 7 and 8, "no claim being made to the representation of the tag apart from the mark shown," is deleted, and the drawing is amended to appear:

KIDSTUFF

383,317. NOCORDAL. Cl. 34. 12–3–40. Carl E. Heil, doing business as Heil and Company. Heil Process Equipment Corporation, Cleveland, Ohio. Amended to appear:

NOCORDAL

611,930. WRIGHT OILER AND DESIGN. Cl. 23. 9–6–55. Wright Power Saw and Tool Corporation, Stratford, Conn. Corrected: In the certificate, lines 3 and 14, and in the statement, column 1, line 1, "Corp." should be deleted and *Corporation* should be inserted and in the certificate, lines 4, second occurrence, and in the statement, column 1, line 1, "Connecticut" should be deleted and *New York* should be inserted.

634,520. LUBENCO. Cl. 15. 9–18–56. Lubrication Engineering Co. Humble Oil & Refining Company, Houston, Tex. Amended to appear:

LUBENCO

642,132. EASTSIDE ETC. AND DESIGN. Cl. 48. 2–26–57. Pabst Brewing Company, Chicago, Ill. Corrected: In the statement, column 1, line 1, "Illinois" should be deleted and *Delaware* should be inserted.

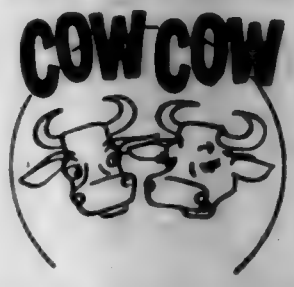
664,644. PROFEM. Cl. 18. 7–22–58. Schering Corporation, Bloomfield, N.J. Amended: In the statement, column 2, line 1, "Hormone-" is deleted.

687,012. THE BLUE TRAMPERS ETC. Cl. 105. 10–20–59. Dampskibsselskabet af 1912 A/S and A/S Dampskibsselskabet Svendborg, Copenhagen K, Denmark. Amended to appear:

THE BLUE TRAMPERS—MAERSK TRAMPERS

690,344. ON-THE-TOWN. Cl. 51. 12–22–59. Cinderella International Company, New York, N.Y. Corrected: In the statement, column 1, line 1, "Corporation" should be deleted and *Company* should be inserted.

693,290. COW COW AND DESIGN. Cl. 46. 2–16–60. Cow Cow Corporation, assignee of Knowlton's Creamery, San Antonio, Tex. Amended to appear:



701,829. PHONO TRIX. Cl. 36. 7–26–60. Matthew Stuart & Co., Inc., New York, N.Y. Corrected: In the statement, column 1, line 2, "353 W. 54th St." should be deleted and *156* Fifth Ave. should be inserted, and in line 3, after "New York" *10* should be inserted.

704,665. LOMAS BY TRED-LITE. Cl. 39. 9–20–60. Cambridge Rubber Company, doing business as Tred-Lite, Taneytown, Md. Corrected: In the statement, column 1, line 3, after "St." , *Cambridge, Mass.* and should be inserted.

705,729. HADECO AND DESIGN. Cl. 1. 10–18–60. Harry Deleeuw Company (Pty) Ltd., Maraisburg, The Transvaal, Union of South Africa. Corrected: In the statement, column 1, line 1, "de Leeuw" should be deleted and *Deleeuw* should be inserted.

706,080. BIRD. Cl. 44. 10–18–60. Bird Oxygen Breathing Equipment, Inc., San Francisco, Calif. Corrected: In the statement, column 1, line 3, "Palm Springs" should be deleted and *San Francisco* should be inserted.

708,180. WING'S SUCCESS DISPLAY AND DESIGN. Cl. 50. 12–6–60. Howard Wing, Erie, Pa. Corrected: In the heading, "39,477" should be deleted and *93,477* should be inserted.

708,271. UNOX. Cl. 6. 12–13–60. Union Carbide Corporation, New York, N.Y. Corrected: In the statement, column 2, line 5, "668,192" should be deleted and *668,198* should be inserted.

708,468. ETTA. Cl. 46. 12–13–60. J. M. Schnetzer, Kaesewerk, Kempten/Allgaeu, Germany. Corrected: In the statement, column 1, line 2 should be deleted and *Kempten/Allgaeu, Germany* should be inserted.

708,615. INTERPOL. Cl. 6. 12–20–60. Freeman Chemical Corporation, Port Washington, Wis. Corrected: In the statement, column 2, line 4, "of" should be deleted and *or* should be inserted.

709,103. SHAPE-LEE. Cl. 40. 12–27–60. Lee Beachwear Company, New York, N.Y. Corrected: In the statement, column 1, line 1, "Le" should be deleted and *Lee* should be inserted.

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A/S Einar Hausvik & Co., Bergen, to Concord Canning Co. A/S, Abelvaer, Nord-Trondelag, Norway. 385,289, ren. 2–28–61. Cl. 46.
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Goodin, W. H.
Goodrich, B. F., Co., The, Akron, Ohio. 711,668, pub. 12–13–60. Cl. 1.

Great Lakes Chemical Corp., Manistee, Mich. 711,688, pub. 12–13–60. Cl. 6.
Guardian Paper Co., Newark, Calif. 711,669, pub. 12–13–60. Cl. 1.
Hammons Products Co., Stockton, Mo. 711,951, pub. 12–13–60. Cl. 46.
Hazelton, Thomas A., d.b.a. "Reminders," Hollywood, Calif. 711,930, pub. 12–13–60. Cl. 44.
Heil, Carl E., d.b.a. Heil and Co. Heil Process Equipment Corp., Cleveland, Ohio. 383,317. Am. 7(d). Cl. 34.
Heil and Co.: *See*—
Heil, Carl E.
Heil Process Equipment Corp.: *See*—
Heil, Carl E.
Heinemann Saw Corp., Canton, Ohio. 711,813, pub. 12–13–60. Cl. 23.
Hellogen Products, Inc., Long Island City, N.Y. 600,654, canc. Cl. 18.
Hertron Chemical Corp., Charlotte, N.C. 711,957, pub. 11–24–59. Cl. 52.
Hess, Goldsmith & Co., Inc., New York, N.Y. 711,918, pub. 12–13–60. Cl. 42.
Hibner & Co., Fairview, N.J. 600,832, canc. Cl. 12.
Hiller Aircraft Corp., San Carlos, Calif. 711,683, pub. 12–13–60. Cl. 5.
Hi-Pedal Mfg. Co., Florence, N.J. 711,860, pub. 12–13–60. Cl. 36.
Hohner, M., Inc., Hicksville, N.Y. 711,863, pub. 12–13–60. Cl. 36.
Hollister Tree Service, Inc., Cowen, W. Va. 600,592, canc. Cl. 6.
Home Dental Aids Co., Bakersfield, Calif. 711,938, pub. 12–13–60. Cl. 44.
Home Finance Group, Inc., Charlotte, N.C. 600,822, canc. Cl. 102.
Hood Chemical Co., Inc.: *See*—
Beacon Chemical Corp.
Horwitz, Saul D., d.b.a. Crestwood Products, New York, N.Y. 600,721, canc. Cl. 22.
Hubbs Corp., New York, N.Y. 600,587, canc. Cl. 5.
Hudnut, Richard, Morris Plains, N.J. 711,956, pub. 12–13–60. Cl. 51.
Humble Oil & Refining Co.: *See*—
Lubrication Engineering Co.
Hunt Oil Co., Dallas, Tex. 711,726, pub. 12–13–60. Cl. 15.
Huyck, F. C., & Sons, Rensselaer, N.Y. 600,791, canc. Cl. 42.
Hyde, A. R., & Sons Co., Cambridge, Mass. 711,784, pub. 12–13–60. Cl. 22.
Iberia Sugar Cooperative, Inc., New Iberia, La. 600,566, canc. Cl. 1.
Ibsen, J. P., & Co., New York, N.Y. 711,844, pub. 12–13–60. Cl. 28.
Imperial Chemical (Pharmaceuticals) Ltd., London, England. 600,678, canc. Cl. 18.
Imperial Outfitters to Large Men, Inc., New York, N.Y. 711,892, pub. 12–13–60. Cl. 39.
Improved Treatment Process Inc., Oceanside, N.Y. 600,604, canc. Cl. 6.
Indiana Commerical Filters Corp., Lebanon, Ind. 711,846, pub. 12–13–60. Cl. 31.
Interchemical Corp.: *See*—
Cotan Corp.
International Latex Corp.: *See*—
Talby-Nason Co., Inc.
International Latex Corp., Dover, Del. 711,937, pub. 12–13–60. Cl. 44.
International Paper Co., New York, N.Y. 711,672, pub. 12–13–60. Cl. 2.
International Telephone and Telegraph Corp., New York, N.Y. 711,889, pub. 12–13–60. Cl. 38.
Irresistible, Inc., Jersey City, N.J., to The Nestle Lemur Co., New York, N.Y. 384,448, ren. 2–28–61. Cl. 51.
Jacoby, Lucile, executrix of the estate of E. H. Blum, deceased, New Orleans, La. 600,850, canc. Cl. 39.
Jays Foods, Inc., Chicago, Ill. 711,947–8, pub. 12–13–60. Cl. 46.
Jensen, Walter E., Long Beach, Calif. 711,960, pub. 12–13–60. Cl. 101.
Kabushiki-Kaisha Mitsuwa Undoyohin-Ten, Kita-ku, Osaka, Japan. 711,787, pub. 12–13–60. Cl. 22.
Kaumagraph Co., Wilmington, Del. 600,794, canc. Cl. 42.
Kaybar, Inc., Birmingham, Mich. 711,737, pub. 12–13–60. Cl. 16.
Kaylon Inc., New York, N.Y. 600,785, canc. Cl. 39.
Kearney, James R., Corp., St. Louis, Mo. 600,710, canc. Cl. 21.
Kendall Co., The, Walpole, Mass. 385,201, ren. 2–28–61. Cl. 42.
Kirch-Trumbull Corp., Alden, N.Y. 711,675, pub. 12–13–60. Cl. 2.
Kirch-Trumbull Corp., Alden, N.Y. 711,866, pub. 12–13–60. Cl. 37.
Kirsch Co., Sturgis, Mich. 386,425, ren. 2–28–61. Cl. 32.
Knapp-Monarch Co., St. Louis, Mo. 711,934, pub. 12–13–60. Cl. 44.
Knowlton's Creamery: *See*—
Cow Cow Corp.
Kono Mfg. Co. Inc., Woodside, N.Y. 711,828, pub. 12–13–60. Cl. 26.
Korris Products, Inc., Lyons, Ill. 711,785, pub. 12–13–60. Cl. 22.
Lanman & Kemp-Barclay & Co., Inc.: *See*—
Lanman & Kemp Inc.
Lanman & Kemp Inc., New York, N.Y., to Lanman & Kemp-Barclay & Co., Inc., Palisades Park, N.J. 143,383, ren. 2–28–61. Cl. 18.
Lannett Co., Inc., The, Philadelphia, Pa. 711,740, pub. 12–13–60. Cl. 18.
Laroche Freres, Societe a Responsabilite Limitee, Paris, France. 711,811, pub. 12–13–60. Cl. 23.
Laurie, Susan, Inc., New York, N.Y. 711,905, pub. 12–13–60. Cl. 39.
Leafsaver Co., New York, N.Y. 711,871, pub. 12–13–60. Cl. 37.
Lee Beachwear Co., New York, N.Y. 709,103, cor. Cl. 40.
Lee, Frank H., Co., The, Danbury, Conn. 711,893, pub. 12–13–60. Cl. 39.
Lee, H. D., Co., Inc., The, Kansas City, Mo. 711,910, pub. 12–13–60. Cl. 39.
Leffingwell Chemical Co., East Whittier, Calif. 600,596, canc. Cl. 6.
Legion Utensils Co., Inc., Long Island City, N.Y. 711,715, pub. 12–13–60. Cl. 13.
Leslie Fay Fashions, Inc.: *See*—
Leslie Fay Inc.
Leslie Fay Inc., from Leslie Fay Fashions, Inc., New York, N.Y. 711,895, pub. 12–13–60. Cl. 39.
Lincoln Radio and Television Corp., Chicago, Ill. 600,695, canc. Cl. 21.
Lindauer and Co., San Francisco, Calif. 711,702, pub. 12–13–60. Cl. 10.
Linen Thread Co., Inc., The: *See*—
Ederer, R. J., Co.
Little, H. C., Burner Co., Inc., San Rafael, Calif. 711,855, pub. 12–13–60. Cl. 34.
Livingston, Aleda L., d.b.a. Madame des Lauriers, Hollywood, to Lov-é Brassiere Co., Los Angeles, Calif. 384,065, ren. 2–28–61. Cl. 39.
Lobsitz Mills Co., Nutley, N.J. 711,670, pub. 12–13–60. Cl. 1.
Locatelli: *See*—
Locatelli S.p.A.
Locatelli S.p.A., d.b.a. Locatelli, Milan, Italy. 711,945, pub. 12–13–60. Cl. 46.
Lollimar Corp., Brooklyn, N.Y. 711,721, pub. 12–13–60. Cl. 13.
Lotta Cola Co., Pittsburgh, Pa. 711,970. Cl. 45.
Louette Food Products: *See*—
Brunette, Frank.
Lov-é Brassiere Co.: *See*—
Livingston, Aleda L.
Lubrication Engineering Co. Humble Oil & Refining Co., Houston, Tex. 634,520. Am. 7(d). Cl. 15.
Lunchwagons, Inc., Cincinnati, Ohio. 711,943, pub. 12–13–60. Cl. 46.
Mac-o-lac Paints, Detroit, Mich. 711,731, pub. 12–13–60. Cl. 16.
Maletex Products: *See*—
Matheny, W. V.
Marchal, Inc., New York, N.Y. 711,843, pub. 12–13–60. Cl. 28.
Marion Laboratories, Inc., Kansas City, Mo. 711,833, pub. 12–13–60. Cl. 26.
Martin's, Brooklyn, N.Y. 386,711, ren. 2–28–61. Cl. 39.
Matheny, W. V., d.b.a. Maletex Products, Grafton, W. Va. 711,928, pub. 12–13–60. Cl. 44.
McClean, Margaret L., d.b.a. Capricorn Records, Beverly Hills, Calif. 711,861, pub. 12–13–60. Cl. 36.
McCulloch Corp., Los Angeles, Calif. 711,799, pub. 12–13–60. Cl. 23.
McKesson & Robbins, Inc.: *See*—
Wardall, William J.
McLain-Southall Co., Vicksburg, Miss. 711,966. Cl. 1.
Mead Johnson & Co., Evansville, Ind. 711,747, pub. 12–13–60. Cl. 18.
Mee Shing Co.: *See*—
Shing, Li Chau.
Melody Syrup Co., Cottondale, Fla. 711,941, pub. 12–13–60. Cl. 46.
Merck & Co., Inc., Rahway, N.J. 600,659–60, canc. Cl. 18.
Merck & Co., Inc., Rahway, N.J. 600,677, canc. Cl. 18.
Merck & Co., Inc., Rahway, N.J. 711,743, pub. 12–13–60. Cl. 18.
Merck & Co., Inc., Rahway, N.J. 711,754, pub. 12–13–60. Cl. 18.
Mexican Village, Cornado, Calif. 600,804, canc. Cl. 46.
Midland Industrial Finishes Co., Waukegan, Ill. 711,730, pub. 12–13–60. Cl. 16.
Midwest Foods, Inc., Findlay, Ohio. 600,810, canc. Cl. 46.
Miller Tilt-Top Trailer Inc., Milwaukee, Wis. 711,764, pub. 12–13–60. Cl. 19.
Miller, William P., Tulsa, Okla. 600,728, canc. Cl. 22.
Minaqua Corp., Minneapolis, Minn. 600,664, canc. Cl. 18.
Mister Pants, Inc., New York, N.Y. 711,897, pub. 12–13–60. Cl. 39.
Mitchum Co., The, Paris, Tenn. 711,939, pub. 12–13–60. Cl. 44.
Modern Structures Co., Inc., Washington, D.C. 600,653, canc. Cl. 16.
Montagna and Co.: *See*—
Montagna, Mae.
Montagna, Mae, d.b.a. Montagna and Co., Philadelphia, Pa. 600,848, canc. Cl. 39.
Montecatini, Societa Generale per l'Industria Mineraria e Chimica, Milan, Italy. 711,667, pub. 12–13–60. Cl. 1.
Morgan-Jones, Inc., New York, N.Y. 711,917, pub. 12–13–60. Cl. 42.
Motor Cure Co.: *See*—
Fick, Shirley.
Musgrave Mfg. Co., Springfield, Ohio. 711,809, pub. 12–13–60. Cl. 23.
Myerberg, Michael, Productions, Inc., New York, N.Y. 600,744, canc. Cl. 26.
N.V. Koninklijke Stearine Kaarsenfabriken "Gouda-Apollo," Gouda, Netherlands. 711,944, pub. 12–13–60. Cl. 46.
N & W Industries, Lynchburg, Va. 711,903, pub. 12–13–60. Cl. 39.
Nash Inc., Jersey City, N.J. 711,677, pub. 12–13–60. Cl. 3.
National Dairy Products Corp., New York, N.Y. 711,946, pub. 12–13–60. Cl. 46.
National Rose Co., Inc., The, Memphis, Tenn. 711,850, pub. 12–13–60. Cl. 32.

National Telefilm Associates, Inc., Los Angeles, Calif. 711,965, pub. 12–13–60. Cl. 107.
Neal Electronic Co.: *See*—
Neal, William O.
Neal, William O., d.b.a. Neal Electronic Co., Huntsville, Ala. 600,837, canc. Cl. 21.
Nestle Lemur Co., The: *See*—
Irresistible, Inc.
New England Alloy Casting Corp., Myerstown, Pa. 711,724, pub. 12–13–60. Cl. 14.
Newman, I., & Sons, Inc., New Haven, Conn., to Sarong, Inc., New York, N.Y. 384,670, ren. 2–28–61. Cl. 39.
Newport Knitting Co., Inc., New York, N.Y. 711,906, pub. 12–13–60. Cl. 39.
Niesemann, F., Co.: *See*—
Niesemann, Fritz.
Niesemann, Fritz, d.b.a. F. Niesemann Co., Pittsburgh, Pa. 711,929, pub. 12–13–60. Cl. 44.
Niewiarowicz, Edward S., River Rouge, Mich. 600,724, canc. Cl. 22.
Norris Mfg. Co., Taylors, S.C. 711,900, pub. 12–13–60. Cl. 39.
North American Philips Co., Inc.: *See*—
Philips Technical Products Inc.
Northern Signal Co., Inc., Saukville, Wis. 711,795, pub. 12–13–60. Cl. 22.
Northern Yarn Mills, Newark, N.J. 711,925, pub. 12–13–60. Cl. 43.
Nugul Chemical Co.: *See*—
Funderburg, O. O.
Nutregen Ltd., London, England, to Energen Foods Co., Inc., New York, N.Y. 383,998, ren. 2–28–61. Cl. 46.
O'Brien Corp., The: *See*—
O'Brien Varnish Co.
O'Brien Varnish Co., to The O'Brien Corp., South Bend, Ind. 386,528, ren. 2–28–61. Cl. 16.
Ogle, Robert W., Los Angeles, Calif. 600,785, canc. Cl. 23.
Olin Mathieson Chemical Corp., East Alton, Ill. 711,674, pub. 12–13–60. Cl. 2.
Olin Mathieson Chemical Corp., New York, N.Y. 711,751, pub. 12–13–60. Cl. 18.
Olin Mathieson Chemical Corp., New York, N.Y. 711,758, pub. 12–13–60. Cl. 18.
Olsen Co. of Sarasota, Inc., Sarasota, Fla. 711,732, pub. 12–13–60. Cl. 16.
Olson, Leroy, Co., San Francisco, Calif. 600,610, canc. Cl. 12.
Originalities of New York, Inc., New York, N.Y. 711,867, pub. 12–13–60. Cl. 37.
PRM S.p.A., Milan, Italy. 711,894, pub. 12–13–60. Cl. 39.
Pabst Brewing Co., Chicago, Ill. 642,132, cor. Cl. 48.
Package Containers, Inc., Portland, Oreg. 711,800, pub. 12–13–60. Cl. 23.
Packaging Guild, The, Cleveland, Ohio. 600,571, canc. Cl. 4.
Panduit Corp., Midlothian, Ill. 711,773, pub. 12–13–60. Cl. 21.
Pant-O-Mines Inc., New York, N.Y. 711,901, pub. 12–13–60. Cl. 39.
Paramount Aluminum Products Corp., Mineola, N.Y. 600,621, canc. Cl. 12.
Paramount Paper Products Co., Omaha, Nebr. 711,684, pub. 12–13–60. Cl. 5.
Parish Service Co., The, Detroit, Mich. 711,865, pub. 12–13–60. Cl. 37.
Park Avenue Co., New York, N.Y. 711,890, pub. 12–13–60. Cl. 38.
Patent Cereals Co., Inc.: *See*—
Patent Cereals Co., The.
Patent Cereals Co., The, Geneva and New York, to Patent Cereals Co., Inc., Geneva, N.Y. 136,890, ren. 2–28–61. Cl. 46.
Pearson, Ben, Inc., Pine Bluff, Ark. 711,791, pub. 12–13–60. Cl. 22.
Peters & Russell, Inc., Springfield, Ohio. 711,716, pub. 12–13–60. Cl. 13.
Peterson Engineering Co., Inc., Santa Clara, Calif. 711,696, pub. 12–13–60. Cl. 7.
Ph. Berowitz, Inc., New York, N.Y. 711,911, pub. 12–13–60. Cl. 39.
Pharmaceutical Specialties, Inc., d.b.a. Dermatological Prescription Laboratories, Monterey, Calif. 711,748, pub. 12–13–60. Cl. 18.
Phelps, Norman J., Lake Forest, to Hugh B. Trotter, Evanston, Ill. 600,815, canc. Cl. 51.
Philips Technical Products Inc., to North American Philips Co., Inc., New York, N.Y. 384,878, ren. 2–28–61. Cl. 21.
Pikle-Rite Co., Inc., Chicago, Ill. 600,854, canc. Cl. 46.
Pilot Insurance Co., Toronto, Ontario, Canada. 697,911, canc. Cl. 102.
Pilot Insurance Co., Toronto, Ontario, Canada. 698,736, canc. Cl. 102.
Pioneer Hi-bred Corn Co., Des Moines, Iowa. 387,198, ren. 2–28–61. Cl. 46.
Pioneer Shirt Mfg. Co., Los Angeles, Calif. 711,899, pub. 12–13–60. Cl. 39.
Pittsburgh Plate Glass Co., Pittsburgh, Pa. 711,962, pub. 12–13–60. Cl. 103.
Plantation Anhydrous Ammonia Corp., now by change of name Plantation Fertilizers Corp., Houma, La. 600,609, canc. Cl. 10.
Plantation Fertilizers Corp.: *See*—
Plantation Anhydrous Ammonia Corp.
Plunkett Chemical Co.: *See*—
Plunkett, William H.
Plunkett, William H., to Plunkett Chemical Co., Chicago, Ill. 140,037, ren. 2–28–61. Cl. 6.
Podbielniak, Inc.: *See*—
Dresser Industries, Inc.
Pond's Extract Co., to Chesebrough-Pond's Inc., New York, N.Y. 386,435, ren. 2–28–61. Cl. 51.
Poor & Co., Chicago, Ill. 600,576, canc. Cl. 4.
Popper Morson Corp.: *See*—
Popper-Morson Co., Inc.
Popper-Morson Co., Inc., Jersey City, N.J., to Popper Morson Corp., New York, N.Y. 387,034, ren. 2–28–61. Cl. 49.
Porter, H. K., Co., Inc., Pittsburgh, Pa. 711,706–8, pub. 12–13–60. Cl. 12.
Porter, H. K., Co., Inc., Pittsburgh, Pa. 711,710, pub. 12–13–60. Cl. 12.
Protexall, Inc.: *See*—
Globe Shirt & Overall Co.
Quick-Set, Inc., Skokie, Ill. 711,839, pub. 12–13–60. Cl. 26.
Race-A-Way Games, Columbus, Ohio. 711,794, pub. 12–13–60. Cl. 22.
Ragon, Eleanor, Cleveland, Ohio. 711,932, pub. 12–13–60. Cl. 44.
Randolph Mfg. Co., Cleveland, Ohio. 600,633, canc. Cl. 14.
Ratner, Walter, d.b.a. Rentar Pharmacal Co., Chicago, Ill. 600,665, canc. Cl. 18.
Redington, F. B., Co., Bellwood, Ill. 711,797, pub. 12–13–60. Cl. 23.
Reiskin, Ell, d.b.a. The Ardee Co., New York, N.Y. 711,788, pub. 12–13–60. Cl. 22.
Reliance Dental Mfg. Co., Chicago, Ill. 383,667, ren. 2–28–61. Cl. 44.
"Reminders": *See*—
Hazelton, Thomas A.
Rentar Pharmacal Co.: *See*—
Ratner, Walter.
Reynolds Metals Co., Richmond, Va. 711,868, pub. 12–13–60. Cl. 37.
Riverside & Dan River Cotton Mills, Inc., Danville, Va. & New York, N.Y., to Dan River Mills, Inc., Danville, Va. 385,877–8, ren. 2–28–61. Cl. 42.
Rochester Ropes, Inc., Culpeper, Va. 711,698, pub. 12–13–60. Cl. 7.
Roto-Rooter Corp., Des Moines, Iowa. 387,226, ren. 2–28–61. Cl. 23.
Runnels Co. Inc., to Western Pacific Chemical Laboratories, Inc., Seattle, Wash. 600,853, canc. Cl. 46.
Russell, I. D., Co. Laboratories, Kansas City, Mo. 600,683, canc. Cl. 18.
S.F. Appliances, Ltd., Ridgefield, N.J. 600,836, canc. Cl. 21.
Safe Padlock and Hardware Co., The, Lancaster, Pa. 711,718, pub. 12–13–60. Cl. 13.
Salant & Salant, Inc., New York, N.Y. 387,040, ren. 2–28–61. Cl. 39.
San Giorgio Macaroni, Inc., Lebanon, Pa. 711,949, pub. 12–13–60. Cl. 46.
Sanford Laboratories, Inc., from Medical Arts Laboratories Inc., Tuscaloosa, Ala. 711,955, pub. 12–13–60. Cl. 51.
Santa's Village, Arcadia, Calif. 711,904, pub. 12–13–60. Cl. 39.
Sapp, Roy, Lexington, Ky. 711,856, pub. 12–13–60. Cl. 34.
Sarong, Inc.: *See*—
Newman, I., & Sons, Inc.
Savage Laboratories, Inc., Houston, Tex. 711,750, pub. 12–13–60. Cl. 18.
Save-A-Match Co., New York, N.Y. 600,608, canc. Cl. 9.
Scanoptic, Inc., New York, N.Y. 600,742, canc. Cl. 26.
Schaeffer, Charles P., to Schaeffer Lace Corp., Reading, Pa. 133,809, ren. 2–28–61. Cl. 40.
Schaeffer Lace Corp.: *See*—
Schaeffer, Charles P.
Schenley Distillers, Inc.: *See*—
Fairfield Distilling Co., Inc.
Schenley Industries, Inc., New York, N.Y. 711,954, pub. 12–13–60. Cl. 50.
Schering Corp., Bloomfield, N.J. 664,644. Am. 7(d). Cl. 18.
Schewe, Erich, O.H.G., Hamburg, Germany. 711,842, pub. 11–11–58. Cl. 28.
Schnetzer, J. M., Kaesewerk, Kempten/Allgaeu, Germany. 708,468, cor. Cl. 46.
Scholler Brothers, Inc., Philadelphia, Pa. 600,601, canc. Cl. 6.
Seaboard Envelope Co., Los Angeles, Calif. 711,872, pub. 12–13–60. Cl. 37.
Seattle Knitting Mills, Inc., Seattle, Wash. 711,908, pub. 12–13–60. Cl. 39.
Sellers, William, & Co., Inc., Philadelphia, Pa., to Farrel-Birmingham Co., Inc., Rochester, N.Y. 386,827, ren. 2–28–61. Cl. 23.
Selmer, H. & A., Inc., Elkhart, Ind. 384,119, ren. 2–28–61. Cl. 36.
Shelbar, Inc., North Hollywood, Calif. 711,849, pub. 12–13–60. Cl. 32.
Shing, Li Chau, d.b.a. Mee Shing Co., Hong Kong. 600,773, canc. Cl. 36.
Shold-O-Pod Co.: *See*—
Fernelius, Arthur L.
Siegel, Henry I., Co., Inc., New York, N.Y. 711,902, pub. 12–13–60. Cl. 39.
Simmons Co., New York, N.Y. 711,931, pub. 12–13–60. Cl. 44.
Simoniz Co., Chicago, Ill. 711,681, pub. 12–13–60. Cl. 4.
Simplex Wire & Cable Co., Boston, Mass. 143,473, ren. 2–28–61. Cl. 21.
Siris, A. J., Products Corp., New York, N.Y. 711,678, pub. 12–13–60. Cl. 3.
Skuttle Mfg. Co., Milford, Mich. 711,845, pub. 12–13–60. Cl. 31.
Skyline Mfg. Co., Inc., Kingston, N.Y. 380,585. Am. 7(d). Cl. 39.
Sloat, Donald F., d.b.a. Sloat Mfg. Co., Fort Worth, Tex. 711,765, pub. 12–13–60. Cl. 19.
Sloat Mfg. Co.: *See*—
Sloat, Donald F.
Snyder Brothers Co., Toccoa, Ga. 711,729, pub. 12–13–60. Cl. 16.
Societe a Responsabilite Limitee: Etablissements Paul Grandclement, Paris, France. 600,750, canc. Cl. 28.

Socony-Vacuum Specialties, Inc., New York, N.Y. 309,414, canc. Cl. 6.
Somerset Refinery, Inc., The, Somerset, Ky. 711,727, pub. 12–13–60. Cl. 15.
Southwestern Petroleum Co., Inc., Fort Worth, Tex. 600,648, canc. Cl. 16.
Southworth Co., West Springfield, Mass. 18,602, ren. 2–28–61. Cl. 37.
Special Foods, Inc., to Worthington Foods, Inc., Worthington, Ohio. 383,747, ren. 2–28–61. Cl. 46.
Spectoyculars Inc., Long Island City, N.Y. 600,725, canc. Cl. 22.
Spinelli, Marc H., San Francisco, Calif. 711,886, pub. 12–13–60. Cl. 38.
Sportsmen, Inc., Springfield, Mass. 600,842, canc. Cl. 28.
Spraying Systems Co., Bellwood, Ill. 711,713, pub. 12–13–60. Cl. 13.
Staley, A. E., Mfg. Co., Decatur, Ill. 711,687, pub. 12–13–60. Cl. 6.
Standard Brands Inc., New York, N.Y. 600,807, canc. Cl. 46.
Stanley Rule and Level Co., The, New Britain, Conn., and New York, N.Y., to The Stanley Works, New Britain, Conn. 18,792, ren. 2–28–61. Cl. 23.
Stanley Works, The: *See*—
Stanley Rule and Level Co., The.
Steinen, Wm., Mfg. Co., Newark, N.J. 711,967. Cl. 18.
Sterling Drug Inc.: *See*—
Caldwell, Dr. W. B., Inc.
Sterling Products (Inc.)
Sterling Products (Inc.), Wheeling, W. Va., to Sterling Drug Inc., New York, N.Y. 385,976, ren. 2–28–61. Cl. 18.
Sterling Stores Corp., now by change of name Gob Shops of America, Inc., Pawtucket, R.I. 600,652, canc. Cl. 16.
Strong and Co., Inc., San Francisco, Calif. 711,961, pub. 12–13–60. Cl. 102.
Stuart, Matthew, & Co., Inc., New York, N.Y. 701,829, cor. Cl. 36.
Sturges Heat Recovery, Inc., Stone Ridge, N.Y. 711,857, pub. 12–13–60. Cl. 34.
Sumergrade, N., & Sons, New York, N.Y. 600,793, canc. Cl. 42.
Sun Chemical Corp., New York, N.Y. 711,704, pub. 12–13–60. Cl. 11.
Sunset Oil Co., Los Angeles, Calif. 600,639, canc. Cl. 15.
Svenska Aktiebolaget Gasaccumulator, Stockholm-Lidingo, Sweden. 711,712, pub. 2–3–59. Cl. 13.
Svenska Aktiebolaget Gasaccumulator, Stockholm-Lidingo, Sweden. 711,796, pub. 2–3–59. Cl. 23.
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Swedish Pharmaceuticals Ltd., New York, N.Y. 711,745, pub. 12–13–60. Cl. 18.
Sweet Valley Products Co., The, Sandusky, Ohio, to Bubble Up Corp., Peoria, Ill. 141,244, ren. 2–28–61. Cl. 45.
Sylvania Electric Products Inc., Wilmington, Del. 711,777, pub. 12–13–60. Cl. 21.
Szabo, Bill: *See*—
Szabo, William B.
Szabo, William B., d.b.a. Bill Szabo, Oregon, Ohio. 711,792, pub. 12–13–60. Cl. 22.
Talby-Nason Co., Inc., from International Latex Corp., Dover, Del. 711,741, pub. 12–13–60. Cl. 18.
Technical Glass Co., Inc., Los Angeles, Calif. 600,739, canc. Cl. 25.
Technicon Co., The, New York, N.Y. 600,764, canc. Cl. 31.
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Thoner, Wilhelm.
Thoner, Wilhelm, d.b.a. W. Thoner, Munich, Germany. 600,718, canc. Cl. 22.
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Tractomotive Corp., Deerfield, Ill. 600,731, canc. Cl. 23.
Transco Products, Inc., Los Angeles, Calif. 600,627, canc. Cl. 13.
Transeco Engineering Co.: *See*—
Benjamin, Howard W.
Traub, Lyons, Oppenheim, Inc., to United Merchants and Manufacturers, Inc., New York, N.Y. 384,375, ren. 2–28–61. Cl. 42.
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Trotter, Hugh B.: *See*—
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Union Tank Car Co., Chicago, Ill. 711,676, pub. 12–13–60. Cl. 8.
United Merchants and Manufacturers, Inc.: *See*—
Cohn-Hall-Marx Co.
Traub, Lyons, Oppenheim, Inc.
U.S. Diamond Ring Corp., New York, N.Y. 600,843, canc. Cl. 28.
U.S. Peroxygen Corp., Richmond, Calif. 711,689, pub. 12–13–60. Cl. 6.
United States Rubber Co., New York, N.Y. 711,679, pub. 12–13–60. Cl. 4.
United States Steel Corp., Pittsburgh, Pa. 711,711, pub. 12–13–60. Cl. 12.
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Vaculite Corp., Hamilton, Ohio. 711,874, pub. 12–13–60. Cl. 37.
Virginia Glass Products Corp., Martinsville, Va. 711,853, pub. 12–13–60. Cl. 33.
Waldes & Co., Prague, Bohemia, to Waldes Kohinoor, Inc., Long Island City, N.Y. 142,165, ren. 2–28–61. Cl. 40.
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Walesby, Stokes, Washington, D.C. 711,888, pub. 12–13–60. Cl. 38.
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Walsh Mfg. Co., Charles City, Iowa. 711,801, pub. 12–13–60. Cl. 23.
Wangerin, A., Hardware Corp., New York, N.Y. 711,699, pub. 12–13–60. Cl. 8.
Wardall, William J., trustee of The Estate of McKesson & Robbins, Inc., Debtor, to McKesson & Robbins, Inc., New York, N.Y. 386,332, ren. 2–28–61. Cl. 18.
Waring Products Corp., New York, N.Y. 711,781–3, pub. 12–13–60. Cl. 21.
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Whitaker, Fred, Co., Philadelphia, Pa. 711,963, pub. 12–13–60. Cl. 106.
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Whitson Products Co., Inc., to The Borden Co., New York, N.Y. 381,512, ren. 2–28–61. Cl. 46.
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Williams, Gabriel, Co. Inc., Brooklyn, N.Y. 600,575, canc. Cl. 4.
Wilrite Products, Inc., Cleveland, Ohio. 711,780, pub. 12–13–60. Cl. 21.
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Wirth, L. W., Inc., New York, N.Y. 711,916, pub. 12–13–60. Cl. 42.
Wittmann, Joseph J., Jr., d.b.a. Wittmann Lures, Tucson, Ariz. 711,793, pub. 12–13–60. Cl. 22.
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Worldwide Art Studio: *See*—
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Wright Power Saw and Tool Corp., Stratford, Conn. 611,930, cor. Cl. 23.
Wright, Solomon, to Wright's Underwear Corp., New York, N.Y. 19,494, ren. 2–28–61. Cl. 39.
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Wyandotte Chemicals Corp., Wyandotte, Mich. 711,827, pub. 12–13–60. Cl. 26.
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Wynlit Pharmaceuticals, Inc., Madison, N.J. 711,756, pub. 12–13–60. Cl. 18.
Youngren, Milton D., Chicago, Ill. 711,789, pub. 12–13–60. Cl. 22.
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